

Home
Values
History
Locations
Applications
Quality
Contact Us

Home

Your Hydraulic Accessory Partner for the future

By combining the talents of qualified personnel, with the use of the latest technology and equipment, STAUFF Corporation (LTD) is ideally positioned to provide a broad range of Quality Hydraulic Accessories to the Fluid Power Distributor and Manufacturing and Process Industry.

OUR SERVICE COMMITMENT TO YOU

- To provide fast turnaround time on all orders for standard products from inventory in the USA
- To provide competent product support staff and the necessary in-house manufacturing capabilities to customize products for a wide variety of user requirements
- To provide well trained sales engineering personnel for local product and application advice
- To be customer-oriented with excellent warranty and business policies
- To introduce new products on a consistent basis to meet customer demand

Stauff on your iPad

You can put this electronic catalog on your iPad for complete mobility. Click Here

Local solutions for individual customers worldwide.

Clamps
Test
Filtration
Diagtronics
Accessories
Valves
Flanges
Accumulators



Home
Values
History
Locations
Applications
Quality
Contact Us

Values

From clamps to measuring systems - we are driven by customer satisfaction.

Over the last 6 decades, STAUFF has become a leading supplier of accessories in the hydraulics industry.

From the beginning, STAUFF has focused on market requirements, offering high-quality products in conjunction with outstanding service.

STAUFF is tuned in to the needs of the global market and this, together with the benefit of an experienced and highly motivated team of employees and the use of innovative technology, enables the company to offer a sophisticated product range which will satisfy the requirements of each and every customer worldwide.

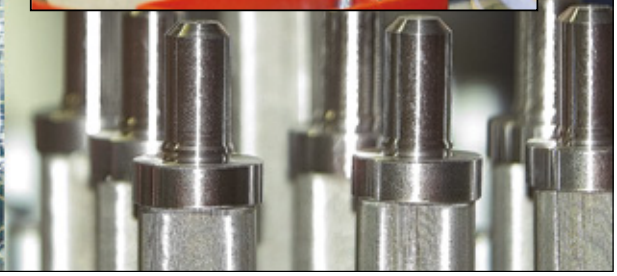
Our commitment to our customers is the same now as it was almost 60 years ago. Our exceptionally high standards of quality, our fast delivery times, outstanding service and highly qualified staff enable STAUFF to meet the increasing demands in the hydraulics industry both now and in the future.

With our expert advice, friendly service and flexible approach, STAUFF will live up to all individual expectations, guaranteeing a high level of customer satisfaction.

Convince yourself by reviewing the global STAUFF service offering.









Home
Values
History
Locations
Applications
Quality
Contact Us

History

A long history of expertise - the foundation for future vision and innovation.

The story of the STAUFF Group begins in the 1950s in the heart of Germany when the company was founded as a contract machine shop. The company supplied local industrial businesses with customized machined parts.

In the early 1960s, the founder of the company, Arnold Menshen, recognized the advantages of a vibration and noise reducing pipe support. This was the start of the STAUFF clamp success story. Originally made of wood, and then later plastic, the clamp is used as a support system for pipes and hoses.

In the modern fields of pipe construction, plant construction, mechanical engineering, mobile hydraulics, offshore and shipbuilding industries, life without the STAUFF clamp is unthinkable.

At the beginning of the company's history, all supplies were shipped from Germany. In 1972, STAUFF made the journey across the Atlantic to ensure the company could meet increasing demand and guarantee fast availability. The first overseas branch of STAUFF was established in New Jersey, giving birth to the STAUFF Corporation.

Over the years, STAUFF has continued to grow steadily under the direction of Knut Menshen, while the product portfolio has been continually adapted and expanded.

Today the global network of STAUFF distribution bases and manufacturing facilities covers all corners of the globe.

As a complete provider with branches and trading partners worldwide and a comprehensive product and service portfolio, STAUFF is one of today's leading suppliers of accessories in the international hydraulics industry.

The STAUFF company, which is wholly owned by the Menshen family, employs around 1100 staff and generates annual turnover in excess of EUR 165 million.





Home
Values
History
Locations
Applications
Quality
Contact Us

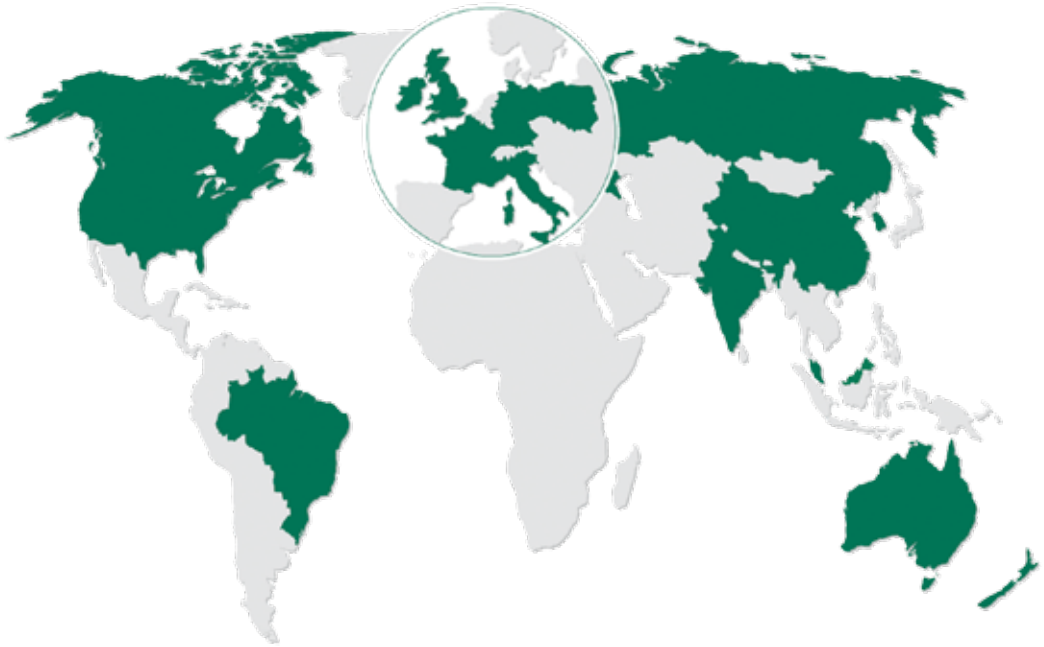
Locations

STAUFF worldwide - wherever you need us... we are there!

In 2002, the STAUFF logistics centre in Neuenrade-Küntrop was commissioned to ensure shortest possible order processing times. In addition to high capacity volumes, it offers fexibility with regard to delivery quality and reliability.

The quest for growth and the resulting targeted expansion in key geographical regions has catapulted the STAUFF Group to its present position of an international market leader.







Home
Values
History
Locations
Applications
Quality
Contact Us

Product Applications

Our products are a driving force, whether on land, on water or in the air.

The exceptional quality of the equipment and the machines in which STAUFF products are used form the benchmark for the functionality and precision of the STAUFF product portfolio.

STAUFF products play a crucial role in many key sectors such as mobile and industrial hydraulics.

The complete portfolio is as varied as the sectors in which the products are used.









Home
Values
History
Locations
Applications
Quality
Contact Us

Quality Assurance

Our word of honour - Constant checks guarantee consistently high quality.

All STAUFF products undergo continuous checks and tests in our own laboratories, which meet international standards. The STAUFF quality management system, which is certified in accordance with ISO 9001:2008, distinguishes itself with its continuous efforts to achieve best results.

This is complemented by the international guideline ISO 14001:2004 for environmental protection. The successful implementation of the occupational health and safety management system OHSAS 18001:2007 guarantees optimum protection at work and health and safety at work for employees, customers and visitors in the context of minimizing downtime and production disruptions.

Affiliated services are also an important component in the management system alongside product quality, which is constantly focused on the needs of our customers. These also take into account the expectations of all of the other partners involved.

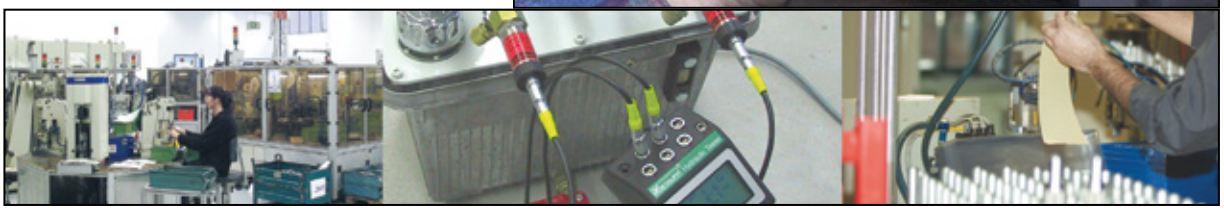
Numerous country-specific approvals and certificates as well as the efforts of all of the STAUFF subsidiaries to conform to the highest standards concerning quality, the environment and health and safety, result in standards being set world-wide for all of the products and services and secures STAUFF a competitive advantage at all levels. Numerous independent product approvals confirm this.

" It's only by looking ahead that we can ensure customer satisfaction in the future.

We are driven by our sense of duty towards our customers.

Together with our customers we are constantly striving for progress and innovation."





Contact Us

For The Answers You Need, Contact Us …

At Stauff, we're here to serve you.

We're committed to providing the best customer service in the industry.

Here are the e-mail links to key people and departments. Just click on the link to send an e-mail any time day or night.

Tell us what you need and we'll respond.

You'll get the answers you need from the people who know how to make it happen.

ADMINISTRATION/EMPLOYMENT
admin@stauffusa.com

CUSTOMER SERVICE
customerservice@stauffusa.com

LITERATURE/MARKETING/TRADE SHOWS/ PRODUCT INFORMATION
sales@stauffusa.com

ENGINEERING/PRODUCT SUPPORT
Clamp Products
clamps@stauffusa.com

Valves, Test, Accessories
valves@stauffusa.com

Filters, Filtration Accessories, Flowmeters
filtertech@stauffusa.com

COMPUTER OPERATIONS
mis@stauffusa.com

QUALITY ISSUES
quality@stauffusa.com





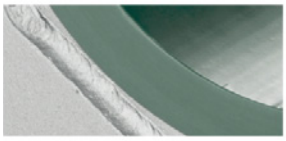


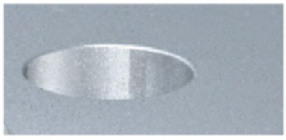
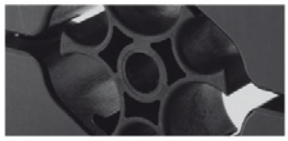





Home
Standard
Heavy
Twin Series
Heavy Twin
Compact Twin
Agriculture Twin
Plastic Saddle
Custom-Designed
Light
Construction
Steel U-Bolts
Metal Pipe Clamps
Heavy Saddles
Light Saddles
Cushion Clamps
Industry-Specific
Technical

Stauff Clamps







In most industrial countries STAUFF Clamps symbolize quick and easy pipe and hose installations as well as a clean distinct pipe layout.

The vibration and noise reducing features are appreciated as being an important contribution to environmental protection.

Apart from the technical sophistication of STAUFF Clamps, the second-to-none delivery, prompt service even for special constructions, STAUFF Clamps are also the most economical ones to install.

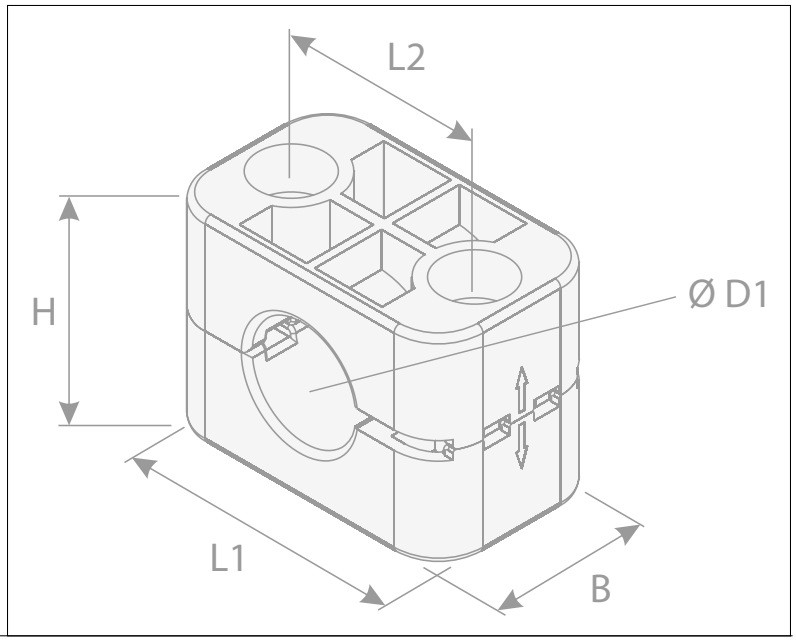
STAUFF Clamps applications are almost unlimited. Due to the extraordinary wide product range, almost all areas of pipe, tube, hose and cable installation are covered:

- Industrial Hydraulics
- Mobile Hydraulics
- Marine Hydraulics
- Offshore
- General Industrial Pipe Construction
- Mining Industry
- Nuclear Reactor Construction
- Instrumentation and Control Technology
- Pneumatics

STAUFF Clamps have been successfully tested and approved by several international organizations, including:

- American Bureau of Shipping
- Bureau Veritas
- Department of the Navy, New York
- Germanischer Lloyd
- Lloyd's Register of Shipping
- Registro Italiano Navale
- Russian Maritime Register of Shipping
- Technischer Überwachungsverein TÜV
- United States Coast Guard

Please do not hesitate to contact STAUFF for further details.





Home
Standard
Heavy
Twin Series
Heavy Twin
Compact Twin
Agriculture Twin
Plastic Saddle
Custom-Designed
Light
Construction
Steel U-Bolts
Metal Pipe Clamps
Heavy Saddles
Light Saddles
Cushion Clamps
Industry-Specific
Technical

Standard Series (DIN 3015, Part 1)

Clamp Bodies

Profiled Inside Surface (PP / PA / SA / AL)
Smooth Inside Surface (PP / PA / SA) H
With Rubber Insert (PP / PA) RI
Compact Design (PP / PA) CC
Rectangular Design (PP / PA) VK
Oval Design (PP / PA)
Anti Corrosion Technology ACT

Weld Plates

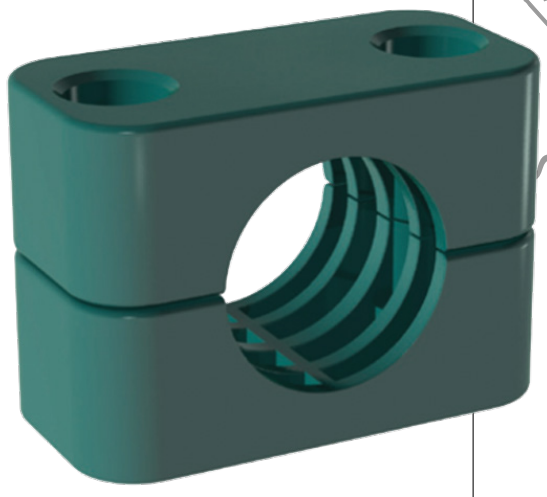
Weld Plate SP
Elongated Weld Plate SPV
Twin Weld Plate DSP
Group Weld Plate RAP
Angled Weld Plate WSP
Bridge Weld Plate BSP
Multi-Group Weld Plate RAP-MGR
Clamp Body for Multi-Group Weld Plate (PP / PA) MGR

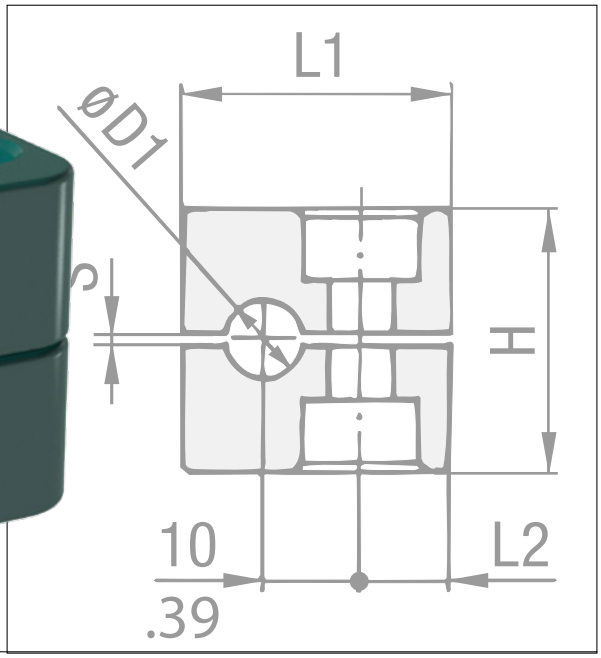
Mounting Components

Hexagon Rail Nut SM
Mounting Rail TS
Channel Rail Adaptor CRA
Cover Plate DP
Hexagon Head Bolt (for use with Cover Plate DP) AS
Safety Washer (DIN 93) SI
Safety Washer (DIN 463) SI
Socket Cap Screw IS
Slotted Head Screw LI
Hexagon Head Bolt (for use with Insert ES / EP) ASE
Insert ES / EP
Safety Locking Plate SIG
Stacking Bolt AF

Technical

Clamp Assemblies
Technical Appendix














Home
Standard
Heavy
Twin Series
Heavy Twin
Compact Twin
Agriculture Twin
Plastic Saddle
Custom-Designed
Light
Construction
Steel U-Bolts
Metal Pipe Clamps
Heavy Saddles
Light Saddles
Cushion Clamps
Industry-Specific
Technical

Heavy Series (DIN 3015, Part 2)

Clamp Bodies

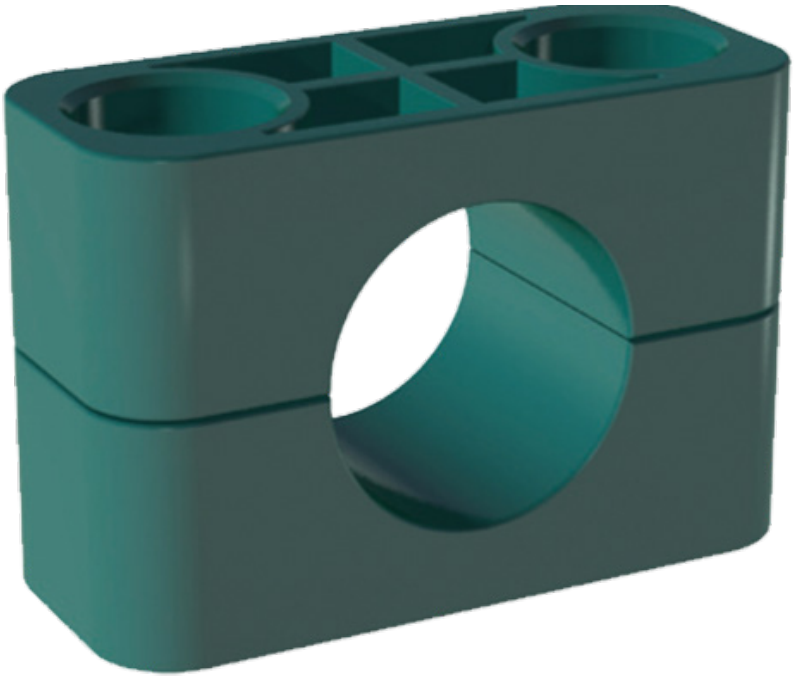
Profiled Inside Surface (PP / PA / SA / AL)
Smooth Inside Surface (PP / PA / SA) H
With Rubber Insert (PP / PA) RI

Weld Plates

Weld Plate for Single Clamps SPAL
Weld Plate for Double Clamps SPAS
Elongated Weld Plate for Single Clamps SPAL/DUEB
Elongated Weld Plate for Double Clamps SPAS/DUEB

Mounting Components

Mounting Rail Nut GMV
Mounting Rail STSV
Channel Rail Adaptor CRA
Cover Plate for Single Clamps DPAL
Cover Plate for Double Clamps DPAS
Hexagon Head Bolt AS
Socket Cap Screw IS
Safety Washer (DIN 93) SI
Safety Washer (DIN 463) SI
Safety Locking Plate SIP
Stacking Bolt AF



Technical

Clamp Assemblies
Technical Appendix



Home
Standard
Heavy
Twin Series
Heavy Twin
Compact Twin
Agriculture Twin
Plastic Saddle
Custom-Designed
Light
Construction
Steel U-Bolts
Metal Pipe Clamps
Heavy Saddles
Light Saddles
Cushion Clamps
Industry-Specific
Technical

Twin Series (DIN 3015, Part 3)

Clamp Bodies

Profiled Inside Surface (PP / PA)
Smooth Inside Surface (PP / PA) H

Weld Plates

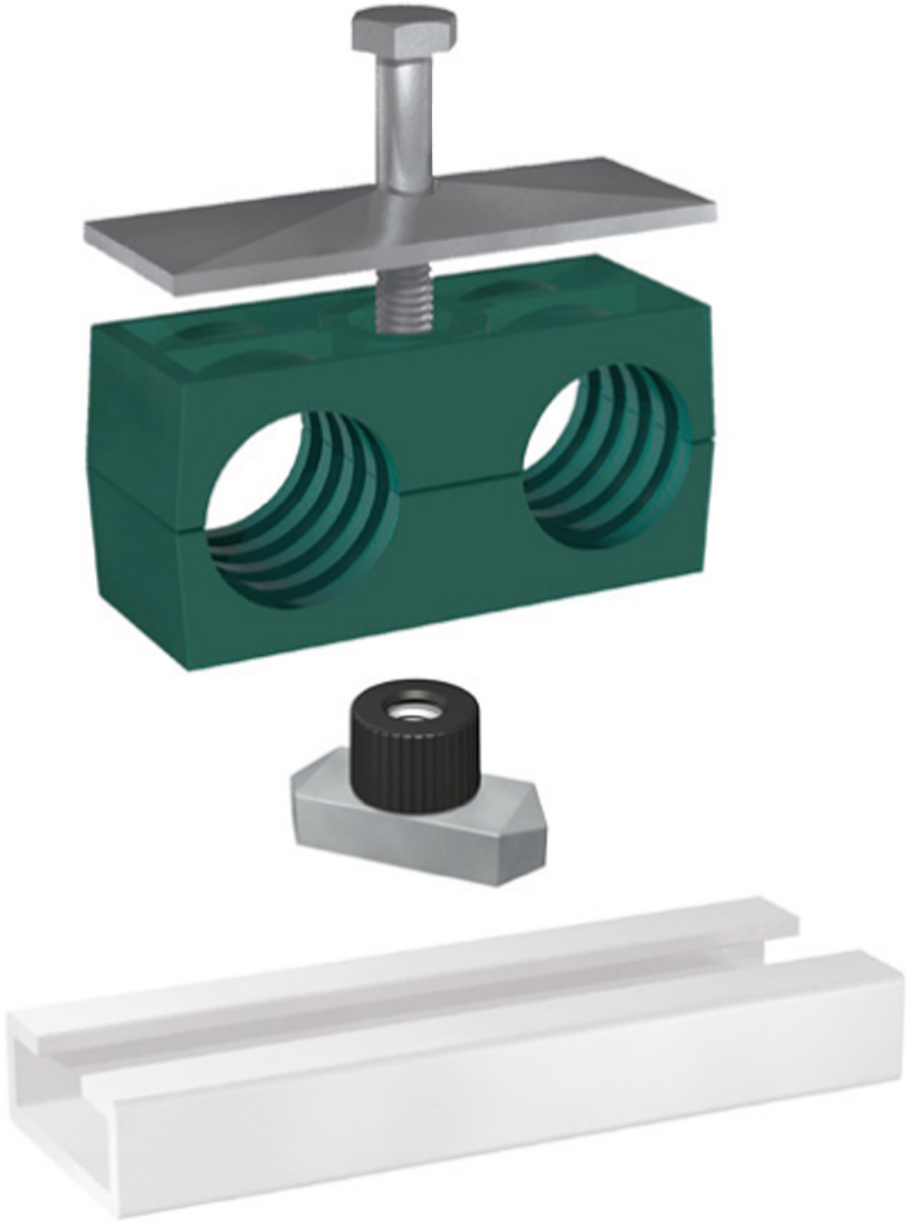
Single Weld Plate SP
Group Weld Plate RAP

Mounting Components

Hexagon Rail Nut SM
Mounting Rail TS
Channel Rail Adaptor CRA
Cover Plate GD
Hexagon Head Bolt AS
Safety Locking Plate SI
Safety Locking Plate SIV
Stacking Bolt AF

Technical

Clamp Assemblies
Technical Appendix



Home
Standard
Heavy
Twin Series
Heavy Twin
Compact Twin
Agriculture Twin
Plastic Saddle
Custom-Designed
Light
Construction
Steel U-Bolts
Metal Pipe Clamps
Heavy Saddles
Light Saddles
Cushion Clamps
Industry-Specific
Technical

Heavy Twin Series

Clamp Bodies

Profiled Inside Surface (PP / PA)
With Rubber Inserts (PP / PA) RI

Weld Plates

Weld Plate SPAD

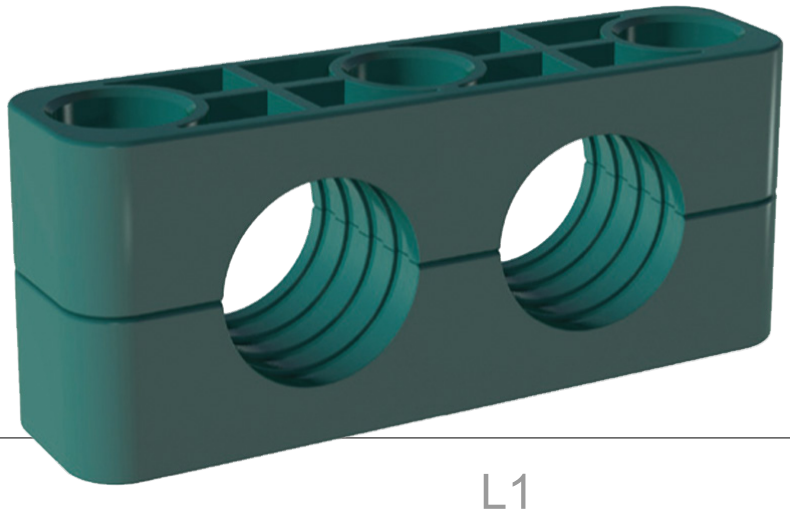
Mounting Components

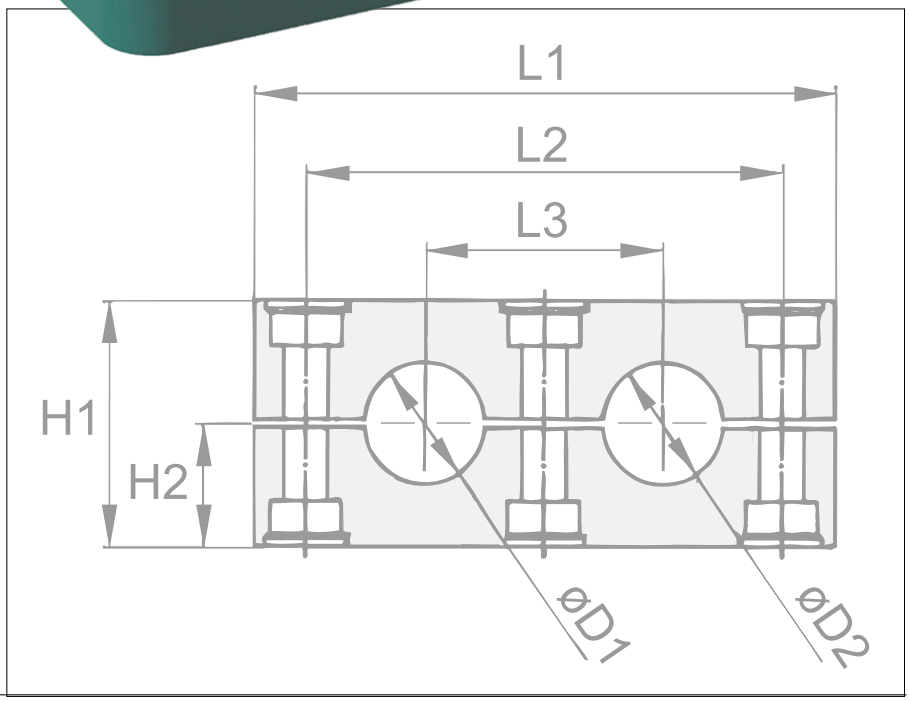
Cover Plate DPAD
Hexagon Head Bolt AS
Mounting Rail Nut GMV
Mounting Rail STSV
Channel Rail Adaptor CRA
Socket Cap Screw IS
Safety Locking Plate SIPD
Stacking Bolt AF

Technical

Clamp Assemblies
Technical Appendix









Home
Standard
Heavy
Twin Series
Heavy Twin
Compact Twin
Agriculture Twin
Plastic Saddle
Custom-Designed
Light
Construction
Steel U-Bolts
Metal Pipe Clamps
Heavy Saddles
Light Saddles
Cushion Clamps
Industry-Specific
Technical

Light Series • Types LBBU

Clamp Bodies

Single Design

Twin Design

Weld Plates

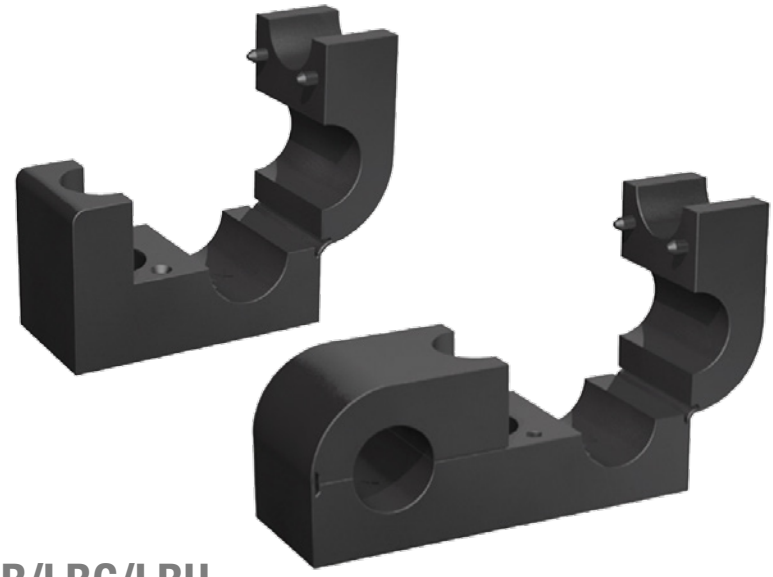
Weld Plate LBBU-SP

Mounting Components

Sleeve LBBU-HUE

Cover Plate LBBU-DP

Hexagon Head Bolt AS



Light Series • Types LB/LBG/LBU

Clamp Bodies

Single Design LB

Twin Design LBG/LBU



Light Series • Types LN/LNGF/LNUF

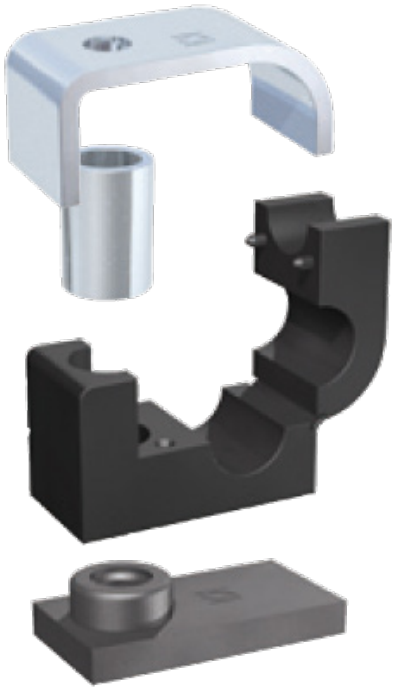
Clamp Bodies

Single Design LN

Twin Design LNGF/LNUF

Cover Plate

Twin Design DPL



Home
Standard
Heavy
Twin Series
Heavy Twin
Compact Twin
Agriculture Twin
Plastic Saddle
Custom-Designed
Light
Construction
Steel U-Bolts
Metal Pipe Clamps
Heavy Saddles
Light Saddles
Cushion Clamps
Industry-Specific
Technical

Steel U-Bolts A70

Flat

Flat Steel U-Bolt with Plastic Pipe Saddle (Short) and U-Profile FB / RUK

Round

Round Steel U-Bolt with Plastic Pipe Saddle (Short) RB / RUK

Round Steel U-Bolt with Plastic Pipe Saddle (Long) RB / RUL

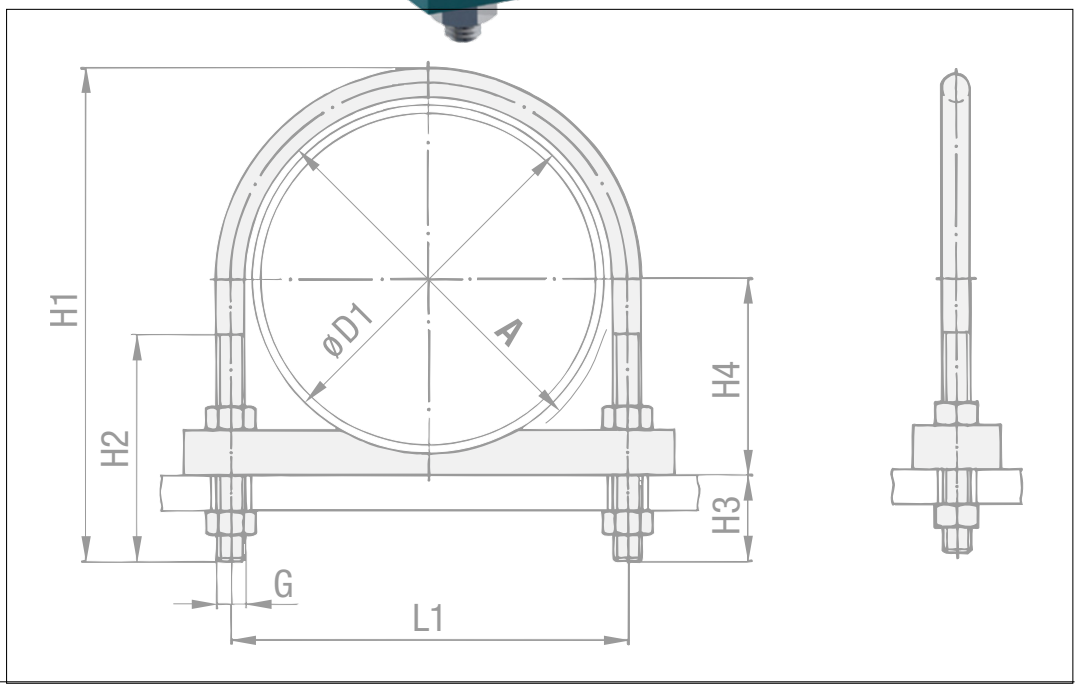
Round Steel U-Bolt without Plastic Pipe Saddle RBD

Rubber Coated

Rubber-Shrouded Round Steel U-Bolt RSU

Rubber-Lined Flat Steel U-Bolt LUS



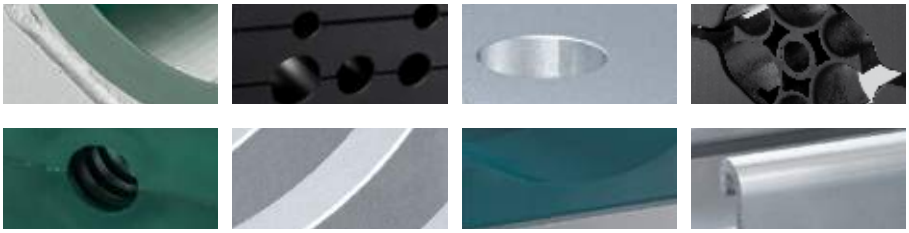


Home
Standard
Heavy
Twin Series
Heavy Twin
Compact Twin
Agriculture Twin
Plastic Saddle
Custom-Designed
Light
Construction
Steel U-Bolts
Metal Pipe Clamps
Heavy Saddles
Light Saddles
Cushion Clamps
Industry-Specific
Technical

Technical Appendix

Standard Clamp Body Materials
Standard Rubber Insert Materials
Special Clamp Body Materials
Standard Clamp Body Designs
Materials and Surface Finishings of Metal Parts
Property Classes / Grades of Bolts and Screws
Thread Conversion Chart
General Installation Instructions
Tightening Torques / Maximum Loads in Pipe Direction
Dimensions and Weights of Clamp Assemblies
Packaging Units (Selection)





In most industrial countries STAUFF Clamps symbolise quick and easy pipe and hose installations as well as a clean distinct pipe layout.

The vibration and noise reducing features are appreciated as being an important contribution to environmental protection.

Apart from the technical sophistication of STAUFF Clamps, the second-to-none delivery, prompt service even for special constructions, STAUFF Clamps are also the most economical ones to install.

STAUFF Clamps applications are almost unlimited. Due to the extraordinary wide product range, almost all areas of pipe, tube, hose and cable installation are covered:

- Industrial Hydraulics
- Mobile Hydraulics
- Marine Hydraulics
- Offshore
- General Industrial Pipe Construction
- Mining Industry
- Nuclear Reactor Construction
- Instrumentation and Control Technology
- Pneumatics

STAUFF Clamps have been successfully tested and approved by several international organisations, including:

- American Bureau of Shipping
- Bureau Veritas
- Department of the Navy, New York
- Germanischer Lloyd
- Lloyd's Register of Shipping
- Registro Italiano Navale
- Russian Maritime Register of Shipping
- Technischer Überwachungsverein TÜV
- United States Coast Guard

Please do not hesitate to contact STAUFF for further details.

www.stauff.com

A

STAUFF Clamps

Index	A2
Standard Series (DIN 3015, Part 1)	A6
Heavy Series (DIN 3015, Part 2)	A26
Twin Series (DIN 3015, Part 3)	A42
Heavy Twin Series	A52
Compact Twin Series	A56
Agriculture Twin Series	A56
Plastic Saddle Clamps	A57
Custom-Designed Clamps	A58
Light Series	A60
Construction Series	A68
Flat and Round Steel U-Bolts	A70
Metal Pipe Clamps	A78
Heavy Saddles	A80
Light Saddles	A82
Cushion Clamp Series	A84
Industry-Specific Solutions	A86
Technical Appendix	A88

Standard Series (DIN 3015, Part 1)

	**Clamp Body ▪ Profiled Inside Surface** (PP / PA / SA / AL)		**A6**
	**Clamp Body ▪ Smooth Inside Surface** (PP / PA / SA)	H	**A7**
	**Clamp Body with Rubber Insert** (PP / PA)	RI	**A8**
	**Clamp Body ▪ Compact Design** (PP / PA)	CC	**A9**
	**Clamp Body ▪ Rectangular Design** (PP / PA)	VK	**A9**
	**Clamp Body ▪ Oval Design** (PP / PA)		**A9**
	**Clamp Body** (Anti Corrosion Technology)	ACT	**A10**
	**Weld Plate**	SP	**A12**
	**Elongated Weld Plate**	SPV	**A12**
	**Twin Weld Plate**	DSP	**A13**
	**Group Weld Plate**	RAP	**A13**
	**Angled Weld Plate**	WSP	**A14**
	**Bridge Weld Plate**	BSP	**A14**
	**Multi-Group Weld Plate**	RAP-MGR	**A15**
	**Clamp Body for Multi-Group Weld Plate** (PP / PA)	MGR	**A15**
	**Hexagon Rail Nut**	SM	**A16**
	**Mounting Rail**	TS	**A16**
	**Channel Rail Adaptor**	CRA	**A17**
	**Cover Plate**	DP	**A18**
	**Hexagon Head Bolt** (for use with Cover Plate DP)	AS	**A18**
	**Safety Washer (DIN 93)**	SI	**A19**
	**Safety Washer (DIN 463)**	SI	**A19**
	**Socket Cap Screw**	IS	**A20**
	**Slotted Head Screw**	LI	**A20**
	**Hexagon Head Bolt** (for use with Insert ES / EP)	ASE	**A20**
	**Insert**	ES / EP	**A20**
	**Safety Locking Plate**	SIG	**A21**
	**Stacking Bolt**	AF	**A21**
	Clamp Assemblies		**A22**
	Technical Appendix		**A88**

Heavy Series (DIN 3015, Part 2)

	**Clamp Body ▪ Profiled Inside Surface** (PP / PA / SA / AL)		**A26**
	**Clamp Body ▪ Smooth Inside Surface** (PP / PA / SA)	H	**A28**
	**Clamp Body with Rubber Insert** (PP / PA)	RI	**A29**
	**Weld Plate for Single Clamps**	SPAL	**A30**
	**Weld Plate for Double Clamps**	SPAS	**A30**
	**Elongated Weld Plate for Single Clamps**	SPAL/DUEB	**A31**
	**Elongated Weld Plate for Double Clamps**	SPAS/DUEB	**A31**
	**Mounting Rail Nut**	GMV	**A32**
	**Mounting Rail**	STSV	**A32**
	**Channel Rail Adaptor**	CRA	**A33**
	**Cover Plate for Single Clamps**	DPAL	**A34**
	**Cover Plate for Double Clamps**	DPAS	**A34**
	**Hexagon Head Bolt**	AS	**A35**
	**Socket Cap Screw**	IS	**A35**
	**Safety Washer (DIN 93)**	SI	**A36**
	**Safety Washer (DIN 463)**	SI	**A36**
	**Safety Locking Plate**	SIP	**A37**
	**Stacking Bolt**	AF	**A3**
	Clamp Assemblies		**A38**
	Technical Appendix		**A88**

Twin Series (DIN 3015, Part 3)

	**Clamp Body ▪ Profiled Inside Surface** (PP / PA)		**A42**
	**Clamp Body ▪ Smooth Inside Surface** (PP / PA)	H	**A42**
	**Single Weld Plate**	SP	**A43**
	**Group Weld Plate**	RAP	**A43**
	**Hexagon Rail Nut**	SM	**A44**
	**Mounting Rail**	TS	**A44**
	**Channel Rail Adaptor**	CRA	**A45**
	**Cover Plate**	GD	**A46**
	**Hexagon Head Bolt**	AS	**A46**
	**Safety Locking Plate**	SI	**A47**
	**Safety Locking Plate**	SIV	**A47**
	**Stacking Bolt**	AF	**A48**
	Clamp Assemblies		**A49**
	Technical Appendix		**A88**

Heavy Twin Series

	**Clamp Body ▪ Profiled Inside Surface** (PP / PA)		**A52**
	**Clamp Body with Rubber Inserts** (PP / PA)	RI	**A52**
	**Weld Plate**	SPAD	**A53**
	**Cover Plate**	DPAD	**A53**
	**Hexagon Head Bolt**	AS	**A54**
	**Mounting Rail Nut**	GMV	**A54**
	**Mounting Rail**	STSV	**A54**
	**Channel Rail Adaptor**	CRA	**A54**
	**Socket Cap Screw**	IS	**A54**
	**Safety Locking Plate**	SIPD	**A54**
	**Stacking Bolt**	AF	**A54**
	Clamp Assemblies		**A55**

Compact Twin Series

	**Clamp Body ▪ Profiled Inside Surface** (PP)	DS1	**A56**
	**Single Weld Plate**	SP DS1	**A56**
	**Cover Plate**	US DS1	**A56**
	**Hexagon Head Bolt**	AS DS1	**A54**

Agriculture Twin Series

	**Clamp Body** (PP)	AG	**A56**

Plastic Saddle Clamps

	**Saddle Clamps for Cylinder Supply Lines**	ZR 518	**A57**
	**Custom-Designed Plastic Saddle Clamps**		**A57**

Custom-Designed Clamps

	**Machined Versions**		**A58**
	**Injection Moulded Versions (Flexi Clamps)**		**A59**

Light Series ▪ Types LBBU

	**Clamp Body ▪ Single Design**		**A60**
	**Clamp Body ▪ Twin Design**		**A61**
	**Weld Plate**	LBBU-SP	**A62**
	**Sleeve**	LBBU-HUE	**A62**
	**Cover Plate**	LBBU-DP	**A63**
	**Hexagon Head Bolt**	AS	**A63**

Light Series ▪ Types LB/LBG/LBU

	**Clamp Body ▪ Single Design**	LB	**A64**
	**Clamp Body ▪ Twin Design**	LBG/LBU	**A65**

Light Series ▪ Types LN/LNGF/LNUF


Clamp Body ▪ Single Design — LN — A66


Clamp Body ▪ Twin Design — LNGF/LNUF — A67


Cover Plate ▪ Twin Design — DPL — A67

Construction Series


Construction Series — KS / DKS — A68


Construction Series (for Anchor Bolt Fastening) — KSV / DKSV — A69

Flat and Round Steel U-Bolts


Flat Steel U-Bolt with Plastic Pipe Saddle (Short) and U-Profile — FB / RUK — A70


Round Steel U-Bolt with Plastic Pipe Saddle (Short) — RB / RUK — A72


Round Steel U-Bolt with Plastic Pipe Saddle (Long) — RB / RUL — A74


Round Steel U-Bolt without Plastic Pipe Saddle — RBD — A76


Rubber-Shrouded Round Steel U-Bolt — RSU — A77


Rubber-Lined Flat Steel U-Bolt — LUS — A77

Metal Pipe Clamps


Metal Pipe Clamp with Rounded Ends — DIN 3567-A — A78


Metal Pipe Clamp with Rounded Ends and One-Side Elongated Shaft — DIN 3567-B — A79

Heavy Saddles


Heavy Saddles ▪ Single-Ended Design — DIN 1592 — A80


Heavy Saddles ▪ Double-Ended Design — DIN 1593 — A81

Light Saddles


Light Saddles ▪ Single-Ended Design — DIN 1596 — A82


Light Saddles ▪ Double-Ended Design — DIN 1597 — A83

Cushion Clamp Series


Cushion Clamp Series — STC / SPC — A84


Channel Rail — SCS — A85

Industry-Specific Solutions


For Power Plants — A86


For Wind Power Stations — A86


For Rail Technology Applications — A86


For Process Technology Applications — A86

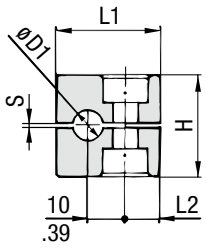
Technical Appendix

Standard Clamp Body Materials — A88
Standard Rubber Insert Materials — A88
Special Clamp Body Materials — A89
Standard Clamp Body Designs — A90
Materials and Surface Finishings of Metal Parts — A91
Property Classes / Grades of Bolts and Screws — A91
Thread Conversion Chart — A91
General Installation Instructions — A92
Tightening Torques / Maximum Loads in Pipe Direction — A93
Dimensions and Weights of Clamp Assemblies — A94
Packaging Units (Selection) — A95

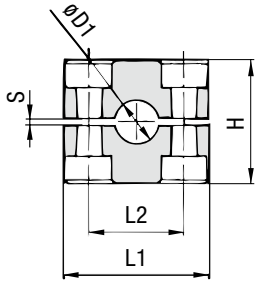
Clamp Body ▪ Profiled Design

Profiled Inside Surface with Tension Clearance





STAUFF Group 1



STAUFF Group 1A to 8

Order Codes

Clamp Body ***1*06*PP**
Clamp Body, STAUFF Group 1A ***1*06A*PP**

One clamp body is consisting of two clamp halves.

* STAUFF Group	**1**
* Exact outside diameter Ø D1 (mm)	**06**
* Material code (see below)	**PP**

Standard Materials

Polypropylene
Colour: Green
Material code: **PP**

Polyamide
Colour: Black
Material code: **PA**

Thermoplastic Elastomer (87 Shore-A)
Colour: Black
Material code: **SA**

Aluminium
Colour: Self-Colour
Material code: **AL**

See page A88 for material properties and technical information.

Special Materials

Please consult STAUFF for further details on fire-proof clamp body materials, tested and approved according to several international fire-protection standards.

See page A89 for material properties and technical information.

Product Features

- Proven, tested and trusted product in various markets
- Recommended for the safe installation of rigid pipes and tubes
- Available for all commonly used pipe and tube outside diameters
- Environmental protection due to vibration/noise reducing design
- Excellent weathering resistance, even under extreme conditions

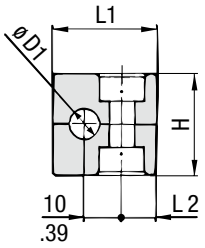
Group STAUFF	Group DIN	Outside Diameter Pipe / Tube Ø D1 (mm)	Outside Diameter Pipe / Tube Ø D1 (in)	Nominal Bore Pipe (in)	Nominal Bore Copper Tube (in)	Order Codes (2 Clamp Halves) (** = Material)	Dimensions (mm/in) L1	L2	H	S min.	Width
1	0	6				106 **					
		6,4	1/4			106,4 **					
		8	5/16			108 **	28	9,5	27	0,4	30
		9,5	3/8		1/4	109,5 **	1.10	.37	1.06	.02	1.18
		10		1/8		110 **					
		12				112 **					
1A	1	6				106A **					
		6,4	1/4			106,4A **					
		8	5/16			108A **	37	20	27	0,4	30
		9,5	3/8		1/4	109,5A **	1.46	.79	1.06	.02	1.18
		10		1/8		110A **					
		12				112A **					
2	2	12,7	1/2		3/8	212,7 **					
		13,5		1/4		213,5 **					
		14				214 **	42	26	33	0,6	30
		15				215 **	1.65	1.02	1.30	.02	1.18
		16	5/8		1/2	216 **					
		17,2		3/8		217,2 **					
		18				218 **					
3	3	19	3/4			319 **					
		20				320 **					
		21,3		1/2		321,3 **	50	33	36	0,6	30
		22			3/4	322 **	1.97	1.30	1.42	.02	1.18
		25				325 **					
		25,4	1			325,4 **					
4	4	26,9		3/4		426,9 **					
		28				428 **					
		28,6			1	428,6 **	59	40	42	0,6	30
		30				430 **	2.32	1.57	1.65	.02	1.18
		32				432 **					
5	5	32	1-1/4			532 **					
		33,7		1		533,7 **					
		35			1-1/4	535 **					
		38	1-1/2			538 **	71	52	58	0,8	30
		40				540 **	2.80	2.05	2.28	.03	1.18
		41,3			1-1/2	541,3 **					
		42		1-1/4		542 **					
6	6	44,5	1-3/4			644,5 **					
		48,3		1-1/2		648,3 **	86	66	66	0,8	30
		50,8	2			650,8 **	3.39	2.60	2.60	.03	1.18
		54			2	654 **					
7	7	57,2	2-1/4			757,2 **					
		60,3		2		760,3 **					
		63,5	2-1/2			763,5 **	121	94	93	0,8	30
		70	2-3/4			770 **	4.76	3.70	3.66	.03	1.18
		73		2-1/2 (ANSI B 36-10)		773 **					
		76,1	3	2-1/2 (DIN EN 10220)		776,1 **					
8	8	88,9		3		888,9 **	147	120	118	0,8	30
		102	4	3-1/2		8102L **	5.79	4.72	4.65	.03	1.18

Additional outside diameters are available upon request. Please consult STAUFF for further information.

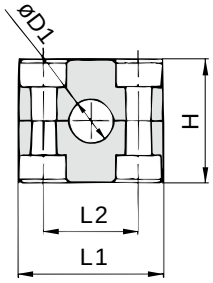
Dimensional drawings: All dimensions in mm (in).

Clamp Body ▪ Type H

Smooth Inside Surface without Tension Clearance



STAUFF Group 1



STAUFF Group 1A to 8



Group STAUFF	Group DIN	Outside Diameter Hose Ø D1 (mm)	Outside Diameter Hose Ø D1 (in)	Nominal Bore Hydraulic Hose SAE 100 R1 AT (in)	Order Codes (2 Clamp Halves) (*** = Material)	Dimensions (mm/in) L1	L2	H	Width
1	0	6			106 ***				
		6,4	1/4		106,4 ***				
		8	5/16		108 ***	28	9,5	26	30
		9,5	3/8		109,5 ***	1.10	.37	1.02	1.18
		10			110 ***				
		12			112 ***				
1A	1	6			106A ***				
		6,4	1/4		106,4A ***				
		8	5/16		108A ***	37	20	26	30
		9,5	3/8		109,5A ***	1.46	.79	1.02	1.18
		10			110A ***				
		12			112A ***				
2	2	12,7	1/2		212,7 ***				
		13,5			213,5 ***				
		14			214 ***				
		15			215 ***	42	26	32	30
		16	5/8		216 ***	1.65	1.02	1.26	1.18
		17,2			217,2 ***				
		18			218 ***				
3	3	13,4		1/4	313,4 ***				
		17,4		3/8	317,4 ***				
		19	3/4		319 ***				
		20			320 ***				
		20,5		1/2	320,5 ***	50	33	35,5	30
		21,3			321,3 ***	1.97	1.30	1.40	1.18
		22			322 ***				
		23,9		5/8	323,9 ***				
		25			325 ***				
		25,4	1		325,4 ***				
4	4	26,9			426,9 ***				
		28			428 ***	59	40	41,5	30
		30			430 ***	2.32	1.57	1.63	1.18
		32			432 ***				
5	5	27,8		3/4	527,8 ***				
		32	1-1/4		532 ***				
		33,7			533,7 ***				
		35			535 ***				
		35,7		1	535,7 ***	71	52	56,5	30
		38	1-1/2		538 ***	2.80	2.05	2.22	1.18
		40			540 ***				
		42			542 ***				
		43,8		1-1/4	543,8 ***				
6	6	44,5	1-3/4		644,5 ***				
		48,3			648,3 ***				
		49,8		1-1/2	649,8 ***	86	66	64,5	30
		50,8	2		650,8 ***	3.39	2.60	2.54	1.18
		54			654 ***				
7	7	57,2	2-1/4		757,2 ***				
		60,3			760,3 ***				
		63,5	2-1/2		763,5 ***	121	94	92	30
		70	2-3/4		770 ***	4.76	3.70	3.62	1.18
		73			773 ***				
		76,1	3		776,1 ***				
8	8	88,9			888,9 ***	147	1	116	30
		102	4		8102L ***	5.79	4.72	4.57	1.18

Order Codes

Clamp Body ***1*06*PPH**

Clamp Body, STAUFF Group 1A ***1*06A*PPH**

One clamp body is consisting of two clamp halves.

* STAUFF Group	**1**
* Exact outside diameter Ø D1 (mm)	**06**
* Material code (see below)	**PPH**

Standard Materials

Polypropylene
Colour: Green
Material code: **PPH**

Polyamide
Colour: Black
Material code: **PAH**

Thermoplastic Elastomer (87 Shore-A)
Colour: Black
Material code: **SAH**

See page A88 for material properties and technical information.

Special Materials

Please consult STAUFF for further details on fire-proof clamp body materials, tested and approved according to several international fire-protection standards.

See page A89 for material properties and technical information.

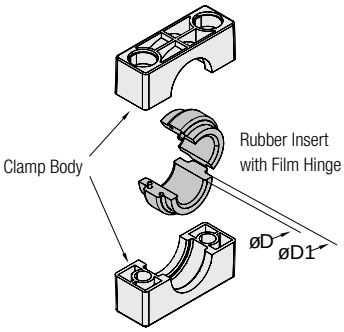
Product Features

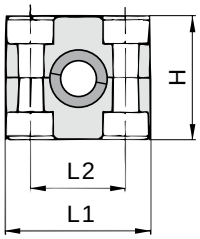
- Proven, tested and trusted product in various markets
- Recommended for the safe installation of hoses and cables
- Chamfered edges avoid damaging of the hoses and cables
- Available for all commonly used hose and cable outside diameters
- Excellent weathering resistance, even under extreme conditions

Dimensional drawings: All dimensions in mm (in).

Clamp Body with Rubber Insert
Type RI







Order Codes

Clamp Assembly ***4*06*PPR**

One assembly is consisting of one clamp body and one insert.

- * STAUFF Group **4**
- * Exact outside diameter Ø D (mm) **06**
- * Material code (see below) **PPR**

Clamp Body ***4*PPR**

One clamp body is consisting of two clamp halves.

- * STAUFF Group **4**
- * Material code (see below) **PPR**

Rubber Insert ***RI*06*(4+4S)**

- * Rubber Insert **RI**
- * Exact outside diameter Ø D (mm) **06**
- * STAUFF Group 4 (Standard) and 4S (Heavy) **(4+4S)**
  6 (Standard) and 5S (Heavy) **(6+5S)**

Group STAUFF	Group DIN	Outside Diameter Pipe / Tube / Hose Ø D (mm)	(in)	Order Codes (✱✱R = Clamp Body Material) Clamp Assembly (Clamp Body + Rubber Insert)	Clamp Body (2 Clamp Halves)	Rubber Insert *	Dimensions (mm/in) Ø D1	L1	L2	H	Width
4	4	6		406 ✱✱R	4 ✱✱R	RI 06 (4+4S)	25 .98	59 2.32	40 1.57	41,2 1.62	30 1.18
		8	5/16	408 ✱✱R		RI 08 (4+4S)					
		10		410 ✱✱R		RI 10 (4+4S)					
		12		412 ✱✱R		RI 12 (4+4S)					
		12,7	1/2	412,7 ✱✱R		RI 12,7 (4+4S)					
		14		414 ✱✱R		RI 14 (4+4S)					
		15		415 ✱✱R		RI 15 (4+4S)					
		16	5/8	416 ✱✱R		RI 16 (4+4S)					
		17,2		417,2 ✱✱R		RI 17,2 (4+4S)					
		18		418 ✱✱R		RI 18 (4+4S)					
		19	3/4	419 ✱✱R		RI 19 (4+4S)					
6	6	20		620 ✱✱R	6 ✱✱R	RI 20 (6+5S)	38 1.50	86 3.39	66 2.60	64,5 2.54	30 1.18
		21,3		621,3 ✱✱R		RI 21,3 (6+5S)					
		22	7/8	622 ✱✱R		RI 22 (6+5S)					
		25		625 ✱✱R		RI 25 (6+5S)					
		26,9		626,9 ✱✱R		RI 26,9 (6+5S)					
		28		628 ✱✱R		RI 28 (6+5S)					
		30		630 ✱✱R		RI 30 (6+5S)					
		32	1-1/4	632 ✱✱R		RI 32 (6+5S)					

* Rubber Inserts for Standard Series clamp bodies, STAUFF Group 4 also fit into Heavy Series clamp bodies, STAUFF Group 4S.
Rubber Inserts for Standard Series clamp bodies, STAUFF Group 6 also fit into Heavy Series clamp bodies, STAUFF Group 5S.

Additional outside diameters are available upon request. Please consult STAUFF for further information.

Standard Materials

Polypropylene
Colour: Black
Material code: **PPR**

Polyamide
Colour: Black
Material code: **PAR**

Rubber Insert
Thermoplastic Elastomer (73 Shore-A)
Colour: Black

See page A88 for material properties and technical information.

Special Materials

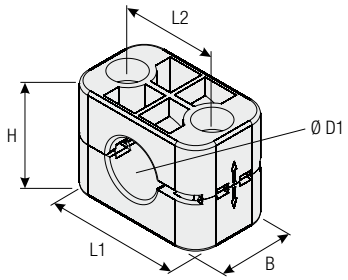
Please consult STAUFF for further details on fire-proof clamp body materials, tested and approved according to several international fire-protection standards.

See page A89 for material properties and technical information.

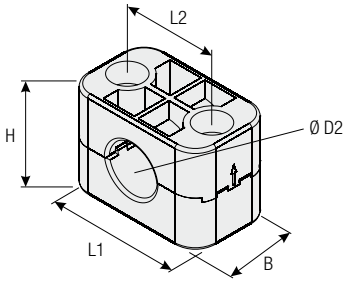
Product Features

- Proven, tested and trusted product in various markets
- Either for the extra vibration/noise reducing installation of pipes and tubes or the extra gentle installation of hoses and cables
- Available for all commonly used outside diameters
- Excellent weathering resistance, even under extreme conditions

Dimensional drawings: All dimensions in mm (in).



For Use with Regular Hose



For Use with Compact Hose
(Upper Clamp Half rotated by 180°)

Clamp Body ▪ Compact Design Type CC



Group STAUFF	Group DIN	Outside Diameter Regular Hose Ø D1 (mm)	Ø D1 (in)	Outside Diameter Compact Hose Ø D2 (mm)	Ø D2 (in)	Order Codes (2 Clamp Halves) (✱✱✱ = Material)	Dimensions (mm/in) L1	L2	H Regular Hose	H Compact Hose	B
3	3	**19**	.75	**17,4**	.69	**319✱✱✱-CC**	50 1.97	33 1.30	35,5 1.40	34 1.34	30 1.18
		22,2	.87	**20,6**	.81	**322,2✱✱✱-CC**					
		25,4	1.00	**23,7**	.93	**325,4✱✱✱-CC**					

Additional outside diameters are available upon request. Please consult STAUFF for further information.

Order Codes

Clamp Body ***3*19*PPH-CC**

One clamp body is consisting of two clamp halves.

* STAUFF Group	**3**
* Outside diameter Ø D1 (mm) of regular hose	**19**
* Material code (see below)	**PPH-CC**

Product Features

- Only one clamp body required for two different hose diameters (compact hose + regular hose)
- Rotate upper clamp half by 180° and use clamp body to fasten compact hoses instead of regular hoses
- Available for three different combinations of outside hose diamaters
- Outer dimensions according to DIN 3015, Part 1
- Effective cost reduction due to lower inventories

Special Materials

Please consult STAUFF for further details on fire-proof clamp body materials, tested and approved according to several international fire-protection standards.

See page A89 for material properties and technical information.

Standard Materials

Polypropylene
Colour: Black
Material code: **PPH-CC**

Polyamide
Colour: Black
Material code: **PAH-CC**

See page A88 for properties and technical information.

Clamp Body ▪ Rectangular Design Type VK



Order Codes

One clamp body is consisting of two clamp halves.

Clamp Body **540-40 PP-VK**
Rectangular design with a square of 40 mm x 40 mm / 1.57 in x 1.57 in

Clamp Body **540-36 PP-VK**
Rectangular design with a rectangular of 40 mm x 36 mm / 1.57 in x 1.42 in

Please replace PP by PA to order a clamp body made of Polyamide instead of Polypropylene.

Product Features

- Outer dimensions of clamp body according to Standard Series, STAUFF Group 5
- For proximity switches according to DIN EN 60947-5-2 or similar, rectangular construction, with a square of 40 mm x 40 mm / 1.57 in x 1.57 in or 40 mm x 36 mm / 1.57 in x 1.42 in
- For proximity switches according to DIN EN 60947-5-2 or similar, round construction, please use Standard Series clamp body, STAUFF Group 4, with the diameter required (e.g. 430 PP)
- Use with Hexagon Rail Nut SM and Mounting Rail TS to provide axial and horizontal position adjustment when loosening the bolts

Clamp Body ▪ Oval Design



Order Codes

One clamp body is consisting of two clamp halves.

Clamp Body **620-50 PP**
Oval design with a diameter between 20 mm / .79 in and 50 mm / 1.97 in

Please replace PP by PA to order a clamp body made of Polyamide instead of Polypropylene.

Product Features

- Outer dimensions of clamp body according to Standard Series, STAUFF Group 6
- For electric cables with diameters between 20 mm / .79 in and 50 mm / 1.97 in
- For electric cables with diameters between 40 mm / 1.57 in and 72 mm / 2.83 in, please use Heavy Series clamp body, types 6040-72 PP and 6040-72 PA
- Recommended to use with Hexagon Head Bolts AS and Cover Plate DP, Socket Cap Screw IS (with washer) or Slotted Head Screw LI (with washer)
- For varying cable diameters, only the bolt lengths need to be varied

Dimensional drawings: All dimensions in mm (in).

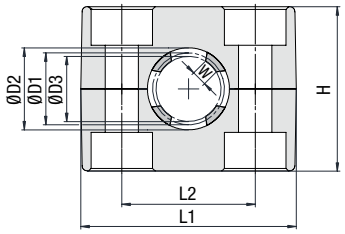
Clamp Body ▪ Type ACT

Anti Corrosion Technology





2 Integrated Rubber Strips per Clamp Half made of Anti Corrosion Elastomer ACE
(Green Colour for Illustration Purposes only)



Order Codes

Clamp Body ***2*12,7*ACT**
Clamp Body, STAUFF Group 1A ***1*06,4A*ACT**

One clamp body is consisting of two clamp halves, each one with two integrated rubber strips.

* STAUFF Group	**2**
* Exact outside diameter Ø D1 (mm)	**12,7**
* Material code (see below)	**ACT**

Standard Materials



Clamp Body made of
Flame Retardant Polypropylene (PPV0)
with Integrated Rubber Strips made of
Anti Corrosion Elastomer (ACE)
Colour: Black
Material code: **ACT**

See page A89 for material properties and technical information.

Product Features

STAUFF ACT Clamp Bodies are an innovatively designed solution for the installation of pipework where anti corrosion properties are of paramount importance (e.g. offshore oil and gas exploration).

It's design, based on the tried and tested STAUFF Clamp according to DIN 3015, offers installation time reduction and long term cost savings due to extended service intervals.

- Geometrically designed rubber strips in direct contact with the pipe to avoid crevice corrosion formed under the clamp
- No accumulation of water between clamp body and pipe
- Formation of drainage channels to aid dispersal of water
- Material and construction in compliance with Norwegian offshore standard NORSOK Z-CR-010
- To be used in sub-sea and top-side environments
- High UV stability and resistance against seawater, rain and oil

- Independently tested in laboratory and offshore conditions
- Fully detailed test reports available on request

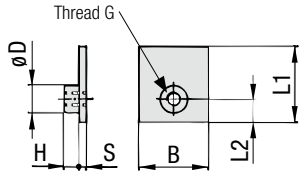
Group STAUFF	Group DIN	Outside Diameter Pipe / Tube Ø D1 (mm)	Ø D1 (in)	Order Codes (2 Clamp Halves)	Dimensions (mm/in) ØD2	ØD3	W	L1	L2	H	Width
1A	1	6		106A ACT	6,6	5,2	1,4	37	20	26	30
					.26	.20	.06	1.46	.79	1.06	1.18
		6,4	1/4	106,4A ACT	7,1	5,6	1,5				
					.28	.22	.06				
		9,5	3/8	109,5A ACT	10,5	8,3	2,3				
					.41	.33	.09				
		10		110A ACT	11,1	8,8	2,4				
					.44	.35	.09				
		12		112A ACT	13,3	10,5	2,8				
					.52	.41	.11				
2	2	12,7	1/2	212,7 ACT	14,1	11	3,0	42	26	32	30
					.56	.43	.12	1.65	1.02	1.30	1.18
		14		214 ACT	15,6	12,3	3,2				
					.61	.48	.13				
		18		218 ACT	20,0	16,3	3,8				
					.79	.64	.15				
3	3	19	3/4	319 ACT	21,1	17,3	4,0	50	33	35,5	30
					.83	.68	.16	1.97	1.30	1.42	1.18
		20		320 ACT	22,2	18,3	4,1				
					.87	.72	.16				
		21,3		321,3 ACT	23,7	19,6	4,2				
					.93	.77	.17				
		25,4	1	325,4 ACT	28,2	23,7	4,5				
					1.11	.93	.18				

Additional sizes and outside diameters are available upon request. Please consult STAUFF for further information.

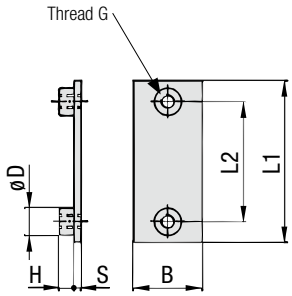
Dimensional drawings: All dimensions in mm (in).

Single Weld Plate
Type SP





STAUFF Group 1



STAUFF Group 1A to 8

Order Codes

Weld Plate ***SP*1*U*W2**

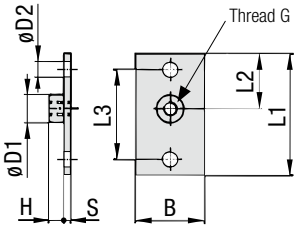
* Single Weld Plate		SP
* STAUFF Group		1
* Thread code	Unified coarse (UNC) thread	U
	Metric ISO thread	M
* Material code	Carbon Steel, untreated	W1
	Carbon Steel, phosphated	W2
	Carbon Steel, zinc/nickel-plated	W3
	Stainless Steel V2A 1.4301 / 1.4305 (AISI 304 / 303)	W4
	Stainless Steel V4A 1.4401 / 1.4571 (AISI 316 / 316 Ti)	W5

Group STAUFF	DIN	Dimensions (mm/in) Thread G	L1	L2	B	S	H	ØD	Order Codes (Standard Options)
1	0	M6	31,5	10	30	3	6,5	12	SP 1 M W2
		1/4–20 UNC	1.24	0.39	1.18	.12	.26	.47	SP 1 U W2
1A	1	M6	36	20	30	3	6,5	12	SP 1A M W2
		1/4–20 UNC	1.42	0.79	1.18	.12	.26	.47	SP 1A U W2
2	2	M6	42	26	30	3	6,5	12	SP 2 M W2
		1/4–20 UNC	1.65	1.02	1.18	.12	.26	.47	SP 2 U W2
3	3	M6	50	33	30	3	6,5	12	SP 3 M W2
		1/4–20 UNC	1.97	1.30	1.18	.12	.26	.47	SP 3 U W2
4	4	M6	60	40	30	3	6,5	12	SP 4 M W2
		1/4–20 UNC	2.36	1.57	1.18	.12	.26	.47	SP 4 U W2
5	5	M6	71	52	30	3	6,5	12	SP 5 M W2
		1/4–20 UNC	2.80	2.05	1.18	.12	.26	.47	SP 5 U W2
6	6	M6	88	66	30	3	6,5	12	SP 6 M W2
		1/4–20 UNC	3.46	2.60	1.18	.12	.26	.47	SP 6 U W2
7	7	M6	122	94	30	5	6,5	12	SP 7 M W2
		1/4–20 UNC	4.80	3.70	1.18	.20	.26	.47	SP 7 U W2
8	8	M6	148	120	30	5	6,5	12	SP 8 M W2
		1/4–20 UNC	5.83	4.72	1.18	.20	.26	.47	SP 8 U W2

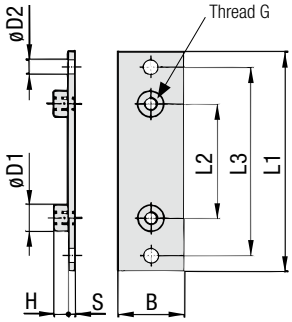
All threaded parts are available with Metric ISO thread or unified coarse (UNC) thread according to dimension table.
Alternative materials and surface finishings are available upon request. Consult STAUFF for further information.

Elongated Weld Plate
Type SPV





STAUFF Group 1



STAUFF Group 1A to 8

Order Codes

Weld Plate ***SPV*1*U*W2**

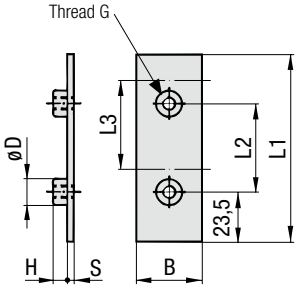
* Elongated Weld Plate		SPV
* STAUFF Group		1
* Thread code	Unified coarse (UNC) thread	U
	Metric ISO thread	M
* Material code	Carbon Steel, untreated	W1
	Carbon Steel, phosphated	W2
	Carbon Steel, zinc/nickel-plated	W3
	Stainless Steel V2A 1.4301 / 1.4305 (AISI 304 / 303)	W4
	Stainless Steel V4A 1.4401 / 1.4571 (AISI 316 / 316 Ti)	W5

Group STAUFF	DIN	Dimensions (mm/in) Thread G	L1	L2	L3	B	S	H	ØD1	ØD2	Order Codes (Standard Options)
1	0	M6	58	24,5	44	30	3	6,5	12	6,5	SPV 1 M W2
		1/4–20 UNC	2.28	.96	1.73	1.18	.12	.26	.47	.26	SPV 1 U W2
1A	1	M6	64	20	50	30	3	6,5	12	6,5	SPV 1A M W2
		1/4–20 UNC	2.52	.79	1.97	1.18	.12	.26	.47	.26	SPV 1A U W2
2	2	M6	70	26	56	30	3	6,5	12	6,5	SPV 2 M W2
		1/4–20 UNC	2.76	1.02	2.20	1.18	.12	.26	.47	.26	SPV 2 U W2
3	3	M6	78	33	64	30	3	6,5	12	6,5	SPV 3 M W2
		1/4–20 UNC	3.07	1.30	2.52	1.18	.12	.26	.47	.26	SPV 3 U W2
4	4	M6	87	40	73	30	3	6,5	12	6,5	SPV 4 M W2
		1/4–20 UNC	3.43	1.57	2.87	1.18	.12	.26	.47	.26	SPV 4 U W2
5	5	M6	100	52	86	30	3	6,5	12	6,5	SPV 5 M W2
		1/4–20 UNC	3.94	2.05	3.39	1.18	.12	.26	.47	.26	SPV 5 U W2
6	6	M6	115	66	100	30	3	6,5	12	6,5	SPV 6 M W2
		1/4–20 UNC	4.53	2.60	3.94	1.18	.12	.26	.47	.26	SPV 6 U W2
7	7	M6	150	94	136	30	5	6,5	12	6,5	SPV 7 M W2
		1/4–20 UNC	5.91	3.70	5.35	1.18	.20	.26	.47	.26	SPV 7 U W2
8	8	M6	178	120	162	30	5	6,5	12	6,5	SPV 8 M W2
		1/4–20 UNC	7.01	4.72	6.38	1.18	.20	.26	.47	.26	SPV 8 U W2

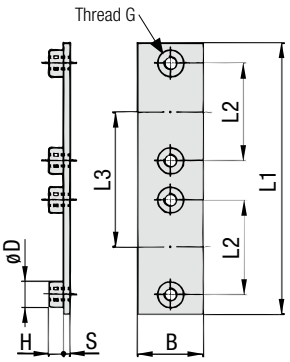
All threaded parts are available with Metric ISO thread or unified coarse (UNC) thread according to dimension table.
Alternative materials and surface finishings are available upon request. Consult STAUFF for further information.

Twin Weld Plate Type DSP





STAUFF Group 1



STAUFF Group 1A to 8

Group STAUFF	DIN	Dimensions (mm/in) Thread G	L1	L2	L3	B	S	H	ØD	Order Codes (Standard Options)
1	0	M6	87	40	40	30	3	6.5	12	DSP 1/40 M W2
		1/4–20 UNC	3.43	1.57	1.57	1.18	.12	.26	.47	DSP 1/40 U W2
1A	1	M6	77	20	37	30	3	6.5	12	DSP 1A/37 M W2
		1/4–20 UNC	3.03	.79	1.46	1.18	.12	.26	.47	DSP 1A/37 U W2
2	2	M6	86	26	44	30	3	6.5	12	DSP 2/44 M W2
		1/4–20 UNC	3.39	1.02	1.73	1.18	.12	.26	.47	DSP 2/44 U W2
3	3	M6	102	33	52	30	3	6.5	12	DSP 3/52 M W2
		1/4–20 UNC	4.02	1.30	2.05	1.18	.12	.26	.47	DSP 3/52 U W2
4	4	M6	120	40	60	30	3	6.5	12	DSP 4/60 M W2
		1/4–20 UNC	4.72	1.57	2.36	1.18	.12	.26	.47	DSP 4/60 U W2
5	5	M6	145	52	75	30	3	6.5	12	DSP 5/75 M W2
		1/4–20 UNC	5.71	2.05	2.95	1.18	.12	.26	.47	DSP 5/75 U W2
6	6	M6	178	66	90	30	3	6.5	12	DSP 6/90 M W2
		1/4–20 UNC	7.01	2.60	3.54	1.18	.12	.26	.47	DSP 6/90 U W2

All threaded parts are available with Metric ISO thread or unified coarse (UNC) thread according to dimension table.
Alternative materials and surface finishings are available upon request. Consult STAUFF for further information.

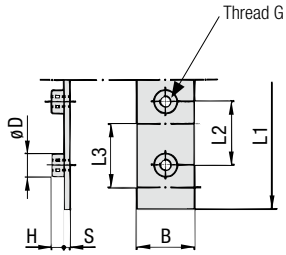
Order Codes

Weld Plate ***DSP*1/40*U*W2**

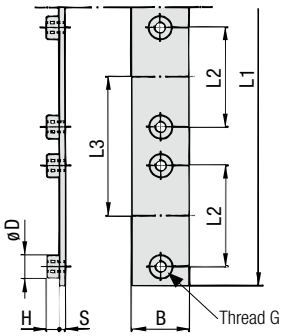
* Twin Weld Plate		DSP
* STAUFF Group		1
* Pipe center spacing L3 (mm)		40
* Thread code	Unified coarse (UNC) thread	U
	Metric ISO thread	M
* Material code	Carbon Steel, untreated	W1
	Carbon Steel, phosphated	W2
	Carbon Steel, zinc/nickel-plated	W3
	Stainless Steel V2A 1.4301 / 1.4305 (AISI 304 / 303)	W4
	Stainless Steel V4A 1.4401 / 1.4571 (AISI 316 / 316 Ti)	W5

Group Weld Plate Type RAP





STAUFF Group 1



STAUFF Group 1A to 8

Group STAUFF	DIN	Dimensions (mm/in) Thread G	L1	L2	L3	B	S	H	ØD	Order Codes (Standard Options)
1	0	M6	314	31	31	30	4	6,5	12	RAP 1/31/10 M W1
		1/4–20 UNC	12.36	1.22	1.22	1.18	.16	.26	.47	RAP 1/31/10 U W1
1A	1	M6	373	20	37	30	4	6,5	12	RAP 1A/37/10 M W1
		1/4–20 UNC	14.69	.79	1.46	1.18	.16	.26	.47	RAP 1A/37/10 U W1
2	2	M6	442	26	44	30	4	6,5	12	RAP 2/44/10 M W1
		1/4–20 UNC	17.40	1.02	1.73	1.18	.16	.26	.47	RAP 2/44/10 U W1
3	3	M6	521	33	52	30	4	6,5	12	RAP 3/52/10 M W1
		1/4–20 UNC	20.51	1.30	2.05	1.18	.16	.26	.47	RAP 3/52/10 U W1
4	4	M6	300	40	60	30	4	6,5	12	RAP 4/60/5 M W1
		1/4–20 UNC	11.81	1.57	2.36	1.18	.16	.26	.47	RAP 4/60/5 U W1
5	5	M6	378	52	75	30	4	6,5	12	RAP 5/75/5 M W1
		1/4–20 UNC	14.88	2.05	2.95	1.18	.16	.26	.47	RAP 5/75/5 U W1
6	6	M6	450	66	90	30	4	6,5	12	RAP 6/90/5 M W1
		1/4–20 UNC	17.72	2.60	3.54	1.18	.16	.26	.47	RAP 6/90/5 U W1

All threaded parts are available with Metric ISO thread or unified coarse (UNC) thread according to dimension table.
Alternative materials and surface finishings are available upon request. Consult STAUFF for further information.

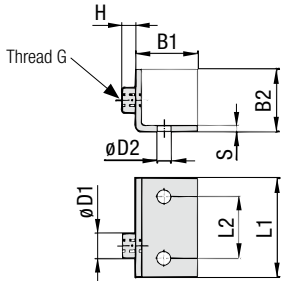
Order Codes

Weld Plate ***RAP*1/31/10*U*W1**

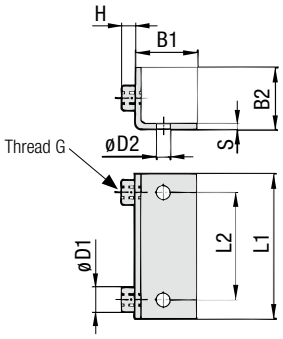
* Group Weld Plate		RAP
* STAUFF Group		1
* Pipe center spacing L3 (mm)		31
* Number of clamps		10
* Thread code	Unified coarse (UNC) thread	U
	Metric ISO thread	M
* Material code	Carbon Steel, untreated	W1
	Carbon Steel, phosphated	W2
	Carbon Steel, zinc/nickel-plated	W3
	Stainless Steel V2A 1.4301 / 1.4305 (AISI 304 / 303)	W4
	Stainless Steel V4A 1.4401 / 1.4571 (AISI 316 / 316 Ti)	W5

Angled Weld Plate
Type WSP





STAUFF Group 1



STAUFF Group 1A to 8

Order Codes

Weld Plate ***WSP*1*U*W1**

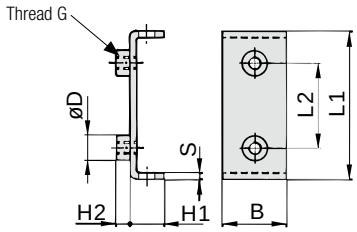
* Angled Weld Plate		**WSP**
* STAUFF Group		**1**
* Thread code	Unified coarse (UNC) thread	**U**
	Metric ISO thread	**M**
* Material code	Carbon Steel, untreated	**W1**
	Carbon Steel, phosphated	**W2**
	Carbon Steel, zinc/nickel-plated	**W3**
	Stainless Steel V2A 1.4301 / 1.4305 (AISI 304 / 303)	**W4**
	Stainless Steel V4A 1.4401 / 1.4571 (AISI 316 / 316 Ti)	**W5**

Group STAUFF	DIN	Dimensions (mm/in) Thread G	L1	L2	B1	B2	S	H	ØD1	ØD2	Order Codes (Standard Options)
1	0	M6	30	14	30	30	3	6,5	12	6,5	**WSP 1 M W1**
		1/4–20 UNC	1.18	.55	1.18	1.18	.12	.26	.47	.26	**WSP 1 U W1**
1A	1	M6	32	20	30	30	3	6,5	12	6,5	**WSP 1A M W1**
		1/4–20 UNC	1.26	.79	1.18	1.18	.12	.26	.47	.26	**WSP 1A U W1**
2	2	M6	42	26	30	30	3	6,5	12	6,5	**WSP 2 M W1**
		1/4–20 UNC	1.65	1.02	1.18	1.18	.12	.26	.47	.26	**WSP 2 U W1**
3	3	M6	50	33	30	30	3	6,5	12	6,5	**WSP 3 M W1**
		1/4–20 UNC	1.97	1.30	1.18	1.18	.12	.26	.47	.26	**WSP 3 U W1**
4	4	M6	60	40	30	30	3	6,5	12	6,5	**WSP 4 M W1**
		1/4–20 UNC	2.36	1.57	1.18	1.18	.12	.26	.47	.26	**WSP 4 U W1**
5	5	M6	70	52	30	30	3	6,5	12	6,5	**WSP 5 M W1**
		1/4–20 UNC	2.76	2.05	1.18	1.18	.12	.26	.47	.26	**WSP 5 U W1**
6	6	M6	88	66	30	30	3	6,5	12	6,5	**WSP 6 M W1**
		1/4–20 UNC	3.46	2.60	1.18	1.18	.12	.26	.47	.26	**WSP 6 U W1**

All threaded parts are available with Metric ISO thread or unified coarse (UNC) thread according to dimension table.
Alternative materials and surface finishings are available upon request. Consult STAUFF for further information.

Bridge Weld Plate
Type BSP





Order Codes

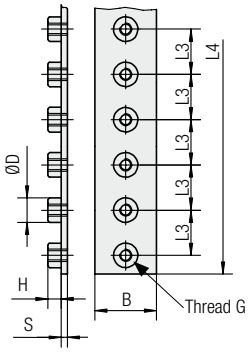
Weld Plate ***BSP*1A*U*W1**

* Bridge Weld Plate		**BSP**
* STAUFF Group		**1A**
* Thread code	Unified coarse (UNC) thread	**U**
	Metric ISO thread	**M**
* Material code	Carbon Steel, untreated	**W1**
	Carbon Steel, phosphated	**W2**
	Carbon Steel, zinc/nickel-plated	**W3**
	Stainless Steel V2A 1.4301 / 1.4305 (AISI 304 / 303)	**W4**
	Stainless Steel V4A 1.4401 / 1.4571 (AISI 316 / 316 Ti)	**W5**

Group STAUFF	DIN	Dimensions (mm/in) Thread G	L1	L2	B	S	H1	H2	ØD	Order Codes (Standard Options)
1A	1	M6	48	20	30	3	13	6,5	12	**BSP 1A M W1**
		1/4–20 UNC	1.89	.79	1.18	.12	.52	.26	.47	**BSP 1A U W1**
2	2	M6	54	26	30	3	13	6,5	12	**BSP 2 M W1**
		1/4–20 UNC	2.13	1.02	1.18	.12	.52	.26	.47	**BSP 2 U W1**
3	3	M6	62	33	30	3	13	6,5	12	**BSP 3 M W1**
		1/4–20 UNC	2.44	1.30	1.18	.12	.52	.26	.47	**BSP 3 U W1**
4	4	M6	71	40	30	3	13	6,5	12	**BSP 4 M W1**
		1/4–20 UNC	2.80	1.57	1.18	.12	.52	.26	.47	**BSP 4 U W1**
5	5	M6	85	52	30	3	13	6,5	12	**BSP 5 M W1**
		1/4–20 UNC	3.35	2.05	1.18	.12	.52	.26	.47	**BSP 5 U W1**
6	6	M6	98	66	30	3	13	6,5	12	**BSP 6 M W1**
		1/4–20 UNC	3.86	2.60	1.18	.12	.52	.26	.47	**BSP 6 U W1**

All threaded parts are available with Metric ISO thread or unified coarse (UNC) thread according to dimension table.
Alternative materials and surface finishings are available upon request. Consult STAUFF for further information.

Multi-Group Weld Plate Type RAP-MGR





Number of Weld Nuts	Dimensions (mm/in) Thread G	L3	L4	B	S	H	ØD	Order Codes (Standard Options)
6	M6	26	156	30	4	6,5	12	RAP-MGR 25/156 M W1
	1/4–20 UNC	1.02	6.14	1.18	.16	0.26	0.47	RAP-MGR 25/156 U W1
9	M6	26	234	30	4	6,5	12	RAP-MGR 25/234 M W1
	1/4–20 UNC	1.02	9.21	1.18	.16	0.26	0.47	RAP-MGR 25/234 U W1
12	M6	26	312	30	4	6,5	12	RAP-MGR 25/312 M W1
	1/4–20 UNC	1.02	12.28	1.18	.16	0.26	0.47	RAP-MGR 25/312 U W1
15	M6	26	390	30	4	6,5	12	RAP-MGR 25/390 M W1
	1/4–20 UNC	1.02	15.35	1.18	.16	0.26	0.47	RAP-MGR 25/390 U W1
20	M6	26	520	30	4	6,5	12	RAP-MGR 25/520 M W1
	1/4–20 UNC	1.02	20.47	1.18	.16	0.26	0.47	RAP-MGR 25/520 U W1
27	M6	26	700	30	4	6,5	12	RAP-MGR 25/700 M W1
	1/4–20 UNC	1.02	27.55	1.18	.16	0.26	0.47	RAP-MGR 25/700 U W1

Cover a diamater range from 8 mm (.31 in) to 42 mm (1.65 in) with only one Group Weld Plate:
Multi-Group Weld Plates, type RAP-MGR are designed to be used in combination with Standard Series clamp bodies, STAUFF Group 2 (regular types, see pages A6 ff.) covering a diamater range from 8 mm / .31 in to 18 mm / .71 in, as well as Standard Series clamp bodies, STAUFF Group 5 (type MGR, see below) covering a diamater range from 20 mm / .79 in to 42 mm / 1.65 in. Thus, all Standard Series metal parts of these groups can be used.

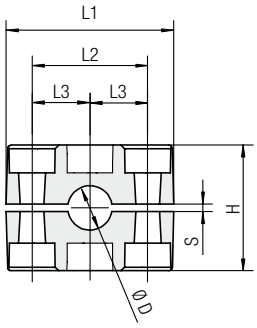
All threaded parts are available with Metric ISO thread or unified coarse (UNC) thread according to dimension table. Alternative materials and surface finishings are available upon request. Consult STAUFF for further information.

Order Codes

Weld Plate ***RAP-MGR*25/156*U*W1**

* Multi Group Weld Plate		**RAP-MGR**
* Suitable for STAUFF Group 2 and 5		**25**
* Length L4 (mm)	156 (with 6 weld nuts)	**156**
	234 (with 9 weld nuts)	**234**
	312 (with 12 weld nuts)	**312**
	390 (with 15 weld nuts)	**390**
	520 (with 20 weld nuts)	**520**
	700 (with 27 weld nuts)	**700**
* Thread code	Unified coarse (UNC) thread	**U**
	Metric ISO thread	**M**
* Material code	Carbon Steel, untreated	**W1**
	Carbon Steel, phosphated	**W2**
	Carbon Steel, zinc/nickel-plated	**W3**
	Stainless Steel V2A 1.4301 / 1.4305 (AISI 304 / 303)	**W4**
	Stainless Steel V4A 1.4401 / 1.4571 (AISI 316 / 316 Ti)	**W5**

Clamp Body for Multi-Group Weld Plate Type MGR



STAUFF Group 5



Group STAUFF	Group DIN	Outside Diameter Pipe / Tube Ø D (mm)	(in)	Nominal Bore Pipe (in)	Copper Tube (in)	Order Codes (2 Clamp Halves) (** = Material)	Dimensions (mm/in) L1	L2	L3	H	S min.	Width
5	5	20				520 **-MGR						
		21,3		1/2		521,3 **-MGR						
		22			3/4	522 **-MGR						
		23				523 **-MGR						
		25				525 **-MGR						
		26,9		3/4		526,9 **-MGR						
		28				528 **-MGR	71	52	26	58	0,8	30
		30				530 **-MGR	2.80	2.05	1.02	2.28	.03	1.18
		32	1-1/4			532 **-MGR						
		33,7		1		533,7 **-MGR						
		35			1-1/4	535 **-MGR						
		38	1-1/2			538 **-MGR						
		40				540 **-MGR						
		42		1-1/4		542 **-MGR						

Additional outside diameters are available upon request. Please consult STAUFF for further information.

Order Codes

Clamp Body ***5*20*PP-MGR**

One clamp body is consisting of two clamp halves.

* STAUFF Group	**5**
* Exact outside diameter Ø D1 (mm)	**20**
* Material code (see below)	**PP-MGR**

Standard Materials



Polypropylene
Colour: Green
Material code: **PP-MGR**

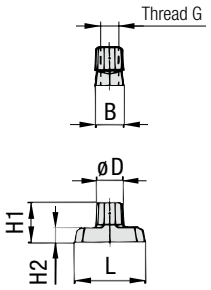


Polyamide
Colour: Black
Material code: **PA-MGR**

See page A88 for properties and technical information.

Hexagon Rail Nut
Type SM (for Use with Mounting Rail TS)





Order Codes

Hexagon Rail Nut ***SM*1-8/1D*U*W3**

* Hexagon Rail Nut		**SM**
* STAUFF Group	1 to 8 (DIN Group 0 to 8)	**1-8/1D**
* Thread code	Unified coarse (UNC) thread	**U**
	Metric ISO thread	**M**
* Material code	Carbon Steel, untreated	**W1**
	Carbon Steel, zinc/nickel-plated	**W3**
	Stainless Steel V2A 1.4301 / 1.4305 (AISI 304 / 303)	**W4**
	Stainless Steel V4A 1.4401 / 1.4571 (AISI 316 / 316 Ti)	**W5**

Group STAUFF	Group DIN	Dimensions (mm/in) Thread G	L	B	H1	H2	ØD	Order Codes (Standard Options)
1	0							
1A	1							
2	2							
3	3							
4	4	M6	25,5	10,2	13,5	5,5	12	**SM 1-8/1D M W3***
		1/4–20 UNC	1.00	.40	.53	.22	.47	**SM 1-8/1D U W3**
5	5							
6	6							
7	7							
8	8							

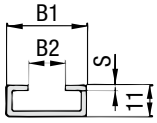
Hexagon Rail Nuts, type SM 1-8/1D are also suitable for Twin Series, STAUFF Group 1D.

All threaded parts are available with Metric ISO thread or unified coarse (UNC) thread according to dimension table. Alternative materials and surface finishings are available upon request. Consult STAUFF for further information.

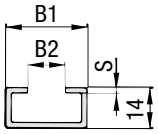
* Standard finishing option for markets outside North America is W1 (Carbon Steel, untreated)

Mounting Rail
Type TS (for Use with Hexagon Rail Nut SM)

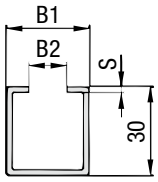




Mounting Rail TS 11



Mounting Rail TS 14



Mounting Rail TS 30

Order Codes

Mounting Rail ***TS*11*-1*W1**

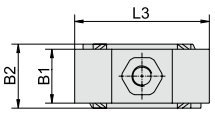
* Mounting Rail		**TS**
* Height of rail	11 mm / .43 in	**11**
	14 mm / .55 in	**14**
	30 mm / 1.18 in	**30**
* Length of rail	1 m / 3.28 ft	**-1**
	2 m / 6.56 ft	**-2**
	Alternative lengths available upon request. Consult STAUFF for further information.	
* Material code	Carbon Steel, untreated	**W1**
	Carbon Steel, zinc/nickel-plated	**W3**
	Stainless Steel V2A 1.4301 / 1.4305 (AISI 304 / 303)	**W4**
	Stainless Steel V4A 1.4401 / 1.4571 (AISI 316 / 316 Ti)	**W5**

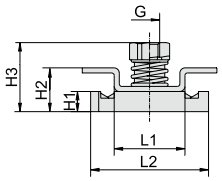
Group STAUFF	Group DIN	Dimensions (mm/in) B1	B2	S	Order Codes (Standard Options) Length of Rail: 1 m / 3.28 ft	Length of Rail: 2 m / 6.56 ft
1	0					
1A	1				Height 11 mm / .43 in **TS 11-1 W1**	Height 11 mm / .43 in **TS 11-2 W1**
2	2					
3	3					
4	4	28	11	2	Height 14 mm / .55 in **TS 14-1 W1**	Height 14 mm / .55 in **TS 14-2 W1**
		1.10	.43	.08		
5	5					
6	6					
7	7				Height 30 mm / 1.18 in **TS 30-1 W1**	Height 30 mm / 1.18 in **TS 30-2 W1**
8	8					

Mounting Rails, type TS 11/14/30 are suitable for all Standard Series and Twin Series group sizes.

Alternative materials and surface finishings are available upon request. Consult STAUFF for further information.

Channel Rail Adaptor
(for Use with Various Channel Rails) **Type CRA**







Group STAUFF	Group DIN	Dimensions (mm/in) Thread G	L1	L2	L3	B1	B2	H1	H2	H3	Order Codes (Standard Options)
1	0										
1A	1										
2	2										
3	3										
4	4	M6	21	35	40	16	19	6	13	20,5	**CRA 1-8/1D M W3**
		1/4–20 UNC	.83	1.38	1.57	.63	.75	.24	.51	.81	**CRA 1-8/1D U W3**
5	5										
6	6										
7	7										
8	8										

Order Codes

Adaptor ***CRA*1-8/1D*U*W3**

* Channel Rail Adaptor		**CRA**
* STAUFF Group	1 to 8 (DIN Group 0 to 8)	**1-8/1D**
* Thread code	Unified coarse (UNC) thread	**U**
	Metric ISO thread	**M**
* Material code	Carbon Steel, zinc/nickel-plated	**W3**
	Stainless Steel V4A 1.4401 / 1.4571 (AISI 316 / 316 Ti)	**W5**

The Channel Rail Adaptor, type CRA 1-8/1D is also suitable for Twin Series, STAUFF Group 1D.

All threaded parts are available with Metric ISO thread or unified coarse (UNC) thread according to dimension table.
Alternative materials and surface finishings are available upon request. Consult STAUFF for further information.



Compatibility with Channel Rails

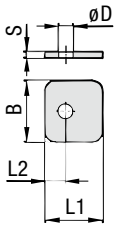
The STAUFF Channel Rail Adaptor, type CRA, is suitable for various channel rails, including the following types:

HALFEN	HILTI	UNISTRUT®	STAUFF (Cushion Clamp Series)
HM 41/41	MQ-21, MQ-41, MQ-52, MQ-72	P1000, P1000T, P1000V, P1000VT, P1001	SCS-048-1-PL, SCS-048-1-GR
HZA 41/22	MQ-21U, MQ-41U, MQ-72U	P2000, P2000T	SCS-120-1-PL, SCS-120-1-GR
HZM 41/41	MQ-21D, MQ-41D, MQ-52-72D	P3003, P3003T, P3300V, P3300VT, P3301	See page A85 for technical information.
HZM 41/22		P4000, P4000T	
HL 41/41, HL 41/B2		P5000, P5000T, P5001, P5500, P5500T, P5501	

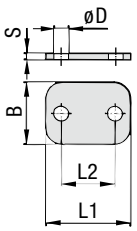
Consult STAUFF to check compatibility with additional types of channel rails.

Cover Plate
Type DP





STAUFF Group 1



STAUFF Group 1A to 8

Order Codes

Cover Plate ***DP*1*W3**

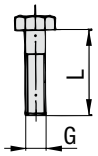
* Cover Plate		**DP**
* STAUFF Group		**1**
* Material code	Carbon Steel, zinc/nickel-plated	**W3**
	Stainless Steel V2A 1.4301 / 1.4305 (AISI 304 / 303)	**W4**
	Stainless Steel V4A 1.4401 / 1.4571 (AISI 316 / 316 Ti)	**W5**

Group STAUFF	DIN	Dimensions (mm/in) L1	L2	B	S	ØD	Order Codes (Standard Options)
1	0	28	9,5	30	3	7	DP 1 W3
		1.10	.37	1.18	.12	.28	
1A	1	34	20	30	3	7	DP 1A W3
		1.34	.79	1.18	.12	.28	
2	2	40,5	26	30	3	7	DP 2 W3
		1.59	1.02	1.18	.12	.28	
3	3	48	33	30	3	7	DP 3 W3
		1.89	1.30	1.18	.12	.28	
4	4	57	40	30	3	7	DP 4 W3
		2.24	1.57	1.18	.12	.28	
5	5	70	52	30	3	7	DP 5 W3
		2.76	2.05	1.18	.12	.28	
6	6	86	66	30	3	7	DP 6 W3
		3.39	2.60	1.18	.12	.28	
7	7	118	94	30	5	7	DP 7 W3
		4.65	3.70	1.18	.20	.28	
8	8	144	120	30	5	7	DP 8 W3
		5.67	4.72	1.18	.20	.28	

Alternative materials and surface finishings are available upon request. Consult STAUFF for further information.

Hexagon Head Bolt
Type AS (for Use with Cover Plate DP)





Hexagon Head Bolt AS (according to DIN 931 / 933 or ANSI / ASME B18.2.1.)
Dimensions applicable only when used with Cover Plate DP

Order Codes

Hexagon Head Bolt ***AS*3*U*W3**

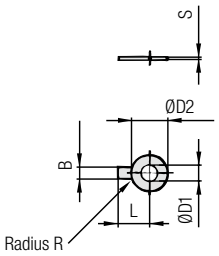
* Type of bolt	Hexagon Head Bolt (according to DIN 931 / 933 or ANSI / ASME B18.2.1.)	**AS**
* STAUFF Group		**3**
* Thread code	Unified coarse (UNC) thread	**U**
	Metric ISO thread	**M**
* Material code	Carbon Steel, zinc/nickel-plated	**W3**
	Stainless Steel V2A 1.4301 / 1.4305 (AISI 304 / 303)	**W4**
	Stainless Steel V4A 1.4401 / 1.4571 (AISI 316 / 316 Ti)	**W5**

Group STAUFF	DIN	Dimensions (mm/in) Thread G x L	Order Codes (Standard Options)
1	0	M6 x 30	AS 1/1A M W3
		1/4–20 UNC x 1-1/4	AS 1/1A U W3
1A	1	M6 x 30	AS 1/1A M W3
		1/4–20 UNC x 1-1/4	AS 1/1A U W3
2	2	M6 x 35	AS 2/1D M W3
		1/4–20 UNC x 1-3/8	AS 2/1D U W3
3	3	M6 x 40	AS 3 M W3
		1/4–20 UNC x 1-1/2	AS 3 U W3
4	4	M6 x 45	AS 4 M W3
		1/4–20 UNC x 1-7/8	AS 4 U W3
5	5	M6 x 60	AS 5 M W3
		1/4–20 UNC x 2-3/8	AS 5 U W3
6	6	M6 x 70	AS 6 M W3
		1/4–20 UNC x 2-3/4	AS 6 U W3
7	7	M6 x 100	AS 7 M W3
		1/4–20 UNC x 4	AS 7 U W3
8	8	M6 x 125	AS 8 M W3
		1/4–20 UNC x 4-7/8	AS 8 U W3

Hexagon Head Bolts, type AS 2/1D are also suitable for Twin Series, STAUFF Group 1D.

All threaded parts are available with Metric ISO thread or unified coarse (UNC) thread according to dimension table.
Alternative materials and surface finishings are available upon request. Consult STAUFF for further information.

Safety Washer Type SI (DIN 93)



Safety Washer SI (according to DIN 93)



Group STAUFF	Group DIN	Dimensions (mm/in) ØD1	B	ØD2	L	R	S	Order Codes (Standard Options)
1 to 8	0 to 8	6,4 .25	7 .28	19 .75	18 .71	4 .16	0,5 .02	SI 6,4 DIN 93 W3

Safety Washers, type SI are used as locking devices to prevent Hexagon Head Bolts, type AS from loosening.
Safety Washers, type SI are suitable for all Standard Series group sizes.

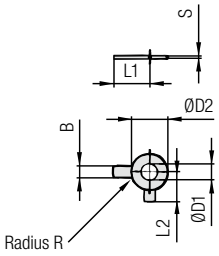
Alternative materials and surface finishings are available upon request. Consult STAUFF for further information.

Order Codes

Safety Washer ***SI*6,4*DIN 93*W3**

* Type of washer	Safety washer with 1 tab (according to DIN 93)	**SI 6,4 DIN 93**
* Material code	Carbon Steel, zinc/nickel-plated	**W3**

Safety Washer Type SI (DIN 463)



Safety Washer SI (according to DIN 463)



Group STAUFF	Group DIN	Dimensions (mm/in) ØD1	B	ØD2	L1	L2	R	S	Order Codes (Standard Options)
1 to 8	0 to 8	6,4 .25	7 .28	12 .47	18 .71	9 .35	4 .16	0,5 .02	SI 6,4 DIN 463 W3

Safety Washers, type SI are used as locking devices to prevent Hexagon Head Bolts, type AS from loosening.
Safety Washers, type SI are suitable for all Standard Series group sizes.

Alternative materials and surface finishings are available upon request. Consult STAUFF for further information.

Order Codes

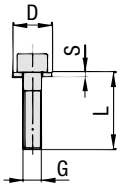
Safety Washer ***SI*6,4*DIN 463*W3**

* Type of washer	Safety washer with 2 tabs (according to DIN 463)	**SI 6,4 DIN 463**
* Material code	Carbon Steel, zinc/nickel-plated	**W3**

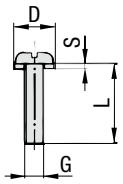
Socket Cap Screw Type IS (with Washer) Slotted Head Screw Type LI







Socket Cap Screw IS
(according to ISO 4762 or ANSI / ASME B18.3)
Dimensions applicable only when used without Cover Plate DP



Slotted Head Screw LI
(according to ISO 1207 or ANSI / ASME B18.6.3)
Dimensions applicable only when used without Cover Plate DP

Order Codes

Socket Cap Screw ***IS*1*M*W3**

Slotted Head Screw ***LI*1*M*W3**

* Type of bolt	Socket Cap Screw with Washer (according to ISO 4762 or ANSI / ASME B18.3)	**IS**
	Slotted Head Screw with Washer (according to ISO 1207 or ANSI / ASME B18.6.3)	**LI**
* STAUFF Group		**1**
* Thread code	Metric ISO thread	**M**
* Material code	Carbon Steel, zinc/nickel-plated	**W3**
	Stainless Steel V2A 1.4301 / 1.4305 (AISI 304 / 303)	**W4**
	Stainless Steel V4A 1.4401 / 1.4571 (AISI 316 / 316 Ti)	**W5**

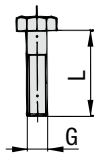
Group STAUFF	DIN	Dimensions (mm/in) Thread G x L	D	S	Order Codes (Standard Options) Socket Cap Screws	Slotted Head Screws
1	0	M6 x 20			IS 1 M W3	LI 1 M W3
1A	1	M6 x 20			IS 1A M W3	LI 1A M W3
2	2	M6 x 25			IS 2 M W3	LI 2 M W3
3	3	M6 x 30			IS 3 M W3	LI 3 M W3
4	4	M6 x 35	11 / .43	0,8 / .03	IS 4 M W3	LI 4 M W3
5	5	M6 x 50			IS 5 M W3	LI 5 M W3
6	6	M6 x 60			IS 6 M W3	LI 6 M W3
7	7	M6 x 90			IS 7 M W3	ON REQUEST ONLY
8	8	M6 x 110			IS 8 M W3	ON REQUEST ONLY

Consult STAUFF for Unified coarse (UNC) threads.
Alternative materials and surface finishings are available upon request. Consult STAUFF for further information.

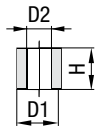
Hexagon Head Bolt Type ASE Insert Type ES / EP







Hexagon Head Bolt ASE
(according to DIN 931 / 933 or ANSI / ASME B18.2.1.)
Dimensions applicable only when used with Inserts EP / ES



Inserts ES (Steel) / **EP** (Plastic)

Order Codes

Hexagon Head Bolt ***ASE*1*U*W3**

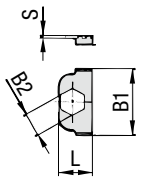
* Type of bolt	Hexagon Head Bolt (according to DIN 931 / 933 or ANSI / ASME B18.2.1.)	**AS**
	for use with Insert ES / EP	**E**
* STAUFF Group		**1**
* Thread code	Unified coarse (UNC) thread	**U**
	Metric ISO thread	**M**
* Material code	Carbon Steel, zinc/nickel-plated	**W3**
	Stainless Steel V2A 1.4301 / 1.4305 (AISI 304 / 303)	**W4**
	Stainless Steel V4A 1.4401 / 1.4571 (AISI 316 / 316 Ti)	**W5**

Group STAUFF	DIN	Dimensions (mm/in) Thread G x L	Order Codes (Standard Options)
1	0	M6 x 27	ASE 1 M W3
		1/4–20 UNC x 1-1/8	ASE 1 U W3
1A	1	M6 x 27	ASE 1A M W3
		1/4–20 UNC x 1-1/8	ASE 1A U W3
2	2	M6 x 32	ASE 2 M W3
		1/4–20 UNC x 1-3/8	ASE 2 U W3
3	3	M6 x 35	ASE 3 M W3
		1/4–20 UNC x 1-3/8	ASE 3 U W3
4	4	M6 x 42	ASE 4 M W3
		1/4–20 UNC x 1-5/8	ASE 4 U W3
5	5	M6 x 57	ASE 5 M W3
		1/4–20 UNC x 2-3/8	AS 5 U W3
6	6	M6 x 65	ASE 6 M W3
		1/4–20 UNC x 2-3/4	AS 6 U W3
7	7	M6 x 95	ASE 7 M W3
		1/4–20 UNC x 4	AS 7 U W3
8	8	M6 x 118	ASE 8 M W3
		1/4–20 UNC x 4-3/4	ASE 8 U W3

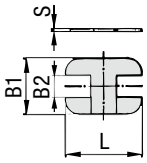
Group STAUFF	DIN	Dimensions (mm/in) D1	D2	H ES	H EP	Order Codes (Standard Options)	
1 to 8	0 to 8	11,8 / .46	6,5 / .26	7,8 / .31	8,6 / .34	ES (Steel)	EP (Plastic)

All threaded parts are available with Metric ISO thread or unified coarse (UNC) thread according to dimension table.
Alternative materials and surface finishings are available upon request. Consult STAUFF for further information.

Safety Locking Plate
(for Use with Stacking Bolt AF) Type SIG



STAUFF Group 1



STAUFF Group 1A to 8



Group STAUFF	DIN	Dimensions (mm/in) L	B1	B2	S	Order Codes (Standard Options)
1	0	16	32	11,2	1	SIG 1 W3
		0.63	1.26	.44	.04	
1A	1	33	28	11,2	1	SIG 1A W3
		1.30	1.10	.44	.04	
2	2	39	28	11,2	1	SIG 2 W3
		1.54	1.10	.44	.04	
3	3	47	28	11,2	1	SIG 3 W3
		1.85	1.10	.44	.04	
4	4	56	28	11,2	1	SIG 4 W3
		2.20	1.10	.44	.04	
5	5	69	28	11,2	1	SIG 5 W3
		2.72	1.10	.44	.04	
6	6	85	28	11,2	1	SIG 6 W3
		3.35	1.10	.44	.04	
7	7	117	28	11,2	1	SIG 7 W3
		4.61	1.10	.44	.04	
8	8	143	28	11,2	1	SIG 8 W3
		5.63	1.10	.44	.04	

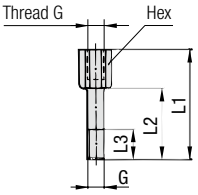
Order Codes

Safety Locking Plate ***SIG*1*W3**

* Safety Locking Plate		SIG
* STAUFF Group		1
* Material code	Carbon Steel, zinc/nickel-plated	W3
	Stainless Steel V2A 1.4301 / 1.4305 (AISI 304 / 303)	W4
	Stainless Steel V4A 1.4401 / 1.4571 (AISI 316 / 316 Ti)	W5

Alternative materials and surface finishings are available upon request. Consult STAUFF for further information.

Stacking Bolt
(for Use with Safety Locking Plate SIG) Type AF





Group STAUFF	DIN	Dimensions (mm/in) Thread G	L1	L2	L3 min.	Hex	Order Codes (Standard Options)
1	0	M6	34	20	12	11	AF 1/1A/1D M W3
		1/4–20 UNC	1.34	.79	.47	.43	AF 1/1A/1D U W3
1A	1	M6	34	20	12	11	AF 1/1A/1D M W3
		1/4–20 UNC	1.34	.79	.47	.43	AF 1/1A/1D U W3
2	2	M6	40	25	12	11	AF 2 M W3
		1/4–20 UNC	1.57	.98	.47	.43	AF 2 U W3
3	3	M6	44	30	12	11	AF 3 M W3
		1/4–20 UNC	1.73	1.18	.47	.43	AF 3 U W3
4	4	M6	49	35	12	11	AF 4 M W3
		1/4–20 UNC	1.93	1.38	.47	.43	AF 4 U W3
5	5	M6	64	50	12	11	AF 5 M W3
		1/4–20 UNC	2.52	1.97	.47	.43	AF 5 U W3
6	6	M6	74	60	12	11	AF 6 M W3
		1/4–20 UNC	2.91	2.36	.47	.43	AF 6 U W3
7	7	M6	99	85	12	11	AF 7 M W3
		1/4–20 UNC	3.90	3.35	.47	.43	AF 7 U W3
8	8	M6	124	110	12	11	AF 8 M W3
		1/4–20 UNC	4.88	4.33	.47	.43	AF 8 U W3

Order Codes

Stacking Bolt ***AF*2*U*W3**

* Type of bolt	Stacking Bolt (according to STAUFF Standard)	AF
* STAUFF Group		2
* Thread code	Unified coarse (UNC) thread	U
	Metric ISO thread	M
* Material code	Carbon Steel, zinc/nickel-plated	W3
	Stainless Steel V2A 1.4301 / 1.4305 (AISI 304 / 303)	W4
	Stainless Steel V4A 1.4401 / 1.4571 (AISI 316 / 316 Ti)	W5

Stacking Bolts, type AF 1/1A/1D are also suitable for Twin Series, STAUFF Group 1D.

All threaded parts are available with Metric ISO thread or unified coarse (UNC) thread according to dimension table.
Alternative materials and surface finishings are available upon request. Consult STAUFF for further information.

SP	106A	PP	DP-AS	U	W10	#K
①	②	③	④	⑤	⑥	⑦

① Type of Installation

Please select the type of installation (e.g. Weld Plates, Rail Nuts, etc.) and add the corresponding Code to position ① of the order code for your clamp assembly.

Without Installation Equipment
Code: **none**

Installation on Weld Plate

Single Weld Plate
Code: **SP**

Elongated Weld Plate
Code: **SPV**

Twin Weld Plate (for STAUFF Group 1 to 6 only)
Code: **DSP**

Group Weld Plate (for STAUFF Group 1 to 6 only)
Code: **RAP**

Angled Weld Plate (for STAUFF Group 1 to 6 only)
Code: **WSP**

Bridge Weld Plate (for STAUFF Group 1A to 6 only)
Code: **BSP**

Installation on Mounting / Channel Rail

Hexagon Rail Nut
Code: **SM**

Channel Rail Adaptor
Code: **CRA**

② Group Size & Diameter

Please select the required group size and diameter and add the corresponding Code to position ② of the order code for your clamp assembly.

Group STAUFF (DIN)	Outside Diameter P / T / H (mm)	Availability of Clamp Body Materials & Designs: Profiled Design	Type H	Type RI	Type ACT	Code
1 (0)	6	●	●	○	○	**106**
	6,4	●	●	○	○	**106,4**
	8	●	●	○	○	**108**
	9,5	●	●	○	○	**109,5**
	10	●	●	○	○	**110**
	12	●	●	○	○	**112**
1A (1)	6	●	●	○	●	**106A**
	6,4	●	●	○	●	**106,4A**
	8	●	●	○	○	**108A**
	9,5	●	●	○	●	**109,5A**
	10	●	●	○	●	**110A**
	12	●	●	○	●	**112A**
2 (2)	12,7	●	●	○	●	**212,7**
	13,5	●	●	○	○	**213,5**
	14	●	●	○	●	**214**
	15	●	●	○	○	**215**
	16	●	●	○	○	**216**
	17,2	●	●	○	○	**217,2**
	18	●	●	○	●	**218**
3 (3)	13,4	○	●	○	○	**313,4**
	17,4	○	●	○	○	**317,4**
	19	●	●	○	●	**319**
	20	●	●	○	●	**320**
	20,5	○	●	○	○	**320,5**
	21,3	●	●	○	●	**321,3**
	22	●	●	○	○	**322**
	23,9	○	●	○	○	**323,9**
	25	●	●	○	○	**325**
	25,4	●	●	○	●	**325,4**
4 (4)	6	○	○	●	○	**406**
	8	○	○	●	○	**408**
	10	○	○	●	○	**410**
	12	○	○	●	○	**412**
	12,7	○	○	●	○	**412,7**
	14	○	○	●	○	**414**
	15	○	○	●	○	**415**
	16	○	○	●	○	**416**
	17,2	○	○	●	○	**417,2**
	18	○	○	●	○	**418**
	19	○	○	●	○	**419**
	26,9	●	●	○	○	**426,9**
	28	●	●	○	○	**428**
	28,6	●	○	○	○	**428,6**
	30	●	●	○	○	**430**
	32	●	●	○	○	**432**

Group STAUFF (DIN)	Outside Diameter P / T / H (mm)	Availability of Clamp Body Materials & Designs: Profiled Design	Type H	Type RI	Code
5 (5)	27,8	○	●	○	**527,8**
	32	●	●	○	**532**
	33,7	●	●	○	**533,7**
	35	●	●	○	**535**
	35,7	○	●	○	**535,7**
	38	●	●	○	**538**
	40	●	●	○	**540**
	41,3	●	○	○	**541,3**
	42	●	●	○	**542**
	43,8	○	●	○	**543,8**
6 (6)	20	○	○	●	**620**
	21,3	○	○	●	**621,3**
	22	○	○	●	**622**
	25	○	○	●	**625**
	26,9	○	○	●	**626,9**
	28	○	○	●	**628**
	30	○	○	●	**630**
	32	○	○	●	**632**
	44,5	●	●	○	**644,5**
	48,3	●	●	○	**648,3**
	49,8	○	●	○	**649,8**
	50,8	●	●	○	**650,8**
	54	●	●	○	**654**
7 (7)	57,2	●	●	○	**757,2**
	60,3	●	●	○	**760,3**
	63,5	●	●	○	**763,5**
	70	●	●	○	**770**
	73	●	●	○	**773**
	76,1	●	●	○	**776,1**
8 (8)	88,9	●	●	○	**888,9**
	102	●	●	○	**8102L**

● Standard Option

Additional outside diameters are available upon request. Please consult STAUFF for further information.

Please see pages A24 and A25 with detailed order examples for some of the most popular Standard Series clamp assemblies.

③ Clamp Body Design & Material

Please select the design and material of your clamp body and add the corresponding Code to position ③ of the order code for your clamp assembly.

Please check the availability of the selected clamp body design and material according to the matrix table in ②.

Profiled Design


Polypropylene
Code: **PP**


Polyamide
Code: **PA**


Thermoplastic Elastomer (87 Shore-A)
Code: **SA**


Aluminium
Code: **AL** (for STAUFF Group 1A to 6 only)

Type H (Smooth)


Polypropylene
Code: **PPH**


Polyamide
Code: **PAH**


Thermoplastic Elastomer (87 Shore-A)
Code: **SAH**

Type RI (with Rubber Insert)


Polypropylene
Code: **PPR** (for STAUFF Group 4 and 6 only)


Polyamide
Code: **PAR** (for STAUFF Group 4 and 6 only)

Type ACT (Anti Corrosion Technology)


Flame Retardant Polypropylene (PPV0)
with Integrated Rubber Strips made of
Anti Corrosion Elastomer (ACE)
Code: **ACT** (for STAUFF Group 1A, 2 and 3 only)

See page A88 for material properties and technical information.

Please consult STAUFF for further details on fire-proof clamp body materials, tested and approved according to several international fire-protection standards.

④ Mounting & Fitting Combination

Please select the mounting and fitting combination (e.g. bolts, screws, cover plates, etc.) and add the corresponding Code to position ④ of the order code for your clamp assembly.

Installation with Cover Plate and Bolts

Cover Plate DP with
Hexagon Head Bolts AS
Code: **DP-AS**

Cover Plate DP with
Socket Cap Screws IS
Code: **DP-IS**

Installation with Locking Plate and Bolts

Safety Locking Plate SIG with
Stacking Bolts AF
Code: **SIG-AF**

Installation with Inserts and Bolts

Inserts EP (Plastic) with
Hexagon Head Bolts ASE
Code: **EP-AS**

Inserts ES (Steel) with
Hexagon Head Bolts ASE
Code: **ES-AS**

Installation with Bolts only

Socket Cap Screws IS with Washers
Code: **IS**

Slotted Head Screws LI with Washers
Code: **LI** (for STAUFF Group 1 to 6 only)

⑤ Thread Type

Please select the required thread type and add the corresponding Code to position ⑤ of the order code for your clamp assembly.

Unified coarse (UNC) thread
Code: **U**

Metric ISO thread
Code: **M**

All threaded parts are available with Metric ISO thread or unified coarse (UNC) thread according to dimension table.

⑥ Material & Surface Finishing

Please select the required material & surface finishing of the metal parts and add the corresponding Code to position ⑥ of the order code for your clamp assembly.

Metal parts made of Carbon Steel, untreated	**W1**
Metal parts made of Carbon Steel, phosphated	**W2**
Metal parts made of Carbon Steel, zinc/nickel-plated	**W3**
Metal parts made of Stainless Steel V2A 1.4301 / 1.4305 (AISI 304 / 303)	**W4**
Metal parts made of Stainless Steel V4A 1.4401 / 1.4571 (AISI 316 / 316 Ti)	**W5**
Weld Plate made of Carbon Steel, phosphated; Other metal parts made of Carbon Steel, zinc/nickel-plated	**W10**
Rail Nuts made of Carbon Steel, untreated; Other metal parts made of Carbon Steel, zinc/nickel-plated	**W11**

Individual combinations of alternative materials and surface finishings are available upon request. Consult STAUFF for further information.

⑦ Assembling & Kitting

If required, please select an additional assembling and kitting option and add the corresponding Code to the last position of the order code for your clamp assembly.

Components supplied separately
Code: **none** (standard option)

Components assembled
Code: **#A** (special option)

Components packed in kits
Code: **#K** (special option)



2x **Hexagon Head Bolt**
Surface: W3
Thread: UNC

1x **Cover Plate**
Surface: W3

1x **Clamp Body** (two halves)
STAUFF Group 2 (DIN 2)
O.D. 12,7 mm / .50 in
Material: Polypropylene
Profiled inside surface
with tension clearance

1x **Single Weld Plate**
Surface: W2
Thread: UNC

Order Code

SP 212,7 PP DP-AS U W10

W10 is the standard option for this type of installation.



2x **Socket Cap Screw**
Surface: W3
Thread: Metric

1x **Clamp Body** (two halves)
STAUFF Group 2 (DIN 2)
O.D. 12,7 mm / .50 in
Material: Polypropylene
Profiled inside surface
with tension clearance

1x **Single Weld Plate**
Surface: W2
Thread: Metric

Order Code

SP 212,7 PP IS M W10

W10 is the standard option for this type of installation.



2x **Slotted Head Screw**
Surface: W3
Thread: Metric

1x **Clamp Body** (two halves)
STAUFF Group 2 (DIN 2)
O.D. 12,7 mm / .50 in
Material: Polypropylene
Profiled inside surface
with tension clearance

1x **Single Weld Plate**
Surface: W2
Thread: Metric

Order Code

SP 212,7 PP LI M W10

W10 is the standard option for this type of installation.
Available up to STAUFF Group 6 (DIN Group 6) only.



2x **Hexagon Head Bolt**
Surface: W3
Thread: UNC

1x **Cover Plate**
Surface: W3

1x **Clamp Body** (two halves)
STAUFF Group 2 (DIN 2)
O.D. 12,7 mm / .50 in
Material: Polypropylene
Profiled inside surface
with tension clearance

1x **Elongated Weld Plate**
Surface: W2
Thread: UNC

Order Code

SPV 212,7 PP DP-AS U W10

W10 is the standard option for this type of installation.



2x **Socket Cap Screw**
Surface: W3
Thread: Metric

1x **Clamp Body** (two halves)
STAUFF Group 2 (DIN 2)
O.D. 12,7 mm / .50 in
Material: Polypropylene
Profiled inside surface
with tension clearance

1x **Elongated Weld Plate**
Surface: W2
Thread: Metric

Order Code

SPV 212,7 PP IS M W10

W10 is the standard option for this type of installation.



2x **Slotted Head Screw**
Surface: W3
Thread: Metric

1x **Clamp Body** (two halves)
STAUFF Group 2 (DIN 2)
O.D. 12,7 mm / .50 in
Material: Polypropylene
Profiled inside surface
with tension clearance

1x **Elongated Weld Plate**
Surface: W2
Thread: Metric

Order Code

SPV 212,7 PP LI M W10

W10 is the standard option for this type of installation.
Available up to STAUFF Group 6 (DIN Group 6) only.



2x **Hexagon Head Bolt**
Surface: W3
Thread: UNC

1x **Cover Plate**
Surface: W3

1x **Clamp Body** (two halves)
STAUFF Group 2 (DIN 2)
O.D. 12,7 mm / .50 in
Material: Polypropylene
Profiled inside surface
with tension clearance

2x **Hexagon Rail Nut**
Surface: W3
Thread: UNC

Order Code (Mounting Rail TS not included.)

SM 212,7 PP DP-AS U W3

W3 is the standard option for this type of installation.



2x **Socket Cap Screw**
Surface: W3
Thread: Metric

1x **Clamp Body** (two halves)
STAUFF Group 2 (DIN 2)
O.D. 12,7 mm / .50 in
Material: Polypropylene
Profiled inside surface
with tension clearance

2x **Hexagon Rail Nut**
Surface: W3
Thread: Metric

Order Code (Mounting Rail TS not included.)

SM 212,7 PP IS M W3

W3 is the standard option for this type of installation.



2x **Slotted Head Screw**
Surface: W3
Thread: Metric

1x **Clamp Body** (two halves)
STAUFF Group 2 (DIN 2)
O.D. 12,7 mm / .50 in
Material: Polypropylene
Profiled inside surface
with tension clearance

2x **Hexagon Rail Nut**
Surface: W3
Thread: Metric

Order Code (Mounting Rail TS not included.)

SM 212,7 PP LI M W3

W3 is the standard option for this type of installation.
Available up to STAUFF Group 6 (DIN Group 6) only.



2x **Hexagon Head Bolt**
Surface: W3
Thread: UNC

1x **Cover Plate**
Surface: W3

1x **Clamp Body** (two halves)
STAUFF Group 2 (DIN 2)
O.D. 12,7 mm / .50 in
Material: Polypropylene
Profiled inside surface
with tension clearance

Order Code

212,7 PP DP-AS U W3

W3 is the standard option for this type of installation.



2x **Socket Cap Screw**
Surface: W3
Thread: Metric

1x **Clamp Body** (two halves)
STAUFF Group 2 (DIN 2)
O.D. 12,7 mm / .50 in
Material: Polypropylene
Profiled inside surface
with tension clearance

Order Code

212,7 PP IS M W3

W3 is the standard option for this type of installation.



2x **Slotted Head Screw**
Surface: W3
Thread: Metric

1x **Clamp Body** (two halves)
STAUFF Group 2 (DIN 2)
Tube-O.D. 12,7 mm / .50 in
Material: Polypropylene
Profiled inside surface
with tension clearance

Order Code

212,7 PP LI M W3

W3 is the standard option for this type of installation.



2x **Stacking Bolt**
Surface: W3
Thread: UNC

1x **Safety Locking Plate**
Surface: W3

1x **Clamp Body** (two halves)
STAUFF Group 2 (DIN 2)
O.D. 12,7 mm / .50 in
Material: Polypropylene
Profiled inside surface
with tension clearance

Order Code

212,7 PP SIG-AF U W3

W3 is the standard option for this type of installation.



1x **Socket Cap Screw**
Surface: W3
Thread: Metric

1x **Clamp Body** (two halves)
STAUFF Group 1 (DIN 0)
O.D. 6 mm / .24 in
Material: Polypropylene
Profiled inside surface
with tension clearance
Thread: Metric

1x **Single Weld Plate**
Surface: W2
Thread: Metric

Order Code*

SP 106 PP IS M W10

W10 is the standard option for this type of installation.



2x **Hexagon Head Bolt**
Surface: W3
Thread: UNC

2x **Insert**
Material: Plastic

1x **Clamp Body** (two halves)
STAUFF Group 2 (DIN 2)
O.D. 12,7 mm / .50 in
Material: Polypropylene
Profiled inside surface
with tension clearance

1x **Single Weld Plate**
Surface: W2
Thread: UNC

Order Code

SP 212,7 PP EP-AS U W10

W10 is the standard option for this type of installation.



2x **Hexagon Head Bolt**
Surface: W3
Thread: UNC

2x **Insert**
Material: Plastic

1x **Clamp Body** (two halves)
STAUFF Group 2 (DIN 2)
O.D. 12,7 mm / .50 in
Material: Polypropylene
Profiled inside surface
with tension clearance

1x **Elongated Weld Plate**
Surface: W2
Thread: UNC

Order Code

SPV 212,7 PP EP-AS U W10

W10 is the standard option for this type of installation.

Thread codes

All threaded parts are available with Metric ISO thread or unified coarse (UNC) thread according to dimension table.

Unified coarse (UNC) thread	**U**
Metric ISO thread	**M**

Material codes

The below listed material codes describe the materials and surface finishings of metal parts that are most relevant for Standard Series clamp assemblies. Individual combinations of alternative materials and surface finishings are available upon request. Consult STAUFF for further information.

Metal parts made of Carbon Steel, untreated	**W1**
Metal parts made of Carbon Steel, phosphated	**W2**
Metal parts made of Carbon Steel, zinc/nickel-plated	**W3**
Metal parts made of Stainless Steel V2A 1.4301 / 1.4305 (AISI 304 / 303)	**W4**
Metal parts made of Stainless Steel V4A 1.4401 / 1.4571 (AISI 316 / 316 Ti)	**W5**
Weld Plate made of Carbon Steel, phosphated; Other metal parts made of Carbon Steel, zinc/nickel-plated	**W10**
Rail Nuts made of Carbon Steel, untreated; Other metal parts made of Carbon Steel, zinc/nickel-plated	**W11**

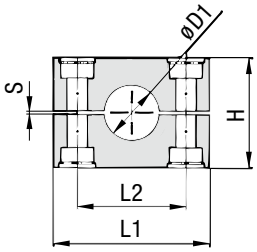
Technical Notes

* Because of their design, STAUFF Group 1 (DIN Group 0) clamp assemblies only include a single bolt / screw.

Clamp Body ▪ Profiled Design

Profiled Inside Surface with Tension Clearance





Order Codes

Clamp Body ***3*006*PP**

One clamp body is consisting of two clamp halves.

* 1st part of STAUFF Group	**3**
* Exact outside diameter Ø D1 (mm)	**006**
* Material code (see below)	**PP**

Standard Materials

Polypropylene
Colour: Green
Material code: **PP**

Polyamide
Colour: Black
Material code: **PA**

Thermoplastic Elastomer (87 Shore-A)
Colour: Black
Material code: **SA**

Aluminium
Colour: Self-Colour
Material code: **AL**

See page A88 for material properties and technical information.

Special Materials

Please consult STAUFF for further details on fire-proof clamp body materials, tested and approved according to several international fire-protection standards.

See page A89 for material properties and technical information.

Product Features

- Proven, tested and trusted product in various markets
- Recommended for the safe installation of rigid pipes and tubes
- Available for all commonly used pipe and tube outside diameters
- Environmental protection due to vibration/noise reducing design
- Excellent weathering resistance, even under extreme conditions

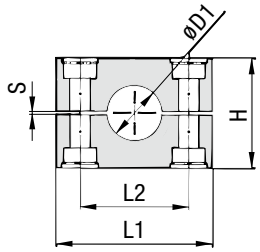
Group STAUFF	Group DIN	Outside Diameter Pipe / Tube Ø D1 (mm)	Outside Diameter Pipe / Tube Ø D1 (in)	Nominal Bore Pipe (in)	Nominal Bore Copper Tube (in)	Order Codes (2 Clamp Halves) (** = Material)	Dimensions (mm/in) L1 PP/PA/SA	L1 AL	L2	H	S min.	Width
3S	1	6				3006 **	55 2.16	56 2.20	33 1.30	32 1.26	0,6 .02	30,5 1.20
		6,4	1/4			3006,4 **						
		8	5/16			3008 **						
		9,5	3/8		1/4	3009,5 **						
		10		1/8		3010 **						
		12				3012 **						
		12,7	1/2		3/8	3012,7 **						
		13,5		1/4		3013,5 **						
		14				3014 **						
		15				3015 **						
		16	5/8		1/2	3016 **						
		17,2		3/8		3017,2 **						
		18				3018 **						
		20				3020 **						
4S	2	19	3/4			4019 **	70 2.76	70 2.76	45 1.77	48 1.89	0,6 .02	30,5 1.20
		20				4020 **						
		21,3		1/2		4021,3 **						
		22			3/4	4022 **						
		25				4025 **						
		25,4	1			4025,4 **						
		26,9		3/4		4026,9 **						
		28				4028 **						
		30				4030 **						
5S	3	30				5030 **	85 3.35	85 3.35	60 2.36	60 2.36	0,6 .02	30.5 1.20
		32	1-1/4			5032 **						
		33,7		1		5033,7 **						
		35			1-1/4	5035 **						
		38	1-1/2			5038 **						
		40				5040 **						
		41,3			1-1/2	5041,3 **						
		42		1-1/4		5042 **						
6S	4	38	1-1/2			6038 **	115 4.53	120 4.72	90 3.54	89 3.50	2 .08	45 1.77
		42		0		6042 **						
		44,5	1-3/4			6044,5 **						
		48,3		1-1/2		6048,3 **						
		50,8	2			6050,8 **						
		54			2	6054 **						
		55				6055 **						
		57				6057 **						
		57,2	2-1/4			6057,2 **						
		60,3		2		6060,3 **						
		63,5	2-1/2			6063,5 **						
		65				6065 **						
		70	2-3/4			6070 **						

See page A27 for STAUFF Group 7S to 12S (DIN Group 5 to 10).

Additional outside diameters are available upon request. Please consult STAUFF for further information.

Clamp Body ▪ Profiled Design

Profiled Inside Surface with Tension Clearance





Group STAUFF	Group DIN	Outside Diameter Pipe / Tube Ø D1 (mm)	Outside Diameter Pipe / Tube Ø D1 (in)	Nominal Bore Pipe (in)	Order Codes (2 Clamp Halves) (** = Material)	Dimensions (mm/in) L1 PP/PA	L1 AL	L2	H	S min.	Width
7S	5	60,3			**7060,3 ****	154 6.06	152 5.98	122 4.80	120 4.72	2 .08	60 2.36
		65			**7065 ****						
		70	2-3/4		**7070 ****						
		73		2-1/2 (ANSI B 36-10)	**7073 ****						
		75			**7075 ****						
		76,1	3	2-1/2 (DIN EN 10220)	**7076,1 ****						
		80			**7080 ****						
		82,5			**7082,5 ****						
		88,9	3-1/2	3	**7088,9 ****						
8S	6	88,9	3-1/2	3	**8088,9 ****	206 8.11	208 8.19	168 6.61	168 6.61	2 .08	80 3.15
		100			**8100 ****						
		102	4	3-1/2	**8102 ****						
		108			**8108 ****						
		114	4-1/2	4	**8114 ****						
		127	5		**8127 ****						
		133			**8133 ****						
9S	7	127	5		**9127 ****	251 9.88	255 10.04	205 8.07	200 7.87	3 .12	91 3.58
		133			**9133 ****						
		140		5	**9140 ****						
		152	6		**9152 ****						
		159			**9159 ****						
		165			**9165 ****						
		168		6	**9168 ****						
10S	8	168		6	**10168 ****	336 13.22	326 12.83	265 10.43	270 10.63	3 .12	120 4.72
		177,8			**10177,8 ****						
		193,7			**10193,7 ****						
		203	8		**10203 ****						
		216			**10216 ****						
		219		8	**10219 ****						
11S	9	219		8	**11219 ****	470 18.50	470 18.50	395 15.55	410 16.14	8 .31	162 6.38
		273		10	**11273 ****						
		324		12	**11324 ****						
12S	10	356		14	**12356 ****	630 4.80	630 4.80	534 21.02	530 20.87	20 .79	182 7.16
		406		16	**12406 ****						

See page A26 for STAUFF Group 3S to 6S (DIN Group 1 to 4).

Additional outside diameters are available upon request. Please consult STAUFF for further information.

Order Codes

Clamp Body ***7*060,3*PP**

One clamp body is consisting of two clamp halves.

* 1st part of STAUFF Group	**7**
* Exact outside diameter Ø D1 (mm)	**060,3**
* Material code (see below)	**PP**

Standard Materials



Polypropylene
Colour: Green
Material code: **PP**



Polyamide
Colour: Black
Material code: **PA**



Aluminium
Colour: Self-Colour
Material code: **AL**

See page A88 for material properties and technical information.

Special Materials

Please consult STAUFF for further details on fire-proof clamp body materials, tested and approved according to several international fire-protection standards.

See page A89 for material properties and technical information.

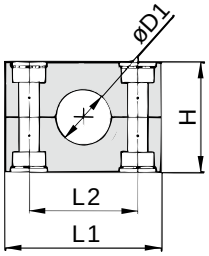
Product Features

- Proven, tested and trusted product in various markets
- Recommended for the safe installation of rigid pipes and tubes
- Available for all commonly used pipe and tube outside diameters
- Environmental protection due to vibration/noise reducing design
- Excellent weathering resistance, even under extreme conditions

Clamp Body ▪ Type H

Smooth Inside Surface without Tension Clearance





Order Codes

Clamp Body ***3*006*PPH**

One clamp body is consisting of two clamp halves.

* 1st part of STAUFF Group	**3**
* Exact outside diameter Ø D1 (mm)	**006**
* Material code (see below)	**PPH**

Standard Materials



Polypropylene
Colour: Green
Material code: **PPH**



Polyamide
Colour: Black
Material code: **PAH**



Thermoplastic Elastomer (87 Shore-A)
Colour: Black
Material code: **SAH**

See page A88 for material properties and technical information.

Special Materials

Please consult STAUFF for further details on fire-proof clamp body materials, tested and approved according to several international fire-protection standards.

See page A89 for material properties and technical information.

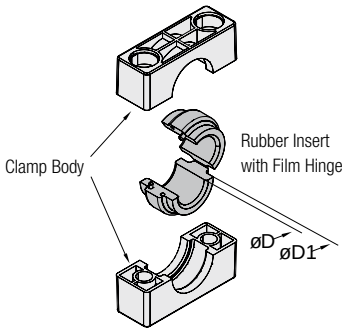
Product Features

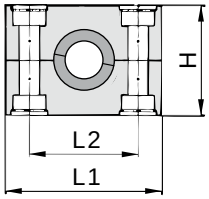
- Proven, tested and trusted product in various markets
- Recommended for the safe installation of hoses and cables
- Chamfered edges avoid damaging of the hose or cable
- Available for all commonly used hose and cable outside diameters
- Excellent weathering resistance, even under extreme conditions

Group STAUFF	Group DIN	Outside Diameter Hose Ø D1 (mm)	Outside Diameter Hose Ø D1 (in)	Nominal Bore Hydraulic Hose SAE 100 R2 AT (in)	Order Codes (2 Clamp Halves) (*** = Material)	Dimensions (mm/in) L1	L2	H	Width
3S	1	6			3006 ***	55 2.16	33 1.30	30,5 1.20	30,5 1.20
		6,4	1/4		3006,4 ***				
		8	5/16		3008 ***				
		9,5	3/8		3009,5 ***				
		10			3010 ***				
		12			3012 ***				
		12,7	1/2		3012,7 ***				
		13,5			3013,5 ***				
		14			3014 ***				
		15		1/4	3015 ***				
		16	5/8		3016 ***				
		17,2			3017,2 ***				
		18			3018 ***				
4S	2	15		1/4	4015 ***	70 2.76	45 1.77	46,5 1.83	30,5 1.20
		19	3/4		4019 ***				
		19,8		3/8	4019,8 ***				
		20			4020 ***				
		21,3			4021,3 ***				
		22			4022 ***				
		22,1		1/2	4022,1 ***				
		25			4025 ***				
		25,1		5/8	4025,1 ***				
		25,4	1		4025,4 ***				
		26,9			4026,9 ***				
		28			4028 ***				
		29,2		3/4	4029,2 ***				
		30			4030 ***				
5S	3	30			5030 ***	85 3.35	60 2.36	58 2.28	30.5 1.20
		32	1-1/4		5032 ***				
		33,7			5033,7 ***				
		35			5035 ***				
		38	1-1/2		5038 ***				
		40			5040 ***				
		41,3			5041,3 ***				
		42			5042 ***				
6S	4	37,8		1	6037,8 ***	115 4.53	90 3.54	87 3.43	45 1.77
		38	1-1/2		6038 ***				
		42			6042 ***				
		44,5	1-3/4		6044,5 ***				
		48,3			6048,3 ***				
		48,4		1-1/4	6048,4 ***				
		50,8	2		6050,8 ***				
		54,4		1-1/2	6054,4 ***				
		55			6055 ***				
		57			6057 ***				
		57,2	2-1/4		6057,2 ***				
		60,3			6060,3 ***				
		63,5	2-1/2		6063,5 ***				
		65			6065 ***				
		70	2-3/4		6070 ***				

Additional outside diameters are available upon request. Please consult STAUFF for further information.

Clamp Body with Rubber Insert Type RI







Group STAUFF	Group DIN	Outside Diameter Pipe / Tube / Hose Ø D (mm)	(in)	Order Codes (✱✱R = Clamp Body Material) Clamp Assembly (Clamp Body + Rubber Insert)	Clamp Body (2 Clamp Halves)	Rubber Insert *	Dimensions (mm/in) Ø D1	L1	L2	H	Width
		6		4006 ✱✱R		RI 06 (4+4S)					
		8	5/16	4008 ✱✱R		RI 08 (4+4S)					
		10		4010 ✱✱R		RI 10 (4+4S)					
		12		4012 ✱✱R		RI 12 (4+4S)					
		12,7	1/2	4012,7 ✱✱R		RI 12,7 (4+4S)					
4S	2	14		4014 ✱✱R	4S ✱✱R	RI 14 (4+4S)	25	70	45	46,5	30,5
		15		4015 ✱✱R		RI 15 (4+4S)	.98	2.76	1.77	4.83	1.20
		16	5/8	4016 ✱✱R		RI 16 (4+4S)					
		17,2		4017,2 ✱✱R		RI 17,2 (4+4S)					
		18		4018 ✱✱R		RI 18 (4+4S)					
		19	3/4	4019 ✱✱R		RI 19 (4+4S)					
		20		5020 ✱✱R		RI 20 (6+5S)					
		21,3		5021,3 ✱✱R		RI 21,3 (6+5S)					
		22	7/8	5022 ✱✱R		RI 22 (6+5S)					
5S	3	25		5025 ✱✱R	5S ✱✱R	RI 25 (6+5S)	38	85	60	58	30,5
		26,9		5026,9 ✱✱R		RI 26,9 (6+5S)	1.50	3.35	2.36	2.28	1.20
		28		5028 ✱✱R		RI 28 (6+5S)					
		30		5030 ✱✱R		RI 30 (6+5S)					
		32	1-1/4	5032 ✱✱R		RI 32 (6+5S)					
		32	1-1/4	6032 ✱✱R		RI 32 (6S)					
		33,7		6033,7 ✱✱R		RI 33,7 (6S)					
		35		6035 ✱✱R		RI 35 (6S)					
		38,7		6038,7 ✱✱R		RI 38,7 (6S)					
		40		6040 ✱✱R		RI 40 (6S)					
6S	4	42		6042 ✱✱R	6S ✱✱R	RI 42 (6S)	64	115	90	87	45
		45,5		6045,5 ✱✱R		RI 45,5 (6S)	2.52	4.53	3.54	3.43	1.77
		48		6048 ✱✱R		RI 48 (6S)					
		51	2	6051 ✱✱R		RI 51 (6S)					
		53,4		6053,4 ✱✱R		RI 53,4 (6S)					
		56,4		6056,4 ✱✱R		RI 56,4 (6S)					
		55		7055 ✱✱R		RI 55 (7S)					
		57	2-1/4	7057 ✱✱R		RI 57 (7S)					
		60		7060 ✱✱R		RI 60 (7S)					
		63,5	2-1/2	7063,5 ✱✱R		RI 63,5 (7S)					
7S	5	65		7065 ✱✱R	7S ✱✱R	RI 65 (7S)	88	154	122	120	60
		70	2-3/4	7070 ✱✱R		RI 70 (7S)	3.56	6.06	4.80	4.72	2.36
		72		7072 ✱✱R		RI 72 (7S)					
		76	3	7076 ✱✱R		RI 76 (7S)					
		80		8080 ✱✱R		RI 80 (8S)					
8S	6	88,9	3-1/2	8088,9 ✱✱R	8S ✱✱R	RI 88,9 (8S)	114	208	168	168	80
		102		8102 ✱✱R		RI 102 (8S)	4.49	8.11	6.61	6.61	3.15
		114		9114 ✱✱R		RI 114 (9S)					
9S	7	133	5-1/4	9133 ✱✱R	9S ✱✱R	RI 133 (9S)	150	251	205	200	91
		140		9140 ✱✱R		RI 140 (9S)	5.91	9.88	8.07	7.87	3.58
		150		10150 ✱✱R		RI 150 (10S)					
		165		10165 ✱✱R		RI 165 (10S)					
10S	8	168		10168 ✱✱R	10S ✱✱R	RI 168 (10S)	200	336	265	270	120
		172		10172 ✱✱R		RI 172 (10S)	7.87	13.22	10.43	10.63	4.72

* Rubber Inserts for Heavy Series clamp bodies, STAUFF Group 4S also fit into Standard Series clamp bodies, STAUFF Group 4.
Rubber Inserts for Heavy Series clamp bodies, STAUFF Group 5S also fit into Standard Series clamp bodies, STAUFF Group 6.

Additional outside diameters are available upon request. Please consult STAUFF for further information.

Order Codes

Clamp Assembly *4*006*PPR

One assembly is consisting of one clamp body and one insert.
- * 1st part of STAUFF Group **4**
- * Exact outside diameter Ø D (mm) **006**
- * Material code (see below) **PPR**

Clamp Body *4S*PPR

One clamp body is consisting of two clamp halves.
- * STAUFF Group **4S**
- * Material code (see below) **PPR**

Rubber Insert *RI*06*(4+4S)

- * Rubber Insert **RI**
- * Exact outside diameter Ø D (mm) **06**
- * STAUFF Group
  - 4S (Heavy) and 4 (Standard) **(4+4S)**
  - 5S (Heavy) and 6 (Standard) **(6+5S)**
  - 6S (Heavy) **(6S)**
  - 7S (Heavy) **(7S)**
  - 8S (Heavy) **(8S)**
  - 9S (Heavy) **(9S)**
  - 10S (Heavy) **(10S)**

Standard Materials



Polypropylene
Colour: Black
Material code: **PPR**



Polyamide
Colour: Black
Material code: **PAR**



Rubber Insert
4S to 6S: **Thermoplastic Elastomer** (73 Shore-A)
7S to 10S: **Elastomer** (70 Shore-A)
Colour: Black

See page A88 for properties and technical information.

Special Materials

Please consult STAUFF for further details on fire-proof clamp body materials, tested and approved according to several international fire-protection standards.

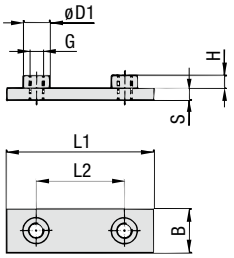
See page A89 for properties and technical information.

Product Features

- Proven, tested and trusted product in various markets
- Either for the extra vibration/noise reducing installation of pipes and tubes or the extra gentle installation of hoses and cables
- Available for all commonly used outside diameters
- Excellent weathering resistance, even under extreme conditions

Weld Plate for Single Clamps Type SPAL





Order Codes

Weld Plate ***SPAL*3S*U*W2**

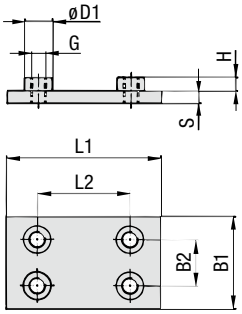
* Weld Plate for Single Clamps		SPAL
* STAUFF Group		3S
* Thread code	Unified coarse (UNC) thread	U
	Metric ISO thread	M
* Material code	Carbon Steel, untreated	W1
	Carbon Steel, phosphated	W2
	Carbon Steel, zinc/nickel-plated	W3
	Stainless Steel V2A 1.4301 / 1.4305 (AISI 304 / 303)	W4
	Stainless Steel V4A 1.4401 / 1.4571 (AISI 316 / 316 Ti)	W5

Group STAUFF	DIN	Dimensions (mm/in) L1	L2	B	S	H	Thread G	ØD1	Order Codes (Standard Options)
3S	1	74	33	30	8	8	M10	18	SPAL 3S M W2
		2.91	1.30	1.18	.31	.31	3/8–16 UNC	.71	SPAL 3S U W2
4S	2	86	45	30	8	8	M10	18	SPAL 4S M W2
		3.39	1.77	1.18	.31	.31	3/8–16 UNC	.71	SPAL 4S U W2
5S	3	100	60	30	8	8	M10	18	SPAL 5S M W2
		3.94	2.36	1.18	.31	.31	3/8–16 UNC	.71	SPAL 5S U W2
6S	4	140	90	45	10	8	M12	20	SPAL 6S M W2
		5.51	3.54	1.77	.39	.31	7/16–14 UNC	.78	SPAL 6S U W2
7S	5	180	122	60	10	12	M16	24	SPAL 7S M W2
		7.09	4.80	2.36	.39	.47	5/8–11 UNC	.94	SPAL 7S U W2
8S	6	226	168	80	15	18	M20	30	SPAL 8S M W1
		8.90	6.61	3.15	.59	.71	3/4–10 UNC	1.18	SPAL 8S U W1
9S	7	270	205	90	15	21	M24	35	SPAL 9S M W1
		10.63	8.07	3.54	.59	.83	7/8–9 UNC	1.38	SPAL 9S U W1
10S	8	340	265	120	25	21	M30	45	SPAL 10S M W1
		13.39	10.43	4.72	.98	.83	1-1/8–7 UNC	1.77	SPAL 10S U W1
11S	9	520	395	160	30	38	M30	50	SPAL 11S M W1
		20.47	15.55	6.30	1.18	1.50	1-1/4–7 UNC	1.97	SPAL 11S U W1
12S	10	680	534	180	30	38	M30	50	SPAL 12S M W1
		27.16	21.02	7.09	1.18	1.50	1-1/4–7 UNC	1.97	SPAL 12S U W1

All threaded parts are available with Metric ISO thread or unified coarse (UNC) thread according to dimension table.
Alternative materials and surface finishings are available upon request. Consult STAUFF for further information.

Weld Plate for Double Clamps Type SPAS





Order Codes

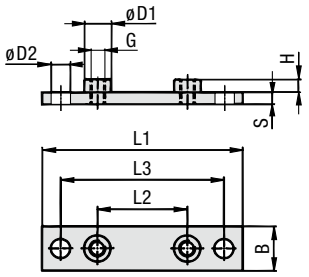
Weld Plate ***SPAS*3S*U*W2**

* Weld Plate for Double Clamps		SPAS
* STAUFF Group		3S
* Thread code	Unified coarse (UNC) thread	U
	Metric ISO thread	M
* Material code	Carbon Steel, untreated	W1
	Carbon Steel, phosphated	W2
	Carbon Steel, zinc/nickel-plated	W3
	Stainless Steel V2A 1.4301 / 1.4305 (AISI 304 / 303)	W4
	Stainless Steel V4A 1.4401 / 1.4571 (AISI 316 / 316 Ti)	W5

Group STAUFF	DIN	Dimensions (mm/in) L1	L2	B1	B2	S	H	Thread G	ØD1	Order Codes (Standard Options)
3S	1	74	33	60	30,5	8	8	M10	18	SPAS 3S M W2
		2.91	1.30	2.36	1.20	.31	.31	3/8–16 UNC	.71	SPAS 3S U W2
4S	2	86	45	60	30,5	8	8	M10	18	SPAS 4S M W2
		3.39	1.77	2.36	1.20	.31	.31	3/8–16 UNC	.71	SPAS 4S U W2
5S	3	100	60	60	30,5	8	8	M10	18	SPAS 5S M W2
		3.94	2.36	2.36	1.20	.31	.31	3/8–16 UNC	.71	SPAS 5S U W2
6S	4	140	90	90	46	10	8	M12	20	SPAS 6S M W2
		5.51	3.54	3.54	1.81	.39	.31	7/16–14 UNC	.78	SPAS 6S U W2
7S	5	180	122	120	61	10	12	M16	24	SPAS 7S M W2
		7.09	4.80	4.72	2.40	.39	.47	5/8–11 UNC	.94	SPAS 7S U W2
8S	6	226	168	160	81	15	18	M20	30	SPAS 8S M W1
		8.90	6.61	6.61	3.19	.59	.71	3/4–10 UNC	1.18	SPAS 8S U W1
9S	7	270	205	180	91	15	21	M24	35	SPAS 9S M W1
		10.63	8.07	7.09	3.58	.59	.83	7/8–9 UNC	1.38	SPAS 9S U W1
10S	8	340	265	240	121	25	21	M30	45	SPAS 10S M W1
		13.39	10.43	9.45	4.78	.98	.83	1-1/8–7 UNC	1.77	SPAS 10S U W1
11S	9	520	395	324	166	30	38	M30	50	SPAS 11S M W1
		20.47	15.55	12.76	6.54	1.18	1.50	1-1/4–7 UNC	1.97	SPAS 11S U W1
12S	10	680	534	364	186	30	38	M30	50	SPAS 12S M W1
		27.16	21.02	14.33	7.32	1.18	1.50	1-1/4–7 UNC	1.97	SPAS 12S U W1

All threaded parts are available with Metric ISO thread or unified coarse (UNC) thread according to dimension table.
Alternative materials and surface finishings are available upon request. Consult STAUFF for further information.

Elongated Weld Plate for Single Clamps Type SPAL/DUEB





Group STAUFF	DIN	Dimensions (mm/in) L1	L2	L3	B	S	H	Thread G	ØD1	ØD2	Order Codes (Standard Options)
3S	1	113	33	85	30	8	8	M10	18	13	SPAL/DUEB 3S M W2
		4.45	1.30	3.35	1.18	.31	.31	3/8–16 UNC	.71	.51	SPAL/DUEB 3S U W2
4S	2	125	45	97	30	8	8	M10	18	13	SPAL/DUEB 4S M W2
		4.92	1.77	3.82	1.18	.31	.31	3/8–16 UNC	.71	.51	SPAL/DUEB 4S U W2
5S	3	140	60	112	30	8	8	M10	18	13	SPAL/DUEB 5S M W2
		5.51	2.36	4.41	1.18	.31	.31	3/8–16 UNC	.71	.51	SPAL/DUEB 5S U W2
6S	4	187	90	155	45	10	8	M12	20	16	SPAL/DUEB 6S M W2
		7.36	3.54	6.10	1.77	.39	.31	7/16–14 UNC	.78	.62	SPAL/DUEB 6S U W2
7S	5	238	122	198	60	10	12	M16	24	21	SPAL/DUEB 7S M W2
		9.37	4.80	7.80	2.36	.39	.47	5/8–11 UNC	.94	.83	SPAL/DUEB 7S U W2
8S	6	309	168	259	80	15	18	M20	30	26	SPAL/DUEB 8S M W1
		12.17	6.61	10.20	3.15	.59	.71	3/4–10 UNC	1.18	1.02	SPAL/DUEB 8S U W1
9S	7	370	205	310	90	15	21	M24	35	31	SPAL/DUEB 9S M W1
		14.57	8.07	12.20	3.54	.59	.83	7/8–9 UNC	1.38	1.22	SPAL/DUEB 9S U W1
10S	8	440	265	380	120	25	21	M30	45	31	SPAL/DUEB 10S M W1
		17.32	10.43	14.96	4.72	.98	.83	1-1/8–7 UNC	1.77	1.22	SPAL/DUEB 10S U W1
11S	9	590	395	530	160	30	38	M30	50	31	SPAL/DUEB 11S M W1
		23.23	15.55	20.87	6.30	1.18	1.50	1-1/4–7 UNC	1.97	1.22	SPAL/DUEB 11S U W1
12S	10	750	534	690	180	30	38	M30	50	31	SPAL/DUEB 12S M W1
		29.53	21.02	27.17	7.09	1.18	1.50	1-1/4–7 UNC	1.97	1.22	SPAL/DUEB 12S U W1

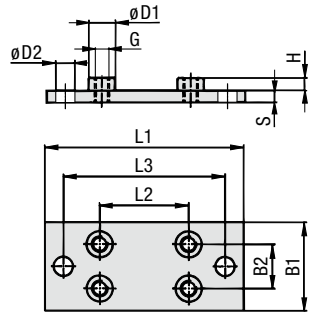
Order Codes

Weld Plate ***SPAL/DUEB*3S*U*W2**

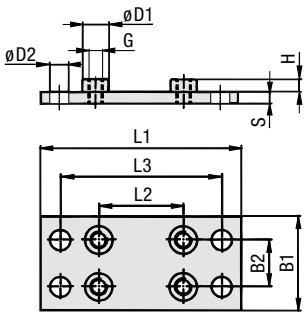
* Elongated Weld Plate for Single Clamps		**SPAL/DUEB**
* STAUFF Group		**3S**
* Thread code	Unified coarse (UNC) thread	**U**
	Metric ISO thread	**M**
* Material code	Carbon Steel, untreated	**W1**
	Carbon Steel, phosphated	**W2**
	Carbon Steel, zinc/nickel-plated	**W3**
	Stainless Steel V2A 1.4301 / 1.4305 (AISI 304 / 303)	**W4**
	Stainless Steel V4A 1.4401 / 1.4571 (AISI 316 / 316 Ti)	**W5**

All threaded parts are available with Metric ISO thread or unified coarse (UNC) thread according to dimension table.
Alternative materials and surface finishings are available upon request. Consult STAUFF for further information.

Elongated Weld Plate for Double Clamps Type SPAS/DUEB



STAUFF Group 3S to 9S



STAUFF Group 10S to 12S





Design for STAUFF Group 10S to 12S

Group STAUFF	DIN	Dimensions (mm/in) L1	L2	L3	B1	B2	S	H	Thread G	ØD1	ØD2	Order Codes (Standard Options)
3S	1	113	33	85	60	30,5	8	8	M10	18	13	SPAS/DUEB 3S M W2
		4.45	1.30	3.35	2.36	1.20	.31	.31	3/8–16 UNC	.71	.51	SPAS/DUEB 3S U W2
4S	2	125	45	97	60	30,5	8	8	M10	18	13	SPAS/DUEB 4S M W2
		4.92	1.77	3.82	2.36	1.20	.31	.31	3/8–16 UNC	.71	.51	SPAS/DUEB 4S U W2
5S	3	140	60	112	60	30,5	8	8	M10	18	13	SPAS/DUEB 5S M W2
		5.51	2.36	4.41	2.36	1.20	.31	.31	3/8–16 UNC	.71	.51	SPAS/DUEB 5S U W2
6S	4	187	90	155	90	46	10	8	M12	20	16	SPAS/DUEB 6S M W2
		7.36	3.54	6.10	3.54	1.81	.39	.31	7/16–14 UNC	.78	.62	SPAS/DUEB 6S U W2
7S	5	238	122	198	120	61	10	12	M16	24	21	SPAS/DUEB 7S M W2
		9.37	4.80	7.80	4.72	2.40	.39	.47	5/8–11 UNC	.94	.83	SPAS/DUEB 7S U W2
8S	6	309	168	259	160	81	15	18	M20	30	26	SPAS/DUEB 8S M W1
		12.17	6.61	10.20	6.61	3.19	.59	.71	3/4–10 UNC	1.18	1.02	SPAS/DUEB 8S U W1
9S	7	370	205	310	180	91	15	21	M24	35	31	SPAS/DUEB 9S M W1
		14.57	8.07	12.20	7.09	3.58	.59	.83	7/8–9 UNC	1.38	1.22	SPAS/DUEB 9S U W1
10S	8	440	265	380	240	121	25	21	M30	45	31	SPAS/DUEB 10S M W1
		17.32	10.43	14.96	9.45	4.78	.98	.83	1-1/8–7 UNC	1.77	1.22	SPAS/DUEB 10S U W1
11S	9	590	395	530	324	166	30	38	M30	50	31	SPAS/DUEB 11S M W1
		23.23	15.55	20.87	12.76	6.54	1.18	1.50	1-1/4–7 UNC	1.97	1.22	SPAS/DUEB 11S U W1
12S	10	750	534	690	364	186	30	38	M30	50	31	SPAS/DUEB 12S M W1
		29.53	21.02	27.17	14.33	7.32	1.18	1.50	1-1/4–7 UNC	1.97	1.22	SPAS/DUEB 12S U W1

Order Codes

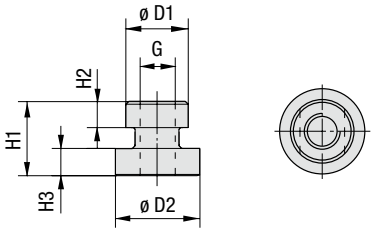
Weld Plate ***SPAS/DUEB*3S*U*W2**

* Elongated Weld Plate for Double Clamps		**SPAS/DUEB**
* STAUFF Group		**3S**
* Thread code	Unified coarse (UNC) thread	**U**
	Metric ISO thread	**M**
* Material code	Carbon Steel, untreated	**W1**
	Carbon Steel, phosphated	**W2**
	Carbon Steel, zinc/nickel-plated	**W3**
	Stainless Steel V2A 1.4301 / 1.4305 (AISI 304 / 303)	**W4**
	Stainless Steel V4A 1.4401 / 1.4571 (AISI 316 / 316 Ti)	**W5**

All threaded parts are available with Metric ISO thread or unified coarse (UNC) thread according to dimension table.
Alternative materials and surface finishings are available upon request. Consult STAUFF for further information.

Mounting Rail Nut
Type GMV (for Use with Mounting Rail STSV)





Order Codes

Mounting Rail Nut ***GMV*3-5S*U*W3**

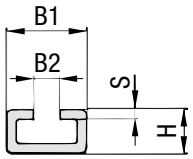
* Mounting Rail Nut		GMV
* STAUFF Group	3S to 5S (DIN Group 1 to 3)	3-5S
	6S (DIN Group 4)	6S
* Thread code	Unified coarse (UNC) thread	U
	Metric ISO thread	M
* Material code	Carbon Steel, zinc/nickel-plated	W3
	Stainless Steel V2A 1.4301 / 1.4305 (AISI 304 / 303)	W4
	Stainless Steel V4A 1.4401 / 1.4571 (AISI 316 / 316 Ti)	W5

Group STAUFF	DIN	Dimensions (mm/in) ØD1	ØD2	H1	H2	H3	Thread G	Order Codes (Standard Options)
3S	1							
4S	2	17,8	24	21	7,6	7,4	M10	GMV 3-5S M W3
		.70	.94	.83	.30	.29	3/8–16 UNC	GMV 3-5S U W3
5S	3							
6S	4	19,8	24	23	8,8	8,2	M12	GMV 6S M W3
		.78	.94	.91	.35	.32	7/16–14 UNC	GMV 6S U W3

All threaded parts are available with Metric ISO thread or unified coarse (UNC) thread according to dimension table.
Alternative materials and surface finishings are available upon request. Consult STAUFF for further information.

Mounting Rail
Type STSV (for Use with Mounting Rail Nut GMV)





Order Codes

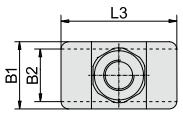
Mounting Rail ***STSV*1*W1**

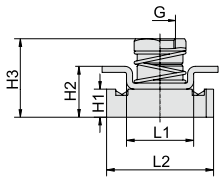
* Mounting Rail		STSV
* Length of rail	1 m / 3.28 ft	1
	2 m / 6.56 ft	2
	Alternative lengths available upon request. Consult STAUFF for further information.	
* Material code	Carbon Steel, untreated	W1
	Carbon Steel, zinc/nickel-plated	W3
	Stainless Steel V4A 1.4401 / 1.4571 (AISI 316 / 316 Ti)	W5

Group STAUFF	DIN	Dimensions (mm/in) B1	B2	H	S	Order Codes (Standard Options) Length of Rail: 1 m / 3.28 ft	Length of Rail: 2 m / 6.56 ft
3S	1						
4S	2	40	13	22	5	STSV 1 W1	STSV 2 W1
		1.57	.39	.86	.19		
5S	3						
6S	4						

Alternative materials and surface finishings are available upon request. Consult STAUFF for further information.

Channel Rail Adaptor
(for Use with Various Channel Rails) Type CRA







Group STAUFF	DIN	Dimensions (mm/in) Thread G	L1	L2	L3	B1	B2	H1	H2	H3	Order Codes (Standard Options)
3S	1										
4S	2	M10	22	35	38	22	20,5	9,2	16,7	27,5	CRA 3-5S M W3
		3/8–16 UNC	.87	1.38	1.50	.87	.81	.36	.66	1.08	CRA 3-5S U W3
5S	3										
6S	4	M12	21,5	35	45	25	19	9,2	15,2	27,5	CRA 6S M W3
		7/16–14 UNC	.85	1.38	1.77	.98	.75	.36	.60	1.08	CRA 6S U W3

All threaded parts are available with Metric ISO thread or unified coarse (UNC) thread according to dimension table.
Alternative materials and surface finishings are available upon request. Consult STAUFF for further information.

Order Codes

Adaptor ***CRA*3-5S*U*W3**

* Channel Rail Adaptor		CRA
* STAUFF Group	3S to 5S (DIN Group 1 to 3)	3-5S
	6S (DIN Group 4)	6S
* Thread code	Unified coarse (UNC) thread	U
	Metric ISO thread	M
* Material code	Carbon Steel, zinc/nickel-plated	W3
	Stainless Steel V4A 1.4401 / 1.4571 (AISI 316 / 316 Ti)	W5



Compatibility with Channel Rails

The STAUFF Channel Rail Adaptor, type CRA, is suitable for various channel rails, including the following types:

HALFEN	HILTI	UNISTRUT®	STAUFF (Cushion Clamp Series)
HM 41/41	MQ-21, MQ-41, MQ-52, MQ-72	P1000, P1000T, P1000V, P1000VT, P1001	SCS-048-1-PL, SCS-048-1-GR
HZA 41/22	MQ-21U, MQ-41U, MQ-72U	P2000, P2000T	SCS-120-1-PL, SCS-120-1-GR
HZM 41/41	MQ-21D, MQ-41D, MQ-52-72D	P3003, P3003T, P3300V, P3300VT, P3301	See page A85 for technical information.
HZM 41/22		P4000, P4000T	
HL 41/41, HL 41/B2		P5000, P5000T, P5001, P5500, P5500T, P5501	

Consult STAUFF to check compatibility with additional types of channel rails.

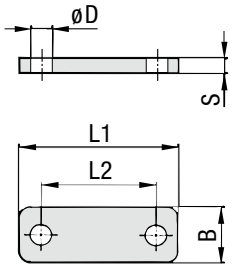
Recommended Bolt Lengths when using the Channel Rail Adaptor, Type CRA

Group STAUFF	DIN	Hexagon Head Bolts AS (used with Cover Plates DPAL or DPAS) Metric ISO thread	Unified coarse (UNC) thread	Socket Cap Screws IS (used without Cover Plates DPAL or DPAS) Metric ISO thread	Unified coarse (UNC) thread
3S	1	M10 x 40	3/8–16 UNC x 1-1/2	M10 x 25	3/8–16 UNC x 1
4S	2	M10 x 55	3/8–16 UNC x 2-1/4	M10 x 40	3/8–16 UNC x 1-1/2
5S	3	M10 x 65	3/8–16 UNC x 2-3/4	M10 x 50	3/8–16 UNC x 2
6S	4	M12 x100	7/16–14 UNC x 3-3/4	M12 x 75	7/16–14 UNC x 3

Clamp assemblies including Channel Rail Adaptors, type CRA are supplied with the recommended bolt lengths by default. See page A39 for further information on ordering.

Cover Plate for Single Clamps Type DPAL





Order Codes

Cover Plate ***DPAL*3S*W2**

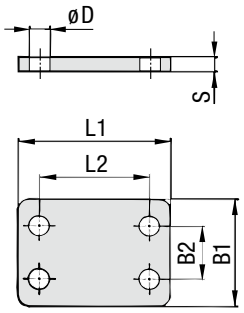
* Cover Plate for Single Clamps		DPAL
* STAUFF Group		3S
* Material code	Carbon Steel, untreated	W1
	Carbon Steel, phosphated	W2
	Carbon Steel, zinc/nickel-plated	W3
	Stainless Steel V2A 1.4301 / 1.4305 (AISI 304 / 303)	W4
	Stainless Steel V4A 1.4401 / 1.4571 (AISI 316 / 316 Ti)	W5

Group STAUFF	DIN	Dimensions (mm/in) L1	L2	B	S	ØD	Order Codes (Standard Options)
3S	1	55	33	30	8	11	DPAL 3S W2
		2.16	1.30	1.18	.31	.43	
4S	2	70	45	30	8	11	DPAL 4S W2
		2.76	1.77	1.18	.31	.43	
5S	3	85	60	30	8	11	DPAL 5S W2
		3.35	2.36	1.18	.31	.43	
6S	4	115	90	45	10	14	DPAL 6S W2
		4.53	3.54	1.77	.39	.55	
7S	5	152	122	60	10	19	DPAL 7S W2
		5.98	4.80	2.36	.39	.75	
8S	6	206	168	80	15	22	DPAL 8S W1
		8.11	6.61	3.15	.59	.87	
9S	7	251	205	90	15	26	DPAL 9S W1
		9.88	8.07	3.54	.59	1.02	
10S	8	320	265	120	25	35	DPAL 10S W1
		12.60	10.43	4.72	.98	1.38	
11S	9	470	395	160	30	35	DPAL 11S W1
		18.50	15.55	6.30	1.18	1.38	
12S	10	630	534	180	30	35	DPAL 12S W1
		24.80	21.02	7.09	1.18	1.38	

Alternative materials and surface finishings are available upon request. Consult STAUFF for further information.

Cover Plate for Double Clamps Type DPAS





Order Codes

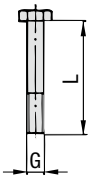
Cover Plate ***DPAS*3S*W2**

* Cover Plate for Double Clamps		DPAS
* STAUFF Group		3S
* Material code	Carbon Steel, untreated	W1
	Carbon Steel, phosphated	W2
	Carbon Steel, zinc/nickel-plated	W3
	Stainless Steel V2A 1.4301 / 1.4305 (AISI 304 / 303)	W4
	Stainless Steel V4A 1.4401 / 1.4571 (AISI 316 / 316 Ti)	W5

Group STAUFF	DIN	Dimensions (mm/in) L1	L2	B1	B2	S	ØD	Order Codes (Standard Options)
3S	1	55	33	60	30,5	8	11	DPAS 3S W2
		2.16	1.30	2.36	1.20	.31	.43	
4S	2	70	45	60	30,5	8	11	DPAS 4S W2
		2.76	1.77	2.36	1.20	.31	.43	
5S	3	85	60	60	30,5	8	11	DPAS 5S W2
		3.35	2.36	2.36	1.20	.31	.43	
6S	4	115	90	90	46	10	14	DPAS 6S W2
		4.53	3.54	3.54	1.81	.39	.55	
7S	5	152	122	120	61	10	19	DPAS 7S W2
		5.98	4.80	4.72	2.40	.39	.75	
8S	6	206	168	160	81	15	22	DPAS 8S W1
		8.11	6.61	6.61	3.19	.59	.87	
9S	7	251	205	180	91	15	26	DPAS 9S W1
		9.88	8.07	7.09	3.58	.59	1.02	
10S	8	320	265	240	121	25	35	DPAS 10S W1
		12.60	10.43	9.45	4.78	.98	1.38	
11S	9	470	395	321	166	30	35	DPAS 11S W1
		18.50	15.55	12.64	6.54	1.18	1.38	
12S	10	630	534	361	186	30	35	DPAS 12S W1
		24.80	21.02	14.21	7.32	1.18	1.38	

Alternative materials and surface finishings are available upon request. Consult STAUFF for further information.

Hexagon Head Bolt Type AS





Hexagon Head Bolt AS
(according to DIN 931 / 933 or ANSI / ASME B18.2.1.)
Dimensions applicable only when used with Cover Plates DPAL or DPAS

Group STAUFF	DIN	Dimensions (mm/in) Thread G x L	Order Codes (Standard Options)
3S	1	M10 x 45	AS 3S M W3*
		3/8–16 UNC x 1-3/4	AS 3S U W3
4S	2	M10 x 60	AS 4S M W3*
		3/8–16 UNC x 2-1/4	AS 4S U W3
5S	3	M10 x 70	AS 5S M W3*
		3/8–16 UNC x 2-3/4	AS 5S U W3
6S	4	M12 x 100	AS 6S M W3*
		7/16–14 UNC x 4	AS 6S U W3
7S	5	M16 x 130	AS 7S M W3*
		5/8–11 UNC x 5-1/4	AS 7S U W3
8S	6	M20 x 190	AS 8S M W1
		3/4–10 UNC x 7-1/2	AS 8S U W1
9S	7	M24 x 220	AS 9S M W1
		7/8–9 UNC x 8-3/4	AS 9S U W1
10S	8	M30 x 300	AS 10S M W1
		1-1/8–7 UNC x 12	AS 10S U W1
11S	9	M30 x 450	AS 11S M W1
		1-1/4–7 UNC x 17-1/2	AS 11S U W1
12S	10	M30 x 560	AS 12S M W1
		1-1/4–7 UNC x 22	AS 12S U W1

Order Codes

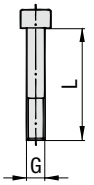
Hexagon Head Bolt ***AS*3S*U*W3**

* Type of bolt	Hexagon Head Bolt (according to DIN 931 / 933 or ANSI / ASME B18.2.1.)	AS
* STAUFF Group		3S
* Thread code	Unified coarse (UNC) thread	U
	Metric ISO thread	M
* Material code	Carbon Steel, untreated	W1
	Carbon Steel, zinc/nickel-plated	W3
	Stainless Steel V2A 1.4301 / 1.4305 (AISI 304 / 303)	W4
	Stainless Steel V4A 1.4401 / 1.4571 (AISI 316 / 316 Ti)	W5

All threaded parts are available with Metric ISO thread or unified coarse (UNC) thread according to dimension table. Alternative materials and surface finishings are available upon request. Consult STAUFF for further information.

* Standard finishing option for Heavy Series group sizes 3S to 7S for markets outside North America is W1 (Carbon Steel, untreated).

Socket Cap Screw Type IS





Socket Cap Screw IS
(according to ISO 4762 or ANSI / ASME B18.3)
Dimensions applicable only when used without Cover Plates

Group STAUFF	DIN	Dimensions (mm/in) Thread G x L	Order Codes (Standard Options)
3S	1	M10 x 30	IS 3S M W3*
		3/8–16 UNC x 1	IS 3S U W3
4S	2	M10 x 40	IS 4S M W3*
		3/8–16 UNC x 1-3/4	IS 4S U W3
5S	3	M10 x 50	IS 5S M W3*
		3/8–16 UNC x 2	IS 5S U W3
6S	4	M12 x 80	IS 6S M W3*
		7/16–14 UNC x 3-1/4	IS 6S U W3

Order Codes

Socket Cap Screw ***IS*3S*U*W3**

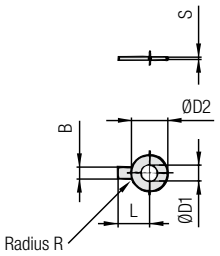
* Type of Bolt	Socket Cap Screw (according to ISO 4762 or ANSI / ASME B18.3)	IS
* STAUFF Group		3S
* Thread code	Unified coarse (UNC) thread	U
	Metric ISO thread	M
* Material code	Carbon Steel, untreated	W1
	Carbon Steel, zinc/nickel-plated	W3
	Stainless Steel V2A 1.4301 / 1.4305 (AISI 304 / 303)	W4
	Stainless Steel V4A 1.4401 / 1.4571 (AISI 316 / 316 Ti)	W5

All threaded parts are available with Metric ISO thread or unified coarse (UNC) thread according to dimension table. Alternative materials and surface finishings are available upon request. Consult STAUFF for further information.

* Standard finishing option for markets outside North America is W1 (Carbon Steel, untreated).

Safety Washer
Type SI (DIN 93)





Safety Washer SI (according to DIN 93)

Order Codes

Safety Washer ***SI*10,5*DIN 93*W3**

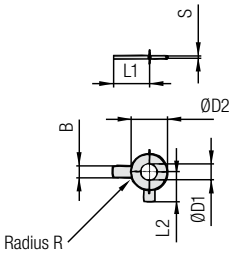
* Safety Washer		**SI**
* Exact inner diameter ØD1 (mm)		**10,5**
* Type of washer	Safety washer with 1 tab (according to DIN 93)	**DIN 93**
* Material code	Carbon Steel, zinc/nickel-plated	**W3**

Group STAUFF	DIN	Dimensions (mm/in) ØD1	B	ØD2	L	R	S	Order Codes (Standard Options)
3S	1	10,5 .41	10 .39	26 1.02	22 .87	4 .16	0,75 .03	SI 10,5 DIN 93 W3
4S	2	10,5 .41	10 .39	26 1.02	22 .87	4 .16	1 .04	SI 10,5 DIN 93 W3
5S	3	10,5 .41	10 .39	26 1.02	22 .87	4 .16	1 .04	SI 10,5 DIN 93 W3
6S	4	13 .51	12 .47	30 1.18	28 1.10	6 .24	1 .04	SI 13 DIN 93 W3
7S	5	17 .67	15 .59	36 1.42	32 1.26	6 .24	1 .04	SI 17 DIN 93 W3
8S	6	21 .83	18 .71	42 1.65	36 1.42	6 .24	1 .04	SI 21 DIN 93 W3
9S	7	25 .98	20 .79	50 1.97	42 1.65	6 .24	1 .04	SI 25 DIN 93 W3
10S	8	31 1.22	26 1.02	63 2.48	52 2.05	10 .39	1,6 .06	SI 31 DIN 93 W3
11S	9	31 1.22	26 1.02	63 2.48	52 2.05	10 .39	1,6 .06	SI 31 DIN 93 W3
12S	10	31 1.22	26 1.02	63 2.48	52 2.05	10 .39	1,6 .06	SI 31 DIN 93 W3

Safety Washers, type SI are used as locking devices to prevent Hexagon Head Bolts, type AS from loosening.
Alternative materials and surface finishings are available upon request. Consult STAUFF for further information.

Safety Washer
Type SI (DIN 463)





Safety Washer SI (according to DIN 463)

Order Codes

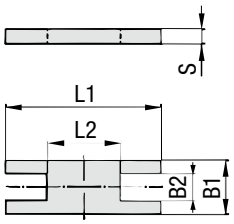
Safety Washer ***SI*10,5*DIN 463*W3**

* Safety Washer		**SI**
* Exact inner diameter ØD1 (mm)		**10,5**
* Type of washer	Safety washer with 2 tabs (according to DIN 463)	**DIN 463**
* Material code	Carbon Steel, zinc/nickel-plated	**W3**

Group STAUFF	DIN	Dimensions (mm/in) ØD1	B	ØD2	L1	L2	R	S	Order Codes (Standard Options)
3S	1	10,5 .41	10 .39	21 .83	22 .87	13 .51	4 .16	0,75 .03	SI 10,5 DIN 463 W3
4S	2	10,5 .41	10 .39	21 .83	22 .87	13 .51	4 .16	1 .04	SI 10,5 DIN 463 W3
5S	3	10,5 .41	10 .39	21 .83	22 .87	13 .51	4 .16	1 .04	SI 10,5 DIN 463 W3
6S	4	13 .51	12 .47	24 .94	28 1.10	15 .59	6 .24	1 .04	SI 13 DIN 463 W3
7S	5	17 .67	15 .59	30 1.18	32 1.26	18 .71	6 .24	1 .04	SI 17 DIN 463 W3
8S	6	21 .83	18 .71	37 1.46	36 1.42	21 .83	6 .24	1 .04	SI 21 DIN 463 W3
9S	7	25 .98	20 .79	44 1.73	42 1.65	25 .98	6 .24	1 .04	SI 25 DIN 463 W3
10S	8	31 1.22	26 1.02	56 2.20	52 2.05	32 1.26	10 .39	1,6 .06	SI 31 DIN 463 W3
11S	9	31 1.22	26 1.02	56 2.20	52 2.05	32 1.26	10 .39	1,6 .06	SI 31 DIN 463 W3
12S	10	31 1.22	26 1.02	56 2.20	52 2.05	32 1.26	10 .39	1,6 .06	SI 31 DIN 463 W3

Safety Washers, type SI are used as locking devices to prevent Hexagon Head Bolts, type AS from loosening.
Alternative materials and surface finishings are available upon request. Consult STAUFF for further information.

Safety Locking Plate
(for Use with Stacking Bolt AF) **Type SIP**





Group STAUFF	DIN	Dimensions (mm/in) L1	L2	B1	B2	S	Order Codes (Standard Options)
3S	1	57	13	30	15,2	8	SIP 3S W2
		2.24	.51	1.18	.60	.31	
4S	2	70	26	30	15,2	8	SIP 4S W2
		2.76	1.02	1.18	.60	.31	
5S	3	85	40	30	15,2	8	SIP 5S W2
		3.35	1.57	1.18	.60	.31	
6S	4	116	68	45	17,2	10	SIP 6S W2
		4.57	2.68	1.77	.68	.39	
7S	5	153	96	60	22	10	SIP 7S W2
		6.02	3.78	2.36	.87	.39	
8S	6	206	130	80	28	15	SIP 8S W1
		8.11	5.12	3.15	1.10	.59	
9S	7	251	166	90	31	15	SIP 9S W1
		9.88	6.54	3.54	1.22	.59	
10S	8	317	205	120	49	25	SIP 10 S W1
		12.48	8.07	4.72	1.93	.98	

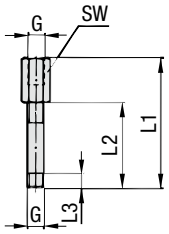
Order Codes

Safety Locking Plate ***SIP*3S*W2**

* Safety Locking Plate		SIP
* STAUFF Group		3S
* Material code	Carbon Steel, untreated	W1
	Carbon Steel, phosphated	W2
	Carbon Steel, zinc/nickel-plated	W3
	Stainless Steel V2A 1.4301 / 1.4305 (AISI 304 / 303)	W4
	Stainless Steel V4A 1.4401 / 1.4571 (AISI 316 / 316 Ti)	W5

Alternative materials and surface finishings are available upon request. Consult STAUFF for further information.

Stacking Bolt
(for Use with Safety Locking Plate SIP) **Type AF**





Group STAUFF	DIN	Dimensions (mm/in) L1	L2	L3 min.	Hex	Thread G	Order Codes (Standard Options)
3S	1	49	25	15	15	M10	AF 3S M W3*
		1.93	.98	.59	.59	3/8–16 UNC	AF 3S U W3
4S	2	65	40	15	15	M10	AF 4S M W3*
		2.56	1.57	.59	.59	3/8–16 UNC	AF 4S U W3
5S	3	77	51	15	15	M10	AF 5S M W3*
		3.03	2.01	.59	.59	3/8–16 UNC	AF 5S U W3
6S	4	110	82	18	17	M12	AF 6S M W3*
		4.33	3.23	.71	.67	7/16–14 UNC	AF 6S U W3
7S	5	144	110	24	21	M16	AF 7S M W3*
		5.67	4.33	.94	.83	5/8–11 UNC	AF 7S U W3
8S	6	200	150	30	27	M20	AF 8S M W1*
		7.87	5.91	1.18	1.06	3/4–10 UNC	AF 8S U W1
9S	7	240	180	50	30	M24	AF 9S M W1*
		9.45	7.09	1.97	1.18	7/8–9 UNC	AF 9S U W1
10S	8	331	256	62	46	M30	AF 10S M W1*
		13.03	10.08	2.44	1.81	1-1/8–7 UNC	AF 10S U W1

Order Codes

Stacking Bolt ***AF*3S*U*W3**

* Stacking Bolt		AF
* STAUFF Group		3S
* Thread code	Unified coarse (UNC) thread	U
	Metric ISO thread	M
* Material code	Carbon Steel, untreated	W1
	Carbon Steel, phosphated	W2
	Carbon Steel, zinc/nickel-plated	W3
	Stainless Steel V2A 1.4301 / 1.4305 (AISI 304 / 303)	W4
	Stainless Steel V4A 1.4401 / 1.4571 (AISI 316 / 316 Ti)	W5

All threaded parts are available with Metric ISO thread or unified coarse (UNC) thread according to dimension table.
Alternative materials and surface finishings are available upon request. Consult STAUFF for further information.

* Standard finishing option for markets outside North America is W2 (Carbon Steel, phosphated).

SPAL	3006	PP	DPAL-AS	U	W15	#K
①	②	③	④	⑤	⑥	⑦

① Type of Installation

Please select the type of installation (e.g. Weld Plates, Rail Nuts, etc.) and add the corresponding Code to position ① of the order code for your clamp assembly.

Without Installation Equipment
Code: **none**

Installation on Weld Plate

Weld Plate for Single Clamps
Code: **SPAL**

Weld Plate for Double Clamps
Code: **SPAS**

Elongated Weld Plate for Single Clamps
Code: **SPAL/DUEB**

Elongated Weld Plate for Double Clamps
Code: **SPAS/DUEB**

Installation on Mounting / Channel Rail

Mounting Rail Nut
Code: **GMV** (for STAUFF Group 3S to 6S only)

Channel Rail Adaptor
Code: **CRA** (for STAUFF Group 3S to 6S only)

② Group Size & Diameter

Please select the required group size and diameter and add the corresponding Code to position ② of the order code for your clamp assembly.

Group STAUFF (DIN)	Outside Diameter P / T / H (mm)	Availability of Clamp Body Materials & Designs Profiled Design	Type H	Type RI	Code
3S (1)	6	●	●	○	3006
	6,4	●	●	○	3006,4
	8	●	●	○	3008
	9,5	●	●	○	3009,5
	10	●	●	○	3010
	12	●	●	○	3012
	12,7	●	●	○	3012,7
	13,5	●	●	○	3013,5
	14	●	●	○	3014
	15	●	●	○	3015
	16	●	●	○	3016
	17,2	●	●	○	3017,2
	18	●	●	○	3018
	20	●	○	○	3020

② Group Size & Diameter
CONTINUATION

Group STAUFF (DIN)	Outside Diameter P / T / H (mm)	Availability of Clamp Body Materials & Designs Profiled Design	Type H	Type RI	Code
4S (2)	6	○	○	●	4006
	8	○	○	●	4008
	10	○	○	●	4010
	12	○	○	●	4012
	12,7	○	○	●	4012,7
	14	○	○	●	4014
	15	○	●	●	4015
	16	○	○	●	4016
	17,2	○	○	●	4017,2
	18	○	○	●	4018
	19	●	●	●	4019
	19,8	○	●	○	4019,8
	20	●	●	○	4020
	21,3	●	●	○	4021,3
	22	●	●	○	4022
	22,1	○	●	○	4022,1
	25	●	●	○	4025
	25,1	○	●	○	4025,1
	25,4	●	●	○	4025,4
	26,9	●	●	○	4026,9
	28	●	●	○	4028
	29,2	○	●	○	4029,2
	30	●	●	○	4030
5S (3)	20	○	○	●	5020
	21,3	○	○	●	5021,3
	22	○	○	●	5022
	25	○	○	●	5025
	26,9	○	○	●	5026,9
	28	○	○	●	5028
	30	●	●	●	5030
	32	●	●	●	5032
	33,7	●	●	○	5033,7
	35	●	●	○	5035
	38	●	●	○	5038
	40	●	●	○	5040
	41,3	●	●	○	5041,3
	42	●	●	○	5042
6S (4)	32	○	○	●	6032
	33,7	○	○	●	6033,7
	35	○	○	●	6035
	37,8	○	●	○	6037,8
	38	●	●	○	6038
	38,7	○	○	●	6038,7
	40	○	○	●	6040
	42	●	●	●	6042
	44,5	●	●	○	6044,5
	45,5	○	○	●	6045,5
	48	○	○	●	6048
	48,3	●	●	○	6048,3
	48,4	○	●	○	6048,4
	50,8	●	●	○	6050,8
	51	○	○	●	6051
	53,4	○	○	●	6053,4
	54	●	○	○	6054
	54,4	○	●	○	6054,4

② Group Size & Diameter
CONTINUATION

Group STAUFF (DIN)	Outside Diameter P / T / H (mm)	Availability of Clamp Body Materials & Designs Profiled Design	Type H	Type RI	Code
6S (4)	55	●	●	○	6055
	56,4	○	○	●	6056,4
	57	●	●	○	6057
	57,2	●	●	○	6057,2
	60,3	●	●	○	6060,3
	63,5	●	●	○	6063,5
	65	●	●	○	6065
	70	●	●	○	6070
7S (5)	55	○	○	●	7055
	57	○	○	●	7057
	60	○	○	●	7060
	60,3	●	○	○	7060,3
	63,5	○	○	●	7063,5
	65	●	○	●	7065
	70	●	○	●	7070
	72	○	○	●	7072
	73	●	○	○	7073
	75	●	○	○	7075
	76	○	○	●	7076
	76,1	●	○	○	7076,1
	80	●	○	○	7080
	82,5	●	○	○	7082,5
	88,9	●	○	○	7088,9
8S (6)	80	○	○	●	8080
	88,9	●	○	●	8088,9
	100	●	○	○	8100
	102	●	○	●	8102
	108	●	○	○	8108
	114	●	○	○	8114
	127	●	○	○	8127
	133	●	○	○	8133
9S (7)	114	○	○	●	9114
	127	●	○	○	9127
	133	●	○	●	9133
	140	●	○	●	9140
	152	●	○	○	9152
	159	●	○	○	9159
	165	●	○	○	9165
	168	●	○	○	9168
10S (8)	150	○	○	●	10150
	165	○	○	●	10165
	168	●	○	●	10168
	172	○	○	●	10172
	177,8	●	○	○	10177,8
	193,7	●	○	○	10193,7
	203	●	○	○	10203
	216	●	○	○	10216
	219	●	○	○	10219
11S (9)	219	●	○	○	11219
	273	●	○	○	11273
	324	●	○	○	11324
12S (10)	356	●	○	○	12356
	406	●	○	○	12406

● Standard Option

Additional outside diameters are available upon request. Please consult STAUFF for further information.

Please see pages A40 and A41 with detailed order examples for some of the most popular Heavy Series clamp assemblies.

③ Clamp Body Design & Material

Please select the design and material of your clamp body and add the corresponding Code to position ③ of the order code for your clamp assembly.

Please check the availability of the selected clamp body design and material according to the matrix table in ②.

Profiled Design


Polypropylene
Code: **PP**


Polyamide
Code: **PA**


Thermoplastic Elastomer (87 Shore-A)
Code: **SA** (for STAUFF Group 3S to 6S only)


Aluminium
Code: **AL**

Type H (Smooth)


Polypropylene
Code: **PPH** (for STAUFF Group 3S to 6S only)


Polyamide
Code: **PAH** (for STAUFF Group 3S to 6S only)


Thermoplastic Elastomer (87 Shore-A)
Code: **SAH** (for STAUFF Group 3S to 6S only)

Type RI (with Rubber Insert)


Polypropylene
Code: **PPR** (for STAUFF Group 4S to 10S only)


Polyamide
Code: **PAR** (for STAUFF Group 4S to 10S only)

See page A88 for material properties and technical information.

Please consult STAUFF for further details on fire-proof clamp body materials, tested and approved according to several international fire-protection standards.

④ Mounting & Fitting Combination

Please select the mounting and fitting combination (e.g. bolts, screws, cover plates, etc.) and add the corresponding Code to position ④ of the order code for your clamp assembly.

Installation with Cover Plate and Bolts

Cover Plate for Single Clamps DPAL with
Hexagon Head Bolts AS
Code: **DPAL-AS**

Cover Plate for Double Clamps DPAS with
Hexagon Head Bolts AS
Code: **DPAS-AS**

Cover Plate for Single Clamps DPAL with
Socket Cap Screws IS*
Code: **DPAL-IS** (for STAUFF Group 3S to 6S only)

Installation with Locking Plate and Bolts

Safety Locking Plate SIP with
Stacking Bolts AF
Code: **SIP-AF**

Installation with Bolts only

Socket Cap Screws IS
Code: **IS**

* Special lengths of Socket Cap Screws IS required. For exact lenghts, please see details of Hexagon Head Bolt, type AS (for use with Cover Plates DPAL or DPAS) on page A35.

⑤ Thread Type

Please select the required thread type and add the corresponding Code to position ⑤ of the order code for your clamp assembly.

Unified coarse (UNC) thread
Code: **U**

Metric ISO thread
Code: **M**

All threaded parts are available with Metric ISO thread or unified coarse (UNC) thread according to dimension table.

⑥ Material & Surface Finishing

Please select the required material & surface finishing of the metal parts and add the corresponding Code to position ⑥ of the order code for your clamp assembly.

Metal parts made of Carbon Steel, untreated	**W1**
Metal parts made of Carbon Steel, phosphated	**W2**
Metal parts made of Carbon Steel, zinc/nickel-plated	**W3**
Metal parts made of Stainless Steel V2A 1.4301 / 1.4305 (AISI 304 / 303)	**W4**
Metal parts made of Stainless Steel V4A 1.4401 / 1.4571 (AISI 316 / 316 Ti)	**W5**
Weld Plate made of Carbon Steel, phosphated; Other metal parts made of Carbon Steel, zinc/nickel-plated	**W10**
Weld Plate and Cover Plate made of Carbon Steel, phosphated; Bolts made of Carbon Steel, untreated	**W12**
Mounting Rail Nuts made of Carbon Steel, zinc/nickel-plated; Cover Plate made of Carbon Steel, phosphated; Bolts made of Carbon Steel, untreated	**W13**
Weld Plate / Cover Plate made of Carbon Steel, phosphated; Bolts made of Carbon Steel, zinc/nickel-plated	**W15**
Mounting Rail Nuts made of Carbon Steel, zinc/nickel-plated; Cover Plate made of Carbon Steel, phosphated; Bolts made of Carbon Steel, zinc/nickel-plated	**W16**
Safety Locking Plate made of Carbon Steel, phosphated; Bolts made of Carbon Steel, zinc/nickel-plated	**W17**
Safety Locking Plate made of Carbon Steel, untreated; Bolts made of Carbon Steel, phosphated	**W18**
Cover Plate made of Carbon Steel, phosphated; Bolts made of Carbon Steel, untreated	**W19**

Individual combinations of alternative materials and surface finishings are available upon request. Consult STAUFF for further information.

⑦ Assembling & Kitting

If required, please select an additional assembling and kitting option and add the corresponding Code to the last position of the order code for your clamp assembly.

Components supplied separately
Code: **none** (standard option)

Components assembled
Code: **#A** (special option)

Components packed in kits
Code: **#K** (special option)



2x **Hexagon Head Bolt**
Surface: W3
Thread: UNC

1x **Cover Plate for Single Clamps**
Surface: W2

1x **Clamp Body** (two halves)
STAUFF Group 3S (DIN 1)
O.D. 6 mm / .24 in
Material: Polypropylene
Profiled inside surface with tension clearance

1x **Weld Plate for Single Clamps**
Surface: W2
Thread: UNC

Order Code

SPAL 3006 PP DPAL-AS U W15

W15 (STAUFF Group 3S to 7S) and **W1** (STAUFF Group 8S to 12S) are the standard options for this type of installation.



4x **Hexagon Head Bolt**
Surface: W3
Thread: UNC

1x **Cover Plate for Double Clamps**
Surface: W2

2x **Clamp Body** (four halves)
STAUFF Group 3S (DIN 1)
O.D. 6 mm / .24 in
Material: Polypropylene
Profiled inside surface with tension clearance

1x **Weld Plate for Double Clamps**
Surface: W2
Thread: UNC

Order Code

SPAS 3006 PP DPAS-AS U W15

W15 (STAUFF Group 3S to 7S) and **W1** (STAUFF Group 8S to 12S) are the standard options for this type of installation.



2x **Hexagon Head Bolt**
Surface: W3
Thread: UNC

1x **Cover Plate for Single Clamps**
Surface: W2

1x **Clamp Body** (two halves)
STAUFF Group 3S (DIN 1)
O.D. 6 mm / .24 in
Material: Polypropylene
Profiled inside surface with tension clearance

1x **Elongated Weld Plate for Single Clamps**
Surface: W2
Thread: UNC

Order Code

SPAL/DUEB 3006 PP DPAL-AS U W15

W15 (STAUFF Group 3S to 7S) and **W1** (STAUFF Group 8S to 12S) are the standard options for this type of installation.



4x **Hexagon Head Bolt**
Surface: W3
Thread: UNC

1x **Cover Plate for Double Clamps**
Surface: W2

2x **Clamp Body** (four halves)
STAUFF Group 3S (DIN 1)
O.D. 6 mm / .24 in
Material: Polypropylene
Profiled inside surface with tension clearance

1x **Elongated Weld Plate for Double Clamps**
Surface: W2
Thread: UNC

Order Code

SPAS/DUEB 3006 PP DPAS-AS U W15

W15 (STAUFF Group 3S to 7S) and **W1** (STAUFF Group 8S to 12S) are the standard options for this type of installation.



2x **Socket Cap Screw**
Surface: W3
Thread: UNC

1x **Clamp Body** (two halves)
STAUFF Group 3S (DIN 1)
O.D. 6 mm / .24 in
Material: Polypropylene
Profiled inside surface with tension clearance

1x **Weld Plate for Single Clamps**
Surface: W2
Thread: UNC

Order Code

SPAL 3006 PP IS U W10

W10 is the standard option for this type of installation.
Available up to STAUFF Group 6S (DIN Group 4) only.



2x **Socket Cap Screw**
Surface: W3
Thread: UNC

1x **Clamp Body** (two halves)
STAUFF Group 3S (DIN 1)
O.D. 6 mm / .24 in
Material: Polypropylene
Profiled inside surface with tension clearance

1x **Elongated Weld Plate for Single Clamps**
Surface: W2
Thread: UNC

Order Code

SPAL/DUEB 3006 PP IS U W10

W10 is the standard option for this type of installation.
Available up to STAUFF Group 6S (DIN Group 4) only.



2x **Hexagon Head Bolt**
Surface: W3
Thread: UNC

1x **Cover Plate for Single Clamps**
Surface: W2

1x **Clamp Body** (two halves)
STAUFF Group 3S (DIN 1)
O.D. 6 mm / .24 in
Material: Polypropylene
Profiled inside surface with tension clearance

2x **Mounting Rail Nut**
Surface: W3
Thread: UNC

Order Code (Mounting Rail STSV not included.)

GMV 3006 PP DPAL-AS U W16

W16 is the standard option for this type of installation.
Available up to STAUFF Group 6S (DIN Group 4) only.



2x **Socket Cap Screw**
Surface: W3
Thread: UNC

1x **Clamp Body** (two halves)
STAUFF Group 3S (DIN 1)
O.D. 6 mm / .24 in
Material: Polypropylene
Profiled inside surface with tension clearance

2x **Mounting Rail Nut**
Surface: W3
Thread: UNC

Order Code (Mounting Rail STSV not included.)

GMV 3006 PP IS U W3

W3 is the standard option for this type of installation.
Available up to STAUFF Group 6S (DIN Group 4) only.



2x **Hexagon Head Bolt**
Surface: W3
Thread: UNC

1x **Cover Plate for Single Clamps**
Surface: W2

1x **Clamp Body** (two halves)
STAUFF Group 3S (DIN 1)
O.D. 6 mm / .24 in
Material: Polypropylene
Profiled inside surface with tension clearance

Order Code

3006 PP DPAL-AS U W15

W15 (STAUFF Group 3S to 7S) and **W1** (STAUFF Group 8S to 12S)
are the standard options for this type of installation.



2x **Stacking Bolt**
Surface: W3
Thread: UNC

1x **Safety Locking Plate**
Surface: W2

1x **Clamp Body** (two halves)
STAUFF Group 3S (DIN 1)
O.D. 6 mm / .24 in
Material: Polypropylene
Profiled inside surface with tension clearance

Order Code

3006 PP SIP-AF M W17

W17 (STAUFF Group 3S to 7S) and **W1** (STAUFF Group 8S to 10S) are the standard options for this type of installation. Available up to STAUFF Group 10S (DIN Group 8) only.

Thread codes

All threaded parts are available with Metric ISO thread or unified coarse (UNC) thread according to dimension table.

Unified coarse (UNC) thread	**U**
Metric ISO thread	**M**

Material codes

The below listed material codes describe the materials and surface finishings of metal parts that are most relevant for Heavy Series clamp assemblies. Individual combinations of alternative materials and surface finishings are available upon request. Consult STAUFF for further information.

Metal parts made of Carbon Steel, untreated	**W1**
Metal parts made of Carbon Steel, phosphated	**W2**
Metal parts made of Carbon Steel, zinc/nickel-plated	**W3**
Metal parts made of Stainless Steel V2A: 1.4301 / 1.4305 (AISI 304 / 303)	**W4**
Metal parts made of Stainless Steel V4A: 1.4401 / 1.4571 (AISI 316 / 316 Ti)	**W5**
Weld Plate made of Carbon Steel, phosphated; Other metal parts made of Carbon Steel, zinc/nickel-plated	**W10**
Weld Plate and Cover Plate made of Carbon Steel, phosphated; Bolts made of Carbon Steel, untreated	**W12**
Mounting Rails Nut made of Carbon Steel, zinc/nickel-plated; Cover Plate made of Carbon Steel, phosphated; Bolts made of Carbon Steel, untreated	**W13**
Weld Plate and Cover Plate made of Carbon Steel, phosphated; Bolts made of Carbon Steel, zinc/nickel-plated	**W15**
Mounting Rail Nuts made of Carbon Steel, zinc/nickel-plated; Cover Plate made of Carbon Steel, phosphated; Bolts made of Carbon Steel, zinc/nickel-plated	**W16**
Safety Locking Plate made of Carbon Steel, phosphated; Bolts made of Carbon Steel, zinc/nickel-plated	**W17**
Safety Locking Plate made of Carbon Steel, untreated; Bolts made of Carbon Steel, phosphated	**W18**
Cover Plate made of Carbon Steel, phosphated; Bolts made of Carbon Steel, untreated	**W19**

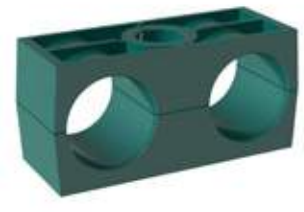
Clamp Body ▪ Profiled Design

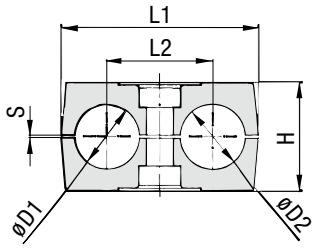
Profiled Inside Surface with Tension Clearance



Clamp Body ▪ Type H

Smooth Inside Surface w/o Tension Clearance





Order Codes

Clamp Body *1*06/06*PP

One clamp body is consisting of two clamp halves.

* 1st Part of STAUFF Group	**1**
* Exact outside diameters Ø D1 / Ø D2 (mm)	**06/06**
* Material code (see below)	**PP**

Designs & Standard Materials



Polypropylene ▪ Profiled Design
Profiled inside surface with tension clearance
Colour: Green
Material code: **PP**



Polypropylene ▪ Type H
Smooth inside surface without tension clearance
Colour: Green
Material code: **PPH**



Polyamide ▪ Profiled Design
Profiled inside surface with tension clearance
Colour: Black
Material code: **PA**



Polyamide ▪ Type H
Smooth inside surface without tension clearance
Colour: Black
Material code: **PAH**

See page A88 for properties and technical information.

Special Materials

Please consult STAUFF for further details on fire-proof clamp body materials, tested and approved according to several international fire-protection standards.

See page A89 for properties and technical information.

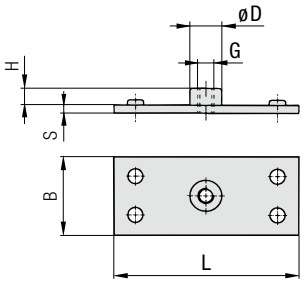
Product Features

- Proven, tested and trusted product in various markets
- Profiled design recommended for the safe installation of rigid pipes and tubes; type H recommended for the safe installation of hoses and cables
- Available for all commonly used pipe and tube outside diameters
- Environmental protection due to vibration/noise reducing design
- Excellent weathering resistance, even under extreme conditions

Group STAUFF	Group DIN	Outside Diameter Pipe / Tube / Hose Ø D1 / Ø D2 (mm)	(in)	Nominal Bore Pipe (in)	Copper Tube (in)	Order Codes (2 Clamp Halves) (*** = Material)	Dimensions (mm/in) L1	L2	Profiled Design H	Profiled Design S min.	Type H H	Width
1D	1	6				106/06 ***						
		6,4	1/4			106,4/06,4 ***						
		8	5/16			108/08 ***	36	20	27	0,6	26,5	30
		9,5	3/8		1/4	109,5/09,5 ***	1.42	.79	1.06	.02	1.04	1.18
		10		1/8		110/10 ***						
		12				112/12 ***						
2D	2	12,7	1/2		3/8	212,7/12,7 ***						
		13,5		1/4		213,5/13,5 ***						
		14				214/14 ***						
		15				215/15 ***	53	29	27	0,7	26,5	30
		16	5/8		1/2	216/16 ***	2.09	1.14	1.06	.03	1.04	1.18
		17,2		3/8		217,2/17,2 ***						
		18				218/18 ***						
3D	3	19	3/4			319/19 ***						
		20				320/20 ***						
		21,3		1/2		321,3/21,3 ***	67	36	37	0,7	36,5	30
		22			3/4	322/22 ***	2.64	1.42	1.46	.03	1.44	1.18
		25				325/25 ***						
		25,4	1			325,4/25,4 ***						
4D	4	26,9		3/4		426,9/26,9 ***						
		28				428/28 ***	80	45	40	0,7	38	30
		30				430/30 ***	3.15	1.77	1.57	.03	1.46	1.18
5D	5	32	1-1/4			532/32 ***						
		33,7		1		533,7/33,7 ***						
		35			1-1/4	535/35 ***	106	56	53	0,7	52	30
		38	1-1/2			538/38 ***	4.17	2.20	2.09	.03	2.04	1.18
		40				540/40 ***						
		42		1-1/4		542/42 ***						

Additional outside diameters and combinations of different outside diameters are available upon request.
Please consult STAUFF for further information.

Single Weld Plate
Type SP





Group STAUFF	DIN	Dimensions (mm/in) L	B	S	H	ØD	Thread G	Order Codes (Standard Options)
1D	1	37	30	3	6,5	12	M6	SP 1D M W2
		1.46	1.18	.12	.26	.47	1/4–20 UNC	SP 1D U W2
2D	2	55	30	5	6	14	M8	SP 2D M W2
		2.17	1.18	.20	.24	.55	5/16–18 UNC	SP 2D U W2
3D	3	70	30	5	6	14	M8	SP 3D M W2
		2.76	1.18	.20	.24	.55	5/16–18 UNC	SP 3D U W2
4D	4	85	30	5	6	14	M8	SP 4D M W2
		3.35	1.18	.20	.24	.55	5/16–18 UNC	SP 4D U W2
5D	5	110	30	5	6	14	M8	SP 5D M W2
		4.33	1.18	.20	.24	.55	5/16–18 UNC	SP 5D U W2

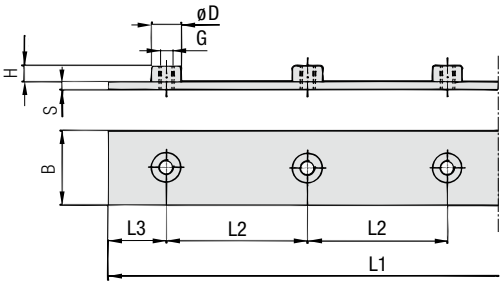
All threaded parts are available with Metric ISO thread or unified coarse (UNC) thread according to dimension table.
Alternative materials and surface finishings are available upon request. Consult STAUFF for further information.

Order Codes

Weld Plate ***SP*1D*U*W2**

* Single Weld Plate		SP
* STAUFF Group		1D
* Thread code	Unified coarse (UNC) thread	U
	Metric ISO thread	M
* Material code	Carbon Steel, untreated	W1
	Carbon Steel, phosphated	W2
	Carbon Steel, zinc/nickel-plated	W3
	Stainless Steel V2A 1.4301 / 1.4305 (AISI 304 / 303)	W4
	Stainless Steel V4A 1.4401 / 1.4571 (AISI 316 / 316 Ti)	W5

Group Weld Plate
Type RAP





Group STAUFF	DIN	Dimensions (mm/in) L1	L2	L3	B	S	H	ØD	Thread G	Order Codes (Standard Options)
1D	1	196	40	18	30	3	6,5	12	M6	RAP 1D/40/5 M W1
		7.72	1.57	.71	1.18	.12	.26	.47	1/4–20 UNC	RAP 1D/40/5 U W1
2D	2	288	58	28	30	5	6	14	M8	RAP 2D/58/5 M W1
		11.34	2.28	1.10	1.18	.20	.24	.55	5/16–18 UNC	RAP 2D/58/5 U W1
3D	3	358	72	35	30	5	6	14	M8	RAP 3D/72/5 M W1
		14.09	2.83	1.37	1.18	.20	.24	.55	5/16–18 UNC	RAP 3D/72/5 U W1
4D	4	445	90	42	30	5	6	14	M8	RAP 4D/90/5 M W1
		17.52	3.54	1.65	1.18	.20	.24	.55	5/16–18 UNC	RAP 4D/90/5 U W1
5D	5	558	112	55	30	5	6	14	M8	RAP 5D/112/5 M W1
		21.97	4.41	2.16	1.18	.20	.24	.55	5/16–18 UNC	RAP 5D/112/5 U W1

All threaded parts are available with Metric ISO thread or unified coarse (UNC) thread according to dimension table.
Alternative materials and surface finishings are available upon request. Consult STAUFF for further information.

Order Codes

Weld Plate ***RAP*1D/40/5*U*W1**

* Group Weld Plate		RAP
* STAUFF Group		1D
* Pipe Center Spacing L2 (mm)		40
* Number of Clamps		5
* Thread code	Unified coarse (UNC) thread	U
	Metric ISO thread	M
* Material code	Carbon Steel, untreated	W1
	Carbon Steel, phosphated	W2
	Carbon Steel, zinc/nickel-plated	W3
	Stainless Steel V2A 1.4301 / 1.4305 (AISI 304 / 303)	W4
	Stainless Steel V4A 1.4401 / 1.4571 (AISI 316 / 316 Ti)	W5

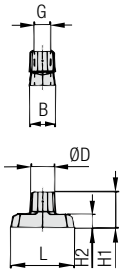
Hexagon Rail Nut
Type SM (for Use with Mounting Rail TS)



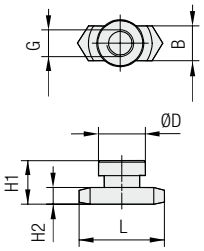
STAUFF Group 1D



STAUFF Group 2D to 5D



STAUFF Group 1D



STAUFF Group 2D to 5D

Order Codes

Hexagon Rail Nut ***SM*1-8/1D*U*W3**

* Hexagon Rail Nut		**SM**
* STAUFF Group	1D (DIN Group 1)	**1-8/1D**
	2D to 5D (DIN Group 2 to 5)	**2-5D**
* Thread code	Unified coarse (UNC) thread	**U**
	Metric ISO thread	**M**
* Material code	Carbon Steel, untreated	**W1**
	Carbon Steel, zinc/nickel-plated	**W3**
	Stainless Steel V2A 1.4301 / 1.4305 (AISI 304 / 303)	**W4**
	Stainless Steel V4A 1.4401 / 1.4571 (AISI 316 / 316 Ti)	**W5**

Group STAUFF	DIN	Dimensions (mm/in) Thread G	L	B	H1	H2	ØD	Order Codes (Standard Options)
1D	1	M6	25,5	10,2	13,5	5,5	12	SM 1-8/1D M W3*
		1/4–20 UNC	1.00	.40	.53	.22	.47	SM 1-8/1D U W3
2D	2							
3D	3	M8	25,5	10,4	13	5	14	SM 2-5D M W3
4D	4	5/16–18 UNC	1.00	.41	.51	.20	.55	SM 2-5D U W3
5D	5							

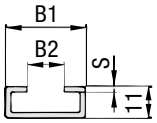
The Hexagon Rail Nut, type SM 1-8/1D is also suitable for Standard Series, STAUFF Group 1 to 8.

All threaded parts are available with Metric ISO thread or unified coarse (UNC) thread according to dimension table. Alternative materials and surface finishings are available upon request. Consult STAUFF for further information.

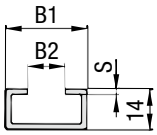
* Standard finishing option for Twin Series group size 1D for markets outside North America is W1 (Carbon Steel, untreated).

Mounting Rail
Type TS (for Use with Hexagon Rail Nut SM)

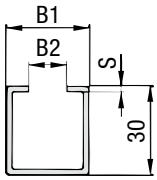




Mounting Rail TS 11



Mounting Rail TS 14



Mounting Rail TS 30

Order Codes

Mounting Rail ***TS*11*-1*W1**

* Mounting Rail		**TS**
* Height of rail	11 mm / .43 in	**11**
	14 mm / .55 in	**14**
	30 mm / 1.18 in	**30**
* Length of rail	1 m / 3.28 ft	**-1**
	2 m / 6.56 ft	**-2**
	Alternative lengths available upon request. Consult STAUFF for further information.	
* Material code	Carbon Steel, untreated	**W1**
	Carbon Steel, zinc/nickel-plated	**W3**
	Stainless Steel V2A 1.4301 / 1.4305 (AISI 304 / 303)	**W4**
	Stainless Steel V4A 1.4401 / 1.4571 (AISI 316 / 316 Ti)	**W5**

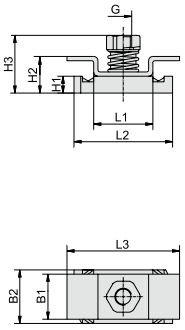
Group STAUFF	DIN	Dimensions (mm/in) L	B	H1	Order Codes (Standard Options) Length of Rail: 1 m / 3.28 ft	Length of Rail: 2 m / 6.56 ft
1D	1				Height 11 mm / .43 in **TS 11-1 W1**	Height 11 mm / .43 in **TS 11-2 W1**
2D	2					
3D	3	28	11	2	Height 14 mm / .55 in **TS 14-1 W1**	Height 14 mm / .55 in **TS 14-2 W1**
		1.10	.43	.08		
4D	4					
5D	5				Height 30 mm / 1.18 in **TS 30-1 W1**	Height 30 mm / 1.18 in **TS 30-2 W1**

Mounting Rails, type TS 11/14/30 are suitable for all Twin Series and Standard Series group sizes.

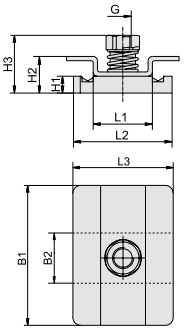
Alternative materials and surface finishings are available upon request. Consult STAUFF for further information.

Channel Rail Adaptor
(for Use with Various Channel Rails) **Type CRA**





STAUFF Group 1D



STAUFF Group 2-3D / 4-5D

Group STAUFF	DIN	Dimensions (mm/in) Thread G	L1	L2	L3	B1	B2	H1	H2	H3	Order Codes (Standard Options)
1D	1	M6	21	35	40	16	19	6	13	20,5	**CRA 1-8/1D M W3**
		1/4–20 UNC	.83	1.38	1.57	.63	.75	.24	.51	.81	**CRA 1-8/1D U W3**
2D	2	M8	21	35	38	53	19	9	17	23,5	**CRA 2-3D M W3**
3D	3	5/16–18 UNC	.83	1.38	1.50	2.09	.75	.35	.67	.93	**CRA 2-3D U W3**
4D	4	M8	21	35	38	80	19	9	17	23,5	**CRA 4-5D M W3**
5D	5	5/16–18 UNC	.83	1.38	1.50	3.15	.75	.3	.67	.93	**CRA 4-5D U W3**

Order Codes

Adaptor ***CRA*1-8/1D*U*W3**

* Channel Rail Adaptor		**CRA**
* STAUFF Group	1D (DIN Group 1)	**1-8/1D**
	2D to 3D (DIN Group 2 to 3)	**2-3D**
	4D to 5D (DIN Group 4 to 5)	**4-5D**
* Thread code	Unified coarse (UNC) thread	**U**
	Metric ISO thread	**M**
* Material code	Carbon Steel, zinc/nickel-plated	**W3**
	Stainless Steel V4A 1.4401 / 1.4571 (AISI 316 / 316 Ti)	**W5**

The Channel Rail Adaptor, type CRA 1-8/1D is also suitable for Standard Series, STAUFF Group 1 to 8.

All threaded parts are available with Metric ISO thread or unified coarse (UNC) thread according to dimension table. Alternative materials and surface finishings are available upon request. Consult STAUFF for further information.



Compatibility with Channel Rails

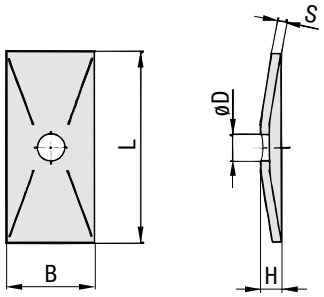
The STAUFF Channel Rail Adaptor, type CRA, is suitable for various channel rails, including the following types:

HALFEN	HILTI	UNISTRUT®	STAUFF (Cushion Clamp Series)
HM 41/41	MQ-21, MQ-41, MQ-52, MQ-72	P1000, P1000T, P1000V, P1000VT, P1001	SCS-048-1-PL, SCS-048-1-GR
HZA 41/22	MQ-21U, MQ-41U, MQ-72U	P2000, P2000T	SCS-120-1-PL, SCS-120-1-GR
HZM 41/41	MQ-21D, MQ-41D, MQ-52-72D	P3003, P3003T, P3300V, P3300VT, P3301	See page A85 for technical information.
HZM 41/22		P4000, P4000T	
HL 41/41, HL 41/B2		P5000, P5000T, P5001, P5500, P5500T, P5501	

Consult STAUFF to check compatibility with additional types of channel rails.

Cover Plate
Type GD





Order Codes

Cover Plate ***GD*1D*W3**

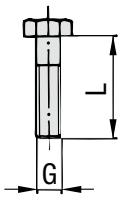
* Cover Plate		GD
* STAUFF Group		1D
* Material code	Carbon Steel, zinc/nickel-plated	W3
	Stainless Steel V2A 1.4301 / 1.4305 (AISI 304 / 303)	W4
	Stainless Steel V4A 1.4401 / 1.4571 (AISI 316 / 316 Ti)	W5

Group STAUFF	DIN	Dimensions (mm/in) L	B	H	S	ØD	Order Codes (Standard Options)
1D	1	34	30	7	3	7	GD 1D W3
		1.34	1.18	.28	.12	.28	
2D	2	52	30	7	3	9	GD 2D W3
		2.05	1.18	.28	.12	.35	
3D	3	65	30	7	3	9	GD 3D W3
		2.56	1.18	.28	.12	.35	
4D	4	79	30	7	3	9	GD 4D W3
		3.11	1.18	.28	.12	.35	
5D	5	102	30	7	3	9	GD 5D W3
		4.02	1.18	.28	.12	.35	

Alternative materials and surface finishings are available upon request. Consult STAUFF for further information.

Hexagon Head Bolt
Type AS





Hexagon Head Bolt AS
(according to DIN 931 / 933 or ANSI / ASME B18.2.1.)
Dimensions applicable only when used with Cover Plate GD

Order Codes

Hexagon Head Bolt ***AS*2D*U*W3**

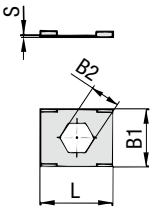
* Type of bolt	Hexagon Head Bolt (according to DIN 931 / 933 or ANSI / ASME B18.2.1.)	AS
* STAUFF Group		2D
* Thread code	Unified coarse (UNC) thread	U
	Metric ISO thread	M
* Material code	Carbon Steel, zinc/nickel-plated	W3
	Stainless Steel V2A 1.4301 / 1.4305 (AISI 304 / 303)	W4
	Stainless Steel V4A 1.4401 / 1.4571 (AISI 316 / 316 Ti)	W5

Group STAUFF	DIN	Dimensions (mm/in) Thread G x L	Order Codes (Standard Options)
1D	1	M6 x 35	AS 2/1D M W3
		1/4–20 UNC x 1-3/8	AS 2/1D U W3
2D	2	M8 x 35	AS 2D M W3
		5/16–18 UNC x 1-3/8	AS 2D U W3
3D	3	M8 x 45	AS 3D M W3
		5/16–18 UNC x 1-3/4	AS 3D U W3
4D	4	M8 x 50	AS 4D M W3
		5/16–18 UNC x 2	AS 4D U W3
5D	5	M8 x 60	AS 5D M W3
		5/16–18 UNC x 2-1/2	AS 5D U W3

Hexagon Head Bolts, type AS 2/1D are also suitable for Standard Series, STAUFF Group 2.

All threaded parts are available with Metric ISO thread or unified coarse (UNC) thread according to dimension table.
Alternative materials and surface finishings are available upon request. Consult STAUFF for further information.

Safety Locking Plate
(for Use with Stacking Bolt AF) Type SI





Safety Locking Plate SI

Group STAUFF	DIN	Dimensions (mm/in) L	B1	B2	S	Order Codes (Standard Options)
1D	1	27	22	11,2	0,5	SI 1D W3
		1.06	.86	.44	.02	
2D	2	27	22	12,2	0,5	SI 2-5D W3
		1.06	.86	.48	.02	
3D	3					
4D	4					
5D	5					

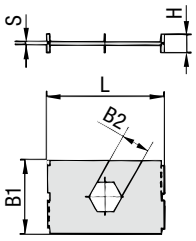
Order Codes

Safety Locking Plate ***SI*1D*W3**

* Safety Locking Plate		SI
* STAUFF Group	1D (DIN Group 1)	1D
	2D to 5D (DIN Group 2 to 5)	2-5D
* Material code	Carbon Steel, zinc/nickel-plated	W3
	Stainless Steel V2A 1.4301 / 1.4305 (AISI 304 / 303)	W4
	Stainless Steel V4A 1.4401 / 1.4571 (AISI 316 / 316 Ti)	W5

Alternative materials and surface finishings are available upon request. Consult STAUFF for further information.

Safety Locking Plate
(for Use with Stacking Bolt AF) Type SIV





Safety Locking Plate SIV
(Prevents Upper Clamp from Turning)

Group STAUFF	DIN	Dimensions (mm/in) L	B1	B2	S	H	Order Codes (Standard Options)
1D	1	27	28	11,1	1	7	SIV 1D W3
		1.06	1.10	.44	.04	.27	
2D	2	45	28	11,1	1	7	SIV 2-3D W3
		1.77	1.10	.44	.04	.27	
3D	3						

Order Codes

Safety Locking Plate ***SIV*1D*W3**

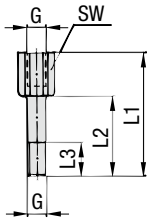
* Safety Locking Plate		SIV
* STAUFF Group	1D (DIN Group 1)	1D
	2D to 3D (DIN Group 2 to 3)	2-3D
* Material code	Carbon Steel, zinc/nickel-plated	W3
	Stainless Steel V2A 1.4301 / 1.4305 (AISI 304 / 303)	W4
	Stainless Steel V4A 1.4401 / 1.4571 (AISI 316 / 316 Ti)	W5

Alternative materials and surface finishings are available upon request. Consult STAUFF for further information.

Stacking Bolt

Type AF (for Use with Safety Locking Plates SI / SIV)





Order Codes

Stacking Bolt ***AF*2D*U*W3**

* Stacking Bolt		**AF**
* STAUFF Group		**2D**
* Thread code	Unified coarse (UNC) thread	**U**
	Metric ISO thread	**M**
* Material code	Carbon Steel, zinc/nickel-plated	**W3**
	Stainless Steel V2A 1.4301 / 1.4305 (AISI 304 / 303)	**W4**
	Stainless Steel V4A 1.4401 / 1.4571 (AISI 316 / 316 Ti)	**W5**

Group STAUFF	DIN	Dimensions (mm/in) Thread G	L1	L2	L3 min.	Hex	Order Codes (Standard Options)
1D	1	M6	34	20	12	11	AF 1/1A/1D M W3
		1/4–20 UNC	1.33	.78	.47	.43	AF 1/1A/1D U W3
2D	2	M8	33	20	12	12	AF 2D M W3
		5/16–18 UNC	1.30	.78	.47	.47	AF 2D U W3
3D	3	M8	44	29	12	12	AF 3D M W3
		5/16–18 UNC	1.73	1.14	.47	.47	AF 3D U W3
4D	4	M8	49	34	12	12	AF 4D M W3
		5/16–18 UNC	1.92	1.33	.47	.47	AF 4D U W3
5D	5	M8	61	46	12	12	AF 5D M W3
		5/16–18 UNC	2.40	1.81	.47	.47	AF 5D U W3

Stacking Bolts, type AF 1/1A/1D are also suitable for Standard Series, STAUFF Group 2.

All threaded parts are available with Metric ISO thread or unified coarse (UNC) thread according to dimension table.
Alternative materials and surface finishings are available upon request. Consult STAUFF for further information.

SP	106/06	PP	GD-AS	U	W10	#K
①	②	③	④	⑤	⑥	⑦

Please see page A50 with detailed order examples for some of the most popular Twin Series clamp assemblies.

① Type of Installation

Please select the type of installation (e.g. weld plates, rail nuts, etc.) and add the corresponding Code to position ① of the order code for your clamp assembly.

Without Installation Equipment
Code: **none**

Installation on Weld Plate



Single Weld Plate
Code: **SP**



Group Weld Plate
Code: **RAP**

Installation on Mounting / Channel Rail



Mounting Rail Nut
Code: **SM**



Channel Rail Adaptor
Code: **CRA**

② Group Size & Diameters

Please select the required group size and diameter and add the corresponding Code to position ② of the order code for your clamp assembly.

Group STAUFF (DIN)	Outside Diameter P / T / H (mm)	Availability of Clamp Body Materials & Designs Profiled Design	Type H	Code
1D (1)	6	●	●	106/06
	6,4	●	●	106,4/06,4
	8	●	●	108/08
	9,5	●	●	109,5/09,5
	10	●	●	110/10
	12	●	●	112/12
2D (2)	12,7	●	●	212,7/12,7
	13,5	●	●	213,5/13,5
	14	●	●	214/14
	15	●	●	215/15
	16	●	●	216/16
	17,2	●	●	217,2/17,2
	18	●	●	218/18
3D (3)	19	●	●	319/19
	20	●	●	320/20
	21,3	●	●	321,3/21,3
	22	●	●	322/22
	25	●	●	325/25
	25,4	●	●	325,4/25,4
4D (4)	26,9	●	●	426,9/26,9
	28	●	●	428/28
	30	●	●	430/30
5D (5)	32	●	●	532/32
	33,7	●	●	533,7/33,7
	35	●	●	535/35
	38	●	●	538/38
	40	●	●	540/40
	42	●	●	542/42

③ Clamp Body Design & Material

Please select the design and material of your clamp body and add the corresponding Code to position ③ of the order code for your clamp assembly.

Please check the availability of the selected clamp body design and material according to the matrix table in ②.

Profiled Design



Polypropylene
Code: **PP**



Polyamide
Code: **PA**

Type H (Smooth)



Polypropylene
Code: **PPH**



Polyamide
Code: **PAH**

④ Mounting & Fitting Combination

Please select the mounting and fitting combination (e.g. Bolts, Cover Plates, etc.) and add the corresponding Code to position ④ of the order code for your clamp assembly.

Installation with Cover Plate and Bolt

Cover Plate GD with
Hexagon Head Bolt AS
Code: **GD-AS**

Installation with Locking Plate and Bolt

Safety Locking Plate SI with
Stacking Bolt AF
Code: **SI-AF**

● Standard Option

Additional outside diameters and combinations of different outside diameters are available upon request. Please consult STAUFF for further information.

⑤ Thread Type

Please select the required thread type and add the corresponding Code to position ⑤ of the order code for your clamp assembly.

Unified coarse (UNC) thread
Code: **U**

Metric ISO thread
Code: **M**

All threaded parts are available with Metric ISO thread or unified coarse (UNC) thread according to dimension table.

⑥ Material & Surface Finishing

Please select the required material & surface finishing of the metal parts and add the corresponding Code to position ⑥ of the order code for your clamp assembly.

Metal parts made of Carbon Steel, untreated	**W1**
Metal parts made of Carbon Steel, phosphated	**W2**
Metal parts made of Carbon Steel, zinc/nickel-plated	**W3**
Metal parts made of Stainless Steel V2A 1.4301 / 1.4305 (AISI 304 / 303)	**W4**
Metal parts made of Stainless Steel V4A 1.4401 / 1.4571 (AISI 316 / 316 Ti)	**W5**
Weld Plate made of Carbon Steel, phosphated; Other metal parts made of Carbon Steel, zinc/nickel-plated	**W10**
Rail Nut made of Carbon Steel, untreated; Other metal parts made of Carbon Steel, zinc/nickel-plated	**W11**

Individual combinations of alternative materials and surface finishings are available upon request. Consult STAUFF for further information.

⑦ Assembling & Kitting

If required, please select an additional assembling and kitting option and add the corresponding Code to the last position of the order code for your clamp assembly.

Components supplied separately
Code: **none** (standard option)

Components assembled
Code: **#A** (special option)

Components packed in kits
Code: **#K** (special option)



1x **Hexagon Head Bolt**
Surface: W3
Thread: UNC

1x **Cover Plate**
Surface: W3

1x **Clamp Body** (two halves)
STAUFF Group 1D (DIN 1)
both O.D. 6 mm / .24 in
Material: Polypropylene
Profiled inside surface
with tension clearance

1x **Weld Plate**
Surface: W2
Thread: UNC

Order Code

SP 106/06 PP GD-AS U W10
W10 is the standard option for this type of installation.



1x **Hexagon Head Bolt**
Surface: W3
Thread: UNC

1x **Cover Plate**
Surface: W3

1x **Clamp Body** (two halves)
STAUFF Group 1D (DIN 1)
both O.D. 6 mm / .24 in
Material: Polypropylene
Profiled inside surface
with tension clearance

Order Code

106/06 PP GD-AS U W3
W3 is the standard option for this type of installation.



1x **Stacking Bolt**
Surface: W3
Thread: UNC

1x **Safety Locking Plate (Type SI)**
Surface: W3
Thread: UNC

1x **Clamp Body** (two halves)
STAUFF Group 1D (DIN 1)
both O.D. 6 mm / .24 in
Material: Polypropylene
Profiled inside surface
with tension clearance

Order Code

106/06 PP SI-AF U W3
W3 is the standard option for this type of installation.



1x **Stacking Bolt**
Surface: W3
Thread: UNC

1x **Safety Locking Plate (Type SIV)**
Surface: W3
Thread: UNC

1x **Clamp Body** (two halves)
STAUFF Group 1D (DIN 1)
both O.D. 6 mm / .24 in
Material: Polypropylene
Profiled inside surface
with tension clearance

Order Code

106/06 PP SIV-AF U W3
W3 is the standard option for this type of installation.
This type of installation is available up to STAUFF Group 3D only.



1x **Hexagon Head Bolt**
Surface: W3
Thread: UNC

1x **Cover Plate**
Surface: W3

1x **Clamp Body** (two halves)
STAUFF Group 1D (DIN 1)
both O.D. 6 mm / .24 in
Material: Polypropylene
Profiled inside surface
with tension clearance

1x **Hexagon Rail Nut**
Surface: W3
Thread: UNC

Order Code (Mounting Rail TS not included.)

SM 106/06 PP GD-AS U W3
W3 is the standard option for this type of installation.

Thread Codes

All threaded parts are available with Metric ISO thread or unified coarse (UNC) thread according to dimension table.

Unified coarse (UNC) thread	**U**
Metric ISO thread	**M**

Material Codes

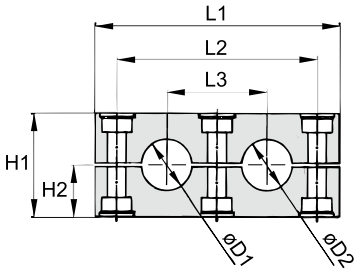
The below listed material codes describe the materials and surface finishings of metal parts that are most relevant for Twin Series clamp assemblies. Individual combinations of alternative materials and surface finishings are available upon request. Consult STAUFF for further information.

Metal parts made of Carbon Steel, untreated	**W1**
Metal parts made of Carbon Steel, phosphated	**W2**
Metal parts made of Carbon Steel, zinc/nickel-plated	**W3**
Metal parts made of Stainless Steel V2A: 1.4301 / 1.4305 (AISI 304 / 303)	**W4**
Metal parts made of Stainless Steel V4A: 1.4401 / 1.4571 (AISI 316 / 316 Ti)	**W5**
Weld Plate made of Carbon Steel, phosphated; Other metal parts made of Carbon Steel, zinc/nickel-plated	**W10**
Rail Nut made of Carbon Steel, untreated; Other metal parts made of Carbon Steel, zinc/nickel-plated	**W11**

Clamp Body ▪ Profiled Design

Profiled Inside Surface with Tension Clearance





Order Codes

Clamp Body ***4*012,7/12,7*PP**

One clamp body is consisting of two clamp halves.

* 1st part of STAUFF Group	**4**
* Exact outside diameters Ø D1 / Ø D2 (mm)	**012,7/12,7**
* Material code (see below)	**PP**

Standard Materials



Polypropylene
Colour: Green
Material code: **PP**



Polyamide
Colour: Black
Material code: **PA**

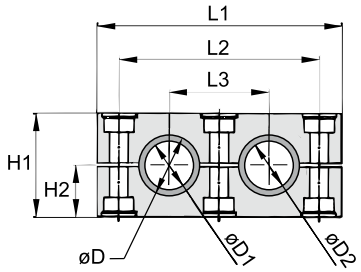
See page A88 for material properties and technical information.

Group	Outside Diameter Pipe / Tube Ø D1 / Ø D2		Nominal Bore		Order Codes (2 Clamp Halves)	Dimensions (mm/in)					
			Pipe	Copper Tube							
STAUFF	(mm)	(in)	(in)	(in)	(✱✱ = Material)	L1	L2	L3	H1	H2	Width
4S-D	12,7	1/2		3/8	**4012,7/12,7 ✱✱**	115 4.53	90 3.54	45 1.77	48 1.89	24 0.94	30 1.18
	19	3/4			**4019/19 ✱✱**						
	20				**4020/20 ✱✱**						
	21,3		1/2		**4021,3/21,3 ✱✱**						
	22			3/4	**4022/22 ✱✱**						
	25,4	1			**4025,4/25,4 ✱✱**						
	26,9		3/4		**4026,9/26,9 ✱✱**						
5S-D	32	1-1/4			**5032/32 ✱✱**	145 5.71	120 4.72	60 2.36	60 2.36	30 1.18	30 1.18
	33,7		1		**5033,7/33,7 ✱✱**						
	38	1-1/2			**5038/38 ✱✱**						
	42		1-1/4		**5042/42 ✱✱**						

Additional outside diameters and Clamp Bodies, type H (smooth inside surface without tension clearance) are available upon request. Please consult STAUFF for further information.

Clamp Body with Rubber Inserts Type RI





For use with Rubber Inserts of the Heavy Series, STAUFF Group 4S and 5S (see page A29 for details)

Order Codes

Clamp Assembly ***4*006/06*PPR**

One assembly is consisting of one clamp body and two inserts.

* 1st part of STAUFF Group	**4**
* Exact outside diameters Ø D1 / Ø D2 (mm)	**006/06**
* Material code (see below)	**PPR**

Standard Materials



Polypropylene
Colour: Black
Material code: **PPR**



Polyamide
Colour: Black
Material code: **PAR**



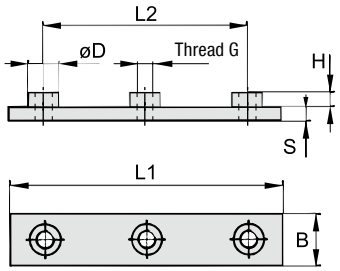
Rubber Inserts
Thermoplastic Elastomer
(73 Shore-A)
Colour: Black

See page A88 for properties and technical information.

Group	Outside Diameter Pipe / Tube / Hose Ø D1 / Ø D2		Order Codes (Clamp Assembly)	Dimensions (mm/in)						
STAUFF	(mm)	(in)	(✱✱R = Material)	Ø D	L1	L2	L3	H1	H2	Width
4S-D	6		**4006/06 ✱✱R**	25 .98	115 4.53	90 3.54	45 1.77	48 1.89	24 0.94	30 1.18
	8	5/16	**4008/08 ✱✱R**							
	10		**4010/10 ✱✱R**							
	12		**4012/12 ✱✱R**							
	12,7	1/2	**4012,7/12,7 ✱✱R**							
	14		**4014/14 ✱✱R**							
	15		**4015/15 ✱✱R**							
	16	5/8	**4016/16 ✱✱R**							
	17,2		**4017,2/17,2 ✱✱R**							
	18		**4018/18 ✱✱R**							
	19	3/4	**4019/19 ✱✱R**							
5S-D	20		**5020/20 ✱✱R**	38 1.50	145 5.71	120 4.72	60 2.36	60 2.36	30 1.18	30 1.18
	21,3		**5021,3/21,3 ✱✱R**							
	22	7/8	**5022/22 ✱✱R**							
	25		**5025/25 ✱✱R**							
	26,9		**5026,9/26,9 ✱✱R**							
	28		**5028/28 ✱✱R**							
	30		**5030/30 ✱✱R**							
	32	1-1/4	**5032/32 ✱✱R**							

Additional outside diameters are available upon request. Please consult STAUFF for further information.

Weld Plate
Type SPAD





Group STAUFF	Dimensions (mm/in) L1	L2	B	S	H	Thread G	ØD	Order Codes (Standard Options)
4S-D	130	90	30	8	8,5	M10	18	SPAD 4S M W2*
	5.12	3.54	1.18	.31	.33	3/8–16 UNC	.71	SPAD 4S U W2
5S-D	160	120	30	8	8,5	M10	18	SPAD 5S M W2*
	6.30	4.72	1.18	.31	.33	3/8–16 UNC	.71	SPAD 5S U W2

All threaded parts are available with Metric ISO thread or unified Coarse (UNC) thread according to dimension table. Alternative materials and surface finishings are available upon request. Consult STAUFF for further information.

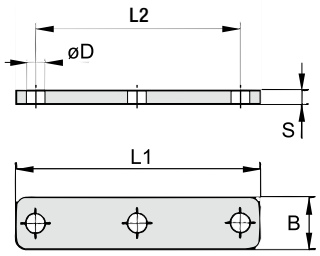
* Standard finishing option for markets outside North America is W1 (Carbon Steel, untreated).

Order Codes

Weld Plate ***SPAD*4S*U*W2**

* Weld Plate		SPAD
* STAUFF Group	4S-D	4S
	5S-D	5S
* Thread code	Unified coarse (UNC) thread	U
	Metric ISO thread	M
* Material code	Carbon Steel, untreated	W1
	Carbon Steel, phosphated	W2
	Carbon Steel, zinc/nickel-plated	W3
	Stainless Steel V2A 1.4301 / 1.4305 (AISI 304 / 303)	W4
	Stainless Steel V4A 1.4401 / 1.4571 (AISI 316 / 316 Ti)	W5

Cover Plate
Type DPAD





Group STAUFF	Dimensions (mm/in) L1	L2	B	S	ØD	Order Codes (Standard Options)
4S	115	90	30	8	11	DPAD 4S W3*
	4.53	3.54	1.18	.31	.43	
5S	145	120	30	8	11	DPAD 5S W3*
	5.71	4.72	1.18	.31	.43	

All threaded parts are available with Metric ISO thread or unified Coarse (UNC) thread according to dimension table. Alternative materials and surface finishings are available upon request. Consult STAUFF for further information.

* Standard finishing option for markets outside North America is W1 (Carbon Steel, untreated).

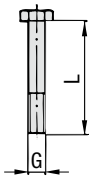
Order Codes

Cover Plate ***DPAD*4S*W3**

* Cover Plate		DPAD
* STAUFF Group	4S-D	4S
	5S-D	5S
* Material code	Carbon Steel, untreated	W1
	Carbon Steel, phosphated	W2
	Carbon Steel, zinc/nickel-plated	W3
	Stainless Steel V2A 1.4301 / 1.4305 (AISI 304 / 303)	W4
	Stainless Steel V4A 1.4401 / 1.4571 (AISI 316 / 316 Ti)	W5

Hexagon Head Bolt
Type AS





Hexagon Head Bolt AS
(according to DIN 931 / 933 or ANSI / ASME B18.2.1.)
Dimensions applicable only when used with Cover Plate DPAD

Order Codes

Hexagon Head Bolt ***AS*4S*U*W3**

* Type of bolt	Hexagon Head Bolt (according to DIN 931 / 933 or ANSI / ASME B18.2.1.)	**AS**
* STAUFF Group	4S-D	**4S**
	5S-D	**5S**
* Thread code	Unified coarse (UNC) thread	**U**
	Metric ISO thread	**M**
* Material code	Carbon Steel, untreated	**W1**
	Carbon Steel, zinc/nickel-plated	**W3**
	Stainless Steel V2A 1.4301 / 1.4305 (AISI 304 / 303)	**W4**
	Stainless Steel V4A 1.4401 / 1.4571 (AISI 316 / 316 Ti)	**W5**

Group STAUFF	DIN	Dimensions (mm/in) Thread G x L	Order Codes (Standard Options)
4S	2	M10 x 60	**AS 4S M W3***
		3/8–16 UNC x 2-1/4	**AS 4S U W3**
5S	3	M10 x 70	**AS 5S M W3***
		3/8–16 UNC x 2-3/4	**AS 5S U W3**

All threaded parts are available with Metric ISO thread or unified coarse (UNC) thread according to dimension table. Alternative materials and surface finishings are available upon request. Consult STAUFF for further information.

If required, use Safety Washers, type SI as locking devices to prevent Hexagon Head Bolts, type AS from loosening.
See page A36 for details.

* Standard finishing option for markets outside North America is W1 (Carbon Steel, untreated).

Further Metal Hardware

For Use with the Heavy Twin Series



Mounting Rail Nut Type GMV

Heavy Series, STAUFF Group 4S and 5S
(See page A32 for details)



Mounting Rail Type STSV

Heavy Series
(See page A32 for details)



Channel Rail Adaptor Type CRA

Heavy Series, STAUFF Group 4S and 5S
(See page A33 for details)



Socket Cap Screw Type IS

Heavy Series, STAUFF Group 4S and 5S
(See page A35 for details)



Safety Locking Plate Type SIPD

Heavy Twin Series, STAUFF Group 4S-D and 5S-D
(Consult STAUFF for details)



Stacking Bolt Type AF

Heavy Series, STAUFF Group 4S and 5S
(See page A36 for details)

SPAD	4012,7/12,7	PP	DPAD-AS	U	W10	#K
①	②	③	④	⑤	⑥	⑦

① Type of Installation

Please select the type of installation (e.g. Weld Plates, Rail Nuts, etc.) and add the corresponding Code to position ① of the order code for your clamp assembly.

Without Installation Equipment
Code: **none**

Installation on Weld Plate



Single Weld Plate
Code: **SPAD**

Installation on Mounting / Channel Rail



Mounting Rail Nut
Code: **GMV**



Channel Rail Adaptor
Code: **CRA**

② Group Size & Diameters

Please select the required group size and diameter and add the corresponding Code to position ② of the crder code for your clamp assembly.

Group STAUFF	Outside Diameter P / T / H (mm)	Availability of Clamp Body Materials & Designs Profiled Design	Type RI	Code
4S-D	6	○	●	4006/06
	8	○	●	4008/08
	10	○	●	4010/10
	12	○	●	4012/12
	12,7	●	●	4012,7/12,7
	14	○	●	4014/14
	15	○	●	4015/15
	16	○	●	4016/16
	17,2	○	●	4017,2/17,2
	18	○	●	4018/18
	19	●	●	4019/19
	20	●	○	4020/20
	21,3	●	○	4021,3/21,3
	22	●	○	4022/22
	25,4	●	○	4025,4/25,4
	26,9	●	○	4026,9/26,9
5S-D	20	○	●	5020/20
	21,3	○	●	5021,3/21,3
	22	○	●	5022/22
	25	○	●	5025/25
	26,9	○	●	5026,9/26,9
	28	○	●	5028/28
	30	○	●	5030/30
	32	●	●	5032/32
	33,7	●	○	5033,7/33,7
	38	●	○	5038/38
	42	●	○	5042/42

● Standard Option

Additional outside diameters and combinations of different outside diameters are available upon request. Please consult STAUFF for further information.

③ Clamp Body Design & Material

Please select the design and material of your clamp body and add the corresponding Code to position ③ of the order code for your clamp assembly.

Please check the availability of the selected clamp body design and material according to the matrix table in ②.

Profiled Design



Polypropylene
Code: **PP**



Polyamide
Code: **PA**

Type RI (with Rubber Insert)



Polypropylene
Code: **PPR**



Polyamide
Code: **PAR**

Clamp Bodies, Type H (smooth Inside surface without tension clearance) are available upon request.
Please consult STAUFF for further information.

④ Mounting & Fitting Combination

Please select the mounting and fitting combination (e.g. Bolts, Cover Plates, etc.) and add the corresponding Code to position ④ of the order code for your clamp assembly.

Installation with Cover Plate and Bolts

Cover Plate DPAD with
Hexagon Head Bolt AS
Code: **DPAD-AS**

Installation with Locking Plate and Bolts

Safety Locking Plate SIPD with
Stacking Bolt AF
Code: **SIPD-AF**

⑤ Thread Type

Please select the required thread type and add the corresponding Code to position ⑤ of the order code for your clamp assembly.

Unified coarse (UNC) thread
Code: **U**

Metric ISO thread
Code: **M**

All threaded parts are available with Metric ISO thread or unified coarse (UNC) thread according to dimension table.

⑥ Material & Surface Finishing

Please select the required material & surface finishing of the metal parts and add the corresponding Code to position ⑥ of the order code for your clamp assembly.

Metal parts made of Carbon Steel, untreated	**W1**
Metal parts made of Carbon Steel, phosphated	**W2**
Metal parts made of Carbon Steel, zinc/nickel-plated	**W3**
Metal parts made of Stainless Steel V2A 1.4301 / 1.4305 (AISI 304 / 303)	**W4**
Metal parts made of Stainless Steel V4A 1.4401 / 1.4571 (AISI 316 / 316 Ti)	**W5**
Weld Plate made of Carbon Steel, phosphated; Other metal parts made of Carbon Steel, zinc/nickel-plated	**W10**
Weld Plate and Cover Plate made of Carbon Steel, phosphated; Bolts made of Carbon Steel, untreated	**W12**
Mounting Rail Nuts made of Carbon Steel, zinc/nickel-plated; Cover Plate made of Carbon Steel, phosphated; Bolts made of Carbon Steel, untreated	**W13**
Weld Plate / Cover Plate made of Carbon Steel, phosphated; Bolts made of Carbon Steel, zinc/nickel-plated	**W15**
Mounting Rail Nuts made of Carbon Steel, zinc/nickel-plated; Cover Plate made of Carbon Steel, phosphated; Bolts made of Carbon Steel, zinc/nickel-plated	**W16**
Safety Locking Plate made of Carbon Steel, phosphated; Bolts made of Carbon Steel, zinc/nickel-plated	**W17**
Safety Locking Plate made of Carbon Steel, untreated; Bolts made of Carbon Steel, phosphated	**W18**
Cover Plate made of Carbon Steel, phosphated; Bolts made of Carbon Steel, untreated	**W19**

Individual combinations of alternative materials and surface finishings are available upon request. Consult STAUFF for further information.

⑦ Assembling & Kitting

If required, please select an additional assembling and kitting option and add the corresponding Code to the last position of the order code for your clamp assembly.

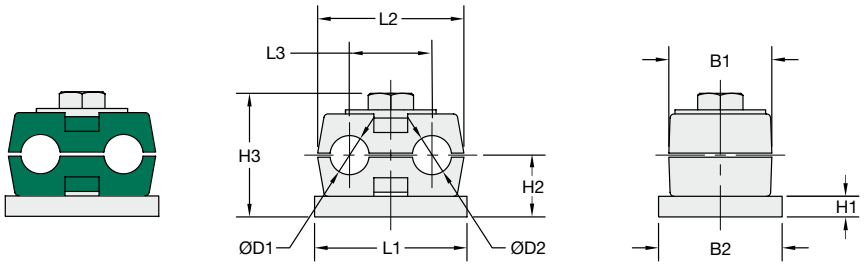
Components Supplied Separately
Code: **none** (Standard Option)

Components Assembled
Code: **#A** (Special Option)

Components Packed in Kits
Code: **#K** (Special Option)

Compact Twin Series: Clamp Body Type DS





Order Codes

Clamp Body ***DS1*06/06*PP**

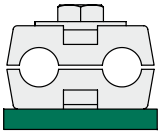
One clamp body is consisting of two clamp halves.

* Compact Twin Series, STAUFF Group 1	**DS 1**
* Exact outside diameters Ø D1 / Ø D2 (mm)	**06/06**
* Clamp Body Material (Polypropylene)	**PP**

Group	Outside Diameter Pipe / Tube Ø D1 / Ø D2		Nominal Bore Pipe	Copper Tube	Order Codes (2 Clamp Halves)	Dimensions (mm/in)							
STAUFF	(mm)	(in)	(in)	(in)		L1	L2	L3	H1	H2	H3	B1	B2
DS 1	6				DS106/06 PP	37 1.46	35,5 1.40	20 .79	5 .20	15 .59	30 1.18	25 .98	30 1.18
	6,4	1/4			DS106,4/06,4 PP								
	8	5/16			DS108/08 PP								
	9,5	3/8		1/4	DS109,5/09,5 PP								
	10		1/8		DS110/10 PP								

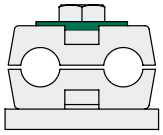
Additional outside diameters are available upon request. Please consult STAUFF for further information.

Compact Twin Series: Metal Hardware



Weld Plate, Type SP DS1

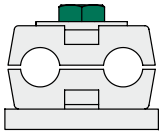
SP DS1 U W2 (unified coarse thread)
Thread size: 1/4–20 UNC
Made of Carbon Steel, phosphated



Cover Plate, Type US DS1

US DS1 W3

Made of Carbon Steel, zn/ni-plated



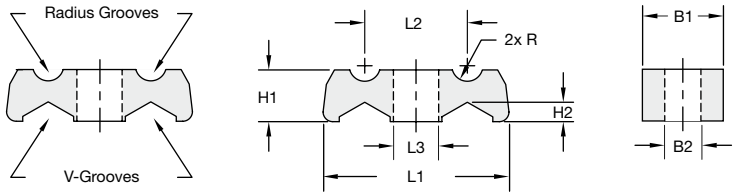
Hexagon Bolt, Type AS DS1

AS DS1 U W3 (unified coarse thread)
Bolt size: 1/4–20 UNC x 1
Made of Carbon Steel, zn/ni-plated

All threaded parts are only available with unified coarse (UNC) thread. Rail mount and stacking assemblies as well as alternative materials and surface finishings are available upon request. Consult STAUFF for further information.

Agriculture Twin Series: Clamp Body Type AG





Order Codes

Clamp Body ***AG*2**

* Agriculture Twin Series	**AG**
* STAUFF Group	**2**

Group	Min/Max Outside Diameters Pipe / Tube using Radius Grooves		using V-Grooves		Order Codes (1 Clamp Body)	Dimensions (mm/in)							
STAUFF	(mm)	(in)	(mm)	(in)		L1	L2	L3	H1	H2	B1	B2	R
2	3 ... 10	.12 ... .39	4 ... 15	.26 ... .59	AG 2	57,5 2.26	31,7 1.25	14,0 .55	16,0 .63	7,1 .24	25,0 .98	11,0 .43	4,8 .19
3	4 ... 25	.16 ... .98	7 ... 20	.28 ... .79	AG 3	62,0 2.48	34,5 1.36	14,0 .55	19,0 .75	7,1 .28	32,0 1.26	11,0 .43	12,4 .49

Additional outside diameters are available upon request. Please consult STAUFF for further information.

Standard Material



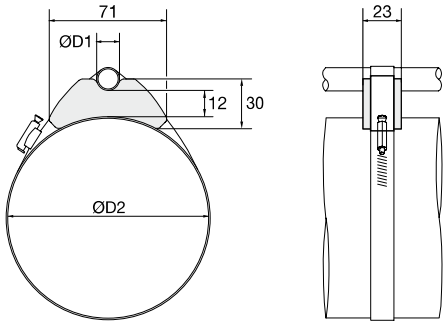
Polypropylene
Colour: Black

See page A88 for properties and technical information.

Product Features

- Flip the clamp body to choose between the radius grooved or the v-grooved design (suitable for a range of diameters)
- Use M10 or 3/8–16 UNC bolts or screws (preferably with washers) to fasten clamp bodies directly to the machine
- Clamp bodies can be stacked for multi-level assembly

Saddle Clamp for Cylinder Supply Lines Type ZR 518





Min/Max Outside Diameters Pipe / Tube Ø D1		Ø D2		Steel Strap Dimensions (Not Included in Scope of Delivery) Length		Width	
(mm)	(in)	(mm)	(in)	(mm)	(in)	(mm)	(in)
		50 ... 70	1.96 ... 2.76	196 ... 254	7.71 ... 10.00		
		60 ... 80	2.36 ... 3.15	225 ... 284	8.86 ... 11.18		
		70 ... 90	2.76 ... 3.54	254 ... 314	10.00 ... 12.36		
		80 ... 105	3.15 ... 4.13	284 ... 359	11.18 ... 14.13		
10 ... 22	.39 ... .87	90 ... 120	3.54 ... 4.72	314 ... 404	12.36 ... 15.90	13	.51
		105 ... 140	4.13 ... 5.51	359 ... 464	14.13 ... 18.27		
		125 ... 160	4.92 ... 6.30	419 ... 525	16.50 ... 20.66		
		145 ... 180	5.71 ... 7.09	479 ... 586	18.86 ... 23.07		
		165 ... 200	6.50 ... 7.87	540 ... 647	21.26 ... 25.47		

Order Code

Saddle Clamp **ZR 518 Black 9005**

Standard Material



Thermoplastic Elastomer (75±5 Shore-A)
Colour: Black

See page A88 for properties and technical information.

Custom-Designed Plastic Saddle Clamps



Custom-designed Plastic Saddle Clamps according to customer's specifications or based on STAUFF developments are available upon request.

Consult STAUFF for further information.

Machined Versions

Custom-designed clamping systems for pipes, tubes, hoses, cables and other components according to customer`s specifications or based on STAUFF developments, made of thermoplastics, metals and non-ferrous metals.

Accessories such as weld plates, cover plates, bolts as well as rubber inserts are available on request.










www.stauff.com/configurator

Online Configurator for Custom-Designed Clamps



Select the basic design of your clamp assembly.



Define the exact geometry of your clamp body.



Request a quotation and download 2D or 3D CAD file.

Injection Moulded Versions (Flexi Clamps)

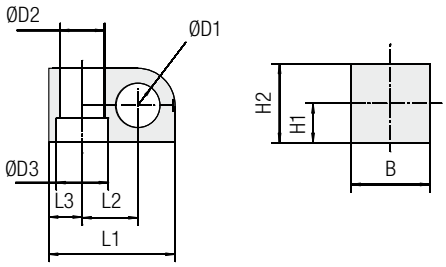
Custom-designed clamping systems for pipes, tubes, hoses, cables and other components according to customer's specifications or based on STAUFF developments, made of Polypropylene, Polyamide and other thermoplastics.

Accessories such as weld plates, cover plates, bolts as well as rubber inserts are available on request.



Clamp Body ▪ Single Design





Order Codes

Clamp Body ***LBBU*1*06*SA*M6-U1/4**

* Light Series LBBU	**LBBU**
* STAUFF Group	**1**
* Exact outside diameter Ø D1 (mm)	**06**
* Material code (see below)	**SA**
* Thread code (suitable for bolts M6 / U1/4)	**M6-U1/4**

Standard Materials

Thermoplastic Elastomer (87 Shore-A)
Colour: Black
Material code: **SA**

See page A88 for material properties and technical information.

Alternative materials are available upon request.
Please consult STAUFF for further information.

Product Features

- Compact and light-weight design for applications in which space is limited
- Available in 3 different sizes and covering all standard metric and imperial diameters between 4 mm and 32 mm
- Vibration-damping and noise-reducing clamp body material with UV, ozone and weathering-resistant characteristics
- Advanced design with a film hinge allows the top part of the Plastic clamp body to open up and insert or replace the pipe, tube or hose without the use of force
- Embedded metal sleeve to ensure stability of the clamp assembly

Group	Outside Diameter Pipe / Tube / Hose Ø D1		Nominal Bore Pipe	Order Codes (1 Clamp Body)	Dimensions ($^{mm}/_{in}$)							
STAUFF	(mm)	(in)	(in)		Ø D2	Ø D3	L1	L2	L3	H1	H2	B
1	6			LBBU 106 SA M6-U1/4								
	6,4	1/4		LBBU 106,4 SA M6-U1/4								
	8	5/16		LBBU 108 SA M6-U1/4								
	9,5	3/8		LBBU 109,5 SA M6-U1/4	10	12	34	15	9	10	20	20
	10		1/8	LBBU 110 SA M6-U1/4	.39	.47	1.34	.59	.35	.39	.79	.79
	11			LBBU 111 SA M6-U1/4								
	12			LBBU 112 SA M6-U1/4								
	12,7	1/2		LBBU 112,7 SA M6-U1/4								
2	4			LBBU 204 SA M6-U1/4								
	6			LBBU 206 SA M6-U1/4								
	6,4	1/4		LBBU 206,4 SA M6-U1/4								
	8	5/16		LBBU 208 SA M6-U1/4								
	9,5	3/8		LBBU 209,5 SA M6-U1/4								
	10		1/8	LBBU 210 SA M6-U1/4								
	11			LBBU 211 SA M6-U1/4								
	12			LBBU 212 SA M6-U1/4	10	12	39	18	9	12	24	20
	12,7	1/2		LBBU 212,7 SA M6-U1/4	.39	.47	1.54	.71	.35	.47	.94	.79
	13,5		1/4	LBBU 213,5 SA M6-U1/4								
	14			LBBU 214 SA M6-U1/4								
	15			LBBU 215 SA M6-U1/4								
	16	5/8		LBBU 216 SA M6-U1/4								
	17,2		3/8	LBBU 217,2 SA M6-U1/4								
	18			LBBU 218 SA M6-U1/4								
	19	3/4		LBBU 219 SA M6-U1/4								
	20			LBBU 220 SA M6-U1/4								
3	21,3			LBBU 321,3 SA M6-U1/4								
	22	7/8		LBBU 322 SA M6-U1/4								
	23			LBBU 323 SA M6-U1/4								
	25			LBBU 325 SA M6-U1/4	10	12	57,5	23,5	15	20	40	30
	25,4	1		LBBU 325,4 SA M6-U1/4	.39	.47	2.26	.93	.59	.79	1.57	1.18
	28			LBBU 328 SA M6-U1/4								
	30			LBBU 330 SA M6-U1/4								
	32	1-1/4		LBBU 332 SA M6-U1/4								

Additional outside diameters are available upon request.



Type of Mounting SP
(with Weld Plate LBBU-SP)

Clamp assembly consisting of:
- 1 Hexagon Head Bolt AS
- 1 Cover Plate LBBU-DP
- 1 Sleeve LBBU-HUE
- 1 Clamp Body LBBU
- 1 Weld Plate LBBU-SP

Order Code
LBBU-SP 216 SA DP-AS U1/4 W10

W10 (Weld Plate made of Carbon Steel, phosphated; Other metal parts made of Carbon Steel, zinc/nickel-plated) is the standard option for this type of installation.
For Metric threads / bolts, please consult STAUFF.



Type of Mounting SM
(with Hex Rail Nut SM 1-8/1D)

Clamp assembly consisting of:
- 1 Hexagon Head Bolt AS
- 1 Cover Plate LBBU-DP
- 1 Sleeve LBBU-HUE
- 1 Clamp Body LBBU
- 1 Hex Rail Nut SM 1-8/1D (for use with Mounting Rail TS, see page A16 for details)

Order Code (Mounting Rail TS not included.)
LBBU-SM 216 SA DP-AS U1/4 W3

W3 (Metal parts made of Carbon Steel, zinc/nickel-plated) is the standard option for this type of installation.
For Metric threads / bolts, please consult STAUFF.



Type of Mounting PM
(for panel mounting without Weld Plate or Hexagon Rail Nut)

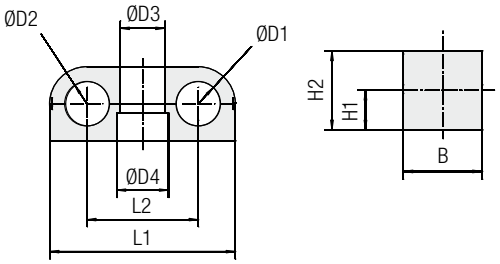
Clamp assembly consisting of:
- 1 Hexagon Head Bolt AS
- 1 Cover Plate LBBU-DP
- 1 Sleeve LBBU-HUE
- 1 Clamp Body LBBU

Order Code
LBBU-PM 216 SA DP-AS U1/4 W3

W3 (Metal parts made of Carbon Steel, zinc/nickel-plated) is the standard option for this type of installation.
For Metric threads / bolts, please consult STAUFF.

Alternative sizes (e.g. for bolts M8 and 5/16–18 UNC), materials and surface finishings are available upon request. Please consult STAUFF for further information.

Clamp Body ▪ Twin Design







Please also ask for the **Anti-Twist Feature** to prevent turning of the components. Consult STAUFF for further information.

Group STAUFF	Outside Diameters Pipe / Tube / Hose Ø D1 / Ø D2 (mm)	(in)	Nominal Bore Pipe (in)	Order Codes (1 Clamp Body)	Dimensions (mm/in) Ø D3	Ø D4	L1	L2	H1	H2	B
1D	4			LBBU 104/04 SA M8-U5/16	12 .47	14 .55	50 1.97	30 1.18	10 .39	20 .79	20 .79
	6			LBBU 106/06 SA M8-U5/16							
	6,4	1/4		LBBU 106,4/06,4 SA M8-U5/16							
	8	5/16		LBBU 108/08 SA M8-U5/16							
	9,5	3/8		LBBU 109,5/09,5 SA M8-U5/16							
	10		1/8	LBBU 110/10 SA M8-U5/16							
	11			LBBU 111/11 SA M8-U5/16							
	12			LBBU 112/12 SA M8-U5/16							
	12,7	1/2		LBBU 112,7/12,7 SA M8-U5/16							
2D	4			LBBU 204/04 SA M8-U5/16	12 .47	14 .55	59 2.32	35 1.38	12 .47	24 .94	20 .79
	6			LBBU 206/06 SA M8-U5/16							
	8	5/16		LBBU 208/08 SA M8-U5/16							
	9,5	3/8		LBBU 209,5/9,5 SA M8-U5/16							
	10		1/8	LBBU 210/10 SA M8-U5/16							
	11			LBBU 211/11 SA M8-U5/16							
	12			LBBU 212/12 SA M8-U5/16							
	12,7	1/2		LBBU 212,7/12,7 SA M8-U5/16							
	13,5		1/4	LBBU 213,5/13,5 SA M8-U5/16							
	14			LBBU 214/14 SA M8-U5/16							
	15			LBBU 215/15 SA M8-U5/16							
	16	5/8		LBBU 216/16 SA M8-U5/16							
	17,2		3/8	LBBU 217,2/17,2 SA M8-U5/16							
	18			LBBU 218/18 SA M8-U5/16							
	19	3/4		LBBU 219/19 SA M8-U5/16							
	20			LBBU 220/20 SA M8-U5/16							
3D	21,3			LBBU 321,321,3 SA M8-U5/16	12 .47	14 .55	86 3.39	47 1.85	20 .79	40 1.57	30 .79
	22	7/8		LBBU 322/22 SA M8-U5/16							
	23			LBBU 323/23 SA M8-U5/16							
	25			LBBU 325/25 SA M8-U5/16							
	25,4	1		LBBU 325,4/25,4 SA M8-U5/16							
	28			LBBU 328/28 SA M8-U5/16							
	30			LBBU 330/30 SA M8-U5/16							
	32	1-1/4		LBBU 332/32 SA M8-U5/16							

Additional outside diameters and combinations of different outside diameters are available upon request.

Order Codes

Clamp Body ***LBBU*1*06/06*SA*M8-U5/16**

* Light Series LBBU	**LBBU**
* 1st Part of STAUFF Group	**1**
* Exact outside diameters Ø D1 / Ø D2 (mm)	**06/06**
* Material code (see below)	**SA**
* Thread code (suitable for bolts M8 / U5/16)	**M8-U5/16**

Standard Materials



Thermoplastic Elastomer (87 Shore-A)
Colour: Black
Material code: **SA**

See page A88 for material properties and technical information.

Alternative materials are available upon request.
Please consult STAUFF for further information.

Product Features

- Compact and light-weight design for applications in which space is limited
- Available in 3 different sizes and covering all standard metric and imperial diameters between 4 mm and 32 mm
- Vibration-damping and noise-reducing clamp body material with UV, ozone and weathering-resistant characteristics
- Advanced design with a film hinge allows the top part of the Plastic clamp body to open up and insert or replace the pipe, tube or hose without the use of force
- Embedded metal sleeve to ensure stability of the clamp assembly



Type of Mounting SP
(with Weld Plate LBBU-SP)

Clamp assembly consisting of:
- 1 Hexagon Head Bolt AS
- 1 Cover Plate LBBU-DP
- 1 Sleeve LBBU-HUE
- 1 Clamp Body LBBU
- 1 Weld Plate LBBU-SP

Order Code
LBBU-SP 216/16 SA DP-AS U5/16 W10

W10 (Weld Plate made of Carbon Steel, phosphated; Other metal parts made of Carbon Steel, zinc/nickel-plated) is the standard option for this type of installation.
For Metric threads / bolts, please replace U5/16 by M8.



Type of Mounting SM
(with Hexagon Rail Nut SM 2-5D)

Clamp assembly consisting of:
- 1 Hexagon Head Bolt AS
- 1 Cover Plate LBBU-DP
- 1 Sleeve LBBU-HUE
- 1 Clamp Body LBBU
- 1 Hexagon Rail Nut SM 2-5D (for use with Mounting Rail TS, see page A16 for details)

Order Code (Mounting Rail TS not included.)
LBBU-SM 216/16 SA DP-AS U5/16 W3

W3 (Metal parts made of Carbon Steel, zinc/nickel-plated) is the standard option for this type of installation.
For Metric threads / bolts, please replace U5/16 by M8.



Type of Mounting PM
(for panel mounting without Weld Plate or Hexagon Rail Nut)

Clamp assembly consisting of:
- 1 Hexagon Head Bolt AS
- 1 Cover Plate LBBU-DP
- 1 Sleeve LBBU-HUE
- 1 Clamp Body LBBU

Order Code
LBBU-PM 216/16 SA DP-AS U5/16 W3

W3 (Metal parts made of Carbon Steel, zinc/nickel-plated) is the standard option for this type of installation.
For Metric threads / bolts, please replace U5/16 by M8.

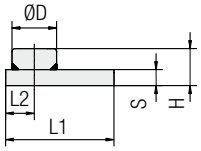
Alternative sizes (e.g. for bolts M6 and 1/4–20 UNC), materials and surface finishings are available upon request. Please consult STAUFF for further information.

Weld Plate
Type LBBU-SP

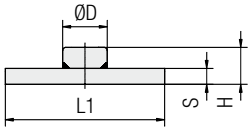




Please also ask for the **Anti-Twist Feature** to prevent turning of the components. Consult STAUFF for further information.



STAUFF Group 1 to 3



STAUFF Group 1D to 3D

Order Codes

Weld Plate ***LBBU-SP*1D*U5/16*W2**

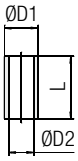
* Light Series LBBU		**LBBU**
* Weld Plate		**-SP**
* STAUFF Group		**1D**
* Thread code	For group 1 to 3:	
	UNC thread: 1/4–20 UNC	**U1/4**
	For group 1D to 3D:	
	UNC thread: 5/16–18 UNC	**U5/16**
	Metric ISO thread: M8	**M8**
* Material code	Carbon Steel, phosphated	**W2**

Group STAUFF	Dimensions (mm/in) Ø D	L1	L2	H	S	Thread G	Order Codes (Standard Options)
1	12	34	9	9,1	3	1/4–20 UNC	LBBU-SP 1 U1/4 W2
	.47	1.34	.35	.36	.12		
2	12	39	9	9,1	3	1/4–20 UNC	LBBU-SP 2 U1/4 W2
	.47	1.54	.35	.36	.12		
3	12	57,5	15	9,1	3	1/4–20 UNC	LBBU-SP 3 U1/4 W2
	.47	2.26	.59	.36	.12		
1D	14	50		10,3	5	M8	LBBU-SP 1D M8 W2
	.55	1.97		.41	.20	5/16–18 UNC	LBBU-SP 1D U5/16 W2
2D	14	59		10,3	5	M8	LBBU-SP 2D M8 W2
	.55	2.32		.41	.20	5/16–18 UNC	LBBU-SP 2D U5/16 W2
3D	14	86		10,3	5	M8	LBBU-SP 3D M8 W2
	.55	3.39		.41	.20	5/16–18 UNC	LBBU-SP 3D U5/16 W2

All threaded parts are available with Metric ISO thread or unified coarse (UNC) thread according to dimension table.
Alternative sizes for group 1 to 3 (e.g. for bolts M6, M8 and 5/16–18 UNC) and group 1D to 3D (e.g. for bolts M6 and 1/4–20 UNC), materials and surface finishings are available upon request. Please consult STAUFF for further information.

Sleeve
Type LBBU-HUE





Dimensions applicable only when used with Weld Plate LBBU-SP (**Type of Mounting SP**)

Group STAUFF	Dimensions (mm/in) ØD1	ØD2	L	Order Codes (Standard Options)
1	10	7	13,5	LBBU-HUE 1/1D SP M6-U1/4 W3
	.39	.28	.53	
2	10	7	17,5	LBBU-HUE 2/2D SP M6-U1/4 W3
	.39	.28	.69	
3	10	7	33,5	LBBU-HUE 3/3D SP M6-U1/4 W3
	.39	.28	1.32	
1D	12	9	13,5	LBBU-HUE 1/1D SP M8-U5/16 W3
	.47	.35	.53	
2D	12	9	17,5	LBBU-HUE 2/2D SP M8-U5/16 W3
	.47	.35	.69	
3D	12	9	13,5	LBBU-HUE 3/3D SP M8-U5/16 W3
	.47	.35	1.32	

Dimensions applicable only when used with Hexagon Rail Nut SM (**Type of Mounting SM**)

Group STAUFF	Dimensions (mm/in) ØD1	ØD2	L	Order Codes (Standard Options)
1	10	7	12,8	LBBU-HUE 1/1D SM M6-U1/4 W3
	.39	.28	.50	
2	10	7	16,8	LBBU-HUE 2/2D SM M6-U1/4 W3
	.39	.28	.66	
3	10	7	32,8	LBBU-HUE 3/3D SM M6-U1/4 W3
	.39	.28	1.29	
1D	12	9	12,8	LBBU-HUE 1/1D SM M8-U5/16 W3
	.47	.35	.50	
2D	12	9	16,8	LBBU-HUE 2/2D SM M8-U5/16 W3
	.47	.35	.66	
3D	12	9	32,8	LBBU-HUE 3/3D SM M8-U5/16 W3
	.47	.35	1.29	

Dimensions applicable only when used for panel mounting without Weld Plate or Hexagon Rail Nut (**Type of Mounting PM**)

Group STAUFF	Dimensions (mm/in) ØD1	ØD2	L	Order Codes (Standard Options)
1	10	7	18,8	LBBU-HUE 1/1D PM M6-U1/4 W3
	.39	.28	.74	
2	10	7	22,7	LBBU-HUE 2/2D PM M6-U1/4 W3
	.39	.28	.89	
3	10	7	38,8	LBBU-HUE 3/3D PM M6-U1/4 W3
	.39	.28	1.53	
1D	12	9	18,8	LBBU-HUE 1/1D PM M8-U5/16 W3
	.47	.35	.74	
2D	12	9	22,7	LBBU-HUE 2/2D PM M8-U5/16 W3
	.47	.35	.89	
3D	12	9	38,8	LBBU-HUE 3/3D PM M8-U5/16 W3
	.47	.35	1.53	

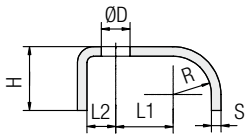
Alternative sizes for group 1 to 3 (e.g. for bolts M8 and 5/16–18 UNC) and group 1D to 3D (e.g. for bolts M6 and 1/4–20 UNC), materials and surface finishings are available upon request. Please consult STAUFF for further information.

Cover Plate
Type LBBU-DP

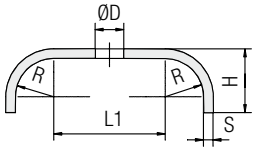




Please also ask for the **Anti-Twist Feature** to prevent turning of the components. Consult STAUFF for further information.



STAUFF Group 1 to 3



STAUFF Group 1D to 3D

Group STAUFF	Dimensions (mm/in) Ø D	L1	L2	R	H	S	Order Codes (Standard Options)
1	7	15	9	10	16	3	LBBU-DP 1 M6-U1/4 W3
	.28	.59	.35	.39	.63	.12	
2	7	18	9	12	20	3	LBBU-DP 2 M6-U1/4 W3
	.28	.71	.35	.47	.79	.12	
3	7	23,5	15	19,5	28	3	LBBU-DP 3 M6-U1/4 W3
	.28	.93	.59	.77	1.10	.12	
1D	9	30		10	16	3	LBBU-DP 1D M8-U5/16 W3
	.35	1.18		.39	.63	.12	
2D	9	35		12	20	3	LBBU-DP 2D M8-U5/16 W3
	.35	1.38		.47	.79	.12	
3D	9	47		19,5	28	3	LBBU-DP 3D M8-U5/16 W3
	.35	1.85		.77	.63	.12	

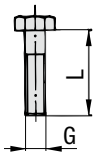
Alternative sizes for group 1 to 3 (e.g. for bolts M8 and 5/16–18 UNC) and group 1D to 3D (e.g. for bolts M6 and 1/4–20 UNC), materials and surface finishings are available upon request. Please consult STAUFF for further information.

Order Codes

Cover Plate ***LBBU-DP*1D*M8-U5/16*W3**

* Light Series LBBU		**LBBU**
* Cover Plate		**-DP**
* STAUFF Group		**1D**
* Thread code	For group 1 to 3: suitable for bolts M6 / U1/4	**M6-U1/4**
	For group 1D to 3D: suitable for bolts M8 / U5/16	**M8-U5/16**
* Material code	Carbon Steel, zinc/nickel-plated	**W3**

Hexagon Head Bolt
Type AS



Hexagon Head Bolt AS
(according to DIN 931 / 933 or ANSI / ASME B18.2.1.)
Dimensions applicable only when used with Weld Plate LBBU-SP (**Type of Mounting SP**) or Hexagon Rail Nut SM (**Type of Mounting SM**)

Group STAUFF	Dimensions (mm/in) Thread G x L	Order Codes (Standard Options)
1	1/4–20 UNC x 1	AS U1/4-20x1 W3
2	1/4–20 UNC x 1-1/8	AS U1/4-20x1-1/8 W3
3	1/4–20 UNC x 1-3/4	AS U1/4-20x1-3/4 W3
1D	M8 x 25	AS M8x25 W3
	5/16–18 UNC x 1	AS U5/16-18x1 W3
2D	M8 x 28	AS M8x28 W3
	5/16–18 UNC x 1-1/8	AS U5/16-18x1-1/8 W3
3D	M8 x 45	AS M8x45 W3
	5/16–18 UNC x 1-3/4	AS U5/16-18x1-3/4 W3

Hexagon Head Bolt AS
(according to DIN 931 / 933 or ANSI / ASME B18.2.1.)
Dimensions applicable only when used for panel mounting without Weld Plate or Hexagon Rail Nut (**Type of Mounting PM**)

Group STAUFF	Dimensions (mm/in) Thread G x L	Order Codes (Standard Options)
1	1/4–20 UNC x 1-1/4	AS U1/4-20x1-1/4 W3
2	1/4–20 UNC x 1-3/8	AS U1/4-20x1-3/8 W3
3	1/4–20 UNC x 2	AS U1/4-20x2 W3
1D	M8 x 30	AS M8x30 W3
	5/16–18 UNC x 1-1/4	AS U5/16-18x1-1/4 W3
2D	M8 x 35	AS M8x35 W3
	5/16–18 UNC x 1-3/8	AS U5/16-18x1-3/8 W3
3D	M8 x 50	AS M8x50 W3
	5/16–18 UNC x 2	AS U5/16-18x2 W3



Order Codes

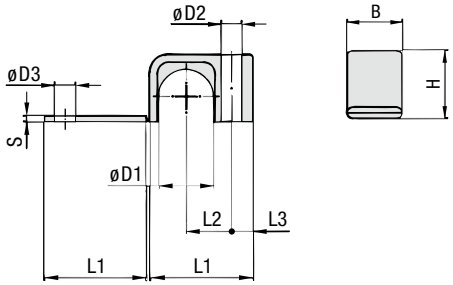
Hexagon Head Bolt ***AS*U5/16-18x1-1/4*W3**

* Type of bolt	Hexagon Head Bolt (according to DIN 931 / 933 or ANSI / ASME B18.2.1.)	**AS**
* Thread code	Thread dimension according to dimension table	**U5/16-18x1-1/4**
* Material code	Carbon Steel, zinc/nickel-plated	**W3**

All threaded parts are available with Metric ISO thread or unified coarse (UNC) thread according to dimension table.
Alternative sizes for group 1 to 3 (e.g. for bolts M6, M8 and 5/16–18 UNC) and group 1D to 3D (e.g. for bolts M6 and 1/4–20 UNC), materials and surface finishings are available upon request. Please consult STAUFF for further information.

Clamp Body ▪ Single Design





Order Codes

Clamp Body ***LB*1*03,2*PP**

* Light Series:	Clamp Body / Single Design	**LB**
* STAUFF Group		**1**
* Exact outside diameter Ø D1 (mm)		**03,2**
* Material code (see below)		**PP**

Standard Materials

Polypropylene
Colour: Black
Material code: **PP**

Polyamide
Colour: Yellow
Material code: **PA**

See page A88 for material properties and technical information.

Alternative materials are available upon request.
Please consult STAUFF for further information.

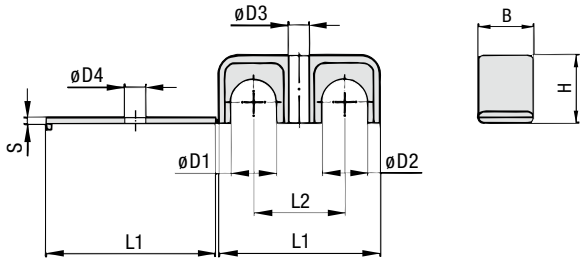
Applications

- Pneumatics, Instrumentation and Automotive Technology, Machine Tool Industry, Lubrication, Mechanical Engineering

Group	Outside Diameter Pipe / Tube / Hose Ø D1		Nominal Bore Pipe	Order Codes (1 Clamp Body)	Dimensions (mm/in)							
STAUFF	(mm)	(in)	(in)	(✱✱ = Material)	L1	L2	L3	B	H	S	Ø D2	Ø D3
1	3,2	1/8		LB 103,2 ✱✱	22	9	6,5	12	10,5	2	6,8	7
	6			LB 106 ✱✱	.87	.35	.26	.47	.41	.08	.27	.28
	6,4	1/4		LB 106,4 ✱✱								
	8			LB 108 ✱✱								
2	9,5	3/8		LB 209,5 ✱✱	27	11	7	16	15	2	6,8	7
	10		1/8	LB 210 ✱✱	1.06	.43	.28	.63	.59	.08	.27	.28
	11,1			LB 211,1 ✱✱								
	12			LB 212 ✱✱								
3	12,7	1/2		LB 312,7 ✱✱	34	15	7	20	22,5	2	6,8	7
	13,5		1/4	LB 313,5 ✱✱	1.34	.59	.28	.79	.89	.08	.27	.28
	14			LB 314 ✱✱								
	15			LB 315 ✱✱								
	16	5/8		LB 316 ✱✱								
	17,2		3/8	LB 317,2 ✱✱								
	18			LB 318 ✱✱								
4	19	3/4		LB 419 ✱✱	42	19	7	20	30	2	6,8	7
	20			LB 420 ✱✱	1.65	.75	.28	.79	1.18	.08	.27	.28
	21,3		1/2	LB 421,3 ✱✱								
	22			LB 422 ✱✱								
	25			LB 425 ✱✱								
	25,4	1		LB 425,4 ✱✱								

Additional outside diameters are available upon request. Please consult STAUFF for further information.

Clamp Body ▪ Twin Design





Group	Outside Diameters Pipe / Tube / Hose Ø D1 / Ø D2		Nominal Bore Pipe	Order Codes (1 Clamp Body)	Dimensions (mm/in)						
STAUFF	(mm)	(in)	(in)	(✱✱ = Material)	L1	L2	B	H	S	Ø D3	Ø D4
1	3,2	1/8		LBG 103,2/03,2 ✱✱	31 1.22	18 .71	12 .47	10,5 .41	2 .08	6,8 .27	7 .28
	6			LBG 106/06 ✱✱							
	6,4	1/4		LBG 106,4/06,4 ✱✱							
	8			LBG 108/08 ✱✱							
2	9,5	3/8		LBG 209,5/09,5 ✱✱	39 1.54	22 .87	16 .63	15 .59	2 .08	6,8 .27	7 .28
	10		1/8	LBG 210/10 ✱✱							
	11,1			LBG 211,1/11,1 ✱✱							
	12			LBG 212/12 ✱✱							
3	12,7	1/2		LBG 312,7/12,7 ✱✱	53 2.09	30 1.18	20 .79	22,5 .89	2 .08	6,8 .27	7 .28
	13,5		1/4	LBG 313,5/13,5 ✱✱							
	14			LBG 314/14 ✱✱							
	15			LBG 315/15 ✱✱							
	16	5/8		LBG 316/16 ✱✱							
	17,2		3/8	LBG 317,2/17,2 ✱✱							
	18			LBG 318/18 ✱✱							
4	19	3/4		LBG 419/19 ✱✱	70 2.76	38 1.50	20 .79	30 1.18	2 .08	6,8 .27	7 .28
	20			LBG 420/20 ✱✱							
	21,3		1/2	LBG 421,3/21,3 ✱✱							
	22			LBG 422/22 ✱✱							
	25			LBG 425/25 ✱✱							
	25,4	1		LBG 425,4/25,4 ✱✱							

Additional outside diameters and combinations of different outside diameters (Clamp Body, Type LBU) are available upon request.
Please consult STAUFF for further information.

Order Codes

Clamp Body ***LBG*1*03,2/03,2*PP**

* Light Series:	Clamp Body / Twin Design with identical diameters	**LBG**
	Clamp Body / Twin Design with different diameters	**LBU**
* STAUFF Group		**1**
* Exact outside diameters Ø D1 / Ø D2 (mm)		**03,2/03,2**
* Material code (see below)		**PP**

Standard Materials

Polypropylene
Colour: Black
Material code: **PP**

Polyamide
Colour: Yellow
Material code: **PA**

See page A88 for material properties and technical information.

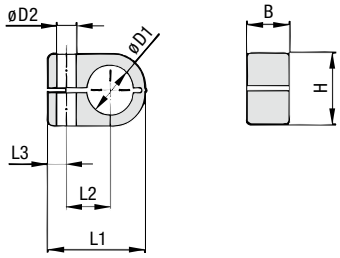
Alternative materials are available upon request.
Please consult STAUFF for further information.

Applications

- Pneumatics, Instrumentation and Automotive Technology, Machine Tool Industry, Lubrication, Mechanical Engineering

Clamp Body ▪ Single Design





Order Codes

Clamp Body ***LN*1*06*PP**

* Light Series:	Clamp Body / Single Design	**LN**
* STAUFF Group		**1**
* Exact outside diameter Ø D1 (mm)		**06**
* Material code (see below)		**PP**

Standard Materials

Polypropylene
Colour: Green
Material code: **PP**

Polyamide
Colour: Black
Material code: **PA**

See page A88 for material properties and technical information.

Alternative materials are available upon request.
Please consult STAUFF for further information.

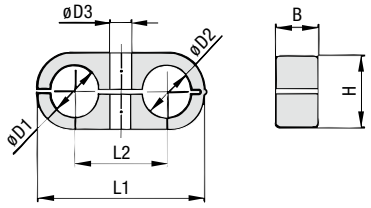
Applications

- Pneumatics, Instrumentation and Automotive Technology, Machine Tool Industry, Lubrication, Mechanical Engineering

Group	Outside Diameter Pipe / Tube / Hose Ø D1		Nominal Bore Pipe	Order Codes (1 Clamp Body)	Dimensions (mm/in)					
STAUFF	(mm)	(in)	(in)	(** = Material)	L1	L2	L3	B	H	Ø D2
1	6			LN 106 **	22	9	7	14,5	13,5	6,8
	6,4	1/4		LN 106,4 **	.87	.35	.28	.57	.53	.27
	8			LN 108 **						
2	8			LN 208 **	27	11	7	14,5	18,5	6,8
	9,5	3/8		LN 209,5 **	1.06	.43	.28	.57	.59	.27
	10		1/8	LN 210 **						
	12			LN 212 **						
	12,7	1/2		LN 212,7 **						
3	10		1/8	LN 310 **	33	15	7	14,5	23,5	6,8
	12			LN 312 **	1.30	.59	.28	.57	.93	.27
	12,7	1/2		LN 312,7 **						
	13,5		1/4	LN 313,5 **						
	14			LN 314 **						
	15			LN 315 **						
	16	5/8		LN 316 **						
4	14			LN 414 **	40	19	7	14,5	30,5	6,8
	15			LN 415 **	1.57	.75	.28	.57	1.20	.27
	16	5/8		LN 416 **						
	17,2		3/8	LN 417,2 **						
	18			LN 418 **						
	19	3/4		LN 419 **						
	20			LN 420 **						
	21,3		1/2	LN 421,3 **						
	22			LN 422 **						

Additional outside diameters are available upon request. Please consult STAUFF for further information.

Clamp Body ▪ Twin Design





Group STAUFF	Outside Diameters Pipe / Tube / Hose Ø D1 / Ø D2 (mm)	(in)	Nominal Bore Pipe (in)	Order Codes (1 Clamp Body) (✱✱ = Material)	Dimensions (mm/in) L1	L2	B	H	Ø D3
1	6			LNGF 106/06 ✱✱	32	18	14,5	13,5	6,8
	6,4	1/4		LNGF 106,4/06,4 ✱✱	1.26	.70	.57	.53	.27
	8			LNGF 108/08 ✱✱					
2	8			LNGF 208/08 ✱✱					
	9,5	3/8		LNGF 209,5/09,5 ✱✱	41	22	14,5	18,5	6,8
	10		1/8	LNGF 210/10 ✱✱	1.61	.86	.57	.59	.27
	12			LNGF 212/12 ✱✱					
	12,7	1/2		LNGF 212,7/12,7 ✱✱					
3	10		1/8	LNGF 310/10 ✱✱					
	12			LNGF 312/12 ✱✱					
	12,7	1/2		LNGF 312,7/12,7 ✱✱					
	13,5		1/4	LNGF 313,5/13,5 ✱✱	54	30	14,5	23,5	6,8
	14			LNGF 314/14 ✱✱	2.13	1.18	.57	.93	.27
	15			LNGF 315/15 ✱✱					
	16	5/8		LNGF 316/16 ✱✱					
4	14			LNGF 414/14 ✱✱					
	15			LNGF 415/15 ✱✱					
	16	5/8		LNGF 416/16 ✱✱					
	17,2		3/8	LNGF 417,2/17,2 ✱✱					
	18			LNGF 418/18 ✱✱	70	38	14,5	30,5	6,8
	19	3/4		LNGF 419/19 ✱✱	2.76	1.50	.57	1.20	.27
	20			LNGF 420/20 ✱✱					
	21,3		1/2	LNGF 421,3/21,3 ✱✱					
	22			LNGF 422/22 ✱✱					

Additional outside diameters and combinations of different outside diameters (Clamp Body, type LNUF) are available upon request. Please consult STAUFF for further information.

Order Codes

Clamp Body ***LNGF*1*06/06*PP**

* Light Series:	Clamp Body / Twin Design with identical diameters	LNGF
	Clamp Body / Twin Design with different diameters	LNUF
* STAUFF Group		1
* Exact outside diameters Ø D1 / Ø D2 (mm)		06/06
* Material code (see below)		PP

Standard Materials

Polypropylene
Colour: Green
Material code: **PP**

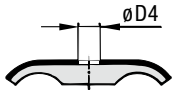
Polyamide
Colour: Black
Material code: **PA**

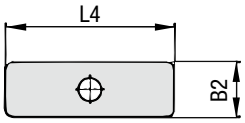
See page A88 for material properties and technical information.
Alternative materials are available upon request.
Please consult STAUFF for further information.

Applications

- Pneumatics, Instrumentation and Automotive Technology, Machine Tool Industry, Lubrication, Mechanical Engineering

Cover Plate Type DPL







Group STAUFF	Dimensions (mm/in) L4	B2	Ø D4	Order Codes (Standard Options)
1	29,5	15,5	6,8	DPL 1 W3
	1.16	.61	.27	
2	40	15,5	6,8	DPL 2 W3
	1.57	.61	.27	
3	51	16	6,8	DPL 3 W3
	2.01	.63	.27	
4	63,5	16	6,8	DPL 4 W3
	2.50	.63	.27	

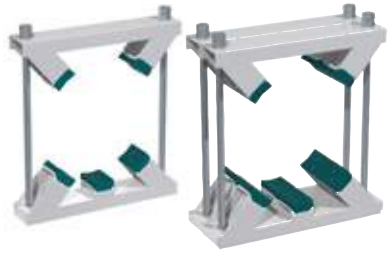
Alternative materials and surface finishings are available upon request. Consult STAUFF for further information.
Please note: The maximum tightening torque for bolts is 2,5 N·m (1.85 ft·lb).

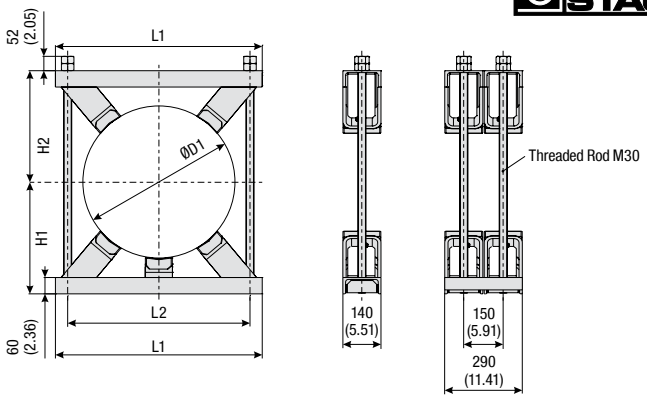
Order Codes

Cover Plate ***DPL*1*W3**

* Cover Plate for Clamp Body / Twin Design		DPL
* STAUFF Group		1
* Material code	Carbon Steel, zinc/nickel-plated	W3

Construction Series
Types KS (Single Version) / DKS (Double Version)





Order Codes

Construction Series ***KS*220*W7*PP**

* Version	Single version	**KS**
	Double version	**DKS**
* Exact outside diameter ØD1 (mm)		**220**
* Material Code	Steel, prime coated	**W7**
	Steel, hot-dip galvanised	**W40**
* Material of Plastic Pads (see below)		**PP**

Please note: All items are supplied non-assembled.

Standard Materials for Plastic Pads

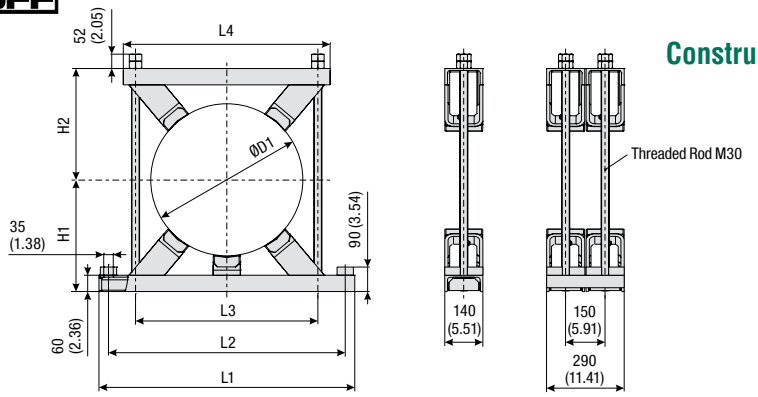
Polypropylene
Colour: Green
Material Code: **PP**

Polyamide
Colour: Black
Material Code: **PA**

See page A88 for material properties and technical information.

Group STAUFF	Outside Diameter ØD1 Pipe / Tube Diameter Range (mm)	(in)	Standard Diameters (mm)	(in)	Dimensions (mm/in) L1	L2	H1	H2	No. of Plastic Pads
1	220 ... 275	8.66 ... 10.85	220	8.66	420 / 16.54	330 / 12.99	220 / 8.66	220 / 8.66	4
			247	9.72					
			267	10.51					
			273	10.75					
2	276 ... 325	10.87 ... 12.80	280	11.02	460 / 18.11	370 / 14.57	240 / 9.45	240 / 9.45	4
			300	11.81					
			318	12.52					
			323,9	12.75					
3	326 ... 370	12.83 ... 14.57	355,6	14.00	510 / 20.08	420 / 16.53	260 / 10.23	260 / 10.23	4
			368	14.49					
4	371 ... 425	14.61 ... 16.73	390	15.35	570 / 22.44	480 / 18.89	290 / 11.42	290 / 11.42	4
			406,4	16.00					
5	426 ... 485	16.77 ... 19.09	457,2	18.00	620 / 24.41	530 / 20.87	305 / 12.01	305 / 12.01	4
			470	18.50					
6	486 ... 550	19.13 ... 21.65	490	19.29	680 / 26.77	590 / 23.23	370 / 14.57	370 / 14.57	4
			508	20.00					
			521	20.51					
			546	21.50					
7	551 ... 630	21.69 ... 24.80	558,8	22.00	760 / 29.92	670 / 26.38	410 / 16.14	410 / 16.14	5
			609,6	24.00					
8	631 ... 715	24.84 ... 28.15	711	28.00	845 / 33.27	755 / 29.72	452 / 17.80	452 / 17.80	5
9	716 ... 800	28.19 ... 31.50	762	30.00	940 / 37.00	850 / 33.46	495 / 19.49	495 / 19.49	5
10			813	32.00	990 / 38.97	900 / 35.43	500 / 19.69	500 / 19.69	5
11			1000	39.37	1200 / 47.24	1100 / 43.30	591,5 / 23.29	593 / 23.34	5
12			1016	40.00	1200 / 47.24	1100 / 43.30	602 / 23.70	602 / 23.70	5

Alternative outside diameters, materials and surface finishings are available upon request. Consult STAUFF for further information.



Construction Series for Anchor Bolt Fastening Types KSV (Single) / DKSV (Double)



Group STAUFF	Outside Diameter ØD1 Pipe / Tube Diameter Range (mm)	(in)	Standard Diameters (mm)	(in)	Dimensions (mm/in) L1	L2	L3	L4	H1	H2	No. of Plastic Pads
1	220 ... 275	8.66 ... 10.85	220	8.66	580	330	490	420	220	220	4
			247	9.72	22.83	12.99	19.29	16.54	8.66	8.66	
			267	10.51							
			273	10.75							
2	276 ... 325	10.87 ... 12.80	280	11.02	620	370	530	460	240	240	4
			300	11.81	24.41	14.57	20.87	18.11	9.45	9.45	
			318	12.52							
			323,9	12.75							
3	326 ... 370	12.83 ... 14.57	355,6	14.00	670	420	580	510	260	260	4
			368	14.49	26.38	16.53	22.83	20.08	10.23	10.23	
4	371 ... 425	14.61 ... 16.73	390	15.35	750	480	640	570	290	290	4
			406,4	16.00	29.53	18.89	25.20	22.44	11.42	11.42	
5	426 ... 485	16.77 ... 19.09	457,2	18.00	800	530	730	620	305	305	4
			470	18.50	31.50	20.87	28.74	24.41	12.01	12.01	
6	486 ... 550	19.13 ... 21.65	490	19.29	860	590	790	680	370	370	4
			508	20.00	33.86	23.23	31.10	26.77	14.57	14.57	
			521	20.51							
			546	21.50							
7	551 ... 630	21.69 ... 24.80	558,8	22.00	940	670	870	760	410	410	5
			609,6	24.00	37.00	26.38	34.25	29.92	16.14	16.14	
8	631 ... 715	24.84 ... 28.15	711	28.00	1025	755	955	845	452	452	5
					40.31	29.72	37.60	33.27	17.80	17.80	
9	716 ... 800	28.19 ... 31.50	762	30.00	1120	850	1050	940	495	495	5
					44.09	33.46	41.33	37.00	19.49	19.49	
10			813	32.00	1170	900	1100	990	500	500	5
					46.06	35.43	43.30	38.97	19.69	19.69	
11			1000	39.37	1400	1100	1300	1200	591,5	593	5
					55.12	43.30	51.18	47.24	23.29	23.34	
12			1016	40.00	1400	1100	1300	1200	602	602	5
					55.12	43.30	51.18	47.24	23.70	23.70	

Alternative outside diameters, materials and surface finishings are available upon request. Consult STAUFF for further information.

Order Codes

Construction Series ***KSV*220*W7*PP**

* Version	Single version	**KSV**
	Double version	**DKSV**
* Exact outside diameter ØD1 (mm)		**220**
* Material Code	Steel, prime coated	**W7**
	Steel, hot-dip galvanised	**W40**
* Material of Plastic Pads (see below)		**PP**

Please note: All items are supplied non-assembled.

Standard Materials for Plastic Pads

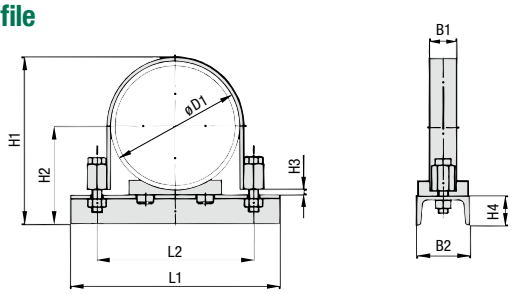
Polypropylene
Colour: Green
Material Code: **PP**

Polyamide
Colour: Black
Material Code: **PA**

See page A88 for material properties and technical information.

Flat Steel U-Bolt with Plastic Pipe Saddle (Short) and U-Profile
Type FB+RUK (To be used as Fixed Point Clamps only)





Flat Steel U-Bolt (type FB) with Plastic Pipe Saddle (type RUK), U-Profile and Hexagon Head Bolts

Order Codes

Clamp Assembly ***FB+RUK*PP*48,3*W1**

One clamp assembly is consisting of one Flat Steel U-Bolt (type FB), one Plastic Pipe Saddle (type RUK), one U-Profile (to DIN 1026) with two Nuts (to DIN EN ISO 4032) and two Hexagon Head Bolts (to DIN EN ISO 4014 / 4017).

- * Clamp Assembly (as listed above) **FB+RUK**
- * Material of Pipe Saddle (see below) **PP**
- * Exact outside diameter Ø D1 (mm) **48,3**
- * Material code
  - Carbon Steel, untreated **W1**
  - Carbon Steel, zinc-plated (Fe/Zn 8 C) **W3**
  - Stainless Steel V4A 1.4401 / 1.4571 (AISI 316 / 316 Ti) **W5**
  - Carbon Steel, Plastic coated **W6**

Please note: All items are supplied non-assembled.

Standard Materials for Plastic Pipe Saddles

Polypropylene
Colour: Green
Material code: **PP**

Polyamide
Colour: Black
Material code: **PA**

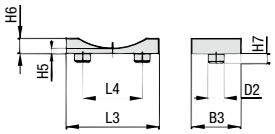
See page A88 for material properties and technical information.

Alternative materials are available upon request.
Please consult STAUFF for further information.

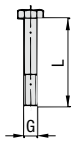
Diameter Nominal	Outside Diameter Pipe / Tube Ø D1		Nominal Bore Pipe	Dimensions (mm/in) Flat Steel U-Bolt (Type FB)						U-Profile (DIN 1026)
DN	(mm)	(in)	(in)	L1	L2	H1	H2	H3	B1	B2 x H4
40	**48,3**	1.93	1-1/2	100	76	95	67	5	20 x 3	50 x 38
				3.94	2.99	3.74	2.64	.20	.78 x .12	1.97 x 1.50
50	**57**	2.28		115	85	103	71,5	5	20 x 3	50 x 38
				4.53	3.35	4.06	2.81	.20	.78 x .12	1.97 x 1.50
	60,3	2.41	2	115	88	106	73,2	5	20 x 3	50 x 38
				4.53	3.46	4.17	2.88	.20	.78 x .12	1.97 x 1.50
65	**76,1**	3.04	2-1/2	132	104	122	81	5	20 x 3	50 x 38
				5.20	4.09	4.80	3.19	.20	.78 x .12	1.97 x 1.50
80	**88,9**	3.56	3	160	122	146	97,5	8	40 x 4	80 x 45
				6.30	4.80	5.75	3.84	.31	1.57 x .16	3.15 x 1.77
100	**108**	4.32		170	140	165	107	8	40 x 4	80 x 45
				6.69	5.51	6.50	4.21	.31	1.57 x .16	3.15 x 1.77
	114,3	4.57	4	180	147	171	110	8	40 x 4	80 x 45
				7.09	5.79	6.73	4.33	.31	1.57 x .16	3.15 x 1.77
125	**133**	5.32		210	165	190	119,5	8	40 x 4	80 x 45
				8.27	6.50	7.48	4.70	.31	1.57 x .16	3.15 x 1.77
	139,7	5.59	5	210	172	197	123	8	40 x 4	80 x 45
				8.27	6.77	7.76	4.84	.31	1.57 x .16	3.15 x 1.77
150	**159**	6.36		265	201	220	132,5	8	40 x 6	80 x 45
				1.43	7.91	8.66	5.22	.31	1.57 x .24	3.15 x 1.77
	168,3	6.73	6	275	211	230	137	8	40 x 6	80 x 45
				1.83	8.31	9.06	5.39	.31	1.57 x .24	3.15 x 1.77
175	**193,7**	7.75		305	236	255	150	8	40 x 6	80 x 45
				12.01	9.29	1.04	5.91	.31	1.57 x .24	3.15 x 1.77
200	**216**	8.64		320	260	277	161	8	40 x 6	80 x 45
				12.60	1.24	1.91	6.34	.31	1.57 x .24	3.15 x 1.77
	219,1	8.76	8	320	261	280	162,5	8	40 x 6	80 x 45
				12.60	1.28	11.02	6.40	.31	1.57 x .24	3.15 x 1.77
250	**267**	10.68		380	325	328	186,5	8	40 x 8	80 x 45
				14.96	12.80	12.91	7.34	.31	1.57 x .31	3.15 x 1.77
	273	10.92	10	385	330	334	189,5	8	40 x 8	80 x 45
				15.16	12.99	13.15	7.46	.31	1.57 x .31	3.15 x 1.77
300	**318**	12.72		440	375	382	212	8	40 x 8	80 x 45
				17.32	14.76	15.04	8.35	.31	1.57 x .31	3.15 x 1.77
	323,9	12.96	12	450	382	390	215	8	40 x 8	80 x 45
				17.72	15.04	15.35	8.46	.31	1.57 x .31	3.15 x 1.77
350	**355,6**	14.22	14	480	420	421	235	12	60 x 8	100 x 50
				18.90	16.54	16.57	9.25	.47	2.36 x .31	3.94 x 1.97
	368	14.72		490	430	434	242	12	60 x 8	100 x 50
				19.29	16.93	17.09	9.53	.47	2.36 x .31	3.94 x 1.97
400	**406,4**	16.26	16	550	470	472	261	12	60 x 8	100 x 50
				21.65	18.50	18.58	1.28	.47	2.36 x .31	3.94 x 1.97
	419	16.76		550	482	485	267,5	12	60 x 8	100 x 50
				21.65	18.98	19.09	1.53	.47	2.36 x .31	3.94 x 1.97
	457	18.28	18	585	520	523	286,5	12	60 x 8	100 x 50
				23.03	2.47	2.59	11.28	.47	2.36 x .31	3.94 x 1.97
500	**508**	20.32	20	630	570	574	312	12	60 x 8	100 x 50
				24.80	22.44	22.60	12.28	.47	2.36 x .31	3.94 x 1.97
	521	20.84		640	585	587	319	12	60 x 8	100 x 50
				25.20	23.03	23.11	12.56	.47	2.36 x .31	3.94 x 1.97

Alternative materials and surface finishings are available upon request. Consult STAUFF for further information.

Flat Steel U-Bolt with Plastic Pipe Saddle (Short) and U-Profile
(To be used as Fixed Point Clamps only) **Type FB+RUK**



Plastic Pipe Saddle (type RUK)
(For size DN 40, dimension L4 is staggered by 90°)



Hexagon Head Bolt AS
(according to DIN EN ISO 4014 / 4017)



Diameter Nominal	Outside Diameter Pipe / Tube Ø D1		Nominal Bore Pipe	Dimensions (mm/in) Plastic Pipe Saddle (type RUK)							Hexagon Head Bolt (DIN EN ISO 4014 / 4017)
DN	(mm)	(in)	(in)	L3	L4	B3	D2	H5	H6	H7	Thread G x L
40	**48,3**	1.93	1-1/2	24	25	35	8	5	8	5	M10 x 40
				.94	.98	1.38	.31	.20	.31	.20	
50	**57**	2.28		38	25	50	10	5	10	6	M10 x 40
				1.50	.98	1.97	.39	.20	.39	.24	
	60,3	2.41	2	38	25	50	10	5	10	6	M10 x 40
				1.50	.98	1.97	.39	.20	.39	.24	
65	**76,1**	3.04	2-1/2	38	25	50	10	5	10	6	M10 x 40
				1.50	.98	1.97	.39	.20	.39	.24	
80	**88,9**	3.56	3	75	40	70	15	8	17	10	M 12 x 55
				2.95	1.57	2.76	.59	.31	.67	.39	
100	**108**	4.32		75	40	70	15	8	17	10	M 12 x 55
				2.95	1.57	2.76	.59	.31	.67	.39	
	114,3	4.57	4	75	40	70	15	8	17	10	M 12 x 55
				2.95	1.57	2.76	.59	.31	.67	.39	
125	**133**	5.32		75	40	70	15	8	17	10	M 12 x 55
				2.95	1.57	2.76	.59	.31	.67	.39	
	139,7	5.59	5	75	40	70	15	8	17	10	M 12 x 55
				2.95	1.57	2.76	.59	.31	.67	.39	
150	**159**	6.36		140	90	75	25	8	26	10	M 16 x 75
				5.51	3.54	2.95	.98	.31	1.02	.39	
	168,3	6.73	6	140	90	75	25	8	26	10	M 16 x 75
				5.51	3.54	2.95	.98	.31	1.02	.39	
175	**193,7**	7.75		140	90	75	25	8	26	10	M 16 x 75
				5.51	3.54	2.95	.98	.31	1.02	.39	
200	**216**	8.64		140	90	75	25	8	26	10	M 16 x 75
				5.51	3.54	2.95	.98	.31	1.02	.39	
	219,1	8.76	8	140	90	75	25	8	26	10	M 16 x 75
				5.51	3.54	2.95	.98	.31	1.02	.39	
250	**267**	10.68		140	90	75	25	8	26	10	M 20 x 80
				5.51	3.54	2.95	.98	.31	1.02	.39	
	273	10.92	10	140	90	75	25	8	26	10	M 20 x 80
				5.51	3.54	2.95	.98	.31	1.02	.39	
300	**318**	12.72		220	150	75	30	8	32	10	M 20 x 80
				8.66	5.91	2.95	1.18	.31	1.26	.39	
	323,9	12.96	12	220	150	75	30	8	32	10	M 20 x 80
				8.66	5.91	2.95	1.18	.31	1.26	.39	
350	**355,6**	14.22	14	220	150	75	30	8	32	10	M 24 x 100
				8.66	5.91	2.95	1.18	.31	1.26	.39	
	368	14.72		220	150	75	30	8	32	10	M 24 x 100
				8.66	5.91	2.95	1.18	.31	1.26	.39	
400	**406,4**	16.26	16	220	150	75	30	8	32	10	M 24 x 100
				8.66	5.91	2.95	1.18	.31	1.26	.39	
	419	16.76		220	150	75	30	8	32	10	M 24 x 100
				8.66	5.91	2.95	1.18	.31	1.26	.39	
	457	18.28	18	220	150	75	30	8	32	10	M 24 x 100
				8.66	5.91	2.95	1.18	.31	1.26	.39	
500	**508**	20.32	20	220	150	75	30	8	32	10	M 24 x 100
				8.66	5.91	2.95	1.18	.31	1.26	.39	
	521	20.84		220	150	75	30	8	32	10	M 24 x 100
				8.66	5.91	2.95	1.18	.31	1.26	.39	

Alternative materials and surface finishings are available upon request. Consult STAUFF for further information.

Order Codes

only Flat Steel U-Bolt ***FB*A 48,3*W1**

* Flat Steel U-Bolt		**FB**
* Exact outside diameter Ø D1 (mm)		**A 48,3**
* Material code	Carbon Steel, untreated	**W1**
	Carbon Steel, zinc-plated (Fe/Zn 8 C)	**W3**
	Stainless Steel V4A 1.4401 / 1.4571 (AISI 316 / 316 Ti)	**W5**
	Carbon Steel, Plastic coated	**W6**

only Plastic Pipe Saddle ***RUK*48,3*PP**

* Plastic Pipe Saddle (Short)	**RUK**
* Exact outside diameter Ø D1 (mm)	**48,3**
* Material of Pipe Saddle (see below)	**PP**

Please note: All items are supplied non-assembled.

Standard Materials for Plastic Pipe Saddles

Polypropylene
Colour: Green
Material code: **PP**

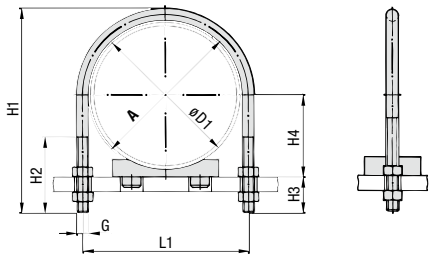
Polyamide
Colour: Black
Material code: **PA**

See page A88 for material properties and technical information.

Alternative materials are available upon request.
Please consult STAUFF for further information.

Round Steel U-Bolt with Plastic Pipe Saddle (Short) Type RB+RUK





Round Steel U-Bolt (type RB) with Plastic Pipe Saddle (type RUK)

Order Codes

Clamp Assembly ***RB*W1*RUK/*PP*48,3**

One clamp assembly is consisting of one Round Steel U-Bolt (type RB), one Plastic Pipe Saddle (type RUK) and four Nuts (to DIN EN ISO 4032).

* Round Steel U-Bolt		**RB**
* Material code	Carbon Steel, untreated	**W1**
	Stainless Steel V4A 1.4401 / 1.4571 (AISI 316 / 316 Ti)	**W5**
	Carbon Steel, Plastic coated	**W6**
	Carbon Steel, zinc-plated and thick-film passivated	**W66**
* Plastic Pipe Saddle (Short)		**RUK/**
* Material of Pipe Saddle (see below)		**PP**
* Exact outside diameter Ø D1 (mm)		**48,3**

Please note: All items are supplied non-assembled.

Standard Materials for Plastic Pipe Saddles

Polypropylene
Colour: Green
Material code: **PP**

Polyamide
Colour: Black
Material code: **PA**

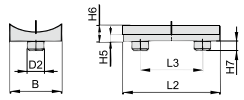
See page A88 for material properties and technical information.

Alternative materials are available upon request.
Please consult STAUFF for further information.

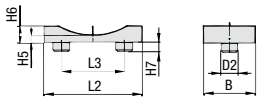
Diameter Nominal	Outside Diameter Pipe / Tube Ø D1		Nominal Bore Pipe	Dimensions (mm/in) Round Steel U-Bolt (Type RB)						
DN	(mm)	(in)	(in)	A	L1	H1	H2	H3	H4	Thread G
20	**25**	.98		**30**	40	73,5	41	30	17,5	M10
					1.57	2.89	1.61	1.18	.69	
	26,9	1.06	3/4	1.18	40	73,5	41	30	18,5	M10
					1.57	2.89	1.61	1.18	.73	
25	**30**	1.18		**38**	48	81	48	30	20	M10
					1.89	3.19	1.89	1.18	.79	
	33,7	1.33	1	1.50	48	81	48	30	22	M10
					1,89	3,19	1,89	1,18	.87	
32	**38**	1.50		**46**	56	89	48	30	24	M10
					2.20	3.50	1.89	1.18	.94	
	42,4	1.69	1-1/4	1.81	56	89	48	30	26,2	M10
					2.20	3.50	1.89	1.18	1.03	
40	**44,5**	1.76		**52**	62	100	55	35	27,2	M10
					2.44	3.94	2.17	1.38	1.07	
	48,3	1.90	1-1/2	2.05	62	100	55	35	29	M10
					2.44	3.94	2.17	1.38	1.14	
50	**57**	2.28		**64**	76	118	63	39	33,5	M12
					2.99	4.65	2.48	1.54	1.32	
	60,3	2.41	2	2.52	76	118	63	39	35,2	M12
					2.99	4.65	2.48	1.54	1.39	
65	**76,1**	3.04	2-1/2	**82**	94	135	77	39	43	M12
				3.23	3.70	5.31	3.03	1.54	1.69	
80	**88,9**	3.56	3	**94**	106	152	82	41	52,5	M12
				3.70	4.17	5.98	3.23	1.61	2.07	
100	**108**	4.32		**120**	136	190	105	49	62	M12
					5.35	7.48	4.13	1.93	2.44	
	114,3	4.57	4	4.72	136	190	105	49	65	M16
					5.35	7.48	4.13	1.93	2.56	
125	**133**	5.32		**148**	164	217	105	49	74,5	M16
					6.46	8.54	4.13	1.93	2.93	
	139,7	5.59	5	5.83	164	217	105	49	78	M16
					6.46	8.54	4.13	1.93	3.07	
150	**159**	6.36		**176**	192	247	105	51	87,5	M16
					7.56	9.72	4.13	2.01	3.44	
	168,3	6.73	6	6.93	192	217	105	51	92	M16
					7.56	8.54	4.13	2.01	3.62	
175	**193,7**	7.75		**202**	218	273	105	51	105	M16
				7.96	8.58	10.75	4.13	2.01	4.13	
200	**216**	8.64		**228**	248	311	125	59	116	M20
					9.76	12.24	4.92	2.32	4.57	
	219,1	8.76	8	8.98	248	311	125	59	117,5	M20
					9.76	12.24	4.92	2.32	4.63	
250	**267**	10.68		**282**	303	364	125	59	141,5	M20
					11.93	14.33	4.92	2.32	5.57	
	273	10.92	10	11.10	302	364	125	59	144,5	M20
					11.89	14.33	4.92	2.32	5.69	
300	**318**	12.72		**332**	352	418	125	62	167	M20
					13.86	16.46	4.92	2.44	6.57	
	323,9	12.96	12	13.07	352	418	125	62	170	M20
					13.86	16.46	4.92	2.44	6.69	
350	**355,6**	14.22	14	**378**	402	475	145	70	186	M24
					15.83	18.70	5.71	2.76	7.32	
	368	14.72		14.88	402	475	145	70	192	M24
					15.83	18.70	5.71	2.76	7.56	
400	**406,4**	16.26	16	**428**	452	526	145	70	211	M24
					17.80	20.71	5.71	2.76	8.31	
	419	16.76		16.85	452	526	145	70	217,5	M24
					17.80	20.71	5.71	2.76	8.56	
500	**508**	20.32	20	**530**	554	627	145	70	262	M24
					21.81	24.69	5.71	2.76	10.31	
	521	20.84		20.87	554	627	145	70	269	M24
					21.81	24.69	5.71	2.76	10.59	

Alternative materials and surface finishings are available upon request. Consult STAUFF for further information.

Round Steel U-Bolt with Plastic Pipe Saddle (Short) Type RB+RUK



Plastic Pipe Saddle (type RUK)
(For sizes DN 20 to DN 40)



Plastic Pipe Saddle (type RUK)
(From size DN 50 on)



Diameter Nominal	Outside Diameter Pipe / Tube Ø D1		Nominal Bore Pipe	Dimensions (mm/in)							
				Plastic Pipe Saddle (Type RUK)							
DN	(mm)	(in)	(in)	A	L2	L3	B	H5	H6	H7	D2
20	**25**	.98		**30**	35	25	24	5	8	5	8
					1.38	.98	.94	.20	.31	.20	.31
	26,9	1.06	3/4	1.18	35	25	24	5	8	5	8
					1.38	.98	.94	.20	.31	.20	.31
25	**30**	1.18		**38**	35	25	24	5	8	5	8
					1.38	.98	.94	.20	.31	.20	.31
	33,7	1.33	1	1.50	35	25	24	5	8	5	8
					1.38	.98	.94	.20	.31	.20	.31
32	**38**	1.50		**46**	35	25	24	5	8	5	8
					1.38	.98	.94	.20	.31	.20	.31
	42,4	1.69	1-1/4	1.81	35	25	24	5	8	5	8
					1.38	.98	.94	.20	.31	.20	.31
40	**44,5**	1.76		**52**	35	25	24	5	8	5	8
					1.38	.98	.94	.20	.31	.20	.31
	48,3	1.90	1-1/2	2.05	35	25	24	5	8	5	8
					1.38	.98	.94	.20	.31	.20	.31
50	**57**	2.28		**64**	38	25	50	5	10	6	10
					1.50	.98	1.97	.20	.39	.24	.39
	60,3	2.41	2	2.52	38	25	50	5	10	6	10
					1.50	.98	1.97	.20	.39	.24	.39
65	**76,1**	3.04	2-1/2	**82**	38	25	50	5	10	6	10
				3.23	1.50	.98	1.97	.20	.39	.24	.39
80	**88,9**	3.56	3	**94**	75	40	70	8	17	10	15
				3.70	2.95	1.57	2.76	.31	.67	.39	.59
100	**108**	4.32		**120**	75	40	70	8	17	10	15
					2.95	1.57	2.76	.31	.67	.39	.59
	114,3	4.57	4	4.72	75	40	70	8	17	10	15
					2.95	1.57	2.76	.31	.67	.39	.59
125	**133**	5.32		**148**	75	40	70	8	17	10	15
					2.95	1.57	2.76	.31	.67	.39	.59
	139,7	5.59	5	5.83	75	40	70	8	17	10	15
					2.95	1.57	2.76	.31	.67	.39	.59
150	**159**	6.36		**176**	140	90	75	8	26	10	25
					5.51	3.54	2.95	.31	1.02	.39	.98
	168,3	6.73	6	6.93	140	90	75	8	26	10	25
					5.51	3.54	2.95	.31	1.02	.39	.98
175	**193,7**	7.75		**202**	140	90	75	8	26	10	25
				7.96	5.51	3.54	2.95	.31	1.02	.39	.98
200	**216**	8.64		**228**	140	90	75	8	26	10	25
					5.51	3.54	2.95	.31	1.02	.39	.98
	219,1	8.76	8	8.98	140	90	75	8	26	10	25
					5.51	3.54	2.95	.31	1.02	.39	.98
250	**267**	1.68		**282**	140	90	75	8	26	10	25
					5.51	3.54	2.95	.31	1.02	.39	.98
	273	1.92	10	11.10	140	90	75	8	26	10	25
					5.51	3.54	2.95	.31	1.02	.39	.98
300	**318**	12.72		**332**	220	150	75	8	32	10	30
					8.66	5.91	2.95	.31	1.26	.39	1.18
	323,9	12.96	12	13.07	220	150	75	8	32	10	30
					8.66	5.91	2.95	.31	1.26	.39	1.18
350	**355,6**	14.22	14	**378**	220	150	75	8	32	10	30
					8.66	5.91	2.95	.31	1.26	.39	1.18
	368	14.72		14.88	220	150	75	8	32	10	30
					8.66	5.91	2.95	.31	1.26	.39	1.18
400	**406,4**	16.26	16	**428**	220	150	75	8	32	10	30
					8.66	5.91	2.95	.31	1.26	.39	1.18
	419	16.76		16.85	220	150	75	8	32	10	30
					8.66	5.91	2.95	.31	1.26	.39	1.18
500	**508**	2.32	20	**530**	220	150	75	8	32	10	30
					8.66	5.91	2.95	.31	1.26	.39	1.18
	521	2.84		2.87	220	150	75	8	32	10	30
					8.66	5.91	2.95	.31	1.26	.39	1.18

Order Codes

only Round Steel U-Bolt ***RB*A 52*W1**

One Round Steel U-Bolt (type RB) inlcludes four Nuts (to DIN EN ISO 4032).

* Round Steel U-Bolt		**RB**
* Dimension A (mm)		**A 52**
* Material code	Carbon Steel, untreated	**W1**
	Stainless Steel V4A 1.4401 / 1.4571 (AISI 316 / 316 Ti)	**W5**
	Carbon Steel, Plastic coated	**W6**
	Carbon Steel, zinc-plated and thick-film passivated	**W66**

only Plastic Pipe Saddle ***RUK*48,3*PP**

* Plastic Pipe Saddle (Short)	**RUK**
* Exact outside diameter Ø D1 (mm)	**48,3**
* Material of Pipe Saddle (see below)	**PP**

Standard Materials for Plastic Pipe Saddles

Polypropylene
Colour: Green
Material code: **PP**

Polyamide
Colour: Black
Material code: **PA**

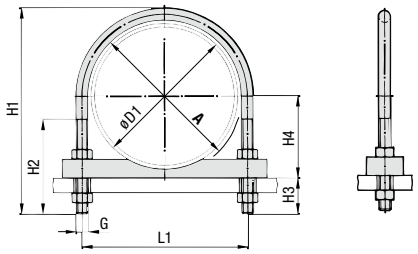
See page A88 for material properties and technical information.

Alternative materials are available upon request.
Please consult STAUFF for further information.

Alternative materials and surface finishings are available upon request. Consult STAUFF for further information.

Round Steel U-Bolt with Plastic Pipe Saddle (Long) Type RB+RUL





Round Steel U-Bolt (type RB) with Plastic Pipe Saddle (type RUL)

Order Codes

Clamp Assembly ***RB*W1*RUL/*PP*48,3**

One clamp assembly is consisting of one Round Steel U-Bolt (type RB), one Plastic Pipe Saddle (type RUL) and four Nuts (to DIN EN ISO 4032).

* Round Steel U-Bolt		**RB**
* Material code	Carbon Steel, untreated	**W1**
	Stainless Steel V4A 1.4401 / 1.4571 (AISI 316 / 316 Ti)	**W5**
	Carbon Steel, Plastic coated	**W6**
	Carbon Steel, zinc-plated and thick-film passivated	**W66**
* Plastic Pipe Saddle (Long)		**RUL/**
* Material of Pipe Saddle (see below)		**PP**
* Exact outside diameter Ø D1 (mm)		**48,3**

Please note: All items are supplied non-assembled.

Standard Materials for Plastic Pipe Saddles

Polypropylene
Colour: Green
Material code: **PP**

Polyamide
Colour: Black
Material code: **PA**

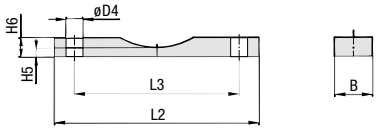
See page A88 for material properties and technical information.

Alternative materials are available upon request.
Please consult STAUFF for further information.

Diameter Nominal	Outside Diameter Pipe / Tube Ø D1		Nominal Bore Pipe	Dimensions (mm/in) Round Steel U-Bolt (Type RB)						
DN	(mm)	(in)	(in)	A	L1	H1	H2	H3	H4	Thread G
20	**25**	.98		**30**	40 1.57	73.5 2.89	41 1.61	30 1.18	17.5 .69	M10
	26,9	1.06	3/4	1.18	40 1.57	73.5 2.89	41 1.61	30 1.18	18.5 .73	M10
25	**30**	1.18		**38**	48 1.89	81 3.19	48 1.89	30 1.18	20 .79	M10
	33,7	1.33	1	1.50	48 1.89	81 3.19	48 1.89	30 1.18	22 .87	M10
32	**38**	1.50		**46**	56 2.20	89 3.50	48 1.89	30 1.18	24 .94	M10
	42,4	1.69	1-1/4	1.81	56 2.20	89 3.50	48 1.89	30 1.18	26.2 1.03	M10
40	**44,5**	1.76		**52**	62 2.44	100 3.94	55 2.17	35 1.38	27.2 1.07	M10
	48,3	1.90	1-1/2	2.05	62 2.44	100 3.94	55 2.17	35 1.38	29 1.14	M10
50	**57**	2.28		**64**	76 2.99	118 4.65	63 2.48	39 1.54	33.5 1.32	M12
	60,3	2.41	2	2.52	76 2.99	118 4.65	63 2.48	39 1.54	35.2 1.39	M12
65	**76,1**	3.04	2-1/2	**82** 3.23	94 3.70	135 5.31	77 3.03	39 1.54	43 1.69	M12
80	**88,9**	3.56	3	**94** 3.70	106 4.17	152 5.98	82 3.23	39 1.54	45.5 1.79	M12
100	**108**	4.32		**120**	136 5.35	190 7.48	105 4.13	47 1.85	64 2.52	M12
	114,3	4.57	4	4.72	136 5.35	190 7.48	105 4.13	47 1.85	67 2.64	M16
125	**133**	5.32		**148**	164 6.46	217 8.54	105 4.13	47 1.85	76.5 3.01	M16
	139,7	5.59	5	5.83	164 6.46	217 8.54	105 4.13	47 1.85	80 3.15	M16
150	**159**	6.36		**176**	192 7.56	247 9.72	105 4.13	47 1.85	91.5 3.60	M16
	168,3	6.73	6	6.93	192 7.56	217 8.54	105 4.13	47 1.85	96 3.78	M16
175	**193,7**	7.75		**202** 7.96	218 8.58	273 10.75	105 4.13	47 1.85	109 4.29	M16
200	**216**	8.64		**228**	248 9.76	311 12.24	125 4.92	55 2.17	120 4.72	M20
	219,1	8.76	8	8.98	248 9.76	311 12.24	125 4.92	55 2.17	121.5 4.78	M20
250	**267**	10.68		**282**	303 11.93	364 14.33	125 4.92	55 2.17	145.5 5.73	M20
	273	10.92	10	11.10	302 11.89	364 14.33	125 4.92	55 2.17	148.5 5.85	M20
300	**318**	12.72		**332**	352 13.86	418 16.46	125 4.92	55 2.17	175 6.89	M20
	323,9	12.96	12	13.07	352 13.86	418 16.46	125 4.92	55 2.17	177 6.97	M20
350	**355,6**	14.22	14	**378**	402 15.83	475 18.70	145 5.71	63 2.48	193 7.60	M24
	368	14.72		14.88	402 15.83	475 18.70	145 5.71	63 2.48	199 7.83	M24
400	**406,4**	16.26	16	**428**	452 17.80	526 20.71	145 5.71	63 2.48	218 8.58	M24
	419	16.76		16.85	452 17.80	526 20.71	145 5.71	63 2.48	224.5 8.84	M24
500	**508**	20.32	20	**530**	554 21.81	627 24.69	145 5.71	63 2.48	269 10.59	M24
	521	20.84		20.87	554 21.81	627 24.69	145 5.71	63 2.48	276 10.87	M24

Alternative materials and surface finishings are available upon request. Consult STAUFF for further information.

Round Steel U-Bolt with Plastic Pipe Saddle (Long)
Type RB+RUL



Plastic Pipe Saddle (type RUL)



Diameter Nominal	Outside Diameter Pipe / Tube Ø D1		Nominal Bore Pipe	Dimensions (mm/in) Plastic Pipe Saddle (Type RUK)						
DN	(mm)	(in)	(in)	A	L2	L3	B	H5	H6	Ø D4
20	**25**	.98		**30**	75	40	30	5	12	11
					2.95	1.57	1.18	.20	.47	.43
	26,9	1.06	3/4	1.18	75	40	30	5	12	11
					2.95	1.57	1.18	.20	.47	.43
25	**30**	1.18		**38**	80	48	30	5	12	11
					3.15	1.89	1.18	.20	.47	.43
	33,7	1.33	1	1.50	80	48	30	5	12	11
					3.15	1.89	1.18	.20	.47	.43
32	**38**	1.50		**46**	90	56	30	5	12	11
					3.54	2.20	1.18	.20	.47	.43
	42,4	1.69	1-1/4	1.81	90	56	30	5	12	11
					3.54	2.20	1.18	.20	.47	.43
40	**44,5**	1.76		**52**	95	62	35	5	15	11
					3.74	2.44	1.38	.20	.59	.43
	48,3	1.90	1-1/2	2.05	95	62	35	5	15	11
					3.74	2.44	1.38	.20	.59	.43
50	**57**	2.28		**64**	110	76	35	5	15	14
					4.33	2.99	1.38	.20	.59	.55
	60,3	2.41	2	2.52	110	76	35	5	15	14
					4.33	2.99	1.38	.20	.59	.55
65	**76,1**	3.04	2-1/2	**82**	135	94	35	5	15	14
				3.23	5.31	3.70	1.38	.20	.59	.55
80	**88,9**	3.56	3	**94**	145	106	40	10	20	14
				3.70	5.71	4.17	1.57	.39	.79	.55
100	**108**	4.32		**120**	190	136	40	10	20	18
					7.48	5.35	1.57	.39	.79	.71
	114,3	4.57	4	4.72	190	136	40	10	20	18
					7.48	5.35	1.57	.39	.79	.71
125	**133**	5.32		**148**	220	164	40	10	20	18
					8.66	6.46	1.57	.39	.79	.71
	139,7	5.59	5	5.83	220	164	40	10	20	18
					8.66	6.46	1.57	.39	.79	.71
150	**159**	6.36		**176**	250	192	50	12	25	18
					9.84	7.56	1.97	.47	.98	.71
	168,3	6.73	6	6.93	250	192	50	12	25	18
					9.84	7.56	1.97	.47	.98	.71
175	**193,7**	7.75		**202**	270	218	50	12	25	18
				7.96	10.63	8.58	1.97	.47	.98	.71
200	**216**	8.64		**228**	315	248	50	12	25	22
					12.40	9.76	1.97	.47	.98	.87
	219,1	8.76	8	8.98	315	248	50	12	25	22
					12.40	9.76	1.97	.47	.98	.87
250	**267**	10.68		**282**	370	302	50	12	25	22
					14.57	11.89	1.97	.47	.98	.87
	273	10.92	10	11.10	370	302	50	12	25	22
					14.57	11.89	1.97	.47	.98	.87
300	**318**	12.72		**332**	420	352	60	15	30	22
					16.54	13.86	2.36	.59	1.18	.87
	323,9	12.96	12	13.07	420	352	60	15	30	22
					16.54	13.86	2.36	.59	1.18	.87
350	**355,6**	14.22	14	**378**	480	402	60	15	30	26
					18.90	15.83	2.36	.59	1.18	1.02
	368	14.72		14.88	480	402	60	15	30	26
					18.90	15.83	2.36	.59	1.18	1.02
400	**406,4**	16.26	16	**428**	540	452	60	15	30	26
					21.26	17.80	2.36	.59	1.18	1.02
	419	16.76		16.85	540	452	60	15	30	26
					21.26	17.80	2.36	.59	1.18	1.02
500	**508**	20.32	20	**530**	640	554	60	15	30	26
					25.20	21.81	2.36	.59	1.18	1.02
	521	20.84		20.87	640	554	60	15	30	26
					25.20	21.81	2.36	.59	1.18	1.02

Order Codes

only Round Steel U-Bolt ***RB*A 52*W1**

One Round Steel U-Bolt (type RB) inlcludes four Nuts (to DIN EN ISO 4032).

* Round Steel U-Bolt		**RB**
* Dimension A (mm)		**A 52**
* Material code	Carbon Steel, untreated	**W1**
	Stainless Steel V4A 1.4401 / 1.4571 (AISI 316 / 316 Ti)	**W5**
	Carbon Steel, Plastic coated	**W6**
	Carbon Steel, zinc-plated and thick-film passivated	**W66**

only Plastic Pipe Saddle ***RUL*48,3*PP**

* Plastic Pipe Saddle (Long)	**RUL**
* Exact outside diameter Ø D1 (mm)	**48,3**
* Material of Pipe Saddle (see below)	**PP**

Standard Materials for Plastic Pipe Saddles

Polypropylene
Colour: Green
Material code: **PP**

Polyamide
Colour: Black
Material code: **PA**

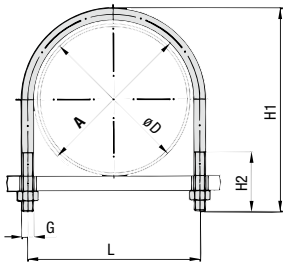
See page A88 for material properties and technical information.

Alternative materials are available upon request.
Please consult STAUFF for further information.

Alternative materials and surface finishings are available upon request. Consult STAUFF for further information.

Round Steel U-Bolt (without Plastic Pipe Saddle) Type RBD





Round Steel U-Bolt (type RBD)

Order Codes

Clamp Assembly ***RBD*W1*A 30**

One clamp assembly is consisting of one Round Steel U-Bolt (type RBD) and two Nuts (to DIN EN ISO 4032).

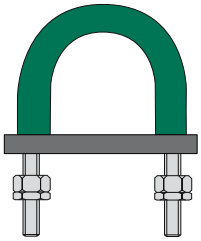
* Clamp Assembly (as listed above)		**RBD**
* Material code	Carbon Steel, untreated	**W1**
	Carbon Steel, zinc-plated and thick-film passivated	**W66**
* Dimension A (mm)		**A 30**

Please note: All items are supplied non-assembled.

Diameter Nominal	Outside Diameter Pipe / Tube Ø D1		Nominal Bore Pipe	Dimensions (mm/in) Round Steel U-Bolt (Type RBD)				
DN	(mm)	(in)	(in)	A	L	H1	H2	Thread G
20	**25**	.98		**30**	40	70	40	M10
					1.57	2.76	1.57	
	26,9	1.06	3/4	1.18	40	70	40	M10
					1.57	2.76	1.57	
25	**30**	1.18		**38**	48	76	40	M10
					1.89	2.99	1.57	
	33,7	1.33	1	1.50	48	76	40	M10
					1,89	2.99	1.57	
32	**38**	1.50		**46**	56	86	50	M10
					2.20	3.39	1.97	
	42,4	1.69	1-1/4	1.81	56	86	50	M10
					2.20	3.39	1.97	
40	**44,5**	1.76		**52**	62	92	50	M10
					2.44	3.62	1.97	
	48,3	1.90	1-1/2	2.05	62	92	50	M10
					2.44	3.62	1.97	
50	**57**	2.28		**64**	76	109	50	M12
					2.99	4.29	1.97	
	60,3	2.41	2	2.52	76	109	50	M12
					2.99	4.29	1.97	
65	**76,1**	3.04	2-1/2	**82**	94	125	50	M12
				3.23	3.70	4.92	1.97	
80	**88,9**	3.56	3	**94**	106	138	50	M12
				3.70	4.17	5.43	1.97	
100	**108**	4.32		**120**	136	171	60	M12
					5.35	6.73	2.36	
	114,3	4.57	4	4.72	136	171	60	M16
					5.35	6.73	2.36	
125	**133**	5.32		**148**	164	191	60	M16
					6.46	7.52	2.36	
	139,7	5.59	5	5.83	164	191	60	M16
					6.46	7.52	2.36	
150	**159**	6.36		**176**	192	217	60	M16
					7.56	8.54	2.36	
	168,3	6.73	6	6.93	192	217	60	M16
					7.56	8.54	2.36	
175	**193,7**	7.75		**202**	218	249	60	M16
				7.96	8.58	9.80	2.36	
200	**216**	8.64		**228**	248	283	70	M20
					9.76	11.14	2.76	
	219,1	8.76	8	8.98	248	283	70	M20
					9.76	11.14	2.76	
250	**267**	10.68		**282**	303	334	70	M20
					11.93	13.15	2.76	
	273	10.92	10	11.10	302	334	70	M20
					11.89	13.15	2.76	
300	**318**	12.72		**332**	352	385	70	M20
					13.86	15.16	2.76	
	323,9	12.96	12	13.07	352	385	70	M20
					13.86	15.16	2.76	
350	**355,6**	14.22	14	**378**	402	435	70	M24
					15.83	17.13	2.76	
	368	14.72		14.88	402	435	70	M24
					15.83	17.13	2.76	
400	**406,4**	16.26	16	**428**	452	487	70	M24
					17.80	19.17	2.76	
	419	16.76		16.85	452	487	70	M24
					17.80	19.17	2.76	
500	**508**	20.32	20	**530**	554	589	70	M24
					21.81	23.19	2.76	
	521	20.84		20.87	554	589	70	M24
					21.81	23.19	2.76	

Alternative materials and surface finishings are available upon request. Consult STAUFF for further information.

Rubber-Shrouded Round Steel U-Bolt Type RSU





Product Features

By preventing the direct metal-to-metal contact, STAUFF Rubber-Shrouded Round Steel U-Bolts, type RSU are primarily utilised in order to:

- Reduce or eliminate noise and fatigue due to vibration of pipework against the supporting structure
- Prevent galvanic corrosion due to the contact of dissimilar metals in the presence of an electrolyte
- Prevent wear and / or crushing of composite, thin-walled or non ferrous pipework and less resilient cabling

Applications

STAUFF Rubber-Shrouded Round Steel U-Bolts, type RSU have been developed over a number of years to meet the arduous and very specific requirements of process pipework and cabling engineers worldwide.

Materials

Standard material for STAUFF Rubber-Shrouded Round Steel U-Bolts, type RSU is Carbon Steel, electroplated with zinc. Both can also be supplied with alternative surface finishings, or can be manufactured from Stainless Steel, grades V2A and V4A. Consult STAUFF for further information.

STAUFF offers a wide range of shroud and pipe support materials that have been developed and selected to provide optimum performance over a wide range of applications.

Materials include a high-temperature Silicone based solution that is suitable for most applications within a temperature range of -60 °C ... +300 °C (-76 °F ... +572 °F) with excellent resistance to fire (flame rating of UL94-V0), very low toxicity and the ability to operate continously at +300 °C (+572 °F) with only minimum loss of properties.

Please consult STAUFF and ask for detailed material specifications. Alternative materials are available upon request.

Sizes

STAUFF Rubber-Shrouded Round Steel U-Bolts, type RSU are available for almost all commonly used pipe and tube diameters, made of Steel, Stainless Steel, Copper as well as Cupro-Nickel:

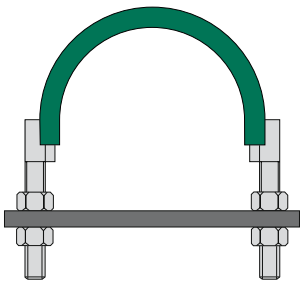
- Nominal pipe sizes: up to DN 400
- Outside diameters: 21 mm ... 407 mm / .93 in ... 16.02 in

Approvals

STAUFF Rubber-Shrouded Round Steel U-Bolts, type RSU are particularly specified for use in Defence and Marine applications.

They have been tested and approved for bulk use in surface ships and sub-marines from a fire characteristics point of view according to Def Stan 07-247 („Selection of Materials on the Basis of their Fire Characteristics“) of the UK Ministry of Defence.

Rubber-Lined Flat Steel U-Bolt Type LUS





Product Features

By preventing the direct metal-to-metal contact, STAUFF Rubber-Lined Flat Steel U-Bolts, type LUS are primarily utilised in order to:

- Reduce or eliminate noise and fatigue due to vibration of pipework against the supporting structure
- Prevent galvanic corrosion due to the contact of dissimilar metals in the presence of an electrolyte
- Prevent wear and / or crushing of composite, thin-walled or non ferrous pipework and less resilient cabling

Applications

STAUFF Rubber-Lined Flat Steel U-Bolts, type LUS have been developed over a number of years to meet the arduous and very specific requirements of process pipework and cabling engineers worldwide.

Materials

Standard material for STAUFF Rubber-Lined Flat Steel U-Bolts, type LUS is Carbon Steel, electroplated with zinc. Both can also be supplied with alternative surface finishings, or can be manufactured from Stainless Steel, grades V2A and V4A. Consult STAUFF for further information.

STAUFF offers a wide range of shroud and pipe support materials that have been developed and selected to provide optimum performance over a wide range of applications.

Materials include a high-temperature Silicone based solution that is suitable for most applications within a temperature range of -60 °C ... +300 °C (-76 °F ... +572 °F) with excellent resistance to fire (flame rating of UL94-V0), very low toxicity and the ability to operate continously at +300 °C (+572 °F) with only minimum loss of properties.

Please consult STAUFF and ask for detailed material specifications. Alternative materials are available upon request.

Sizes

STAUFF Rubber-Lined Flat Steel U-Bolts, type LUS are available for almost all commonly used pipe and tube diameters, made of Steel, Stainless Steel, Copper as well as Cupro-Nickel:

- Nominal pipe sizes: up to DN 700
- Outside diameters: 21 mm ... 740 mm / .93 in ... 29.13 in

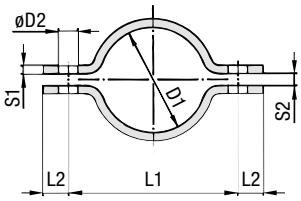
Approvals

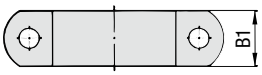
STAUFF Rubber-Lined Flat Steel U-Bolts, type LUS are particularly specified for use in Defence and Marine applications.

They have been tested and approved for bulk use in surface ships and sub-marines from a fire characteristics point of view according to Def Stan 07-247 („Selection of Materials on the Basis of their Fire Characteristics“) of the UK Ministry of Defence.

Metal Pipe Clamp with Rounded Ends







Order Codes

Clamp Assembly ***DIN 3567 A*-20*W1**

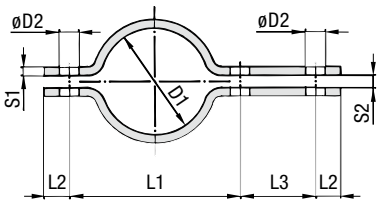
One clamp assembly is consisting of two clamp halves.
Hexagon head bolts and nuts are not included.

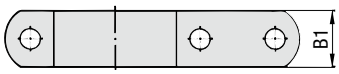
- * Clamp Assembly to DIN 3567, type A — **DIN 3567 A**
- * STAUFF Group (Ø D1) — **-20**
- * Material code Carbon Steel, untreated — **W1**

STAUFF Group	Nominal Size		Dimensions (mm/in)						Accessories
		Pipe							Hexagon Head Bolts
Ø D1	(mm)	(in)	L1	L2	S1	S2	D2	B1	(Hexagon Head Nuts)
20	15		57	15	5	7	11.5	30	
			2.24	.59	.20	.28	.45	1.18	
22			59	15	5	7	11.5	30	
			2.32	.59	.20	.28	.45	1.18	
25	20		62	15	5	7	11.5	30	
			2.44	.59	.20	.28	.45	1.18	
27		3/4	66	15	5	7	11.5	30	
			2.60	.59	.20	.28	.45	1.18	
30	25		68	15	5	7	11.5	30	M10 x 30
			2.68	.59	.20	.28	.45	1.18	(M10)
34		1	72	15	5	7	11.5	30	3/8–16 UNC x 1-1/4
			2.83	.59	.20	.28	.45	1.18	(3/8–16 UNC)
38	32		76	15	5	7	11.5	30	
			2.99	.59	.20	.28	.45	1.18	
43		1-1/4	82	15	5	7	11.5	30	
			3.23	.59	.20	.28	.45	1.18	
45	40		84	15	5	7	11.5	30	
			3.31	.59	.20	.28	.45	1.18	
49		1-1/2	88	15	5	7	11.5	30	
			3.46	.59	.20	.28	.45	1.18	
57	50		104	18	6	9	14	40	
			4.09	.71	.24	.35	.55	1.57	
61	50	2	108	18	6	9	14	40	M12 x 35
			4.25	.71	.24	.35	.55	1.57	(M12)
77	65	2-1/2	122	18	6	9	14	40	7/16–14 UNC x 1-3/8
			4.80	.71	.24	.35	.55	1.57	(7/16–14 UNC)
89	80	3	136	18	6	9	14	40	
			5.35	.71	.24	.35	.55	1.57	
108	100		172	24	8	11	18	50	
			6.77	.94	.31	.43	.71	1.97	
115		4	178	24	8	11	18	50	
			7.01	.94	.31	.43	.71	1.97	
133	125		196	24	8	11	18	50	
			7.72	.94	.31	.43	.71	1.97	
140			204	24	8	11	18	50	
			8.03	.94	.31	.43	.71	1.97	M16 x 45
159	150		222	24	8	11	18	50	(M16)
			8.74	.94	.31	.43	.71	1.97	5/8–11 UNC x 1-3/4
169			232	24	8	11	18	50	(5/8–11 UNC)
			9.13	.94	.31	.43	.71	1.97	
194	175		258	24	8	11	18	50	
			10.16	.94	.31	.43	.71	1.97	
216	200		280	24	8	11	18	50	
			11.02	.94	.31	.43	.71	1.97	
220			284	24	8	11	18	50	
			11.18	.94	.31	.43	.71	1.97	
267	250		342	30	8	14	23	60	
			13.46	1.18	.31	.55	.91	2.36	
273			348	30	8	14	23	60	
			13.70	1.18	.31	.55	.91	2.36	M20 x 50
318	300		392	30	8	14	23	60	(M20)
			15.43	1.18	.31	.55	.91	2.36	3/4–10 UNC x 2
324			398	30	8	14	23	60	(3/4–10 UNC)
			15.67	1.18	.31	.55	.91	2.36	
368	350		444	30	8	14	23	60	
			17.48	1.18	.31	.55	.91	2.36	
407	400		498	36	10	18	27	70	
			19.61	1.42	.39	.71	1.06	2.76	M24 x 60
419			510	36	10	18	27	70	(M24)
			10.08	1.42	.39	.71	1.06	2.76	7/8–9 UNC 2-3/8
521	500		614	36	10	18	27	70	(7/8–9 UNC)
			24.17	1.42	.39	.71	1.06	2.76	

Alternative materials and surface finishings are available upon request. Consult STAUFF for further information.

Metal Pipe Clamp with Rounded Ends and One-Side Elongated Shaft







STAUFF Group Ø D1	Nominal Size (mm)	Nominal Size Pipe (in)	Dimensions (mm/in) L1	L2	L3	S1	S2	D2	B1	Accessories Hexagon Head Bolts (Hexagon Head Nuts)
20	15		57	15	46	5	7	11.5	30	
			2.24	.59	1.81	.20	.28	.45	1.18	
22			59	15	46	5	7	11.5	30	
			2.32	.59	1.81	.20	.28	.45	1.18	
25	20		62	15	46	5	7	11.5	30	
			2.44	.59	1.81	.20	.28	.45	1.18	
27		3/4	66	15	46	5	7	11.5	30	
			2.60	.59	1.81	.20	.28	.45	1.18	
30	25		68	15	46	5	7	11.5	30	M10 x 30
			2.68	.59	1.81	.20	.28	.45	1.18	(M10)
34		1	72	15	46	5	7	11.5	30	3/8–16 UNC x 1-1/4
			2.83	.59	1.81	.20	.28	.45	1.18	(3/8–16 UNC)
38	32		76	15	46	5	7	11.5	30	
			2.99	.59	1.81	.20	.28	.45	1.18	
43		1-1/4	82	15	46	5	7	11.5	30	
			3.23	.59	1.81	.20	.28	.45	1.18	
45	40		84	15	46	5	7	11.5	30	
			3.31	.59	1.81	.20	.28	.45	1.18	
49		1-1/2	88	15	46	5	7	11.5	30	
			3.46	.59	1.81	.20	.28	.45	1.18	
57	50		104	18	54	6	9	14	40	
			4.09	.71	2.13	.24	.35	.55	1.57	
61	50	2	108	18	54	6	9	14	40	M12 x 35
			4.25	.71	2.13	.24	.35	.55	1.57	(M12)
77	65	2-1/2	122	18	54	6	9	14	40	7/16–14 UNC x 1-3/8
			4.80	.71	2.13	.24	.35	.55	1.57	(7/16–14 UNC)
89	80	3	136	18	54	6	9	14	40	
			5.35	.71	2.13	.24	.35	.55	1.57	
108	100		172	24	70	8	11	18	50	
			6.77	.94	2.76	.31	.43	.71	1.97	
115		4	178	24	70	8	11	18	50	
			7.01	.94	2.76	.31	.43	.71	1.97	
133	125		196	24	70	8	11	18	50	
			7.72	.94	2.76	.31	.43	.71	1.97	
140			204	24	70	8	11	18	50	
			8.03	.94	2.76	.31	.43	.71	1.97	M16 x 45
159	150		222	24	70	8	11	18	50	(M16)
			8.74	.94	2.76	.31	.43	.71	1.97	5/8–11 UNC x 1-3/4
169			232	24	70	8	11	18	50	(5/8–11 UNC)
			9.13	.94	2.76	.31	.43	.71	1.97	
194	175		258	24	70	8	11	18	50	
			10.16	.94	2.76	.31	.43	.71	1.97	
216	200		280	24	70	8	11	18	50	
			11.02	.94	2.76	.31	.43	.71	1.97	
220			284	24	70	8	11	18	50	
			11.18	.94	2.76	.31	.43	.71	1.97	
267	250		342	30	86	8	14	23	60	
			13.46	1.18	3.39	.31	.55	.91	2.36	
273			348	30	86	8	14	23	60	
			13.70	1.18	3.39	.31	.55	.91	2.36	M20 x 50
318	300		392	30	86	8	14	23	60	(M20)
			15.43	1.18	3.39	.31	.55	.91	2.36	3/4–10 UNC x 2
324			398	30	86	8	14	23	60	(3/4–10 UNC)
			15.67	1.18	3.39	.31	.55	.91	2.36	
368	350		444	30	86	8	14	23	60	
			17.48	1.18	3.39	.31	.55	.91	2.36	
407	400		498	36	104	10	18	27	70	
			19.61	1.42	4.09	.39	.71	1.06	2.76	M24 x 60
419			510	36	104	10	18	27	70	(M24)
			10.08	1.42	4.09	.39	.71	1.06	2.76	7/8–9 UNC 2-3/8
521	500		614	36	104	10	18	27	70	(7/8–9 UNC)
			24.17	1.42	4.09	.39	.71	1.06	2.76	

Order Codes

Clamp Assembly ***DIN 3567 B*-20*W1**

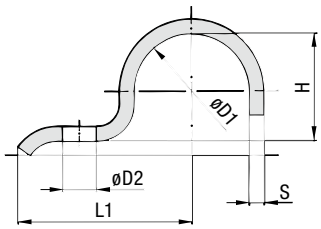
One clamp assembly is consisting of two clamp halves. Hexagon head bolts and nuts are not included.

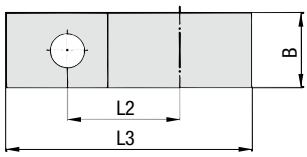
* Clamp Assembly to DIN 3567, type B		**DIN 3567 B**
* STAUFF Group (Ø D1)		**-20**
* Material code	Carbon Steel, untreated	**W1**

Alternative materials and surface finishings are available upon request. Consult STAUFF for further information.

Heavy Saddle ▪ Single-Ended Design







Order Codes

Heavy Saddle ***DIN 1592*-7*W66**

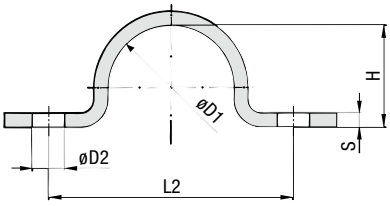
* Heavy Saddle to DIN 1592		**DIN 1592**
* STAUFF Group (Ø D1)		**-7**
* Material code	Carbon Steel, untreated	**W1**
	Carbon Steel, zinc-plated and thick-film passivated	**W66**

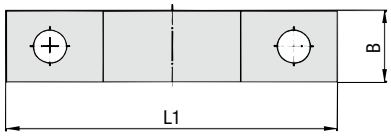
STAUFF Group	Diameter Range		Dimensions (mm/in)						
Ø D1	(mm)	(in)	L1	L2	L3	H	D2	B	S
7	5,5 ... 7	.22 ... .28	22	14	27,5	5	6,6	16	2
			.87	.55	1.08	.20	.26	.63	.08
9	7 ... 9	.28 ... .35	27	18	33,5	6	6,6	20	2
			1.06	.71	1.32	.24	.26	.79	.08
13	9,5 ... 13	.39 ... .51	40	25	49,5	9	11	25	3
			1.57	.98	1.95	.35	.43	.98	.12
15,5	13 ... 15,5	.51 ... .61	41	26	52	12	11	25	3
			1.61	1.02	2.05	.47	.43	.98	.12
19	15,5 ... 19	.61 ... .75	43	28	55,5	15	11	25	3
			1.69	1.10	2.19	.59	.43	.98	.12
23	20 ... 23	.79 ... .91	51	35	67	19	14	30	5
			2.01	1.38	2.64	.75	.55	1.18	.20
26	23 ... 26	.91 ... 1.02	52	36	70	22	14	30	5
			2.05	1.42	2.76	.87	.55	1.18	.20
28,5	26 ... 28,5	1.02 ... 1.12	53	37	73	24	14	30	5
			2.09	1.46	2.87	.94	.55	1.18	.20
31	28,5 ... 31	1.12 ... 1.22	55	39	75,5	27	14	30	5
			2.17	1.54	2.97	1.06	.55	1.18	.20
36	33 ... 36	1.30 ... 1.42	57	41	81	32	14	40	5
			2.24	1.61	3.19	1.26	.55	1.57	.20
39	36 ... 39	1.42 ... 1.54	59	43	83,5	34	14	40	5
			2.32	1.69	3.29	1.34	.55	1.57	.20
43	39 ... 43	1.54 ... 1.69	68	48	94,5	38	18	40	5
			2.68	1.89	3.72	1.50	.71	1.57	.20
46	43 ... 46	1.69 ... 1.81	70	50	98	41	18	40	5
			2.76	1.97	3.86	1.61	.71	1.57	.20
49	46 ... 49	1.81 ... 1.93	73	53	105,5	44	18	40	8
			2.87	2.09	4.15	1.73	.71	1.57	.31
52 *	49 ... 52	1.93 ... 2.05	76	56	110	47	18	40	8
			2.99	2.20	4.33	1.85	.71	1.57	.31
58	53 ... 58	2.09 ... 2.28	78	58	115	52	18	40	8
			3.07	2.28	4.53	2.05	.71	1.57	.31
61	58 ... 61	2.28 ... 2.40	80	60	118,5	57	18	40	8
			3.15	2.36	4.67	2.24	.71	1.57	.31

* Similar to DIN 1592.

Alternative materials and surface finishings are available upon request. Consult STAUFF for further information.

Heavy Saddle ▪ Double-Ended Design







STAUFF Group	Diameter Range		Dimensions (mm/in)					
Ø D1	(mm)	(in)	L1	L2	H	D2	B	S
7	5,5 ... 7	.22 ... .28	44	28	5	6,6	16	2
			1.73	1.10	.20	.26	.63	.08
9	7 ... 9	.28 ... .35	48	32	6	6,6	20	2
			1.89	1.26	.24	.26	.79	.08
13	9,5 ... 13	.39 ... .51	52	36	9	6,6	20	2
			2.05	1.42	.35	.26	.79	.08
15,5	13 ... 15,5	.51 ... .61	56	40	12	6,6	20	2
			2.20	1.57	.47	.26	.79	.08
19	15,5 ... 19	.61 ... .75	60	44	15	6,6	20	2
			2.36	1.73	.59	.26	.79	.08
23	20 ... 23	.79 ... .91	82	56	19	11	25	3
			3.23	2.20	.75	.43	.98	.12
26	23 ... 26	.91 ... 1.02	84	58	22	11	25	3
			3.31	2.28	.87	.43	.98	.12
28,5	26 ... 28,5	1.02 ... 1.12	90	64	24	11	25	3
			3.54	2.52	.94	.43	.98	.12
31	28,5 ... 31	1.12 ... 1.22	90	64	27	11	25	3
			3.54	2.52	1.06	.43	.98	.12
36	33 ... 36	1.30 ... 1.42	106	80	32	11	30	5
			4.17	3.15	1.26	.43	1.18	.20
39	36 ... 39	1.42 ... 1.54	110	84	34	11	30	5
			4.33	3.31	1.34	.43	1.18	.20
43	39 ... 43	1.54 ... 1.69	120	88	38	14	30	5
			4.72	3.46	1.50	.55	1.18	.20
46	43 ... 46	1.69 ... 1.81	122	90	41	14	30	5
			4.80	3.54	1.61	.55	1.18	.20
49	46 ... 49	1.81 ... 1.93	122	90	44	14	30	5
			4.80	3.54	1.73	.55	1.18	.20
58	53 ... 58	2.09 ... 2.28	142	110	52	14	40	5
			5.59	4.33	2.05	.55	1.57	.20
61	58 ... 61	2.28 ... 2.40	142	110	57	14	40	5
			5.59	4.33	2.24	.55	1.57	.20
71	67 ... 71	2.64 ... 2.80	152	120	66	14	40	5
			5.98	4.72	2.60	.55	1.57	.20
77	73 ... 77	2.87 ... 3.03	176	136	72	18	40	5
			6.93	5.35	2.83	.71	1.57	.20
81	77 ... 81	3.03 ... 3.19	184	144	76	18	40	5
			7.24	5.67	2.99	.71	1.57	.20
91	88 ... 91	3.39 ... 3.58	198	158	85	18	40	8
			7.80	6.22	3.35	.71	1.57	.31
103	99 ... 103	3.90 ... 4.06	214	174	98	18	40	8
			8.43	6.85	3.86	.71	1.57	.31
109	105 ... 109	4.13 ... 4.29	220	180	104	18	40	8
			8.66	7.09	4.09	.71	1.57	.31
115	110 ... 115	4.33 ... 4.53	226	186	109	18	40	8
			8.90	7.32	4.29	.71	1.57	.31

Order Codes

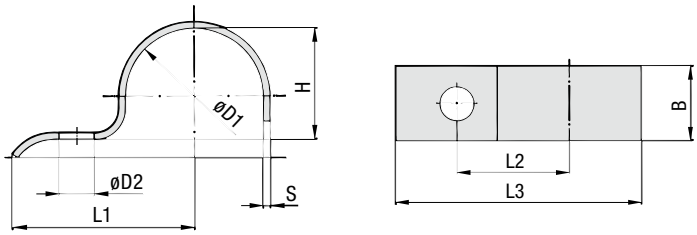
Heavy Saddle ***DIN 1593*-7*W66**

* Heavy Saddle to DIN 1593		**DIN 1593**
* STAUFF Group (Ø D1)		**-7**
* Material code	Carbon Steel, untreated	**W1**
	Carbon Steel, zinc-plated and thick-film passivated	**W66**

Alternative materials and surface finishings are available upon request. Consult STAUFF for further information.

Light Saddle ▪ Single-Ended Design





Order Codes

Light Saddle ***DIN 1596*-7*W66**

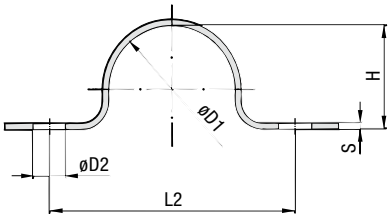
* Light Saddle to DIN 1596		**DIN 1596**
* STAUFF Group (Ø D1)		**-7**
* Material code	Carbon Steel, zinc-plated and thick-film passivated	**W66**

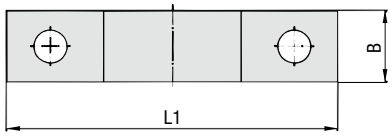
STAUFF Group	Diameter Range		Dimensions (mm/in)						
Ø D1	(mm)	(in)	L1	L2	L3	H	D2	B	S
7	5,5 ... 7	.22 ... .28	26 1.02	14 .55	31,5 1.24	5 .20	6,6 .26	16 .63	2 .08
9	7 ... 9	.28 ... .35	28 1.10	16 .63	34,5 1.36	6 .24	6,6 .26	16 .63	2 .08
13	9,5 ... 13	.39 ... .51	30 1.18	18 .71	38,5 1.52	9 .35	6,6 .26	20 .79	2 .08
15,5	13 ... 15,5	.51 ... .61	32 1.26	20 .79	41,75 1.64	12 .47	6,6 .26	20 .79	2 .08
19	15,5 ... 19	.61 ... .75	34 1.34	22 .87	45,5 1.79	15 .59	6,6 .26	20 .79	2 .08
23	20 ... 23	.79 ... .91	43 1.69	28 1.10	57,5 2.26	19 .75	9 .35	25 .98	3 .12
26	23 ... 26	.91 ... 1.02	44 1.73	29 1.14	60 2.36	22 .87	9 .35	25 .98	3 .12
28,5	26 ... 28,5	1.02 ... 1.12	47 1.85	32 1.26	64,25 2.53	24 .94	9 .35	25 .98	3 .12
31	28,5 ... 31	1.12 ... 1.22	47 1.85	32 1.26	65,5 2.58	27 1.06	9 .35	25 .98	3 .12
33 *	31 ... 33	1.22 ...1.30	56 2.20	36 1.42	75,5 2.97	29 1.14	9 .35	25 .98	3 .12
36	33 ... 36	1.30 ... 1.42	57 2.24	40 1.57	78 3.07	32 1.26	11 .43	30 1.18	3 .12
39	36 ... 39	1.42 ... 1.54	59 2.32	42 1.65	81,5 3.21	34 1.34	11 .43	30 1.18	3 .12
43	39 ... 43	1.54 ... 1.69	61 2.40	44 1.73	85,5 3.37	38 1.50	11 .43	30 1.18	3 .12
46	43 ... 46	1.69 ... 1.81	62 2.44	45 1.77	88 3.46	41 1.61	11 .43	30 1.18	3 .12
49	46 ... 49	1.81 ... 1.93	67 2.64	48 1.89	95,5 3.76	44 1.73	14 .55	40 1.57	4 .16
52 *	49 ... 52	1.93 ... 2.05	72 2.83	53 2.09	102 4.02	47 1.85	14 .55	40 1.57	4 .16
58	53 ... 58	2.09 ... 2.28	76 2.99	55 2.17	107 4.21	52 2.05	14 .55	40 1.57	4 .16
61	58 ... 61	2.28 ... 2.40	77 3.03	58 2.28	111,5 4.39	56 2.20	14 .55	40 1.57	4 .16

* Similar to DIN 1596.

Alternative materials and surface finishings are available upon request. Consult STAUFF for further information.

Light Saddle ▪ Double-Ended Design







STAUFF Group	Diameter Range		Dimensions (mm/in)					
Ø D1	(mm)	(in)	L1	L2	H	D2	B	S
7	5,5 ... 7	.22 ... .28	44	28	5	5,5	16	1,5
			1.73	1.10	.20	.22	.63	.06
9	7 ... 9	.28 ... .35	48	32	6	5,5	16	1,5
			1.89	1.26	.24	.22	.63	.06
13	9,5 ... 13	.39 ... .51	52	36	9	5,5	16	1,5
			2.05	1.42	.35	.22	.63	.06
15,5	13 ... 15,5	.51 ... .61	56	40	12	5,5	16	1.5
			2.20	1.57	.47	.22	.63	.06
19	15,5 ... 19	.61 ... .75	60	44	15	5,5	16	.5
			2.36	1.73	.59	.22	.63	.02
23	20 ... 23	.79 ... .91	76	44	19	6,6	20	2
			2.99	1.73	.75	.26	.79	.08
26	23 ... 26	.91 ... 1.02	78	56	22	6,6	20	2
			3.07	2.20	.87	.26	.79	.08
28,5	26 ... 28,5	1.02 ... 1.12	84	58	24	6,6	20	2
			3.31	2.28	.94	.26	.79	.08
31	28,5 ... 31	1.12 ... 1.22	84	64	27	6,6	20	2
			3.31	2.52	1.06	.26	.79	.08
33 *	31 ... 33	1.22 ...1.30	92	72	29	6,6	20	2
			3.62	2.83	1.14	.26	.79	.08
36	33 ... 36	1.30 ... 1.42	104	80	32	9	25	3
			4.09	3.15	1.26	.35	.98	.12
39	36 ... 39	1.42 ... 1.54	108	84	34	9	25	3
			4.25	3.31	1.34	.35	.98	.12
43	39 ... 43	1.54 ... 1.69	112	88	38	9	25	3
			4.41	3.46	1.50	.35	.98	.12
46	43 ... 46	1.69 ... 1.81	114	90	41	9	25	3
			4.49	3.54	1.61	.35	.98	.12
49	46 ... 49	1.81 ... 1.93	118	90	44	11	30	3
			4.65	3.54	1.73	.43	1.18	.12
52 *	49 ... 52	1.93 ... 2.05	134	106	47	11	30	3
			5.28	4.17	1.85	.43	1.18	.12
58	53 ... 58	2.09 ... 2.28	138	110	52	11	30	3
			5.43	4.33	2.05	.43	1.18	.12
61	58 ... 61	2.28 ... 2.40	138	110	56	11	30	3
			5.43	4.33	2.20	.43	1.18	.12

Order Codes

Light Saddle ***DIN 1597*-7*W66**

* Light Saddle to DIN 1597		**DIN 1597**
* STAUFF Group (Ø D1)		**-7**
* Material code	Carbon Steel, zinc-plated and thick-film passivated	**W66**

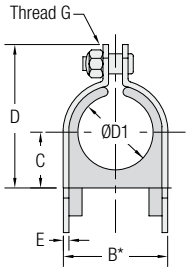
* Similar to DIN 1597.

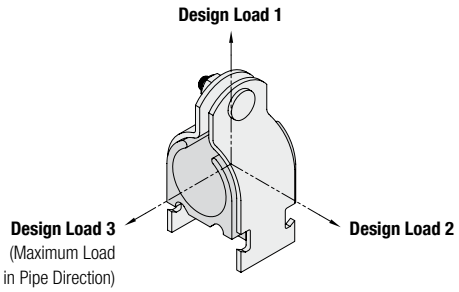
Alternative materials and surface finishings are available upon request. Consult STAUFF for further information.

Clamp Assembly ▪ Types STC / SPC

(for Use with Channel Rail SCS)







Outside Diameter Pipe / Tube / Hose Ø D1		Nominal Bore Pipe	Order Codes 1 Clamp Assembly Components Supplied Separately	1 Standard Packaging Unit Components Packed in Kits	Standard Packaging Units	Dimensions (mm/in)					Design Loads (kN/lbf)		
(mm)	(in)	(in)	(✱✱ = Material Code)	(✱✱ = Material Code)	pcs.	B*	C	D	E	Thread G	1	2	3
6,4	1/4		STC 025 ✱✱	STC 025 ✱✱ - 24 #K	24 / box	15,7 .62	5,6 0.22	28,2 1.11	2 .08	1/4–20 UNC	1,78 400	0,22 50	0,22 50
8	3/8		STC 037 ✱✱	STC 037 ✱✱ - 24 #K	24 / box	19,1 .75	7,1 0.28	31,5 1.24	2 .08	1/4–20 UNC	1,78 400	0,22 50	0,22 50
12,7	1/2		STC 050 ✱✱	STC 050 ✱✱ - 24 #K	24 / box	22,1 .87	8,6 0.34	34,5 1.36	2 .08	1/4–20 UNC	1,78 400	0,22 50	0,22 50
13,5		1/4	SPC 025 ✱✱	SPC 025 ✱✱ - 24 #K	24 / box	23,1 .91	9,1 0.36	35,8 1.41	2 .08	1/4–20 UNC	1,78 400	0,22 50	0,22 50
16	5/8		STC 062 ✱✱	STC 062 ✱✱ - 24 #K	24 / box	25,4 1.00	10,4 0.41	38,1 1.50	2 .08	1/4–20 UNC	1,78 400	0,22 50	0,22 50
17,2		3/8	SPC 037 ✱✱	SPC 037 ✱✱ - 24 #K	24 / box	27,2 1.07	11,4 0.45	40,4 1.59	2 .08	1/4–20 UNC	2,67 600	0,33 75	0,33 75
19	3/4		STC 075 ✱✱	STC 075 ✱✱ - 24 #K	24 / box	33,8 1.33	13,5 0.53	45,2 1.78	2 .08	1/4–20 UNC	2,67 600	0,33 75	0,33 75
21,3		1/2	SPC 050 ✱✱	SPC 050 ✱✱ - 24 #K	24 / box	36,8 1.45	15,0 0.59	48,5 1.91	2 .08	1/4–20 UNC	2,67 600	0,33 75	0,33 75
22,2	7/8		STC 087 ✱✱	STC 087 ✱✱ - 24 #K	24 / box	36,8 1.45	14,7 0.58	48,5 1.91	2 .08	1/4–20 UNC	2,67 600	0,33 75	0,33 75
25,4	1		STC 100 ✱✱	STC 100 ✱✱ - 12 #K	12 / box	42,2 1.66	16,8 0.66	51,6 2.03	2,8 .11	1/4–20 UNC	2,67 600	0,33 75	0,33 75
26,9		3/4	SPC 075 ✱✱	SPC 075 ✱✱ - 12 #K	12 / box	45,5 1.79	18,3 0.72	54,9 2.16	2,8 .11	1/4–20 UNC	2,67 600	0,33 75	0,33 75
32	1-1/4		STC 125 ✱✱	STC 125 ✱✱ - 12 #K	12 / box	48,8 1.92	19,8 0.78	58,4 2.30	2,8 .11	1/4–20 UNC	2,67 600	0,33 75	0,33 75
33,7		1	SPC 100 ✱✱	SPC 100 ✱✱ - 12 #K	12 / box	56,4 2.22	23,1 0.91	69,9 2.75	3 .12	5/16–18 UNC	2,67 600	0,33 75	0,33 75
38	1-1/2		STC 150 ✱✱	STC 150 ✱✱ - 12 #K	12 / box	56,4 2.22	23,1 0.91	69,9 2.75	3 .12	5/16–18 UNC	2,67 600	0,33 75	0,33 75
42		1-1/4	SPC 125 ✱✱	SPC 125 ✱✱ - 12 #K	12 / box	62,7 2.47	26,2 1.03	77,0 3.03	3 .12	5/16–18 UNC	3,56 800	0,56 125	0,56 125
48,3		1-1/2	SPC 150 ✱✱	SPC 150 ✱✱ - 12 #K	12 / box	62,7 2.47	29,5 1.16	83,3 3.28	3 .12	5/16–18 UNC	3,56 800	0,56 125	0,56 125
50,8	2		STC 200 ✱✱	STC 200 ✱✱ - 12 #K	12 / box	69,1 2.72	29,5 1.16	83,3 3.28	3 .12	5/16–18 UNC	3,56 800	0,56 125	0,56 125
60,3		2	SPC 200 ✱✱	SPC 200 ✱✱ #K	1 / bag	69,1 3.22	35,8 1.41	96,0 3.78	3 .12	5/16–18 UNC	3,56 800	0,56 125	0,56 125
63,5	2-1/2		STC 250 ✱✱	STC 250 ✱✱ #K	1 / bag	88,1 3.47	38,9 1.53	102,4 4.03	3 .12	5/16–18 UNC	3,56 800	0,56 125	0,56 125
66,7	2-5/8		STC 262 ✱✱	STC 262 ✱✱ #K	1 / bag	88,1 3.47	38,9 1.53	102,4 4.03	3 .12	5/16–18 UNC	3,56 800	0,56 125	0,56 125
73		2-1/2	SPC 250 ✱✱	SPC 250 ✱✱ #K	1 / bag	94,5 3.72	42,2 1.66	108,5 4.27	3 .12	5/16–18 UNC	3,56 800	0,56 125	0,56 125
76,2	3		STC 300 ✱✱	STC 300 ✱✱ #K	1 / bag	100,8 3.97	45,2 1.78	114,8 4.52	3 .12	5/16–18 UNC	4,45 1 000	0,89 200	0,67 150
88,9		3	SPC 300 ✱✱	SPC 300 ✱✱ #K	1 / bag	110,7 4.36	50,0 1.97	124,7 4.91	3 .12	3/8–16 UNC	4,45 1 000	0,89 200	0,67 150
102		3-1/2	SPC 350 ✱✱	SPC 350 ✱✱ #K	1 / bag	126,2 4.97	57,9 2.28	140,5 5.53	3 .12	3/8–16 UNC	4,45 1 000	0,89 200	0,67 150
114		4	SPC 400 ✱✱	SPC 400 ✱✱ #K	1 / bag	138,9 5.47	64,3 2.53	153,2 6.03	3 .12	3/8–16 UNC	4,45 1 000	0,89 200	0,67 150
140		5	SPC 500 ✱✱	SPC 500 ✱✱ #K	1 / bag	164,3 6.47	77,0 3.03	178,6 7.03	3,6 .14	3/8–16 UNC	4,45 1 000	0,89 200	0,67 150
168		6	SPC 600 ✱✱	SPC 600 ✱✱ #K	1 / bag	189,7 7.47	89,7 3.53	204,0 8.03	3,6 .14	3/8–16 UNC	4,45 1 000	0,89 200	0,67 150

* Minimum required for installation.

One clamp assembly is consisting of two carbon steel clamp halves (one with threaded stud), one thermoplastic cushion insert and one lock nut with Nylon insert. Channel rail not included. All threaded parts are only available with unified coarse (UNC) thread. Alternative materials and surface finishings are available upon request. Consult STAUFF for further information.

Clamp Assembly ▪ Types STC / SPC

(for Use with Channel Rail SCS)





Standard Materials



Cushion Insert
Thermoplastic Elastomer (40 Shore-A)
Colour: Black

The cushion material is compatible with most oils, chemicals and cleaning solvents and suitable for applications within a temperature range of -50 °C ... +125 °C (-58 °F ... +257 °F).

Alternative materials are available upon request.
Please consult STAUFF for further information.

Product Features

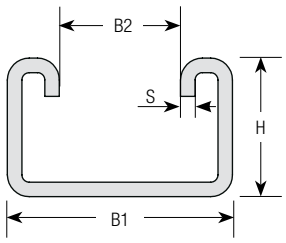
- Clamp assemblies designed to mount directly to 41,3 mm / 1-5/8 in wide strut channels, such as the STAUFF Channel Rail, type SCS
- Suitable for most Fluid Power applications ranging from mobile equipment to industrial machinery
- Reduced horizontal mounting space
- Easy installation and retro fit capability
- Reduces shock and vibration while preventing galvanic corrosion

Order Codes

Clamp Assembly ***STC*-125*-W4*-12*-#K**

* Type of clamp	STC (Tube diameters) SPC (Pipe diameters)	**STC** **SPC**
* Pipe / Tube O.D.	(according to dimension table)	**-125**
* Material code	Carbon Steel, zinc-plated, trivalent blue chromated Stainless Steel V2A 1.4301 (AISI 304) Stainless Steel V4A 1.4401 (AISI 316)	**W3** **W4** **W5**
* Box Quantity	Components for one assembly Components for 12 assemblies Components for 24 assemblies Please see dimension table for standard packaging units.	**-** **12** **24**
Assembling	Components supplied separately Components packed in kits	**-** **#K**

Channel Rail ▪ Type SCS





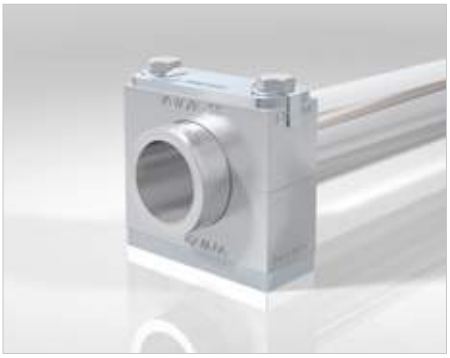
Dimensions (mm/in)			
B1	**B2**	**H**	**S**
41,3	22,2	25,4	2,7
1.63 (1-5/8)	.88 (7/8)	1.00	.11

Alternative rail profiles, materials and surface finishings are available upon request. Consult STAUFF for further information.

Order Codes

Strut Channel ***SCS*048*1*PL**

* Strut Channel		**SCS**
* Length of Rail	1,22 m / 4.00 ft / 48 in 3,05 m / 10.00 ft / 120 in	**048** **120**
* Height of Rail	25,4 mm / 1.00 in	**1**
* Material code	Carbon Steel, untreated Carbon Steel, green painted	**PL** **GR**



Power Plants

STAUFF offers a complete range of Plastic, Aluminium, Steel and Stainless Steel fastening elements for pipes, tubes and hoses in all temperature and pressure ranges, as well as for cables and other components in conventional power plants (lignite, hard coal, gas, water and others) and nuclear facilities.

With many years of experience and numerous references in equipping power plants and nuclear facilities both domestically and abroad, our portfolio ranges from the planning of individual fastening concepts, based on customer or industry-specific requirements, up to multi-stage logistics services.

- Fastening of pipes both as pipe slides, longitudinal guides or three-way stops
- Approvals and qualifications of KTA, RCC-M and ASME
- Suitability tested by the TÜV according to technical specifications and KTA 3205.3
- Identification of the products via a unique type-code
- Full tracing of all components and/or materials
- Provided with inspection documents 3.1 as per EN 10204



Wind Power Stations

In addition to the well-known, tried and tested STAUFF clamps for fastening all kind of industrial lines, we also offer industry-specific solutions for the orderly vertical installation of cables in wind power stations. When fastening these lines, special requirements are placed on the components, because the high weight of the cables must be held securely.

With many years of experience and numerous references in equipping wind power stations both domestically and abroad, our portfolio ranges from the planning of individual fastening concepts, based on customer or industry-specific requirements, up to multi-stage logistics services.

- Triangular design of the internal contours of the basic clamp body
- Accommodation of three cables with only a single cable support
- Additional adaptors can be optionally used to the extent that only two cables or lines with smaller external diameters can be fastened
- Fully flexible by always using an identical basic clamp body
- Installation in multiple layers and combination with other components and profiles
- Made of high-quality Plastics, also available in various custom
- materials in order to comply with international fire protection standards (e.g. with UL 94)



Rail Technology

In addition to the well-known, tried and tested STAUFF clamps for fastening all kind of industrial lines, we also offer industry-specific solutions for vibration and noise reducing and impact absorbing installations in rail technology related facilities.

With many years of experience and numerous references in the field of railway transportation system both domestically and abroad, our portfolio ranges from the planning of individual fastening concepts, based on customer or industry-specific requirements, up to multi-stage logistics services.

- Complete solution for all types of industrial lines
- Development in close collaboration with the customers
- Made of high-quality Plastics, also available in various custom materials in order to comply with international fire protection standards
- Amongst others, approvals based on several guidelines received, such as BS 6853, DIN 5510 - Part 2, NF F 16-101 or UL 94
- Depending on the quantities and the respective areas of application, mechanical or injection-moulded manufacturing
- Various fastening accessories made of steel and stainless steel



Process Technology

STAUFF Stainless Steel pipe clamps of the so-called Hi-Clean series were developed specifically for use in industrial clean rooms with the highest demands regarding hygiene and design. They are primarily used in the fields of process engineering and in the food, beverage and pharmaceuticals industry.

Our range of products for process technology applications is completed by the Hi-Clean pipe clamps of the Plastic series.

- Innovative, patent approved design
- Designed to comply with the specifications as defined by ASME-BPE, the American Society of Mechanical Engineers
- Suitable for pipes, tubes and other lines with outer diameters between 6,4 mm (.25 in) and 168,4 mm (6.63 in)
- Rounded-off edges and corners to prevent dirt adhesion; no exposed threads or threads covered with acorn nuts
- All Plastic components comply with the specifications of the FDA (Food and Drug Administration of the United States)
- All metal components manufactured from corrosion-resistant stainless steel, upon request with electrolytically high-gloss polished material surfaces

Standard Clamp Body Materials






Material Code	PP	PA	AL	SA
Basic Material	Copolymeric Polypropylene	Polyamide	Aluminium AlSi12	Thermoplastic Elastomer
Standard Colour	Green	Black	Natural	Black

Mechanical Properties				
Tensile E-Module	1073 N/mm² (ISO 527)	> 1400 N/mm² (ISO 527)	> 65000 N/mm²	113 N/mm² at +23 °C / +73.4 °F (ASTM D412)
Notch Impact Strength	7,5 kJ/m² at +23 °C / +73.4 °F (acc. to Charpy / ISO 179/1eA)	> 15 kJ/m² at +23 °C / +73.4 °F (acc. to Charpy / ISO 179/1eA)		
Low Temperature Notch Impact Strength	3,1 kJ/m² at -30 °C / -22.0 °F (acc. to Charpy / ISO 179/1eA)	> 3 kJ/m² at -30 °C / -22.0 °F (acc. to Charpy / ISO 179/1eA)		
Tensile Strength at Yield (Tensile Strength)	25 N/mm² (ISO 527)	> 55 N/mm² (ISO 527)	> 150 N/mm² (ISO EN 10002)	15,9 N/mm² (ASTM D412)
Ball Indentation Hardness (Brinell Hardness)	45,4 N/mm² (ISO 2039-1)	> 65 N/mm² (ISO 2039-1)	> 55 HBS	
Shore Hardness				87 A (ISO 868)

Thermal Properties				
Temperature Resistance (Continuous Exposure, Min ... Max)	-30 °C ... +90 °C / -22 °F ... +194 °F	-40 °C ... +120 °C / -40 °F ... +248 °F (Brief exposure up to +140 °C / +284 °F)	up to +300 °C / up to +572 °F	-40 °C ... +125 °C/ -40 °F ... +257 °F

Chemical Properties				
Weak Acids	conditionally consistent	conditionally consistent	conditionally consistent	consistent
Solvents	conditionally consistent	conditionally consistent	conditionally consistent	conditionally consistent
Benzine	conditionally consistent	consistent	consistent	conditionally consistent
Mineral Oils	conditionally consistent	consistent	consistent	conditionally consistent
Other Oils	consistent	consistent	consistent	consistent
Alcohols	consistent	consistent	consistent	consistent
Seawater	consistent	consistent	consistent	consistent

The information for the Polyamide material PA and the Polyamide based materials PAV0 and PA-FF have been determined in a conditioned state according to ISO 1110.
For Aluminium, the tensile strength (under reversed bending stress) and impact bending strength both rise constantly at decreasing temperatures whilst the value for breaking elongation decreases.

Standard Rubber Insert Materials



Thermoplastic Elastomer (73 Shore-A)

Standard Material for STAUFF Group 4 and 6 (Standard Series)
Standard Material for STAUFF Group 4S to 6S (Heavy Series)

Mechanical Properties

Shore Hardness:	73 A (ISO 868)
Modulus of Elasticity:	16 N/mm² at +23 °C / +73.4 °F (ASTM D 412)
Tensile Stress:	8,3 N/mm² (ASTM D 412)

Thermal Properties

Temperature Resistance: -40 °C ... +125 °C / -40 °F ... +257 °F

Chemical Properties

Consistent against weak acids and solvents;
conditionally consistent against benzine and mineral oils;
consistent against other oils, alcohols and sea water.

Elastomer (70 Shore-A)

Standard Material for STAUFF Group 7S to 10S (Heavy Series)

Mechanical Properties

Shore Hardness:	70 A (DIN 53505)
Tensile Strength at Yield:	9 N/mm² (DIN 53504)
Tensile Strain at Break:	400 % (DIN 53504)
Tear-Growth Resistance:	9 N/mm (DIN 53507-A)
Compression Set:	20 % (DIN 53517) (22 h at +70 °C / +158 °F)

Consult STAUFF for further information.

Special Clamp Body Materials (Selection)

Preventive Fire Protection







PAV0	PA-FF	PPDA	PP6853	PPV0
Polyamide	Polyamide	Polypropylene	Polypropylene	Polypropylene
Grey	Black	White	White	Black
1500 N/mm² (ISO 527-1/2)	1100 N/mm² (ISO 527-1/2)	2200 N/mm² (ISO 527) at +23 °C / +73.4 °F: 50 mm/min	1440 N/mm² (ICE 60811-1-1)	
35 kJ/m² at +23 °C / +73.4 °F (acc. to Charpy / ISO 179/1eA)	20 kJ/m² at +23 °C / +73.4 °F (acc. to Charpy / ISO 179/1eA)	11,8 kJ/m² at +23 °C / +73.4 °F (acc. to IZOD / ISO 179/1eA)	16 kJ/m² at +23 °C / +73.4 °F (acc. to IZOD / ISO 179/1eA)	5 kJ/m² at +23 °C / +73.4 °F (acc. to ISO 180/A)
		4,9 kJ/m² at -25 °C / -13.0 °F (acc. to IZOD / ISO 179/1eA)		
45 N/mm² (ISO 527-1/2)	50 N/mm² (ISO 527-1/2)	15,1 N/mm² (ISO 527) at +23 °C / +73.4 °F: 50 mm/min	20,4 N/mm² (ICE 60811-1-1)	25 N/mm² (ISO 527)
100 N/mm² (ISO 2039-1)	100 N/mm² (ISO 2039-1)			
-30 °C ... +120 °C / -22 °F ... +248 °F	-30 °C ... +120 °C / -22 °F ... +248 °F	-25 °C ... +90 °C / -13 °F ... +194 °F	-25 °C ... +90 °C / -13 °F ... +194 °F	-25 °C ... +90 °C / -13 °F ... +194 °F
				Approvals / Special Properties
Tested and approved according to UL94 (Vertical Burning Test) ▪ Classification: 94V-0 (thickness: 0,4mm) **Tested and approved according to DIN 5510, Part 2** ▪ Combustibility classification: S3 ▪ Smoke development classification: SR2 ▪ Dripping classification: ST2 **Tested and approved according to NF F 16-101** ▪ Classification: I2 / F2 **Halogen- and phosphor-free flame retardant system** **Oxygen index: 34,0%** (according to ISO 4589-2) **Flammability temperature: 299 °C / 570 °F** (according to ISO 4589-3, Annex A) **High durability, good UV, weathering and chemical resistance**	**Tested and approved according to DIN 5510, Part 2** ▪ Combustibility classification: S4 ▪ Smoke development classification: SR2 ▪ Dripping classification: ST2 **Oxygen index: 28,0%** (according to ISO 4589-2) **Flammability temperature: 327 °C / 621 °F** (according to ISO 4589-3, Annex A) **High durability (even at low temperatures), mechanical strength and rigidity, good attrition resistance and fatigue strength, good UV resistance**	**Tested and approved according to Def Stan 07-247** ▪ Assessment: category B **Approved by the UK Ministry of Defence (MoD)** **Smoke index: 11,1%** (according to Def Stan 02-711, thickness: 3,0 mm) **Halogen-free flame retardant system** **Toxicity index: 0,9 / 100 g** (according to Def Stan 02-713) **Oxygen index: 30,9%** (according to ISO 4589-2) **Flammability temperature: 231 °C / 448 °F** (according to ISO 4589-3, Annex A)	**Tested and approved according to BS 6853** (Code of practice for fire precautions in the design /construction of passenger carrying trains) ▪ Assessment: category 1a **Compliant to the requirements of London Underground / Metronet** (standard 2-01001-002: Fire Safety Performance of Materials) **Tested and approved according to DIN 5510, Part 2** ▪ Combustibility classification: S3 ▪ Smoke development classification: SR2 ▪ Dripping classification: ST2 **Tested and approved according to Def Stan 07-247** ▪ Assessment: category B **Smoke index: 6,1%** (according to Def Stan 02-711, thickness: 3,0 mm) **Halogen-free flame retardant system** **Toxicity index: 0,9 / 100 g** (according to Def Stan 02-713) **Oxygen index: 42,0%** (according to ISO 4589-2) **Flammability temperature: 325 °C / 617 °F** (according to ISO 4589-3, Annex A)	**Tested and approved according to UL94 (Vertical Burning Test)** ▪ Classification: 94V-0 (thickness: 3mm / 13mm)

Standard Clamp Body Designs



Profiled Design

Profiled Inside Surface with Tension Clearance

- Available in the Standard, Heavy, Twin and Heavy Twin Series
- Recommended for the safe installation of rigid pipes or tubes
- Available for all commonly used outside diameters and nominal sizes
- Vibration/noise reducing and impact absorbing effect towards the direction of the line provided by the grooves on the inside of the clamp bodies
- To be used as fixed point clamp preventing the line from sliding (see page A93 for Maximum Loads in Pipe Direction)
- Clearance between the clamp halves provides tension of the tube or pipe



Type H (Smooth)

Smooth Inside Surface w/o Tension Clearance

- Available in the Standard, Heavy and Twin Series
- Recommended for the safe installation of hoses or cables
- Available for all commonly used outside diameters and nominal sizes
- Smooth inside surface and chamfered edges avoid damaging of the hose or cable
- To be used as guide allowing the line to slide
- Choose internal diameter of the clamp body slightly smaller than the outside diameter of the hose or cable to use it as fixed point clamp preventing the line from sliding



Type RI (with Rubber Insert)

- Available in the Standard, Heavy and Heavy Twin Series
- Recommended for the extra-gentle installation of pipes, tubes, hoses or cables
- Available for all commonly used outside diameters and nominal sizes
- Rubber insert made of Thermoplastic Elastomer with a hardness of 73 Shore-A provides most effective reduction of vibration and noise caused by vibration



Oval Design

- Available in the Standard and Heavy Series
- Recommended for the safe installation of electric cables with diameters between 20 mm (.79 in) and 72 mm (2.83 in)



Rectangular Design ▪ Type VK

- Available in the Standard Series (STAUFF Group 5)
- Recommended for the safe installation of proximity switches according to DIN EN 60947-5-2 or similar, rectangular construction, with a square of 40 mm x 40 mm (1.57 in x 1.57 in) or 40 mm x 36 mm (1.57 in x 1.42 in)

Materials and Surface Finishings of Metal Parts

Materials

Unless otherwise stated, all metal parts (e.g. weld plates, cover plates, bolts, rail nuts, etc.) are made of **Carbon Steel** (surface finishing according to material code).

Besides that, all metal parts are also available **ex stock** in two different stainless steel qualities:

Stainless Steel V2A
- 1.4301 / 1.4305 (AISI 304 / 303)
- Material code: W4

Stainless Steel V4A
- 1.4401 / 1.4571 (AISI 316 / 316 Ti)
- Material code: W5

Alternative materials are available upon request. Consult STAUFF for further information.

Surface Finishings

Unless otherwise stated, all metal parts made of Carbon Steel are available with the following standard surface finishings:

Carbon Steel, untreated
- Material code: W1

Carbon Steel, phosphated
- Fe/Znph r 10 according to DIN EN 12476
- Material code: W2

Carbon Steel, zinc/nickel-plated
- Fe/ZnNi (12...16) 6+6//A//T2 according to DIN 50962
- More than 720 hours resistance against red rust / base metal corrosion in the salt spray test to DIN EN ISO 9227
- Free of hexavalent chromium Cr(VI)
- RoHS compliant according to 2002/95/EC (Restrictions of the Use of Hazardous Substances)
- ELV compliant according to 2000/53/EC (End of Life Vehicles Directive)
- Material code: W3

Alternative surface finishings are available upon request. Consult STAUFF for further information.



Original STAUFF Cover Plate with Zinc/Nickel-Coating:
No signs of corrosion after 528 hours in the salt spray chamber!



Original STAUFF Cover Plates with alternative surface finishings widely-used by competitors in the market (from left to right):

- Galvanisation and blue-chromating after 96 hours
- Galvanisation and yellow-chromating after 192 hours
- Zinc-coating, thick-film passivation and sealing after 192 hours

In all three cases, signs of corrosion are quite clearly visible!

Consult STAUFF and ask for a detailed report.

Thread Conversion Chart

Metric ISO vs. Unified Coarse (UNC) Thread

Unless otherwise stated, all threaded parts available with Metric ISO thread or unified coarse (UNC) thread.

Standard Series (DIN 3015, Part 1)

Group		Thread	
STAUFF	DIN	Metric ISO	Unified Coarse
1 to 8	0 to 8	M6	1/4–20 UNC

Heavy Series (DIN 3015, Part 2)

Group		Thread	
STAUFF	DIN	Metric ISO	Unified Coarse
3S to 5S	1 to 3	M10	3/8–16 UNC
6S	4	M12	7/16–14 UNC
7S	5	M16	5/8–11 UNC
8S	6	M20	3/4–10 UNC
9S	7	M24	7/8–9 UNC
10S	8	M30	1-1/8–7 UNC
11S to 12S	9 to 10	M30	1-1/4–7 UNC

Twin Series (DIN 3015, Part 3)

Group		Thread	
STAUFF	DIN	Metric ISO	Unified Coarse
1D	1	M6	1/4–20 UNC
2D to 5D	2 to 5	M8	5/16–18 UNC

Property Classes / Grades of Bolts and Screws



Hexagon Head Bolt



Socket Cap Screw



Slotted Head Screw

Bolt / Screw Type	Material Code	Property Class / Grade	
		Metric ISO Threaded Bolts / Screws	Unified Coarse Threaded Bolts / Screws
Hexagon Head Bolt Type AS	W1, W2, W3	8.8 (according to DIN EN ISO 898)	5 (according to SAE J429)
	W4	A2-70 (according to DIN EN ISO 3506)	AISI 304 / B8 (according to ASTM A193)
	W5	A4-70 (according to DIN EN ISO 3506)	AISI 316 / B8M (according to ASTM A193)
Socket Cap Screw Type IS	W1, W2, W3	8.8 (according to DIN EN ISO 898)	5 (according to SAE J429)
	W4	A2-70 (according to DIN EN ISO 3506)	AISI 304 / B8 (according to ASTM A193)
	W5	A4-70 (according to DIN EN ISO 3506)	AISI 316 / B8M (according to ASTM A193)
Slotted Head Screw Type LI	W1, W2, W3	4.8 (according to DIN EN ISO 898)	2 (according to SAE J429)
	W4	A2-70 (according to DIN EN ISO 3506)	AISI 304 / B8 (according to ASTM A193)
	W5	A4-70 (according to DIN EN ISO 3506)	AISI 316 / B8M (according to ASTM A193)

Unless otherwise stated, the above mentioned property classes / grades apply as standards for bolts and screws supplied by STAUFF. The information indicate the minimum requirements; higher property classes are available upon request. Consult STAUFF for details.

Basic Installation Instructions



Installation on Weld Plate

Different types of weld plates are available for all STAUFF Clamps according to DIN 3015 as well as for most of the other series and many custom-designed special clamps.

- Place weld plates in their designated positions. Please make sure these positions are suitable for the expected loads.
- Mark the locations of the weld plates to ensure best alignment.
- Weld the weld plates into position. Elongated weld plates can also be mounted to their positions by using screws or bolts.
- Push bottom clamp half onto weld plate.
- Insert pipe, tube, hose, cable or any other line type.
- Place second clamp half and cover plate (optional) on top and mount clamp assembly by using screws or bolts.



Installation on Mounting Rail

STAUFF Mounting Rails are available in different heights. STAUFF Rail Nuts are available for all STAUFF Clamps according to DIN 3015 (Heavy Series up to STAUFF Group 6S only) as well as for many custom-designed special clamps.

- Place mounting rails in their designated positions. Please make sure these bases are suitable for the expected loads.
- Mark the locations of the mounting rails to ensure best alignment.
- Weld the mounting rails into position. Mounting rails can also be mounted to their positions by using side-mounting brackets with screws or bolts.
- Insert rail nuts into mounting rail and turn until stop to lock (Standard and Twin Series) or slide in rail nut (Heavy Series).
- Push bottom clamp half onto rail nuts.
- Insert pipe, tube, hose, cable or any other line type.
- Place second clamp half and cover plate (optional) on top and mount clamp assembly by using screws or bolts.

The exact positions of the clamp assemblies can still be adjusted before being firmly bolted.



Multi-Level (Stacking) Installation

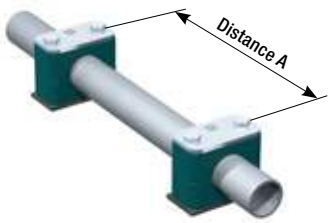
The multi-level installation of STAUFF Clamps permits easy stacking of several pipes, tubes, hoses, cables or any other line types, even with different outside diameters. The Twin Series also allows stacking of different group sizes (STAUFF Groups 2D to 5D).

The clamps are connected by stacking bolts. Safety locking plates inserted between the clamps prevent stacking bolts from turning.

- Push bottom clamp half onto weld plate or rail nuts.
- Insert pipe, tube, hose, cable or any other line type.
- Place second clamp half mount clamp assembly by using stacking bolts.
- Place safety locking plate on top of clamp assembly to prevent stacking bolts from turning.
- Proceed with next level as explained before.

STAUFF multi-level clamp assemblies can be mounted both to weld plates or to mounting rails.

Recommended Distance between Clamps



Installation next to Pipe Bends, Connectors / Couplings and Valves



Please note: The recommended distances between clamps stated below are standard values and valid for static loads only.

Outside Diameter (mm)	(in)	Distance A (m)	(ft)
6,0 ... 12,7	.23 ... .50	1,00	3,28
12,7 ... 22,0	.50 ... .86	1,20	3,94
22,0 ... 32,0	.86 ... 1.25	1,50	4,92
32,0 ... 38,0	1.25 ... 1.50	2,00	6,56
38,0 ... 57,0	1.5 ... 2.25	2,70	8,86
57,0 ... 75,0	2.25 ... 2.95	3,00	9,84
75,0 ... 76,1	2.95 ... 3.00	3,50	11,48
76,1 ... 88,9	3.00 ... 3.50	3,70	12,14
88,9 ... 102,0	3.50 ... 4.00	4,00	13,12
102,0 ... 114,0	4.00 ... 4.50	4,50	14,76

Outside Diameter (mm)	(in)	Distance A (m)	(ft)
114,0 ... 168,0	4.50 ... 6.60	5,00	16,40
168,0 ... 219,0	6.60 ... 8.60	6,00	19,68
219,0 ... 324,0	8.60 ... 12.70	6,70	21,98
324,0 ... 356,0	12.70 ... 14.00	7,00	22,96
356,0 ... 406,0	14.00 ... 16.00	7,50	24,60
406,0 ... 419,0	16.00 ... 16.50	8,20	26,90
419,0 ... 508,0	16.50 ... 20.00	8,50	27,88
508,0 ... 521,0	20.00 ... 20.50	9,00	29,52
521,0 ... 558,0	20.50 ... 22.00	10,00	32,80
558,0 ... 800,0	22.00 ... 31.50	12,50	41,00

Please note the following information on the installation of STAUFF Clamps next to pipe bends, connectors / couplings and valves:

Pipe Bends

Pipe bends should be supported by STAUFF Clamps as close to the bends as possible. Furthermore, it is recommended to design these clamps as fixed point clamps.

Connections / Couplings

The first clamp should be placed directly next to the connector / coupling. This protects the connector / coupling from vibrations.

Valves

If valves are incorporated in the pipelines, it is recommended that support is provided in front of and behind these valves.

Consult STAUFF for further information.

Tightening Torques and Maximum Loads In Pipe Direction



All tightening torques and maximum loads in pipe direction refer to STAUFF Clamp Bodies (profiled inside surface with tension clearance) with Cover Plates and Hexagon Head Bolts according to DIN EN ISO 4014/4017 (DIN 931/933).

The max. load in pipe direction (according to DIN 3015, Part 10) is an average value, determined by three tests at +23 °C / +73.4 °F with a steel pipe according to DIN EN 10220, St37 – rolled surface – taking static friction into consideration.

Sliding starts when the shown values (F) are reached.

Standard Series (DIN 3015, Part 1)

Group		Hexagon Head Bolt DIN EN ISO 4014/4017 (DIN 931/933)		Polypropylene				Polyamide				Aluminium			
		Metric	Unified Coarse	Tightening Torque		Maximum Load in Pipe Direction F		Tightening Torque		Maximum Load in Pipe Direction F		Tightening Torque		Maximum Load in Pipe Direction F	
STAUFF	DIN	ISO Thread	(UNC) Thread	(N·m)	(ft·lb)	(kN)	(lbf)	(N·m)	(ft·lb)	(kN)	(lbf)	(N·m)	(ft·lb)	(kN)	(lbf)
1	0	M6	1/4–20 UNC	8	6	0,6	135	10	7	0,6	135	12	9	3,5	787
1A	1	M6	1/4–20 UNC	8	6	1,1	247	10	7	0,7	157	12	9	4,2	944
2	2	M6	1/4–20 UNC	8	6	1,3	292	10	7	0,8	180	12	9	4,3	967
3	3	M6	1/4–20 UNC	8	6	1,4	315	10	7	1,6	360	12	9	4,9	1101
4	4	M6	1/4–20 UNC	8	6	1,5	337	10	7	1,7	382	12	9	5,0	1124
5	5	M6	1/4–20 UNC	8	6	1,9	427	10	7	2,0	450	12	9	7,3	1641
6	6	M6	1/4–20 UNC	8	6	2,0	450	10	7	2,5	562	12	9	8,9	2000
7	7	M6	1/4–20 UNC	8	6	2,3	517	10	7	3,2	719	NOT AVAILABLE!			
8	8	M6	1/4–20 UNC	8	6	2,6	585	10	7	3,5	787				

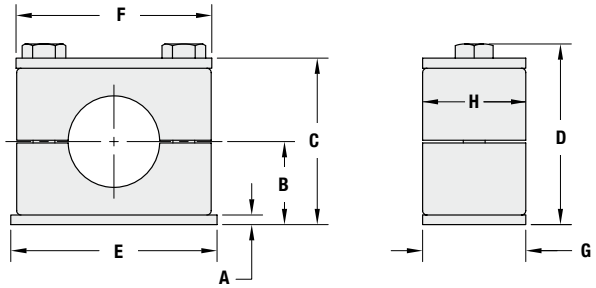
Heavy Series (DIN 3015, Part 2)

Group		Hexagon Head Bolt DIN EN ISO 4014/4017 (DIN 931/933)		Polypropylene				Polyamide				Aluminium			
		Metric	Unified Coarse	Tightening Torque		Maximum Load in Pipe Direction F		Tightening Torque		Maximum Load in Pipe Direction F		Tightening Torque		Maximum Load in Pipe Direction F	
STAUFF	DIN	ISO Thread	(UNC) Thread	(N·m)	(ft·lb)	(kN)	(lbf)	(N·m)	(ft·lb)	(kN)	(lbf)	(N·m)	(ft·lb)	(kN)	(lbf)
3S	1	M10	3/8–16 UNC	12	9	1,6	360	20	15	4,2	944	30	22	12,1	2720
4S	2	M10	3/8–16 UNC	12	9	2,9	652	20	15	4,5	1044	30	22	15,1	3395
5S	3	M10	3/8–16 UNC	15	11	3,3	742	25	18	5,1	1146	35	26	15,5	3485
6S	4	M12	7/16–14 UNC	30	22	8,2	1843	40	30	9,3	2090	55	41	29,5	6609
7S	5	M16	5/8–11 UNC	45	33	11,0	2472	55	41	15,8	3551	120	86	34,9	7845
8S	6	M20	3/4–10 UNC	80	59	14,0	3147	150	111	21,0	4720	220	162	50,0	11240
9S	7	M24	7/8–9 UNC	110	81	28,0	6300	200	148	32,0	7193	250	184	70,6	15871
10S	8	M30	1-1/8–7 UNC	180	133	40,0	8992	350	258	48,0	10790	500	369	84,5	18996
11S	9	M30	1-1/4–7 UNC	200	148	119,0	26752	370	273	125,0	27650	500	369	181,5	40802
12S	10	M30	1-1/4–7 UNC	270	199	168,0	37767	450	332	180,0	40465	600	443	244,5	54965

Twin Series (DIN 3015, Part 3)

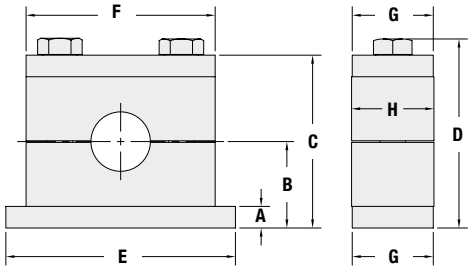
Group		Hexagon Head Bolt DIN EN ISO 4014/4017 (DIN 931/933)		Polypropylene				Polyamide			
		Metric	Unified Coarse	Tightening Torque		Maximum Load in Pipe Direction F		Tightening Torque		Maximum Load in Pipe Direction F	
STAUFF	DIN	ISO Thread	(UNC) Thread	(N·m)	(ft·lb)	(kN)	(lbf)	(N·m)	(ft·lb)	(kN)	(lbf)
1D	1	M6	1/4–20 UNC	5	4	0,9	202	5	4	0,9	202
2D	2	M8	5/16–18 UNC	12	9	2,1	472	12	9	2,2	495
3D	3	M10	5/16–18 UNC	12	9	1,9	427	12	9	2,0	450
4D	4	M12	5/16–18 UNC	12	9	2,7	607	12	9	2,9	652
5D	5	M16	5/16–18 UNC	8	6	1,7	382	8	6	2,5	562

Dimensions and Weights of Clamp Assemblies



Standard Series (DIN 3015, Part 1)

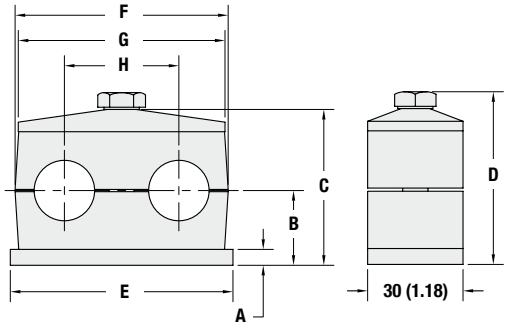
Group		Dimensions (mm/in)											Weight per 100 Pcs. SP ✱✱ PP-DP-AS ✱✱✱
			B		C		D						
STAUFF	DIN	A	Profiled Design	Type H (Smooth)	Profiled Design	Type H (Smooth)	Profiled Design	Type H (Smooth)	E	F	G	H	(kg/lbs)
1	0	3	16,5	16	33	32	37	36	31,5	28	30	30	6,20
		.12	.65	.63	1.30	1.26	1.46	1.42	1.24	1.10	1.18	1.18	13,64
1A	1	3	16,5	16	33	32	37	36	36	34	30	30	8,10
		.12	.65	.63	1.30	1.26	1.46	1.42	1.41	1.33	1.18	1.18	17.82
2	2	3	19,5	19	39	38	43	42	42	40,5	30	30	9,40
		.12	.77	0.75	1.54	1.50	1.69	1.65	1.65	1.59	1.18	1.18	20.68
3	3	3	21	20,75	42	41,5	46	45,5	50	48	30	30	11,20
		.12	.83	.82	1.65	1.64	1.81	1.80	1.96	1.88	1.18	1.18	24.64
4	4	3	24	23,75	48	47,5	52	51,5	60	57	30	30	13,70
		.12	.94	.94	1.89	1.87	2.05	2.03	2.36	2.24	1.18	1.18	30.14
5	5	3	32	31,25	64	62,5	68	66,5	71	70	30	30	17,10
		.12	1.26	1.23	2.52	2.46	2.68	2.62	2.79	2.75	1.18	1.18	37.62
6	6	3	36	35,25	72	70,5	76	74,5	88	86	30	30	21,30
		.12	1.42	1.39	2.83	2.78	2.99	2.94	3.46	3.38	1.18	1.18	46.86
7	7	5	51,5	51	103	102	107	106	122	118	30	30	42,10
		.20	2.03	2.01	4.06	4.02	4.21	4.17	4.81	4.,65	1.18	1.18	92.62
8	8	5	64	63	128	126	132	130	148	144	30	30	44,00
		.20	2.52	2.48	5.04	4.96	5.20	5.12	5.83	5.67	1.18	1.18	96.80



Heavy Series (DIN 3015, Part 2)

Group		Dimensions (mm/in)												Weight per 1 Pc. SPAL✱✱PP-DPAL-AS✱✱✱
			B		C		D			F				
STAUFF	DIN	A	Profiled Design	Type H (Smooth)	Profiled Design	Type H (Smooth)	Profiled Design	Type H (Smooth)	E	PP/ PA/SA	AL	G	H	(kg/lbs)
3S	1	8	24	23,25	48	46,5	54,4	52,9	74	55	56	30	30,5	0,32
		.31	.94	.92	1.89	1.83	2.14	2.09	2.91	2.16	2.20	1.18	1.20	.70
4S	2	8	32	31,25	64	62,5	70,4	68,9	86	70	70	30	30,5	0,40
		.31	1.26	1.23	2.52	2.46	2.77	2.72	3.39	2.76	2.76	1.18	1.20	.88
5S	3	8	38	37	76	74	82,4	80,4	100	85	85	30	30,5	0,49
		.31	1.50	1.46	2.99	2.91	3.24	3.17	3.94	3.35	3.35	1.18	1.20	1.08
6S	4	10	54,5	53,5	109	107	116,5	114,5	140	115	120	45	45	1,21
		.39	2.15	2.11	4.29	4.21	4.59	4.51	5.51	4.53	4.72	1.77	1,77	2.66
7S	5	10	70	NOT AVAILABLE!	140	NOT AVAILABLE!	150	NOT AVAILABLE!	180	154	152	60	60	2,30
		.39	2.76		5.51		5.91		7.09	6.06	5.98	2.36	2,36	5.06
8S	6	15	99		198		210,5		226	206	208	80	80	6,00
		.59	3.90		7.80		8.29		8.90	8.11	8.19	3.15	3.15	13.20
9S	7	15	115		230		245		270	251	255	90	91	8,70
		.59	4.53		9.06		9.65		10.63	9.88	10.04	3.54	3.58	19.14
10S	8	25	160		320		338,7		340	336	326	120	120	22,16
		.98	6.30		12.60		13.33		13.39	13.22	12.83	4.72	4.72	48.75
11S	9	30	235		470		488,7		520	470	470	160	162	54,11
		1.18	9.25		18.50		19.24		20.47	18.50	18.50	6.30	6.38	119.04
12S	10	30	295		590		608,7		680	630	630	180	182	77,40
		1.18	11.61		23.23		23.96		26.77	24.80	24.80	7.09	7.16	170.28

Dimensions & Weights of Clamp Assemblies



Twin Series (DIN 3015, Part 3)

Group STAUFF	Group DIN	Dimensions (mm/in) A	B Profiled Design	B Type H (Smooth)	C Profiled Design	C Type H (Smooth)	D Profiled Design	D Type H (Smooth)	E	F	G	H	Weight per 100 Pcs. SP✱✱/✱✱PP-GD-AS✱✱✱ (kg/lbs)
1D	1	3	16,5	16,25	37	36,5	41	40,5	37	36	34	20	7,60
		.12	.65	.64	1.46	1.44	1.61	1.59	1.46	1.42	1.34	.79	16.72
2D	2	5	18,5	18,25	39	38,5	44	43,5	55	53	52	29	13,50
		.20	.73	.72	1.54	1.52	1.73	1.71	2.17	2.09	2.05	1.14	29.70
3D	3	5	23,5	23,25	49	48,5	54	53,5	70	67	65	36	17,70
		.20	.93	.92	1.93	1.91	2.13	2.11	2.76	2.64	2.56	1.42	38.94
4D	4	5	25	24	52	50	57	55	85	80	79	45	20,40
		.20	.98	.94	2.05	1.97	2.24	2.17	3.35	3.15	3.11	1.77	44.88
5D	5	5	31,5	31	65	64	70	69	110	106	102	56	27,70
		.20	1.24	1.22	2.56	2.52	2.76	2.72	4.33	4.17	4.02	2.20	60.94

Packaging Units (Selection)

Standard Series (DIN 3015, Part 1)

Clamp Bodies (Polypropylene / Polyamide)

Group STAUFF	Group DIN	Quantity per Bag (in Pcs.)
1 - 6	0 - 6	25
7 + 8	7 + 8	10

Clamp Bodies (Aluminium)

Group STAUFF	Group DIN	Quantity per Bag (in Pcs.)
1 - 5	0 - 5	25
6	6	10

Weld Plates (Type SP)
Cover Plates (Type DP)

Group STAUFF	Group DIN	Quantity per Bag (in Pcs.)
1 - 6	0 - 6	25
7 + 8	7 + 8	10

Hexagon Rail Nut (Type SM)
Channel Rail Adaptor (Type CRA)

Group STAUFF	Group DIN	Quantity per Bag (in Pcs.)
1 - 8	0 - 8	50

Heavy Series (DIN 3015, Part 2)

Clamp Bodies (Polypropylene / Polyamide)

Group STAUFF	Group DIN	Quantity per Bag (in Pcs.)
3S - 6S	1 - 4	20
7S	5	10
8S - 12S	6 - 10	1

Clamp Bodies (Aluminium)

Group STAUFF	Group DIN	Quantity per Bag (in Pcs.)
3S - 7S	1 - 5	10
8S - 12S	6 - 10	1

Weld Plates (Type SPAL)
Cover Plates (Type DPAL)

Group STAUFF	Group DIN	Quantity per Bag (in Pcs.)
3S - 6S	1 - 4	20
7S	5	10
8S - 12S	6 - 10	1

Mounting Rail Nut (Type GMV)
Channel Rail Adaptor (Type CRA)

Group STAUFF	Group DIN	Quantity per Bag (in Pcs.)
3S - 6S	1 - 4	40

Twin Series (DIN 3015, Part 3)

Clamp Bodies (Polypropylene / Polyamide)

Group STAUFF	Group DIN	Quantity per Bag (in Pcs.)
1D - 4D	1 - 4	25
5D	5	10

Weld Plates (Type SPAL)
Cover Plates (Type DPAL)

Group STAUFF	Group DIN	Quantity per Bag (in Pcs.)
1D - 4D	1 - 4	25
5D	5	10

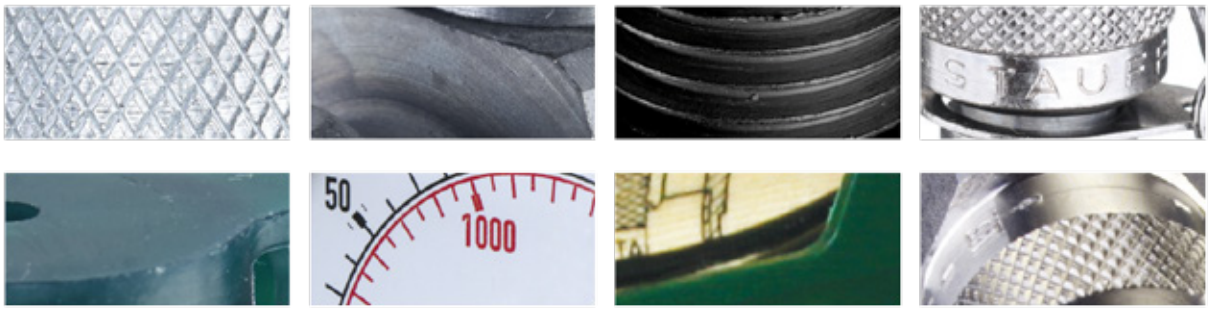
Hexagon Rail Nut (Type SM)
Channel Rail Adaptor (Type CRA)

Group STAUFF	Group DIN	Quantity per Bag (in Pcs.)
1D	1	50
2D - 5D	2 - 5	25

Consult STAUFF and ask for standard packaging units for further components or special packaging options.

Home
Test 20 - THR M16 x 2
Test 15 - THR M16 x 1.5
Test 12 - THR S12.65 x 1.5
Test 10 - Plug in
Adaptors
Pressure Gauges/Kits
Test Hoses
Technical

Stauff Test



STAUFF TEST has established a reputation for a comprehensive range of test points and accessories for hydraulic and pneumatic systems for many years now.

STAUFF TEST stands for a varied spectrum of screw-in test points and test couplings for tube fittings, which are oriented to international standards and therefore guaranteed to comply with the requirements of applications all over the world.

The extensive range of accessories, including measuring hoses and pressure gauges (mechanical and digital/ electronic) means that the initial test points fitted onto machines and service kits with measuring instruments can be obtained from a single source.

All products are subject to our in-house quality management in accordance with EN ISO 9001:2008. This ensures a consistently high standard of quality.

Our company has also been certified in the fields of environmental protection acc. to DIN EN ISO 14001:2004 and occupational safety acc. to OHSAS 18001:2007.

Our well-stocked warehouse and flexible production line ensure prompt reactions and short delivery times. Furthermore, special versions that have been tailored to customer-specific requirements are available to order.

The following approvals are also available for special versions of the SKK test points:

- Approved for military use as gas filling valve for nitrogen accumulators by the German Bundeswehr “Wehrtechnische Dienststelle für Pionier- und Truppengerät”.
- DVGW registration as a test point for gas pressure controlsystems, issued by the German Association of Gas and Water Industries (DVGW).Please contact STAUFF for further details.

Home
Test 20 - THR M16 x 2
Test 15 - THR M16 x 1.5
Test 12 - THR S12.65 x 1.5
Test 10 - Plug in
Adaptors
Pressure Gauges/Kits
Test Hoses
Technical

Test 20 - Connection Thread M16 x 2 - SMK20

Introduction - Test Coupling with Ball Check

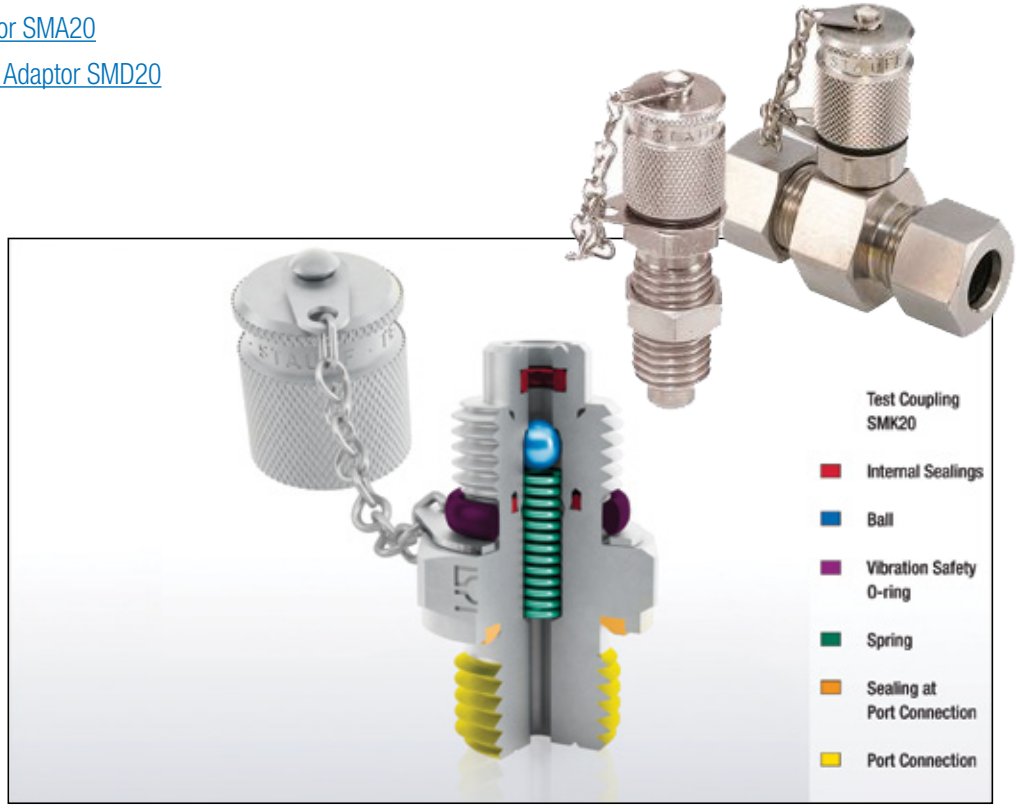
Test Coupling with Port Connection SMK20
Test Coupling complete with Straight Fitting SMK20 Type G
Test Coupling for 24° Cone Fittings SMK20 Type K
Test Coupling SMK-JIC Connection SMK20-JIC Type K
Test Coupling SMK-JIC Connection SMK20-JIC Type G
Swivel Run Tee with JIC Connection SGV-JIC Type F/M
Test Coupling with ORFS Connection SMK20 Type ORFS

Bulkhead SSK20

Adaptor SAD20
Gauge Adaptor SMA20
Direct Gauge Adaptor SMD20

Test 20 - Connection Thread M16 x 2 - SKK20

Introduction - Test Coupling with Piston Valve
Test Coupling with Port Connection SKK20
Test Coupling complete with Straight Fitting SKK20 Type G
Test Coupling for 24° Cone Fittings SKK20 Type K



Home
Test 20 - THR M16 x 2
Test 15 - THR M16 x 1.5
Test 12 - THR S12.65 x 1.5
Test 10 - Plug in
Adaptors
Pressure Gauges/Kits
Test Hoses
Technical

Test 15 - Connection Thread M16 x 1.5 B16

Introduction - Test Coupling with Ball Check
Test Coupling with Port Connection SMK15
Test Coupling complete with Straight Fitting SMK15 Type G
Test Coupling for 24° Cone Fittings SMK15 Type K

Bulkhead SSK15

Swivel Run Tee with JIC Connection SGV-JIC Type F/M

Adaptor SAD15

Gauge Adaptor SMA15
Direct Gauge Adaptor SMD15







Home
Test 20 - THR M16 x 2
Test 15 - THR M16 x 1.5
Test 12 - THR S12.65 x 1.5
Test 10 - Plug in
Adaptors
Pressure Gauges/Kits
Test Hoses
Technical

Test 12 - Connection Thread S12,65 x 1.5 B22

Introduction - Test Coupling with Piston Valve
Test Coupling with Port Connection SKK12
Test Coupling complete with Straight Fitting SKK12 Type G
Test Coupling for 24° Cone Fittings SKK12 Type K

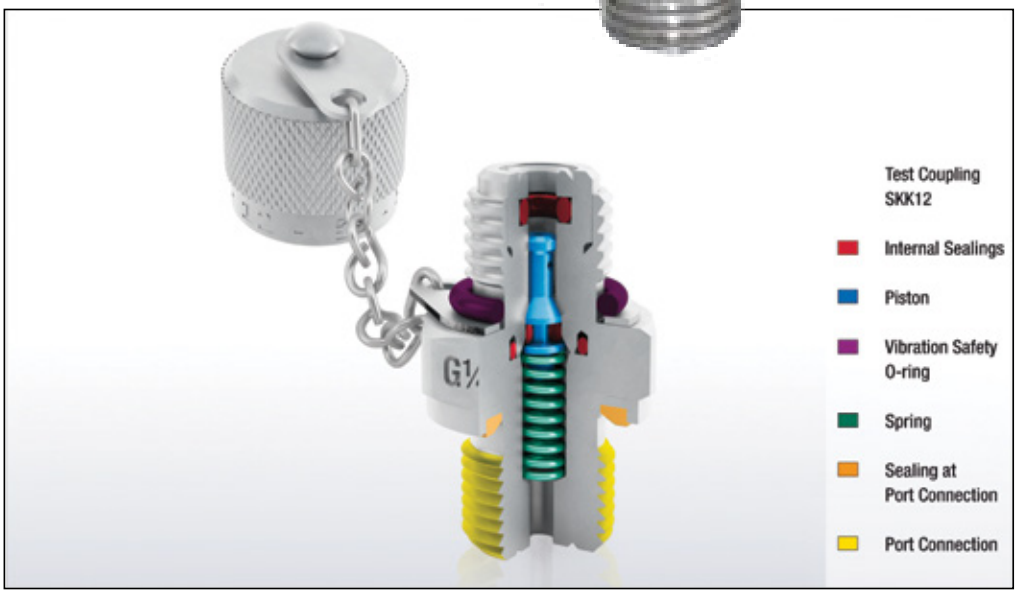
Bulkhead SSKK12

Swivel Run Tee with JIC Connection SGV-JIC Type F/M

Adaptor SAD12

Gauge Adaptor SMA12
Direct Gauge Adaptor SMD12





Home
Test 20 - THR M16 x 2
Test 15 - THR M16 x 1.5
Test 12 - THR S12.65 x 1.5
Test 10 - Plug in
Adaptors
Pressure Gauges/Kits
Test Hoses
Technical

Test 10 - Plug in system

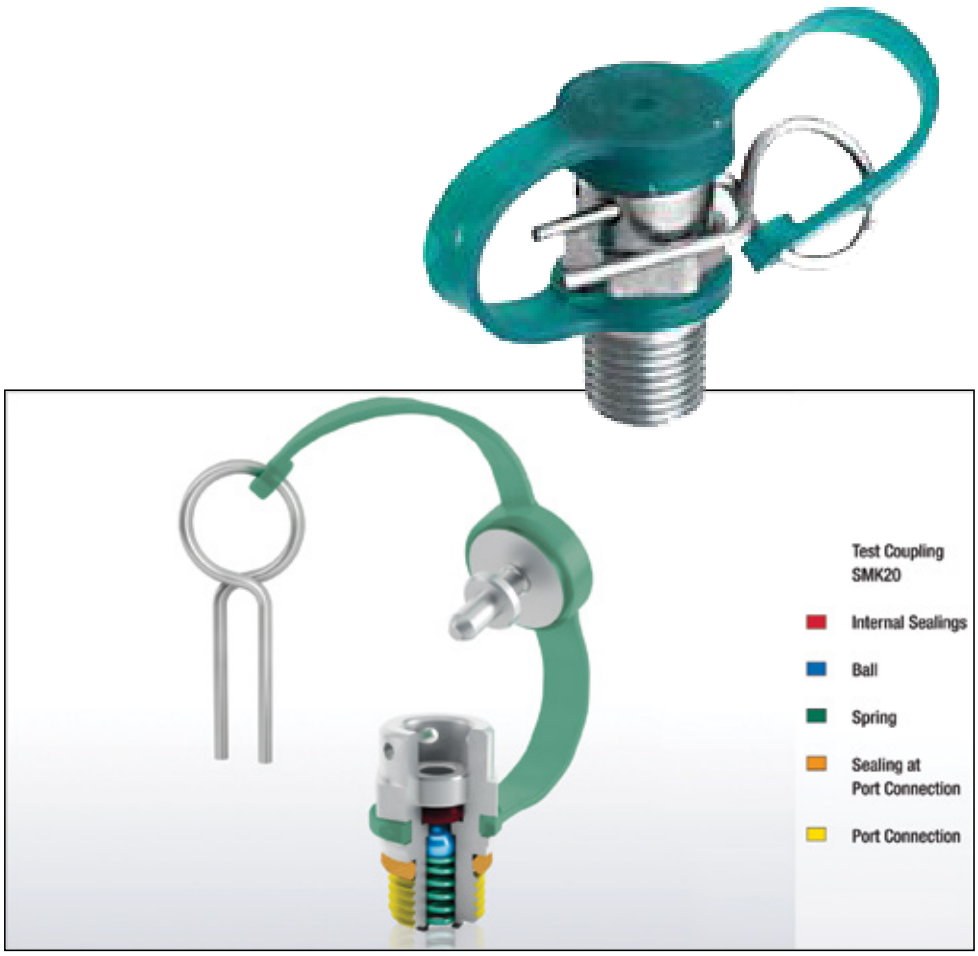
Test Coupling with Ball Check

Test Coupling with Port Connection SMK10

Gauge Adaptor SMA10

Test Coupling complete with Straight Fitting SMK10 Type G

Test Coupling for 24° Cone Fittings SMK10 Type K



Home
Test 20 - THR M16 x 2
Test 15 - THR M16 x 1.5
Test 12 - THR S12.65 x 1.5
Test 10 - Plug in
Adaptors
Pressure Gauges/Kits
Test Hoses
Technical

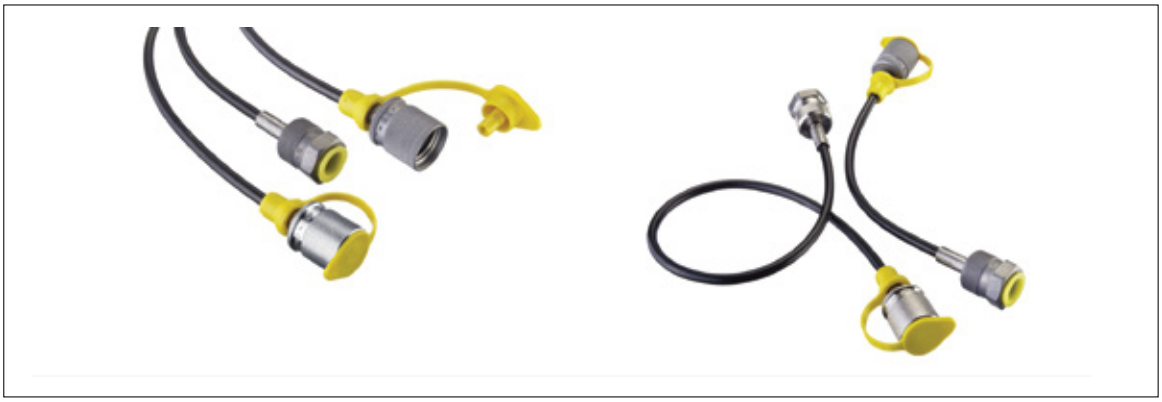
Test Hoses / Hose Ends

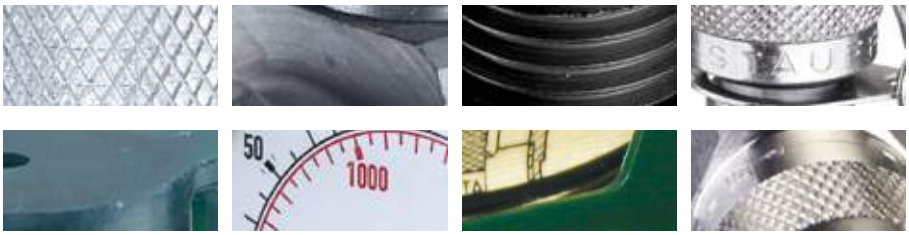
Technical Data for Test Hose SMS / SGS
Order Codes - Test Hose SMS / SGS and Hose End HE

Hose End HE

Hose Connector SSV

Sampling Hose Adaptor SHA





B

STAUFF Test

STAUFF TEST has established a reputation for a comprehensive range of test points and accessories for hydraulic and pneumatic systems for many years now.

STAUFF TEST stands for a varied spectrum of screw-in test points and test couplings for tube fittings, which are oriented to international standards and therefore guaranteed to comply with the requirements of applications all over the world.

The extensive range of accessories, including measuring hoses and pressure gauges (mechanical and digital/electronic) means that the initial test points fitted onto machines and service kits with measuring instruments can be obtained from a single source.

All products are subject to our in-house quality management in accordance with EN ISO 9001:2008. This ensures a consistently high standard of quality.

Our company has also been certified in the fields of environmental protection acc. to DIN EN ISO 14001:2004 and occupational safety acc. to OHSAS 18001:2007.

Our well-stocked warehouse and flexible production line ensure prompt reactions and short delivery times. Furthermore, special versions that have been tailored to customer-specific requirements are available to order.

The following approvals are also available for special versions of the SKK test points:

- approved for military use as gas filling valve for nitrogen accumulators by the German Bundeswehr "Wehrtechnische Dienststelle für Pionier- und Truppengerät".
- DVGW registration as a test point for gas pressure control systems, issued by the German Association of Gas and Water Industries (DVGW).

Please contact STAUFF for further details.

www.stauff.com

Index	B2
Test 20 - Connection Thread M16 x 2	B4
Test 15 - Connection Thread M16 x 1,5	B16
Test 12 - Connection Thread S12,65 x 1,5	B22
Test 10 - Plug in system	B28
Adaptors	B32
Pressure Gauges and Accessories	B34
Test Hoses / Hose Ends	B36
Technical Appendix	B46

Test 20 - Connection Thread M16 x 2 - SMK20

	Introduction - Test Coupling with Ball Check		**B4**
	**Test Coupling** with Port Connection	SMK20	**B5**
	**Test Coupling** complete with Straight Fitting	SMK20 Type G	**B6**
	**Test Coupling** for 24° Cone Fittings	SMK20 Type K	**B7**
	**Test Coupling** SMK-JIC Connection	SMK20-JIC Type K	**B8**
	**Test Coupling** SMK-JIC Connection	SMK20-JIC Type G	**B8**
	**Swivel Run Tee** with JIC Connection	SGV-JIC Type F/M	**B9**
	**Test Coupling** with ORFS Connection	SMK20 Type ORFS	**B9**
	**Bulkhead**	SSK20	**B10**
	**Adaptor**	SAD20	**B11**
	**Gauge Adaptor** **Direct Gauge Adaptor**	SMA20 SMD20	**B11**

Test 20 - Connection Thread M16 x 2 - SKK20

	Introduction - Test Coupling with Piston Valve		**B12**
	**Test Coupling** with Port Connection	SKK20	**B13**
	**Test Coupling** complete with Straight Fitting	SKK20 Type G	**B14**
	**Test Coupling** for 24° Cone Fittings	SKK20 Type K	**B15**

Test 15 - Connection Thread M16 x 1,5 - SMK15

	Introduction - Test Coupling with Ball Check		**B16**
	**Test Coupling** with Port Connection	SMK15	**B17**
	**Test Coupling** complete with Straight Fitting	SMK15 Type G	**B18**
	**Test Coupling** for 24° Cone Fittings	SMK15 Type K	**B19**
	**Bulkhead**	SSK15	**B20**
	**Swivel Run Tee** with JIC Connection	SGV-JIC Type F/M	**B20**
	**Adaptor**	SAD15	**B21**
	**Gauge Adaptor** **Direct Gauge Adaptor**	SMA15 SMD15	**B21**

Test 12 - Connection Thread S12,65 x 1,5 - SKK12

	Introduction - Test Coupling with Piston Valve		**B22**
	**Test Coupling** with Port Connection	SKK12	**B23**
	**Test Coupling** complete with Straight Fitting	SKK12 Type G	**B24**
	**Test Coupling** for 24° Cone Fittings	SKK12 Type K	**B25**
	**Bulkhead**	SSKK12	**B26**
	**Swivel Run Tee** with JIC Connection	SGV-JIC Type F/M	**B26**
	**Adaptor**	SAD12	**B27**
	**Gauge Adaptor** **Direct Gauge Adaptor**	SMA12 SMD12	**B27**

Test 10 - Plug In System - SMK10

	Introduction - Test Coupling with Ball Check		**B28**
	**Test Coupling** with Port Connection	SMK10	**B29**
	**Gauge Adaptor**	SMA10	**B29**
	**Test Coupling** complete with Straight Fitting	SMK10 Type G	**B30**
	**Test Coupling** for 24° Cone Fittings	SMK10 Type K	**B31**

Adaptors

	**Thread Adaptor**	SRS20	**B32**
	**Thread Adaptor**	SRS15	**B33**
	**Welding Adaptor**	SAS	**B33**

Pressure Gauges and Accessories

	**Pressure Gauge**	SPG	**B34**
	**Adjustable Gauge Fitting**	EMV	**B34**
	**Pressure Test Kit**	SMB	**B35**

Test Hoses

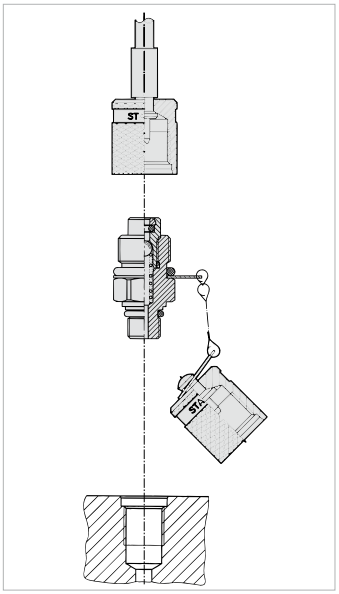
	Technical Data for Test Hose	SMS / SGS	**B36**
	**Order Codes Test Hose / Hose End**	SMS / SGS and HE	**B37**
	**Hose End**	HE	**B38**
	**Hose Connector**	SSV	**B44**
	**Sampling Hose Adaptor**	SHA	**B44**

Technical Appendix

Port Connections and Sealing Details		**B46**

Test Coupling with Ball Check





Fast Coupling for

- Monitoring and control of pressure
- Venting
- Sampling in high- and low-pressure systems

Advantages

- Test system at working pressure
- Leak proof connection before **ball check** is open
- Simple connection to measurement, control and switching devices
- Self locking metal protective cap

Working Pressure

- Max. working pressure 630 bar / 9137 PSI
  For SMK Type G and K the recommended working pressure of fitting manufacturer should be noted.
- Connection under pressure up to 400 bar / 5801 PSI max.

Materials

- **Metal Parts:**
  Standard material: Steel, zinc/nickel-plated = **C6F (CrVI-free)**
  Optional:
  Stainless Steel **V2A** (1.4305 / AISI 303) on request
  Stainless Steel **V4A** (1.4571 / AISI 316Ti) on request

  For ordering "V2A" or "V4A" please replace "C6F" with "V2A" or "V4A".

- **Ball:** Stainless Steel

- **Sealings:**
  P = NBR (Buna-N®)
  (Temperature range -20 °C ... +100 °C / -4 °F ... +212 °F)
  Note: Internal sealings made of FPM, even for standard NBR-type.

  V = FPM (Viton®)*
  (Temperature range -20 °C ... +200 °C / -4 °F ... +392 °F)

  *** Standard option for North America is FPM (Viton®)**

  E = EPDM Ethylene Propylene Diene Monomer Rubber
  (for Brake fluid,
  Temperature range -40 °C ... +150 °C / -40 °F ... +302 °F)

  For ordering NBR or EPDM sealings please replace "V" with "P" or "E".

  Vibration safety O-ring made of NBR (Buna-N®) (standard).

Media

- Suitable for hydraulic oils and other Mineral oil based fluids
  (Check compatibility of sealing material)
- For use with other liquid media please consult STAUFF

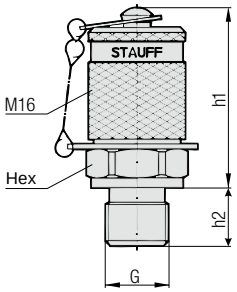
Protection Cap

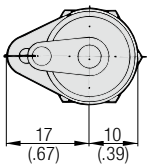
- The complete STAUFF-Test-20-type-SMK range is also available with a hexagonal protection cap made of steel or plastic protection cap.

  For ordering the hexagonal protection cap version please add "-SK" to the order code.
  (e.g. SMK20-M10x1-VA-**SK**-C6F)
  For ordering the plastic protection cap version please add "-KK" to the order code.
  (e.g. SMK20-M10x1-VA-**KK**-C6F)

SMK20 Test Coupling with Port Connection	**SMK20 Type G** Test Coupling complete with Straight Fitting	**SMK20 Type K** Test Coupling for 24° Cone Fittings	**SMK20-JIC** Test Coupling SMK-JIC Connection (to SAE J514)	**SSK20** Bulkhead
				

Test Coupling with Port Connection SMK20







Thread G	Sealing	Working Pressure (bar/PSI)	Dimensions (mm/in) h1	h2	Hex	Order Codes NBR	FPM* (Standard Option-North America)
M8 x 1	Type A	250	38	8,5	17	SMK20-M8x1-PA-C6F	SMK20-M8x1-VA-C6F
		3625	1.50	.33	.67		
M10 x 1		630	38	9,8	17	SMK20-M10x1-PA-C6F	SMK20-M10x1-VA-C6F
		9137	1.50	.39	.67		
M10 x 1	Type B	400	37	8	17	SMK20-M10x1-PB-C6F	SMK20-M10x1-VB-C6F
		5801	1.46	.31	.67		
M12 x 1,5		630	37	12	17	SMK20-M12x1,5-PB-C6F	SMK20-M12x1,5-VB-C6F
		9137	1.46	.47	.67		
M14 x 1,5		630	37	12	19	SMK20-M14x1,5-PB-C6F	SMK20-M14x1,5-VB-C6F
		9137	1.46	.47	.75		
M16 x 1,5		630	37	12	22	SMK20-M16x1,5-PB-C6F	SMK20-M16x1,5-VB-C6F
		9137	1.46	.47	.87		
G1/8		400	39	8	17	SMK20-G1/8-PB-C6F	SMK20-G1/8-VB-C6F
		5801	1.54	.31	.67		
G1/4		630	37	12	19	SMK20-G1/4-PB-C6F	SMK20-G1/4-VB-C6F
		9137	1.46	.47	.75		
G3/8		630	37	12	22	SMK20-G3/8-PB-C6F	SMK20-G3/8-VB-C6F
		9137	1.46	.47	.87		
M10 x 1	Type C	400	39	8	17	SMK20-M10x1-PC-C6F	SMK20-M10x1-VC-C6F
		5801	1.54	.31	.67		
M12 x 1,5		630	37	12	17	SMK20-M12x1,5-PC-C6F	SMK20-M12x1,5-VC-C6F
		9137	1.46	.47	.67		
M14 x 1,5		630	37	12	19	SMK20-M14x1,5-PC-C6F	SMK20-M14x1,5-VC-C6F
		9137	1.46	.47	.75		
M16 x 1,5		630	37	12	22	SMK20-M16x1,5-PC-C6F	SMK20-M16x1,5-VC-C6F
		9137	1.46	.47	.87		
G1/8		400	39	8	17	SMK20-G1/8-PC-C6F	SMK20-G1/8-VC-C6F
		5801	1.54	.31	.67		
G1/4		630	37	12	19	SMK20-G1/4-PC-C6F	SMK20-G1/4-VC-C6F
		9137	1.46	.47	.75		
G3/8		630	37	12	22	SMK20-G3/8-PC-C6F	SMK20-G3/8-VC-C6F
		9137	1.46	.47	.87		
G1/2		630	39	14	27	SMK20-G1/2-PC-C6F	SMK20-G1/2-VC-C6F
		9137	1.54	.55	1.06		
R1/8 K	Type D	400	37	8	17	SMK20-R1/8K-PD-C6F	SMK20-R1/8K-VD-C6F
		5801	1.46	.31	.67		
R1/4 K		630	35	12	17	SMK20-R1/4K-PD-C6F	SMK20-R1/4K-VD-C6F
		9137	1.38	.47	.67		
1/8 NPT		400	36	10	17	SMK20-1/8NPT-PD-C6F	SMK20-1/8NPT-VD-C6F
		5801	1.42	.39	.67		
1/4 NPT		630	35	15	17	SMK20-1/4NPT-PD-C6F	SMK20-1/4NPT-VD-C6F
		9137	1.38	.59	.67		
5/16–24 UNF	Type E	400	38	7,5	17	SMK20-5/16UNF-PE-C6F	SMK20-5/16UNF-VE-C6F
		5.801	1.50	.30	.67		
7/16–20 UNF		630	38	9,1	17	SMK20-7/16UNF-PE-C6F	SMK20-7/16UNF-VE-C6F
		9137	1.50	.36	.67		
1/2–20 UNF		630	38	9,2	17	SMK20-1/2UNF-PE-C6F	SMK20-1/2UNF-VE-C6F
		9137	1.50	.36	.67		
9/16–18 UNF		630	37	10	19	SMK20-9/16UNF-PE-C6F	SMK20-9/16UNF-VE-C6F
		9137	1.46	.39	.75		
3/4–16 UNF		630	37	11.1	19	SMK20-3/4UNF-PE-C6F	SMK20-3/4UNF-VE-C6F
		9137	1.46	.44	.75		
M10 x 1		630	38	9,5	17	SMK20-M10x1-PE-C6F	SMK20-M10x1-VE-C6F
		9137	1.50	.37	.67		
M12 x1,5		630	37	11	17	SMK20-M12x1,5-PE-C6F	SMK20-M12x1,5-VE-C6F
		9137	1.46	.43	.67		
M14 x 1,5		630	38	11	19	SMK20-M14x1,5-PE-C6F	SMK20-M14x1,5-VE-C6F
		9137	1.50	.43	.75		

Metal Parts

Standard material: Steel, zinc/nickel-plated = **C6F (CrVI-free)**
For ordering V2A (1.4305 / AISI 303) replace "C6F" with "V2A".
For ordering V4A (1.4571 / AISI 316Ti) replace "C6F" with "V4A".

Sealings

For ordering NBR sealings replace "V" with "P".
For ordering EPDM sealings replace "V" with "E".

*** Standard option for North America is FPM (Viton®).**

Sealing Details


O-ring Type A


Metal Joint Type B


Elastomeric Sealing Type C


Taper Type D
(suitable sealant required)


O-ring Type E

Protection Cap

Standard material: Steel
For ordering the hexagonal protection cap version please add "-SK" to the order code. (e.g. SMK20-M10x1-VA-SK-C6F)
For ordering the plastic protection cap version please add "-KK" to the order code. (e.g. SMK20-M10x1-VA-KK-C6F)

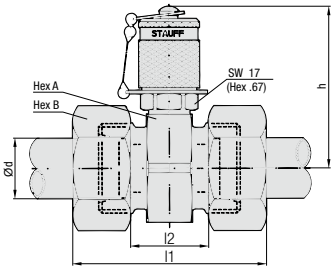
For further information on materials, sealings or protection caps, please see page B4.

Other port connections and sealings on request.
Please consult STAUFF for further information.

Dimensional drawings: All dimensions in mm (in).

Test Coupling complete with Straight Fitting SMK20 Type G





- Compression ring fittings acc. to ISO 8434-1 / DIN 2353

Metal Parts

Standard material: Steel, zinc/nickel-plated = **C6F (CrVI-free)**
For ordering V2A (1.4305 / AISI 303) replace "C6F" with "V2A".
For ordering V4A (1.4571 / AISI 316Ti) replace "C6F" with "V4A".

Sealings

For ordering NBR sealings replace "V" with "P".
For ordering EPDM sealings replace "V" with "E".

*** Standard option for North America is FPM (Viton®).**

Protection Cap

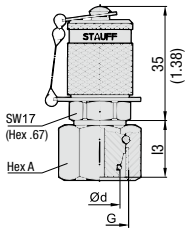
Standard material: Steel
For ordering the hexagonal protection cap version please add "-SK" to the order code. (e.g. SMK20-08L-VG-SK-C6F)
For ordering the plastic protection cap version please add "-KK" to the order code. (e.g. SMK20-08L-VG-KK-C6F)

For further information on materials, sealings or protection caps, please see page B4.

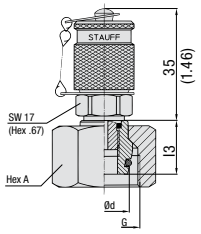
Series	PN (bar/PSI)	Pipe Ø d	Dimensions (mm/in) ~l1	l2	h	Hex A	Hex B	Order Codes NBR	FPM* (Standard Option-North America)
L	315 4568	6	51	21	49	24	14	SMK20-06L-PG-C6F	SMK20-06L-VG-C6F
			2.01	.83	1.93	.94	.55		
		8	51	21	49	24	17	SMK20-08L-PG-C6F	SMK20-08L-VG-C6F
			2.01	.83	1.93	.94	.67		
		10	53	23	49	24	19	SMK20-10L-PG-C6F	SMK20-10L-VG-C6F
			2.09	.91	1.93	.94	.75		
		12	53	23	50,5	27	22	SMK20-12L-PG-C6F	SMK20-12L-VG-C6F
			2.09	.91	1.99	1.06	.87		
		15	55	25	52	30	27	SMK20-15L-PG-C6F	SMK20-15L-VG-C6F
			2.17	.98	2.05	1.18	1.06		
		18	57	24	53	32	32	SMK20-18L-PG-C6F	SMK20-18L-VG-C6F
			2.24	.94	2.09	1.26	1.26		
	160 2320	22	61	28	55	36	36	SMK20-22L-PG-C6F	SMK20-22L-VG-C6F
			2.40	1.10	2.17	1.42	1.42		
		28	61	28	57,5	41	41	SMK20-28L-PG-C6F	SMK20-28L-VG-C6F
			2.40	1.10	2.26	1.61	1.61		
		35	69	26	60	46	50	SMK20-35L-PG-C6F	SMK20-35L-VG-C6F
			2.72	1.02	2.36	1.81	1.97		
		42	71	25	64,5	55	60	SMK20-42L-PG-C6F	SMK20-42L-VG-C6F
			2.80	.98	2.54	2.17	2.36		
S	630 9137	6	55	25	49	24	17	SMK20-06S-PG-C6F	SMK20-06S-VG-C6F
			2.17	.98	1.93	.94	.67		
		8	55	25	49	24	19	SMK20-08S-PG-C6F	SMK20-08S-VG-C6F
			2.17	.98	1.93	.94	.75		
		10	57	24	49	24	22	SMK20-10S-PG-C6F	SMK20-10S-VG-C6F
			2.24	.94	1.93	.94	.87		
		12	57	24	49	24	24	SMK20-12S-PG-C6F	SMK20-12S-VG-C6F
			2.24	.94	1.93	.94	.94		
		14	63	27	50,5	27	27	SMK20-14S-PG-C6F	SMK20-14S-VG-C6F
			2.50	1.06	1.99	1.06	1.06		
	400 5801	16	63	26	52	30	30	SMK20-16S-PG-C6F	SMK20-16S-VG-C6F
			2.50	1.02	2.05	1.18	1.18		
		20	69	26	55	36	36	SMK20-20S-PG-C6F	SMK20-20S-VG-C6F
			2.72	1.02	2.17	1.42	1.42		
		25	75	27	57,5	41	46	SMK20-25S-PG-C6F	SMK20-25S-VG-C6F
			2.95	1.06	2.26	1.61	1.81		
		30	81	28	60	46	50	SMK20-30S-PG-C6F	SMK20-30S-VG-C6F
			3.19	1.10	2.36	1.81	1.97		
	315 4568	38	91	29	64,5	55	60	SMK20-38S-PG-C6F	SMK20-38S-VG-C6F
			3.58	1.14	2.54	2.17	2.36		

Dimensional drawings: All dimensions in mm (in).

Test Coupling for 24° Cone Fittings SMK20 Type K



Version A



Version B



Series	PN (bar/PSI)	Pipe Ø d	Dimensions (mm/in) I3	Hex A	Thread G	Version	Order Codes NBR	FPM* (Standard Option-North America)
L	315 4568	6	15,5 .61	14 .55	M12 x 1,5	A	SMK20-06L-PK-C6F	SMK20-06L-VK-C6F
		8	15,5 .61	17 .67	M14 x 1,5	A	SMK20-08L-PK-C6F	SMK20-08L-VK-C6F
		10	16,5 .65	19 .75	M16 x 1,5	A	SMK20-10L-PK-C6F	SMK20-10L-VK-C6F
		12	17,5 .69	22 .87	M18 x 1,5	A	SMK20-12L-PK-C6F	SMK20-12L-VK-C6F
		15	21 .83	27 1.06	M22 x 1,5	B	SMK20-15L-PK-GS-C6F	SMK20-15L-VK-GS-C6F
		18	19,5 .77	32 1.26	M26 x 1,5	B	SMK20-18L-PK-GS-C6F	SMK20-18L-VK-GS-C6F
	160 2320	22	20,5 .81	36 1.42	M30 x 2	B	SMK20-22L-PK-GS-C6F	SMK20-22L-VK-GS-C6F
		28	25 .98	41 1.61	M36 x 2	B	SMK20-28L-PK-GS-C6F	SMK20-28L-VK-GS-C6F
		35	30 1.18	50 1.97	M45 x 2	B	SMK20-35L-PK-GS-C6F	SMK20-35L-VK-GS-C6F
		42	31 1.22	60 2.36	M52 x 2	B	SMK20-42L-PK-GS-C6F	SMK20-42L-VK-GS-C6F
S	630 9137	6	14,5 .57	17 .67	M14 x 1,5	A	SMK20-06S-PK-C6F	SMK20-06S-VK-C6F
		8	16,5 .65	19 .75	M16 x 1,5	A	SMK20-08S-PK-C6F	SMK20-08S-VK-C6F
		10	16,5 .65	22 .87	M18 x 1,5	A	SMK20-10S-PK-C6F	SMK20-10S-VK-C6F
		12	17,5 .69	24 .94	M20 x 1,5	A	SMK20-12S-PK-C6F	SMK20-12S-VK-C6F
		14	19,5 .77	27 1.06	M22 x 1,5	B	SMK20-14S-PK-GS-C6F	SMK20-14S-VK-GS-C6F
	400 5801	16	18 .71	30 1.18	M24 x 1,5	B	SMK20-16S-PK-GS-C6F	SMK20-16S-VK-GS-C6F
		20	24 .94	36 1.42	M30 x 2	B	SMK20-20S-PK-GS-C6F	SMK20-20S-VK-GS-C6F
		25	26 1.02	46 1.81	M36 x 2	B	SMK20-25S-PK-GS-C6F	SMK20-25S-VK-GS-C6F
		30	30 1.18	50 1.97	M42 x 2	B	SMK20-30S-PK-GS-C6F	SMK20-30S-VK-GS-C6F
	315 4568	38	34 1.34	60 2.36	M52 x 2	B	SMK20-38S-PK-GS-C6F	SMK20-38S-VK-GS-C6F

- For DKO connection
- According to ISO 8434-1 / DIN 2353
- Version A: one-piece design
- Version B: screwed design

Metal Parts

Standard material: Steel, zinc/nickel-plated = **C6F (CrVI-free)**
For ordering V2A (1.4305 / AISI 303) replace "C6F" with "V2A".
For ordering V4A (1.4571 / AISI 316Ti) replace "C6F" with "V4A".

Sealings

For ordering NBR sealings replace "V" with "P".
For ordering EPDM sealings replace "V" with "E".

*** Standard option for North America is FPM (Viton®).**

Protection Cap

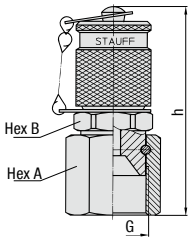
Standard material: Steel
For ordering the hexagonal protection cap version please add "-SK" to the order code. (e.g. SMK20-08L-VK-SK-C6F)
For ordering the plastic protection cap version please add "-KK" to the order code. (e.g. SMK20-08L-VK-KK-C6F)

For further information on materials, sealings or protection caps, please see page B4.

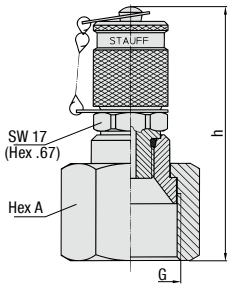
Dimensional drawings: All dimensions in mm (in).

Test Coupling SMK-JIC Connection (to SAE-J514)
SMK20-JIC Type K





Version A



Version B

- 37° JIC fittings acc. to SAE J514
- Version A: one-piece design
- Version B: screwed design

Metal Parts

Standard material: Steel, zinc/nickel-plated = **C6F (CrVI-free)**
For ordering V2A (1.4305 / AISI 303) replace "C6F" with "V2A".
For ordering V4A (1.4571 / AISI 316Ti) replace "C6F" with "V4A".

Sealings

For ordering NBR sealings replace "V" with "P".
For ordering EPDM sealings replace "V" with "E".

*** Standard option for North America is FPM (Viton®).**

Protection Cap

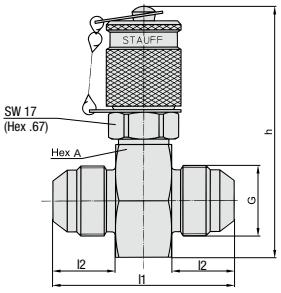
Standard material: Steel
For ordering the hexagonal protection cap version please add "-SK" to the order code. (e.g. SMK20-JIC5/16-VK-SK-C6F)
For ordering the plastic protection cap version please add "-KK" to the order code. (e.g. SMK20-JIC5/16-VK-KK-C6F)

Pipe Ø d inch	JIC Size	Dimensions (mm/in) h	Hex A	Hex B	Thread G	Version	Order Codes NBR	FPM* (Standard Option-North America)
1/4	-4	53	17	17	7/16–20 UNF	A	SMK20-JIC1/4-PK-C6F	SMK20-JIC1/4-VK-C6F
		2.09	.67	.67				
5/16	-5	53,5	17	17	1/2–20 UNF	A	SMK20-JIC5/16-PK-C6F	SMK20-JIC5/16-VK-C6F
		2.11	.67	.67				
3/8	-6	55,5	19	17	9/16–18 UNF	A	SMK20-JIC3/8-PK-C6F	SMK20-JIC3/8-VK-C6F
		2.19	.75	.67				
1/2	-8	56,5	22	19	3/4–16 UNF	A	SMK20-JIC1/2-PK-C6F	SMK20-JIC1/2-VK-C6F
		2.22	.87	.75				
5/8	-10	60	27	22	7/8–14 UNF	A	SMK20-JIC5/8-PK-C6F	SMK20-JIC5/8-VK-C6F
		2.36	1.06	.87				
3/4	-12	70,5	32	-	1-1/16–12 UN	B	SMK20-JIC3/4-PK-GS-C6F	SMK20-JIC3/4-VK-GS-C6F
		2.78	1.26					
1	-16	69	38	-	1-5/16–12 UN	B	SMK20-JIC1-PK-GS-C6F	SMK20-JIC1-VK-GS-C6F
		2.72	1.50					
1-1/4	-20	73,5	50	-	1-5/8–12 UN	B	SMK20-JIC1-1/4-PK-GS-C6F	SMK20-JIC1-1/4-VK-GS-C6F
		2.89	1.97					
1-1/2	-24	76	60	-	1-7/8–12 UN	B	SMK20-JIC1-1/2-PK-GS-C6F	SMK20-JIC1-1/2-VK-GS-C6F
		2.99	2.36					

For further information on materials, sealings or protection caps, please see page B4.

Test Coupling SMK-JIC Connection (to SAE-J514)
SMK20-JIC Type G





- 37° JIC fittings acc. to SAE J514

Metal Parts

Standard material: Steel, zinc/nickel-plated = **C6F (CrVI-free)**
For ordering V2A (1.4305 / AISI 303) replace "C6F" with "V2A".
For ordering V4A (1.4571 / AISI 316Ti) replace "C6F" with "V4A".

Sealings

For ordering NBR sealings replace "V" with "P".
For ordering EPDM sealings replace "V" with "E".

*** Standard option for North America is FPM (Viton®).**

Protection Cap

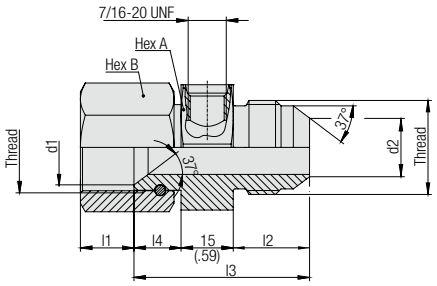
Standard material: Steel
For ordering the hexagonal protection cap version please add "-SK" to the order code. (e.g. SMK20-JIC5/16-VG-SK-C6F)
For ordering the plastic protection cap version please add "-KK" to the order code. (e.g. SMK20-JIC5/16-VG-KK-C6F)

Pipe Ø d inch	JIC Size	Dimensions (mm/in) l1	l2	h	Hex A	Thread G	Order Codes NBR	FPM* (Standard Option-North America)
1/4	-4	43	14	61	24	7/16–20 UNF	SMK20-JIC1/4-PG-C6F	SMK20-JIC1/4-VG-C6F
		1.69	.55	2.40	.94			
5/16	-5	43	14	61	24	1/2–20 UNF	SMK20-JIC5/16-PG-C6F	SMK20-JIC5/16-VG-C6F
		1.69	.55	2.40	.94			
3/8	-6	43	14	61	24	9/16–18 UNF	SMK20-JIC3/8-PG-C6F	SMK20-JIC3/8-VG-C6F
		1.69	.55	2.40	.94			
1/2	-8	48,5	16,5	67	30	3/4–16 UNF	SMK20-JIC1/2-PG-C6F	SMK20-JIC1/2-VG-C6F
		1.91	.65	2.64	1.18			
5/8	-10	53,5	19,5	67	30	7/8–14 UNF	SMK20-JIC5/8-PG-C6F	SMK20-JIC5/8-VG-C6F
		2.11	.77	2.64	1.18			
3/4	-12	59	22	73	36	1-1/16–12 UN	SMK20-JIC3/4-PG-C6F	SMK20-JIC3/4-VG-C6F
		2.32	.87	2.87	1.42			
1	-16	61	23	78	41	1-5/16–12 UN	SMK20-JIC1-PG-C6F	SMK20-JIC1-VG-C6F
		2.40	.91	3.07	1.61			
1-1/4	-20	65,5	24,5	83	46	1-5/8–12 UN	SMK20-JIC1-1/4-PG-C6F	SMK20-JIC1-1/4-VG-C6F
		2.58	.96	3.26	1.81			
1-1/2	-24	72	27,5	92	55	1-7/8–12 UN	SMK20-JIC1-1/2-PG-C6F	SMK20-JIC1-1/2-VG-C6F
		2.83	1.08	3.62	2.17			

For further information on materials, sealings or protection caps, please see page B4.

Dimensional drawings: All dimensions in mm (in).

Swivel Run Tee with JIC Connection
SGV-JIC Type F/M





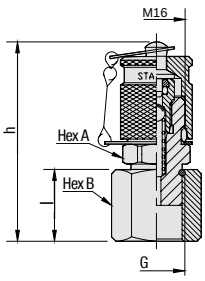
Thread	Dimensions (mm/in)								Order Codes
inch	Ø d1	Ø d2	l1	l2	l3	l4	Hex A	Hex B	
7/16–20 UNF	7,49	4,9	9	14	37	8	27	17	SGV-7/16UNF-04-JIC1/4-F/M-C6F
	.29	.19	.35	.55	1.46	.31	1.06	.67	
9/16–18 UNF	11,05	8,1	10,5	14	37,5	8,5	27	19	SGV-7/16UNF-06-JIC3/8-F/M-C6F
	.44	.32	.41	.55	1.48	.33	1.06	.75	
3/4–16 UNF	15,9	10,8	10,5	16,7	43,7	12	30	22	SGV-7/16UNF-08-JIC1/2-F/M-C6F
	.63	.43	.41	.66	1.72	.47	1.18	.87	
1-1/16–12 UNF	21,6	16,9	15,4	21,9	50,4	13,5	36	32	SGV-7/16UNF-12-JIC3/4-F/M-C6F
	.85	.66	.61	.86	1.98	.53	1.42	1.26	
1-5/16–12 UNF	27,9	23,2	17,3	23,1	53,1	15	41	41	SGV-7/16UNF-16-JIC1-F/M-C6F
	1.10	.91	.68	.91	2.09	.59	1.61	1.61	

Metal Parts

Standard material: Steel, zinc/nickel-plated = **C6F (CrVI-free)**
For ordering V2A (1.4305 / AISI 303) replace "C6F" with "V2A".
For ordering V4A (1.4571 / AISI 316Ti) replace "C6F" with "V4A".

For further information please consult STAUFF.

Test Coupling with ORFS Connection
SMK20 Type ORFS





Thread	Dimensions (mm/in)				Order Codes	
					NBR	FPM*
G	h	l	Hex A	Hex B		(Standard Option-North America)
9/16–18 UNF	54	19	17	17	SMK20-04-ORFS-P-C6F	SMK20-04-ORFS-V-C6F
	2.1	.75	.67	.67		
11/16–16 UNF	54	19	19	21	SMK20-06-ORFS-P-C6F	SMK20-06-ORFS-V-C6F
	2.1	.75	.75	.80		
13/16–16 UNF	54	19	22	24	SMK20-08-ORFS-P-C6F	SMK20-08-ORFS-V-C6F
	2.1	.75	.87	.87		

For further information on materials, sealings or protection caps, please see page B4.

Metal Parts

Standard material: Steel, zinc/nickel-plated = **C6F (CrVI-free)**
For ordering V2A (1.4305 / AISI 303) replace "C6F" with "V2A".
For ordering V4A (1.4571 / AISI 316Ti) replace "C6F" with "V4A".

Sealings

For ordering NBR sealings replace "V" with "P".
For ordering EPDM sealings replace "V" with "E".

*** Standard option for North America is FPM (Viton®).**

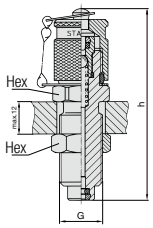
Protection Cap

Standard material: Steel
For ordering the hexagonal protection cap version please add "-SK" to the order code. (e.g. SMK20-04-ORFS-V-SK-C6F)
For ordering the plastic protection cap version please add "-KK" to the order code. (e.g. SMK20-04-ORFS-V-KK-C6F)

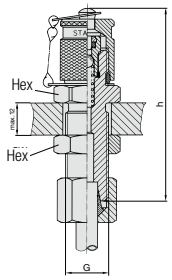
Dimensional drawings: All dimensions in mm (in).

Bulkhead
SSK20

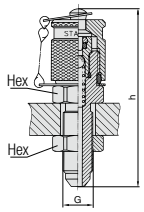




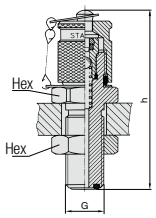
Version A



Version B



Version C



Version D

- Also available for gaseous media Type SSKK

Threads

*1 Compression ring assembly 08L/ 08S/ 12L according to ISO 8434-1 / DIN 2353
*2 JIC cone fitting according to SAE J514
*3 O-ring face sealing according to SAE J1453

Metal Parts

Standard material: Steel, zinc/nickel-plated = **C6F (CrVI-free)**
For ordering V2A (1.4305 / AISI 303) replace "C6F" with "V2A".
For ordering V4A (1.4571 / AISI 316Ti) replace "C6F" with "V4A".

Sealings

For ordering NBR sealings replace "V" with "P".
For ordering EPDM sealings replace "V" with "E".

*** Standard option for North America is FPM (Viton®).**

Protection Cap

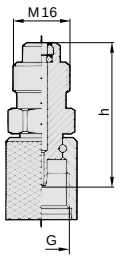
Standard material: Steel
For ordering the hexagonal protection cap version please add "-SK" to the order code. (e.g. SKK20-V-SK-C6F)
For ordering the plastic protection cap version please add "-KK" to the order code. (e.g. SKK20-V-KK-C6F)

For further information on materials, sealings or protection caps, please see page B4.

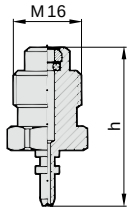
Note: Standard option version B without compression ring and nut.

Thread	Dimensions (mm/in)		Version	Order Codes	
				NBR	FPM* (Standard Option-North America)
G	h	Hex			
M16	72	19	A	SSK20-P-C6F	SSK20-V-C6F
	2.83	.75			
M14 x 1,5*1	72	19	B	SSK20/08L-P-C6F	SSK20/08L-V-C6F
	2.83	.75			
M16 x 1,5*1	72	22	B	SSK20/08S-P-C6F	SSK20/08S-V-C6F
	2.83	.87			
M18 x 1,5*1	72	22	B	SSK20/12L-P-C6F	SSK20/12L-V-C6F
	2.83	.87			
7/16–20 UNF*2	66	17	C	SSK20/J7/16UNF-MV-P-C6F	SSK20/J7/16UNF-MV-V-C6F
	2.60	.67			
9/16–18 UNF*3	67	22	D	SSK20-04-ORFS-P-C6F	SSK20-04-ORFS-V-C6F
	2.64	.87			
11/16–16 UN*3	72	27	D	SSK20-06-ORFS-P-C6F	SSK20-06-ORFS-V-C6F
	2.83	1.06			
13/16–16 UNF*3	75	30	D	SSK20-08-ORFS-P-C6F	SSK20-08-ORFS-V-C6F
	2.95	1.18			

Adaptor SAD20



Version A



Version B



Thread G	Dimensions (mm/in) h	Version	Order Codes NBR	FPM* (Standard Option-North America)
M16 x 1,5	39 1.54	A	SAD20/15-P-C6F	SAD20/15-V-C6F
S12*1	39 1.54	A	SAD20/12-P-C6F	SAD20/12-V-C6F
Plug in	37 1.46	B	SAD20/10-P-C6F	SAD20/10-V-C6F

Threads

*1 Special thread: buttress thread S12,65 x1,5

Metal Parts

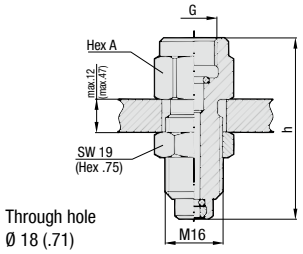
Standard material: Steel, zinc/nickel-plated = **C6F (CrVI-free)**
For ordering V2A (1.4305 / AISI 303) replace "C6F" with "V2A".
For ordering V4A (1.4571 / AISI 316Ti) replace "C6F" with "V4A".

Sealings

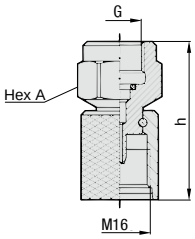
For ordering NBR sealings replace "V" with "P".
For ordering EPDM sealings replace "V" with "E".

*** Standard option for North America is FPM (Viton®).**

Gauge Adaptor SMA20 / Direct Gauge Adaptor SMD20



Gauge Adaptor SMA20



Direct Gauge Adaptor SMD20





Thread G	Dimensions (mm/in) h	Hex A	Order Codes NBR	FPM* (Standard Option-North America)
G1/4	54 2.13	19 .75	SMA20-G1/4-P-OR-C6F	SMA20-G1/4-V-OR-C6F
G1/2	64 2.52	27 1.06	SMA20-G1/2-P-OR-C6F	SMA20-G1/2-V-OR-C6F
1/4 NPT	54 2.13	19 .75	SMA20-1/4NPT-P-C6F	SMA20-1/4NPT-V-C6F
1/2 NPT	64 2.52	27 1.06	SMA20-1/2NPT-P-C6F	SMA20-1/2NPT-V-C6F
9/16–18 UNF	57 2.24	19 .75	SMA20-9/16UNF-P-C6F	SMA20-9/16UNF-V-C6F
G1/4	41 1.61	19 .75	SMD20-G1/4-P-OR-C6F	SMD20-G1/4-V-OR-C6F
G1/2	51 2.01	27 1.06	SMD20-G1/2-P-OR-C6F	SMD20-G1/2-V-OR-C6F
1/4 NPT	41 1.61	19 .75	SMD20-1/4NPT-P-C6F	SMD20-1/4NPT-V-C6F
1/2 NPT	51 2.01	27 1.06	SMD20-1/2NPT-P-C6F	SMD20-1/2NPT-V-C6F
7/16–20 UNF	41 1.61	19 .75	SMD20-7/16UNF-P-C6F	SMD20-7/16UNF-V-C6F

Metal Parts

Standard material: Steel, zinc/nickel-plated = **C6F (CrVI-free)**
For ordering V2A (1.4305 / AISI 303) replace "C6F" with "V2A".
For ordering V4A (1.4571 / AISI 316Ti) replace "C6F" with "V4A".

Sealings

For ordering NBR sealings replace "V" with "P".
For ordering EPDM sealings replace "V" with "E".

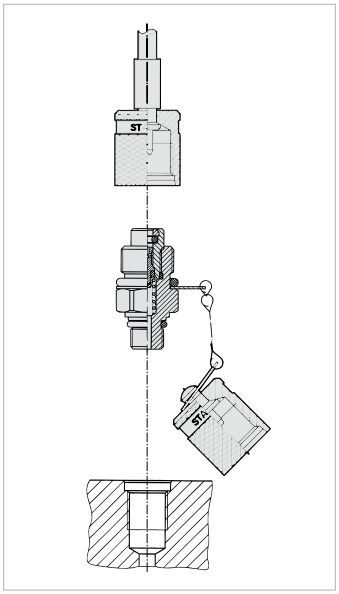
*** Standard option for North America is FPM (Viton®).**

Snubber on request.

Dimensional drawings: All dimensions in mm (in).

Test Coupling with Piston Valve





Fast coupling for

- Monitoring and control of pressure
- Venting
- Sampling in high- and low-pressure systems
- Filling of accumulators (special filling-version)

Advantages

- Test system at working pressure
- Leakproof connection before **piston valve** is open
- Simple connection to measurement, control and switching devices
- Self locking metal protective cap

Working Pressure

- Max. working pressure 630 bar / 9137 PSI
  For SKK Type G and K the recommended working pressure of fitting manufacturer should be noted.
- Connection under pressure up to 400 bar / 5801 PSI max.

DVGW

- DVGW registration as test coupling for gas pressure control systems with the Deutsche Vereinigung des Gas- und Wasserfaches e.V.
- The DVGW approval relates solely to the following test couplings:
  - SKK20-M8x1-VA-DVGW-C6F
  - SKK20-M10x1-VA-DVGW-C6F
  - SKK20-1/8NPT-VD-DVGW-C6F
  - SKK20-1/4NPT-VD-DVGW-C6F

Media

- Suitable for hydraulic oils and other Mineral oil based fluids
  (Check compatibility of sealing material)
- For use with other liquid media please consult STAUFF
- In case of ultimate tightness requirements for gaseous media, a special Gas-type is available

Materials

- **Metal Parts:**
  Standard material: Steel, zinc/nickel-plated = **C6F (CrVI-free)**
  Optional:
  Stainless Steel **V2A** (1.4305 / AISI 303) on request
  Stainless Steel **V4A** (1.4571 / AISI 316Ti) on request

  For ordering "V2A" or "V4A" please replace "C6F" with "V2A" or "V4A".

- **Sealings:**
  P = NBR (Buna-N®)
  (Temperature range -20 °C ... +100 °C / -4 °F ... +212 °F)
  Note: Internal sealings made of FPM, even for standard NBR-type.

  V = FPM (Viton®)*
  (Temperature range -20 °C ... +200 °C / -4 °F ... +392 °F)

  *** Standard option for North America is FPM (Viton®)**

  E = EPDM Ethylene Propylene Diene Monomer Rubber
  (for Brake fluid,
  Temperature range -40 °C ... +150 °C / -40 °F ... +302 °F)

  For ordering NBR or EPDM sealings please replace "V" with "P" or "E".

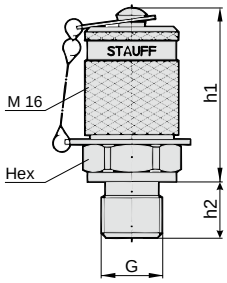
  Vibration safety O-ring made of NBR (Buna-N®) (standard).

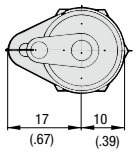
Protection Cap

- The complete STAUFF-Test-20-Type-SKK range is also available with a hexagonal protection cap made of steel or plastic protection cap.

  For ordering the hexagonal protection cap version please add "-SK" to the order code.
  (e.g. SKK20-M10x1-VA-**SK**-C6F)
  For ordering the plastic protection cap version please add "-KK" to the order code.
  (e.g. SKK20-M10x1-VA-**KK**-C6F)

SKK20 Test Coupling with Port Connection	**SKK20 Type G** Test Coupling complete with Straight Fitting	**SKK20 Type K** Test Coupling for 24° Cone Fittings
		





Test Coupling with Port Connection SKK20



Thread G	Sealing	Working Pressure (bar/PSI)	Dimensions (mm/in) h1	h2	Hex	Order Codes NBR	FPM* (Standard Option-North America)
M8 x 1	Type A	250	38	8,5	17	SKK20-M8x1-PA-C6F	SKK20-M8x1-VA-C6F
		3625	1.50	.33	.67		
M10 x 1		630	38	9,8	17	SKK20-M10x1-PA-C6F	SKK20-M10x1-VA-C6F
		9137	1.50	.39	.67		
M12 x 1,5	Type B	630	37	12	17	SKK20-M12x1,5-PB-C6F	SKK20-M12x1,5-VB-C6F
		9137	1.46	.47	.67		
M14 x 1,5		630	37	12	19	SKK20-M14x1,5-PB-C6F	SKK20-M14x1,5-VB-C6F
		9137	1.46	.47	.75		
M16 x 1,5		630	37	12	22	SKK20-M16x1,5-PB-C6F	SKK20-M16x1,5-VB-C6F
		9137	1.46	.47	.87		
G1/4		630	37	12	19	SKK20-G1/4-PB-C6F	SKK20-G1/4-VB-C6F
		9137	1.46	.47	.75		
G3/8		630	37	12	22	SKK20-G3/8-PB-C6F	SKK20-G3/8-VB-C6F
		9137	1.46	.47	.87		
M10 x 1	Type C	400	39	8	17	SKK20-M10x1-PC-C6F	SKK20-M10x1-VC-C6F
		5801	1.54	.31	.67		
M12 x 1,5		630	37	12	17	SKK20-M12x1,5-PC-C6F	SKK20-M12x1,5-VC-C6F
		9137	1.46	.47	.67		
M14 x 1,5		630	37	12	19	SKK20-M14x1,5-PC-C6F	SKK20-M14x1,5-VC-C6F
		9137	1.46	.47	.75		
M16 x 1,5		630	37	12	22	SKK20-M16x1,5-PC-C6F	SKK20-M16x1,5-VC-C6F
		9137	1.46	.47	.87		
G1/8		400	39	8	17	SKK20-G1/8-PC-C6F	SKK20-G1/8-VC-C6F
		5801	1.54	.31	.67		
G1/4		630	37	12	19	SKK20-G1/4-PC-C6F	SKK20-G1/4-VC-C6F
		9137	1.46	.47	.75		
G3/8		630	37	12	22	SKK20-G3/8-PC-C6F	SKK20-G3/8-VC-C6F
		9137	1.46	.47	.87		
G1/2		630	39	14	27	SKK20-G1/2-PC-C6F	SKK20-G1/2-VC-C6F
		9137	1.54	.55	1.06		
R1/8 K	Type D	400	37	8	17	SKK20-R1/8K-PD-C6F	SKK20-R1/8K-VD-C6F
		5801	1.46	.31	.67		
R1/4 K		630	35	12	17	SKK20-R1/4K-PD-C6F	SKK20-R1/4K-VD-C6F
		9137	1.38	.47	.67		
1/8 NPT		400	36	10	17	SKK20-1/8NPT-PD-C6F	SKK20-1/8NPT-VD-C6F
		5801	1.42	.39	.67		
1/4 NPT		630	35	15	17	SKK20-1/4NPT-PD-C6F	SKK20-1/4NPT-VD-C6F
		9137	1.38	.59	.67		
5/16–24 UNF	Type E	400	38	7,5	17	SKK20-5/16UNF-PE-C6F	SKK20-5/16UNF-VE-C6F
		5801	1.50	.30	.67		
7/16–20 UNF		630	38	9,1	17	SKK20-7/16UNF-PE-C6F	SKK20-7/16UNF-VE-C6F
		9137	1.50	.36	.67		
1/2–20 UNF		630	38	9,2	17	SKK20-1/2UNF-PE-C6F	SKK20-1/2UNF-VE-C6F
		9137	1.50	.36	.67		
9/16–18 UNF		630	37	10	19	SKK20-9/16UNF-PE-C6F	SKK20-9/16UNF-VE-C6F
		9137	1.46	.39	.75		
M12 x1,5		630	37	11	17	SKK20-M12x1,5-PE-C6F	SKK20-M12x1,5-VE-C6F
		9137	1.46	.43	.67		
M14 x 1,5		630	38	11	19	SKK20-M14x1,5-PE-C6F	SKK20-M14x1,5-VE-C6F
		9137	1.50	.43	.75		

Metal Parts

Standard material: Steel, zinc/nickel-plated = **C6F (CrVI-free)**
For ordering V2A (1.4305 / AISI 303) replace "C6F" with "V2A".
For ordering V4A (1.4571 / AISI 316Ti) replace "C6F" with "V4A".

Sealings

For ordering NBR sealings replace "V" with "P".
For ordering EPDM sealings replace "V" with "E".

*** Standard option for North America is FPM (Viton®).**

Sealing Details


O-ring Type A


Metal Joint Type B


Elastomeric Sealing Type C


Taper Type D
(suitable sealant required)


O-ring Type E

Protection Cap

Standard material: Steel
For ordering the hexagonal protection cap version please add "-SK" to the order code. (e.g. SKK20-M10x1-VA-SK-C6F)
For ordering the plastic protection cap version please add "-KK" to the order code. (e.g. SKK20-M10x1-VA-KK-C6F)

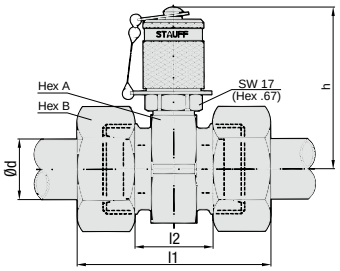
For further information on materials, sealings or protection caps, please see page B12.

Other port connections and sealings on request.
Please consult STAUFF for further information.

Dimensional drawings: All dimensions in mm (in).

Test Coupling complete with Straight Fitting SKK20 Type G





- Compression ring fittings acc. to ISO 8434-1 / DIN 2353

Metal Parts

Standard material: Steel, zinc/nickel-plated = **C6F (CrVI-free)**
For ordering V2A (1.4305 / AISI 303) replace "C6F" with "V2A".
For ordering V4A (1.4571 / AISI 316Ti) replace "C6F" with "V4A".

Sealings

For ordering NBR sealings replace "V" with "P".
For ordering EPDM sealings replace "V" with "E".

*** Standard option for North America is FPM (Viton®).**

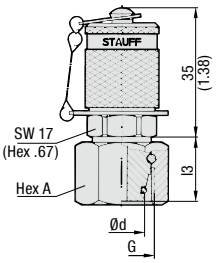
Protection Cap

Standard material: Steel
For ordering the hexagonal protection cap version please add "-SK" to the order code. (e.g. SKK20-08L-VG-SK-C6F)
For ordering the plastic protection cap version please add "-KK" to the order code. (e.g. SKK20-08L-VG-KK-C6F)

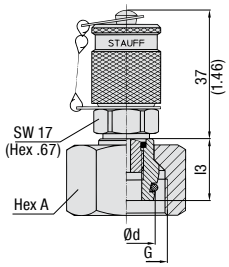
For further information on materials, sealings or protection caps, please see page B12.

Series	PN (bar/psi)	Pipe Ød	Dimensions (mm/in) ~l1	l2	h	Hex A	Hex B	Order Codes NBR	FPM* (Standard Option-North America)
L	315 4568	6	51	21	49	24	14	SKK20-06L-PG-C6F	SKK20-06L-VG-C6F
			2.01	.83	1.93	.94	.55		
		8	51	21	49	24	17	SKK20-08L-PG-C6F	SKK20-08L-VG-C6F
			2.01	.83	1.93	.94	.67		
		10	53	23	49	24	19	SKK20-10L-PG-C6F	SKK20-10L-VG-C6F
			2.09	.91	1.93	.94	.75		
		12	53	23	50,5	27	22	SKK20-12L-PG-C6F	SKK20-12L-VG-C6F
			2.09	.91	1.99	1.06	.87		
		15	55	25	52	30	27	SKK20-15L-PG-C6F	SKK20-15L-VG-C6F
			2.17	.98	2.05	1.18	1.06		
		18	57	24	53	32	32	SKK20-18L-PG-C6F	SKK20-18L-VG-C6F
			2.24	.94	2.09	1.26	1.26		
	160 2320	22	61	28	55	36	36	SKK20-22L-PG-C6F	SKK20-22L-VG-C6F
			2.40	1.10	2.17	1.42	1.42		
		28	61	28	57,5	41	41	SKK20-28L-PG-C6F	SKK20-28L-VG-C6F
			2.40	1.10	2.26	1.61	1.61		
		35	69	26	60	46	50	SKK20-35L-PG-C6F	SKK20-35L-VG-C6F
			2.72	1.02	2.36	1.81	1.97		
		42	71	25	64,5	55	60	SKK20-42L-PG-C6F	SKK20-42L-VG-C6F
			2.80	.98	2.54	2.17	2.36		
S	630 9137	6	55	25	49	24	17	SKK20-06S-PG-C6F	SKK20-06S-VG-C6F
			2.17	.98	1.93	.94	.67		
		8	55	25	49	24	19	SKK20-08S-PG-C6F	SKK20-08S-VG-C6F
			2.17	.98	1.93	.94	.75		
		10	57	24	49	24	22	SKK20-10S-PG-C6F	SKK20-10S-VG-C6F
			2.24	.94	1.93	.94	.87		
		12	57	24	49	24	24	SKK20-12S-PG-C6F	SKK20-12S-VG-C6F
			2.24	.94	1.93	.94	.94		
		14	63	27	50,5	27	27	SKK20-14S-PG-C6F	SKK20-14S-VG-C6F
			2.50	1.06	1.99	1.06	1.06		
	400 5801	16	63	26	52	30	30	SKK20-16S-PG-C6F	SKK20-16S-VG-C6F
			2.50	1.02	2.05	1.18	1.18		
		20	69	26	55	36	36	SKK20-20S-PG-C6F	SKK20-20S-VG-C6F
			2.72	1.02	2.17	1.42	1.42		
		25	75	27	57,5	41	46	SKK20-25S-PG-C6F	SKK20-25S-VG-C6F
			2.95	1.06	2.26	1.61	1.81		
		30	81	28	60	46	50	SKK20-30S-PG-C6F	SKK20-30S-VG-C6F
			3.19	1.10	2.36	1.81	1.97		
	315 4568	38	91	29	64,5	55	60	SKK20-38S-PG-C6F	SKK20-38S-VG-C6F
			3.58	1.14	2.54	2.17	2.36		

Dimensional drawings: All dimensions in mm (in).



Version A



Version B

Test Coupling for 24° Cone Fittings SKK20 Type K



Series	PN (bar/PSI)	Pipe Ød	Dimensions (mm/in) l3	Hex A	Thread G	Version	Order Codes NBR	FPM* (Standard Option-North America)
L	315 4568	6	15,5 .61	14 .55	M12 x 1,5	A	SKK20-06L-PK-C6F	SKK20-06L-VK-C6F
		8	15,5 .61	17 .67	M14 x 1,5	A	SKK20-08L-PK-C6F	SKK20-08L-VK-C6F
		10	16,5 .65	19 .75	M16 x 1,5	A	SKK20-10L-PK-C6F	SKK20-10L-VK-C6F
		12	17,5 .69	22 .87	M18 x 1,5	A	SKK20-12L-PK-C6F	SKK20-12L-VK-C6F
		15	21 .83	27 1.06	M22 x 1,5	B	SKK20-15L-PK-GS-C6F	SKK20-15L-VK-GS-C6F
		18	19,5 .77	32 1.26	M26 x 1,5	B	SKK20-18L-PK-GS-C6F	SKK20-18L-VK-GS-C6F
	160 2320	22	20,5 .81	36 1.42	M30 x 2	B	SKK20-22L-PK-GS-C6F	SKK20-22L-VK-GS-C6F
		28	25 .98	41 1.61	M36 x 2	B	SKK20-28L-PK-GS-C6F	SKK20-28L-VK-GS-C6F
		35	30 1.18	50 1.97	M45 x 2	B	SKK20-35L-PK-GS-C6F	SKK20-35L-VK-GS-C6F
		42	31 1.22	60 2.36	M52 x 2	B	SKK20-42L-PK-GS-C6F	SKK20-42L-VK-GS-C6F
S	630 9137	6	14,5 .57	17 .67	M14 x 1,5	A	SKK20-06S-PK-C6F	SKK20-06S-VK-C6F
		8	16,5 .65	19 .75	M16 x 1,5	A	SKK20-08S-PK-C6F	SKK20-08S-VK-C6F
		10	16,5 .65	22 .87	M18 x 1,5	A	SKK20-10S-PK-C6F	SKK20-10S-VK-C6F
		12	17,5 .69	24 .94	M20 x 1,5	A	SKK20-12S-PK-C6F	SKK20-12S-VK-C6F
		14	19,5 .77	27 1.06	M22 x 1,5	B	SKK20-14S-PK-GS-C6F	SKK20-14S-VK-GS-C6F
	400 5801	16	18 .71	30 1.18	M24 x 1,5	B	SKK20-16S-PK-GS-C6F	SKK20-16S-VK-GS-C6F
		20	24 .94	36 1.42	M30 x 2	B	SKK20-20S-PK-GS-C6F	SKK20-20S-VK-GS-C6F
		25	26 1.02	46 1.81	M36 x 2	B	SKK20-25S-PK-GS-C6F	SKK20-25S-VK-GS-C6F
		30	30 1.18	50 1.97	M42 x 2	B	SKK20-30S-PK-GS-C6F	SKK20-30S-VK-GS-C6F
	315 4568	38	34 1.34	60 2.36	M52 x 2	B	SKK20-38S-PK-GS-C6F	SKK20-38S-VK-GS-C6F

- For DKO connection
- According to ISO 8434-1 / DIN 2353
- Version A: one-piece design
- Version B: screwed design

Metal Parts

Standard material: Steel, zinc/nickel-plated = **C6F (CrVI-free)**
For ordering V2A (1.4305 / AISI 303) replace "C6F" with "V2A".
For ordering V4A (1.4571 / AISI 316Ti) replace "C6F" with "V4A".

Sealings

For ordering NBR sealings replace "V" with "P".
For ordering EPDM sealings replace "V" with "E".

*** Standard option for North America is FPM (Viton®).**

Protection Cap

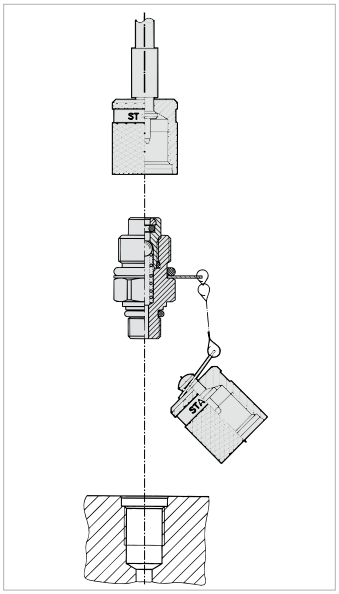
Standard material: Steel
For ordering the hexagonal protection cap version please add "-SK" to the order code. (e.g. SKK20-08L-VK-SK-C6F)
For ordering the plastic protection cap version please add "-KK" to the order code. (e.g. SKK20-08L-VK-KK-C6F)

For further information on materials, sealings or protection caps, please see page B12.

Dimensional drawings: All dimensions in mm (in).

Test Coupling with Ball Check





Fast coupling for

- Monitoring and control of pressure
- Venting
- Sampling in high- and low-pressure systems

Advantages

- Test system at working pressure
- Leak proof connection before **ball check** is open
- Simple connection to measurement, control and switching devices
- Self locking metal protective cap

Working Pressure

- Max. working pressure 630 bar / 9137 PSI
  For SMK Type G and K the recommended working pressure of fitting manufacturer should be noted.
- Connection under pressure up to 630 bar / 9137 PSI max.

Materials

- **Metal parts:**
  Standard material: Steel, black zinc/nickel-plated = **C6F* (CrVI-free)**
  Optional:
  Stainless Steel **V2A** (1.4305 / AISI 303) on request
  Stainless Steel **V4A** (1.4571 / AISI 316Ti) on request

  For ordering V2A or V4A please replace "C6F" with "V2A" or "V4A".

  * Note: The changeover of our standard surface finishing "zinc plated" to the chromium (VI) free surface finishing "black zinc/nickel-plated" will proceed gradually.

- **Ball:** Stainless Steel

- **Sealings:**
  P = NBR (Buna-N®)
  (Temperature range -20 °C ... +100 °C / -4 °F ... +212 °F)
  Note: Internal sealings made of FPM, even for standard NBR-type.

  V = FPM (Viton®)*
  (Temperature range -20 °C ... +200 °C / -4 °F ... +392 °F)

  *** Standard option for North America is FPM (Viton®)**

  E = EPDM Ethylene Propylene Diene Monomer Rubber
  (for Brake fluid,
  Temperature range -40 °C ... +150 °C / -40 °F ... +302 °F)

For ordering NBR or EPDM sealings please replace "V" with "P" or "E".

Vibration safety O-ring made of NBR (Buna-N®) (standard).

Media

- Suitable for hydraulic oils and other Mineral oil based fluid
  (Check compatibility of seal material)
- For use with other liquid media please consult STAUFF

Protection Cap

- The complete STAUFF-Test-15-Type-SMK range is also available with a hexagonal protection cap made of steel.

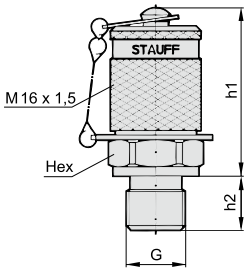
  For ordering the hexagonal protection cap version please add "-SK" to the order code.
  (e.g. SMK15-M10x1-VA-**SK**-C6F)

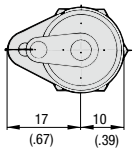
Note

- On request TEST 15 is also available as SKK-type including "Gas"- and "Filling"-versions.

SMK15 Test Coupling with Port Connection	**SMK15 Type G** Test Coupling complete with Straight Fitting	**SMK15 Type K** Test Coupling for 24° Cone Fittings	**SSK15** Bulkhead
			

Test Coupling with Port Connection SMK15







Thread G	Sealing	Working Pressure (bar/PSI)	Dimensions (mm/in) h1	h2	Hex	Order Codes NBR	FPM* (Standard Option-North America)
M10 x 1	Type A	630	38	9,8	17	SMK15-M10x1-PA-C6F	SMK15-M10x1-VA-C6F
		9137	1.50	.39	.67		
M14 x 1,5	Type B	630	37	12	19	SMK15-M14x1,5-PB-C6F	SMK15-M14x1,5-VB-C6F
		9137	1.46	.47	.75		
M16 x 1,5		630	37	12	22	SMK15-M16x1,5-PB-C6F	SMK15-M16x1,5-VB-C6F
		9137	1.46	.47	.87		
G1/8		400	39	8	17	SMK15-G1/8-PB-C6F	SMK15-G1/8-VB-C6F
		5801	1.54	.31	.67		
G1/4		630	37	12	19	SMK15-G1/4-PB-C6F	SMK15-G1/4-VB-C6F
		9137	1.46	.47	.75		
G3/8		630	37	12	22	SMK15-G3/8-PB-C6F	SMK15-G3/8-VB-C6F
		9137	1.46	.47	.87		
M12 x 1,5	Type C	630	37	12	17	SMK15-M12x1,5-PC-C6F	SMK15-M12x1,5-VC-C6F
		9137	1.46	.47	.67		
M14 x 1,5		630	37	12	19	SMK15-M14x1,5-PC-C6F	SMK15-M14x1,5-VC-C6F
		9137	1.46	.47	.75		
M16 x 1,5		630	37	12	22	SMK15-M16x1,5-PC-C6F	SMK15-M16x1,5-VC-C6F
		9137	1.46	.47	.87		
G1/8		400	39	8	17	SMK15-G1/8-PC-C6F	SMK15-G1/8-VC-C6F
		5801	1.54	.31	.67		
G1/4		630	37	12	19	SMK15-G1/4-PC-C6F	SMK15-G1/4-VC-C6F
		9137	1.46	.47	.75		
R1/4 K	Type D	630	35	12	17	SMK15-R1/4K-PD-C6F	SMK15-R1/4K-VD-C6F
		9137	1.38	.47	.67		
1/8 NPT		400	36	10	17	SMK15-1/8NPT-PD-C6F	SMK15-1/8NPT-VD-C6F
		5801	1.42	.39	.67		
1/4 NPT		630	35	15	17	SMK15-1/4NPT-PD-C6F	SMK15-1/4NPT-VD-C6F
		9137	1.38	.59	.67		
7/16–20 UNF	Type E	630	38	9,1	17	SMK15-7/16UNF-PE-C6F	SMK15-7/16UNF-VE-C6F
		9137	1.50	.36	.67		
9/16–18 UNF		630	37	10	19	SMK15-9/16UNF-PE-C6F	SMK15-9/16UNF-VE-C6F
		9137	1.46	.39	.75		
M14 x 1,5		630	38	11	19	SMK15-M14x1,5-PE-C6F	SMK15-M14x1,5-VE-C6F
		9137	1.50	.43	.75		

Metal Parts

Standard material:
Steel, black zinc/nickel-plated = **C6F (CrVI-free)**
For ordering V2A (1.4305 / AISI 303) replace "C6F" with "V2A".
For ordering V4A (1.4571 / AISI 316Ti) replace "C6F" with "V4A".

Sealings

For ordering NBR sealings replace "V" with "P".
For ordering EPDM sealings replace "V" with "E".

*** Standard option for North America is FPM (Viton®).**

Sealing Details


O-ring Type A


Metal Joint Type B


Elastomeric Sealing Type C


Taper Type D
(suitable sealant required)


O-ring Type E

Protection Cap

Standard material: Steel
For ordering the hexagonal protection cap version please add "-SK" to the order code. (e.g. SMK15-M10x1-VA-SK-C6F)

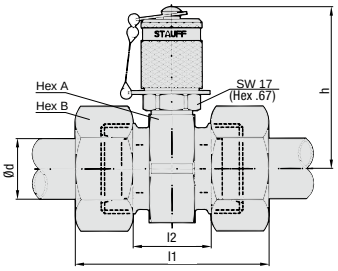
For further information on materials, seals or protection caps, please see page B16.

Other port connections and seals on request.
Please consult STAUFF for further information.

Dimensional drawings: All dimensions in mm (in).

Test Coupling complete with Straight Fitting SMK15 Type G





- Compression ring fittings acc. to ISO 8434-1 / DIN 2353

Metal Parts

Standard material:
- Test coupling:
  Steel, black zinc/nickel-plated = **C6F (CrVI-free)**
- Straight fitting: Steel, zinc/nickel-plated = **C6F (CrVI-free)**

For ordering V2A (1.4305 / AISI 303) replace "C6F" with "V2A".
For ordering V4A (1.4571 / AISI 316Ti) replace "C6F" with "V4A".

Sealings

For ordering NBR sealings replace "V" with "P".
For ordering EPDM sealings replace "V" with "E".

*** Standard option for North America is FPM (Viton®).**

Protection Cap

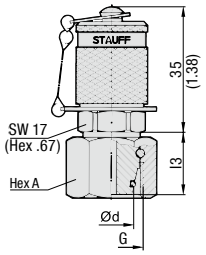
Standard material: Steel
For ordering the hexagonal protection cap version please add "-SK" to the order code. (e.g. SMK15-08L-VG-SK-C6F)

For further information on materials, sealings or protection caps, please see page B16.

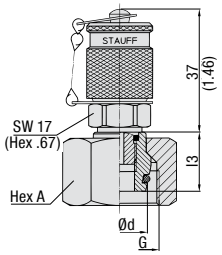
Series	PN	Pipe	Dimensions (mm / in)					Order Codes	
								NBR	FPM*
	(bar/PSI)	Ød	~l1	l2	h	Hex A	Hex B		(Standard Option-North America)
L	315 4568	6	51	21	49	24	14	SMK15-06L-PG-C6F	SMK15-06L-VG-C6F
			2.01	.83	1.93	.94	.55		
		8	51	21	49	24	17	SMK15-08L-PG-C6F	SMK15-08L-VG-C6F
			2.01	.83	1.93	.94	.67		
		10	53	23	49	24	19	SMK15-10L-PG-C6F	SMK15-10L-VG-C6F
			2.09	.91	1.93	.94	.75		
		12	53	23	50,5	27	22	SMK15-12L-PG-C6F	SMK15-12L-VG-C6F
			2.09	.91	1.99	1.06	.87		
		15	55	25	52	30	27	SMK15-15L-PG-C6F	SMK15-15L-VG-C6F
			2.17	.98	2.05	1.18	1.06		
		18	57	24	53	32	32	SMK15-18L-PG-C6F	SMK15-18L-VG-C6F
			2.24	.94	2.09	1.26	1.26		
	160 2320	22	61	28	55	36	36	SMK15-22L-PG-C6F	SMK15-22L-VG-C6F
			2.40	1.10	2.17	1.42	1.42		
		28	61	28	57,5	41	41	SMK15-28L-PG-C6F	SMK15-28L-VG-C6F
			2.40	1.10	2.26	1.61	1.61		
		35	69	26	60	46	50	SMK15-35L-PG-C6F	SMK15-35L-VG-C6F
			2.72	1.02	2.36	1.81	1.97		
		42	71	25	64,5	55	60	SMK15-42L-PG-C6F	SMK15-42L-VG-C6F
			2.80	.98	2.54	2.17	2.36		
S	630 9137	6	55	25	49	24	17	SMK15-06S-PG-C6F	SMK15-06S-VG-C6F
			2.17	.98	1.93	.94	.67		
		8	55	25	49	24	19	SMK15-08S-PG-C6F	SMK15-08S-VG-C6F
			2.17	.98	1.93	.94	.75		
		10	57	24	49	24	22	SMK15-10S-PG-C6F	SMK15-10S-VG-C6F
			2.24	.94	1.93	.94	.87		
		12	57	24	49	24	24	SMK15-12S-PG-C6F	SMK15-12S-VG-C6F
			2.24	.94	1.93	.94	.94		
		14	63	27	50,5	27	27	SMK15-14S-PG-C6F	SMK15-14S-VG-C6F
			2.50	1.06	1.99	1.06	1.06		
	400 5801	16	63	26	52	30	30	SMK15-16S-PG-C6F	SMK15-16S-VG-C6F
			2.50	1.02	2.05	1.18	1.18		
		20	69	26	55	36	36	SMK15-20S-PG-C6F	SMK15-20S-VG-C6F
			2.72	1.02	2.17	1.42	1.42		
		25	75	27	57,5	41	46	SMK15-25S-PG-C6F	SMK15-25S-VG-C6F
			2.95	1.06	2.26	1.61	1.81		
		30	81	28	60	46	50	SMK15-30S-PG-C6F	SMK15-30S-VG-C6F
			3.19	1.10	2.36	1.81	1.97		
	315 4568	38	91	29	64,5	55	60	SMK15-38S-PG-C6F	SMK15-38S-VG-C6F
			3.58	1.14	2.54	2.17	2.36		

Dimensional drawings: All dimensions in mm (in).

Test Coupling for 24° Cone Fittings SMK15 Type K



Version A



Version B



Series	PN (bar/psi)	Pipe Ød	Dimensions (mm/in) l3	Hex A	Thread G	Version	Order Codes NBR	FPM* (Standard Option-North America)
L	315 4568	6	15,5	14	M12 x 1,5	A	SMK15-06L-PK-C6F	SMK15-06L-VK-C6F
			.61	.55				
		8	15,5	17	M14 x 1,5	A	SMK15-08L-PK-C6F	SMK15-08L-VK-C6F
			.61	.67				
		10	16,5	19	M16 x 1,5	A	SMK15-10L-PK-C6F	SMK15-10L-VK-C6F
			.65	.75				
		12	17,5	22	M18 x 1,5	A	SMK15-12L-PK-C6F	SMK15-12L-VK-C6F
			.69	.87				
		15	21	27	M22 x 1,5	B	SMK15-15L-PK-GS-C6F	SMK15-15L-VK-GS-C6F
			.83	1.06				
		18	19,5	32	M26 x 1,5	B	SMK15-18L-PK-GS-C6F	SMK15-18L-VK-GS-C6F
			.77	1.26				
	160 2320	22	20,5	36	M30 x 2	B	SMK15-22L-PK-GS-C6F	SMK15-22L-VK-GS-C6F
			.81	1.42				
		28	25	41	M36 x 2	B	SMK15-28L-PK-GS-C6F	SMK15-28L-VK-GS-C6F
			.98	1.61				
		35	30	50	M45 x 2	B	SMK15-35L-PK-GS-C6F	SMK15-35L-VK-GS-C6F
			1.18	1.97				
		42	31	60	M52 x 2	B	SMK15-42L-PK-GS-C6F	SMK15-42L-VK-GS-C6F
			1.22	2.36				
S	630 9137	6	14,5	17	M14 x 1,5	A	SMK15-06S-PK-C6F	SMK15-06S-VK-C6F
			.57	.67				
		8	16,5	19	M16 x 1,5	A	SMK15-08S-PK-C6F	SMK15-08S-VK-C6F
			.65	.75				
		10	16,5	22	M18 x 1,5	A	SMK15-10S-PK-C6F	SMK15-10S-VK-C6F
			.65	.87				
		12	17,5	24	M20 x 1,5	A	SMK15-12S-PK-C6F	SMK15-12S-VK-C6F
			.69	.94				
		14	19,5	27	M22 x 1,5	B	SMK15-14S-PK-GS-C6F	SMK15-14S-VK-GS-C6F
			.77	1.06				
	400 5801	16	18	30	M24 x 1,5	B	SMK15-16S-PK-GS-C6F	SMK15-16S-VK-GS-C6F
			.71	1.18				
		20	24	36	M30 x 2	B	SMK15-20S-PK-GS-C6F	SMK15-20S-VK-GS-C6F
			.94	1.42				
		25	26	46	M36 x 2	B	SMK15-25S-PK-GS-C6F	SMK15-25S-VK-GS-C6F
			1.02	1.81				
		30	30	50	M42 x 2	B	SMK15-30S-PK-GS-C6F	SMK15-30S-VK-GS-C6F
			1.18	1.97				
	315 4568	38	34	60	M52 x 2	B	SMK15-38S-PK-GS-C6F	SMK15-38S-VK-GS-C6F
			1.34	2.36				

- For DKO connection
- According to ISO 8434-1 / DIN 2353
- Version A: one-piece design
- Version B: screwed design

Metal Parts

Standard material:
- Test coupling:
  Steel, black zinc/nickel-plated = **C6F (CrVI-free)**
- 24° cone fittings: Steel, zinc/nickel-plated = C6F (CrVI-free)

For ordering V2A (1.4305 / AISI 303) replace "C6F" with "V2A".
For ordering V4A (1.4571 / AISI 316Ti) replace "C6F" with "V4A".

Sealings

For ordering NBR sealings replace "V" with "P".
For ordering EPDM sealings replace "V" with "E".

*** Standard option for North America is FPM (Viton®).**

Protection Cap

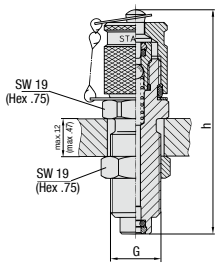
Standard material: Steel
For ordering the hexagonal protection cap version please add "-SK" to the order code. (e.g. SMK15-08L-VK-SK-C6F)

For further information on materials, sealings or protection caps, please see page B16.

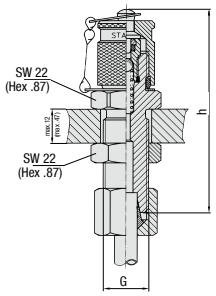
Dimensional drawings: All dimensions in mm (in).

Bulkhead
SSK15





Version A



Version B

- Also available for gaseous media type SSKK

Threads

*1 Compression ring assembly 08S according to ISO 8434-1 / DIN 2353

Metal Parts

Standard material version A:
- Test coupling:
  Steel, black zinc/nickel-plated = **C6F (CrVI-free)**

Standard material version B:
- Test coupling:
  Steel, black zinc/nickel-plated = **C6F (CrVI-free)**
- Hex nut: Steel, zinc/nickel-plated = **C6F (CrVI-free)**

For ordering V2A (1.4305 / AISI 303) replace "C6F" with "V2A".
For ordering V4A (1.4571 / AISI 316Ti) replace "C6F" with "V4A".

Thread G	Dimensions (mm/in) h	Version	Order Codes NBR	FPM* (Standard Option-North America)
M16 x 1,5	72 2.83	A	SSK15-P-C6F	SSK15-V-C6F
M16 x 1,5 *1	72 2.83	B	SSK15/08S-P-C6F	SSK15/08S-V-C6F

Sealings

For ordering NBR sealings replace "V" with "P".
For ordering EPDM sealings replace "V" with "E".

*** Standard option for North America is FPM (Viton®).**

Protection Cap

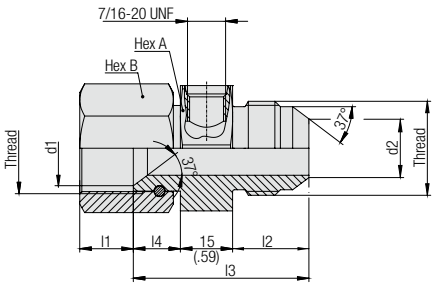
Standard material: Steel
For ordering the hexagonal protection cap version please add "-SK" to the order code. (e.g. SSK15-V-SK-C6F)

For further information on materials, sealings or protection caps, please see page B16.

Note: Standard option version B without compression ring and nut.

Swivel Run Tee with JIC Connection
SGV-JIC Type F/M





Metal Parts

Standard material: Steel, zinc/nickel-plated = **C6F (CrVI-free)**
For ordering V2A (1.4305 / AISI 303) replace "C6F" with "V2A".
For ordering V4A (1.4571 / AISI 316Ti) replace "C6F" with "V4A".

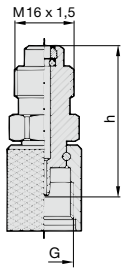
For further information please consult STAUFF.

Thread inch	Dimensions (mm/in) Ø d1	Ø d2	l1	l2	l3	l4	Hex A	Hex B	Order Codes
7/16–20 UNF	7,49 .29	4,9 .19	9 .35	14 .55	37 1.46	8 .31	27 1.06	17 .67	SGV-7/16UNF-04-JIC1/4-F/M-C6F
9/16–18 UNF	11,05 .44	8,1 .32	10,5 .41	14 .55	37,5 1.48	8,5 .33	27 1.06	19 .75	SGV-7/16UNF-06-JIC3/8-F/M-C6F
3/4–16 UNF	15,9 .63	10,8 .43	10,5 .41	16,7 .66	43,7 1.72	12 .47	30 1.18	22 .87	SGV-7/16UNF-08-JIC1/2-F/M-C6F
1-1/16–12 UNF	21,6 .85	16,9 .66	15,4 .61	21,9 .86	50,4 1.98	13,5 .53	36 1.42	32 1.26	SGV-7/16UNF-12-JIC3/4-F/M-C6F
1-5/16–12 UNF	27,9 1.10	23,2 .91	17,3 .68	23,1 .91	53,1 2.09	15 .59	41 1.61	41 1.61	SGV-7/16UNF-16-JIC1-F/M-C6F

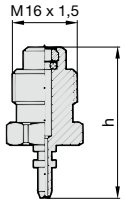
Dimensional drawings: All dimensions in mm (in).

Adaptor SAD15





Version A



Version B

Thread G	Dimensions (mm/in) h	Version	Order Codes NBR	FPM* (Standard Option-North America)
M16 x 2	39 1.54	A	SAD15/20-P-C6F	SAD15/20-V-C6F
S12 *1	39 1.54	A	SAD15/12-P-C6F	SAD15/12-V-C6F
Plug in	37 1.46	B	SAD15/10-P-C6F	SAD15/10-V-C6F

Threads

*1 Special thread: buttress thread S12,65 x1,5

Metal Parts

Standard material version A:
- Threaded nipple:
  Steel, black zinc/nickel-plated = **C6F (CrVI-free)**
- Swivel nut: Steel, zinc/nickel-plated = **C6F (CrVI-free)**

Standard material version B:
Steel, black zinc/nickel-plated = **C6F (CrVI-free)**
For ordering V2A (1.4305 / AISI 303) replace "C6F" with "V2A".
For ordering V4A (1.4571 / AISI 316Ti) replace "C6F" with "V4A".

Sealings

For ordering NBR sealings replace "V" with "P".
For ordering EPDM sealings replace "V" with "E".

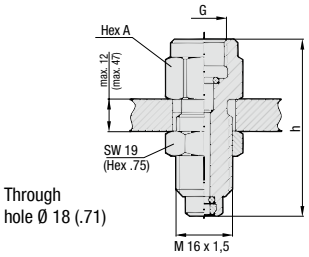
*** Standard option for North America is FPM (Viton®).**

Gauge Adaptor SMA15

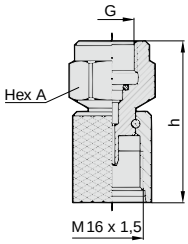
Direct Gauge Adaptor SMD15







Gauge Adaptor SMA15



Direct Gauge Adaptor SMD15

Thread G	Dimensions (mm/in) h	Hex A	Order Codes NBR	FPM* (Standard Option-North America)
G1/4	54 2.13	19 .75	SMA15-G1/4-P-OR-C6F	SMA15-G1/4-V-OR-C6F
G1/2	64 2.52	27 1.06	SMA15-G1/2-P-OR-C6F	SMA15-G1/2-V-OR-C6F
1/4 NPT	54 2.13	19 .75	SMA15-1/4NPT-P-C6F	SMA15-1/4NPT-V-C6F
1/2 NPT	64 2.52	27 1.06	SMA15-1/2NPT-P-C6F	SMA15-1/2NPT-V-C6F
G1/4	41 1.61	19 .75	SMD15-G1/4-P-OR-C6F	SMD15-G1/4-V-OR-C6F
G1/2	51 2.01	27 1.06	SMD15-G1/2-P-OR-C6F	SMD15-G1/2-V-OR-C6F
1/4 NPT	41 1.61	19 .75	SMD15-1/4NPT-P-C6F	SMD15-1/4NPT-V-C6F
1/2 NPT	51 2.01	27 1.06	SMD15-1/2NPT-P-C6F	SMD15-1/2NPT-V-C6F

Metal Parts

Standard material SMA15:
Steel, black zinc/nickel-plated = **C6F (CrVI-free)**
Standard material SMD15:
- Gauge adaptor: Steel, zinc/nickel-plated = **C6F (CrVI-free)**
- Swivel nut: Steel, black zinc/nickel-plated = **C6F (CrVI-free)**

For ordering V2A (1.4305 / AISI 303) replace "C6F" with "V2A".
For ordering V4A (1.4571 / AISI 316Ti) replace "C6F" with "V4A".

Sealings

For ordering NBR sealings replace "V" with "P".
For ordering EPDM sealings replace "V" with "E".

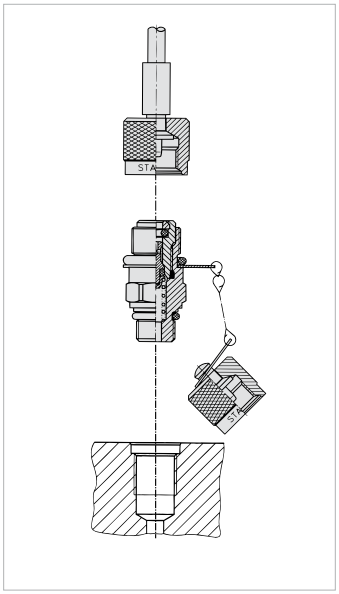
*** Standard option for North America is FPM (Viton®).**

Snubber on request.

Dimensional drawings: All dimensions in mm (in).

Test Coupling with Piston Valve





Fast Coupling for

- Monitoring and control of pressure
- Venting
- Sampling in high- and low-pressure systems
- Filling of accumulators (special filling-version)

Advantages

- Test system at working pressure
- Leak proof connection before **piston valve** is open
- Simple connection to measurement, control and switching devices
- Self locking metal protective cap

Working Pressure

- Max. working pressure 630 bar / 9137 PSI
  For SKK Type G and K the recommended working pressure of fitting manufacturer should be noted.
- Connection under pressure up to 400 bar / 5801 PSI max.

Materials

- **Metal Parts:**
  Standard material: Steel, zinc/nickel-plated = **C6F (CrVI-free)**
  Optional:
  Stainless Steel **V2A** (1.4305 / AISI 303) on request
  Stainless Steel **V4A** (1.4571 / AISI 316Ti) on request

  For ordering "V2A" or "V4A" please replace "C6F" with "V2A" or "V4A".

- **Sealings:**
  P = NBR (Buna-N®)
  (Temperature range -20 °C ... +100°C / -4 °F ... +212 °F)
  Note: Internal sealings made of FPM, even for standard NBR-type.

  V = FPM (Viton®)*
  (Temperature range -20 °C ... +200 °C / -4 °F ... +392 °F)

  *** Standard option for North America is FPM (Viton®)**

  E = EPDM Ethylene Propylene Diene Monomer Rubber
  (for Brake fluid,
  Temperature range -40 °C ... +150 °C / -40 °F ... +302 °F)

For ordering NBR or EPDM sealings please replace "V" with "P" or "E".

Vibration safety O-ring made of NBR (Buna-N®) (standard).

Media

- Suitable for hydraulic oils and other Mineral oil based fluids
  (Check compatibility of seal material)
- For use with other liquid media please consult STAUFF
- In case of ultimate tightness requirements for gaseous media, a special Gas-type is available

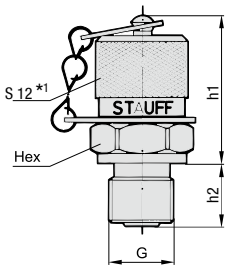
Protection Cap

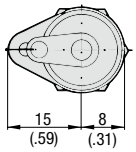
- The complete STAUFF-Test-12-type-SKK range is also available with a plastic protection cap.

  For ordering the plastic protection cap version please add "-KK" to the order code.
  (e.g. SKK12-M10x1-VA-**KK**-C6F)

SKK12 Test Coupling with Port Connection	**SKK12 Type G** Test Coupling complete with Straight Fitting	**SKK12 Type K** Test Coupling for 24° Cone Fittings	**SSKK12** Bulkhead
			

Test Coupling with Port Connection SKK12







Thread G	Sealing	Working Pressure (bar/PSI)	Dimensions (mm/in) h1	h2	Hex	Order Codes NBR	FPM* (Standard Option-North America)
M8 x 1	Type A	250	38	8,5	14	SKK12-M8x1-PA-C6F	SKK12-M8x1-VA-C6F
		3625	1.50	.33	.55		
M10 x 1		630	35	9,8	14	SKK12-M10x1-PA-C6F	SKK12-M10x1-VA-C6F
		9137	1.38	.39	.67		
M12 x 1,5	Type B	630	31	12	17	SKK12-M12x1,5-PB-C6F	SKK12-M12x1,5-VB-C6F
		9137	1.22	.47	.67		
M14 x 1,5		630	31	12	19	SKK12-M14x1,5-PB-C6F	SKK12-M14x1,5-VB-C6F
		9137	1.22	.47	.75		
M16 x 1,5		630	31	12	22	SKK12-M16x1,5-PB-C6F	SKK12-M16x1,5-VB-C6F
		9137	1.22	.47	.87		
G1/4		630	30	12	19	SKK12-G1/4-PB-C6F	SKK12-G1/4-VB-C6F
		9137	1.18	.47	.75		
G3/8		630	31	12	22	SKK12-G3/8-PB-C6F	SKK12-G3/8-VB-C6F
		9137	1.22	.47	.87		
M12 x 1,5	Type C	630	31	12	17	SKK12-M12x1,5-PC-C6F	SKK12-M12x1,5-VC-C6F
		9137	1.22	.47	.67		
G1/8		400	40	8	14	SKK12-G1/8-PC-C6F	SKK12-G1/8-VC-C6F
		5801	1.57	.31	.55		
G1/4		630	31	12	19	SKK12-G1/4-PC-C6F	SKK12-G1/4-VC-C6F
		9137	1.22	.47	.75		
R1/8 K	Type D	400	33	8	17	SKK12-R1/8K-PD-C6F	SKK12-R1/8K-VD-C6F
		5801	1.30	.31	.55		
R1/4 K		630	30	12	17	SKK12-R1/4K-PD-C6F	SKK12-R1/4K-VD-C6F
		9137	1.18	.47	.55		
1/8 NPT		400	33	10	14	SKK12-1/8NPT-PD-C6F	SKK12-1/8NPT-VD-C6F
		5801	1.30	.39	.55		
1/4 NPT		630	28	15	14	SKK12-1/4NPT-PD-C6F	SKK12-1/4NPT-VD-C6F
		9137	1.10	.59	.55		
5/16–24 UNF	Type E	400	38	7,5	14	SKK12-5/16UNF-PE-C6F	SKK12-5/16UNF-VE-C6F
		5801	1.50	.30	.55		
7/16–20 UNF		630	33	9,1	17	SKK12-7/16UNF-PE-C6F	SKK12-7/16UNF-VE-C6F
		9137	1.30	.36	.67		
1/2–20 UNF		630	32	9,2	17	SKK12-1/2UNF-PE-C6F	SKK12-1/2UNF-VE-C6F
		9137	1.26	.36	.67		
9/16–18 UNF		630	31	10	19	SKK12-9/16UNF-PE-C6F	SKK12-9/16UNF-VE-C6F
		9137	1.22	.39	.75		
M12 x1,5		630	32	11	17	SKK12-M12x1,5-PE-C6F	SKK12-M12x1,5-VE-C6F
		9137	1.26	.43	.67		

Threads

*1 Special thread: buttress thread S12,65 x 1,5

Metal Parts

Standard material: Steel, zinc/nickel-plated = **C6F (CrVI-free)**
For ordering V2A (1.4305 / AISI 303) replace "C6F" with "V2A".
For ordering V4A (1.4571 / AISI 316Ti) replace "C6F" with "V4A".

Sealings

For ordering NBR sealings replace "V" with "P".
For ordering EPDM sealings replace "V" with "E".

*** Standard option for North America is FPM (Viton®).**

Sealing Details


O-ring Type A


Metal Joint Type B


Elastomeric Sealing Type C


Taper Type D
(suitable sealant required)


O-ring Type E

Protection Cap

Standard material: Steel
For ordering the plastic protection cap version please add "-KK" to the order code. (e.g. SKK12-M10x1-VA-KK-C6F)

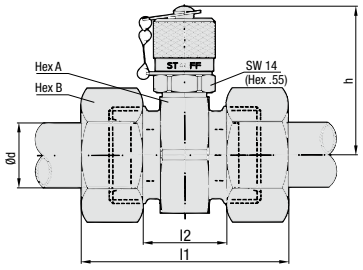
For further information on materials, sealings or protection caps, please see page B22.

Other port connections and sealings on request.
Please consult STAUFF for further information.

Dimensional drawings: All dimensions in mm (in).

Test Coupling complete with Straight Fitting SKK12 Type G





- Compression ring fittings acc. to ISO 8434-1 / DIN 2353

Metal Parts

Standard material: Steel, zinc/nickel-plated = **C6F (CrVI-free)**
For ordering V2A (1.4305 / AISI 303) replace "C6F" with "V2A".
For ordering V4A (1.4571 / AISI 316Ti) replace "C6F" with "V4A".

Sealings

For ordering NBR sealings replace "V" with "P".
For ordering EPDM sealings replace "V" with "E".

*** Standard option for North America is FPM (Viton®).**

Protection Cap

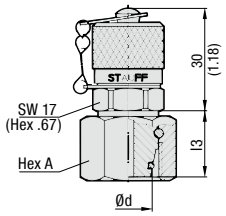
Standard material: Steel
For ordering the plastic protection cap version please add "-KK" to the order code. (e.g. SKK12-06L-VG-KK-C6F)

For further information on materials, sealings or protection caps, please see page B22.

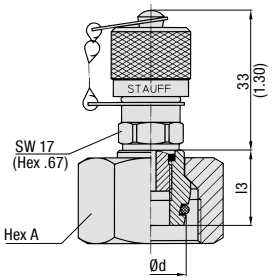
Series	PN (bar/PSI)	Pipe Ød	Dimensions (mm/in) ~l1	l2	h	Hex A	Hex B	Order Codes NBR	FPM* (Standard Option-North America)
L	315 4568	6	51	21	46	24	14	SKK12-06L-PG-C6F	SKK12-06L-VG-C6F
			2.01	.83	1.81	.94	.55		
		8	51	21	46	24	17	SKK12-08L-PG-C6F	SKK12-08L-VG-C6F
			2.01	.83	1.81	.94	.67		
		10	53	23	46	24	19	SKK12-10L-PG-C6F	SKK12-10L-VG-C6F
			2.09	.91	1.81	.94	.75		
		12	53	23	47,5	27	22	SKK12-12L-PG-C6F	SKK12-12L-VG-C6F
			2.09	.91	1.87	1.06	.87		
		15	55	25	49	30	27	SKK12-15L-PG-C6F	SKK12-15L-VG-C6F
			2.17	.98	1.92	1.18	1.06		
		18	57	24	50	32	32	SKK12-18L-PG-C6F	SKK12-18L-VG-C6F
			2.24	.94	1.97	1.26	1.26		
	160 2320	22	61	28	52	36	36	SKK12-22L-PG-C6F	SKK12-22L-VG-C6F
			2.40	1.10	2.05	1.42	1.42		
		28	61	28	54,5	41	41	SKK12-28L-PG-C6F	SKK12-28L-VG-C6F
			2.40	1.10	2.15	1.61	1.61		
		35	69	26	57	46	50	SKK12-35L-PG-C6F	SKK12-35L-VG-C6F
			2.72	1.02	2.24	1.81	1.97		
		42	71	25	61,5	55	60	SKK12-42L-PG-C6F	SKK12-42L-VG-C6F
			2.80	.98	2.42	2.17	2.36		
S	630 9137	6	55	25	46	24	17	SKK12-06S-PG-C6F	SKK12-06S-VG-C6F
			2.17	.98	1.81	.94	.67		
		8	55	25	46	24	19	SKK12-08S-PG-C6F	SKK12-08S-VG-C6F
			2.17	.98	1.81	.94	.75		
		10	57	24	46	24	22	SKK12-10S-PG-C6F	SKK12-10S-VG-C6F
			2.24	.94	1.81	.94	.87		
		12	57	24	46	24	24	SKK12-12S-PG-C6F	SKK12-12S-VG-C6F
			2.24	.94	1.81	.94	.94		
		14	63	27	47,5	27	27	SKK12-14S-PG-C6F	SKK12-14S-VG-C6F
			2.50	1.06	1.87	1.06	1.06		
	400 5801	16	63	26	49	30	30	SKK12-16S-PG-C6F	SKK12-16S-VG-C6F
			2.50	1.02	1.93	1.18	1.18		
		20	69	26	52	36	36	SKK12-20S-PG-C6F	SKK12-20S-VG-C6F
			2.72	1.02	2.05	1.42	1.42		
		25	75	27	54,5	41	46	SKK12-25S-PG-C6F	SKK12-25S-VG-C6F
			2.95	1.06	2.15	1.61	1.81		
		30	81	28	57	46	50	SKK12-30S-PG-C6F	SKK12-30S-VG-C6F
			3.19	1.10	2.24	1.81	1.97		
	315 4568	38	91	29	61,5	55	60	SKK12-38S-PG-C6F	SKK12-38S-VG-C6F
			3.58	1.14	2.42	2.17	2.36		

Dimensional drawings: All dimensions in mm (in).

Test Coupling for 24° Cone Fittings SKK12 Type K



Version A



Version B



Series	PN	Pipe	Dimensions (mm/in)		Thread	Version	Order Codes	
							NBR	FPM* (Standard Option-North America)
	(bar/PSI)	Ød	I3	Hex A	G			
L	315 4568	6	15,5 / .61	14 / .55	M12 x 1,5	A	SKK12-06L-PK-C6F	SKK12-06L-VK-C6F
		8	15,5 / .61	17 / .67	M14 x 1,5	A	SKK12-08L-PK-C6F	SKK12-08L-VK-C6F
		10	16,5 / .65	19 / .75	M16 x 1,5	A	SKK12-10L-PK-C6F	SKK12-10L-VK-C6F
		12	17,5 / .69	22 / .87	M18 x 1,5	A	SKK12-12L-PK-C6F	SKK12-12L-VK-C6F
		15	21 / .83	27 / 1.06	M22 x 1,5	B	SKK12-15L-PK-GS-C6F	SKK12-15L-VK-GS-C6F
		18	19,5 / .77	32 / 1.26	M26 x 1,5	B	SKK12-18L-PK-GS-C6F	SKK12-18L-VK-GS-C6F
	160 2320	22	20,5 / .81	36 / 1.42	M30 x 2	B	SKK12-22L-PK-GS-C6F	SKK12-22L-VK-GS-C6F
		28	25 / .98	41 / 1.61	M36 x 2	B	SKK12-28L-PK-GS-C6F	SKK12-28L-VK-GS-C6F
		35	30 / 1.18	50 / 1.97	M45 x 2	B	SKK12-35L-PK-GS-C6F	SKK12-35L-VK-GS-C6F
		42	31 / 1.22	60 / 2.36	M52 x 2	B	SKK12-42L-PK-GS-C6F	SKK12-42L-VK-GS-C6F
S	630 9137	6	14,5 / .57	17 / .67	M14 x 1,5	A	SKK12-06S-PK-C6F	SKK12-06S-VK-C6F
		8	16,5 / .65	19 / .75	M16 x 1,5	A	SKK12-08S-PK-C6F	SKK12-08S-VK-C6F
		10	16,5 / .65	22 / .87	M18 x 1,5	A	SKK12-10S-PK-C6F	SKK12-10S-VK-C6F
		12	17,5 / .69	24 / .94	M20 x 1,5	A	SKK12-12S-PK-C6F	SKK12-12S-VK-C6F
		14	19,5 / .77	27 / 1.06	M22 x 1,5	B	SKK12-14S-PK-GS-C6F	SKK12-14S-VK-GS-C6F
	400 5801	16	18 / .71	30 / 1.18	M24 x 1,5	B	SKK12-16S-PK-GS-C6F	SKK12-16S-VK-GS-C6F
		20	24 / .94	36 / 1.42	M30 x 2	B	SKK12-20S-PK-GS-C6F	SKK12-20S-VK-GS-C6F
		25	26 / 1.02	46 / 1.81	M36 x 2	B	SKK12-25S-PK-GS-C6F	SKK12-25S-VK-GS-C6F
		30	30 / 1.18	50 / 1.97	M42 x 2	B	SKK12-30S-PK-GS-C6F	SKK12-30S-VK-GS-C6F
	315 4568	38	34 / 1.34	60 / 2.36	M52 x 2	B	SKK12-38S-PK-GS-C6F	SKK12-38S-VK-GS-C6F

- For DKO connection
- According to ISO 8434-1 / DIN 2353
- Version A: one-piece design
- Version B: screwed design

Metal Parts

Standard material: Steel, zinc/nickel-plated = **C6F (CrVI-free)**
For ordering V2A (1.4305 / AISI 303) replace "C6F" with "V2A".
For ordering V4A (1.4571 / AISI 316Ti) replace "C6F" with "V4A".

Sealings

For ordering NBR sealings replace "V" with "P".
For ordering EPDM sealings replace "V" with "E".

*** Standard option for North America is FPM (Viton®).**

Protection Cap

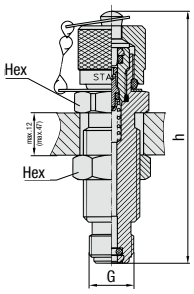
Standard material: Steel
For ordering the plastic protection cap version please add "-KK" to the order code. (e.g. SKK12-06L-VK-KK-C6F)

For further information on materials, sealings or protection caps, please see page B22.

Dimensional drawings: All dimensions in mm (in).

Bulkhead
SSKK12





Threads

*1 Special thread: buttress thread S12,65 x 1,5

Metal Parts

Standard material: Steel, zinc/nickel-plated = **C6F (CrVI-free)**
For ordering V2A (1.4305 / AISI 303) replace "C6F" with "V2A".
For ordering V4A (1.4571 / AISI 316Ti) replace "C6F" with "V4A".

Sealings

For ordering NBR sealings replace "V" with "P".
For ordering EPDM sealings replace "V" with "E".

*** Standard option for North America is FPM (Viton®).**

Thread	Dimensions (mm/in)		Order Codes	
			NBR	FPM*
G	h	Hex		(Standard Option-North America)
S12*1	63	19	SSKK12-P-C6F	SSKK12-V-C6F
	2.48	0.75		

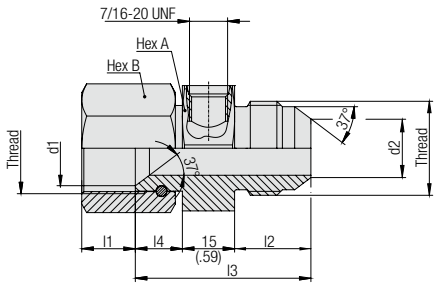
Protection Cap

Standard material: Steel
For ordering the plastic protection cap version please add "-KK" to the order code. (e.g. SSKK12-V-KK-C6F)

For further information on materials, sealings or protection caps, please see page B22.

Swivel Run Tee with JIC Connection
SGV-JIC Type F/M





Metal Parts

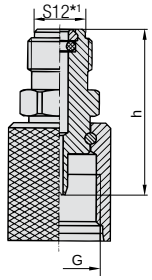
Standard material: Steel, zinc/nickel-plated = **C6F (CrVI-free)**
For ordering V2A (1.4305 / AISI 303) replace "C6F" with "V2A".
For ordering V4A (1.4571 / AISI 316Ti) replace "C6F" with "V4A".

For further information please consult STAUFF.

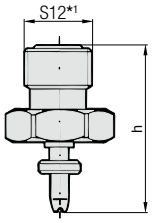
Thread	Dimensions (mm/in)								Order Codes
inch	Ø d1	Ø d2	l1	l2	l3	l4	Hex A	Hex B	
7/16–20 UNF	7,49	4,9	9	14	37	8	27	17	SGV-7/16UNF-04-JIC1/4-F/M-C6F
	.29	.19	.35	.55	1.46	.31	1.06	.67	
9/16–18 UNF	11,05	8,1	10,5	14	37,5	8,5	27	19	SGV-7/16UNF-06-JIC3/8-F/M-C6F
	.44	.32	.41	.55	1.48	.33	1.06	.75	
3/4–16 UNF	15,9	10,8	10,5	16,7	43,7	12	30	22	SGV-7/16UNF-08-JIC1/2-F/M-C6F
	.63	.43	.41	.66	1.72	.47	1.18	.87	
1-1/16–12 UNF	21,6	16,9	15,4	21,9	50,4	13,5	36	32	SGV-7/16UNF-12-JIC3/4-F/M-C6F
	.85	.66	.61	.86	1.98	.53	1.42	1.26	
1-5/16–12 UNF	27,9	23,2	17,3	23,1	53,1	15	41	41	SGV-7/16UNF-16-JIC1-F/M-C6F
	1.10	.91	.68	.91	2.09	.59	1.61	1.61	

Dimensional drawings: All dimensions in mm (in).

Adaptor SAD12



Version A



Version B



Thread G	Dimensions (mm/in) h	Version	Order Codes NBR	FPM* (Standard Option-North America)
M16 x 2	33 1.30	A	SAD12/20-P-C6F	SAD12/20-V-C6F
M16 x 1,5	33 1.30	A	SAD12/15-P-C6F	SAD12/15-V-C6F
Plug in	31 1.22	B	SAD12/10-P-C6F	SAD12/10-V-C6F

Threads

*1 Special thread: buttress thread S12,65 x1,5

Metal Parts

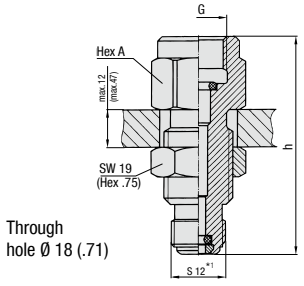
Standard material: Steel, zinc/nickel-plated = **C6F (CrVI-free)**
For ordering V2A (1.4305 / AISI 303) replace "C6F" with "V2A".
For ordering V4A (1.4571 / AISI 316Ti) replace "C6F" with "V4A".

Sealings

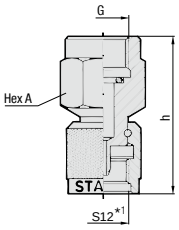
For ordering NBR sealings replace "V" with "P".
For ordering EPDM sealings replace "V" with "E".

*** Standard option for North America is FPM (Viton®).**

Gauge Adaptor SMA12 — Direct Gauge Adaptor SMD12



Gauge Adaptor SMA15



Direct Gauge Adaptor SMD15





Thread G	Dimensions (mm/in) h	Hex A	Order Codes NBR	FPM* (Standard Option-North America)
G1/4	51 2.01	19 .75	SMA12-G1/4-P-OR-C6F	SMA12-G1/4-V-OR-C6F
G1/2	61 2.40	27 1.06	SMA12-G1/2-P-OR-C6F	SMA12-G1/2-V-OR-C6F
1/4 NPT	51 2.01	19 .75	SMA12-1/4NPT-P-C6F	SMA12-1/4NPT-V-C6F
1/2 NPT	61 2.40	27 1.06	SMA12-1/2NPT-P-C6F	SMA12-1/2NPT-V-C6F
G1/4	35 1.38	19 .75	SMD12-G1/4-P-OR-C6F	SMD12-G1/4-V-OR-C6F
G1/2	45 1.77	27 1.06	SMD12-G1/2-P-OR-C6F	SMD12-G1/2-V-OR-C6F
1/4 NPT	35 1.38	19 .75	SMD12-1/4NPT-P-C6F	SMD12-1/4NPT-V-C6F
1/2 NPT	45 1.77	27 1.06	SMD12-1/2NPT-P-C6F	SMD12-1/2NPT-V-C6F

Threads

*1 Special thread: buttress thread S12,65 x1,5

Metal Parts

Standard material: Steel, zinc/nickel-plated = **C6F (CrVI-free)**
For ordering V2A (1.4305 / AISI 303) replace "C6F" with "V2A".
For ordering V4A (1.4571 / AISI 316Ti) replace "C6F" with "V4A".

Sealings

For ordering NBR sealings replace "V" with "P".
For ordering EPDM sealings replace "V" with "E".

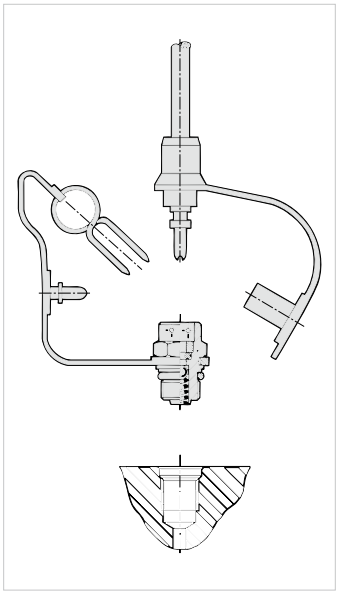
*** Standard option for North America is FPM (Viton®).**

Snubber on request.

Dimensional drawings: All dimensions in mm (in).

Test Coupling with Ball Check





Fast coupling for

- Monitoring and control of pressure
- Venting
- Sampling in high- and low-pressure systems

Advantages

- Test system at working pressure
- Leak proof connection before **ball check** is open
- Simple connection to measurement, control and switching devices

Working Pressure

- Max. working pressure 400 bar / 5801 PSI
  For SMK Type G and K the recommended working pressure of fitting manufacturer should be noted.

Materials

- **Metal Parts:**
  Standard material: Steel, zinc/nickel-plated = **C6F (CrVI-free)**
- **Ball:** Stainless Steel
- **Sealings:**
  P = NBR (Buna-N®)
  (Temperature range -20 °C ... +100 °C / -4 °F ... +212 °F)
  Note: Internal sealings made of FPM, even for standard NBR-type.

  V = FPM (Viton®)*
  (Temperature range -20 °C ... +200 °C / -4 °F ... +392 °F)

  *** Standard option for North America is FPM (Viton®)**

  E = EPDM Ethylene Propylene Diene Monomer Rubber
  (for Brake fluid,
  Temperature range -40 °C ... +150 °C / -40 °F ... +302 °F)

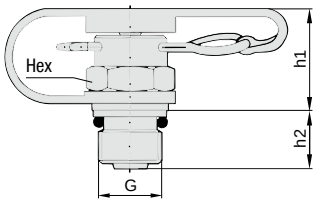
For ordering NBR or EPDM sealings please replace "V" with "P" or "E".

Media

- Suitable for hydraulic oils and other Mineral oil based fluids
  (Check compatibility of seal material)
- For use with other liquid media please consult STAUFF

SMK10 Test Coupling with Port Connection	**SMK10 Type G** Test Coupling complete with Straight Fitting	**SMK10 Type K** Test Coupling for 24° Cone Fittings
		

Test Coupling with Port Connection SMK10





Thread G	Sealing	Working Pressure (bar/PSI)	Dimensions (mm/in) h1	h2	Hex	Order Codes NBR	FPM* (Standard Option-North America)
M8 x 1	Type A	250	17,5	8,5	12	SMK10-M8x1-PA-C6F	SMK10-M8x1-VA-C6F
		3625	.69	.33	.47		
M10 x 1		400	17,5	9,8	12	SMK10-M10x1-PA-C6F	SMK10-M10x1-VA-C6F
		5801	.69	.39	.47		
R1/8 K	Type D	400	17,5	8	12	SMK10-R1/8K-PD-C6F	SMK10-R1/8K-VD-C6F
		5801	.69	.31	.47		

Metal Parts

Standard material: Steel, zinc/nickel-plated = **C6F (CrVI-free)**

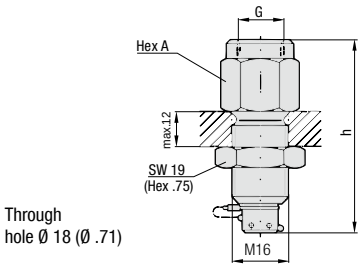
Sealings

For ordering NBR sealings replace "V" with "P".
For ordering EPDM sealings replace "V" with "E".

*** Standard option for North America is FPM (Viton®).**

For further information on materials or seals, please see page B28.
Further thread versions possible with use of thread adaptors SRS20, please see page B32.

Gauge Adaptor SMA10





Thread G	Dimensions (mm/in) h	Hex A	Order Codes NBR	FPM* (Standard Option-North America)
G1/4	57	19	SMA10-G1/4-P-OR-C6F	SMA10-G1/4-V-OR-C6F
	2.24	.75		
G1/2	67	27	SMA10-G1/2-P-OR-C6F	SMA10-G1/2-V-OR-C6F
	2.64	1.06		
1/4 NPT	57	19	SMA10-1/4NPT-P-C6F	SMA10-1/4NPT-V-C6F
	2.24	.75		
1/2 NPT	67	27	SMA10-1/2NPT-P-C6F	SMA10-1/2NPT-V-C6F
	2.64	1.06		

Metal Parts

Standard material: Steel, zinc/nickel-plated = **C6F (CrVI-free)**

Sealings

For ordering NBR sealings replace "V" with "P".
For ordering EPDM sealings replace "V" with "E".

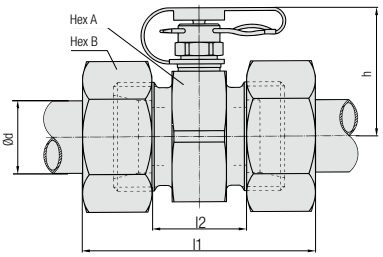
*** Standard option for North America is FPM (Viton®).**

Snubber on request.

Dimensional drawings: All dimensions in mm (in).

Test Coupling complete with Straight Fitting SMK10 Type G





- Compression ring fittings acc. to ISO 8434-1 / DIN 2353

Metal Parts

Standard material: Steel, zinc/nickel-plated = **C6F (CrVI-free)**

Sealings

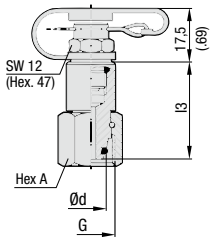
For ordering NBR sealings replace "V" with "P".
For ordering EPDM sealings replace "V" with "E".

*** Standard option for North America is FPM (Viton®).**

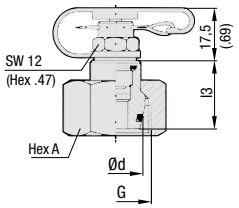
For further information on materials or sealings, please see page B28.

Series	PN (bar/PSI)	Pipe Ød	Dimensions (mm/in) ~l1	l2	h	Hex A	Hex B	Order Codes NBR	FPM* (Standard Option-North America)
L	315 4568	6	51	21	29,5	24	14	SMK10-06L-PG-C6F	SMK10-06L-VG-C6F
			2.01	.83	1.16	.94	.55		
		8	51	21	29,5	24	17	SMK10-08L-PG-C6F	SMK10-08L-VG-C6F
			2.01	.83	1.16	.94	.67		
		10	53	23	29,5	24	19	SMK10-10L-PG-C6F	SMK10-10L-VG-C6F
			2.09	.91	1.16	.94	.75		
		12	53	23	31	27	22	SMK10-12L-PG-C6F	SMK10-12L-VG-C6F
			2.09	.91	1.22	1.06	.87		
		15	55	25	32,5	30	27	SMK10-15L-PG-C6F	SMK10-15L-VG-C6F
			2.17	.98	1.28	1.18	1.06		
		18	57	24	33,5	32	32	SMK10-18L-PG-C6F	SMK10-18L-VG-C6F
			2.24	.94	1.32	1.26	1.26		
	160 2320	22	61	28	33,5	36	36	SMK10-22L-PG-C6F	SMK10-22L-VG-C6F
			2.40	1.10	1.32	1.42	1.42		
		28	61	28	38	41	41	SMK10-28L-PG-C6F	SMK10-28L-VG-C6F
			2.40	1.10	1.50	1.61	1.61		
		35	69	26	40,5	46	50	SMK10-35L-PG-C6F	SMK10-35L-VG-C6F
			2.72	1.02	1.59	1.81	1.97		
		42	71	25	45	55	60	SMK10-42L-PG-C6F	SMK10-42L-VG-C6F
			2.80	.98	1.77	2.17	2.36		
S	400 5801	6	55	25	29,5	24	17	SMK10-06S-PG-C6F	SMK10-06S-VG-C6F
			2.17	.98	1.16	.94	.67		
		8	55	25	29,5	24	19	SMK10-08S-PG-C6F	SMK10-08S-VG-C6F
			2.17	.98	1.16	.94	.75		
		10	57	24	29,5	24	22	SMK10-10S-PG-C6F	SMK10-10S-VG-C6F
			2.24	.94	1.16	.94	.87		
		12	57	24	29,5	24	24	SMK10-12S-PG-C6F	SMK10-12S-VG-C6F
			2.24	.94	1.16	.94	.94		
		14	63	27	31	27	27	SMK10-14S-PG-C6F	SMK10-14S-VG-C6F
			2.50	1.06	1.22	1.06	1.06		
		16	63	26	32,5	30	30	SMK10-16S-PG-C6F	SMK10-16S-VG-C6F
			2.50	1.02	1.28	1.18	1.18		
		20	69	26	35,5	36	36	SMK10-20S-PG-C6F	SMK10-20S-VG-C6F
			2.72	1.02	1.40	1.42	1.42		
		25	75	27	38	41	46	SMK10-25S-PG-C6F	SMK10-25S-VG-C6F
			2.95	1.06	1.50	1.61	1.81		
		30	81	28	40,5	46	50	SMK10-30S-PG-C6F	SMK10-30S-VG-C6F
			3.19	1.10	1.59	1.81	1.97		
	315 4568	38	91	29	45	55	60	SMK10-38S-PG-C6F	SMK10-38S-VG-C6F
			3.58	1.14	1.77	2.17	2.36		

Test Coupling for 24° Cone Fittings SMK10 Type K



Version A



Version B



Series	PN (bar/psi)	Pipe Ød	Dimensions (mm/in) l3	Hex A	Thread G	Version	Order Codes NBR	FPM* (Standard Option-North America)
L	315 4568	6	15,5	14	M12 x 1,5	A	SMK10-06L-PK-GS-C6F	SMK10-06L-VK-GS-C6F
			.61	.55				
		8	15,5	17	M14 x 1,5	A	SMK10-08L-PK-GS-C6F	SMK10-08L-VK-GS-C6F
			.61	.67				
		10	16,5	19	M16 x 1,5	A	SMK10-10L-PK-GS-C6F	SMK10-10L-VK-GS-C6F
			.65	.75				
		12	17,5	22	M18 x 1,5	A	SMK10-12L-PK-GS-C6F	SMK10-12L-VK-GS-C6F
			.69	.87				
		15	21	27	M22 x 1,5	B	SMK10-15L-PK-GS-C6F	SMK10-15L-VK-GS-C6F
			.83	1.06				
		18	19,5	32	M26 x 1,5	B	SMK10-18L-PK-GS-C6F	SMK10-18L-VK-GS-C6F
			.77	1.26				
	160 2320	22	20,5	36	M30 x 2	B	SMK10-22L-PK-GS-C6F	SMK10-22L-VK-GS-C6F
			.81	1.42				
		28	25	41	M36 x 2	B	SMK10-28L-PK-GS-C6F	SMK10-28L-VK-GS-C6F
			.98	1.61				
		35	30	50	M45 x 2	B	SMK10-35L-PK-GS-C6F	SMK10-35L-VK-GS-C6F
			1.18	1.97				
		42	31	60	M52 x 2	B	SMK10-42L-PK-GS-C6F	SMK10-42L-VK-GS-C6F
			1.22	2.36				
S	400 5801	6	14,5	17	M14 x 1,5	A	SMK10-06S-PK-GS-C6F	SMK10-06S-VK-GS-C6F
			.57	.67				
		8	16,5	19	M16 x 1,5	A	SMK10-08S-PK-GS-C6F	SMK10-08S-VK-GS-C6F
			.65	.75				
		10	16,5	22	M18 x 1,5	A	SMK10-10S-PK-GS-C6F	SMK10-10S-VK-GS-C6F
			.65	.87				
		12	17,5	24	M20 x 1,5	A	SMK10-12S-PK-GS-C6F	SMK10-12S-VK-GS-C6F
			.69	.94				
		14	19,5	27	M22 x 1,5	B	SMK10-14S-PK-GS-C6F	SMK10-14S-VK-GS-C6F
			.77	1.06				
		16	18	30	M24 x 1,5	B	SMK10-16S-PK-GS-C6F	SMK10-16S-VK-GS-C6F
			.71	1.18				
		20	24	36	M30 x 2	B	SMK10-20S-PK-GS-C6F	SMK10-20S-VK-GS-C6F
			.94	1.42				
		25	26	46	M36 x 2	B	SMK10-25S-PK-GS-C6F	SMK10-25S-VK-GS-C6F
			1.02	1.81				
		30	30	50	M42 x 2	B	SMK10-30S-PK-GS-C6F	SMK10-30S-VK-GS-C6F
			1.18	1.97				
	315 4568	38	34	60	M52 x 2	B	SMK10-38S-PK-GS-C6F	SMK10-38S-VK-GS-C6F
			1.34	2.36				

- For DKO connection
- According to ISO 8434-1 / DIN 2353

Metal Parts

Standard material: Steel, zinc/nickel-plated = **C6F (CrVI-free)**

Sealings

For ordering NBR sealings replace "V" with "P".
For ordering EPDM sealings replace "V" with "E".

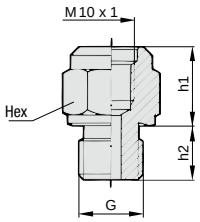
*** Standard option for North America is FPM (Viton®).**

For further information on materials or sealings, please see page B28.

Dimensional drawings: All dimensions in mm (in).

Thread Adaptor SRS20





Metal Parts

Standard Material SRS20:
Steel, zinc/nickel-plated = **C6F (CrVI-free)**
For ordering V2A (1.4305 / AISI 303) replace "C6F" with "V2A".
For ordering V4A (1.4571 / AISI 316Ti) replace "C6F" with "V4A".

Sealings

For ordering NBR sealings replace "V" with "P".
For ordering EPDM sealings replace "V" with "E".

*** Standard option for North America is FPM (Viton®).**

Sealing Details


Metal Joint Type B

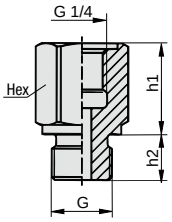

Elastomeric Sealing Type C


Taper Type D
(suitable sealant required)


O-ring Type E

Thread G	Sealing	Dimensions (mm/in) h1	h2	Hex	Order Codes
M10 x 1	Type B	15,5	8,5	17	SRS20-M10x1-B-C6F
		.61	.33	.67	
M12 x 1,5		15	12	19	SRS20-M12x1,5-B-C6F
		.59	.47	.75	
M14 x 1,5		15	12	19	SRS20-M14x1,5-B-C6F
		.59	.47	.75	
M16 x 1,5		8	12	22	SRS20-M16x1,5-B-C6F
		.31	.47	.87	
M18 x 1,5		15	12	24	SRS20-M18x1,5-B-C6F
		.59	.47	.94	
M22 x 1,5		10,5	14	27	SRS20-M22x1,5-B-C6F
		.41	.55	1.06	
G1/8		15,5	8	17	SRS20-G1/8-B-C6F
		.61	.31	.67	
G1/4		15	12	19	SRS20-G1/4-B-C6F
		.59	.47	.75	
G3/8		10,5	12	22	SRS20-G3/8-B-C6F
		.41	.47	.87	
G1/2		10,5	14	27	SRS20-G1/2-B-C6F
		.41	.55	1.06	
M12 x 1,5	Type C	15	12	19	SRS20-M12x1,5-PC-C6F
		.59	.47	.75	
M14 x 1,5		15	12	19	SRS20-M14x1,5-PC-C6F
		.59	.47	.75	
M18 x 1,5		15	12	24	SRS20-M18x1,5-PC-C6F
		.59	.47	.94	
G1/8		16	8	17	SRS20-G1/8-PC-C6F
		.63	.31	.67	
G1/4		15	12	19	SRS20-G1/4-PC-C6F
		.59	.47	.75	
G3/8		10,5	12	22	SRS20-G3/8-PC-C6F
		.41	.47	.87	
G1/2		10,5	14	27	SRS20-G1/2-PC-C6F
		.41	.55	1.06	
R1/4 K	Type D	13	12	17	SRS20-R1/4K-D-C6F
		.51	.47	.67	
R3/8 K		13	14	19	SRS20-R3/8K-D-C6F
		.51	.55	.75	
R1/2 K		8	19	22	SRS20-R1/2K-D-C6F
		.31	.75	.87	
1/4 NPT		10	15	17	SRS20-1/4NPT-D-C6F
		.39	.59	.67	
1/2 NPT		8	20	22	SRS20-1/2NPT-D-C6F
		.31	.79	.87	
7/16–20 UNF	Type E	9	9,1	17	SRS20-7/16UNF-PE-C6F
		.35	.36	.67	
1/2–20 UNF		15	9,2	17	SRS20-1/2UNF-PE-C6F
		.59	.36	.67	
9/16–18 UNF		15,5	10	19	SRS20-9/16UNF-PE-C6F
		.61	.39	.75	
7/8–14 UNF		11	16	27	SRS20-7/8UNF-PE-C6F
		.43	.63	1.06	
M14 x 1,5		14,5	11	19	SRS20-M14x1,5-PE-C6F
		.57	.43	.75	
M16 x 1,5		8,5	12,5	22	SRS20-M16x1,5-PE-C6F
		.33	.49	.87	
M22 x 1,5		10	15	27	SRS20-M22x1,5-PE-C6F
		.39	.59	1.06	
M27 x 2		10	18,5	32	SRS20-M27x2-PE-C6F
		.39	.73	1.26	

Thread Adaptor SRS15





Thread G	Sealing	Dimensions (mm/in) h1	h2	Hex	Order Codes
M14 x 1,5	Type B	24	12	19	SRS15-M14x1,5-B-C6F
		.95	.47	.75	
M16 x 1,5		24	12	22	SRS15-M16x1,5-B-C6F
		.95	.47	.87	
M18 x 1,5		24	12	24	SRS15-M18x1,5-B-C6F
		.95	.47	.95	
M20 x 1,5		10,5	14	27	SRS15-M20x1,5-B-C6F
		.41	.55	1.06	
G3/8		24	12	22	SRS15-G3/8-B-C6F
		.95	.47	.87	
G1/2		10,5	14	27	SRS15-G1/2-B-C6F
		.41	.55	1.06	
M14 x 1,5	Type C	24	12	19	SRS15-M14x1,5-PC-C6F
		.95	.47	.75	
M16 x 1,5		24	12	22	SRS15-M16x1,5-PC-C6F
		.95	.47	.87	
M18 x 1,5		24	12	24	SRS15-M18x1,5-PC-C6F
		.95	.47	.95	
G3/8		24	12	22	SRS15-G3/8-PC-C6F
		.95	.47	.87	

Metal Parts

Standard material SRS15:
Steel, zinc/nickel-plated = **C6F (CrVI-free)**
For ordering V2A (1.4305 / AISI 303) replace "C6F" with "V2A".
For ordering V4A (1.4571 / AISI 316Ti) replace "C6F" with "V4A".

Sealings

For ordering NBR sealings replace "V" with "P".
For ordering EPDM sealings replace "V" with "E".

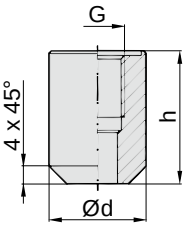
*** Standard option for North America is FPM (Viton®).**

Sealing Details


Metal Joint Type B


Elastomeric Sealing Type C

Welding Adaptor SAS





Thread G	Port Connection	Dimensions (mm/in) h	Ød	Order Codes
M10 x 1	Type A	25	20	SAS-M10x1
		.98	.79	
G1/8	Type B/C	25	20	SAS-G1/8
		.98	.79	
G1/4		30	22	SAS-G1/4
		1.18	.87	
G3/8		30	25	SAS-G3/8
		1.18	.98	
1/4 NPT	Type D	25	20	SAS-1/4NPT
		.98	.79	
1/2–20 UNF	Type E	25	20	SAS-1/2UNF
		.98	.79	

Metal Parts

Standard material: **S235 (St 37), phosphated**

Pressure Gauge SPG



Area of Application

- Mechanical pressure measurement

Characteristics

- Suitable for hydraulic oil and gaseous media that do not corrode any copper base alloy
- Available in nominal sizes 63 and 100
- Thread form: BSP (G1/4 and G1/2), NPT (1/4NPT and 1/2NPT), -4 SAE
- Housing made of Stainless Steel (1.4301)
- Sight glass made of Acrylic
- Glycerine filled
- Standard dual scales with pressure indication in bar and PSI
- U-bolt or flange mounting kit on request

Consult STAUFF before you use SPG with other media.

Technical Data

Protection rating: IP 65 (EN 60 529 / IEC 529)
Accuracy class SPG-063: 2/1/2 % of span (per ASME B 40.100 Grade A)
Accuracy class SPG-100: 1% of span (per ASME B 40.100 Grade 1A)
Enviromental temp. range: - 20 °C ... + 60 °C / - 4 °F ... + 140 °F
Temperature range medium: max. + 60 °C / max. + 140 °F
Subject to technical modifications

Options (on request)

- Protective rubber cap
- Additional scale readings including personalisation
- U-bolt and flange mounting kits are available separately as spare parts
- Additional pressure ranges up to 1000 bar / 14503 PSI max.

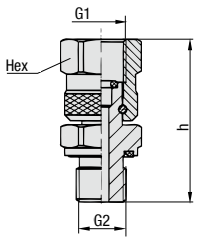
Standard Pressure Range Options ($^{bar}/_{PSI}$)	($^{bar}/_{PSI}$)
-1,02 bar ... 0 bar	68,95
-30 inHg ... 0 PSI	1000
-1,02 bar ... 2.07 PSI	103,42
-30 inHg ... 30 PSI	1500
2,07	137,90
30	2000
4,14	206,84
60	3000
6,89	275,79
100	4000
11,03	344,74
160	5000
13,79	413,69
200	6000
20,68	517,11
300	7500
34,74	689,48
500	10000
41,37	Others on request
600	

Further information and order codes on pressure gauges please see pages D6 - D7, Diagtronics section.

Further information and order codes on gauge isolator valves please see the Valves section.

Adjustable Gauge Fitting EMV





Metal Parts

Standard material: Steel, zinc/nickel-plated = **C6F (CrVI-free)**
For ordering V2A (1.4305 / AISI 303) replace "C6F" with "V2A".
For ordering V4A (1.4571 / AISI 316Ti) replace "C6F" with "V4A".

Sealings

For ordering NBR sealings replace "V" with "P".
For ordering EPDM sealings replace "V" with "E".

*** Standard option for North America is FPM (Viton®).**

Dimensions ($^{mm}/_{in}$)				Order Codes	
G1	G2	h	Hex	NBR	FPM* (Standard Option-North America)
G1/4	G1/4	42	19	EMV-G1/4-P-OR-PC-C6F	EMV-G1/4-V-OR-VC-C6F
		1.65	.75		
G1/4	G1/2	47	19	EMV-G1/4G1/2-P-OR-PC-C6F	EMV-G1/4G1/2-V-OR-VC-C6F
		1.85	.75		
G1/2	G1/4	51	27	EMV-G1/2G1/4-P-OR-PC-C6F	EMV-G1/2G1/4-V-OR-VC-C6F
		2.01	1.06		
G1/2	G1/2	55,5	27	EMV-G1/2-P-OR-PC-C6F	EMV-G1/2-V-OR-VC-C6F
		2.19	1.06		

Pressure Test Kit SMB

Single Gauge Kit SMB20-A1	
Component Parts	**Order Codes**
1 Hose assembly (60 in)	SMS20-1524mm-B
1 Direct gauge adaptor 1/4 NPT	SMD20-1/4NPT-C6F
1 Union	SSV20-C6F
1 Pressure gauge 7500 PSI	WPG-063-07500-5-S-N04
2 Test coupling 1/8 NPT	SMK20-1/8NPT-VD-C6F
3 Test coupling 1/4 NPT	SMK20-1/4NPT-VD-C6F
2 Test coupling 7/16 UNF	SMK20-7/16UNF-VE-C6F
2 Test coupling 9/16 UNF	SMK20-9/16UNF-VE-C6F
1 Female QD fitting 1/4 NPT	SQD-04NF-C



Double Gauge Kit SMB20-B1	
Component Parts	**Order Codes**
1 Hose assembly (60 in)	SMS20-1524mm-B
2 Direct gauge adaptor 1/4 NPT	SMD20-1/4NPT-C6F
1 Union	SSV20-C6F
1 Pressure gauge 7500 PSI	WPG-063-07500-5-S-N04
1 Pressure gauge 1000 PSI	WPG-063-01000-5-S-N04
2 Test coupling 1/8 NPT	SMK20-1/8NPT-VD-C6F
2 Test coupling 1/4 NPT	SMK20-1/4NPT-VD-C6F
1 Test coupling 7/16 UNF	SMK20-7/16UNF-VE-C6F
1 Test coupling 9/16 UNF	SMK20-9/16UNF-VE-C6F
1 Female QD fitting 1/4 NPT	SQD-04NF-C



Triple Gauge Kit SMB20-C1	
Component Parts	**Order Codes**
2 Hose assembly (60 in)	SMS20-1524mm-B
3 Direct gauge adaptor 1/4 NPT	SMD20-1/4NPT-C6F
2 Union	SSV20-C6F
1 Pressure gauge -30 inHg ... 30 PSI	WPG-063-03030-5-S-N04
1 Pressure gauge 7500 PSI	WPG-063-07500-5-S-N04
1 Pressure gauge 1000 PSI	WPG-063-01000-5-S-N04
2 Test coupling 1/8 NPT	SMK20-1/8NPT-VD-C6F
2 Test coupling 1/4 NPT	SMK20-1/4NPT-VD-C6F
1 Test coupling 7/16 UNF	SMK20-7/16UNF-VE-C6F
1 Test coupling 9/16 UNF	SMK20-9/16UNF-VE-C6F
1 Female QD fitting 1/4 NPT	SQD-04NF-C



Custom kits available upon request.

For further information please see page D10, Diagtronics section.

Please consult STAUFF.

Multi Gauge Kit SMB

Multi Gauge Kit SMB20-E1-X (see table below for X)	
Component Parts	**Order Codes**
3 Test coupling 1/4 NPT	SMK20-1/4NPT-VD-C6F
3 Test coupling 7/16 UNF	SMK20-7/16UNF-VE-C6F
3 Test coupling 9/16 UNF	SMK20-9/16UNF-VE-C6F
3 Gauge adaptor	SMA20-1/4NPT-V-C6F
3 Union adaptor	SSV20/20-C6F
2 Test hose (12 in)	SMS20-305mm-B
2 Test hose (24 in)	SMS20-610mm-B
2 Test hose (60 in)	SMS20-1524mm-B
1 Swivel run tee -4 JIC	SGV-7/16UNF-04-JIC1/4-F/M
1 Swivel run tee -6 JIC	SGV-7/16UNF-06-JIC3/8-F/M
1 Swivel run tee -8 JIC	SGV-7/16UNF-08-JIC1/2-F/M
1 Female QD fitting 1/4 NPT	SQD-04NF-C



SMB20-E1-5	SMB20-E1-6	SMB20-E1-7	SMB20-E1-8
SPG-063-03030-5-S-N04	SPG-063-03030-5-S-N04	SPG-063-03030-5-S-N04	SPG-063-03030-5-S-N04
SPG-063-00600-5-S-N04	SPG-063-00600-5-S-N04	SPG-063-00600-5-S-N04	SPG-063-00600-5-S-N04
SPG-063-03000-5-S-N04	SPG-063-01500-5-S-N04	SPG-063-01500-5-S-N04	SPG-063-01000-5-S-N04
SPG-063-05000-5-S-N04	SPG-063-03000-5-S-N04	SPG-063-03000-5-S-N04	SPG-063-01500-5-S-N04
SPG-063-10000-5-S-N04	SPG-063-05000-5-S-N04	SPG-063-05000-5-S-N04	SPG-063-03000-5-S-N04
	SPG-063-10000-5-S-N04	SPG-063-07500-5-S-N04	SPG-063-05000-5-S-N04
		SPG-063-10000-5-S-N04	SPG-063-07500-5-S-N04
			SPG-063-10000-5-S-N04
Each pressure gauge includes a protective gauge cover SPG-063-RBB and a direct gauge adapter SMD-1/4NPT-C6F			

Gauges included in Standard Kit

5 Gauge Kit: see table SMB20-E1-5
6 Gauge Kit: see table SMB20-E1-6
7 Gauge Kit: see table SMB20-E1-7
8 Gauge Kit: see table SMB20-E1-8

Technical Data for Test Hose

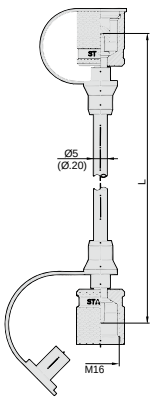




			A	B (Standard Version)	C	D
Nominal Bore (DN)		(mm)	**DN 2**		**DN 4**	
Max. Working Pressure (PN)		(bar / PSI)	400 / 5801	630 / 9135	340 / 4931	630 / 9135
Min. Burst Pressure		(bar / PSI)	1100 / 15954	1900 / 27557	850 / 12328	1900 / 27557
Testing Pressure		(bar / PSI)	600 / 8702	950 / 13778	570 / 8267	950 / 13779
Pressure Rating in bar / PSI at Indicated Temperature	at 0 °C / 32 °F	(bar / PSI)	488 / 7077	768 / 11138	463 / 6715	768 / 11139
	at 30 °C / 86 °F		440 / 6381	693 / 10051	418 / 6063	693 / 10051
	at 50°C / 122 °F		400 / 5801	630 / 9137	380 / 5511	630 / 9137
	at 80°C / 176 °F		344 / 4989	542 / 7861	327 / 4743	542 / 7861
	at 100 °C / 212 °F		308 / 4467	485 / 7034	293 / 4250	485 / 7034
Working Temperature		(°C / °F)	-35 °C ... +100 °C / -31 °F ... +212 °F (momentary +120 °C / +248 °F)			
Inside Diameter		(mm / in)	2 / .08		4 / .16	
Outside Diameter		(mm / in)	5 / .20		8,6 / .34	
Bending Radius	at working pressure	(mm / in)	20 / .79		40 / 1.57	
	at -20 °C / 4 °F		30 / 1.18		60 / 2.36	
Max. Coil Length		(m / ft)	100 / 328			
Weight / m		(g / oz)	16 / .50		42 / 1.35	
Inner / Outer Tube			PA			
Reinforcement			Synthetic Fibre			
Standard hose end material is Steel 11 S Mn Pb 30 (1.0718), zinc/ nickel-plated (Type 15: Steel, black zinc/nickel-plated) Stainless Steel: V2A (1.4305/AISI 303), V4A (1.4571/AISI 316Ti) on request						

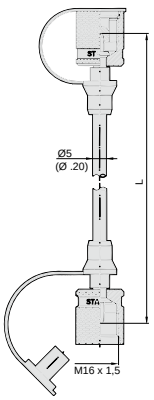
Standard Hose

STAUFF-Test 20/20



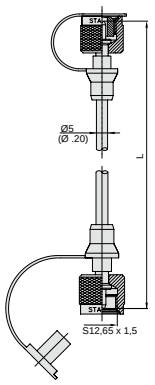
- Max. Working Pressure: 400 bar / 5801 PSI
- Burst Pressure: 1100 bar / 15954 PSI
- Pressure/t° factor:
  to 0 °C 122 %
  at 30 °C 110 %
  at 50 °C 100 %
  at 80 °C 86 %
  at 100 °C 77 %

STAUFF-Test 15/15



- Max. Working Pressure: 630 bar / 9137 PSI
- Burst Pressure: 1900 bar / 27557 PSI
- Pressure/t° factor:
  to 0 °C 122 %
  at 30 °C 110 %
  at 50 °C 100 %
  at 80 °C 86 %
  at 100 °C 77 %

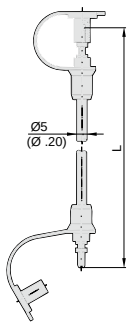
STAUFF-Test 12/12*2



*2 Special thread: buttress thread S12,65 x 1,5

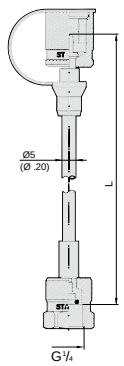
- Max. Working Pressure: 400 bar / 5801 PSI
- Burst Pressure: 1100 bar / 15954 PSI
- Pressure/t° factor:
  to 0 °C 122 %
  at 30 °C 110 %
  at 50 °C 100 %
  at 80 °C 86 %
  at 100 °C 77 %

STAUFF-Test 10/10



- Max. Working Pressure: 400 bar / 5801 PSI
- Burst Pressure: 1100 bar / 15954 PSI
- Pressure/t° factor:
  to 0 °C 122 %
  at 30 °C 110 %
  at 50 °C 100 %
  at 80 °C 86 %
  at 100 °C 77 %

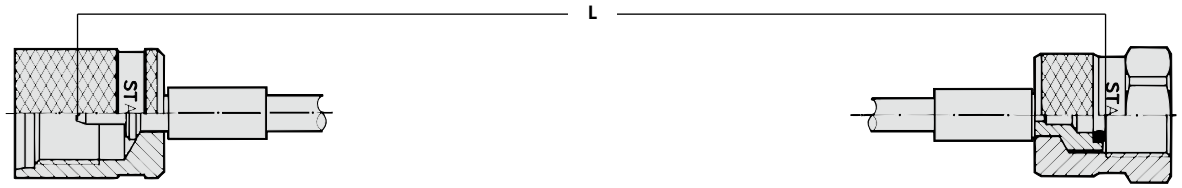
Gauge Adaptor



- Gauge adaptor 1/4 NPT, G1/2 and 1/2 NPT on request
- Gauge adaptor available for all STAUFF-Test series

Dimensional drawings: All dimensions in mm (in).

Order Code STAUFF Test Hose



SMS *1	20	/ M	1219	B	C6F

Hose End 1 (see pages B38 - B43)			Hose End 2 (see pages B38 - B43)	Length		DN / Hose Size	Material Hose End
20	A	J	only specify when 2 different hose ends are required	**Length in mm** (see L above) Standard Lengths see table below.	A	= DN 2 400 bar / 5802 PSI	Standard hose end material is Steel
15	S	D			**B*2**	**= DN 2 630 bar / 9137 PSI**	11 S Mn Pb 30 (1.0718), zinc/nickel-plated = C6F
12	K	B			C*3	= DN 4 340 bar / 4931 PSI	Type 15: Steel, black zinc/nickel-plated = C6F
10	L	U			D*3	= DN 4 630 bar / 9137 PSI	Stainless Steel: V2A (1.4305/AISI 303), V4A (1.4571/AISI 316Ti) on request
M	G	P					
N	F	etc.					
W	C						

*1 for gaseous media type SGS - Test hoses are perforated

***2 Standard test hose option for North America is version B.**

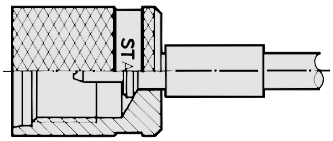
*3 Type C and D - are perforated

Standard Length L*	
in mm	in in
305	12
610	24
915	36
1219	48
1524	60
1829	72
2438	96
3048	120
6096	240



Bending protection on request.

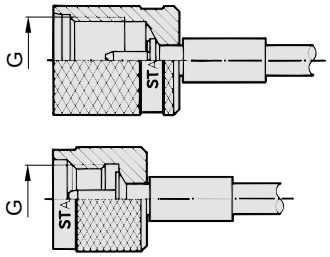
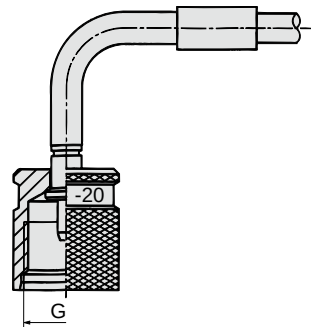
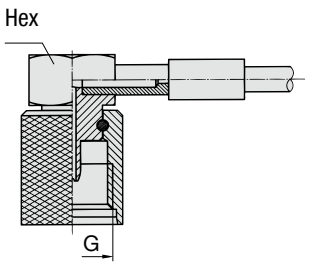
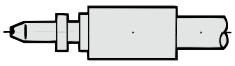
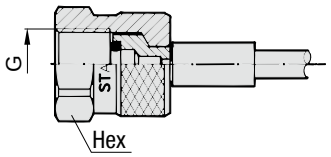
Order Code STAUFF Hose End

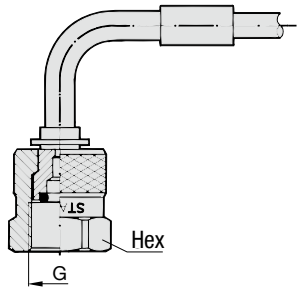
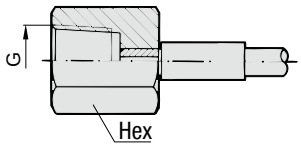
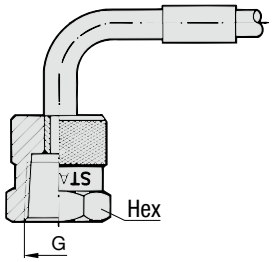
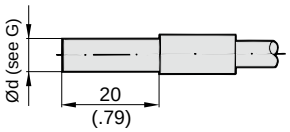
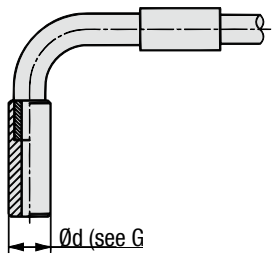


HE	20	B	C6F

Hose End (see pages B38 - B43)				DN / Hose Size	Material Hose End
20	A	J	A	= DN 2 400 bar / 5802 PSI	Standard hose end material is Steel
15	S	D	**B**	**= DN 2 630 bar / 9137 PSI**	11 S Mn Pb 30 (1.0718), zinc/nickel-plated = C6F
12	K	B	C	= DN 4 340 bar / 4931 PSI	Type 15: Steel, black zinc/nickel-plated = C6F
10	L	U	D	= DN 4 630 bar / 9137 PSI	Stainless Steel: V2A (1.4305/AISI 303), V4A (1.4571/AISI 316Ti) on request
M	G	P			
N	F	etc.			
W	C				

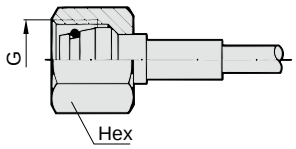
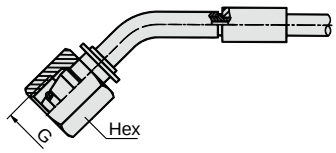
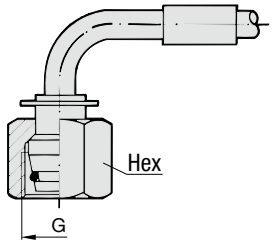
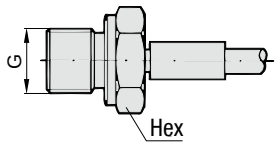
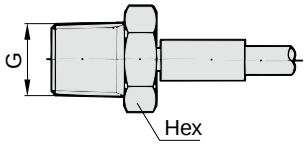
STAUFF Hose End

Hose End	Description	Type		G	Hex (mm/in)		DN Hose Size
	STAUFF-Test Screw-type suitable for test points		**20**	M16 x 2			2 and 4
			15	M16 x 1,5			
			12	S12,62 x 1,5			
	STAUFF-Test Screw-type 90° elbow suitable for test points	**0**	**20**	M16 x 2			2
			15	M16 x 1,5			
			12	S12,62 x 1,5			
	STAUFF-Test Screw-type 90° elbow suitable for test points (short wire version)	**0X**	**20**	M16 x 2	17	.67	2
			15	M16 x 1,5			
			12	S12,62 x 1,5			
	STAUFF-Test Plug in-type		**10**	Plug in system			2
	Gauge adaptor BSP-thread for G3/8, G1/2, M14 x 1,5 and M20 x 1,5 swivel nut like type N	**M**	**1/4**	G1/4	19	.75	2 and 4
			1/2	G1/2	27	1.06	
			3/8	G3/8	22	.87	2
			14	M14 x 1,5	19	.75	
			20	M20 x 1,5	27	1.06	

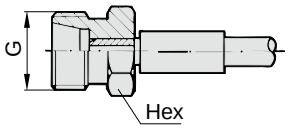
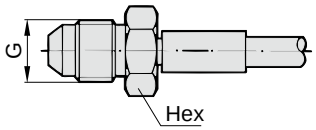
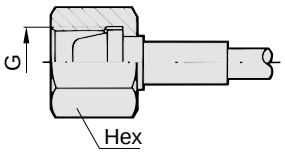
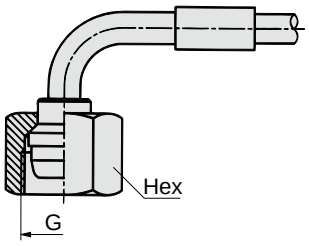
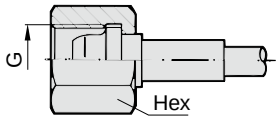
Hose End	Description	Type		G	Hex (mm/in)		DN Hose Size
	90° elbow gauge adaptor BSP-thread for G1/2 swivel nut like type N	W	**1/4**	G1/4	19	.75	2 and 4
			1/2	G1/2	27	1.06	
	Gauge adaptor NPT-thread for 1/4 NPT swivel nut like type M	N	**1/4**	1/4 NPT	19	.75	2
			1/2	1/2 NPT	27	1.06	
	90° elbow gauge adaptor NPT-thread for 1/2 NPT swivel nut like type N	A	**1/4**	1/4 NPT	19	.75	2 and 4
			1/2	1/2 NPT	27	1.06	
	Standpipe for compression ring fittings according to ISO 8434-1 / DIN 2353 Note: Standpipe version is not in accordance with the state of the art. Use at own risk. We recommend the use of the series K, R or L.	S	**4**	4 LL			2
			6	6 L - 6 S			2 and 4
			8	8 L - 8 S			
			10	10 L - 10 S			
			12	12 L - 12 S			2
			1/4	1/4			2 and 4
	Standpipe for compression ring fittings according to ISO 8434-1 / DIN 2353 90° elbow Note: Standpipe version is not in accordance with the state of the art. Use at own risk. We recommend the use of the series K, R or L.	SG	**6**	6 L - 6 S			2 and 4
			8	8 L - 8 S			

Dimensional drawings: All dimensions in mm (in).

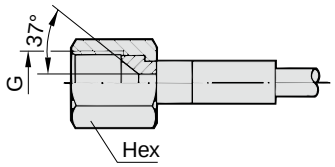
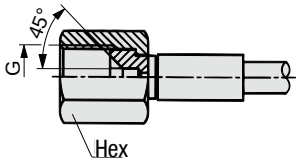
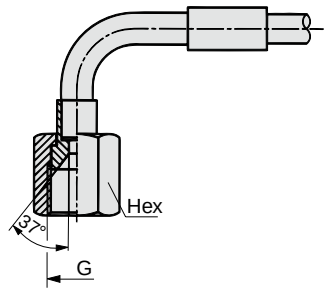
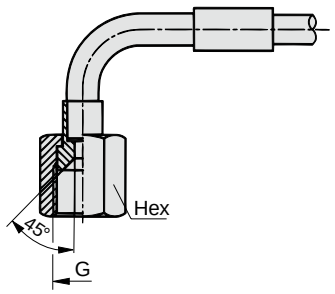
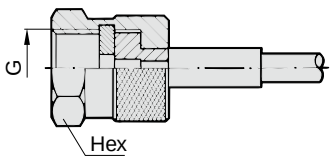
STAUFF Hose End

Hose End	Description	Type		G	Hex (mm/in)		DN Hose Size
	Seal with O-ring for 24° cone fitting according to ISO 8434-1 / DIN 2353 c/w swivel nut	K	6 L	M12 x 1,5	14	.55	2 and 4
			8 L	M14 x 1,5	17	.67	
			10 L	M16 x 1,5	19	.75	
			12 L	M18 x 1,5	22	.87	
			6 S	M14 x 1,5	17	.67	
			8 S	M16 x 1,5	19	.75	
			10 S	M18 x 1,5	22	.87	
			12 S	M20 x 1,5	24	.94	
	Seal with O-ring for 24° cone fitting according to ISO 8434-1 / DIN 2353 c/w swivel nut 45° elbow	R	6 L	M12 x 1,5	14	.55	2 and 4
			6 S	M14 x 1,5	14	.67	
	Seal with O-ring for 24° cone fitting according to ISO 8434-1 / DIN 2353 c/w swivel nut 90° elbow	L	6 L	M12 x 1,5	14	.55	2 and 4
			8 L	M14 x 1,5	17	.67	
			10 L	M16 x 1,5	19	.75	
			6 S	M14 x 1,5	17	.67	
			8 S	M16 x 1,5	19	.75	
			10 S	M18 x 1,5	24	.94	
	Male thread according to DIN 3852-B	G	12	M12 x 1,5	17	.67	2 and 4
			1/8	G1/8	14	.55	
			1/4	G1/4	19	.75	
			1/2	G1/2	27	1.06	
	Male thread NPT according to ANSI-standard	F	1/8	1/8 NPT	13	.51	2 and 4
			1/4	1/4 NPT	17	.67	

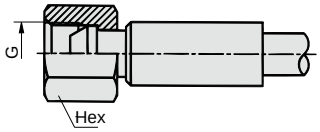
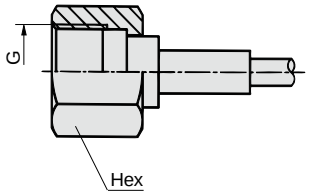
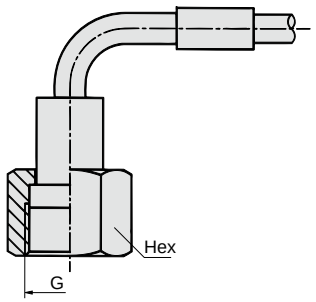
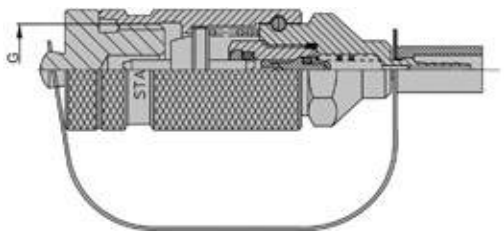
STAUFF Hose End

Hose End	Description	Type		G	Hex (mm/in)		DN Hose Size
	Male thread for 24° cone fitting according to ISO 8434-1 / DIN 2353	C	6 L	M12 x 1,5	14	.55	2 and 4
			8 L	M14 x 1,5	17	.67	
			6S	M14 x 1,5	17	.67	
			8 S	M16 x 1,5	17	.67	
	Male thread according to SAE J 514	J	1/4	7/16–20 UNF	14	.55	2 and 4
			5/16	1/2–20 UNF	14	.55	
			3/8	9/16–18 UNF	17	.67	
	Universal sealing head with swivel nut for 24° cone fitting according to ISO 8434-1 / DIN 2353	D	6 L	M12 x 1,5	14	.55	2 and 4
			8 L	M14 x 1,5	17	.67	
			10 L	M16 x 1,5	19	.75	
			12 L	M18 x 1,5	22	.87	
			6 S	M14 x 1,5	17	.67	
			8 S	M16 x 1,5	19	.75	
			10 S	M18 x 1,5	22	.87	
			12 S	M20 x 1,5	24	.94	
	Universal sealing head with swivel nut for 24° cone fitting according to ISO 8434-1 / DIN 2353 90° elbow	Q	10 L	M16 x 1,5	19	.75	2 and 4
			10 S	M18 x 1,5	22	.87	
	Sealing head with swivel nut for cone fitting according to DIN EN 560	B	1/8	G1/8	12	.47	2 and 4
			1/4	G1/4	17	.67	

STAUFF Hose End

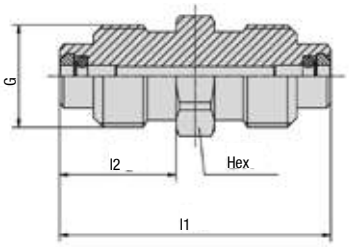
Hose End	Description	Type		G	Hex (mm/in)		DN Hose Size
	Sealing head with swivel nut according to SAE J 514 37° cone	U	1/4	7/16–20 UNF	14	.55	2 and 4
			5/16	1/2–20 UNF	17	.67	
			3/8	9/16–18 UNF	19	.75	
	Sealing head with swivel nut according to SAE J 516 45° cone	UR	1/4	7/16–20 UNF	14	.55	2
	Sealing head with swivel nut according to SAE J 516 37° cone 90° elbow	E	1/4	7/16–20 UNF	14	.55	2 and 4
	Sealing head with swivel nut according to SAE J 516 45° cone 90° elbow	ER	1/4	7/16–20 UNF	14	.55	2
	Test hose for air brake systems	P	2	M16 x 1,5	19	.75	2

STAUFF Hose End

Hose End	Description	Type		G	Hex (mm/in)		DN Hose Size
	Sealing head with swivel nut 60° cone	H	1/4	G1/4	17	.67	2 and 4
	Screw-type ORFS according to SAE J 1453	T	9/16	9/16–18 UNF	17	.67	2
			11/16	11/16–16 UN	21	.83	
	Screw-type ORFS according to SAE J 1453 90° elbow	V	11/16	11/16–16 UN	21	.83	2 and 4
	Hose end with integrated check valve	RV	20	M16 x 2			2
			15	M16 x 1,5			

Hose Connector SSV





Sealings

Internal sealings made of FPM (Viton®).

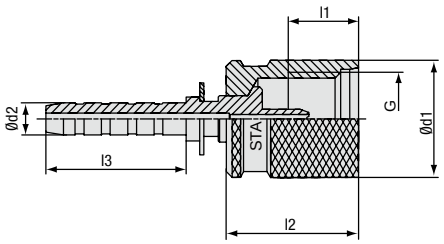
Metal Parts

Standard material: Steel, zinc/nickel-plated = **C6F (CrVI-free)**
Standard material SSV15:
Steel, black zinc/nickel-plated = **C6F (CrVI-free)**
For ordering **V2A (1.4305 / AISI 303)** replace "C6F" with "V2A".
For ordering **V4A (1.4571 / AISI 316Ti)** replace "C6F" with "V4A".

Thread	Dimensions (mm/in)			Order Codes
G	l1	l2	Hex	
M16 x 2	42,5	18,5	17	SSV20-C6F
	1.67	.73	.67	
M16 x 1,5	42,5	18,5	17	SSV15-C6F
	1.67	.73	.67	
S12,65 x 1,5	31	12,5	14	SSV12-C6F
	1.22	.49	.55	

Sampling Hose Adaptor SHA





Metal Parts

Standard material: Steel, zinc/nickel-plated = **C6F (CrVI-free)**

Dimensions (mm/in)						Order Code
Ød1	Ød2	l1	l2	l3	G	
22	5,5	13	23	24	18	SHA20-5.5MM-C6F
.87	.22	.51	.91	.94	.71	

Special Test Coupling Solutions
STAUFF Test



Pressure Test Connection for Compressed-Air Pneumatic Braking Equipment (according to ISO 3583)



Test Coupling with Female Connection Port



Gauge Adaptor with Test Coupling



Banjo Fitting with Test Coupling



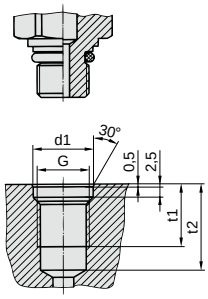
Triple Manifold Block with Test Couplings

Custom-designed test coupling solutions in addition to the Original-STAUFF-Test range according to customers's specifications or based on STAUFF developments.

If you have similar requirements please consult STAUFF.

Port Connections and Sealing Details

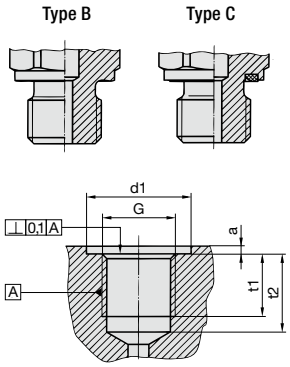
Type A



Type A - **Threaded port according to factory standard**
Sealing: O-ring Type A

Thread	Dimensions (mm/in)		
G	d1 +0,1	t1 min.	t2 min
M8 x 1	9,5	11	15,5
	.37	.43	.61
M10 x 1	11,5	12	16,5
	.45	.47	.64

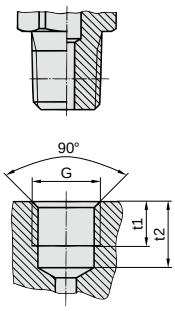
Type B and C



Type B and C - Threaded port type X acc. to DIN 3852 Part 1 and 2; ISO 9974-1 (metric); ISO 1179-1 (inch)
Sealing: Metal joint Type B / Elastomeric sealing Type C

Thread	Dimensions (mm/in)			
G	d1 min.	t1 min.	t2 min.	a max.
M10 x 1	15	8	10	1
	.59	.31	.39	.04
M12 x 1,5	18	12	15	1,5
	.71	.47	.59	.06
M14 x 1,5	20	12	15	1,5
	.79	.47	.59	.06
M16 x 1,5	23	12	15	1,5
	.91	.47	.59	.06
M18 x 1,5	25	12	15	2
	.98	.47	.59	.08
M20 x 1,5	27	14	17	2
	1.06	.55	.67	.08
M22 x 1,5	28	14	17	2,5
	1.10	.55	.67	.10
G1/8	15	8,5	10,5	1
	.59	.33	.41	.04
G1/4	20	12,5	15,5	1,5
	.79	.49	.61	.06
G3/8	23	12,5	15,5	2
	.91	.49	.61	.08
G1/2	28	14,5	18,5	2,5
	1.10	.57	.73	.10

Type D



Type D - **Parallel threaded port type Z according to DIN 3852 Part 2 (inch)**
Sealing: Taper Type D suitable sealant required

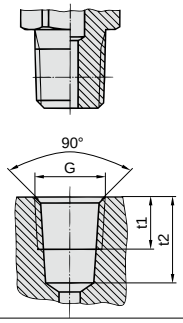
Thread	Dimensions (mm/in)	
G	t1 min.	t2 min.
Rp1/8	5,5	9,5
	.22	.37
Rp1/4	8,5	13,5
	.33	.53
Rp3/8	8,5	13,5
	.33	.53
Rp1/2	10,5	16,5
	.41	.65

Dimensional drawings: All dimensions in mm (in).

Port Connections and Sealing Details

Type D

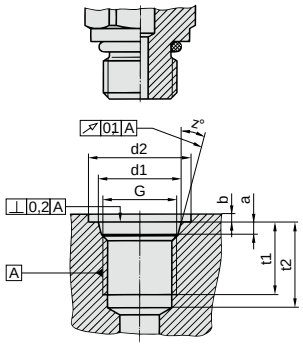
Type D - Taper threaded port according to ANSI/ASME B1.20.1-1983 (NPT)
Sealing: Taper Type D suitable sealant required



Thread	Dimensions (mm/in)	
G	t1 min.	t2 min.
1/8–27 NPT	6,9	11,6
	.27	.46
1/4–18 NPT	10	16,4
	.39	.65
1/2–14 NPT	13,6	22,6
	.54	.89

Type E

Type E - Threaded port according to ISO 6149-1 (metric); ISO 11926-1 (UNF)
Sealing: O-ring Type E



Thread	Dimensions (mm/in)						
G	d1 +0,1	d2 min.	t1 min.	t2 min.	a +0,4	b max.	z° ±1°
M10 x 1	11,1	16	10	11,5	1,6	1	12°
	.44	.63	.39	.45	.06	.04	
M12 x 1,5	13,8	19	11,5	14	2,4	1,5	15°
	.54	.75	.45	.55	.09	.06	
M14 x 1,5	15,8	21	11,5	14	2,4	1,5	15°
	.62	.83	.45	.55	.09	.06	
M16 x 1,5	17,8	24	13	15,5	2,4	1,5	15°
	.70	.94	.51	.61	.09	.06	
M22 x 1,5	23,8	29	15,5	18	2,4	2	15°
	.94	1.14	.61	.71	.09	.08	
M27 x 2	29,4	34	19	22	3,1	2	15°
	1.16	1.34	.75	.87	.91	.08	
5/16–24 UNF	9,1	17	10	12	1,9	1,6	12°
	.36	.67	.39	.47	.07	.06	
7/16–24 UNF	12,4	21	11,5	14	2,4	1,6	12°
	.49	.83	.45	.55	.09	.06	
1/2–20 UNF	14	23	11,5	14	2,4	1,6	12°
	.55	.91	.45	.55	.09	.06	
9/16–18 UNF	15,65	25	12,7	15,5	2,5	1,6	12°
	.62	.98	.50	.61	.10	.06	
7/8–14 UNF	23,95	34	16,7	20	2,5	2,4	15°
	.94	1.34	.66	.79	.10	.09	

Dimensional drawings: All dimensions in mm (in).

Home
Filtration Guideline
Pressure
Return Line
Spin-On
Offline and Bypass
Mobile Units

Filtration Technology










STAUFF Filtration Technology offers a complete range of filtration products and services. This will provide the system designer or user with the highest level of contamination control demanded by today's most sophisticated applications.

STAUFF Filtration Technology Products include Pressure Filters, Return-Line Filters, Elements, Spin-On Filters, Suction Strainers and Filler Breathers for various hydraulic, lubrication and fuel oils.

STAUFF has the technical expertise to provide superior filter element designs for the STAUFF original filter housings and also for the interchange element market.

STAUFF manufactures more than 10000 different elements. Many of these are designed to fit into filter housings produced by other companies while maintaining or surpassing the original performance.

A well-stocked warehouse guarantees the possibility of short-term arrangements without their own storage. Therefore, we can react flexible for your specific needs.

The "STAUFF Contamination Control Program" comprised the diagnostic services including fluid sampling and laser particle counting products for monitoring the system contamination level. In addition STAUFF offers a range of software solutions for element interchange and filter calculation. All products are subject to the audits in reference to international standards. This ensures a consistently high standard of qualitiy.

Please do not hesitate to contact STAUFF for further details.

Home
Filtration Guideline
Pressure
Return Line
Spin-On
Offline and Bypass
Mobile Units

Filtration Guideline

Filtration Guideline
Introduction
Filtration - Why?
Contamination
STAUFF Filter Components
Test Standards and Oil Purity
Short & Curt: Filter Rating
ß-Value and Separations Efficiency
Filtration Terminology
Choice of Filters / Examples of Calculation
Filter Selection Software
STAUFF Replacement Filter Elements





Home
Filtration Guideline
Pressure
Return Line
Spin-On
Offline and Bypass
Mobile Units

Pressure Filters

SF Types

Overview Types SF / SF-TM / SF-SM / SFA

High Pressure Filters

SF • 420 bar / 6000 PSI • Max. 1320 l/min / 300 US GPM

Technical Data / Dimensions • Order Code SF • Filter Elements - Order Code SE

SF-TM • Max. 315 bar / 4560 PSI • Max. 1320 l/min / 300 US GPM

Technical Data / Dimensions • Order Code SF-TM • Filter Elements - Order Code SE

SF-SM • Max. 315 bar / 4560 PSI • Max. 1320 l/min / 300 US GPM

Technical Data / Dimensions • Order Code SF-SM • Filter Elements - Order Code SE

SFZ • Max. 315 bar / 4560 PSI • Max. 30 l/min / 8 US GPM

Technical Data / Dimensions • Order Code SFZ • Filter Elements - Order Code SE

Medium Pressure Filters

SFA - Max. 160 bar / 2320 PSI • Max. 240 l/min / 70 US GPM

Technical Data / Dimensions • Order Code SFA • Filter Elements - Order Code SE

High & Medium Pressure Filters

Valves • Clogging Indicators HI • Filter Elements SE • Flow Characteristics



SIF Type

SIF48 • Max. 345 bar / 5000 PSI • Max. 380 l/min / 100 US GPM

Technical Data / Dimensions • Order Code SIF48 • Filter Elements - Order Code RTE48

Clogging Indicators HI48 • Flow Characteristics

SMPF Type

SMPF • Max. 110 bar / 1600 PSI • Max. 90 l/min / 25 US GPM

Technical Data / Dimensions • Order Code SMPF • Filter Elements - Order Code SME

Clogging Indicators • Flow Characteristics Type SMPF

Home
Filtration Guideline
Pressure
Return Line
Spin-On
Offline and Bypass
Mobile Units

Return Line Filters

SRFL-S / SRFL-D • Max. 14 bar / 200 PSI • Max. 7000 l/min / 1850 US GPM
Technical Data / Dimensions • Order Code SRFL-S / D • Filter Elements - Order Code RE
Replacement Filter Elements RE Order Code • Differential Pressure Switch with Visual Gauge Indicator
Flow CharacteristicsType SRFL-S / D



RF • Max. 16 bar / 232 PSI • Max. 500 l/min / 130 US GPM
Technical Data / Dimensions • Order Code RF • Filter Elements - Order Code RE
Options • Flow Characteristics Type RF

RFA • Max. 25 bar / 365 PSI • Max. 30 l/min / 110 US GPM
Technical Data / Dimensions • Order Code RFA • Filter Elements - Order Code RE
Options • Flow Characteristics Type RFA

RFB • Max. 10 bar / 145 PSI • Max. 185 l/min / 52 US GPM
Technical Data / Dimensions • Order Code RFB • Filter Elements - Order Code RE
Air Filter Elements - Order Code REA • Options • Flow Characteristics Type RFB

RFS • Max. 25 bar / 365 PSI • Max. 1135 l/min / 300 US GPM
Technical Data / Dimensions • Order Code RFS • Filter Elements - Order Code RE
Options • Replacement Filter Elements RE Order Code • Flow Characteristics Type RFS



RIF300 • Max. 34,5 bar / 500 PSI • Max. 1135 l/min / 300 US GPM

Technical Data / Dimensions • Order Code RIF300 • Filter Elements - Order Code SP
Clogging Indicators • Flow Characteristics Type RIF300

RIF48 • Max. 20 bar / 300 PSI • Max. 380 l/min / 100 US GPM
Technical Data / Dimensions • Order Code RIF48
Filter Elements - Order Code RTE48 • Clogging Indicators
Flow Characteristics Type RIF48

Home
Filtration Guideline
Pressure
Return Line
Spin-On
Offline and Bypass
Mobile Units

Return Line Filters

RTF Types

RTF10/25 • Max. 34,5 bar / 500 PSI • Max. 1135 l/min / 300 US GPM

Technical Data / Dimensions • Order Code RTF10/25 • Filter Elements - Order Code RTE

RTF20 • Max. 34,5 bar / 500 PSI • Max. 1135 l/min / 300 US GPM

Technical Data / Dimensions • Order Code RTF20 • Filter Elements - Order Code RTE
Air Filter Elements - Order Code RTEA

RTF40 • Max. 6,9 bar / 100 PSI • Max. 378 l/min / 100 US GPM

Technical Data / Dimensions • Order Code RTF40 • Filter Elements - Order Code RTE

RTF50 • Max. 6,9 bar / 100 PSI • Max. 379 l/min / 100 US GPM

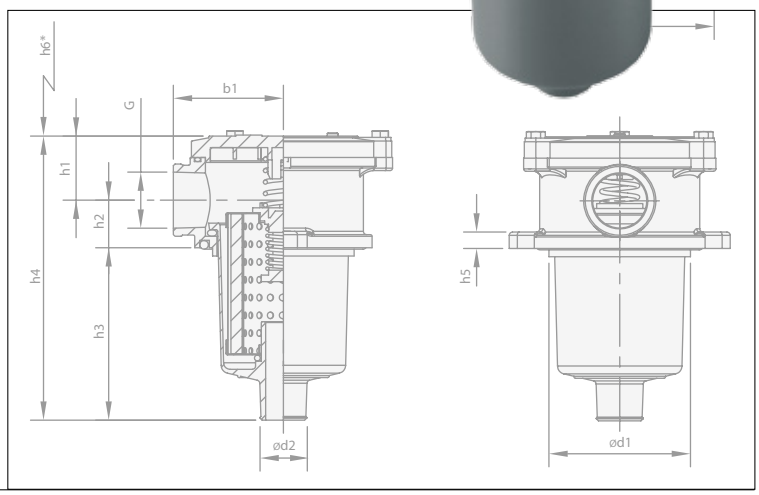
Technical Data / Dimensions • Order Code RTF50 • Filter Elements - Order Code RTE

RTF-N • Max. 10 bar / 145 PSI • Max. 500 l/min / 132 GPM
Technical Data / Dimensions • Order Code RTF-N • Filter Elements - Order Code RA



RTF Types

Flow Characteristics Type RTF • Clogging Indicators Order Code / Dimensions



Spin-On Filters

Introduction • Technical Data • Private Labeling
Quick Reference Guide • Spin-On Filter Heads • Spin-On Filter Elements

Spin-On Filter Heads

SLF-02 / 03 / 04 • Max. 14 bar / 200 PSI • Max. 26 l/min / 7 US GPM
Technical Data / Dimensions • Order Code SLF-02 / 03 / 04

SAF-05 / 06 / 07 / 11 • Max. 14 bar / 200 PSI • Max. 90 l/min / 25 US GPM
Technical Data / Dimensions • Order Code SAF-05 / 06 / 07 / 11

SAF-10 / 13 • Max. 14 bar / 200 PSI • Max. 128 l/min / 34 US GPM
Technical Data / Dimensions • Order Code SAF-10 / 13

SSF-12 • Max. 14 bar / 200 PSI • Max. 90 l/min / 25 US GPM
Technical Data / Dimensions • Order Code SSF-12

SSF-100 / 120 / 120L / 130 / 160 • Max. 14 bar / 200 PSI • Max. 225 l/min / 60 US GPM
Technical Data / Dimensions • Order Code SSF-100 / 120 / 120L / 130 / 160

SSF-150 / 180 • Max. 14 bar / 200 PSI • Max. 300 l/min / 80 US GPM
Technical Data / Dimensions • Order Code SSF-150 / 180



Double Spin-On Filter Heads

SSF-24N / 24S • Max. 12 bar / 174 PSI • Max. 454 l/min / 120 US GPM
Technical Data / Dimensions • Order Code SSF-24N / 24S

SSF-25 • Max. 12 bar / 174 PSI • Max. 454 l/min / 120 US GPM
Technical Data / Dimensions • Order Code SSF-25



Home
Filtration Guideline
Pressure
Return Line
Spin-On
Offline and Bypass
Mobile Units

Spin-On Filters

Tank Top Spin-On Filter Heads

SSFT-12 • Max. 7 bar / 100 PSI • Max. 75 l/min / 20 US GPM

Technical Data / Dimensions • Order Code SSFT-12

SSFT-20 • Max. 7 bar / 100 PSI • Max. 200 l/min / 53 US GPM

Technical Data / Dimensions • Order Code SSFT-20

Spin-On Filter Elements

SFC-35 / 36 SFCT-35 / 36

Technical Data Dimensions

SFC-57 / 58 SFCT-57 / 58

Technical Data Dimensions

SF63

Technical Data Dimensions

SF65

Technical Data Dimensions

SF67

Technical Data Dimensions



Flow Characteristics

SFC/SFCT-35 / 36 SFC/SFCT-57 / 58 SF63

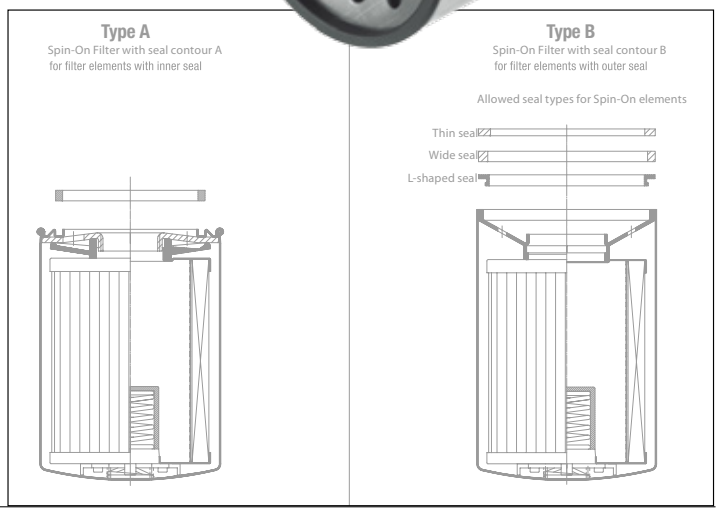
Flow Characteristics

SF65

Flow Characteristics

SF67

Flow Characteristics



Clogging Indicators

SIS / GV / SIM / CI SIE-NO/NC / EPS/EVS

Clogging Indicators

Home

Filtration Guideline

Pressure

Return Line

Spin-On

Offline and Bypass

Mobile Units

Offline and Bypass Filters

Overview • Description • Technical Data

STAUFF System

Off-Line Filters OLS

Overview • Dimensions • Technical Data

Order Code OLS • Filter Elements - Order Code SRM

Water Absorbing Off-Line Filters OLSW

Overview • Dimensions • Technical Data

Order Code OLS • Filter Elements - Order Code SRM • Pre-Filter Elements - Order Code SF

Heated Off-Line Filters OLSH

Overview • Dimensions • Technical Data

Order Code OLSH • Filter Elements - Order Code SRM

Bypass Filters BPS

Overview • Dimensions • Technical Data

Order Code BPS • Filter Elements - Order Code SRM • Mounting Options

Hydraulic Symbols / Flow Characteristics



Bypass Lube-Oil Filter BPLS

Overview • Dimensions • Technical Data

Order Code BPLS • Filter Elements - Order Code SRM

Mini Water Vac SMWV

Overview • Dimensions • Technical Data

Replacement Filter Elements SRM

Description • Technical Data

Home
Filtration Guideline
Pressure
Return Line
Spin-On
Offline and Bypass
Mobile Units

Mobile Filter Units

Portable Filter Cart SPFC

Technical Data • Dimensions

Portable Filter Cart - Smart Cart SPFC

Technical Data / Dimensions

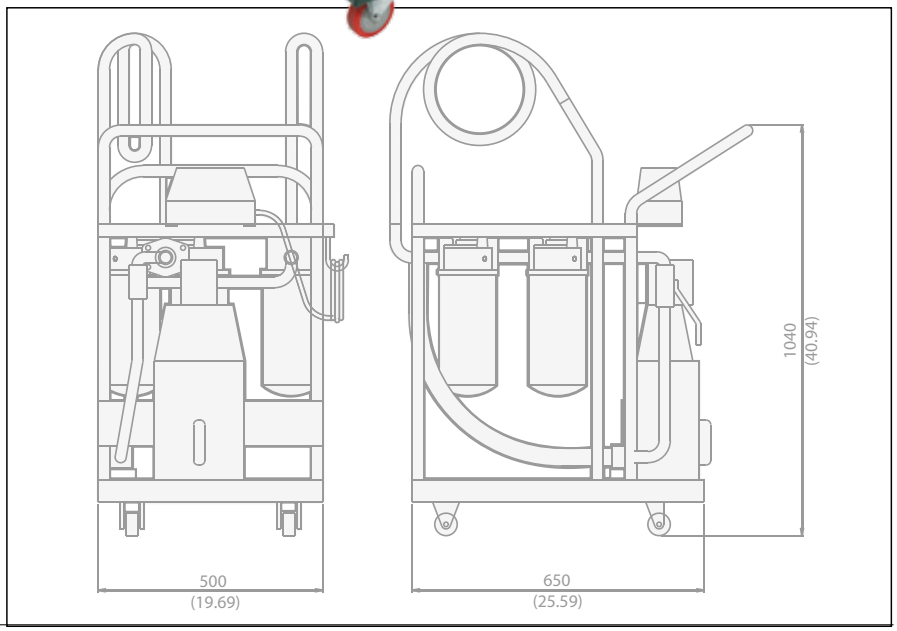
Order Code SPFC

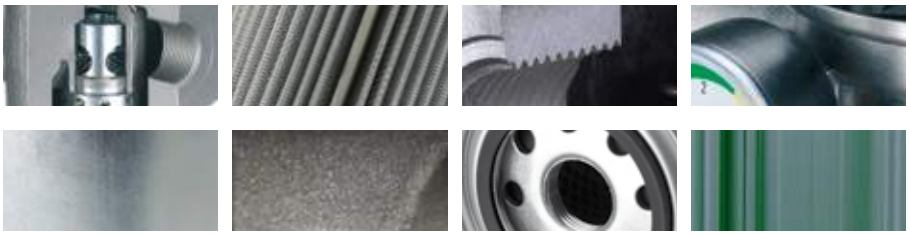
Compact Portable Filter Cart SCFC

Technical Data • Dimensions / Order Code

STAUFF Mobile Filter Units







C

Filtration Technology

Index	C2
Filtration Guidline	C6
Pressure Filters	C18
Return Line Filters	C57
Spin-On Filters	C132
Offline- and Bypass Filters	C153
Mobile Filter Units	C180

STAUFF Filtration Technology offers a complete range of filtration products and services. This will provide the system designer or user with the highest level of contamination control demanded by today's most sophisticated applications.

STAUFF Filtration Technology Products include Pressure Filters, Return -Line Filters, Elements, Spin-On Filters, Suction Strainers and Filler Breathers for various hydraulic, lubrication and fuel oils.

STAUFF has the technical expertise to provide superior filter element designs for the STAUFF original filter housings and also for the interchange element market.

STAUFF manufactures more than 10000 different elements. Many of these are designed to fit into filter housings produced by other companies while maintaining or surpassing the original performance.

A well-stocked warehouse guarantees the possibility of short-term arrangements without their own storage. Therefore, we can react flexible for your specific needs.
The "STAUFF Contamination Control Program" comprised the diagnostic services including fluid sampling and laser particle counting products for monitoring the system contamination level. In addition STAUFF offers a range of software solutions for element interchange and filter calculation. All products are subject to the audits in reference to international standards. This ensures a consistently high standard of qualitiy.

Please do not hesitate to contact STAUFF for further details.

www.stauff.com

Filtration Guideline

Introduction	**C6**
Filtration - Why?	**C7**
Contamination	**C7**
STAUFF Filter Components	**C9**
Test Standards and Oil Purity	**C10**
Short & Curt: Filter Rating	**C11**
ß-Value and Separations Efficiency	**C11**
Filtration Terminology	**C12**
Choice of Filters / Examples of Calculation	**C14**
Filter Selection Software	**C15**
STAUFF Replacement Filter Elements	**C16**

Pressure Filters

Overview		**C18**
Types SF / SF-TM / SF-SM / SFA		
High Pressure Filters	SF	
Max. 420 bar / 6000 PSI		
Max. 1320 l/min / 300 US GPM		
Technical Data / Dimensions		**C19**
High Pressure Filter - Order Code	SF	**C22**
Filter Elements - Order Code	SE	**C22**
High Pressure Filters	SF-TM	
Max. 315 bar / 4560 PSI		
Max. 1320 l/min / 300 US GPM		
Technical Data / Dimensions		**C23**
High Pressure Filter - Order Code	SF-TM	**C26**
Filter Elements - Order Code	SE	**C26**
High Pressure Filters	SF-SM	
Max. 315 bar / 4560 PSI		
Max. 1320 l/min / 300 US GPM		
Technical Data / Dimensions		**C27**
High Pressure Filter - Order Code	SF-SM	**C30**
Filter Elements - Order Code	SE	**C30**
High Pressure Filters	SFZ	
Max. 315 bar / 4560 PSI		
Max. 30 l/min / 8 US GPM		
Technical Data / Dimensions		**C32**
High Pressure Filter - Order Code	SFZ	**C34**
Filter Elements - Order Code	SE	**C34**
Medium Pressure Filters	SFA	
Max. 160 bar / 2320 PSI		
Max. 240 l/min / 70 US GPM		
Technical Data / Dimensions		**C35**
Medium Pressure Filter - Order Code	SFA	**C38**
Filter Elements - Order Code	SE	**C38**

Valves		**C39**
Technical Data	HV-0 / HV-B / HV-R /	
Order Code	HV-N / HV-M	
Clogging Indicators	HI	**C40**
Technical Data		
Order Code		
Dimensions		
Filter Elements	SE	**C41**
Technical Data		
Order Code		
Flow Characteristics		**C42**
Types SF / SF-TM / SF-SM / SFA		
Pressure Filters	SIF48	
Max. 345 bar / 5000 PSI		
Max. 380 l/min / 100 US GPM		
Technical Data / Dimensions		**C45**
Pressure Filter - Order Code	SIF48	**C47**
Filter Elements - Order Code	RTE48	**C47**
Clogging Indicators	HI48	**C48**
Technical Data / Dimensions		
Order Code		
Flow Characteristics		**C49**
Type SIF48		
Medium Pressure Filters	SMPF	
Max. 110 bar / 1600 PSI		
Max. 90 l/min / 25 US GPM		
Technical Data / Dimensions		**C51**
Medium Pressure Filter - Order Code	SMPF	**C54**
Filter Elements - Order Code	SME	**C54**
Clogging Indicators		**C55**
Visual Clogging Indicator	HIM-V	
Visual-Electrical Clogging Indicator	HIM-VE	
Order Code		
Flow Characteristics		**C56**
Type SMPF		

Return Line Filters



Return Line Filters SRFL-S / SRFL-D
Max. 14 bar / 200 PSI
Max. 7000 l/min / 1850 US GPM
Technical Data / Dimensions **C57**
Return Line Filter - Order Code SRFL-S / D **C68**
Filter Elements - Order Code RE **C68**



Filter Elements RE **C69**
Description
Order Code



Differential Pressure Switch with Visual Gauge Indicator **C69**

Flow Characteristics **C70**
Type SRFL-S / D



Return Line Filters RF
Max. 16 bar / 232 PSI
Max. 500 l/min / 130 US GPM
Technical Data / Dimensions **C71**
Return Line Filter - Order Code RF **C74**
Filter Elements - Order Code RE **C74**

Options - Clogging Indicators **C75**
Visual Clogging Indicator
Electrical Clogging Switch
Filter Bowl with Threaded Connection
Leakage Oil Connection
Filter Bowl with Threaded Connection and Diffuser

Flow Characteristics **C76**
Type RF



Return Line Filters RFA
Max. 25 bar / 365 PSI
Max. 30 l/min / 110 US GPM
Technical Data / Dimensions **C79**
Return Line Filter - Order Code RFA **C82**
Filter Elements - Order Code RE **C82**

Options - Clogging Indicators **C83**
Visual Clogging Indicator
Electrical Clogging Switch
Filter Bowl with Threaded Connection
Leakage Oil Connection
Filter Bowl with Threaded Connection and Diffuser

Flow Characteristics **C84**
Type RFA



Return Line Filters RFB
Max. 10 bar / 145 PSI
Max. 185 l/min / 52 US GPM
Technical Data / Dimensions **C85**
Return Line Filter - Order Code RFB **C88**
Filter Elements - Order Code RE **C88**
Air Filter Elements - Order Code REA **C88**

Options - Clogging Indicators **C89**
Visual Clogging Indicator
Electrical Clogging Switch
Air Filter Element
Filter Bowl with Threaded Connection

Flow Characteristics **C90**
Type RFB

Return Line Filter



Return Line Filter RFS
Max. 25 bar / 365 PSI
Max. 1135 l/min / 300 US GPM
Technical Data / Dimensions **C91**
Return Line Filter - Order Code RFS **C94**
Filter Elements - Order Code RE **C94**

Options - Clogging Indicators **C95**
Visual Clogging Indicator
Electrical Clogging Switch



Replacement Filter Elements RE **C95**
Description
Order Code

Flow Characteristics **C96**
Type RFS



Return Line Filters RIF300
Max. 34,5 bar / 500 PSI
Max. 1135 l/min / 300 US GPM
Technical Data / Dimensions **C99**
Return Line Filter - Order Code RIF300 **C101**
Filter Elements - Order Code SP **C101**

Clogging Indicators **C102**
Visual Clogging Indicator
Visual-Electrical Clogging Indicator
Order Code

Flow Characteristics **C103**
Type RIF300

Return Line Filters RIF48
Max. 20 bar / 300 PSI
Max. 380 l/min / 100 US GPM
Technical Data / Dimensions **C104**
Return Line Filter - Order Code RIF48 **C106**
Filter Elements - Order Code RTE48 **C106**

Clogging Indicators HI48 **C107**
Technical Data / Dimensions
Order Code

Flow Characteristics **C108**
Type RIF48



Return Line Filters RTF10/25
Max. 34,5 bar / 500 PSI
Max. 1135 l/min / 300 US GPM
Technical Data / Dimensions **C109**
Return Line Filter - Order Code RTF10/25 **C112**
Filter Elements - Order Code RTE **C112**



Return Line Filters RTF20
Max. 34,5 bar / 500 PSI
Max. 1135 l/min / 300 US GPM
Technical Data / Dimensions **C113**
Return Line Filter - Order Code RTF20 **C116**
Filter Elements - Order Code RTE **C116**
Air Filter Elements - Order Code RTEA **C116**



Return Line Filters RTF40
Max. 6,9 bar / 100 PSI
Max. 378 l/min / 100 US GPM
Technical Data / Dimensions **C117**
Return Line Filter - Order Code RTF40 **C120**
Filter Elements - Order Code RTE **C120**

Return Line Filters



Return Line Filters RTF50
Max. 6,9 bar / 100 PSI
Max. 379 l/min / 100 US GPM
Technical Data / Dimensions **C121**
Return Line Filter - Order Code RTF50 **C124**
Filter Elements - Order Code RTE **C124**



Return Line Filters RTF-N
Max. 10 bar / 145 PSI
Max. 500 l/min / 132 GPM
Technical Data / Dimensions **C125**
Return Line Filter - Order Code RTF-N **C128**
Filter Elements - Order Code RA **C128**

Flow Characteristics
Type RTF **C129**

Clogging Indicators
Visual Clogging Indicator **C131**
Electrical Clogging Indicator
Order Code / Dimensions

Spin-On Filters

Introduction **C132**
Technical Data
Private Labelling

Quick Reference Guide **C133**
Spin-On Filter Heads
Spin-On Filter Elements



Spin-On Filter Heads SLF-02 / 03 / 04 **C134**
Max. 14 bar / 200 PSI
Max. 26 l/min / 7 US GPM
Technical Data / Dimensions
Order Code



Spin-On Filter Heads SAF-05 / 06 / 07 / 11 **C135**
Max. 14 bar / 200 PSI
Max. 90 l/min / 25 US GPM
Technical Data / Dimensions
Order Code



Spin-On Filter Heads SAF-10 / 13 **C136**
Max. 14 bar / 200 PSI
Max. 128 l/min / 34 US GPM
Technical Data / Dimensions
Order Code



Spin-On Filter Heads SSF-12 **C137**
Max. 12 bar / 174 PSI
Max. 90 l/min / 25 US GPM
Technical Data / Dimensions
Order Code



Spin-On Filter Heads SSF-100 / 120 / 120L / 130 / 160 **C138**
Max. 14 bar / 200 PSI
Max. 225 l/min / 60 US GPM
Technical Data / Dimensions
Order Code



Spin-On Filter Heads SSF-150 / 180 **C139**
Max. 14 bar / 200 PSI
Max. 300 l/min / 80 US GPM
Technical Data / Dimensions
Order Code



Double Spin-On Filter Heads SSF-24N / 24S **C140**
Max. 12 bar / 174 PSI
Max. 454 l/min / 120 US GPM
Technical Data / Dimensions
Order Code



Double Spin-On Filter Heads SSF-25 **C141**
Max. 12 bar / 174 PSI
Max. 454 l/min / 120 US GPM
Technical Data / Dimensions
Order Code



Tank Top Spin-On Filter Heads SSFT-12 **C142**
Max. 7 bar / 100 PSI
Max. 75 l/min / 20 US GPM
Technical Data / Dimensions
Order Code



Tank Top Spin-On Filter Heads SSFT-20 **C143**
Max. 7 bar / 100 PSI
Max. 200 l/min / 53 US GPM
Technical Data / Dimensions
Order Code

Spin-On-Filter



Spin-On Filter Elements SFC-35 / 36 **C144**
Technical Data SFCT-35 / 36
Dimensions



Spin-On Filter Elements SFC-57 / 58 **C145**
Technical Data SFCT-57 / 58
Dimensions



Spin-On Filter Elements SF63 **C146**
Technical Data
Dimensions



Spin-On Filter Elements SF65 **C147**
Technical Data
Dimensions



Spin-On Filter Elements SF67 **C148**
Technical Data
Dimensions

SFC/SFCT-35 / 36
Flow Characteristics SFC/SFCT-57 / 58 **C149**
SF63

Flow Characteristics SF65 **C150**

Flow Characteristics SF67 **C151**



Clogging Indicators SIS / GV / SIM / CI **C152**
Technical Data SIE-NO/NC / EPS/EVS

Offline- and Bypass Filters

Overview **C153**
Description
Technical Data

STAUFF System **C154**



Off-Line Filters OLS
Overview **C155**
Dimensions **C156**
Technical Data
Off-Line Filter - Order Code OLS **C160**
Filter Elements - Order Code SRM



Water Absorbing Off-Line Filters OLSW
Overview **C161**
Dimensions **C162**
Technical Data
Water Absorbing Off-Line Filter- Order Code OLS **C164**
Filter Elements - Order Code SRM
Pre-Filter Elements - Order Code SF



Heated Off-Line Filters OLSH
Overview **C165**
Dimensions **C166**
Technical Data
Heated Off-Line Filter - Order Code OLSH **C168**
Filter Elements - Order Code SRM



Bypass Filters BPS
Overview **C169**
Dimensions **C170**
Technical Data
Bypass Filter - Order Code BPS **C171**
Filter Elements - Order Code SRM
Mounting Options **C172**
Hydraulic Symbols / Flow Characteristics **C173**



Bypass Lube-Oil Filter BPLS
Overview **C174**
Dimensions **C175**
Technical Data
Bypass Lube-Oil Filter - Order Code BPLS **C175**
Filter Elements - Order Code SRM



Mini Water Vac SMWV
Overview **C176**
Dimensions
Technical Data
Mini Water Vac - Order Code SMWV **C177**



Replacement Filter Elements SRM
Description **C178**
Technical Data **C179**

Mobile Filter Units



Portable Filter Cart SPFC
Technical Data **C180**
Dimensions **C181**



Portable Filter Cart - Smart Cart SPFC **C182**
Technical Data / Dimensions

Portable Filter Cart - Order Code **C184**



Compact Portable Filter Cart SCFC
Technical Data **C185**
Dimensions / Order Code **C186**



STAUFF Mobile Filter Units **C187**



Introduction

STAUFF Filtration Technology offers two publications with knowledge and expertise about contamination in hydraulic fluids, filter types and assistance for selecting the right filter for the applications:

A. The compact "Filtration Guideline"
Please have a look at the following pages.

B. SCCP – STAUFF Contamination Control Program
A comprehensive guideline (only available in English language)



Multipass Test Bench



Selection of STAUFF
Replacement Filter Elements

Filtration - Why?

Good hydraulic filtration is gaining more and more importance in the use of hydraulic systems.

Reducing contamination in the hydraulic system will reduce the wear of the components and thus extend the service life of the machine. This will prevent production downtime and lower the overall production costs.

Right from the beginning, there is contamination in a new hydraulic system, which reduces the service life of the system and its components such as valves and cylinders without any or with inadequate filtration.

This built-in dirt is created during the manufacturing of the components and mainly consists of coarse particles.

In addition to the contamination that arises during operation of the system, e.g. abrasive wear, dirt particles can also get into the system when it is filled with hydraulic oil. This is called ingress contamination.

Choosing the right filter contributes significantly to prevent the dangers mentioned above thereby ensuring efficient operation even after many years.

Reduction of Contamination

- Extension of service life
- Extension of maintenance intervals
- Reduction of machine downtime
- Reduction of environmental pollution

► Cost savings for the user

Origin of Contamination
The main cause of failures and downtimes is dirt in the hydraulic system.

Failure analysis indicate that 70% of the failures are caused by faults in the hydraulic system. 90% of them are caused by impurities in the hydraulic oil.

Sources of External Contamination
- Filling and refilling the hydraulic tank
- Inadequately dimensioned breathers
- Damaged tank seals
- Replacement of hydraulic lines and components (pumps, cylinders)
- Impurities in the air

Types of Internal Contamination
- Contamination on/in the components caused by the manufacturing process (e.g. chips)
- Contamination on the components caused by the installation of the components

Sources of Internal Contamination
- Disintegration of particles from high pressure changes and tension on the surface of hydraulic components (e.g. cavitation)
- Material erosion that occurs at places in the hydraulic units due to the impact of pressurised liquid at high speeds (erosion wear)

Contamination

Particle Sizes (Selection)

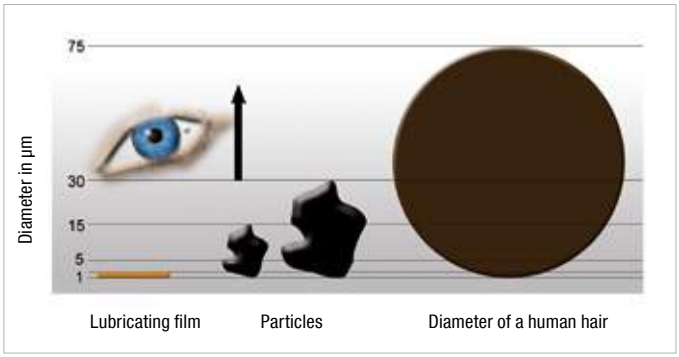
- 100 µm table salt, fine sand
- 75 µm diameter of a human hair
- 60 µm flower pollen
- 50 µm fog
- **30 µm (from approx.) resolution of the human eye**
- 15 µm fine particles
- 7 µm red blood cells
- 2 µm bacteria
- 1 µm layer of lubricating film (for comparison)

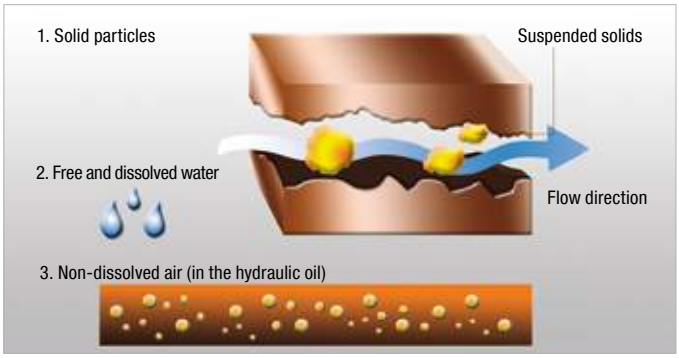
Type of Contamination

The most frequent ones are:

- Solid particles
- Free and dissolved water
- Non-dissolved air

A majority of the contamination can be removed with filtration.



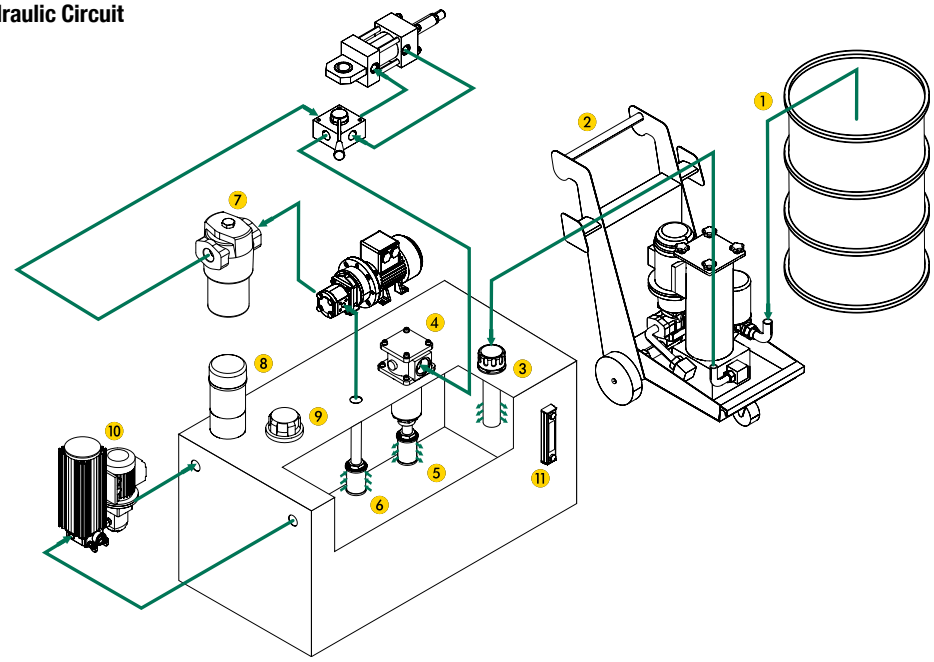


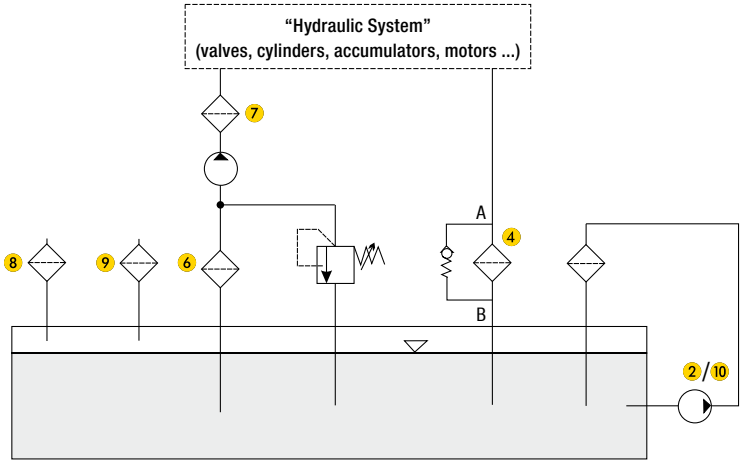


STAUFF Laser Particle Counter
LasPaC-II and Bottle Sampler

Selection of Components within the Hydraulic Circuit

1	Oil drum	
2	STAUFF Mobile Filter-System	**SMFS-U**
3	STAUFF Metal Filler Breather	**SMBB**
4	STAUFF Return-Line Filter	**RF**
5	STAUFF Diffusor	**SRV**
6	STAUFF Suction Strainer	**SUS**
7	STAUFF Pressure Filter	**SF**
8	STAUFF Desiccant Air Breather	**SDB**
9	STAUFF Plastic Filler Breather	**SPB**
10	STAUFF Off-Line Filter	**OLS**
11	STAUFF Level Gauge	**SNA**







Mobile Filter System 2



Filler Breathers 3



Return-Line Filter 4



Diffuser 5



Suction Strainer 6



Pressure Filter 7



Dessicant Air Breather 8



Filler Breathers 9



Off-Line Filter 10

STAUFF Filter Components

Pressure Filters 7 are placed behind the pump and clean the hydraulic oil before it flows through down-stream components like valves, cylinders and so on. The main reason for pressure filtration is the protection of downstream, sensitive components.

Eroded particles from the pump are immediately filtered out of the hydraulic oil. Besides working as a protection filter, pressure filters also help to maintain the required purity class.

Because it is placed right behind the pump, a Pressure Filter has to withstand the maximum system pressure. The filter element in the pressure filter also has to withstand the loads and is more intricately constructed, for example as a Return-Line Filters element.

Return-Line Filters 4 are installed in the return line, on top of or within the oil tank. They filter the hydraulic oil before it flows back into the reservoir. This ensures that contamination arising in the components does not get into the tank. Return-Line Filters maintain the targeted purity class like pressure filters. However, because of their arrangement, they do not fulfil the additional function of a protection filter. In contrast to a pressure filter, it only has to withstand low pressure levels.

Diffusers 5 are used in combination with Return-Line Filters and ensure that the returning oil flow is settled before it reaches the oil tank thereby preventing foaming and re-suspension of deposited dirt.

The job of **Suction Strainers** 6 is mainly to provide functional protection of the downstream pumps in the circulation. Suction Strainers always have to be provided if the risk of pump damage from coarse impurities is particularly high. This risk exists if impurities are collected in the tank and if they can't be filtered out afterwards. Suction Strainers are coarse filter elements with a micron rating that is usually bigger than 100 µm.

Filler Breathers 3/9 are mounted on the oil tank and prevent the entry of dirt from the surroundings during tank breathing. They should be chosen with a filter unit that is similar to the working filter (Pressure Filter, Return-Line Filter).

The replacement cycles of filter inserts is highly dependent on the surrounding conditions of the hydraulic system.

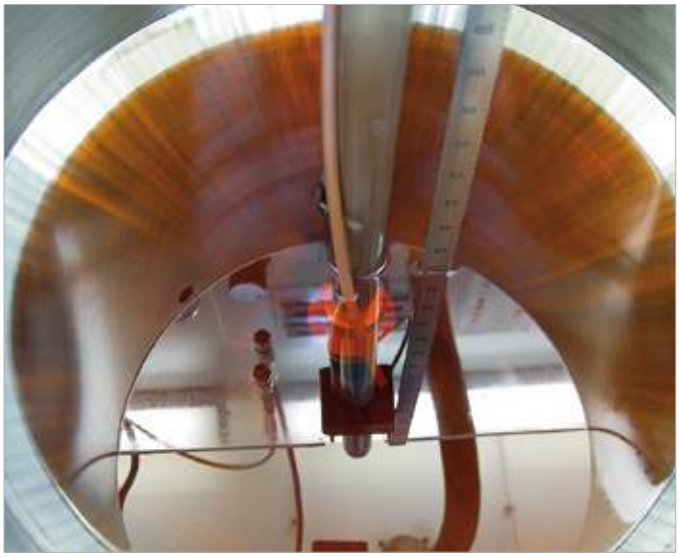
Another variant of the breather is the **Desiccant Air Breather** 8. The additional function of this filter is dehumidification of the inflowing air with a special silicate gel.

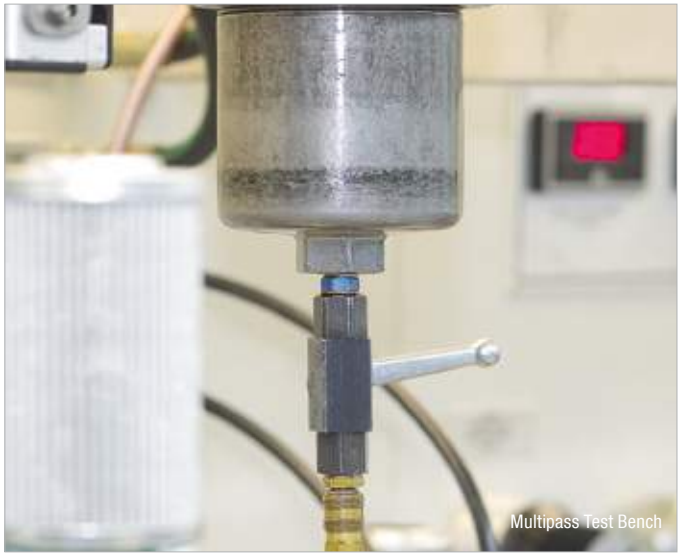
Off-Line / Bypass Filters 10 are not part of the main hydraulic system. They are supplementary to achieve the best possible filtration results. Because of the high efficiency of the Off-Line / Bypass Filters, purity levels are reached that cannot be achieved with conventional main filter systems.

Off-Line Filters work with an integrated motor/pump unit that draws in the fluid from the system, filters it and then feeds it back into the tank. Because the offline filter is independent from the hydraulic main circuit, i.e. it can still be operated if the hydraulic system is switched off, it is used in practice for continuous cleaning of the tank.

Bypass Filters on the other hand use the existing system pressure to draw a small volumetric flow out of the hydraulic system for filtration. They are only active while the unit is in operation.

Another mobile variant of the bypass filter is the **Mobile Filter System** 2.





Multipass Test Bench

Test Standards and Oil Purity

Definition of the Required Micron Rating

Essentially, the components found in the hydraulic system determine the micron rating of the filtration system.

To guarantee a reliable mode of operation over the years, it is mandatory to maintain the optimum oil purity class for specific components.

The most sensitive component determines the choice of filter material and micron rating.

To determine the oil purity according to ISO 4406 (1999), a laser particle counter is used to count particles that are >4 µm $_{(c)}$, >6 µm $_{(c)}$ and >14 µm $_{(c)}$ in 100 ml of hydraulic oil. The number of particles is then assigned a classification number (e.g. 20/18/15) that then corresponds to the ISO purity class. Please note here that the number of particles doubles for the next higher class. The cleanliness level that has to be achieved is an important criterion for choosing the right filtration system.

STAUFF Filter Elements are Subject to the Following Test Methods

- ISO 2941 Collapse and burst resistance
- ISO 2942 Verification of fabrication integrity (bubble point test)
- ISO 2943 Compatibility with hydraulic media
- ISO 3723 End load test
- ISO 3724 Flow fatigue characteristics
- ISO 3968 Flow characteristics
- ISO 16889 Filtration performance test (multi-pass method)

Number of particles in 100 ml fluid		Classification numbers ISO 4406 (1999)		
More than	Less than	> 4 µm$_{(c)}$	> 6 µm$_{(c)}$	> 14 µm$_{(c)}$
8000000	16000000	24	24	24
4000000	8000000	23	23	23
2000000	4000000	22	22	22
1000000	2000000	21	21	21
500000	1000000	**20**	20	20
250000	500000	19	19	19
130000	250000	18	**18**	18
64000	130000	17	17	17
32000	64000	16	16	16
16000	32000	15	15	**15**
8000	16000	14	14	14
4000	8000	13	13	13
2000	4000	12	12	12



STAUFF Laser Particle Counter
LasPaC-II and Bottle Sampler

Short & Curt: Filter Rating

(For exact recommendation see SCCP - STAUFF Contamination Control Program see page C15.)

Type	Component	ISO 4406 Code	Recommended Filter Rating
Pump	Piston Pump (Slow Speed, Inline)	22/20/16	20 µm
	Gear Pump	19/17/15	20 µm
	Vane Pump	18/16/14	5 µm
	Piston Pump (High Speed, Variable)	17/15/13	5 µm
Motor	Gear Motor	20/18/15	20 µm
	Vane Motor	19/17/14	10 µm
	Radial Piston Motor	19/17/13	10 µm
	Axial Piston Motor	18/16/13	5 µm
Valve	Directional Valves (Solenoid)	20/18/15	20 µm
	Check Valves	20/18/15	20 µm
	Logic Valves	20/18/15	20 µm
	Cartridge Valves	20/18/15	20 µm
	Pressure Control Valves (Modulating)	19/17/14	10 µm
	Flow Control Valves	19/17/14	10 µm
	Standard Hydraulic <100 bar / <1450 PSI	19/17/14	10 µm
	Proportional Valves	18/16/13	5 µm
	Servo Valves <210 bar / <3045 PSI	16/14/11	3 µm
	Servo Valves >210 bar / >3045 PSI	15/13/10	3 µm
Actuator	Cylinder	20/18/15	20 µm

ß-Value and Separations Efficiency

To select filtration that meet the requirements, performance characteristics like the filter fineness, the filtration efficiency, the dirt-hold capacity and the pressure loss has to be observed.

The ß-value as per ISO 16889 is the relevant characteristic value for filtration efficiency. The ß-value is the ratio of particles before ($N_{up\ x}$) and after ($N_{down\ x}$) the filter related to a specific particle size x.

$$ß_x = \frac{N_{up\ x}}{N_{down\ x}}$$

$ß_{10} > 200$ means that of 1000 particles that are 10 µm in size, only five particles can pass through the filter. 995 particles will be trapped by the filter element.

Popular filters with inorganic glass fibre medium have to achieve a ß-value of at least 200 in order to meet the demands placed on hydraulic filtration today.

The filtration efficiency, also called the retention rate, is directly related to the ß-value and is calculated as follows:

$$E = \frac{(ß_x - 1)}{ß_x}$$

$ß_{10} > 200$ corresponds to filtration efficiency of 99,5%.

Comparison of the ß-Value and Efficiency E (each related to a defined Particle Size)

ß-value	Filtration Efficiency E
1	0,00 %
2	50,00 %
10	90,00 %
25	96,00 %
50	98,00 %
75	98,67 %
100	99,00 %
200	99,50 %
1000	99,90 %
9999	99,99 %

The **dirt-hold capacity** (DHC) shows how much solid dirt a filter element can hold before it has to be replaced. The dirt-hold capacity is therefore the most important parameter in the filter service life.

The **differential pressure** (Δp) is another important criterion for the configuration of the filter. Ensure that the size of the filter element is chosen according to the calculation guideline by STAUFF.

To guarantee optimum filtration, the ß-value, the dirt-hold capacity (DHC) and the differential pressure (Δp) must be carefully matched.

Filtration Terminology

ß-value

The ß-value as per ISO 16889 is the relevant characteristic value for filtration efficiency. The ß-value is the ratio of particles before ($N_{up\ x}$) and after ($N_{down\ x}$) the filter related to a specific particle size x.

$$ß_x = \frac{N_{up\ x}}{N_{down\ x}}$$ (see page C11)

Cavitation Damage

Cavitation is defined to be the cavity formation in liquids. Cavitation occurs if the local static pressure of a liquid drops below a critical value. This critical value usually corresponds to the vapour pressure of the liquid. Critical effects of cavitation are:

- Cavitation wear
- Undissolved gas in the hydraulic system
- Loud high-frequency noises
- Local high temperatures in the liquid
- Changes to the resistance characteristics of the hydraulic resistance

Cleanliness Level

The cleanliness level of a hydraulic fluid is defined by the number of solid particles per ml of fluid. The number of particles is usually measured with an automatic particle counter. The cleanliness level is determined by a class code created by counting the number of particles of different sizes.

Particle counting as well as the coding of the cleanliness class for hydraulic oils are described in the ISO 4406 (1999) standard. Beside the ISO 4406 (1999), NAS 1638 (1964) and SAE AS4059 Rev. D (2001) are also still common.

Clogging Indicator

The clogging indicator signalises a specific pressure level where the soiled filter element should be replaced. They work with differential pressure (Δp) or back pressure. Clogging indicators are available in visual, electrical and visual/electrical versions. While it is the responsibility of the installation or maintenance personnel to check the degree of clogging of the filter element with visual clogging indicators, a signal contact (switch) can be connected to the machine controller with an electrical or visual/electrical clogging indicator.

Collapse Pressure

The permissible collapse pressure according to ISO 2941 is understood to be the pressure difference that a filter element can withstand with the stipulated direction of flow. Exceeding the collapse pressure results in the destruction of the filter element.

Depth Filter

Impurities penetrate into the filter fabric and are retained by the structure of the filter fabric. Mainly cellulose and inorganic glass fibre media are used in hydraulic filters. For special applications, plastic media (high-strength) and metal fibre media are also used. The design of the depth filter combines the highest micron rating with a high dirt retention capacity. Due to the fleece-like structure of depth filters, particles are not only separated on the surface of the filter material, but they can penetrate into the filter material, which leads to a considerable increase of the effective filter area. In contrast to sieves, there are no holes in fleece, rather they practically consist of labyrinths in which the particles are trapped. Hence, there is no sharply defined screening, rather a wide range of particles are trapped.

Differential Pressure

The differential pressure (Δp) is defined as the pressure difference between the filter inlet and the filter outlet, or alternatively in front of and behind the filter element.

Exceeding the maximum permissible pressure differential leads to the destruction of the filter element.

A bypass valve integrated in the filter prevents destruction of the filter element by opening if the differential pressure (Δp) is too high. Then the oil is passed unfiltered into the hydraulic circuit. For applications in which no unfiltered oil is allowed to pass into the hydraulic circuit, there is the possibility of using filters without bypass valves with filter elements that can withstand a high differential pressure (Δp). The filter elements must be designed such that they can withstand the maximum expected differential pressure (Δp).

Dirt-Hold Capacity (DHC)

The dirt-hold capacity (DHC) shows how much solid dirt a filter element can hold. It is measured in the multipass test according to ISO 16889

EPDM

Ethylene-Propylene-Diene-Monomer-rubber (EPDM) is used as a material for O-rings because of its chemical resistance.

Filter

A filter (hydraulic filter) has the job of keeping solids out of a liquid (oil). A filter is usually made of a filter housing and a filter element.

Filter Area

The filter area is the size of the theoretically spread-out filter element. The larger the filter area, the lower the flow resistance of the filter element. Simultaneously, the dirt-hold capacity (DHC) increases. The following applies in general: the larger the filter area, the longer the service life of the element. Basically the filter area can be enlarged by the number of pleats.

Filter Cake

A filter cake is made up of the particles trapped on the surface of a filter medium.

Filter Design

Essentially depends on the following factors: specific flow rate, cleanliness level, amount of contamination, the maximum pressure setting and the required filter service life.

Filter Element

The filter element is located in the filter housing and performs the actual filtering task.

Filtration Efficiency

Filtration efficiency is a measure of the effectiveness of a filter element for separating solid particles. It is given in percent (see page C11).

Filter Housing

Depending on the application, the filter housing is built into the pressure or return line and must be designed for the specific operating or system pressure and the flow rate. The filter element is located in the filter housing. Depending on the application, the filter housing may be equipped with a bypass valve, a reversing valve, a clogging indicator and other options.

Filter Material

The choice of the right filter material is dependent on different criteria. Amongst others, this includes the type of application, the filter function, degree of contamination or alternatively the required dirt-hold capacity (DHC) as well as requirements of chemical or physical resistance. The following list gives you an overview of how these filter materials differ with regard to specific properties:

Inorganic Glass Fibre

Inorganic Glass Fibre media are among the most important materials in modern filtration. During production, selected fibres (1 mm ... 5 mm long and with a diameter of 3 µm ... 10 µm) are processed into a specific mix. The manufacturing process is very similar to paper production. The fibres are bound with a resin and impregnated. The benefit compared to cellulose paper is a fibre structure that is considerably more homogenous and consequently has larger open pored surfaces. As a result, lower flow resistance is achieved.

- Based on Glass Fibres with acrylic or epoxy resin binding
- High retention and dirt-hold capacity (DHC)
- Excellent separation efficiency of the finest particles due to the three-dimensional labyrinth structure with deepth filtration
- Outstanding price/performance ratio

Filter Material (Continuation)

Polyester

- 100% Polyester Fibres with thermal bonding
- High pressure differential resistance
- Good chemical resistance
- High separation efficiency of the finest particles
- Tear-proof structure
- No static charging

Cellulose

- Filter material made of Cellulose Fibres with special impregnation
- Variants with the lowest price with good dirt retention capacity
- Not suitable for water based media

Metal Fibre

- Sintered Metal Fibres with three-dimensional labyrinth structure for depth filtration
- Low flow resistance with high dirt-hold capacity
- Excellent chemical and thermal resistance

Stainless Steel Wire Mesh

Filter elements with a Metal Wire Mesh are often used as a conditionally reusable solution in protection filters, suction filters or return-line filters. Depending on the requirements (micron rating, pressure, dynamics) different types of mesh are used like twill, linen, or also Dutch weave.

- Wire mesh fabric made of material 1.4301 for surface filtration (other material on request)
- Low flow resistance due to large-pored screening surface
- Excellent chemical and thermal resistance
- Cleanable

Flow Rate

This is the amount of fluid that flows past a specific cross-section per unit time. It is given in litres per minute (l/min) or gallons per minute (US GPM).

FPM (Viton®)

Fluorinated rubber is used as a material for O-rings and is characterised by its outstanding resistance to high temperatures, mineral oils, synthetic hydraulic fluids, fuels and chemicals.

Hydraulic Fluid

A pressure liquid is defined to be a fluid used in hydraulic and lubrication systems. According to ISO 6743, the fluids are divided into mineral oil based, flame resistant and biodegredable liquids.

Micron Rating

Regarding micron rating, we must differentiate between the filter materials that are used. To define the micron rating for Inorganic Glass Fibre filter elements, the ß-value as per ISO 16889 is commonly used.

Multipass Test

The Multipass Test evaluates the performance of a filter element. Standardised in ISO 16889-2008, this test allows comparable and repeatable results of the elements performance. If a normal filter element life is between a few weeks up to several months, this test reduces this life down to 90 minutes. The element is subjected to a fluid that a large amount of a special test dust ISO MTD contains. Results are given for the ß-ratio, dirt-hold capacity (DHC) and differential pressure. It is used for designing hydraulic circuits, developing new filter materials and comparison of different filter elements.

See also page C10 and page C11 to get more information about the outcome data.
In former time this test was also known as the Multipass Test ISO 4572.

NBR (Buna-N®)

Nitrile rubber is the most commonly used elastomer for O-rings and other sealing devices. Also known as Buna N, Nitrile is a copolymer of Butadiene and Acrylonitrile (ACN). The name Buna N is derived from Butadiene and Natrium (the Latin name for Sodium, the catalyst used in polymerizing Butadiene). The “N” stands for Acrylonitrile.

Nominal Flow Rate

The nominal flow rate describes the flow rate or the volumetric flow rate for which the respective filter has been designed. It is usually given in litres per minute (l/min) or US Gallons per minute (US GPM) and is an important parameter in the filter design.

Nominal Pressure

Pressure for which the filter is designed and which it can be identified with.

Operating Pressure / System Pressure

Maximum pressure with which the filter may be used.

Surface Filter

Impurities are separated on the surface of the filter element. Surface filters are designed to have uniform pores (gaps), therefore they can almost completely retain specific particle sizes. Surface filters are made of Metal Wire Mesh or Cellulose materials.

Other surface filters are metal-edge filters.

Valve

Bypass Valve

A bypass valve is a valve that is integrated in a filter or filter element and allows the oil to bypass the contaminated filter element if a defined pressure differential is exceeded. Bypass valves are used to protect the filter element.

Non-Return Valve

It prevents the continuation line from draining while the filter element is changed.

Reverse Flow Valve

It is used to bypass the filter element for reversible oil flow so that the fluid does not pass through the filter element in the reverse direction.

Multi-Function Valve

A combination of bypass, reverse flow and non-return valve.

Viscosity

The viscosity of a fluid describes the flow behavior of a liquid. There are the kinematic viscosity υ with the unit “m²/s” and the dynamic viscosity η with the unit “Ns/m²”. In the field of filtration, in the design of filters the kinematic viscosity is required for calculating. The kinematic viscosity υ can also be calculated with the dynamic viscosity η and density ρ:

$$\upsilon = \frac{\eta}{\rho}$$

The kinematic viscosity unit is “mm²/s”, before it was called centistokes or Stokes (1 cSt = 1 mm²/s = 10^{-6}m²/s). The unit of dynamic viscosity is “Ns/m², it was previously reported in Poise (10 P = 1 Ns/m² = 1 Pa s).

Choice of Filters

Choice of a Suitable Micron Rating

Generally, the type of components incorporated in the hydraulic system will determine the micron rating required. It has been clearly demonstrated that system components will operate reliably for years if a specific minimum oil cleanliness grade is maintained. Frequently the choice will be determined by the most sensitive component in the system.

a) Operating Filter
To get a rough, first rating of what filter is needed to assure a certain oil cleanness grade please have a look at page C11.

Apart from the specific flow rate (l/min per cm2 of filter area), other factors such as operating environment and condition of seals and breathers can have an effect on the cleanliness grade which can actually be achieved.

b) Protective Filter
Occasionally, protective filters are fitted downstream of major components, e.g. the pump, to collect the debris in case of a catastrophic failure. This avoids total stripping and flushing of the system. For economic reasons, protective filters are normally one grade coarser than the operating filters since they do not significantly contribute to the cleaning of the system and this extends filter service intervals.

Choice of the Optimum Filter

In selecting the filter, the following information must be considered:

- Maximum flow volume (Q_{max}) through the filter including surge flows
- Kinematic viscosity (υ) of the fluid in mm^2/s (cSt) at cold start temperature and operating temperature
- Density ρ of the fluid
- Micron rating (µm): see table on page C11
- Filter material

The aim is to choose a filter whose total differential pressure (Δp) is not higher than Δp_{max} = 1,0 bar (for pressure filters) or Δp_{max} = 0,5 bar (for return line filters), in a clean state at the normal operating temperature. These values have been proven in practice to give the optimum service life for the element.

The nominal flow volume of the filter is the obvious reference value for pre-selection and this should be larger than the flow to be filtered.

$$Q_{nom} > Q_{max}$$

Calculations based on the filter data will verify whether the pre-selected filter meets the requirements, at operating temperatures:

$\Delta p_{max} \leq$ 1,0 bar (for pressure filter)
$\Delta p_{max} \leq$ 0,5 bar (for return line filter)

The total differential pressure of the assembly Δp_{Assy} is calculated by adding the differential pressure of the housing Δp_{Hous} and that of the element Δp_{Elem}. Both the kinematic viscosity and density of the operating medium should be considered for the selection, as the flow curves on the pages following have been determined with a kinematic viscosity of υ = 30 cSt and a density of ρ = 0,86 kg/dm³. The values of the pressure drops for the Δp_{Hous} and the Δp_{Elem} can be read from the flow curves on the pages following. The values for the kinematic viscosity in cSt and the density in kg/dm³ should be inserted into the following formula:

$$\Delta p_{Assy} = \frac{\rho}{0{,}86} \cdot \Delta p_{Hous} + \frac{\rho}{0{,}86} \cdot \frac{\upsilon}{30} \cdot \Delta p_{Elem}$$

The filter size is suitable if the $\Delta p_{Assy} < \Delta p_{max}$.
If the calculated Δp_{Assy} is higher than Δp_{max} select the next larger filter size and re-calculate until a satisfactory solution is found.

The following two examples explain and help to understand the procedure of calculating a filter. For daily business, it is much easier to use a tool like the “STAUFF Filter Selection” Software. (See page C15)

Examples of Calculation

Example 1: Selection Pressure Filter

System Information: A pressure filter with an Inorganic Glass Fibre element is required immediately after the pump. The system has standard components and is operating at pressures up to 200 bar. The filter shall be fitted with a bypass valve and a visual clogging indicator.

For better understanding only the calculation at the upper temperature is carried out.

Data given:	Q_{max}:	100 l/min
	Oil type:	ISO 68
	Temperature max.:	+50°C
	Viscosity $\upsilon_{operating}$:	44 mm²/s
	Density ρ:	0,882 kg/dm³
	Micron rating:	10 µm (see table on page C11)

First Step

Pre-selection of the size: SF 045, $Q_{nominal}$ = 160 l/min > Q_{max}

Pressure drop values (at viscosity of 30 mm^2/s) from the flow characteristics:

Δp_{Hous} = 0,15 bar (SF 045 ..., see page C38)
Δp_{Elem} = 0,77 bar (SE-045 G 10 B, see page C40)

Determination of the correction factor:

$$\Delta p_{Assy} = \frac{0{,}882}{0{,}86} \cdot 0{,}15 \text{ bar} + \frac{0{,}882}{0{,}86} \cdot \frac{44}{30} \cdot 0{,}77 \text{ bar}$$

Δp_{Assy} = 1,31 bar ≥ Δp_{max} = 1,0 bar

Since the actual pressure drop is larger than the allowed pressure drop, a larger filter has to be chosen.

Second Step

Selection of the next larger filter size: SF 070, $Q_{nominal}$ = 240 l/min > Q_{max}

Δp_{Hous} = 0,15 bar (SF 070 ..., see page C38)
Δp_{Elem} = 0,45 bar (SE-070 G 10 B, see page C40)

$$\Delta p_{Assy} = \frac{0{,}882}{0{,}86} \cdot 0{,}15 \text{ bar} + \frac{0{,}882}{0{,}86} \cdot \frac{44}{30} \cdot 0{,}45 \text{ bar}$$

Δp_{Assy} = 0,83 bar ≤ Δp_{max} = 1,0 bar

In a clean state, this filter fulfills the requirements and is suitable for the application. The correct filter designation would be **SF070G10B-TB/B/V**.

Example 2: Selection Return Line Filter

System Information: A return line filter with a Cellulose element with a micron rating of 10 µm is required to clean the oil. No clogging indicator is required.

Please note: If the system incorporates either accumulators or cylinders, the return flow can dramatically exceed pump flow and the maximum surge flow should be the flow used to calculate the pressure drop through the filter.

Data given:	Q_{max}:	100 l/min
	Oil type:	ISO 68
	Temperature max.:	+60°C
	Viscosity $\upsilon_{operating}$:	29 mm²/s
	Density ρ:	0,882 kg/dm³
	Micron rating:	10 µm (see table on page C11)

First Step

Pre-selection of the size: RF 030, $Q_{nominal} = 110$ l/min > Q_{max}

Pressure drop values (at viscosity of 30 mm²/s) from the flow characteristics:

$\Delta p_{Hous} = 0{,}30$ bar (RF 030 ..., see page C66)
$\Delta p_{Elem} = 0{,}067$ bar (RE-030 N 10 B, see page C66)

Determination of the correction factor (see page C14):

$$\Delta p_{Assy} = \frac{0{,}882}{0{,}86} \cdot 0{,}30 \text{ bar} + \frac{0{,}882}{0{,}86} \cdot \frac{29}{30} \cdot 0{,}067 \text{ bar}$$

$$\Delta p_{Assy} = \underline{0{,}37 \text{ bar}} \leq \Delta p_{max} = \underline{0{,}5 \text{ bar}}$$

In a clean state, this filter fulfills the requirements and is suitable for the application. No further calculation is necessary. The correct filter designation would be **RF030N10B/B**.

Filter Selection Software

For daily business, it is much easier to use a software tool for the calculation of filters.

The STAUFF Filter Selection Software gives an outstanding support in calculating and choosing a well-dimensioned filter. The tool assists in calculating the right size and creates a technical and order data sheet.

Please contact STAUFF or your distributor for a free copy of the STAUFF Filter Selection Software.



STAUFF Contamination Control Program (SCCP)



The STAUFF Contamination Control Program provides you with a proactive system to control the contamination levels in your hydraulic system.

We offer a Contamination Control Seminar, which includes a PowerPoint presentation and printed literature (only in english language available).

Topics covered include:

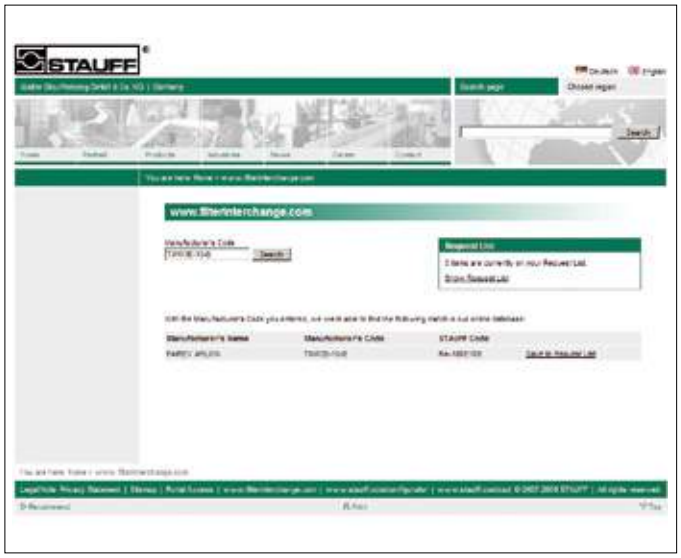
- Failures in hydraulic systems
- Contamination types and sources
- Damage caused by contamination
- Fluid cleanliness levels
- Target cleanliness levels
- Contamination control basics
- Filter efficiency
- Measuring fluid level cleanliness
- Practical applications of filtration

To arrange for a presentation contact STAUFF or your distributor.

Besides that, STAUFF has also a wide range of training tools and filtration software to support the proper application of filter systems and products. Software includes filter sizing programs as well as training presentations.

Contact STAUFF for more information.





Complete Program

STAUFF manufactures one of the most comprehensive ranges of Replacement Filter Elements for hydraulic and lubrication applications which are compatible with most of the common competitor products.

The STAUFF Replacement Element program includes replacement elements for over 10000 part numbers covering almost every major international brands of filter elements. The majority of these are available from stock.

Continuous improvement of the materials used as well as strict quality controls which take into consideration international standards guarantee the consistently high performance data of the filter elements.

STAUFF impresses in particular with its:

- Innovative research, design and development
- Modern production lines with complete monitoring of production
- Certified work processes in accordance with:
  - ISO 9001: 2008 Quality management
  - ISO 14001: 2004 Enviroment protection
  - OHSAS 18001: 2007 Occupational health and safety
- Comprehensive stocks and quick delivery
- Customised products in accordance with customer drawings or on the basis of STAUFF designs
- Comprehensive worldwide network of wholly-owned subsidiaries and sales partners

The developement and manufacture of STAUFF filter elements are subject to strict testing in accordance with:

- ISO 2941 Collapse and burst resistance
- ISO 2942 Verification of fabrication integrity (bubble point test)
- ISO 2943 Compatibility with hydraulic media
- ISO 3723 End load test
- ISO 3724 Flow fatigue characteristics
- ISO 3968 Flow characteristics
- ISO 16889 Filtration performance test (multi-pass method)

Interchanging STAUFF Filter Elements

As well as original Filter Elements for our own filter housings, STAUFF also provides access to a comprehensive range of Replacement Filter Elements. They match the quality and can be installed in the products of for example:

- Argo-Hytos
- Eppensteiner
- Hydac
- Mahle
- Parker
- Donaldson
- Fairey-Arlon
- Internomen
- Pall
- Other types are available on request

STAUFF offers many possibilities for filter conversion, design and calculation and in so doing supports interested parties and customers with the design of efficient solutions:

- Printed conversion catalogue, available in a five-language version
- Online filter search with more than 65000 data sets under www.filterinterchange.com
- Offline filter database with deposited measurements, filter surfaces and drawings
- Filter selection software for easy filter design and calculation

Thanks to their excellent dirt-hold capacity, all of the filter products supplied by STAUFF have an impressive long service life and high β-value stability:

- Inorganic Glass Fibre, Filter Paper, Stainless Fibre (micron ratings between 3 µm and 20 µm respectively) as well as stainless mesh (micron ratings between 10 µm and 500 µm)

- Maximum differential pressure depending on filter media and application for the options 16 bar / 232 PSI, 30 bar / 435 PSI or 210 bar / 3000 PSI.

Your local STAUFF Distributor will assist you interchanging to STAUFF elements.

The new STAUFF 4Pro Filter Material

Especially to highlight are the new STAUFF glass fibre filter materials 4Pro. The latest generation of inorganic glass fibre filter elements increases the service life of your hydraulic system by up to 60 %.

The new 4Pro filtermaterial offer several advantages:
- High dirt-hold capacity
- Improved filtering capacity
- Extended maintenance intervals
- Reduced operating costs

The 4Pro stands for 4 pros that characterise STAUFF glass fibre materials:
- proActive
- proFessional
- proGressive
- proTection

Pressure Filters ▪ Types SF / SF-TM / SF-SM / SFZ / SFA



SF SF-TM SF-SM SFZ SFA

Product Description

STAUFF Pressure Filters are designed for manifold mounting or in-line hydraulic applications, with a maximum operating pressure up to 420 bar / 6000 PSI. Used together with STAUFF SE series Filter Elements, a high efficiency of contaminant removal is assured. The high dirt-hold capacity of the elements ensures long service life and, as a result, reduced maintenance costs.

Technical Data

Construction

- SF: Designed for in-line assembly, with threaded mounting holes on top of head.
- SF-TM: Designed for manifold mounting, with mounting holes and fluid ports on top of head.
- SF-SM: Designed for manifold mounting, with mounting holes and fluid ports on side of head.
- SFZ: Designed for sandwich plate mounting
- SFA: Designed for in-line assembly, with threaded mounting holes on top of head.

Materials

- Filter head: Spheroidal Graphite Cast Iron
  Free Cutting Steel (only SF-TM014-070)
  SFA: Aluminium
  SFZ: Free Cutting Steel
- Filter bowl: Cold Drawn Steel
  SFA: Aluminium
- O-rings: NBR (Buna-N®)
  FPM (Viton®)
  EPDM (Ethylene-Propylene-Diene-Monomer-Rubber)
- Support ring: PTFE (Polytetrafluoroethylene)

Operating Pressure

- SF: max. 420 bar / 6000 PSI
- SF-TM: max. 315 bar / 4560 PSI
- SF-SM: max. 315 bar / 4560 PSI
- SFZ: max. 315 bar / 4560 PSI
- SFA: max. 160 bar / 2320 PSI

Temperature Range

- -10 °C ... +100 °C / +14 °F ... +212 °F

Filter Elements

- Specifications see page C41

Media Compatibility

- Mineral oils, other fluids on request

Options and Accessories

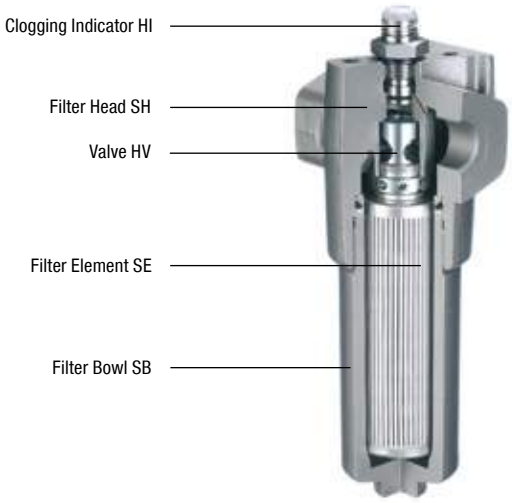
Valve (not available for SFZ)

- Bypass valve: Allows unfiltered oil to bypass the contaminated element once the opening pressure has been reached, a differential pressure of $6^{+0,5}$ bar / $87^{+7.25}$ PSI Δp is the standard setting. Other settings available upon request.
- Reverse flow valve: Allows reverse flow through the filter head without backflushing the element.
- Non-return valve: Prevents draining of the delivery line during element change.
- Multi-function valve: Opening pressure $6^{+0,5}$ bar / $87^{+7.25}$ PSI
  Bypass, reverse flow capability and non-return valve combined in one valve.

Clogging Indicator

- Standard actuating pressure: $5_{-0,5}$ bar / $72.5_{-7.25}$ PSI Δp
  Other actuating pressure settings are available upon request.
- Available indicators: Visual
  Electrical
  Visual-electrical (24 V DC, 110 V AC, 230 V AC versions)

High Pressure Filters ▪ Type SF



Product Description

STAUFF SF series High Pressure Filters are designed for in-line hydraulic applications, with a maximum operating pressure of 420 bar / 6000 PSI. Used together with STAUFF SE series Filter Elements, a high efficiency of contaminant removal is assured. The high dirt-hold capacity of the elements ensures long service life and, as a result, reduced maintenance costs.

Technical Data

Construction
- Designed for in-line assembly, with threaded mounting holes on top of head.

Materials
- Filter head: Spheroidal Graphite Cast Iron
- Filter bowl: Cold Drawn Steel
- O-rings: NBR (Buna-N®)
  FPM (Viton®)
  EPDM (Ethylene-Propylene-Diene-Monomer-Rubber)
- Support ring: PTFE (Polytetrafluoroethylene)

Port Connections
- BSP
- NPT
- SAE O-ring thread
- SAE Code 61 flange
- SAE Code 62 flange

Other port connections available on request.

Operating Pressure
- Max. 420 bar / 6000 PSI

Burst Pressure
- Min. 1260 bar / 18275 PSI

Temperature Range
- -10 °C ... +100 °C / +14 °F ... +212 °F

Filter Elements
- Specifications see page C22 / C41

Media Compatibility
- Mineral oils, other fluids on request

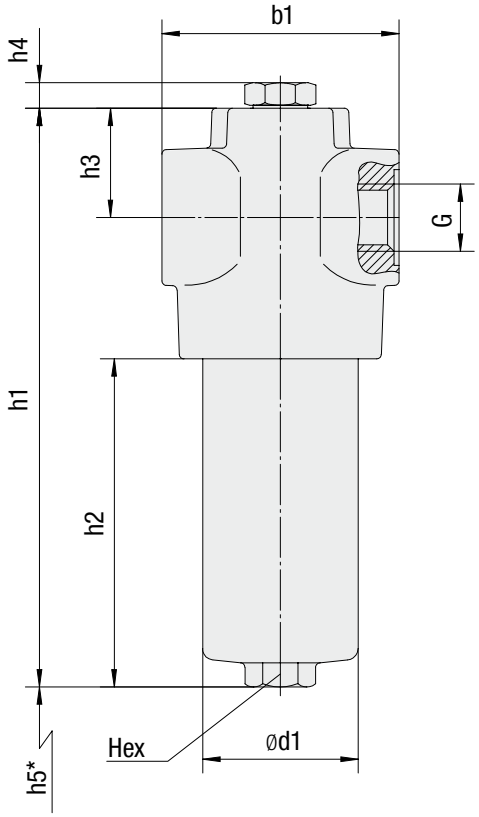
Options and Accessories

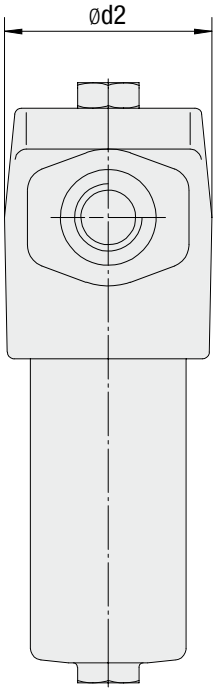
Valve
- Bypass valve: Allows unfiltered oil to bypass the contaminated element once the opening pressure has been reached, a differential pressure of $6^{+0,5}$ bar / $87^{+7.25}$ PSI Δp is the standard setting. Other settings available upon request.
- Reverse flow valve: Allows reverse flow through the filter head without backflushing the element.
- Non-return valve: Prevents draining of the delivery line during element change.
- Multi-function valve: Opening pressure $6^{+0,5}$ bar / $87^{+7.25}$ PSI
  Bypass, reverse flow capability and non-return valve combined in one valve.

Clogging Indicator
- Standard actuating pressure: $5_{-0,5}$ bar / $72.5_{-7.25}$ PSI Δp
  Other actuating pressure settings are available upon request.
- Available indicators: Visual
  Electrical
  Visual-electrical (24 V DC, 110 V AC, 230 V AC versions)

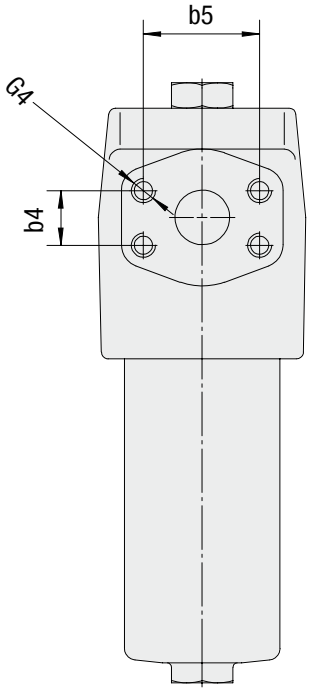
High Pressure Filters ▪ Type SF

SF014...160

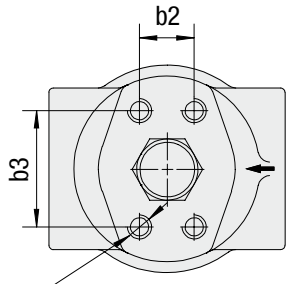




Threaded connection



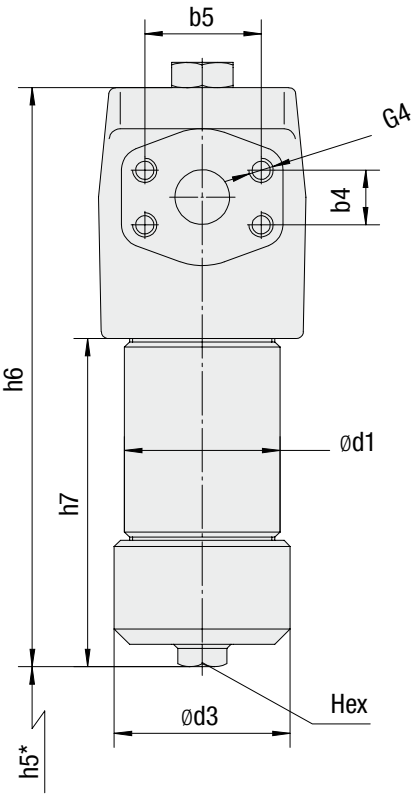
Flange connection



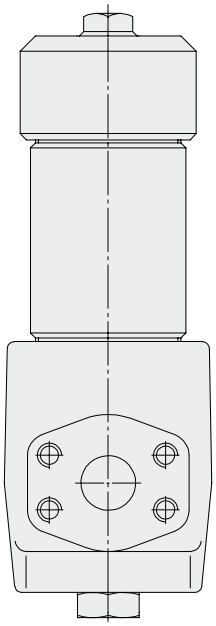
G2: for BSP threads,
GM / FM / F1M flange

G3: for NPT, SAE O-ring thread,
GU / FU / F1U flange

SF250...300



Toploader SF014...300..TL



Filter with filterbowl in two-part style for element change from the top

* recommended space for element change

High Pressure Filters ▪ Type SF

Thread Connection G	Filter Size SF								
	014	030	045	070	125	090	160	250	300
BSP	3/4	3/4	1-1/4	1-1/4	1-1/4	1-1/2	1-1/2	1-1/2	1-1/2
NPT	3/4	3/4	1-1/4	1-1/4	1-1/4	1-1/2	1-1/2	1-1/2	1-1/2
SAE O-ring Thread	1-1/16–12	1-1/16–12	1-5/8–12	1-5/8–12	1-5/8–12	1-7/8–12	1-7/8–12	1-7/8–12	1-7/8–12
SAE Flange 6000 PSI	3/4	3/4	1-1/4	1-1/4	1-1/4	1-1/2	1-1/2	1-1/2	1-1/2
Weight (kg/lbs) incl. Elements with Filter Bowl in One-Part Style	5,3 11.7	6,2 13.7	10,3 22.7	12 26.5	16,3 35.9	27 59.9	35,5 78.3	- -	- -
Weight (kg/lbs) incl. Elements with Filter Bowl in Two-Part Style	5,9 13	6,9 15.2	12,2 26.9	13,7 30.2	20 44.1	32 70.5	39,3 86.5	49 108	57,3 126.3

Dimensions (mm/in)		Filter Size SF								
		014	030	045	070	125	090	160	250	300
b1		104 4.10	104 4.10	128 5.04	128 5.04	128 5.04	178 7.01	178 7.01	178 7.01	178 7.01
d2		91 3.58	91 3.58	116 4.57	116 4.57	116 4.57	159 6.26	159 6.26	159 6.26	159 6.26
h3		48 1.89	48 1.89	49,5 1.95	49,5 1.95	49,5 1.95	72 2.84	72 2.84	72 2.84	72 2.84
h4		12,5 .49	12,5 .49	12,5 .49	12,5 .49	12,5 .49	12,5 .49	12,5 .49	12,5 .49	12,5 .49
with Filter Bowl in One-Part Style Type SF	d1	68 2.68	68 2.68	95 3.74	95 3.74	95 3.74	130 5.12	130 5.12	130 5.12	130 5.12
	h1	188 7.40	254 10.00	239 9.41	298 11.73	483 19.11	323 12.72	494 19.45	- -	- -
	h2	78 3.07	144 5.67	103 4.06	161 6.34	343 13.5	148 5.83	319 12.56	- -	- -
	h5 Rec.*	100 3.94	170 6.69	140 5.51	200 7.87	380 14.96	190 7.48	360 14.17	- -	- -
	h5 Min.*	85 3.35	85 3.35	120 4.72	120 4.72	120 4.72	150 5.91	150 5.91	- -	- -
	Hex	27 1.06	27 1.06	32 1.26	32 1.26	32 1.26	36 1.42	36 1.42	36 1.42	36 1.42
with Filter Bowl in Two-Part Style Type SF..TL	d1	70 2.76	70 2.76	101,6 4	101,6 4	101,6 4	133 5.24	133 5.24	133 5.24	133 5.24
	d3	84 3.31	84 3.31	115 4.53	115 4.53	115 4.53	155 6.10	155 6.10	155 6.10	155 6.10
	h5	65 2.56	130 5.12	100 3.94	160 6.30	340 13.39	120 4.72	290 11.42	425 16.73	590 23.23
	h6	190 7.48	256 10.08	241 9.49	300 11.81	485 19.10	329,5 12.97	500,5 19.71	656,5 25.85	821,5 32.34
	h7	80 3.15	146 5.75	103 4.06	163 6.42	344 13.54	154,5 6.08	325,5 12.82	481,5 18.96	646,5 25.45
	Hex	27 1.06	27 1.06	32 1.26	32 1.26	32 1.26	36 1.42	36 1.42	36 1.42	36 1.42

Reference: Rec.*: Recommended | Min.*: Minimum

Dimensions (mm/in)		Filter Size SF								
		014	030	045	070	125	090	160	250	300
T	b2	23,8 .94	23,8 .94	31,6 1.24	31,6 1.24	31,6 1.24	36,7 1.45	36,7 1.45	36,7 1.45	36,7 1.45
	b3	50,8 2.00	50,8 2.00	66,7 2.63	66,7 2.63	66,7 2.63	79,4 3.13	79,4 3.13	79,4 3.13	79,4 3.13
	G2	M10 x 15		M14 x 20			M16 x 20			
	G3	3/8–16 UNC x .59		1/2–13 UNC x .79			5/8–11 UNC x .79			
Dimensions SAE Flange 6000 PSI	b4	23,8 .94	23,8 .94	31,6 1.24	31,6 1.24	31,6 1.24	36,7 1.45	36,7 1.45	36,7 1.45	36,7 1.45
	b5	50,8 2.00	50,8 2.00	66,7 2.63	66,7 2.63	66,7 2.63	79,4 3.13	79,4 3.13	79,4 3.13	79,4 3.13
	G4	M10 x 15 3/8–16 UNC		M14 x 17 1/2–13 UNC			M16 x 20 5/8–11 UNC			

High Pressure Filter Housings / Complete Filters ▪ Type SF

SF	014	...	...	B	/	T	B	/	B	/	P	T	230	/	TL	/	X
1	2	3	4	5		6	7		8		9	10	11		12		13

1 Type

High Pressure Filter	**SF**

2 Group

Flow	Size
60 l/min / 14 US GPM	**014**
110 l/min / 30 US GPM	**030**
160 l/min / 45 US GPM	**045**
240 l/min / 70 US GPM	**070**
330 l/min / 90 US GPM	**090**
475 l/min / 125 US GPM	**125**
660 l/min / 160 US GPM	**160**
990 l/min / 250 US GPM	**250**
1320 l/min / 300 US GPM	**300**

Note: Exact flow will depend on filter element selected. Consult technical data on pages C43 / C44.

3 Filter Material

Material	max. Δp*collapse	Micron ratings available	Code
Without filter element	-	-	**...**
Inorg. glass fibre	25 bar / 363 PSI	3, 5, 10, 20	**G**
Inorg. glass fibre	210 bar / 3045 PSI		**H**
Stainless fibre	210 bar / 3045 PSI		**A**
Stainless mesh	30 bar / 435 PSI	25, 50, 100, 200	B, **S**

Note: * Collapse/burst resistance as per ISO 2941. Bold types identify preferred materials, other materials on request.

4 Micron Rating

3 µm	**03**
5 µm	**05**
10 µm	**10**
20 µm	**20**
25 µm	**25**
50 µm	**50**
100 µm	**100**
200 µm	**200**

Note: Other micron ratings on request.

5 Sealing Material

NBR (Buna-N®)	**B**
FPM (Viton®)	**V**
EPDM	**E**

Note: Other sealing materials on request.

6 Connecting Flange

Type T	**T**

7 Connection Style

Connection Style	Group									Thread Style	Code
	014	030	045	070	125	090	160	250	300		
BSP	3/4		1-1/4			1-1/2				metric	**B**
BSP	1		1-1/2			-				metric	B1
NPT	3/4		1-1/4			1-1/2				UNC	**N**
SAE O-ring Thread	1-1/16–12		1-5/8–12			1-7/8–12				UNC	**U**
SAE Flange 6000 PSI	3/4		1-1/4			1-1/2				metric	GM
SAE Flange 6000 PSI	3/4		1-1/4			1-1/2				UNC	**GU**
SAE Flange 3000 PSI	3/4		1-1/4			1-1/2				metric	FM
SAE Flange 3000 PSI	3/4		1-1/4			1-1/2				UNC	FU
SAE Flange 3000 PSI	1		-			2				metric	F1M
SAE Flange 3000 PSI	1		-			2				UNC	F1U

Note: Other port connections on request. Bold types identify preferred connection styles.

8 Valve

Without valve	**0**
Bypass valve	**B**
Reverse flow valve	**R**
Non-return valve	**N**
Multi-function valve	**M**

9 Clogging Indicator

Without clogging indicator	**0**
Visual, with automatic reset	**A**
Visual, with manual reset	**V**
Electrical	**E**
Visual-electrical	**P**

10 Thermostop

Without thermostop	**none**
With thermostop	**T**

11 Voltage (only for Code P)

24 V DC	**24**
110 V AC	**110**
230 V AC	**230**

12 Style Filter Bowl

With bowl in one-part style	**none**
Toploader, with bowl in two-part style	**TL**

Note: Group size SF250 and SF300 only available in TL-version.

13 Design Code

Only for information	**X**

Filter Elements ▪ Type SE

SE	-	014	G	10	B	/	X
1		2	3	4	5		6

1 Type

Filter Element Series	**SE**

2 Group

According to filter housing	

3 Filter Material

Material	max. Δp*collapse	Micron ratings available	Code
Inorg. glass fibre	25 bar / 363 PSI	3, 5, 10, 20	**G**
Inorg. glass fibre	210 bar / 3045 PSI		**H**
Stainless fibre	210 bar / 3045 PSI		**A**
Stainless mesh	30 bar / 435 PSI	25, 50, 100, 200	B, **S**

4 Micron Rating

3 µm	**03**
5 µm	**05**
10 µm	**10**
20 µm	**20**
25 µm	**25**
50 µm	**50**
100 µm	**100**
200 µm	**200**

Note: Other micron ratings on request.
* Collapse/burst resistance as per ISO 2941. Bold types identify preferred materials, other materials on request.

5 Sealing Material

NBR (Buna-N®)	**B**
FPM (Viton®)	**V**
EPDM	**E**

Note: Other sealing materials on request.

6 Design Code

Only for information	**X**

High Pressure Filters ▪ Type SF-TM



Product Description

STAUFF SF-TM series High Pressure Filters are designed for manifold block mounting hydraulic applications, with a maximum operating pressure of 315 bar / 4560 PSI. Used together with STAUFF SE series Filter Elements, a high efficiency of contaminant removal is assured. The high dirt-hold capacity of the elements ensures long service life and, as a result, reduced maintenance costs.

Technical Data

Construction
- Designed for manifold mounting, with mounting holes and fluid ports on top of head.

Materials
- Filter head: SF-TM-014-070 Free Cutting Steel
  SF-TM-090-300 Spheroidal Graphite Cast Iron
- Filter bowl: Cold Drawn Steel
- O-rings: NBR (Buna-N®)
  FPM (Viton®)
  EPDM (Ethylene-Propylene-Diene-Monomer-Rubber)
- Support ring: PTFE (Polytetrafluoroethylene)

Operating Pressure
- Max. 315 bar / 4560 PSI

Burst Pressure
- Min. 945 bar / 13705 PSI

Temperature Range
- -10 °C ... +100 °C / +14 °F ... +212 °F

Filter Elements
- Specifications see page C26 / C41

Media Compatibility
- Mineral oils, other fluids on request

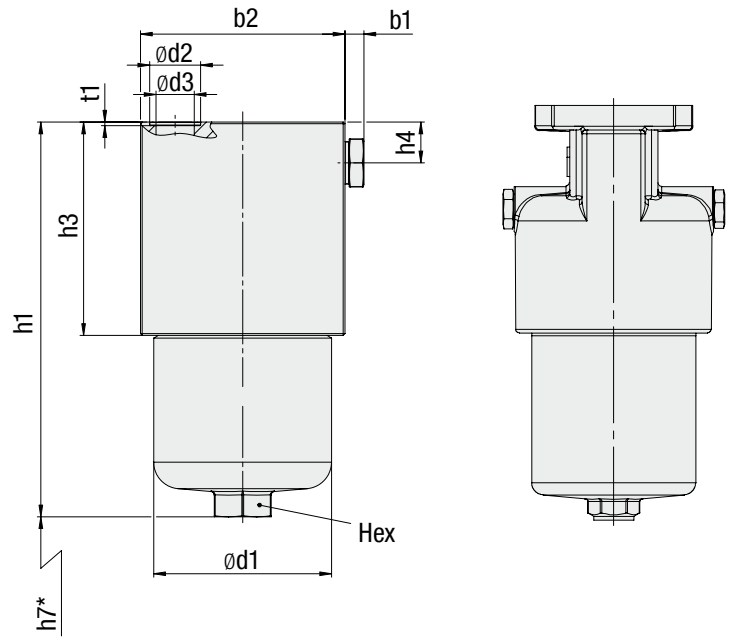
Options and Accessories

Valve
- Bypass valve: Allows unfiltered oil to bypass the contaminated element once the opening pressure has been reached, a differential pressure of $6^{+0,5}$ bar / $87^{+7.25}$ PSI Δp is the standard setting. Other settings available upon request.
- Reverse flow valve: Allows reverse flow through the filter head without backflushing the element.
- Non-return valve: Prevents draining of the delivery line during element change.
- Multi-function valve: Opening pressure $6^{+0,5}$ bar / $87^{+7.25}$ PSI
  Bypass, reverse flow capability and non-return valve combined in one valve.

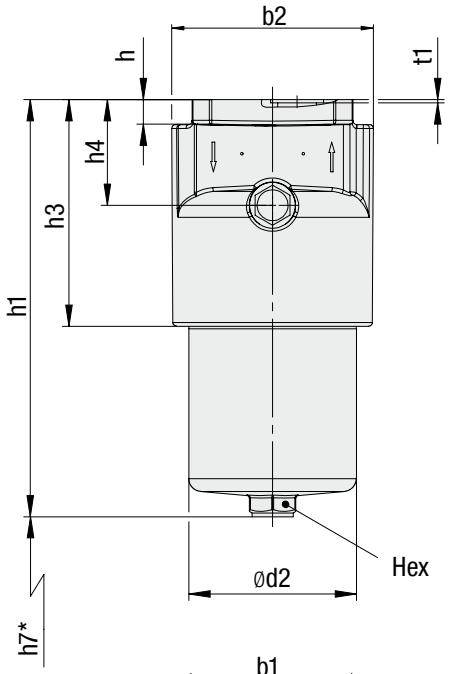
Clogging Indicator
- Standard actuating pressure: $5_{-0,5}$ bar / $72.5_{-7.25}$ PSI Δp
  Other actuating pressure settings are available upon request.
- Available indicators: Visual
  Electrical
  Visual-electrical (24 V DC, 110 V AC, 230 V AC versions)

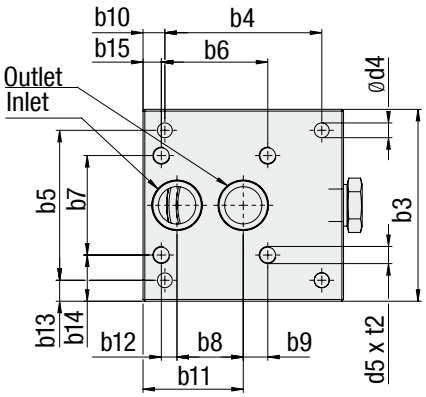
High Pressure Filters ▪ Type SF-TM

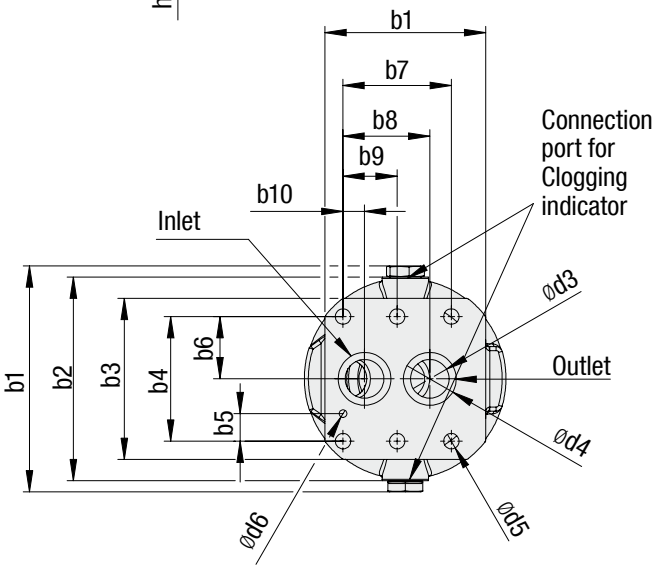
SF-TM014...125



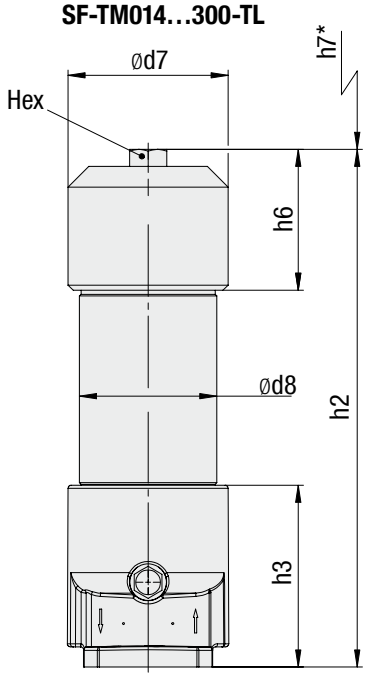
SF-TM090...160







SF-TM014…300-TL



Filter with filterbowl in two-part style for element change from the top

* recommended space for element change

High Pressure Filters ▪ Type SF-TM

Dimensions (mm/in)			Filter Size SF - TM								
			014	030	045	070	125	090	160	250	300
b1			6 .24	6 .24	6 .24	6 .24	6 .24	175,6 6.91	175,6 6.91	175,6 6.91	175,6 6.91
b2			104 4.09	104 4.09	115 4.53	115 4.53	115 4.53	158 6.22	158 6.22	158 6.22	158 6.22
b3			80 3.35	80 3.35	110 4.33	110 4.33	110 4.33	125 4.92	125 4.92	125 4.92	125 4.92
b4			89 3.50	89 3.50	90 3.54	90 3.54	90 3.54	96,8 3.81	96,8 3.81	96,8 3.81	96,8 3.81
b5			31,8 1.25	31,8 1.25	86 3.39	86 3.39	86 3.39	21,4 .84	21,4 .84	21,4 .84	21,4 .84
b6			-	-	61 2.40	61 2.40	61 2.40	48,4 1.91	48,4 1.91	48,4 1.91	48,4 1.91
b7			-	-	57 2.24	57 2.24	57 2.24	84,1 3.31	84,1 3.31	84,1 3.31	84,1 3.31
b8			31,6 1.24	31,6 1.24	38 1.50	38 1.50	38 1.50	67,4 2.65	67,4 2.65	67,4 2.65	67,4 2.65
b9			-	-	14 .55	14 .55	14 .55	42,05 1.66	42,05 1.66	42,05 1.66	42,05 1.66
b10			7,5 .30	7,5 .30	12,5 .49	12,5 .49	12,5 .49	16,7 .66	16,7 .66	16,7 .66	16,7 .66
b11			55,9 2.20	55,9 2.20	57,5 2.26	57,5 2.26	57,5 2.26	-	-	-	-
b12			-	-	9 .35	9 .35	9 .35	-	-	-	-
b13			24,1 .95	24,1 .95	12 .47	12 .47	12 .47	-	-	-	-
b14			-	-	26,5 1.04	26,5 1.04	26,5 1.04	-	-	-	-
b15			-	-	10,5 .41	10,5 .41	10,5 .41	-	-	-	-
d1			68,2 2.69	68,2 2.69	95,2 3.75	95,2 3.75	95,2 3.75	156 6.14	156 6.14	156 6.14	156 6.14
d2			25,3 1.00	25,3 1.00	28,6 1.13	28,6 1.13	28,6 1.13	130,2 5.13	130,2 5.13	130,2 5.13	130,2 5.13
d3			17,5 .69	17,5 .69	21,4 .84	21,4 .84	21,4 .84	30 1.18	30 1.18	30 1.18	30 1.18
d4			8,5 .33	8,5 .33	9 .35	9 .35	9 .35	41 1.61	41 1.61	41 1.61	41 1.61
d5			-	-	7/16–14 UNC	7/16–14 UNC	7/16–14 UNC	12 .47	12 .47	12 .47	12 .47
d6			-	-	-	-	-	6 .24	6 .24	6 .24	6 .24
d7			84 3.31	84 3.31	115 4.53	115 4.53	115 4.53	155 6.10	155 6.10	155 6.10	155 6.10
d8			70 2.76	70 2.76	101,6 4.00	101,6 4.00	101,6 4.00	133 5.24	133 5.24	133 5.24	133 5.24
h1			162 6.38	228 8.97	206 8.11	264 10.39	446 17.56	324 12.76	495 19.49	-	-
h2			164 6.46	230 9.06	206 8.11	266 10.47	447 17.60	330,5 13.01	501,5 19.74	657,5 25.89	822,5 32.38
h3			76 2.99	76 2.99	93 3.66	93 3.66	93 3.66	178 7.01	178 7.01	178 7.01	178 7.01
h4			25 .98	25 .98	25 .98	25 .98	25 .98	82 3.23	82 3.23	82 3.23	82 3.23
h5			-	-	-	-	-	19,1 .75	19,1 .75	19,1 .75	19,1 .75
h6			64 2.52	64 2.52	82,5 3.25	82,5 3.25	82,5 3.25	136 5.35	136 5.35	136 5.35	136 5.35
h7	One-Part Style	Rec.*	100 3.94	170 6.69	140 5.51	200 7.87	380 14.96	190 7.48	360 14.17	-	-
		Min.*	85 3.35	85 3.35	120 4.72	120 4.72	120 4.72	150 5.91	150 5.91	-	-
	Two-Part Style		65 2.56	130 5.12	100 3.94	160 6.30	340 13.39	120 4.72	290 11.42	425 16.73	590 23.23
t1			2 .08	2 .08	2 .08	2 .08	2 .08	3 .12	3 .12	3 .12	3 .12
t2			-	-	13 .51	13 .51	13 .51	-	-	-	-
Hex			27 1.06	27 1.06	32 1.26	32 1.26	32 1.26	36 1.42	36 1.42	36 1.42	36 1.42
Weight (kg/lbs)	One-Part Style		5,7 12.5	6,3 13.9	11 24.2	12,5 27.8	17 37.8	21,6 48.0	28,8 64.0	-	-
	Two-Part Style		6,6 14.7	7,3 16.2	13,1 29.1	14,6 32.4	21 46.7	26,5 58.9	33,8 75.1	43,2 96	54,6 121.3

Reference: Rec.*: Recommended | Min.*: Minimum

High Pressure Filter Housings / Complete Filters ▪ Type SF-TM

SF-TM	014	...	...	B	/	B	/	B	/	P	T	230	/	TL	/	X
1	2	3	4	5		6		7		8	9	10		11		12

1 Type

High Pressure Filter Top Mounted	**SF-TM**

2 Group

Flow	Size
60 l/min / 14 US GPM	**014**
110 l/min / 30 US GPM	**030**
160 l/min / 45 US GPM	**045**
240 l/min / 70 US GPM	**070**
330 l/min / 90 US GPM	**090**
475 l/min / 125 US GPM	**125**
660 l/min / 160 US GPM	**160**
990 l/min / 250 US GPM	**250**
1320 l/min / 300 US GPM	**300**

Note: Exact flow will depend on filter element selected. Consult technical data on pages C43 / C44.

3 Filter Material

Material	max. Δp*collapse	Micron ratings available	Code
Without filter element	-	-	**...**
Inorg. glass fibre	25 bar / 363 PSI	3, 5, 10, 20	**G**
Inorg. glass fibre	210 bar / 3045 PSI		**H**
Stainless fibre	210 bar / 3045 PSI		**A**
Stainless mesh	30 bar / 435 PSI	25, 50, 100, 200	B, **S**

Note: * Collapse/burst resistance as per ISO 2941. Bold types identify preferred materials, other materials on request.

4 Micron Rating

3 µm	**03**
5 µm	**05**
10 µm	**10**
20 µm	**20**
25 µm	**25**
50 µm	**50**
100 µm	**100**
200 µm	**200**

Note: Other micron ratings on request.

5 Sealing Material

NBR (Buna-N®)	**B**
FPM (Viton®)	**V**
EPDM	**E**

Note: Other sealing materials on request.

6 Connection Size

Connection Size	Group									Code
	014	030	045	070	125	090	160	250	300	
Nominal Bore	1/2 (Ø17,5mm / Ø.69in)		1-1/4 (Ø21,4mm / Ø .85in)			1-1/2 (Ø30mm / Ø1.18in)				**B**

7 Valve

Without valve	**0**
Bypass valve	**B**
Reverse flow valve	**R**
Non-return valve	**N**
Multi-function valve	**M**

8 Clogging Indicator

Without clogging indicator	**0**
Visual, with automatic reset	**A**
Visual, with manual reset	**V**
Electrical	**E**
Visual-electrical	**P**

9 Thermostop

Without thermostop	**none**
With thermostop	**T**

10 Voltage (only for Code P)

24 V DC	**24**
110 V AC	**110**
230 V AC	**230**

11 Style Filter Bowl

With bowl in one-part style	**none**
Toploader, with bowl in two-part style	**TL**

Note: Group size SF-TM-250 and SF-TM-300 only available in TL-version.

12 Design Code

Only for information	**X**

Filter Elements ▪ Type SE

SE	-	014	G	10	B	/	X
1		2	3	4	5		6

1 Type

Filter Element Series	**SE**

2 Group

According to filter housing

3 Filter Material

Material	max. Δp*collapse	Micron ratings available	Code
Inorg. glass fibre	25 bar / 363 PSI	3, 5, 10, 20	**G**
Inorg. glass fibre	210 bar / 3045 PSI		**H**
Stainless fibre	210 bar / 3045 PSI		**A**
Stainless mesh	30 bar / 435 PSI	25, 50, 100, 200	B, **S**

4 Micron Rating

3 µm	**03**
5 µm	**05**
10 µm	**10**
20 µm	**20**
25 µm	**25**
50 µm	**50**
100 µm	**100**
200 µm	**200**

Note: Other micron ratings on request.
* Collapse/burst resistance as per ISO 2941.
Bold types identify preferred materials, other materials on request.

5 Sealing Material

NBR (Buna-N®)	**B**
FPM (Viton®)	**V**
EPDM	**E**

Note: Other sealing materials on request.

6 Design Code

Only for information	**X**

High Pressure Filters ▪ Type SF-SM



Product Description

STAUFF SF-SM series High Pressure Filters are designed for manifold block mounting hydraulic applications, with a maximum operating pressure of 315 bar / 4560 PSI. Used together with STAUFF SE series Filter Elements, a high efficiency of contaminant removal is assured. The high dirt-hold capacity of the elements ensures long service life and, as a result, reduced maintenance costs.

Technical Data

Construction
- Designed for manifold mounting, with mounting holes and fluid ports on side of head.

Materials
- Filter head: Spheroidal Graphite Cast Iron
- Filter bowl: Cold Drawn Steel
- O-rings: NBR (Buna-N®)
  FPM (Viton®)
  EPDM (Ethylene-Propylene-Diene-Monomer-Rubber)
- Support ring: PTFE (Polytetrafluoroethylene)

Operating Pressure
- Max. 315 bar / 4560 PSI

Burst Pressure
- Min. 945 bar / 13705 PSI

Temperature Range
- -10 °C ... +100 °C / +14 °F ... +212 °F

Filter Elements
- Specifications see page C30 / C41

Media Compatibility
- Mineral oils, other fluids on request

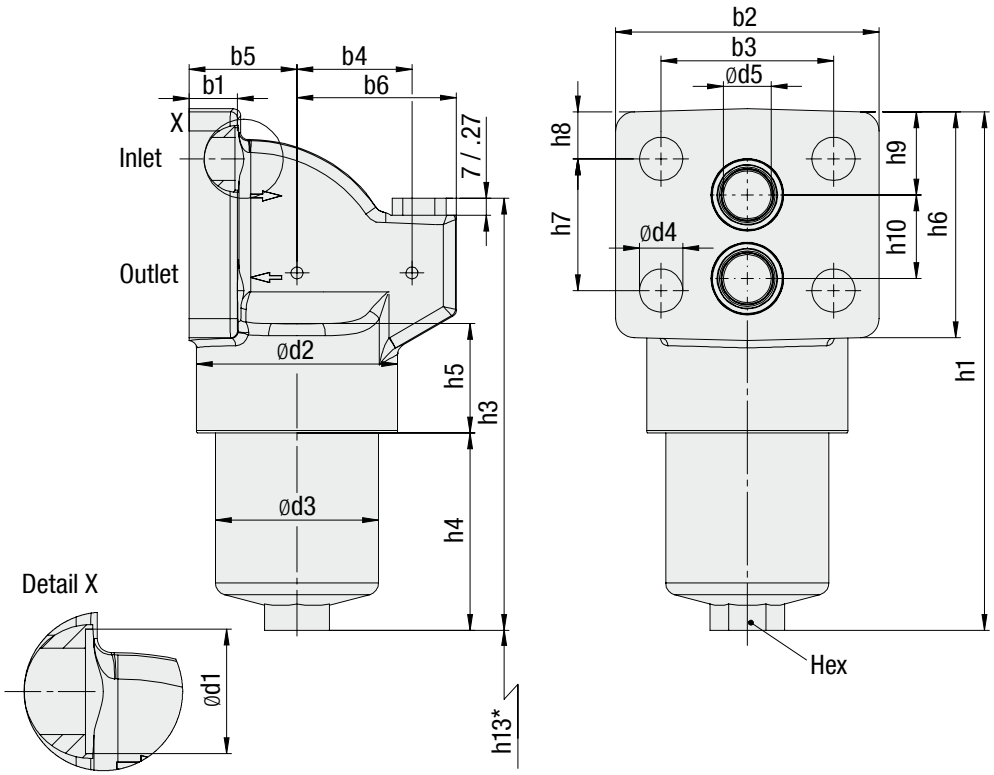
Options and Accessories

Valve
- Bypass valve: Allows unfiltered oil to bypass the contaminated element once the opening pressure has been reached, a differential pressure of $6^{+0,5}$ bar / $87^{+7.25}$ PSI Δp is the standard setting. Other settings available upon request.
- Reverse flow valve: Allows reverse flow through the filter head without backflushing the element.
- Non-return valve: Prevents draining of the delivery line during element change.
- Multi-function valve: Opening pressure $6^{+0,5}$ bar / $87^{+7.25}$ PSI. Bypass, reverse flow capability and non-return valve combined in one valve.

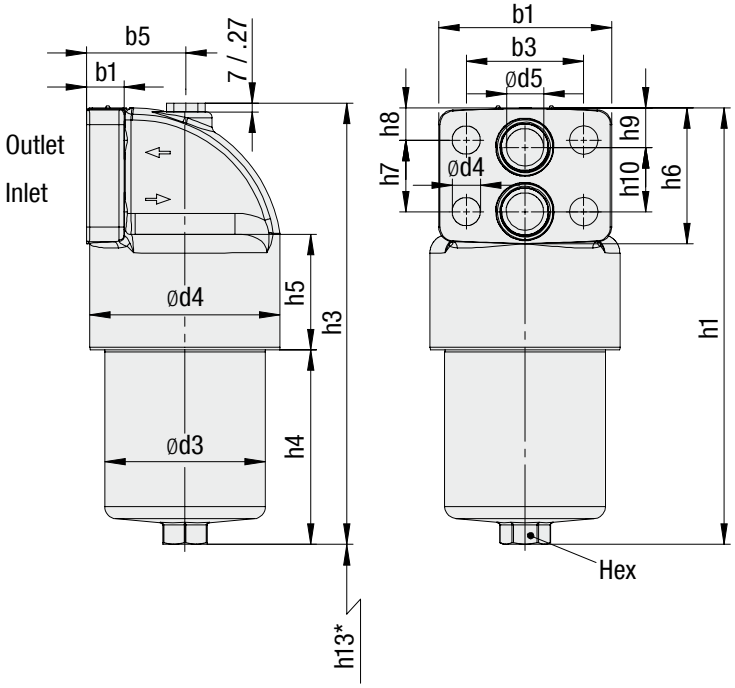
Clogging Indicator
- Standard actuating pressure: $5_{-0,5}$ bar / $72.5_{-7.25}$ PSI Δp. Other actuating pressure settings are available upon request.
- Available indicators: Visual
  Electrical
  Visual-electrical (24 V DC, 110 V AC, 230 V AC versions)

High Pressure Filters ▪ Type SF-SM

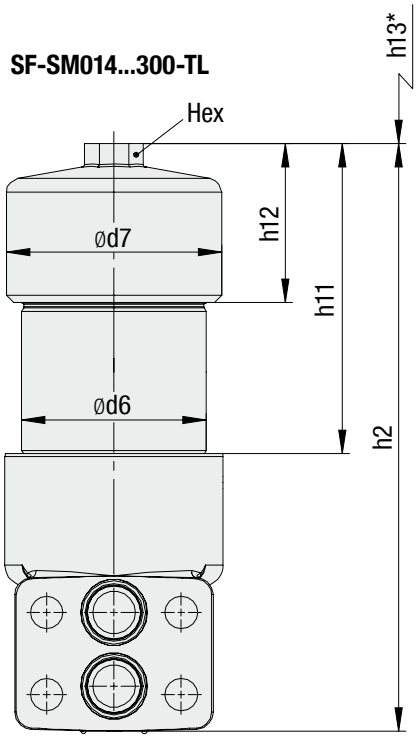
SF-SM014...125



SF-SM090...160



SF-SM014...300-TL



Filter with filterbowl in two-part style for element change from the top

* recommended space for element change

Dimensional drawings: All dimensions in mm/in.

High Pressure Filters ▪ Type SF-SM

Dimensions (mm/in)			Filter Size SF - SM											
			014	030	045	045 OAI	070	070 OAI	125	125 OAI	090	160	250	300
b1			20	20	30	30	30	30	30	30	30	30	30	30
			.79	.79	1.18	1.18	1.18	1.18	1.18	1.18	1.18	1.18	1.18	1.18
b2			110	110	140	140	140	140	140	140	140	140	140	140
			4.33	4.33	5.51	5.51	5.51	5.51	5.51	5.51	5.51	5.51	5.51	5.51
b3			72	72	95	95	95	95	95	95	95	95	95	95
			2.83	2.83	3.74	3.74	3.74	3.74	3.74	3.74	3.74	3.74	3.74	3.74
b4			66	66	89	89	89	89	89	89	-	-	-	-
			2.60	2.60	3.50	3.50	3.50	3.50	3.50	3.50				
b5			45	45	59	59	59	59	59	59	79,5	79,5	79,5	79,5
			1.77	1.77	2.32	2.32	2.32	2.32	2.32	2.32	3.13	3.13	3.13	3.13
b6			48	48	69	69	69	69	69	69	-	-	-	-
			1.89	1.89	2.72	2.72	2.72	2.72	2.72	2.72				
d1			26	26	32	32	32	32	32	32	32	32	32	32
			1.02	1.02	1.26	1.26	1.26	1.26	1.26	1.26	1.26	1.26	1.26	1.26
d2			84	84	116	116	116	116	116	116	154	154	154	154
			3.31	3.31	4.57	4.57	4.57	4.57	4.57	4.57	6.06	6.06	6.06	6.06
d3			68	68	95	95	95	95	95	95	130	130	130	130
			2.68	2.68	3.74	3.74	3.74	3.74	3.74	3.74	5.12	5.12	5.12	5.12
d4			18	18	22	22	22	22	22	22	23	23	23	23
			.71	.71	.87	.87	.87	.87	.87	.87	.91	.91	.91	.91
d5			20	20	32	32	32	32	32	32	30	30	30	30
			.79	.79	1.26	1.26	1.26	1.26	1.26	1.26	1.18	1.18	1.18	1.18
d6			70	70	101,5	101,5	101,5	101,5	101,5	101,5	133	133	133	133
			2.76	2.76	4.00	4.00	4.00	4.00	4.00	4.00	5.24	5.24	5.24	5.24
d7			84	84	115	115	115	115	115	115	155	155	155	155
			3.31	3.31	4.53	4.53	4.53	4.53	4.53	4.53	6.10	6.10	6.10	6.10
h1			217	284	280	284	340	344	506	508	353	523	673	839
			8.54	11.18	11.02	11.18	13.39	13.54	19.92	20.00	13.90	20.59	26.50	33.03
h2			219	286	282	286	342	346	507	507	355	525	675	841
			8.62	11.26	11.10	11.26	13.46	13.62	19.96	19.96	13.98	20.67	26.57	33.11
h3			181	248	222	239	282	299	464	481	357	527	677	843
			7.13	9.76	8.74	9.41	11.10	11.77	18.27	18.94	14.06	20.75	26.65	33.19
h4			83	150	117	119	177	179	343	345	157	329	477	643
			3.27	5.91	4.61	4.69	6.97	7.05	13.50	13.58	6.18	12.95	18.78	25.31
h5			45,5	45,5	61	61	61	61	61	61	94	94	94	94
			1.79	1.79	2.40	2.40	2.40	2.40	2.40	2.40	3.70	3.70	3.70	3.70
h6			94	94	110	110	110	110	110	110	110	110	110	110
			3.70	3.70	4.33	4.33	4.33	4.33	4.33	4.33	4.33	4.33	4.33	4.33
h7			55	55	60	60	60	60	60	60	58	58	58	58
			2.17	2.17	2.36	2.36	2.36	2.36	2.36	2.36	2.28	2.28	2.28	2.28
h8			19,5	19,5	25	25	25	25	25	25	26	26	26	26
			.77	.77	.98	.98	.98	.98	.98	.98	1.02	1.02	1.02	1.02
h9			34,5	34,5	31	31	31	31	31	31	32	32	32	32
			1.36	1.36	1.22	1.22	1.22	1.22	1.22	1.22	1.26	1.26	1.26	1.26
h10			35	35	52	52	52	52	52	52	52	52	52	52
			1.38	1.38	2.05	2.05	2.05	2.05	2.05	2.05	2.05	2.05	2.05	2.05
h11			80	146	103	103	163	163	344	344	154,5	325,5	481,5	646,5
			3.15	5.75	4.06	4.06	6.42	6.42	13.64	13.64	6.08	12.81	18.96	25.45
h12			64	64	82,5	82,5	82,5	82,5	82,5	82,5	136	136	136	136
			2.52	2.52	3.25	3.25	3.25	3.25	3.25	3.25	5.35	5.35	5.35	5.35
h13	One-Part Style	Rec.*	100	170	140	140	200	200	380	380	190	360	-	-
			3.94	6.69	5.51	5.51	7.87	7.87	14.96	14.96	7.48	14.17		
		Min.*	85	85	120	120	120	120	120	120	150	150	-	-
			3.35	3.35	4.72	4.72	4.72	4.72	4.72	4.72	5.91	5.91		
	Two-Part Style		65	130	100	100	160	160	340	340	120	290	425	590
			2.56	5.12	3.94	3.94	6.30	6.30	13.39	13.39	4.72	11.42	16.73	23.23
O-ring			24 x 3	24 x 3	40 x 3,5	40 x 3,5	40 x 3,5	40 x 3,5	40 x 3,5	40 x 3,5	40 x 3,5	40 x 3,5	40 x 3,5	40 x 3,5
			.95 x .14	.95 x .14	1.57 x .14	1.57 x .14	1.57 x .14	1.57 x .14	1.57 x .14	1.57 x .14	1.57 x .14	1.57 x .14	1.57 x .14	1.57 x .14
Hex			27	27	32	32	32	32	32	32	36	36	36	36
			1.06	1.06	1.26	1.26	1.26	1.26	1.26	1.26	1.42	1.42	1.42	1.42
Weight (kg/lbs)	One-Part Style		5,2	6,1	9,6	10,7	11,6	12,7	15	17	22,9	30,9	-	-
			11.4	13.4	21.1	23.5	25.5	27.9	33.0	37.4	50.4	68.0		
	Two-Part Style		6,1	7,2	11,5	12,6	15,4	16,5	18,8	20,8	27,9	35,9	42,1	50,3
			13.4	15.8	25.3	27.7	33.9	36.3	41.4	45.7	61.4	79.0	92.6	110.6

Reference: Rec.*: Recommended | Min.*: Minimum

High Pressure Filter Housings / Complete Filters ▪ Type SF-SM

SF-SM	014	...	...	B	-	B	/	P	T	230	/	TL	/	OAI	/	X
1	2	3	4	5		6		7	8	9		10		11		12

1 Type

High Pressure Filter Side Mounted	**SF-SM**

2 Group

Flow	Size
60 l/min / 14 US GPM	**014**
110 l/min / 30 US GPM	**030**
160 l/min / 45 US GPM	**045**
240 l/min / 70 US GPM	**070**
330 l/min / 90 US GPM	**090**
475 l/min / 125 US GPM	**125**
660 l/min / 160 US GPM	**160**
990 l/min / 250 US GPM	**250**
1320 l/min / 300 US GPM	**300**

Note: Exact flow will depend on filter element selected. Consult technical data on pages C43 / C44.

3 Filter Material

Material	max. Δp*collapse	Micron ratings available	Code
Without filter element	-	-	**...**
Inorg. glass fibre	25 bar / 363 PSI	3, 5, 10, 20	**G**
Inorg. glass fibre	210 bar / 3045 PSI		**H**
Stainless fibre	210 bar / 3045 PSI		**A**
Stainless mesh	30 bar / 435 PSI	25, 50, 100, 200	B, **S**

Note: * Collapse/burst resistance as per ISO 2941. Bold types identify preferred materials, other materials on request.

4 Micron Rating

3 µm	**03**
5 µm	**05**
10 µm	**10**
20 µm	**20**
25 µm	**25**
50 µm	**50**
100 µm	**100**
200 µm	**200**

Note: Other micron ratings on request.

5 Seal Material

NBR (Buna-N®)	**B**
FPM (Viton®)	**V**
EPDM	**E**

Note: Other sealing materials on request.

6 Valve

Without valve	**0**
Bypass valve	**B**
Reverse flow valve	**R**
Non-return valve	**N**
Multi-function valve	**M**

7 Clogging Indicator

Without clogging indicator	**0**
Visual, with automatic reset	**A**
Visual, with manual reset	**V**
Electrical	**E**
Visual-electrical	**P**

8 Thermostop

Without thermostop	**none**
With thermostop	**T**

9 Voltage (only for Code P)

24 V DC	**24**
110 V AC	**110**
230 V AC	**230**

10 Style Filterbowl

With bowl in one-part style	**none**
Toploader, with bowl in two-part style	**TL**

Note: Group size SF-SM-250 and SF-SM-300 only available in TL-version.

11 Port Connection Location

Inlet above outlet	**IAO**
Outlet above inlet	**OAI**

Note: IAO only for SF-SM-014/030/045/070/125
OAI not available for SF-SM-014/030

12 Design Code

Only for information	**X**

Filter Elements ▪ Type SE

SE	-	014	G	10	B	/	X
1		2	3	4	5		6

1 Type

Filter Element Series	**SE**

2 Group

According to filter housing

3 Filter Material

Material	max. Δp*collapse	Micron ratings available	Code
Inorg. glass fibre	25 bar / 363 PSI	3, 5, 10, 20	**G**
Inorg. glass fibre	210 bar / 3045 PSI		**H**
Stainless fibre	210 bar / 3045 PSI		**A**
Stainless mesh	30 bar / 435 PSI	25, 50, 100, 200	B, **S**

4 Micron Rating

3 µm	**03**
5 µm	**05**
10 µm	**10**
20 µm	**20**
25 µm	**25**
50 µm	**50**
100 µm	**100**
200 µm	**200**

Note: Other micron ratings on request.
* Collapse/burst resistance as per ISO 2941.
Bold types identify preferred materials, other materials on request.

5 Sealing Material

NBR (Buna-N®)	**B**
FPM (Viton®)	**V**
EPDM	**E**

Note: Other sealing materials on request.

6 Design Code

Only for information	**X**

High Pressure Filters ▪ Type SFZ



Product Description

STAUFF SFZ series High Pressure Filters are designed for sandwich plate mounting in manifold block mounting hydraulic applications, with a maximum operating pressure of 315 bar / 4560 PSI. Used together with STAUFF SE series Filter Elements, a high efficiency of contaminant removal is assured. The high dirt-hold capacity of the elements ensures long service life and, as a result, reduced maintenance costs.

Technical Data

Construction
- Designed for sandwich plate mounting

Materials
- Filter head: Free Cutting Steel
- Filter bowl: Cold Drawn Steel
- O-rings: NBR (Buna-N®)
  FPM (Viton®)
  EPDM (Ethylene-Propylene-Diene-Monomer-Rubber)
- Support ring (bowl): PTFE (Polytetrafluoroethylene)

Connecting Port
- According to ISO 4401-03-02-0-05 NG6
  (Ref.: NFPA/ANSI D03)

Operating Pressure
- Max. 315 bar / 4560 PSI

Burst Pressure
- Min. 945 bar / 13705 PSI

Temperature Range
- -10 °C ... +100 °C / +14 °F ... +212 °F

Filter Elements
- Specifications see page C34 / C41

Media Compatibility
- Mineral oils, other fluids on request

O-Ring
- 9x1,7 (included in delivery)

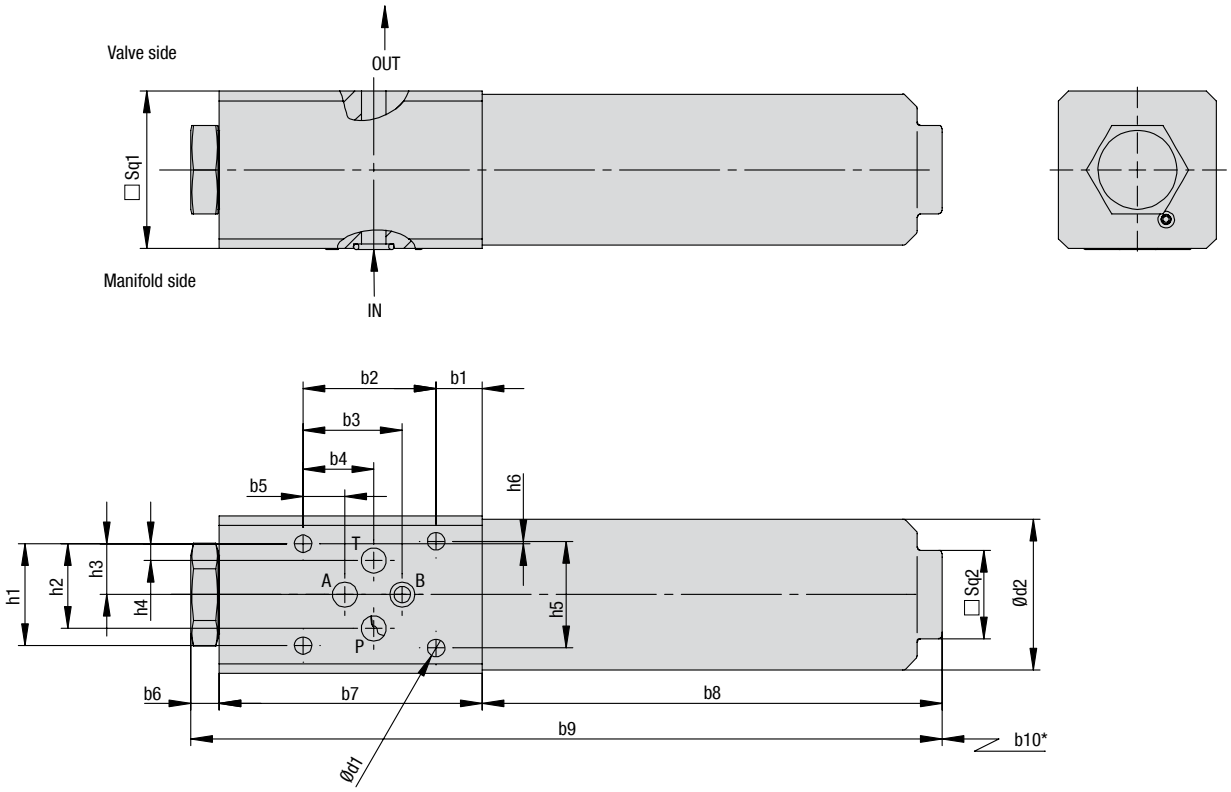
Options and Accessories

Clogging Indicator
- Standard actuating pressure: $5\ ^{0}_{-0,5}$ bar / $72.5\ ^{0}_{-7.25}$ PSI Δp
  $8\ ^{0}_{-0,5}$ bar / $116\ ^{0}_{-7.25}$ PSI Δp
  Other actuating pressure settings are available upon request.

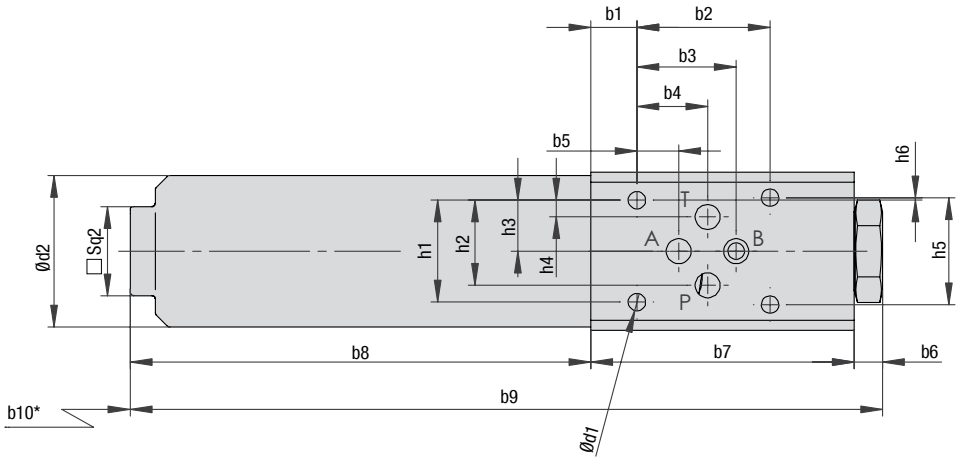
- Available indicators: Visual
  Electrical
  Visual-electrical (24 V DC, 110 V AC, 230 V AC versions)

High Pressure Filters ▪ Type SFZ

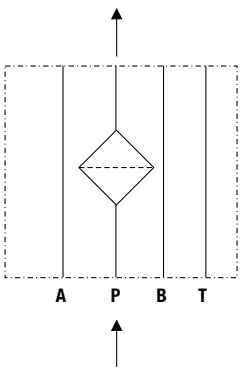
Version - right



Version - left



Symbol for hydraulic systems
SFZ008



* recommended space for element change

High Pressure Filters ▪ Type SFZ

Dimensions (mm/in)	Filter Size SFZ
	SFZ008
b1	14
	.55
b2	40,5
	1.59
b3	30,2
	1.19
b4	21,5
	.85
b5	12,7
	.50
b6	9
	.35
b7	80
	3.15
b8	140
	5.51
b9	229
	9.02
b10	50
	1.97
d1	5,3
	.21
d2	46
	1.81
h1	31
	1.22
h2	25,8
	1.02
h3	15,5
	.61
h4	5,1
	.20
h5	32,5
	1.28
h6	0,75
	.03
Sq1	48
	1.89
Sq2	27
	1.06

High Pressure Filter Housings / Complete Filters ▪ Type SFZ

SFZ	008	...	...	B	/	B	/	P	T	230	-	5,0	/	R	/	X
1	2	3	4	5		6		7	8	9		10		11		12

1 Type

High Pressure Filter for sandwich plate mounting	**SFZ**

2 Group

Flow	Size
30 l/min / 8 US GPM	**008**

Note: Exact flow will depend on filter element selected.

3 Filter Material

Please note that the filter element is not protected by an internal bypass. Please be sure that the hydraulic systems is designed with the sufficient means to protect the element.

Material	max. Δp*collapse	Micron ratings available	Code
Without filter element	-	-	**...**
Inorg. glass fibre	25 bar / 363 PSI	3, 5, 10, 20	**G**
Inorg. glass fibre	210 bar / 3045 PSI		**H**
Stainless fibre	210 bar / 3045 PSI		**M**
Stainless mesh	30 bar / 435 PSI	25, 50, 100, 200	S

Note: * Collapse/burst resistance as per ISO 2941.
Bold types identify preferred materials, other materials on request.

4 Micron Rating

3 µm	**03**
5 µm	**05**
10 µm	**10**
20 µm	**20**
25 µm	**25**
50 µm	**50**
100 µm	**100**
200 µm	**200**

Note: Other micron ratings on request.

5 Sealing Material

NBR (Buna-N®)	**B**
FPM (Viton®)	**V**
EPDM	**E**

Note: Other sealing materials on request.

6 Connection Size

Connection Size	Group	Code
	008	
Nominal Bore	NG6* (Ref.: D03)	**B**

* ISO 4401-03-02-0-05

7 Clogging Indicator

Without clogging indicator	**0**
Visual, with automatic reset	**A**
Visual, with manual reset	**V**
Electrical	**E**
Visual-electrical	**P**

8 Thermostop

Without thermostop	**none**
With thermostop	**T**

9 Voltage (only for Code P)

24 V DC	**024**
110 V AC	**110**
230 V AC	**230**

10 Actuating Pressure Clogging Indicator

5,0 bar / 72,5 PSI	**5,0**
8,0 bar / 116 PSI	**8,0**

11 Design

Version right	**R**
Version left	**L**

12 Design Code

Only for information	**X**

Filter Elements ▪ Type SE

SE	-	008	E	10	B	/	X
1		2	3	4	5		6

1 Type

Filter Element Series	**SE**

2 Group

According to filter housing

3 Filter Material

Please note that the filter element is not protected by an internal bypass. Please be sure that the hydraulic systems is designed with the sufficient means to protect the element.

Material	max. Δp*collapse	Micron ratings available	Code
Inorg. glass fibre	25 bar / 363 PSI	3, 5, 10, 20	**G**
Inorg. glass fibre	210 bar / 3045 PSI		**H**
Stainless fibre	210 bar / 3045 PSI		**M**
Stainless mesh	30 bar / 435 PSI	25, 50, 100, 200	S

* Collapse/burst resistance as per ISO 2941.
Bold types identify preferred materials, other materials on request.

4 Micron Rating

3 µm	**03**
5 µm	**05**
10 µm	**10**
20 µm	**20**
25 µm	**25**
50 µm	**50**
100 µm	**100**
200 µm	**200**

Note: Other micron ratings on request.

5 Sealing Material

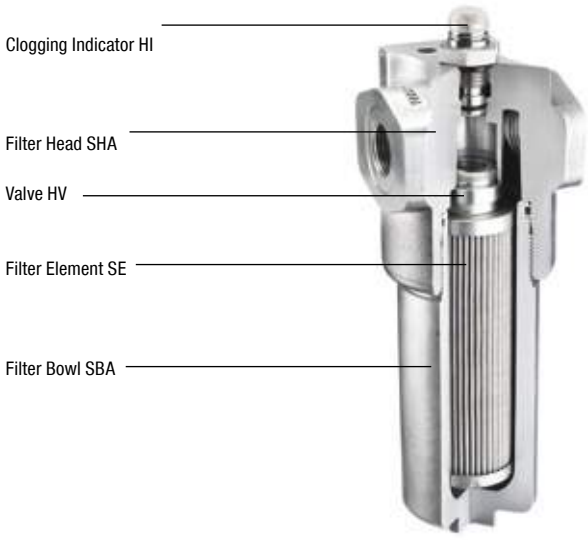
NBR (Buna-N®)	**B**
FPM (Viton®)	**V**
EPDM	**E**

Note: Other sealing materials on request.

6 Design Code

Only for information	**X**

Medium Pressure Filters ▪ Type SFA



Product Description

STAUFF SFA series Medium Pressure Filters are designed for in-line hydraulic applications with a maximum operating pressure of 160 bar / 2320 PSI. Used together with STAUFF SE series Filter Elements, a high efficiency of contamination removal is assured. The dirt-hold capacity of the elements ensures long service life, and as a result, reduced maintenance costs.

Technical Data

Construction
- Designed for in-line assembly, with threaded mounting holes on top of head.

Materials
- Filter head: Cast Aluminum
- Filter bowl: Aluminium
- O-rings: NBR (Buna-N®)
  FPM (Viton®)
  EPDM (Ethylene-Propylene-Diene-Monomer-Rubber)
- Support ring: PTFE (Polytetrafluoroethylene)

Port Connections
- BSP
- NPT
- SAE O-ring thread
- SAE Code 61 Flange

Operating Pressure
- SFA014/030: Max. 160 bar / 2320 PSI
  Max. 190 bar / 2755 PSI (according to ANSI T2.6.1. R2-2001)
- SFA045/070: Max. 150 bar / 2175 PSI
  Max. 171 bar / 2480 PSI (according to ANSI T2.6.1. R2-2001)

Burst Pressure
- Min. 480 bar / 6960 PSI

Temperature Range
- -10 °C ... +100 °C / +14 °F ... +212 °F

Filter Elements
- Specifications see page C38 / C41

Media Compatibility
- Mineral oils, other fluids on request

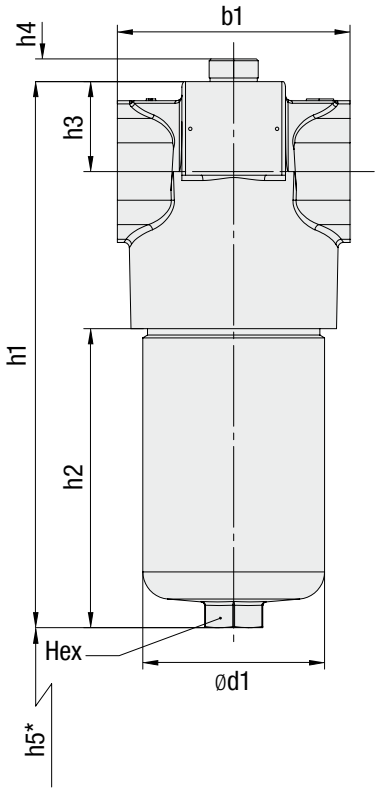
Options and Accessories

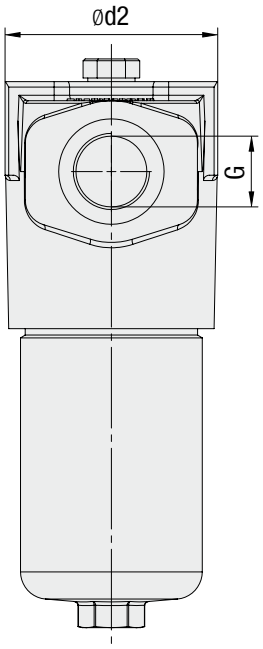
Valve
- Bypass valve: Allows unfiltered oil to bypass the contaminated element once the opening pressure has been reached, a differential pressure of $6^{+0,5}$ bar / $87^{+7.25}$ PSI Δp is the standard setting. Other settings available upon request.
- Reverse flow valve: Allows reverse flow through the filter head without backflushing the element.
- Non-return valve: Prevents draining of the delivery line during element change.
- Multi-function valve: Opening pressure $6^{+0,5}$ bar / $87^{+7.25}$ PSI
  Bypass, reverse flow capability and non-return valve combined in one valve.

Clogging Indicator
- Standard actuating pressure: $5_{-0,5}$ bar / $72.5_{-7.25}$ PSI Δp
  Other actuating pressure settings are available upon request.
- Available indicators: Visual
  Electrical
  Visual-electrical (24 V DC, 110 V AC, 230 V AC versions)

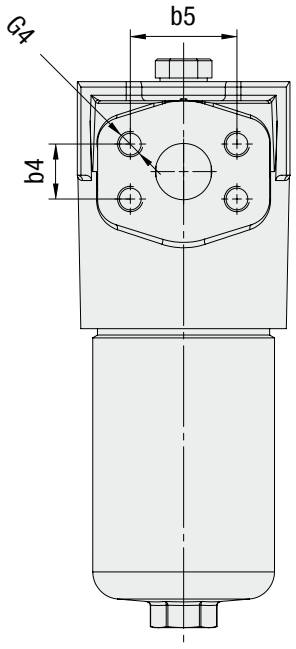
Medium Pressure Filters ▪ Type SFA

SFA014...070

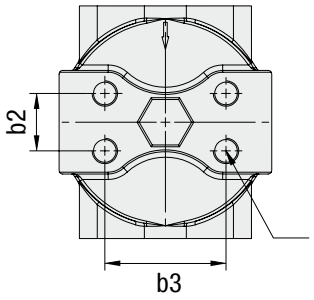




Threaded connection



Flange connection



G2: for BSP threads
G3: for NPT, SAE O-ring thread, SAE flange

* recommended space for element change

Medium Pressure Filters ▪ Type SFA

Thread Connection G	Filter Size SFA			
	014	030	045	070
BSP	3/4	3/4	1-1/4	1-1/4
NPT	3/4	3/4	1-1/4	1-1/4
SAE O-ring Thread	1-1/6–12	1-1/6–12	1-5/8–12	1-5/8–12
SAE Flange 3000 PSI	3/4	3/4	3/4	3/4
Weight (kg/lbs)	2,1	2,54	4,6	5,3
	4.7	5.6	10.2	11.8

Dimensions (mm/in)		Filter Size SFA			
		014	030	045	070
b1		92	92	128	128
		3.62	3.62	5.04	5.04
b2		23,8	23,8	31,6	31,6
		.94	.94	1.24	1.24
b3		50,8	50,8	66,7	66,7
		2.00	2.00	2.63	2.63
d1		72	72	100	100
		2.83	2.83	3.93	3.93
d2		86	86	117	117
		3.39	3.39	4.61	4.61
h1		187,5	255	241,5	301
		7.38	10.04	9.51	11.85
h2		78	145,5	105	164,5
		3.07	5.73	4.13	6.46
h3		40	40	49,5	49,5
		1.58	1.58	1.95	1.95
h4		12,5	12,5	12,5	12,5
		.49	.49	.49	.49
h5	Rec.*	100	170	140	200
		3.94	6.69	5.51	7.87
	Min.*	85	85	120	120
		3.35	3.35	4.72	4.72
Hex		27	27	32	32
		1.05	1.05	1.25	1.25
G2		M10 x 15	M10 x 15	M14 x 20	M14 x 20
G3		3/8–16 UNC x .59	3/8–16 UNC x .59	1/2–13 UNC x .59	1/2–13 UNC x .59

Reference: Rec.*: Recommended | Min.*: Minimum

Dimensions SAE Flange 3000 PSI (mm/in)	Filter Size SFA			
	014	030	045	070
b4	22,2	22,2	47,6	47,6
	.87	.87	1.87	1.87
b5	30,2	30,2	58,7	58,7
	1.19	1.19	2.32	2.32
G4	M10 x 15 or	M10 x 15 or	M14 x 17 or	M14 x 17 or
	3/8–16 UNC	3/8–16 UNC	7/8–14 UNC	7/8–14 UNC

Medium Pressure Filter Housings / Complete Filters ▪ Type SFA

SFA	014	...	...	V	/	T	B	/	B	/	P	T	230	/	X
1	2	3	4	5		6	7		8		9	10	11		12

1 Type

Medium Pressure Filter	**SFA**

2 Group

Flow	Size
60 l/min / 14 US GPM	**014**
110 l/min / 30 US GPM	**030**
160 l/min / 45 US GPM	**045**
240 l/min / 70 US GPM	**070**

Note: Exact flow will depend on filter element selected. Consult technical data on pages C43 / C44.

3 Filter Material

Material	max. Δp*collapse	Micron ratings available	Code
Without filter element	-	-	**...**
Inorg. glass fibre	25 bar / 363 PSI	3, 5, 10, 20	**G**
Inorg. glass fibre	210 bar / 3045 PSI		**H**
Stainless fibre	210 bar / 3045 PSI		**A**
Stainless mesh	30 bar / 435 PSI	25, 50, 100, 200	B, **S**

Note: * Collapse/burst resistance as per ISO 2941. Bold types identify preferred materials, other materials on request.

4 Micron Rating

3 µm	**03**
5 µm	**05**
10 µm	**10**
20 µm	**20**
25 µm	**25**
50 µm	**50**
100 µm	**100**
200 µm	**200**

Note: Other micron ratings on request.

5 Sealing Material

NBR (Buna-N®)	**B**
FPM (Viton®)	**V**
EPDM	**E**

Note: Other sealing materials on request.

6 Connection Flange

Type T	**T**

7 Connection Style

Connection Style	Group				Thread Style	Code
	014	030	045	070		
BSP	3/4		1-1/4		metric	**B**
BSP	1		1-1/2		metric	B1
NPT	3/4		1-1/4		UNC	N
SAE O-ring Thread	1-1/16-12		1-5/8-12		UNC	U
SAE Flange 3000 PSI	3/4		1-1/4		metric	FM
SAE Flange 3000 PSI	3/4		1-1/4		UNC	FU
SAE Flange 3000 PSI	1		-		metric	F1M
SAE Flange 3000 PSI	1		-		UNC	F1U

Note: Other port connections on request. Bold types identify preferred connection styles.

8 Valve

Without valve	**0**
Bypass valve	**B**
Reverse flow valve	**R**
Non-return valve	**N**
Multi-function valve	**M**

9 Clogging Indicator

Without clogging indicator	**0**
Visual, with automatic reset	**A**
Visual, with manual reset	**V**
Electrical	**E**
Visual-electrical	**P**

10 Thermostop

Without thermostop	**none**
With thermostop	**T**

11 Voltage (only for Code P)

24 V DC	**24**
110 V AC	**110**
230 V AC	**230**

12 Design Code

Only for information	**X**

Filter Elements ▪ Type SE

SE	-	014	G	10	B	/	X
1		2	3	4	5		6

1 Type

Filter Element Series	**SE**

2 Group

According to filter housing

3 Filter Material

Material	max. Δp*collapse	Micron ratings available	Code
Inorg. glass fibre	25 bar / 363 PSI	3, 5, 10, 20	**G**
Inorg. glass fibre	210 bar / 3045 PSI		**H**
Stainless fibre	210 bar / 3045 PSI		**A**
Stainless mesh	30 bar / 435 PSI	25, 50, 100, 200	B, **S**

4 Micron Rating

3 µm	**03**
5 µm	**05**
10 µm	**10**
20 µm	**20**
25 µm	**25**
50 µm	**50**
100 µm	**100**
200 µm	**200**

Note: Other micron ratings on request.
* Collapse/burst resistance as per ISO 2941.
Bold types identify preferred materials, other materials on request.

5 Sealing Material

NBR (Buna-N®)	**B**
FPM (Viton®)	**V**
EPDM	**E**

Note: Other sealing materials on request.

6 Design Code

Only for information	**X**

Valves

Product Description

The optional valves are fitted as an insert in the filter head and incorporate the spigot on which the element seals. The valve is selected to suit the filter application.

HV-O **Non-bypass standard insert** without any valve function. Element collapse rating should be higher than system pressure

HV-B **Bypass valve** which allows oil to bypass the element when the differential pressure across the element reaches $6^{+0,5}$ bar / $87^{+7.25}$ PSI. (Other pressure settings available on request). The opening pressure should be higher than the Δp setting of an optional clogging indicator. Low collapse 30 bar / 435 PSI Δp elements are normally used with this valve.

HV-R **Reverse flow valve** is used in systems where there is flow in reverse through the filter. It allows reverse flow without backflushing the element but does not filter in the reverse direction. Element collapse rating should be higher than the system pressure.

HV-N **Non-return valve**
This valve prevents the oil in the delivery line from draining out while the filter is being serviced. Because there is no bypass, the element collapse rating should be higher than system pressure.

HV-M **Multi-function valve**
This valve combines the bypass, the reverse flow and the non-return functions in one unit. The by-pass opening pressure is $6^{+0,5}$ bar / $87^{+7.25}$ PSI Δp with other opening pressures available on request. The opening pressure should be higher than the Δp setting of an optional clogging indicator. Low collapse 30 bar / 435 PSI Δp elements are normally used with this valve.

Order Code

HV - M 014 / 030 / X

1 2 3 4

1 Type

Valve for Pressure Filters	**HV**

2 Valve Type

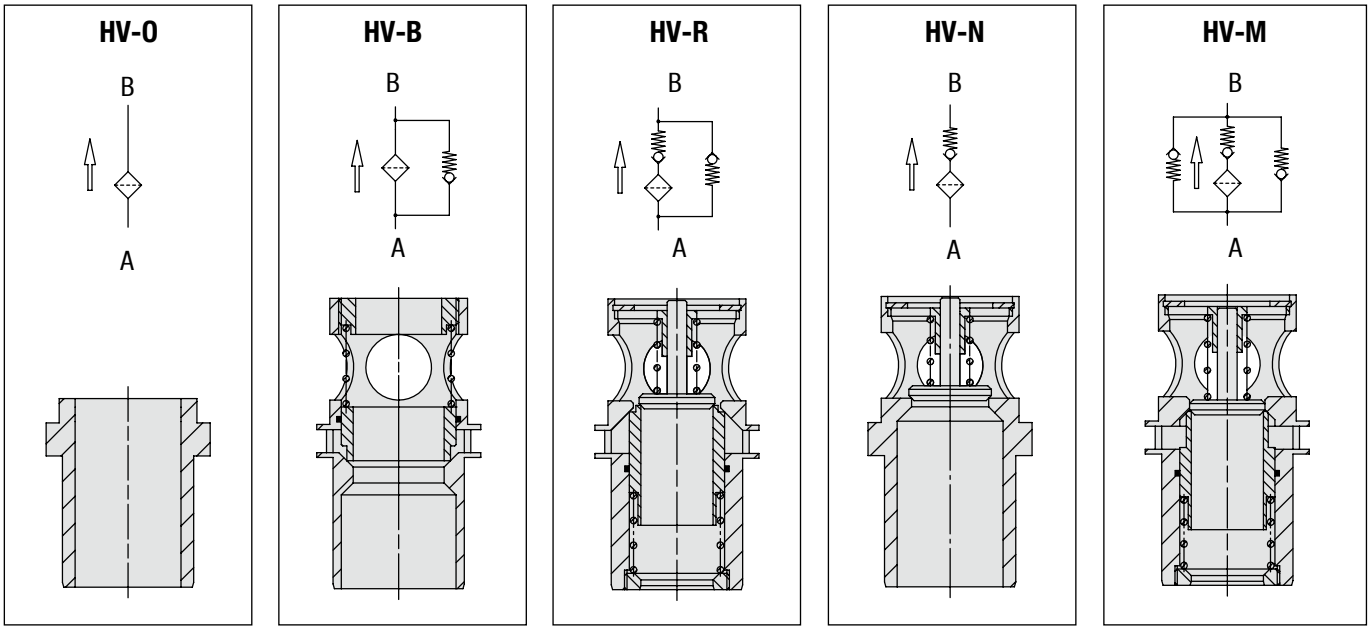
Non-bypass standard insert without any valve	**O**
Bypass valve	**B**
Reverse flow valve	**R**
Non-return valve	**N**
Multi-function valve	**M**

3 Filter Group

For filter size 014/030	**014/030**
For filter size 045/070/125	**045/070**
For filter size 090/160/250/300	**090/160**

4 Design Code

Only for information	**X**



Flow characteristics of the valves see page C42

Clogging Indicators

Product Description

STAUFF Pressure Filters have a wide range of clogging indicators available. If no indicator is specified, the port is sealed by a plug (HI-O). The clogging indicators are actuated by the differential pressure (Δp) across the element. The special piston design minimizes the effects of peak pressures in the system. An optional thermal lockout (thermo-stop) is available to prevent false indication under cold start conditions. Fluid temperature have to be at least +20 °C / +68 °F for the indicator to function. Special indicators with a temperature range down to -45 °C / -49 °F are available upon request.

Technical Data

Materials
- Body: Stainless Steel
- Sealings: NBR (Buna-N®)
  FPM (Viton®)
  EPDM (Ethylene-Propylene-Diene-Monomer-Rubber)

Thread
- G 1/2

Differential Pressure
- $5_{-0,5}$ bar / $72.5_{-7.25}$ PSI pressure setting (other settings on request)

Electrical
- Plug according to DIN-EN 175301-803 A (DIN 43650-A). Screwed cable gland PG11, protection rating (DIN 40050) IP65, both NO and NC contacts are available in the switch, rated capacity: see chart below

The visual clogging indicators are available in the following configurations:

- Manual reset: The indicator continues to display the clogged signal even through the Δp may have fallen.
  Pressing the plastic cover down will reset the indicator.
- Automatic reset: The clogged signal will disappear when the Δp drops below the setting for the indicator.

Electrical and visual-electrical clogging indicators are only available with automatic reset.

Order Code

HI	-	P	T	230	B	5,0B	/	X
1		2	3	4	5	6		7

1 Type

Clogging Indicator for Pressure Filters	**HI**

2 Indicator Type

Plug	**O**
Visual, automatic reset	**A**
Visual, manual reset	**V**
Electrical	**E**
Visual-electrical	**P**

3 Thermostop

Without thermostop	**none**
With thermostop	**T**

4 Voltage (only for Code P)

24 V DC	**24**
110 V AC	**110**
230 V AC	**230**

5 Sealing Material

NBR (Buna-N®)	**B**
FPM (Viton®)	**V**
EPDM	**E**

6 Differential Pressure Setting

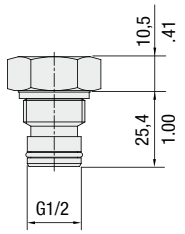
1,72 bar / 25 PSI	**25P**
2,0 bar / 29 PSI	**2,0B**
2,5 bar / 36.3 PSI (standard option)	**2,5B**
3,0 bar / 43.5 PSI	**3,0B**
5,0 bar / 72.5 PSI	**5,0B**
7,0 bar / 101.5 PSI	**7,0B**

7 Design Code

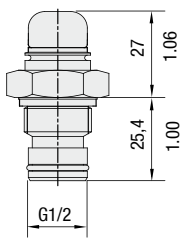
Only for information	**X**

Dimensions

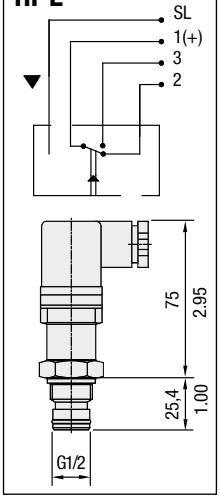
HI-O



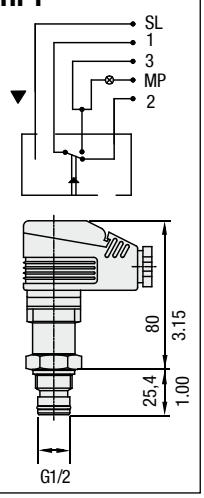
HI-A
HI-V



HI-E



HI-P



Rated Capacity HI-E and HI-P

Alternating current: 250 V AC 5 A

Direct current: see table below

Voltage V	Resistive Load A	Inductive Load A
24 V DC	8,00	7,00
110 V AC	0,50	0,20
230 V AC	0,25	0,10

High voltage peaks occur when inductive loads are switched off. Protective circuitry should be employed to reduce contact burnout.

Dimensional drawings: All dimensions in mm/in.

High and Medium Pressure Filters ▪ Type SF / SF-TM / SF-SM / SFZ / SFA Filter Elements SE



Product Description

STAUFF SE series Replacement Filter Elements for SF / SF-TM / SF-SM / SFZ / SFA series filter housings are manufactured in the common filter materials such as Stainless Fibre, Stainless Mesh and Inorganic Glass Fibre. As standard, all Replacement Elements SE series have tin-plated steel parts for use with aggressive media such as water glycol, other materials available on request. All STAUFF Replacement Elements comply with quality specifications in accordance with international standards.

Order Code

SE	-	014	G	10	B	/	X
1		2	3	4	5		6

1 Type

Filter Element Series	**SE**

2 Group

According to filter housing

3 Filter Material

Material	max. Δp*collapse	Micron ratings available	Code
Inorganic glass fibre	25 bar / 363 PSI	3, 5, 10, 20	**G**
Inorganic glass fibre	210 bar / 3045 PSI		**H**
Stainless fibre	210 bar / 3045 PSI		**A**
Stainless mesh	30 bar / 435 PSI	25, 50, 100, 200	B, **S**

Note: * Collapse/burst resistance as per ISO 2941. Bold types identify preferred materials, other materials on request.

4 Micron Rating

3 µm	**03**
5 µm	**05**
10 µm	**10**
20 µm	**20**
25 µm	**25**
50 µm	**50**
100 µm	**100**
200 µm	**200**

Note: Other micron ratings on request.

5 Sealing Material

NBR (Buna-N®)	**B**
FPM (Viton®)	**V**
EPDM	**E**

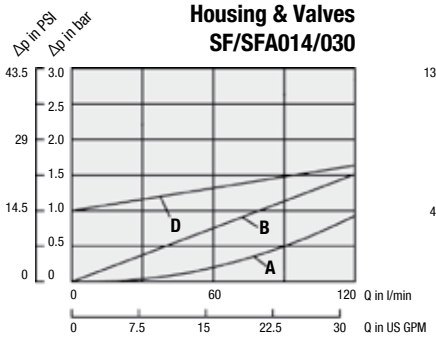
Note: Other sealing materials on request.

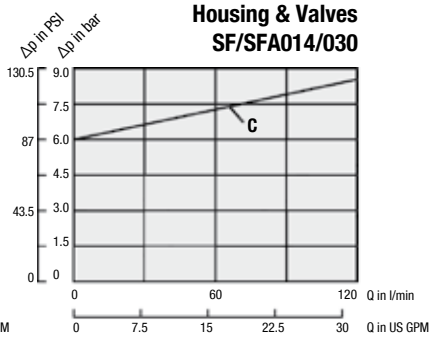
6 Design Code

Only for information	**X**

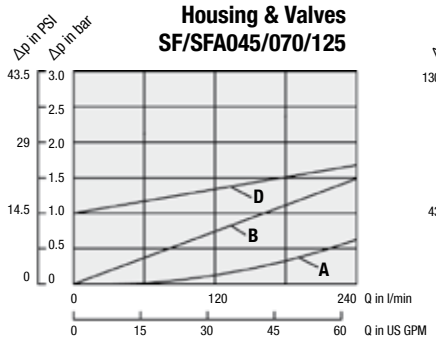
High and Medium Pressure Filters ▪ Type SF / SF-TM / SF-SM / SFA

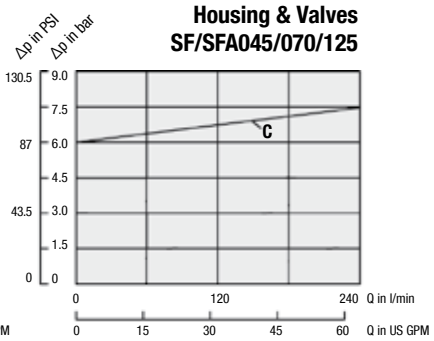
The following characteristics are valid for mineral oils with a density of 0,85 kg/dm³ and the kinematic viscosity of 30 mm²/s (30 cSt). The characteristics have been determined in accordance to ISO 3968. Multipass filter ratings have been obtained in accordance to ISO 16889. Consult STAUFF for details.

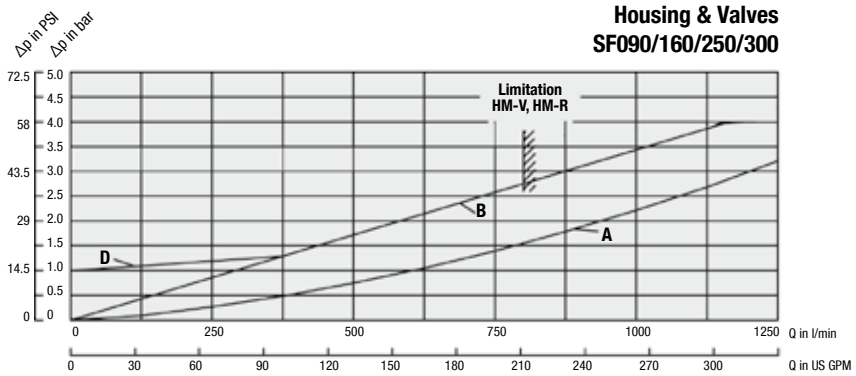


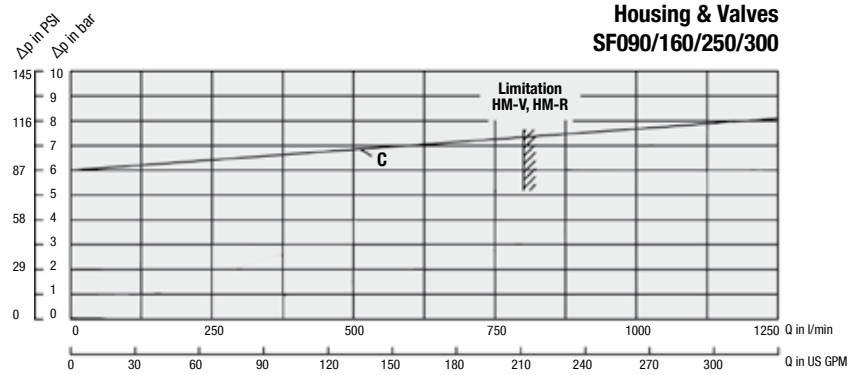


Valve Configuration	Flow direction	Curve
Housing with HV-O or HV-B	In → Out	A
HVM, HV-R, HV-N	In → Out	B
HV-M, HV-B ▪ Element 100% blocked Bypass only ▪ In reality always mixed mode	In → Out	C
HV-M,HV-R Reverse mode	Out → In	D





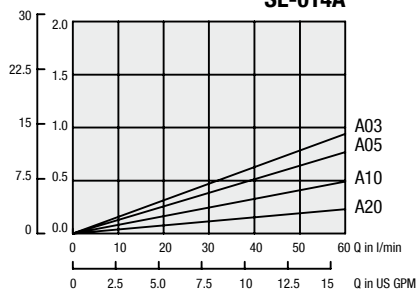




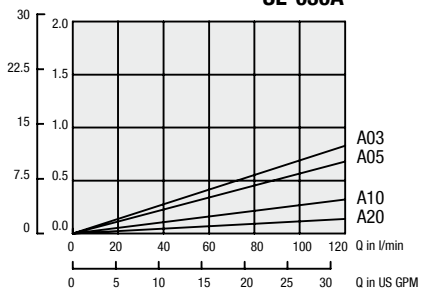
High and Medium Pressure Filters ▪ Type SF / SF-TM / SF-SM / SFA

The following characteristics are valid for mineral oils with a density of 0,85 kg/dm³ and the kinematic viscosity of 30 mm²/s (30 cSt). The characteristics have been determined in accordance to ISO 3968. Multipass filter ratings have been obtained in accordance to ISO 16889. Consult STAUFF for details.

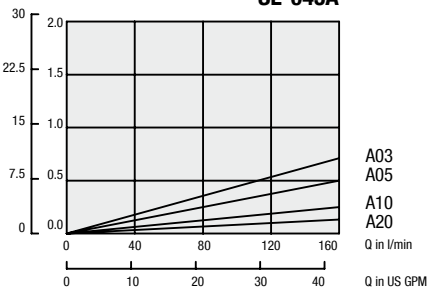
Filter Element SE-014A



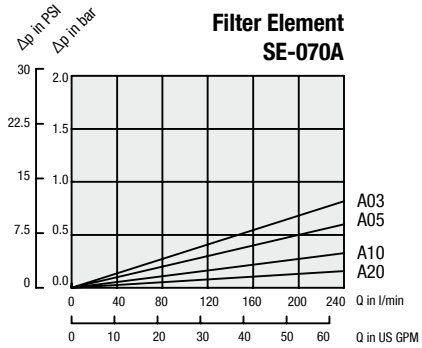
Filter Element SE-030A



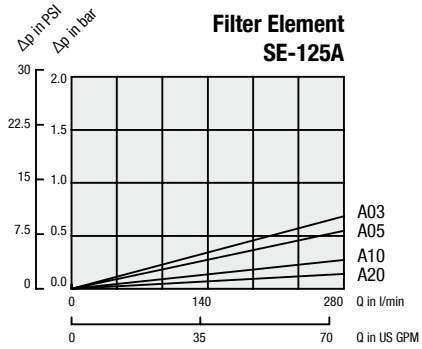
Filter Element SE-045A



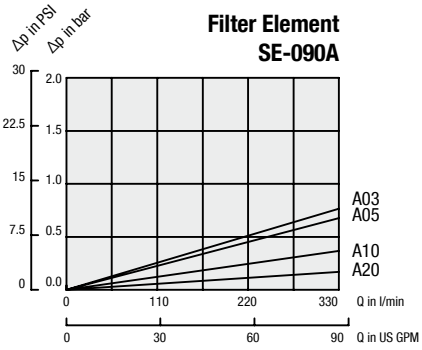
Filter Element SE-070A



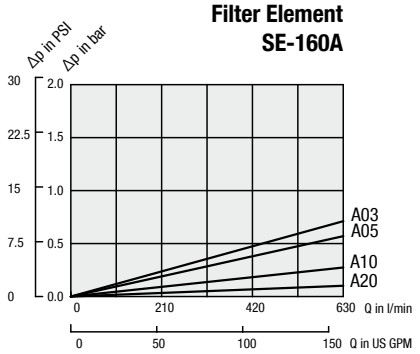
Filter Element SE-125A



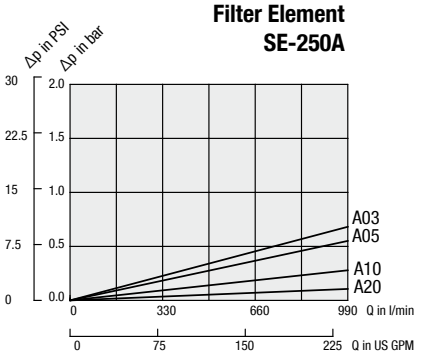
Filter Element SE-090A



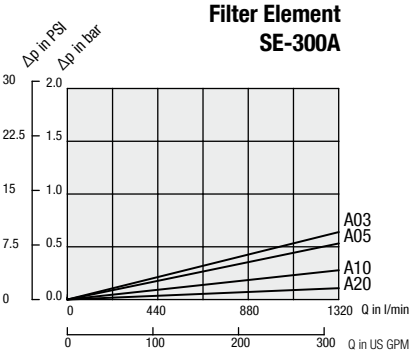
Filter Element SE-160A



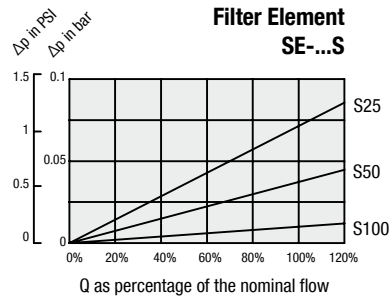
Filter Element SE-250A



Filter Element SE-300A



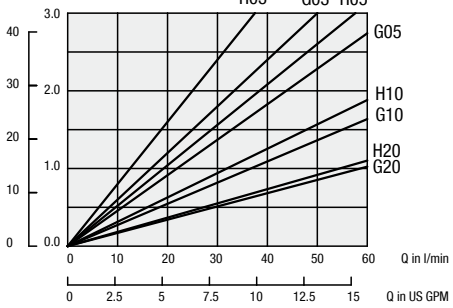
Filter Element SE-...S



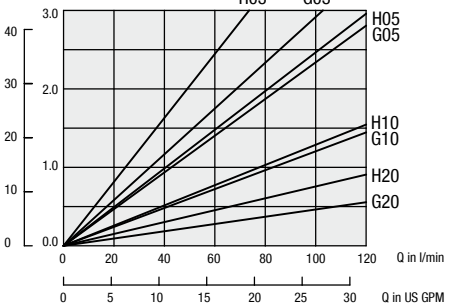
High and Medium Pressure Filters ▪ Type SF / SF-TM / SF-SM / SFA

The following characteristics are valid for mineral oils with a density of 0,85 kg/dm³ and the kinematic viscosity of 30 mm²/s (30 cst). The characteristics have been determined in accordance to ISO 3968. Multipass filter ratings have been obtained in accordance to ISO 16889. Consult STAUFF for details.

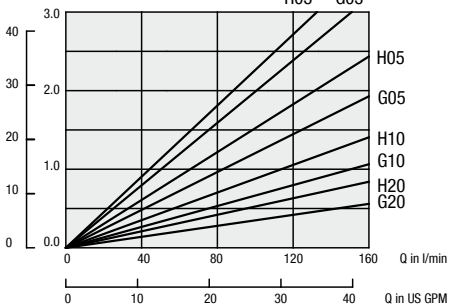
Filter Elements SE-014G,H



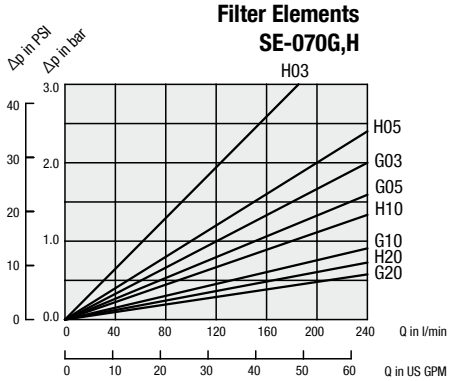
Filter Elements SE-030G,H



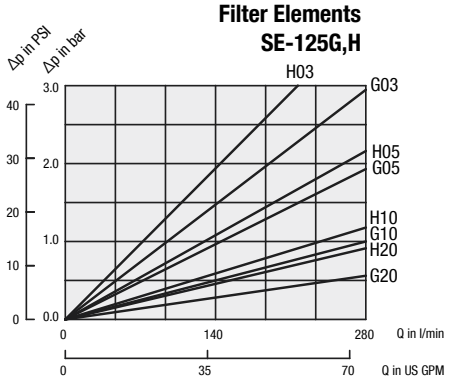
Filter Elements SE-045G,H



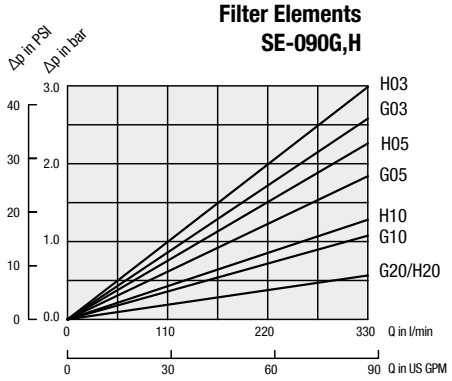
Filter Elements SE-070G,H



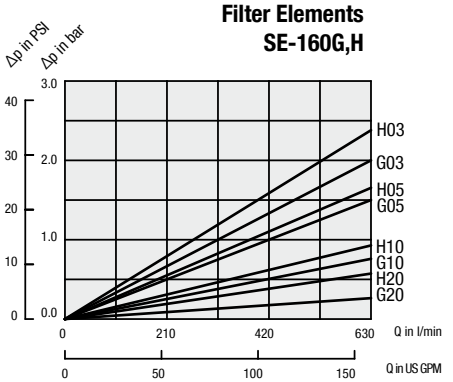
Filter Elements SE-125G,H



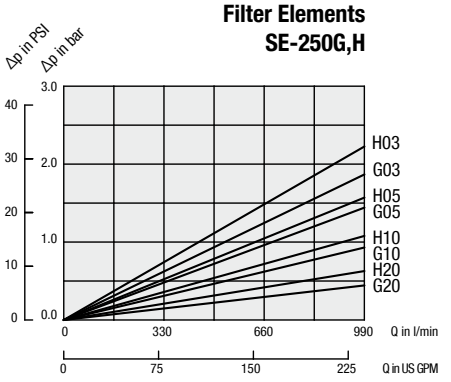
Filter Elements SE-090G,H



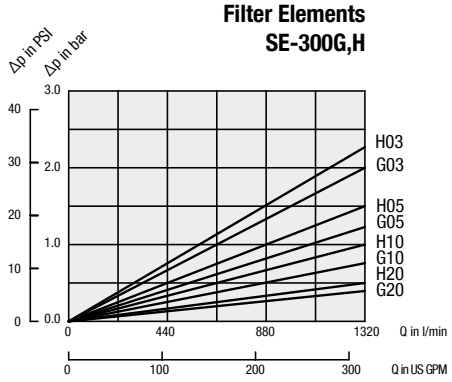
Filter Elements SE-160G,H



Filter Elements SE-250G,H



Filter Elements SE-300G,H



Pressure Filters ▪ Type SIF48



Product Description

STAUFF SIF48 series pressure filters are designed for in-line hydraulic applications with a maximum operating pressure of 345 bar / 5000 PSI. The element is changed from the top, which minimizes oil spillage. **The SIF48 series pressure filter meets the HF4 Automotive Standard.**

Technical Data

Construction
- In-line assembly, top loading, base mounted

Materials
- Filter base and cap: Ductile iron
- Element case: Steel
- Sealings: NBR (Buna-N®), FPM (Viton®)

Port Connections
- BSP
- NPT
- SAE O-ring thread
- SAE code 61 flange or sub-plate

Flow Rating
- Up to 380 l/min / 100 US GPM for 32 cSt / 150 SUS fluids, with 2" porting, 570 l/min / 150 US GPM

Operating Pressure
- Max. 345 bar / 5000 PSI

Burst Pressure
- Min. 1035 bar / 15000 PSI

Temperature Range
- -29°C ... +107°C / -20°F ... +225°F

Filter Elements
- Specifications see page C47

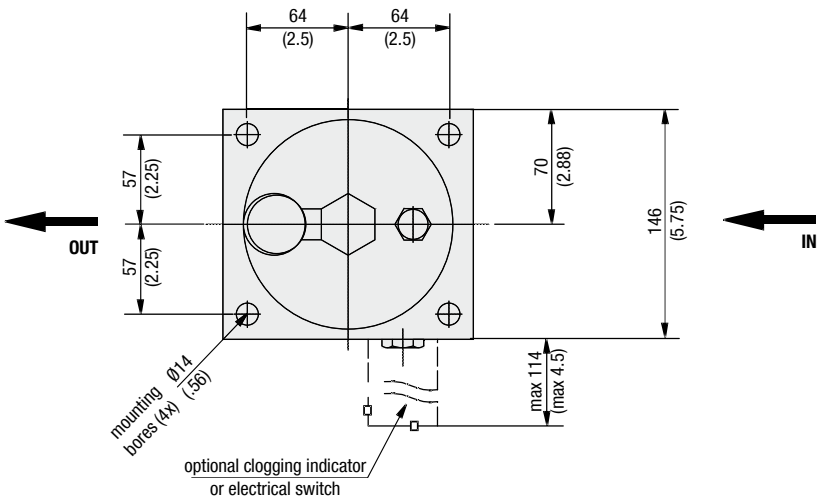
Media Compatibility
- Mineral oils, other fluids on request

Options and Accessories

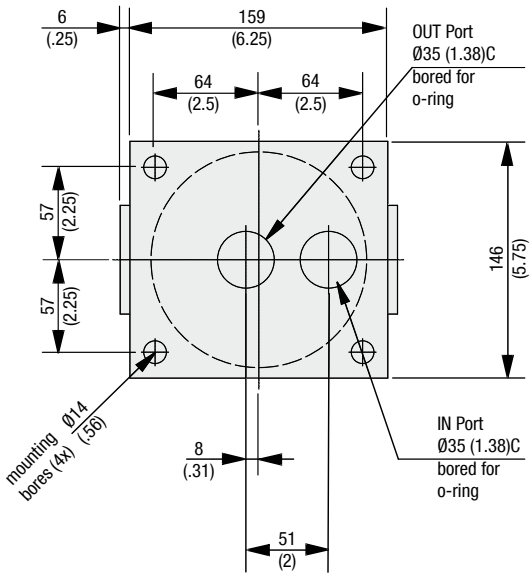
Valve
- Bypass valve: Allows unfiltered oil to bypass the contaminated element once the opening pressure has been reached
- Bypass setting: 2,8 bar / 40 PSI

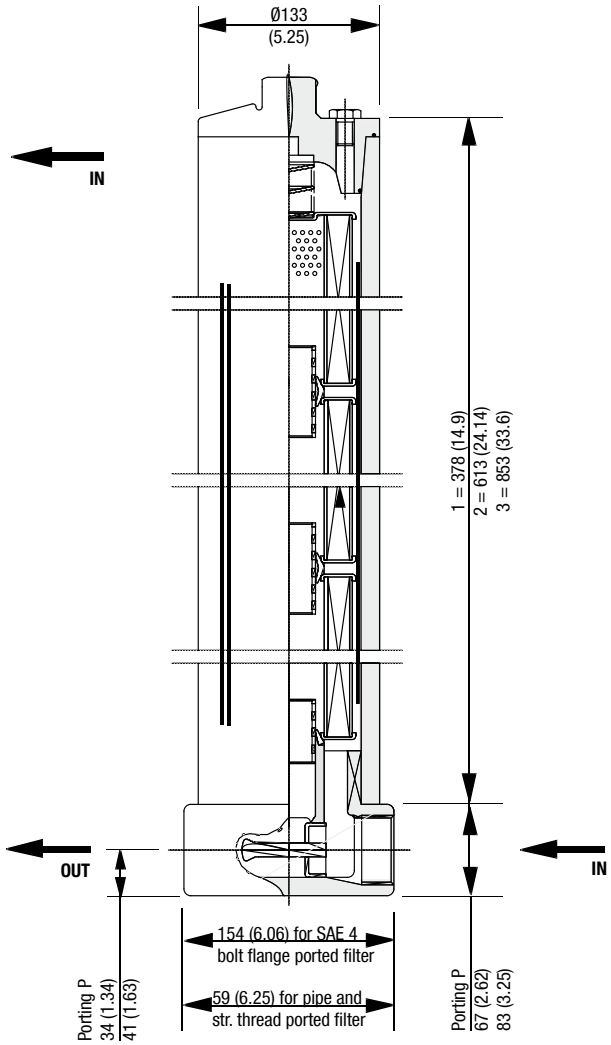
Clogging Indicators
- Standard actuating pressure: 2,4 bar / 35 PSI
- Available indicators: Visual, Electrical

Pressure Filters ▪ Type SIF48



optional subplate porting





Pressure Filter Housings / Complete Filters ▪ Type SIF48

SIF48	S	G	10	B	S1	V	/	X
1	2	3	4	5	6	7		8

1 Type

Pressure Filter	**SIF48**

2 Port Size

Connection Type	Code
1-1/2 BSP	**B**
1-7/8–12 SAE (standard option)	**S**
1-1/2 NPT	**N**
2 NPT	**P**
1-1/2 SAE Code 62 Flange	**F**
Sub-plate	**0**

3 Filter Material

Material	Max. Δp*collapse	Micron ratings available	Code
Filter paper	10 bar / 150 PSI	03, 10, 25	**D**
Inorg. glass fibre	10 bar / 150 PSI	03, 10, 25	**G**

* Note: Collapse/burst resistance as per ISO 2941.
Other materials on request.

4 Micron Rating

3 µm	**03**
10 µm	**10**
20 µm	**25**

Note: Other micron ratings on request.

5 Sealing Material

NBR (Buna®)	**B**
FPM (Viton®)	**V**

Note: Other sealing materials on request.

6 Bowl Length

Single Element	**S1**
Double Element	**S2**
Triple Element	**S3**

7 Clogging Indicator

Without Clogging Indicator	**N**
Visual	**V**
Visual - Thermostop	**VT**
Electrical	**E**

8 Design Code

Only for information	**X**

Filter Elements ▪ Type SIF48

RTE48	G	10	B	/	X
1	2	3	4		5

1 Type

For Pressure Filter Series SIF48	**SIF48**

2 Filter Material

Material	Max. Δp*collapse	Micron ratings available	Code
Filter paper	10 bar / 150 PSI	03, 10, 25	**D**
Inorg. glass fibre	10 bar / 150 PSI	03, 10, 25	**G**

* Note: Collapse/burst resistance as per ISO 2941.
Other materials on request.

4 Micron Rating

3 µm	**03**
10 µm	**10**
20 µm	**25**

Note: Other micron ratings on request.

5 Sealing Material

NBR (Buna®)	**B**
FPM (Viton®)	**V**

Note: Other sealing materials on request.

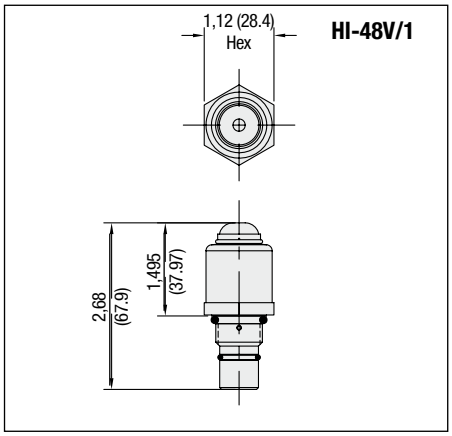
8 Design Code

Only for information	**X**

Clogging Indicators

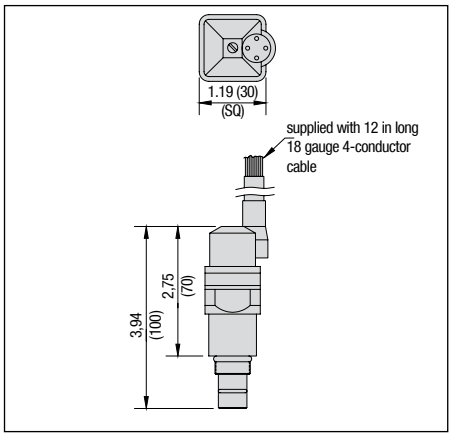
Visual Clogging Indicator

Part number HI48-V is a mechanical magnetic cartridge with a highly visible red disk that pops up at 2,4 bar / 35 PSI. Once activated the red signal continues to indicate a bypass condition until it is manually reset.



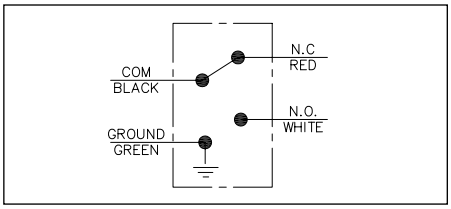
Electrical Clogging Indicator

Part number HI48 are used when a electrical signal is needed to indicate when the element needs changing. The solid state switch is activated at 2,4 bar / 35 PSI. The indicators are supplied with 305 mm / 12 in long 4 wire cable, and meet NEMA4 and IP65 specifications.



Electrical Clogging Indicator - HI48-E Ratings

	AC Rating	DC Rating
Voltage	max 240 V AC	max 100 V DC
Wattage	max 720 Watts	max 50 Watts
Current	0.10 to 6 amps	0.01 to 2 amps
Contact type	solid state	solid state



Order Code

HI 48 E / X

1 2 3

1 Type

Clogging Indicator SIF48 Series	**HI48**

2 Indicator Type

Visual	**V**
Electrical	**E**
Visual - Thermostop	**VT**

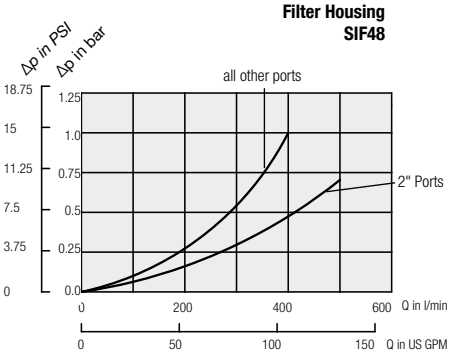
3 Design Code

Only for information	**X**

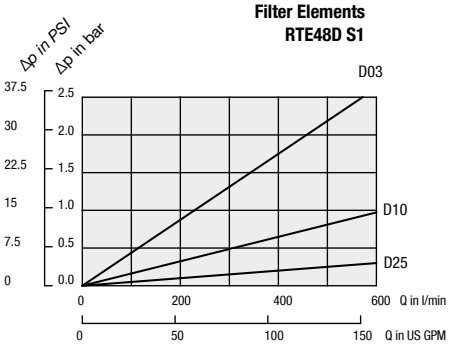
Pressure Filters ▪ Type SIF48 Flow Characteristics

The following characteristics are valid for mineral oils with a density of 0,85 kg/dm³ and the kinematic viscosity of 30 mm²/s (30 cSt). The characteristics have been determined in accordance to ISO 3968. Multipass filter ratings have been obtained in accordance to ISO 16889. Consult STAUFF for details.

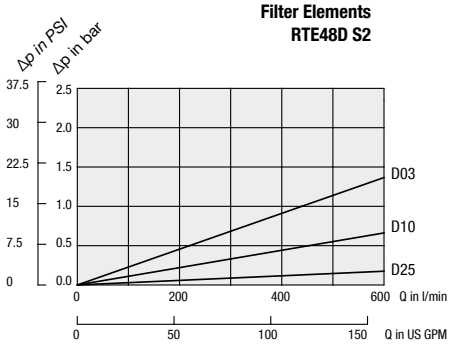
Filter Housing SIF48



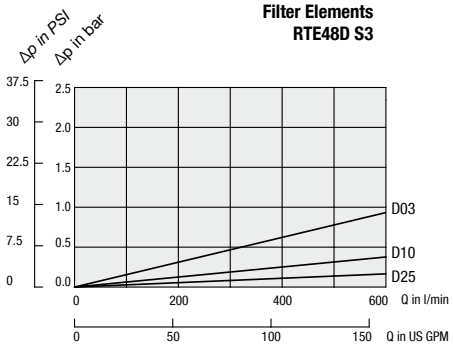
Filter Elements RTE48D S1



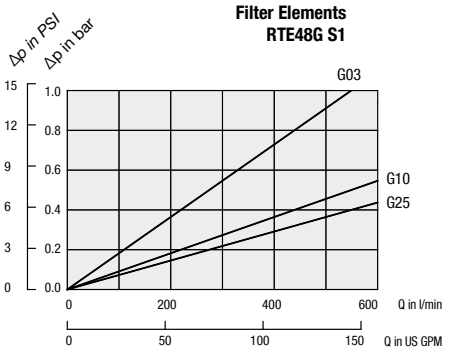
Filter Elements RTE48D S2



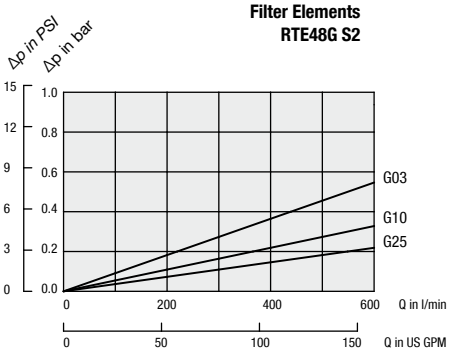
Filter Elements RTE48D S3



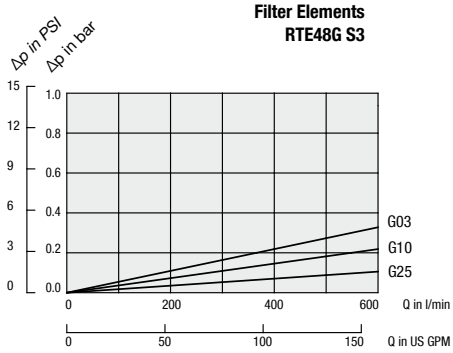
Filter Elements RTE48G S1



Filter Elements RTE48G S2



Filter Elements RTE48G S3



Medium Pressure Filters ▪ Type SMPF



Product Description

STAUFF SMPF Medium Pressure Filters are designed for in-line hydraulic applications with a maximum operating pressure of 110 bar / 1600 PSI. Used together with STAUFF Filter Elements, a high efficiency of contamination removal is assured.

Technical Data

Construction
- In-line assembly

Materials
- Filter head: Aluminium Alloy
- Filter bowl: Aluminium Alloy
- Sealings: NBR (Buna-N®)

Port Connections
- BSP
- SAE O-ring thread

Flow Rating
- Up to 90 l/min / 25 US GPM

Operating Pressure
- Max. 110 bar / 1600 PSI

Burst Pressure
- 300 bar / 4350 PSI

Temperature Range
- -25°C ... +110°C / -13°F ... +230°F

Filter Elements
- Specifications see page C54

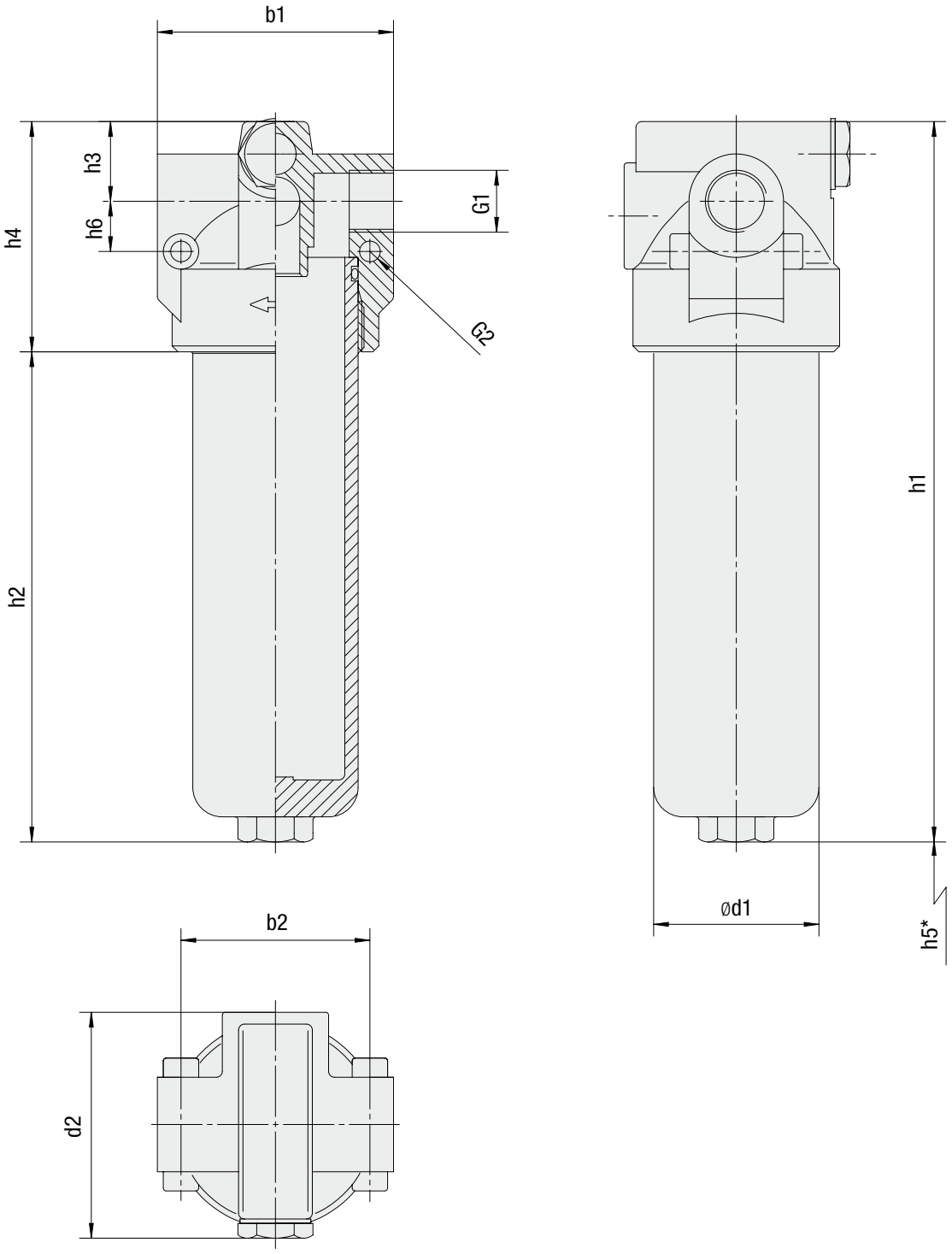
Media Compatibility
- Mineral oils, other fluids on request

Options and Accessories

Valve
- Bypass valve: Allows unfiltered oil to bypass the contaminated element once the opening pressure has been reached 6 bar / 87 PSI ±10% is the standard actuating pressure

Clogging Indicators
- Standard actuating pressure: 5 bar / 72.5 PSI ±10%
- Available indicators: Visual
  Visual-electrical

Medium Pressure Filters ▪ Type SMPF



* recommended space for element change

Medium Pressure Filters ▪ Type SMPF

Thread Connection G1	Filter Size SMPF	
	015	025
Nominal Flow (l/min / US GPM)	60 15	90 25
BSP	1/2	1/2
SAE O-ring thread	3/4–16	3/4–16
Weight (kg/lb)	0,95 2.09	1,25 2.76

Dimensions (mm/in)	Filter Size SMPF	
	015	025
b1	80 3.15	80 3.15
b2	64 2.52	64 2.52
d1	56 2.20	56 2.20
d2	76,5 3.01	76,5 3.01
h1	157 6.18	244 9.61
h2	79 3.11	166 6.54
h3	27 1.06	27 1.06
h4	78 3.07	78 3.07
h5	60 2.36	60 2.36
h6	17 .67	17 .67
G2	7 .28	7 .28

Medium Pressure Filter Housings / Complete Filters ▪ Type SMPF

SMPF	015	...	...	B	/	T	B	/	B	/	VE	/	X
1	2	3	4	5		6	7		8		9		10

1 Type

2 Group

Flow	Size
60 l/min / 15 US GPM	015
90 l/min / 25 US GPM	025

Note: Exact flow will depend on filter element selected
Consult technical data on page C56.

3 Filter Material

Material	Max. Δp*collapse	Micron ratings available	Code
Without filter element	-	-	...
Inorg. glass fibre	20 bar / 290 PSI	03, 10, 20	E
Stainless mesh	20 bar / 290 PSI	60	S

* Note: Collapse/burst resistance as per ISO 2941.
Other materials on request.

4 Micron Rating

3 µm	03
10 µm	10
20 µm	20
60 µm	60

Note: Other micron ratings on request.

5 Sealing Material

NBR (Buna®)	B

Note: Other sealing materials on request.

6 Mounting Style

In-line	T

7 Connection Style

BSP	1/2	B
SAE O-ring thread	3/4–16	U

8 Valve

Without valve	0
Bypass valve	B

9 Clogging Indicator

Without Clogging Indicator	0
Visual	V
Visual-electrical	VE

10 Design Code

Only for information	X

Filter Elements ▪ Type SME

SME	-	015	E	03	B	/	X
1		2	3	4	5		6

1 Type

Filter Element Series	SME

2 Group

According to filter housing

3 Filter Material

Material	Max. Δp*collapse	Micron ratings available	Code
Inorg. glass fibre	20 bar / 290 PSI	03, 10, 20	E
Stainless mesh	20 bar / 290 PSI	60	S

* Note: Collapse/burst resistance as per ISO 2941.
Other materials on request.

4 Micron Rating

3 µm	03
10 µm	10
20 µm	20
60 µm	60

Note: Other micron ratings on request.

5 Sealing Material

NBR (Buna®)	B

Note: Other sealing materials on request.

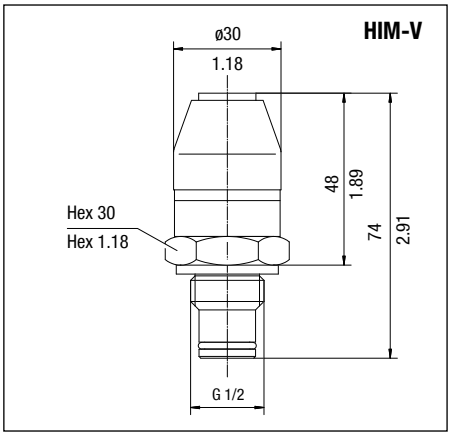
6 Design Code

Only for information	X

Medium Pressure Filters ▪ Type SMPF

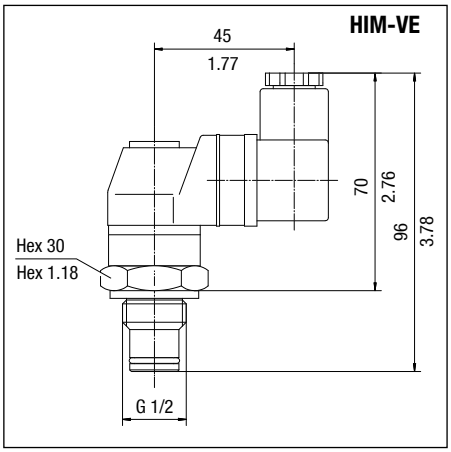
Visual Clogging Indicator

Part number HIM-V is a clogging indicator actuated by the differential pressure across the filter element. The actuating pressure of 5 bar / 72.5 PSI allows the dirty element to be changed before the bypass setting of 6 bar / 87 PSI is reached.



Visual-Electrical Clogging Indicator

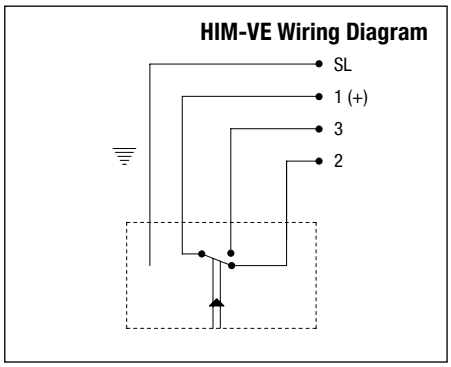
Part number HIM-VE is used when an electrical signal is needed to indicate when the element needs changing. It is actuated by the differential pressure across the filter element. The actuating pressure of 5 bar / 72.5 PSI allows the dirty element to be changed before the bypass setting of 6 bar / 87 PSI is reached.



Dimensions in mm / in

HIM-VE Rated Capacity

Voltage V	Resistive Load A	Inductive Load A
125 V AC	5	5
250 V AC	5	5
15 V AC	10	10
30 V DC	5	5
50 V DC	1	1
125 V DC	0.50	0.06



Order Code

HIM - V B - 5,0B / X

1 2 3 4 5

1 Type

Clogging Indicator SMPF Series	**HIM**

2 Indicator Type

Visual	**V**
Visual-electrical	**VE**

3 Sealing Material

NBR (Buna®)	**B**

4 Differential Pressure Setting

5,0 bar / 72.5 PSI	**5,0B**

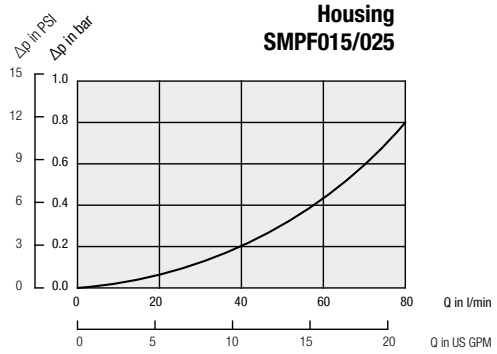
5 Design Code

Only for information	**X**

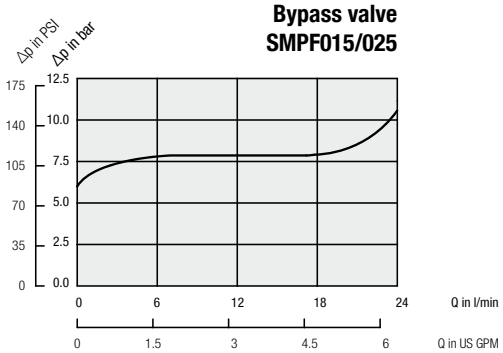
Medium Pressure Filters ▪ Type SMPF Flow Characteristics

The following characteristics are valid for mineral oils with a density of 0,85 kg/dm³ and the kinematic viscosity of 30 mm²/s (30 cSt). The characteristics have been determined in accordance to ISO 3968. Multipass filter ratings have been obtained in accordance to ISO 16889. Consult STAUFF for details.

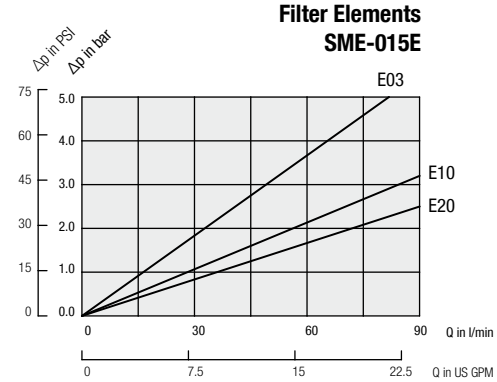
Housing SMPF015/025



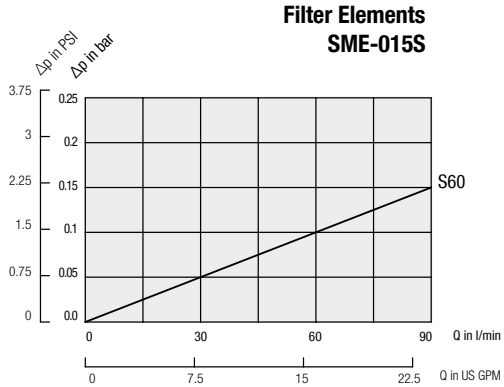
Bypass valve SMPF015/025



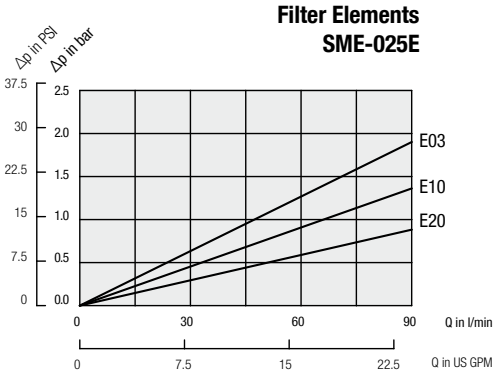
Filter Elements SME-015E



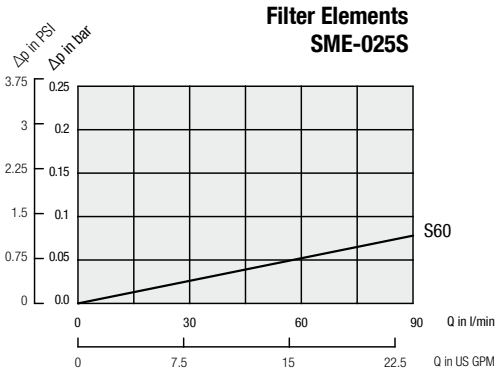
Filter Elements SME-015S



Filter Elements SME-025E



Filter Elements SME-025S



Return Line Filters ▪ Type SRFL-S / D





Product Description

STAUFF Return Line Simplex Filters SRFL-S and Duplex Filters SRFL-D are designed for in-line hydraulic applications. With its compact construction and the easy to maintain assembly the SRFL-S and SRFL-D Filters are suitable for flow rates up to 7000 l/min / 1850 US GPM. The two housings of the Duplex Filter SRFL-D are connected with a special gate valve that is operated with a level or hand wheel. Therefore the filter may be serviced without shutting down the hydraulic system. A high efficiency of contaminant removal is assured by using STAUFF RE series Replacement Filter Elements. The high dirt-hold capacity of STAUFF Elements ensures a long service life and, as a result, reduced maintenance costs.

Technical Data

Construction
- In-line assembly, base mounted

Materials
- Filter housing: Carbon Steel
  Stainless Steel (on request)
- Sealings: NBR (Buna-N®)
  FPM (Viton®)
  Other sealing materials on request

Port Connection
- DIN flange
- ANSI flange
- SAE flange

Operating Pressure
- Max. 14 bar / 200 PSI

Flow Rating
- Up to 7000 l/min / 1850 US GPM

Temperature Range
- -10°C ... +100°C / +14°F ... +212°F

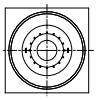
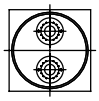
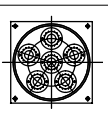
Filter Elements
- Specifications see page C69

Media Compatibility
- Mineral oils, lubrication oils, other fluids on request

Options and Accessories

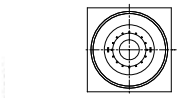
Valve
- Bypass valve: Opening pressure 3 bar ± 0,3 bar / 43.5 PSI ± 4.35 PSI
  (integrated in the filter element) Other settings available on request

Clogging Indicators
- Differential pressure switch, setting 1,6 bar / 23 PSI
  Other clogging indicators available on request

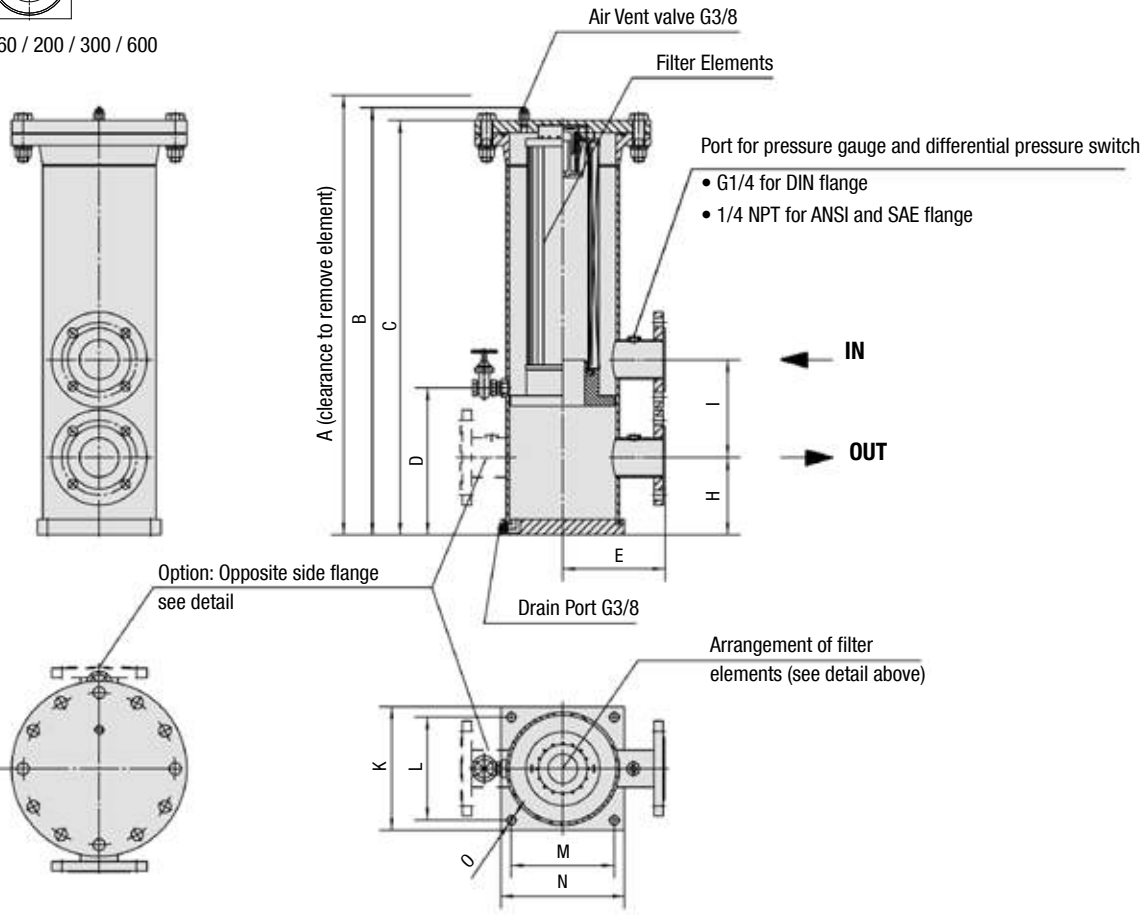
Filter Size	Flow l/min/ US GPM	Flange DIN 2501	Flange ANSI B16.5	Flange SAE 3000 PSI	Filter Element quantity SRFL-S	Filter Element quantity SRFL-D	Arrangement of filter elements	Page
SRFL-S/D-160	900/240	DN 40	1-1/2	1-1/2	1x RE-160	2x RE-160		C58/C62
SRFL-S/D-200	900/240	DN 50	2	2	1x RE-200	2x RE-200		
SRFL-S/D-300	1400/370	DN 65	2-1/2	2-1/2	1x RE-300	2x RE-300		
SRFL-S/D-600	1400/370	DN 80	3	3	1x RE-600	2x RE-600		
SRFL-S/D-1200	4000/1050	DN 100	4	4	2x RE-600	4x RE-600		C60/C64
SRFL-S/D-1800	4000/1050	DN 125	5	5	3x RE-600	6x RE-600		
SRFL-S/D-2400	6000/1580	DN 150	6	6	4x RE-600	8x RE-600		
SRFL-S/D-3600	7000/1850	DN 200	8	8	6x RE-600	12x RE-600		C60/C66

Return Line Filters ▪ Type SRFL-S 160 / 200 / 300 / 600

Detail arrangement of filter elements

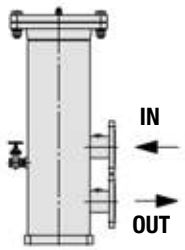


SRFL-S 160 / 200 / 300 / 600

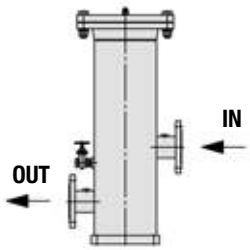


Option: Connection location

S (same side)



O (opposite side)



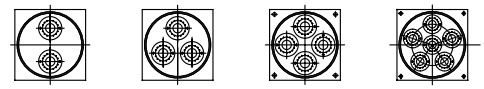
Return Line Filters ▪ Type SRFL-S 160 / 200 / 300 / 600

Flange Connection	Filter Size SRFL-S			
	160	200	300	600
DIN	DN 40	DN 50	DN 65	DN 80
ANSI	1-1/2	2	2-1/2	3
SAE	1-1/2	2	2-1/2	3

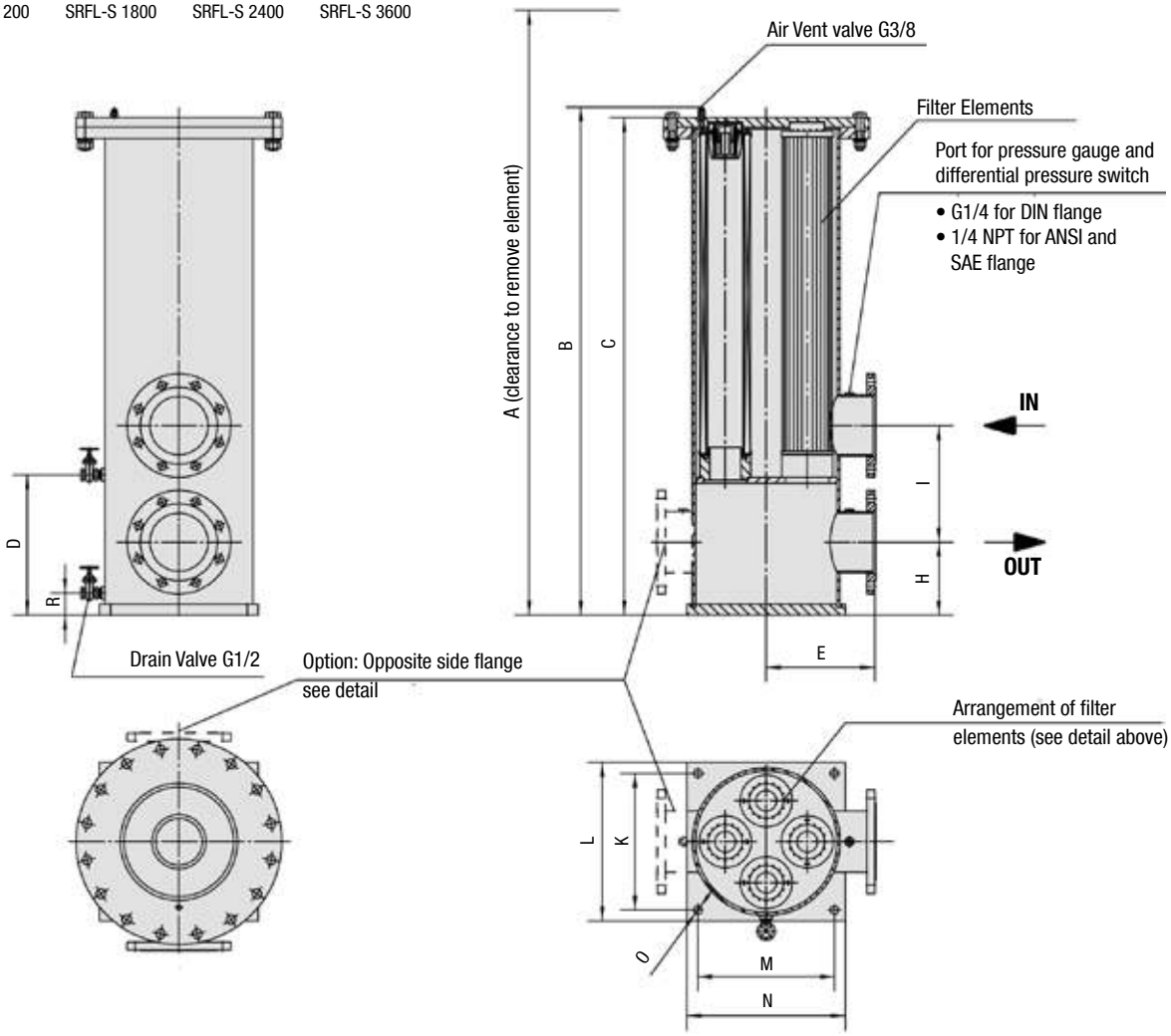
Dimensions (mm/in)		Filter Size SRFL-S			
		160	200	300	600
A		885,8	1045,8	1248,7	2126,7
		34.87	41.17	49.16	83.73
B		607,6	688,7	828,6	1267,6
		23.92	27.12	32.63	49.91
C		584	664	803,9	1242,9
		22.99	26.14	31.65	48.93
D		214	214	285	285
		8.43	8.43	11.22	11.22
E		148	148	198	198
		5.83	5.83	7.80	7.80
H		130	140	150	160
		5.12	5.51	5.91	6.30
I		155	190	190	220
		6.10	7.48	7.48	8.66
K		150	150	240	240
		5.91	5.91	9.45	9.45
L		125	125	200	200
		4.92	4.92	7.87	7.87
M		125	125	200	200
		4.92	4.92	7.87	7.87
N		150	150	240	240
		5.91	5.91	9.45	9.45
O		11	11	18	18
		.43	.43	.71	.71
Total Oil Capacity (l/gal)		6,0	7,1	22,2	37,1
		1.59	1.86	5.87	9.80
Weight (kg/lbs)		14,5	15,9	29	34,5
		32	35	64	76
Filter Elements	Designation	RE-160 ...	RE-200 ...	RE-300 ...	RE-600 ...
	Quantity	1 x 1	1 x 1	1 x 1	1 x 1

Return Line Filters ▪ Type SRFL-S 1200 / 1800 / 2400 / 3600

Detail arrangement of filter elements

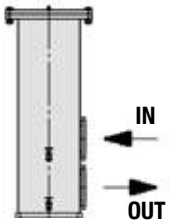


SRFL-S 1200 SRFL-S 1800 SRFL-S 2400 SRFL-S 3600

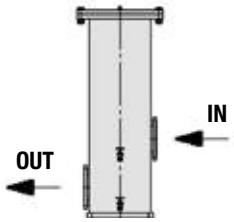


Option: Connection location

S (same side)



O (opposite side)



Return Line Filters ▪ Type SRFL-S 1200 / 1800 / 2400 / 3600

Flange Connection	Filter Size SRFL-S			
	1200	1800	2400	3600
DIN	DN 100	DN 125	DN 150	DN 200
ANSI	4	5	6	8
SAE	4	5	6	8

Dimensions (mm/in)		Filter Size SRFL-S			
		1200	1800	2400	3600
A		2176,7 85.70	2176,7 85.70	2249,1 88.55	2249,1 88.55
B		1319,6 51.96	1323,6 52.11	1394,8 54.92	1392,8 54.84
C		1294,6 50.98	1294,9 50.98	1366,1 53.78	1368,1 53.86
D		275 10.83	275 10.83	325 12.80	325 12.80
E		273 10.75	273 10.75	298 11.73	398 15.67
H		190 7.48	190 7.48	200 7.87	252 9.92
I		250 9.84	280 11.02	320 12.6	425 16.73
K		385 15.16	385 15.16	435 17.13	540 21.26
L		325 12.80	325 12.80	375 14.76	480 18.90
M		325 12.80	325 12.80	375 14.76	480 18.90
N		385 15.16	385 15.16	435 17.13	540 21.26
O		23 .91	23 .91	23 .91	23 .91
R		60 2.36	60 2.36	60 2.36	60 2.36
Total Oil Capacity (l/gal)		103 27.21	103 27.21	149 39.37	232 61.30
Weight (kg/lbs)		86,2 190	90,7 200	105,2 232	154,2 340
Filter Elements	Designation	RE-600 ...	RE-600 ...	RE-600 ...	RE-600 ...
	Quantity	1 x 2	1 x 3	1 x 4	1 x 6

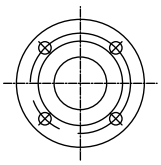
Return Line Filters ▪ Type SRFL-D 160 / 200 / 300 / 600

Detail arrangement of filter elements

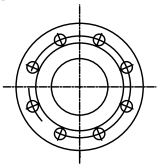


SRFL-D 160 / 200 / 300 / 600

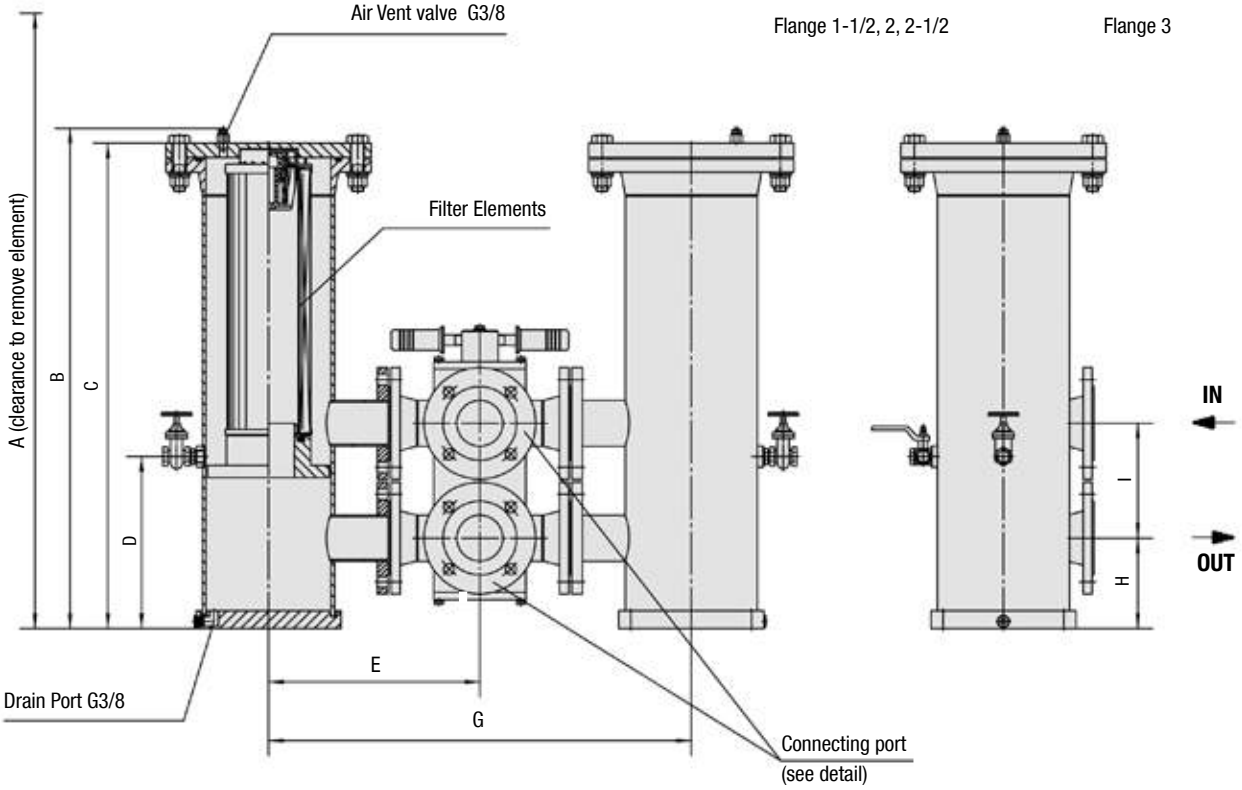
Detail connecting ports

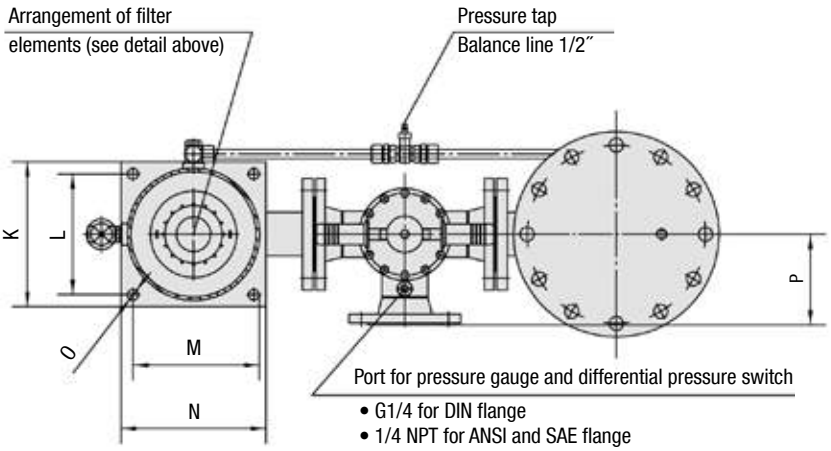


Flange 1-1/2, 2, 2-1/2



Flange 3





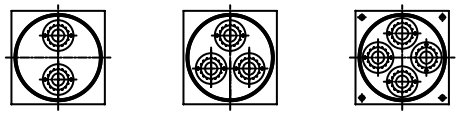
Return Line Filters ▪ Type SRFL-D 160 / 200 / 300 / 600

Flange Connection	Filter Size SRFL-D			
	160	200	300	600
DIN	DN 40	DN 50	DN 65	DN 80
ANSI	1-1/2	2	2-1/2	3

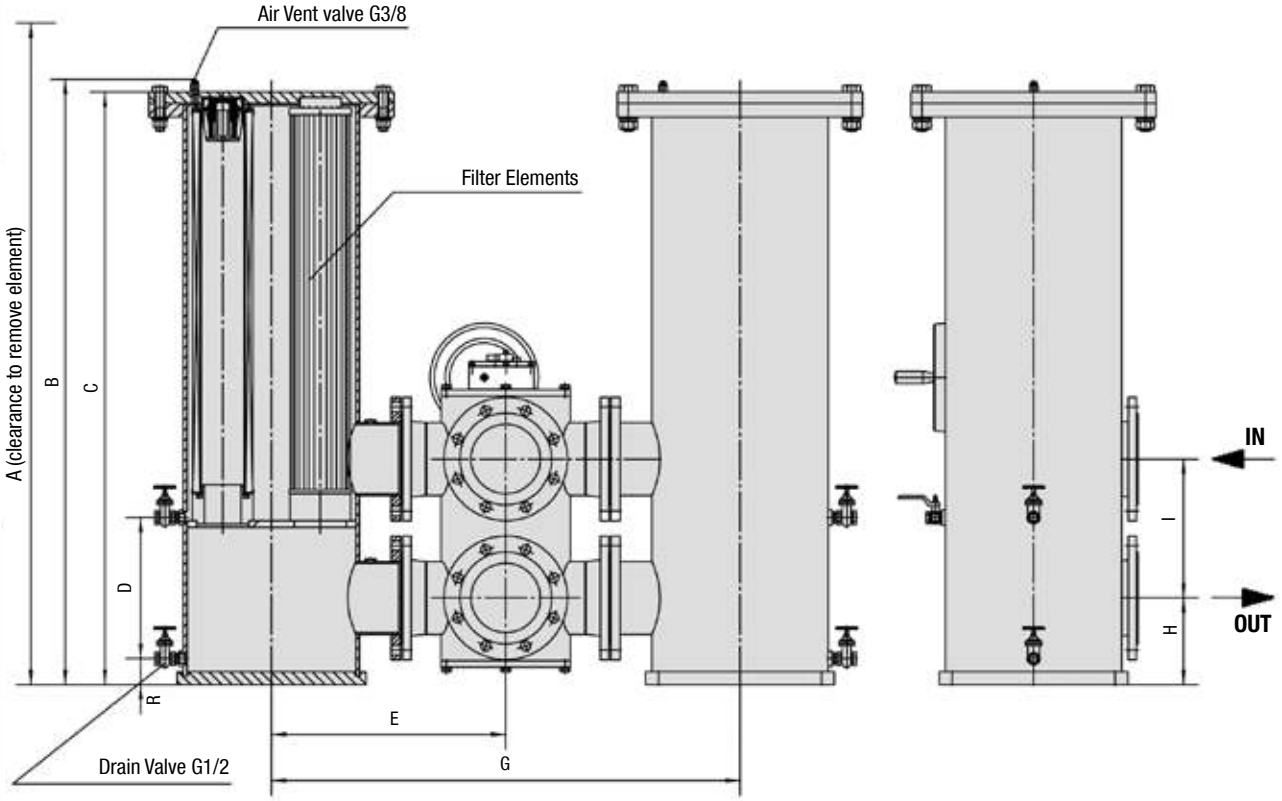
Dimensions (mm/in)		Filter Size SRFL-D			
		160	200	300	600
A		885,8	1045,8	1248,7	2126,7
		34.87	41.17	49.16	83.73
B		607,6	688,7	828,6	1267,6
		23.92	27.12	32.63	49.91
C		584	642	803,9	1242,9
		22.99	25.28	31.65	48.93
D		214	214	285	285
		8.43	8.43	11.22	11.22
E		260	300	350	375
		10.24	11.81	13.78	14.76
G		520	600	700	750
		20.47	23.62	27.56	29.53
H		130	140	150	160
		5.12	5.51	5.91	6.30
I		155	190	190	220
		6.10	7.48	7.48	8.66
K		150	150	240	240
		5.91	5.91	9.45	9.45
L		125	125	200	200
		4.92	4.92	7.87	7.87
M		125	125	200	200
		4.92	4.92	7.87	7.87
N		150	150	240	240
		5.91	5.91	9.45	9.45
O		11	11	18	18
		.43	.43	.71	.71
P		110	150	150	175
		4.33	5.91	5.91	6.89
Total Oil Capacity (l/gal)		6	7,1	22,2	37,1
		1.59	1.86	5.87	9.80
Weight (kg/lbs)		43	56,7	84	104
		95	125	185	230
Filter Elements	Designation	RE-160 ...	RE-200 ...	RE-300 ...	RE-600 ...
	Quantity	2 x 1	2 x 1	2 x 1	2 x 1

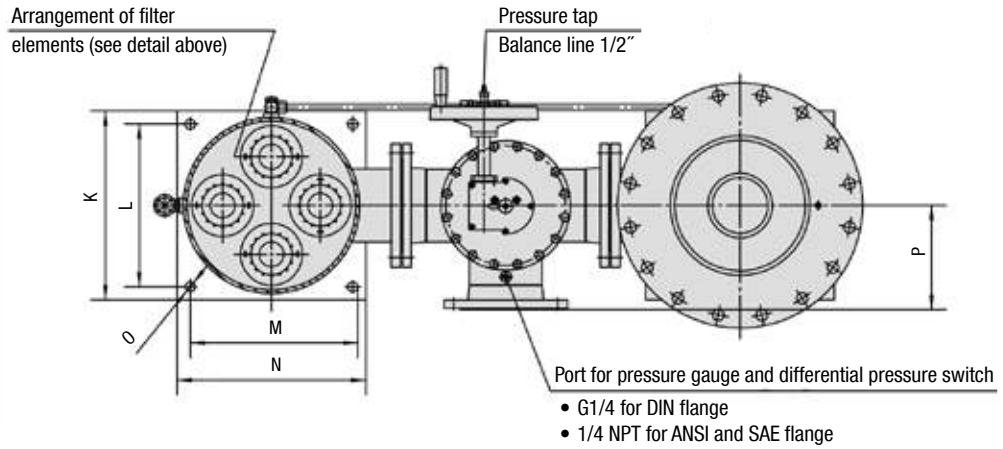
Return Line Filters ▪ Type SRFL-D 1200 / 1800 / 2400

Detail arrangement of filter elements



SRFL-D 1200 SRFL-D 1800 SRFL-D 2400





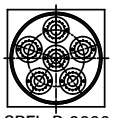
Return Line Filters ▪ Type SRFL-D 1200 / 1800 / 2400

Flange Connection	Filter Size SRFL-D		
	1200	1800	2400
DIN	DN 100	DN 125	DN 150
ANSI	4	5	6

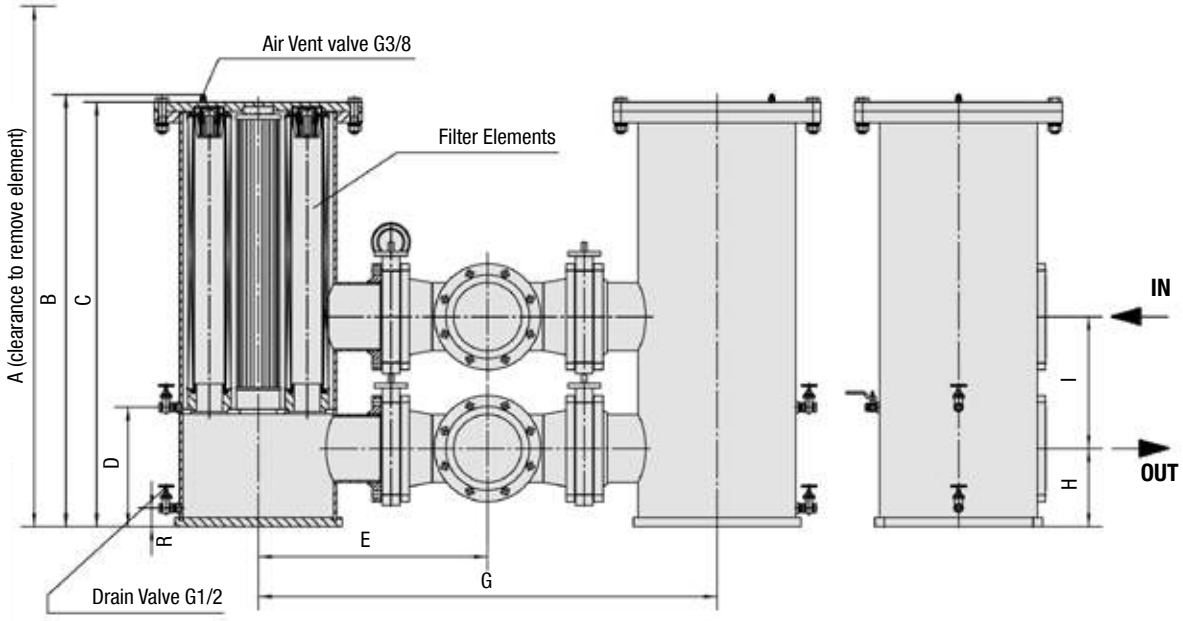
Dimensions (mm/in)		Filter Size SRFL-D		
		1200	1800	2400
A		2176,7 85.70	2176,7 85.70	2249,1 88.55
B		1319,6 51.96	1323,6 52.11	1394,8 54.92
C		1294,9 50.98	1294,9 50.98	1366,1 53.78
D		275 10.83	275 10.83	325 12.80
E		475 18.70	500 19.69	540 21.26
G		950 37.40	1000 39.37	1080 42.52
H		190 7.48	190 7.48	200 7.87
I		250 9.84	280 11.02	320 12.60
K		385 15.16	385 15.16	435 17.13
L		325 12.80	325 12.80	375 14.76
M		325 12.80	325 12.80	375 14.76
N		385 15.16	385 15.16	435 17.13
O		23 .91	23 .91	23 .91
P		200 7.87	225 8.86	240 9.45
R		60 2.36	60 2.36	60 2.36
Total Oil Capacity (l/gal)		103 27.20	103 27.20	149 39.30
Weight (kg/lbs)		215 475	233 515	263 580
Filter Elements	Designation	RE-600 ...	RE-600 ...	RE-600 ...
	Quantity	2 x 2	2 x 3	2 x 4

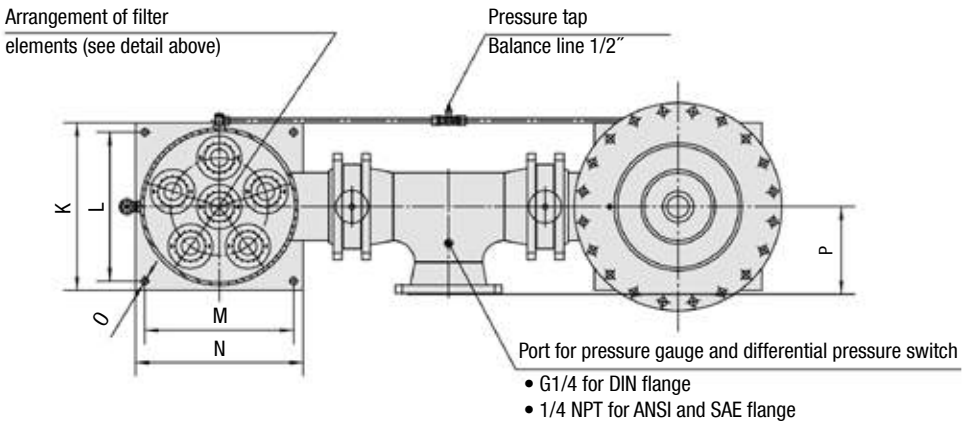
Return Line Filters ▪ Type SRFL-D 3600

Detail arrangement of filter elements



SRFL-D 3600





Return Line Filters ▪ Type SRFL-D 3600

Flange Connection	Filter Size SRFL-D
	3600
DIN	DN 200
ANSI	8

Dimensions (mm/in)		Filter Size SRFL-D
		3600
A		2249,1
		88.55
B		1392,8
		54.84
C		1368,1
		53.86
D		325
		12.80
E		739
		29.11
G		1479
		58.22
H		252
		9.92
I		425
		16.73
K		540
		21.26
L		480
		18.90
M		480
		18.90
N		540
		21.26
O		23
		.91
P		281,4
		11.08
R		60
		2.36
Total Oil Capacity (l/gal)		233
		61.3
Weight (kg/lbs)		390
		860
Filter Elements	Designation	RE-600 ...
	Quantity	2 x 6

Return Line Filter Housings / Complete Filters ▪ Type SRFL-S / D

SRFL - D	-	160	...	...	B	/	A	/	0	/	CS	/	D	/	X
1		2	3	4	5		6		7		8		9		10

1 Type

Return Line Simplex Housing	SRFL-S
Return Line Duplex Housing	SRFL-D

2 Group

Flow	Size
900 l/min / 240 US GPM	160
900 l/min / 240 US GPM	200
1400 l/min / 370 US GPM	300
1400 l/min / 370 US GPM	600
4000 l/min / 1050 US GPM	1200
4000 l/min / 1050 US GPM	1800
6000 l/min / 1580 US GPM	2400
7000 l/min / 1850 US GPM	3600

3 Filter Material

Material	Max. Δp*collapse	Micron ratings available	Code
Without filter element	-	-	...
Inorg. glass fibre	25 bar / 363 PSI	3, 5, 10, 20	G
Stainless fibre	30 bar / 435 PSI		A
Filter paper	10 bar / 145 PSI	10, 20	N
Stainless mesh	30 bar / 435 PSI	25, 50, 100, 200	S

* Note: Collapse/burst resistance as per ISO 2941. Other materials on request.

4 Micron Rating

3 µm	03
5 µm	05
10 µm	10
20 µm	20
25 µm	25
50 µm	50
100 µm	100
200 µm	200

Note: Other micron ratings on request.

5 Sealing Material

NBR (Buna®)	B
FPM (Viton®)	V

Note: Other sealing materials on request.

6 Connection Style

Connection Style	Group								Code
	160	200	300	600	1200	1800	2400	3600	
DIN Flange	DN 40	DN 50	DN 65	DN 80	DN 100	DN 125	DN 150	DN 200	D
ANSI Flange	1-1/2	2	2-1/2	3	4	5	6	8	A
SAE Flange	1-1/2	2	2-1/2	3	4	5	6	8	S

Note: SAE flange is not available for SRFL-D.

7 Connection Location

Opposite side*	0
Same side	S

* Note: Omit for SRFL-D series

8 Housing Material

Carbon Steel	CS
Stainless Steel	SS

9 Clogging Indicator

Without Clogging Indicator	0
Differential Pressure Switch with Visual Gauge Indicator	D

Note: Other indicators on request. See page C69.

10 Design Code

Only for information	X

Filter Elements ▪ Type RE

RE	-	160	G	10	B	/	X
1		2	3	4	5		6

1 Type

Filter Element Series	RE

2 Group

Designation	Filter Element Quantity		Size
	SRFL-S	SRFL-D	
RE-160	1x1	2x1	160
RE-200	1x1	2x1	200
RE-300	1x1	2x1	300
RE-600	1x1	2x1	600
RE-600	1x2	2x2	1200
RE-600	1x3	2x3	1800
RE-600	1x4	2x4	2400
RE-600	1x6	2x6	3600

3 Filter Material

Material	Max. Δp*collapse	Micron ratings available	Code
Inorg. glass fibre	25 bar / 363 PSI	3, 5, 10, 20	G
Stainless fibre	30 bar / 435 PSI		A
Filter paper	10 bar / 145 PSI	10, 20	N
Stainless mesh	30 bar / 435 PSI	25, 50, 100, 200	S

* Note: Collapse/burst resistance as per ISO 2941. Other materials on request.

4 Micron Rating

3 µm	03
5 µm	05
10 µm	10
20 µm	20
25 µm	25
50 µm	50
100 µm	100
200 µm	200

Note: Other micron ratings on request.

5 Sealing Material

NBR (Buna®)	B
FPM (Viton®)	V

Note: Other sealing materials on request

6 Design Code

Only for information	X

Return Line Filters ▪ Type SRFL-S / D

Filter Elements and Clogging Indicator

Product Description

STAUFF Replacement Filter Elements for SRFL-S and SRFL-D Series Filters are manufactured in the common filter materials such as Stainless Fibre, Stainless Mesh, Cellulose and Inorganic Glass Fibre. As standard all Replacement Elements series RE have tin plated steel parts for use with aggressive media such as water glycol, upon request you also can get other materials. All Replacement Elements made by STAUFF comply with quality specifications in accordance with international standards.



Order Code

RE	-	160	G	10	B	/	X
1		2	3	4	5		6

1 Type

Filter Element Series	**RE**

2 Group

According to filter housing	

Note: See order code page C68

3 Filter Material

Material	Max. Δp*collapse	Micron ratings available	Code
Inorg. glass fibre	25 bar / 363 PSI	3, 5, 10, 20	**G**
Stainless fibre	30 bar / 435 PSI		**A**
Filter paper	10 bar / 145 PSI	10, 20	**N**
Stainless mesh	30 bar / 435 PSI	25, 50, 100, 200	**S**

* Note: Collapse/burst resistance as per ISO 2941. Other materials on request.

4 Micron Rating

3 µm	**03**
5 µm	**05**
10 µm	**10**
20 µm	**20**
25 µm	**25**
50 µm	**50**
100 µm	**100**
200 µm	**200**

Note: Other micron ratings on request.

5 Sealing Material

NBR (Buna®)	**B**
FPM (Viton®)	**V**

Note: Other sealing materials on request.

6 Design Code

Only for information	**X**

Differential Pressure Switch with Visual Gauge Indicator

The switch is used to indicate when the elements need changing. The switch can turn on a light, shut down the machine or any further function controlled by an electrical signal. The gauge visually indicates the differential pressure across the filter elements.



Diameter
- 100 mm / 3.94 in

Scale
- 0 ... 1,6 kg/cm^2

Connection Thread
- G1/4

Operating Pressure
- Max. 200 bar / 2900 PSI

Temperature Range
- -20 °C ... +80 °C / -4 °F ... +176 °F

Materials
- Body: Aluminium
- Lens: Glass
- Sealing Material: NBR (Buna-N®), FPM (Viton®)

Protection Rating
- IP 65: Dust tight and protected against water jets.

Switch Voltage
- Max. 28 V AC/DC

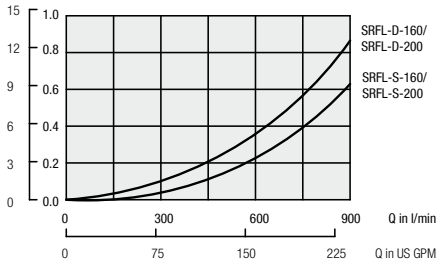
Current On Contact
- Max. 0,25 A

Contact Rating
- 5 VA AC/DC

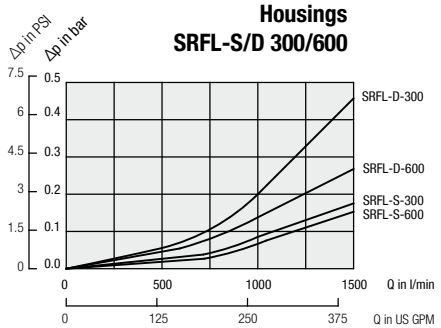
Return Line Filters ▪ Type SRFL-S / D Flow Characteristics

The following characteristics are valid for mineral oils with a density of 0,85 kg/dm³ and the kinematic viscosity of 30 mm²/s (30cSt). The characteristics have been determined in accordance to ISO 3968. Multipass filter ratings have been obtained in accordance to ISO 16889. The housing pressure drop is directly proportional to the oil density. Consult STAUFF for details.

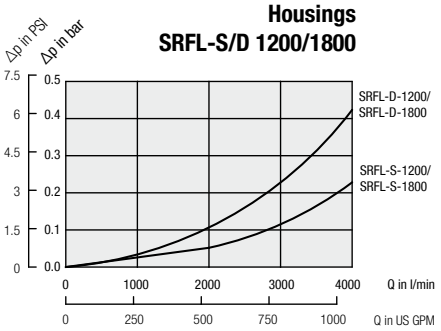
Housings SRFL-S/D 160/200



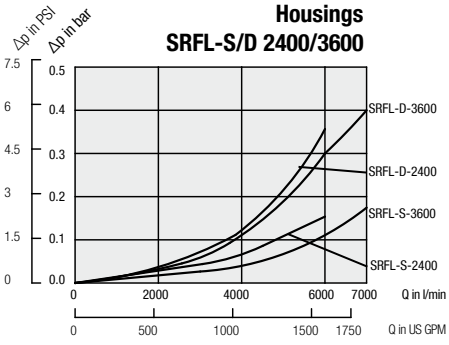
Housings SRFL-S/D 300/600



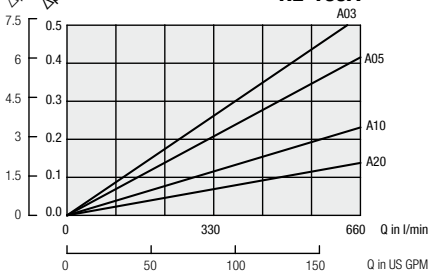
Housings SRFL-S/D 1200/1800



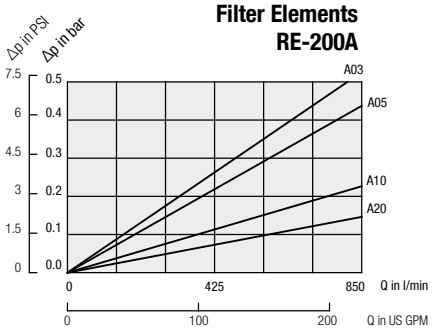
Housings SRFL-S/D 2400/3600



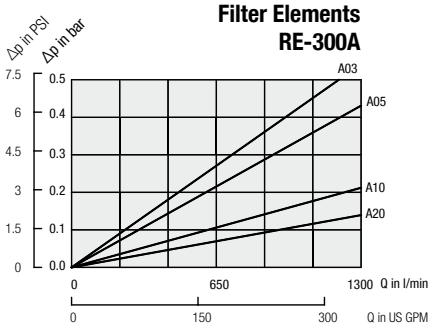
Filter Elements RE-160A



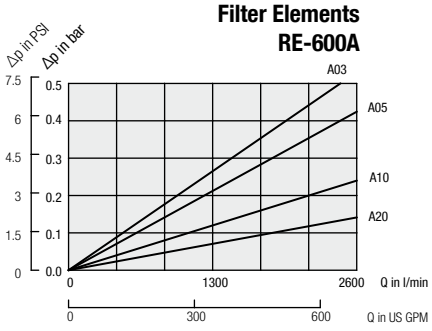
Filter Elements RE-200A



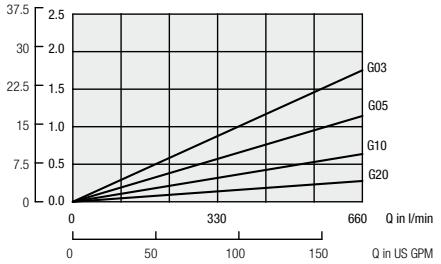
Filter Elements RE-300A



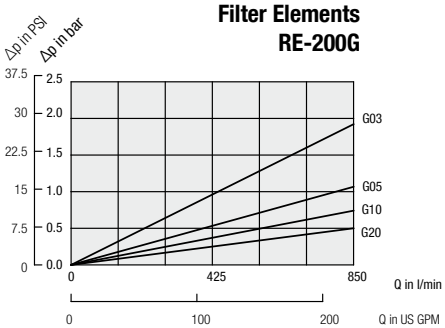
Filter Elements RE-600A



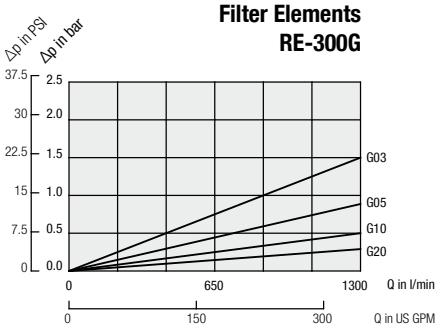
Filter Elements RE-160G



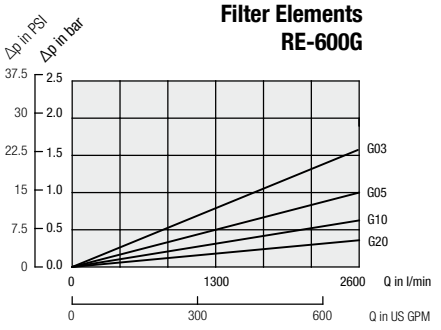
Filter Elements RE-200G



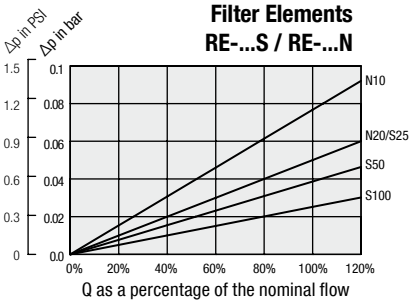
Filter Elements RE-300G



Filter Elements RE-600G



Filter Elements RE-...S / RE-...N



Q as a percentage of the nominal flow

Pressure drop of housing including filter elements

General: $\Delta p_{total} = \Delta p_{hous} + \Delta p_{Elem}$ x (operating viscosity [mm²/s] / 30mm²/s)

with Δp_{hous} = See diagrams above

Δp_{Elem} = pressure drop of element at a flow Q/n (at a viscosity of 30 mm²/s and n= numbers of elements as listed in ordering code filter elements see page C58 and diagrams above.)

Example

Data given Q_{max} = 6000 l/min / 1585 US GPM, SRFL-D-2400 with filter elements RE-600S25B; operating viscosity = 100 mm²/s

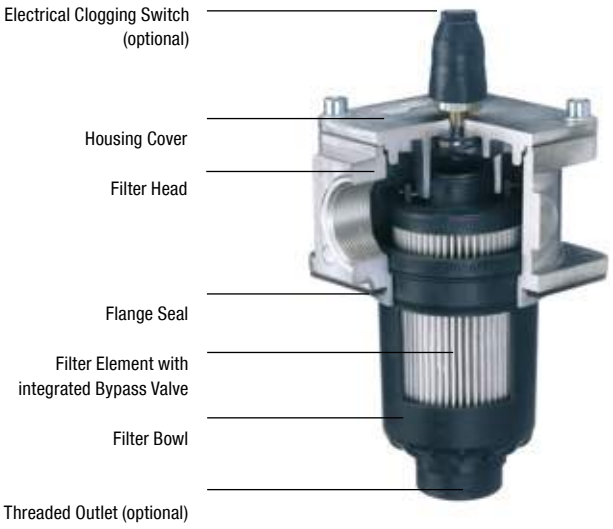
Q_{max} = 6000 l/min; n=4 elements (SRFL-D-2400) Q/n=1500 l/min / 396 gal

Δp_{hous} = 0,35 bar / 5.07 PSI, Δp_{Elem} =0,03 bar / 0.44 PSI

Pressure drop: Δp_{total} = 0,35 bar + 0,03 bar x (100 mm²/s / 30mm²/s)

= 0,45 bar / 6.53 PSI

Return Line Filters ▪ Type RF



Product Description

STAUFF RF Return Line Filters are designed as tank top filters. They are mounted directly on the tank top and when 100% of the system's oil is filtered they provide the optimum removal of contaminant from the system. This provides the pump with clean oil thus reducing contaminant generated wear. The filter bowl is designed to return the oil beneath the surface thus preventing the entrainment of air by the returning oil. A high efficiency of contaminant removal is assured by using STAUFF RE Replacement Filter Elements. The high dirt-hold capacity of STAUFF Elements ensures a long service life and as a result reduced maintenance costs.

Technical Data

Construction
- Tank Top flange mounting

Materials
- Filter head: Aluminium
- Filter bowl: Glass Fibre reinforced Polyamide
- Sealings: NBR (Buna-N®)
  FPM (Viton®)
  EPDM (Ethylene-Propylene-Diene-Monomer-Rubber)
  Other sealing materials on request

Port Connection
- BSP
- NPT
- SAE O-ring thread
- SAE flange 3000 PSI

Operating Pressure
- Max. 16 bar / 232 PSI

Temperature Range
- -10°C ... +100°C / +14°F ... +212°F

Filter Elements
- Specifications see page C74

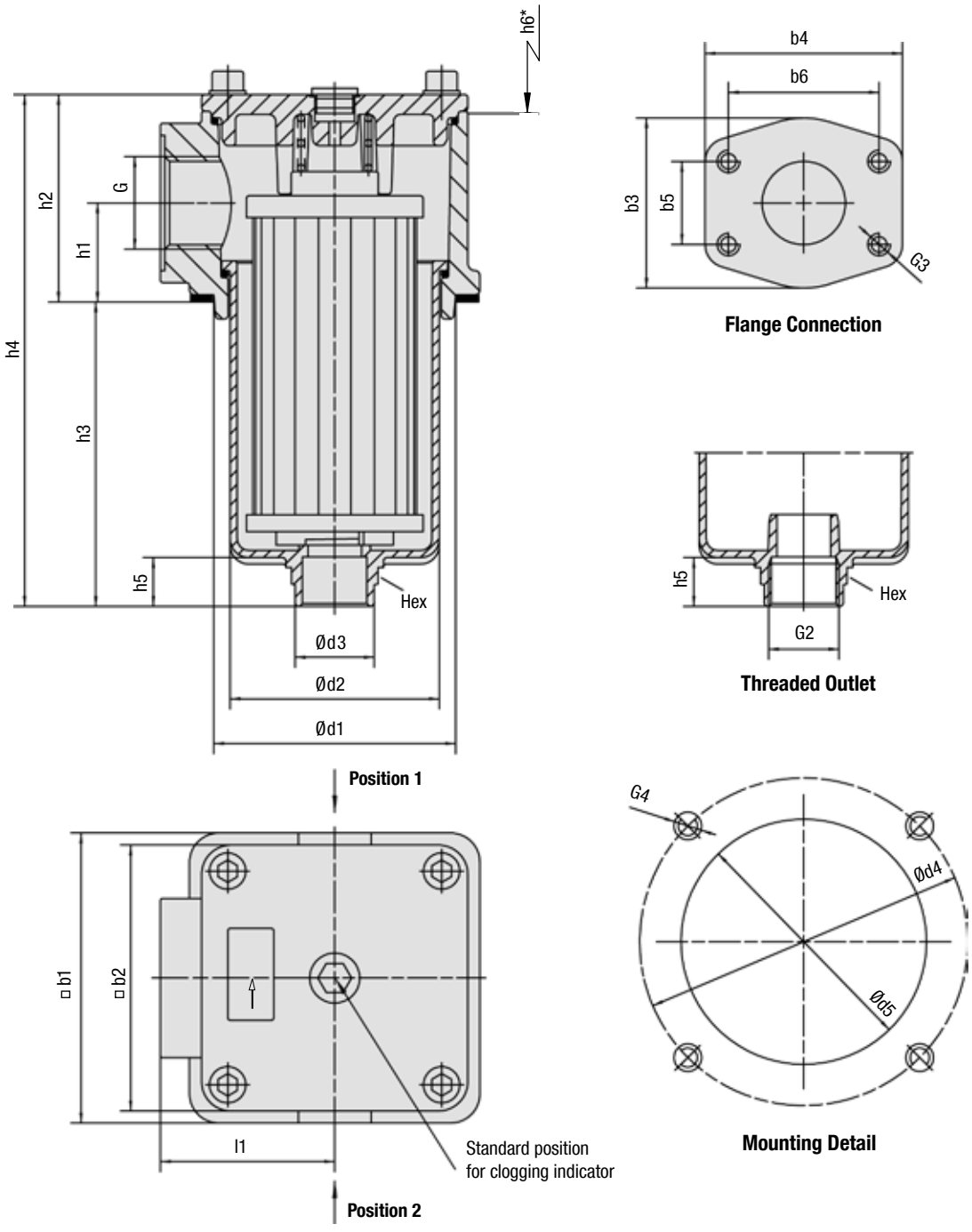
Media Compatibility
- Mineral oils, other fluids on request

Options and Accessories

Valve
- Bypass valve (integrated in the filter element) — Opening pressure 3 bar ± 0,3 bar / 43.5 PSI ± 4.35 PSI
  Other settings available on request

Clogging Indicators
- Visual clogging indicator 0 ... 4 bar / 0 ... 58 PSI coloured segments
- Electrical clogging switch, setting 2,5 bar / 36.25 PSI
  Other clogging indicators available on request

Return Line Filters ▪ Type RF



* recommended space for element change

Return Line Filters ▪ Type RF

Thread Connection G	Filter Size RF					
	014	030	045	070	090	130
BSP	3/4	1	1-1/4	1-1/2	2	2
NPT	3/4	1	1-1/4	1-1/2	2	2
SAE O-ring Thread	1-1/16–12	1-5/16–12	1-5/8–12	1-7/8–12	1-7/8–12	1-7/8–12
SAE Flange 3000 PSI	-	-	-	-	2	2

Dimensions (mm/in)	Filter Size RF					
	014	030	045	070	090	130
b1	89	89	120	120	150	150
	3.50	3.50	4.72	4.72	5.91	5.91
b2	80	80	110	110	135	135
	3.15	3.15	4.33	4.33	5.31	5.31
b3	-	-	-	-	88	88
					3.47	3.47
b4	-	-	-	-	102	102
					4.02	4.02
b5	-	-	-	-	42,9	42,9
					1.69	1.69
b6	-	-	-	-	77,8	77,8
					3.06	3.06
d1	73	73	100	100	126	126
	2.87	2.87	3.94	3.94	4.96	4.96
d2	57,5	57,5	84	84	112,5	112,5
	2.26	2.26	3.31	3.31	4.43	4.43
d3	36	36	48	48	54,5	54,5
	1.42	1.42	1.89	1.89	2.15	2.15
d4	100	100	135	135	170	170
	3.94	3.94	5.31	5.31	6.69	6.69
d5	78	78	105	105	131	131
	3.07	3.07	4.13	4.13	5.16	5.16
h1	33	33	41	41	47	47
	1.30	1.30	1.61	1.61	1.85	1.85
h2	66	66	86	86	98	98
	2.60	2.60	3.39	3.39	3.86	3.86
h3	91,5	159,5	119	180	172,5	252,5
	3.60	6.28	4.69	7.09	6.79	9.94
h4	157,5	225,5	206	267	273,5	353,5
	6.20	8.88	8.11	10.51	10.77	13.91
h5	23,5	23,5	24	24	27	27
	.93	.93	.95	.95	1.06	1.06
h6	140	210	180	240	235	315
	5.51	8.27	7.09	9.45	9.25	12.40
l1	48	48	66	66	85	85
	1.89	1.89	2.60	2.60	3.35	3.35
G2	G1 or 1 NPT	G1 or 1 NPT	G1-1/4 or 1-1/4 NPT	G1-1/4 or 1-1/4 NPT	G1-1/2 or 1-1/2 NPT	G1-1/2 or 1-1/2 NPT
G3	-	-	-	-	1/2 UNC x 15	1/2 UNC x 15
					1/2 UNC x .59	1/2 UNC x .59
G4	M6 or 1/4–20 UNC	M6 or 1/4–20 UNC	M8 or 5/16–18 UNC	M8 or 5/16–18 UNC	M10 or 3/8–16 UNC	M10 or 3/8–16 UNC
Hex	36	36	50	50	55	55
	1.42	1.42	1.97	1.97	2.16	2.16

Return Line Filter Housings / Complete Filters ▪ Type RF

RF	070	...	...	B	/	B	/	M	/	G	/	L1	/	X
1	2	3	4	5		6		7		8		9		10

1 Type

Return Line Filter	RF

2 Group

Flow	Size
60 l/min / 14 US GPM	014
110 l/min / 30 US GPM	030
160 l/min / 45 US GPM	045
240 l/min / 70 US GPM	070
330 l/min / 90 US GPM	090
500 l/min / 130 US GPM	130

Note: Exact flow will depend on filter element selected. Consult technical data on pages C76 / C77.

3 Filter Material

Material	max. Δp*collapse	Micron ratings available	Code
Without filter element	-	-	...
Inorg. glass fibre	25 bar / 363 PSI	3, 5, 10, 20	G
Stainless fibre	30 bar / 435 PSI		A
Filter paper	10 bar / 145 PSI	10, 20	N
Stainless mesh	30 bar / 435 PSI	25, 50, 100, 200	S

Note: *Collapse/burst resistance as per ISO 2941. Other materials on request.

4 Micron Rating

3 µm	03
5 µm	05
10 µm	10
20 µm	20
25 µm	25
50 µm	50
100 µm	100
200 µm	200

Note: Other micron ratings on request.

5 Sealing Materials

NBR (Buna®)	B
FPM (Viton®)	V
EPDM	E

Note: Other sealing materials on request

6 Connection Style

Connection Style	Group						Code
	014	030	045	070	090	130	
BSP	3/4	1	1-1/4	1-1/2	2	2	B
BSP	1/2	1/2	1-1/2	1-1/4	1-1/4	1-1/4	B1
BSP	1	3/4	-	-	1-1/2	1-1/2	B2
NPT	3/4	1	1-1/4	1-1/2	2	2	N
NPT	1	3/4	1-1/2	1-1/4	1-1/2	1-1/2	N1
SAE O-ring Thread	1-1/16	1-5/16	1-5/8	1-7/8	1-7/8	1-7/8	U
SAE O-ring Thread	1-5/16	1-1/16	1-7/8	1-5/8	1-5/8	1-5/8	U1
SAE Flange 3000 PSI	-	-	-	-	2	2	F

Note: Bold types identify preferred connection styles.

7 Clogging Indicator

	Position*		
Without Clogging Indicator	-		0
Visual Clogging Indicator	1	2	M
Electrical Clogging Switch 42 V, NO			G42NO
Electrical Clogging Switch 42 V, NC			G42NC
Electrical Clogging Switch 110 V, two-way contact			G110
Electrical Clogging Switch 230 V, two-way contact			G230

Note: *Position of clogging indicator see page C75. Without any code: assembly in the middle of the filter cover.

8 Outlet Style

Standard outlet (without thread)	O
Filter bowl with threaded outlet	G

9 Additional Features

	Position*		
Without leakage oil connection	-		none
Leakage oil connection	1	2	L

Note: *Position of the leakage oil connection see page C75 Without any code: assembly in the middle of the filter cover.

10 Design Code

Only for information	X

Filter Elements ▪ Type RE

RE	-	014	G	10	B	/	X
1		2	3	4	5		6

1 Type

Filter Element Series	RE

2 Group

According to filter housing

3 Filter Material

Material	Max. Δp*collapse	Micron ratings available	Code
Inorg. glass fibre	25 bar / 363 PSI	3, 5, 10, 20	G
Stainless fibre	30 bar / 435 PSI		A
Filter paper	10 bar / 145 PSI	10, 20	N
Stainless mesh	30 bar / 435 PSI	25, 50, 100, 200	S

Note: *Collapse/burst resistance as per ISO 2941. Other materials on request.

4 Micron Rating

3 µm	03
5 µm	05
10 µm	10
20 µm	20
25 µm	25
50 µm	50
100 µm	100
200 µm	200

Note: Other micron ratings on request.

5 Sealing Materials

NBR (Buna®)	B
FPM (Viton®)	V
EPDM	E

Note: Other sealing materials on request.

6 Design Code

Only for information	X

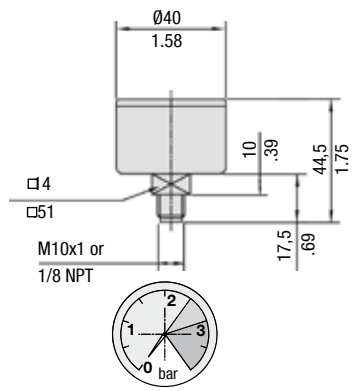
Return Line Filters ▪ Type RF

Visual Clogging Indicator

The gauge visually displays the degree of contamination of the element.
The colored segments allow quick visual checking.

green	0 ... 2,5 bar / 0 … 36.25 PSI	Element has service life left
yellow	2,5 ... 3,0 bar / 36.25 ... 43.5 PSI	Element is contaminated and should be changed
red	>3,0 bar / >43.5 PSI	Bypass valve open, unfiltered oil passing to tank

Visual Clogging Indicator

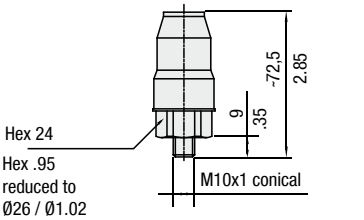


Electrical Clogging Switch

The switch is used where an electrical signal is needed to indicate when the element needs changing. The switch can turn on a light, or shut the machine down, or any further function controlled by an electric signal. The switching pressure is 2,5 bar / 36.25 PSI and this allows the element to be changed before the bypass setting of 3 bar / 43.5 PSI is reached.

Maximum Voltage	Switch Type
42 V (normally open)	G42NO
42 V (normally closed)	G42NC
110 V (two-way contact)	G110
230 V (two-way contact)	G230

Electrical Clogging Switch

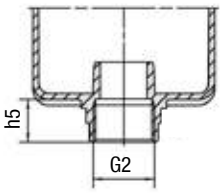


Dimensions in mm/in

Filter Bowl with Threaded Connection

Under some circumstances such as a tall reservoir or one with oil levels which vary greatly during operation, it is necessary to extend the filter bowl so that the returning oil returns beneath the surface and does not entrain air in the process. The optional bowl with a female thread allows an extension to be fitted quite simply. The one piece design also allows for inline applications.

Threaded Outlet

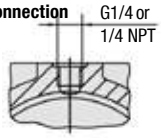


Dimensions see table page C63

Leakage Oil Connection

Seal or case drain lines can be connected to the filter through either of the clogging indicator ports providing that the leakage oil can accept a pressure of 3 bar / 43.5 PSI. It ensures that no unfiltered oil can return to the reservoir.

Leakage Oil Connection

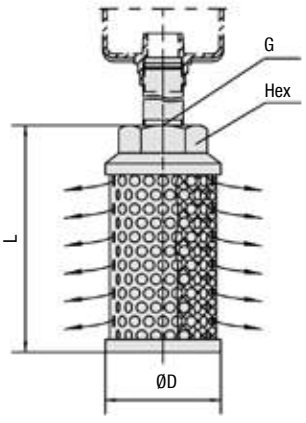


Filter Bowl with Threaded Connection and Diffuser

Diffusers mounted to the filter bowl minimise foaming and reduce noise of high return line flows. For further details on STAUFF Diffusers please refer to the “Hydraulic Accessories” section on page E46.
Attention: Connection pipe not included in scope of delivery!

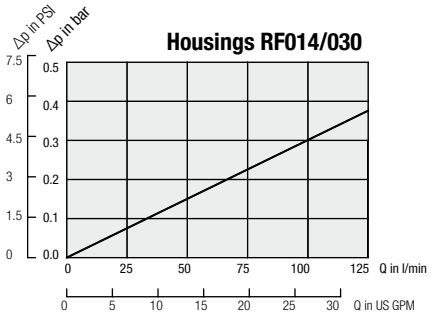
Size SRV	for Return Line Filter Size	Dimensions (mm/in)			
		øD	L	Thread G	Hex
SRV-114-B16	RF 014/030	60	139	G1	46
SRV-114-N16		2.36	5.47	1 NPT	1.81
SRV-200-B20	RF 045/070	82	139	G1-1/4	60
SRV-200-N20		3.23	5.47	1-1/4 NPT	2.36
SRV-227-B24	RF 090/130	82	200	G1-1/2	60
SRV-227-N24		3.23	7.87	1-1/2 NPT	2.36

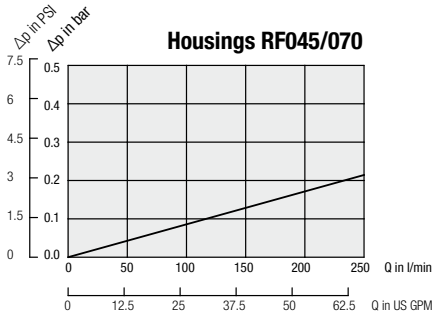
Threaded Outlet with SRV

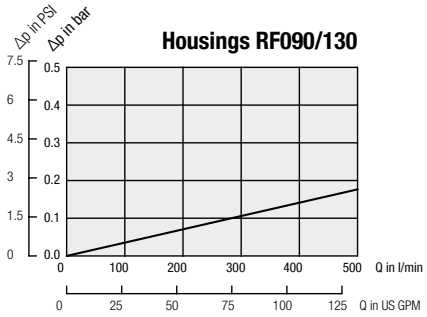


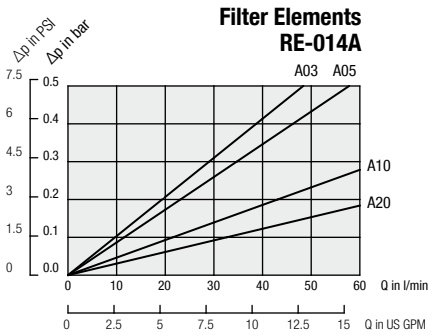
Return Line Filters ▪ Type RF Flow Characteristics

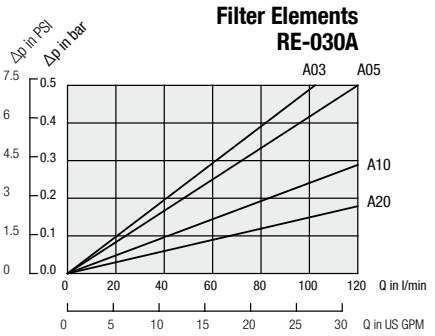
The following characteristics are valid for mineral oils with a density of 0,85 kg/dm³ and the kinematic viscosity of 30 mm²/s (30cSt). The characteristics have been determined in accordance to ISO 3968. Multipass filter ratings have been obtained in accordance to ISO 16889. The housing pressure drop is directly proportional to the oil density. Consult STAUFF for details.

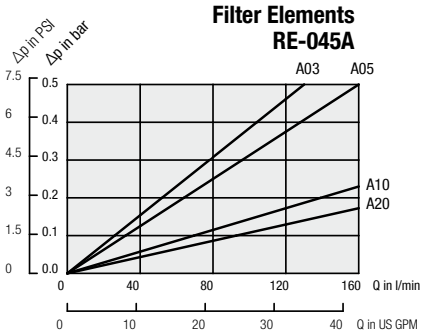


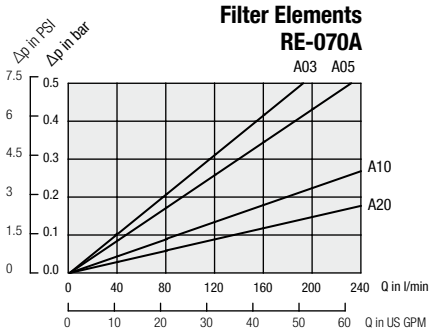


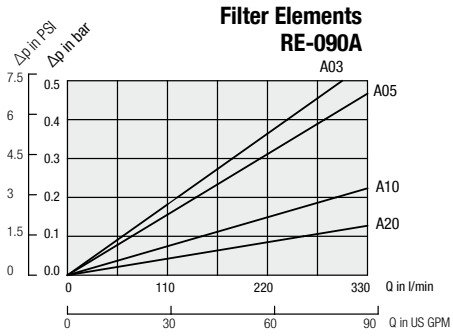


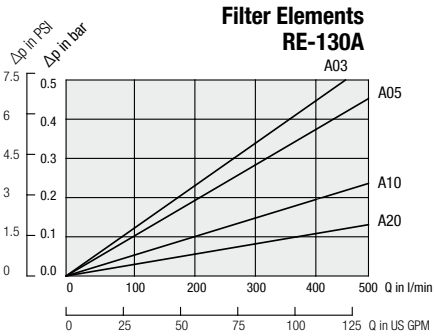


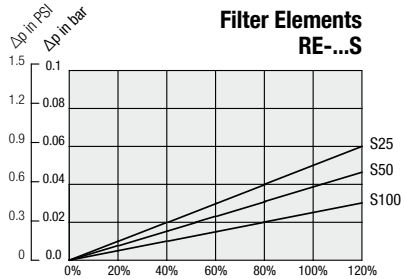




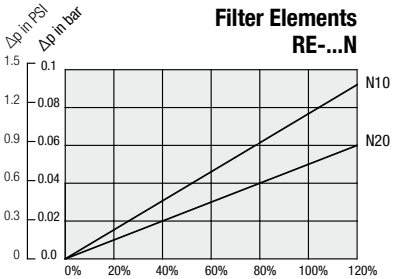








Q as a percentage of the nominal flow

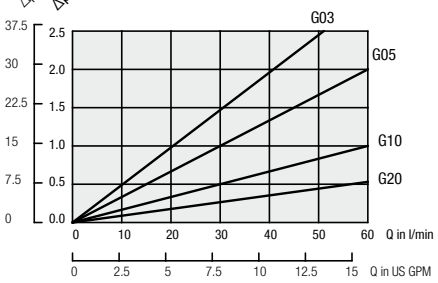


Q as a percentage of the nominal flow

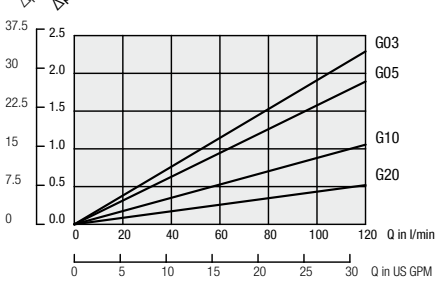
Return Line Filters ▪ Type RF Flow Characteristics

The following characteristics are valid for mineral oils with a density of 0,85 kg/dm³ and the kinematic viscosity of 30 mm²/s (30cSt). The characteristics have been determined in accordance to ISO 3968. Multipass filter ratings have been obtained in accordance to ISO 16889. The housing pressure drop is directly proportional to the oil density. Consult STAUFF for details.

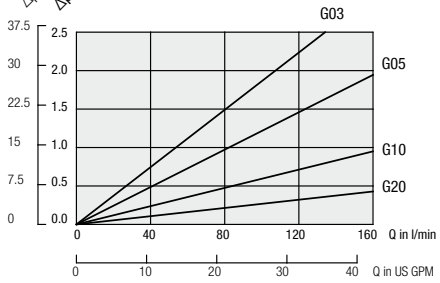
Filter Elements RE-014G



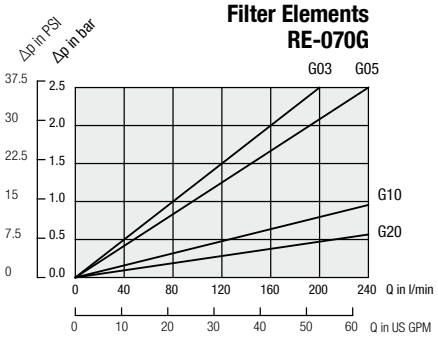
Filter Elements RE-030G



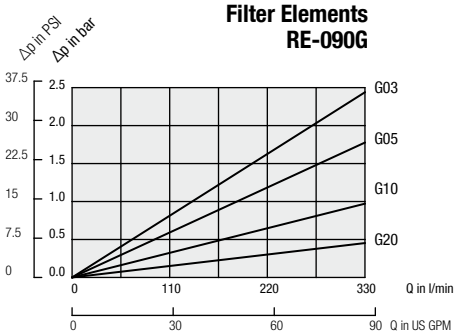
Filter Elements RE-045G



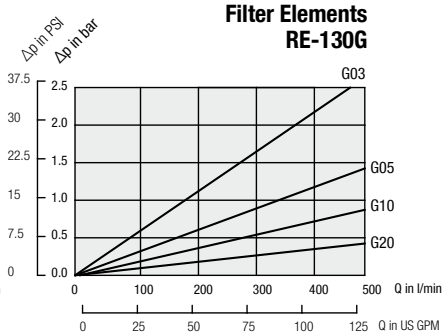
Filter Elements RE-070G



Filter Elements RE-090G



Filter Elements RE-130G



Return Line Filters ▪ Type RFA



Product Description

STAUFF RFA Return Line Filters are a one piece design and can be used as a tank top or an in-line filter. They are mounted in the return line and if 100% of the system oil is filtered, provide the optimum removal of contaminant for the systems. This provides the pump with clean oil, thus reducing contaminant generated wear. A high efficiency of contaminant removal is assured by using STAUFF RE Replacement Filter Elements. The high dirt-hold capacity of STAUFF Elements ensures a long service life and as a result reduced maintenance costs.

Technical Data

Construction
- Tank Top or in-line mounting

Materials
- Filter housing: Aluminium
- Sealings: NBR (Buna-N®)
  FPM (Viton®)
  EPDM (Ethylene Propylene Diene Monomer Rubber)
  Other sealing materials on request

Port Connection
- SAE O-ring thread

Operating Pressure
- Max. 25 bar / 365 PSI

Temperature Range
- -10°C ... +100°C / +14°F ... +212°F

Filter Elements
- Specifications see page C82

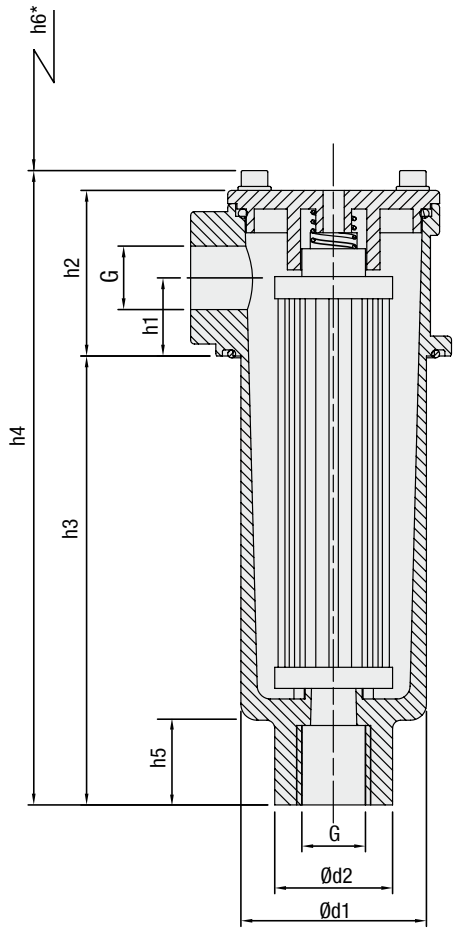
Media Compatibility
- Mineral oils, other fluids on request

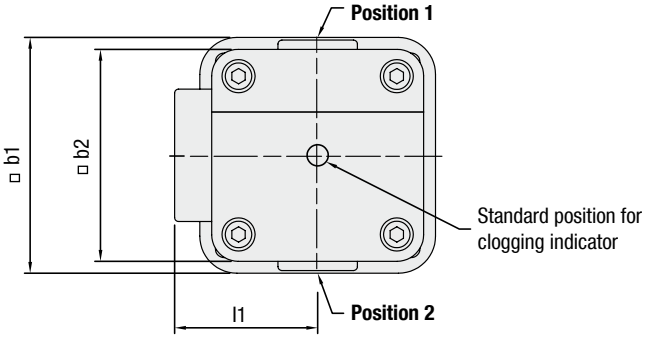
Options and Accessories

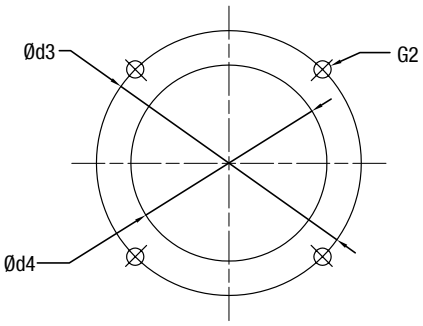
Valve
- Bypass valve (integrated in the filter element): Opening pressure 3 bar ± 0,3 bar / 43.5 PSI ± 4.35 PSI
  Other settings available on request

Clogging Indicators
- Visual clogging indicator 0 ... 4 bar / 0 ... 58 PSI coloured segments
- Electrical clogging switch, setting 2,5 bar / 36.25 PSI
  Other clogging indicators available on request

Return Line Filters ▪ Type RFA







Mounting Detail

* recommended space for element change

Return Line Filters ▪ Type RFA

Thread Connection G	Filter Size RFA030
SAE O-ring Thread U	1-1/16–12
SAE O-ring Thread U1	3/4–16

Dimensions (mm/in)	Filter Size RFA030
h1	25,5 1.16
h2	62,5 2.46
h3	169,5 6.67
h4	239,5 9.43
h5	32 1.26
h6	210 8.27
b1	89 3.50
b2	80 3.15
d1	70 2.76
d2	44,5 1.75
d3	100 3.94
d4	74 2.91
l1	54 2.16
G2	M6 or 1/4 UNC

Return Line Filter Housings / Complete Filters ▪ Type RFA

RFA	030	...	...	B	/	U	/	M	/	G	/	L1	/	X
1	2	3	4	5		6		7		8		9		10

1 Type

Return Line Filter	**RFA**

2 Group

Flow	Size
110 l/min / 30 US GPM	**030**

Note: Exact flow will depend on filter element selected. Consult technical data on pages C84.

3 Filter Material

Material	Max. Δp*collapse	Micron ratings available	Code
Without filter element	-	-	**...**
Inorg. glass fibre	25 bar / 363 PSI	3, 5, 10, 20	**G**
Stainless fibre	30 bar / 435 PSI		**A**
Filter paper	10 bar / 145 PSI	10, 20	**N**
Stainless mesh	30 bar / 435 PSI	25, 50, 100, 200	**S**

Note: *Collapse/burst resistance as per ISO 2941. Other materials on request.

4 Micron Rating

3 µm	**03**
5 µm	**05**
10 µm	**10**
20 µm	**20**
25 µm	**25**
50 µm	**50**
100 µm	**100**
200 µm	**200**

Note: Other micron ratings on request.

5 Sealing Material

NBR (Buna®)	**B**
FPM (Viton®)	**V**
EPDM	**E**

Note: Other sealing materials on request

6 Connection Style

Connection Style	Thread	Code
SAE-O-ring Thread	1-1/16–12	**U**
SAE-O-ring Thread	3/4–16	**U1**

7 Clogging Indicator

	Position*		Code
Without Clogging Indicator	-		**0**
Visual Clogging Indicator	1	2	**M**
Electrical Clogging Switch 42 V, NO			**G42NO**
Electrical Clogging Switch 42 V, NC			**G42NC**
Electrical Clogging Switch 110 V, two-way contact			**G110**
Electrical Clogging Switch 230 V, two-way contact			**G230**

Note: *Position of clogging indicator see page C83. Without any code: assembly in the middle of the filter cover.

8 Outlet Style

Standard outlet (without thread)	**0**
Filter bowl with threaded outlet	**G**

9 Additional Features

	Position*		
Without leakage oil connection	-		**none**
Leakage oil connection	1	2	**L**

Note: *Position of the leakage oil connection see page C83. Without any code: assembly in the middle of the filter cover.

10 Design Code

Only for information	**X**

Filter Elements ▪ Type RE

RE	-	030	G	10	B	/	X
1		2	3	4	5		6

1 Type

Filter Element Series	**RE**

2 Group

According to filter housing

3 Filter Material

Material	Max. Δp*collapse	Micron ratings available	Code
Inorg. glass fibre	25 bar / 363 PSI	3, 5, 10, 20	**G**
Stainless fibre	30 bar / 435 PSI		**A**
Filter paper	10 bar / 145 PSI	10, 20	**N**
Stainless mesh	30 bar / 435 PSI	25, 50, 100, 200	B, **S**

Note: *Collapse/burst resistance as per ISO 2941. Bold types identify preferred material. Other materials on request.

4 Micron Rating

3 µm	**03**
5 µm	**05**
10 µm	**10**
20 µm	**20**
25 µm	**25**
50 µm	**50**
100 µm	**100**
200 µm	**200**

Note: Other micron ratings on request.

5 Sealing Material

NBR (Buna®)	**B**
FPM (Viton®)	**V**
EPDM	**E**

Note: Other sealing materials on request.

6 Design Code

Only for information	**X**

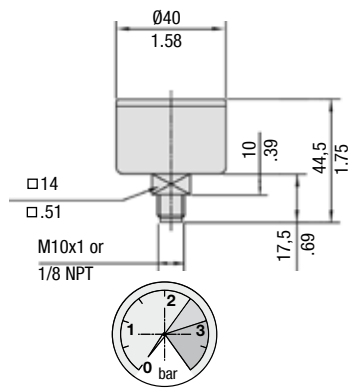
Return Line Filters ▪ Type RFA

Visual Clogging Indicator

The gauge visually displays the degree of contamination of the element.
The colored segments allow quick visual checking.

green	0 ... 2,5 bar / 0 … 36.25 PSI	Element has service life left
yellow	2,5 ... 3,0 bar / 36.25 ... 43.5 PSI	Element is contaminated and should be changed
red	>3,0 bar / >43.5 PSI	Bypass valve open, unfiltered oil passing to tank

Visual Clogging Indicator

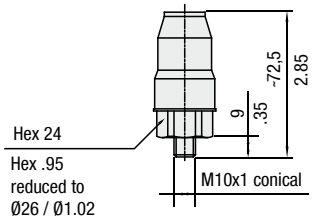


Electrical Clogging Switch

The switch is used where an electrical signal is needed to indicate when the element needs changing. The switch can turn on a light, or shut the machine down, or any further function controlled by an electric signal. The switching pressure is 2,5 bar / 36.25 PSI and this allows the element to be changed before the bypass setting of 3 bar / 43.5 PSI is reached.

Maximum Voltage	Switch Type
42 V (normally open)	G42NO
42 V (normally closed)	G42NC
110 V (two-way contact)	G110
230 V (two-way contact)	G230

Electrical Clogging Switch

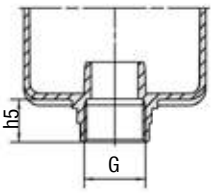


Dimensions in mm/in

Filter Bowl with Threaded Connection

Under some circumstances such as a tall reservoir or one with oil levels which vary greatly during operation, it is necessary to extend the filter bowl so that the returning oil returns beneath the surface and does not entrain air in the process. The optional bowl with a female thread allows an extension to be fitted quite simply. The one piece design also allows for inline applications.

Threaded Outlet

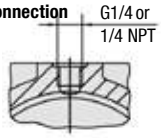


Dimensions see table page C81

Leakage Oil Connection

Seal or case drain lines can be connected to the filter through either of the clogging indicator ports providing that the leakage oil can accept a pressure of 3 bar / 43.5 PSI. It ensures that no unfiltered oil can return to the reservoir.

Leakage Oil Connection

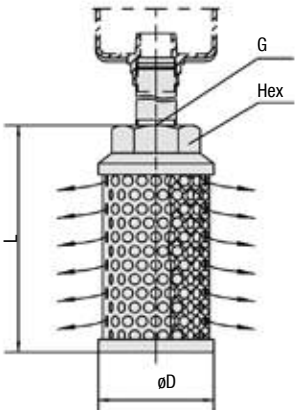


Filter Bowl with Threaded Connection and Diffuser

Diffusers mounted to the filter bowl minimise foaming and reduce noise of high return line flows. For further details on STAUFF Diffusers please refer to the “Hydraulic Accessories” section on page E46.
Attention: Connection pipe not included in scope of delivery!

Size SRV	for Return Line Filter Size	Dimensions (mm/in)			
		øD	L	Thread G	Hex
SRV-114-B16	RFA030	60	139	G1	46
SRV-114-N16		2.36	5.47	1 NPT	1.81

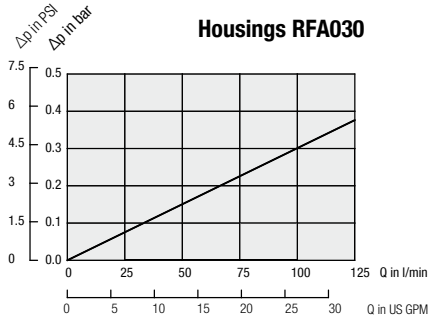
Threaded Outlet with SRV



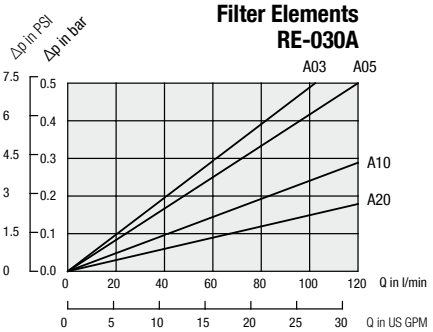
Return Line Filters ▪ Type RFA Flow Characteristics

The following characteristics are valid for mineral oils with a density of 0,85 kg/dm³ and the kinematic viscosity of 30 mm²/s (30cSt). The characteristics have been determined in accordance to ISO 3968. Multipass filter ratings have been obtained in accordance to ISO 16889. The housing pressure drop is directly proportional to the oil density. Consult STAUFF for details.

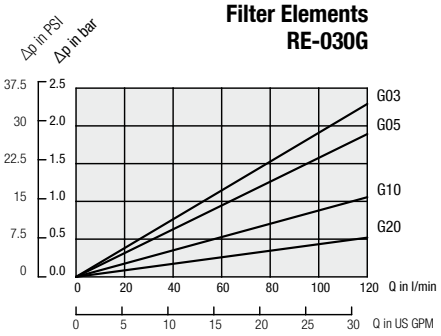
Housings RFA030



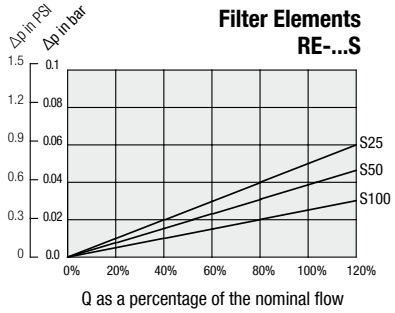
Filter Elements RE-030A



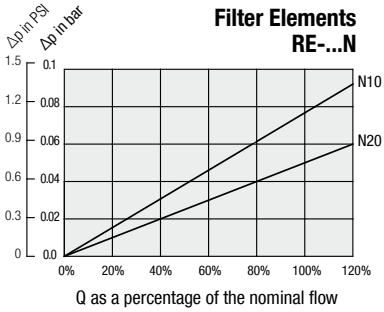
Filter Elements RE-030G



Filter Elements RE-...S



Filter Elements RE-...N



Return Line Filters ▪ Type RFB



Product Description

STAUFF RFB Return Line Filters are designed as tank top filters. They are mounted directly on the tank top and if 100% of the system oil is filtered they provide the optimum removal of contaminant from the system. This provides the pump with clean oil thus reducing contaminant generated wear. Because of it's low weight and compact design, the STAUFF RFB Filters are ideally suited for mobile hydraulic applications. A high efficiency of contaminant removal is assured by using STAUFF RE Replacement Filter Elements. The high dirt-hold capacity of STAUFF Elements ensures a long service life and as a result reduced maintenance costs.

Technical Data

Construction
- Tank Top flange mounting

Materials
- Filter head: Aluminium
- Filter bowl & cap: Glass Fibre Reinforced Polyamide
- Sealings: NBR (Buna-N®)
  FPM (Viton®)
  EPDM (Ethylene Propylene Diene Monomer Rubber)
  Other sealing materials on request

Port Connection
- BSP
- NPT
- SAE O-ring thread

Operating Pressure
- Max. 10 bar / 145 PSI

Temperature Range
- -10°C ... +100°C / +14°F ... +212°F

Filter Elements
- Specifications see page C88

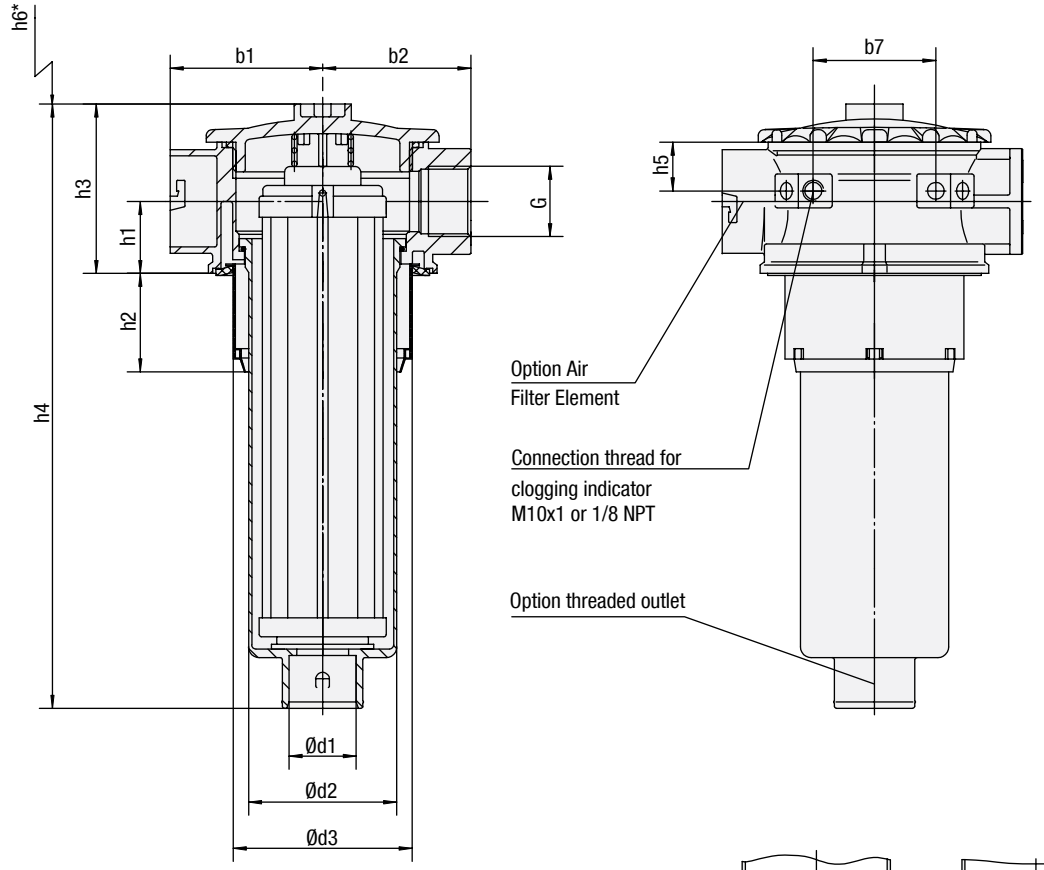
Media Compatibility
- Mineral oils, other fluids on request

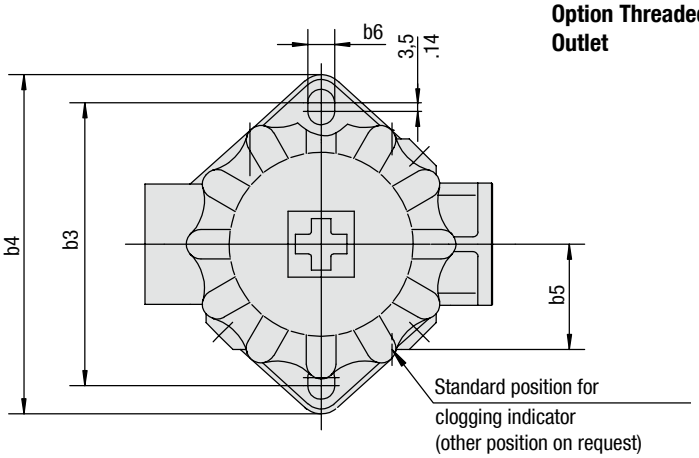
Options and Accessories

Valve
- Bypass valve (integrated in the filter element): Opening pressure 3 bar ± 0,3 bar / 43.5 PSI ± 4.35 PSI
  Other settings available on request

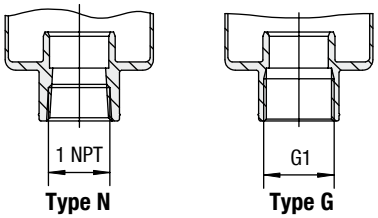
Clogging Indicators
- Visual clogging indicator 0 ... 4 bar / 0 ... 58 PSI coloured segments
- Electrical clogging switch, setting 2,5 bar / 36.25 PSI
  Other clogging indicators available on request

Return Line Filters ▪ Type RFB

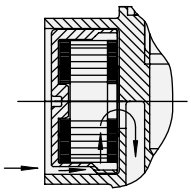




Option Threaded Outlet



Option Air Filter Element



* recommended space for element change

Return Line Filters ▪ Type RFB

Thread Connection G	Filter Size RFB					
	022		046		052	
BSP	3/4	1	3/4	1	3/4	1
NPT	3/4	1	3/4	1	3/4	1
SAE O-ring Thread	1-5/16–12					

Dimensions (mm/in)	Filter Size RFB		
	022	046	052
h1	34 1.34	34 1.34	34 1.34
h2	46,5 1.83	46,5 1.83	46,5 1.83
h3	80 3.15	80 3.15	80 3.15
h4	205,5 8.09	285,5 11.24	351,5 13.84
h5	23 .91	23 .91	23 .91
h6	154 6.26	239 9.41	305 12.01
d1	32 1.26	32 1.26	32 1.26
d2	70 2.76	70 2.76	70 2.76
d3	84,5 3.33	84,5 3.33	84,5 3.33
b1	72 2.84	72 2.84	72 2.84
b2	70 2.76	70 2.76	70 2.76
b3	115,5 4.55	115,5 4.55	115,5 4.55
b4	138,5 5.45	138,5 5.45	138,5 5.45
b5	43 1.69	43 1.69	43 1.69
b6	11 .43	11 .43	11 .43
b7	58 2.28	58 2.28	58 2.28

Return Line Filter Housings / Complete Filters ▪ Type RFB

RFB 022 ... ... B / B / M / G / L10 / X

1 2 3 4 5 6 7 8 9 10

1 Type

Return Line Filter	RFB

2 Group

Flow	Size
75 l/min / 22 US GPM	022
165 l/min / 46 US GPM	046
185 l/min / 52 US GPM	052

Note: Exact flow will depend on filter element selected. Consult technical data on pages C90.

3 Filter Material

Material	Max. Δp*collapse	Micron ratings available	Code
Without filter element	-	-	...
Inorg. glass fibre	25 bar / 363 PSI	3, 5, 10, 20	G
Stainless fibre	30 bar / 435 PSI		A
Filter paper	10 bar / 145 PSI	10, 20	N
Stainless mesh	30 bar / 435 PSI	10, 25, 50, 100, 200	S

Note: *Collapse/burst resistance as per ISO 2941. Other materials on request.

4 Micron Rating

3 µm	03
5 µm	05
10 µm	10
20 µm	20
25 µm	25
50 µm	50
100 µm	100
200 µm	200

Note: Other micron ratings on request.

5 Sealing Material

NBR (Buna®)	B
FPM (Viton®)	V
EPDM	E

Note: Other sealing materials on request.

6 Connection Style

Connection Style	Group			Code
	022	046	052	
BSP	1			B
BSP	3/4			B1
NPT	1			N
NPT	3/4			N1
SAE-O-ring Thread	1-5/16–12			U

Note: Bold types identify preferred connection style.

7 Clogging Indicator

	Position*		Code
Without Clogging Indicator	-		0
Visual Clogging Indicator	1	2	M
Electrical Clogging Switch 42 V, NO			G42NO
Electrical Clogging Switch 42 V, NC			G42NC
Electrical Clogging Switch 110 V, two-way contact			G110
Electrical Clogging Switch 230 V, two-way contact			G230

Note: *Position of clogging indicator see page C89. Without any code: assembly in the middle of the filter cover.

8 Outlet Style

Standard outlet (without thread)	0
With thread G1	G
With thread 1 NPT	N

9 Air Filter Element

Withour Air Filter Element	0
Filter paper 10 micron	L10

Note: Other materials and micron ratings on request.

10 Design Code

Only for information	X

Filter Elements ▪ Type RE

RE - 022 G 10 B / X

1 2 3 4 5 6

1 Type

Filter Element Series	RE

2 Group

According to filter housing

3 Filter Material

Material	Max. Δp*collapse	Micron ratings available	Code
Inorg. glass fibre	25 bar / 363 PSI	3, 5, 10, 20	G
Stainless fibre	30 bar / 435 PSI		A
Filter paper	10 bar / 145 PSI	10, 20	N
Stainless mesh	30 bar / 435 PSI	25, 50, 100, 200	S

Note: *Collapse/burst resistance as per ISO 2941. Other materials on request.

4 Micron Rating

3 µm	03
5 µm	05
10 µm	10
20 µm	20
25 µm	25
50 µm	50
100 µm	100
200 µm	200

Note: Other micron ratings on request.

5 Sealing Material

NBR (Buna®)	B
FPM (Viton®)	V
EPDM	E

Note: Other sealing materials on request.

6 Design Code

Only for information	X

Air Filter Elements

REA - 046 L 10 B / X

1 2 3 4 5 6

1 Type

Air Filter Element	REA

2 Group

Air filter for RFB 022/046/052	046

3 Filter Material

Filter Paper	L

Note: Other materials on request.

4 Micron Rating

10µm	10

Note: Other micron ratings on request.

5 Design Code

Only for information	X

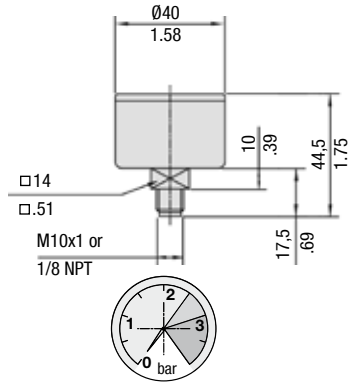
Return Line Filters ▪ Type RFB

Visual Clogging Indicator

The gauge visually displays the degree of contamination of the element.
The colored segments allow quick visual checking.

green	0 ... 2,5 bar / 0 … 36.25 PSI	Element has service life left
yellow	2,5 ... 3,0 bar / 36.25 ... 43.5 PSI	Element is contaminated and should be changed
red	>3,0 bar / >43.5 PSI	Bypass valve open, unfiltered oil passing to tank

Visual Clogging Indicator

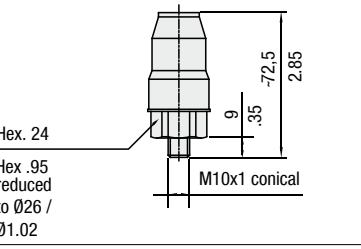


Electrical Clogging Switch

The switch is used where an electrical signal is needed to indicate when the element needs changing. The switch can turn on a light, or shut the machine down, or any further function controlled by an electric signal. The switching pressure is 2,5 bar / 36.25 PSI and this allows the element to be changed before the bypass setting of 3 bar / 43.5 PSI is reached.

Maximum Voltage	Switch Type
42 V (normally open)	G42NO
42 V (normally closed)	G42NC
110 V (two-way contact)	G110
230 V (two-way contact)	G230

Electrical Clogging Switch

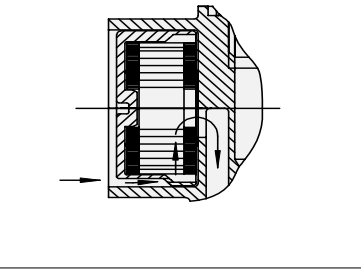


Dimensions in mm / in

Air Filter Element

Allows an effective filtration of the incoming air which avoids the infiltration of dirt particles into the hydraulic system. The standard air filter element is a 10 micron cellulose; other materials and micron ratings on request.

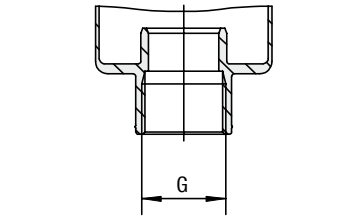
Air Filter



Filter Bowl with Threaded Connection

Under some circumstances such as a tall reservoir or one with oil levels which vary greatly during operation, it is necessary to extend the filter bowl so that the returning oil returns beneath the surface and does not entrain air in the process. The optional bowl with a female thread allows an extension to be fitted quite simply.

Threaded Outlet

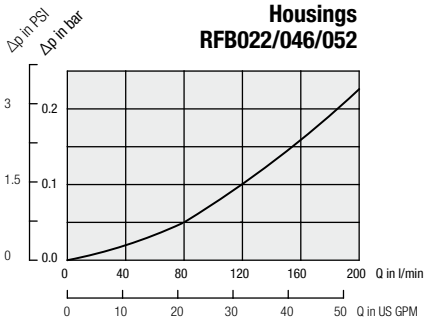


Dimension see page C87

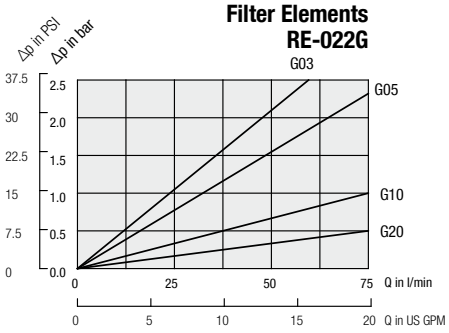
Return Line Filters ▪ Type RFB Flow Characteristics

The following characteristics are valid for mineral oils with a density of 0,85 kg/dm³ and the kinematic viscosity of 30 mm²/s (30cSt). The characteristics have been determined in accordance to ISO 3968. Multipass filter ratings have been obtained in accordance to ISO 16889. The housing pressure drop is directly proportional to the oil density. Consult STAUFF for details.

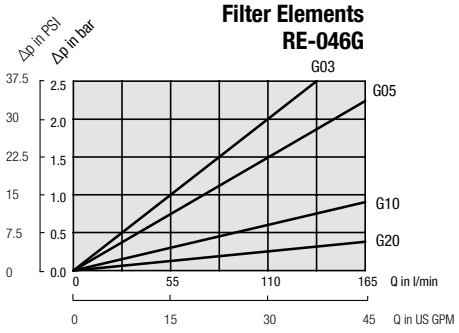
Housings RFB022/046/052



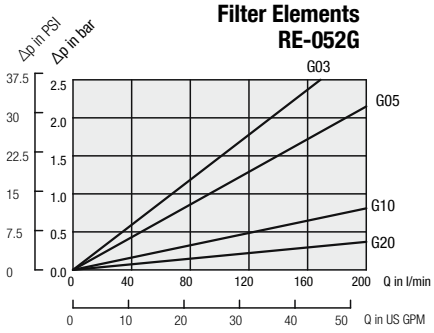
Filter Elements RE-022G



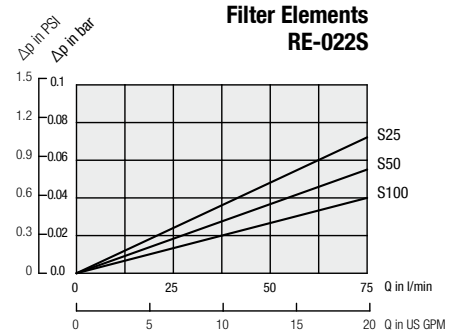
Filter Elements RE-046G



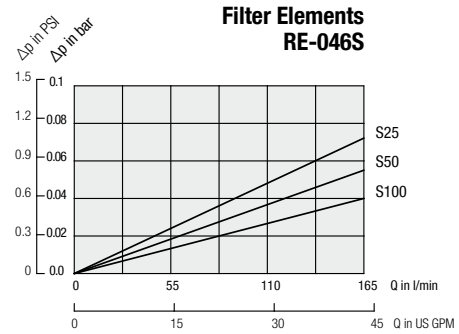
Filter Elements RE-052G



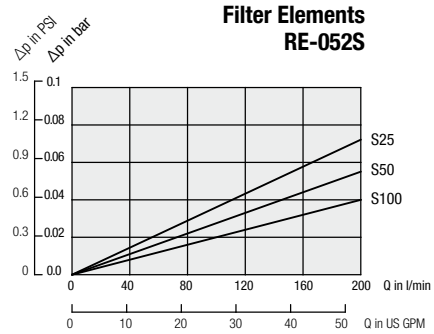
Filter Elements RE-022S



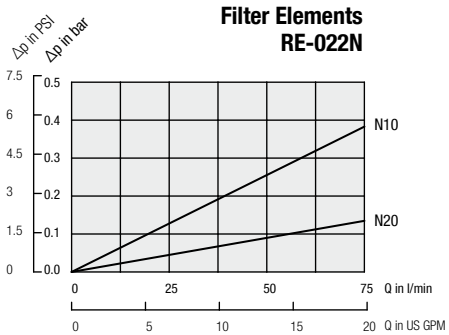
Filter Elements RE-046S



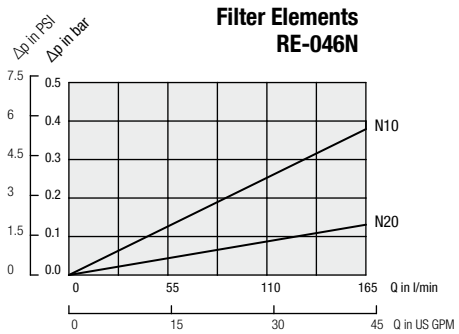
Filter Elements RE-052S



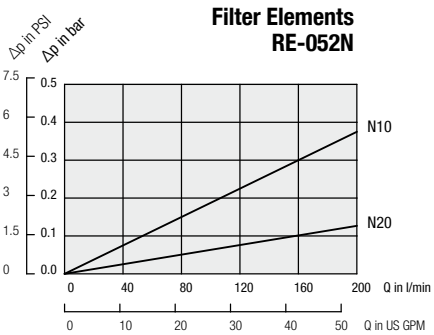
Filter Elements RE-022N



Filter Elements RE-046N



Filter Elements RE-052N



Return Line Filters ▪ Type RFS



Product Description

STAUFF RFS Carbon Steel Return Line Filters are designed as tank top or in-line filters. They are mounted directly on the tank top and if 100% of the system oil is filtered, they provide the optimum removal of contaminants from the system. This provides the pump with clean oil thus reducing contaminant generated wear. The filter bowl is designed with a connection, threaded or flanged, for extending the return oil beneath the surface thus preventing the entrainment of air. A high efficiency of contaminant removal is assured by using STAUFF RE Replacement Filter Elements. The high dirt-hold capacity of STAUFF Elements ensures a long service life and as a result reduced maintenance costs.

Technical Data

Construction
- Tank Top mounting or in-line mounting

Materials
- Filter Housing: Carbon Steel
- Sealings: NBR (Buna-N®)
  FPM (Viton®)
  EPDM (Ethylene Propylene Diene Monomer Rubber)
  Other sealing materials on request

Port Connection
- BSP
- SAE flange 3000 PSI

Flow Rating
- Up to 1135 l/min / 300 US GPM

Operating Pressure
- Max. 25 bar / 365 PSI

Proof Pressure
- Min. 37,5 bar / 545 PSI

Temperature Range
- -10°C ... +100°C / +14°F ... +212°F

Filter Elements
- Specifications see page C94

Media Compatibility
- Mineral oils, other fluids on request

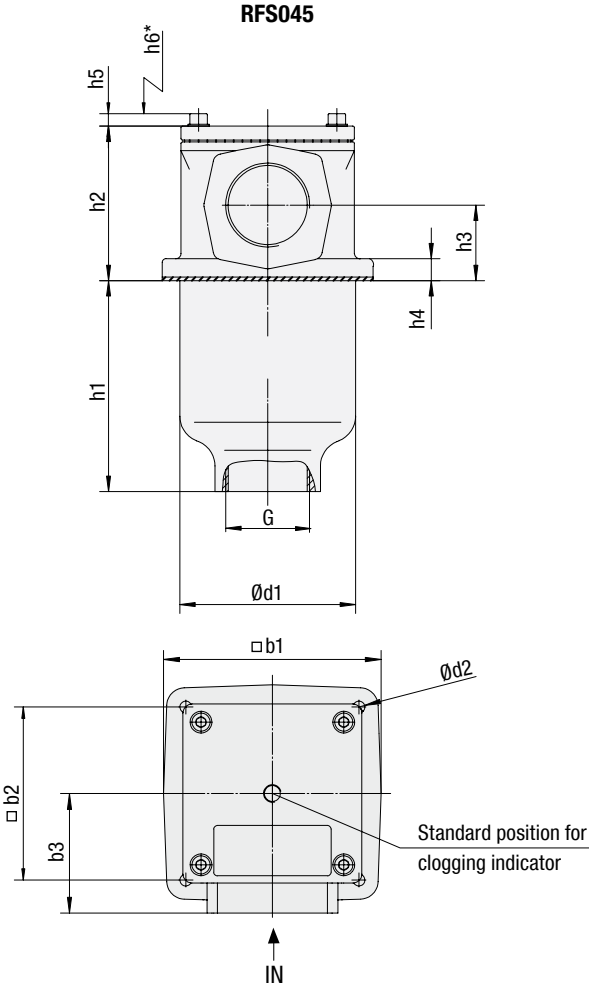
Options and Accessories

Valves
- Bypass valve (integrated in the filter element): Opening pressure 3 bar ± 0,3 bar / 43.5 PSI ± 4.35 PSI
  Other settings available on request

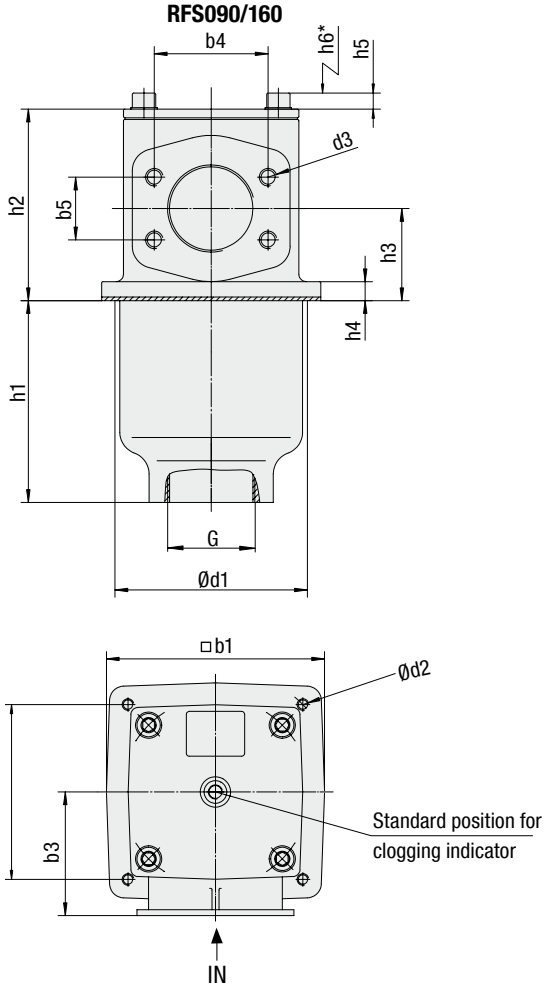
Clogging Indicators
- Visual clogging indicator 0...4 bar / 0...58 PSI coloured segments
- Electrical clogging switch, setting 2,5 bar / 36.25 PSI
  Other clogging indicators available on request

Return Line Filters ▪ Type RFS

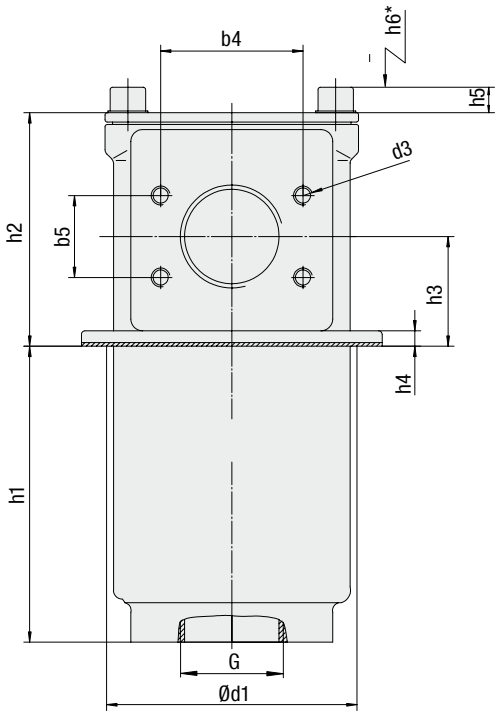
RFS045



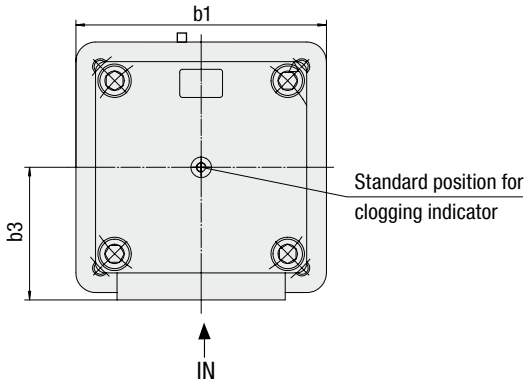
RFS090/160



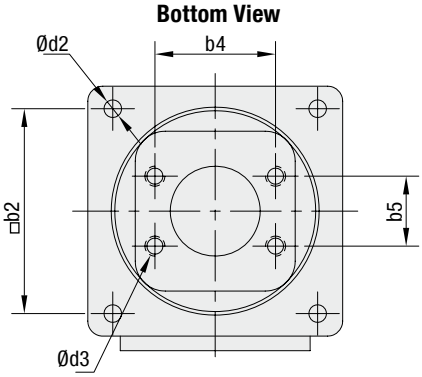
RFS250/300



Top View



Bottom View



* recommended space for element change

Return Line Filters ▪ Type RFS

Thread Connection		Filter Size RFS				
		045	090	160	250	300
Inlet	BSP	1-1/2	2	-	-	-
	SAE Flange	-	2	3	3-1/2	4
Outlet G	BSP	1-1/2	2	3	-	-
	SAE Flange	-	-	-	3-1/2	4

Dimensions (mm/in)	Filter Size RFS				
	045	090	160	250	300
b1	120	150	196	255	255
	4.72	5.91	7.72	10.04	10.04
b2	95,5	120	155,5	205	205
	3.76	4.72	6.12	8.07	8.07
b3	66	85	110	135	145
	2.60	3.35	4.33	5.32	5.71
b4	-	77,8	106,4	120,7	130,2
		3.06	4.19	4.75	5.13
b5	-	42,9	61,9	69,5	77,8
		1.69	2.44	2.74	3.06
d1	100	135	180	208	208
	3.94	5.32	7.09	8.19	8.19
d2	6,5	9	13,5	17,5	17,5
	.26	.35	.53	.69	.69
d3	-	M12	M16	M16	M16
		1/2-UNC	5/8-UNC	5/8 UNC	5/8 UNC
h1	120	138	243	251	332
	4.72	5.43	9.57	9.88	13.07
h2	88	131	167	198	241
	3.47	5.16	6.57	7.80	9.49
h3	43	63	84	93	121
	1.69	2.48	3.31	3.66	4.76
h4	13	13	13	13	13
	.51	.51	.51	.51	.51
h5	7	12	12	12	12
	.28	.47	.47	.47	.47
h6	130	180	320	350	460
	5.11	7.09	12.60	13.78	18.11

Return Line Filter Housings / Complete Filters ▪ Type RFS

RFS	250	...	...	B	/	F	/	M	/	F	/	X
1	2	3	4	5		6		7		8		9

1 Type

Carbon Steel Return Line Filter	RFS

2 Group

Flow	Size
170 l/min / 45 US GPM	045
340 l/min / 90 US GPM	090
600 l/min / 160 US GPM	160
945 l/min / 250 US GPM	250
1135 l/min / 300 US GPM	300

Note: Exact flow will depend on filter element selected. Consult technical data on pages C96 / C97.

3 Filter Material

Material	Max. Δp*collapse	Micron ratings available	Code
Without filter element	-	-	...
Inorg. glass fibre	25 bar / 363 PSI	3, 5, 10, 20	G
Stainless fibre	30 bar / 435 PSI		A
Filter paper	10 bar / 145 PSI	10, 20	N
Stainless mesh	30 bar / 435 PSI	25, 50, 100, 200	S

Note: *Collapse/burst resistance as per ISO 2941. Other materials on request.

4 Micron Rating

3 µm	03
5 µm	05
10 µm	10
20 µm	20
25 µm	25
50 µm	50
100 µm	100
200 µm	200

Note: Other micron ratings on request.

5 Sealing Material

NBR (Buna®)	B
FPM (Viton®)	V
EPDM	E

Note: Other sealing materials on request.

6 Connection Style

Connection Style	Group					Code
	045	090	160	250	300	
BSP	1-1/2	2	-	-	-	G
SAE Flange 3000 PSI	-	2	3	3-1/2	4	F

7 Clogging Indicator

	Position*		Code
Without Clogging Indicator	-		0
Visual Clogging Indicator	1	2	M
Electrical Clogging Switch 42 V, NO			G42NO
Electrical Clogging Switch 42 V, NC			G42NC
Electrical Clogging Switch 110 V, two-way contact			G110
Electrical Clogging Switch 230 V, two-way contact			G230

Note: *Position of clogging indicator see page C95. Without any code: assembly in the middle of the filter cover.

8 Outlet Style

Connection Style	Group					Thread Style	Code
	045	090	160	250	300		
BSP	1-1/2	2	3	-	-	-	G
SAE Flange 3000 PSI	-	-	-	3-1/2	4	metric	FM
SAE Flange 3000 PSI	-	-	-	3-1/2	4	UNC	FU

9 Design Code

Only for information	X

Filter Elements ▪ Type RE

RE	-	250	G	10	B	/	X
1		2	3	4	5		6

1 Type

Filter Element Series	RE

2 Group

According to filter housing

3 Filter Material

Material	Max. Δp*collapse	Micron ratings available	Code
Inorg. glass fibre	25 bar / 363 PSI	3, 5, 10, 20	G
Stainless fibre	30 bar / 435 PSI		A
Filter paper	10 bar / 145 PSI	10, 20	N
Stainless mesh	30 bar / 435 PSI	25, 50, 100, 200	S

Note: *Collapse/burst resistance as per ISO 2941. Other materials on request.

4 Micron Rating

3 µm	03
5 µm	05
10 µm	10
20 µm	20
25 µm	25
50 µm	50
100 µm	100
200 µm	200

Note: Other micron ratings on request.

5 Sealing Material

NBR (Buna®)	B
FPM (Viton®)	V
EPDM	E

Note: Other sealing materials on request.

6 Design Code

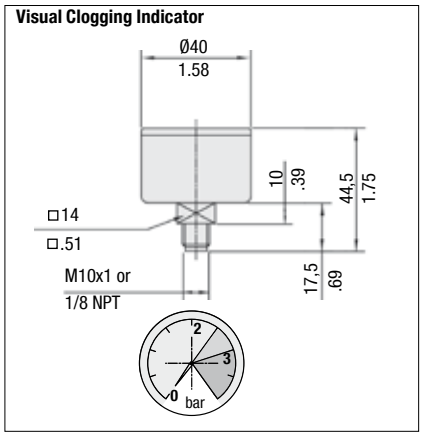
Only for information	X

Return Line Filters ▪ Type RFS

Visual Clogging Indicator

The gauge visually displays the degree of contamination of the element.
The colored segments allow quick visual checking.

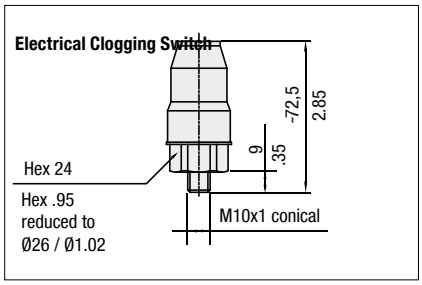
green	0 ... 2,5 bar / 0 … 36.25 PSI	Element has service life left
yellow	2,5 ... 3,0 bar / 36.25 ... 43.5 PSI	Element is contaminated and should be changed
red	>3,0 bar / >43.5 PSI	Bypass valve open, unfiltered oil passing to tank



Electrical Clogging Switch

The switch is used where an electrical signal is needed to indicate when the element needs changing. The switch can turn on a light, or shut the machine down, or any further function controlled by an electric signal. The switching pressure is 2,5 bar / 36.25 PSI and this allows the element to be changed before the bypass setting of 3 bar / 43.5 PSI is reached.

Maximum Voltage	Switch Type
42 V (normally open)	G42NO
42 V (normally closed)	G42NC
110 V (two-way contact)	G110
230 V (two-way contact)	G230



Dimensions in mm / in

Replacement Filter Elements RE Series

Product Description

STAUFF RE Replacement Filter Elements are manufactured in the common filter materials such as Stainless Fibre, Stainless Mesh, Cellulose and Inorganic Glass Fibre. As standard all Replacement Elements RE have tin plated steel parts for use with aggressive media such as water glycol, upon request you also can get other materials. All Replacement Elements made by STAUFF comply with quality specifications in accordance with international standards.



Order Code

RE	-	250	G	10	B	/	X
1		2	3	4	5		6

1 Type

Filter Element Series	RE

2 Group

According to filter housing

Note: See order code page C94.

3 Filter Material

Material	Max. Δp*collapse	Micron ratings available	Code
Inorg. glass fibre	25 bar / 363 PSI	3, 5, 10, 20	G
Stainless fibre	30 bar / 435 PSI		A
Filter paper	10 bar / 145 PSI	10, 20	N
Stainless mesh	30 bar / 435 PSI	25, 50, 100, 200	S

Note: *Collapse/burst resistance as per ISO 2941.
Other materials on request.

4 Micron Rating

3 µm	03
5 µm	05
10 µm	10
20 µm	20
25 µm	25
50 µm	50
100 µm	100
200 µm	200

Note: Other micron ratings on request.

5 Sealing Material

NBR (Buna®)	B
FPM (Viton®)	V
EPDM	E

Note: Other sealing materials on request.

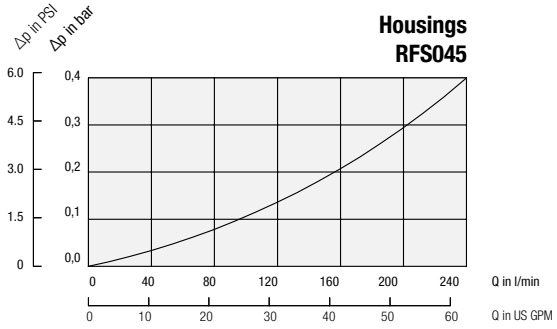
6 Design Code

Only for information	X

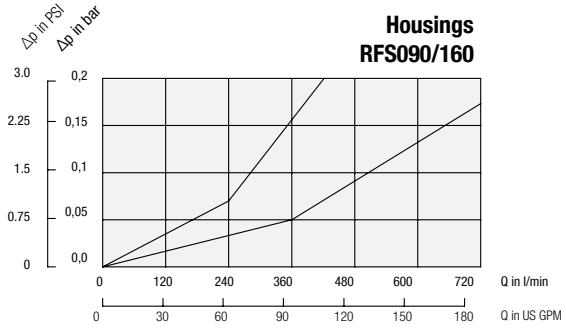
Return Line Filters ▪ Type RFS Flow Characteristics

The following characteristics are valid for mineral oils with a density of 0,85 kg/dm³ and the kinematic viscosity of 30 mm²/s (30cSt). The characteristics have been determined in accordance to ISO 3968. Multipass filter ratings have been obtained in accordance to ISO 16889. The housing pressure drop is directly proportional to the oil density. Consult STAUFF for details.

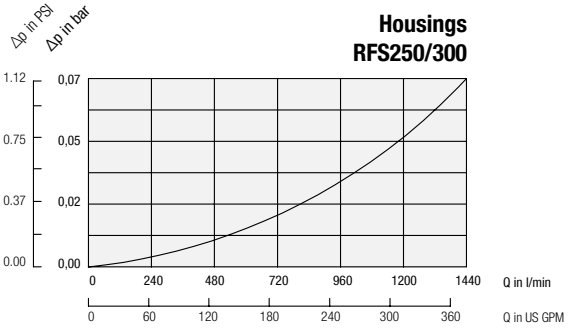
Housings RFS045



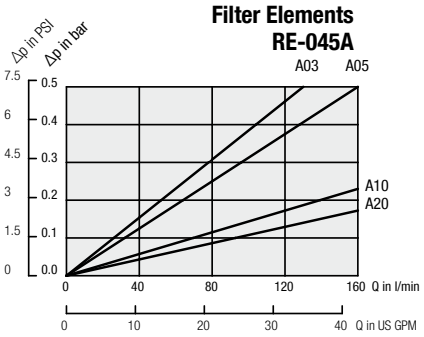
Housings RFS090/160



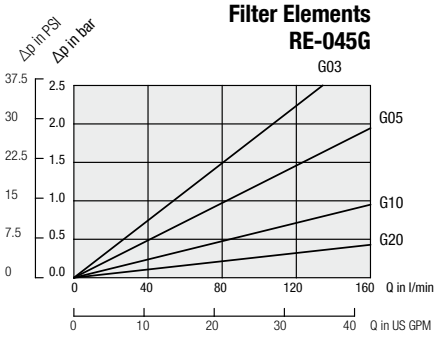
Housings RFS250/300



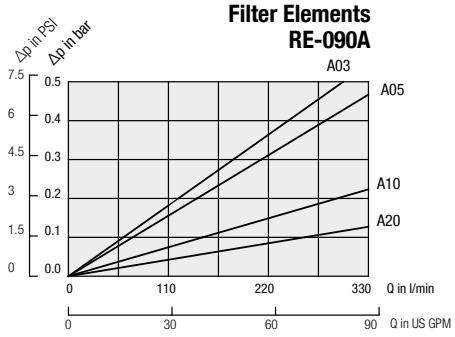
Filter Elements RE-045A



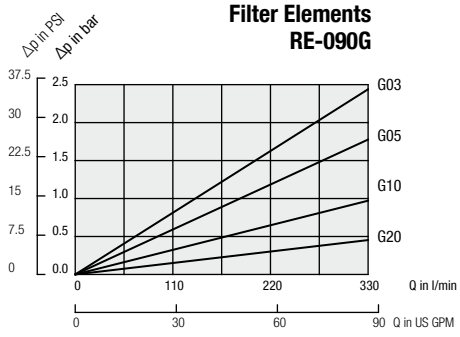
Filter Elements RE-045G



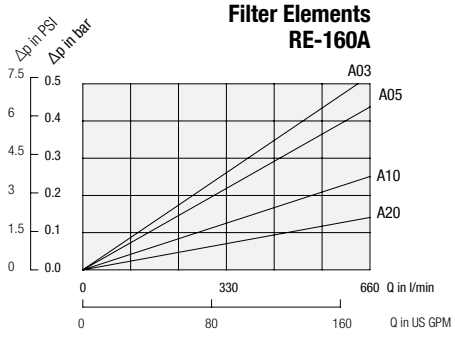
Filter Elements RE-090A



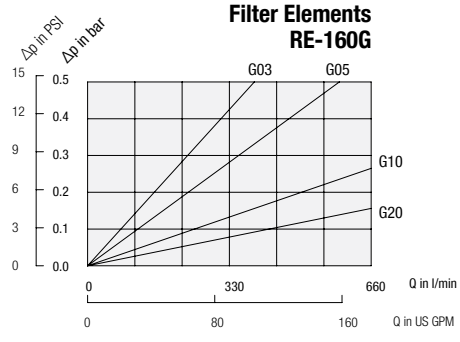
Filter Elements RE-090G



Filter Elements RE-160A



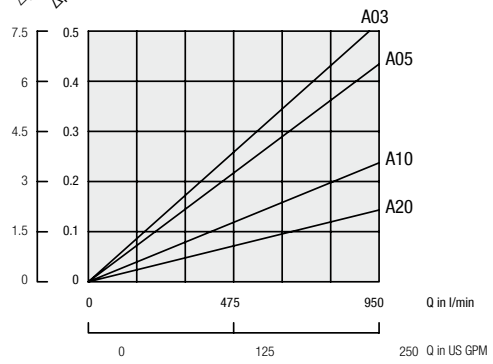
Filter Elements RE-160G



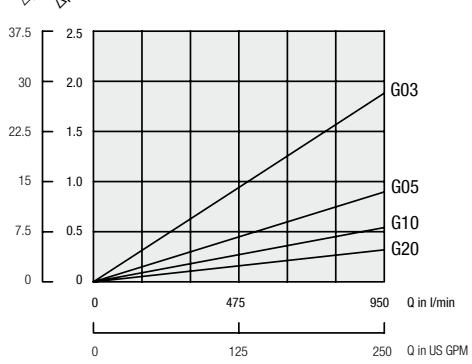
Return Line Filters ▪ Type RFS Flow Characteristics

The following characteristics are valid for mineral oils with a density of 0,85 kg/dm³ and the kinematic viscosity of 30 mm²/s (30cSt). The characteristics have been determined in accordance to ISO 3968. Multipass filter ratings have been obtained in accordance to ISO 16889. The housing pressure drop is directly proportional to the oil density. Consult STAUFF for details.

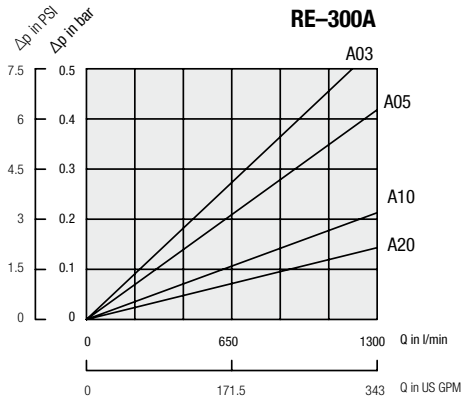
Filter Elements RE-250A



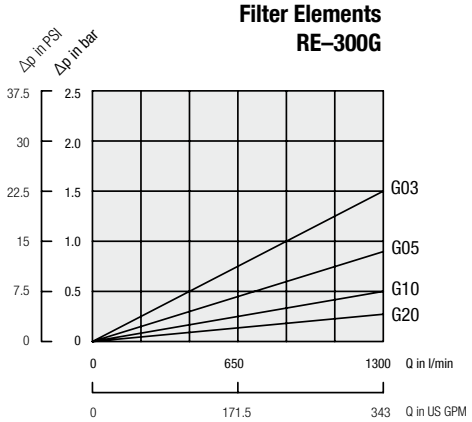
Filter Elements RE-250G



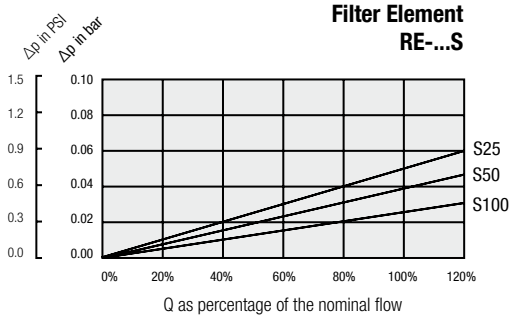
Filter Elements RE–300A



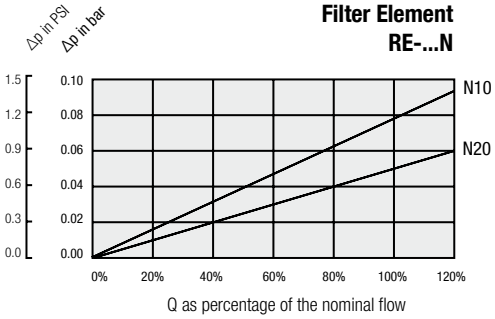
Filter Elements RE–300G



Filter Element RE-...S



Filter Element RE-...N



Return Line Filters ▪ Type RIF300



Product Description

STAUFF RIF300 Return Line Filters are designed for in-line hydraulic applications with a maximum working pressure of 34,5 bar / 500 PSI. Used together with STAUFF Filter Elements, a high efficiency of contaminant removal is assured.

Technical Data

Construction
- In-line assembly

Materials
- Filter head: Aluminium
- Filter bowl: Steel
- Filter cover: Cast Iron
- Sealings: NBR (Buna-N®)
  FPM (Viton®)
  Other sealing materials on request

Port Connection
- SAE Code 61 flange

Flow Rating
- Up to 1135 l/min / 300 US GPM

Operating Pressure
- Max. 34,5 bar / 500 PSI

Burst Pressure
- Min. 103 bar / 1500 PSI

Temperature Range
- -10°C ... +100°C / +14°F ... +212°F

Filter Elements
- Specifications see page C101

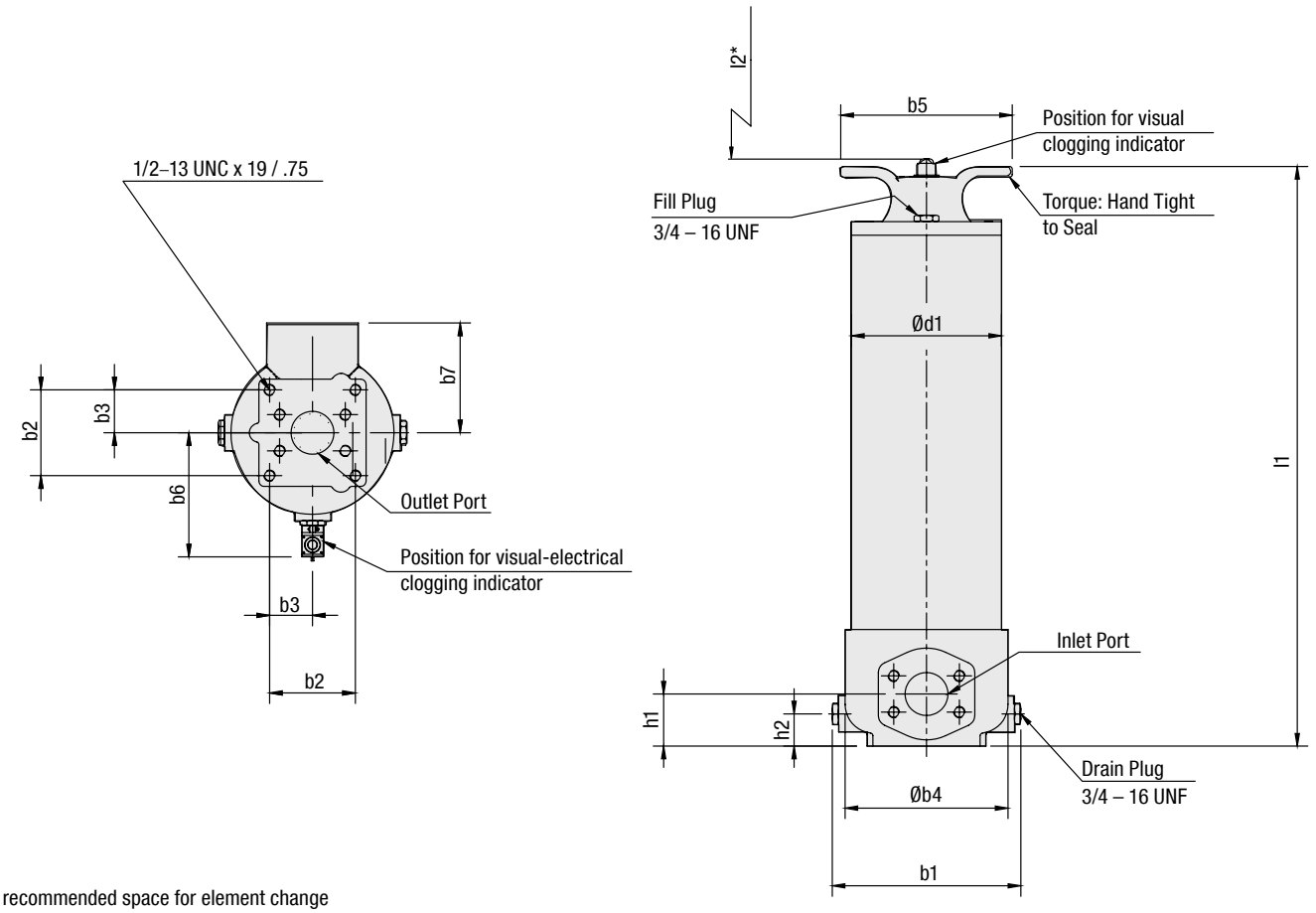
Media Compatibility
- Mineral oils, other fluids on request

Options and Accessories

Valve
- Bypass valve (integrated in the filter element): Opening pressure 3,4 $^{+0,35}$ bar / 50 $^{+5}$ PSI
  Allows unfiltered oil to bypass the contaminated element once the opening pressure has been reached
  Other settings available on request

Clogging Indicators
- Visual clogging indicator 2,4 bar / 35 PSI
- Visual-electrical clogging indicator 2,4 bar / 35 PSI
  Other clogging indicators available on request

Return Line Filters ▪ Type RIF300



* recommended space for element change

Dimensions in mm / in

Dimensions (mm/in)	Filter Size RIF
	300
b1	220,4
	8.68
b2	101,6
	4
b3	50,8
	2
b4	193
	7.60
b5	186,44
	7.34
b6	153,1
	6.03
b7	127
	5
d1	184,1
	7.25
h1	61,7
	2.43
h2	38,1
	1.50
l1	1204
	47.40
l2	991
	39
Weight (kg/lbs)	39,2
	86.2

Return Line Filter Housings / Complete Filters ▪ Type RIF300

RIF	300	...	...	B	/	F	/	B	/	V	/	X
1	2	3	4	5		6		7		8		9

1 Type

Return Line Filter	RIF

2 Group

With Standard Element	300
With Deep Pleat Element	310

3 Filter Material

Material	Max. Δp*collapse	Micron ratings available	Code
Without filter element	-	-	...
Inorg. glass fibre (only RIF300)	30 bar / 435 PSI	3, 5, 10, 20	E
Inorg. glass fibre (only RIF310)	6,9 bar / 100 PSI	1, 3, 5, 10	E
Water removal (only RIF300)	6,9 bar / 100 PSI	10	EW

Note: *Collapse/burst resistance as per ISO 2941.
Other materials on request.

4 Micron Rating

1 µm	01
3 µm	03
5 µm	05
10 µm	10
20 µm	20

Note: Other micron ratings on request.

5 Sealing Material

NBR (Buna®)	B
FPM (Viton®)	V

Note: Other sealing materials on request.

6 Connection Style

Connection Style	Thread	Code
SAE Code 61 Flange	2-1/2	F

7 Valve

Without Valve	0
With Bypass Valve 3,4 bar / 50 PSI	B

8 Clogging Indicator

No Clogging Indicator	none
Visual Clogging Indicator	V
Visual-electrical Clogging Indicator	P

9 Design Code

Only for Information	X

Filter Elements ▪ Type SP

SP	-	300	E	10	B	/	X
1		2	3	4	5		6

1 Type

Filter Element Series	SP

2 Group

According to filter housing

3 Filter Material

Material	Max. Δp*collapse	Micron ratings available	Code
Without filter element	-	-	...
Inorg. glass fibre (only RIF300)	30 bar / 435 PSI	3, 5, 10, 20	E
Inorg. glass fibre (only RIF310)	6,9 bar / 100 PSI	1, 3, 5, 10	E
Water removal (only RIF300)	6,9 bar / 100 PSI	10	EW

Note: *Collapse/burst resistance as per ISO 2941.
Other materials on request.

4 Micron Rating

1 µm	01
3 µm	03
5 µm	05
10 µm	10
20 µm	20

Note: Other micron ratings on request.

5 Sealing Material

NBR (Buna®)	B
FPM (Viton®)	V

Note: Other sealing materials on request.

6 Design Code

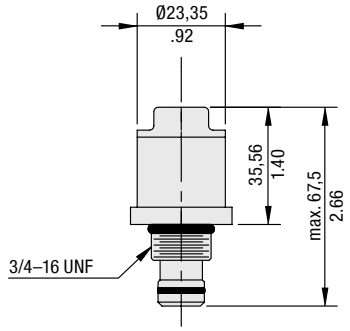
Only for information	X

Return Line Filters ▪ Type RIF300

Visual Clogging Indicator

Part number HIR-V is a clogging indicator actuated by the differential pressure across the filter element. The actuating pressure of 2,4 bar / 35 PSI allows the dirty element to be changed before the bypass setting of 3,4 bar / 50 PSI is reached.

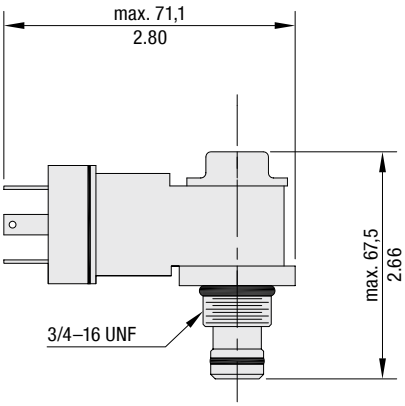
Visual Clogging Indicator



Visual/Electrical Clogging Indicator

Part number HIR-VE is used when an electrical signal is needed to indicate when the element needs changing. It is actuated by the differential pressure across the filter element. The actuating pressure of 2,4 bar / 35 PSI allows the dirty element to be changed before the bypass setting of 3,4 bar / 50 PSI is reached.

Visual/Electrical Clogging Indicator



Dimensions in mm / in

HIR-VE Rated Capacity

4 A inductive
7 A 28 V DC resistive
7 A 250 V AC

Order Code

HIR - V
1 2

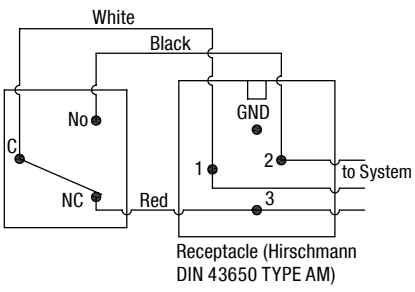
1 Type

Clogging Indicator for RIF300	**HIR**

2 Visual / Electrical

Visual	**V**
Visual-electrical	**VE**

Wiring Diagram

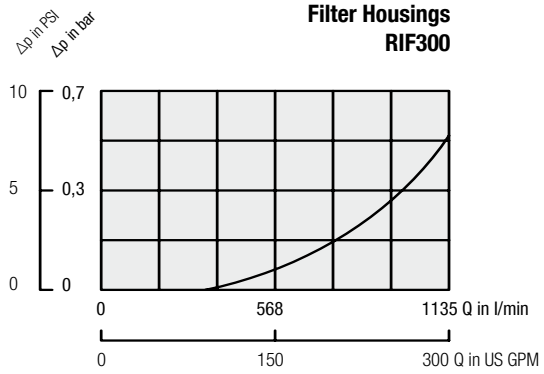


Note: The female plug (connector) is to be furnished by the customer.
Installation:
Lubricate both O-rings supplied with the indicator. Install in the cavity and torque to 41 ... 47 Nm / 30 ..- ft-lbs.

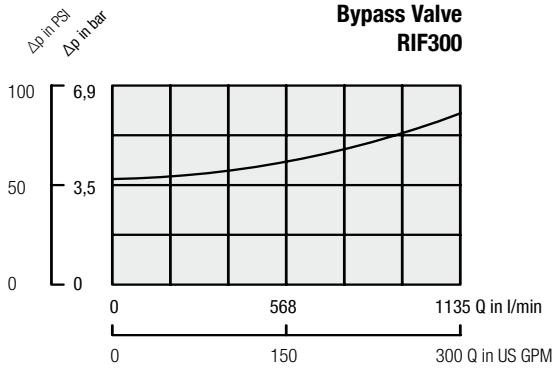
Return Line Filters ▪ Type RIF300 Flow Characteristics

The following characteristics are valid for mineral oils with a density of 0,85 kg/dm³ and the kinematic viscosity of 30 mm²/s (30cSt). The characteristics have been determined in accordance to ISO 3968. Multipass filter ratings have been obtained in accordance to ISO 16889. The housing pressure drop is directly proportional to the oil density. Consult STAUFF for details.

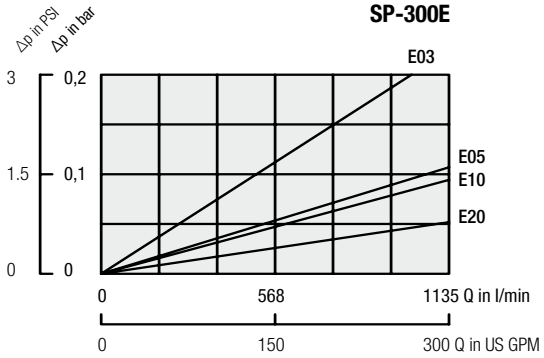
Filter Housings RIF300



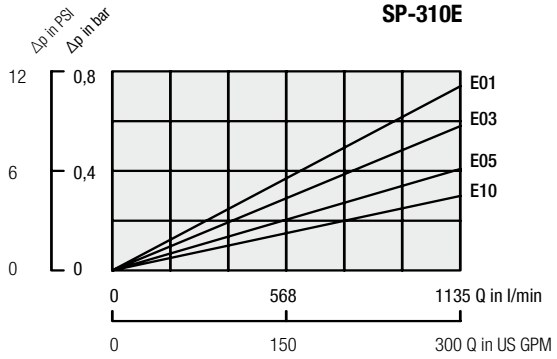
Bypass Valve RIF300



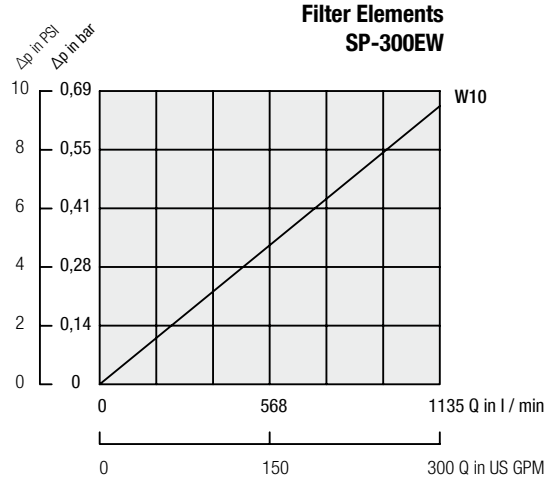
Filter Elements SP-300E



Filter Elements SP-310E



Filter Elements SP-300EW



Return Line Filters ▪ Type RIF48



Product Description

STAUFF RIF48 series return filters are designed for in-line hydraulic applocations with a maximum opening pressure of 20 bar / 300 PSI.
The RIF48 series in-line filter meets the HF4 Automotive Standard.

Technical Data

Construction
- In-line assembly

Materials
- Filter head: Die Cast Aluminium
- Element case: Steel
- Sealings: NBR (Buna-N®), FPM (Viton®)

Port Connections
- BSP
- NPT
- SAE O-ring thread
- SAE code 61 flange

Flow Rating
- Up to 380 l/min / 100 US GPM for 32 cSt / 150 SUS fluids,

Operating Pressure
- Max. 20 bar / 300 PSI

Burst Pressure
- Min. 70 bar / 1000 PSI

Temperature Range
- -29°C ... +107°C / -20°F ... +225°F

Filter Elements
- Specifications see page C106

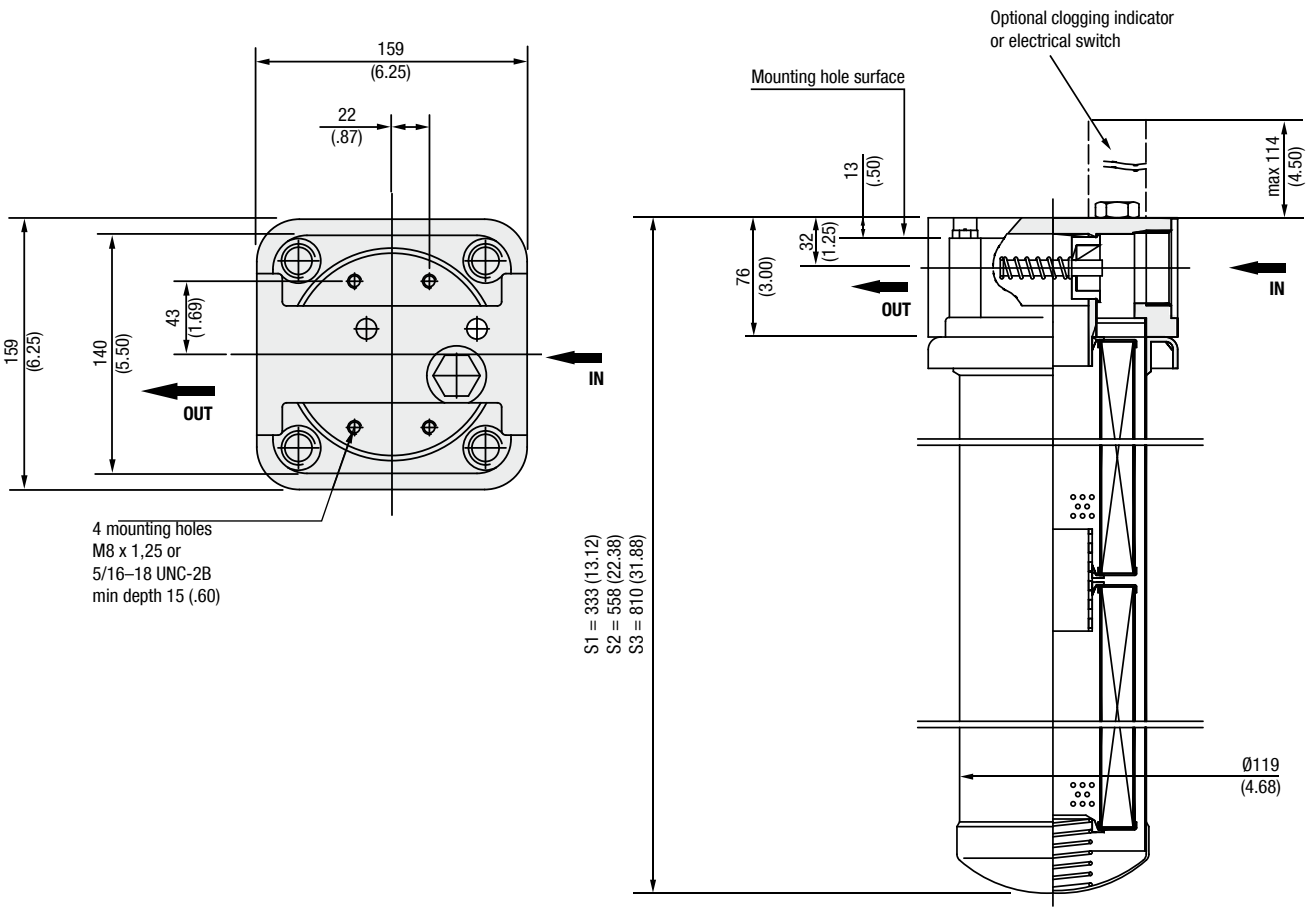
Media Compatibility
- Mineral oils, other fluids on request

Options and Accessories

Valve
- Bypass valve: Allows unfiltered oil to bypass the contaminated element once the opening pressure has been reached
- Bypass setting: 2,8 bar / 40 PSI

Clogging Indicators
- Standard actuating pressure: 2,4 bar / 35 PSI
- Available indicators: Visual, Electrical

Return Line Filters ▪ Type RIF48



Return Line Filter Housing / Complete Filters ▪ Type RIF48

RIF48	S	G	10	B	S1	V	/	X
1	2	3	4	5	6	7		8

1 Type

Return Line Filter	**RIF48**

2 Port Size

Connection Type	Code
1-1/2 BSP	**B**
1-7/8–12 SAE (standard option)	**S**
1-1/2 NPT	**N**
1-1/2 SAE Code 61 Flange	**F**

3 Filter Material

Material	Max. Δp*collapse	Micron ratings available	Code
Filter paper	10 bar / 150 PSI	03, 10, 25	**D**
Inorg. glass fibre	10 bar / 150 PSI	03, 10, 25	**G**

* Note: Collapse/burst resistance as per ISO 2941. Other materials on request.

4 Micron Rating

3 µm	**03**
10 µm	**10**
20 µm	**25**

Note: Other micron ratings on request.

5 Sealing Material

NBR (Buna®)	**B**
FPM (Viton®)	**V**

Note: Other sealing materials on request.

6 Bowl Length

Single Element	**S1**
Double Element	**S2**
Triple Element	**S3**

7 Clogging Indicator

Without Clogging Indicator	**N**
Visual	**V**
Visual - Thermostop	**VT**
Electrical	**E**

8 Design Code

Only for information	**X**

Filter Elements ▪ Type RTE48

RTE48	G	10	B	/	X
1	2	3	4		5

1 Type

For Return Line Filter RIF48	**RTE48**

2 Filter Material

Material	Max. Δp*collapse	Micron ratings available	Code
Filter paper	10 bar / 150 PSI	03, 10, 25	**D**
Inorg. glass fibre	10 bar / 150 PSI	03, 10, 25	**G**

* Note: Collapse/burst resistance as per ISO 2941. Other materials on request.

4 Micron Rating

3 µm	**03**
10 µm	**10**
20 µm	**25**

Note: Other micron ratings on request.

5 Sealing Material

NBR (Buna®)	**B**
FPM (Viton®)	**V**

Note: Other sealing materials on request.

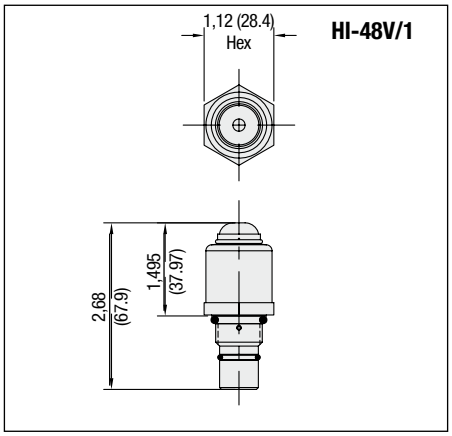
8 Design Code

Only for information	**X**

Return Line Filters ▪ Type RIF48

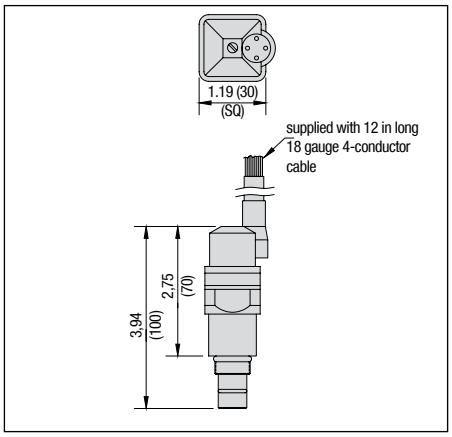
Visual Clogging Indicator

Part number HI48-V is a mechanical magnetic cartridge with a highly visible red disk that pops up at 2,4 bar / 35 PSI. Once activated the red signal continues to indicate a bypass condition until it is manually reset.



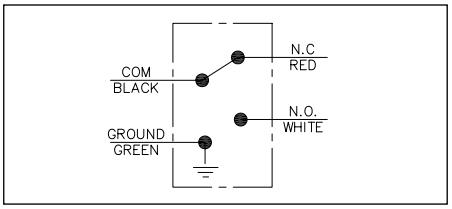
Electrical Clogging Indicator

Part number HI48 are used when a electrical signal is needed to indicate when the element needs changing. The solid state switch is activated at 2,4 bar / 35 PSI. The indicators are supplied with 305 mm / 12 in long 4 wire cable, and meet NEMA4 and IP65 specifications.



Electrical Clogging Indicator - HI48-E Ratings

	AC Rating	DC Rating
Voltage	max 240 V AC	max 100 V DC
Wattage	max 720 Watts	max 50 Watts
Current	0.10 to 6 amps	0.01 to 2 amps
Contact type	solid state	solid state



Order Code

HI 48 E / X

1 2 3

1 Type

Clogging Indicator SIF48 Series	**HI48**

2 Indicator Type

Visual	**V**
Electrical	**E**
Visual - Thermostop	**VT**

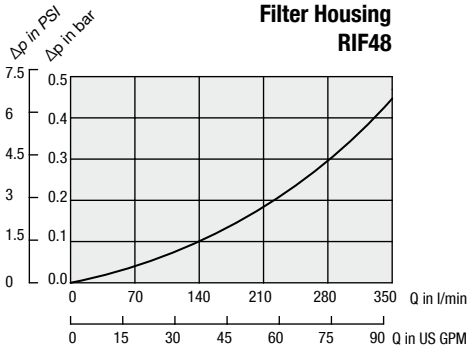
3 Design Code

Only for information	**X**

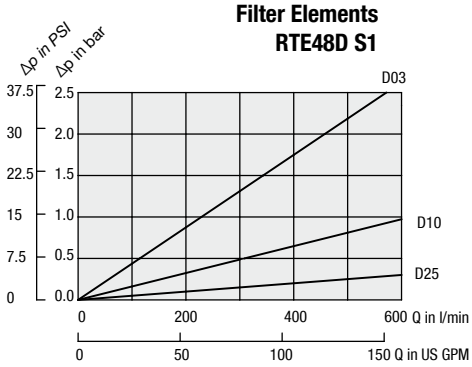
Return Line Filters ▪ Type RIF48 Flow Characteristics

The following characteristics are valid for mineral oils with a density of 0,85 kg/dm³ and the kinematic viscosity of 30 mm²/s (30 cSt). The characteristics have been determined in accordance to ISO 3968. Multipass filter ratings have been obtained in accordance to ISO 16889. Consult STAUFF for details.

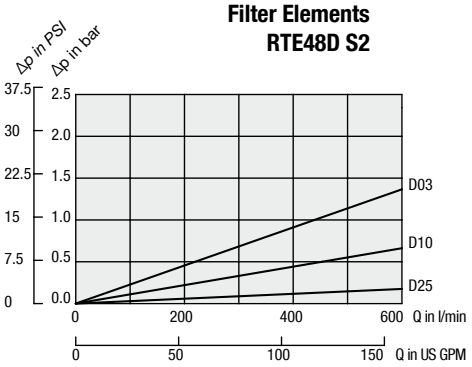
Filter Housing RIF48



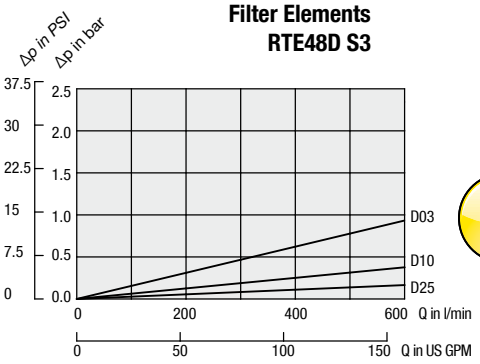
Filter Elements RTE48D S1



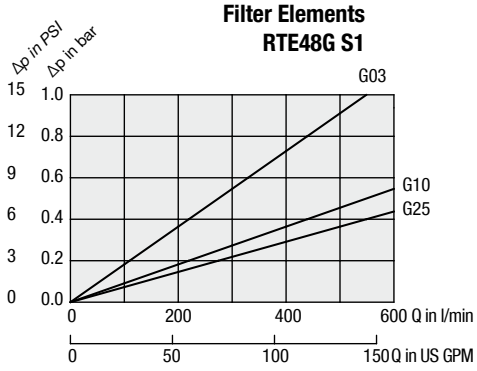
Filter Elements RTE48D S2



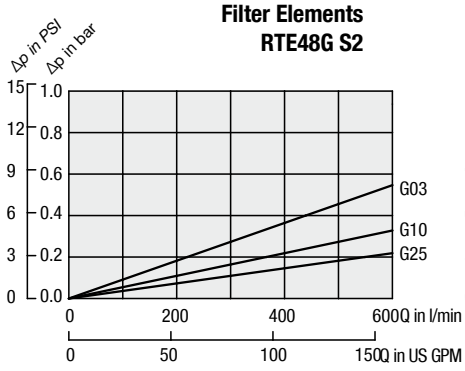
Filter Elements RTE48D S3



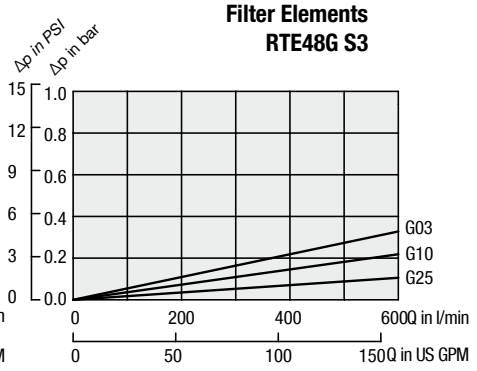
Filter Elements RTE48G S1



Filter Elements RTE48G S2



Filter Elements RTE48G S3



Return Line Filters ▪ Type RTF10/25



Product Description

STAUFF RTF10/25 Return Line Filters are designed as tank top filters with a maximum operating pressure of 3,4 bar / 49 PSI.

Technical Data

Construction
- Tank Top flange mounting

Materials
- Filter head: Aluminum
- Filter bowl: Polyamide
- Sealings: NBR (Buna-N®)
  FPM (Viton®)
  Other sealing materials on request

Port Connection
- BSP
- NPT
- SAE O-ring thread

Flow Rating
- Up to 95 l/min / 25 US GPM

Operating Pressure
- Max. 3,4 bar / 49 PSI

Burst Pressure
- Min. 10 bar / 145 PSI

Temperature Range
- -25°C ... +95°C / -13°F ... +203°F

Filter Elements
- Specifications see page C112

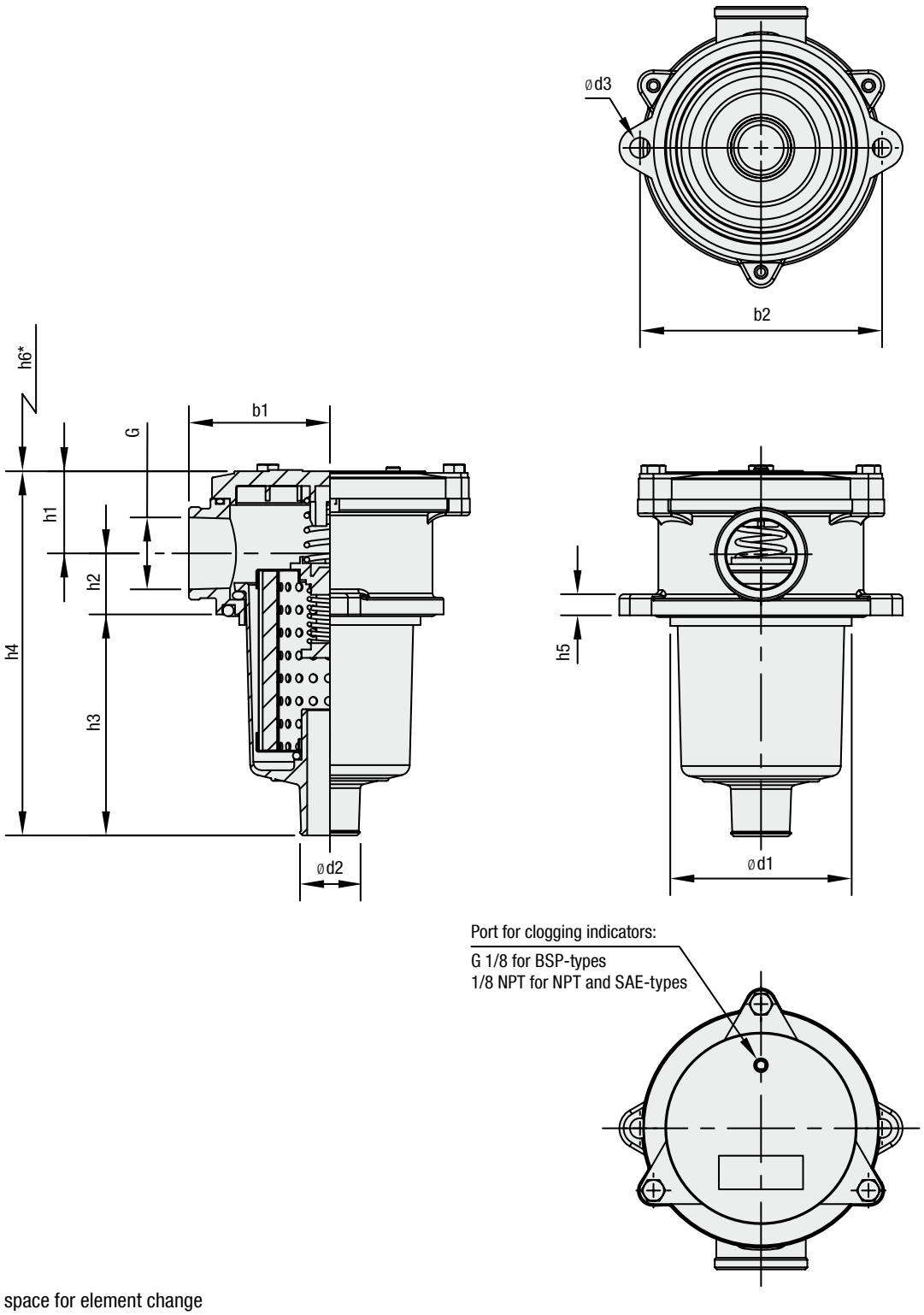
Media Compatibility
- Mineral oils, other fluids on request

Options and Accessories

Valve
- Bypass valve: Opening pressure 1,7 bar / 25 PSI
  (integrated in the filter element) Other settings available on request

Clogging Indicators
- Visual clogging indicator, coloured segments
- Electrical clogging switch, adjustable
  Other clogging indicators available on request

Return Line Filters ▪ Type RTF10/25



* recommended space for element change

Return Line Filters ▪ Type RTF10/25

Thread Connection G	Filter Size RTF		
	10S1	25S1	25S2
BSP	1/2	1	1
NPT	1/2	1	1
SAE O-ring	-	1-5/16–12	1-5/16–12

Dimensions (mm/in)	Filter Size RTF		
	10S1	25S1	25S2
h1	26	34	34
	1.02	1.34	1.34
h2	21	29	29
	.83	1.14	1.14
h3	88	103	151
	3.46	4.05	5.95
h4	136	166	212
	5.35	6.53	8.35
h5	8	10	10
	.32	.39	.39
h6	110	130	175
	4.33	5.12	6.89
b1	50	67	67
	1.97	2.64	2.64
b2	90	115	115
	3.54	4.52	4.52
d1	66	86	86
	2.60	3.39	3.39
d2	24	28	28
	.94	1.10	1.10
d3	7	9	9
	.28	.35	.35
Weight (kg/lbs)	0,45	0,9	1
	1	2	2.2

Return Line Filter Housings / Complete Filters ▪ Type RTF10/25

RTF	25	...	...	B	/	N	/	S2	/	V	/	X
1	2	3	4	5		6		7		8		9

1 Type

Return Line Filter	**RTF**

2 Group

Flow	Size
38 l/min /10 US GPM	**10**
90 l/min /25 US GPM	**25**

Note: Exact flow will depend on filter element selected. Consult technical data on pages C129

3 Filter Material

Material	Max. Δp*collapse	Micron ratings available	Code
Without filter element	-	-	**...**
Inorg. glass fibre	3 bar / 43.5 PSI	10, 25	**G**
Filter paper	3 bar / 43.5 PSI	10, 25	**D**

*Note: Collapse/burst resistance as per ISO 2941
Other materials on request

4 Micron Rating

10 µm	**10**
25 µm	**25**

Note: Other micron ratings on request

5 Sealing Material

NBR (Buna®)	**B**
FPM (Viton®)	**V**

Note: Other sealing materials on request

6 Connection Style

Connection Style	Group		Code
	10	25	
BSP	1/2	1	**B**
NPT	1/2	1	**N**
SAE O-ring Thread	-	1-5/16–12	**S**

7 Length

Bowl Length 1	**S1**
Bowl Length 2	**S2**

Note: RTF 10 size available in bowl length 1 only.

8 Clogging Indicator

Without clogging indicator	**none**
Visual clogging indicator	**V**
Electrical clogging indicator	**E**

Note: See page C131 for more details on indicator ports and types

9 Design Code

Only for information	**X**

Filter Elements ▪ Type RTE

RTE	-	25	D	10	B	/	S2	/	X
1		2	3	4	5		6		7

1 Type

Filter Element Series	**RTE**

2 Group

According to filter housing

3 Filter Material

Material	Max. Δp*collapse	Micron ratings available	Code
Inorg. glass fibre	3 bar / 43.5 PSI	10, 25	**G**
Filter paper	3 bar / 43.5 PSI	10, 25	**D**

* Note: Collapse/burst resistance as per ISO 2941
Other materials on request

4 Micron Rating

10 µm	**10**
25 µm	**25**

Note: Other micron ratings on request

5 Sealing Material

NBR (Buna®)	**B**
FPM (Viton®)	**V**

Note: Other sealing materials on request

6 Length

Bowl Length 1	**S1**
Bowl Length 2	**S2**

Note: RTF 10 size available in bowl length 1 only.

7 Design Code

Only for information	**X**

Return Line Filters ▪ Type RTF20



Product Description

STAUFF RTF20 Return Line Filters are designed as tank top filters with a maximum operating pressure of 10 bar / 145 PSI and flow rates up to 115 l/min / 30 US GPM. The filter bowl is designed to return the oil beneath the surface thus preventing entrainment of air. RTF20 series compact design and integral breather make them ideal for mobile hydraulic applications.

Technical Data

Construction
- Tank Top flange mounting

Materials
- Filter head: Aluminum
- Filter bowl & cap: Polyamide
- Sealings: NBR (Buna-N®)
  FPM (Viton®)
  Other sealing materials on request

Port Connection
- BSP
- NPT
- SAE O-ring thread

Flow Rating
- Up to 115 l/min / 30 US GPM

Operating Pressure
- Max. 10 bar / 145 PSI

Burst Pressure
- Min. 30 bar / 435 PSI

Temperature Range
- -25°C ...+95°C / -13°F ... +203°F

Integrated Breather
- Filter paper 10 µm
- Filter paper 40 µm

Filter Elements
- Specifications see page C116

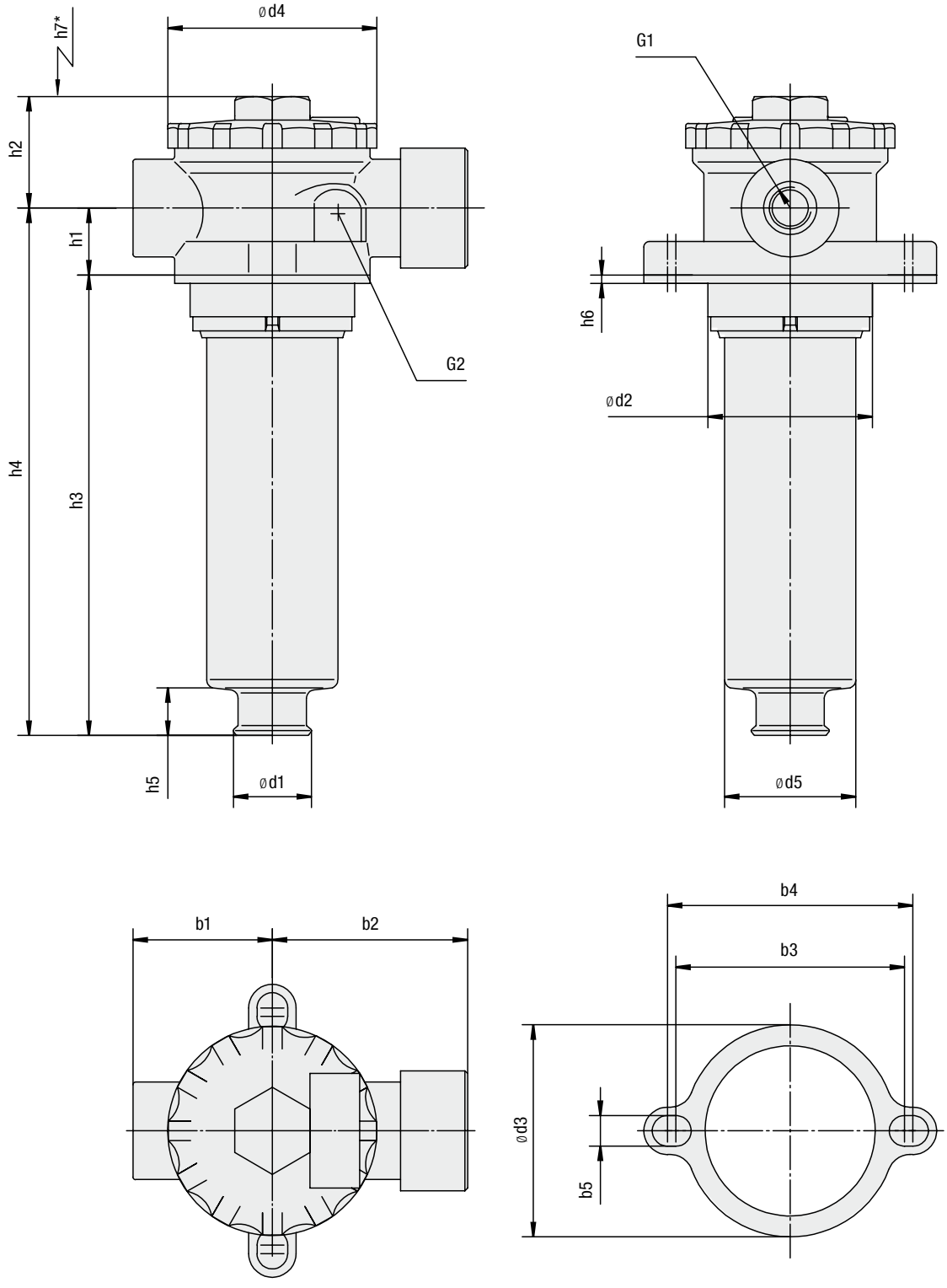
Media Compatibility
- Mineral oils, other fluids on request

Options and Accessories

Valve
- Bypass valve: Opening pressure 1,7 bar / 25 PSI
  (integrated in the filter element) Other settings available on request

Clogging Indicators
- Visual clogging indicator, coloured segments
- Electrical clogging switch, adjustable
  Other clogging indicators available on request

Return Line Filters ▪ Type RTF20



* recommended space for element change

Return Line Filters ▪ Type RTF20

Thread Connection G1	Filter Size RTF	
	020	
BSP	1/2	3/4
NPT	1/2	3/4
SAE Thread	3/4–16	1–1/16

Dimensions (mm/in)	Filter Size RTF
	020
b1	50 1.97
b2	70 2.76
b3	82 3.23
b4	88 3.46
b5	11 .43
d1	28 1.10
d2*	Min. 60 / Max. 63 Min. 2.36 / Max. 2.48
d3	77 3.03
d4	75 2.95
d5	48 1.89
h1	24 .94
h2	37,5 1.48
h3	178 7.01
h4	202 7.95
h5	16 .63
h6	2 .07
h7	210 8.27
G2	G1/8 or 1/8 NPT

* recommended diameter for mounting hole

Return Line Filter Housings / Complete Filters ▪ Type RTF20

RTF	20	D	10	B	/	N1	/	V	/	L10	/	D	/	X
1	2	3	4	5		6		7		8		9		10

1 Type

Return Line Filter	**RTF20**

2 Group

Flow	Size
115 l/min / 30 US GPM	**20**

Note: Exact flow will depend on filter element selected. Consult technical data on page C129.

3 Filter Material

Material	Max. Δp*collapse	Micron ratings available	Code
Without filter element	-	-	**...**
Inorg. glass fibre	25 bar / 363 PSI	6, 10, 20	**G**
Filter paper	10 bar / 145 PSI	10	**D**

*Note: Collapse/burst resistance as per ISO 2941
Other materials on request

4 Micron Rating

6 µm	**06**
10 µm	**10**
20 µm	**20**

Note: Other micron ratings on request

5 Sealing Material

NBR (Buna®)	**B**
FPM (Viton®)	**V**

Note: Other sealing materials on request

6 Connection Style

Connection Style	Thread	Code
BSP	1/2	**B1**
BSP	3/4	**B2**
NPT	1/2	**N1**
NPT	3/4	**N2**
SAE O-ring Thread	3/4–16	**S1**
SAE O-ring Thread	1-1/16–12	**S2**

7 Clogging Indicator

No clogging indicator	**N**
Visual clogging indicator	**V**
Electrical clogging indicator	**E**

Note: See page C131 for more details on indicator ports and types

8 Breather

10 µm Filter Paper	**L10**
40 µm Filter Paper	**L40**

9 Dipstick

Without dipstick	**none**
With dipstick	**D**

10 Design Code

Only for information	**X**

Filter Elements ▪ Type RTE

RTE	-	20	D	10	B	/	X
1		2	3	4	5		6

1 Type

Filter Element Series	**RTE**

2 Group

According to filter housing

3 Filter Material

Material	Max. Δp*collapse	Micron ratings available	Code
Inorg. glass fibre	25 bar / 363 PSI	6, 10, 20	**G**
Filter paper	10 bar / 145 PSI	10	**D**

*Note: Collapse/burst resistance as per ISO 2941
Other materials on request

4 Micron Rating

6 µm	**06**
10 µm	**10**
20 µm	**20**

Note: Other micron ratings on request

5 Sealing Material

NBR (Buna®)	**B**
FPM (Viton®)	**V**

Note: Other sealing materials on request

6 Design Code

Only for information	**X**

Air Filter Elements ▪ Type RTEA

RTEA	-	020	L	10	B	/	X
1		2	3	4	5		6

1 Type

Air Filter Element Series	**RTEA**

2 Group

Air filter for RTF20

3 Filter Material

Filter Paper	**L**

Note: Other materials on request

4 MicronRating

10 µm	**10**

Note: Other micron ratings on request

5 Sealing Material

NBR (Buna®)	**B**

Note: Other sealing materials on request

6 Design Code

Only for information	**X**

Return Line Filters ▪ Type RTF40



Product Description

STAUFF RTF40 Return Line Filters are designed as tank top filters with a maximum operating pressure of 6,9 bar / 100 PSI. The filter bowl is designed to return the oil beneath the surface thus preventing entrainment of air.

Technical Data

Construction
- Tank Top flange mounting

Materials
- Filter head: Aluminum
- Filter bowl: Bowl length 1: Polyamide
  Bowl length 2: Steel
- Sealings: NBR (Buna-N®)
  Other sealing materials on request

Port Connection
- BSP
- NPT
- SAE O-ring thread
- SAE flange

Flow Rating
- Up to 378 l/min / 100 US GPM

Operating Pressure
- Max. 6,9 bar / 100 psi

Temperature Range
- -25°C ...+95°C / -13°F ... +203°F

Filter Elements
- RTE-47 with integrated bypass valve, single stack length
- RTE-48 bypass valve integrated in the filter head,
  equivalent to the HF-4 elements, single and double stack lengths
- RTE-49 bypass valve integrated in the filter head,
  single and double stack lengths
- Specifications see page C120

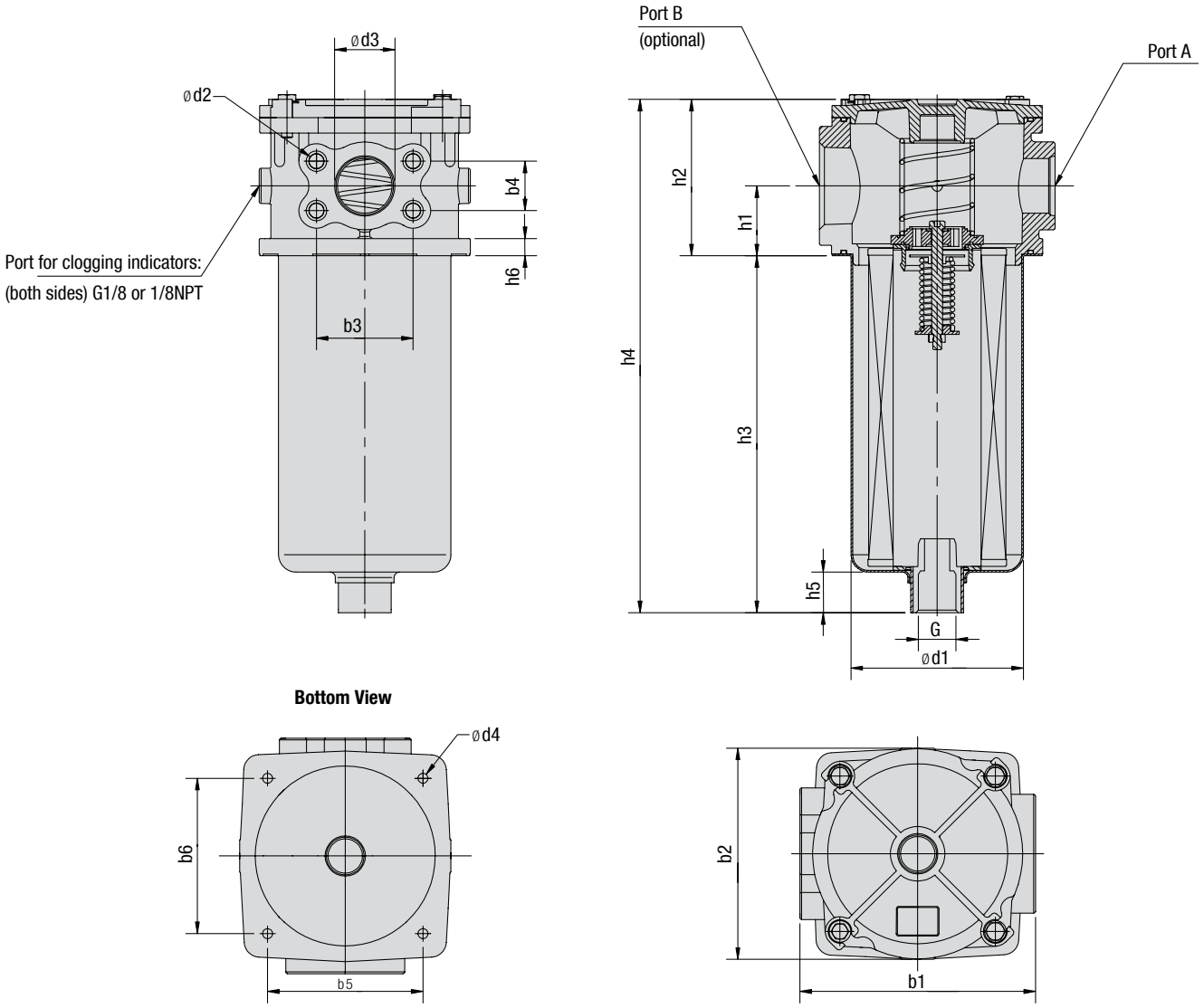
Media Compatibility
- Mineral oils, other fluids on request

Options and Accessories

Valve
- Bypass valve: Opening pressures 1 bar / 14.5 PSI ±10 % or
  1,7 bar / 25 PSI ±10 %
  RTF47: Bypass intergrated in the filter element
  RTF48/49: Bypass integrated in the filter head

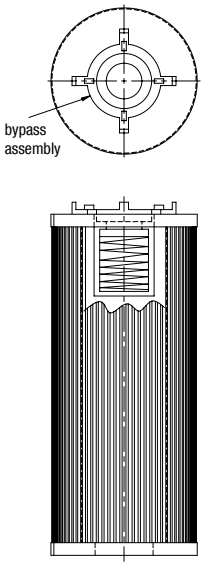
Clogging Indicators
- Visual clogging indicator, coloured segments
- Electrical clogging switch, adjustable
  Other clogging indicators available on request

Return Line Filters ▪ Type RTF40

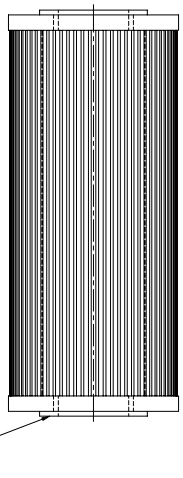


Filter Elements ▪ Types RTE47 / RTE48 / RTE49

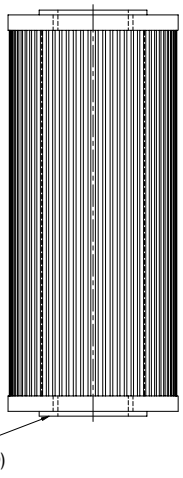
RTE-47
- with integrated bypass valve, single stack length



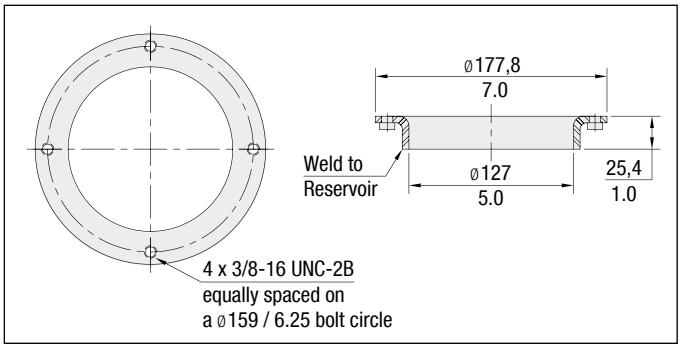
RTE-48
- bypass valve integrated in the filter head, equivalent to the HF-4 elements, single and double stack lengths



RTE-49
- bypass valve integrated in the filter head, single and double stack lengths



Return Line Filters ▪ Type RTF40



RTF40 Series Weld Ring WR-40

The WR-40 weld ring is welded directly to the hydraulic reservoir, eliminating the need for drilling and tapping mounting holes in the reservoir.

Material: Carbon Steel

Thread Connection Combinations	Filter Size RTF			
	4...S1		4...S2	
	Port A	Port B	Port A	Port B
BSP (B)	1-1/4 and 1-1/2 SAE Flange	None	1-1/4 and 1-1/2 SAE Flange	None
BSP (BB)	1-1/4 and 1-1/2 SAE Flange	1-1/4	1-1/4 and 1-1/2 SAE Flange	1-1/4
NPT (N)	1-1/4 and 1-1/2 SAE Flange	None	1-1/4 and 1-1/2 SAE Flange	None
NPT (NN)	1-1/4 and 1-1/2 SAE Flange	1-1/4	1-1/4 and 1-1/2 SAE Flange	1-1/4
NPT (M)	1-1/2	None	1-1/2	None
NPT (MN)	1-1/2	1-1/4	1-1/2	1-1/4
NPT (MM)	1-1/2	1-1/2	1-1/2	1-1/2
SAE (S)	1-5/8–12	None	1-5/8–12	None
SAE (SS)	1-5/8–12	1-5/8–12	1-5/8–12	1-5/8–12
SAE (ST)	1-5/8–12	1-7/8–12	1-5/8–12	1-7/8–12
SAE (SU)	1-5/8–12	2-1/2–12	1-5/8–12	2-1/2–12
SAE (TT)	1-7/8–12	1-7/8–12	1-7/8–12	1-7/8–12
Combination SAE & NPT (SO)	1-5/8–12	2	1-5/8–12	2

Dimensions (mm/in)	Filter Size RTF	
	4...S1	4...S2
h1	50 1.97	50 1.97
h2	112 4.41	112 4.41
h3	263 10.35	475 18.70
h4	385 15.16	587 23.11
h5	21 .83	38 1.50
h6	11 .43	11 .43
b1	170 6.70	170 6.70
b2	152 5.98	152 5.98
b3	69.9 2.75	69.9 2.75
b4	35,6 1.40	35,6 1.40
b5	112 4.41	112 4.41
d1	122 4.80	126 4.96
d2	M12 or 1/2–13 UN	M12 or 1/2–13 UN
d3	38,1 1.50	38,1 1.50
d4	11 .43	11 .43
G	G1-1/2 or 1-1/2 NPT	G1-1/2 or 1-1/2 NPT

Return Line Filter Housings / Complete Filters ▪ Type RTF40

RTF 48 ... ... B / N / 25 / S2 / V / X
1 2 3 4 5 6 7 8 9 10

1 Type

Return Line Filter	RTF

2 Group

Flow	Size
190 l/min / 50 US GPM	47
190 l/min / 50 US GPM	48
190 l/min / 50 US GPM	49

Note: Exact flow will depend on filter element selected. Consult technical data on pages C129 / C130. For element length 2 (only RTF48 / RTF49) please double relating flow values.

3 Filter Material

Material	Max. Δp*collapse	Micron ratings available	Code
Without filter element	-	-	...
Inorg. glass fibre	10 bar / 145 PSI	3, 5, 10, 25	G
Filter paper	10 bar / 145 PSI	3,10,25,20	D

*Note: Collapse/burst resistance as per ISO 2941
Other materials on request

4 Micron Rating

3 µm	03
5 µm	05
10 µm	10
20 µm	20
25 µm	25

Note: Other micron ratings on request

5 Sealing Material

NBR (Buna®)	B

Note: Other sealing materials on request

6 Connection Style

Connection Style	Group Port A	Group Port B	Code
BSP	1-1/4 and 1-1/2 SAE Flange	None	B
BSP	1-1/4 and 1-1/2 SAE Flange	1-1/4	BB
NPT	1-1/4 and 1-1/2 SAE Flange	None	N
NPT	1-1/4 and 1-1/2 SAE Flange	1-1/4	NN
NPT	1-1/2	None	M
NPT	1-1/2	1-1/4	MN
NPT	1-1/2	1-1/2	MM
SAE	1-5/8-12	None	S
SAE	1-5/8-12	1-5/8-12	SS
SAE	1-5/8-12	1-7/8-12	ST
SAE	1-5/8-12	2-1/2-12	SU
SAE	1-7/8-12	1-7/8-12	TT
Combination NPT & SAE	1-5/8-12	2	SO

7 Valve

No bypass	00
1 bar / 15 PSI	15
1,7 bar / 24.6 PSI	25

8 Length

Bowl Length 1 (1 element)	S1
Bowl Length 2 (2 elements)	S2

Note: RTF 47 size available in S1 bowl length only.

9 Clogging Indicator

No clogging indicator	N
Visual clogging indicator	V
Electrical clogging indicator	E

Note: See page C131 for more details on indicator ports and options

10 Design Code

Only for information	X

Filter Elements ▪ Type RTE

RTE - 48 D 10 B / X
1 2 3 4 5 6

1 Type

Filter Element Series	RTE

2 Group

According to filter housing

3 Filter Material

Material	Max. Δp*collapse	Micron ratings available	Code
Inorg. glass fibre	10 bar / 145 PSI	3, 5, 10, 25	G
Filter paper	10 bar / 145 PSI	3,10,25,20	D

*Note: Collapse/burst resistance as per ISO 2941
Other materials on request

4 Micron Rating

3 µm	03
5 µm	05
10 µm	10
20 µm	20
25 µm	25

Note: Other micron ratings on request

5 Sealing Material

NBR (Buna®)	B

Note: Other sealing materials on request

6 Design Code

Only for information	X

Return Line Filters ▪ Type RTF50



Product Description

STAUFF RTF50 Return Line Filters are designed for tank top applications with a maximum pressure of 6,9 bar / 100 PSI. The filter bowl is designed to return the oil beneath the surface thus preventing entrainment of air. The RTF58 elements interchange with the popular “K” series and RTF59 elements interchange with the “RE-409” series elements.

Technical Data

Construction
- Tank Top flange mounting

Materials
- Filter head: Aluminum
- Filter bowl: Bowl length 1: Polyamide
  Bowl length 2: Steel
- Sealings: NBR (Buna-N®)
  Other sealing materials on request

Port Connection
- BSP
- NPT
- SAE O-ring thread

Flow Rating
- Up to 379 l/min / 100 US GPM

Operating Pressure
- Max. 6,9 bar / 100 PSI

Temperature Range
- -25°C ...+95°C / -13°F ... +203°F

Filter Elements
- Specifications see page C124

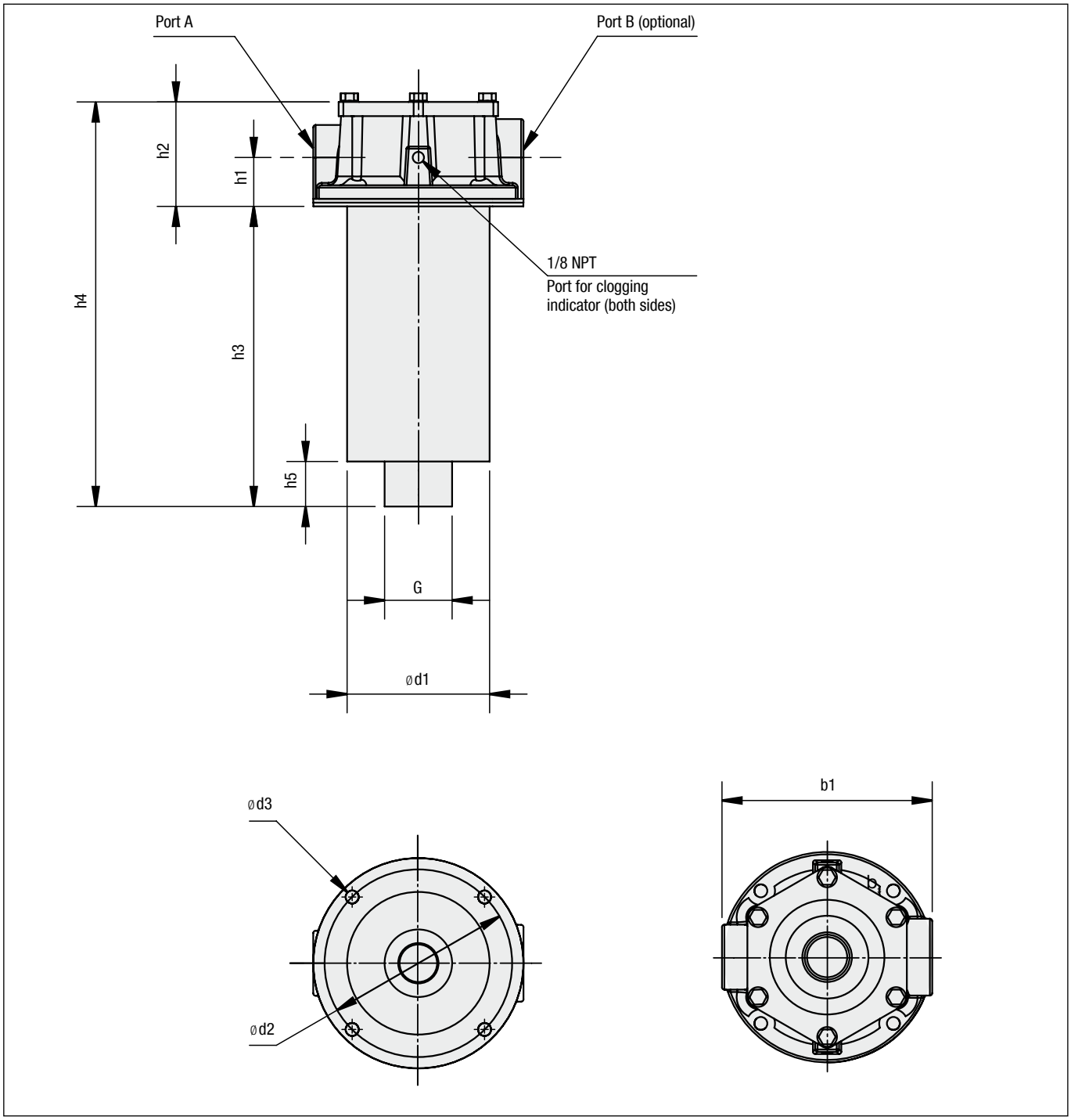
Media Compatibility
- Mineral oils, other fluids on request

Options and Accessories

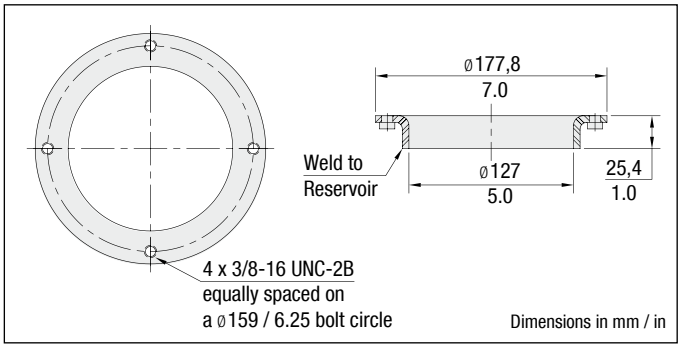
Valve
- Bypass valve: Opening pressures 1 bar / 14.5 PSI ±10 % or 1,7 bar / 25 PSI ±10 %
  Other settings available on request

Clogging Indicators
- Visual clogging indicator, coloured segments
- Electrical clogging switch, adjustable
  Other clogging indicators available on request

Return Line Filters ▪ Type RTF50



Return Line Filters ▪ Type RTF Accessories



RTF50 Series Weld Ring WR-40

The WR-40 weld ring is welded directly to the hydraulic reservoir, eliminating the need for drilling and tapping mounting holes in the reservoir.

Material: Carbon Steel

Return Line Filters ▪ Type RTF50

Thread Connection Combinations	Filter Size RTF			
	5...S1		5...S2	
	Port A	Port B	Port A	Port B
NPT (N)	1-1/4	None	1-1/4	None
NPT (NM)	1-1/4	1-1/2	1-1/4	1-1/2
NPT (M)	None	1-1/2	None	1-1/2
Combination SAE & NPT (SM)	1-5/8–12	1-1/2	1-5/8–12	1-1/2
SAE (S)	1-5/8–12	None	1-5/8–12	None
SAE (T)	None	1-7/8–12	None	1-7/8–12
SAE (ST)	1-5/8–12	1-7/8–12	1-5/8–12	1-7/8–12
Combination NPT & SAE (NT)	1-1/4	1-7/8–12	1-1/4	1-7/8–12

Dimensions (mm/in)	Filter Size RTF	
	5...S1	5...S2
h1	49,3	42,3
	1.94	1.67
h2	95,5	88,5
	3.78	3.48
h3	241,3	485,9
	9.50	19.13
h4	336,8	574,9
	13.26	22.61
h5	29,5	38,1
	1.16	1.50
b1	177,8	177,8
	7.00	7.00
d1	124,8	126
	4.91	4.96
d2	158,7	158,7
	6.25	6.25
d3	11,2	11,2
	.44	.44
G	1-1/2 NPT	1-1/2 NPT

Return Line Filter Housings / Complete Filters ▪ Type RTF50

RTF	58	...	...	B	/	N	/	25	/	S2	/	V	/	X
1	2	3	4	5		6		7		8		9		10

1 Type

Return Line Filter	RTF

2 Group

Flow	Size
Group size 58	58
Group size 59	59

Note: Exact flow will depend on filter element selected. Consult technical data on page C143

3 Filter Material

Material	Max. Δp*collapse	Micron ratings available	Code
Without filter element	-	-	...
Inorg. glass fibre	10 bar / 145 PSI	3, 5, 10, 25	G
Filter paper	5 bar / 72.5 PSI	3,10,25,20	D

*Note: Collapse/burst resistance as per ISO 2941
Other materials on request

4 Micron Rating

3 µm	03
5 µm	05
10 µm	10
20 µm	20
25 µm	25

Note: Other micron ratings on request

5 Sealing Material

NBR (Buna®)	B

Note: Other sealing materials on request

6 Connection Style

Connection Style	Group		Code
	Port A	Port B	
NPT	1-1/4	None	N
NPT	1-1/4	1-1/2	NM
NPT	None	1-1/2	M
Combination SAE & NPT	1-5/8-12	1-1/2	SM
SAE	1-5/8-12	None	S
SAE	None	1-7/8-12	T
SAE	1-5/8-12	1-7/8-12	ST
Combination NPT & SAE	1-1/4	1-7/8-12	NT

7 Valve

No bypass	00
1 bar / 15 PSI	15
1,7 bar / 24.6 PSI	25

8 Length

Bowl Length 1 (1 element)	S1
Bowl Length 2 (2 elements)	S2

9 Clogging Indicator

No clogging indicator	N
Visual clogging indicator	V
Electrical clogging indicator	E

Note: See page C145 for more details on indicator ports and types

10 Design Code

Only for information	X

Filter Elements ▪ Type RTE

RTE	-	58	D	10	B	/	X
1		2	3	4	5		6

1 Type

Filter Element Series	RTE

2 Group

According to filter housing

3 Filter Material

Material	Max. Δp*collapse	Micron ratings available	Code
Inorg. glass fibre	10 bar / 145 PSI	3, 5, 10, 25	G
Filter paper	5 bar / 72.5 PSI	3,10,25,20	D

*Note: Collapse/burst resistance as per ISO 2941
Other materials on request

4 Micron Rating

3 µm	03
5 µm	05
10 µm	10
20 µm	20
25 µm	25

Note: Other micron ratings on request

5 Sealing Material

NBR (Buna®)	B

Note: Other sealing materials on request

6 Design Code

Only for information	X

Return Line Filters ▪ Type RTF-N



Product Description

STAUFF RTF-N Return Line Insert Filters allow for a choice of installation configurations which permits custom reservoir design with an in tank filtering system. The filters are installed semi-immersed or totally immersed into a reservoir. The filtration flow is from inside to the outside of the element which ensures that all the contaminant is collected inside the element itself avoiding contact with the reservoir fluid during element change. The combination of magnetic pre-filtration and high filtration efficiency results in a cost effective and versatile filtration system.

Technical Data

Construction
- Insert filter

Materials
- Flange plate: Aluminum
- Magnet rod: Steel
- Bypass: Steel
- Diffuser: Steel
- Sealings: NBR (Buna-N®)
  FPM (Viton®)
  Other sealing materials on request

Flow Rating
- Up to 500 l/min / 132 GPM

Operating Pressure
- Max. 10 bar / 145 PSI

Temperature Range
- -29°C ...+107°C / -20°F ... +225°F

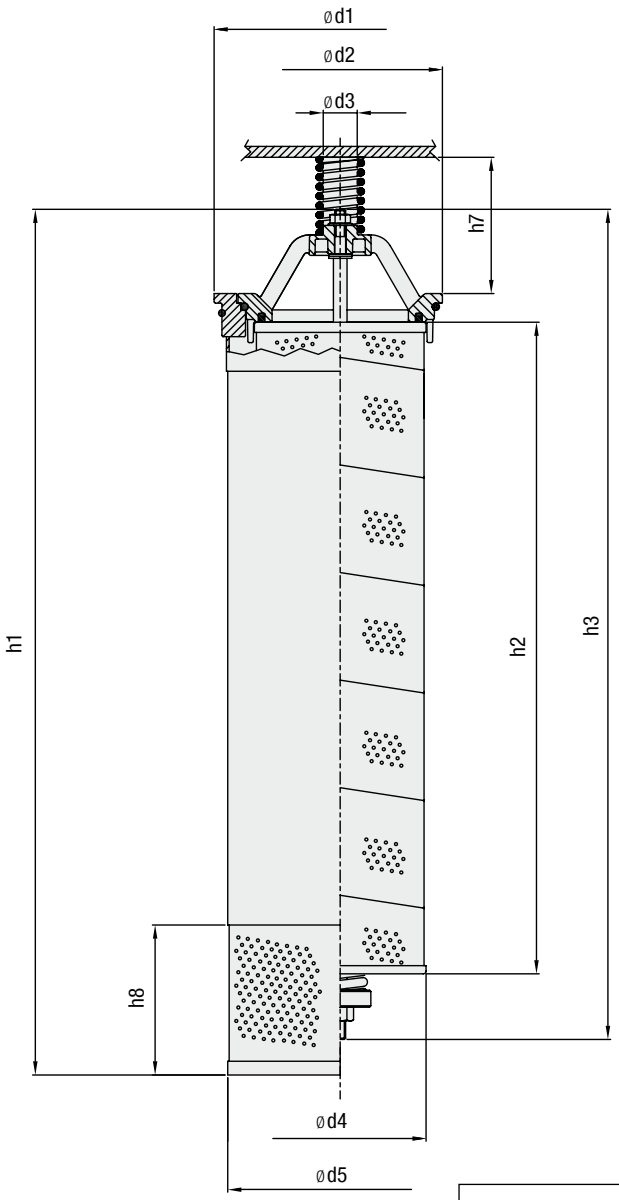
Filter Elements
- Specifications see page C128

Media Compatibility
- Mineral oils, other fluids on request

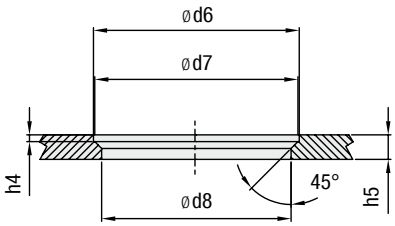
Options and Accessories

Valve
- Bypass valve: (integrated in the filter element) Opening pressure 1,5 bar / 22 PSI
  Other settings available on request

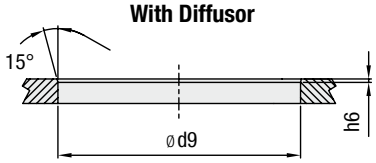
Return Line Filters ▪ Type RTF-N



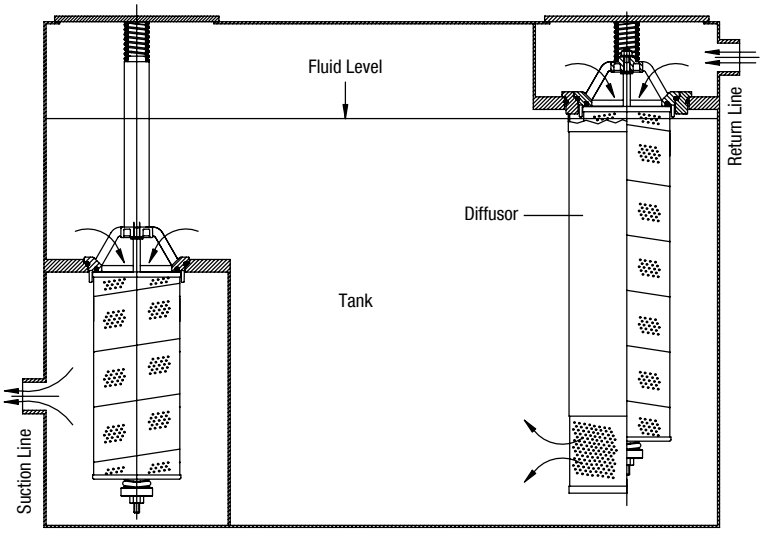
Tank hole for mounting Without Diffusor



Tank hole for mounting With Diffusor



Mounting Options



Return Line Filters ▪ Type RTF-N

Dimensions (mm/in)	Filter Size RTF-N	
	390	500
h1	445	635
	17.52	25.00
h2	290	478
	11.42	18.82
h3	421	609
	16.57	23.98
h4	5	5
	.20	.20
h5	18	18
	.71	.71
h6	2,5	2,5
	.10	.10
h7	100	100
	3.94	3.94
h8	110	110
	4.33	4.33
d1	185	185
	7.28	7.28
d2	150	150
	5.91	5.91
d3	25	25
	.98	.98
d4	126	126
	4.95	4.95
d5	165	165
	6.50	6.50
d6	151	151
	5.94	5.94
d7	149	149
	5.87	5.87
d8	139	139
	5.47	5.47
d9	178	178
	7.01	7.01

Return Line Filter Housings / Complete Filters ▪ Type RTF-N

RTF-N	500	...	...	/	B	/	22	/	D	/	X
1	2	3	4		5		6		7		8

1 Type

Return Line Insert Filter	**RTF-N**

2 Group

Flow	Size
390 l/min / 103 US GPM	**390**
500 l/min / 132 US GPM	**500**

Note: Exact flow will depend on filter element selected.
Consult technical data on page C130

3 Filter Material

Material	Max. Δp*collapse	Micron ratings available	Code
Without filter element	-	-	**...**
Inorg. glass fibre	10 bar / 145 PSI	3, 5, 10, 20	**E**
Filter paper	10 bar / 145 PSI	10	**L**

*Note: Collapse/burst resistance as per ISO 2941
Other materials on request

4 Micron Rating

3 µm	**03**
5 µm	**05**
10 µm	**10**
20 µm	**20**

Note: Other micron ratings on request

5 Sealing Material

NBR (Buna®)	**B**
FPM (Viton®)	**V**

Note: Other sealing materials on request

6 Bypass Setting

1,5 bar / 22 PSI	**22**

7 Options

Without diffusor	**none**
With diffusor	**D**

8 Design Code

Only for information	**X**

Filter Elements ▪ Type RA

RA	-	500	E	10	/	B	/	X
1		2	3	4		5		6

1 Type

Element for Insert Filter	**RA**

2 Group

According to filter housing

3 Filter Material

Material	Max. Δp*collapse	Micron ratings available	Code
lonrg. glass fibre	10 bar / 145 PSI	3, 5, 10, 20	**E**
Filter paper	10 bar / 145 PSI	10	**L**

*Note: Collapse/burst resistance as per ISO 2941
Other materials on request

4 Micron Rating

3 µm	**03**
5 µm	**05**
10 µm	**10**
20 µm	**20**

Note: Other micron ratings on request

5 Sealing Material

NBR (Buna®)	**B**
FPM (Viton®)	**V**

Note: Other sealing materials on request

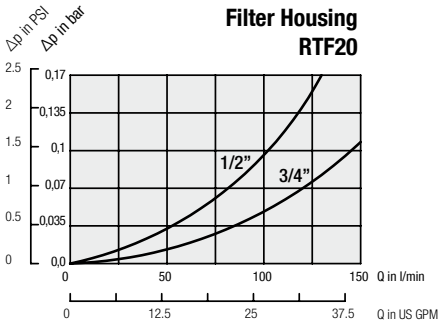
6 Design Code

Only for information	**X**

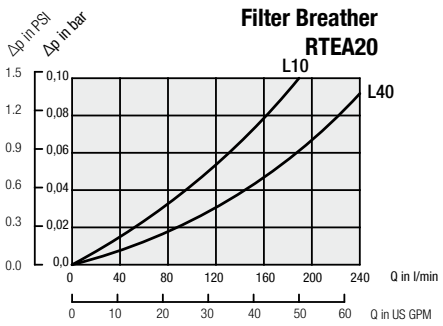
Return Line Filters ▪ Type RTF Flow Characteristics

The following characteristics are valid for mineral oils with a density of 0,85 kg/dm³ and the kinematic viscosity of 30 mm²/s (30cSt). The characteristics have been determined in accordance to ISO 3968. Multipass filter ratings have been obtained in accordance to ISO 16889. The housing pressure drop is directly proportional to the oil density. Consult STAUFF for details.

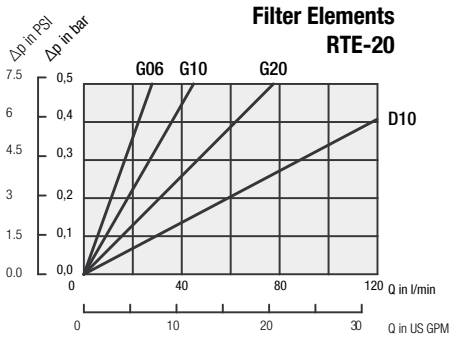
Filter Housing RTF20



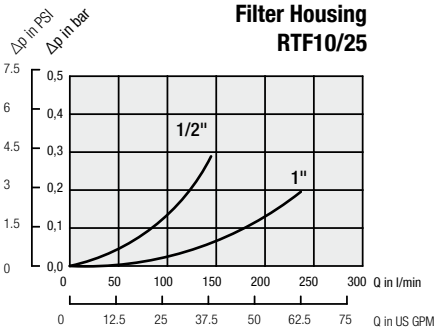
Filter Breather RTEA20



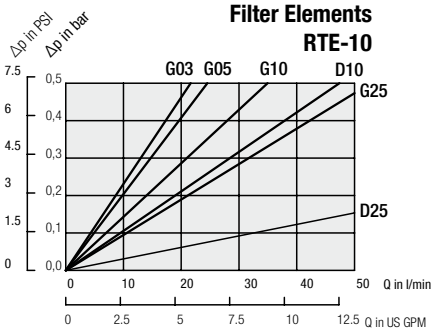
Filter Elements RTE-20



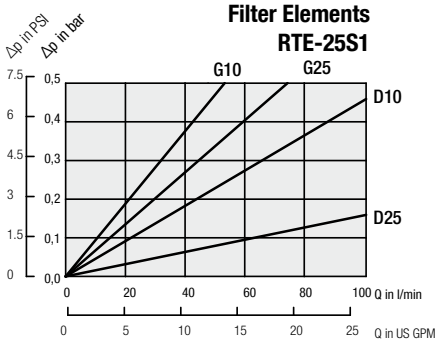
Filter Housing RTF10/25



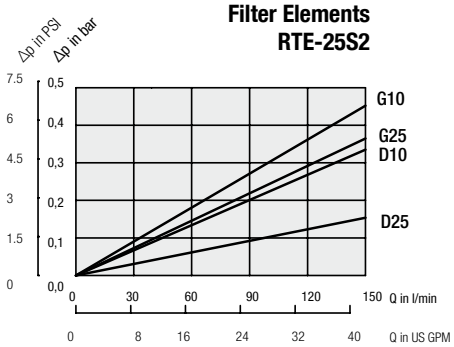
Filter Elements RTE-10



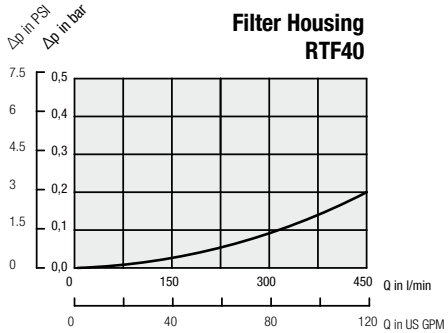
Filter Elements RTE-25S1



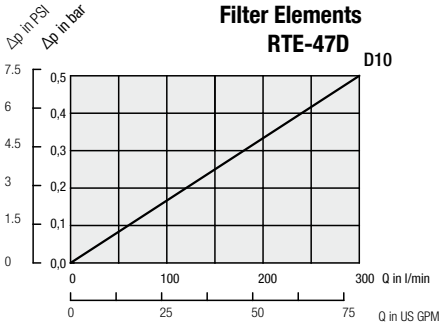
Filter Elements RTE-25S2



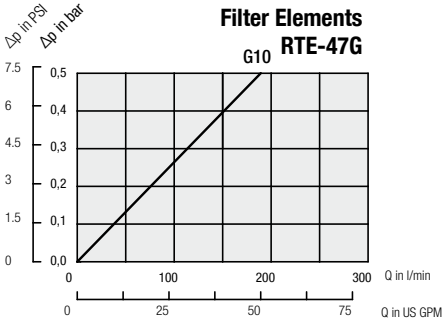
Filter Housing RTF40



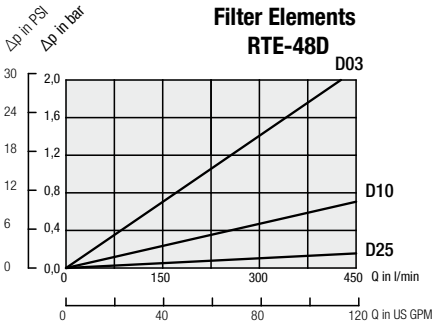
Filter Elements RTE-47D



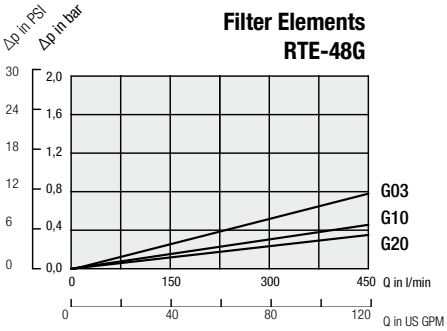
Filter Elements RTE-47G



Filter Elements RTE-48D



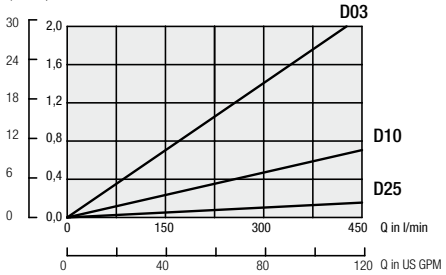
Filter Elements RTE-48G



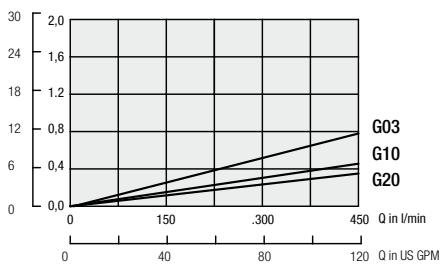
Return Line Filters ▪ Type RTF Flow Characteristics

The following characteristics are valid for mineral oils with a density of 0,85 kg/dm³ and the kinematic viscosity of 30 mm²/s (30cSt). The characteristics have been determined in accordance to ISO 3968. Multipass filter ratings have been obtained in accordance to ISO 16889. The housing pressure drop is directly proportional to the oil density. Consult STAUFF for details.

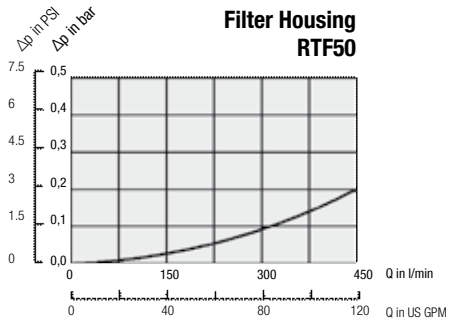
Filter Elements RTE-49D



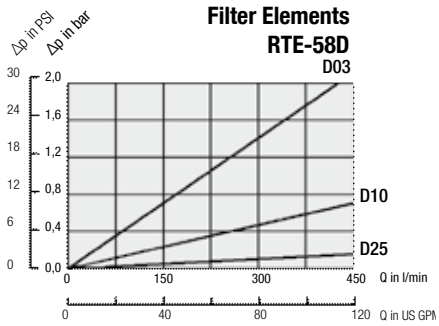
Filter Elements RTE-49G



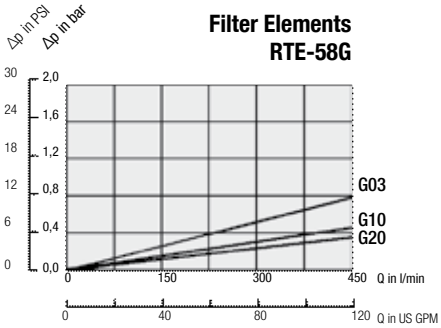
Filter Housing RTF50



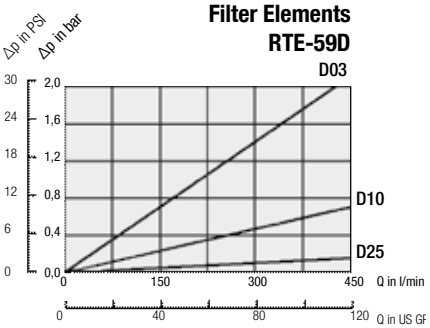
Filter Elements RTE-58D



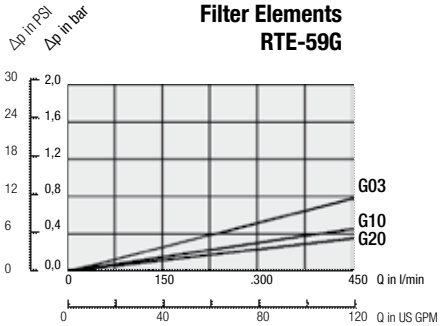
Filter Elements RTE-58G



Filter Elements RTE-59D

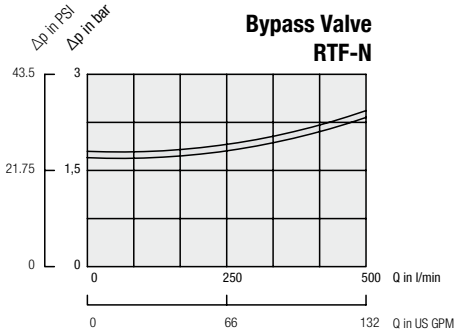


Filter Elements RTE-59G

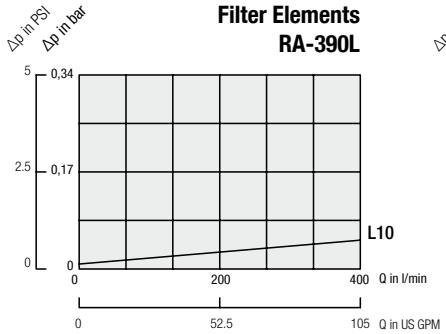


Note: Element pressure drop curves are for "S1" single elements. For "S2" double elements use 50% of the "S1" Value.

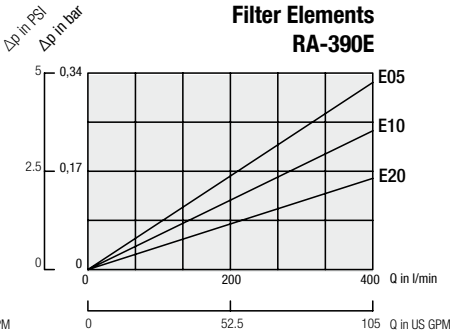
Bypass Valve RTF-N



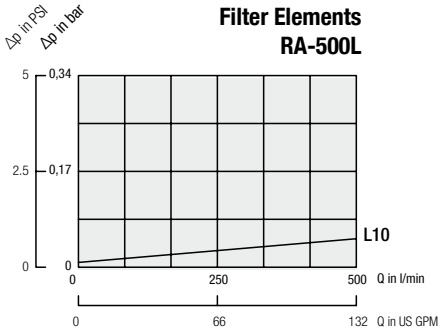
Filter Elements RA-390L



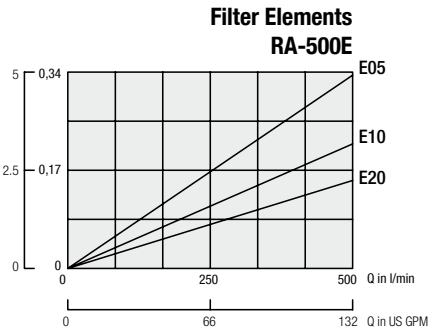
Filter Elements RA-390E



Filter Elements RA-500L



Filter Elements RA-500E



RTF Filter Indicators

Visual Indicators



SIM-04



CI-12

Visual Pressure Clogging Indicators							
	Type	Thread Connection G	Unit of scale	Range of scale	Coloured Segments		
					Green	Yellow	Red
BSP	SIM-02	1/8	bar	0 ... 2,5	0 ... 1,2	1,2 ... 1,5	1,5 ... 2,5
	SIM-04	1/8	bar	0 ... 4	0 ... 2,5	2,5 ... 3	3 ... 4
	SIM-12	1/8	bar	0 ... 12	without coloured segments		
NPT	CI-12	1/8	PSI	0 ... 100	0 ... 13	13 ... 15	15 ... 100
	CI-20	1/8	PSI	0 ... 100	0 ... 21	21 ... 25	25 ... 100

Electrical Indicators



SIE-NO/NC



EPS

Electrical Clogging Indicators					
	Type	Thread Connection G	Unit of scale	Adjustable range / Actuating pressure	Max. over pressure
BSP	SIE-NO	1/8	bar	1,3 (normally open)	80 bar / 1160 PSI
	SIE-NC	1/8	bar	1,3 (normally closed)	80 bar / 1160 PSI
	EPS-1B	1/8	bar	0,35 ... 2,5	25 bar / 362 PSI
NPT	EPS-1	1/8	PSI	5 ... 35	24 bar / 350 PSI

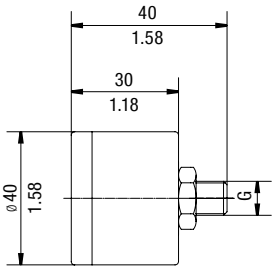
Technical Data SIE / EPS

	Type EPS-1 / 1B
Electrical data	6 Amp 125/250 V AC
Protection	DIN 43650 IP65
Temperature Range	-5°C ... +90°C / +23°F ... +194°F (ambient and media)
Diaphragm Material	NBR
Housing Material	Brass
Adjustable Range	0,35 bar ... 2,0 bar / 5 ... 30 PSI
Dead Band	20% F.S.
Weight	0,1 kg / .22 lbs
Repeatability	± 2 %
Hirschmann Connector With Strain Relief	

	Type SIE (electrical switch)
Electrical data	48V
Protection	DIN 43650 IP54
Temperature Range	-5°C ... +60°C / 23°F ... +140°F (ambient and media)
Diaphragm Material	NBR
Housing Material	Brass
Actuating Pressure	1,3 bar / 19 PSI
Max. current (res.)	0,5 A
Max. current (ind.)	0,2 A
Available as “normally open” (closes contact at actuating pressure) and as “normally closed” (opens contact at actuating pressure)	

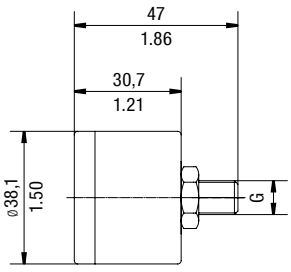
Dimensions

Type SIM



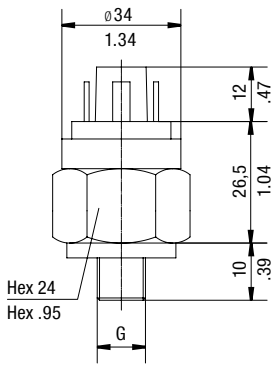
Material for movement and pressure element: Brass

Type CI

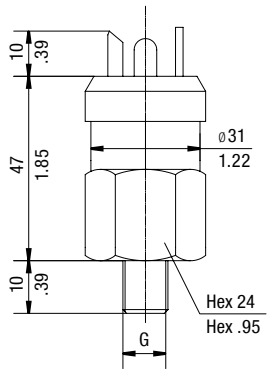


Material for movement and pressure element: Brass

Type SIE



Type EPS



Dimensions in mm/in

Spin-On Filters ▪ Introduction



Product Description

STAUFF provides a complete range of Spin-On filters which can be used either as suction filters or as return line filters for low pressure applications. The various ranges meet international standards. The corresponding STAUFF Filter Elements are available from stock.

Technical Data

Material
- Filter head: Aluminium
- Sealings: NBR (Buna-N®)

Port Connection
- BSP
- NPT
- SAE Flange
- SAE O-ring thread

  Other port connections on request

Operating Pressure
- Up to 14 bar / 200 PSI

Nominal Flow Rate
- Up to 460 l/min / 120 US GPM

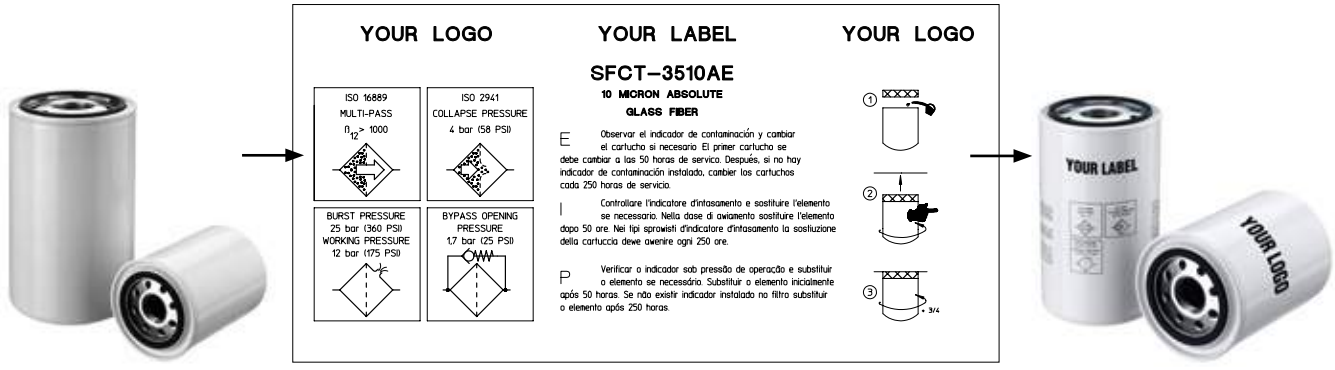
Options and Accessories

Clogging Indicators
- Visual clogging indicator with coloured segments
- Electrical clogging switch

  Other types available on request

Private Labelling
- On request, the filter elements can be printed with a private label

Private Labeling

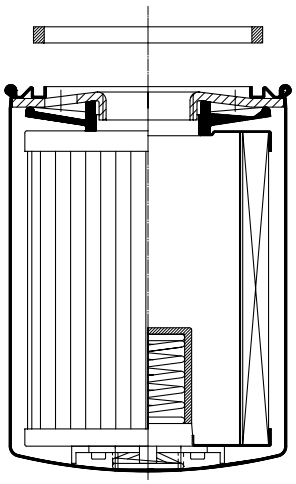


Blank Spin-On element — Artwork for labelling — Spin-On element with your label

Spin-On Filters ▪ Quick Reference Guide

Type A

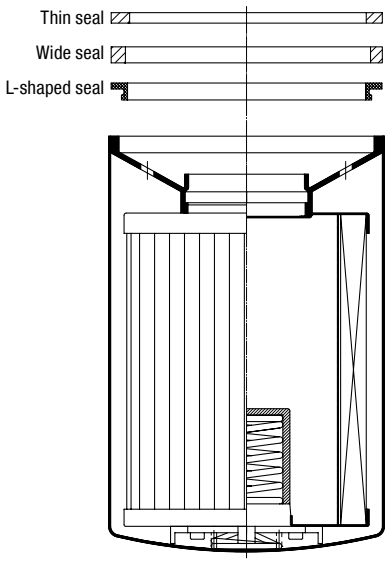
Spin-On Filter with seal contour A
for filter elements with inner seal



Type B

Spin-On Filter with seal contour B
for filter elements with outer seal

Allowed seal types for Spin-On elements



Spin on Filters Quick Reference Guide

Spin-On Filter Heads									Spin-On Filter Elements (see page ...)						
Series	Size	Port	Spigot	Max. Flow Rate* l/min	Max. Flow Rate* US GPM	Catalog Page	Seal Contour Type A	Seal Contour Type B	SF63	SF65	SF67	SFC-35 SFC-36	SFC-57 SFC-58	SFCT-35 SFCT-36	SFCT-57 SFCT-58
SLF	02	1/4 NPT	3/4–16 UNF	19	5	C134	x		C146						
SLF	03	3/8 NPT	3/4–16 UNF	19	5	C134	x		C146						
SLF	04	9/16–18 UN	3/4–16 UNF	26	7	C134	x		C146						
SAF	05	1/2 NPT	1–12 UNF	57	15	C135	x			C147					
SAF	06	3/4–16 UN	1–12 UNF	57	15	C135	x			C147					
SAF	07	3/4 NPT	1–12 UNF	90	25	C135	x			C147					
SAF	11	1-1/16–12 UN	1–12 UNF	90	25	C135	x			C147					
SAF	10	1 NPT	1–12 UNF	128	34	C136	x			C147					
SAF	13	1-5/16–12 UN	1–12 UNF	128	34	C136	x			C147					
SSF	12/12N	G3/4	G3/4	90	25	C137	x					C144			
SSF	100	1 NPT	G1-1/4 + 1-1/2–16 UN	170	45	C138	x	x			C148		C145		
SSF	120L	1-1/4 NPT	G1-1/4 + 1-1/2–16 UN	225	60	C138	x	x			C148		C145		
SSF	120	1-1/4 NPT	G1-1/4 + 1-1/2–16 UN	225	60	C138	x	x			C148		C145		
SSF	130	1-5/16–12 UN	G1-1/4 + 1-1/2–16 UN	225	60	C138	x	x			C148		C145		
SSF	160	1-5/8–12 UN	G1-1/4 + 1-1/2–16 UN	225	60	C138	x	x			C148		C145		
SSF	150	1-1/2 NPT	1-1/2–16 UN	300	80	C139		x			C148				
SSF	180	1-7/8–12 UN	1-1/2–16 UN	300	80	C139		x			C148				
SSF	24N	1-1/2 NPT	G1-1/4 + 1-1/2–16 UN	454	120	C140	x	x			C148		C145		
SSF	24S	1-7/8–12 UN	G1-1/4 + 1-1/2–16 UN	454	120	C140	x	x			C148		C145		
SSF	25	1-1/2 NPT and 2 SAE Flange	G1-1/4 + 1-1/2–16 UN	454	120	C141	x	x			C148		C145		
SSFT	12	3/4 NPT	G3/4	75	20	C142	x	x						C144	
SSFT	20	1-1/2 NPT	G1-1/4 + 1-1/2–16 UN	200	53	C143	x								C145

*** Note: Reflects nominal flow rate for return line application. Actual flow rate will depend on selected element and the viscosity of the fluid.**

Spin-On Filter Heads ▪ SLF-02 / 03 / 04



Technical Data

Construction
- In-line Spin-On filter head

Material
- Aluminium

Port Connection
- NPT
- SAE O-ring thread

Flow Rate
- 26 l/min / 7 US GPM for return line application
- 7 l/min / 2 US GPM for suction line application

Operating Pressure
- Max. 14 bar / 200 PSI
- Max. 5,5 bar / 80 PSI differential pressure (for any applicaton with no bypass valve)

Temperature Range
- -32°C ... +100°C / -25°F ... +212°F

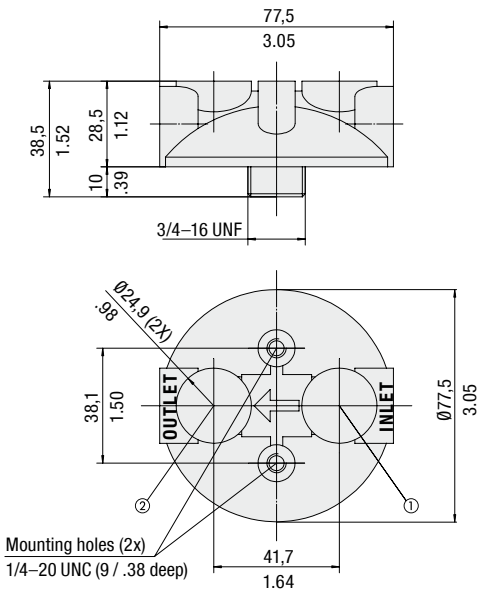
Media Compatibility
- Mineral oils, other fluids on request

Options and Accessories

Filter Elements
- For use with SF63 series elements
  For element types with seal contour type A
  For element types and flow characteristics see page C146
  The element is not part of the scope of delivery

Clogging Indicators
- Visual clogging indicator with coloured segments
- Electrical clogging switch 0,35 ... 2,5 bar / 5 ... 35 PSI adjustable
  For clogging indicator types see page C152

Dimensions



Clearance for element removal: 15 / .59

Clogging Indicator Ports: 1/8 NPT
Pos. 1 for return line application
Pos. 2 for suction line application

Element length L	
SF63	87
	3.43

Dimensions in mm / in

Order Code

SLF - 02 - 0
1 2 3

1 Type

Spin-On Filter Head	**SLF**

2 Connection Style

Connection	Thread	Code
NPT	1/4	**02**
NPT	3/8	**03**
SAE	9/16–18	**04**

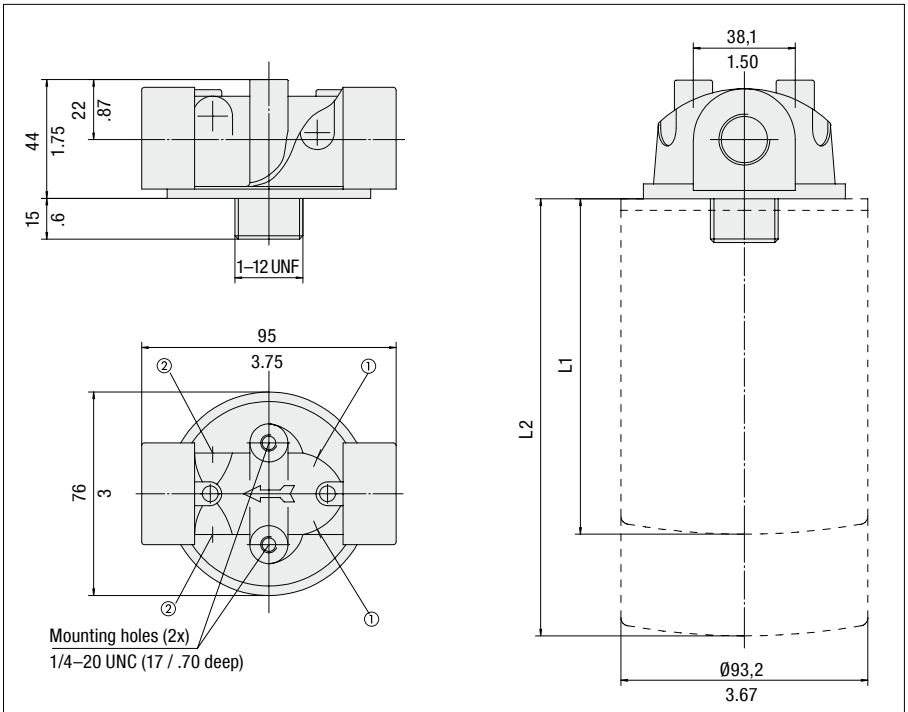
3 Clogging Indicator Port Options

No clogging indicator port	**0**
Clogging indicator port drilled for return line application	**1**
Clogging indicator port drilled for suction line application	**2**
All clogging indicator ports drilled	**4**
Special	**9**

Note: Standard clogging indicator port is 1/8 NPT.

Spin-On Filter Heads ▪ SAF-05 / 06 / 07 / 11

Dimensions



Clearance for element removal: 19 / .75

Clogging Indicator Ports: 1/8 NPT
Pos. 1 for return line application
Pos. 2 for suction line application

Element length L	
L1 SF65 short elements	147
	5.76
L2 SF65 long elements	204
	8

Dimensions in mm / in



Technical Data

Construction
- In-line Spin-On filter head

Material
- Aluminium

Port Connection
- NPT
- SAE O-ring thread

Flow Rate
- 90 l/min / 25 US GPM for return line application
- 23 l/min / 6 US GPM for suction line application

Operating Pressure
- Max. 14 bar / 200 PSI
- Max. 5,5 bar / 80 PSI differential pressure (for any applicaton with no bypass valve)

Temperature Range
- -32°C ... +100°C / -25°F ... +212°F

Media Compatibility
- Mineral oils, other fluids on request

Order Code

SAF - 07 - 25 - 0
1 2 3 4

1 Type

Spin-On Filter Head	**SAF**

2 Connection Style

Connection	Thread	Code
NPT	1/2	**05**
SAE	3/4–16	**06**
NPT	3/4	**07**
SAE	1-1/16–12	**11**

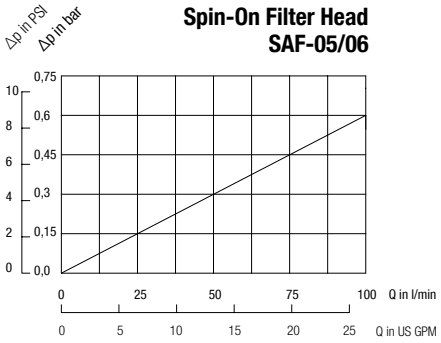
3 Bypass Options

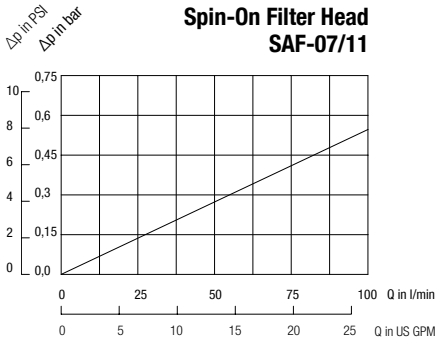
No bypass	**00**
0,2 bar / 3 PSI	**03**
0,35 bar / 5 PSI	**05**
1 bar / 15 PSI	**15**
1,7 bar / 25 PSI	**25**

4 Clogging Indicator Port Options

No clogging indicator port	**0**
Clogging indicator port drilled for return line application	**1**
Clogging indicator port drilled for suction line application	**2**
All clogging indicator ports drilled	**4**
Special	**9**

Note: Standard clogging indicator port is 1/8 NPT.





Options and Accessories

Filter Elements
- For use with SF65 series elements
  For element types with seal contour type A
  For element types and flow characteristics
  see page C147
  The element is not part of the scope of delivery

Valve
- Bypass valve (integrated in the head): Optional

Clogging Indicators
- Visual clogging indicator with coloured segments
- Electrical clogging switch 0,35 ... 2,5 bar / 5 ... 35 PSI adjustable
  For clogging indicator types see page C152

Spin-On Filter Heads ▪ SAF-10 / 13



Technical Data

Construction
- In-line Spin-On filter head

Material
- Aluminium

Port Connection
- NPT
- SAE O-ring thread

Flow Rate
- 128 l/min / 34 US GPM for return line application
- 30 l/min / 8 US GPM for suction line application

Operating Pressure
- Max. 14 bar / 200 PSI
- Max. 5,5 bar / 80 PSI differential pressure (for any applicaton with no bypass valve)

Temperature Range
- -32°C ... +100°C / -25°F ... +212°F

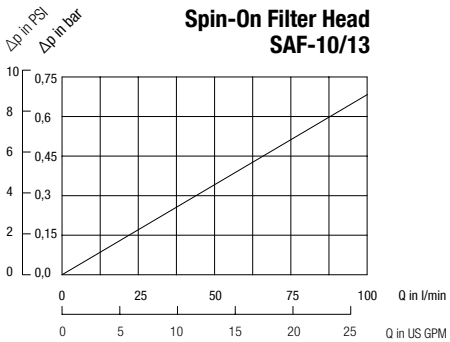
Media Compatibility
- Mineral oils, other fluids on request

Options and Accessories

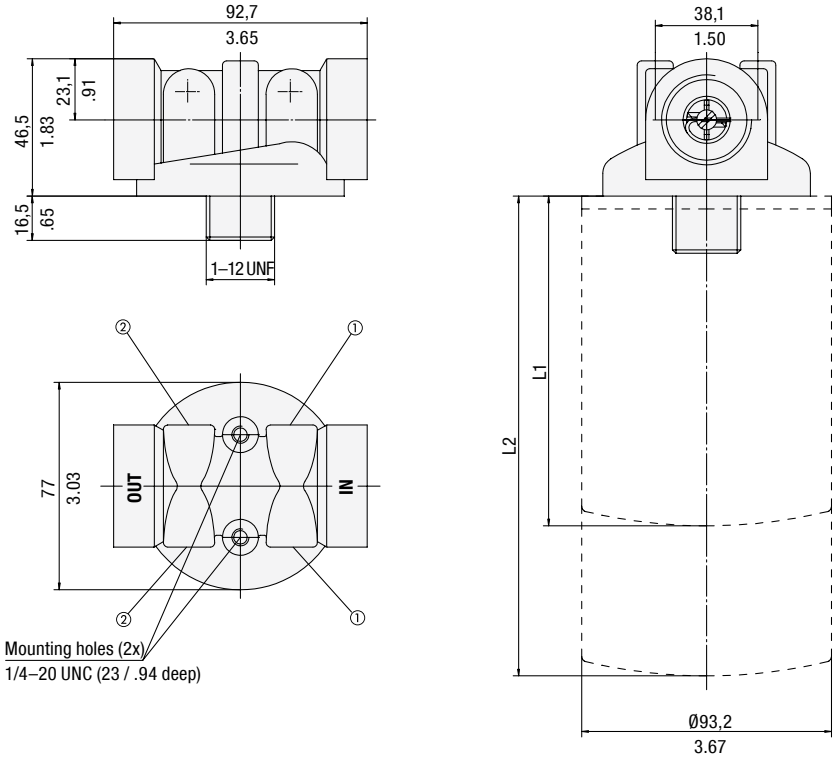
Filter Elements
- For use with SF65 series elements
  For element types with seal contour type A
  For element types and flow characteristics see page C147
  The element is not part of the scope of delivery

Valve
- Bypass valve (integrated in the filter head): Optional

Clogging Indicators
- Visual clogging indicator with coloured segments
- Electrical clogging switch 0,35 ... 2,5 bar / 5 ... 35 PSI adjustable
  For clogging indicator types see page C152



Dimensions



Clearance for element removal: 19 / .75

Clogging Indicator Ports: 1/8 NPT
Pos. 1 for return line application
Pos. 2 for suction line application

Element length L	
L1 SF65 short element	147
	5.76
L2 SF65 long element	204
	8

Dimensions in mm / in

Order Code

SAF - 10 - 25 - 0
1 2 3 4

1 Type

Spin-On Filter Head	**SAF**

2 Connection Style

Connection	Thread	Code
NPT	1	**10**
SAE	1-5/16–12	**13**

3 Bypass Options

No bypass	**00**
0,2 bar / 3 PSI	**03**
0,35 bar / 5 PSI	**05**
1 bar / 15 PSI	**15**
1,7 bar / 25 PSI	**25**

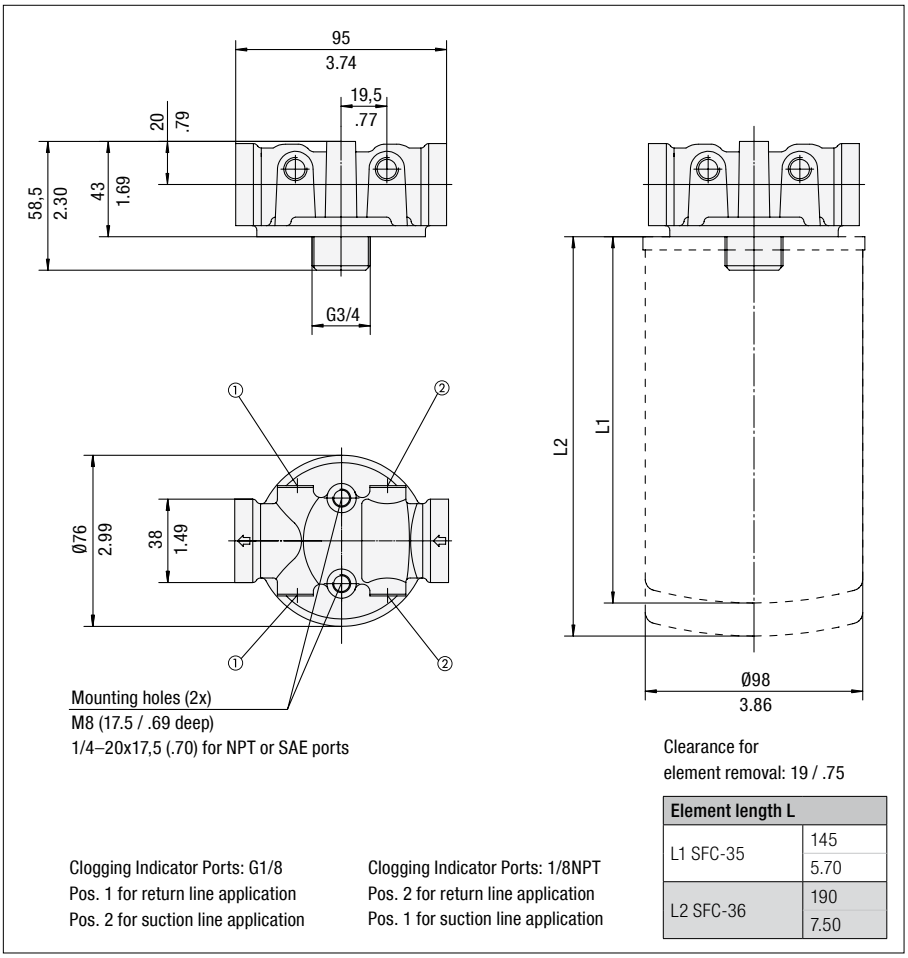
4 Clogging Indicator Port Options

No clogging indicator port	**0**
Clogging indicator port drilled for return line application	**1**
Clogging indicator port drilled for suction line application	**2**
All clogging indicator ports drilled	**4**
Special	**9**

Note: Standard clogging indicator port is 1/8 NPT.

Spin-On Filter Heads ▪ SSF-12 / 12N

Dimensions



Element length L	
L1 SFC-35	145 5.70
L2 SFC-36	190 7.50

Dimensions in mm / in



Technical Data

Construction
- In-line Spin-On filter head

Material
- Aluminium

Port Connection
- BSP

Flow Rate
- 90 l/min / 25 US GPM for return line application
- 23 l/min / 6 US GPM for suction line application

Operating Pressure
- Max. 12 bar / 174 PSI
- Max. 4 bar / 58 PSI differential pressure (for any applicaton with no bypass valve)

Temperature Range
- -32°C ... +100°C / -25°F ... +212°F

Media Compatibility
- Mineral oils, other fluids on request

Order Code

SSF - 12 - 25 - 4

1 2 3 4

1 Type

Spin-On Filter Head	**SSF**

2 Connection Style

Connection	Thread	Code
BSP	3/4	**12**
NPT	3/4	**12N**

3 Bypass Options

No bypass	**00**
0,2 bar / 3 PSI	**03**
1,7 bar / 25 PSI	**25**

Note: Other settings available on request.

4 Clogging Indicator Port Options

All clogging indicator ports drilled	**4**
Special	**9**

Note: Standard clogging indicator port is G1/8.

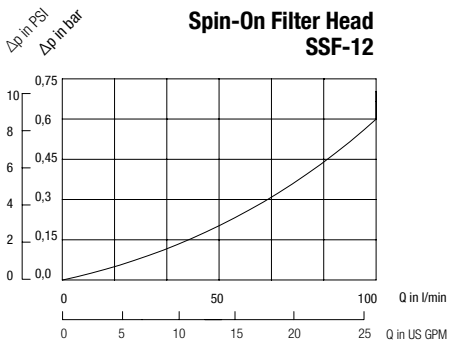
Options and Accessories

Filter Elements
- For use with SFC-35/36 series elements
  For element types with seal contour type A
  For element types and flow characteristics
  see page C144
  The element is not part of the scope of delivery

Valve
- Bypass valve (integrated in the filter head): Optional

Clogging Indicators
- Visual clogging indicator with coloured segments
- Electrical clogging switch 1,3 bar / 19 PSI adjustable
  For clogging indicator types see page C152

Spin-On Filter Head SSF-12



Spin-On Filter Heads ▪ SSF-100 / 120 / 120L / 130 / 160



Technical Data

Construction
- In-line Spin-On filter head

Material
- Aluminium

Port Connection
- NPT
- SAE O-ring thread

Flow Rate
- 225 l/min / 60 US GPM for return line application
- 46 l/min / 12 US GPM for suction line application

Operating Pressure
- Max. 14 bar / 200 PSI
- Max. 5,5 bar / 80 PSI differential pressure (for any applicaton with no bypass valve)

Temperature Range
- -32°C ... +100°C / -25°F ... +212°F

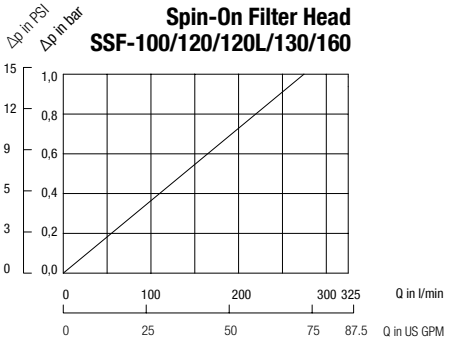
Media Compatibility
- Mineral oils, other fluids on request

Options and Accessories

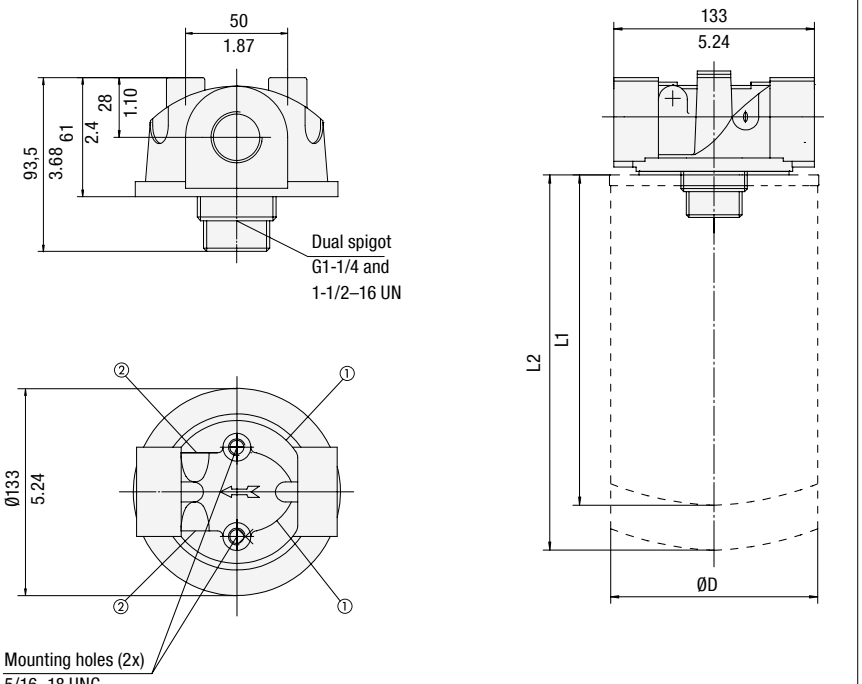
Filter Elements
- For use with SF67 and SFC-57/58 series elements
  For element types with seal contour type A and B
  For element types and flow characteristics
  see page C148 for SF67 and page C149 for SFC-57/58.
  The element is not part of the scope of delivery

Valve
- Bypass valve (integrated in the filter head): Optional

Clogging Indicators
- Visual clogging indicator with coloured segments
- Electrical clogging switch 0,35 ... 2,5 bar / 5 ... 35 PSI adjustable
  For clogging indicator types see page C152



Dimensions



Element length L	L	ØD
L1 SFC-57	180	132
	7.10	5.20
L2 SFC-58	226	132
	8.90	5.20
L1 SF67 short element	168	128
	6.60	5.10
L2 SF67 long element	270	128
	10.60	5.10

Clearance for element removal: 40 / 1.58

Clogging Indicator Ports: 1/8 NPT
Pos. 1 for return line application
Pos. 2 for suction line application

Dimensions in mm / in

Order Code

SSF - 120 - 25 - 0
1 2 3 4

1 Type

Spin-On Filter Head	**SSF**

2 Connection Style

Connection	Thread	Code
NPT	1	**100**
NPT	1-1/4	**120L**
NPT	1-1/2	**120**
SAE	1-5/16–12	**130**
SAE	1-5/8–12	**160**

3 Bypass Options

No bypass	**00**
0,2 bar / 3 PSI	**03**
0,35 bar / 5 PSI	**05**
1 bar / 15 PSI	**15**
1,7 bar / 25 PSI	**25**

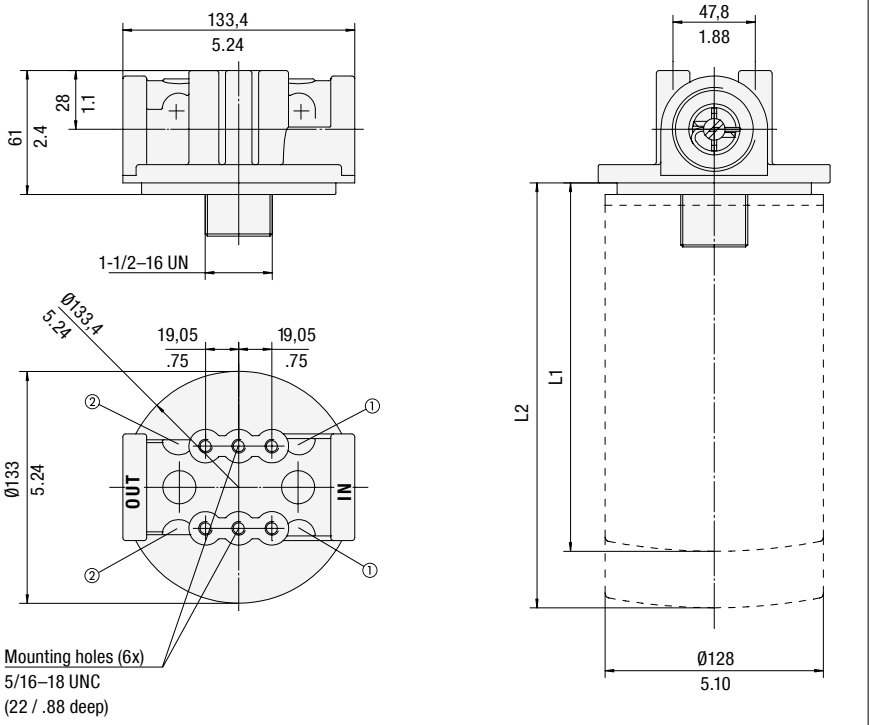
4 Clogging Indicator Port Options

No clogging indicator port	**0**
Clogging indicator port drilled for return line application	**1**
Clogging indicator port drilled for suction line application	**2**
All clogging indicator ports drilled	**4**
Special	**9**

Note: Standard clogging indicator port is 1/8 NPT.

Spin-On Filter Heads ▪ SSF-150 / 180

Dimensions



Clearance for element removal: 30 / 1.18

Clogging Indicator Ports: 1/8 NPT
Pos. 1 for return line application
Pos. 2 for suction line application

Element length L	
L1 SF67 short element	168
	6.60
L2 SF67 long element	270
	10.60

Dimensions in mm / in



Technical Data

Construction
- In-line Spin-On filter head

Material
- Aluminium

Port Connection
- NPT
- SAE O-ring thread

Flow Rate
- 300 l/min / 80 US GPM for return line application
- 113 l/min / 30 US GPM for suction line application

Operating Pressure
- Max. 14 bar / 200 PSI
- Max. 5,5 bar / 80 PSI differential pressure (for any applicaton with no bypass valve)

Temperature Range
- -32°C ... +100°C / -25°F ... +212°F

Media Compatibility
- Mineral oils, other fluids on request

Order Code

SSF - 150 - 25 - 0

1 2 3 4

1 Type

Spin-On Filter Head	**SSF**

2 Connection Style

Connection	Thread	Code
NPT	1-1/2	**150**
SAE	1-7/8–12	**180**

3 Bypass Options

No bypass	**00**
0,2 bar / 3 PSI	**03**
0,35 bar / 5 PSI	**05**
1 bar / 15 PSI	**15**
1,7 bar / 25 PSI	**25**

4 Clogging Indicator Port Options

No clogging indicator port	**0**
Clogging indicator port drilled for return line application	**1**
Clogging indicator port drilled for suction line application	**2**
All clogging indicator ports drilled	**4**
Special	**9**

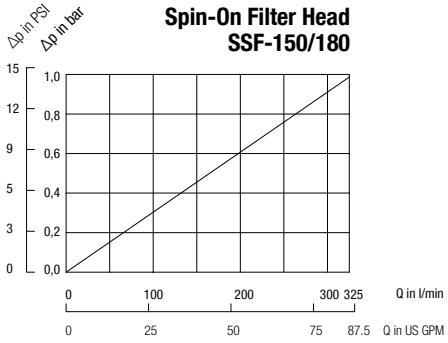
Note: Standard clogging indicator port is 1/8 NPT.

Options and Accessories

Filter Elements
- For use with SF67 series elements
  For element types with seal contour type B
  For element types and flow characteristics
  see page C148
  The element is not part of the scope of delivery

Valve
- Bypass valve (integrated in the filter head): Optional

Clogging Indicators
- Visual clogging indicator with coloured segments
- Electrical clogging switch 0,35 ... 2,5 bar / 5 ... 35 PSI adjustable
  For clogging indicator types see page C152



Double Spin-On Filter Heads ▪ SSF-24N / 24S



Technical Data

Construction
- In-line Double Spin-On filter head

Material
- Aluminium

Port Connection
- NPT
- SAE flange
- SAE O-ring thread

Flow Rate
- 454 l/min / 120 US GPM for return line application
- 132 l/min / 35 US GPM for suction line application

Operating Pressure
- Max. 12 bar / 174 PSI
- Max. 5,5 bar / 80 PSI differential pressure (for any applicaton with no bypass valve)

Temperature Range
- -30°C ... +100°C / -22°F ... +212°F

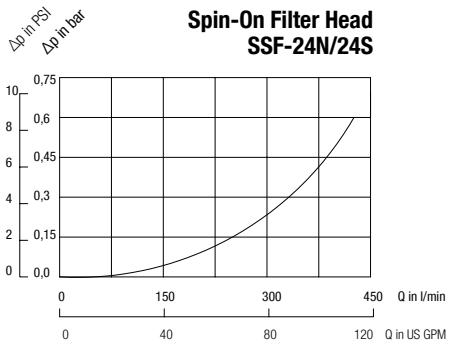
Media Compatibility
- Mineral oils, other fluids on request

Options and Accessories

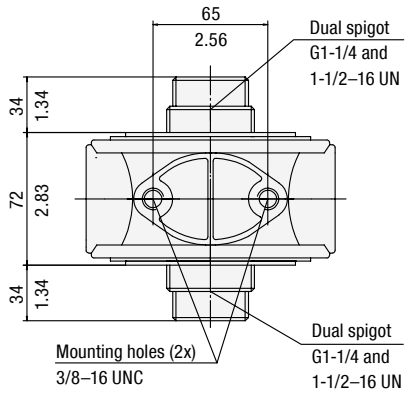
Filter Elements
- For use with SF67 and SFC-57/58 series elements
  For element types with seal contour type A and B
  For element types and flow characteristics
  see page C148 for SF67 and page C145 for SFC-57/58
  The element is not part of the scope of delivery

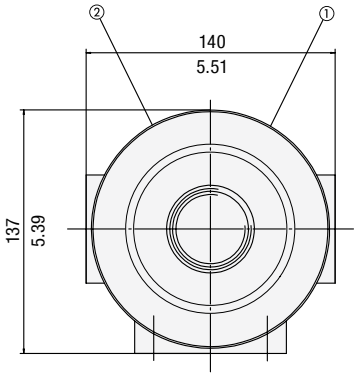
Valve
- Bypass valve (integrated in the head): Optional

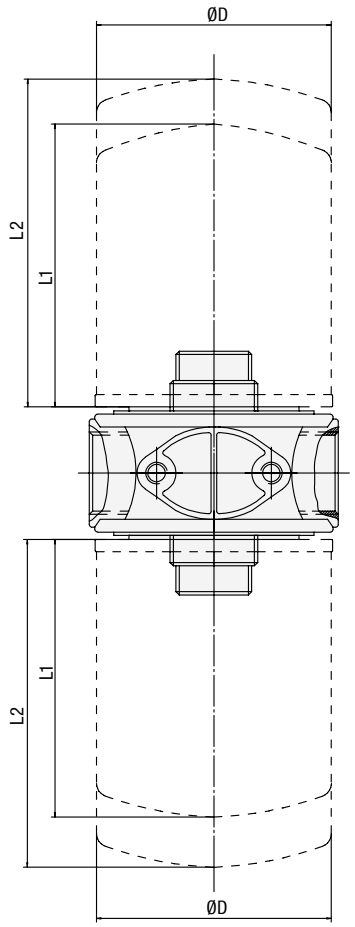
Clogging Indicators
- Visual clogging indicator with coloured segments
- Electrical clogging switch 0,35 ... 2,5 bar / 5 ... 35 PSI adjustable
  For clogging indicator types see page C152



Dimensions







Element length L	L	ØD
L1 SFC-57	180	132
	7.10	5.20
L2 SFC-58	226	132
	8.90	5.20
L1 SF67 short element	168	128
	6.60	5.10
L2 SF67 long element	270	128
	10.60	5.10

Clearance for element removal: 40 / 1.58

Clogging Indicator Ports: 1/8 NPT
Pos. 1 for return line application
Pos. 2 for suction line application

Dimensions in mm / in

Order Code

SSF - 24N - 25 - 0
1 2 3 4

1 Type

Double Spin-On Filter Head	**SSF**

2 Connection Style

Connection	Thread	Code
NPT	1-1/2	**24N**
SAE	1-7/8–12	**24S**

3 Bypass Options

No bypass	**00**
0,2 bar / 3 PSI	**03**
0,35 bar / 5 PSI	**05**
1 bar / 15 PSI	**15**
1,7 bar / 25 PSI	**25**

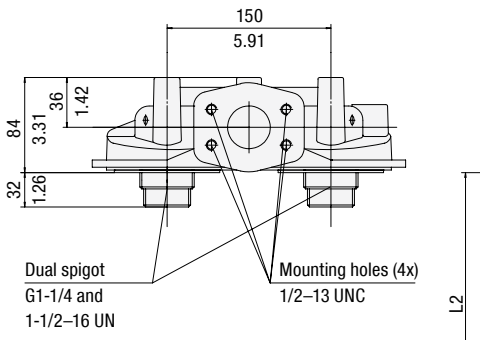
4 Clogging Indicator Port Options

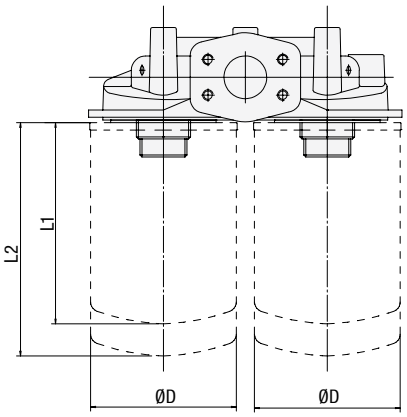
No clogging indicator port	**0**
Clogging indicator port drilled for return line application	**1**
Clogging indicator port drilled for suction line application	**2**
All clogging indicator ports drilled	**4**
Special	**9**

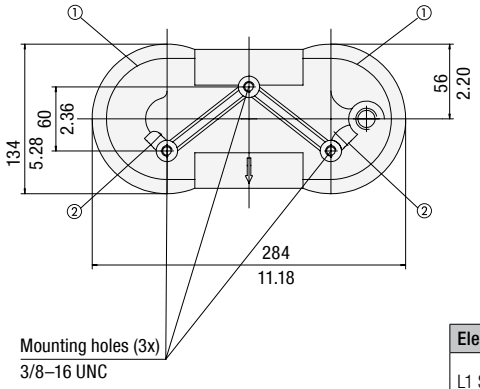
Note: Standard clogging indicator port is 1/8 NPT.

Double Spin-On Filter Heads ▪ SSF-25

Dimensions







Element length L	L	ØD
L1 SFC-57	180	132
	7.10	5.20
L2 SFC-58	226	132
	8.90	5.20
L1 SF67 short element	168	128
	6.60	5.10
L2 SF67 long element	270	128
	10.60	5.10

Clearance for element removal: 40 / 1.58

Clogging Indicator Port: 1/8 NPT
Pos. 1 for return line application
Pos. 2 for suction line application

Dimensions in mm / in



Technical Data

Construction
- In-line Double Spin-On filter head

Material
- Aluminium

Port Connection
- NPT
- SAE flange

Flow Rate
- 454 l/min / 120 US GPM for return line application
- 132 l/min / 35 US GPM for suction line application

Operating Pressure
- Max. 12 bar / 174 PSI
- Max. 5,5 bar / 80 PSI differential pressure (for any applicaton with no bypass valve)

Temperature Range
- -30°C ... +100°C / -22°F ... +212°F

Media Compatibility
- Mineral oils, other fluids on request

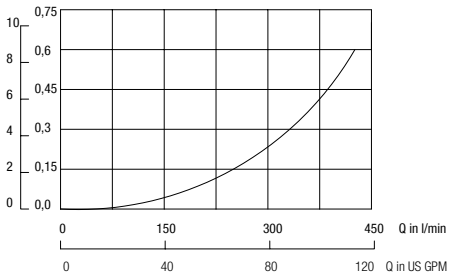
Options and Accessories

Filter Elements
- For use with SF67 and SFC-57/58 series elements
  For element types with seal contour type A and B
  For element types and flow characteristics
  see page C148 for SF67 and page C145 for SFC-57/58
  The element is not part of the scope of delivery

Valve
- Bypass valve (integrated in the head): Optional

Clogging Indicators
- Visual clogging indicator with coloured segments
- Electrical clogging switch 0,35 ... 2,5 bar / 5 ... 35 PSI adjustable
  For clogging indicator types see page C152

Spin-On Filter Head SSF-25



Order Code

SSF - 25 - 25 - 0

1 2 3 4

1 Type

Double Spin-On Filter Head	**SSF**

2 Connection Style

Connection	Thread	Code
NPT and SAE Flange	1-1/2 and 2 SAE Code 61 Flange	**25**

3 Bypass Options

No bypass	**00**
0,2 bar / 3 PSI	**03**
0,35 bar / 5 PSI	**05**
1 bar / 15 PSI	**15**
1,7 bar / 25 PSI	**25**

4 Clogging Indicator Port Options

No clogging indicator port	**0**
Clogging indicator port drilled for return line application	**1**
Clogging indicator port drilled for suction line application	**2**
All clogging indicator ports drilled	**4**
Special	**9**

Note: Standard clogging indicator port is 1/8 NPT.

Tank Top Spin-On Filter Heads ▪ SSFT-12



Technical Data

Construction
- Tank Top Spin-On filter head

Material
- Aluminium

Port Connection
- NPT

Flow Rate
- 75 l/min / 20 US GPM

Operating Pressure
- Max. 7 bar / 100 PSI

Temperature Range
- -30°C ... +100°C / -22°F ... +212°F

Media Compatibility
- Mineral oils, other fluids on request

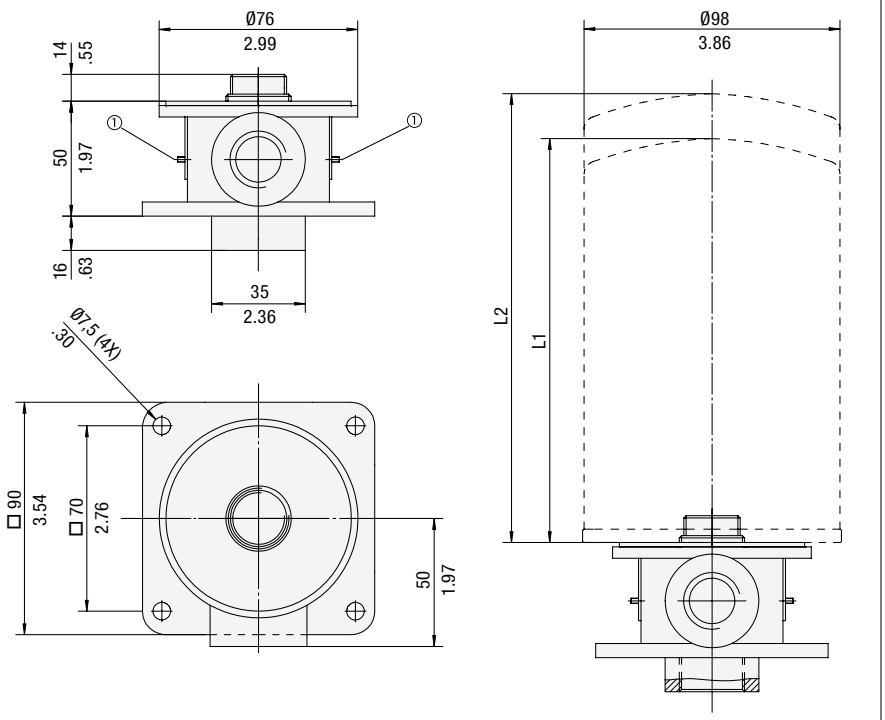
Options and Accessories

Filter Elements
- For use with SFCT-35/36 series elements
  For element types with seal contour type A and B
  For element types and flow characteristics
  see page C144
  The element is not part of the scope of delivery

Valve
- Bypass valve 1,7 bar / 25 PSI integrated in the filter element

Clogging Indicators
- Visual clogging indicator with coloured segments
- Electrical clogging switch 0,35 ... 2,5 bar / 5 ... 35 PSI adjustable
  For clogging indicator types see page C152

Dimensions



Clearance for element removal: 20 / .8

Clogging Indicator Port: 1/8 NPT
Pos. 1 for return line application

Element length L	
L1 SFCT-35	145
	5.70
L2 SFCT-36	190
	7.50

Dimensions in mm / in

Order Code

SSFT - 12 - 1
1 2 3

1 Type

Spin-On Filter Head	**SSFT**

2 Connection Style

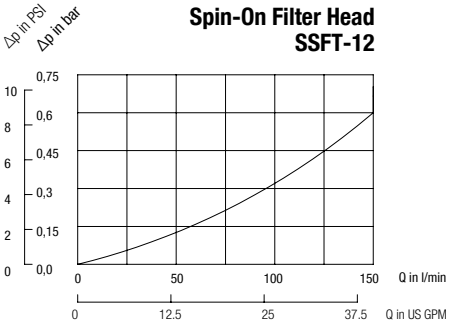
Connection	Thread	Code
NPT	3/4	**12**

3 Clogging Indicator Port Options

No clogging indicator port	**0**
Clogging indicator port drilled for return line application	**1**
Special	**9**

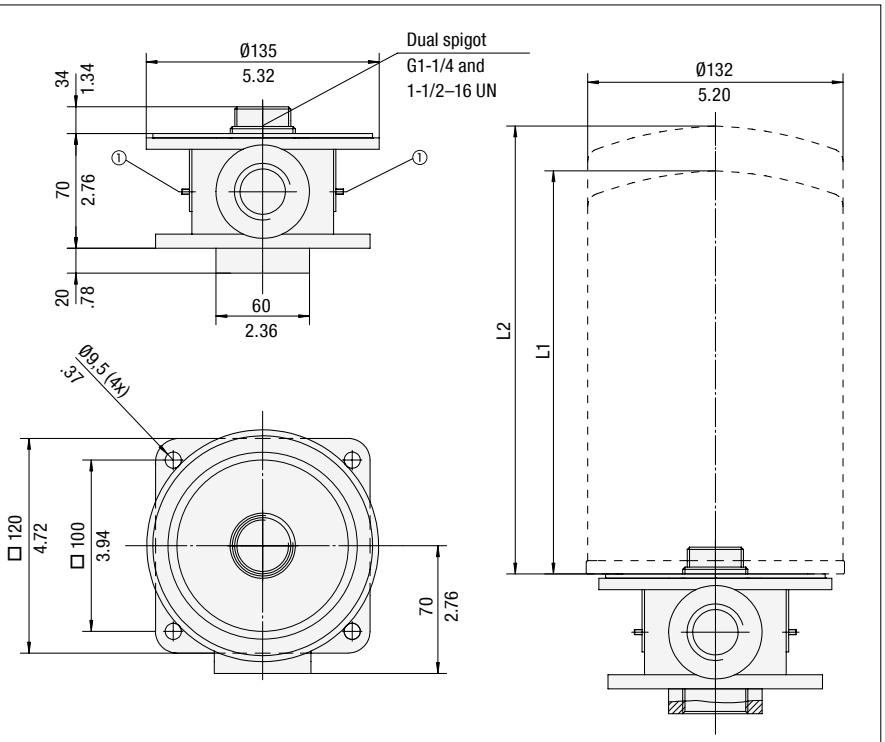
Note: Standard clogging indicator port is 1/8 NPT.

Spin-On Filter Head SSFT-12



Tank Top Spin-On Filter Heads ▪ SSFT-20

Dimensions



Element length L	
L1 SFCT-57	180
	7.10
L2 SFCT-58	226
	8.90

Clearance for element removal: 20 / .8

Clogging Indicator Ports: 1/8 NPT
Pos. 1 for return line application

Dimensions in mm / in



Technical Data

Construction
- Tank Top Spin-On filter head

Material
- Aluminium

Port Connection
- NPT

Flow Rate
- 200 l/min / 53 US GPM

Operating Pressure
- Max. 7 bar / 100 PSI

Temperature Range
- -30°C ... +100°C / -22°F ... +212°F

Media Compatibility
- Mineral oils, other fluids on request

Options and Accessories

Filter Elements
- For use with SFCT-57/58 series elements
  For element types with seal contour type A
  For element types and flow characteristics
  see page C145
  The element is not part of the scope of delivery

Valve
- Bypass valve 1,7 bar / 25 PSI integrated in the filter element

Clogging Indicators
- Visual clogging indicator with coloured segments
- Electrical clogging switch 0,35 ... 2,5 bar / 5 ... 35 PSI adjustable
  For clogging indicator types see page C152

Order Code

SSFT - 20 - 1
1 2 3

1 Type

Spin-On Filter Head	**SSFT**

2 Connection Style

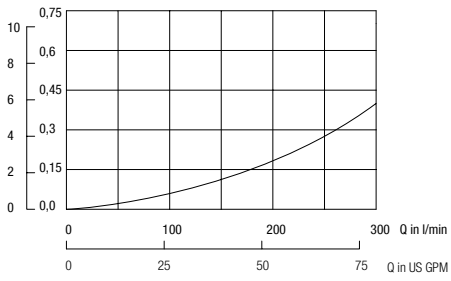
Connection	Thread	Code
NPT	1-1/2	**20**

3 Clogging Indicator Port Options

No clogging indicator port	**0**
Clogging indicator port drilled for return line application	**1**
Special	**9**

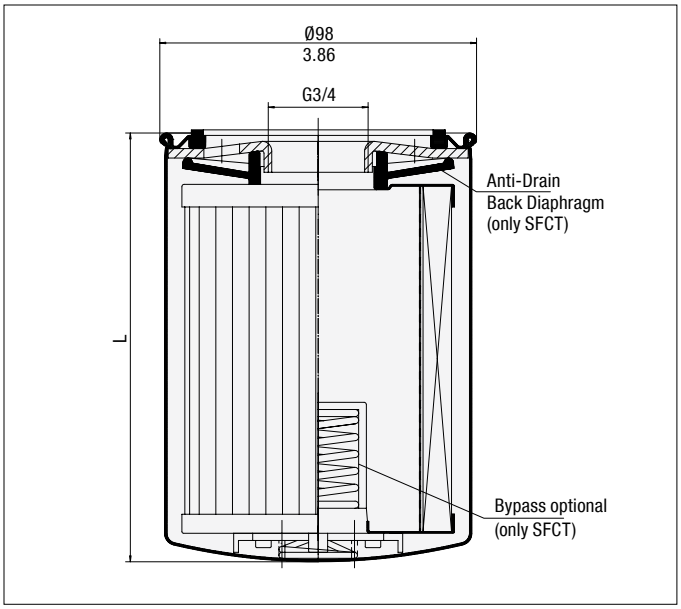
Note: Standard clogging indicator port is 1/8 NPT.

Spin-On Filter Head
SSFT-20



Spin-On Elements ▪ Type SFC-35 / 36 and SFCT-35 / 36





Dimensions in mm / in

Product Description

STAUFF SFC-35/36 series Spin-On Elements are used with the STAUFF SSF-12 Spin-On Filters with G3/4 threaded ports.

STAUFF SFCT-35/36 series Spin-On Elements have an internal 1,7 bar / 25 PSI bypass and anti-drain back diaphragm for use with STAUFF SSFT-12 Tank Top Spin-On Filters.

Technical Data

Connection Thread
- G3/4

Seal Contour
- Type A (see page C133)

Sealing Material
- NBR (Buna-N®)

Operating Pressure
- SFC: Max. 12 bar / 174 PSI
- SFCT: Max. 7 bar / 100 PSI

Differential Pressure
- SFC: Max. 4 bar / 58 PSI
- SFCT: Max. 3 bar / 43,5 PSI
  (for any application with no bypass valve)

Burst Pressure
- SFC: Max. 25 bar / 363 PSI
- SFCT: Max. 21 bar / 305PSI

Bypass Pressure
- 1,7 bar / 25 PSI (only SFCT-series)

Temperature Range
- -32°C ...+100°C / -25°F ... +212°F

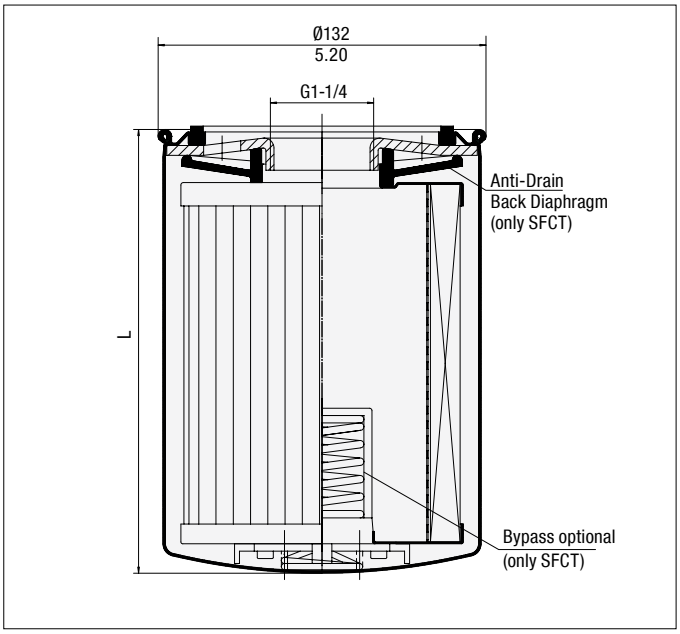
Media Compatibility
- Mineral oils, other fluids on request

Dimensions

Order Code	Filter Paper				Inorganic Glass Fibre					
Element without bypass valve	SFC-3510E	SFC-3610E	SFC-3525E	SFC-3625E	SFC-3503AE	SFC-3603AE	SFC-3510AE	SFC-3610AE	SFC-3525AE	SFC-3625AE
Element with bypass valve	SFCT-3510E	SFCT-3610E	SFCT-3525E	SFCT-3625E			SFCT-3510AE	SFCT-3610AE	SFCT-3525AE	SFCT-3625AE
	10µm	10µm	25µm	25µm	3µm	3µm	10µm	10µm	25µm	25µm
Length L (mm/in)	145 5.7	190 7.5	145 5.7	190 7.5	145 5.7	190 7.5	145 5.7	190 7.5	145 5.7	190 7.5
ß-Ratio	$ß_{10} \geq 2$	$ß_{10} \geq 2$	$ß_{25} \geq 2$	$ß_{25} \geq 2$	$ß_{3} \geq 200$	$ß_{3} \geq 200$	$ß_{10} \geq 200$	$ß_{10} \geq 200$	$ß_{25} \geq 200$	$ß_{25} \geq 200$
Filter Area (cm^2/in^2)	3305 510	4745 735	3305 510	4745 735	2140 330	3630 560	2140 330	3630 560	2140 330	3630 560
Carton Quantity	1	1	1	1	1	1	1	1	1	1
Carton Weight (kg/lbs)	0,9 2	1,3 2.6	0,9 2	1,3 2.6	0,9 2	1,3 2.6	0,9 2	1,3 2.6	0,9 2	1,3 2.6

Order Code	Wire Mesh		Brass Mesh	
Element without bypass valve	SFC-3560E	SFC-3660E	SFC-35125E	SFC-36125E
Element with bypass valve	SFCT-3560E	SFCT-3660E	SFCT-35125E	SFCT-36125E
	60µm	60µm	125µm	125µm
Length L (mm/in)	145 5.7	190 7.5	145 5.7	190 7.5
ß-Ratio	n/a	n/a	n/a	n/a
Filter Area (cm^2/in^2)	980 150	1390 215	980 150	1390 215
Carton Quantity	1	1	1	1
Carton Weight (kg/lbs)	0,9 2	1,3 2.6	0,9 2	1,3 2.6

Spin-On Elements ▪ Type SFC-57 / 58 and SFCT-57 / 58



Dimensions in mm / in



Product Description

STAUFF Spin-On Filter Elements of the SFC-/SFCT-57/58 series are used with the STAUFF SSF-20/24/25/100/120/130 and 160 series Spin-On Filters with G1-1/4 threaded ports.

STAUFF SFCT-57/58 series Spin-On Elements have an internal 1,7 bar / 25 PSI bypass and anti-drain back diaphragm for use with STAUFF SSFT-20 Tank Top Spin-On Filters.

Technical Data

Connection Thread
- G1-1/4

Seal Contour
- Type A (see page C133)

Sealing Material
- NBR (Buna-N®)

Operating Pressure
SFC: Max. 12 bar / 174 PSI
SFCT: Max. 7 bar / 100 PSI

Differential Pressure
- SFC: Max. 4 bar / 58 PSI
- SFCT: Max. 3 bar / 43,5PSI
  (for any application with no bypass valve)

Burst Pressure
- SFC: Max. 25 bar / 363 PSI
- SFCT: Max. 21 bar / 305PSI

Bypass Pressure
- 1,7 bar / 25 PSI
  (only SFCT-series)

Temperature Range
- -32°C ...+100°C / -25°F ... +212°F

Media Compatibility
- Mineral oils, other fluids on request

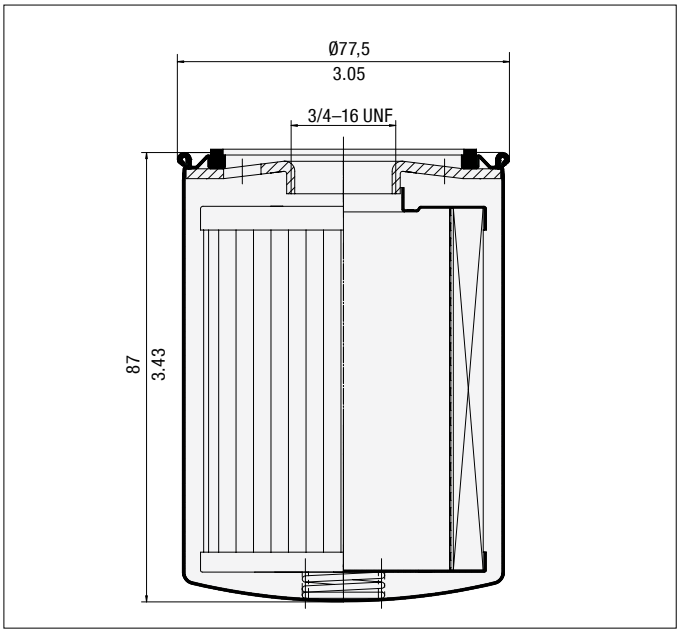
Dimensions

Order Code	Filter Paper				Inorganic Glass Fibre					
Element without bypass valve	SFC-5710E	SFC-5810E	SFC-5725E	SFC-5825E	SFC-5703AE	SFC-5803AE	SFC-5710AE	SFC-5810AE	SFC-5725AE	SFC-5825AE
Element with bypass valve	SFCT-5710E	SFCT-5810E	SFCT-5725E	SFCT-5825E	SFCT-5703AE	SFCT-5803AE	SFCT-5710AE	SFCT-5810AE	SFCT-5725AE	SFCT-5825AE
	10µm	10µm	25µm	25µm	3µm	3µm	10µm	10µm	25µm	25µm
Length L (mm/in)	180 7.1	226 8.9	180 7.1	226 8.9	180 7.1	226 8.9	180 7.1	226 8.9	180 7.1	226 8.9
ß-Ratio	$ß_{10} \geq 2$	$ß_{10} \geq 2$	$ß_{25} \geq 2$	$ß_{25} \geq 2$	$ß_{3} \geq 200$	$ß_{3} \geq 200$	$ß_{10} \geq 200$	$ß_{10} \geq 200$	$ß_{25} \geq 200$	$ß_{25} \geq 200$
Filter Area (cm^2/in^2)	5560 860	7360 1140	5560 860	7360 1140	4450 700	5890 910	4450 700	5890 910	4450 700	5890 910
Carton Quantity	1	1	1	1	1	1	1	1	1	1
Carton Weight (kg/lbs)	1,4 3	1,85 4	1,4 3	1,85 4	1,4 3	1,85 4	1,4 3	1,85 4	1,4 3	1,85 4

Order Code	Wire Mesh		Brass Mesh	
Element without bypass valve	SFC-5760E	SFC-5860E	SFC-57125E	SFC-58125E
Element with bypass valve	SFCT-5760E	SFCT-5860E	SFCT-57125E	SFCT-58125E
	60µm	60µm	125µm	125µm
Length L (mm/in)	180 7.1	226 8.9	180 7.1	226 8.9
ß-Ratio	n/a	n/a	n/a	n/a
Filter Area (cm^2/in^2)	1940 300	2570 400	1940 300	2570 400
Carton Quantity	1	1	1	1
Carton Weight (kg/lbs)	0,9 2	1,3 2.6	0,9 2	1,3 2.6

Spin-On Elements ▪ Type SF63





Dimensions in mm / in

Product Description

STAUFF SF63-series Spin-On Elements are used with the STAUFF SLF Spin-On Filters.

Technical Data

Connection Thread
- 3/4–16 UNF

Seal Contour
- Type A (see page C133)

Sealing Material
- NBR (Buna-N®)

Operating Pressure
- Max. 14 bar / 200 PSI

Differential Pressure
- Max. 5,5 bar / 80 PSI
  (for any application with no bypass valve)

Burst Pressure
- Max. 20 bar / 290 PSI

Bypass Pressure
- SF6310-18 1,24 bar / 18 PSI
- SF6325-10 0,70 bar / 10 PSI

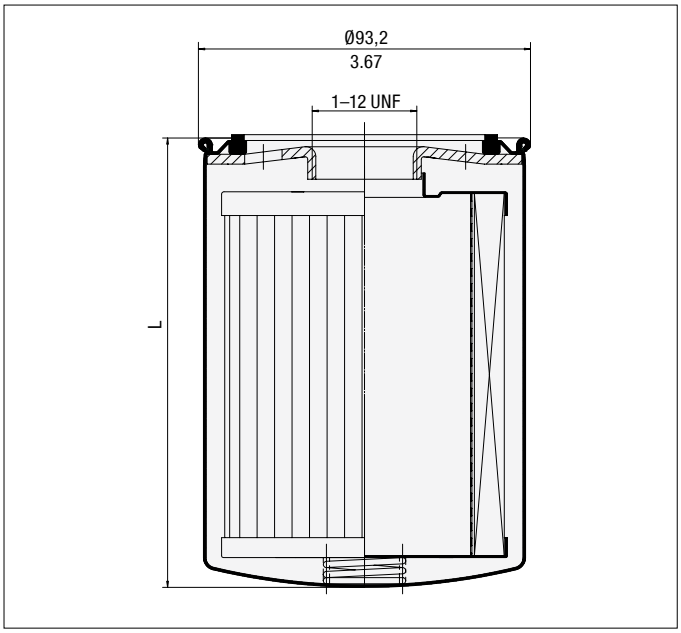
Temperature Range
- -32°C ... +100°C / -25°F ... +212°F

Media Compatibility
- Mineral oils, other fluids on request

Dimensions

	Filter Paper	
Order Code	SF6310-18	SF6325-10
		
ß-Ratio	$ß_{10} \geq 2$	$ß_{25} \geq 2$
Filter Area (cm^2/in^2)	825 125	825 125
Dirt Holding Capacity (g)	6	6
Carton Quantity	12	12
Carton Weight (kg/lbs)	3,6 8	3,6 8

Spin-On Elements ▪ Type SF65



Dimensions in mm / in



Product Description

STAUFF SF65-series Spin-On Elements are used with the STAUFF SAF series Spin-On Filters.

Technical Data

Connection Thread
- 1–12 UNF

Seal Contour
- Type A (see page C133)

Sealing Material
- NBR (Buna-N®)

Operating Pressure
- Max. 14 bar / 200 PSI

Differential Pressure
- Max. 5,5 bar / 80 PSI
  (for any application with no bypass valve)

Burst Pressure
- Max. 20 bar / 290 PSI

Temperature Range
- -32°C ... +100°C / -25°F ... +212°F

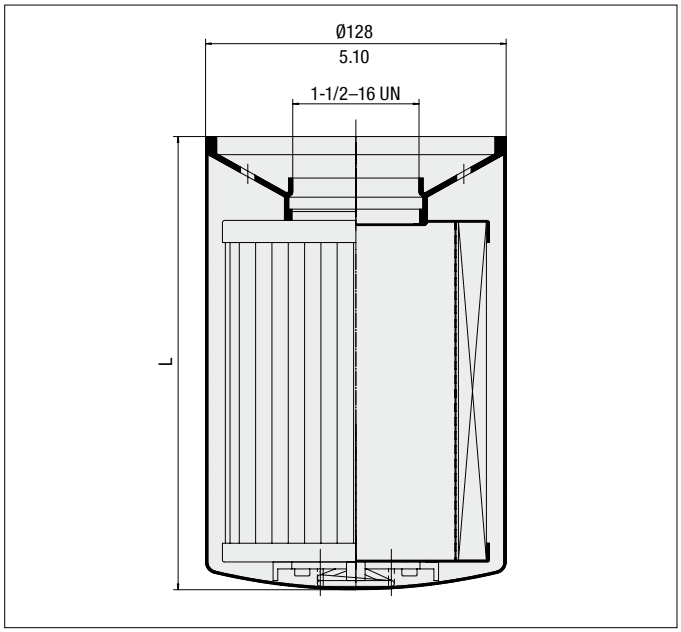
Media Compatibility
- Mineral oils, other fluids on request

Dimensions

	Filter Paper				Inorganic Glass Fibre			Water Absorbing
Order Code	SF6520	SF6521	SF6510	SF6511	SF6549	SF6505	SF6504	SF6520-W
	10µm	10µm	25µm	25µm	3µm	12µm	25µm	10µm water absorb
Length L (mm/in)	147 5.76	204 8.00	147 5.76	204 8.00	147 5.76	147 5.76	147 5.76	133 5.25
ß-Ratio	$ß_{10} \geq 2$	$ß_{10} \geq 2$	$ß_{25} \geq 2$	$ß_{25} \geq 2$	$ß_{3} \geq 200$	$ß_{12} \geq 200$	$ß_{25} \geq 200$	$ß_{10} \geq 2$
Filter Area (cm^2/in^2)	2302 355	3881 600	2212 340	3388 525	2519 390	2405 370	2405 370	1225 200
Dirt Holding Capacity ACFTD (g)	14.4	22	20.4	31.2	19	11	26	Water holding capacity 162 ml 5.5 oz
Carton Quantity	12	12	12	12	12	12	12	12
Carton Weight (kg/lbs)	6,3 13.9	8,4 18.5	6,4 14.2	8,8 19.4	8,6 19	8,6 19	8,6 19	8,6 19

Spin-On Elements ▪ Type SF67





Dimensions in mm / in

Product Description

STAUFF SF67-series Spin-On Elements are used with the STAUFF SSF20/24/25/100/120/130/160/150 and 180 Spin-On Filters.

Technical Data

Connection Thread
- 1-1/2–16 UN

Seal Contour
- Type B (see page C133)

Sealing Material
- NBR (Buna-N®)

Operating Pressure
- Max. 14 bar / 200 PSI

Differential Pressure
- Max. 5,5 bar / 80 PSI
  (for any application with no bypass valve)

Burst Pressure
- Max. 20 bar / 290 PSI

Temperature Range
- -32°C ... +100°C / -25°F ... +212°F

Media Compatibility
- Mineral oils, other fluids on request

Dimensions

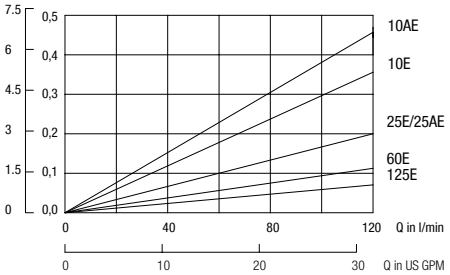
	Inorganic Glass Fibre								
Order Code	**SF6702-MG**	**SF6703-MG**	**SF6704-MG**	**SF6706-MG**	**SF6707-MG**	**SF6730-MG**	**SF6731-MG**	**SF6728-MG**	**SF6726-MG**
	1µm	3µm	3µm	6µm	6µm	12µm	12µm	25µm	25µm
Length L (mm/in)	270 10.6	168 6.6	270 10.6	168 6.6	270 10.6	168 6.6	270 10.6	168 6.6	270 10.6
ß-Ratio	$ß_1 \geq 200$	$ß_3 \geq 200$	$ß_3 \geq 200$	$ß_6 \geq 200$	$ß_6 \geq 200$	$ß_{12} \geq 200$	$ß_{12} \geq 200$	$ß_{25} \geq 200$	$ß_{25} \geq 200$
Filter Area (cm^2/in^2)	8167 1265	4051 625	8167 1265	4051 625	7200 1116	4051 625	7522 1165	4051 625	8167 1265
Dirt Holding Capacity ACFTD (g)	30	31	47	35	54	38	59	50	76
Carton Quantity	6	6	6	6	6	6	6	6	6
Carton Weight (kg/lbs)	11,8 26.1	8,2 18	11,8 26.1	8,2 18	11,8 26.1	8,2 18	11,8 26.1	8,2 18	11,8 26.1

	Filter Paper				Stainless Wire Mesh		Water Absorbing
Order Code	**SF6720**	**SF6721**	**SF6710**	**SF6711**	**SF6790**	**SF6791**	**SF6721-W**
	10µm	10µm	25µm	25µm	144µm	144µm	10µm water absorb
Length L (mm/in)	168 6.6	270 10.6	168 6.6	270 10.6	168 6.6	270 10.6	270 10.6
ß-Ratio	$ß_{10} \geq 2$	$ß_{10} \geq 2$	$ß_{25} \geq 2$	$ß_{25} \geq 2$	n/a	n/a	$ß_{10} \geq 2$
Filter Area (cm^2/in^2)	3677 570	6813 1055	3677 570	6813 1055	1290 200	2032 315	4440 690
Dirt Holding Capacity ACFTD (g)	34	62	34	62	n/a	n/a	Water holding capacity 444 ml / 15 oz
Carton Quantity	6	6	6	6	6	6	6
Carton Weight (kg/lbs)	6,6 14.6	7,9 17.5	6,7 14.9	9,3 20.6	8,2 18	11,8 26.1	11,8 26.1

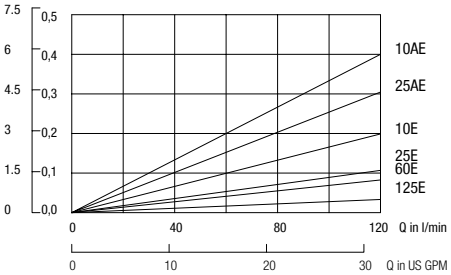
Spin-On Elements ▪ Type SFC/SFCT-35/36, SFC/SFCT-57/58 and SF63

The following characteristics are valid for mineral oils with a density of 0,85 kg/dm³ and the kinematic viscosity of 30 mm²/s (30 cSt). The characteristics have been determined in accordance to ISO 3968. SFC-35/36 series Spin-On Elements are used with STAUFF SSF-12 Spin-On Filters, SFCT-35/36 series Spin-On Elements are used with STAUFF SSFT-12 Spin-On Filters, SFC-57/58 series Spin-On Elements are used with STAUFF SSF-20/24/25/100/120/130/160 Spin-On Filters, SFCT-57/58 series Spin-On Elements are used with STAUFF SSFT-20 Spin-On Filters and SF63 series Spin-On Elements are used with STAUFF SLF-02/03/04 Spin-On Filters.

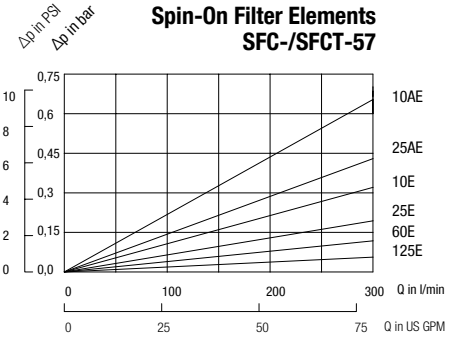
Spin-On Filter Elements SFC-/SFCT-35



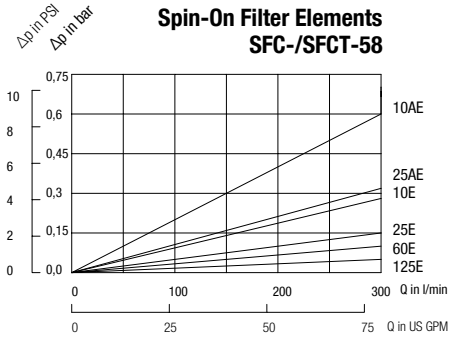
Spin-On Filter Elements SFC-/SFCT-36



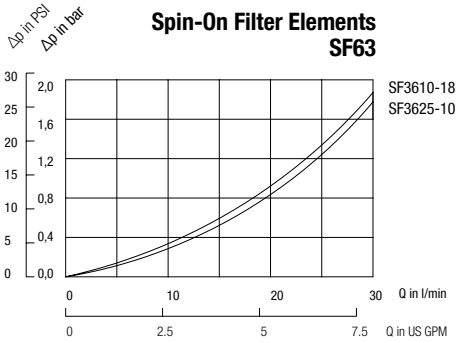
Spin-On Filter Elements SFC-/SFCT-57



Spin-On Filter Elements SFC-/SFCT-58



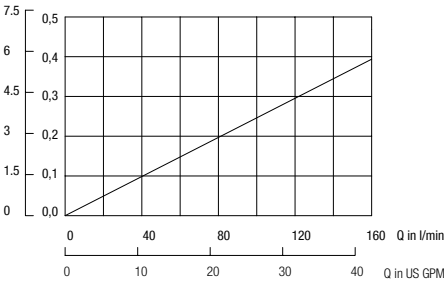
Spin-On Filter Elements SF63



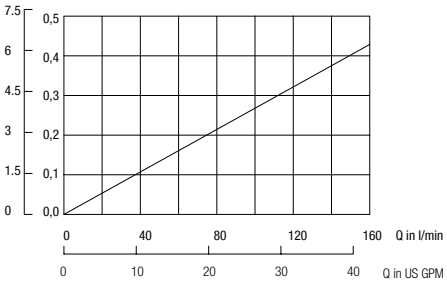
Spin-On Elements ▪ Type SF65

The following characteristics are valid for mineral oils with a density of 0,85 kg/dm³ and the kinematic viscosity of 30 mm²/s (30 cSt). The characteristics have been determined in accordance to ISO 3968. SF65 Spin-On Elements are used with the STAUFF SAF-05/06/07/10/11/13 Spin-On Filters.

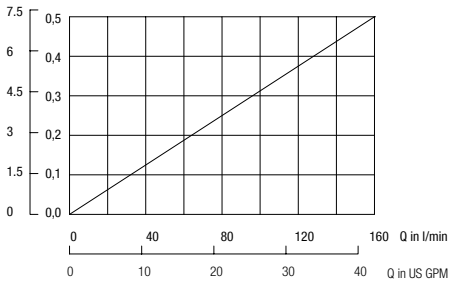
Spin-On Filter Element SF6504



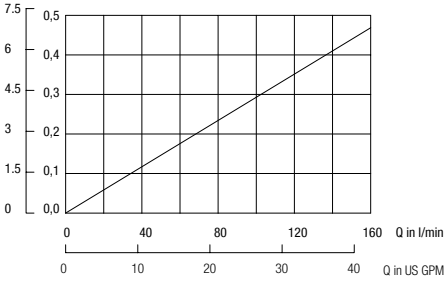
Spin-On Filter Element SF6505



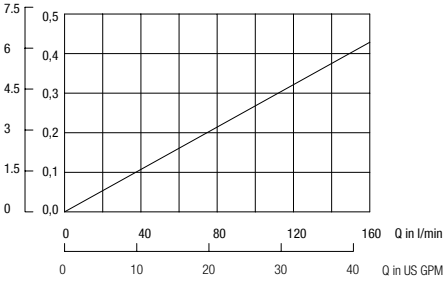
Spin-On Filter Element SF6510



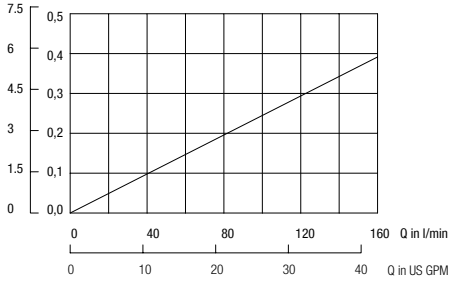
Spin-On Filter Element SF6511



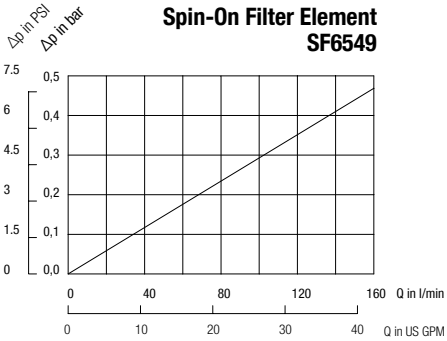
Spin-On Filter Element SF6520



Spin-On Filter Element SF6521



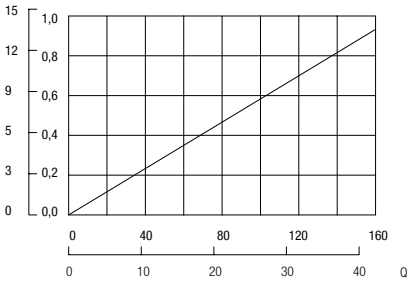
Spin-On Filter Element SF6549



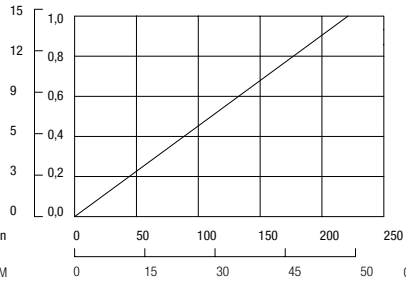
Spin-On Elements ▪ Type SF67

The following characteristics are valid for mineral oils with a density of 0,85 kg/dm³ and the kinematic viscosity of 30 mm²/s (30 cSt). The characteristics have been determined in accordance to ISO 3968. SF67 Spin-On Elements are used with the STAUFF SSF-20/24/25/100/120/130/160/150/180 Spin-On Filters.

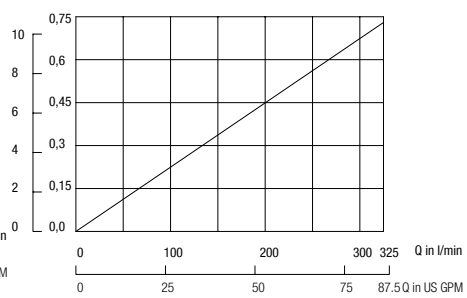
Spin-On Filter Element SF6702-MG



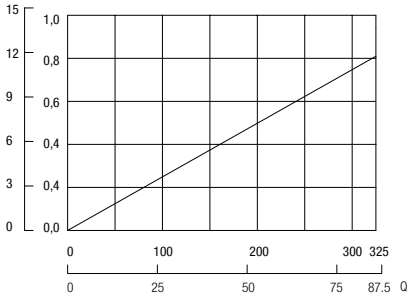
Spin-On Filter Element SF6703-MG



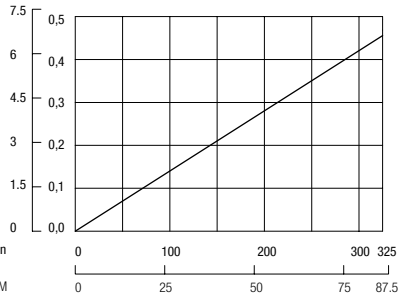
Spin-On Filter Element SF6704-MG



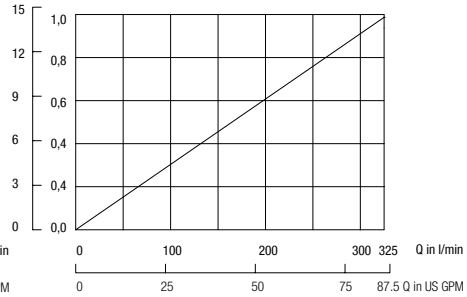
Spin-On Filter Element SF6706-MG



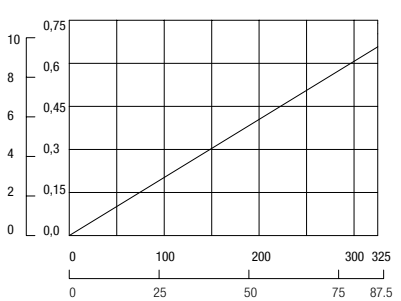
Spin-On Filter Element SF6707-MG



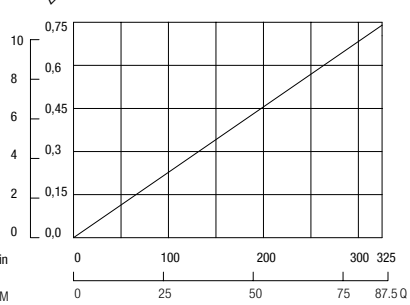
Spin-On Filter Element SF6710



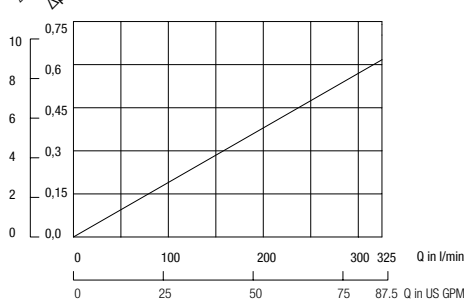
Spin-On Filter Element SF6711



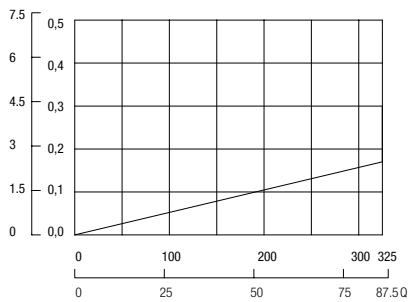
Spin-On Filter Element SF6720



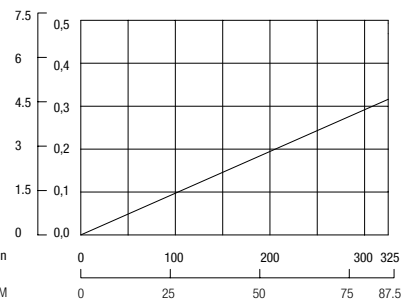
Spin-On Filter Element SF6721



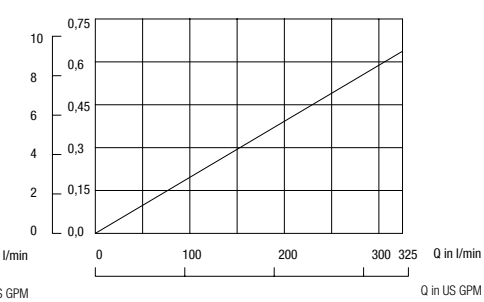
Spin-On Filter Element SF6726 -MG



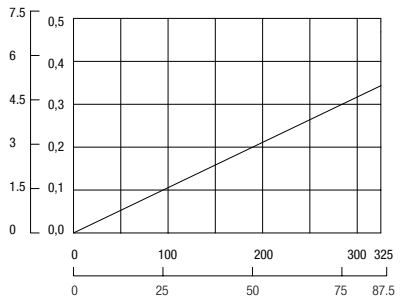
Spin-On Filter Element SF6728-MG



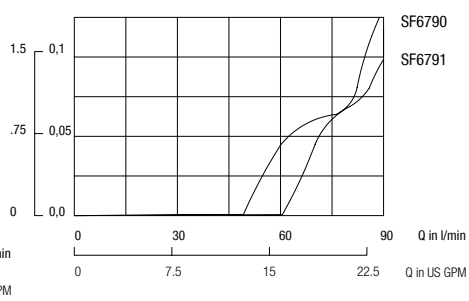
Spin-On Filter Element SF6730-MG



Spin-On Filter Element SF6731-MG



Spin-On Filter Element SF6790/91



Clogging Indicators

Visual Clogging Indicators



SIS



GV-10

Visual Vacuum Clogging Indicators (for Spin-On Filter in suction line applications)								
	Type	Thread Connection G	Unit of scale	Range of scale	Coloured Segments			Valve setting Spin-On Filter
					Green	Yellow	Red	
BSP	SIS	1/8	cm Hg	-76 ... 0	-13 ... 0	-18 ... -13	-76 ... -18	0,2 bar/ 3 PSI
NPT	GV-5	1/8	in Hg	-30 ... 0	-4 ... 0	-6 ... -4	-30 ... -6	0,2 bar/ 3 PSI
	GV-10	1/8	in Hg	-30 ... 0	-9 ... 0	-11 ... -9	-30 ... -11	0,35 bar/ 5 PSI



SIM-04



CI-12

Visual Pressure Clogging Indicators (for Spin-On Filter in return line applications)								
	Type	Thread Connection G	Unit of scale	Range of scale	Coloured Segments			Valve setting Spin-On Filter
					Green	Yellow	Red	
BSP	SIM-02	1/8	bar	0 ... 2,5	0 ... 1,2	1,2 ... 1,5	1,5 ... 2,5	1,7 bar / 25 PSI
	SIM-04	1/8	bar	0 ... 4	0 ... 2,5	2,5 ... 3	3 ... 4	1,7 bar/ 25 PSI
	SIM-12	1/8	bar	0 ... 12	without coloured segments			1,7 bar/ 25 PSI
NPT	CI-12	1/8	PSI	0 ... 100	0 ... 13	13 ... 15	15 ... 100	1 bar/ 15 PSI
	CI-20	1/8	PSI	0 ... 100	0 ... 21	21 ... 25	25 ... 100	1,7 bar/ 25 PSI

Electrical Clogging Indicators



SIE-NO/NC



EPS/EVS

Electrical Clogging Indicators (for Spin-On Filter in return line or suction line applications)							
	Type	Thread Connection G	Unit of scale	Adjustable range / Actuating pressure	Max. over pressure	Spin-On filter application	Valve setting Spin-On Filter
BSP	SIE-NO	1/8	bar	1,3 (normally open)	80 bar / 1160 PSI	Return line application	1,7 bar / 25 PSI
	SIE-NC	1/8	bar	1,3 (normally closed)	80 bar / 1160 PSI	Return line application	1,7 bar / 25 PSI
	EPS-1B	1/8	bar	0,35 ... 2,5	25 bar / 362 PSI	Return line application	1,7 bar / 25 PSI
	EVS-1B	1/8	mbar	-1000 ... -150	25 bar / 362 PSI	Suction line application	0,2 bar / 3 PSI
NPT	EPS-1	1/8	PSI	5 ... 35	24 bar / 350 PSI	Return line application	1,7 bar / 25 PSI
	EVS-1	1/8	in Hg	-30 ... -5	24 bar / 350 PSI	Suction line application	0,2 bar / 3 PSI

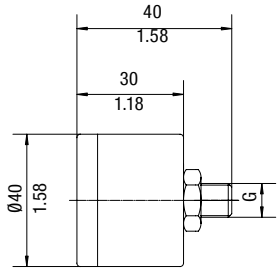
Technical Data SIE / EPS / EVS

	Type EPS-1 / 1B	Type EVS-1 / 1B
Electrical data	6 Amp 125/250 V AC	
Protection	DIN 43650 IP65	
Temperature Range	-5°C ... +90°C / +23°F ... +194°F (ambient and media)	
Diaphragm Material	NBR (Buna-N®)	NBR (Buna-N®)
Housing Material	Brass	Steel
Adjustable Range	0,35 bar ... 2,0 bar / 5 ... 30 PSI	150 ... 1000 mbar / 5 ... 30 in Hg
Dead Band	20% F.S.	25% F.S.
Weight	0,1 kg / .22 lbs	0,1 kg / .22 lbs
Repeatability	± 2%	
Hirschmann Connector With Strain Relief		

	Type SIE (electrical switch)
Electrical data	48V
Protection	DIN 43650 IP54
Temperature Range	-5 °C ... +60 °C / 23 °F ... +140 °F (ambient and media)
Diaphragm Material	NBR (Buna-N®)
Housing Material	Brass
Actuating Pressure	1,3 bar / 19 PSI
Max. current (res.)	0,5 A
Max. current (ind.)	0,2 A
Available as "normally open" (closes contact at actuating pressure) and as "normally closed" (opens contact at actuating pressure)	

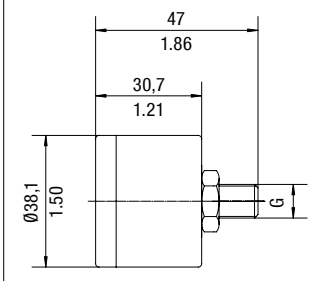
Dimensions

Type SIM / SIS



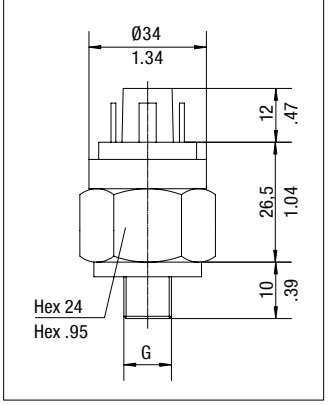
Material for movement and pressure element: Brass

Type GV / CI

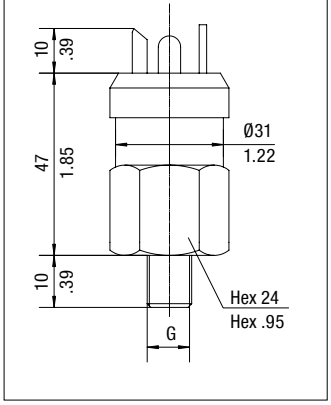


Material for movement and pressure element: Brass

Type SIE



Type EPS / EVS



Dimensions in mm/in

Product Description

STAUFF Off-Line and Bypass Filter Systems are designed to keep hydraulic and lubrication systems free of particles and water contamination. STAUFF OLS and BPS Units utilize the STAUFF Systems concept for the removal of contamination from hydraulic and lubrication systems. Desiccant Air Breathers, which clean and dry the air entering the reservoir, are also part of this contamination removal system.

STAUFF Systems will provide optimal system cleanliness for today's sophisticated hydraulic and lubrication systems.



Technical Data

Construction
- OLS: Off-Line Filter System with integrated motor / pump unit
- BPS: Bypass Filter System

Materials
- Housing: Anodized Aluminium
- Sealings: NBR (Buna-N®)

Port Connection
- OLS: G3/8, G1/2, G3/4 and 18 L
- BPS: G1/4 and G1/2

Differential Pressure
- Max. 6,2 bar / 90 PSI

Nominal Flow
- 2,1 ... 17 l/min / .55 ... 4.5 US GPM

Max. System Volume
- Up to 10800 l / 2853 gal

Temperature Range
- Max. +80 °C / +176 °F media temperature

Media Compatibility
- Mineral and lubrication oils, other fluids on request

Options and Accessories

Valve
- Bypass valve: Setting 6,2 bar / 90 PSI integrated in filter head

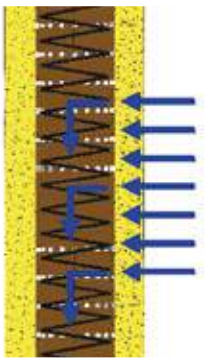
Clogging Indicator
- Visual clogging indicator

Motor Types (only OLS)
- Several motor types available
  for more information please have a look at page C160

The STAUFF System



Filter Element SRM-30



Filter Element Design



Air Conditioners SDB / SVDB

Micro Filtration

At the heart of the STAUFF Off-Line and Bypass Filter Unit is the unique microfilter element. This filter is designed with a radial flow path.

The element is constructed with 0,5 micron media and is therefore able to remove the smallest particles (silt) from the oil.

The filter material is composed primarily of cellulose, which is applied by a special wrapping method. Glass fibre and water absorbing elements are available on request.

The cellulose material is capable of retaining solid particles and absorbing water.
This helps to prevent chemical deterioration of the oil and the formation of various acids and sludge.

Hydraulic cylinder extension for example, can draw air, solid contamination particles and water vapour into the oil reservoir.

The water vapour condenses due to temperature changes and causes not only oxidation of the oil, but can also lead to serious mechanical wear in the system.

Air Conditioning

Standard air filters remove a certain amount of solid particle contamination from the air but allow water vapour, to pass through.

The STAUFF “Air conditioners” type SDB and SVDB ensure that incoming air is first dried and then filtered. The SDB and SVDB units should be used in conjunction with the OLS / BPS Systems in order to provide a more complete filtering system. See Hydraulic Accessories section of this catalog for more details.

Advantages

- Less mailfunction
- Protection of expensive main stream filters
- Less frequent oil changes
- Extended Usable life of the oil
- Less machine downtimes

Characteristics

- A filter fineness of 0,5 micron $ß_{0,5} \geq 200$, $ß_2 \geq 2330$
- Large particle collection capacity
- High filtration capacity due to depth effect
- Large water adsorption capacity
- Do not adversely affect viscosity or additives
- Do not remove additives
- Reduce the oxidation process
- Reduce the forming of acids
- With two measuring points for particle counter or oil sampling
- SAVE COSTS

System Contamination

In today’s hydraulic market it is an accepted fact that contamination causes 70 % of all mechanical failures. This contamination results from the presence of solid particles such as metal, sand and rubber.

Changes in temperature cause water vapour to condense, resulting in unwanted water in the oil, the presence of this water accelerates the deterioration of the oil.

Mainstream filters are incapable of removing particles, smaller than 2 micron (better known as silt). Fluctuations in pressure and flow result in changing conditions preventing these filters from carrying out fine filtration; most of the silt remains in the system affecting the chemical composition of the oil.

All these problems lead to reduced oil life and increased component wear, maintenance costs and machine down time.

Removing silt and preventing the formation of free water will combat these problems.

Applications

- Mining
- Harvesting
- Forestry
- Agricultural
- Off-road
- Fishing
- Road construction
- Cranes
- Airport equipment
- Flight simulators
- Pulp and paper
- Food processing
- Presses
- Automotive industry
- Timber plants
- Plastic and rubber
- Metal industry
- Cement and concrete
- Material handling
- Bridges/Hydraulic locks/Water works
- Petrochemical industry
- Power stations
- Marine
- Steel

Off-Line Filters ▪ Type OLS

Product Description

STAUFF Off-Line Filter Units can be applied to every imaginable industrial application where hydraulic or lubrication systems are present.

An integrated motor/pump unit draws fluid out of the tank, filters it and pumps clean oil back into the system. Off-Line Filter Units can continue to work even when the main system is not in use. The standard range offers filter units for reservoirs with a capacity of up to 10800 l / 2853 gal.

Over the years, STAUFF Systems have developed considerable experience in the hydraulic and lubrication market cleaning systems to levels not previously possible with conventional methods.

With its integrated motor/pump unit STAUFF OLS Filter Systems are specially designed for Off-Line filtration of a hydraulic main system. This allows continuous filtration of the fluid even when the main system has been shut down.

The OLS is available with one, two or four filter housings and in two different lengths. The maximum flow for the Off-Line Unit goes from 2,1 ... 17 l/min / .55 ... 4.5 US GPM at a viscosity between 20 ... 160 cSt. For the OLS you can choose several different motor/pump units, for more information please see page C160 (Order code).

All Off-Line Filter Systems are available with air driven motors. These units are ideal for areas where electric power is unavailable or for hazardous locations.

Single Length (see page C156 / C157)

OLS - 1A - 30 - H - B



OLS - 2A - 30 - H - B



OLS - 4A - 30 - H - B



Double Length (see page C158 / C159)

OLS - 1B - 30 - H - B



OLS - 2B - 30 - H - B

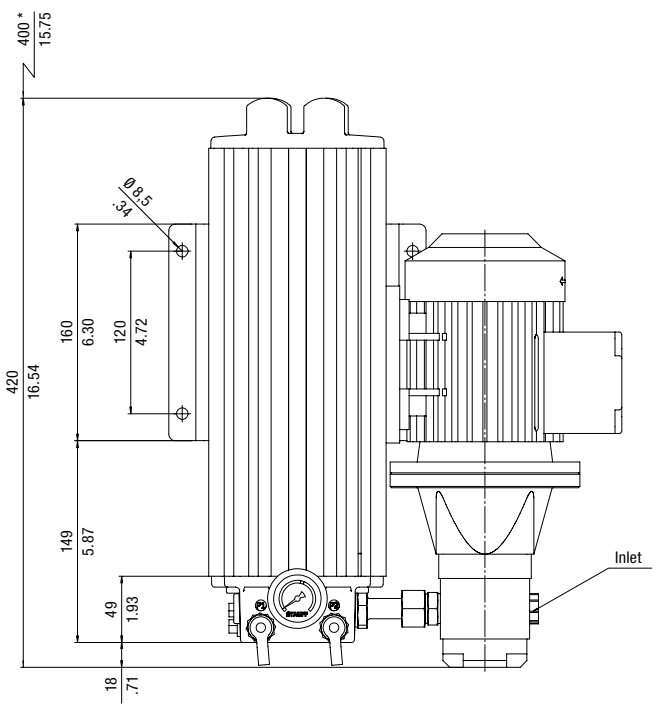


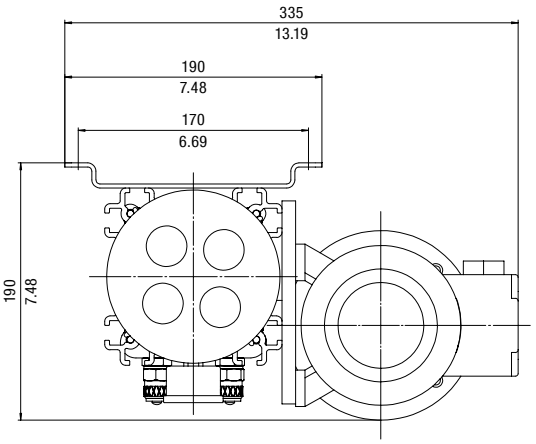
OLS - 4B - 30 - H - B



Off-Line Filters ▪ Type OLS

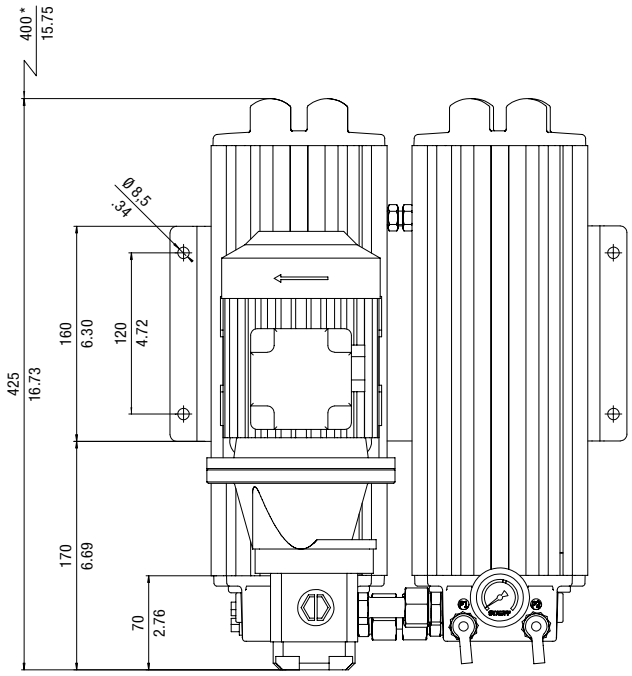
Dimensions OLS - 1A - 30 - H - B

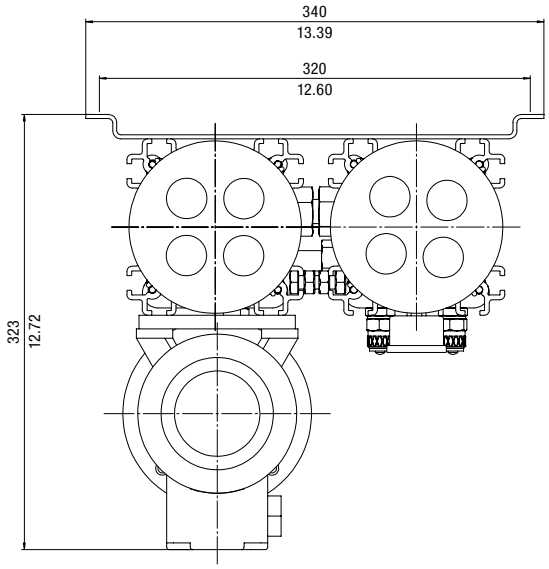




* recommended space for element change

Dimensions OLS - 2A - 30 - H - B

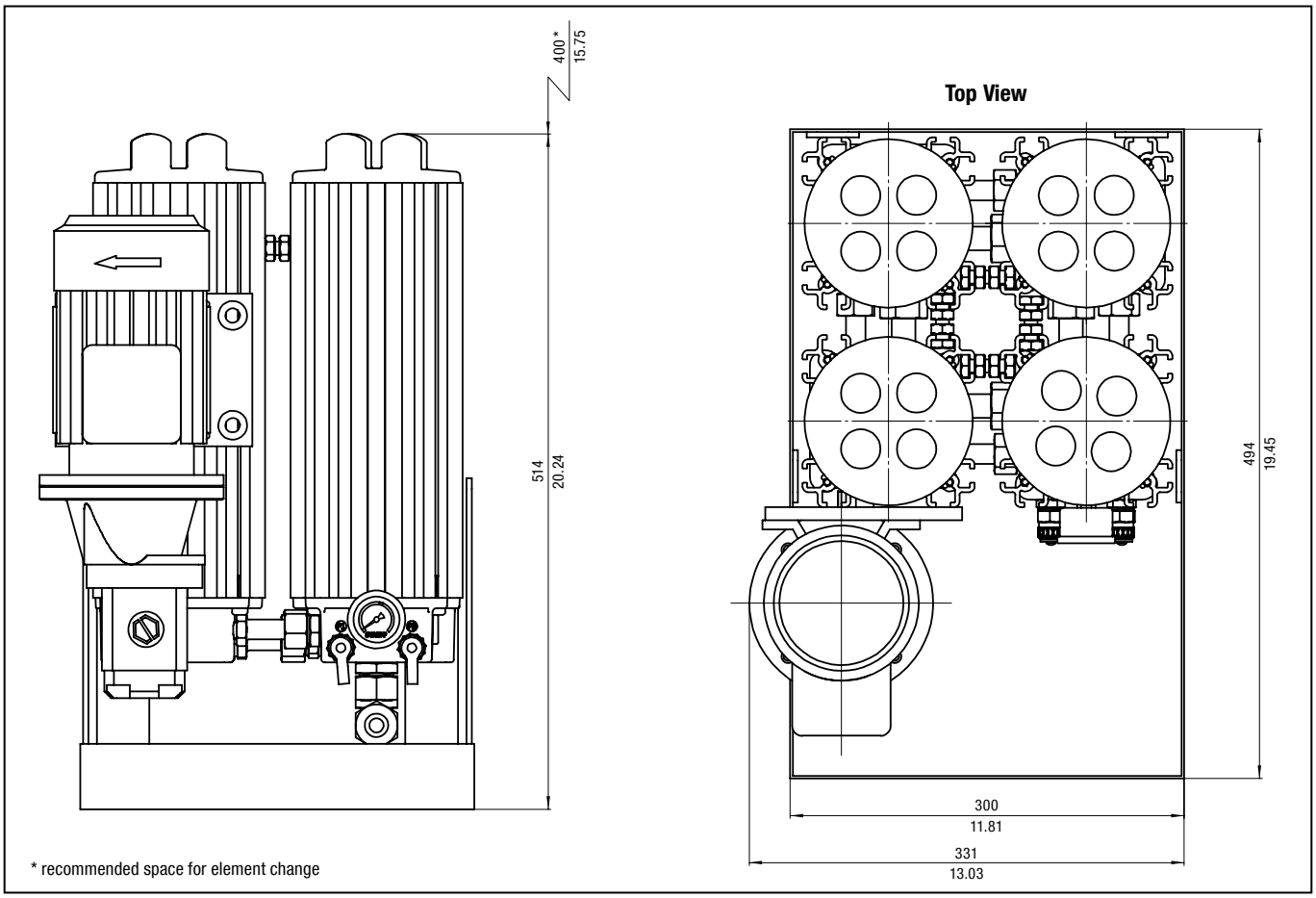




* recommended space for element change

All dimensions in mm / in

Dimensions OLS - 4A - 30 - H - B



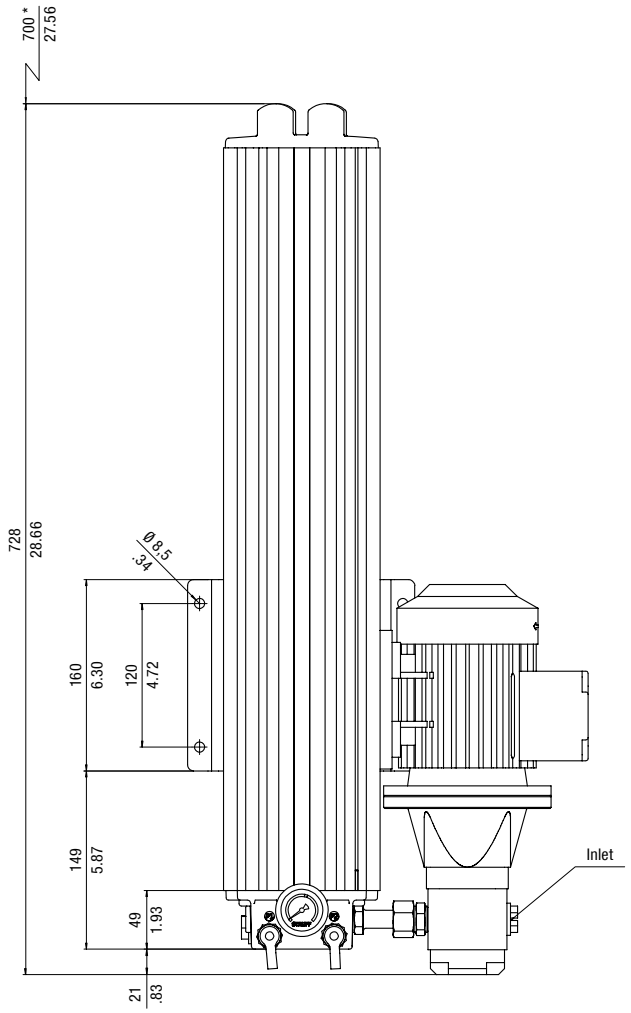
All dimensions in mm / in

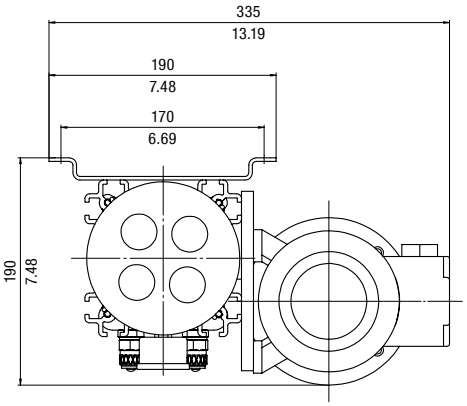
Technical Data

	OLS-1A-30-H-B	OLS-2A-30-H-B	OLS-4A-30-H-B
Number of Filter Housings	1	2	4
Nominal Flow	2,1 l/min .55 US GPM	4,2 l/min 1.1 US GPM	8,4 l/min 2.22 US GPM
Max. Differential Pressure	Max. 6,2 bar 90 PSI over the filter element without backpressure		
Max. Fluid Temperature	+80 °C +176 °F		
Max. Housing Pressure	20 bar 290 PSI		
Viscosity Range	20 ... 160 cSt 100 ... 750 SUS		
Connection Suction Side	G3/8	G1/2	
Connection Return Line Side	G1/2		EW 18L-3/4
Hose Diameter	1/2 in (inner diameter) flexible hose		3/4 in (inner diameter) flexible hose
Weight (Including Element)	14 kg 30.9 lbs	21 kg 46.3 lbs	39 kg 86 lbs
Max. System Volume	1350 l 356 gal	2700 l 713 gal	5400 l 1426 gal
Dimensions	420 x 335 x 190 mm	425 x 340 x 323 mm	514 x 494 x 331 mm
HxWxD	16.54 x 13.19 x 7.48 in	16.73 x 13.39 x 12.72 in	20.24 x 19.45 x 13.03 in
Connection for Online Particle Counter	STAUFF Test (M16 x 2)		
Pump	Gear pump		
Motor	See page C174 for electric motor details		

Off-Line Filters ▪ Type OLS

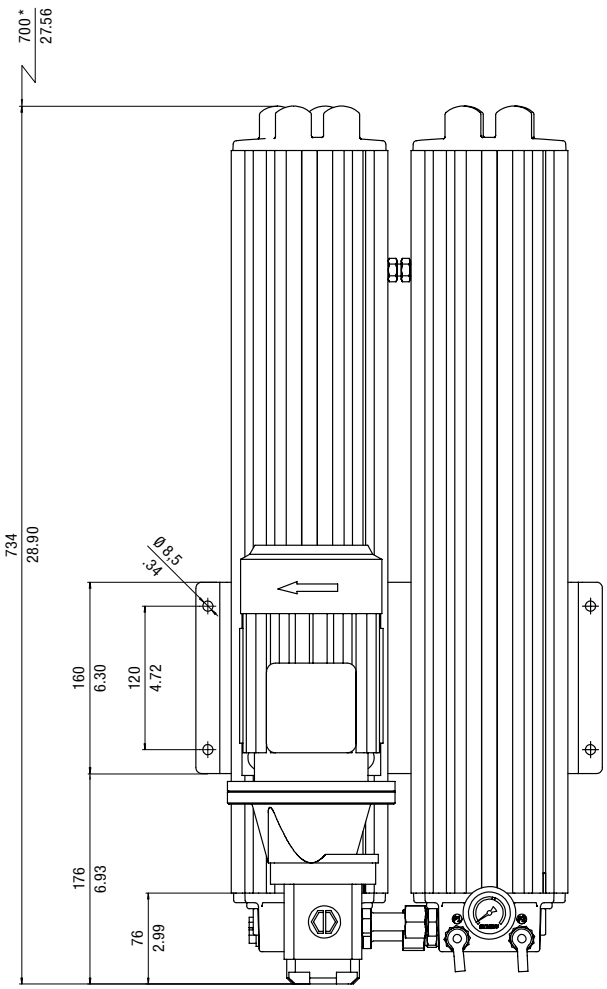
Dimensions OLS - 1B - 30 - H - B

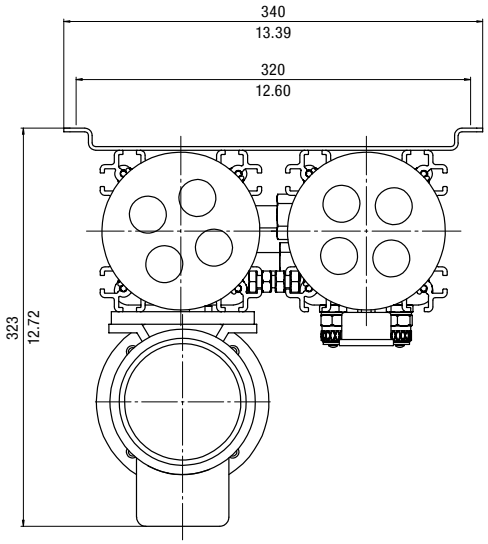




* recommended space for element change

Dimensions OLS - 2B - 30 - H - B

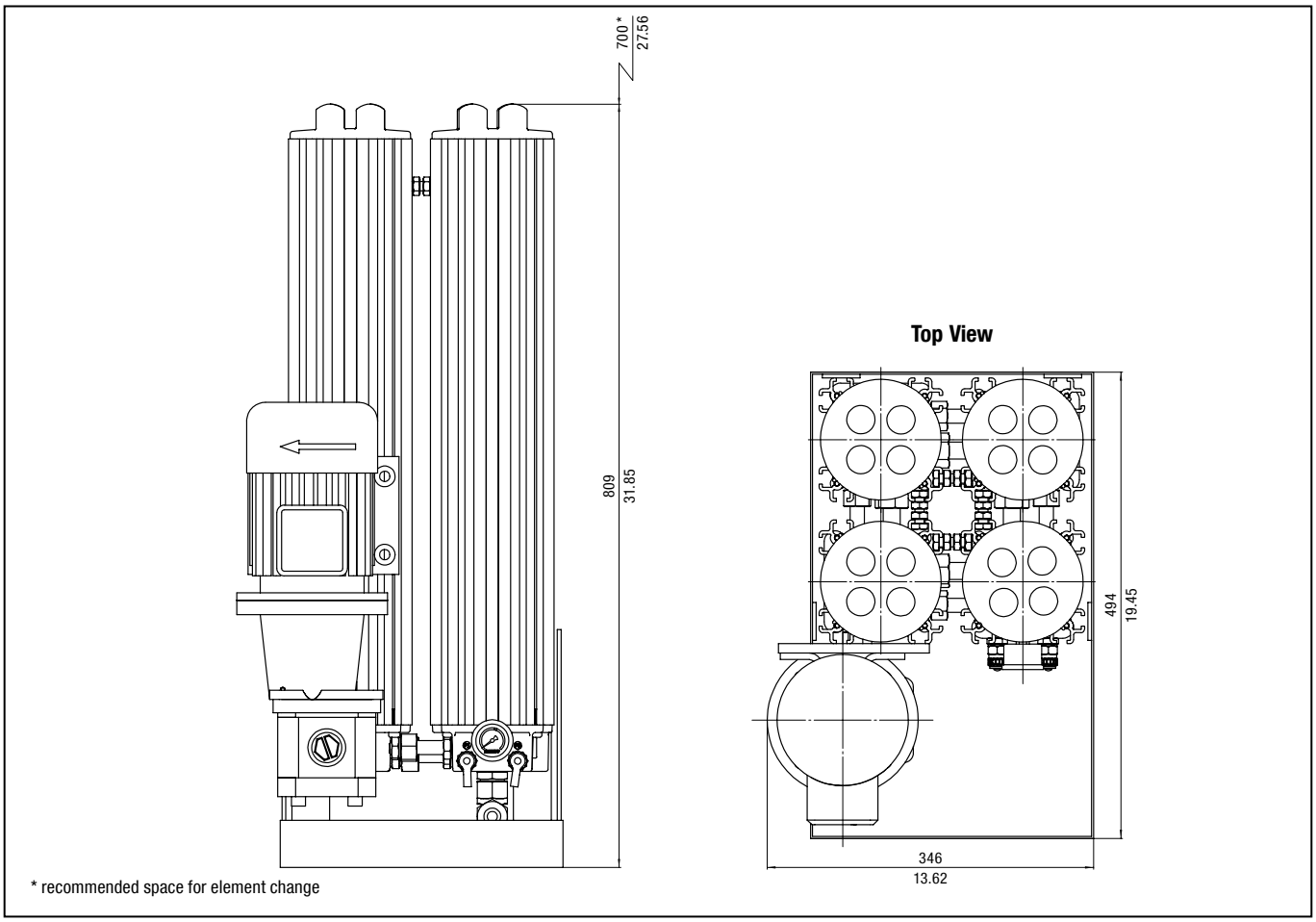




* recommended space for element change

All dimensions in mm / in

Dimensions OLS - 4B - 30 - H - B



* recommended space for element change

All dimensions in mm / in

Technical Data

	OLS-1B-30-H-B	OLS-2B-30-H-B	OLS-4B-30-H-B
Number of Filter Housings	1	2	4
Nominal Flow	4,2 l/min 1.1 US GPM	8,4 l/min 2.22 US GPM	17 l/min 4.5 US GPM
Max. Differential Pressure	Max. 6,2 bar 90 PSI over the filter element without backpressure		
Max. Fluid Temperature	+80 °C +176 °F		
Max. Housing Pressure	20 bar 290 PSI		
Viscosity Range	20 ... 160 cSt 100 ... 750 SUS		
Connection Suction Side	G1/2	G1/2	G3/4
Connection Return Line Side	G1/2		EW 18L-3/4 in
Hose Diameter	1/2 in (inner diameter) flexible hose		3/4 in (inner diameter) flexible hose
Weight (Including Element)	18 kg 39.7 lbs	30 kg 66.1 lbs	61 kg 134.5 lbs
Max. System Volume	2700 l 713 gal	5400 l 1426 gal	10800 l 2853 gal
Dimensions	728 x 335 x 190 mm	734 x 340 x 323 mm	809 x 494 x 346 mm
HxWxD	28.66 x 13.19 x 7.48 in	28.90 x 13.39 x 12.72 in	31.85 x 19.45 x 13.62 in
Connection for Online Particle Counter	STAUFF Test (M16 x 2)		
Pump	Gear pump		
Motor	See page C174 for electric motor details		

Off-Line Filter Housings / Complete Filters ▪ Type OLS

OLS - 1A - 30 - H - B - 0 - 01 - 0 - 0

1 2 3 4 5 6 7 8 9

1 Type

Off-Line Filter Unit (for industrial applications)	OLS

2 Housing Configuration

Single Length	Max. Reservoir Size	Quantity of Elements	Code
Single housing	1350 l / 356 gal	1x1	1A
Twin housing	2700 l / 713 gal	2x1	2A
Quadruple housing	5400 l / 1426 gal	4x1	4A

Double Length	Max. Reservoir Size	Quantity of Elements	Code
Single housing	2700 l / 713 gal	1x2	1B
Twin housing	5400 l / 1426 gal	2x2	2B
Quadruple housing	10800 l / 2853 gal	4x2	4B

3 Filter Element Length

300 mm / 11.81 in	30

4 Filter Material and Micron Rating

Material	Micron rating µm	Code
Cellulose (standard)	0,5	H
Inorg. glass fibre	1	E01
Inorg. glass fibre	3	E03
Inorg. glass fibre	5	E05
Inorg. glass fibre	10	E10
Inorg. glass fibre	20	E20
Inorg. glass fibre and polymer (water absorption)	5	WA

5 Sealing Material

NBR (Buna-N®) (standard)	B
FPM (Viton®)	V

6 E-motor Options

Motor Type	Code
230/400 V AC, 50 Hz, three phases, 1360 r/min 255/460 V AC, 60 Hz, three phases, 1630 r/min (50 Hz and 60 Hz standard)	0
230 V AC, 50 Hz, single phase, 1360 r/min	A
24 V DC	B
110 V AC, 50 Hz, single phase	C
110 V AC, 60 Hz, single phase	D
230 V AC, 60 Hz, single phase, 1630 r/min	F

Note: Special motors on request.

7 Pump Options

50 Hz Motor	Standard in	Code
10 C 1,6X053G / 1,6 cc/rev.	OLS-1A	00
10 C 3,6X053G / 3,15 cc/rev.	OLS-2A/1B	10
10 C 6,1X053G / 6,1 cc/rev.	OLS-4A/2B	20
20 C 8,2X016G / 8,2 cc/rev.		30
20 C 11X016G / 11,3 cc/rev.	OLS-4B	40
MLPD/G 108C / 0,8 cc/rev.		50

60 Hz motor	Standard in	Code
10 C 1,25X053G / 1,25 cc/rev.	OLS-1A	01
10 C 2,5X053G / 2,5 cc/rev.	OLS-2A/1B	11
10 C 5X053G / 5,0 cc/rev.	OLS-4A/2B	21
20 C 6,3X016G / 6,3 cc/rev.		31
20 C 10X016G / 10 cc/rev.	OLS-4B	41

8 Visual clogging indicator

Visual clogging indicator	0

9

No options (standard)	0
Motor / pump right side mounted	1
Motor / pump left side mounted	2
Motor / pump horizontal front	3

Filter Elements ▪ Type SRM

SRM - 30 - H - B - 1

1 2 3 4 5

1 Type

Filter Element Series	SRM

2 Group

Element length 300 mm / 11.81 in	30

3 Filter Material and Micron Rating

Material	Micron rating µm	Code
Cellulose (standard)	0,5	H
Inorg. glass fibre	1	E01
Inorg. glass fibre	3	E03
Inorg. glass fibre	5	E05
Inorg. glass fibre	10	E10
Inorg. glass fibre	20	E20
Inorg. glass fibre and polymer (water absorption)	5	WA

4 Sealing Material

NBR (Buna-N®) (standard)	B
FPM (Viton®)	V

5 Quantity

One piece filter element	1
Box with 15 pieces filter element	15

Technical Data on Electric Motors used for OLS Filters (For air driven motors contact STAUFF)

E-motor	Standard Configuration	Description	Power in kW	Power in HP	Voltage 50 Hz	Amp 50 Hz	RPM 50 Hz	Voltage 60 Hz	Amp 60 Hz	RPM 60 Hz
C, D	OLS-1A OLS-2A OLS-1B	M63 B3/B5 4P 110V MULTIVOLT	0,18	0.24	110 V AC	3,30		110 V AC	2,70	
A, F	OLS-1A OLS-2A OLS-1B	M63 B3/B5 4P 230 MULTIVOLT	0,18	0.24	230 V AC	1,57		230 V AC	1,34	
0	OLS-1A OLS-2A OLS-1B	M63 B3/B5 4P 3PH MULTIVOLT	0,18	0.24	230/400 V AC	1,03 / 0,60		254/440 V AC	0,90 / 0,52	
0	OLS-2B OLS-4A	M63 B3/B5 4P 3PH MULTIVOLT	0,29	0.39	230/400 V AC	1,65 / 0,95	1460	254/440 V AC	1,47 / 0,85	1740
C, D	OLS-2B OLS-4A OLS-4B	M71 B3/B5 4P 110V MULTIVOLT	0,37	0.50	110 V AC	6,10		110 V AC	5,20	
A, F	OLS-2B OLS-4A OLS-4B	M71 B3/B5 4P 230V MULTIVOLT	0,37	0.50	230 V AC	3,00		230 V AC	2,65	
0	OLS-4B	M71 B3/B5 4P 3PH MULTIVOLT	0,37	0.50	230/400 V AC	1,90 / 1,10		254/440 V AC	1,60 / 0,93	

Water Absorbing Off-Line Filter ▪ Type OLSW

Product Description

STAUFF Systems Units are characterized by their extremely efficient filter elements which are rated to 0,5 micron. Specially designed for industrial hydraulic installations the STAUFF Off-Line Filters are available in single or double length configurations. The Off-Line Filter Units can easily be mounted to new and existing hydraulic installations. By means of an integrated motor/pump unit and an Off-Line Filter, the oil is pumped from the reservoir through the filter unit and after filtering the oil is then returned to the tank.



Economical

The hydraulic market accepts that 70 % of mechanical failures are caused by contamination in the system. The STAUFF Water Absorbing Off-Line Filters attack this contamination at source and in addition to solid particles, these filters are also capable of removing large quantities of water from the oil. This prevents the catalytic reaction of water and solid particle contamination, resulting in extended useable oil life.

The application of STAUFF filters results in lower component failure rates, less down time and less system maintenance.

Water Absorbing

STAUFF Water Absorbing Filters are Off-Line Units that use special water absorbing Spin-On Filter Elements as a pre-filter. The fluid is pumped through the pre-filter which removes most water and larger solid contamination, in the second stage the fluid passes through the STAUFF Micro Filter where final water removal takes place as well as solid removal down to 0,5 micron.

In recent years STAUFF Systems have developed a great deal of experience in cleaning and drying hydraulic and lubrication systems in the following markets:

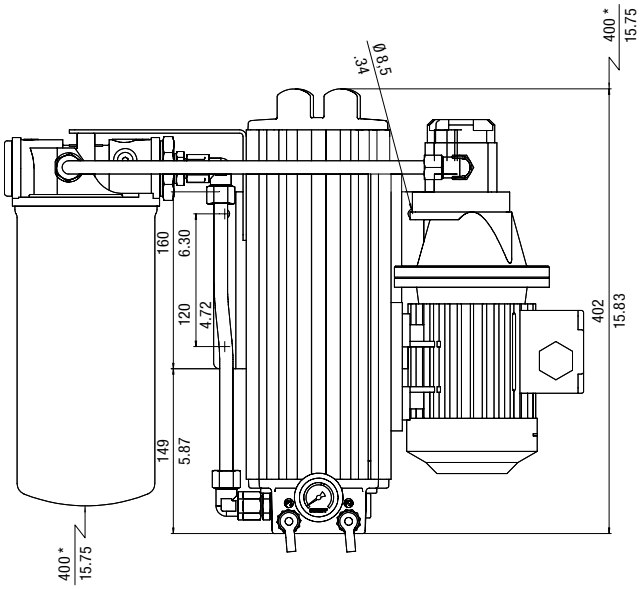
- Steel industry
- Maritime industry
- Petrochemical industry
- Paper industry

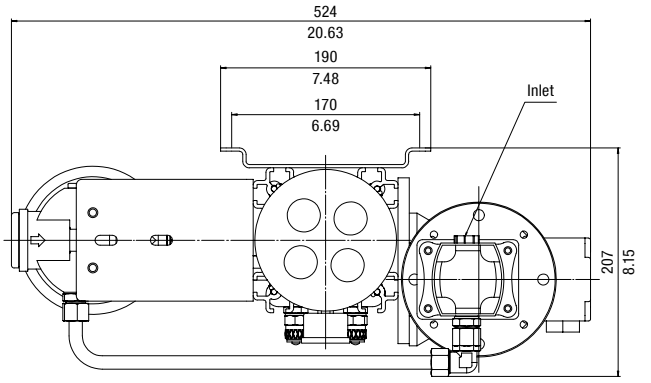
Advantages

- Extremely clean oil due to the high filtration efficiency $ß_2 > 2330$
- Prevention of channel forming by radial filtration direction
- Increased flow capacity
- Increased dirt-hold capacity
- Large water holding capacity
- Compact and easy-maintenance design
- Longer usage life for oil and components

Water Absorbing Off-Line Filter ▪ Type OLSW

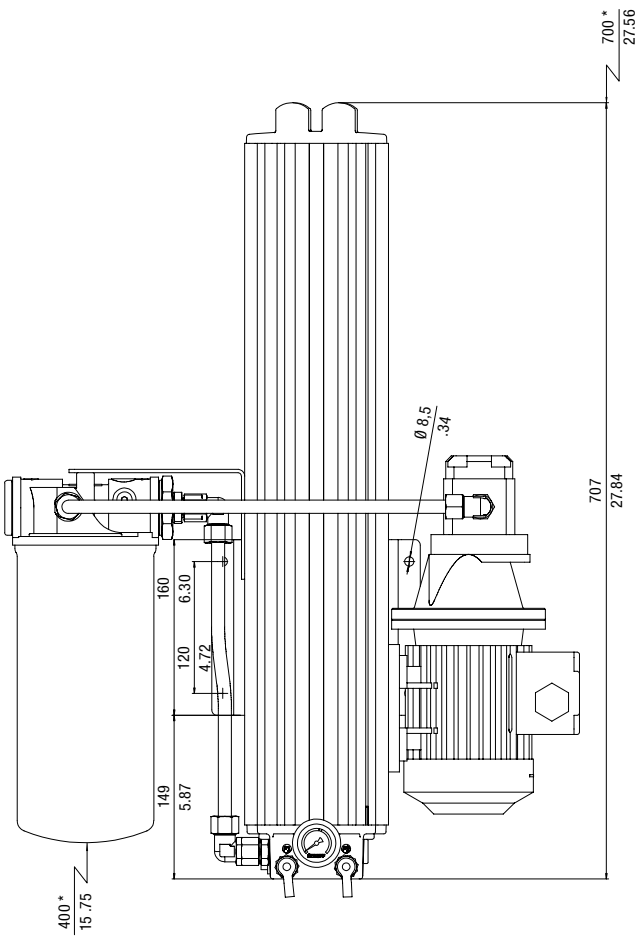
Dimensions OLSW - 1A - 30

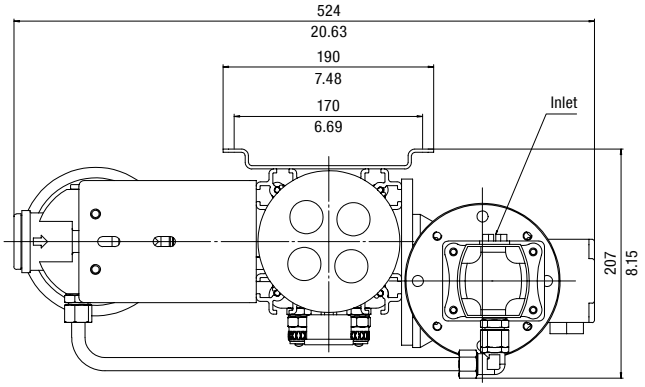




* recommended space for element change

Dimensions OLSW - 1B - 30





* recommended space for element change

All dimensions in mm / in

Water Absorbing Off-Line Filter ▪ Type OLSW

Technical Data OLSW

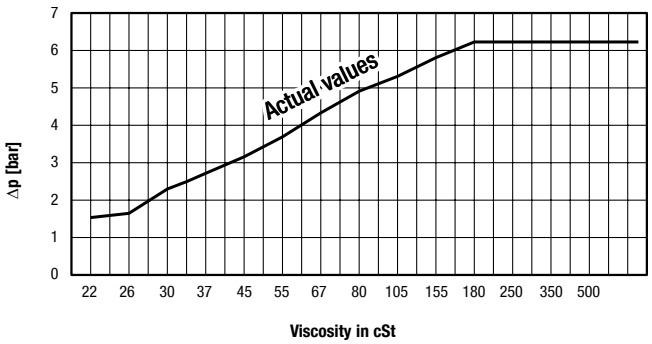
Type Filter	OLSW - 1A - 30 - H - B	OLSW - 1B - 30 - H - B
Number of Filter Housings	1	1
Material Filter Housings	Anodized Aluminum	
Sealing Material	Buna-N® (standard)	
Nominal Flow	2,1 l/min .6 US GPM	4,2 l/min 1.1 US GPM
Bypass Opening Pressure	6,2 bar 90 PSI over the filter element without backpressure	6,2 bar 90 PSI over the filter element without backpressure
Number of Standard Filter Elements	1 pcs.	2 pcs.
Number of Pre-Filter Elements	1 pcs.	1 pcs.
Water Absorbing Capacity	650 ml 22 oz.	800 ml 27 oz.
Max. Pressure Filter Housing	20 bar 290 PSI	
Max. Oil Temperature	+80 °C +176 °F	
Max. Viscosity	20 ... 160 cSt 100 ... 750 SUS	
Indicator Type	Visual clogging indicator	
Connection Pump Suction	G1/2 female	G1/2 female
Diameter Hose Suction Side	1/2 in	
Filter Return Connection	G1/2 female	
Diameter Hose Return Side	1/2 in	
Dimensions H x B x L	402 x 524 x 207 mm 15.83 x 20.63 x 8.15 in	707 x 524 x 207 mm 27.84 x 20.63 x 8.15 in
Pump type	Gear pump	
Power Supply E-Motor	Various electrical power supplies possible	
Weight (including Element)	18 kg 39.7 lbs	22 kg 48.5 lbs
Max. System Volume	1350 liter 356 gal	2700 liter 713 gal
Standard Units for larger system volumes are also available		
Connection Oil-Analysis: P1 filter inlet side P2 filter outlet side	 Test connector (M16 x 2) Red Test connector (M16 x 2) Red	



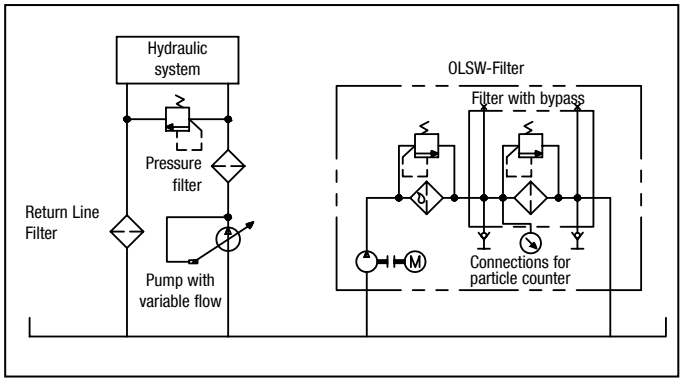


Water absorbing spin-on filter element

Δp / Viscosity for OLSW-Filter



System Example
Schematic Off-Line Filtration incl. Water Absorption



Water Absorbing Off-Line Filter Housings / Complete Filters ▪ Type OLSW

OLSW - 1A - 30 - H - B - 0 - 01 - 0 - 0 - A

(1) (2) (3) (4) (5) (6) (7) (8) (9) (10)

1 Type

Off-Line Filter Unit incl. water absorption (for industrial applications)	**OLSW**

2 Housing Configuration

Length	Suitable for Reservoir Size	Quantity of Elements Standard	Pre-filter	Code
Single housing Single length	1350 l / 356 gal	1x1 pcs	1 pcs	**1A**
Single housing Double length	2700 l / 713 gal	1x2 pcs	1 pcs	**1B**

3 Filter Element Length

300 mm / 11.81 in	**30**

4 Filter Material and Micron Rating

Material	Micron rating µm	Code
Cellulose (standard)	0,5	**H**
Inorg. glass fibre	1	**E01**
Inorg. glass fibre	3	**E03**
Inorg. glass fibre	5	**E05**
Inorg. glass fibre	10	**E10**
Inorg. glass fibre	20	**E20**
Inorg. glass fibre and polymer (water absorption)	5	**WA**

5 Sealing Material

NBR (Buna-N®) (standard)	**B**
FPM (Viton®)	**V**

6 E-motor Options

Motor Type	Code
230/400 V AC, 50 Hz, three phases, 1360 r/min 255/460 V AC, 60 Hz, three phases, 1630 r/min (50 Hz and 60 Hz standard)	**0**
230 V AC, 50 Hz, single phase, 1360 r/min	**A**
24 V DC	**B**
110 V AC, 50 Hz, single phase	**C**
110 V AC, 60 Hz, single phase	**D**

Note: Other motors on request, technical data see page C160

7

50 Hz Motor	Standard in	Code
10C1,6X053G / 1,6 cc/rev.		**00**
10C3,6X053G / 3,15 cc/rev.		**10**
MLPD/G 108C / 0,8 cc/rev.		**50**

60 Hz Motor	Standard in	Code
10C1,25X053G / 1,25 cc/rev.	OLSW-1A	**01**
10C2,5X053G / 2,5 cc/rev.	OLSW-1B	**11**

8 Clogging Indicator

Visual clogging indicator	**0**

9 Mounting Options

No options (standard)	**0**

10 Pre-Filter Elements

Water absorption element	
SF6721-W (10 micron water absorbing, capacity 540 ml water)	**A**
Pre-filter elements (particles)	
without pre-filter element	**0**
SF6702-MG (inorganic glass fiber, 1 micron)	**B**
SF6704-MG (inorganic glass fibre, 3 micron)	**C**
SF6707-MG (inorganic glass fibre, 6 micron)	**D**
SF6731-MG (inorganic glass fibre, 12 micron)	**E**
SF6726-MG (inorganic glass fibre, 25 micron)	**F**
SF6721 (filter paper, 10 micron)	**G**
SF6711 (filter paper, 25 micron)	**H**
SF6791 (wire mesh, 125 micron)	**J**

Filter Elements ▪ Type SRM

SRM - 30 - H - B - 1

(1) (2) (3) (4) (5)

1 Type

Filter Element Series	**SRM**

2 Group

Element length 300 mm / 11.81 in	**30**

3 Filter Material and Micron Rating

Material	Micron rating µm	Code
Cellulose (standard)	0,5	**H**
Inorg. glass fibre	1	**E01**
Inorg. glass fibre	3	**E03**
Inorg. glass fibre	5	**E05**
Inorg. glass fibre	10	**E10**
Inorg. glass fibre	20	**E20**
Inorg. glass fibre and polymer (water absorption)	5	**WA**

4 Sealing Material

NBR (Buna-N®) (standard)	**B**
FPM (Viton®)	**V**

5 Quantity

One piece filter element	**1**
Box with 15 pieces filter element	**15**

Pre-Filter Elements ▪ Type SF67

SF6721 - W

(1)

1 Pre-Filter Elements

SF6721-W	Spin-on filter element, water absorbing, 10 micron
SF6702-MG	Spin-on filter element, inorganic glass fibre, 1 micron
SF6704-MG	Spin-on filter element, inorganic glass fibre, 3 micron
SF6707-MG	Spin-on filter element, inorganic glass fibre, 6 micron
SF6731-MG	Spin-on filter element, inorganic glass fibre, 12 micron
SF6726-MG	Spin-on filter element, inorganic glass fibre, 25 micron
SF6721	Spin-on filter element, filter paper, 10 micron
SF6711	Spin-on filter element, filter paper, 25 micron
SF6791	Spin-on filter element, wire mesh, 125 micron

Heated Off-Line Filters ▪ Type OLSH

Product Description

STAUFF System Units are characterized by their pre-heating unit and extremely efficient filter elements with a fineness of 0,5 micron.

Specially designed for industrial hydraulic installations, the STAUFF Off-Line Filters are available in single or multiple housing configurations. The Off-Line Filter Units can easily be mounted to new and existing hydraulic installations.

By means of an integrated motor/pump unit and an Off-Line Filter, the oil is pumped from the reservoir through the filter unit and after filtering the oil is then returned to the tank.



Economical

The hydraulic market accepts that 70 % of the mechanical failures are caused by contamination in the system. The STAUFF Off-Line Filters attack this contamination at the source. In addition to solid particles, these filters are also capable of removing water from the oil. This prevents the catalytic reaction of water and solid particle contamination, resulting in extended usable of life.

The application of STAUFF Filters results in lower component failure rates, less down time and less system maintenance.

In recent years STAUFF Systems have developed a great deal of experience in cleaning and drying hydraulic and lubrication systems in the following markets:

- Steel industry
- Maritime industry
- Petrochemical industry
- Paper industry

Heated Off-Line Filters

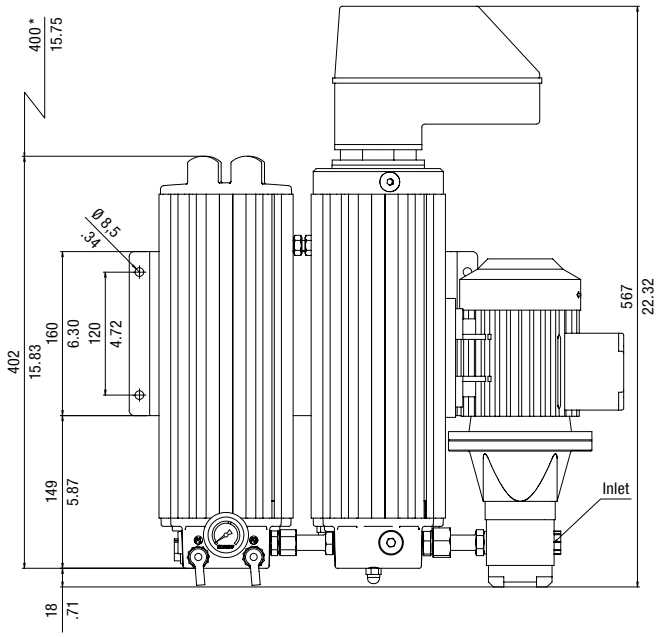
The electric pre-heating ensures that the cold and/or high viscosity fluid is brought to a temperature with a suitable filtration viscosity. Off-Line Filters with pre-heating can be applied to new or existing installations. The integrated pump-motor combination draws fluid from the reservoir, pumps it through a heating element, filters the fluid and returns it to the reservoir.

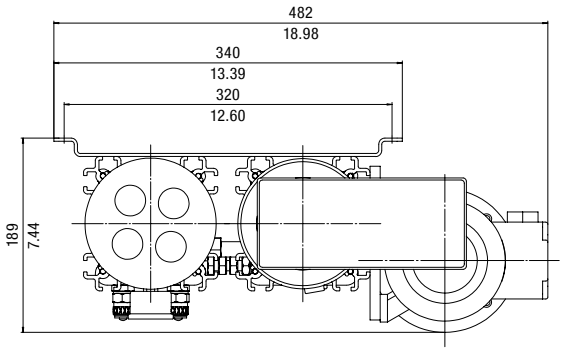
Advantages

- Extremely clean oil due to the high filtration efficiency $\beta_{0,5} \geq 200$, $\beta_2 \geq 2330$
- Prevention of channel forming by radial filtration direction
- Increased flow capacity
- Increased dirt holding capacity
- Large water holding capacity
- Compact and easy maintenance design
- Longer usage life for oil and components

Heated Off-Line Filters ▪ Type OLSH

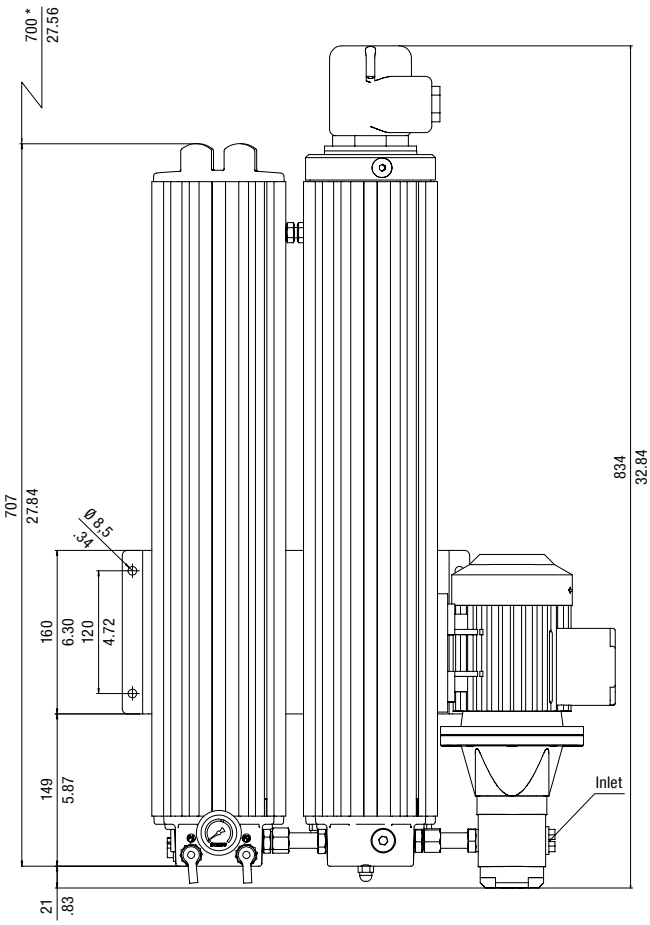
Dimensions OLSH - 1A

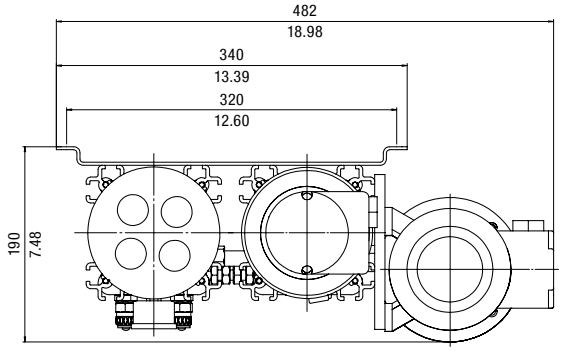




* recommended space for element change

Dimensions OLSH - 1B





* recommended space for element change

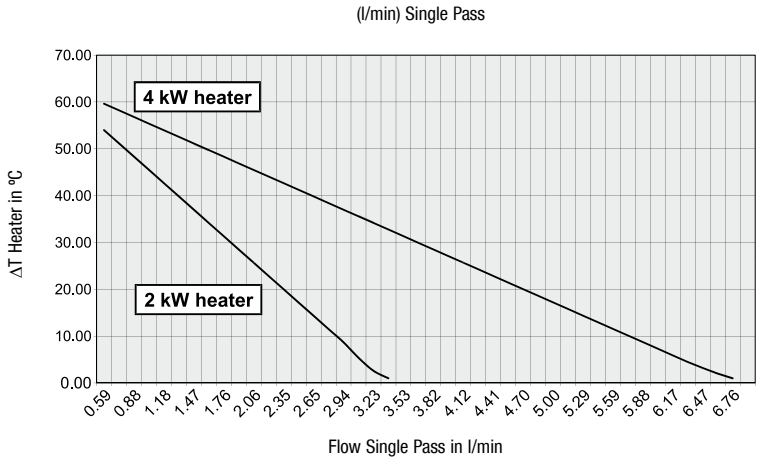
All dimensions in mm / in

Heated Off-Line Filters ▪ Type OLSH

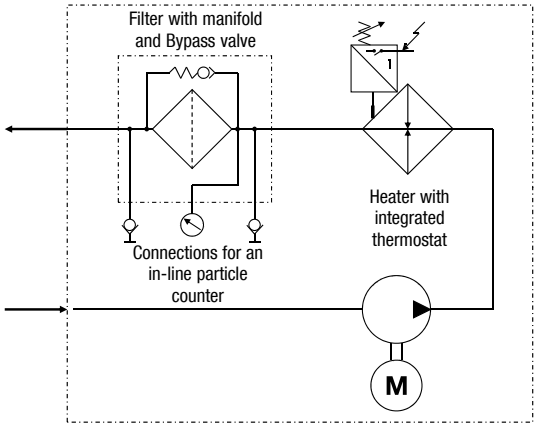
Technical Data Heated Off-Line Filters

	OLSH - 1A - 30	OLSH - 1B - 30
Number of Filter Housings	1	1
Nominal Flow Rate	2,1 l/min .6 US GPM	4,2 l/min 1.2 US GPM
Max. Differential Pressure	Max. 6,2 290 PSI over the filter element without back pressure	
Max. Fluid Temperature	+80 °C +176 °F	
Max. Housing Pressure	20 bar 290 PSI	
Heater Capacity	2 kW	
Connection Suction Side	G3/8	
Connection Return Side	G1/2	
Hose Diameter	1/2 in ... 3/4 in (inner diameter) flexible hose	
Weight (including Element)	24 kg 44 lbs	28 kg 62 lbs
Max. System Volume	1350 l 356 gal	2700 l 713 gal
Dimensions H x W x D	567 x 482 x 189 mm 22.32 x 18.98 x 7.44 in	834 x 482 x 190 mm 32.84 x 18.98 x 7.48 in
Connection for On-Line Particle Counter	STAUFF Test (M16 x 2)	STAUFF Test (M16 x 2)
Pump	Gear Pump	
Motor	See page C160 for electric motor details	

STAUFF Heating Efficiency Curve



Heated Unit Hydraulic Schematic



Heated Off-Line Filter Housings / Complete Filters ▪ Type OLSH

OLSH - 1A - 30 - H - B - 0 - 00 - 0 - 0

1 2 3 4 5 6 7 8 9

1 Type

Heated Off-Line Filter Unit (for industrial applications)	**OLSH**

2 Housing Configuration

Length	Suitable for Reservoir Size	Quantity of Elements	Code
Single housing Single length	1350 l / 356 gal	1 pcs	**1A**
Single housing Double length	2700 l / 713 gal	2 pcs	**1B**

3 Filter Element Length

300 mm / 11.81 in	**30**

4 Filter Material

Material	Micron Rating µm	Code
Cellulose (standard)	0,5	**H**
Inorg. glass fibre	1	**E01**
Inorg. glass fibre	3	**E03**
Inorg. glass fibre	5	**E05**
Inorg. glass fibre	10	**E10**
Inorg. glass fibre	20	**E20**
Inorg. glass fibre and polymer (water absorption)	5	**WA**

5 Sealing Material

NBR (Buna-N®) (standard)	**B**
FPM (Viton®)	**V**

6 E-Motor Options

Type	Code
230/400 V AC, 50 Hz, three phases, 1360 r/min 255/460 V AC, 60 Hz, three phases, 1630 r/min (50 Hz and 60 Hz standard)	**0**
230 V AC, 50 Hz, single phase	**A**
230/400 V AC, 50 Hz, three phases, IP65	**E**
230 V AC, 60 Hz, single phase, 1630 r/min	**F**

Note: Other motors on request, technical data see page C160.

7 Pump Options

Standard for 50 Hz Motor	Standard for	Code
10 C 1,6X053G / 1,6 cc/rev.	OLSH-1A	**00**
10 C 3,6X053G / 3,15 cc/rev.	OLSH-1B	**10**
1.0 cc / rev.		**60**

60 Hz Motor	Standard in	Code
10 C 1,25X053G / 1,25 cc / rev.	OLSH-1A	**01**
10 C 2,5X053G / 2,5 cc / rev.	OLSH-1B	**11**

8 Clogging Indicator

Visual clogging indicator	**0**
With water sensor	**1**

9 Mounting Options

No options (standard)	**0**

Filter Elements ▪ Type SRM

SRM - 30 - H - B - 1

1 2 3 4 5

1 Type

Filter Element Series	**SRM**

2 Group

Element length 300 mm / 11.81 in	**30**

3 Filter Material and Micron Rating

Material	Micron rating µm	Code
Cellulose (standard)	0,5	**H**
Inorg. glass fibre	1	**E01**
Inorg. glass fibre	3	**E03**
Inorg. glass fibre	5	**E05**
Inorg. glass fibre	10	**E10**
Inorg. glass fibre	20	**E20**
Inorg. glass fibre and polymer (water absorption)	5	**WA**

4 Sealing Material

NBR (Buna-N®) (standard)	**B**
FPM (Viton®)	**V**

5 Quantity

One piece filter element	**1**
Box with 15 pieces filter element	**15**

Bypass Filters ▪ Type BPS

Product Description

STAUFF BPS Bypass Filter can be used for OEM first fit applications as well as for retro-fitting. The filtration is done in a bypass configuration from the main hydraulic system. The STAUFF BPS Filter Systems are available with one filter housing (BPS-1A, maximum flow 2,1 l/min / .6 US GPM) or with two filter housings (BPS-2A, maximum flow 4,2 l/min / 1.1 US GPM) at a viscosity between 20 ... 160 cSt / 100 ... 750 SUS.

The STAUFF Bypass Filter Units are especially designed for mobile applications in hydraulic and/or transmission systems.

In the absence of a pumped system, the oil is drawn from the main system by means of a specially designed and integrated flow valve. The amount of oil extracted at any one time is insignificant therefore ensuring that it will not affect the working of the main system.

Most commonly used biodegradable oils in the mobile sector are suitable for filtration with STAUFF Filter Elements.

STAUFF Systems have been applied on a wide range of mobile hydraulic machinery, cleaning fluids to levels not previously possible with conventional filtration methods, resulting in dramatic increases in component life.

Successful applications include:

- Excavators
- Wheel loaders
- Forestry machines
- Asphalting machines
- Cement mixers
- Aircraft ground support machinery
- Agricultural machines



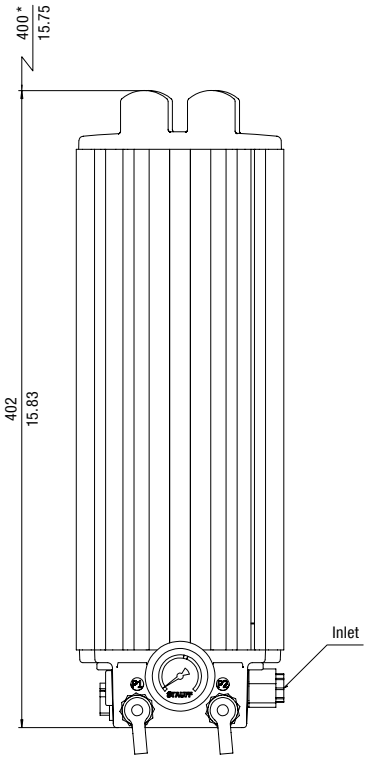
BPS - 1A - 30 - H - B

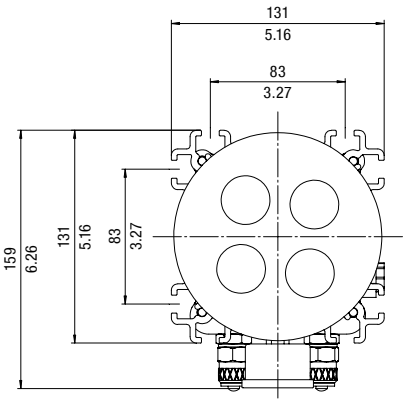


BPS - 2A - 30 - H - B

Bypass Filters ▪ Type BPS

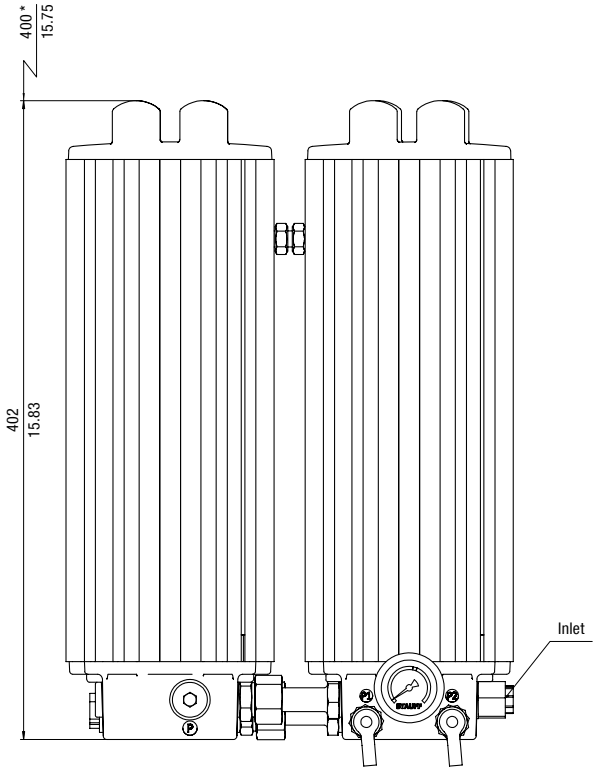
Dimensions BPS - 1A - 30 - H - B

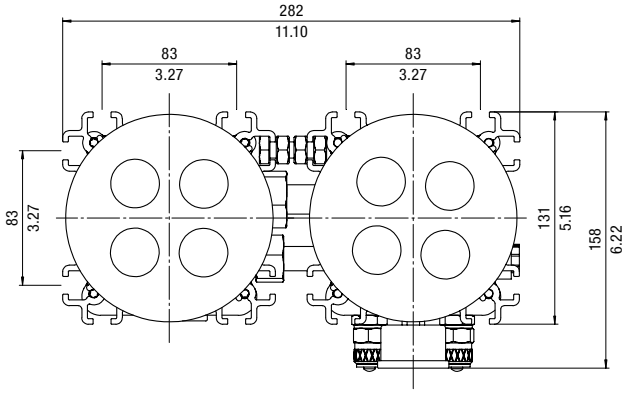




* recommended space for element change

Dimensions BPS - 2A - 30 - H - B





* recommended space for element change

All dimensions in mm / in

Bypass Filters ▪ Type BPS

Technical Data BPS

	BPS - 1A - 30 - H - B	BPS - 2A - 30 - H - B
Number of Filter Housings	1	2
Nominal Flow	2,1 l/min .6 US GPM	4,2 l/min 1.1 US GPM
Max. Differential Pressure	Max. 6,2 90 PSI over the filter element without back pressure	
Max. Fluid Temperature	+80 °C +176 °F	
Max. Housing Pressure	20 bar 290 PSI	
Range of Viscosity	20 ... 160 cSt 100 ... 750 SUS	
Connection Pressure Side	G1/4	
Connection Return Line Side	G1/2	
Hose Diameter	3/8 ... 1/2 in (inner diameter) flexible hose	
Weight	6 kg 13.2 lbs	13 kg 28.7 lbs
Max. Volume of Tank	750 l 200 gal	1500 l 400 gal
Dimensions H x W x D	402 x 131 x 159 mm 15.83 x 5.16 x 6.26 in	402 x 282 x 158 mm 15.83 x 11.10 x 6.22 in
Connection for On-Line Particle Counter	STAUFF Test (M16 x 2)	
Pressure Range	12 ... 420 bar 180 ... 6200 PSI	

Bypass Filter Housings / Complete Filters ▪ Type BPS

BPS - 1A - 30 - H - B - 0 - 0 - 0

1 2 3 4 5 6 7 8

1 Type

Bypass Filter Unit (for mobile applications)	**BPS**

2 Housing Configuration

Length	Suitable for Reservoir Size	Number of Elements	Code
Single housing	750 l / 198 gal	1x1 pcs	**1A**
Twin housing	1500 l / 396 gal	2x1 pcs	**2A**

3 Filter Element Length

300 mm / 11.81 in	**30**

4 Filter Material and Micron Rating

Material	Micron Rating µm	Code
Cellulose (standard)	0,5	**H**
Inorg. glass fibre	1	**E01**
Inorg. glass fibre	3	**E03**
Inorg. glass fibre	5	**E05**
Inorg. glass fibre	10	**E10**
Inorg. glass fibre	20	**E20**
Inorg. glass fibre and polymer (water absorption)	5	**WA**

5 Sealing Material

NBR (Buna-N®) (standard)	**B**
FPM (Viton®)	**V**

6 Clogging Indicator

Visual clogging indicator	**0**

7 Valve Options

With flow control valve (standard)	**0**
Without flow control valve	**1**

8 Mounting Options

No bracket (standard)	**0**
With standard foot / bulk head mounting bracket	**1**
With “bulk head mounting only” bracket	**2**
With standard ‘OLS’ wall mounting bracket	**3**

Note: For details see page C175

Filter Elements ▪ Type SRM

SRM - 30 - H - B - 1

1 2 3 4 5

1 Type

Filter Element Series	**SRM**

2 Group

Element length 300 mm / 11.81 in	**30**

3 Filter Material and Micron Rating

Material	Micron Rating µm	Code
Cellulose (standard)	0,5	**H**
Inorg. glass fibre	1	**E01**
Inorg. glass fibre	3	**E03**
Inorg. glass fibre	5	**E05**
Inorg. glass fibre	10	**E10**
Inorg. glass fibre	20	**E20**
Inorg. glass fibre and polymer (water absorption)	5	**WA**

4 Sealing Material

NBR (Buna-N®) (standard)	**B**
FPM (Viton®)	**V**

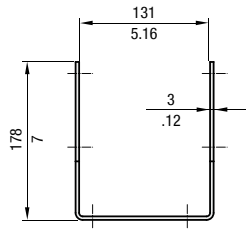
5 Quantity

One piece filter element	**1**
Box with 15 pieces filter element	**15**

Bypass Filters ▪ Type BPS

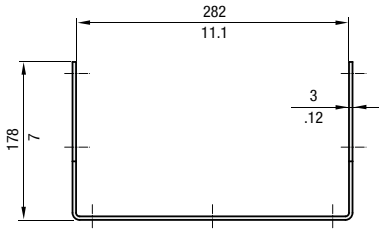
With Standard Foot / Bulk Head Mounting Bracket (Code 1)

Front View (Single housing)



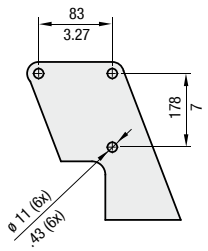
BPS-1A-30-BRACKET

Front View (Double housing)

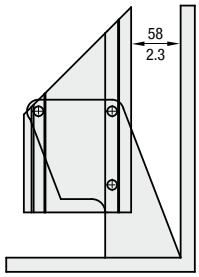


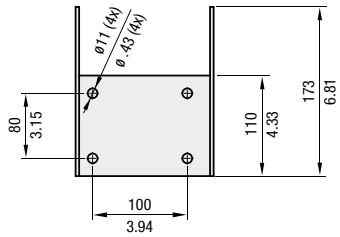
BPS-2A-30-BRACKET

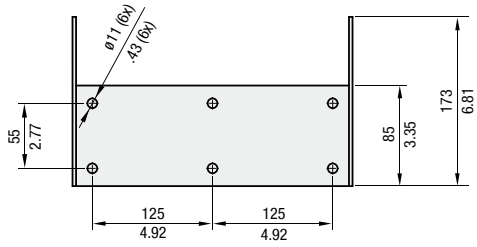
Side View

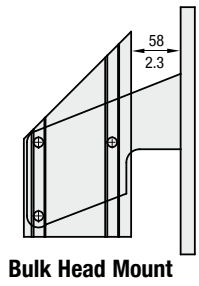


Bottom Mount





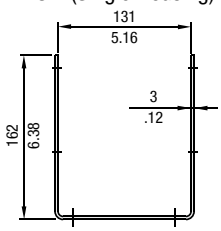




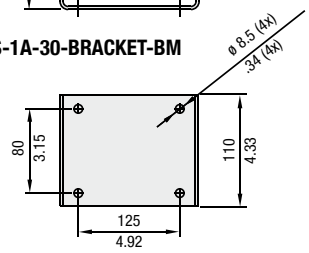
Bulk Head Mount

With "Bulk Head Mounting Only" Bracket (Code 2)

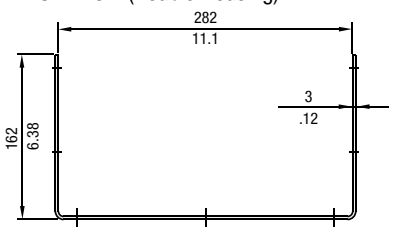
Front View (Single Housing)



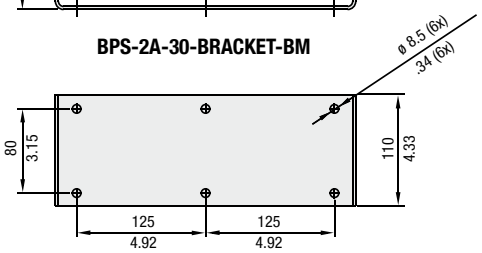
BPS-1A-30-BRACKET-BM



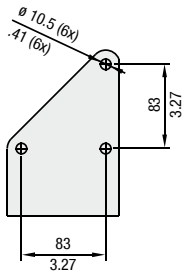
Front View (Double Housing)



BPS-2A-30-BRACKET-BM

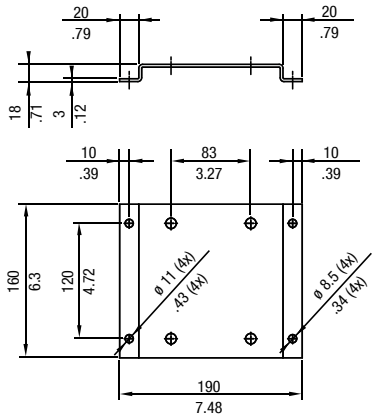


Side View

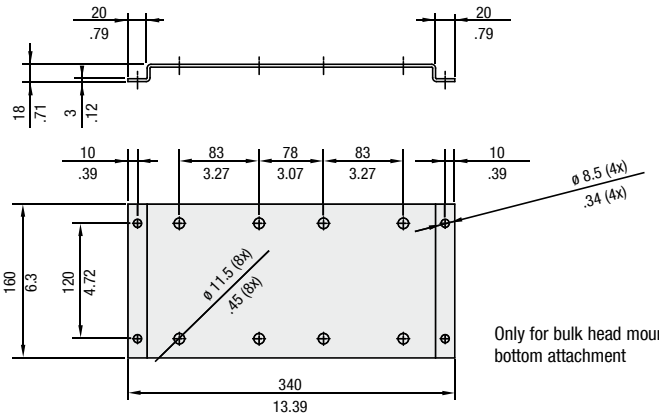


Standard "OLS" Wall Mounting Bracket (Code 3)

Single Housing BPS-1A-30-BRACKET-WM



Double Housing BPS-2A-30-BRACKET-WM

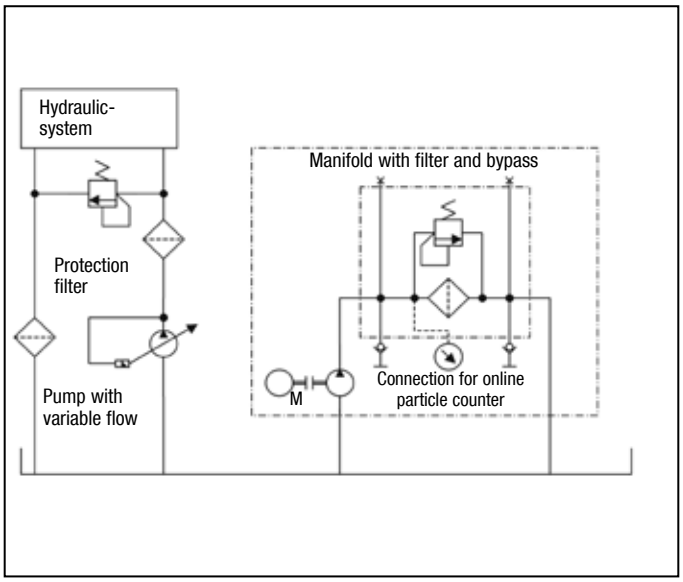


Only for bulk head mounting, no bottom attachment

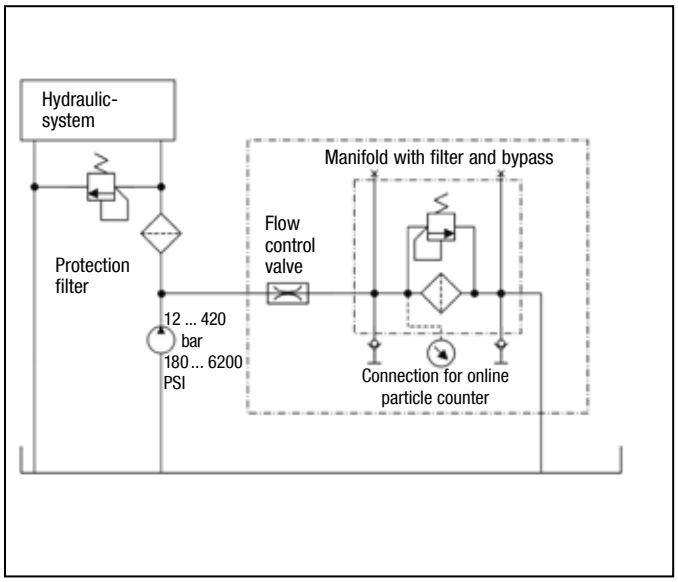
All dimensions in mm / in

Bypass and Off-Line Filters ▪ Type OLS / BPS

Off-Line Filter OLS Hydraulic Symbol

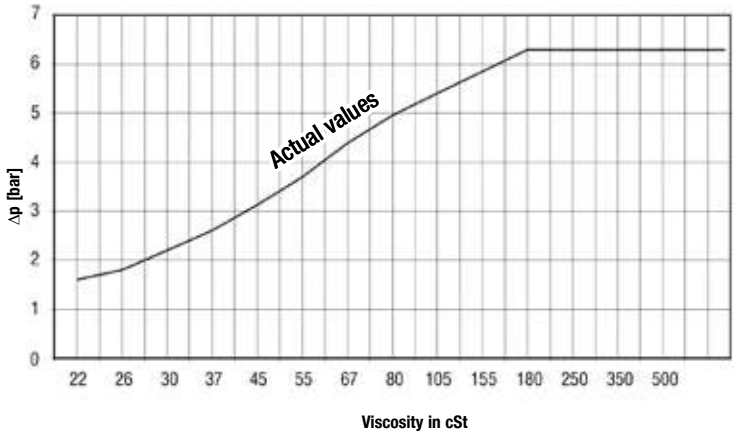


Bypass Filter BPS Hydraulic Symbol

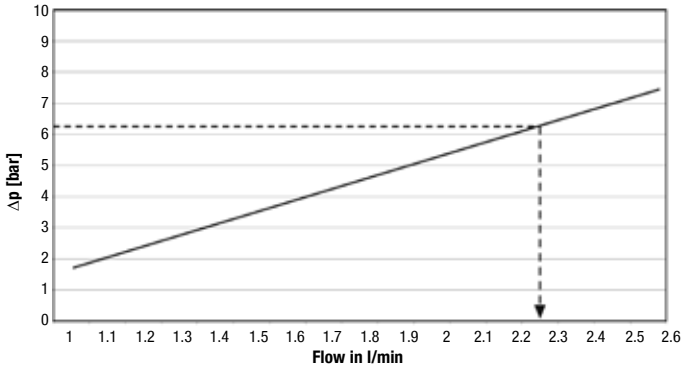


Filter Element SRM-30HB Δp / viscosity - graph

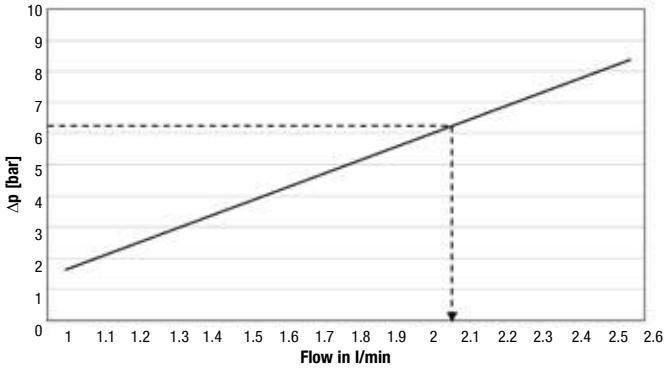
(at a flow of 2,1 l/min / .6 US GPM per element)



Flow Characteristics Off-Line Filter OLS with Filter Element SRM-30HB (at maximum viscosity)

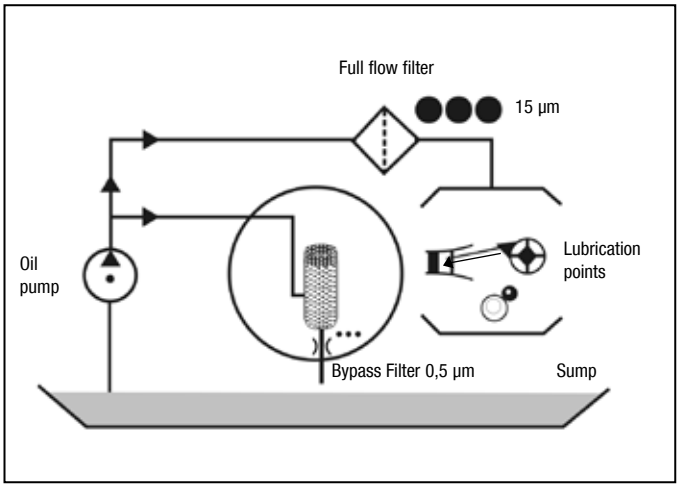


Flow Characteristics Bypass Filter BPS with Filter Element SRM-30HB (at maximum viscosity)



Bypass Lube-Oil Filter ▪ Type BPLS





Technical Data

Construction
- BPLS: Bypass Lube-Oil Filter

Materials
- Filter housing: Aluminium
- Sealings: NBR (Buna-N®)
  FPM (Viton®)

Port Connection
- Inlet: G1/4
- Outlet: G1/4

Maximum Sump Size
- 35 l / 9.25 gal

Housing Volume
- 2,2 liter / .58 gal

Burst Pressure Housing
- > 20 bar / >290 PSI

Filter Element
- 0,5 micron cellulose element
- Glass fibre elements (pleated)
- Water absorbing elements

Product Description

Maintenance is essential for the efficient functioning of engine equipment. However, it is always a critical decision between the quality of the maintenance and the costs involved. Optimal maintenance efficiency combines maximum achievement of the maintenance goal (protection and prolonged usage life of the object) with minimal use of means (costs). The STAUFF Bypass Filter is unique in that it not only achieves the goal, but saves on costs.

The STAUFF Bypass Filter keeps the oil clean, resulting in significant technical, environmental and financial benefits thanks to reduced wear and tear on equipment and machines and prolonged oil life time.

STAUFF Systems BPLS Bypass Filters are used as an additional micro filter connected in bypass to the conventional main stream filters on engines (and automatic transmissions.) Most contamination is much smaller than 15 micron in size, but full flow filters generally do not filter below this level. This results in a lot of harmful contamination passing through these filters and remaining in the system. STAUFF Systems Bypass Filters are capable of filtering down as low as 0,5 micron without detriment to the lubrication circuit.
(see schematic)

Whatever the application, the benefits of the STAUFF Systems Bypass Filters are all based on maintaining a higher quality and cleanliness level of the oil and thereby avoiding the multiple problems that can be caused by fluid contamination.

The benefits are many, and can be broken into three categories :

Technical benefits

- Less malfunctioning
- Greater reliability of operation
- Prolonged oil usage life
- Reduced down time
- Reduced wear on cylinder linings and pistons
- Less bore polishing
- Less formation of black sludge
- Improved engine compression
- Increased equipment life time

Environmental benefits

- Less oil consumption
- Therefore less waste oil
- Increased life time of additives
- Reduction of harmful emissions

Financial benefits

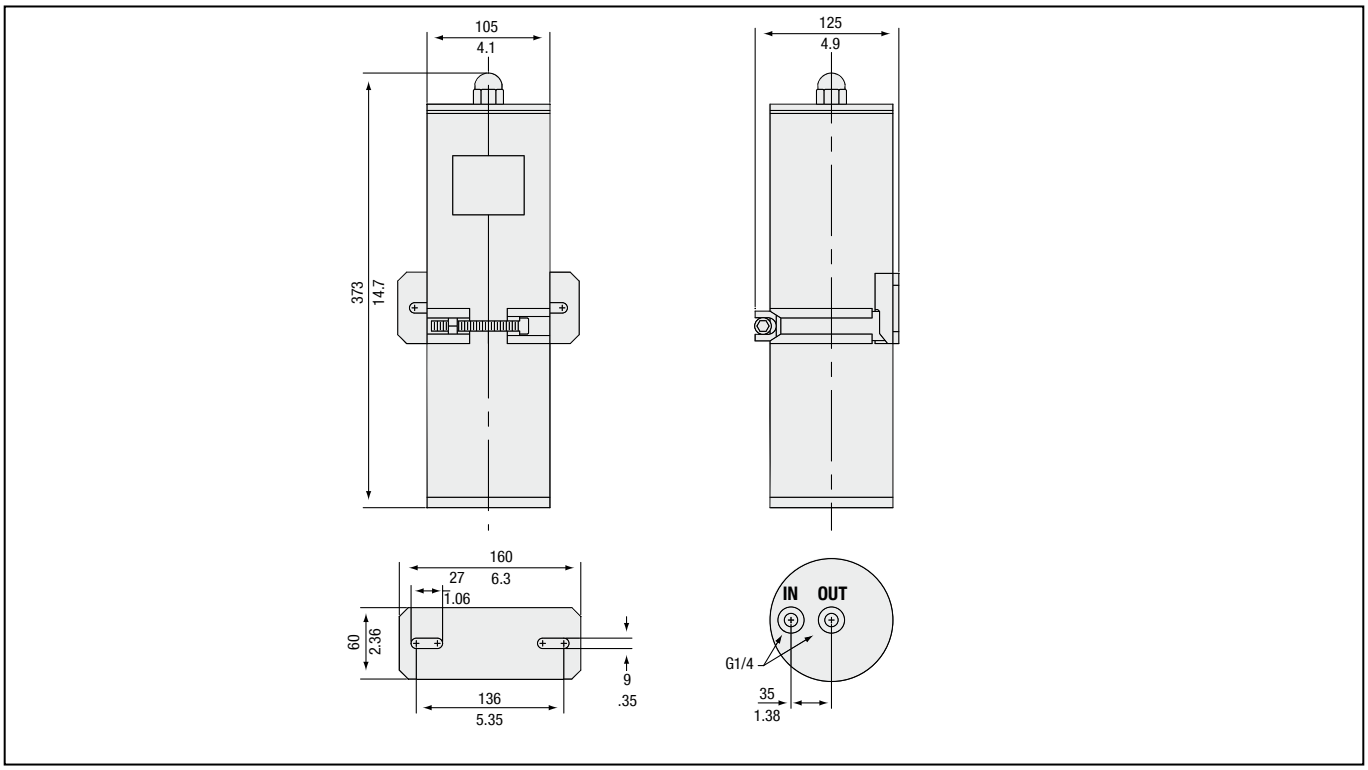
- Savings in labour and materials (oil changes)
- Reduced costs for repairs and downtime
- Reduced waste processing costs

Applications

- Construction equipment
- Agricultural equipment
- Forestry equipment
- Diesel driven welding machines/generators
- Port equipment

Bypass Lube Oil Filter ▪ Type BPLS

BPLS-Filter Dimensions



All dimensions in mm / in

Bypass Lube Oil Filter Housings / Complete Filters ▪ Type BPLS

BPLS - 1A - 26 - H - B - 0 - 0 - 0

1 2 3 4 5 6 7 8

1 Type

Bypass Lube-Oil Filter (for engines and transmission systems)	**BPLS**

2 Housing Configuration

Length	Quantity of elements	Code
Single housing	1 pcs element - (281 mm)	**1A**

3 Filter Element Length

281 mm / 11.06 in	**26**

4 Filter Material and Micron Rating

Material	Micron Rating µm	Code
Cellulose (standard)	0,5	**H**
Inorg. glass fibre	1	**E01**
Inorg. glass fibre	3	**E03**
Inorg. glass fibre	5	**E05**
Inorg. glass fibre	10	**E10**
Inorg. glass fibre	20	**E20**
Inorg. glass fibre and polymer (water absorption)	5	**WA**

5 Sealing Material

NBR (Buna-N®) (standard)	**B**
FPM (Viton®)	**V**

6 Housing Material

Aluminium (standard)	**0**

7 Options

No options	**0**

8 Bracket Options

No mounting bracket	**0**
Standard mounting bracket (bulkhead)	**1**

Filter Elements ▪ Type SRM

SRM - 26 - H - B - 1

1 2 3 4 5

1 Type

Filter Element Series	**SRM**

2 Group

Element length 281 mm / 11.06 in	**26**

3 Filter Material and Micron Rating

Material	Micron rating µm	Code
Cellulose (standard)	0,5	**H**
Inorg. glass fibre	1	**E01**
Inorg. glass fibre	3	**E03**
Inorg. glass fibre	5	**E05**
Inorg. glass fibre	10	**E10**
Inorg. glass fibre	20	**E20**
Inorg. glass fibre and polymer (water absorption)	5	**WA**

4 Sealing Material

NBR (Buna-N®) (standard)	**B**
FPM (Viton®)	**V**

5 Quantity

One piece filter element	**1**
Box with 12 pieces filter element	**12**

Mini Water Vac ▪ Type SMWV



Product Description

The Mini Water Vac is a designated oil purification unit which can be applied directly to various types of machine reservoirs. It dehydrates and cleans most types of oils such as lubricating, hydraulic, transformer, and switch oils. The Mini Water Vac is a self-regulating filtration unit which removes particles, gas, and water. The purified oil satisfies the most stringent quality requirements.

The Mini Water Vac neither removes or alters oil additives. The water removal process is based on pure vacuum evaporation inside a vacuum chamber at a maximum temperature of +65 °C / +149 °F. Solid particle removal is achieved through a well proven STAUFF Systems Micro Filter.

Simple Operation

The Mini Water Vac does not require continuous supervision while operating. Once the unit is connected and commissioned, oil purification is a semi-automatic process. Desired oil temperature can be selected via the integrated heater thermostat. The dehydration and filtering process is fully automatic and is controlled via the PLC. The only manual action required is the emptying the pre-condenser bowl and the waste water container which are equipped with float switches to prevent overflow.

Water, Gas and Particle Removal

The Mini Water Vac removes liquid, gas, and solid particle contamination, which are corrosive and contribute to the reduction of machine life. Contamination greatly increases maintenance costs and contribute to breakdowns and total machine failures. The Mini Water Vac offers protection against malfunctions, breakdowns or total failures. The Mini Water Vac also protects the environment by reducing oil consumption and oil disposal.

Benefits

- Efficient water, gas and particle removal
- Extension of fluid life
- Reduces fluid disposal
- Minimizes corrosion
- Reduced failures and downtime
- Reduce operating costs

Technical Data

Construction
- SMWV-1A-30: Mini Water Vac Vacuum Dehydration Unit one filter housing

Materials
- Filter housing: Anodized Aluminium
- Vacuum chamber: Anodized Aluminium
- Heater chamber: Anodized Aluminium

Port Connection
- Inlet: G1
- Outlet: G1/2
- Online particle counter: STAUFF Test (M16x2)

Max. System Volume
- 3000 l / 795 gal

Recirculating Flow Rate
- 90 l/h / 23.8 gal/hr

Max. Backpressure
- 1 bar / 14.5 PSI

Max. Heater Temperature
- +65°C / +149°F

Filter Element
- 1 micron inorganic glass fibre element $ß_1 > 200$

Media Compatibility
- Viscosity between 20 ... 500 cSt
- Max. attainable water content 100 ppm

Removals
- 100% of free water, >80% of dissolved water
- 100% of free gases, >80% of dissolved gases

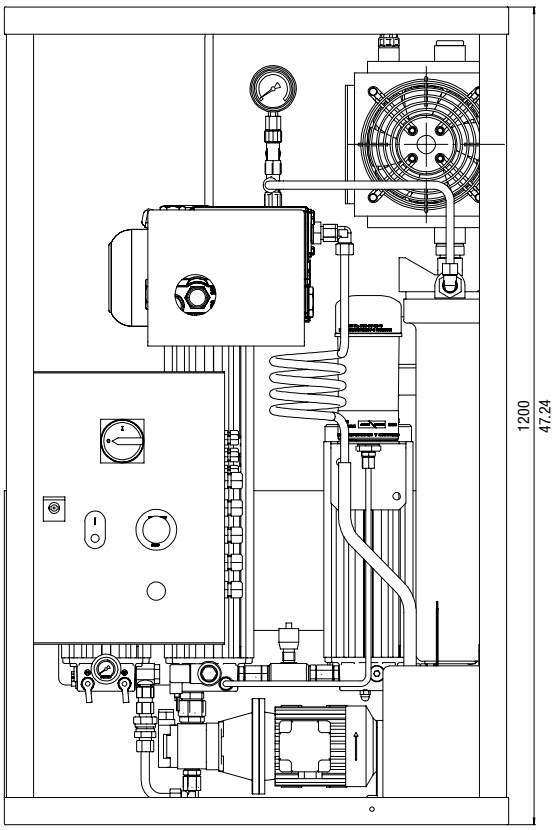
Dimensions
- 1200 x 740 x 450 mm / 47.3 x 29.1 x 17.7 in

Weight
- 130 kg / 287 lbs

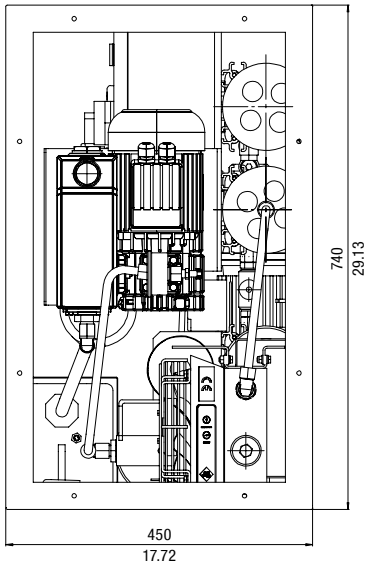
Electrical Data
- Voltage: 230/400 V AC, 50 Hz; 255/460 V AC, 50 Hz
- Power supply: 3 phases
- Heater section: 2 kW
- Vacuum section: 0,037 kW vacuum pump
- Max. current: 3 Amps

Process Control
- PLC unit

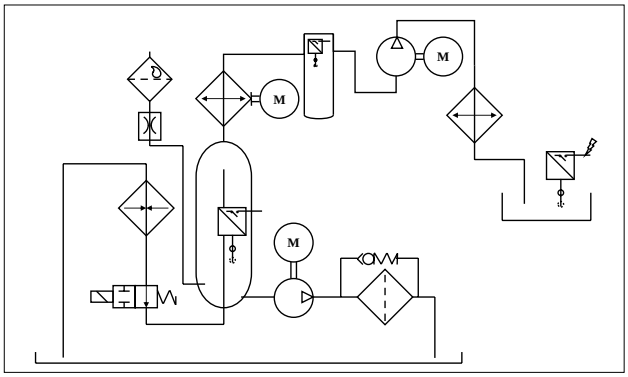
Dimensions SMWV-1A



Top View



Schematic



All dimensions in mm / in

Mini Water Vac ▪ Type SMWV

SMWV	-	1A	-	30	-	H	-	B	-	B	-	60	-	0	-	0	-	0
1		2		3		4		5		6		7		8		9		10

1 Type

Mini Water Vac Oil Purifier (for industrial applications)	SMWV

2 Housing Configuration

Length	Suitable for Reservoir Size	Quantity of Elements	Code
Single housing Single length	1350 l / 356 gal	1 pcs	1A

3 Filter Element Length

300 mm / 11.81 in	30

4 Filter Material and Micron Rating

Material	Micron Rating µm	Code
Cellulose (standard)	0,5	H
Inorg. glass fibre	1	E01
Inorg. glass fibre	3	E03
Inorg. glass fibre	5	E05
Inorg. glass fibre	10	E10
Inorg. glass fibre	20	E20
Inorg. glass fibre and polymer (water absorption)	5	WA

5 Sealing Material

NBR (Buna-N®) (standard)	B
FPM (Viton®)	V

6 E-motor Options

Type	Code
230/400 V AC, 50 Hz, three phases, 1360 r/min 255/460 V AC, 60 Hz, three phases, 1630 r/min	0

Note: Other motors on request, technical data see page C174.

7 Pump Options

1 cc / rev	60

8 Heating Element

2000 Watt (standard)	0

9 Extra Functions

Without	0
With water sensor	1

10 Options

None	0

Filter Elements ▪ Type SRM



Product Description

STAUFF Systems distinguish themselves by their high efficiency filter elements which are capable of filtering silt particles down to 0,5 microns.

Two types of STAUFF Systems are available. The OLS Series uses an integral motor/pump combination to draw the hydraulic or lubrication fluid from the reservoir, filters it, and returns it to the reservoir. The other type of STAUFF System is the BPS Series which uses system pressure to draw a small oil flow from the system which is then filtered and returned to the reservoir.

The success of the STAUFF Off-Line Filtration System is due to the design of the element and housing. The element is constructed of 0,5 micron cellulose media applied with a special wrapping method, providing several hundred layers of filter media. The cellulose fibres also absorb and retain water, which slows down the oxidation process of the fluid. The construction of the housing allows only radial flow through the filter element. This design feature prevents channel forming and subsequent shortcircuiting of the media. The Off-Line design maintains a constant flow and pressure through the filter, which does not allow any particle unloading. These design characteristics enable the STAUFF Filtration System to maintain a rated filtration efficiency of $ß_2 > 2330$. This allows the user to maintain fluid cleanliness levels which cannot be reached with conventional full flow filtration methods.

The unique STAUFF Filter

The principle of the STAUFF System is based on the unique original filter elements. With a filter fineness of 0,5 micron they have the capacity to remove even the smallest of dirt particles from the oil.

The micro filter works as a fine filter through which oil passes radially, from the outside to the inside. The filter elements are made entirely of cellulose and are specially designed for hydraulic and lubrication systems.

The use of cellulose as the filtration material has the added benefit that water can be absorbed. Water in oil creates a chemical reaction, which seriously deteriorates the oil.

Original Elements

The use of original STAUFF Systems filter elements will result in extreme fluid cleanliness and low water contamination levels in the fluid.

Through a carefully monitored quality control process excellent pressure drop curves, filter efficiency and dirt-hold capacity are ensured.

Cellulose Elements

The STAUFF Systems cellulose filter elements are unique in their design. They consist of several hundred layers of long fiber celulose which are wound on a perforated center tube. The micro filter element works as a fine filter through which oil passes radially, from the outside to the inside, trapping solid particles throughout all the layers of cellulose. The long fiber cellulose is also capable of absorbing water, adding the benefit of moisture removal from the oil. STAUFF Systems cellulose elements are extremely efficient and have a large dirt-hold capacity.

The cellulose elements are produced in various sizes to suit all STAUFF Systems filter housings. The STAUFF Systems cellulose elements compatible with most commonly used hydraulic and lubricating fluids, including biodegradable fluids.

Glass fibre Elements

STAUFF Systems offers a range of glass fibre filter elements in a fineness of 1, 3, 5, 10 or 20 micron. The micro filter element works as a fine filter through which oil passes radially, from the outside to the inside. STAUFF Systems glass fibre filter elements (conventional pleated construction) are extremely efficient and have a large dirt-hold capacity.

The glass fiber elements are suited for all STAUFF Systems filter housing (except the size 20 housing) and are compatible with most commonly used hydraulic and lubricating fluids, including biodegradable fluids. The glass fibre elements are particularly suited for gearbox applications where high viscosity fluids limit the use of the cellulose elements.

Water Sorb Filter Inserts

STAUFF Systems offers a specifically designed water sorb combination filter element: water absorbing and particle retention. This pleated filter element with a fineness of 5 micron has layers of polymers in between layers of glass fibre, creating a unique media to remove both water and solid particles from the fluid.

Characteristics

- Continuous quality with stable flow/Δp performance
- Extremely fine filters (0.5 micron)
- Large filtration surface
- High water absorption capacity
- Additives are not removed
- Large dirt collection capacity
- Extends oil usage life
- Extends life cycle main stream filters

Applications

The original filter elements are used in combination with STAUFF Systems filter housings in an endless range of industries.

Some Examples are:
- Plastic industry
- Steel industry
- Concrete and cement industry
- Petrochemical industry
- Maritime industry
- Paper industry
- Forestry industry

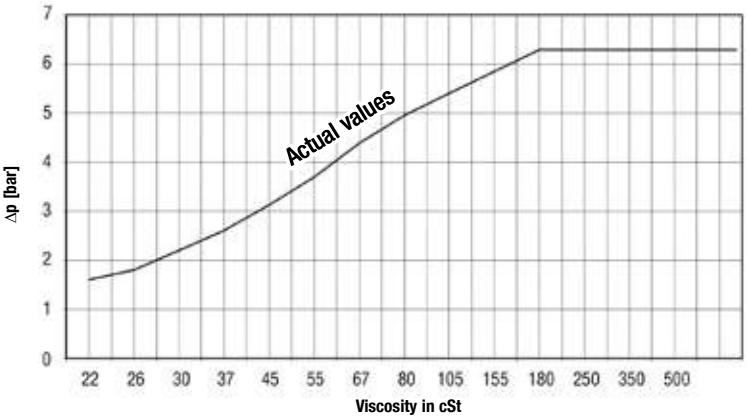
Off-Line and Bypass Filters Replacement Elements ▪ Type SRM

Filter Element Technical Data

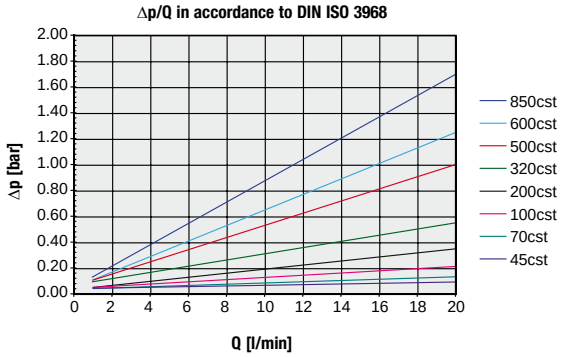
Element Model	SRM-30HB	SRM-30E01B	SRM-30E03B	SRM-30WAB
Filter Material	Cellulose	Glass fibre	Glass fibre	Glass fibre and Polymer
Filtration Efficiency	$ß_5 \geq 200$ / $ß_2 \geq 2331$	$ß_1 \geq 200$	$ß_3 \geq 200$	$ß_5 \geq 200$
Water Absorption Capacity	150 ml 5 oz	N/A	N/A	350 ml 11.8 oz
Nominal Flow per Element	2,1 l/min .6 GPM	2,1 l/min .6 GPM	2,1 l/min .6 GPM	2,1 l/min .6 GPM
Max. Viscosity at Nominal Flow Rate	180 cSt	800 cSt		
Max. Oil Temperature	+80 °C +176 °F			
Lenght of Element	300 mm 11.8 in			
Sealing Material (Standard)	NBR (Buna-N®) and Silicone Rubber	NBR (Buna-N®)	NBR (Buna-N®)	NBR (Buna-N®)
Other Sealing Material	Consult STAUFF			
Fluid Compatibility:				
--Mineral Oils				
H, HI, HLP, HVLP	OK	OK	OK	OK
-- Biodegradable Oils				
HEPG Polethyleneglycol	Consult STAUFF			
HEES Synthetic ester	OK	OK	OK	OK
HETG Vegetable seed oil	Consult STAUFF			
-- Fire Inhibiting Fluids				
HFA emulsions	NO	OK	OK	NO
HFC glycol/water solution	NO	OK	OK	NO
HFD fluids no water content	Consult STAUFF			
Approximate Weight	0,8 kg 1.8 lb	1,25 kg 2.8 lb	1,25 kg 2.8 lb	1,25 kg 2.8 lb

Filter Element SRM-30HB Δp / viscosity - graph

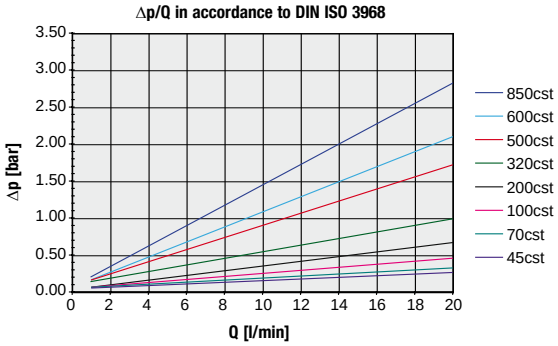
(at a flow of 2,1 l/min / .6 US GPM per element)



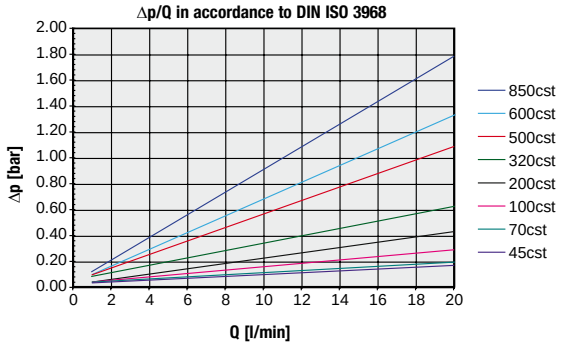
Filter Element SRM-30E03B ΔP / Viscosity-Graph



Filter Element SRM-30E01B ΔP / Viscosity-Graph



Filter Element SRM-30WAB ΔP / Viscosity-Graph



Portable Filter Cart ▪ Type SPFC





Product Description

The STAUFF Portable Filter Cart (SPFC) is a very complete and practical unit capable of off-line filtration, filling or emptying reservoirs (if needed via 125 µm suction filter) or any application requiring the transfer or filtration of hydraulic oils. Multi stage filtration can be applied to extend element lifetime. The SPFC is available with a variety of Spin-on elements for quick and easy element replacement as well with various pump/motor options. All components are mounted together on a sturdy frame guaranteeing a long lifetime.

Technical Data

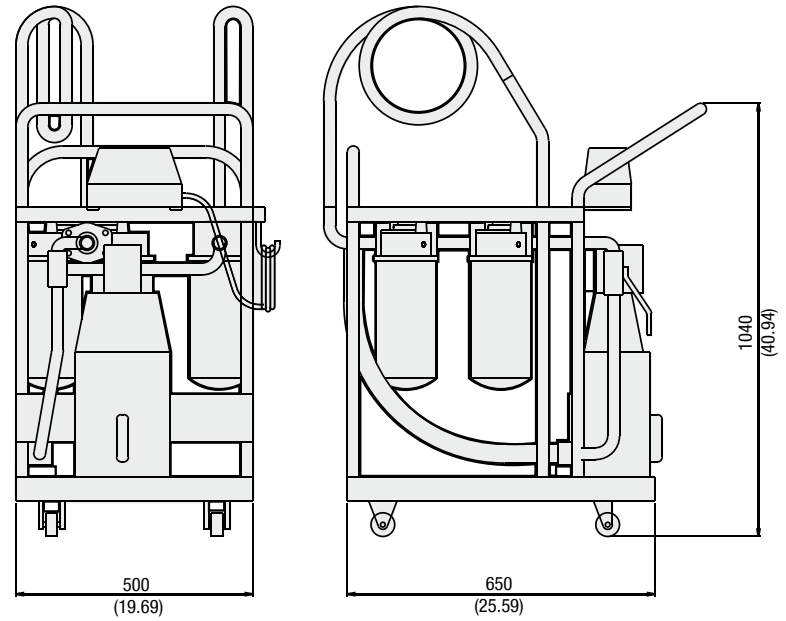
- 38 l/min / 10 US GPM gear pump
- Electric motor single phase or three phase 1 HP
- On/Off button with 3,05 m / 10 ft power cord
- Heavy duty welded frame with drip pan and tool tray
- Suction strainer - 100 mesh Spin on
- 3,05 m / 10 ft spiral reinforced PVC hoses with wands
- 3-way ball valve to by-pass filters
- Weight: 86 kg / 190 lbs.

Options

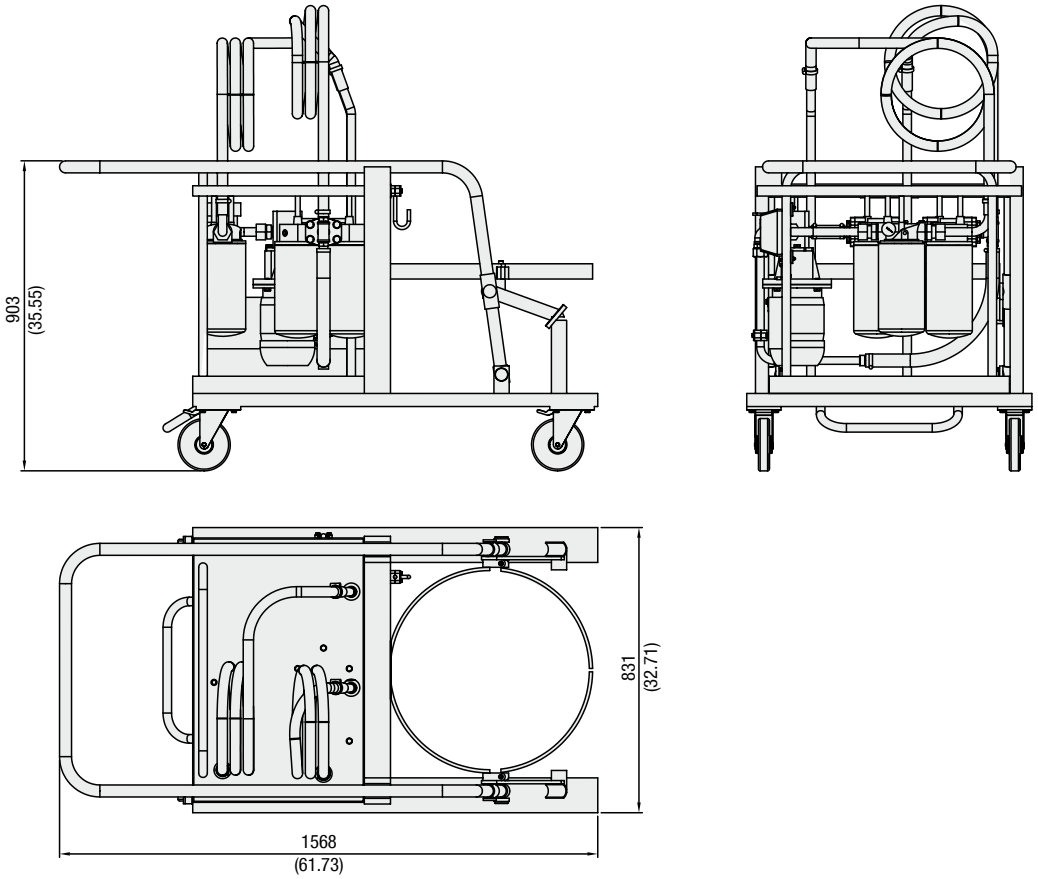
- Single or dual stage filtration
- 3, 6, 12 or 25 µm ßx= 200 elements
- Water absorption elements
- Drum cart
- Smart cart with laser particle monitor contamination indicator

Note: For special applications (fluids, temperature, etc.) please contact your local STAUFF distributor.

Dimensions SPFC Standard



Dimensions SPFC...DL Drum Lift



Portable Filter Cart - Smart Cart ▪ Type SPFC



Product Description

The Stauff Smart Cart incorporates a laser particle monitor system to the standard SPFC filter cart. With this system the user can set the required ISO codes on the LPM to indicate when the SPFC has filtered the system to the specified cleanliness level. The system will indicate this to the user with an indicator light.

Technical Data

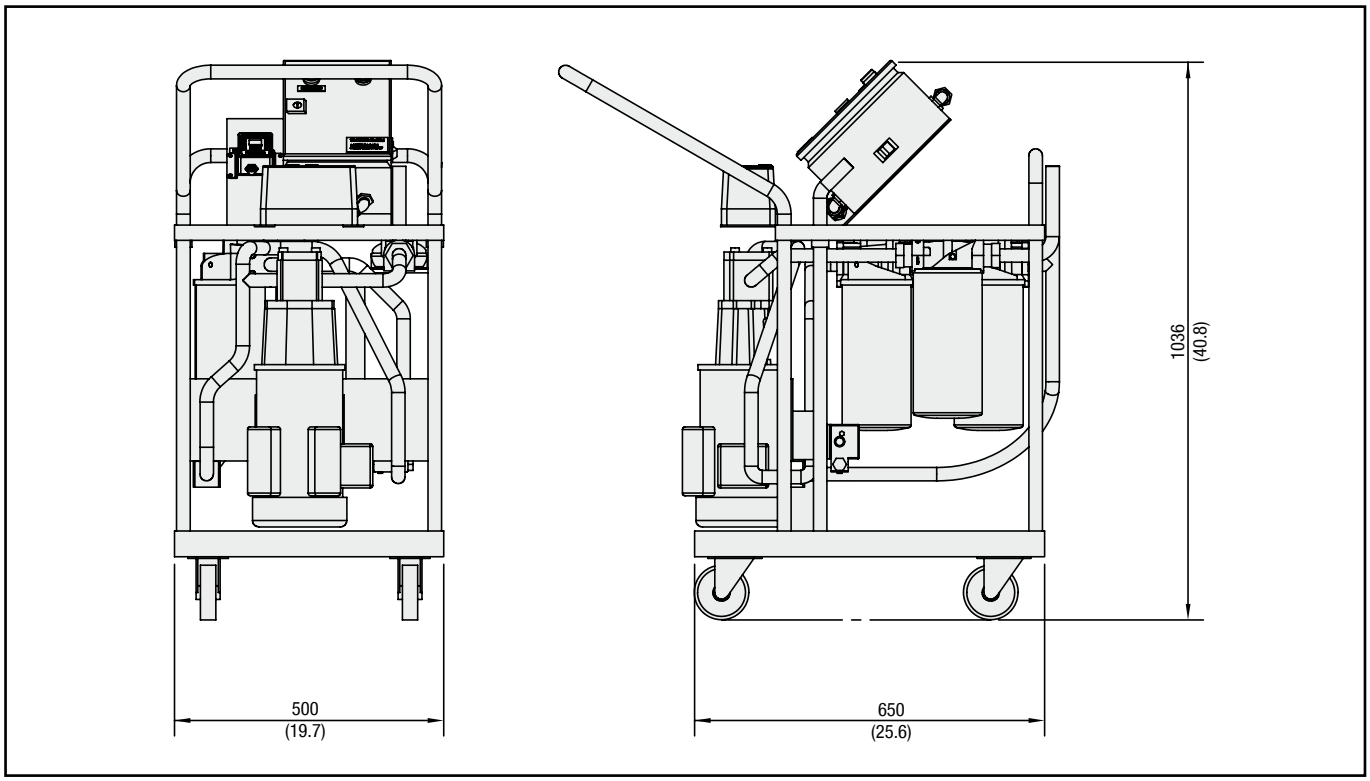
- LIM* controlled with indicator light
- Laser Particle Monitor (LPM)* continuously monitors contamination level
- Toch screen controlled with programmable automatic shutdown

Options

- All other options included with the standard SPFC unit

* See Diagtronics section of this catalogue for LPM and LIM details.

Dimensions SPFC....SC Smart Cart



Dimensions in mm (inch)

Portable Filter Cart- Smart Cart ▪ Type SPFC

Technical Data

The Smart Cart SCL can be programmed with desired ISO code cleanliness for up to 4 separate channels (4µm, 6µm, 8µm, and 21µm). When the oil reaches the programmed ISO code on any channel it will ALARM. When the smart cart alarms it will trigger the GREEN light letting the operator know the current reservoir is complete and they can move on to the next piece of equipment.

The Smart Cart SCP offers more versatility. It has an LCD touch screen that displays a graph showing the trending history of the ISO codes as well as data logging capabilities. It can be programmed for low (clean) and high (dirty) ISO code alarms. The unit can also display the status of the LPM giving information such as sample time, Laser Temp, and alarm status.



SPFC...SCL LIM Controlled

SPFC...SCP Touch Screen Interface Modules



Home Screen



Alarm Set-up



History Graph



System Status

Portable Filter Cart ▪ Type SPFC

SPFC	-	10	-	2	-	6726	-	6707	-	B	-	V	-	C	-	XX
1		2		3		4		5		6		7		8		9

1 Type

STAUFF Portable Filter Cart	**SPFC**

2 Flow

38 l/min / 10 US GPM gear pump	**10**

3 Stages

1 Stage	**1**
2 Stages (standard option)	**2**

4 Stage 1 Filter Element

Without filter element	**0000**
Synthetic 3 µm ß200	**6704**
Synthetic 6 µm ß200	**6707**
Synthetic 12 µm ß200	**6731**
Synthetic 25 µm ß200	**6726**
Paper 10 µm	**6721**
Paper 25 µm	**6711**
Water absorbing 10 µm	**6721-W**
Stainless Steel wire mesh 144 µm	**6791**

5 Stage 2 Filter Element

Without filter element	**0000**
Synthetic 3 µm ß200	**6704**
Synthetic 6 µm ß200	**6707**
Synthetic 12 µm ß200	**6731**
Synthetic 25 µm ß200	**6726**
Paper 10 µm	**6721**
Paper 25 µm	**6711**
Water absorbing 10 µm	**6721-W**
Stainless Steel wire mesh 144 µm	**6791**

6 Sealing Material

NBR (Buna-N®) (standard option)	**B**
FPM (Viton®)	**V**

7 Contamination Indicator

Without indicator	**0**
Visual indicator (standard option)	**V**

8 Electric Motor Voltage

220 V AC @ 60 Hz - three phases	**A**
110 V AC @ 50 Hz - single phase	**B**
110 V AC @ 60 Hz - single phase (standard option)	**C**
230 V AC @ 50 Hz - single phase	**D**
230 V AC @ 60 Hz - single phase	**E**
400 V AC @ 50 Hz - three phases	**F**
400 V AC @ 60 Hz - three phases	**G**
440 V AC @ 50 Hz - three phases	**H**
440 V AC @ 60 Hz - three phases	**F**
Special voltages on request	**X**

9 Special Configuration

Drum cart	**DL**
Smart cart - LIM controlled with light	**SCL**
Smart cart with touch screen and automatic shutdown, PLC controlled	**SCP**

Compact Portable Filter Cart ▪ Type SCFC



Product Description

The STAUFF Compact Filter Cart (SCFC) is a very compact, light and handy filter cart, offering excellent service for maintenance departments. The carts assembled with a single or double Spin-on head allow the use of various elements from 3 µm absolute to 125 µm wire mesh. The SCFC can be used for off line filtration or as a transfer unit.

Technical Data

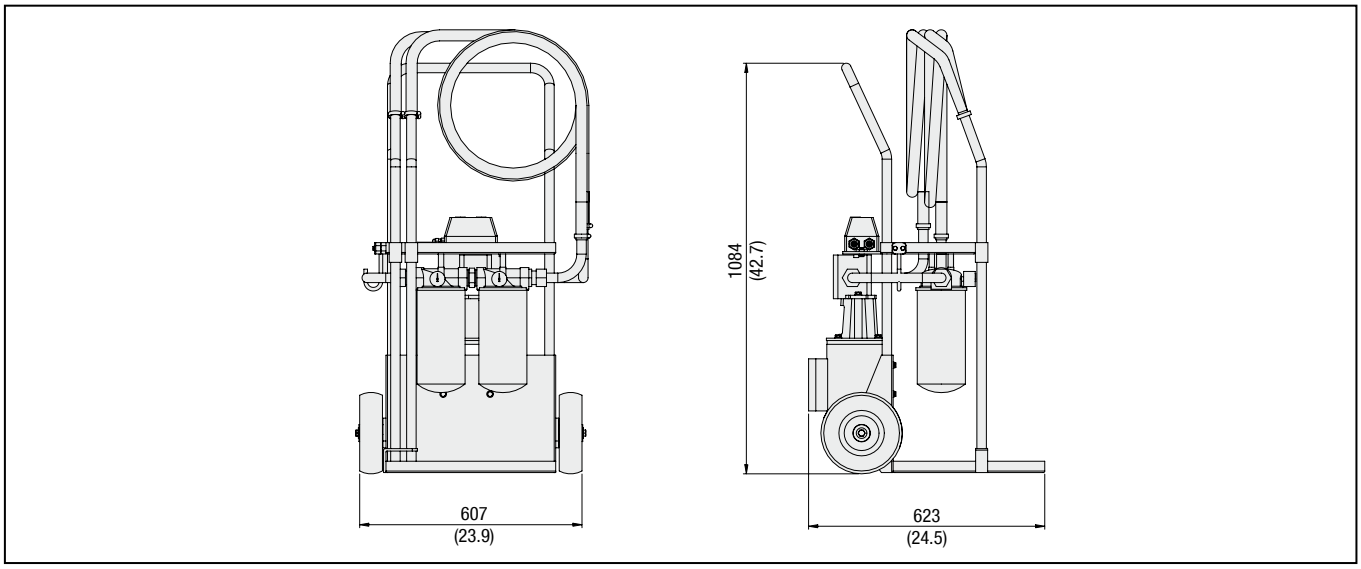
- Flow 19 l/min / 5 US GPM up to 38 l/min / 10 US GPM
- Electric motor single phase or three phases 1 HP
- Thermal overload relays
- Welded frame with tool tray epoxy coated
- Compact suction strainer
- Soecial flexible hoses reinforced with internal spiral, length 3,05 m / 10 ft
- Filter head with by-pass valve integrated
- Visual clogging indicator
- Weight: 53 kg / 177 lbs.

Options

- Single or dual stage filtration
- Gear pump or vane pump
- Electric motor standard: IEC or CSA/NEMA
- Filter elements: 10 or 25 µm (in paper), 3, 6, 12 or 25 µm ß200 (Inorganic Glass Fiber) or 125 µm (Stainless wire mesh)
- Water absorption filter elements

Note: For special applications (fluids, temperature, etc.) please contact your local STAUFF distributor.

Dimensions SCFC



Compact Portable Filter Cart ▪ Type SCFC

SCFC2	-	10	-	G	-	D	-	6726	-	6707	-	B	-	V	-	C	-	XX
1		2		3		4		5		6		7		8		9		10

1 Type

STAUFF Compact Portable Filter Cart	**SCFC2**

2 Flow

38 l/min / 10 US GPM (standard option)	**10**
19 l/min / 5 US GPM	**5**

3 Pump Types

Gear Pump (standard option)	**G**
Vane Pump	**V**

4 Filter Head

Double head (parallel) (standard option)	**D**
Single head	**S**
2x single heads (series) (standard option)	**2S**

5 Stage 1 Filter Element

Without filter element	**0000**
Synthetic 3 µm ß200	**6704**
Synthetic 6 µm ß200	**6707**
Synthetic 12 µm ß200	**6731**
Synthetic 25 µm ß200	**6726**
Paper 10 µm	**6721**
Paper 25 µm	**6711**
Water absorbing 10 µm	**6721-W**
Stainless Steel wire mesh 144 µm	**6791**

6 Stage 2 Filter Element (only for Filter Head Option 2S)

With D or S filter head option	**none**
Without filter element	**0000**
Synthetic 3 µm ß200	**6704**
Synthetic 6 µm ß200	**6707**
Synthetic 12 µm ß200	**6731**
Synthetic 25 µm ß200	**6726**
Paper 10 µm	**6721**
Paper 25 µm	**6711**
Water absorbing 10 µm	**6721-W**
Stainless Steel wire mesh 144 µm	**6791**

7 Sealing Material

NBR (Buna-N®) (standard option)	**B**
FPM (Viton®)	**V**

8 Contamination Indicator

Without indicator	**0**
Visual indicator (standard option)	**V**

9 Electric Motor Voltage

220 V AC @ 60 Hz - Three phases	**A**
110 V AC @ 50 Hz - Single phase	**B**
110 V AC @ 60 Hz - Single phase (standard option)	**C**
230 V AC @ 50 Hz - Single phase	**D**
230 V AC @ 60 Hz - Single phase	**E**
400 V AC @ 50 Hz - Three phases	**F**
400 V AC @ 60 Hz - Three phases	**G**
440 V AC @ 50 Hz - Three phases	**H**
440 V AC @ 60 Hz - Three phases	**F**
Special voltages on request	**X**

10 Special Configuration

Dimensions in mm (inch)

STAUFF Mobile Filter Units



Product Description

Mobile Filtration Systems from STAUFF already covered a wide spectrum of use: On the one hand compact and versatile, on the other hand designed for long-lasting use and highest nominal flow rates, the support the preventive maintenance of hydraulic and lubrication systems, thus providing extended maintenance intervals and helping to reduce operating costs within shortest payback periods. To cover region specific requirements STAUFF has a large range of different Mobile Filtration Systems.

STAUFF Europe: STAUFF Mobile Filter Unit SMFS-P-015



- High-quality gear pump
- Nominal flow rate up to 15 l/min / 4 US GPM
- 2 motor versions: 230 V 50 Hz or 400 V 50 Hz
- Micron rating available from 3 ... 125 µm
- Hand-held unit
- Weight: approx. 23 kg / 51 lbs

STAUFF Europe: STAUFF Mobile Filter Unit SMFS-U-030



- High-quality gear pump
- Nominal flow rate up to 30 l/min / 8 US GPM
- 2 motor versions: 230 V 50 Hz or 400 V 50 Hz
- Micron rating available from 3 ... 125 µm
- Weight: approx. 46 kg / 101 lbs

STAUFF Europe: STAUFF Mobile Filter Unit SMFS-U-060 / 110



- High-quality gear pump
- Nominal flow rate up to 60 l/min / 15 US GPM or 110 l/min / 30 US GPM
- Micron rating available from 3 ... 25 µm
- Weight: approx. 87 kg / 192 lbs

STAUFF Australia: STAUFF Portable Filter Cart SPFC

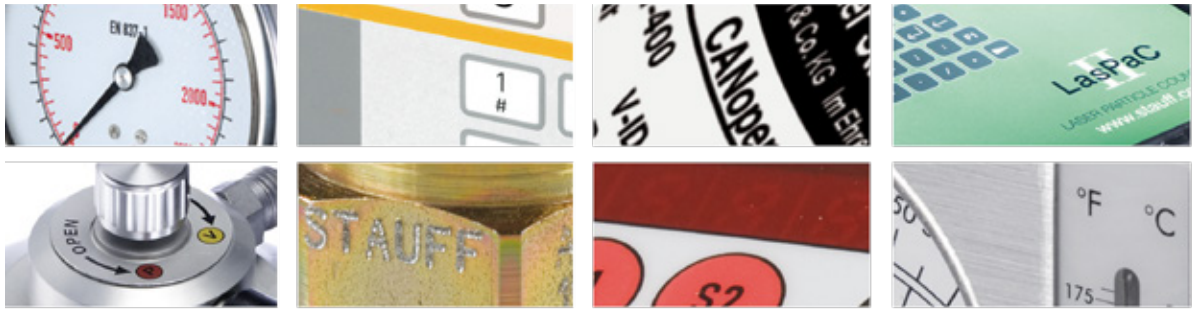


- High-quality gear pump
- Nominal flow rate up to 23 l/min / 6 US GPM
- Magnetic core pre-filtration
- Micron rating 10 µm
- Weight: approx. 53 kg / 117 lbs



Home
Pressure Gauges
PPC Series
Laser Particle Counters
Sensors and Switches

Diagtronics



The STAUFF Diagtronics programme provides components and services for monitoring and analyzing hydraulic fluids in mobile and industrial hydraulic systems.

The range includes analog stainless steel pressure gauges to high-quality, high-end laser particle counters.

A versatile range is essential for different customer needs. The innovative STAUFF Diagtronics programme addresses these decisive factors in the market and offers a wide range of state of the art products with the highest quality.

Competent and fast service is a matter of course in our company. All products undergo the relevant tests following international standards, and are subject to our in-house quality management in accordance with EN ISO 9001:2008.

Due to the extensive inventory, both customized special parts and special product combinations are available.

Please contact STAUFF for further details.

Home
Pressure Gauges
PPC Series
Laser Particle Counters
Sensors and Switches

Pressure Gauges

Introduction
Information on the Pressure Equipment Directive
Accessories for Pressure Gauges
Pressure Gauge (Analog) SPG
Pressure Gauge (Digital) SPG-DIGI
Pressure Gauge (Digital) Wireless SPG-DIGI-W
Pressure Test Kit (Analog) SMB
Multi Gauge Kit (Analog) SMB
Pressure Test Kit (Digital) SMB-DIGI
Accessories (Connection Adaptors)





Home
Pressure Gauges
PPC Series
Laser Particle Counters
Sensors and Switches

PPC Series

Introduction
Overview
Functional Block Diagram
Hydraulic Tester PPC-04/2
Hydraulic Tester PPC-06/08-plus
Pressure Sensor PPC-04/12-PT/2
Temperature Sensor PPC-04/12-TS / 12-TSH
Rotational Speed Sensor PPC-04/12-SDS-CAB
Flow Turbine PPC-04/12-SFM
Gear Flow Meter PPC-04/12-SVC
Miscellaneous Measurements
Cables / Adaptors / Accessories

Complete Systems
PPC-04/2
PPC-06/08-plus

Hydraulic Test Equipment
Hydraulic Tester PPC-Pad
Complete Systems PPC-Pad-SET

CAN Protocol
CAN Pressure Sensor PPC-CAN-PT
CAN Flow Turbine PPC-CAN-SFM
CAN Connection Cables
PPC-CAN-CAB2
PPC-CAN-CAB-Y
PPC-CAN-R
CAN Frequency Converter PPC-CAN-FR
CAN Hydraulic Test Equipment





Home
Pressure Gauges
PPC Series
Laser Particle Counters
Sensors and Switches

Laser Particle Counters

Introduction
Overview
Features & Options (General)
LasPaC II - Portable LasPaC II-P
LasPaC II - Mobile LasPaC II-M
LasPaC II - Inline LasPaC II-I
Bottle Sampler Units
Bottle Sampler 110
Bottle Sampler 250
Bottle Sampler 250-E
Accessories
Laser Particle Monitor LPM-1
Laser Particle Transducer LPT-1
Laser Interface Module LIM
Dynamic Application Valve DAV
Check Oil Analysis STFC
Oil Sampling Kit SFSK



Home
Pressure Gauges
PPC Series
Laser Particle Counters
Sensors and Switches

Sensors and Switches

Introduction

Level Temperature

Level-Temperature Switch
Level-Temperature Switch Aluminium SLTSA
Level-Temperature Switch Display SLTSD

Pressure

Pressure Switch SPW
Pressure Switch SPW-SD
Pressure Transmitters SPT
Pressure Transmitters PT
Pressure Switch and Transmitter SPWF

Temperature

Temperature Switch and Transmitter STWE
Temperature Transmitter STC
Temperature Switch STW

Flow

Flowtell Inline Flow Meter SFF
Flow Indicator SDM / SDMK
Flow Monitoring System SGF
Flow Monitoring System SGFE
Flow Rate Measuring Display STD















The STAUFF Diagtronics programme provides components and services for monitoring and analysing hydraulic fluids in mobile and industrial hydraulic systems.
The range includes analog stainless steel pressure gauges to high-quality, high-end laser particle counters.

A versatile range is essential for different customer needs. The innovative STAUFF Diagtronics programme addresses these decisive factors in the market and offers a wide range of state of the art products with the highest quality.

Competent and fast service is a matter of course in our company. All products undergo the relevant tests following international standards, and are subject to our in-house quality management in accordance with EN ISO 9001:2008.

Due to the extensive inventory, both customized special parts and special product combinations are available.

Please contact STAUFF for further details.

www.stauff.com

D

Diagtronics

Index	D2
Pressure Gauges	D4
PPC Series	D13
Laser Particle Counters	D38
Sensors and Switches	D54

Pressure Gauges (Analog and Digital)

	Introduction		**D4**
	Information on the Pressure Equipment Directive		**D5**
	Accessories for Pressure Gauges		**D5**
	**Pressure Gauge (Analog)**	SPG	**D6**
	**Pressure Gauge (Digital)**	SPG-DIGI	**D8**
	**Pressure Gauge (Digital) Wireless**	SPG-DIGI-W	**D9**
	**Pressure Test Kit (Analog)** **Multi Gauge Kit (Analog)**	SMB	**D10**
	**Pressure Test Kit (Digital)**	SMB-DIGI	**D11**
	Accessories (Connection Adaptors)		**D11**

PPC Series

	Introduction		**D13**
	Overview		**D14**
	Functional Block Diagram		**D15**
	**Hydraulic Tester**	PPC-04/2	**D16**
	**Hydraulic Tester**	PPC-06/08-plus	**D17**
	**Pressure Sensor**	PPC-04/12-PT/2	**D18**
	**Temperature Sensor**	PPC-04/12-TS PPC-04/12-TSH	**D19**
	**Rotational Speed Sensor**	PPC-04/12-SDS-CAB	**D20**
	**Flow Turbine**	PPC-04/12-SFM	**D21**
	**Gear Flow Meter**	PPC-04/12-SVC	**D22**
	**Miscellaneous Measurements**		**D24**
	**Cables / Adaptors / Accessories**		**D25**
	**Complete Systems**	PPC-04/2 PPC-06/08-plus	**D26**
	Hydraulic Test Equipment		**D27**
	**Hydraulic Tester**	PPC-Pad	**D28**
	**Complete Systems**	PPC-Pad-SET	**D29**
	**CAN Pressure Sensor**	PPC-CAN-PT	**D33**
	**CAN Flow Turbine**	PPC-CAN-SFM	**D34**
	**CAN Connection Cables**	PPC-CAN-CAB2 PPC-CAN-CAB-Y PPC-CAN-R	**D35**
	**CAN Frequency Converter**	PPC-CAN-FR	**D35**
	CAN Hydraulic Test Equipment		**D36**

Laser Particle Counters

	Introduction		**D38**
	Overview		**D38**
	Features & Options (General)		**D39**
	**LasPaC II - Portable**	LasPaC II-P	**D40**
	**LasPaC II - Mobile**	LasPaC II-M	**D42**
	**LasPaC II - Inline**	LasPaC II-I	**D44**
	**Bottle Sampler Units**	Bottle Sampler 110 Bottle Sampler 250 Bottle Sampler 250-E	**D46**
	**Accessories**		**D47**
	**Laser Particle Monitor**	LPM-1	**D50**
	**Laser Particle Transducer**	LPT-1	**D51**
	**Laser Interface Module**	LIM	**D52**
	**Dynamic Application Valve**	DAV	**D52**
	**Check Oil Analysis** **Oil Sampling Kit**	STFC SFSK	**D53**

Sensors and Switches

	Introduction		**D54**
	**Level-Temperature Switch**	SLTS	**D55**
	**Level-Temperature Switch Aluminium**	SLTSA	**D56**
	**Level-Temperature Switch Display**	SLTSD	**D57**
	**Pressure Switch**	SPW	**D58**
	**Pressure Switch**	SPW-SD	**D59**
	**Pressure Transmitters**	SPT	**D60**
	**Pressure Transmitters**	PT	**D64**
	**Pressure Switch and Transmitter**	SPWF	**D68**
	**Temperature Switch and Transmitter**	STWE	**D72**
	**Temperature Transmitter**	STC	**D74**
	**Temperature Switch**	STW	**D76**
	**Flowtell Inline Flow Meter**	SFF	**D77**
	**Flow Indicator**	SDM SDMK	**D78**
	**Flow Monitoring System**	SGF	**D80**
	**Flow Monitoring System**	SGFE	**D86**
	**Flow Rate Measuring Display**	STD	**D89**

Pressure Gauges



Measuring pressure on equipment is indispensable for monitoring and ensuring the smooth functioning and operating safety of these systems.

STAUFF offers a variety of simple pressure measuring devices for liquid and gaseous media. These pressure gauges can be used as both stationary or portable devices. STAUFF addresses the very extensive width of possible system pressures and the strict requirements for precision with a variety of pressure gauge types with different measuring ranges.

The glycerine filled gauge range is available with various connection ports to fit many different installation needs. The pressure gauges can be purchased alone or in a test kit. The kits can be supplied with gauges with different pressure ranges and adaptors to satisfy any requirement.

The analog pressure gauges are primarily designed for permanent installations. STAUFF also offers a digital line for analytical troubleshooting.

These digital pressure gauges are also available as a pressure test kit and also make it possible to perform the many different measurement tasks with the help of adapters and the measuring hose. An important advantage is the possibility to measure pressure peaks with the device, to save them short term and to display them in the display as MIN and MAX values.

A new development of this digital pressure gauge is the wireless data logger, which makes it possible to start pressure measurement series on a machine without a bothersome cable via radio signal and to transfer these to a PC or laptop. This wireless pressure gauge is one of the most affordable types of a wireless data logger.

Pressure Gauges ▪ Accessories



Single Station Gauge Isolator Valve
(see Valves section)



Multi Station Gauge Isolator Valve
(see Valves section)



Gauge Isolator Needle Valves
(see Valves section)



Test Hoses - Gauge Adaptor
(see STAUFF Test section)



Gauge Adaptor
(see STAUFF Test section)



Direct Gauge Adaptor
(see STAUFF Test section)



Adjustable Gauge Fitting
(see STAUFF Test section)

Pressure Gauge (Analog) ▪ Type SPG



Pressure Gauge (Analog) Type SPG (Stem Mounting)



Pressure Gauge (Analog) Type SPG (Panel Mounting)

Product Description

Area of Application
- Mechanical pressure measurement

Features

- Suitable for hydraulic oil and gaseous media compatible with copper based alloys
- Available in nominal sizes 63 and 100 mm / 2.5 and 4 in
- Thread form: for BSP (G1/4 and G1/2), NPT (1/4 NPT and 1/2 NPT), SAE (7/16–20 UNF)
- Stainless Steel (1.4301) housing
- Acrylic sight glass
- Glycerine filled
- Standard dual scales with pressure indication in bar and PSI
- U-bolt or flange mounting kit on request
- Bezel type: crimped

Note: Please consult STAUFF before you use SPG with other media.

Options

- 316 Stainless Steel connector wetted parts
- Protective rubber cap
- Additional scale readings including private label
- U-bolt and flange mounting kits are available separately as spare parts
- Other diameters upon request (40 mm, 50 mm, 150 mm)

Technical Data

- Pressure gauge according to EN 837-1
- Subject to technical modifications

Accuracies
SPG-063: ± 2/1/2% of span (ASME B40.100 Grade A)
SPG-100: 1% of span (ASME B40.100 Grade 1A)

Permissible Temperatures
- Ambient: -20 °C ... +60 °C / -4 °F ... +140 °F
- Media: max. +60 °C / max. +140 °F

Protection Ratings
- IP 65: for all manometer SPG 100 and SPG 063 > 16 bar / 232 PSI
  IP 65 protection rating: Dust tight and protected against water jets
- IP 54 for all manometer SPG 063
  ≤ 16 bar / 232 PSI due to pressure compensation opening
  IP 54 protection rating: Dust protected and protected against splashing water

Order Codes

SPG	063	-	00030	-	05	-	P	-	N04	-	U	-	
①	②		③		④		⑤		⑥		⑦		⑧

① Series and Type

Stainless Steel Pressure Gauge	**SPG**

② Size

63 mm, with G1/4, 1/4 NPT or 7/16–20 UNF connection	**063**
100 mm, with G1/2 or 1/2 NPT	**100**

③ Pressure Ranges

-1,02 ... 0 bar / -30 inHg ... 0 PSI	**30HG30**
-1,02 ... 2,07 bar / -30 inHg ... 30 PSI	**03030**
0 ... 2,07bar / 0 ... 30 PSI	**00030**
0 ... 4,14 bar / 0 ... 60 PSI	**00060**
0 ... 6,89 bar / 0 ... 100 PSI	**00100**
0 ... 11,03 bar / 0 ... 160 PSI	**00160**
0 ... 13,79 bar / 0 ... 200 PSI	**00200**
0 ... 20,68 bar / 0 ... 300 PSI	**00300**
0 ... 34,74 bar / 0 ... 500 PSI	**00500**
0 ... 41,37 bar / 0 ... 600 PSI	**00600**
0 ... 68,95 bar / 0 ... 1000 PSI	**01000**
0 ... 103,42 bar / 0 ... 1500 PSI	**01500**
0 ... 137,90 bar / 0 ... 2000 PSI	**02000**
0 ... 206,84 bar / 0 ... 3000 PSI	**03000**
0 ... 275,79 bar / 0 ... 4000 PSI	**04000**
0 ... 344,74 bar / 0 ... 5000 PSI	**05000**
0 ... 413,69 bar / 0 ... 6000 PSI	**06000**
0 ... 517,11 bar / 0 ... 7500 PSI	**07500**
0 ... 689,48 bar / 0 ... 10000 PSI	**10000**

Note: Others on request. Information always refer to the pressure setting of the outside scale.

④ Styles of Scales

bar / PSI (bar outside/PSI inside - standard option)	**01**
bar	**02**
PSI	**03**
PSI / bar (PSI outside/ bar inside)	**05**
kPa / PSI (kPa outside/ PSI inside)	**10**

Note: Others on request.

⑤ Adaption

Stem mounting	**S**
Panel mounting	**P**

⑥ Process Connection

G1/4 (only SPG 063)	**B04**
G1/2 (only SPG 100)	**B08**
1/4 NPT (only SPG 063)	**N04**
1/2 NPT (only SPG 100)	**N08**
7/16–20 UNF (only SPG 063)	**U04**

Note: Others on request.

⑦ Accessories

No accessory	**(none)**
U-bolt assembly	**U**
Front flange assembly (for panel mount only)	**F**
Rear flange assembly	**R**
U-bolt and front flange assembly (for panel mount only)	**UF**
Silicone filled	**S**

⑦ Accessories (for Stem Mount only)

Protective rubber cap	**G**

⑧ Connection Material & Wetted Parts

Brass connection and copper alloy wetted parts	**(none)**
316 Stainless Steel connection and wetted parts	**W5**

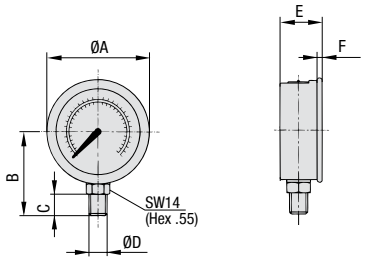
Spare Parts

Rubber boot, black	**SPG 063-RBB**
U-bolt kit	**SPG 063-U**
Front flange kit	**SPG 063-F**
U-bolt kit	**SPG 100-U**
Front flange kit	**SPG 100-F**

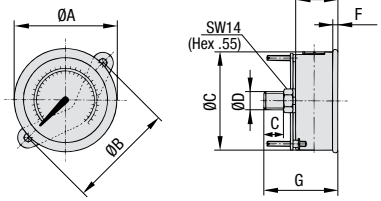
For further information on this product, please see page B34, STAUFF Test section.

* FS = Full Scale

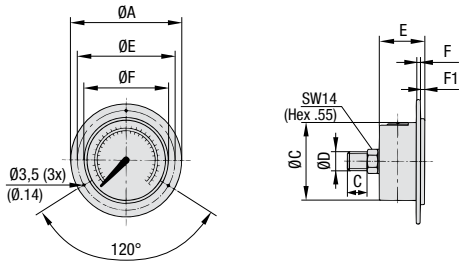
Pressure Gauge (Analog) ▪ Type SPG



SPG 063 ... S ...



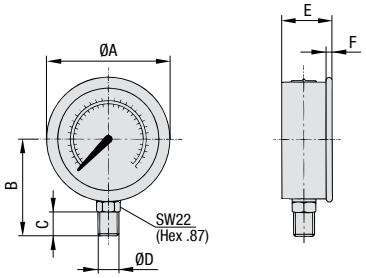
SPG 063 ... P ... U



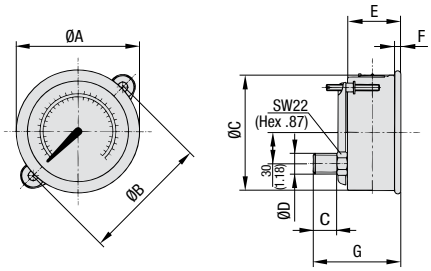
SPG 063 ... P ... F

Dimensions SPG 063

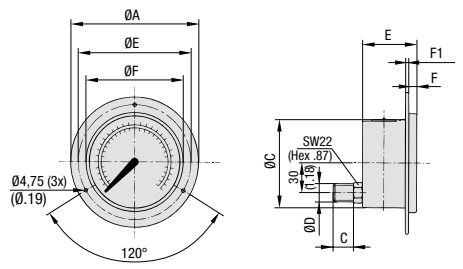
Version	Dimension (mm/in)											
Pressure Gauge	ØA	ØB	ØC	ØD	ØE	ØF	B	C	E	F	F1	G
SPG-063	69	-	-	G1/4	-	-	54	15	32	6,5	-	-
	2.72			1/4 NPT			2.13	.59	1.26	.26		
				7/16–20 UNF								
SPG-063 ... U	69	72	62	G1/4	-	-	-	15	32	6,5	-	56
	2.72	2.83	2.44	1/4 NPT				.59	1.26	.26		2.20
				7/16–20 UNF								
SPG-063 ... F	85	-	62	G1/4	75	68	-	15	32	2	2	-
	3.35		2.44	1/4 NPT	2.95	2.68		.59	1.26	.008	.008	
				7/16–20 UNF								



SPG 100 ... S ...



SPG 100 ... P ... U



SPG 100 ... P ... F

Dimensions SPG 100

Version	Dimension (mm/in)											
Pressure Gauge	ØA	ØB	ØC	ØD	ØE	ØF	B	C	E	F	F1	G
SPG-100	107	-	-	G1/2	-	-	87	23	48	8	-	-
	4.21			1/2 NPT			3.43	.91	1.89	.31		
SPG-100 ... U	107	107	100	G1/2	-	-	-	23	48	8	-	81,5
	4.21	4.21	3.94	1/2 NPT				.91	1.89	.31		3.21
SPG-100 ... F	132	-	100	G1/2	116	107	-	23	48	8	1,25	-
	5.20		3.94	1/2 NPT	4.57	4.21		.91	1.89	.31	.05	

* FS = Full Scale

Dimensional drawings: All dimensions in mm (in).

Pressure Gauge (Digital) ▪ Type SPG-DIGI



Product Description

The SPG-DIGI Digital Pressure Gauges are intended to measure and display pressures in hydraulic systems, particularly for oils, lubricants and water. They can display the current measured values, as well as minimum and maximum values, with an accuracy of 0,5 % of full scale.

The SPG-DIGI Digital Pressure Gauges are available individually, or as part of a complete pressure test kit. They are very sturdy, reliable, easy to use and come with the CE mark (evidence of conformity compliance).

Features

- Bar graph display (drag indicator)
- Background lighting
- Zero correction
- Battery charge display

Order Codes

SPG - **DIGI** - **B0016** - **U** - **CAL**

① ② ③ ④ ⑤

① Series

Pressure Gauge	**SPG**

② Type

Digital pressure measurement and display	**DIGI**

③ Pressure Ranges

-1 ... 16 bar / -14.5 ... 232 PSI	**B0016**
0 ... 100 bar / 0 ... 1450 PSI	**B0100**
0 ... 400 bar / 0 ... 5801 PSI	**B0400**
0 ... 600 bar / 0 ... 8702 PSI	**B0600**

④ Process Connection

G1/4	**B**
7/16–20 UNF	**U**

⑤ Calibration

Without calibration certificate	**(none)**
With calibration certificate	**CAL**

Pressure Ranges

Version	Pressure Range (bar/PSI)	Maximum Pressure (bar/PSI)	Burst Pressure (bar/PSI)
B0016	-1 ... 16	40	50
	-14.5 ... 232	580	725
B0100	0 ... 100	200	800
	0 ... 1450	2900	11603
B0400	0 ... 400	800	1700
	0 ... 5801	11603	24656
B0600	0 ... 600	1200	2200
	0 ... 8702	17404	31908

Technical Data

Materials
- Housing made of die-cast Zinc with TPE rubber protective covering
- Adaptor made of Steel, zinc-nickel coated
- Gaskets: NBR (Buna-N®)
  FPM (Viton®) or EPDM upon request

Dimensions and Weight
- Diameter: 79 mm / 3.11 in
- Depth: 33 mm / 1.30 in
- Weight: 540 g / 1.19 lbs

Display
- Text display 4 1/2-digit
- Size: 50 x 34 mm / 1.97 x 1.34 in
- Actual value display: 15 mm / .59 in
- MIN-/MAX or FS* display: 8 mm / .31 in
- Units: bar, PSI, Mpa, kPa, mbar
- Peak pressure measurement with 10 ms sampling rate
- Lighted measured value display

Accuracy
- ±0,25 % FS* typ. / ±0,5 % FS* max.
- Resolution: 4096 steps

Permissible Temperatures
- Ambient: -10 °C ... +50 °C / +14 °F ... +122 °F
- Media: -20 °C ... +80 °C / -4 °F ... +176 °F
- Storage: -20 °C ... +60 °C / -4 °F ... +140 °F

- Relative humidity: < 85 %
- Battery life: max. 1500 hours
  (operating without lighting, 2 x 1,5 V DC AA (LR6-AA) Alkaline Mignon)

Process Connections
- G1/4 or 7/16–20 UNF made of 1.4404 Stainless Steel

- Vibration: IEC 60068-2-6 / 10 ... 500 Hz / 5 g
- Shock: IEC 60068-2-27 / 11 ms / 25 g
- Load cycles (10^6): 100

Protection Rating
- IP 67 protection rating: Dust tight and protected against powerful water jets; even immersion (up to 1 m / 3.28 ft) in water is possible under defined conditions of pressure and time

* FS = Full Scale

Pressure Gauge (Digital) Wireless ▪ Type SPG-DIGI-W



PC adaptor SPG-DIGI-W-PC only included in the SMB-DIGI-W Pressure Test Kit



Order Codes

SPG - DIGI-W - B0016 - U - CAL

① ② ③ ④ ⑤

① Series

Pressure Gauge	**SPG**

② Type

Digital pressure measurement and display (wireless)	**DIGI-W**

③ Pressure Ranges

-1 ... 16 bar / -14.5 ... 232 PSI	**0016**
0 ... 100 bar / 0 ... 1450 PSI	**0100**
0 ... 400 bar / 0 ... 5801 PSI	**0400**
0 ... 600 bar / 0 ... 8702 PSI	**0600**

④ Process Connection

G1/4	**B**
7/16–20 UNF	**U**

⑤ Calibration

Without calibration certificate	**(none)**
With calibration certificate	**CAL**

Pressure Ranges

Version	Pressure Range (bar/PSI)	Maximum Pressure (bar/PSI)	Burst Pressure (bar/PSI)
B0016	-1 ... 16	40	50
	-14.5 ... 232	580	725
B0100	0 ... 100	200	800
	0 ... 1450	2900	11603
B0400	0 ... 400	800	1700
	0 ... 5801	11603	24656
B0600	0 ... 600	1200	2200
	0 ... 8702	17404	31908

Technical Data

Materials
- Housing made of die-cast Zinc with TPE rubber protective covering
- Adaptor made of Steel, zinc-nickel coated
- Gaskets: NBR (Buna-N®)
  FPM (Viton®) or EPDM upon request

Dimensions and Weight
- Diameter: 79 mm / 3,11 in
- Depth: 33 mm / 1,30 in
- Weight: 540 g / 1,19 lbs

Display
- Text display 4 1/2-digit
- Size: 50 x 34 mm / 1.97 x 1.34 in
- Actual value display: 15 mm / .59 in
- MIN-/MAX or FS* display: 8 mm / .31 in
- Units: bar, PSI, Mpa, kPa, mbar
- Peak pressure measurement with 10 ms sampling rate
- Lighted measured value display

Accuracy
- ±0,25 % FS* typ. / ±0,5 % FS* max.
- Resolution: 4096 step

Permissible Temperatures
- Ambient: -10 °C ... +50 °C / +14 °F ... +122 °F
- Media: -20 °C ... +80 °C / -4 °F ... +176 °F
- Storage: -20 °C ... +60 °C / -4 °F ... +140 °F

- Relative humidity: < 85 %
- Battery life: max. 800 hours
  (operating without lighting, 2 x 1,5 V DC AA (LR6-AA) Alkaline Mignon)

Process Connections
- G1/4 or 7/16–20 UNF made of 1.4404 Stainless Steel

- Vibration: IEC 60068-2-6 / 10 ... 500 Hz / 5 g
- Shock: IEC 60068-2-27 / 11 ms / 25 g
- Load cycles (10^6): 100

* FS = Full Scale

Product Description

In addition to the existing STAUFF product range in the field of digital pressure measuring, the new Wireless Digital Pressure Gauge (SPG-DIGI-W) is now available, allowing a most precise measurement and wireless transmission of values to a PC or notebook.
With its compact design and the ease of operation, the SPG-DIGI-W is actually a single channel wireless data logger. With just a single PC adaptor, you can simultaneously transmit measured values of up to 16 digital pressure gauges over a distance of max. 50 m /164.04 ft to your computer.

The configuration of the gauges and the inspection of your machinery and equipment can be easily accomplished from your desk, thus allowing the direct evaluation and storage of the measured values. Please note that measured values cannot be displayed in real time.

Features

- Bar graph display (drag indicator)
- Background lighting
- Zero correction
- Battery charge display
- Wireless data logging

PC Functions
- Read-out data from measured data memory via a radio interface (2,4 GHz)
- Measuring over a distance of max. 50 m / 164.04 ft
- Remote configuration of the gauges

Memory Functions
- 5000 measurement values (MAX pressure peaks)
- Setup of storage interval
- Time based recording
- Pressure spike monitoring

Protection Rating
- IP 67 protection rating: Dust tight and protected against powerful water jets; even immersion (up to 1 m / 3.28 ft) in water is possible under defined conditions of pressure and time

Pressure Test Kit (Analog) ▪ Type SMB



Pressure Gauge Kit - Type SMB20-A1



Pressure Gauge Kit - Type SMB20-B1



Pressure Gauge Kit - Type SMB20-C1

Product Description

In addition to the individual SPG gauges, the STAUFF Pressure Gauges are also available as part of a pressure test kit. The SMB Pressure Test Kits are assembled in various versions, in accordance with customer wishes. All pressure test kits are supplied in a handy case with custom-designed foam inserts.

Components

Standard Option SMB20-A1
- 1x Hose assembly (60 in): SMS20-1524mm-B
- 1x Direct gauge adaptor 1/4 NPT: SMD20-1/4NPT-C6F
- 1x Union: SSV20-C6F
- 1x Pressure gauge 7500 PSI: WPG-063-07500-5-S-N04
- 2x Test coupling 1/8 NPT: SMK20-1/8NPT-VD-C6F
- 3x Test coupling 1/4 NPT: SMK20-1/4NPT-VD-C6F
- 2x Test coupling 7/16 UNF: SMK20-7/16UNF-VE-C6F
- 2x Test coupling 9/16 UNF: SMK20-9/16UNF-VE-C6F
- 1x Female QD fitting 1/4 NPT: SQD-04NF-C

Standard Option SMB20-B1
- 1x Hose assembly (60 in): SMS20-1524mm-B
- 2x Direct gauge adaptor 1/4 NPT: SMD20-1/4NPT-C6F
- 1x Union: SSV20-C6F
- 1x Pressure gauge 7500 PSI: WPG-063-07500-5-S-N04
- 1x Pressure gauge 1000 PSI: WPG-063-01000-5-S-N04
- 2x Test coupling 1/8 NPT: SMK20-1/8NPT-VD-C6F
- 2x Test coupling 1/4 NPT: SMK20-1/4NPT-VD-C6F
- 1x Test coupling 7/16 UNF: SMK20-7/16UNF-VE-C6F
- 1x Test coupling 9/16 UNF: SMK20-9/16UNF-VE-C6F
- 1x Female QD fitting 1/4 NPT: SQD-04NF-C

Standard Option SMB20-C1
- 2x Hose assembly (60 in): SMS20-1524mm-B
- 3x Direct gauge adaptor 1/4 NPT: SMD20-1/4NPT-C6F
- 2x Union: SSV20-C6F
- 1x Pressure gauge -30 inHg ... 30 PSI: WPG-063-03030-5-S-N04
- 1x Pressure gauge 7500 PSI: WPG-063-07500-5-S-N04
- 1x Pressure gauge 1000 PSI: WPG-063-01000-5-S-N04
- 2x Test coupling 1/8 NPT: SMK20-1/8NPT-VD-C6F
- 2x Test coupling 1/4 NPT: SMK20-1/4NPT-VD-C6F
- 1x Test coupling 7/16 UNF: SMK20-7/16UNF-VE-C6F
- 1x Test coupling 9/16 UNF: SMK20-9/16UNF-VE-C6F
- 1x Female QD fitting 1/4 NPT: SQD-04NF-C

Pressure Test Kit (Analog) ▪ Multi Gauge Kit ▪ Type SMB20-E1



Components

Multi Gauge Kit SMB20-E1-X (see table below for X)
- 3x Test coupling 1/4 NPT: SMK20-1/4NPT-VD-C6F
- 3x Test coupling 7/16 UNF: SMK20-7/16UNF-VE-C6F
- 3x Test coupling 9/16 UNF: SMK20-9/16UNF-VE-C6F
- 3x Gauge adaptor: SMA20-1/4NPT-V-C6F
- 3x Union adaptor: SSV20/20-C6F
- 2x Test hose (12 in): SMS20-305mm-B
- 2x Test hose (24 in): SMS20-610mm-B
- 2x Test hose (60 in): SMS20-1524mm-B
- 1x Swivel run tee -4 JIC: SGV-7/16UNF-04-JIC1/4-F/M
- 1x Swivel run tee -6 JIC: SGV-7/16UNF-06-JIC3/8-F/M
- 1x Swivel run tee -8 JIC: SGV-7/16UNF-08-JIC1/2-F/M
- 1x Female QD fitting 1/4 NPT: SQD-04NF-C

Gauges included in Standard Kit

5 Gauge Kit: see table SMB20-E1-5
6 Gauge Kit: see table SMB20-E1-6
7 Gauge Kit: see table SMB20-E1-7
8 Gauge Kit: see table SMB20-E1-8

Product Description

The SMB20-E1 multi-gauge kit is available preassembled and includes a variety of pressure gauges, test points, gauge adaptors, test hoses and more. The gauges, test points and adaptors are enclosed in protective foam.
The test hoses are secured in a removable zipper pouch.
All of these components are encased in a single durable protective enclosure.
- Custom kits are easily supplied to your specific needs
- OEMs in particular find this convenient for technicians and as an after market service tool
- Custom labels, foam inserts and boxes are available in quantity

SMB20-E1-5	SMB20-E1-6	SMB20-E1-7	SMB20-E1-8
SPG-063-03030-5-S-N04	SPG-063-03030-5-S-N04	SPG-063-03030-5-S-N04	SPG-063-03030-5-S-N04
SPG-063-00600-5-S-N04	SPG-063-00600-5-S-N04	SPG-063-00600-5-S-N04	SPG-063-00600-5-S-N04
SPG-063-03000-5-S-N04	SPG-063-01500-5-S-N04	SPG-063-01500-5-S-N04	SPG-063-01000-5-S-N04
SPG-063-05000-5-S-N04	SPG-063-03000-5-S-N04	SPG-063-03000-5-S-N04	SPG-063-01500-5-S-N04
SPG-063-10000-5-S-N04	SPG-063-05000-5-S-N04	SPG-063-05000-5-S-N04	SPG-063-03000-5-S-N04
	SPG-063-10000-5-S-N04	SPG-063-07500-5-S-N04	SPG-063-05000-5-S-N04
		SPG-063-10000-5-S-N04	SPG-063-07500-5-S-N04
			SPG-063-10000-5-S-N04
Each pressure gauge includes a protective gauge cover SPG-063-RBB and a direct gauge adapter SMD-1/4NPT-C6F			

For further information on this product please see page B35, STAUFF Test section.

Pressure Test Kit (Digital) ▪ Type SMB-DIGI /-W



Pressure Test Kit (Digital) Type SMB-DIGI-W



Pressure Test Kit (Digital) Type SMB-DIGI-SM



Pressure Test Kit (Digital) Type SMB-DIGI

Order Codes

SMB - DIGI - 20 - B0016 - U - CAL

① ② ③ ④ ⑤ ⑥

① Series

Pressure Test Kit	**SMB**

② Types

SPG-DIGI digital pressure gauge	**DIGI**
SPG-DIGI digital pressure gauge (wireless)	**DIGI-W**
SPG-DIGI digital small	**DIGI-SM**

③ Adaptor Version

Adapts to STAUFF Test 20 (M16 x 2)	**20**
Adapts to STAUFF Test 12 (S12,65 x 1,5)	**12**

④ Pressure Ranges

-1 ... 16 bar / -14.5 ... 232 PSI	**B0016**
0 ... 100 bar / 0 ... 1450 PSI	**B0100**
0 ... 400 bar / 0 ... 5801 PSI	**B0400**
0 ... 600 bar / 0 ... 8702 PSI	**B0600**

⑤ Process Connection

G1/4	**B**
7/16–20 UNF	**U**

⑥ Calibration

Without calibration certificate	**(none)**
With calibration certificate	**CAL**

Pressure Ranges

Version	Pressure Range (bar/PSI)	Maximum Pressure (bar/PSI)	Burst Pressure (bar/PSI)
B0016	-1 ... 16	40	50
	-14.5 ... 232	580	725
B0100	0 ... 100	200	800
	0 ... 1450	2900	11603
B0400	0 ... 400	800	1700
	0 ... 5801	11603	24656
B0600	0 ... 600	1200	2200
	0 ... 8702	17404	31908

Product Description

In addition to the individual SPG-DIGI devices, the STAUFF Digital Pressure Gauges are also available as part of a pressure test kit.
The SMB-DIGI pressure test kits are assembled in various versions, in accordance with customer wishes. All pressure test kits are supplied in a handy case with custom-designed foam inserts.

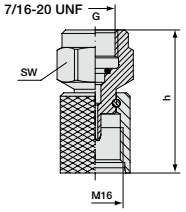
Along with the SPG-DIGI-W itself, the pressure test kits always contain a PC adaptor with USB connection cable (1,5 m / 4.92 ft).

Components

Standard Option SMB-DIGI
SPG-DIGI digital pressure gauge
- SMD adaptor (-4 SAE to M16 x 2 or S12,65 x 1,5)
- SSV20 or SSV12 hose connector
- SMK20-1/4NPT-VD-C6F or SKK12-1/4NPT-VD-C6F test point
- SMK20-1/8NPT-VD-C6F or SKK12-1/8NPT-VD-C6F test point
- SMK20-7/16UNF-VE-C6F or SKK12-7/16UNF-VE-C6F test point
- SMK20-9/16UNF-VE-C6F or SKK12-9/16UNF-VE-C6F test point
- SMS test hose (1,5 m / 4.92 ft) M16 x 2 or S12,65 x 1,5 connection rated to 600 bar / 8702 PSI
- SQD-04NF-C Quick disconnect
- Operating Instructions (multilingual) on CD

Standard Option SMB-DIGI-W
- SPG-DIGI-W digital pressure gauge
- PC adaptor SPG-DIGI-W-PC with USB connection
- SDA adaptor (G1/4 to M16 x 2 or S12,65 x 1,5)
- SSV20 or SSV12 hose connector
- SMS test hose (2 m / 6.56 ft), M16 x 2 or S12,65 x 1,5 connection, pressure-resistant to 600 bar / 8702 PSI
- Operating instructions and software (multilingual) on CD
- Dust cloth

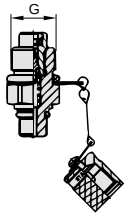
Accessories (Connection Adaptors)



SMD Adaptor
Connects the pressure gauge to a test point



SAD Adaptor
Only in conjunction with the SMD20-7/16UNF-C6F adaptor, connects to other test point sizes



Test Point
STAUFF Test or comparable

Adaptor	Adaption from	to Dimension G
SMD20-7/16UNF-C6F	7/16–20 UNF	M16 x 2
SMD15-7/16UNF-C6F	7/16–20 UNF	M16 x 1,5
SMD12-7/16UNF-C6F	7/16–20 UNF	S12,65 x 1,5
SAD20/15-P-C6F	M16 x 2	M16 x 1,5
SAD20/12-P-C6F	M16 x 2	S12,65 x 1,5
SAD20/10-P-C6F	M16 x 2	Plug-in system

A large number of adaptors are available to connect STAUFF SPG-DIGI and SPG-DIGI-W pressure gauges to other test points and testers. Other adaptors are available.

Hydraulic Testers ▪ PPC Series



The STAUFF measuring and test equipment of the PPC series are perfectly suited for measuring all relevant parameters in fluid power systems, including pressure, differential pressure, temperature, flow and rational speed. Depending on the type, they allow evaluation, storage and further processing in PCs or notebooks. They have been especially developed for the growing needs of system monitoring, troubleshooting and determining measured values in hydraulic and pneumatic systems. The application areas are broad:

- Industrial hydraulics
- Mobile, agricultural and forestry hydraulics
- Marine and offshore hydraulics
- Chemical and petrochemical industries
- Energy and air conditioning industries
- Heating and sanitary industries

The hydraulic testers of the PPC-04/2 series are distinguished by simple operation using eight buttons. They are suitable for connecting two sensors simultaneously and show the measured values as numbers on their two-line display.
The hydraulic testers of the PPC-06/08-plus series depending upon the type, provide the potential of connecting 3 or 4 sensors. They have internal memory and can not only output the measured values as numbers, they can also display them as graphs on your PC.

The PPC-06/08 series has been fully revised and replaced by the PPC-06/08-plus series. New features include the addition of a USB interface, a larger data memory, and also considerably longer operating times with the rechargeable battery. They work with the same sensor connections as the PPC-06/08/12 series. That's why connecting the PPC-06/08-plus unit with the sensors is still pretty easy.

A further development within the PPC series is the new PPC Pad. It is a result of the new demands on the hydraulic technician, who is faced with ever more complex systems. The new device increasingly blends together the areas of hydraulics and electronics. With the new CAN bus system it is ideally suited to the growing requirements in the near future. The clear and large colour display provides a good view of the measured values.

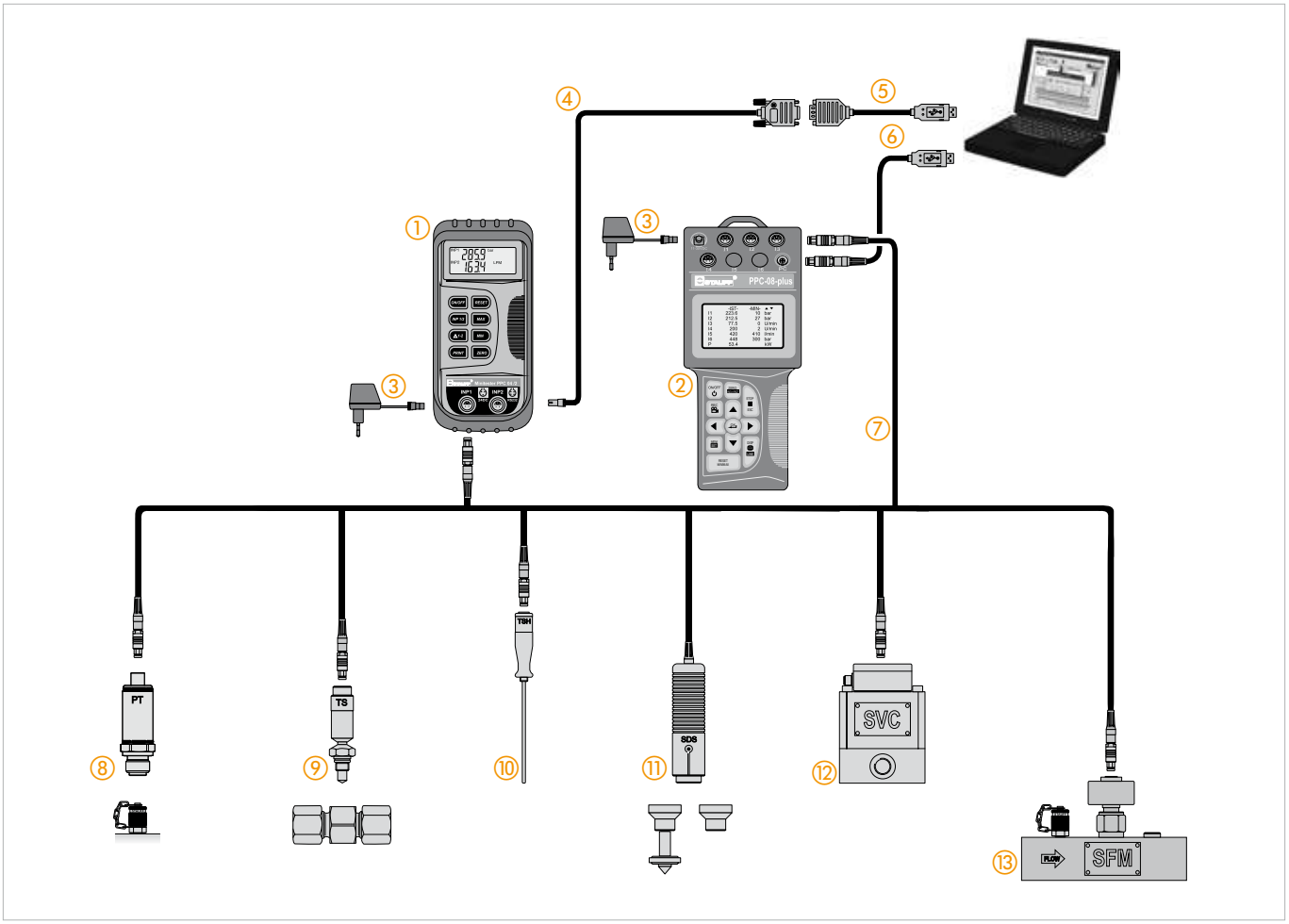
All hydraulic testers of the PPC series and their corresponding sensors are also available in a calibrated version.
A separate calibration certificate is supplied with each tester. Subsequent calibration of the hydraulic testers and sensors is also possible.
The optional and subsequent calibration must be ordered using a separate ordering code.

Hydraulic Testers ▪ PPC Series

Hydraulic Testers						
Options	**PPC-04-B/2**	**PPC-04-A/2**	**PPC-04-AP/2**	**PPC-06-plus**	**PPC-08-plus**	**PPC-Pad**
Rechargeable Battery	–	●	●	●	●	●
Battery Operation	●	–	–	–	–	–
Number of Sensor Inputs	2	2	2	3	4	max. 6+CAN
PC Interface	–	–	RS-232	USB	USB	USB / Ethernet
Online Function	–	–	●	●	●	●
Internal Memory	–	–	–	●	●	●
Programming of Automatic Measuring Tasks	–	–	–	●	●	●
Internal Trigger Function	–	–	–	●	●	●
Data Display	●	●	●	●	●	●
Graphic Display	–	–	–	●	●	●
Display Lightning	–	–	–	●	●	●
Curve Printout on Display	–	–	–	–	–	●
PC Software Kit	–	–	○	●	●	●
Pressure Measurement	●	●	●	●	●	●
Temperature Measurement	●	●	●	●	●	●
Flow Measurement	●	●	●	●	●	●
Rotational Speed Measurement	●	●	●	●	●	●
Frequency Measurement	–	–	–	●	●	●
External Trigger Function	–	–	–	●	●	●
Third-Party Sensors	–	–	–	●	●	●
Current / Voltage Adaptor	–	–	–	●	●	●
STAUFF-CAN-Sensor	–	–	–	–	–	●

○ = Optional, ● = Standard, – = not available

Hydraulic Testers ▪ PPC Series



① PPC-04/2 hydraulic tester
A maximium of 2 connecting cables for sensors can be connected at the same time.
② PPC-06-plus or PPC-08-plus hydraulic tester
A maximium of 3 or 4 connecting cables for sensors can be connected at the same time.
③ PPC-04/12-110/230V AC power supply unit (not for PPC-04-B/2)
④ PC connecting cable as a component of the PC-SET-04-SW-CAB
⑤ PPC-04/12-RS232-to-USB-CAB PC adaptor cable
⑥ PPC connecting cable as a component of the PC-SET-06/08-plus-SW-CAB (USB) PC set
⑦ PPC-04/12-CAB3 (3 m / 9.84 ft) 5-pin connecting cable, optionally with PPC-04/12-CAB5-EXT (5 m / 16.40 ft) extension cable
⑧ PPC-04/12-PT-/2 pressure sensor
⑨ PPC-04/12-TS screw-in temperature sensor with M10 x 1 connection, optionally with SGV-16S-G-C6F straight threaded pipe joint
⑩ PPC-04/12-TSH manual temperature sensor
⑪ PPC-04/12-SDS-CAB rotational speed sensor with integrated connecting cable, optionally with PPC-04/12-SKA-Contact contact adaptor or PPC-04/12-SKA-Focus focusing adaptor
⑫ PPC-04/12-SVC flow meter with integrated signal converter
⑬ PPC-04/12-SFM flow meter with integrated signal converter, for connecting pressure and temperature sensor

Calibration Certificate





All units are available as calibrated version.

Hydraulic Tester ▪ Type PPC-04/2





Two separate test inputs

Product Description

The PPC-04/2 Hydraulic Testers were designed for initial start-up, service and maintenance work on fluid power systems. Hydraulic systems are becoming more and more accurate and thus require quick, simple checking of the hydraulic key data.

- Two-line display
- 5-pin sensor input
- "ZERO" function

The PPC-04/2 can be operated simply, using eight buttons. Just like all testers of the PPC series, it is superbly suited for measuring operating pressure, peak pressure, differential pressure, media temperature, flow and rotational speed. The tester has two separate test inputs that automatically detect the connected sensors. The new two-line display now allows simultaneous display of both sensor inputs. The measuring unit can be selected during power-on at the touch of a button.
The ruggedness of the tester continues in the rubber protective coating that protects the actual tester against impacts. Voltage is supplied either by a commercially available 9 V battery (PPC-04-B/2) or from an integrated rechargeable battery (PPC-04-A/2 and PPC-04-AP/2).

Measurements taken over a lengthy period of time are possible, using a power supply (not for the PPC-04-B/2) which charges the rechargeable battery at the same time. The data printout is used for the documentation requirement within the scope of ISO 9001 and is compliant with CE.

The PPC-04/2 can be connected to a PC via an RS-232 interface through a data output (only for the PPC-04-AP/2). Connection to a USB port is possible using an optional adaptor. The PPC-04/2 software that can be ordered separately is compatible with popular PC operating systems such as Windows 95®, Windows 98®, Windows 2000®, Windows NT®, Windows XP®, Windows Vista® and Windows 7®.

It is also possible to connect the pressure sensors under load, with the equipment switched on. The temperature and volume flow sensors are to be installed in the pipelines. The rotational speed sensor is a non-contacting sensor and uses an optical mark on the rotating parts. Measuring the differential pressure requires two pressure sensors with identical measuring ranges.
The units are also available as a complete set. Please see page D26.

Note: The hydraulic tester does not have an internal memory for measured values (except for the temporary MIN-/MAX memory)!

Technical Data

Materials
- Housing made of ABS in a rubber protective case with carrying strap and stand

Dimensions and Weight
- L/W/H: 145 x 70 x 40 mm / 5.71 x 2.76 x 1.57 in
- Weight: 330 g / .73 lbs

Measurements / Display
- Pressure: in bar and PSI
- Temperature: in °C and °F
- Volume flow: in l/min and US GPM
- Rotational speed: in RPM
- Two-line LCD display (4-digit)
  Numeral height: 8 mm / .32 in
- Data output for connection to notebook or PC (PPC-04-AP/2 only)

Power Supply
- Power supply unit 110/230 V AC (50/60 Hz) (PPC-04-A/2 and PPC-04-AP/2)
- Internal rechargeable battery 9 V / 110 mAh
- Operating time with the rechargeable battery: approx. 5 hours

Sensor Inputs (5-Pin)
- Automatic sensor detection
- Input signal: 0 ... 3 V DC (R = 470 kΩ)
- Sampling rate: 2 ms
- Accuracy: < ±0,25 % FS*

Data Output
- RS-232 interface
- Optionally with RS-232 adaptor to USB

Permissible Temperatures
- Ambient: 0 °C ... +50 °C / +32 °F ... +122 °F
- Storage: -20 °C ... +60 °C / -4 °F ... +140 °F

- Relative humidity: < 85 %
- CE certified

Protection Rating
- IP 54 protection rating: Dust protected and protected against splashing water

Order Codes

PPC-04 - B/2
① ②

① Series and Type

Hydraulic Tester	PPC-04

② Version

With battery	B/2
With rechargeable battery	A/2
With rechargeably battery and data output	AP/2

Software

An optional PC set is available for the PPC-04-AP/2, for connecting it to a PC or a notebook. This set contains both a PC adaptor (RS-232 connection, length: 2 m / 6.56 ft) and the corresponding PC software. The measured values can then easily be processed as a data series or a chart using Microsoft Excel®.



* FS = Full Scale

Hydraulic Tester ▪ Type PPC-06/08-plus



PPC-08-plus with 4 sensor inputs



Technical Data

Material
- Housing made of fibreglass-reinforced PA

Dimensions and Weight
- L/W/H: 235 x 106 x 53 mm / 9.25 x 4.17 x 2.09 in
- Weight: 530 g / 1.17 lbs

Measurements / Display
- Pressure: in bar and PSI
- Temperature: in °C and °F
- Volume flow: in l/min and US GPM
- Rotational speed: in RPM
- Digital LCD display: 128 x 64 Pixel
  Visible area: 72 x 40 mm / 2.84 x 1.58 in
- Automatic numeral height adjustment
  Numeral height: 6 mm / .24 in with eight-line display
- Data output for connection to notebook or PC
- 12-key membrane keyboard
- Electromagnetic compatibility (EMC):
  Emitted interference: DIN EN 50081, Part 1
  Interference immunity: DIN EN 50082, Part 2
- Auto Power Off (after 20 minutes)
- Battery charge display

Measured Data Memory
- Variable storage interval (1 ms ... 10 s) or variable storage time (2 s ... 100 h)
- Manual and automatic triggering

Power Supply
- Power supply unit: 110/230 V AC (50/60 Hz)
- Rechargeable battery charging circuit
- Internal nickel-metal hybrid rechargeable battery 7,2 V / 700 mAh
- Operating time with the rechargeable battery: approx. 8 hours

Sensor Inputs (5-Pin)
- Automatic sensor detection
- Input signal: 0 ... 3 V DC (R = 470 kΩ)
- Frequency range: 0,5 Hz ... 30 kHz
- Sampling rate: 1 ms
- Accuracy: < ±0,25 % FS*

Data Output
- Integrated USB port (USB 2.0)
- Online data transmission to a PC
  Speed individually eligible (5 ms ... 60 s)

Permissible Temperatures
- Ambient: 0 °C ... +50 °C / +32 °F ... +122 °F
- Storage: -25 °C ... +60 °C / -13 °F ... +140 °F
- Temperature error: < 0,02 % / °C

- Relative humidity: < 80 %
- CE certified
- IP 54 protection rating: Dust protected and protected against splashing water

Order Codes

PPC - **06-plus**
① ②

① Series and Type

Hydraulic Tester	**PPC**

② Version

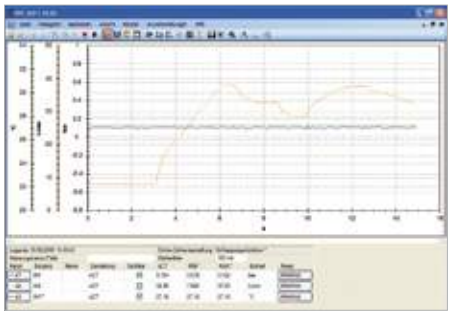
With 3 sensor inputs	**06-plus**
With 4 sensor inputs	**08-plus**

Version	No. Sensor Inputs	Integrated Data Memory for Measuring Value Points	Storable Curves
06-plus	3	1000000 Points	240000 Points
08-plus	4		

Software

A PC set, consisting of a USB connecting lead, Length 1,5 m / 4.9 ft and the corresponding PC software, is included as standard with every PPC-06-plus and PPC-08-plus.

The measured data and curves can easily be processed using Microsoft Excel® with the software.



Product Description

The PPC-06/08-plus Hydraulic Testers have been especially developed for the growing demands of system monitoring and troubleshooting in hydraulic and pneumatic systems.
The PPC-06/08 series has been fully revised and replaced by the PPC-06/08-plus series. New features include the addition of a USB interface, a larger data memory, and also considerably longer operating times with the rechargeable battery. They work with the same sensor connections as the old PPC-06/08/12 series.

- Automatic sensor detection
- Larger data memory
- Possible to record MIN-/MAX values over long periods
- Internal trigger function
- External trigger function
- Online data transmission
- Display lighting
- Programming by PC and notebook
- USB interface

The ergonomically designed housing and the LCD display, which sets automatically to the appropriate line size, now allows problem free use even under difficult environmental conditions.
The individual PPC-06-plus and PPC-08-plus testers differ in the number of sensor inputs (3-channel or 4-channel technology).
The PPC-06-plus and PPC-08-plus can measure, store and process all relevant hydraulic parameters such as pressure, differential pressure, temperature, rotational speed and flow. The comprehensive programmer options, and the internal memory capacity in particular, allow for diverse measurement and evaluation methods such as long-term measurements, trigger functions or measuring data from third-party sensors.

The PPC-06/08-plus devices can store up to 1000000 measuring value points and 240000 curve memory points. The stored values can be transferred using the built-in USB interface to a PC or to a notebook. The included PPC software is compatible with popular PC operating systems (Windows 95®, Windows 98®, Windows 2000®, Windows NT®, Windows XP®, Windows Vista® and Windows 7®) and permits various evaluation methods.

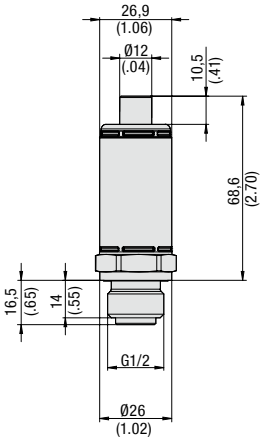
The automatic sensor recognition feature makes the PPC-06-plus and PPC-08-plus hydraulic testers easy to operate, and the testers can be individually configured to meet customer requirements without a great programming effort. Both hydraulic testers allow the data from third-party sensors to be measured and processed.
The units are also available as a complete set. Please see page D26.

* FS = Full Scale

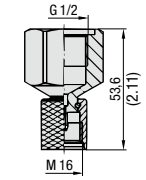
Pressure Sensor ▪ Type PPC-04/12-PT/2



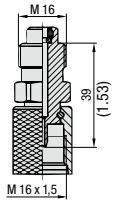
PPC-04/12-PT/2 with adaptor and cable

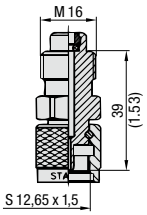


SDA20-G1/2-C6F

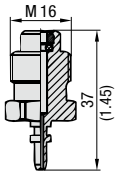


SAD20/15-P-C6F





SAD20/12-P-C6F



SAD20/10-P-C6F

Product Description

The PPC-04/12-PT/2 Pressure Sensors can be used with all hydraulic testers of the PPC series, due to their 5-Pin connection.
As an additional feature, the new generation of PPC-04/12-PT Sensors (identified with „/2“ in the name) can now also measure and display temperature (only with the PPC-06/08-plus and PPC-Pad hydraulic testers).
The STAUFF Pressure Sensors are a reliable and flexible solution for the PPC series because of their sturdy Stainless Steel design, the quick response times (< 1 ms) and the high accuracy (±0,25 % FS* typ.) with automatic sensor detection.

Note: A PPC-04/12-CAB3 (3 m / 9.84 ft) cable is needed to connect the PPC-04/12-PT/2 Pressure Sensors to the current PPC Hydraulic Testers. A PPC-04/12-CAB5-EXT (5 m / 16.40 ft) extension cable is also available as an accessory!

Note: The temperature measurement data from the PPC-04/12-PT/2 Sensors can only be displayed using the PPC-06/08-plus and PPC-Pad hydraulic testers.
The PPC-units allow the evaluation and further processing of the measured values obtained.

Technical Data

- Sturdy Stainless Steel housing (1.4301)
- FPM (Viton®) gasket
- Weight: 200 g / .44 lbs
- Suitable for gases and liquids (in the case of aggressive media, only after consultation)
- 5-Pin connection
- Pressure connection G1/2 (without adaptor)

Ambient Conditions

- Media temperature: max. +105 °C / +221 °F
- Ambient temperature: -25 °C ... +80 °C / -13 °F ... +176 °F
- Storage temperature: -20 °C ... +80 °C / -4 °F ... +176 °F
- Compensated range: -0 °C ... +85 °C / +32 °F ... +285 °F
- Load cycles (10^6): 100

Electrical Data and Output

- Input voltage: 7 ... 12 V DC
- Current consumption: 5 mA
- Output signal: 0 ... 3 V DC
- Response time: 1 ms
- Long-term stability: < 0,2 % FS* /a
- Vibration loading: IEC 68-2-6/10 ... 500 Hz
- Shock loading: IEC 68-2-29

Connection Adaptors for PPC Pressure Sensors

In addition to the PPC-04/12-PT/2 Pressure Sensors, different adaptors and adaptor sets are available that not only connect to the STAUFF Test 20 system (SDA20-G1/2-C6F) but also to the test points of the STAUFF Test 15/12/10 series (SAD20/15-P-C6F, SAD20/12-P-C6F, SAD20/10-P-C6F).
For further information please see the STAUFF Test section.

Order Codes

PPC-04/12-PT - **015/2** - **CAL**

① ② ③

① Series and Type

Pressure Sensor	**PPC-04/12-PT**

② Version

Please see table below

③ Calibration

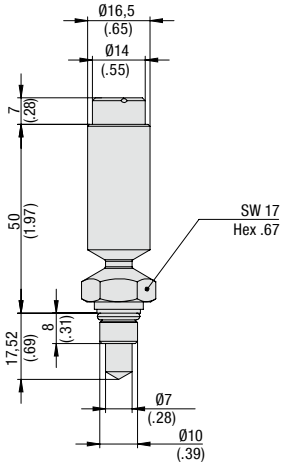
Without calibration certificate	**(none)**
With calibration certificate	**CAL**

Pressure Range and Accuracies

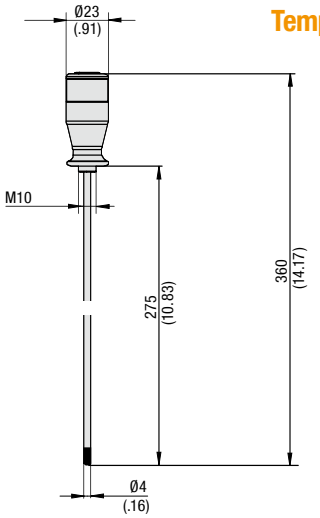
Version	Pressure Range and Accuracies							
Sensor PPC-04/12-PT-	Pressure Measuring Range ($^{bar}/_{PSI}$)	Type of Measurement	Maximum Pressure ($^{bar}/_{PSI}$)	Burst Pressure ($^{bar}/_{PSI}$)	Accuracy (±% FS*) typ.	Accuracy (±% FS*) max.	Temperature Measuring Range (°C/°F)	Accuracy Temp. Sensor(±% FS*)
015/2	-1 ... 15** -14.5 ... 217	Relative pressure	30 435	150 2175	0,25	0,5	-25 ... 105 -13 ... 221	1,5
060/2	0 ... 60 0 ... 870	Absolute pressure	120 1740	500 7251	0,25	0,5	-25 ... 105 -13 ... 221	1,5
150/2	0 ... 150 0 ... 2175	Absolute pressure	300 4351	900 13053	0,25	0,5	-25 ... 105 -13 ... 221	1,5
400/2	0 ... 400 0 ... 5801	Absolute pressure	800 11603	1200 17404	0,25	0,5	-25 ... 105 -13 ... 221	1,5
600/2	0 ... 600 0 ... 8702	Absolute pressure	1200 17404	1800 26106	0,25	0,5	-25 ... 105 -13 ... 221	1,5
601/2	0 ... 600 *** 0 ... 8702	Absolute pressure	1200 17404	2500 36259	0,25	0,5	-25 ... 105 -13 ... 221	1,5

* FS = Full Scale
** 0 ... 15 bar (0 ... 217 PSI) when used with the PPC-04/2 series
*** Pressure peaks up to 1000 bar / 14503 PSI
Dimensional drawings: All dimensions in mm (in).

Temperature Sensor ▪ Type PPC-04/12-TS /-TSH



PPC-04/12-TS



PPC-04/12-TSH



Temperature sensors TS and TSH with cables

Order Codes

PPC-04/12 - TS - CAL

① ② ③

① Series and Type

Temperatur Sensor	**PPC-04/12**

② Version

Screw-in	**TS**
Rod-type	**TSH**

③ Calibration

Without calibration certificate	**(none)**
With calibration certificate	**CAL**

Technical Data

Materials

- Housing (TS): Steel (C15K)
- Gaskets (TS): FPM (Viton®)
- Rod (TSH): Stainless Steel 1.4304
- Handle (TSH): Delrin
- Weight (TS): 100 g / .22 lbs
- Weight (TSH): 120 g / .26 lbs
- Measurement medium: liquids (consult STAUFF for use with aggressive media)
- 5-Pin connection
- Connection:
  a) STAUFF Test connection SGV-16S-G-C6F in the pipeline (TS, see figure)
  b) Screw-in thread M10 x 1 (TS, see figure)
  c) Screw-in thread M10 (TSH)

Ambient Conditions

- Media temperature: max. +125 °C / +257 °F
- Ambient temperature: -25 °C ... +70 °C / -13 °F ... +158 °F
- Storage temperature: -25 °C ... +80 °C / -13 °F ... +176 °F

Measuring Range

- Measuring range: -25 °C ... +125 °C / -13 °F ... +257 °F
- Operating pressure (TS): 630 bar / 9137 PSI
- Maximum pressure (TS): 800 bar / 11603 PSI
- Burst pressure (TS): 1200 bar / 17404 PSI
- Accuracy: ±1,5 °C

Electrical Data and Output

- Output signal: 0 ...3 V DC
- Input signal: 7 ...12 V DC
- Response time $T_{0.9}$ (TS): approx. 13,5 s
- Response time $T_{0.9}$ (TSH): approx. 9,1 s
- IP 54 protection rating: Dust protected and protected against splashing water (TS)

Product Description

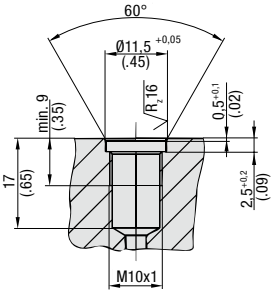
The PPC-04/12-TS Screw-in Temperature Sensor measures current temperatures directly in the pipeline and is compatible with the PPC-04/12-SFM Flow Turbine (see page D21) and the SGV-16S-G-C6F straight threaded joint.

The new PPC-04/12-TSH Rod-type Temperature Sensor is especially designed to determine the media temperatures in tanks and containers.

Both sensors can measure media temperatures without problems up to +125 °C / +257 °F.

Note: A PPC-04/12-CAB3 (3 m / 9.84 ft) cable is needed to connect the PPC-04/12-TS or the PPC-04/12-TSH Temperature Sensors to the current PPC hydraulic testers.
A PPC-04/12-CAB5-EXT (5 m / 16.40 ft) extension cable is also available as an option!

Screw-in Hole PPC-04/12-TS



SGV-16S-C6F with PPC-04/12-TS

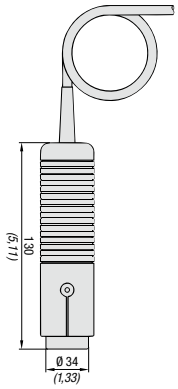


For information on SGS-16-G-C6F please see the STAUFF Test section.

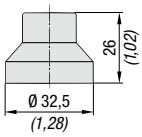
* FS = Full Scale
Dimensional drawings: All dimensions in mm (in).

Rotational Speed Sensor ▪ Type PPC-04/12-SDS-CAB

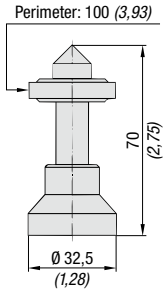




PPC-04/12-SDS-CAB



PPC-04/12-SFA-Focus Adaptor



PPC-04/12-SKA-Contact Adaptor

Product Description

The PPC-04/12-SDS-CAB Rotational Speed Sensor allows non-contact speed measurement of rotating components. The sensor is based on an opto-electrical measurement principle that determines the rotational speed with high accuracy using a reflecting strip on the shaft.

The contact rotational speed measurement is obtained by using a contact adaptor that is mounted to the sensor, and which makes contact with the rotating component during measurement.
This also produces high-accuracy measurement results. In the case of especially small areas, using the focusing adaptor facilitates measurement.

Technical Data

- Material: ABS
- Weight: 230 g / .51 lbs
- 5-Pin connection
- Both contacting and non-contacting measurement possible
- Type of measurement: Optical, red LED

Ambient Conditions
- Ambient temperature: 0 °C ... +70 °C / +32 °F ... +158 °F

Measuring Range
- Measuring range: 20 ... 10000 RPM
- Measuring distance: 25 ... 500 mm (1 ... 20 in)
- Measuring angle: ±45 °C
- Accuracy: < ±0,5 % FS*
- Resolution: ±5 RPM

Electrical Data and Output
- Output signal: 0 ... 3 V DC
- Input signal: 7 ...12 V DC

Note: We recommend not extending the 2 m / 6.56 ft permanent cable connection provided on the sensor!

Application Examples

Fig. 1 -
Contacting rotational speed measurement with the contact adaptor.



Fig. 2 -
End face rotational speed measurement with the contact adaptor



Fig. 3 -
Rotating shaft / non-contacting rotational speed measurement using the focusing adaptor and marking strip



Order Codes

PPC-04/12-SDS-CAB - CAL
① ②

① Series and Type

Rotational Speed Sensor	**PPC-04/12-SDS-CAB**

② Calibration

Without calibration certificate	**(none)**
With calibration certificate	**CAL**

Order Codes

Focus Adaptor

PPC-04/12-SFA-focus adaptor
①

① Series and Type

Focus Adaptor	**PPC-04/12-SFA-focus adaptor**

Contact Adaptor

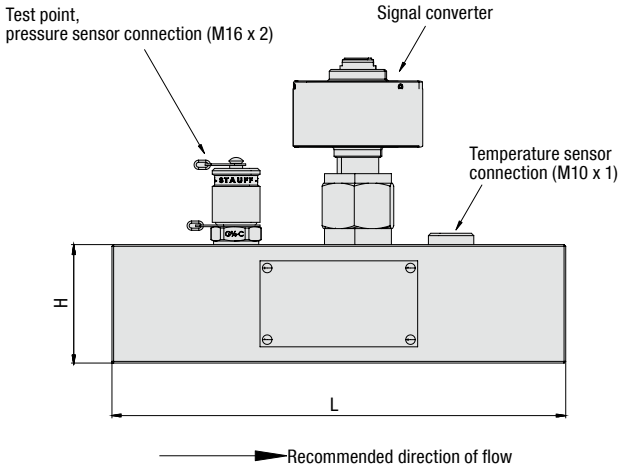
PPC-04/12-SKA-contact adaptor
①

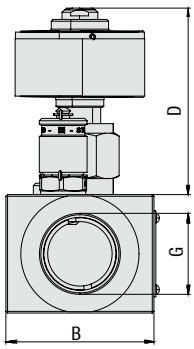
① Series and Type

Contact Adaptor	**PPC-04/12-SKA-contact adaptor**

* FS = Full Scale
Dimensional drawings: All dimensions in mm (in).

Flow Turbine ▪ Type PPC-04/12-SFM







Order Codes

PPC-04/12 - SFM-015 - CAL - UN

① ② ③ ④

① Series and Type

Flow Turbine	**PPC-04/12**

② Version

1 ... 15 l/min / .27 ... 3.90 US GPM	**SFM-015**
3 ... 60 l/min / .79 ... 15.90 US GPM	**SFM-060**
5 ... 150 l/min / 1.32 ... 39.60 US GPM	**SFM-150**
8 ... 300 l/min / 2.11 ... 79.00 US GPM	**SFM-300**
15 ... 600 l/min / 3.96 ... 158.00 US GPM	**SFM-600**

③ Calibration

Without calibration certificate	**(none)**
With calibration certificate	**CAL**

④ Port Connection

BSP	**(none)**
UNF	**UN**

Technical Data

Materials
- Housing: Aluminium (black anodised)
- Gaskets: FPM (Viton®)

- 5-Pin connection
- Pressure measurement connection: SMK20 (M16 x 2)
- Temperature measurement connection: M10 x 1 (standard screw plug)

Ambient Conditions
- Media temperature: -20 °C ... +90 °C / -4 °F ... +194 °F
- Ambient temperature: -10 °C ... +50 °C / +14 °F ... +122 °F
- Storage temperature: -20 °C ... +80 °C / -4 °F ... +176 °F
- Permissible particle size: <10 Micron for SFM-015, <25 Micron for others

  Note: To ensure the permissible particle size the use of a filter in front of the Flow Turbine is recommended.
- Viscosity range: 10 ... 100 cSt

Electrical Data and Output
- Response time: 50 ms

Process Connection
- Please see table below

Product Description

The PPC-04/12-SFM Flow Turbine is permanently installed in the pipeline.The oil flow rotates the internal axial turbine. The frequencies generated are processed by digital electronics (a signal converter). Flow effects causing interference are compensated in this process.
The signal converter is now directly integrated into the PPC-04/12-SFM Flow Turbine. This allows even simpler operation and supports permanent coupling of the turbine and signal converter components that are matched to one another.

The new turbine also improves the response times (from previously 400 ms to 50 ms) and increases the measuring accuracy.

The PPC-04/12-SFM Flow Turbine is available in five versions for various flow speeds.
A pressure sensor (see page D18) can be connected in parallel to the flow turbine by way of the integrated test point.
In addition, the oil temperature can also be measured using the temperature sensor connection (see page D19).

In general, the PPC-04/12-SFM Flow Meter can handle flows in either direction. The specified technical data and the calibration (available as an option) apply only when the flow through the flow meter matches the recommended flow direction.
A double-headed arrow is shown on the nameplate of the PPC-04/12-SFM. The thicker end of the double-headed arrow specifies the recommended direction of flow.

Note:A PPC-04/12-CAB3 (3 m / 9.84 ft) cable is needed to connect the PPC-04/12-SFM Flow Meter to the current PPC hydraulic testers.
A PPC-04/12-CAB5-EXT (5 m / 16.40 ft) extension cable is also available as an option!

Dimensions and Measuring Range

Version	Measuring Range						Dimension (mm/in)						
Flow Turbine PPC-04/12-	Measuring Range (l/min / US GPM)	Max. Flow (l/min / US GPM)	Operarting Pressure (bar/PSI)	Max. Pressure (bar/PSI)	Accuracy (at 21 cSt)	Max. Pressure Drop (at FS*) (bar/PSI)	G ** (BSP)	G (UNF)	B	D	L	H	Weight (g/lbs)
SFM-015	1 ... 15	16,5	350	420	±1 (% FS*)	1,5	G1/2	3/4–16	37	80	136	37	650
	.27 ... 3.90	4.4	5076	6091		21.8			1.46	3.15	5.35	1.46	1.4
SFM-060	3 ... 60	66	350	420	±1 (% of the displayed value)	1,5	G3/4	1-1/16–16	62	80	190	50	750
	.79 ... 15.90	17.4	5076	6091		21.8			2.44	3.15	7.48	1.97	1.6
SFM-150	5 ... 150	165	350	420	±1 (% of the displayed value)	1,5	G3/4	1-1/16–16	62	80	190	50	750
	1.32 ... 39.60	43.6	5076	6091		21.8			2.44	3.15	7.48	1.97	1.6
SFM-300	8 ... 300	330	350	420	±1 (% of the displayed value)	4	G1	1-5/16–16	62	84	190	50	1200
	2.11 ... 79.00	87.2	5076	6091		58			2.44	3.31	7.48	1.97	2.6
SFM-600	15 ... 600	660	290	348	±1 (% of the displayed value)	5	G1-1/4	1-5/8–12	62	75	212	75	1800
	3.96 ... 158.00	174.4	4206	5047		72.5			2.44	2.95	8.35	2.95	4
SFM-750	25 ... 750	825	400	480	±1 (% of the displayed value)	5	-	1-7/8–12	100	79	212	75	2100
	5.28 ... 198.13	217.4	5801	6961		72.5			3.94	3.11	8.35	2.95	4.6

Gear Flow Meter ▪ Type PPC-04/12-SVC



Product Description

The PPC-04/12-SVC Gear Flow Meter is permanently installed in the pipeline of the hydraulic system. Highly accurate, low-noise flow measurements can be performed with this meter because of a very accurate gear pair.
A wide range of viscosities can be handled and even values for aggressive media (brakefluids, Skydrole, biodegradable lubricants, isocyanates, greases, etc.) can be measured by using different gaskets.

The PPC-04/12-SVC Gear Flow Meter is available in four versions (up to 300 l/min, 79 US GPM) and is resistant to pressures up to 400 bar / 5801 PSI or 315 bar / 4568 PSI.

The PPC-04/12-SVC Gear Flow Meter always includes a connection plate and a signal converter (both already assembled).

The specified engineering values and the calibration available optionally apply only if the PPC-04/12-SVC Flow Meter is installed in the recommended direction of flow (from A to B). Appropriate markings are engraved on the flow meter.

Technical Data

Materials
- Housing: GGG 40
- Gaskets: FPM (Viton®)

- 5-Pin connection
- Response time: 400 ms

Ambient Conditions and Measuring Range
- Max. media temp.: +110 °C / +230 °F
- Ambient temperature: +10 °C ... +50 °C / +50 °F ... +122 °F
- Storage temperature: -20 °C ... +80 °C / -4 °F ... +176 °F
- Permissible particle size: < 25 Micron
- Viscosity range: see the charts

Process Connections
- Please see table on page D23

Note:A PPC-04/12-CAB3 (3 m / 9.84 ft) cable is needed to connect the PPC-04/12-SVC flow meter to the current PPC hydraulic testers. A PPC-04/12-CAB5-EXT (5 m / 16.40 ft) extension cable is also available as an option!

Order Codes

PPC-04/12 - SVC-015 - CAL
① ② ③

① Series and Type

Gear Flow Meter	**PPC-04/12**

② Version

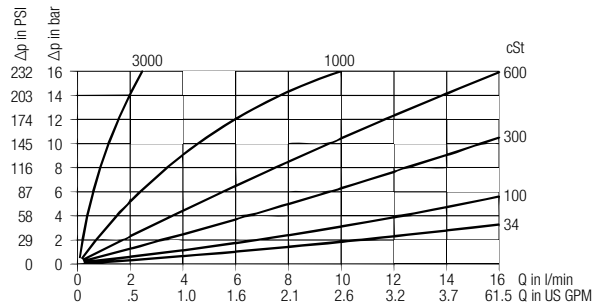
0,2 ... 15 l/min / .05 ... 3.90 US GPM	**SVC-015**
0,4 ... 60 l/min / .10 ... 15.90 US GPM	**SVC-060**
0,6 ... 150 l/min / .20 ... 39.60 US GPM	**SVC-150**
1 ... 300 l/min / .30 ... 79 US GPM	**SVC-300**

③ Calibration

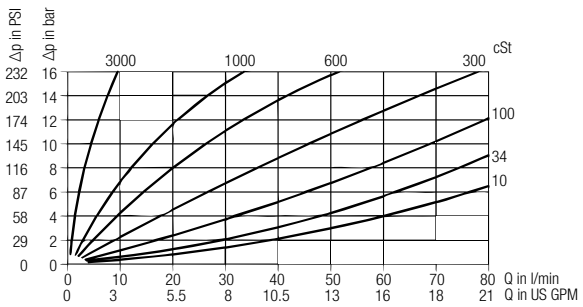
Without calibration certificate	**(none)**
With calibration certificate	**CAL**

Pressure Drop Curves / Viscosity Curves

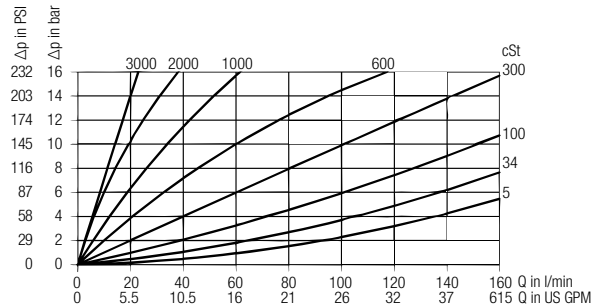
PPC-04/12-SVC-015 P-Viscosity



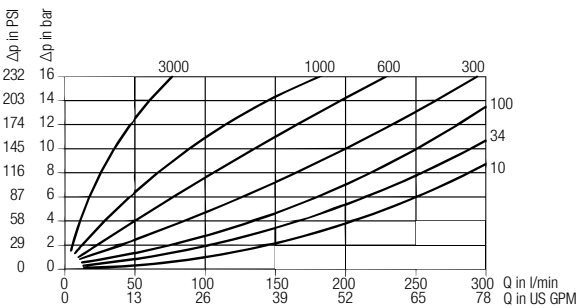
PPC-04/12-SVC-060 P-Viscosity



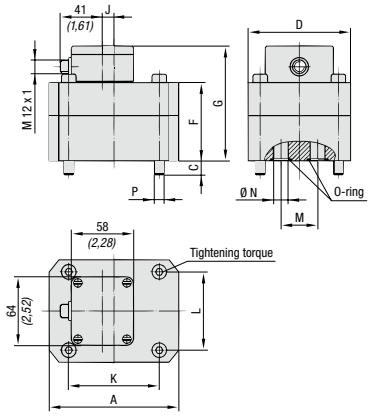
PPC-04/12-SVC-150 P-Viscosity



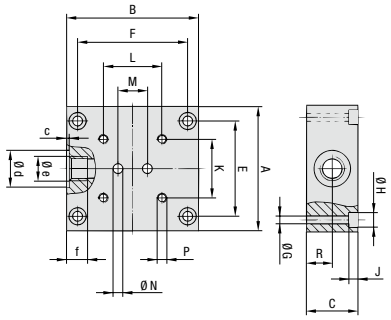
PPC-04/12-SVC-300 P-Viscosity



Gear Flow Meter ▪ Type PPC-04/12-SVC



Flowmeter



Connection Plate

Measuring Ranges

Version	Measuring Ranges						
Flow Meter PPC-04/12-	Measuring Range (l/min / US GPM)	Maximum Flow (l/min / US GPM)	Operating Pressure (bar / PSI)	Maximum Pressure (bar / PSI)	Accuracy (at 21 cSt)	Maximum Pressure Drop (at FS*) (bar / PSI)	Total Weight (kg / lbs)
SVC-015	0,2 ... 15	16,5	400	480	±0,5 (% FS*)	see the chart	3,8
	.05 ... 3.90	4.40	5800	7300			8
SVC-060	0,4 ... 60	66	400	480	±0,5 (% FS*)	see the chart	8,1
	.10 ... 15.90	17.40	5800	7300			17.9
SVC-150	0,6 ... 150	165	315	375	±0,5 (% FS*)	see the chart	23
	.20 ... 39.60	43.60	4570	5440			50.7
SVC-300	1 ... 300	330	315	375	±0,5 (% FS*)	see the chart	27
	.30 ... 79	87.20	4570	5440			59.5

Flow Meter Dimensions

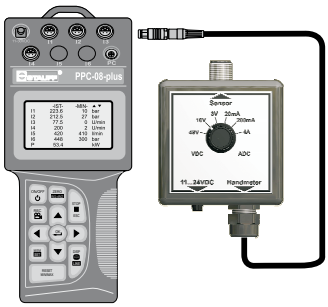
Version	Dimensions (mm / in)												
Flow Meter PPC-04/12-	A	C	D	F	G	J	K	L	M	N	P	Torque [Nm]	Weight (kg / lbs)
SVC-015	85	13	60	57	94	-	70	40	20	9	M6	14	2
	3.35	.51	2.36	2.24	3.70		2.76	1.57	.79	.35			4.4
SVC-060	120	13	95	72	109	10,5	84	72	35	16	M8	35	5,2
	4.72	.51	3.74	2.83	4.29	.41	3.31	2.83	1.38	.63			11.4
SVC-150	170	18	120	89	140	46,5	46	95	50	25	M12	120	9
	6.69	.71	4.72	3.50	5.51	1.83	1.81	3.74	1.97	.98			19.8
SVC-300	170	22	120	105	142	40	46	95	50	25	M12	120	13
	6.69	.87	4.72	4.13	5.59	1.57	1.81	3.74	1.97	.98			28.7

Connection Plate Dimensions

Version	Dimensions (mm / in)																		
Flow Meter PPC-04/12-	A	B	C	E	F	G	H	J	K	L	M	N	P	R	c	d	e	f	Weight (kg / lbs)
SVC-015	85	90	35	65	76	7	11	7	70	40	20	6,5	M6 x 14	17	0,7	25	G3/8 BSP	13	1,8
	3.35	3.54	1.38	2.56	2.99	.28	.43	.28	2.76	1.58	.79	.26	M6 x .55	.67	.03	.98		.51	2.7
SVC-060	100	120	37	80	106	7	11	7	84	72	35	12	M8 x 18	17,5	0,7	29	G1/2 BSP	15	2,9
	3.94	4.72	1.46	3.15	4.17	.28	.43	.28	3.31	2.83	1.38	.47	M8 x .71	.69	.03	1.14		.59	5.4
SVC-150	160	165	80	140	145	9	15	9	46	95	50	25	M12 x 28	28,5	1	42	G1 BSP	19	14
	6.30	6.50	3.15	5.51	5.71	.35	.59	.35	1.81	3.74	1.97	.98	M12 x 1.10	1.12	.04	1.65		.75	37.5
SVC-300	160	165	80	140	145	9	15	9	46	95	50	25	M12 x 28	28,5	1	42	G1 BSP	19	14
	6.30	6.50	3.15	5.51	5.71	.35	.59	.35	1.81	3.74	1.97	.98	M12 x 1.10	1.12	.04	1.65		.75	37.5

*FS = Full Scale
Dimensional drawings: All dimensions in mm (in).

Miscellaneous Measurements (only for PPC-06/08-plus and PPC Pad)



Characteristics

In addition to pressure, temperature, rotational speed and flow measurements, the PPC-06/08-plus Hydraulic Testers can measure and evaluate different signals from other or third-party sensors.
The following connecting adaptors are available for these tasks:

- Current /Voltage Adaptor: PPC-06/12-A/V-A adaptor
- External Trigger Adaptor: PPC-06/12-TR-A adaptor

ATTENTION! None of the two adaptors is suitable for use with the PPC-04/2.

Current / Voltage Adaptor

Measuring electrical signals or signals from a third-party sensor (e.g. 4 ... 20 mA, 0 ... 10 V, ...) with the PPC-06/12-A/V-A adaptor.

The PPC-06/12-A/V-A Current / Voltage Adaptor is used, for example, for measuring current at proportional valves or for determining the switching states of motors or pumps and to evaluate and process measurements from third-party sensors. Typical applications are the generation and measurement of a force-distance graph or torque-flow characteristic curves.
The following input signals can be processed by this adaptor:

- Electric currents up to 4 A DC
- Electric voltages up to 48 V DC

The measured data are transmitted directly to the PPC-06/08-plus or PPC Pad hydraulic tester by a permanent cable connection.

Order Code

PPC-06/12-A/V-A adaptor

①

① Series and Type

Current / Voltage Adaptor	**PPC-06/12-A/V-A adaptor**

Cables / Adaptors / Accessories



PPC-04/12-CAB3 and PPC-04/12-CAB5-EXT



PPC-04/12-U5P-S4P adaptor



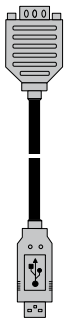
PPC-04/12-CAB2-U4P-S5P cable



PC connecting cable as a component of the PC-SET-04-SW-CAB



PC connecting cable as a component of the PC-SET-06/08-plus-SW-CAB



PPC-04/12-R232-to-USB-CAB PC adaptor cable

Characteristics

A number of cables, adaptors and accessories are also available. With these items, you may customize your hydraulic tester to your needs or ensure continued use of old sensors or measuring equipment. The following items are available for this purpose:

PPC-04/12-CAB3 Cable and PPC-04/12-CAB5-EXT Cable

A PPC-04/12-CAB3 cable is required to connect the sensors to the current hydraulic testers of the PPC-04/2, PPC-06/08-plus series or PPC Pad. The cable comes with a 5-pin push/pull connection at each end and has a length of 3 m / 9.84 ft.

Note: This cable cannot be used with older hydraulic testers and/or sensors (with the 4-pin connection)!
The PPC-04/12-CAB5-EXT cable has a length of 5 m / 16 ft.
Note: Please keep in mind that it is generally recommended not to exceed a total cable length of 8 m / 26.25 ft!

PPC-04/12-U5P-S4P Adaptor

It is no longer possible to use the old 4-pin measuring sensors when converting the PPC-04 series (sensors and hydraulic testers) to the current version using 5-pin connections without suitable adaptors. The simple and easy solution to this is the PPC-04/12-U5P-S4P adaptor.
The adaptor has a 5-pin connection (connecting to the current PPC-04/2, PPC-06/08-plus hydraulic tester or PPC Pad) at one end and a 4-Pin push/pull connector (for connecting an older sensor) at the other end.

PPC-04/12-CAB2-U4P-S5P Cable

The PPC-04/12-CAB2-U4P-S5P cable is intended for using current sensors (5-pin connection) with older hydraulic testers of the PPC-04 series (without the "/2" in the name, with the 4-pin sensor input). This adaptor cable has a length of 2 m / 6.56 ft, a 4-Pin connection (for connecting to the old PPC-04 hydraulic tester) on one end and a 5-pin push/pull connector (for connecting to the current measuring sensor) on the other end.

Order Codes

PPC-04/12-CAB3

① Series and Type

Standard Connecting Cable for Measuring Sensor	**PPC-04/12-CAB3**
Extension Cable	**PPC-04/12-CAB5-EXT**

Order Code

PPC-04/12-U5P-S4P adaptor

① Series and Type

Adapting older Sensors to current Hydraulic Testers	**PPC-04/12-U5P-S4P adaptor**

Order Code

PPC-04/12-CAB2-U4P-S5P

① Series and Type

Adapting current Sensors to older Measuring Equipment	**PPC-04/12-CAB2-U4P-S5P**

PC-SET PPC-04-SW-CAB

It is possible to connect the PPC-04-AP/2 hydraulic tester to a PC or notebook. The set contains one PC cable with RS-232 connection (2 m / 6.56 ft) and the corresponding PC software. The PC-SET PPC-04-SW-CAB is only suitable for the PPC-04-AP/2 (to be ordered optionally) because the other two testers of the PPC-04/2 series do not have a data output.

PC-SET PPC-06/08-PLUS-SW-CAB

A PC set, consisting of a USB connecting lead, length 1,5 m / 4.92 ft and the corresponding PC software.
Note: The appropriate PC set is automatically included when purchasing a PPC-06/08-plus or PPC-Pad hydraulic tester.

PPC-04/12-R232-to-USB-CAB Adaptor

A suitable PC cable (PPC-Set PPC-04-SW-CAB) is available for connecting a hydraulilc tester of the PPC series to a PC. As standard, this cable is equipped with a connection for the RS-232 interface. For connection to a USB port, the PPC-04/12-RS232-to-USB-CAB adaptor is also available. The cable has a length of 1 m / 3,3 ft.

Order Code

PC-SET PPC-04-SW-CAB

① Series and Type

PC Set	**PC-SET PPC-04-SW-CAB**

Order Code

PC-SET PPC-06/08-plus-SW-CAB

① Series and Type

PC Set	**PPC-SET PPC-06/08-PLUS-SW-CAB**

Order Code

PPC-04/12-RS232-to-USB-CAB

① Series and Type

Adaptor Cable	**PPC-04/12-RS232-to-USB-CAB**

Hydraulic Tester ▪ Type PPC Complete System



Complete System PPC-04/2



Complete System PPC-06/08-plus

Product Description

PPC complete systems are assembled in different versions according to customer wishes. The complete systems are supplied in a handy case with individually designed pockets/ sections and have space for the components listed beside.

Components

Standard option PPC-04/2 complete system

- 1x PPC-04/2 hydraulic tester
- 1x Power supply unit
- Up to 3 pressure sensors with installed adaptor for STAUFF Test 20 (M16 x 2)
- Up to 2 connecting cables (3 m / 9.84 ft)
- 1x TS temperature sensor, with installed SGV-16S-G-C6F (optional)
- 3x SAD adaptors for the STAUFF Test 15/12/10 series (standard for all PPC complete systems)
- 1x Operating instructions (multilingual) on CD

Standard option PPC-06/08-plus complete system

- 1x PPC-06-plus or PPC-08-plus hydraulic tester
- 1x Power supply unit
- Up to 3 pressure sensors with installed adaptor for STAUFF Test 20 (M16 x 2)
- Up to 3 connecting cables (3 m / 9.84 ft)
- 1x TS temperature sensor, with installed SGV-16S-G-C6F (optional)
- 3x SAD adaptors for the STAUFF Test 15/12/10 series (standard for all PPC complete systems)
- 1x Printed user manual (German and English)
- 1x User manual (multilingual) on CD
- 1x PC software for the PPC-06/08-plus
- 1x PC connecting cable

Note: Please consult STAUFF for calibrated version.

Order Codes

PPC	-	04-AP-SET	-	2	-	T	-	015	/	060	/	000
①		②		③		④		⑤		⑥		⑦

① Series and Type

STAUFF Hydraulic Tester	**PPC**

② Version

2 Sensor inputs, without internal data memory, battery-operated	**04-B-SET**
2 Sensor inputs, without internal data memory, with rechargeable battery, power supply unit, without data output	**04-A-SET**
2 Sensor inputs, without internal data memory, with rechargeable battery, power supply unit and data output	**04-AP-SET**
3 Sensor inputs, including PC software and PC connecting cable	**06-SET**
4 Sensor inputs, including PC software and PC connecting cable	**08-SET**

③ Number of Pressure Sensors

With one pressure sensor	**1**
With two pressure sensors	**2**
With three pressure sensors	**3**

④ Temperature Sensor

Without TS temperature sensor with SGV	**(none)**
With TS temperature sensor with SGV	**T**

⑤ Pressure Range and Pressure Sensor

First pressure sensor	**see table**

⑥ Pressure Range and Pressure Sensor

Second pressure sensor	**see table**

⑦ Pressure Range and Pressure Sensor

Third pressure sensor	**see table**

Pressure Ranges and Pressure Sensor

Pressure Range	Pressure Sensor		
000	When ordering a complete system with one or two pressure sensors, specify „000“ for the pressure range of the second and / or third sensors.		
015	Pressure range first pressure sensor	Pressure range second pressure sensor	Pressure range third pressure sensor
060			
150			
400			
600			
601			
e.g.	**015** (15 bar PT)	**060** (60 bar PT)	**000** (0 bar PT)
Please keep in mind that two pressure sensors with identical measuring ranges are necessary for differential pressure measurements.			

Hydraulic Test Equipment

Group	Description	Order Codes	Page
1. Hydraulic Tester PPC-04/2	Hydraulic Tester PPC-04-B/2 with 2 sensor inputs, without data memory, with battery	**PPC-04-B/2**	D16
	Hydraulic Tester PPC-04-A/2 with 2 sensor inputs, without data memory, including rechargeable battery and power supply unit (110/230 V AC)	**PPC-04-A/2**	D16
	Hydraulic Tester PPC-04-AP/2 with 2 sensor inputs, without data memory, including rechargeable battery and power supply unit (110/230 V AC) and data output (without PC set)	**PPC-04-AP/2**	D16
2. Hydraulic Tester PPC-06/08-plus	Hydraulic Tester PPC-06-plus with 3 sensor inputs, including PC software and PC connecting cable, including power supply unit	**PPC-06-plus**	D17
	Hydraulic Tester PPC-08-plus with 4 sensor inputs, including PC software and PC connecting cable, including power supply unit	**PPC-08-plus**	D17
3. Pressure Measurement (for connecting and extension cables for measuring transmitters, see item 8)	**Pressure Sensor G 1/2** (without connecting cable)		
	Pressure range from -1 ... 15 bar / -14.5 ... 217 PSI relative pressure *	**PPC-04/12-PT-015/2**	D18
	Pressure range from 0 ... 60 bar / 0 ... 870 PSI absolute pressure	**PPC-04/12-PT-060/2**	D18
	Pressure range from 0 ... 150 bar / 0 ... 2175 PSI absolute pressure	**PPC-04/12-PT-150/2**	D18
	Pressure range from 0 ... 400 bar / 0 ... 5801 PSI absolute pressure	**PPC-04/12-PT-400/2**	D18
	Pressure range from 0 ... 600 bar / 0 ... 8702 PSI absolute pressure	**PPC-04/12-PT-600/2**	D18
	Pressure range from 0 ... 600 bar / 0 ... 8702 PSI absolute pressure **	**PPC-04/12-PT-601/2**	D18
	Connection Adaptors		
	Adaptor G 1/2 to M16 x 2 (STAUFF Test 20)	**SDA20-G1/2-C6F**	D18
	Adaptor M 16 x 2 to M16 x 1,5 (STAUFF Test 20 to STAUFF Test 15)	**SAD20/15-P-C6F**	D18
	Adaptor M 16 x 2 to S12,65 x 1,5 (STAUFF Test 20 to STAUFF Test 12)	**SAD20/12-P-C6F**	D18
	Adaptor M 16 x 2 to plug-in (STAUFF Test 20 to STAUFF Test 10)	**SAD20/10-P-C6F**	D18
4. Temperature Measurement (for connecting and extension cables for measuring transmitters, see item 8	Temperature Sensor -25 °C ... +125 °C / -13 °F ... +257 °F for pipeline installation	**PPC-04/12-TS**	D19
	Rod-type Temperature Sensor -25 °C ... +125 °C / -13 °F ... +257 °F for tank /container measurements	**PPC-04/12-TSH**	D19
	Straight threaded Adaptor with M10 x 1 connection (for the PPC-04/12-TS)	**SGV-16S-G-C6F**	D19
5. Rotational Speed Measurement	Rotational Speed Sensor with integrated connecting cable 2 m / 6.56 ft	**PPC-04/12-SDS-CAB**	D20
	Contact Adaptor	**PPC-04/12-SKA-contact adaptor**	D20
	Focusing Adaptor	**PPC-04/12-SFA-focus adapter**	D20
6. Flow Measurement (for connecting and extension cables for measuring transmitters, see item 8)	**SFM Flow Meters with Integrated Signal Converter**		
	Measuring range from 1 ... 15 l/min / .3 ... 3.9 US GPM	**PPC-04/12-SFM-015**	D21
	Measuring range from 4 ... 60 l/min / 1 ... 15.9 US GPM	**PPC-04/12-SFM-060**	D21
	Measuring range from 6 ... 150 l/min / 1.6 ... 39.6 US GPM	**PPC-04/12-SFM-150**	D21
	Measuring range from 10 ... 300 l/min / 2.7 ... 79 US GPM	**PPC-04/12-SFM-300**	D21
	Measuring range from 20 ... 600 l/min / 5.3 ... 158 US GPM	**PPC-04/12-SFM-600**	D21
	SVC Flow Meters with Signal Converter and Connecting Plate		
	Measuring range from 0,2 ... 15 l/min / .05 ... 3.9 US GPM	**PPC-04/12-SVC-015**	D22
	Measuring range from 0,4 ... 60 l/min / .1 ... 15.9 US GPM	**PPC-04/12-SVC-060**	D22
	Measuring range from 0,6 ... 150 l/min / .2 ... 39.6 US GPM	**PPC-04/12-SVC-150**	D22
	Measuring range from 1 ... 300 l/min / .3 ... 79 US GPM	**PPC-04/12-SVC-300**	D22
7. Miscellaneous Measurements (only PPC-06/08-plus and PPC-Pad	Current/Voltage/ Third-party Sensor Adaptor (up to 4 A DC / 48 V DC)	**PPC-06/12-A/V-A adaptor**	D24
8. Connecting Cables for measuring transmitters without integrated cable, extension cable or adapter	Connecting cable 3 m / 9.84 ft (5-Pin connection on both ends)	**PPC-04/12-CAB3**	D25
	Extension cable 5 m / 16.40 ft (5-Pin connection on both ends)	**PPC-04/12-CAB5-EXT**	D25
	Adaptor cable from old (4-Pin) sensors to current (5-Pin) hydraulic testers	**PPC-04/12-U5P-S4P adaptor**	D25
	Adaptor cable from current (5-Pin) sensors to older (4-Pin) hydraulic testers	**PPC-04/12-CAB2-U4P-S5P**	D25
9. PC Connection and Software	PC software and PC adaptor for PPC-04/2 (RS-232 connection)	**PC-SET PPC-04-SW-CAB**	D25
	PC software and USB connection lead for PPC-06/08-plus	**PC-SET PPC-06/08-plus-SW-CAB**	D25
	Adaptor cabel RS-232 to USB for PPC	**PPC-04/12-RS232-to-USB-CAB**	D25
10. Accessories and Spare Parts	Power supply unit (110 / 230 V AC) for PPC-04/2, PPC-06/08-plus	**PPC-04/12-110V/230V**	D26
	PPC-04 case (with custom insert)	**PPC-04 case**	D26
	PPC-06/08-plus case (with custom insert)	**PPC-06/12 case**	D26

All available individual components for the PPC-04/2, PPC-06-plus and PPC-08-plus hydraulic testers, with their ordering codes, are listed below. They can be configured by the customer using this form. In the list, the components are sorted according to application areas/tasks to provide a better overview. For custom kits, please contact STAUFF.

* 0 ... 15 bar / 0 ... 210 PSI relative pressure at PPC-04/2
** Pressure peaks up to 1000 bar / 14500 PSI

All hydraulic testers and sensors are available in calibrated version. Please add -CAL to the order code.

Hydraulic Tester ▪ Type PPC Pad



Product Description

The application possibilities for hydraulics have recently increased throughout all areas of drive and control systems. This trend has been particularly noticeable in the sectors of machine, plant and automotive construction. At the same time, hydraulics and electronics have become increasingly intertwined.

STAUFF's new hand-held measuring instrument – the PPC Pad – helps you to deal with these new trends. It has never been so easy to follow the complex processes in these sectors with measurement, display and analysis.
Potential uses include preventative maintenance, commissioning, troubleshooting and machine optimization.
The expanded requirements of these modern applications (such as the increased number of measurement points, longer cable lengths and high noise immunity) have driven further development of the CAN bus.

STAUFF's CAN bus sensors now take advantage of the bus system's automatic sensor detection capability to provide an easy-to-install Plug & Play solution. Compatibility with existing diagnostic sensors is also provided.

Our proven storage strategy is focused on MIN and MAX value measurements. Combined with a wide variety of value presentation styles, these features make effective solutions-oriented analysis possible.

The PPC-Soft-plus PC software offers additional methods for analysis, control and remote maintenance using LAN and USB connections. Together with this software, the PPC Pad is a truly user-friendly measuring instrument that can be used for any type of diagnostics application.

Features

- Portable multi-function hand-held measuring instrument
- Pressure, temperature, flow and speed can be measured, monitored and analysed
- Measurement and display of over 50 channels
- Measured value display: numerical, bar graph, pointer, curve graph
- Project templates can be saved and loaded
- Interfaces: CAN, LAN, USB
- Total memory with up to 1 billion measured values
- Measured data can be (automatically) recorded, saved and analysed with the PPC-Soft-plus PC software and a LAN or USB connection

Scope of Delivery

- PPC Pad
- Installed Handle
- 24 V DC / 2,5 A power pack incl. country adaptor
- M8 x 1 / 4-Pin (digital in/out)
- USB 2.0 cable (2 m / 6.56 ft)
- LAN cable (5 m / 16.40 ft)
- Operating instructions
- PC Software
- 1 GB microSD-memory card
- M12 cable socket for 4 ... 20 mA / 0 ... 10 V aux.sensors

Technical Data

Please see page D32 for technical information.

Order Codes

PPC-Pad - 102 - CAL
① ② ③

① Series and Type

Hydraulic Tester	**PPC-Pad**

② Version

PPC-Pad-101	**101**
PPC-Pad-102	**102**
PPC-Pad-103	**103**

③ Calibration (only -102 / -103)

Without calibration certificate	**(none)**
With calibration certificate	**CAL**

Version Hydraulic Tester

Version	CAN-Sensor Inputs	Sensor Inputs with Sensor Recognition STAUFF (Analog)	Aux. Sensor Input (Analog)
PPC-Pad-101	2 networks each with 8 sensors max.	-	-
PPC-Pad-102		3	2
PPC-Pad-103		6	4

Hydraulic Tester ▪ Type PPC-Pad-SET





Content of case may differ

Order Codes

PPC-Pad - SET-101 - CAL

① ② ③

① Series and Type

Hydraulic Tester	**PPC-Pad**

② Version

PPC-Pad-SET-101	**SET-101**
PPC-Pad-SET-102	**SET-102**
PPC-Pad-SET-103	**SET-103**

③ Calibration (only -102 / -103)

Without calibration certificate	**(none)**
With calibration certificate	**CAL**

Scope of Delivery

- PPC Pad
- Installed Handle
- 24 V DC / 2,5 A power pack incl. country adaptor
- M8 x 1 / 4-Pin cable socket (digital in/out)
- USB 2.0 cable (2 m / 6.56 ft)
- LAN cable (5 m / 16.40 ft)
- Operating instructions
- PC Software
- 1 GB microSD-memory card
- Equipment case
- Neck strap
- CAN connection cable (5 m / 16.40 ft)
- 2x Terminating resistor
- Analog connection cable (3 m / 9.84 ft)
- M12 cable socket aux. output

Product Description

The PPC Pad is also available in a special designed case to store your unit and your accessories. The case is robust, lightweight and can be carried directly to your machine. It has individually designed inserts that can hold up to 4 pressure sensors, 1 CAN – flow turbine, 1 flow turbine, 1 frequency- and 1 aux-adapter. Cable and additional equipment also have their own place inside.

PPC Pad case is the best way to store and protect your equipment.

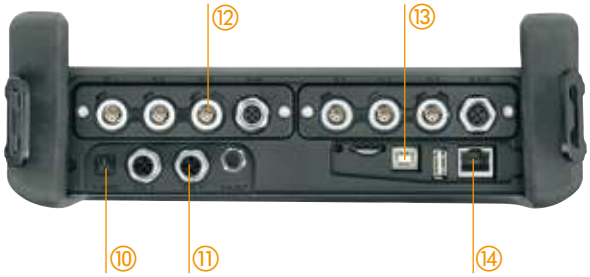
Standard PPC-Pad-SET kits have been put together to equip a user with the basic equipment needed for basic measurement.

Version Hydraulic Tester Set

Version	Hydraulic Tester	CAN-Sensor Inputs	Sensor Inputs with Sensor Recognition STAUFF (Analog)	Aux. Sensor Input (Analog)	Equipment Case	Neck Strap	CAN Connection Cable 5m /16.40 ft	Terminating Resistor	Analog Connection Cable 3m / 9.84ft	Aux. Sensor analog - Cable Adaptor
PPC-Pad-SET-101	**PPC-Pad-101**	2 networks each with 8 sensors max.	-	-	1	1	2	2	-	-
PPC-Pad-SET-102	**PPC-Pad-102**		3	2	1	1	2	2	2	1
PPC-Pad-SET-103	**PPC-Pad-103**		6	4	1	1	2	2	3	2

Hydraulic Tester ▪ Type PPC Pad

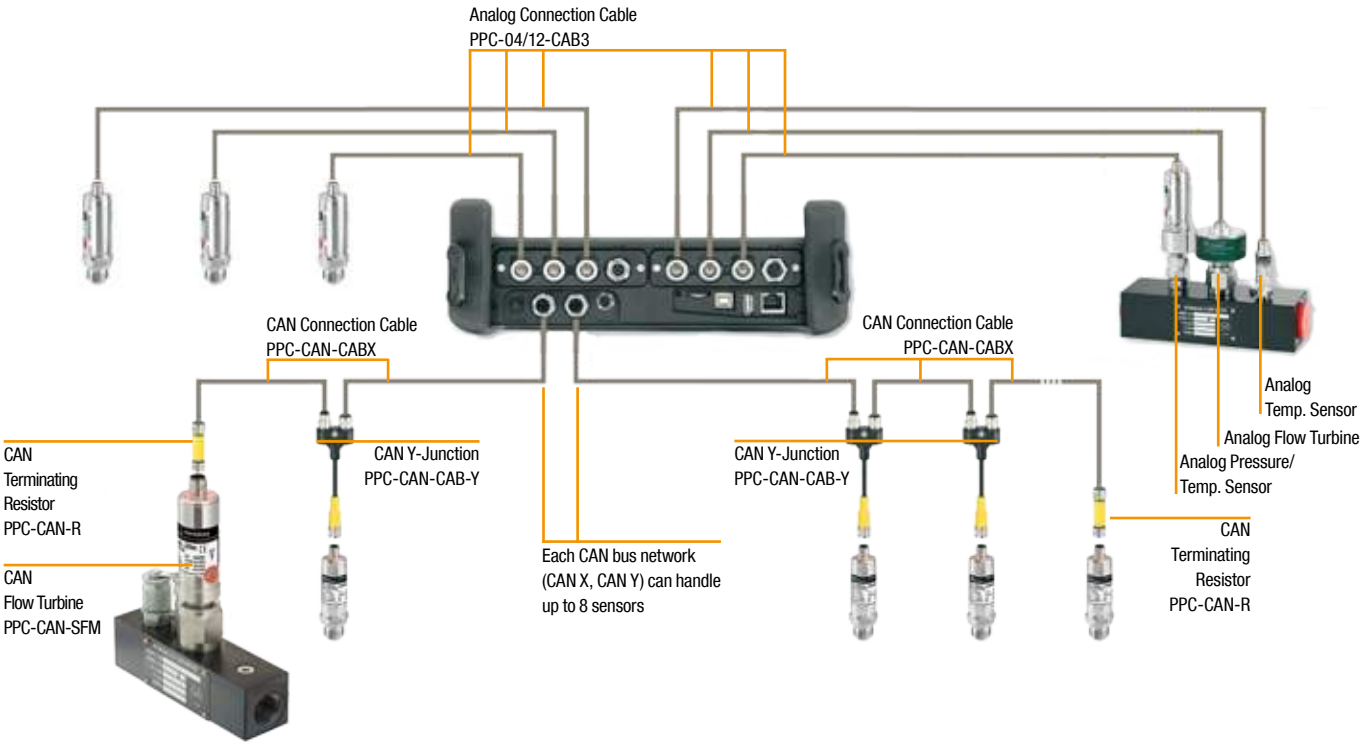




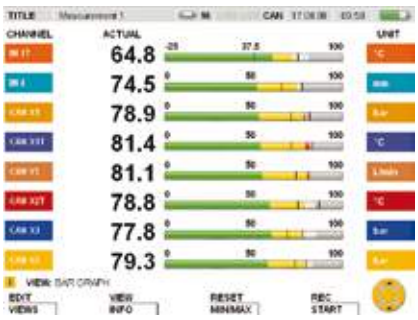
Function Specifications

① High protection from moisture and dirt due to cover caps and a rubber protective sleeve, Protection Class IP64
② Illuminated display for good readability in any situation
③ Protection of the housing, affording usage in tough enviroments and absorption of shocks
④ Big 5.7 in colour display for clearly viewing the extensive information
⑤ Intuitive operation due to clear-cut control elements and function-oriented keys
⑥ Ergonomic housing shape ensures convenient portability and long operating times
⑦ Large keyboard and fonts for easy operation and readability
⑧ Portabel multi-function hand-held measuring instrument - strong in design and tough in operation
⑨ Easy to carry and hang up with carrying strip
⑩ 110 / 240 V AC power supply, battery life 8 hours, recharging time 3 hours
⑪ 2 x CAN-busnetworks with each 16 channels
⑫ Modular design for up to 6 analog sensors or 2 Highspeed channels (0,1 ms) automatic sensor recognition
⑬ PC Interface (USB 2.0); ACT/MIN/MAX measured value transmission to the PPC-Soft-plus software, terminal for USB mass storage devices
⑭ LAN interface for remote monitoring, micro SD memory card for storage enlargement

Connection of Analog Sensors / CAN Sensors



Hydraulic Tester ▪ PPC Pad Display



- Display of measured values as figures and bars
- Fixing of alarm ranges in green, yellow and red
- Trailing pointer function with MIN and MAX values



- Up to 4 channels in one large-format display
- Simultaneous display of ACT, MIN and MAX values
- Information lines of current settings, events and views
- Individual measurement channel identifier

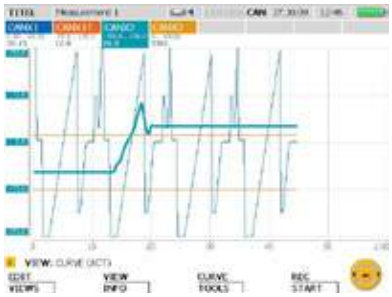




- Large-area pointer display of measured values
- Trailing pointer for MIN and MAX values
- Alarm range in green, yellow and red
- Further channels can be called up with the arrow keys



- Up to 8 channels in one display
- Colour allocation of the individual channels
- Uniform headings with measurement titels, sensors connected, interfaces, date, time and battery condition indicator
- Display can be changed between MIN and MAX values and full scale



- Up to 8 channels in one graph display
- Fine, precise graph image thanks to high definition display
- Choice between ACT and MIN/MAX value display
- Automatic and manual scaling of the time axis for optimum measured value display

Hydraulic Tester ▪ Type PPC Pad



Technical Data (General)

Materials
- Housing material: ABS/PC (Thermoplastic)
- Housing protective sleeve material: TPE (Thermoplastic Elastomer)
- Housing/Protective Sleeve (incl. in Standard Shipment)

Dimensions and Weight
- Dimensions (w x h x d): 257 x 74.5 x 181 mm/ 10.12 x 2.93 x 7.13 in
- Weight: 1550 g / 3.4 lbs (basic model)

Inputs / Outputs
- CAN sensor inputs: 2 CAN bus networks each with 8 sensors and max. 16 channels (for STAUFF CAN-Bus sensors) Scanning rate 1 ms = 1000 measured values/sec. M12x1 push-in connector, 5-Pin with SPEEDCON
- 1 digital trigger input: Scanning rate: 1 ms Input impedance: 1 kΩ Active high: >+7 … +24 V DC Active low: <1 V DC Isolated
- 1 digital trigger output: Scanning rate: 1 ms max. switching signal: +24 V DC/max. 20 mA Isolated
- Push-in connector for digital input and output: M8 x 1 / 4-Pin, male

Module Slots
- 2, for input module, flexible placement possible
- Slot 1 = IN1, IN2, IN3, IN4/5
- Slot 2 = IN6, IN7, IN8, IN9/10 (Expandable only by STAUFF)

Display
- FT-LCD colour graphic display
- Visible area: 115 x 86 mm/ 4.53 x 3.39 in
- Resolution: 640 x 480 pixels

Interfaces
- USB device: Online data transmission between unit and PC via PPC-Soft-plus Measured value transmission: ACT/MIN/MAX USB standard: 2.0, fullspeed Push-in connector: USB socket, shielded, type B
- USB host: Connection for mass storage devices such as USB stick or removeable hard disc Standard: 2.0, fullspeed, 100 mA max. Push-in connection: USB socket, shielded, type A
- Ethernet: Online data transmission between unit and PC via PPC-Soft-plus and remote control Measured value transmission: ACT/MIN/MAX Standard: 10, 100 Mbit/s, IEEE 802.3 (10/100 base T) Push-in connection: RJ45, socket, shielded

Functions
- Measurement: ACT, MIN and MAX values
- Measured value display: Numerical, bar graph, pointer, curve graph
- Measuring functions: Start/stop, points, trigger
- Trigger: Slope, manual, level, window, time, logic (interconnection of up to two events for the measurement start and stop)
- Pre-Trigger
- Remote operation via the Ethernet
- Acoustic notification at any incident

Measured Value Storage
- For storing measured values, project data and screen copies (screenshots)
- Storage capacity: ≤4 million measured values per measurement Total measured value storage >1 billion measured values
- Storage format: ACT/MIN/MAX
- Storage interval: 1 ms to 24 h
- Storage duration: 1 ms to 300 h (trigger measurement)
- Internal: 64 MB (approx. 32 million measured values)
- External SD storage: up to 2 GB (1 GB Micro SD memory card included in standard shipment) Slot: Micro SD memory card
- External USB mass storage device: up to 40 GB

Ambient Conditions
- Operating temperature: 0 °C … +50 °C / +32 °F ... +122 °F
- Storage temperature: -25 °C … +60 °C / -13 °F ... +140 °F
- Relative humidity: < 80 %
- Environmental test: IEC60068-2-32 (1 m, free fall)

Power Supply
- Internal: Lithium ion pack, +7.4 V DC / 4500 mAh Battery charging circuit/operating time with 3 CAN sensors: > 8 h

Protection Rating
- IP64 protection rating: Dust tight and protected against splashing water

Technical Data (for PPC-Pad-102 and 103)

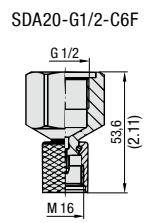
Input with Sensor Recognition
- 3 or 6 sensor inputs (up to 6 or 12 analog measurement channels) with sensor recognition (p/T/Q/n) for PPC sensors
- Push-in connection: 5-Pin, push-pull, combination panel plug/socket
- Scanning rate: 1 ms = 1000 measured values/sec.
- For the PPC-04/12-PT combined pressure & temperature sensor, there is an additional temperature channel for each sensor input
- Temperature scanning rate: 1 s

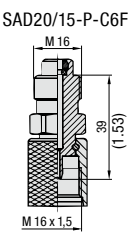
Inputs for Auxiliary Sensors
- 2 analog sensor inputs: for measuring current and voltage Scanning rate: 1 ms = 1000 measured values/sec. Voltage measuring range: -10 … +10 V DC (freely configurable) Current measuring range: 0/4…20 mA Supply external sensors: +18 … +24 V DC/max. 100 mA Push-in connection: M12x1, 5-Pin socket
- FAST mode: Scanning rate: 0.1 ms = 10000 measured values/sec. only one auxiliary sensor input is useable

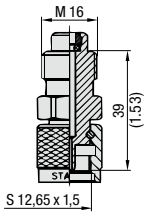
Accuracy
- +0,02 % per °C

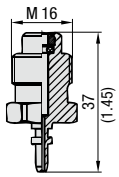
SPEEDCON is a trademark of PHOENIX CONTACT GmbH & Co. KG

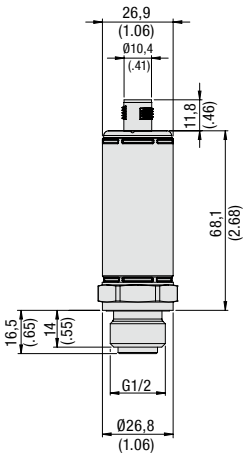
CAN Pressure Sensor ▪ Type PPC-CAN-PT













Technical Data

- Sturdy Stainless Steel housing (1.4301)
- FPM (Viton®) gasket
- Sensor identification LED
- Weight: 200 g / .44 lbs
- Suitable for gases and liquids (in the case of aggressive media, only after consultation)
- 5-Pin SPEEDCON connection plug
- Pressure connection G1/2 (without adaptor)

Ambient Conditions

- Media temperature: max. 105 °C / 221 °F
- Ambient temperature: -25 °C ... 85 °C / -13 °F ... 185 °F
- Storage temperature: -25 °C ... 85 °C / -13 °F ... 185 °F
- Compensated range: 0 °C ... 85 °C / 32 °F ... 185 °F
- Load cycles (10^6): 100

CAN-open Interface

- Protocol: DS 301 v4.1, Type 2.0 A
- Profil: DS 404 v1.2
- Special functions: LSS to DS 305 V2.0

Electrical Data and Output

- Input voltage: 8 ... 40 V DC
- Current consumption: 25 mA at 24 V DC
- Response time: 1 ms

Product Description

The PPC-CAN-PT Pressure Sensors are specially designed for the use with the new hydraulic tester PPC Pad. These sensors are using the CAN-open protocol to transfer the measurement values to the PPC Pad.
Most technical details are the same as with the new generation of the PPC-04/12-PT sensors. These CAN sensors can also measure and display temperature on the PPC Pad.

The STAUFF Pressure Sensors are a reliable and flexible solution for the PPC series because of their sturdy stainless steel design, the quick response times (< 1 ms) and the high accuracy (±0,25 % FS* typ.) with automatic sensor recognition.

A further new feature is the LED signal light on the top of the sensor, that shows the status of the sensor.

Connecting the PPC-CAN-PT Pressure Sensor to the hydraulic tester PPC Pad a cable and a terminating resistor is needed.

Order Codes

PPC-CAN-PT - **016** - **CAL**

① ② ③

① Series and Type

CAN Pressure Sensor	**PPC-CAN-PT**

② Version

Please see table below

③ Calibration

Without calibration certificate	**(none)**
With calibration certificate	**CAL**

Connection Adaptors for PPC Pressure Sensors

In addition to the PPC-04/12-PT/2 Pressure Sensors, different adaptors and adaptor sets are available that not only connect to the STAUFF Test 20 system (SDA20-G1/2-C6F), but also to the test points of the STAUFF Test 15/12/10 series (SAD20/15-P-C6F, SAD20/12-P-C6F, SAD20/10-P-C6F).

For further information please see the STAUFF Test section.

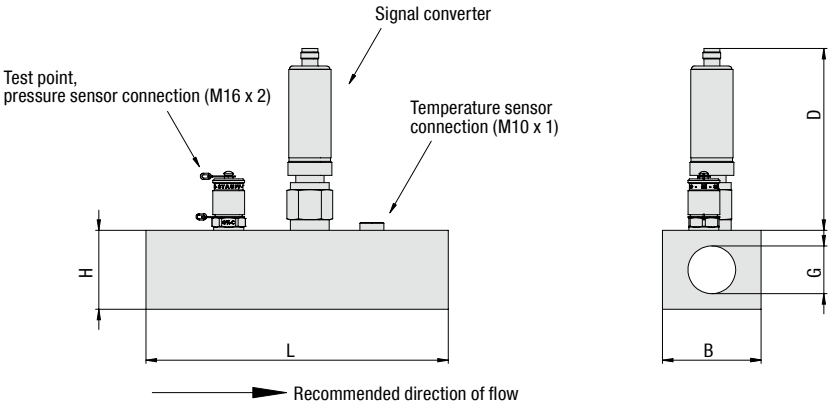
Pressure Ranges and Accuracies

Version	Pressure Ranges and Accuracies							
Sensor PPC-CAN-PT-	Pressure Measuring Range ($^{bar}/_{PSI}$)	Type of Measurement	Maximum Pressure ($^{bar}/_{PSI}$)	Burst Pressure ($^{bar}/_{PSI}$)	Accuracy (±% FS*) typ.	Accuracy (±% FS*) max.	Temperature Measuring Range (°C/°F)	Accuracy Temp. Sensor (±% FS*)
016	-1 ... 16 -14.5 ... 232	Relative pressure	32 464	150 2175	0,25	0,5	-25 ... 105 -13 ... 221	1,5
060	0 ... 60 0 ... 870	Absolute pressure	120 1740	500 7251	0,25	0,5	-25 ... 105 -13 ... 221	1,5
160	0 ... 160 0 ... 2320	Absolute pressure	320 4641	900 13053	0,25	0,5	-25 ... 105 -13 ... 221	1,5
400	0 ... 400 0 ... 5801	Absolute pressure	800 11603	1200 17404	0,25	0,5	-25 ... 105 -13 ... 221	1,5
600	0 ... 600 0 ... 8702	Absolute pressure	1200 17404	1800 26106	0,25	0,5	-25 ... 105 -13 ... 221	1,5
601	0 ... 600 ** 0 ... 8702	Absolute pressure	1200 17404	2500 36259	0,25	0,5	-25 ... 105 -13 ... 221	1,5

*FS = Full Scale ** Pressure peaks up to 1000 bar / 14503 PSI
SPEEDCON is a trademark of PHOENIX CONTACT GmbH & Co. KG
Dimensional drawings: All dimensions in mm (in).

CAN Flow Turbine ▪ Type PPC-CAN-SFM





Product Description

The PPC-CAN-SFM Flow Turbine is specially designed for the use with the new hydraulic tester PPC Pad and has to be installed permanently in the pipeline where the oil flow rotates the internal axial turbine. The generated frequencies are processed by digital electronics (a signal converter). Interferences caused by flow effects are compensated by this process. The signal converter is directly integrated into the PPC-CAN-SFM Flow Turbine. This allows even simpler operation and supports permanent coupling of the turbine and signal converter components that are matched to one another.
The new turbine also improves the response times/reaction times (from a previous 400 ms to 50 ms) and increases measurement accuracy.

The PPC-CAN-SFM Flow Turbine is available in five versions for various flow speeds. A pressure sensor (see page D33) can be connected in parallel to the flow turbine by the way of the integrated test point. In addition, the oil temperature can also be measured using the temperature sensor connection (see page D19).

In general, the PPC-CAN-SFM Flow Meter can handle flows in either direction. The specified technical data and the calibration (available as an option) apply only when the flow through the flow meter matches the recommended flow direction.
A double-headed arrow is shown on the nameplate of the PPC-CAN-SFM. The thicker end of the double-headed arrow specifies the recommended direction of flow.

Connecting the PPC-CAN-SFM Flow Meter to the hydraulic tester PPC Pad a cable and a terminating resistor is needed.

Technical Data

Materials
- Housing: Aluminium (black anodised)
- Gaskets: FPM (Viton®)
- 5-Pin SPEEDCON connection plug
- Pressure measurement connection: SMK20 (M16 x 2)
- Temperature measurement connection: M10 x 1 (standard screw plug)

Ambient Conditions
- Media temperature: -20 °C ... +90 °C / -4 °F ... +176 °F
- Ambient temperature: +10 °C ... +60 °C / +50 °F ... +140 °F
- Storage temperature: -20 °C ... +80 °C / -4 °F ... +176 °F
- Permissible particle size: < 10 Micron for SFM-015
  < 25 Micron for others
- Viscosity range: 10 ... 100 cSt

Electrical Data and Output
- Response time: 50 ms

Order Codes

PPC-CAN - SFM-015 - CAL - UN
① ② ③ ④

① Series and Type

CAN Flow Turbine	**PPC-04/12**

② Version

1 ... 15 l/min / .27 ... 3.90 US GPM	**SFM-015**
3 ... 60 l/min / .79 ... 15.90 US GPM	**SFM-060**
5 ... 150 l/min / 1.32 ... 39.60 US GPM	**SFM-150**
8 ... 300 l/min / 2.11 ... 79.00 US GPM	**SFM-300**
15 ... 600 l/min / 3.96 ... 158.00 US GPM	**SFM-300**

③ Calibration

Without calibration certificate	**(none)**
With calibration certificate	**CAL**

④ Port Connection

BSP	**(none)**
UNF	**UN**

Dimensions and Measuring Range

Version	Measuring Range						Dimension (mm/in)						
Flow Turbine PPC-CAN-	Measuring Range (l/min / US GPM)	Max. Flow (l/min / US GPM)	Operarting Pressure (bar / PSI)	Max. Pressure (bar / PSI)	Accuracy (at 21 cSt)	Max. Pressure Drop (at FS*) (bar / PSI)	G ** (BSP)	G (UNF)	B	D	L	H	Weight (g / lbs)
SFM-015	1 ... 15	16,5	350	420	±1 (% FS*)	1,5	G1/2	3/4–16	36,9	150	136	36,9	650
	.26 ... 3.90	4.4	5076	6091		21.8			1.45	5.90	5.35	1.45	1.43
SFM-060	3 ... 60	66	350	420	±1 (% of the displayed value)	1,5	G3/4	1-1/16–16	62	164	190	49,6	750
	.79 ... 15.90	17.4	5076	6091		21.8			2.44	6.46	7.48	1.95	1.65
SFM-150	5 ... 150	165	350	420	±1 (% of the displayed value)	1,5	G3/4	1-1/16–16	62	164	190	49,6	750
	1.32 ... 39.60	43.6	5076	6091		21.8			2.44	6.46	7.48	1.95	1.65
SFM-300	8 ... 300	330	350	420	±1 (% of the displayed value)	4	G1	1-5/16–16	62	168	190	49,6	1200
	2.11 ... 79.00	87.2	5076	6091		58			2.44	6.61	7.48	1.95	2.65
SFM-600	15 ... 600	660	290	348	±1 (% of the displayed value)	5	G1-1/4	1-5/8–12	62	183	212	75	1800
	3.96 ... 158.00	174.4	4206	5047		72.5			2.44	7.20	8.35	2.95	3.97

* FS = Full Scale
** Standard option
SPEEDCON is a trademark of PHOENIX CONTACT GmbH & Co. KG
Dimensional drawings: All dimensions in mm (in).

Different CAN Connection Cables

Various cables are available to connect the CAN sensors and the CAN flow turbine to the PPC Pad. The CAN sensors work on a bus system as displayed in the connection overview on page D30. There are cables in length from 0,5 m / 1.64 ft and 20 m / 65.65 ft available. To connect a new sensor to the CAN bus, a Y-splitter cable is necessary.

Each sensor on the end of a CAN bus has to be closed with a terminating resistor. The resistor is also necessary when only one sensor is used. All connections are 5-Pin SPEEDCON connection plugs.

- Compact size
- Interference-free
- Compatible with all PPC-CAN sensors and diagnostic measuring instruments
- Push-Pull plug
- Various lengths available
- Oil-resistant material

CAN Connection Cable ▪ Type PPC-CAN-CAB



Y-Splitter ▪ Type PPC-CAN-CAB-Y



CAN Terminating Resistor ▪ Type PPC-CAN-R



Order Codes

PPC-CAN - CAB2

① ②

① Series and Type

CAN Connection Cable	**PPC-CAN**

② Length

0,5 m / 1.64 ft connection cable	**CAB0.5**
2 m / 6.65 ft connection cable	**CAB2**
5 m / 16.40 ft connection cable	**CAB5**
10 m / 32.81 ft connection cable	**CAB10**
20 m / 65.62 ft connection cable	**CAB20**

Order Code

PPC-CAN-CAB-Y

①

① Series and Type

Y-Splitter incl. 0,3 m / .98 ft	**PPC-CAN-CAB-Y**

Order Code

PPC-CAN-R

①

① Series and Type

CAN Terminating Resistor	**PPC-CAN-R**

CAN Frequency Converter

Product Description

Measuring Frequency with PPC-CAN-FR
The PPC-CAN-FR can be used to connect frequency signals (for example, from turbines, flow counters or tachometers) to the PPC Pad.
The instruments can process sinus and rectangle signals from 1 Hz to 5 KHz with signal amplitude from 20 mV to 10 V. Configuration is possible via USB and PC software.

Power Supply for the External Sensor
An external sensor can be supplied with 24 V using the PPC-CAN-FR.

Analog or CAN Output
The PPC-CAN-FR can be connected either to an analog input or a CAN input.



Frequency Converter PPC-CAN-FR

Order Code

PPC-CAN-FR

①

① Series and Type

Frequency Converter	**PPC-CAN-FR**

Technical Data

Dimensions
- 114 x 64 x 26 mm / 4.49 x 2.52 x 1.02 in

Ambient Conditions
- Operating temperature: 0 °C ... +60°C / +32 °F ... +140 °F
- Storage temperaure: -25 °C ... +70 °C / -13 °F ... +158 °F
- Rel. humidity: < 80 %

Electrical Data and Output
- Measuring range: 1 Hz ... 5 KHz
  Sinus and rectangle signals
  40 mVpp ... 10 V pp
- Sensor power supply: 24 V DC ± 0,5 V DC
- $I_{Out\ (Max.)}$ without power supply: 50 mA
- $I_{Out\ (Max.)}$ with power supply at 24 V DC: 100 mA
- Accuracy: ±1 % FS* ±0,05 %/ °C

Power Supply
- Power supply (external): 8 ... 24 V DC

Electrical Connections
- Sensor: 4-Pin, M8, plug
  (Female with screw-in connections included with delivery)
- External power supply: 3-Pin, female
- USB: 4-Pin, female
- Analog: 5-Pin, female
- CAN: 5-Pin, M12

* FS = Full Scale
SPEEDCON is a trademark of PHOENIX CONTACT GmbH & Co. KG

CAN Hydraulic Test Equipment

All available individual components for the PPC Pad hydraulic tester, with their ordering codes, are listed below. They can be configured by the customer using this form. In the list, the components are sorted according to application areas/tasks to provide a better overview. For custom kits, please contact STAUFF.

** Pressure peaks up to 1000 bar / 14500 PSI

All hydraulic testers (not PPC-Pad-101) and sensors are available in calibrated version. Please add -CAL to the order code.

Group	Description	Order Codes	Page
1. Hydraulic Tester PPC-Pad	Hydraulic Tester PPC-Pad-101 with 2 CAN Networks, incl. Accessories	**PPC-Pad-101**	D28
	Hydraulic Tester PPC-Pad-102 with 2 CAN Networks and 3 Analog Sensor Inputs, incl. Accessories	**PPC-Pad-102**	D28
	Hydraulic Tester PPC-Pad-103 with 2 CAN Networks and 6 Analog Sensor Inputs, incl. Accessories	**PPC-Pad-103**	D28
2. Hydraulic Tester PPC-Pad-SET	Hydraulic Tester PPC-Pad-SET-101 with 2 CAN Networks, incl. Accessories, in Case with Cables	**PPC-Pad-SET-101**	D29
	Hydraulic Tester PPC-Pad-SET-102 with 2 CAN Networks and 3 Analog Sensor Inputs, incl. Accessories, in Case with Cables	**PPC-Pad-SET-102**	D29
	Hydraulic Tester PPC-Pad-SET-103 with 2 CAN Networks and 6 Analog Sensor Inputs, incl. Accessories, in Case with Cables	**PPC-Pad-SET-103**	D29
3. Pressure Measurement (for connecting and extension cables for Measuring Transmitters, see point 6)	**Pressure Transmitter G 1/2** (without Connecting Cable) **for CAN Networks**		
	Pressure range from -1 ... 16 bar / -14.5 ... 232 PSI relative pressure	**PPC-CAN-PT-016**	D33
	Pressure range from 0 ... 60 bar / 0 ... 870 PSI absolute pressure	**PPC-CAN-PT-060**	D33
	Pressure range from 0 ... 160 bar / 0 ... 2321 PSI absolute pressure	**PPC-CAN-PT-150**	D33
	Pressure range from 0 ... 400 bar / 0 ... 5801 PSI absolute pressure	**PPC-CAN-PT-400**	D33
	Pressure range from 0 ... 600 bar / 0 ... 8702 PSI absolute pressure	**PPC-CAN-PT-600**	D33
	Pressure range from 0 ... 600 bar / 0 ... 8702 PSI absolute pressure **	**PPC-CAN-PT-601**	D33
	Connection Adaptors		
	Adaptor G 1/2 to M16 x 2 (STAUFF Test 20)	**SDA20-G1/2-C6F**	D33
	Adaptor M 16 x 2 to M16 x 1,5 (STAUFF Test 20 to STAUFF Test 15)	**SAD20/15-P-C6F**	D33
	Adaptor M 16 x 2 to S12,65 x 1,5 (STAUFF Test 20 to STAUFF Test 12)	**SAD20/12-P-C6F**	D33
	Adaptor M 16 x 2 to plug-in (STAUFF Test 20 to STAUFF Test 10)	**SAD20/10-P-C6F**	D33
4. Flow Measurement (for connecting and extension cables for measuring transmitters, see point 6)	**SFM Flow Meters with Integrated Signal Converter**		
	Measuring range from 1 ... 15 l/min / .3 ... 3.9 US GPM	**PPC-CAN-SFM-015**	D34
	Measuring range from 4 ... 60 l/min / 1 ... 15.9 US GPM	**PPC-CAN-SFM-060**	D34
	Measuring range from 6 ... 150 l/min / 1.6 ... 39.6 US GPM	**PPC-CAN-SFM-150**	D34
	Measuring range from 10 ... 300 l/min / 2.7 ... 79 US GPM	**PPC-CAN-SFM-300**	D34
	Measuring range from 20 ... 600 l/min / 5.3 ... 158 US GPM	**PPC-CAN-SFM-600**	D34
5. Miscellaneous measurements	Frequency Converter (PPC-Pad only)	**PPC-CAN-FR**	D35
6. Connecting Cables for Measuring Transmitters with CAN Connection for CAN Networks	Connecting Cable 0,5 m / 1.64 ft CAN Connection	**PPC-CAN-CAB0.5**	D35
	Connecting Cable 2 m / 6.65 ft CAN Connection	**PPC-CAN-CAB2**	D35
	Connecting Cable 5 m / 16.40 ft CAN Connection	**PPC-CAN-CAB5**	D35
	Connecting Cable 10 m / 32.81 ft CAN Connection	**PPC-CAN-CAB10**	D35
	Connecting Cable 10 m / 65.62 ft CAN Connection	**PPC-CAN-CAB20**	D35
	Y-splitter incl. 0,3 / .98 ft CAN Connection	**PPC-CAN-CAB-Y**	D35
	CAN Terminating Resistor	**PPC-CAN-R**	D35
9. PC Connection and Software	PC Software and PC Adaptor for PPC-04/2 (RS-232 connection)	**PC-SET PPC-04-SW-CAB**	D35
	PC Software and USB Connection lead for PPC-06/08-plus	**PC-SET PPC-06/08-plus-SW-CAB**	D35
	Adaptor Cabel RS-232 to USB for PPC	**PPC-04/12-RS232-to-USB-CAB**	D35
10. Accessories and Spare Parts	PPC-Pad Case (with individual insert)	**PPC-Pad case**	D29

Laser Particle Counter ▪ Type LasPaC II



Fluid analysis is a crucial component of any oil management program. Early detection of potential problems can prevent costly repairs and downtime. The LasPaC II makes it possible to detect the ISO Cleanness levels of the hydraulic media.

Characteristics

The LasPaC II devices feature a twin laser system and eight channels for different particle sizes in order to gurantee high accuracy and repeatability. These compact unit are easy to handle for mobile and inline applications for systems with pressures up to 400 bar / 5801 PSI.
The LasPaC II is available in three different versions:

LasPaC II-P: Portable Laser Particle Counter
The LasPaC II-P is a fully equipped portable laser particle counter.
The LasPaC II-P features a complete QWERTY keyboard, an integrated thermal printer, an internal rechargeable battery and a large LCD display.

LasPaC II-M: Mobile Laser Particle Counter
The LasPaC II-M is a highly accurate laser particle counter. With a competitive price, the LasPaC II-M is the best compromise between lower cost and briliant accuracy/reliability.

LasPaC II-I: Inline Laser Particle Counter
The LasPaC II-I is an laser particle counter, which is suitable for all applications where continuous monitoring is required.

All LasPaC II devices have an internal data memory and are available within the accompanying Windows® based software package for reports and data downloads.

Overview

					
Options	**LasPaC II-P (Portable)**	**LasPaC II-M (Mobile)**	**LasPaC II-I (Inline)**	**Bottle Sampler 110**	**Bottle Sampler 250**
Laser Type	Twin-Laser	Twin-Laser	Twin-Laser	-	-
Analysis Range	8 channels (4,6,14,21,25,38,50,68 µm$_{(c)}$)	8 channels (4,6,14,21,25,38,50,68 µm$_{(c)}$)	8 channels (4,6,14,21,25,38,50,68 µm$_{(c)}$)	-	-
Power Supply	External	External	External	-	-
Battery Option	Internal	Internal	-	-	-
Display	Integrated (large)	Integrated (small)	External (optional)	-	-
Keyboard	Integrated	-	-	-	-
Printer	Integrated	-	-	-	-
Data Storage	Internal (for approximately 600 tests)	Internal (for approximately 600 tests)	Internal (for approximately 600 tests)	-	-
Computer Interface	RS-232	RS-232	RS-232 (RS 485 on request)	-	-
Fluid Preparation	-	-	-	Integrated vacuum/pressure pump	Integrated vacuum/pressure pump
Maximal Bottle Size	-	-	-	110 ml	250 ml
Compatible with	-	-	-	Mineral oil and petroleum based fluids	Mineral oil and petroleum based fluids or phosphate ester
Sample-taking Equipment	-	-	-	Fluid sample pump with hoses	-

Laser Particle Counter ▪ Type LasPaC II

Features & Options: LasPaC II (General)

Mobile - Compact and Convenient
The LasPaC II-P (Portable), the LasPaC II-M (Mobile) and all its accessories are supplied in a light-weight rugged industrial case.

This user-friendly portable case is waterproof and resistant against all common fluids.

Accuracy - Twin-laser, 100% Coverage
In all STAUFF laser particle counting devices, the fluid passes through the measuring cell and through a laser beam. The light from the laser is evaluated by a photo diode.

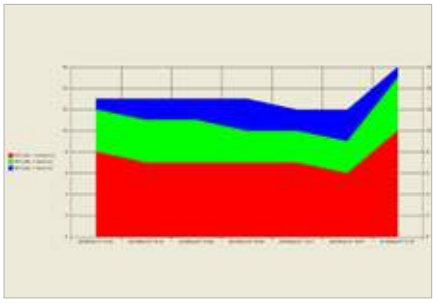
As the fluid passes through the laser beam the amount of light changes. These changes are directly proportional to size of the particles, and the total volume of particles. In many other particle counters only part of the measuring cell is lighted by the laser, thus only a part of the total amount of particles are registered, and the result is projected.

In contrast, the measuring cell of the LasPaC II is completely examined, and all particles are registered. In addition to this, a second laser is used to analyze all particles sizes smaller than 6 $\mu m_{(c)}$.

Additionally, the integrated booster cylinder allows very precisely dosage of the test fluids. This ensures a very high accuracy with excellent repeatability.

Functional - Calibration to ISO 11 171
The LasPaC II devices are calibrated with ISO Medium Test Dust (MTD) based on the ISO 11 171:1999 calibration standard.

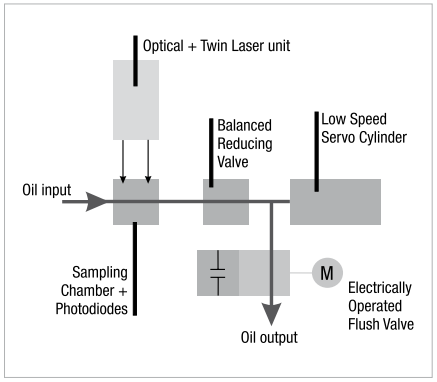
STAUFF particle counters meet the new ISO 4406 cleanliness classification codes and provide results in the NAS 1638 and the SAE 4059 codes.



For any Type of Application - Large Pressure Range
A big advantage of the LasPaC II devices is the wide pressure range: Low pressure measurements starting with 2 bar / 29 PSI and high pressure tests up to 400 bar / 5801 PSI result in reliable readings. Many other products available today require special add-on devices or pressure cartridges which need to be recharged for this.

The test hoses, which are provided with the device, allow an easy connection to common test couplings M16 x 2 (STAUFF TEST 20 or comparable).

These units are also available for use with Phosphate Ester (e.g. Skydrol®) and Water Glycol fluids.
Please contact STAUFF for details.



Global Use - Variable Voltage Supply
The external power supply unit provides most variable voltage ranges of 110 ... 240 V AC. European, UK and US plug adapters ensure a worldwide applicability of the LasPaC II.

Always Secure - External Alarms
The LasPaC II-P and LasPaC II-I devices offer the opportunity to define different alarm levels.

It is possible to configure two separate contamination alarm levels (e.g. clean alarm level and dirt alarm level). When set, an alarm indicator is given to external devices (e.g. indicator light, offline-filter) if the alarm level is reached.

Making the Connection - Downloading with RS-232 Interface and USB Adaptor
The measured data can be downloaded onto any PC or laptop computer via the RS-232 interface or alternativley via a USB adaptor.

The LasPaC II software supports an easy download for data processing of the recorded measurements.

Several diagrams are available and are automatically generated to offer a very clear arrangement of all data for analysis. Data can also be easily exported to Microsoft Excel®.

Always up-to-date - Integrated Clock
An integrated rechargeable battery-operated clock provides the exact date and time which are shown on every printout.

In addition, every download of measured data is marked with date and time as well. The precise time of measurement is documented on all printouts and for all data stored.

Adaptable - Software Updates
The RS-232 (or USB) interface ensures flexibility for future developments in terms of calibration, evaluation and output. Software updates can easily be installed onto the LasPaC II devices.



Cleanliness - High-Speed Flush Valve
To ensure an accurate measurement is taken, the sensor must be cleaned before each test.

The LasPaC II achieves this by means of an electric operated flush valve. This valve can be opened on demand and between tests by simply depressing the flushing valve push button. The optimized design of the flush valve reduces the rinsing process to the minimum requirement, and ensures a quick restart of the next measurement.

For all Applications - High Compatibility
The LasPaC II units are compatible with all Mineral Oil and Petroleum based fluids.
Phosphate Ester (e.g. Skydrol®) and Water Glycol compatible devices are available upon request.
Please contact STAUFF for details.

More Oil Information - The Moisture/ Temperature Sensor
The LasPaC II also offers the option of adding an integral moisture / temperature sensor.

This sensor measures the moisture content of the test fluids (displayed as relative humidity in RH %) and also indicates the current fluid temperature (in °C).

Please note that the moisture/ temperature sensor is not compatible with Phosphate Ester (e.g. Skydrol®) and Water Glycol fluids.
Please contact STAUFF for details.

Optional - Bottle Sampling Unit
Highly aerated fluids may lead to inaccurate results.

Therefore a de-aeration facility has been incorporated into the optional bottle sampling units.

Both sizes (110 ml and 250 ml) of the bottle sampling unit are delivered with an external power supply, and allow the user to properly condition the sample fluid prior to any measurements taken.

Please note that the moisture/ temperature sensor as mentioned above does not work in conjunction with the bottle sampling unit.

Scope of Delivery

Each kit of a laser particle counter STAUFF LasPaC II includes:

- 1x Laser particle counter STAUFF LasPaC II
- 1x LasPaC II-M / LasPaC II-P: Waste hose 2 m / 3.65 ft
  LasPaC II-I: Waste hose 1,5 m / 2.67 ft
- 1x Pressure hose: 1,5 m / 2.67 ft
- 1x Waste bottle (not with LasPaC II-I)
- 1x External power supply including cable with European, UK and USA plug adaptors
- 1x RS-232 connecting cable, 1 m / 1.78 ft including RS-232 to USB converter
- 1x Software CD "LasPaC II View"
- 1x User guide LasPaC II
- 1x User guide LasPaC II View
- 3x Thermal printer paper (only with LasPaC II-P)

Laser Particle Counter ▪ Type LasPaC II-P (Portable)





Light-Weight Rugged Industrial Case



Integrated Printer

Product Description

The LasPaC II-P (Portable) is the most complete way to measure the contamination level of your system.
With the LasPaC II-P you have the ability to measure, analyze and document your results immediately without the need of any additional equipment.

Features

Quick Results - Fast Results and Easy Operation
The integrated complete QWERTY keyboard, a large LCD display and intuitive handling all lead to the easy and quick operation of the LasPaC II Portable.
The optimized flushing process of the LasPaC II-P is quick and effective, and allows for continuously accurate measurements.

Black and White - Integrated Printer
The integrated printer in the LasPaC II-P supports print-outs in the field, thus providing immediate documentation. Every printout confirms date and time of your measurement.

Independent Use - Rechargeable Battery Mode
The integrated rechargeable battery of the LasPaC II-P allows the use of on site measurements, even in the event where access of an external power source is not available. The measurement data is stored in the internal memory of the unit and can be transferred to a computer when required.

Once charged the LasPaC II-P can run approximately 100 tests before recharging is needed again.

Options

- Moisture results as relative humidity (RH %), temperatures in °C
- Phosphate Ester (e.g. Skydrol®) or specific Water Glycol fluids units on request

Order Codes

LasPaC II - P - M - O
① ② ③ ④

① Series and Types

Laser Particle Counter	**LasPaC II**

② Version

Portable	**P**

③ Fluid Compability

Mineral Oil, Petroleum based fluids (standard option)	**M**
Phosphate Ester (e.g. Skydrol®)	**E**
Specific Water Glycol fluids	**G**

④ Moisture/ Temperature Sensor

Without moisture/ temperature sensor	**O**
With moisture/ temperature sensor	**W**

Please note: The moisture/ temperature sensor is not suitable for Phosphate Ester (e.g. Skydrol®) and Water Glycol fluids.

Laser Particle Counter ▪ Type LasPaC II-P (Portable)



Highspeed Flush Valve


Computer Interfaces of the LasPaC II-P


Easy Connection to common Test Couplings

Technical Data

Dimensions and Weight
- L/W/H: 551 x 358 x 226 mm / 21.69 x 14.09 x 8.90 in
- Weight: 13 kg / 28.66 lbs

Keyboard / Printer
- Keyboard: QWERTY keyboard
- Printer: Integrated thermal printer (384 dots per line)

Power Supply
- Voltage range: 110 ... 240 V AC, 12 ... 24 V DC
- European, UK and US power plug adaptors included
- Number of tests before recharging is required: 100

Calibration
- Calibration: ISO Medium Test Dust (MTD) according to ISO 11 171:1999
- Analysis range: ISO 8-24, ISO 4406 Code, NAS 1638 Code 2-12, SAE AS 4059 Code 2-12

Pressure / Viscosity
- Pressure range: 2 ... 400 bar / 29 ... 5801 PSI
- Viscosity range: up to 400 cSt

Laser Sensors
- High accuracy laser: 4 ... 6 µm(c)
- Standard accuracy laser: 6 ... 68 µm(c)
- Measured channels: 4, 6, 14, 21, 25, 38, 50, 68 µm(c)
- The orifice of the sensor has a cross section of 0,9 x 0,9 mm / .04 x .04 in
- The maximum concentration is ISO 4406 Code 24 (160.000 p/ml)

Accessories
- Bottle sampling unit: 110 ml version (only for Mineral Oil and Petroleum based fluids) 250 ml version (for Mineral Oil and Petroleum based fluids; a Phosphate Ester (e.g. Skydrol®) compatible version of the 250 ml unit is available on request.) Please contact STAUFF for details
- Screen filter: Screen filter (500 µm)

Connections
- Hose connections: Test coupling STAUFF Test 20 or comparable (M16 x 2)

Sample Volume
- 8 ml (short)
- 15 ml (normal)
- 30 ml (dynamic)
- 24 ml (bottle sampler)
- 15 ml (continuous)

Permissible Temperature
- Operating: +5 °C ... +80 °C / +41 °F ...+176 °F

Data Output
- Cumulative particle counts, as well as cleanliness classes according to ISO 4406 (1999) / SAE AS 4059 Rev.D (2001) and ISO 4406 (1191) / NAS 1638 (1964)

Max. Concentration
- ISO 24

Accumulator
- Internal rechargeable battery

Data Storage
- 600 tests

Fluid Compability
- Mineral Oil, Petroleum based fluids
- Phosphate Ester and Water Glycol compatible devices on request

Computer Interface
- RS-232 communication port as standard
- USB adaptors included

External Alarm
- External alarm socket with switching outputs max. 24 V DC/AC, 1 A

Software
- Downloading and storage of the data with included “LasPaC II View” software. Further processing with Microsoft Excel® possible.

Laser Particle Counter ▪ Type LasPaC II-M (Mobile)



LasPaC II-M without internal battery



LasPaC II-M with internal battery (standard option)

Product Description

The LasPaC II-M (Mobile) is designed for applications where it is necessary to have a small, light and robust service unit.

Features

Versatile - Lightweight and Convenient
In comparison to the LasPaC II-P, the LasPaC II-M is a more simplified particle counter.

The LasPaC II-M has an internal rechargeable battery (standard version) and offers the same measurement opportunities (excellent accuracy, repeatability and reliability) but does not include the integrated printer, the complete QWERTY keyboard, the large LCD display.

Low Cost - Same Functions for a Budget Price
Without losing the quality in measurement accuracy, reliability and repeatability the LasPaC II-M is a cost effective alternative to the fully equipped LasPaC II-P.

Options

- Moisture results as relative humidity (RH %), temperatures in °C
- Phosphate Ester (e.g. Skydrol®) or specific Water Glycol fluids units on request

Order Codes

LasPaC II - M - M - 0 - B
① ② ③ ④ ⑤

① Type and Series

Laser Particle Counter	**LasPaC II**

② Version

Mobile	**M**

③ Fluid Compability

Mineral Oil, Petroleum based fluids (standard option)	**M**
Phosphate Ester (e.g. Skydrol®)	**E**
Specific Water Glycol fluids	**G**

④ Moisture/ Temperature Sensor

Without moisture/ temperature sensor	**0**
With moisture/ temperature sensor	**W**

Please note: The moisture/ temperature sensor is not suitable for Phosphate Ester (e.g. Skydrol®) and Water Glycol fluids.

⑤ Battery

With internal rechargeable battery (standard option)	**B**
Without internal rechargeable battery	**0**

Laser Particle Counter ▪ Type LasPaC II-M (Mobile)



LasPaC II-M with small Bottle Sampler



Display and Buttons

Technical Data

Dimensions and Weight
- L/W/H: 340 x 295 x 152 mm / 13.40 x 11.61 x 5.98 in
- Weight: 4,75 kg / 10.47 lbs

Power Supply
- Voltage range: 110 ... 240 V AC, 12 ... 24 V DC
- European, UK and US power plug adaptors included
- Number of tests before recharging is required: 60

Calibration
- Calibration: ISO Medium Test Dust (MTD) according to ISO 11 171:1999
- Analysis range: ISO 8-24, ISO 4406 Code, NAS 1638 Code 2-12, SAE AS 4059 Code 2-12

Pressure / Viscosity
- Pressure range: 2 ... 400 bar / 29 ... 5801 PSI
- Viscosity range: up to 400 cSt

Laser Sensors
- High accuracy laser: 4 ... 6 µm(c)
- Standard accuracy laser: 6 ... 68 µm(c)
- Measured channels: 4, 6, 14, 21, 25, 38, 50, 68 µm(c)
- The orifice of the sensor has a cross section of 0,9 x 0,9 mm / .04 x .04 in
- The maximum concentration is ISO 4406 Code 24 (160.000 p/ml)

Accessories
- Bottle sampling unit: 110 ml version (only for Mineral Oil and Petroleum based fluids) 250 ml version (for Mineral Oil and Petroleum based fluids; a Phosphate Ester (e.g. Skydrol®) compatible version of the 250 ml unit is available on request.) Please contact STAUFF for details.
- Screen filter: Screen filter (500 µm)

Connections
- Hose connections: Test coupling STAUFF Test 20 or comparable (M16 x 2)

Sample Volume
- 8 ml (short)
- 15 ml (normal)
- 30 ml (dynamic)
- 24 ml (bottle sampler)
- 15 ml (continuous)

Permissible Temperature
- Operating: +5 °C ... +80 °C / +41 °F ...+176 °F

Data Output
- Cumulative particle counts, as well as cleanliness classes according to ISO 4406 (1999) / SAE AS 4059 Rev.D (2001) and ISO 4406 (1191) / NAS 1638 (1964)

Max. Concentration
- ISO 240

Data Storage
- 600 tests

Fluid Compability
- Mineral Oil, Petroleum based fluids
- Phosphate Ester and Water Glycol compatible devices on request

Computer Interface
- RS-232 communication port as standard
- USB adaptors included

Software
- Downloading and storage of the data with included “LasPaC II View” software. Further processing with Microsoft Excel® possible.

Internal Rechargeable Battery
- Standard option with internal rechargeable battery
- 60 measurements possible before recharging

Laser Particle Counter ▪ Type LasPaC II-I (Inline)





Front / Bottom View of the STAUFF LasPaC II-I

Product Description

The LasPaC II-I (Inline) unit is designed for hydraulic applications, where continuous monitoring is essential. It is installed permanently in a hydraulic system.

Please note that the LasPaC II-I needs a minimum working pressure of 2 bar / 29 PSI for reliable particle counting.

The LasPaC II-I does not have the QWERTY keyboard, the LCD display, and an internal rechargeable battery.

All test results are saved in the integrated memory and can be downloaded to a PC or laptop computer with the RS-232 interface or USB adapter.

Also, the configuration of the LasPaC II-I has to be done with a PC or laptop computer.

Features

Accessory - Remote Display
For a direct display of the measured data an optional remote display is available for the LasPaC II-I.

This device also offers the opportunity to flush the LasPaC II-I and to start and stop the measurement by use of the three push buttons.

The standard cable length of the remote display is 2 m / 6.56 ft.
A cable with a length of 5 m / 16.40 ft is available on request.

Hazard Conditions - Rugged Aluminium Case
The LasPaC II-I inline unit has a rugged, powder coated Aluminum case which can be easily installed, even in hazardous conditions.

Options

- Moisture results as relative humidity (RH %), temperatures in °C
- Phosphate Ester (e.g. Skydrol®) or specific Water Glycol fluids units on request
- ATEX (Zone II Category 3G rating) is available. Contact STAUFF for more information.

Order Codes

LasPaC II	-	I	-	M	-	232	-	D3	-	W	-	30
①		②		③		④		⑤		⑥		⑦

① Series and Type

Laser Particle Counter	**LasPaC II**

② Version

Inline	**I**

③ Fluid Compability

Mineral Oil, Petroleum based fluids (standard option)	**M**
Phosphate Ester (e.g. Skydrol®)	**E**
Specific Water Glycol fluids	**G**

④ Computer Interface

RS-232 computer interface (standard option)	**232**
RS-485 computer interface	**485**

⑤ Display Mode

PC driven (standard option)	**D3**
Remote module + PC driven	**D2**
Remote visual indicator (red/green) + PC driven	**D5**
Customer-specific display (e.g. Modbus)	**X**

⑥ Moisture/ Temperature Sensor

Without moisture/ temperature sensor	**0**
With moisture/ temperature sensor	**W**

Please note: The moisture/ temperature sensor is not suitable for Phosphate Ester (e.g. Skydrol®) and Water Glycol fluids.

⑦ Design Code

Inlet pressure: 2 ... 400 bar / 29 ... 5801 PSI Drain reservoir/system: Atmosheric, zero back pressure	**30**
Inlet pressure: 10 ... 400 bar / 145 ... 5801 PSI Drain reservoir/system: Back pressure not exceeding 1 bar / 14 PSI	**31**

Laser Particle Counter ▪ Type LasPaC II-I (Inline)



Rear / Top View of the STAUFF LasPaC II-I



Remote Display for the STAUFF LasPaC II-I

Technical Data

Dimensions and Weight
- LxWxH: 120 x 275 x 250 mm / 4.72 x 10.83 x 9.84 in
- Weight: 4,80 kg / 10.58 lbs

Power Supply
- Voltage range: 110 ... 240 V AC, 12 ... 24 V DC
- European, UK and US power plug adaptors included

Calibration
- Calibration: ISO Medium Test Dust (MTD) according to ISO 11 171:1999
- Analysis range: ISO 8-24, ISO 4406 Code, NAS 1638 Code 2-12, SAE AS 4059 Code 2-12

Pressure / Viscosity
- Pressure range: Series 30: 2 ... 400 bar/ 29 ... 5801 PSI; Series 31: 10 ... 400 bar/ 145 ... 5801 PSI
- Viscosity range: up to 400 cSt

Laser Sensors
- High accuracy laser: 4 ... 6 µm(c)
- Standard accuracy laser: 6 ... 68 µm(c)
- Measured channels: 4, 6, 14, 21, 25, 38, 50, 68 µm(c)
- The orifice of the sensor has a cross section of 0,9 x 0,9 mm / .04 x .04 in
- The maximum concentration is ISO 4406 Code 24 (160.000 p/ml)

Accessories
- Bottle sampling unit: 110 ml version (only for Mineral Oil and Petroleum based fluids) 250 ml version (for Mineral Oil and Petroleum based fluids; a Phosphate Ester (e.g. Skydrol®) compatible version of the 250 ml unit is available on request.) Please contact STAUFF for details.
- Screen filter: Screen filter (500 µm)

Connections
- Hose connections: Test coupling STAUFF Test 20 or comparable (M16 x 2)

Sample Volume
- 8 ml (short)
- 15 ml (normal)
- 30 ml (dynamic)
- 24 ml (bottle sampler)
- 15 ml (continuous)

Permissible Temperature
- Operating: +5 °C ... +80 °C / +41 °F ...+176 °F

Data Output
- Cumulative particle counts, as well as cleanliness classes according to ISO 4406 (1999) / SAE AS 4059 Rev.D (2001) and ISO 4406 (1191) / NAS 1638 (1964)

Max. Concentration
- ISO 24

Data Storage
- 600 tests

Fluid Compability
- Mineral Oil / Petroleum based fluids
- Phosphate Ester and Water Glycol compatible devices on request

Computer Interface
- RS-232 communication port as standard
- RS-485 on request
- USB adaptors included

Software
- Downloading and storage of the data with included “LasPaC II View” software. Further processing with Microsoft Excel® possible.

External Alarm
- seperate wires in connector cable (max. 24 V DC/AC, 1A)

Protection Rating
- IP 55 protection rating: Dust protected and protected against water jets

Laser Particle Counter ▪ Type Bottle Sampler



Bottle Sampling Unit 250 ml



Bottle Sampling Unit 110 ml



Bottle Sampling Unit 110 ml and Accessories

Product Description

Analysis Everywhere - Bottle Sampling Unit
If a direct particle count on your system is not possible, the LasPaC II bottle sampler units allow you to take measurement samples for analysis at a later time.

Conditioning - The De-aeration Facility
A highly aerated fluid may lead to inaccurate results; therefore a de-aeration process has been incorporated into the bottle sampling units.
By evacuating the air from the sampling chamber, aeration within the fluid is removed, and the fluid is properly conditioned prior to sampling.

Your Choice - 110 ml or 250 ml Size
STAUFF offers two sizes of bottle sampling units for the LasPaC II devices: the 110 ml and the 250 ml units.

The 110 ml unit is supplied in an extra case including various accessories such as power supply, sampling hoses, pressure hoses, bottles (sample and waste) and adapters. It is designed for mobile applications and is only compatible with Mineral Oil and Petroleum based fluids.

The standard version of the 250 ml unit is compatible with Mineral Oil and Petroleum based fluids; a Phosphate Ester (e.g. Skydrol®) compatible version of the 250 ml unit is available on request. Please contact STAUFF for details.

The 250 ml bottle sampling unit is delivered with the required power supply.

Please note that the moisture / temperature sensor does not work in combination with bottle sampler devices.

Order Codes

LasPaC II - Bottle Sampler 110
① ②

① Type and Series

Laser Particle Counter	**LasPaC II**

② Bottle Sampling Unit

110 ml Bottle Sampling Unit suitable for Mineral Oil and Petroleum based fluids only	**Bottle Sampler 110**
250 ml Bottle Sampling Unit suitable for Mineral Oil and Petroleum based fluids only	**Bottle Sampler 250**
250 ml Bottle Sampling Unit suitable Phosphate Ester (e.g. Skydrol®)	**Bottle Sampler 250-E**

Moisture / Temperature Sensor

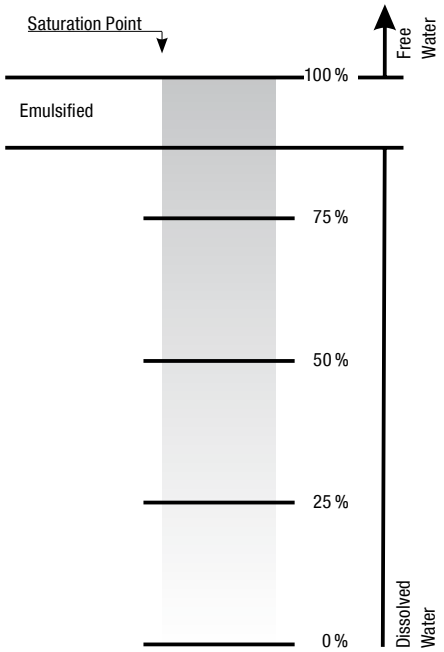
Saturation Levels
Since the effects of free (also emulsified) water are more harmful than those of dissolved water, water levels should remain always well below the saturation point.

However, even water in solution can cause damage, and therefore every reasonable effort should be made to keep saturation levels as low as possible.

There is no such thing as too little water.
As a guideline, we recommend maintaining saturation levels below 50 % in all equipment.

Different oils have different saturation levels, and % saturation is the best and most practical measurement.

These results can be converted to ppm (parts per million), if the oil type saturation / temperature characteristic is known.



Product Description

More Oil Analysis - Oil Saturation and Temperature
In Mineral Oils and non-aqueous fire resistant fluids, water is undesirable. Once the water exceeds a saturation level (about 500 ppm for Mineral Oils) the fluid starts to appear hazy. Above this level there is a danger of free water accumulating in the system. This can lead to corrosion and accelerated wear.

As an option, all LasPaC II devices provide accurate and repeatable measurement of the saturation level of water in oil with the moisture / temperature sensor. The sensor is located internally in a specially designed housing and is positioned in the low pressure constant flow line.

Simplicity - Saturation Level as a Percentage
Different oils have different saturation levels. For this reason, measurements in % saturation is the best and most practical way. Of course these results can be converted to ppm (parts per million) if the oil type saturation / temperature characteristics are known.

Additional Information - Oil Temperature Readings
Beside the saturation level the optional moisture / temperature sensor of the LasPaC II units has the ability to measure the fluid temperature. This allows to provide a reference temperature for the RH (relative humidity / % saturation of water in oil) readings.

Both results, RH % and °C, are displayed on the main / test progress screen and on the printed analysis.

Please note: Due to the temperature gradient existing between the system tapping point and the RH / temperature module, the temperature reading can be 5° to 10° less than the actual system temperature, depending on operating conditions. The moisture / temperature sensor is not suitable for bottle sampling.

Laser Particle Counter ▪ Accessories





Order Codes

Accessories / Spare Parts

①

① Type of Accessories / Spare Parts

Waste hose 2 m / 6.56 ft	**LasPaC II - Waste hose 2m**
Pressure hose 1,5 m / 4.92 ft	**SMS-20-1500-A-C6F**
100 ml certified clean bottle (5 pieces)	**LasPaC II - Bottle 100-C Set**
250 ml certified clean bottle (5 pieces)	**LasPaC II - Bottle 250-C Set**
100 ml glass sample bottle (5 pieces)	**LasPaC II - Bottle 100 Set**
250 ml glass sample bottle (5 pieces)	**LasPaC II - Bottle 250 Set**
Printer paper LasPaC II-P (5 pieces)	**LasPaC II - P-Printer Paper Set**
RS 232 to USB converter	**Adapter PPC-04/12-RS232-to-USB-CAB**
Screen filter	**LasPaC II - Screen Filter**

Product Description: Screen Filter

An optional Screen Filter is available for heavily contaminated systems. The filter device is assembled directly to the supply line and allows particle counts in ambient conditions where normally the contamination is too high for a reliable test.

The Stainless Steel Filter has a mesh of 500 µm and is cleanable.

Laser Particle Counter ▪ Technical Data

			
Type	**LasPaC II-P (Portable)**	**LasPaC II-M (Mobile)**	**LasPaC II-I (Inline)**
Dimensions (mm/in) (W x D x H)	551 x 358 x 226 21.69 x 14.09 x 8.90	340 x 295 x 152 13.40 x 11.61 x 5.98	120 x 275 x 250 4.72 x 10.83 x 9.84
Weight (kg/lbs)	13 28.66	4,75 10.47	4,80 10.58
Keyboard	QWERTY keyboard integrated	-	-
Printer	Thermal printer integrated (384 dots per line)	-	-
Viscosity Range	1 ... 400 cSt	1 ... 400 cSt	1 ... 400 cSt
Calibration	MTD, ISO 11 171:1999	MTD, ISO 11 171:1999	MTD, ISO 11 171:1999
Analysis Range	ISO 8-24, ISO 4406 Code, NAS 1638 Code 2-12, SAE AS 4059 Code 2-12	ISO 8-24, ISO 4406 Code, NAS 1638 Code 2-12, SAE AS 4059 Code 2-12	ISO 8-24, ISO 4406 Code, NAS 1638 Code 2-12, SAE AS 4059 Code 2-12
Sensitivity	4, 6, 14, 21, 25, 38, 50, 68 $\mu m_{(c)}$	4, 6, 14, 21, 25, 38, 50, 68 $\mu m_{(c)}$	4, 6, 14, 21, 25, 38, 50, 68 $\mu m_{(c)}$
Sample Volume	8 ml (short) 15 ml (normal) 30 ml (dynamic) 24 ml (bottle sampler) 15 ml (continuous)	8 ml (short) 15 ml (normal) 30 ml (dynamic) 24 ml (bottle sampler) 15 ml (continuous)	8 ml (short) 15 ml (normal) 30 ml (dynamic) 24 ml (bottle sampler) 15 ml (continuous)
Pressure Range (bar/PSI)	2 ... 400 29 ... 5801	2 ... 400 29 ... 5801	Series 30: 2 ... 400 29 ... 5801 Series 31: 10 ... 400 145 ... 5801
Operating Temperature (°C/°F)	+5 ... +80 +41 ... +176	+5 ... +80 +41 ... +176	+5 ... +80 +41 ... +176
Max. Concentration	ISO 24	ISO 24	ISO 24
Power Supply	110 ... 240 V AC 12 ... 24 V DC	110 ... 240 V AC 12 ... 24 V DC	110 ... 240 V AC 12 ... 24 V DC
Accumulator	Internal rechargeable battery	Internal rechargeable battery	-
Data Storage	600 tests	600 tests	600 tests
Fluid Compability	Mineral Oil / Petroleum based fluids; Phosphate Ester and water glycol compatible devices on request	Mineral Oil / Petroleum based fluids; Phosphate Ester and Water Glycol compatible devices on request	Mineral Oil / Petroleum based fluids; Phosphate Ester and Water Glycol compatible devices on request
Computer Interface	RS-232	RS-232	RS-232
External Alarm	External alarm socket	-	Signal in connector cable
Hose Connections	Test coupling STAUFF Test 20 or comparable (M16 x 2)	Test coupling STAUFF Test 20 or comparable (M16 x 2)	Test coupling STAUFF Test 20 or comparable (M16 x 2)
Accessories	Moisture/temperature sensor Bottle sampling unit (110 ml / 250 ml) Screen filter (500 µm)	Moisture/temperature sensor Bottle sampling unit (110 ml / 250 ml) Screen filter (500 µm)	Moisture/temperature sensor Bottle sampling unit (110 ml / 250 ml) Screen filter (500 µm)

Laser Particle Monitor ▪ Type LPM-1

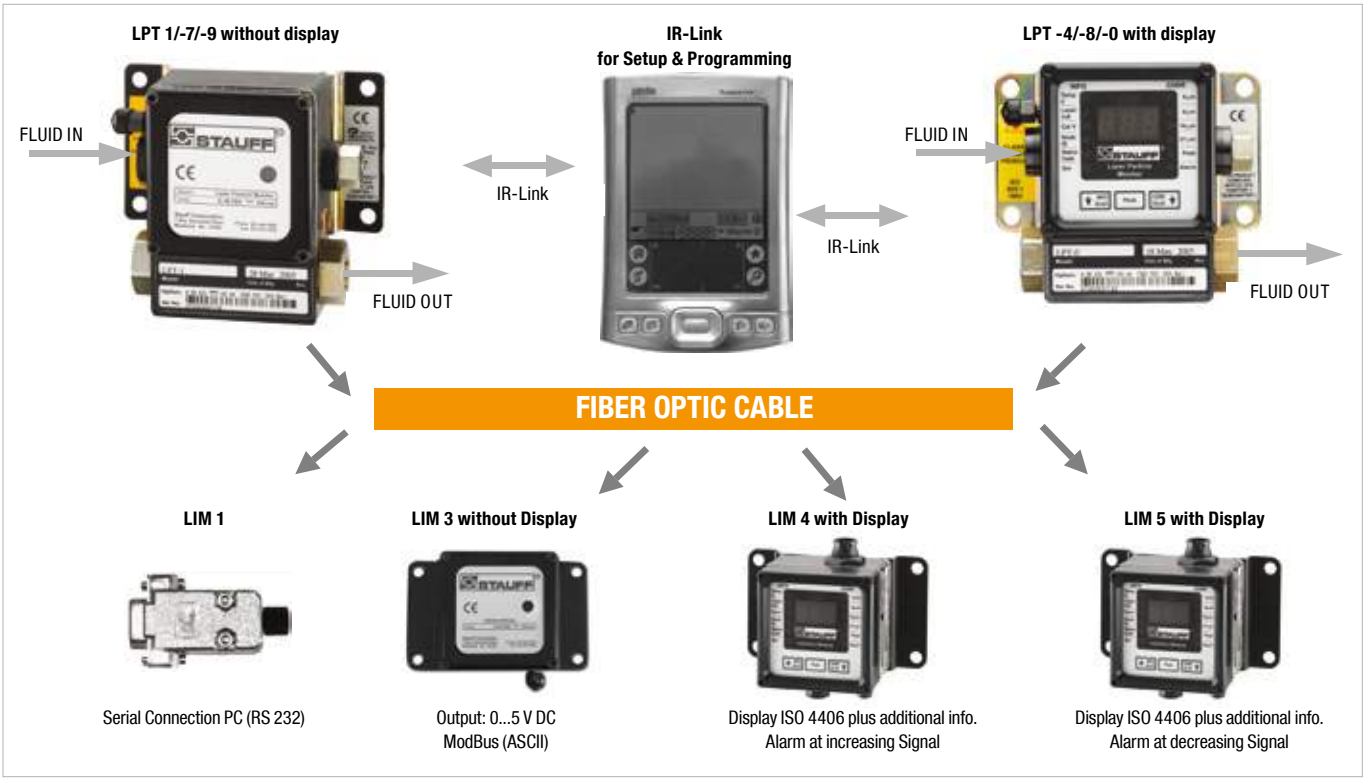


Product Description

The Laser Particle Monitor System LPM-1 is a laser based 4-channel inline particle monitor designed for the continuous monitoring of particle contamination.
The LPM-1 provides cumulative particle concentration information at >4 $\mu m_{(c)}$, >6 $\mu m_{(c)}$ and >14 $\mu m_{(c)}$ sizes applicable to the ISO 4406, ISO 11943 und ISO 11171 requirements for optical particle counters.
A > 21 $\mu m_{(c)}$ channel is also provided for larger particle concentration information. Machine operators are alerted to changes in particle contamination levels in a machine's fluid by the indications provided from the LPM-1.

The contamination level can be shown on the display or can be transmitted via the RS-232 serial port to a personal computer. With the ModBus-serial port the data can be transferred into a computer network or to an external display. The LPT Particle Transducer is configured via the IR-port on a Palm.
The LPM-1 system consists of a Laser Particle Transducer LPT and a Laser Interface Module LIM.

Functional diagram



Order Codes

LPM-1 - T1 - M4 - DAV
① ② ③ ④

① Series and Type

Laser Particle Monitor	**LPM-1**

② Laser Particle Transducer (LPT)

Without LPT	**0**
LPT-1; 28 ... 500 bar / 400 ... 7250 PSI; without display	**T1**
LPT-4; 28 ... 500 bar / 400 ... 7250 PSI; with display	**T4**
LPT-7; 3,4 ... 83 bar / 50 ... 1200 PSI; without display	**T7**
LPT-8; 3,4 ... 83 bar / 50 ... 1200 PSI; with display	**T8**
LPT-9; 1,4 ... 13,8 bar / 20 ... 200 PSI; without display	**T9**
LPT-0; 1,4 ... 13,8 bar / 20 ... 200 PSI; with display	**T0**

③ Laser Interface Module (LIM)

Without LIM	**0**
LIM-1; PC connection RS-232 serial port	**M1**
LIM-3; 8-channel (0 V ... 5 V DC) output, Modbus PC connection RS-485 serial port	**M3**
LIM-4; LED display with alarm contacts (for exceeding the set alarm level)	**M4**
LIM-5; LED display with alarm contacts (for falling below the set alarm level)	**M5**

④ Dynamic Application Valve (DAV)

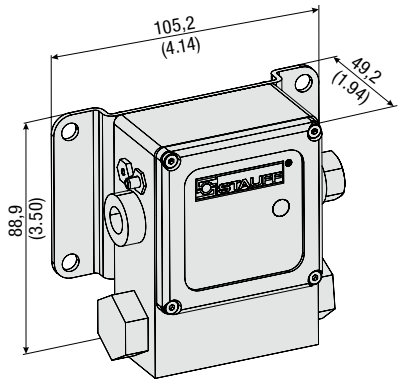
Without Dynamic Application Valve	**0**
Dynamic Application Valve	**DAV**

Scope of Delivery

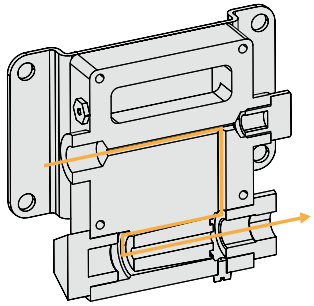
Each kit of LPM-1 includes:

- 1x Laser Particle Transducer LPT (optional)
  - includes 3 m / 9.84 ft flying lead power cable (9 ... 36 V DC required, not supplied)
- 1x Laser Interface Module LIM (optional)
  - LIM-1, includes 6 m / 19.69 ft interconnecting fiber optic cable
  - LIM-3, includes 6 m / 19.69 ft interconnecting fiber optic cable and two 3 m / 9.84 ft power cable with 3-Pin connector
  - LIM-4, includes 6 m / 19.69 ft interconnecting fiber optic cable and one breakout cable with 15-Pin connector
  - LIM-5, includes 6 m / 16.69 ft interconnecting fiber optic cable and one breakout cable with 15-Pin connector
- 1x Quick Start Guide
- 1x Operating Manual
- 1x Software
  - includes DDE server
  - hex and terminal logger for RS-232
  - Palm shareware

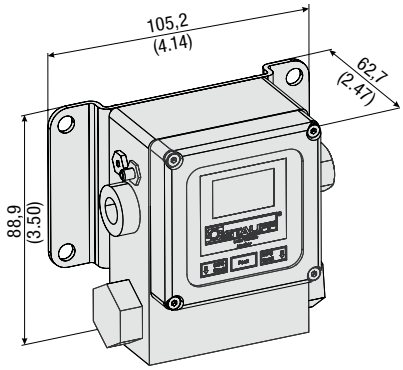
Laser Particle Transducer ▪ Type LPT-1



Laser Particle Transducer LPT-1/-7/-9 without display.



Flow Pattern



Laser Particle Transducer LPT-4/-8/-0 with display.

Technical Data

Channel Sizes
- 4, 6, 14 and 21 µm(c) (ISO MTD/ISO 11171)

Light Source
- Laser diode

Sampling
- Continuos online monitoring

Reproducibility
- ± 0.5 ISO code (ISO 4406)

Display
- Optional local display available; presents ISO codes and alarms

Power Supply
- 9 ... 36 V DC @ 150 mA (power must be supplied to instrument for operation)

Electrical Data and Output
- RS-232; RS-485
- 0 ... 5 V DC
- Modbus
- Alarms
- Local and remote displays

Reports
- Particles/ml; ISO 4406 codes 4, 6, 14 and additional 21 µm(c) (ISO MTD/ISO 11171)

Process Connections
- SAE-4 (7/16–20 UNF)

Sensor Flow Rate
- 50 ... 500 ml/min (0.01 ... 0.1 US GPM) through the viewing area. All units offer integrated flow rate monitoring wit alarms.

Media Compatibility
- Suitable for mineral based hydraulic and lubrication oils; compatibility with synthetic media (Phosphate Ester) on request

Viscosity
- 2 ... 424 cSt at ambient temperature of +25 °C ±2 °C / +77 °F ±3.6 °F

Operating Pressure
- 1,4 bar ... 500 bar / 20 PSI ... 7250 PSI

Permissible Temperature
- Storage: -40 °C ... +85 °C / -40 °F ... +185 °F
- Ambient: -20 °C ... +60 °C / -4 °F ... +140 °F
- Operating: -10 °C ... +60 °C / +14 °F ... +140 °F

Protection Rating
- IP 67 protection rating: Dust tight and protected against powerful water jets; even immersion (up to 1 m / 3.28 ft) in water is possible under defined conditions of pressure and time

Product Description

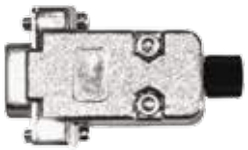
The Laser Particle Transducer (LPT) contains the sensing device and electronics for detecting the level of contamination.
The laser based sensor uses light blocking technology for particle detection whereby particles passing through an optical flow cell block an amount of laser light proportional to the particle size.
The resultant particle concentration data from the Laser Particle Transducer (LPT) are sent to the Laser Interface Module (LIM) via a fibre optic cable. The configuration of the Laser Particle Transducer (LPT) has to be done through the IrDA port of any Palm with IRA capabilities.
The Laser Particle Transducer (LPT) has a flow inhibitor downstream of the sensor the restricts and controls the fluid flow for any stable pressure within the models specified flow range. For use with a dynamic or changing inlet pressure, please use the additional Dynamic Apllication Valve (DAV, please see on page D52).
The pressure is reduced to near atmospheric for return to the hydraulic reservoir. The inlet pressure ranges from 1,4 bar to 500 bar / 20 PSI to 7250 PSI in three models.
The Laser Particle Transducer (LPT) is optionally available with or without a LED display.
The three digit display shows the selected ISO code value or other function parameters.

The following types of Laser Particle Transducers (LPT) are available:

- **LPT-1** 28 ... 500 bar (400 ... 7250 PSI), without LED display
- **LPT-4** 28 ... 500 bar (400 ... 7250 PSI), with LED display
- **LPT-7** 3,4 ... 83 bar (50 ... 1200 PSI), without LED display
- **LPT-8** 3,4 ... 83 bar (50 ... 1200 PSI), with LED display
- **LPT-9** 1,4 ... 13,8 bar (20 ... 200 PSI), without LED display
- **LPT-0** 1,4 ... 13,8 bar (20 ... 200 PSI), with LED display

Dimensional drawings: All dimensions in mm (in).

Laser Interface Module ▪ Type LIM



Laser Interface Module LIM-1



Laser Interface Module LIM-3



Laser Interface Module LIM-4 and LIM-5

Product Description

The LIM converts the raw count data from the LPT for display or use in acquisition, logging or control systems.
A terminal emulation program can be used to read the ASCII data string. The LIM is available in four types to meet a wide variety of applications. LPT and LIM are connected via a fibre optic cable with a length up to 50 m / 164.04 ft.

LIM-1

The LIM-1 has a DCE configuration (9-Pin female) for direct attachment to a computer's RS-232 serial port.
Power for the LIM-1 is supplied by the computer serial port.
The LIM-1 receives the raw serial data from the LPT via a fibre optic cable and transmits them directly to the computer.

LIM-3

The LIM-3 receives raw serial data input from the LPT via a fibre optic cable. This data string is analyzed and converted into 0 ... 5 V DC analog output voltages proportional to the ISO codes and also into ModBus ASCII device protocol for interface to a PLC or computer via RS-485 to RS-232 serial port.
Special adapters also allow the integration into an ethernet-computer network. All signal outputs, as well as the input supply voltage (9 ... 36 V DC), are connected to the LIM-3 through a DB-15 connector.

LIM-4 and LIM-5

The LIM-4 and LIM-5 receive the raw serial data input from the LPT via a fibre optic cable. Results are displayed on the front panel 3-digit LED display.
The ISO 4406 code number displayed is categorized in four size channels (>4, >6, >14 and >21 $\mu m_{(c)}$). The ISO number represents the number of particles counts per ml fluid.
The user also can select internal information about the transducer (temperature C, laser mA,Cal V, Node ID status code).
Alarm levels can be programmed for any of the four particle size channels. When set, an alarm indicator will flash if the alarm level is reached. For the LIM-4 the alarm is activated if the measured ISO numbers exceed the set alarm level. For the LIM-5 the alarm is activated if the ISO number falls below the set level.
Alarms on the LIM-4 and LIM-5 may be deactivated by pressing any button. Supply voltage is external and can be from a 9 ... 36 V DC source.

Dynamic Application Valve ▪ Type DAV



Product Description

The DAV option is for applications where there is a continuous change of flow or pressure leading up to the LPT. The DAV stabilizes the fluid flow and pressure so that the LPT can read consistent sample volumes.

Each DAV includes:
- 1x LPMFC-0.2-3/8BSP
- 1x Thread adaptors for connection of LPT to LPMFC

Software (optional)

The standard software allows the download and the visualization of the measured particle distribution.

On request, a special software is available that allows the customer to control, monitor and analyse more than one LPM-1 which are connected in a network.

For custom configuration, please contact STAUFF.

Check Oil Analysis STFC and Oil Sampling Kit SFSK

Product Description

Fluid analysis is a crucial component of any oil management program. Early detection of potential problems can prevent costly repairs and downtime. STAUFF SFSK oil analysis kits provide the tools to take a sample from a STAUFF test coupling or directly from a reservoir or sump.
For this the supplied hose is directly connected to the test coupling with an adapter and the fluid is filled into the supplied vials.
But there is also the possibility to draw up the sample directly from a tank with the hand pump and fill it into the vial.
This sample set is available in two versions with BSP and NPT test couplings.

The STAUFF Check Fluid Analysis Kit includes complete laboratory analysis of your oil sample as part of the initial purchase price of the kit. Each kit includes an ultra-clean bottle with pre-addressed mailer and sample information sheet.



Check Oil Analysis STFC


Oil Sampling Kit SFSK

Scope of Delivery (SFSK)

- Contains vacuum pump for drawing samples of oil equipment
- 1 m / 3.28 ft hose for insertion into tank
- Two sample bottles
- STAUFF test points and adaptor allows oil sample to be taken from STAUFF Test 20 test points

STFC - Test carried out include:

- Spectographic analysis - 19 elements for wear metals, contaminants and additives
- Viscosity - the kinematic viscosity reported in centistokes (cSt)
- Visible debris analysis - microscopic examination of any visible debris in the sample
- Total acrid number (TAN)
- Particle count - to determine the cleanliness of the system
- Karl Fisher (KF) - to determine the exact concentration of water present in the oil

Components of SFSK-1 and SFSK-2:

SFSK-1
- 1x Fluid Sample Pump FSP-38
- 1x Hose adaptor SHA-20-5,5mm
- 1 m / 3.28 ft Push on 1/4" hose
- 1x SMK20-1/4NPT-VD-C6F
- 1x SMK20-7/16UNF-VE-C6F
- Sample bottles

SFSK-2
- 1x Fluid Sample Pump FSP-38
- 1x Hose adaptor SHA-20-5,5mm
- 1 m / 3.28 ft Push on 1/4" hose
- 1x SMK20-G1/4-PC-C6F
- 1x SMK20-M10x1-PA-C6F
- Sample bottles

Order Codes

SFSK-1

①

① Series and Type

NPT type	**SFSK-1**
BSP type	**SFSK-2**

STFC-10

①

① Description

Carton of 10 bottles	**STFC-10**
Single test bottle	**STFC-01**

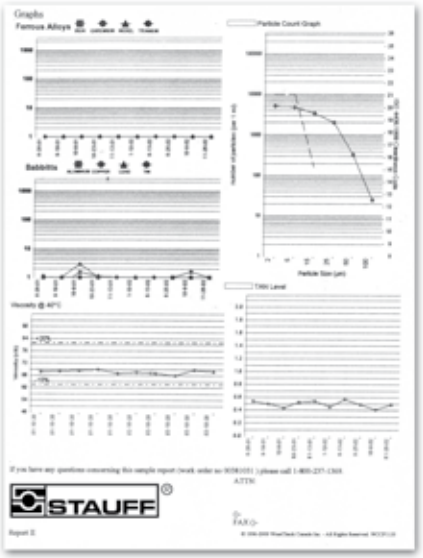
Oil Analysis Reports

In addition to a printed report, the STAUFF Check Fluid Analysis service includes access to your test reports on the Internet.
Your reports are hosted on a secure server that you can access with your user ID and password. All that is required is a connection to the internet and a compatible browser. You can view all your current and previous test results for all of the machines you are monitoring. Track the effectiveness of your oil management program and generate detailed management summary reports.

Review Oil Analysis Results

View oil analysis sample reports, test results, trending graphs and recommendations. Access data that was traditionally accessible only to the laboratory, including, IR spectra, TAN and TBN titration plots, as well as, GC chromatograms.
Enjoy the best possible turn-around of your oil analysis samples by viewing data on-line and in real-time with your oil analysis laboratory.
Improve time management by receiving e-mail alerts notifying you when recently completed samples indicate an equipment problem when corrective action is required.





Sensors and Switches



The continuous monitoring of critical hydraulic systems has become normal in today's market. The automatic and timely detection of problems in hydraulic systems can predict component failure and thereby eliminate catastrophic system failures. The advent of automated processes systems have made continuous monitoring and control components indispensible.

With the STAUFF line of industrial and mobile sensor, it is possible to continuously monitor and control your machine and process.
The wide range of STAUFF transmitters and switches available, enables proper fit to any application need.

The STAUFF line of simple pressure and temperature switches are factory set, or adjustable via a screw.
The switches can be ordered normally open, normally closed, or SPDT.

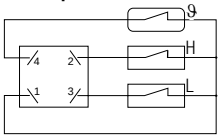
The STAUFF transmitters are available in many pressure and temperature ranges. Output signals are available in 4 ... 20 mA and 0 ... 10 V. Other signals are available on many items. The process connections are available in NPT, SAE, BSP for international use.

All sensors can be ordered with flying leads, DIN connectors or other options to fit the environment.

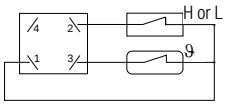
Level-Temperature Switch ▪ Type SLTS

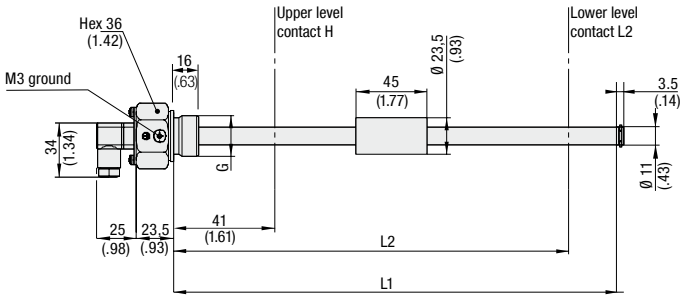
Wiring Scheme

two level contacts
one temperature contact



one level contact
one temperature contact







Order Codes

SLTS	12	-	0	-	H41	-	L251	-	B12	-	G048	-	M12
①	②		③		④		⑤		⑥		⑦		⑧

① Series and Type

Level-Temperature Switch	**SLTS**

② Stem Length

L1: 305 mm / 12 in L2: 251 mm / 9.88 in	**12**
L1: 457 mm / 18 in L2: 403 mm / 15.87 in	**18**
Custom stem lengths on request *	**SL**

③ Switching Temperature

Without temperature switch	**0**
+60 °C / +140 °F	**140**
+70 °C / +158 °F	**158**

④ H (Upper Level Contact)

Without upper level contact	**0**
41 mm / 1.61 in	**H41**
Other level contact positions on request (only for SL)	

* Note: If you choose the option SL, please consult STAUFF for further information.

⑤ L2 (Lower Level Contact)

Without lower level contact	**0**
251 mm / 9.88 in (SLTS 12 only)	**L251**
403 mm / 15.87 in (SLTS 18 only)	**L403**
Other level contact positions on request (only for SL)	

⑥ Process Connection

G3/4 (standard option)	**B12**
1 NPT	**N16**

Note: Others on request

⑦ Voltage (Volt AC/DC)

48 Volt max. (standard option)	**G048**
115 Volt max. (for thread N16 only)	**G115**

⑧ Electrical Connection

similar DIN VDE 0627 / IEV 61984	**CB**
M12 pin terminal	**M12**

Product Description

The STAUFF Level-Temperature Switches (SLTS Series) are unique in their design and modularity. One of the greatest advantages is the ability of the end-user to adjust the switching level. The internal support wire carrying the level and temperature switches makes it a simple and quick job to change the level switch position.

Level contact positions (L2, H) are set as given in the order code. They can be adjusted individually later on. Please consider a minimum distance of 40 mm / 1.57 in between the switching points.

Features

- Suitable for Mineral Oil and HFC fluids, other fluids on request
- Either 1 or 2 level contacts available
- 1 integrated temperature sensor (optional)
- Standard electrical function:
  Level contacts: Normally closed, opens with falling level
  Temperature contacts: Normally closed, opens with rising temperature

STAUFF Level-Temperature Switches SLTS are available with other electrical functions on request.

Options

- 1 NPT and others availble on request
- max. 115 Volt switching (for thread N16 only)

Technical Data

Materials

- Stem: Brass
- Float/Sealing: NBR (Buna-N®)

- Max. operating temp.: +80 °C / +176 °F

Electrical Data and Output

- Max. current level contact: 0.5 A
- Max. current temp. contact: 2.0 A
- Contact load level contact: 10 VA
- Max. operating voltage: (See ordering code)

- Specific gravity of fluid: ≥0,8 kg/dm³
- Hysteresis: +18 °C / +64.4 °F

Protection Rating

- IP 65 protection rating: Dust tight and protected against water jets

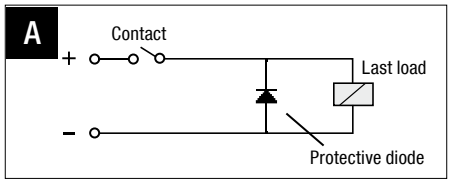
Contact Life Time

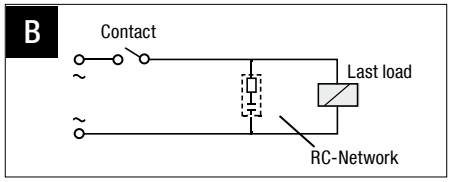
Due to their design Reed contacts have a very high life expectancy. However, it is worthwhile to note the following information.

Contact Protection

To reduce the high reverse voltage produced when a reed switch opens, the following contact protection can be applied.

- DC voltage: a diode parallel to the load, see figure A
- AC voltage: a RC-network parallel to the load, see figure B and table below



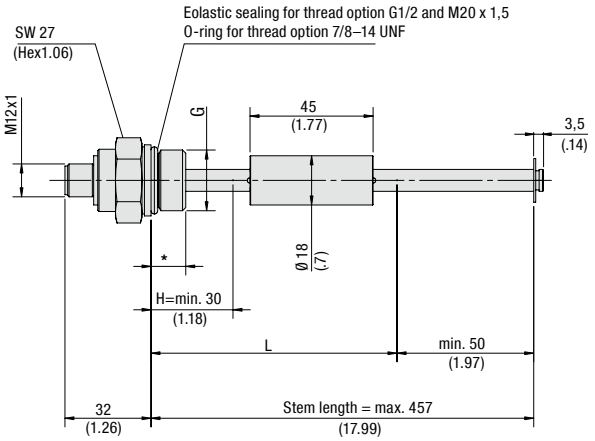


Open contact voltage V	10 VA		25 VA		50 VA		75 VA		100 VA	
	R (Ω)	C (µF)	R (Ω)	C (µF)	R (Ω)	C (µF)	R (Ω)	C (µF)	R (Ω)	C (µF)
24	22	0,022	1	0,1	1	0,47	1	1	1	1
48	120	0,0047	22	0,022	1	0,1	1	0,47	1	0,47
110	470	0,001	120	0,0047	22	22	22	0,047	22	0,1

Dimensional drawings: All dimensions in mm (in).

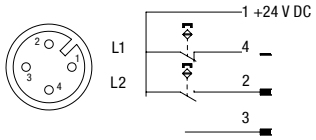
Level-Temperature Switch Aluminium ▪ Type SLTSA





* 14 (.55) for thread option G1/2 and M20 x 1,5
13 (.51) for thread option 7/8–14 UNF

Wiring Scheme



Product Description

Efficient and inexpensive indication of level and temperature.

Level contact positions (L2, H) are set as given in the order code. They can be adjusted individually later on. Please consider a minimum distance of 50 mm / 1.97 in between the switching points.

Features

- Threads: G1/2, 7/8–14 UNF, M20 x 1,5
- Stem length available from 140 ... 457 mm / 5.5 ... 18.00 in
- Electrical connection M12 / 4-Pin terminal

Technical Data

Materials

- Connector: Anodized Aluminium
- Stem: Brass
- Float: Polyurethane
- Sealing: NBR (Buna-N®)

Electrical Connection

- Connector type: M12 x 1 / 4-Pin

- Max. operating pressure: 1 bar / 14.5 PSI

Permissible Temperature

- Operating: -20 °C ... +80 °C / -4 °F ... +176 °F

- Specific gravity of fluid: ≥0,8 kg/dm³

Electrical Data and Output

- Level contact type: K40
- Max. operating voltage: 36 V
- Max. current: 0.5 A
- Contact load: 5 VA

Protection Rating

- IP 67 protection rating: Dust tight and protected against powerful water jets; even immersion (up to 1 m / 3.28 ft) in water is possible under defined conditions of pressure and time

Order Codes

SLTSA	12	-	0	-	H60	-	L255	-	U10	-	G036	-	M12
①	②		③		④		⑤		⑥		⑦		⑧

① Series and Type

Level-Temperature Switch Aluminium	**SLTSA**

② Stem Lengths

140 mm / 5.51 in	**55**
170 mm / 6.69 in	**67**
215 mm / 8.46 in	**85**
280 mm / 11.02 in	**11**
305 mm / 12.01 in	**12**
370 mm / 14.57 in	**146**
457 mm / 18.00 in	**18**

③ Switching Temperature

Without temperature switch	**0**

④ H (Upper Level Contact)

30 mm / 1.18 in (only for stem length code 55)	**H30**
50 mm / 1.97 in (only for stem length code 67)	**H50**
60 mm / 2.36 in (only for stem length codes 55, 12, 18)	**H60**
85 mm / 3.35 in (only for stem length code 85)	**H85**
90 mm / 3.54 in (only for stem length codes 67, 12, 18)	**H90**
135 mm / 5.31 in (only for stem length code 85)	**H135**
200 mm / 7.87 in (only for stem length code11)	**H200**
290 mm / 11.42 in (only for stem length code 146)	**H290**

⑤ L (Lower Level Contact)

90 mm / 3.54 in (only for stem length code 55)	**L90**
120 mm / 4.72 in (only for stem length code 67)	**L120**
165 mm / 6.50 in (only for stem length code 85)	**L165**
230 mm / 9.06 in (only for stem length code 11)	**L230**
255 mm / 10.04 in (only for stem length code 12)	**L255**
320 mm / 12.60 in (only for stem length code 146)	**L320**
407 mm / 16.02 in (only for stem length code 18)	**L407**

⑥ Process Connection

G1/2	**B08**
7/8–14 UNF (standard option)	**U10**
M20 x 1,5	**M20**

⑦ Voltage

36 Volt max.	**G036**

⑧ Electrical Connection

M12 / 4-Pin terminal	**M12**

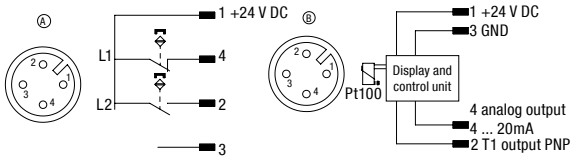
Dimensional drawings: All dimensions in mm (in).

Level-Temperature Switch Display ▪ Type SLTSD

Wiring Scheme

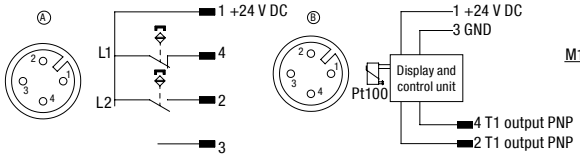
for SLTSD...-1-...

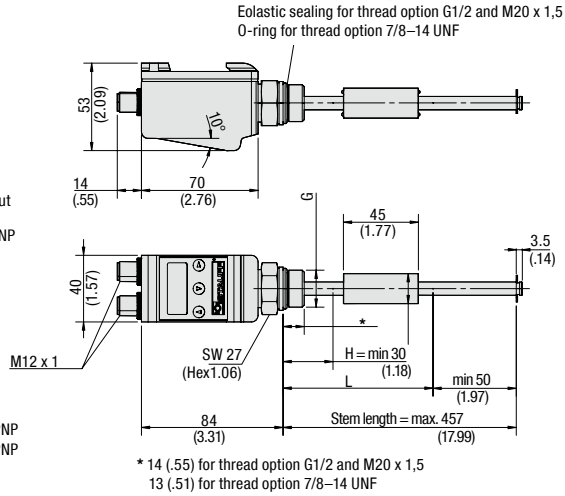
1 temperature PNP switch output + 1 Analog Output 4 ... 20mA



for SLTSD...-2-...

2 temperature PNP switch outputs





* 14 (.55) for thread option G1/2 and M20 x 1,5
13 (.51) for thread option 7/8–14 UNF



Order Codes

SLTSD | **12** | **-** | **1** | **-** | **H60** | **-** | **L255** | **-** | **U10** | **-** | **G036** | **-** | **M12**

① ② ③ ④ ⑤ ⑥ ⑦ ⑧

① Series and Type

Level-Temperature Switch Display	**SLTSD**

② Stem Length

140 mm / 5.51 in	**55**
170 mm / 6.69 in	**67**
215 mm / 8.46 in	**85**
280 mm / 11.02 in	**11**
305 mm / 12.01 in	**12**
370 mm / 14.57 in	**146**
457 mm / 18.00 in	**18**

③ Temperature Output Options

2x PNP switch outputs	**1**
1x PNP switch outputs + 1x analog 4 ... 20mA	**2**

④ H (Upper Level Contact)

30 mm / 1.18 in (only for stem length code 55)	**H30**
50 mm / 1.97 in (only for stem length code 67)	**H50**
60 mm / 2.36 in (only for stem length codes 55, 12, 18)	**H60**
85 mm / 3.35 in (only for stem length code 85)	**H85**
90 mm / 3.54 in (only for stem length codes 67, 12, 18)	**H90**
135 mm / 5.31 in (only for stem length code 85)	**H135**
200 mm / 7.87 in (only for stem length code 11)	**H200**
290 mm / 11.42 in (only for stem length code 370)	**H290**

⑤ L (Lower Level Contact)

90 mm / 3.54 in (only for stem length code 55)	**L90**
120 mm / 4.72 in (only for stem length code 67)	**L120**
165 mm / 6.50 in (only for stem length code 85)	**L165**
230 mm / 9.06 in (only for stem length code 11)	**L230**
255 mm / 10.04 in (only for stem length code 12)	**L255**
320 mm / 12.60 in (only for stem length code 146)	**L320**
407 mm / 16.02 in (only for stem length code 18)	**L407**

⑥ Process Connection

G1/2 (standard option)	**B08**
7/8–14 UNF (standard option)	**U10**
M20 x 1,5	**M20**

⑦ Voltage

36 Volt max.	**G036**

⑧ Electrical Connection

M12 / 4-Pin terminal	**M12**

Product Description

Combination of a temperature controller with level indication in a small inexpensive package.

Level contact positions (L2, H) are set as given in the order code. They can be adjusted individually later on. Please consider a minimum distance of 50 mm / 1.97 in between the switching points.

Features

- Threads: G1/2, 7/8–14 UNF, M20 x 1,5
- Stem length available from 140 ... 457 mm / 5.5 ... 18.00 in
- Electrical connection M12 / 4-Pin terminal

Technical Data

Materials
- Housing: Polyamide
- Connector: Anodized Aluminium
- Stem: Brass
- Float: Polyurethane

Electrical Connection
- Connector type: M12 x 1 / 4-Pin
- Max. operating pressure: 1 bar / 14.5 PSI

Permissible Temperature
- Operating: -20 °C ... +80 °C / -4 °F ... +176 °F
- Specific gravity of fluid: ≥0,8 kg/dm³

Level Contacts (Connector A)
- Level contact type: K40
- Max. operating voltage: 36 V
- Max. current: 0.5 A
- Contact load: 5 VA

Temperature Outputs (Connector B)
- Output option 1: Two PNP programmable switching outputs
- Output option 2: One PNP switching output and one 4 ... 20 mA analog output
- Max. current: 0.5 A
- Load resistance: 500 Ω

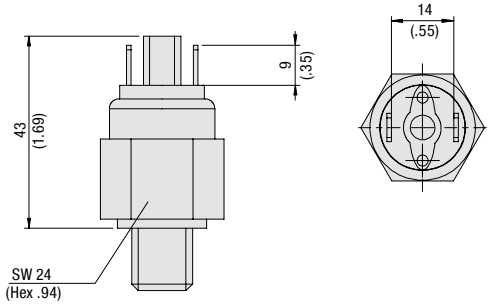
Display
- Display temp. range: -20 °C ... +120 °C / -4 °F ... +248 °F
- Alarm indication range: 0 °C ... +100 °C / +32 °F ... +212 °F
- LED display: 4 digit, 7 segment
- Resolution: 0,5 °C / 1 °F
- Current consumption at power up: 100 mA for 100ms
- Current consumption at operating: 50 mA
- Supply voltage: 10 ... 32 V DC
- Ambient temperature: -20 °C ... +70 °C / -4 °F ... +158 °F
- Accuracy: ±1 % FS*
- Sensor type: Temperature: PT100

Protection Rating
- IP 65 protection rating: Dust tight and protected against water jets (IP 67 with accordant connection plug)

*FS = Full Scale
Dimensional drawings: All dimensions in mm (in).

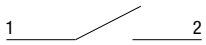
Pressure Switch ▪ Type SPW-...-NC/NO



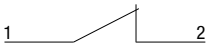


Wiring Scheme

Wiring diagram normally open



Wiring diagram normally closed



Product Description

The SPW Mechanical Pressure Switch is available in a variety of pressure ranges. This durable unit has an adjustable set point that is easily changed by using the adjustment screw which is located under the protective cap.

Features

- Normally open, normally closed
- Pressure ranges available up to 206,84 bar / 3000 PSI
- G1/4 and 1/4 NPT process connection
- NBR (Buna-N®) sealings
- Steel, zinc plated
- Spade terminal connection

Options

- G1/8, 1/8 NPT and 7/16–20 UNF process connections
- FPM (Viton®) and EPDM sealings on request
- Flying leads with shrink tubing, flying leads, rubber boot, Deutsch connector, weather pack connector female/male and IP option on request
- 316 Stainless Steel

Technical Data

Materials

- Body: Steel, zinc plated or 316 Stainless Steel
- Connector: Polyamide

Electrical Data and Output

- Switching function: Normally open (NO), normally closed (NC)
- Cycle rate: 30 CPM
- Mechanical life: 2000000 operations
- Max. electrical rating: 100 VA

Permissible Temperatures

- NBR (Buna-N®): -9 °C ... +110 °C / +15 °F ... +230 °F
- FPM (Viton®) : -18 °C ... +110 °C / 0 °F ...+230 °F
- EPDM: -40 °C ... +110 °C / -40 °F ...+230 °F

Process Connection

- G1/8, G1/4, 1/8 NPT, 1/4 NPT and 7/16–20UNF

Electrical Connection

- Spade terminals

Protection Rating

- IP 00 protection rating

Order Codes

SPW	-	P00500	-	N04	-	NO	-	SP	-	
①		②		③		④		⑤		⑥

① Series and Type

Mechanical Pressure Switch	**SPW**

② Version

1,03 ... 4,14 bar / 15 ... 60 PSI	**P00060**
2,76 ... 10,34 bar / 40 ... 150 PSI	**P00150**
5,17 ... 18,96 bar / 75 ... 275 PSI	**P00275**
10,34 ... 34,47 bar / 150 ... 500 PSI (standard option)	**P00500**
18,96 ... 55,16 bar / 275 ... 800 PSI	**P00800**
27,58 ... 75,84 bar / 400 ... 1100 PSI (standard option)	**P01100**
69,95 ... 206,84 bar / 1000 ... 3000 PSI (standard option)	**P03000**

③ Process Connection

G1/8	**B02**
G1/4	**B04**
1/8 NPT	**N02**
1/4 NPT (standard option)	**N04**
7/16–20 UNF	**U04**

④ Switching Outputs

Normally open (standard option)	**NO**
Normally closed	**NC**

⑤ Electrical Connection

Spade terminals (standard option)	**SP**
Flying leads	**F**
Flying leads with shrink tubing	**FL**
Deutsch DT04-3P / 3-Pin	**D**
Rubber boot	**RB**
Weather pack connector female	**WF**
Weather pack connector male	**WM**
IP Option (IP 66)	**IP**

Note: IP Option requires a fixed set point indicate at the end of part number.

⑥ Body Material

Steel, zinc plated (standard option)	**(none)**
316 Stainless Steel	**W5**

Pressure Ranges

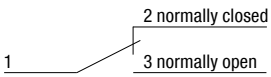
Version	Pressure Range (bar/PSI)	Maximum Pressure (bar/PSI)	Burst Pressure (bar/PSI)	Repeatability	Average Deadband
P00060	1,03 ... 4,14	413,69	620,53	±0,10 bar + 3 % of setting	0,21 bar + 5 % of setting
	15 ... 60	6000	9000	±1.5 PSI + 3 % of setting	3 PSI + 5 % of setting
P00150	2,76 ... 10,34	413,69	620,53	±0,17 bar + 3 % of setting	0,35 bar + 6 % of setting
	40 ... 150	6000	9000	±2.5 PSI + 3 % of setting	5 PSI + 6 % of setting
P00275	5,17 ... 18,96	413,69	620,53	±0,26 bar + 3 % of setting	0,48 bar + 8 % of setting
	75 ... 275	6000	9000	±3.75 PSI + 3 % of setting	7 PSI + 8 % of setting
P00500*	10,34 ... 34,47	413,69	620,53	±0,34 bar + 3 % of setting	0,69 bar + 10 % of setting
	150 ... 500	6000	9000	±5 PSI + 3 % of setting	10 PSI + 10 % of setting
P00800	18,96 ... 55,16	413,69	620,53	±0,55 bar + 3 % of setting	10,3 bar + 11 % of setting
	275... 800	6000	9000	±8 PSI + 3 % of setting	15 PSI + 11 % of setting
P01100*	27,58 ... 75,84	413,69	620,53	±0,90 bar + 3 % of setting	2,07 bar + 12 % of setting
	400 ... 1100	6000	9000	±13 PSI + 3 % of setting	30 PSI + 12 % of setting
P03000*	68,95 ... 206,84	413,69	620,53	±2,41 bar + 3 % of setting	4,83 bar + 14 % of setting
	1000 ... 3000	6000	9000	±35 PSI + 3 % of setting	70 PSI + 14 % of setting

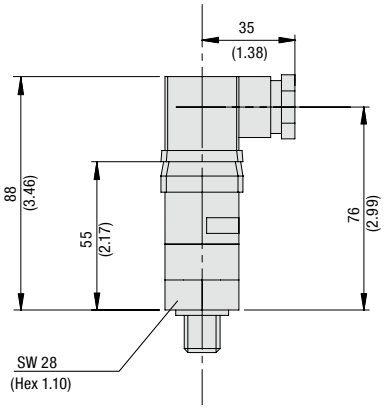
* Standard option

Dimensional drawings: All dimensions in mm (in).

Pressure Switch ▪ Type SPW-SD

Wiring Scheme







Order Codes

SPW	-	SD	-	P00300	-	N04	-	DIN	-	
①		②		③		④		⑤		⑥

① Series and Type

Mechanical Pressure Switch	**SPW**

② Switching Function

SPDT	**SD**

③ Version

0,69 ... 2,07 bar / 10 ... 30 PSI	**P00030**
1,72 ... 5,17 bar / 25 ... 75 PSI	**P00075**
4,48 ... 20,68 bar / 65 ... 300 PSI (standard option)	**P00300**
17,24 ... 68,95 bar / 250 ... 1000 PSI (standard option)	**P01000**
68,95 ... 206,84 bar / 1000 ... 3000 PSI (standard option)	**P03000**
172,37 ... 344,74 bar / 2500 ... 5000 PSI	**P05000**

④ Process Connection

G1/8	**B02**
G1/4	**B04**
1/8 NPT	**N02**
1/4 NPT (standard option)	**N04**
7/16–20 UNF	**U04**

⑤ Electrical Connection

Flying leads	**F**
Flying leads with shrink tubing	**FL**
DIN EN 175301-803A (DIN 43650-A) (standard option)	**DIN**
Deutsch DT04-3P / 3-Pin	**D**
Weather pack connector female	**WF**
Weather pack connector male	**WM**
IP Option (IP 66)	**IP**

⑥ Body Material

Steel, zinc plated (standard option)	**(none)**
316 Stainless Steel	**W5**

Pressure Ranges

Version	Pressure Range (bar/PSI)	Maximum Pressure (bar/PSI)	Burst Pressure (bar/PSI)	Repeatability	Average Deadband
P00030	0,69 ... 2,07	413,69	620,53	±0,10 bar + 2 % of setting	0,24 bar + 11 % of setting
	10 ... 30	6000	9000	±1.5 PSI + 2 % of setting	3.5 PSI + 11 % of setting
P00075	1,72 ... 5,17	413,69	620,53	±0,17 bar + 2 % of setting	0,24 bar + 11 % of setting
	25 ... 75	6000	9000	±2.5 PSI + 2 % of setting	3.5 PSI + 11 % of setting
P00300*	4,48 ... 20,68	413,69	620,53	±0,34 bar + 2 % of setting	1,38 bar + 11 % of setting
	65 ... 300	6000	9000	±5 PSI + 2 % of setting	20 PSI + 11 % of setting
P01000*	17,24 ... 68,95	413,69	620,53	±1,03 bar + 2 % of setting	3,10 bar + 12 % of setting
	250 ... 1000	6000	9000	±15 PSI + 2 % of setting	45 PSI + 12 % of setting
P03000*	68,95 ... 206,84	413,69	620,53	±2,07 bar + 2 % of setting	4,83 bar + 12 % of setting
	1000... 3000	6000	9000	±30 PSI + 2 % of setting	70 PSI + 12 % of setting
P05000	172,37... 344,74	413,69	620,53	±3,45 bar + 2 % of setting	9,65 bar + 13 % of setting
	2500 ... 5000	6000	9000	±50 PSI + 2 % of setting	140 PSI + 13 % of setting

* Standard option

Dimensional drawings: All dimensions in mm (in).

Product Description

The SPW-SD Mechanical SPDT Pressure Switch is available in a variety of pressure ranges. This durable unit has an adjustable set point that is easily changed by using the adjustment screw which is located under the protective cap.

Features

- SPDT switching function
- Pressure ranges available up to 344,74 bar / 5000 PSI
- G1/4 and 1/4 NPT process connection
- NBR (Buna-N®) sealings
- Steel, zinc plated
- Spade terminal connection

Options

- G1/8, 1/8 NPT and 7/16–20 UNF process connections
- FPM (Viton®) and EPDM sealings on request
- Flying leads with shrink tubing, flying leads, Deutsch connector, weather pack connector female/male and IP option on request
- 316 Stainless Steel

Technical Data

Materials

- Body: Steel, zinc plated or 316 Stainless Steel
- Connector: Polyamide

Electrical Data and Output

- Switching function: SPDT
- Cycle rate: 20 CPM
- Mechanical life: 2000000 operations
- Max. electrical rating: 5 A at 125/250 V AC, 5 A resistive / 3 A inductive at 28 V DC

Permissible Temperatures

- NBR (Buna-N®): -9 °C ... +85 °C / +15 °F ... +185 °F
- FPM (Viton®): -18 °C ... +85 °C / 0 °F ... +185 °F
- EPDM: -23 °C ... +85 °C / -10 °F ... +185 °F

Process Connections

- G1/8, G1/4, 1/8 NPT, 1/4 NPT and 7/16–20UNF

Electrical Connection

- DIN EN 175301-803 form A (DIN 43650-A)

Protection Rating

- IP 65 protection rating: Dust tight and protected against water jets

Pressure Transmitters ▪ Type SPT



Product Description

The SPT Pressure Transmitter is designed for many industrial and OEM pressure measurement applications. The SPT pressure transmitters convert applied pressure from 1,03 bar up to 689,48 bar / 15 PSI up to 10000 PSI into the corresponding output signals. The SPT Series provides resistance to vibration, shock, wide temperature variations and many other extreme environmental conditions that are typical of industrial and OEM applications.

Features

- Stainless Steel housing construction
- L-plug DIN EN 175301-803A (DIN 43650-A) electrical connection
- Pressure ranges up to 689,48 bar / 10000 PSI
- G1/4 or 1/4 NPT process connection
- Output signal 4 ... 20 mA
- Non-linearity ≤ ±0.5 % BFSL
- Environmental protection of IP 65 (IP 65 protection rating: Dust tight and protected against water jets)
- Protection against incorrect polarity, short circuits and over-voltage
- Temperature compensated
- Long term stability

Options

- Mini L-plug DIN EN 175301-803C, M12 x 1 and flying lead electrical connections
- 1/2 NPT and 7/16–20 UNF process connections
- Output signals 0 ... 5 V, 0 ... 10 V, 1 ... 5 V and 0,5 ... 4,5 V ratiometric on request
- Non-linearity ≤ ± 0.25 % BFSL
- Environmental protection of IP 67 (IP 67 protection rating: Dust tight and protected against powerful water jets; even immersion (up to 1 m / 3.28 ft) in water is possible under defined conditions of pressure and time)
- Extended temperature option on request -30 °C ... +100 °C / -22 °F ... +212 °F

Order Codes

SPT	-	P00300	-	N04	-	420A	-	DIN	-		-	X
①		②		③		④		⑤		⑥		⑦

① Series and Type

Pressure Transmitter	**SPT**

② Version

0 ... 1,03 bar / 0 ... 15 PSI	**P00015**
0 ... 1,72 bar / 0 ... 25 PSI	**P00025**
0 ... 2,07 bar / 0 ... 30 PSI	**P00030**
0 ... 3,45 bar / 0 ... 50 PSI	**P00050**
0 ... 6,89 bar / 0 ... 100 PSI	**P00100**
0 ... 11,03 bar / 0 ... 160 PSI	**P00160**
0 ... 13,79 bar / 0 ... 200 PSI	**P00200**
0 ... 20,68 bar / 0 ... 300 PSI (standard option)	**P00300**
0 ... 34,47 bar / 0 ... 500 PSI (standard option)	**P00500**
0 ... 68,95 bar / 0 ... 1000 PSI (standard option)	**P01000**
0 ... 103,42 bar / 0 ... 1500 PSI (standard option)	**P01500**
0 ... 137,90 bar / 0 ... 2000 PSI	**P02000**
0 ... 206,84 bar / 0 ... 3000 PSI (standard option)	**P03000**
0 ... 344,74 bar / 0 ... 5000 PSI (standard option)	**P05000**
0 ... 517,11 bar / 0 ... 7500 PSI (standard option)	**P07500**
0 ... 689,48 bar / 0 ... 10000 PSI	**P10000**

③ Process Connection

G1/4	**B04**
1/4 NPT (standard option)	**N04**
1/2 NPT	**N08**
7/16–20 UNF	**U04**

④ Signal Output

4 ... 20 mA, 2-wire (standard option)	**420A**
0 ... 10 V, 3-wire	**010V**
0 ... 5 V, 3-wire	**05V**
1 ... 5 V, 3-wire	**15V**
0,5 ... 4,5 V, ratiometric	**0545V**

⑤ Electrical Connection

DIN EN 175301-803A (DIN 43650-A) (standard option)	**DIN**
DIN EN 175301-803C	**MD**
M12 x 1 / 4-Pin	**M12**
Flying leads with shrink tubing	**FL**

⑥ Options

≤ ±0.5 % BFSL (standard option)	**(none)**
≤ ±0.25 % BFSL	**A**
-30°C ... +100°C / -22°F ... +212 °F	**B**

⑦ Design Code

For Information only	**X**

Pressure Transmitters ▪ Type SPT



Technical Data

Materials
- Body: 316 L Stainless Steel

Internal Transmission Fluid
- Silicone Oil (only pressure ranges up to 0 ... 10 bar / 0 ... 100 PSIG and 0 ... 25 bar / 0 ... 300 PSI absolute)

Fatique Life
- 10 million load cycles maximum

Signal Output and Maximum Load
- Signal 4 ... 20 mA, 2-wire:
  Power supply 8 ... 30 V DC
  Ra<= (UB-10 V)/ 0,02A
- Signal 0 ... 10 V, 3-wire:
  Power supply 14 ... 30 V DC
  Ra>10kΩ
- Signal 0 ... 5 V, 3-wire:
  Power supply 8 ... 30 V DC
  Ra>5kΩ
- Signal 1 ... 5 V, 3-wire:
  Power supply 8 ... 30 V DC
  Ra>5kΩ
- Signal 0,5 ... 4,5 V, ratiometric:
  Power supply 8 ... 30 V DC
  Ra>4,5kΩ

Isolation Voltage
- 500 V DC

Response Time
- <4 ms

Current Consumption
- Signal current:
  (max. 25 mA) for current output,
  (max. 8 mA) for voltage output

Non-linearity
- ≤ ± 0,5 % (BFSL) or optional ≤ ± 0,25 % (BFSL)

Accuracy
- ≤ ±1,0 % FS* (with non-linearity 0,5 %) *
- ≤ ±0,5 % FS* (with non-linearity 0,25 %) *
- ≤ ±0,6 % FS* (with non-linearity 0,25 % and signal output 0 ... 5 V) *
  * (Includes non-linearity, hysteresis, zero point and full scale error)

Zero Offset
- ≤ 0,15 typ. % FS*; ≤ 0,4 max. % of span (non-linearity 0,25 %)
- ≤ 0,5 typ. % FS*; ≤ 0,8 max. % of span (non-linearity 0,25 %)

Hysteresis
- ≤ 0,16 % FS*

Non-repeatability
- ≤ 0,1 % FS*

Long Term Drift
- ≤ 0,1 % FS*

Signal Noise
- ≤ 0,3 % FS*

Permissible Temperatures (Standard)
- Media: 0 °C ... +80 °C / +32 °F ... +176 °F
- Ambient: 0 °C ... +80 °C / +32 °F ... +176 °F
- Storage: -20 °C ... +80 °C / -4 °F ... +176 °F
- Operating temp. range: 0 °C ... +80 °C / +32 °F ... +176 °F

Permissible Temperatures (Extended Temperature Option)
- Media: -30 °C ... +100 °C / -22 °F ... +212 °F
- Ambient: -30 °C ... +100 °C / -22 °F ... +212 °F
- Storage: -30 °C ... +100 °C / -22 °F ... +212 °F

Electrical Connection
- DIN EN 175301-803A (DIN 43650-A), DIN EN 175301-803C M12 x 1 / 4-Pin, flying leads

Process Connection
- G1/4, 1/4 NPT, 1/2 NPT, 7/16–20 UNF

Temperature Error within Compensated Temperature Range
- ≤ 1,0 typ. % FS* ≤ 2,5 max. % FS*

CE Conformity

Pressure Equipment Directive
- 97/23/EC

EMC Directive
- 89/336/EWG emission (class B) and immunity according to EN 61 326

Shock Resistance
- 500g according to IEC 60068-2-27 (mechanical shock)

Vibration Resistance
- 10g according to IEC 60068-2-6 (vibration under resonance)

Wiring Protection
- Overvoltage protection: 32 V DC; 36 V DC with 4 ... 20 mA
- Short circuit protection: Sig+ to UB-
- Reverse polarity protection: UB+ to UB-

Test Reference Conditions
- Relative humidity: 45 ... 75 %
- Temperature: +15 °C ... +25 °C / +59 °F ... +77 °F
- Atmospheric pressure: 86 ... 106 kPa / 25.4 ... 31.3 inhg

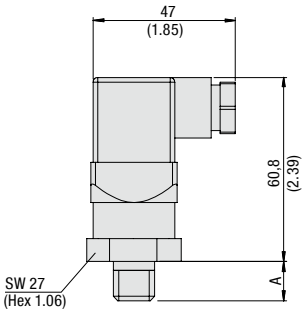
RoHS-conformity
- Yes

Weight
- Approximately 80g / 2.8 oz

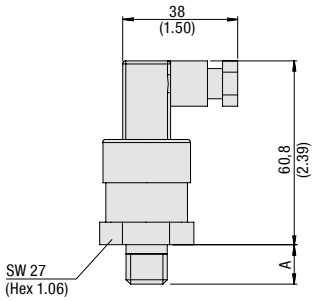
Protection Rating
- DIN EN 175301-803A: (DIN 43650-A) IP 65 protection rating: Dust tight and protected against water jets
- DIN EN 175301-803C: IP 65 protection rating: Dust tight and protected against water jets
- M 12 x 1: IP 67 protection rating: Dust tight and protected against powerful water jets; even immersion (up to 1 m / 3.28 ft) in water is possible under defined conditions of pressure and time
- Flying leads: IP 67 protection rating: Dust tight and protected against powerful water jets; even immersion (up to 1 m / 3.28 ft) in water is possible under defined conditions of pressure and time

* FS = Full Scale

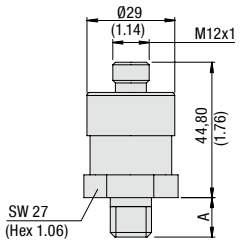
Pressure Transmitters ▪ Type SPT



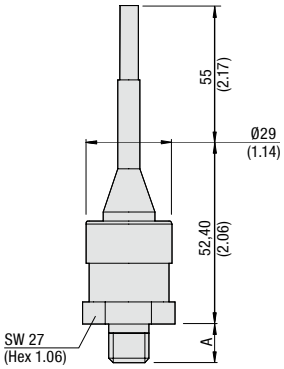
DIN 175301-803A (DIN 43650-A)



DIN 175301-803C



M12x1 / 4-Pin



Flying leads with shrink tubing

Dimensions

Version	A (mm/in)	Process Connection
B04	14,0	G1/4
	.55	
N04	13,0	1/4 NPT
	.51	
N08	19,0	1/2 NPT
	.75	
U04	9,1	7/16–20 UNF
	.36	

Pressure Ranges

Version	Pressure Range (bar/PSI)	Maximum Pressure ** (bar/PSI)	Burst Pressure *** (bar/PSI)
P00015	0 ... 1,03	2,07	5,17
	0 ... 15	30	75
P00025	0 ... 1,72	4,14	10,34
	0 ... 25	60	150
P00030	0 ... 2,07	4,14	10,34
	0 ... 30	60	150
P00050	0 ... 3,45	6,89	17,24
	0 ... 50	100	250
P00100	0 ... 6,89	13,79	34,47
	0 ... 100	200	500
P00160	0 ... 11,03	20,00	34,47
	0 ... 160	290	500
P00200	0 ... 13,79	27,58	103,42
	0 ... 200	400	1500
P00300*	0 ... 20,68	41,37	103,42
	0 ... 300	600	1500
P00500*	0 ... 34,47	68,95	172,37
	0 ... 500	1000	2500
P01000*	0 ... 68,95	119,97	549,86
	0 ... 1000	1740	7975
P01500*	0 ... 103,42	199,95	799,79
	0 ... 1500	2900	11600
P02000	0 ... 137,90	275,79	999,74
	0 ... 2000	4000	14500
P03000*	0 ... 206,84	413,69	1199,70
	0 ... 3000	6000	17400
P05000*	0 ... 344,74	689,48	1699,60
	0 ... 5000	10000	24650
P07500*	0 ... 517,11	1199,70	2399,40
	0 ... 7500	17400	34800
P10000	0 ... 689,48	1199,70	2399,40
	0 ... 10000	17400	34800

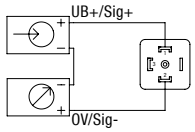
Note:
- Absolut pressure: 0 ... 1,03 bar up to 0 ... 20,68 bar
  0 ... 15 PSI up to 0 ... 300 PSI

* Standard option
** Maximum pressure, causing no perminate changes in specifications but may lead to zero point and span shifts
*** Burst pressure, leading to perminate changes in specifications or destruction of the transmitter

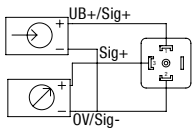
Dimensional drawings: All dimensions in mm (in).

Pressure Transmitters ▪ Type SPT

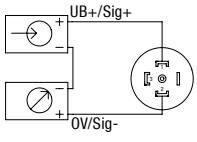
Electrical Connections



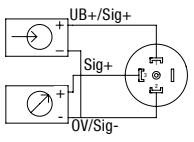
DIN EN 175301-803A /
2-wire 4... 20 mA



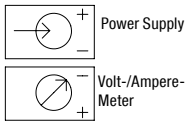
DIN EN 175301-803A /
3-wire 0 ... 10 V



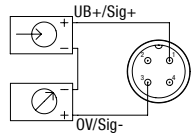
DIN EN 175301-803C /
2-wire (4 ... 20 mA)



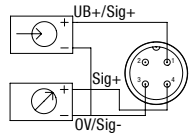
DIN EN 175301-803C /
3-wire (0 ... 10 V)



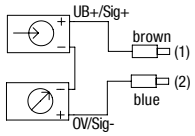
Sig+ output signal positive
UB+ power supply positive
0V power supply negative
Sig- output signal negative



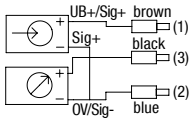
M12 x 1 / 2-wire 4 ... 20 mA



M12 x 1 / 3-wire 0 ... 10 V



Flying leads / 2-wire 4 ... 20 mA



Flying leads / 3-wire 0 ... 10 V

Pressure Transmitters ▪ Type PT



Product Description

The PT Pressure Transmitters features a durable fibre-glass reinforced PBT case, an internal metal sleeve for excellent EMI protection and an all welded thin film measuring cell for exceptional long term stability. This product is available with a flying lead option which is rated to IP69K for resistance to high pressure steam wash down. Produced on a high volume fully automated assembly line, the PT Pressure Transmitter is especially focused to provide a high number of transmitters to the end user while maintaining a consistent quality.

Features

- IP69K rated safety class (flying leads)
- Pressure ranges up to 551,58 bar / 8000 PSI
- G1/4, 7/16–20 UNF process connection
- Output signal 4 ... 20 mA
- Rugged PBT housing
- Internal metal sleeve
- Stainless Steel connection
- Protect against incorrect polarity, short circuits and overvoltage
- M12 x 1, Deutsch 3-Pin and flying leads electrical connections

Options

- 0 ... 5 V, 0 ... 10 V, 1 ... 5 V, 0.5 ... 4.5 V ratiometric available outputs on request
- 1/4 NPT process connection on request

Order Codes

PT	-	P03000	-	U04	-	420A	-	M12
①		②		③		④		⑤

① Type

Pressure Transmitter	**PT**

② Version

0 ... 51,71 bar / 0 ... 750 PSI	**P00750**
0 ... 68,95 bar / 0 ... 1000 PSI	**P01000**
0 ... 103,42 bar / 0 ... 1500 PSI	**P01500**
0 ... 137,90 bar / 0 ... 2000 PSI	**P02000**
0 ... 206,84 bar / 0 ... 3000 PSI	**P03000**
0 ... 275,79 bar / 0 ... 4000 PSI	**P04000**
0 ... 344,74 bar / 0 ... 5000 PSI	**P05000**
0 ... 413,69 bar / 0 ... 6000 PSI	**P06000**
0 ... 517,11 bar / 0 ... 7500 PSI	**P07500**
0 ... 551,58 bar / 0 ... 8000 PSI	**P08000**

③ Process Connection

G1/4	**B04**
1/4 NPT	**N04**
7/16–20 UNF (standard option)	**U04**

④ Signal Output

4 ... 20 mA, 2-wire (standard option)	**420A**
0 ... 5 V, 3-wire	**05V**
0 ... 10 V, 3-wire	**010V**
1 ... 5 V, 3-wire	**15V**
0,5 ... 4,5 V, ratiometric	**0545V**

⑤ Electrical Connection

M12 x 1 / 4-Pin	**M12**
Flying leads with shrink tubing	**FL**
Deutsch DT04-3P / 3-Pin	**D**



Technical Data

Materials
- Body: Stainless Steel
- Connector: Fiberglass-reinforced Polybutylene Terephthalate (PBT)

Signal Outputs and Maximum Load
- Signal 4 ... 20 mA, 2-wire:
  Power supply 10 ... 36 V DC
  Ra≤ (UB-10 V)/ 0,02A
- Signal 0 ... 5 V, 3-wire:
  Power supply 8 ... 36 V DC
  Ra>2,5kΩ
- Signal 0 ... 10 V, 3-wire:
  Power supply 14 ... 36 V DC
  Ra>5kΩ
- Signal 1 ... 5 V, 3-wire:
  Power supply 8 ... 36 V DC
  Ra>2,5kΩ
- Signal 0,5 ... 4,5 V, ratiometric:
  Power supply 5 ... 30 V DC
  Ra>4,5kΩ

Response Time (10-90%)
- ≤2 ms

Isolation Voltage
- 500 V DC

Accuracy
- ≤ ±0.5 % FS*
- ≤ ±1.0 % FS*
  *(limit point calibration) (Includes linearity, hysteresis and repeatability)

Repeatability
- ≤ 0.2 % FS*

One Year Stability
- ≤ 0.3 % FS* (at reference conditions)

Permissible Temperatures
- Media*: -40 ... +125 °C / -40 ... +257 °F
- Ambient*: -40 ... +100 °C / -40 ... +212 °F
- Storage*: -40 ... +120 °C / -40 ... +248 °F
  * Also complies with EN 50178, Tab. 7, Operation (C) 4K4H, Storage (D) 1K4, Transport (E) 2K3
- Compensated temp. range: 0 ... +80 °C / +32 ... +176 °F

Temperature Coefficients (TC) within Compensated Temperature Range
- Mean TC of zero: ≤ 0,15 / 10k (special pressure ranges may have increased zero TC % FS*
- Mean TC of range: ≤ 0.15 / 10k % FS*

CE Conformity
- 89/336/EWG interference emission and immunity see EN 61 326 interference emission limit class A and B
  97/23/EG pressure equipment directive

Shock Resistance
- 500 g according to IEC 60068-2-27 (mechanical shock)

Vibration Resistance
- 20 g according to IEC 60068-2-6 (vibration under resonance)

Wiring Protection
- Protected against short circuiting signal+ to UB- / 0V
- Protected against reverse polarity except ratiometric output signals

Weight
- Approximately 59,53 g / 2.10 oz

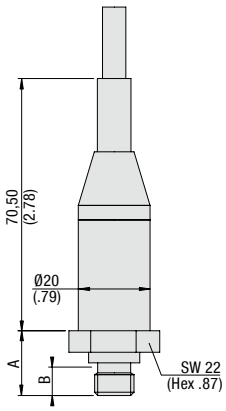
Electrical Connection
- Flying leads, Deutsch DT04-3P, M12 x 1 / 4-Pin

Process Connection
- G1/4, 1/4 NPT, 7/16–20 UNF

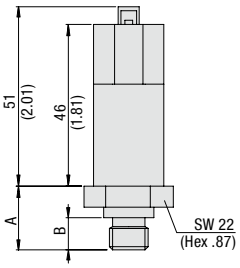
Protection Rating
- Flying leads: IP69K protection rating: Dust tight, for high-pressure, high-temperature wash down applications
- M 12 x 1: IP 67 protection rating: Dust tight and protected against powerful water jets; even immersion (up to 1 m / 3.28 ft) in water is possible under defined conditions of pressure and time
- Deutsch DT04-3P: IP 67 protection rating: Dust tight and protected against powerful water jets; even immersion (up to 1 m / 3.28 ft) in water is possible under defined conditions of pressure and time

* FS = Full Scale

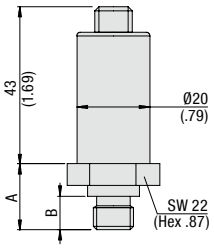
Pressure Transmitters ▪ Type PT



Flying Leads



Deutsch DT04-3P / 3-Pin



M12 x 1 / 4-Pin

Dimensions

Version	A (mm/in)	B (mm/in)	Process Connection
B04	20,2	12,0	G1/4
	.80	.47	
N04	19,2	18,0	1/4 NPT
	.76	.71	
U04	17,6	9,14	7/16–20 UNF
	.69	.36	

Pressure Ranges

Version	Pressure Range (bar/PSI)	Maximum Pressure * (bar/PSI)	Burst Pressure ** (bar/PSI)
P00750	0 ... 51,71	119,97	549,51
	0 ... 750	1740	7970
P01000	0 ... 68,95	119,97	549,51
	0 ... 1000	1740	7970
P01500	0 ... 103,42	199,95	799,79
	0 ... 1500	2900	11600
P02000	0 ... 137,90	199,95	799,79
	0 ... 2000	2900	11600
P03000	0 ... 206,84	499,87	1199,70
	0 ... 3000	7250	17400
P04000	0 ... 275,79	499,87	1199,70
	0 ... 4000	7250	17400
P05000	0 ... 344,74	799,79	1699,60
	0 ... 5000	11600	24650
P06000	0 ... 413,69	799,79	1699,60
	0 ... 6000	11600	24650
P07500	0 ... 517,11	1199,70	2399,40
	0 ... 7500	17400	34800
P08000	0 ... 551,58	1199,70	2399,40
	0 ... 8000	17400	34800

Note:

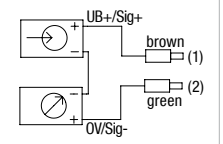
* Pressure applied up to the maximum rating will cause no permanent change in specifications but may lead to zero and span shifts.

** Exceeding the burst pressure may result in destruction of the transmitter and possible loss of media.

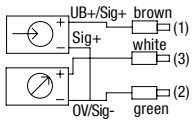
Dimensional drawings: All dimensions in mm (in).

Pressure Transmitters ▪ Type PT

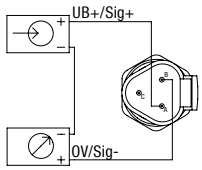
Electrical Connections



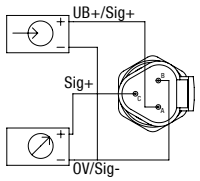
Flying leads / 2-wire 4 ... 20 mA



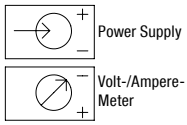
Flying leads / 3-wire 0 ... 10 V



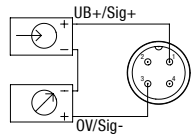
3-Pin Deutsch / 2-wire 4 ... 20 mA



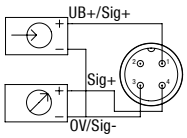
3-Pin Deutsch / 3-wire 0 ... 10 V



Sig+	output signal positive
UB+	power supply positive
0V	power supply negative
Sig-	output signal negative



M12 x 1 / 2-wire 4 ... 20 mA



M12 x 1 / 3-wire 0 ... 10 V

Pressure Switch and Transmitter ▪ Type SPWF



Product Description

The SPWF Pressure Switch and Transmitter features a LED display to provide continuous pressure monitoring and allows the operator to program the set points without having to pressurize the unit. The display can be rotated up to 330° to offer the best possible viewing position in any application.

Features

- Stainless Steel construction
- LED display and easy programming of set points
- Two switching outputs
- Adjustment ranges of: -1 ... 689,48 bar / -14.5 ... 10000 PSI
- G1/4 and 1/4 NPT process connections
- LED display rotates up to 330°

Options

- G1/2 and 1/2 NPT available process connections
- One switching output and one analog output
- Two switching outputs and one analog output

Order Codes

SPWF - P00750 - N04 - 1

① ② ③ ④

① Series and Type

Pressure Switch and Transmitter	**SPWF**

② Version

-1 ... 2,07 bar / -14.5 ... 30 PSI	**PN00030**
-1 ... 3,03 bar / -14.5 ... 44 PSI	**PN00040**
-1 ... 5,17 bar / -14.5 ... 75 PSI	**PN00075**
-1 ... 10,00 bar / -14.5 ... 145 PSI	**PN00145**
0 ... 2,07 bar / 0 ... 30 PSI	**P00030**
0 ... 5,17 bar / 0 ... 75 PSI	**P00075**
0 ... 10,00 bar / 0 ... 145 PSI	**P00145**
0 ... 20,68 bar / 0 ... 300 PSI	**P00300**
0 ... 51,71 bar / 0 ... 750 PSI (standard option)	**P00750**
0 ... 103,42 bar / 0 ... 1500 PSI (standard option)	**P01500**
0 ... 158,58 bar / 0 ... 2300 PSI (standard option)	**P02300**
0 ... 248,24 bar / 0 ... 3600 PSI (standard option)	**P03600**
0 ... 413,69 bar / 0 ... 6000 PSI (standard option)	**P06000**
0 ... 620,53 bar / 0 ... 9000 PSI (standard option)	**P09000**
0 ... 689,48 bar / 0 ... 10000 PSI	**P10000**

③ Process Connection

G1/4	**B04**
G1/2	**B08**
1/4 NPT (standard option)	**N04**
1/2 NPT	**N08**

④ Signal Output

Two switching outputs (standard option)	**1**
One switching output, one 4 ... 20 mA output	**2**
One switching output, one 0 ... 10 V output	**3**
Two switching outputs, one 4 ... 20 mA output	**4**

Pressure Switch and Transmitter ▪ Type SPWF



Technical Data

Materials
- Measuring Element: Stainless Steel for pressures above 103,42 bar /1500 PSI, Ceramic for below 103,42 bar / 1500 PSI
- Housing: Stainless Steel
- Process Connection: Stainless Steel

Supply Voltage
- 12 ... 30 V DC, protection from reverse polarity and overload

Power Consumption
- ≤ 50 mA, without load current

Switching Outputs
- Switching function: Normally Closed (NC) or normally Open (NO)
- Damping (option): 0 ... 2000 ms
- Delay (option): 0 ... 99,99 s
- Power rating: 0,5 A max.

Adjustment
- Set point: 1 ... 100 % FS*
- Reset point: 0 ... 99 % FS*

Analog Outputs
- Standard: 4 ... 20 mA, 3-wire
- Option: 0 ... 10 V, 3-wire
- Scaling: 20 ... 100 % FS*
- Load resistance: Current output <500, Voltage output >10 k
- Hysteresis: 0,3 % FS*
- Response time: ≤2 ms within 10 ... 90 % of FS*

Accuracy
- ±1 % FS* +1 digit

Repeatability
- ≤0.2 % FS*

Electrical Connection
- M12 x 1 / 4-Pin or M12 x 1 / 5-Pin

Process Connection
- G1/4, G1/2, 1/4 NPT, 1/2 NPT

Permissible Temperatures
- Media: -20 °C ... +80 °C / -4 °F ... +176 °F
- Ambient: -20 °C ... +70 °C / -4 °F ... +158 °F
- Storage: -30 °C ... +80 °C / -22 °F ... +176 °F
- Tk: 0.3 % per 10K

Display
- 7 segments, LED display, red, 7,6 mm / .30 in high
- 4 digits (-999 ... 9999)

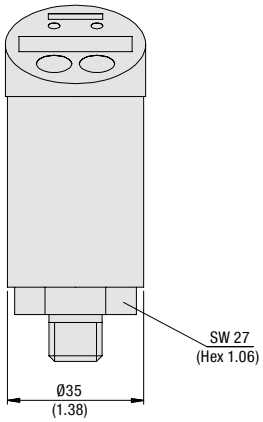
Load Capacity
- Shock resistance: 50 g according to IEC 60068-2-27
- Vibration resistance: 10 g according to IEC 60068-2-6

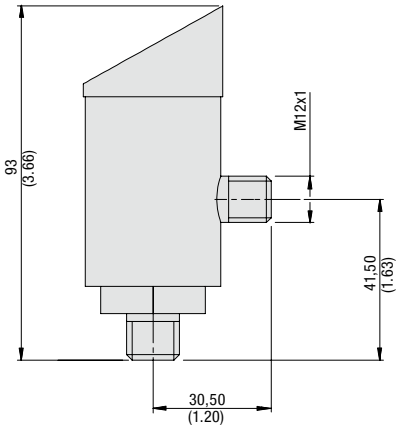
Weight
- Approximately 0.30 kg / .70 lbs

Protection Rating
- IP 65 protection rating: Dust tight and protected against water jets

* FS = Full Scale

Pressure Switch and Transmitter ▪ Type SPWF





Pressure Ranges

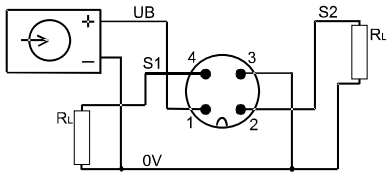
Version	Pressure Range (bar/PSI)	Maximum Pressure (bar/PSI)	Burst Pressure (bar/PSI)
PN00030	-1 ... 2,07	5,03	6,00
	-14.5 ... 30	73	87
PN00044	-1 ... 3,03	5,03	6,00
	-14.5 ... 44	73	87
PN00075	-1 ... 5,17	10,00	12,00
	-14.5 ... 75	145	174
PN00145	-1 ... 10,00	20,00	25,03
	-14.50 ... 145	290	363
P00030	0 ... 2,07	5,03	6,00
	0 ... 30	73	87
P00075	0 ... 5,17	10,00	12,00
	0 ... 75	145	174
P00145	0 ... 10,00	20,00	25,03
	0 ... 145	290	363
P00300	0 ... 20,68	39,99	49,99
	0 ... 300	580	725
P00750*	0 ... 51,71	99,97	119,97
	0 ... 750	1450	1740
P01500*	0 ... 103,42	199,95	249,93
	0 ... 1500	2900	3625
P02300*	0 ... 158,58	319,92	479,88
	0 ... 2300	4640	6960
P03600*	0 ... 248,24	499,87	749,80
	0 ... 3600	7250	10875
P06000*	0 ... 413,69	799,79	1199,70
	0 ... 6000	11600	17400
P09000*	0 ... 620,53	1199,70	1499,60
	0 ... 9000	17400	21750
P10000	0 ... 689,48	1199,70	1499,60
	0 ... 10000	17400	21750

Note:
* Standard option

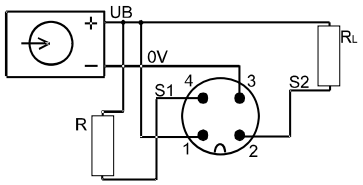
Dimensional drawings: All dimensions in mm (in).

Pressure Switch and Transmitter ▪ Type SPWF

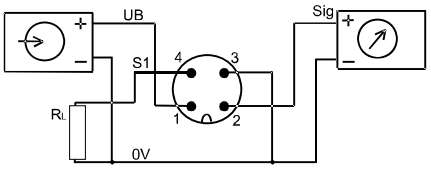
Electrical Connections



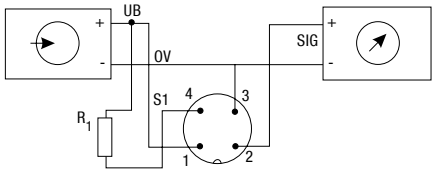
2 Switching outputs, p-type



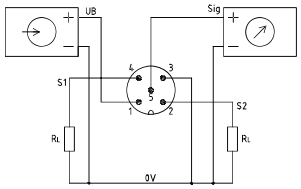
2 Switching outputs, n-type



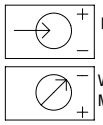
1 Switching output Pin-4-p-type, 1 analog output Pin 2



1 Switching output Pin-4-n-type, 1 analog output Pin 2



2 Switching outputs Pin 4 and Pin 2-p-type with 1 analog output Pin 5



Sig+	output signal positive
UB+	power supply positive
0V	power supply negative
Sig-	output signal negative

Temperature Switch and Transmitter ▪ Type STWE



Product Description

The STWE Temperature Switch and Transmitter features LED display to provide continuous temperature monitoring and allows the operator to easily adjust set and reset points by using the two programming buttons located on the display face on the unit. The display face can be rotated up to 330° to offer the best possible viewing position in any application.

Features

- Stainless Steel construction
- LED display and easy programming of set points
- Two switching outputs
- Temperature range: -50 °C ... +125 °C / -58 °F ... +257 °F
- G1/4 and 1/4 NPT process connections
- Different stem lengths
- LED display rotates up to 330°

Options

- G1/2 and 1/2 NPT available process connections
- Temperature range available from -200 °C ... +600 °C / -328 °F ... +1112 °F
- One switching output and one analog output

Order Codes

STWE	-	CN0125	-	N04	-	1	-	100
①		②		③		④		⑤

① Series and Type

Temperature Switch and Transmitter	**STWE**

② Temperature Ranges

-50 ... +125 °C / -58 ... +257 °F (standard option)	**CN0125**
-50 ... +200 °C / -58 ... +392 °F	**CN0200**
-200 ... +600 °C / -328 ... +1112 °F	**CN0600**
0 ... +400 °C / +32 ... +752 °F	**C0400**
0 ... +600 °C / +32 ... +1112 °F (standard option)	**C0600**

③ Process Connection

G1/4	**B04**
G1/2	**B08**
1/4 NPT (standard option)	**N04**
1/2 NPT	**N08**

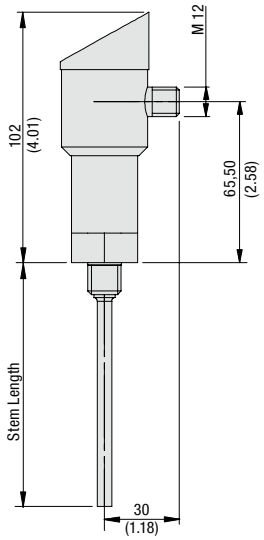
④ Signal Output

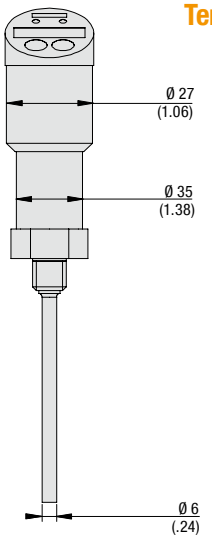
Two switching outputs (standard option)	**1**
One switching output, one 4 ... 20 mA Output	**2**

⑤ Stem Lengths

50 mm / 1.97 in	**50**
75 mm / 2.95 in	**75**
100 mm / 3.94 in	**100**
160 mm / 6.30 in	**160**
200 mm / 7.87 in	**200**
300 mm / 11.81 in	**300**

Temperature Switch and Transmitter ▪ Type STWE





Technical Data

Materials
- Housing: Stainless Steel
- Process connection: Stainless Steel

Supply Voltage
- 12...30 V DC, protection from reverse polarity and overload

Power Consumption
- ≤50 mA, without load current

Switching Outputs
- Switching function: Normally open (NO) or normally closed (NC)
- Power rating: 100 mA per switch output

Adjustment
- Setpoint 0.1 ° steps within temperature range
- Resetpoint 0.1 ° steps within temperature range up to (Setpoint -0.1°)

Analog Output
- Signal 4 ... 20 mA, 3-wire
- Load resistance Ra=Us-7 V / 0.022 A

Accuracy
- Accuracy of PT100 sensing element ±0.1 % of temperature range

Repeatabilty
- 0.05 %

Stem Length and Working Pressure (standard option)
- Ø 6 x 50 mm / .24 x 1.97 in stem length, up to 40 bar / 580 PSI
- Additional stem lengths available upon request

Process Connection
- G1/4, G1/2, 1/4 NPT, 1/2 NPT

Electrical Connection
- M12 x 1 / 4-Pin

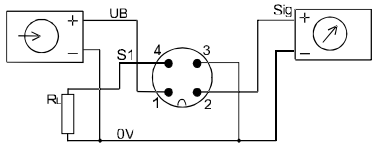
Permissible Temperatures
- Ambient: -30 °C ... +80 °C / -22 °F ... +176 °F
- Storage: -25 °C ... +70 °C / -13 °F ... +158 °F
- Tk: 0,1 % of measuring range per 10K

EMC to IEC / EN 61326
- IEC 61000/4/2 ESD: B
- IEC 61000/4/3 HF Radiated: A
- IEC 61000/4/4 Burst: A
- IEC 61000/4/5 Surge: A
- IEC 61000/4/6 HF Mains Borne: A

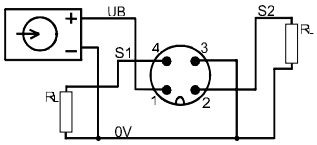
EMC to IEC / EN 61326
- Approx 0.30 kg / .70 lbs (dependent on stem length)

Protection Rating
- IP 65 protection rating: Dust tight and protected against water jets

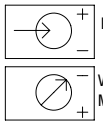
Electrical Connections



1 Switching output (Pin 4) with 1 analog output (Pin 2) (p-switching)



2 Switching output (p-switching) (Pin 4 switch 1; Pin 2 switch 2)



Sig+	output signal positive
UB+	power supply positive
0V	power supply negative
Sig-	output signal negative

Dimensional drawings: All dimensions in mm (in).

Temperature Transmitter ▪ Type STC



Product Description

The STC Temperature Transmitters is designed for process temperature measurement in low pressures. This unit features an all stainless steel construction up to 300 mm / 11.81 in stem length with G1/4 and 1/4 NPT process connection and a 4 ... 20 mA output. The user can select the exact temperature range they require at time of order.

Features

- Stainless Steel construction
- 4 ... 20 mA output
- 0 °C ... 50 °C, 0 °C ... 100 °C and 0 °C ... 120 °C measuring ranges available
- L-Plug DIN EN 175301-803A (DIN 43650-A) electrical connection
- G1/4 or 1/4 NPT process connection
- 50 and 100 mm stem lengths

Options

- 0 ... 10 V available output
- M12 x 1 electrical connection available
- G1/2 and 1/2 NPT available process connections
- 75, 160, 200 and 300 mm stem lengths available
- Available with an adjustable compression ring version for variable stem length

Order Codes

STC	-	C0050	-	N04	-	420A	-	1	-	50	F
①		②		③		④		⑤		⑥	⑦

① Series and Type

Temperature Transmitter	**STC**

② Temperature Ranges

0 ... +50 °C / +32 ... +122 °F	**C0050**
0 ... +100 °C / +32 ... +212 °F	**C0100**
0 ... +120 °C / +32 ... +248 °F	**C0120**
-50 ... +200 °C / -58 ... +329 °F	**MIN/MAX***

* Specify MIN/MAX temperature range between the -50 ... +200°C / -58 ... +329 °F range. Minimum temperature difference is 30K.

Note: Please consult STAUFF for alternative temperature ranges.

③ Process Connection

G1/4 *	**B04**
G1/2 *	**B08**
1/4 NPT **(standard option)**	**N04**
1/2 NPT *	**N08**

* Threads only available with adjustable compression ring fitting.

④ Signal Output

4 ... 20 mA (standard option)	**420A**
0 ... 10 V	**010V**

⑤ Electrical Connection

L-Plug DIN EN 175301-803A (DIN 43650-A) (standard option)	**1**
M12 x 1 / 4-Pin	**2**

⑥ Stem Lengths

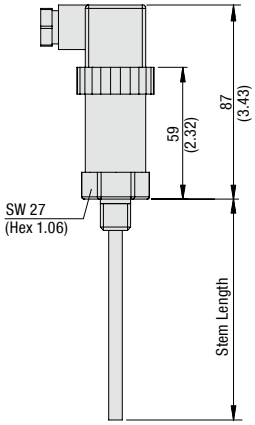
50 mm / 1.97 in (standard option) *	**50**
75 mm / 2.95 in *	**75**
100 mm / 3.94 in (standard option)	**100**
160 mm / 6.30 in	**160**
200 mm / 7.87 in	**200**
300 mm / 11.81 in	**300**

* Length only available with a fixed thread.

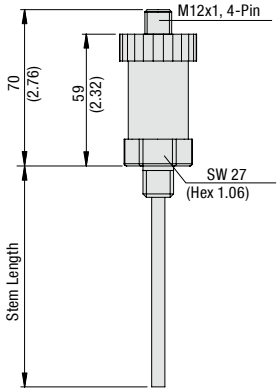
⑦ Style

Fixed thread (standard option)	**F**
Adjustable compression fitting	**A**

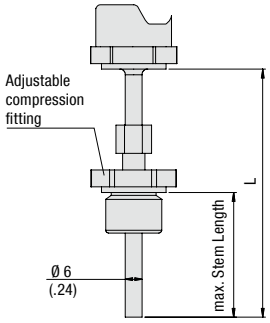
Temperature Transmitter ▪ Type STC



L-Plug DIN 175301-803A (DIN 43650-A)



M12 x 1 / 4-Pin



Adjustable Compression Fitting

Technical Data

Materials
- Housing: Stainless Steel 1.4571 (316 Ti)
- Process connection: Stainless Steel 1.4571 (316 Ti)
- Stem: Stainless Steel 1.4571 (316 Ti)

Signal Outputs and Supply Voltage
- 4 ... 20 mA, 2-wire,
  10 ... 30 V DC, ripple <10%
- 0 ... 10 V, 3-wire,
  12 ... 30 V DC, ripple <10%

Error Signals
- 23 mA sensor burnout
- 3.3 mA sensor short circuit

Accuracy
- ≤ ±5 % of FS*

Temperature Range
- -50 °C ... +200 °C / -58 °F ... +392 °F

Measuring Range
- Minimum range: 50 K
- Maximum range: 250 K

Process Connection
- G1/4, G1/2, 1/4 NPT, 1/2 NPT

Electrical Connection
- L-Plug according to DIN EN 175301-803A (DIN 43650-A)
- M12 x 1 / 4-Pin

Stem Length and Pressure Ranges
- 50 ... 500 mm / 1.97 x 19.67 in: up to 40 bar / 580 PSI
  (Pressure ranges refer to static pressure.)

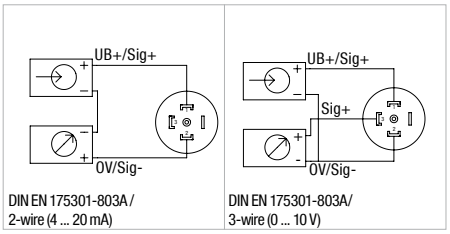
Permissible Temperatures
- Ambient: max. +85 °C / +185 °F
- Storage: -40 °C ... +85 °C / -40 °F ... +185 °F

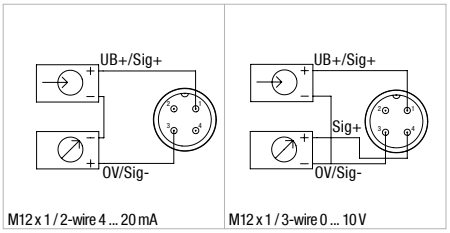
EMC-Resistance
- Emitted interference acc. to DIN EN 61326
- Breakdown effect acc. to DIN EN 61326

Weight
- Approx. 0.14 kg / .31 lbs (dependant on stem length)

Protection Rating
- L-Plug connection: IP 65 protection rating: Dust tight and protected against water jets
- M12 x 1 connection: IP 67 protection rating: Dust tight and protected against powerful water jets; even immersion (up to 1 m / 3.28 ft) in water is possible under defined conditions of pressure and time

Wiring Scheme

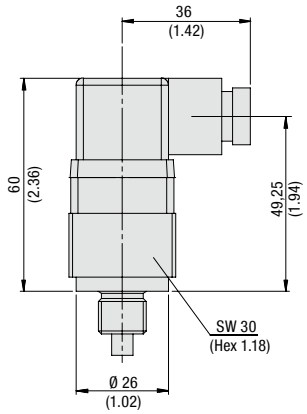




*FS = Full Scale
Dimensional drawings: All dimensions in mm (in).

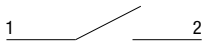
Temperature Switch ▪ Type STW



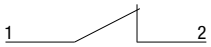


Wiring Scheme

Wiring diagram normally open



Wiring diagram normally closed



Product Description

The STW mechanical Temperature Switch is available in a variety of temperature ranges. This unit features a bimetallic fixed set point. The electrical connector of the SPW is designed to rotate in order to face the cable clamp into whatever position desired after installation.

Features

- Normally open and normally closed switching function
- Fixed set points from +60 °C ... +80 °C / +140 °F ... +176 °F
- G1/4 and 1/4 NPT process connections
- Brass body

Options

- Fixed set points from +30 °C ... +105 °C / +86 °F ... +221 °F
- G1/2 and 1/8 NPT process connections

Technical Data

Materials
- Body: Brass
- Connector: Polyamide

Signal Outputs
- Normally open (NO) or normally closed (NC)

Maximal Switching Values
- Maximal voltage: 250 V AC
- Maximal current: 10 A at 240 V AC
  5 A at 24 V AC
  10 A at 12 V AC

Accuracy
- ±5 °C / ±9 °F

Maximum Ratings
- Temperature: +130 °C / +266 °F
- Pressure: 150 bar / 2175 PSI

Electrical Connection
- DIN EN 175301-803 form A-PG09 (DIN 43650-A)

Process Connection
- G1/4, G1/2, 1/8 NPT, 1/4 NPT

Protection Rating
- IP 65 protection rating: Dust tight and protected against water jets

Order Codes

STW - C0060 - N04 - NO

① ② ③ ④

① Series and Type

Pressure Switch	**STW**

② Temperature Ranges (Fixed Set Point)

+30 °C / +86 °F	**C0030**
+40 °C / +104 °F	**C0040**
+50 °C / +122 °F	**C0050**
+60 °C / +140 °F (standard option)	**C0060**
+70 °C / +158 °F (standard option)	**C0070**
+80 °C / +176 °F (standard option)	**C0080**
+90 °C / +194 °F	**C0090**
+100 °C / +212 °F	**C0100**
+105 °C / +221 °F	**C0105**

③ Process Connection

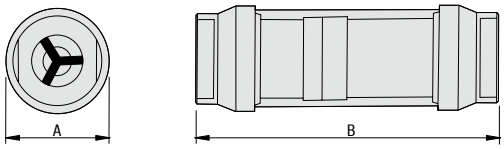
G1/4	**B04**
G1/2	**B08**
1/8 NPT	**N02**
1/4 NPT (standard option)	**N04**

④ Contacts

Normally open (standard option)	**NO**
Normally closed	**NC**

Dimensional drawings: All dimensions in mm (in).

Flowtell Inline Flow Meter ▪ Type SFF





Order Codes

SFF - **L00005** - **N08**

① ② ③

① Series and Type

Flowtell Inline Flow Meter	**SFF**

② Flow Ranges

2 ... 18 l/min / 0.5 ... 5 US GPM	**L00005**
12 ... 113 l/min / 3 ... 30 US GPM	**L00030**
31 ... 283 l/min / 8 ... 75 US GPM	**L00075**

③ Process Connection

G1/2 (only L00005)	**B08**
G3/4 (only L00030)	**B09**
G1-1/4 (only L00075)	**B20**
1/2 NPT (only L00005) (standard option)	**N08**
3/4 NPT (only L00030) (standard option)	**N09**
1-1/4 NPT (only L00075) (standard option)	**N20**

Dimensions

Codes	A (mm/in)	B (mm/in)
SFF-L00005-B08	48	167
	1.88	6.56
SFF-L00030-B09	60	182
	2.38	7.16
SFF-L00075-B20	90	258
	3.5	10.13
SFF-L00005-N08	48	167
	1.88	6.56
SFF-L00030-N09	60	182
	2.38	7.16
SFF-L00075-N20	90	258
	3.5	10.13

Product Description

The STAUFF Flowtell Inline Flow Meter is ideal for monitor case drain flows, pump performance and media flows through hydraulic circuits and sub-circuits. It allows the designer to install it in any orientation (horizontal, vertical or inverted) and is weather-tight for use outdoors and/or on systems where wash downs are required. It is also a reliable service tool that provides years of maintenance-free performance. Flows can be measured up to a value of 283 l/min / 75 GPM.

Features

- G1/2, G3/4, G1-1/4, 1/2 NPT, 3/4 NPT and 1-1/4 NPT process connection
- Flow ranges up to 283 l/min / 75 US GPM

Options

- Other process connection on request

Technical Data

Materials
- Aluminium end caps
- Polycarbonate Windows Tube
- NBR (Buna-N®) and Teflon sealings
- Suitable for Mineral-Based Hydraulic Fluid

Accuracy
- ±2.5 % of full scale in mid-third of flow range
- ±4.0 % over entire flow range

Repeatability
- ±1 % of full sale

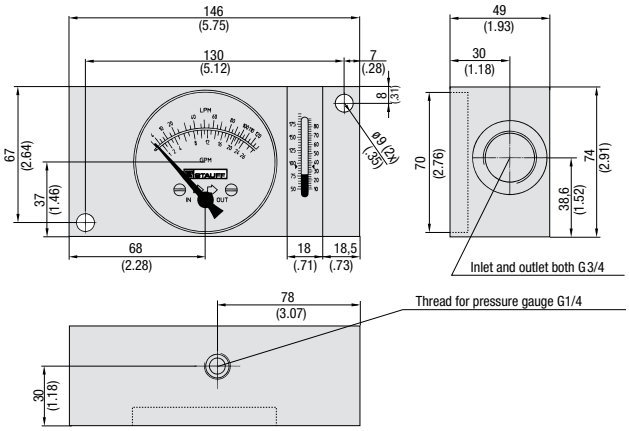
Max. Operating Pressure
- 240 bar / 3500 PSI

Max. Operating Temperature
- +116 °C / +240 °F

Dimensional drawings: All dimensions in mm (in).

Flow Indicator ▪ Types SDM / SDMK





Dimensions SDM-750

Product Description

Flow, pressure and temperature measuring of fluids (mobile and industrial hydraulics), also controlling of working pressure (only SDMK).

Features

- Suitable for Mineral Oil (Aluminium), HFC Fluids and Water (Bronze)
- Designed for in-line installation
- Mechanical flow measurement
- Controlling working pressure with a pressure control valve (only SDMK)
- Flow indication in l/min and GPM for Aluminium units, Bronze units have flow indication for Water and Oil both in l/min
- Aluminium unit: Dual scale
- Bronze unit: Single scale
- Thread to connect with pressure gauge (only SDM)

Technical Data

Accuracy
(at a kinematic viscosity of 28cSt):

- Flow: ±4 % FSD
- Temperature: ±2,5 °C / ±5 °F
- Pressure (only SDMK): ±1.6 % of max. pressure
- Temp. measuring range: +12,5 °C ... 117,5 °C / +55 °F ... +245 °F

Note: Other thread versions available on request.

Order Codes

SDM - 750N - A - 016 - T

① ② ③ ④ ⑤

① Series and Type

Flow Indicator Type SDM	**SDM**
Flow Indicator Type SDMK	**SDMK**

② Size

750N (SDM)	**750N**
750J (SDMK)	**750J**
1500S (only SDM)	**1500S**

③ Housing Material

Aluminium	**A**
Bronze (only SDM)	**B**

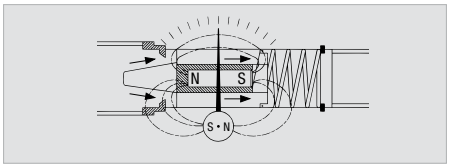
④ Flow Ranges

See table on page D79

⑤ Thermometer

With integrated thermometer (standard option)	**T**

Functional Principal Flow Measuring



The flow indicators SDM and SDMK have a sharp-edged orifice and a tapered metering piston, which moves in proportion to changes of flow against a spring. In no flow condition the piston closes the opening and the pointer indicates zero.

With increasing flow and differential pressure the piston moves against the calibrated spring. The piston movement is directly proportional to the flow rate and is magnetically coupled to the rotary pointer. During this function the sharp-edged orifice minimises the effects of viscosity. The flow is shown on a calibrated scale in l/min and gal/min.

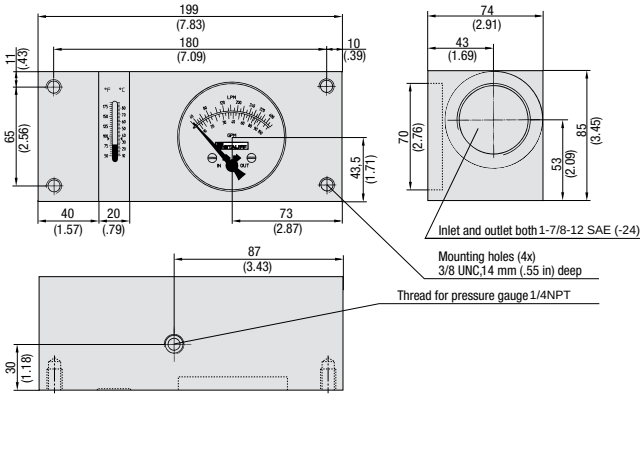
Controlling Working Pressure with SDMK

The pressure control valve of the SDMK is directly connected to a flow-block and together with the integrated pressure gauge it allows an exact control of the working pressure in the maximum range.

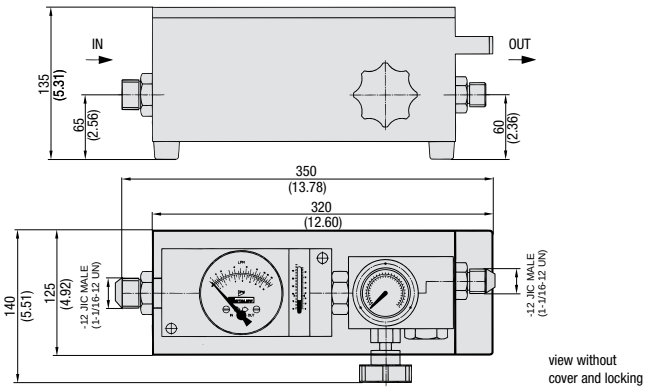
For protection the SDMK has two rupture disks. At a pressure of 440 bar / 6381 PSI the disks burst and the fluid is by-passed around the valve. The rupture disks (other pressure ranges on request) can be replaced easily.

Dimensional drawings: All dimensions in mm (in).

Flow Indicators ▪ Types SDM / SDMK



Dimensions SDM-1500



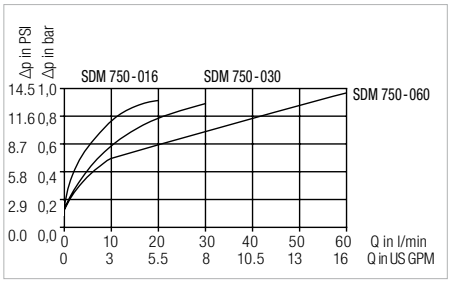
Dimensions SDMK-750

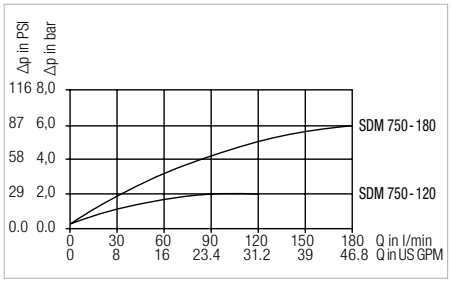
Technical Data

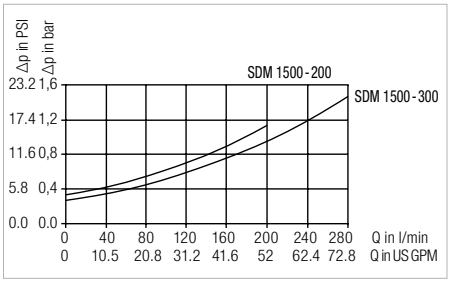
Order Codes	Max. Working Pressure (bar/PSI)	Flow Range (l/min/US GPM) Aluminum Units	Flow Range Bronze Units (only SDM) *	Weight (kg/lbs)	Connection
SDM-750N-A-016-T	420	2 - 16	-	1,36	3/4NPT
	6091	0.5 - 4	-	3.0	
SDM-750N-A-030-T	420	2 - 30	-	1,36	3/4NPT
	6091	0.5 - 8	-	3.0	
SDM-750N-A-060-T	420	2 - 60	-	1,36	3/4NPT
	6091	0.5 - 16	-	3.0	
SDM-750N-A-120-T	420	4 - 120	-	1,36	3/4NPT
	6091	1 - 32	-	3.0	
SDM-750N-A-180-T	420	10 - 180	-	1,36	3/4NPT
	6091	4 - 48	-	3.0	
SDM-750N-B-030-T	420	-	2 - 30 l/min in oil	3,80	3/4NPT
	6091	-	2- 30 l/min in water	8.40	
SDM-750N-B-060-T	420	-	3 - 60 l/min in oil	3,80	3/4NPT
	6091	-	3 - 70 l/min in water	8.40	
SDM-750N-B-120-T	420	-	4 - 120 l/min in oil	3,80	3/4NPT
	6091	-	4 - 140 l/min in water	8.40	
SDM-1500S-A-200-T	350	10 - 200	-	3,0	1-7/8–12 SAE
	5075	5 - 50	-	6.61	
SDM-1500S-A-300-T	350	20 - 300	-	3,0	1-7/8–12 SAE
	5075	4 - 80	-	6.61	
SDM-1500S-A-400-T	350	20 - 400	-	3,0	1-7/8–12 SAE
	5075	5 - 100	-	6.61	
SDM-1500S-B-200-T	350	-	10 - 200 l/min in oil	8,0	1-7/8–12 SAE
	5075	-	10 - 200 l/min in water	17.64	
SDM-1500S-B-400-T	350	-	20 - 400 l/min in oil	8,0	1-7/8–12 SAE
	5075	-	20 - 400 l/min in water	17.64	
SDMK-750J-A-030-T	420	2 - 30	-	4,5	1-1/16–12 UN 3/4 JIC
	6091	0.5 - 8	-	9.92	
SDMK-750J-A-060-T	420	2 - 60	-	4,5	1-1/16–12 UN 3/4 JIC
	6091	0.5 - 16	-	9.92	
SDMK-750J-A-120-T	420	4 - 120	-	4,5	1-1/16–12 UN 3/4 JIC
	6091	1 - 32	-	9.92	
SDMK-750J-A-180-T	420	10 - 180	-	4,5	1-1/16–12 UN 3/4 JIC
	6091	4 - 48	-	9.92	

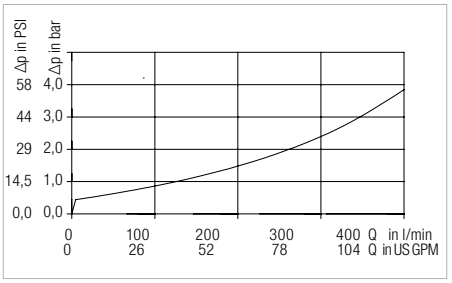
Flow Curves

Curves reffer to kinematic viscosity of 28cSt.









* The Bronze units have a scale for water and oil – both in l/min.
Dimensional drawings: All dimensions in mm (in).

Flow Monitoring System ▪ Type SGF

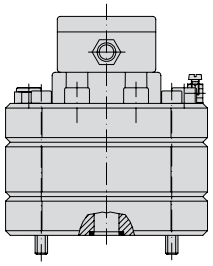
Product Description

With the SGF flow monitoring system STAUFF offers two different solutions for high accuracy and high pressure flow monitoring.

The SFG monitoring system can be integrated into manifolds or supplied with two typs of mounting plates.

Please see page D81 for details.





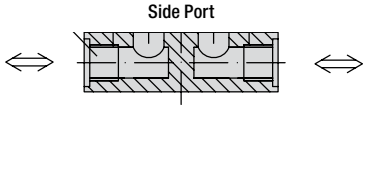
Mounting Plates ▪ Types SGFM

The connection plate SGFM is available in two versions.

- Side port version
- Bottom port version

They are only to be used with the SGF.

Please see page D84 for details.



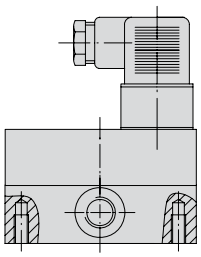
Flow Monitoring System ▪ Type SGFE

Product Description

The SGFE Aluminum Ecoflow Flow Meter based on the same measuring principal like the SGF, but is the economical alternative.
This product only featured side port connection.

Please see page D86 for details.





Flow Rate Displays ▪ Types STD 1 / STD 2 / STD 3 / STD 4

Product Description

The Flow Rate Display allows to visualize the values of both flow monitoring systems (SGF and SGFE).

STAUFF offers four versions of flow rate displays.

Please see page D89 for details.



STD 1



STD 2



STD 3



STD 4

Flow Monitoring System ▪ Type SGF



Order Codes

SGF - 0.04 - C - 1 - V - X

① ② ③ ④ ⑤ ⑥

① Series and Type

Flow Monitoring System	**SGF**

② Version

0,002 ... 2 l/min / 0.0005 ... 0.53 US GPM	**0.02**
0,004 ... 4 l/min / 0.0011 ... 1.06 US GPM	**0.04**
0,01 ... 10 l/min / 0.0026 ... 2.64 US GPM	**0.1**
0,02 ... 18 l/min / 0.0053 ... 4.76 US GPM	**0.2**
0,03 ... 40 l/min / 0.0079 ... 10.57 US GPM	**0.4**
0,05 ... 80 l/min / 0.0132 ... 21.13 US GPM	**1**
0,1 ... 120 l/min / 0.0264 ... 31.70 US GPM	**2**
1,0 ... 250 l/min / 0.2642 ... 66.00 US GPM	**4**

③ Material

Cast Iron	**C**
Stainless Steel 1.4305	**S**

④ Bearing Type

Ball bearing	**1**
Spindle - bearing	**2**

* Special bearing typ for special application on request

⑤ Sealings

FPM (Viton®) (standard option)	**V**
NBR (Buna-N®)	**B**
PTFE	**T**
EPDM	**E**

⑥ Special Options

Contact STAUFF for details

Note: Connection Plate see page D82.

Available Ranges

Version	Geometric Tooth Volume cm³	Measuring Range (l/min / US GPM)	K-Factor (Imp/Liter / Imp/Gal)
0.02	0,02	0,002 ... 2	50000
		0.005 ... 0.53	189272
0.04	0,04	0,004 ... 4	25000
		0.0011 ... 1.06	94636
0.1	0,1	0,01 ... 10	10000
		0.0026 ... 2.64	37854.4
0.2	0,2	0,02 ... 18	5000
		0.0053 ... 4.76	18927.2
0.4	0,4	0,03 ... 40	2500
		0.0079 ... 10.57	9463.6
1	1	0,05 ... 80	1000
		0.0132 ... 21.13	3785.44
2	2	0,1 ... 120	500
		0.0264 ... 31.70	1892.72
4	4	1 ... 250	250
		0.2642 ... 66.00	946.36

Product Description

The STAUFF SGF positive displacement Flow Meter offers a comprehensive solution for high accuracy and high pressure flow monitoring. The units are available for flow ranges from 0,002 l/min to 250 l/min / 0.0005 to 66.00 US GPM and are suitable for pressures up to 450 bar / 6500 PSI. It is possible to integrate the units direct into the hydraulic circuit.
Furthermore a special digital display to visualize the flow is available.

Media specific models are available for applications such as: Hydraulic test stand, Grease, Ink, Lubrication Systems, Diesel Fuel, Kerosene and Brake Fluid.

Technical Data

Materials
- Body: EN-GJS-400-15 (EN 1563) / Stainless Steel 1.4305
- Bearings: Ball, Spindle
- Sealings: FPM (Viton®), NBR (Buna-N®), PTFE, EPDM

Accuracy
- ± 0.3 % of measured value at 20 cSt

Repeatability
- ± 0.05 % of measured value at 20 cSt

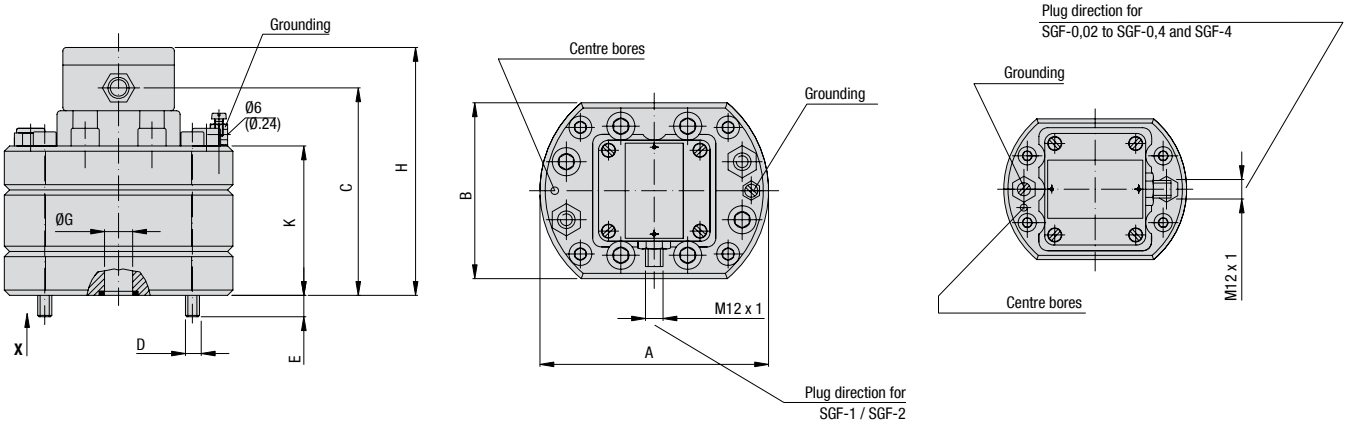
Power Supply
- 10 ... 28 V DC

Max. Operating Pressure
- Cast Iron housing: 315 bar / 4568 PSI
- Stainless Steel housing: 450 bar / 6526 PSI

Medium Temperature
- -40 °C ... +120 °C / -40 °F ... +248 °F

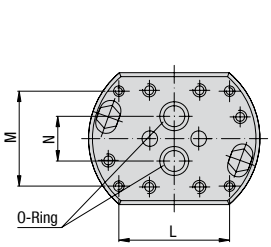
Viscosity Range
- Up to 100000 cSt (depends on type)

Flow Monitoring System ▪ Type SGF

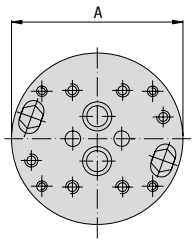


Cast Iron Version - Housing curve mill cuted

Connection Drawing (View X)



Cast Iron Version



Stainless Steel Version - Housing not mill cuted

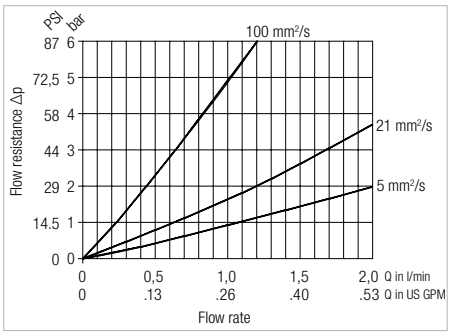
Dimensions

Version	A (mm/in)	B (mm/in)	C (mm/in)	D	E (mm/in)	ØG (mm/in)	H (mm/in)	K (mm/in)	L (mm/in)	M (mm/in)	N (mm/in)	O-Ring	Weight (kg/lbs) Cast Iron *	Stainless Steel **
0.02	100,0	80,0	91,0	M6	12,5	9	114,0	58,0	70,0	40,0	20,0	11 x 2	2,8	3,4
	3.94	3.15	3.58		.49	.35	4.49	2.28	2.76	1.57	.79		6.17	7.50
0.04	100,0	80,0	91,5	M6	11,5	9	114,5	58,5	70,0	40,0	20,0	11 x 2	2,8	3,4
	3.94	3.15	3.60		.45	.35	4.51	2.30	2.76	1.57	.79		6.17	7.50
0.1	100,0	80,0	94,0	M6	9,0	9	117,0	61,0	70,0	40,0	20,0	11 x 2	2,8	3,4
	3.94	3.15	3.70		.35	.35	4.61	2.40	2.76	1.57	.79		6.17	7.50
0.2	100,0	80,0	93,5	M6	9,5	9	116,5	60,5	70,0	40,0	20,0	11 x 2	3,0	3,7
	3.94	3.15	3.68		.37	.35	4.59	2.38	2.76	1.57	.79		6.61	8.16
0.4	115,0	90,0	96,5	M8	11,5	16	119,5	63,5	80,0	38,0	34,0	17,96 x 2,62	4,0	5,0
	4.53	3.54	3.80		.45	.63	4.70	2.50	3.15	1.50	1.34		8.82	11.02
1	130,0	100,0	101,0	M8	12,0	16	124,0	68,0	84,0	72,0	34,0	17,96 x 2,62	5,3	6,8
	5.12	3.94	3.98		.47	.63	4.88	2.68	3.31	2.83	1.34		11.68	15.00
2	130,0	100,0	118,0	M8	15,0	16	141,0	85,0	84,0	72,0	34,0	17,96 x 2,62	6,7	8,4
	5.12	3.94	4.65		.59	.63	5.55	3.35	3.31	2.83	1.34		14.78	18.52
4	180,0	140,0	143,0	M12	20,0	30	166,0	110,0	46,0	95,0	45,0	17,96 x 2,62	14,7	18,4
	7.09	5.51	5.63		.79	1.18	6.54	4.33	1.81	3.74	1.77		32.41	40,57

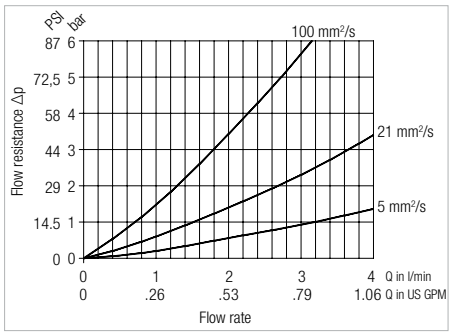
* Cast Iron EN-GJS-400-15 (EN 1563)
** Stainless Steel 1.4305

Dimensional drawings: All dimensions in mm (in).

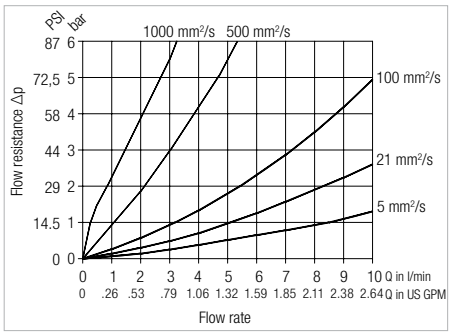
Flow Monitoring System ▪ Type SGF



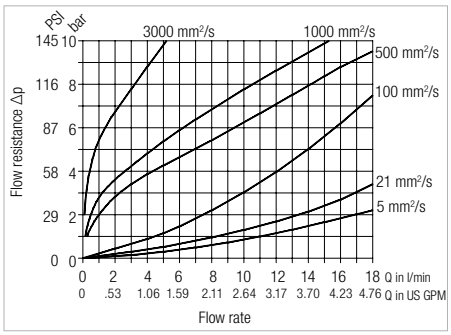
SGF-0.02



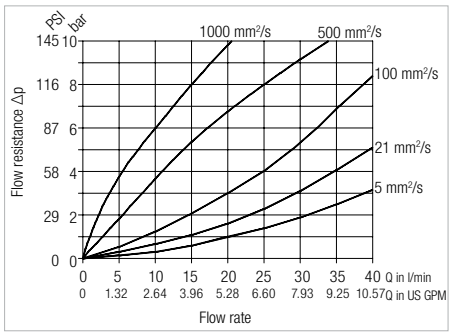
SGF-0.04



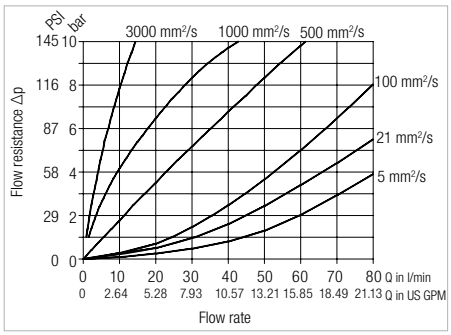
SGF-0.1



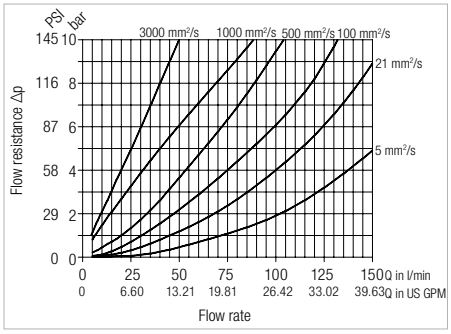
SGF-0.2



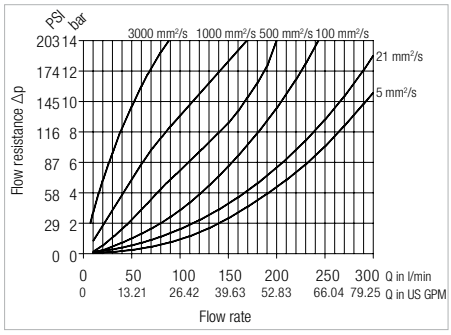
SGF-0.4



SGF-1

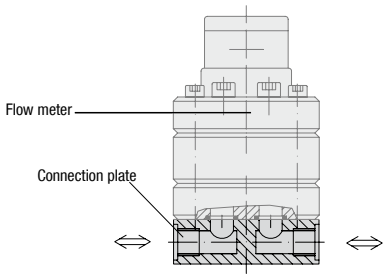


SGF-2

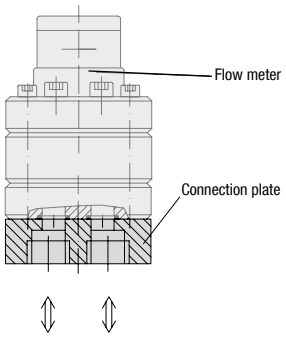


SGF-4

Flow Monitoring System - Connection Plate Type SGFM for use with SGF



Side Ports



Bottom Ports

Product Description

STAUFF offers different connections plates to connect your SGF flow monitoring system to your application.
They allow a side port or bottom port connection and are available in different thread sizes.

Order Codes

SGFM - 0.4 - S - C - 15 - X

① ② ③ ④ ⑤ ⑥

① Series and Type

Flow Monitoring System - Connection Plate	**SGFM**

② Size

Manifold Size	Available Thread Connections		Code
SGF-0.02 ... SGF-0.2	SAE	-4, -6, -8, -12	**0.2**
	NPT	1/4 NPT, 3/8 NPT, 1/2 NPT, 3/4 NPT	
	BSPP	G1/4, G3/8, G1/2, G3/4	
SGF-0.4	SAE	-8, -12, -16	**0.4**
	NPT	1/2 NPT, 3/4 NPT, 1 NPT	
	BSPP	G1/2, G3/4, G1	
SGF-1 ... 2	SAE	-8, -12, -16	**1**
	NPT	1/2 NPT, 3/4 NPT, 1 NPT, 1-1/4 NPT	
	BSPP	G1/2, G3/4, G1	
SGF-4	SAE	-12, -16, -20	**4**
	NPT	3/4 NPT, 1 NPT, 1-1/4 NPT	
	BSPP	G3/4, G1, G1-1/4, G1-1/2	
SGF-10	SAE Flange	1-1/2, 2	**10**
	BSPP	G1-1/2, G2	

③ Connection Type

Side Port Connection	**S**
Bottom Port Connection	**B**

④ Material

Cast Iron	**C**
Stainless Steel 1.4305	**S**

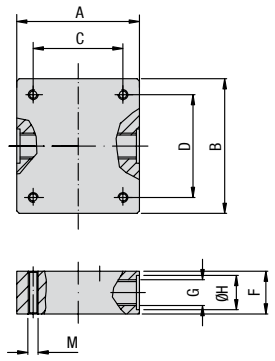
⑤ Connection Thread

G1/4	**1**
G3/8	**2**
G1/2	**3**
G3/4	**4**
G1	**5**
G1-1/4	**6**
G1-1/2	**7**
1/4 NPT	**8**
3/8 NPT	**9**
1/2 NPT	**10**
3/4 NPT	**11**
1 NPT	**12**
1-1/4 NPT	**13**
1-1/2 NPT	**14**
-8 SAE	**15**
-12 SAE	**16**
-16 SAE	**17**
-20 SAE	**18**
-24 SAE	**19**
-32 SAE	**20**
Others on request	

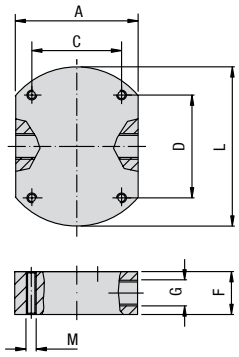
⑦ Special Options

Contact STAUFF for details

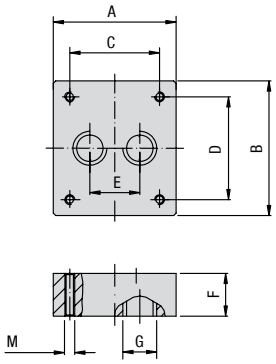
Connection Plate ▪ Type SGFM



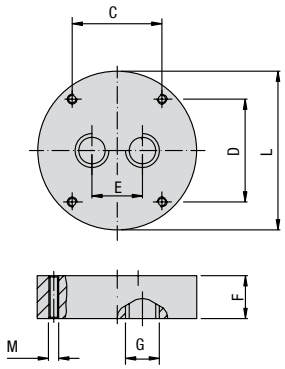
Side Port - Cast Iron



Side Port - Stainless Steel



Bottom Port * - Cast Iron



Bottom Port * - Stainless Steel

Dimensions

	Size SGF		G	F (mm/in)	ØH (mm/in)	E ** (mm/in)
Affiliated Size	0.02 / 0.04 0.1 / 0.2	G Pipe Thread Classification	G1/4	35 1.38	20 .79	26 1.02
	0.02 / 0.04 0.1 / 0.2		G3/8	35 1.38	23 .91	30 1.18
	0.02 / 0.04 0.1 / 0.2		G1/2	35 1.38	28 1.10	38 1.50
	0.4 / 1 / 2		G1/2	35 1.38	28 1.10	46 1.81
	0.4 / 1 / 2		G3/4	40 1.57	33 1.30	52 2.05
	1 / 2		G1	55 2.17	41 1.61	55 2.17
	4		G1-1/4	70 2.76	51 2.01	60 2.36
	4		G1-1/2	AP..U=70 AP..U= 2.76	56 2.20	72 2.83
	4		G1-1/2	AP..S=80 AP..S=3.15	56 2.20	72 2.83

Size SGF	A (mm/in)	B (mm/in)	C (mm/in)	D (mm/in)	L *** (mm/in)	Depth M	Weight (kg/lbs)
0.02 / 0.04	80	90	40	70	100	M6/12	1,8
0.1 / 0.2	3.15	3.54	1.57	2.76	3.94		3.97
0.4	90	100	38	80	115	M8/15	2,7
	3.54	3.94	1.50	3.15	4.53		5.95
1 / 2	100	110	72	84	130	M8/15	3,6
	3.94	4.33	2.83	3.31	5.12		7.94
4	120	130	100	110	-	M8/15	7,4
	4.72	5.12	3.94	4.33			16.31
	140	120	120	100	-	M8/15	7,4
	5.51	4.72	4.72	3.94			16.31
	140	-	100	110	180	M8/15	12
	5.51		3.94	4.33	7.09		26.46

* Both bottom ports (G) for sizes 4 have a displacement of 90° to the shown drawings.
** Only for bottom port connections
*** Only for Stainless Steel versions
Dimensional drawings: All dimensions in mm (in).

Flow Monitoring System ▪ Type SGFE



Product Description

Based upon the same positive displacement gear principle as the STAUFF SGF series, the SGFE Aluminum Ecoflow Flow Meter is an economical alternative for applications that require lower accuracy, temperature, and pressure.

Features

- In-line connection on the side
- An integrated pick up with PNP or NPN switching output produces one impulse per tooth volume.

Options

- LCD flow display with analog output and set limit switches mounted directly to the flow meter

Technical Data

Materials

- Body: Aluminium
- Bearings: Stainless Steel, Bronze, DU
- Sealings: FPM (Viton®), NBR (Buna-N®), PTFE, EPDM

Accuracy

- ± 2 % of measured value at 20 cSt

Power Supply

- 10 ... 30 V DC

Max. Operating Pressure

- 200 bar / 2900 PSI

Medium Temperature

- 0 °C ... +80 °C / 32 °F ... +176 °F

Viscosity Range

- Up to 100000 cSt (depends on type)

Order Codes

SGFE	-	0.04	-	S	-	1	-	N	-	V	-	X
①		②		③		④		⑤		⑥		⑦

① Series and Type

Flow Monitoring System	**SGFE**

② Version

0,05 ... 4 l/min / 0.013 ... 1.06 US GPM	**0.04**
0,1 ... 10 l/min / 0.026 ... 2.64 US GPM	**0.1**
0,2 ... 30 l/min / 0.053 ... 7.93 US GPM	**0.4**
0,5 ... 70 l/min / 0.132 ... 18.49 US GPM	**2**
3,0 ... 150 l/min / 0.79 ... 39.63 US GPM	**4**

③ Connection Type

Connection plate and location on side	**S**

④ Bearing Type

Stainless Steel - ball bearing	**1**
Bronze - sleeve bearing	**2**
DU - sleeve bearing	**3**

⑤ Pulse Output

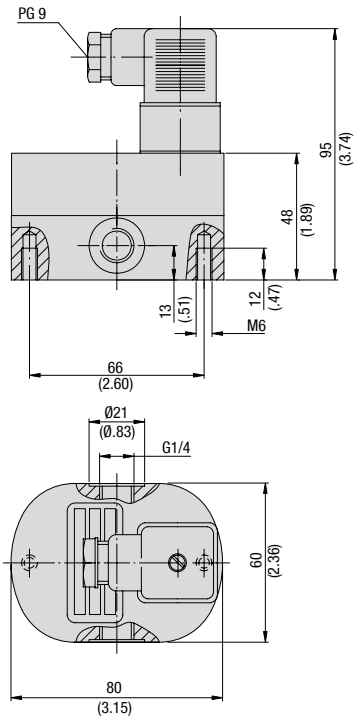
NPN	**N**
PNP	**P**

⑥ Sealings

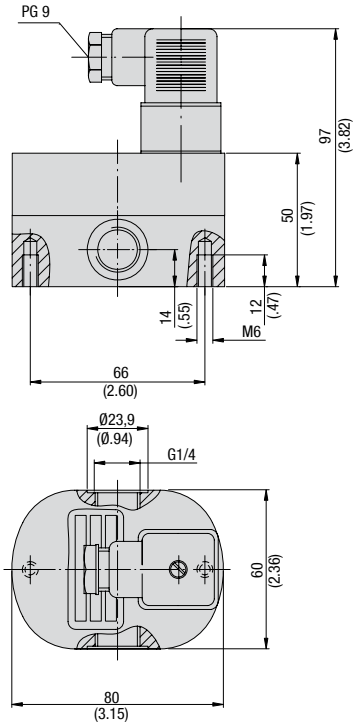
FPM (Viton®) (standard option)	**V**
NBR (Buna-N®)	**B**
PTFE	**T**
EPDM	**E**

⑦ Special Options

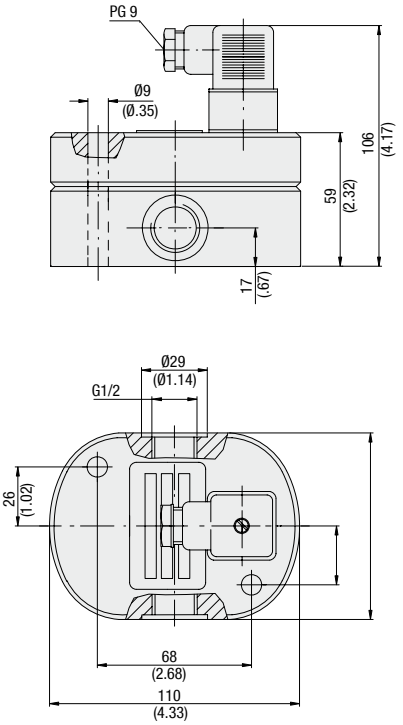
Contact STAUFF for details	



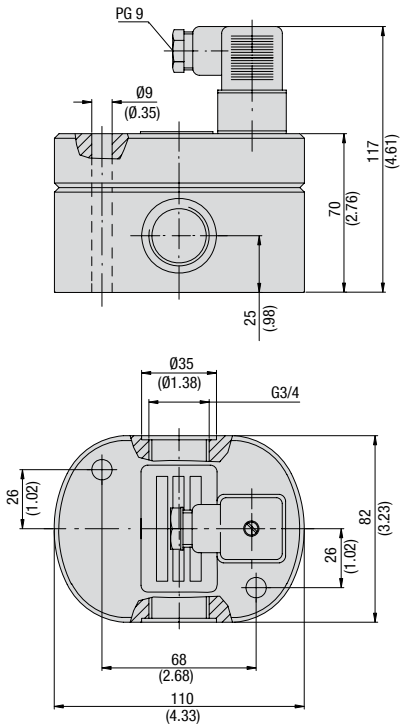
SGFE-0.04



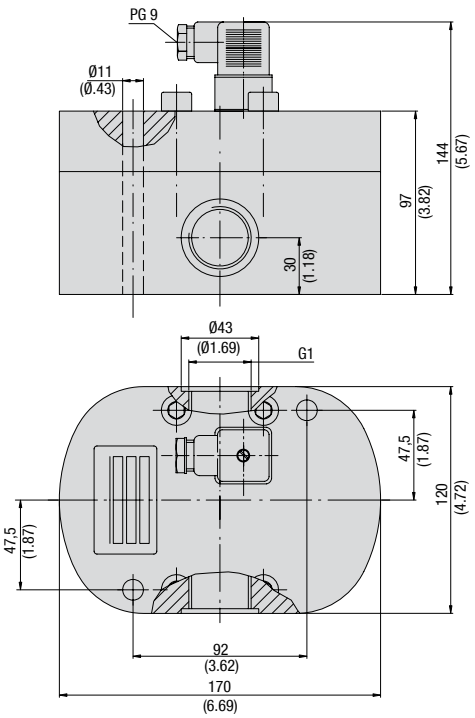
SGFE-0.1



SGFE-0.4



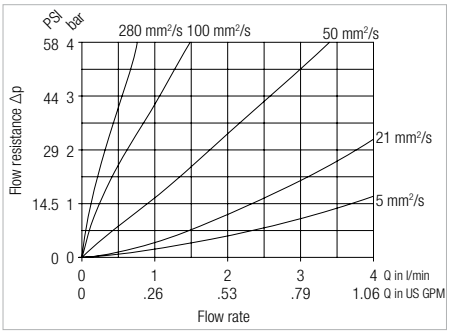
SGFE-2



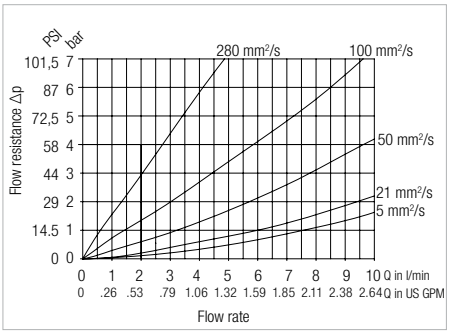
SGFE-4

D Diagtronics

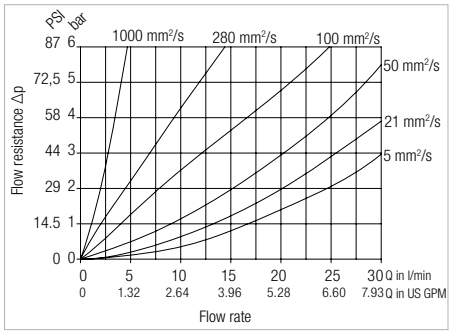
Flow Monitoring System ▪ Type SGFE



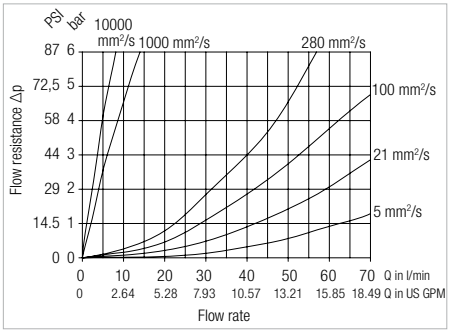
SGFE-0.04



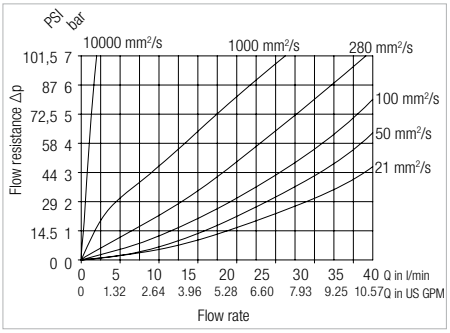
SGFE-0.1



SGFE-0.4



SGFE-2



SGFE-4

Note:
For trouble-free and safe operation of the flowmeters the correct selection of type and size is critical.
Due to the great number of different applications and flowmeter versions the technical data in the catalogue are of general character.

Certain characteristics of the devices deoend on type, size and measuring range as well as on the medium to be measured.

For exact flowmeter select please contact STAUFF.

Flow Rate Display ▪ Type STD 1



Order Codes

STD 1 - 420A - 24 - 1
① ② ③ ④

Only flow rate display

① Series and Type

Flow rate display	**STD 1**

② Output Signal

without analog output	**0**
0 ... 20 mA analog output	**020A**
4 ... 20 mA analog output	**420A**
0 ... 10 V analog output	**010V**
±0 ... 20 mA analog output	**N020A**
±0 ... 10 V analog output	**N010V**

③ Power Supply

Power supply 12 V DC	**12**
Power supply 24 V DC	**24**
Power supply 115 V AC	**115**
Power supply 230 V AC	**230**

④ Design

Panel Mount Design	**1**
19" Push in Design	**2**
Desktop Design	**3**

Product Description

Flow rate instrument to display and process signals of the STAUFF flowmeters SGF and SGFE.

- Flow direction indication with switching outputs
- Desktop housing design, panel mounting 96 x 48 mm or 19" push in design
- Analog output: 0 ... ± 10 V, 0 ... ±20 mA or 4 ... 20 mA flow rate direction depent voltage-/current-polarity is available
- Integrated power supply for flow sensor 24 V DC / 50 mA
- Maximum input frequency 2000 Hz
- Refreshtime 50 ms

Flow Rate or Volume Display ▪ Type STD 2

Order Codes

STD 2 - V - N020A - 24 - 1
① ② ③ ④ ⑤



Programmable display with switching outputs

① Series and Type

Flow rate- or volume display	**STD 2**

② Version

Volume display	**V**
Flow rate display	**F**

③ Output Signal

±0 ... 20 mA analog output	**N020A**
±0 ... 10 V analog output	**N010V**
4 ... 20 mA analog output	**420A**

③ Power Supply

Power supply 24 V DC *	**24**
Power supply 230 V AC	**230**

* 24 V supply only for STD 2

⑤ Design

Panel Mount Design	**1**
Desktop Design	**2**

Product Description

Flow rate or volume diplay device to display and process signals of the STAUFF flowmeters SGF and SGFE.

- Flow meter type selectable by menu
- Flow meter direction indicator
- Desktop housing design or panel mount design
  96 x 48 x 150 mm / 3.78 x 1.89 x 5.91
  (12 V, 30 mA for sensor with 230 V AC power supply) or
  96 x 96 x 150 mm / 3.78 x 3.78 x 5.91
  (24 V, 100 mA for sensor with 24 V DC power supply)
- 16-bit analog output 0 ... ± 10 V, 0 ... ± 20 mA or 0 / 4 ... 20 mA
- 2 limit value outputs
- Semiconductor
- SGF and SGFE preprogrammed parameters
- Power supply for flow sensor integrated 24 V DC / 100 mA and 12 V DC / 30 mA
- Maximum input frequency 45000 Hz
- Refreshtime 20 ... 9999 ms adjustable

Flow Rate and Volume Display▪ Type STD 3



Programmable display with switching outputs

Order Codes

STD 3 - N020A - 24 - 0 - 1

① ② ③ ④ ⑤

Product Description

Selectable flow rate or volume display in one device to display and process signals of the STAUFF SGF and SGFE.

- Flow meter and volume meter type programmable
- Desktop housing design or panel mount design
- 12-bit analog output 0 ... 10 V, 0 ... 20 mA or 4 ... 20 mA
- Switching outputs available
- Power supply for flow sensor integrated 12 V / 100 mA
- Maximum input frequency 6000 Hz
- Refreshtime 100 ... 9999 ms
- Power supply 24 V (11-36 V DC) or 110 / 230 V (85-250 V AC)

① Series and Type

Flow rate- and volume display	**STD 3**

② Output Signal

Without	**0**
0 ... 10 V	**010V**
0 ... 20 mA	**020A**
4 ... 20 mA	**420A**

③ Power Supply

Power supply 24 V DC (11-36 V DC)	**24VDC**
Power supply 110/230 V AC (85-2501 V AC)	**230VAC**

④ Switching Output

Without switching output	**0**
With switching output	**W**

⑤ Design

Panel Mount Design	**1**
Desktop Design	**2**

Signal Converter ▪ Type STD 4



Product Description

STD 4 is a small and inexpensive, but very powerful converter for industrial applications where frequencies of the flowmeters SGF or SGFE will be converted into an analog signal or a serial data stream. The unit is housed in a compact housing for DIN rail mounting and is equipped with 12 screw terminal connections and a 9-pin Sub-D socket.

- Input frequency for scale in the range of 0.1 Hz to 1 MHz adjustable
- Extremely fast conversion time of only 1 ms (f> 3 kHz)
- Analog outputs ± 10 V, 0 ... ± 20 mA and 4 ... 20 mA
- Polarity of the output signal depends on the direction of rotation
- Converts also sum, difference, product or ratio of two frequencies
- RS 232 and RS 485 interface for serial readout of the sensor frequency
- Power supply 18 ... 30 V DC
- Programmable digital filter and default option for any linearization curves
- Maximum frequency 1 MHz (200 kHz with SGF / SGFE
- Can also handle asymmetric TTL pulse

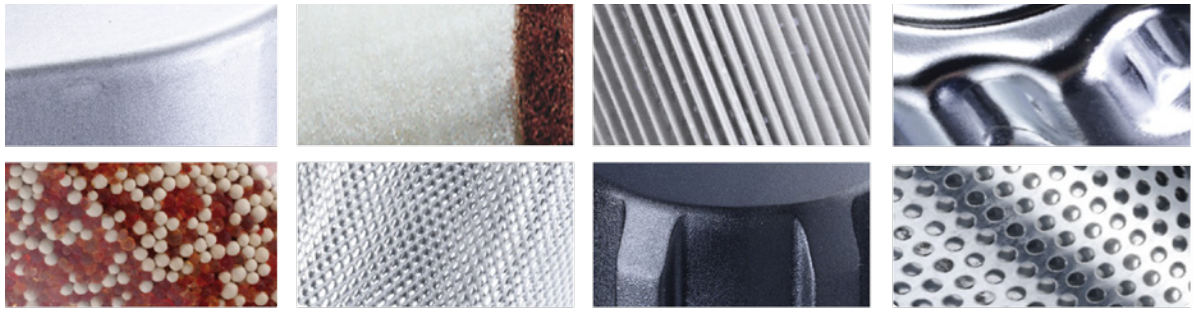
Order Code

STD 4



Home
Indicators - Level/Temp
Tank Filler Breathers
Giant Air Breathers
Desiccant Air Breathers
Breather Adaptors
Accessories
Cleaning

Accessories



The STAUFF Hydraulic Accessories programme has been carefully designed to offer a complete range of sophisticated components suited to the demands of building hydraulic reservoirs and power units in most industrial and mobile applications.

Whether you require a solution for a most precise visual or electrical fluid level and temperature indication, a reliable tank filling and breathing product that can even absorb moisture from your hydraulic system, or equipment to connect the suction and return line of your hydraulic circuit with the reservoir: The STAUFF Hydraulic Accessories programme will provide you with the choice you need.

At STAUFF, we are aware of the ongoing development and innovation within the hydraulic industry. We continually strive to keep up with and further develop the latest technology and to bring the benefit of any such improvements directly to our customers.

By the way: We are always prepared to consider custom designed products and product modifications according to your ideas or based on STAUFF developments.

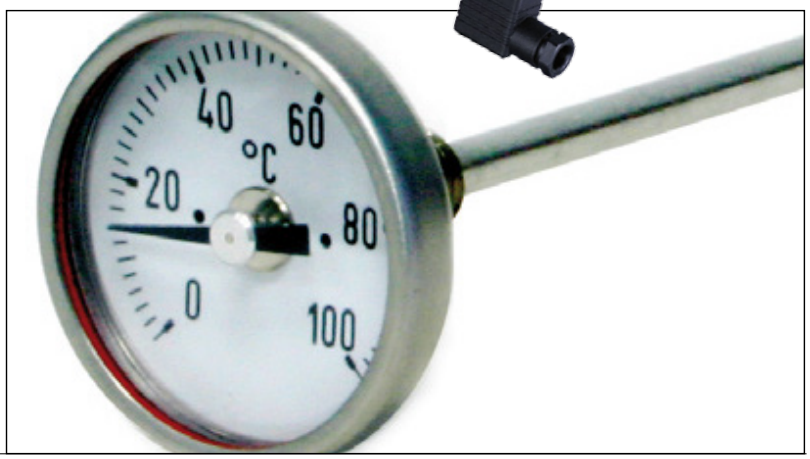
Please do not hesitate to contact STAUFF for further details.

Home
Indicators - Level/Temp
Tank Filler Breathers
Giant Air Breathers
Desiccant Air Breathers
Breather Adaptors
Accessories
Cleaning

Fluid Level / Temperature Indicators

Level Gauge SNA
Level Gauge (Special Options) SNA
Level Gauge SNK
Level Gauge (Compact Design) SNKK
Thermo Switch for use with Level Gauge TS-SNA/SNK
Dial Thermometer with Probe for use with Level Gauge T1 / T2
Temperature Sensor for use with Level Gauge TS-SNA/SNK-PT100
Temperature Sensor with Direct Installation Set TS-SNA/SNK-PT100-T
Display / Evaluation Unit for use with Temperature Sensor TS-SNA/SNK-PT100-D
Signal Convertor for use with Temperature Sensor TS-SNA/SNK-PT100-C
Metal Sight Glasses OLG
Plastic Sight Glasses SLW







Home
Indicators - Level/Temp
Tank Filler Breathers
Giant Air Breathers
Desiccant Air Breathers
Breather Adaptors
Accessories
Cleaning

Tank Filler Breathers

Plastic Filler Breather (Screw-In Version) SPB 1 / SPB 2 / SPB 3
Plastic Filler Breather (Flange Version) SPB 4 / SPB 5
Accessories / Options (Dipsticks / Baskets / Pressurization) Pressure Drop Flow Curves
Plastic Filler Breather (Compact Design; Screw-In Version) SPBN
Plastic Filler Breather (Compact Design; Bayonet Version) SPBN
Accessories / Options (Dipsticks / Baskets / Pressurization) Pressure Drop Flow Curves
Metal Filler Breather (Screw-In Version) SMBT-47
Metal Filler Breather (Bayonet Version) SMBB-47
Metal Filler Breather (Screw-In Version) SMBT-80
Metal Filler Breather (Bayonet Version) SMBB-80
Metal Breather (Push-On Version) SMBP-80
Lockable Metal Filler Breather (Clamping, Threaded and Push-On Version) SMBL
Side Mount Bracket (Polyamide) for use with Filler Breather ASMB-1
Side Mount Bracket (Aluminium) for use with Filler Breather ASMB-2
Extended Bayonet Flange for use with Filler Breather EBF-1
Extended Bayonet Flange for use with Filler Breather EBF-2
Weld Riser for use with Filler Breather WR
Plastic Filler Breather (Screw-In Version) SES-1
Plastic Filler Breather (Welded Version) SES-2





Home
Indicators - Level/Temp
Tank Filler Breathers
Giant Air Breathers
Desiccant Air Breathers
Breather Adaptors
Accessories
Cleaning

Desiccant Air Breathers

Desiccant Air Breather SDB
Desiccant Air Breather (Economy Version) SVDB
Desiccant Air Breather with Check Valves SDB-CV
Adaptor Plate for use with Desiccant Air Breather AP
Visual Contamination Indicator for use with Adaptor Plate FM





Home
Indicators - Level/Temp
Tank Filler Breathers
Giant Air Breathers
Desiccant Air Breathers
Breather Adaptors
Accessories
Cleaning

Breather Adaptors

Breather Adaptors (Steel Version) TBA
Threaded Breather Adaptor (Polyamide Version) BA-5
Breather Adaptor with Filler Port BA-6
Threaded Breather Adaptor (Aluminium Version) DBA-75
Bayonet Breather Adaptor (Aluminium Version) BA-1
Bayonet Breather Adaptor (Aluminium Version) BA-2
Bayonet Breather Adaptor (Aluminium Version) BA-3
SAE Half Coupling Weld Adaptor SWF



Home
Indicators - Level/Temp
Tank Filler Breathers
Giant Air Breathers
Desiccant Air Breathers
Breather Adaptors
Accessories
Cleaning

Accessories

Suction Line

Suction Strainer (Polyamide End Cap) SUS
Suction Strainer (Aluminium End Cap) SUS
Suction Strainer (NPT Tank Mounted) TMF
Suction Strainer (SAE O-Ring Tank Mounted) TMF
Suction Strainer (Hose Barb Tank Mounted) TMF
Weld Flange WC
Suction Flanges SF



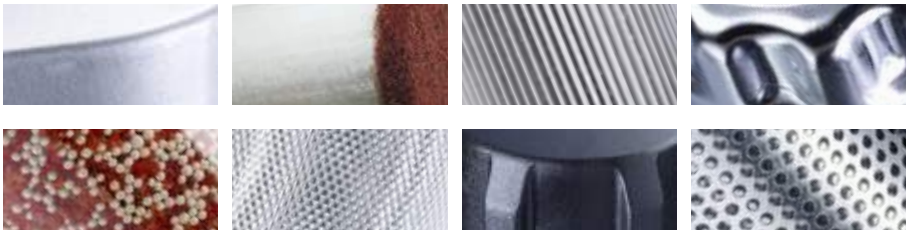
Return Line

Diffuser SRV
Return Line Bushing SRF

Reservoir

Reservoir End Cover
Motgor Pump Adaptors
Foot Mount Brackets for Hydraulic Pumps FM





E

Hydraulic Accessories

Index	E2
Fluid Level / Temperature Indicators	E4
Tank Filler Breathers	E12
Giant Air Breathers	E28
Desiccant Air Breathers	E30
Breather Adaptors	E34
Suction Line Accessories	E38
Return Line Accessories	E46
Other Reservoir Accessories	E48
Pipe, Tube and Hose Cleaning	E54

The STAUFF Hydraulic Accessories programme has been carefully designed to offer a complete range of sophisticated components suited to the demands of building hydraulic reservoirs and power units in most industrial and mobile applications.

Whether you require a solution for a most precise visual or electrical fluid level and temperature indication, a reliable tank filling and breathing product that can even absorb moisture from your hydraulic system, or equipment to connect the suction and return line of your hydraulic circuit with the reservoir: The STAUFF Hydraulic Accessories programme will provide you with the choice you need.

At STAUFF, we are aware of the ongoing development and innovation within the hydraulic industry. We continually strive to keep up with and further develop the latest technology and to bring the benefit of any such improvements directly to our customers.

By the way: We are always prepared to consider custom-designed products and product modifications according to your ideas or based on STAUFF developments.

Please do not hesitate to contact STAUFF for further details.

www.stauff.com

Fluid Level / Temperature Indicators

	**Level Gauge**	SNA	**E4**
	**Level Gauge** (Special Options)	SNA	**E5**
	**Level Gauge**	SNK	**E6**
	**Level Gauge** (Compact Design)	SNKK	**E7**
	**Thermo Switch** for use with Level Gauge	TS-SNA/SNK	**E8**
	**Dial Thermometer with Probe** for use with Level Gauge	T1 / T2	**E8**
	**Temperature Sensor** for use with Level Gauge	TS-SNA/SNK-PT100	**E9**
	**Temperature Sensor** with Direct Installation Set	TS-SNA/SNK-PT100-T	**E9**
	**Display / Evaluation Unit** for use with Temperature Sensor	TS-SNA/SNK-PT100-D	**E10**
	**Signal Convertor** for use with Temperature Sensor	TS-SNA/SNK-PT100-C	**E10**
	**Metal Sight Glasses**	OLG	**E11**
	**Plastic Sight Glasses**	SLW	**E11**

Tank Filler Breathers

	**Plastic Filler Breather** (Screw-In Version)	SPB 1 SPB 2 SPB 3	**E12**
	**Plastic Filler Breather** (Flange Version)	SPB 4 SPB 5	**E13**
	Accessories / Options (Dipsticks / Baskets / Pressurisation) **Pressure Drop Flow Curves**		**E14**
	**Plastic Filler Breather** (Compact Design; Screw-In Version)	SPBN	**E16**
	**Plastic Filler Breather** (Compact Design; Bayonet Version)	SPBN	**E16**
	Accessories / Options (Dipsticks / Baskets / Pressurisation) **Pressure Drop Flow Curves**		**E17**
	**Metal Filler Breather** (Screw-In Version)	SMBT-47	**E18**
	**Metal Filler Breather** (Bayonet Version)	SMBB-47	**E19**
	**Metal Filler Breather** (Screw-In Version)	SMBT-80	**E20**
	**Metal Filler Breather** (Bayonet Version)	SMBB-80	**E21**
	**Metal Breather** (Push-On Version)	SMBP-80	**E22**
	**Lockable Metal Filler Breather** (Clamping, Threaded and Push-On Version)	SMBL	**E23**
	**Side Mount Bracket (Polyamide)** for use with Filler Breather	ASMB-1	**E24**
	**Side Mount Bracket (Aluminium)** for use with Filler Breather	ASMB-2	**E24**
	**Extended Bayonet Flange** for use with Filler Breather	EBF-1	**E25**
	**Extended Bayonet Flange** for use with Filler Breather	EBF-2	**E25**
	**Weld Riser** for use with Filler Breather	WR	**E25**
	**Plastic Filler Breather** (Screw-In Version)	SES-1	**E26**
	**Plastic Filler Breather** (Welded Version)	SES-2	**E26**

Giant Air Breathers


Giant Air Breather (3 µm Synthetic Fibre) SGB **E28**


Giant Air Breather (10 µm Cellulose) SGB **E29**

Desiccant Air Breathers


Desiccant Air Breather SDB **E30**


Desiccant Air Breather (Economy Version) SVDB **E31**


Desiccant Air Breather with Check Valves SDB-CV **E32**


Adaptor Plate for use with Desiccant Air Breather AP **E33**


Visual Contamination Indicator for use with Adaptor Plate FM **E33**

Breather Adaptors


Threaded Breather Adaptor (Steel Version) TBA **E34**

Threaded Breather Adaptor (Polyamide Version) BA-5 **E34**


Breather Adaptor with Fillter Port BA-6 **E35**


Threaded Breather Adaptor (Aluminium Version) DBA-75 **E35**


Bayonet Breather Adaptor (Aluminium Version) BA-1 **E36**


Bayonet Breather Adaptor (Aluminium Version) BA-2 **E36**


Bayonet Breather Adaptor (Aluminium Version) BA-3 **E36**


SAE Half Coupling Weld Adaptor SWF **E37**

Suction Line Accessories


Suction Strainer (Polyamide End Cap) SUS **E38**


Suction Strainer (Aluminium End Cap) SUS **E39**


Suction Strainer (NPT Tank Mounted) TMF **E40**


Suction Strainer (SAE O-Ring Tank Mounted) TMF **E41**


Suction Strainer (Hose Barb Tank Mounted) TMF **E42**


Weld Flange WC **E43**


Suction Flanges SF **E44**

Return Line Accessories


Diffuser SRV **E46**


Return Line Bushing SRF **E47**

Other Reservoir Accessories


Reservoir End Cover EC **E48**


Motor Pump Adaptors for Electric Motors **E50**

Foot Mount Brackets for Hydraulic Pumps **E53**

STAUFF Clean


Pipe, Tube and Hose Cleaning System **E54**

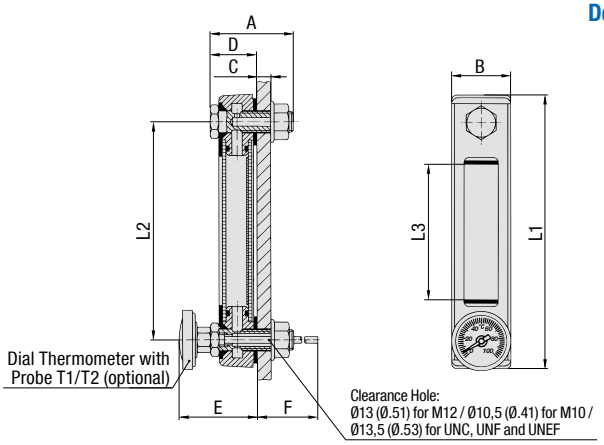

Launchers / Launcher Kits **E54**


Nozzles / Nozzle Sets **E54**

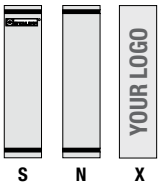

Projectiles **E55**

Level Gauge ▪ Type SNA





Design of Scale Plates



Thermometer Options

Capillary Tube Thermometer
with a dual Celsius / Fahrenheit scale up to +80 °C / +180 °F



Characteristics

Visual fluid level indication in hydraulic reservoirs with maximum tank pressures not exceeding 2 bar / 29 PSI

Nominal Sizes and Designs

- 6 nominal sizes from 76 mm / 2.99 in to 305 mm / 12.00 in
- Display either undivided (SNA 076 ... 176) or subdivided by strut(s) into 2 (SNA 254) or 3 sections (SNA 305)

Please see page E5 for alternative nominal sizes and designs.

Media Compatibility

- Suitable for use with Mineral and Petroleum based hydraulic fluids (HL and HLP)

Materials

- Housing made of Steel St 12, black epoxy-coated
- Sight tube and plugs made of Polyamide (PA)
- Sealings made of NBR (Buna-N®)
- Scale plate made of PVC

Special sight tube materials for improved UV or chemical resistance and use with special media (such as bio-degradable fluids, diesel oils, gasolines, etc.) as well as special sealing materials, e.g. FPM (Viton®), and scale plate materials, e.g. Aluminium, are available on request.

Please see page E5 for alternative housing materials.

Technical Data

- IP 65 protection rating: Dust tight and protected against water jets (IP 67 on request)
- Operating temperature range: -30 °C ... +80 °C / -22 °F ... +176 °F
- Recommended tightening torque: 8 N·m / 5.9 ft·lb

Accessories / Options

- Red / blue capillary tube thermometers with a dual Celsius / Fahrenheit scale and a temperature display range of up to +80 °C / +180 °F
- Dial thermometers with probe and a Celsius or a dual Celsius / Fahrenheit scale with a temperature display range of up to +100 °C / +212 °F
- Thermo Switches
- Temperature Sensors

Please see pages E8 and E9 for details.

Dimensions

Maximum admissible tolerance for the bolt center spacing (dimension L2) according to DIN ISO 2768-f: ±0,20 mm / .008 in for all nominal sizes.

Nominal Size	Dimensions (mm/in)									
	A	B	C (Max.)	D	E	F (with T1)	F (with T2)	L1	L2	L3
SNA 076	45	34,5	8	27	43,5	165,5	265,5	108	76	31
	1.77	1.36	.32	1.06	1.71	6.52	10.45	4.25	2.99	1.22
SNA 127	45	34,5	8	27	43,5	165,5	265,5	159	127	76
	1.77	1.36	.32	1.06	1.71	6.52	10.45	6.26	5.00	2.99
SNA 150	45	34,5	8	27	43,5	165,5	265,5	182	150	99
	1.77	1.36	.32	1.06	1.71	6.52	10.45	7.17	5.91	3.90
SNA 176	45	34,5	8	27	43,5	165,5	265,5	208	176	124
	1.77	1.36	.32	1.06	1.71	6.52	10.45	8.19	6.93	4.88
SNA 254	45	34,5	8	27	43,5	165,5	265,5	285	254	192
	1.77	1.36	.32	1.06	1.71	6.52	10.45	11.22	10.00	7.56
SNA 305	45	34,5	8	27	43,5	165,5	265,5	336	305	244
	1.77	1.36	.32	1.06	1.71	6.52	10.45	13.23	12.00	9.61

Order Codes

SNA	127	B	-	S	-	0	-	12	-	0	-	60
①	②	③		④		⑤		⑥		⑦		⑧

① Type

Level Gauge with visual fluid level indication	**SNA**

② Nominal Size

SNA 076 (nominal size of 76 mm / 2.99 in)	**076**
SNA 127 (nominal size of 127 mm / 5.00 in)	**127**
SNA 150 (nominal size of 150 mm / 5.91 in)	**150**
SNA 176 (nominal size of 176 mm / 6.93 in)	**176**
SNA 254 (nominal size of 254 mm / 10.00 in)	**254**
SNA 305 (nominal size of 305 mm / 12.00 in)	**305**

Please see page E5 for alternative nominal sizes.

③ Sealing Material

NBR (Buna-N®) (standard option)	**B**
FPM (Viton®)	**V**

④ Design of Scale Plate

With STAUFF logo (standard option)	**S**
Neutral design without any logo	**N**
Custom-designed scale plate (please specify)	**X**

⑤ Thermometer Option

Supplied without thermometer	**0**
Red Capillary Tube thermometer on scale plate	**T**
Blue Capillary Tube thermometer on scale plate	**TB**
Dial thermometer with probe (200 mm / 7.87 in) and a Celsius scale up to 100 °C	**T1C**
Dial thermometer with probe (300 mm / 11.81 in) and a Celsius scale up to 100 °C	**T2C**
Dial thermometer with probe (200 mm / 7.87 in) and a dual scale up to 100 °C / 212 °F	**T1CF**
Dial thermometer with probe (300 mm / 11.81 in) and a dual scale up to 100 °C / 212 °F	**T2CF**

⑥ Banjo Bolt Size

Metric ISO thread M12 (standard option)	**12**
Metric ISO thread M10	**10**
Unified coarse thread 1/2–13 UNC	**U1**
Unified fine thread 1/2–20 UNF (special option)	**U2**
Unified extra-fine thread 1/2–28 UNEF (special option)	**U3**

⑦ Thermo Switch / Temperature Sensor Option

Supplied without Thermo Switch / Temperature Sensor	**-**
Thermo Switch TS-SNA/SNK; Break contact (normally closed); Equipped with standard connector	**0**
Thermo Switch TS-SNA/SNK; Break contact (normally closed); Equipped with connector M12	**0D**
Thermo Switch TS-SNA/SNK; Make contact (normally open); Equipped with standard connector	**C**
Thermo Switch TS-SNA/SNK; Make contact (normally open); Equipped with connector M12	**CD**
Temperature Sensor TS-SNA/SNK-PT100; Equipped with connector M12	**PT100**

Thermo Switches / Temperature Sensors only available for banjo bolt size M12. Please see pages E8 and E9 for details.

⑧ Switching Temperature

Contact switches at +60 °C / +140 °F	**60**
Contact switches at +70 °C / +158 °F	**70**
Contact switches at +80 °C / +176 °F	**80**
Contact switches at +90 °C / +194 °F	**90**

Only to be indicated when using a Thermo Switch.

Options T1C/T1CF and T2C/T2 CF are not available for banjo bolt size M10 and not be used in conjunction with Thermo Switches or Temperature Sensors.
Please see page E8 for details.

Dimensional drawings: All dimensions in mm (in).

Level Gauge (Special Options) ▪ Type SNA

Characteristics

Visual fluid level indication in hydraulic reservoirs with maximum tank pressures not exceeding 2 bar / 29 PSI; ideal for custom applications in terms of reservoir capacities and dimensions

Nominal Sizes

- Special sizes beyond the normal of 305 mm / 12 in up to a maximum nominal size of 950 mm / 37.4 in – even for small and medium quantities
- High-precision manufacturing within 1 mm tolerance to customer requirements

Design

- Robust design thanks to one or more struts that subdivide the display into 2 or more sections
- Positioning of the strut(s) based on engineering considerations and/or according to particular customer requirements
- Precise visual indication of the fluid level by use of scale plates (only available for nominal sizes smaller than 670 mm / 26.4 in) or by use of a coloured floating element (recommended option for nominal sizes larger than 670 mm / 26.4 in)
- Plastic dampening clips to reduce vibration of the sight tube are used for nominal sizes larger than 450 mm / 17.7 in

Materials

- Housing made of Steel, Aluminium or Stainless Steel
- Sight tube and plugs made of Polyamide (PA)
- Sealings made of NBR (Buna-N®)
- Scale plate made of PVC
- Floating element made of Polyamide (PA)

Special sight tube materials for improved UV or chemical resistance and use with special media (such as bio-degradable fluids, diesel oils, gasolines, etc.) as well as special sealing materials, e.g. FPM (Viton®), and scale plate materials, e.g. Aluminium, are available on request.

Please also ask for our special low-temperature versions, suitable for extreme temperatures up to -40 °C / -40 °F.

Accessories / Options

- Capillary tube thermometers with a dual Celsius / Fahrenheit scale and a temperature display range of up to +80 °C / +180 °F
- Dial thermometers with probe and a Celsius or a dual Celsius / Fahrenheit scale with a temperature display range of up to +100 °C / +212 °F
- Thermo switches
- Temperature sensors

Please see pages E8 and E9 for details.



Inquiry Checklist

In case that you require a special property or custom-designed level gauge, please use this checklist to provide us with details. If necessary, please also include further details, like the type of fluid in use, its temperature and viscosity.

Nominal Size ☐ Bolt centre distance (in mm)

Housing Material ☐ Aluminium ☐ Steel ☐ Stainless Steel

Housing Design ☐ Regular housing design with positioning of strut(s) based on engineering considerations

Please provide additional details / drawing for custom housing designs.

Banjo Bolt Size ☐ M12 ☐ M10 ☐ 1/2–13 UNC ☐ 1/2–20 UNF ☐ 1/2–28 UNEF

Banjo Bolt Material ☐ Steel ☐ Stainless Steel

Sealing Material ☐ NBR (Buna-N®) ☐ FPM (Viton®) ☐ EPDM

Alternative sealing materials to be defined separately.

Level Indication ☐ Scale plate (only for nominal sizes smaller than 670 mm / 26.4 in)

- ☐ Scale plate made of PVC
- ☐ Scale plate made of Aluminium
- ☐ With STAUFF logo
- ☐ Neutral design without any logo
- ☐ Custom-design (please specify)

- ☐ Without thermometer on scale plate
- ☐ Capillary tube thermometer with dual Celsius / Fahrenheit scale up to +80 °C / +180 °F

☐ Floating element (recommended option for nominal sizes larger than 670 mm / 26.4 in)

Other types of level indication (magnetic floats, etc.) to be defined separately.

Options ☐ Dial thermometer with probe

- ☐ Celsius scale up to +100 °C
- ☐ Dual scale up to +100 °C / +212 °F
- ☐ Length of probe: 200 mm / 7.87 in
- ☐ Length of probe: 300 mm / 11.81 in

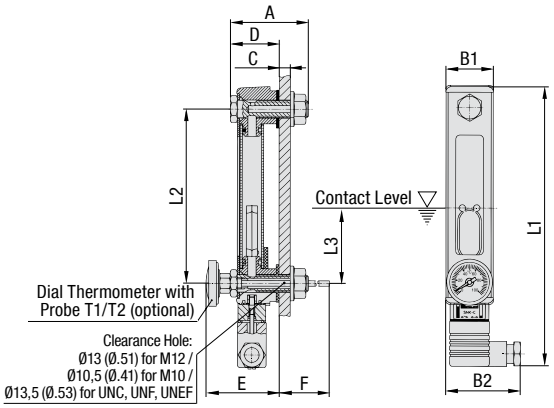
☐ Thermo Switch TS-SNA/SNK

- ☐ Break contact; Standard connector
- ☐ Break contact; Connector M12
- ☐ Make contact; Standard connector
- ☐ Make contact; Connector M12
- ☐ Contact switches at +60 °C / +140 °F
- ☐ Contact switches at +70 °C / +158 °F
- ☐ Contact switches at +80 °C / +176 °F
- ☐ Contact switches at +90 °C / +194 °F

☐ Temperature Sensor TS-SNA/SNK-PT100

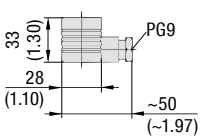
Level Gauge ▪ Type SNK

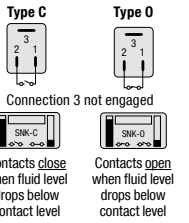




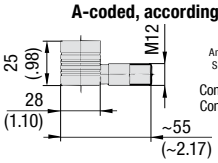
Connection Details and Electrical Functions

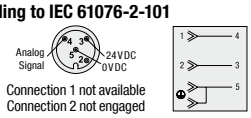
Types C and O: Industrial standard connector (contact gap: 11 mm / .43 in), similar to DIN EN 175301-803-B / ISO 6952





Types CD and OD: Five-pin circular connector M12, A-coded, according to IEC 61076-2-101





Characteristics

Visual / electrical fluid level indication in hydraulic reservoirs with maximum tank pressures not exceeding 1 bar / 14.5 PSI

Nominal Sizes and Designs

- 5 nominal sizes from 127 mm / 5.00 in to 305 mm / 12.00 in
- Display either undivided (SNK 127 ... 176) or subdivided by strut(s) into 2 (SNK 254) or 3 sections (SNK 305)

Media Compatibility

- Suitable for use with Mineral and Petroleum based hydraulic fluids (HL and HLP)

Materials

- Housing made of Aluminium, plastic coated
- Sight tube and plugs made of Polyamide (PA)
- Float made of Polyamide (PA)
- Sealings made of FPM (Viton®)

Special sight tube materials for improved UV or chemical resistance and use with special media (such as bio-degradable fluids, diesel oils, gasolines, etc.) as well as special sealing materials are available on request.

Electrical Specifications

- Magnetic float activates switch when fluid level drops below contact level within 60 mm / 2.36 in of lower banjo bolt
- Available as a break contact (normally closed) or make contact (normally open)
- Either equipped with industrial standard connector (types C / O) or five-pin circular connector M12 (types CD / OD)
- Direction of the electrical contact box (right / left) can be chosen when assembling the electrical contacts (types C / D) or is right by default (types CD / OD)
- Contact ratings: max. 10 W (types C / CD) or 5 W (types O / OD)
- Switching voltage: max. 50 VAC/DC
- Switching current: max. 0,25 A

Technical Data

- IP 65 protection rating: Dust tight and protected against water jets (IP 67 on request)
- Operating temperature range: -30 °C ... +80 °C / -22 °F ... +176 °F
- Recommended tightening torque: 8 N·m / 5.9 ft·lb
- Minimum lateral distance to other magnetic components and cables: 10 mm / .39 in

Accessories / Options

- Dial thermometers with probe and a Celsius or a dual Celsius / Fahrenheit scale with a temperature display range of up to +100 °C / +212 °F
- Thermo Switches
- Temperature Sensors

Please see pages E8 and E9 for details.

Dimensions

Table shows dimension L1 for the version with industrial standard connector (types C and O) only.
Maximum admissible tolerance for the bolt center spacing (dimension L2) according to DIN ISO 2768-f: ±0,20 mm / .008 in for all nominal sizes.

Nominal Size	Dimensions (mm/in)										
	A	B1	B2	C (Max.)	D	E	F (with T1)	F (with T2)	L1	L2	L3
SNK 127	56	34,5	~50	8	35,1	51,5	157,5	257,5	205	127	~60
	2.20	1.36	~1.97	.32	1.26	2.03	6.20	10.14	8.07	5.00	~2.36
SNK 150	56	34,5	~50	8	35,1	51,5	157,5	257,5	228	150	~60
	2.20	1.36	~1.97	.32	1.26	2.03	6.20	10.14	8.98	5.91	~2.36
SNK 176	56	34,5	~50	8	35,1	51,5	157,5	257,5	254	176	~60
	2.20	1.36	~1.97	.32	1.26	2.03	6.20	10.14	10.00	6.93	~2.36
SNK 254	56	34,5	~50	8	35,1	51,5	157,5	257,5	332	254	~60
	2.20	1.36	~1.97	.32	1.26	2.03	6.20	10.14	13.07	10.00	~2.36
SNK 305	56	34,5	~50	8	35,1	51,5	157,5	257,5	383	305	~60
	2.20	1.36	~1.97	.32	1.26	2.03	6.20	10.14	15.08	12.00	~2.36

Order Codes

SNK 127 V - C - O - 12 - 0 - 60

① ② ③ ④ ⑤ ⑥ ⑦ ⑧

① Type

Level Gauge with visual / electrical fluid level indication	**SNK**

② Nominal Size

SNK 127 (nominal size of 127 mm / 5.00 in)	**127**
SNK 150 (nominal size of 150 mm / 5.91 in)	**150**
SNK 176 (nominal size of 176 mm / 6.93 in)	**176**
SNK 254 (nominal size of 254 mm / 10.00 in)	**254**
SNK 305 (nominal size of 305 mm / 12.00 in)	**305**

Consult STAUFF for alternative nominal sizes and designs.

③ Sealing Material

FPM (Viton®)	**V**

④ Electrical Function

Break contact, opens at contact level (normally closed); Equipped with standard connector	**O**
Break contact, opens at contact level (normally closed); Equipped with connector M12	**OD**
Make contact, closes at contact level (normally open); Equipped with standard connector	**C**
Make contact, closes at contact level (normally open); Equipped with connector M12	**CD**

⑤ Thermometer Option

Supplied without thermometer	**0**
Dial thermometer with probe (200 mm / 7.87 in) and a Celsius scale up to 100 °C	**T1C**
Dial thermometer with probe (300 mm / 11.81 in) and a Celsius scale up to 100 °C	**T2C**
Dial thermometer with probe (200 mm / 7.87 in) and a dual scale up to 100 °C / 212 °F	**T1CF**
Dial thermometer with probe (300 mm / 11.81 in) and a dual scale up to 100 °C / 212 °F	**T2CF**

⑥ Banjo Bolt Size

Metric ISO thread M12 (standard option)	**12**
Metric ISO thread M10	**10**
Unified coarse thread 1/2–13 UNC	**U1**
Unified fine thread 1/2–20 UNF (special option)	**U2**
Unified extra-fine thread 1/2–28 UNEF (special option)	**U3**

⑦ Thermo Switch / Temperature Sensor Option

Supplied without Thermo Switch / Temperature Sensor	**-**
Thermo Switch TS-SNA/SNK; Break contact (normally closed); Equipped with standard connector	**O**
Thermo Switch TS-SNA/SNK; Break contact (normally closed); Equipped with connector M12	**OD**
Thermo Switch TS-SNA/SNK; Make contact (normally open); Equipped with standard connector	**C**
Thermo Switch TS-SNA/SNK; Make contact (normally open); Equipped with connector M12	**CD**
Temperature Sensor TS-SNA/SNK-PT100; Equipped with connector M12	**PT100**

Thermo Switches / Temperature Sensors only available for banjo bolt size M12. Please see pages E8 and E9 for details.

⑧ Switching Temperature

Contact switches at +60 °C / +140 °F	**60**
Contact switches at +70 °C / +158 °F	**70**
Contact switches at +80 °C / +176 °F	**80**
Contact switches at +90 °C / +194 °F	**90**

Only to be indicated when using a Thermo Switch.

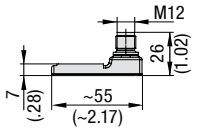
Options T1C/CF and T2C/CF are not available for banjo bolt size M10 and not be used in conjunction with Thermo Switches or Temperature Sensors.
Please see page E8 for details.

Dimensional drawings: All dimensions in mm (in).

Level Gauge (Compact Design) ▪ Type SNKK

Connection Details and Electrical Functions

Type DD: Five-pin circular connector M12, A-coded, according to IEC 61076-2-101

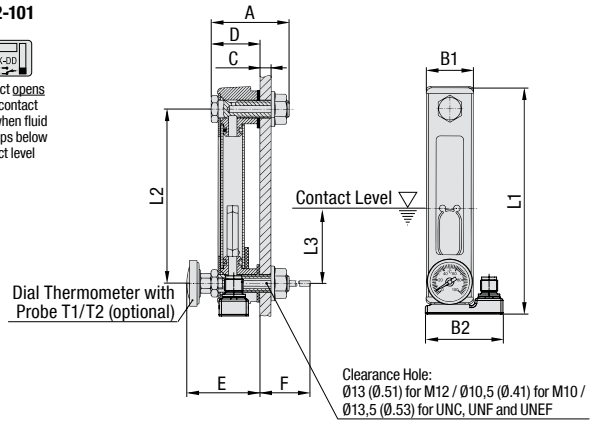




1 Contact opens and 1 contact closes when fluid level drops below contact level

Pin assignment at empty reservoir (default setting at point of delivery)







–40 mm / –1.57 in in comparison with Level Gauges SNK

Dimensions

Maximum admissible tolerance for the bolt center spacing (dimension L2) according to DIN ISO 2768-f: ±0,20 mm / .008 in for all nominal sizes.

Nominal Size	Dimensions (mm/in)										
	A	B1	B2	C (Max.)	D	E	F (with T1)	F (with T2)	L1	L2	L3
SNKK 127	56	34,5	~55	8	35,1	51,5	157,5	257,5	165	127	~60
	2.20	1.36	~2.17	.32	1.26	2.03	6.20	10.14	6.50	5.00	~2.36
SNKK 150	56	34,5	~50	8	35,1	51,5	157,5	257,5	188	150	~60
	2.20	1.36	~1.97	.32	1.26	2.03	6.20	10.14	8.98	5.91	~2.36
SNKK 176	56	34,5	~55	8	35,1	51,5	157,5	257,5	214	176	~60
	2.20	1.36	~2.17	.32	1.26	2.03	6.20	10.14	8.43	6.93	~2.36
SNKK 254	56	34,5	~55	8	35,1	51,5	157,5	257,5	292	254	~60
	2.20	1.36	~2.17	.32	1.26	2.03	6.20	10.14	11.50	10.00	~2.36
SNKK 305	56	34,5	~55	8	35,1	51,5	157,5	257,5	343	305	~60
	2.20	1.36	~2.17	.32	1.26	2.03	6.20	10.14	13.50	12.00	~2.36

Order Codes

SNKK ① **127** ② **V** ③ - **DD** ④ - **0** ⑤ - **12** ⑥ - **0** ⑦ - **60** ⑧

① Type

Level Gauge with visual / electrical fluid level indication (compact design)	**SNKK**

② Nominal Size

SNKK 127 (nominal size of 127 mm / 5.00 in)	**127**
SNKK 150 (nominal size of 150 mm / 5.91 in)	**150**
SNKK 176 (nominal size of 176 mm / 6.93 in)	**176**
SNKK 254 (nominal size of 254 mm / 10.00 in)	**254**
SNKK 305 (nominal size of 305 mm / 12.00 in)	**305**

Consult STAUFF for alternative nominal sizes and designs.

③ Sealing Material

FPM (Viton®)	**V**

④ Electrical Function

SPDT (Single Pole Double Throw) contacts, 1 contact opens and 1 contact closes at contact level; Equipped with connector M12	**DD**

⑤ Thermometer Option

Supplied without thermometer	**0**
Dial thermometer with probe (200 mm / 7.87 in) and a Celsius scale up to 100 °C	**T1C**
Dial thermometer with probe (300 mm / 11.81 in) and a Celsius scale up to 100 °C	**T2C**
Dial thermometer with probe (200 mm / 7.87 in) and a dual scale up to 100 °C / 212 °F	**T1CF**
Dial thermometer with probe (300 mm / 11.81 in) and a dual scale up to 100 °C / 212 °F	**T2CF**

⑥ Banjo Bolt Size

Metric ISO thread M12 (standard option)	**12**
Metric ISO thread M10	**10**
Unified coarse thread 1/2–13 UNC	**U1**
Unified fine thread 1/2–20 UNF (special option)	**U2**
Unified extra-fine thread 1/2–28 UNEF (special option)	**U3**

⑦ Thermo Switch / Temperature Sensor Option

Supplied without Thermo Switch / Temperature Sensor	**-**
Break Contact, opens at contact level (normally closed); Equipped with standard connector	**0**
Break Contact, opens at contact level (normally closed); Equipped with connector M12	**OD**
Make Contact, closes at contact level (normally open); Equipped with standard connector	**C**
Make Contact, closes at contact level (normally open); Equipped with connector M12	**CD**
Temperature Sensor TS-SNA/SNK-PT100; Equipped with connector M12	**PT100**

Thermo Switches / Temperature Sensors only available for banjo bolt size M12. Please see pages E8 and E9 for details.

⑧ Switching Temperature

Contact switches at +60 °C / +140 °F	**60**
Contact switches at +70 °C / +158 °F	**70**
Contact switches at +80 °C / +176 °F	**80**
Contact switches at +90 °C / +194 °F	**90**

Only to be indicated when using a Thermo Switch.

Options T1C/CF and T2C/CF are not available for banjo bolt size M10 and not be used in conjunction with Thermo Switches or Temperature Sensors. Please see page E8 for details.

Characteristics

Visual / electrical fluid level indication in hydraulic reservoirs with maximum tank pressures not exceeding 1 bar / 14.5 PSI; ideal for applications in which space is limited

Nominal Sizes and Designs

- 5 nominal sizes from 127 mm / 5.00 in to 305 mm / 12.00 in
- Compact design allows space-saving installation: Always 40 mm / 1.57 in shorter than Level Gauges SNK of the comparable nominal size
- Display either undivided (SNKK 127 ... 176) or subdivided by strut(s) into 2 (SNKK 254) or 3 sections (SNKK 305)

Media Compatibility

- Suitable for use with Mineral and Petroleum based hydraulic fluids (HL and HLP)

Materials

- Housing made of Aluminium, plastic coated
- Sight tube and plugs made of Polyamide (PA)
- Float made of Polyamide (PA)
- Sealings made of FPM (Viton®)

Special sight tube materials for improved UV or chemical resistance and use with special media (such as bio-degradable fluids, diesel oils, gasolines, etc.) as well as special sealing materials are available on request.

Electrical Specifications

- Magnetic float activates switch when fluid level drops below contact level within 60 mm / 2.36 in of lower banjo bolt
- Available as a SPDT (Single Pole Double Throw) contact
- Equipped with five-pin circular connector M12
- Direction of the electrical contact box is right to top by default

Technical Data

- IP 67 protection rating: Dust tight and protected against powerful water jets; even immersion (up to 1 m / 3.28 ft) in water is possible under defined conditions of pressure and time (IP 69K on request)
- Operating temperature range: -30 °C ... +80 °C / -22 °F ... +176 °F
- Recommended tightening torque: 8 N·m / 5.9 ft·lb
- Minimum lateral distance to other magnetic components and cables: 10 mm / .39 in

Accessories / Options

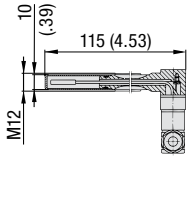
- Dial thermometers with probe and a Celsius or a dual Celsius / Fahrenheit scale with a temperature display range of up to +100 °C / +212 °F
- Thermo Switches
- Temperature Sensors

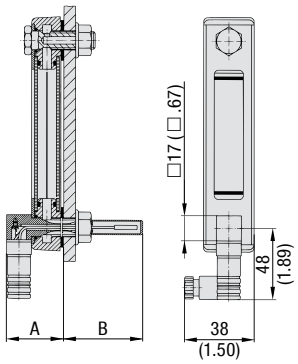
Please see pages E8 and E9 for details.

Dimensional drawings: All dimensions in mm (in).

Thermo Switch ▪ Type TS

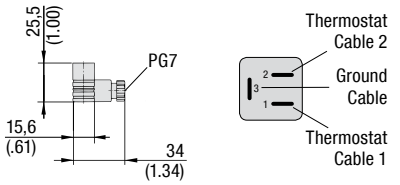




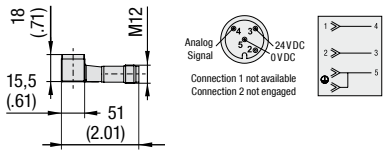


Connection Details and Electrical Functions

Types C and O: Industrial standard connector (contact gap: 9,4 mm / .37 in), similar to DIN EN 175301-803-C / ISO 6952



Types CD and OD: Five-pin circular connector M12, A-coded, according to IEC 61076-2-101



Characteristics

Fluid temperature measurement in conjunction with STAUFF Level Gauges SNA, SNK and SNKK

Installation
- Replaces the lower banjo bolt of the Level Gauge
- Available for bolt size M12 only
- Clearance hole: Ø13 mm / Ø.51 in

Materials
- Metal parts made of Steel (1.0718)
- Plastic parts made of glass-fibre reinforced Polyamide (PA)

Electrical Specifications (General)
- Thermo switch is activated when the fluid temperature reaches the respective switching temperature
- Available with switching temperatures of +60 °C / +140 °F, +70 °C / +158 °F, +80 °C / +176 °F or +90 °C / +194 °F (with a switching tolerance of ±5 °C / ±9 °F and a hysteresis of 35 °C / 63 °F)
- Available as a break contact (normally closed) or make contact (normally open)
- Either equipped with industrial standard connector (types C / O) or five-pin circular connector M12 (types CD / OD)
- Thermo switch can be rotated by 360° to its final direction

Dimensions

	Dimensions (mm/in) A	B
In conjunction with Level Gauge **SNA**	39	76
	1.54	2.99
In conjunction with Level Gauge **SNK**	47	68
	1.85	2.68
In conjunction with Level Gauge **SNKK**	47	68
	1.85	2.68

Electrical Specifications (Alternating Current)
- Maximum voltage: 250 V, 2,5 (1,6) A, 50 Hz
- Maximum current at 2000 operations: 4,0 A at cos φ = 4,45 / 250 V, 135 °C
- Maximum current at 10000 operations: 2,5 A at cos φ = 1,00 / 250 V, 150 °C
- Minimum current: 20 mA

Electrical Specifications (Direct Current)
- Maximum voltage: 42 V

Order Codes

TS - SNA/SNK - 0 - 60

① ② ③

① Type

Thermo Switch TS for use with Level Gauges SNA, SNK and SNKK	**TS-SNA/SNK**

② Electrical Function

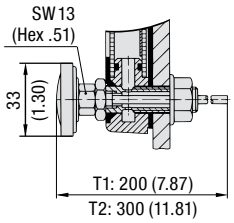
Break contact, opens at switching temperature (normally closed); Equipped with standard connector	**0**
Break contact, opens at switching temperature (normally closed); Equipped with connector M12	**OD**
Make contact, closes at switching temperature (normally open); Equipped with standard connector	**C**
Make contact, closes at switching temperature (normally open); Equipped with connector M12	**CD**

③ Switching Temperature

Contact switches at +60 °C / +140 °F	**60**
Contact switches at +70 °C / +158 °F	**70**
Contact switches at +80 °C / +176 °F	**80**
Contact switches at +90 °C / +194 °F	**90**

Dial Thermometer with Probe ▪ Types T1/T2





Characteristics

Visual fluid temperature measurement in conjunction with STAUFF Level Gauges SNA, SNK and SNKK

Nominal Sizes and Designs
- Probe lengths of 200 mm / 7.87 in or 300 mm / 11.81 in
- Scale diameter of 33 mm / 1.30 in

Please consult STAUFF for special versions.

Scale Options
- Celsius scale of 0°C ... +100 °C (types T1C / T2C)
- Dual Celsius / Fahrenheit scale of up to +100 °C / +212 °F (types T1CF / T2CF)

Materials
- Probe made of Stainless Steel V4A (1.4571)

Technical Data
- IP 65 protection rating: Dust tight and protected against water jets

Installation
- Requires a special banjo bolt (with internal M8 port for the dial thermometer with probe) to replace the lower standard banjo bolt of the Level Gauge
- Use suitable wrench (SW 13 / Hex .51) to fasten; turning on the body itself may damage the product

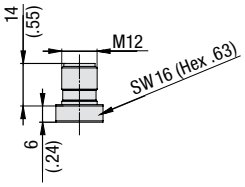
Please note that Dial Thermometers with Probe can only be ordered in conjunction with Level Gauges SNA, SNK and SNKK. Please see page E4 to E7 for details.

Dimensional drawings: All dimensions in mm (in).

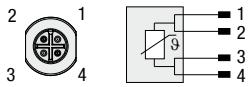
Temperature Sensor ▪ Type TS-SNA/SNK-PT100

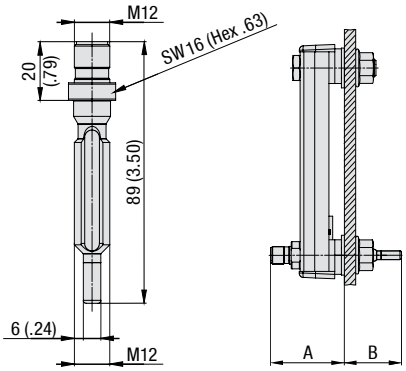
Connection Details and Electrical Functions

Four-pin circular connector M12, A-coded, according to IEC 61076-2-101



Pin Assignment







Order Codes

TS-SNA/SNK-PT100

①

① Type

Temperature Sensor PT100	**TS-SNA/SNK-PT100**

Dimensions

	Dimensions (mm/in) A	B
In conjunction with Level Gauge **SNA**	43,5 1.71	45,5 1.79
In conjunction with Level Gauge **SNK**	51 2.01	38 1.50
In conjunction with Level Gauge **SNKK**	51 2.01	38 1.50

Technical Data

- Operating temperature range (for the connector area): -25 °C ... +80 °C / -13 °F ... +176 °F
- IP 68 protection rating: Dust tight and protected against powerful water jets; even immersion (beyond 1 m / 3.28 ft) in water is possible under defined conditions of pressure and time

Characteristics

Fluid temperature measurement in conjunction with STAUFF Level Gauges SNA, SNK and SNKK; Analysis of signals with TS-SNA/SNK-PT100-D Display / Evaluation Unit, TS-SNA/SNK-PT100-C Signal Converter or system-sided amplifier or transducer

Installation

- Replaces the lower banjo bolt of the Level Gauge
- Available for bolt size M12 only
- Clearance hole: Ø13 mm / Ø.51 in

Materials

- Metal parts (including all fluid-affected parts) made of Stainless Steel V2A (1.4305)

Electrical Specifications

- Measuring temperature range: -40 °C ... +150 °C / -40 °F ... +302 °F
- Platinum mesuring element PT100 according to DIN EN 60751, class A
- Accuracy: ±(0,15 K + 0,002 x |t|)
- Max. contact current: 2,0 mA
- Equipped with four-pin circular connector M12 with gold-plated contacts

Temperature Sensor with Direct Installation Set Type TS-SNA/SNK-PT100-T

Order Codes

TS-SNA/SNK-PT100 - T - B

① ② ③

① Type

Temperature Sensor PT100	**TS-SNA/SNK-PT100**

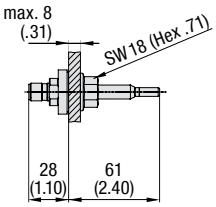
② Direct Adaptor

Direct installation set including M12 screw nut, gasket, front ring and O-ring	**T**

③ Sealing Material

NBR (Buna-N®) (standard option)	**B**
FPM (Viton®)	**V**
EPDM	**E**

The direct installation set can also be used in conjunction with Thermo Switches TS (see page E8). Please consult STAUFF for further information.



Materials

- Fluid-affected parts made of Stainless Steel V2A (1.4305)
- M12 screw nut made of Steel, zinc-plated
- Front ring made of Stainless Steel V2A (1.4305)
- O-ring and gasket made of NBR (Buna-N®) (standard option), FPM (Viton®) or EPDM

Please see top of this page for Technical Details and Electrical Specifications for the Temperature Sensor.



Characteristics

Direct fluid temperature measurement without STAUFF Level Gauges SNA, SNK and SNKK; Analysis of signals with TS-SNA/SNK-PT100-D Display / Evaluation Unit, TS-SNA/SNK-PT100-C Signal Converter or system-sided amplifier or transducer

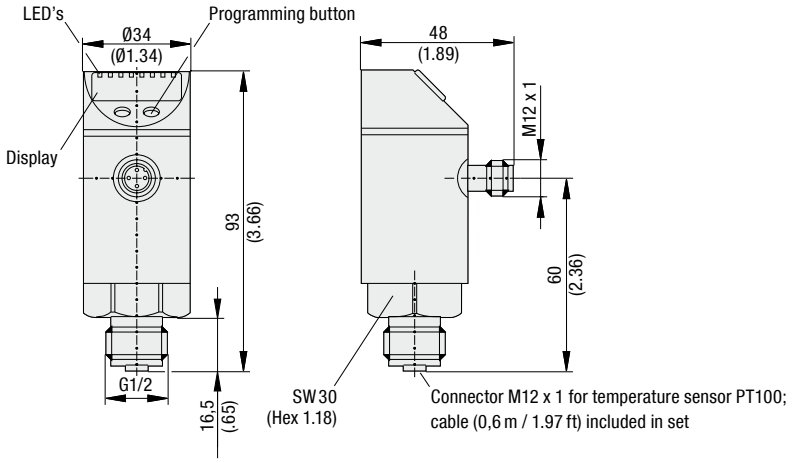
Installation

- Installation to the outer wall of the reservoir or gearbox
- Compact design and easy installation
- Clearance hole: Ø13 mm / Ø.51 in

Dimensional drawings: All dimensions in mm (in).

Display / Evaluation Unit ▪ Type TS-SNA/SNK-PT100-D





Characteristics

Mobile or stationary fluid temperature indication and evaluation in conjunction with STAUFF Temperature Sensor TS-SNA/SNK-PT100

Features

- Connection of temperature sensor as 4-wire sensor
- Display of the current system temperature in °C or °F with 4-digit alpha-numeric display
- Measuring temperature range: -40 °C ... +300 °C / -40 °F ... +572 °F (may be limited by connected sensor)
- Generation of 2 output signals according to parameter setting: Switching output - normally open / closed (programmable) Analog output - 4 ... 20 mA or 0 ... 10 V (scaleable)
- Provision of process data via IO-Link 1.0 (38.4 kBaud)
- Designed for bi-directional connection

Electrical Specifications

- Operating voltage: 18 ... 32 V DC
- Current rating: 250 mA
- Voltage drop: <2 mA
- Response time of switching output: 130 ms
- Analog output: 4 ... 20 mA or 0 ... 10 V (scaleable)
- Accuracy of switching output: ±0,3 °C / ±.54 °F
- Accuracy of analog output: ±0,3 °C / ±.54 °F
- Accuracy of display: ±0,3 °C / ±.54 °F
- Resolution of switching output: 0,1 °C / .18 °F
- Resolution of analog output: 0,1 °C / .18 °F
- Resolution of display: 0,1 °C / .18 °F
- Temperature coefficient (of the span per 10 K): 0,1 %
- Short-circuit protection (pulsed)
- Protection against reverse polarity and overload
- Equipped with four-pin circular connector M12 with gold-plated contacts

Technical Data

- IP 67 protection rating: Dust tight and protected against powerful water jets; even immersion (up to 1 m / 3.28 ft) in water is possible under defined conditions of pressure and time
- Operating temperature range: -25 °C ... +70 °C / -13 °F ... +158 °F

Order Codes

SET-TS-SNA/SNK-PT100-D

①

① Type

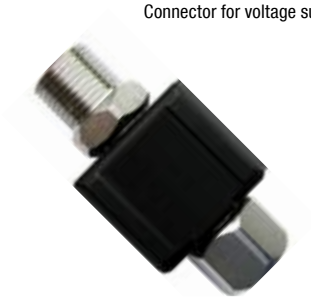
Complete set of Display / Evaluation Unit for use with Temperature Sensor TS-SNA/SNK-PT100	**SET-TS-SNA/SNK-PT100-D**

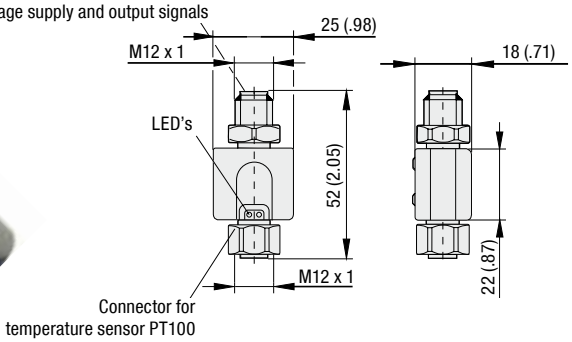
Complete sets include the following components:

- Display / Evaluation Unit TS-SNA/SNK-PT100-D
- Cable with M12 plug / M12 socket (0,6 m / 1.97 ft)
- External power supply unit 100 ... 240 V AC (50 ... 60 Hz) / 200 mA
- User manual (CD-ROM)

All components included in the complete set are also available as single parts. Consult STAUFF for further information.

Signal Convertor ▪ Type TS-SNA/SNK-PT100-C





Characteristics

Signal convertor for use with STAUFF Temperature Sensor TS-SNA/SNK-PT100

Features

- Converts the measured signal into a proportional analog signal: Analog output - 4 ... 20 mA (scaleable)
- Measuring temperature range (factory setting): -50 °C ... +150 °C / -58 °F ... +302 °F
- Provision of process data via IO-Link 1.0 (38.4 kBaud)
- Designed for bi-directional connection

Electrical Specifications

- Operating voltage: 20 ... 32 V DC
- Analog output: 4 ... 20 mA (scaleable)
- Maximum load: 300 Ω
- Rise time analog output: 400 ms
- Accuracy of analog output: ±0,3 °C / ±.54 °F + (±0,1 % of measuring span)
- Resolution: ≤0,1 °C / ≤.18 °F
- Temperature coefficient (of the span per 10 K): 0,1 %
- Short-circuit protection (pulsed)
- Protection against reverse polarity and overload

Electrical Specifications (Continuation)

- Equipped with four-pin circular connector M12 with gold-plated contacts

Technical Data

- IP 67 protection rating: Dust tight and protected against powerful water jets; even immersion (up to 1 m / 3.28 ft) in water is possible under defined conditions of pressure and time
- Operating temp. range: -25 °C ... +70 °C / -13 °F ... +158 °F

Order Codes

TS - SNA/SNK - PT100-C

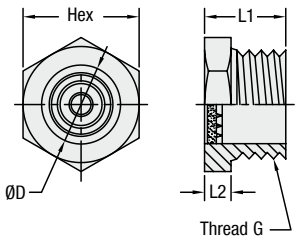
①

① Type

Signal Convertor for use with Temperature Sensor TS-SNA/SNK-PT100	**TS-SNA/SNK-PT100-C**

Dimensional drawings: All dimensions in mm (in).

Metal Sight Glasses ▪ Type SLW





Dimensions

Order Code	Thread G	Dimensions (mm/in) ØD	L1	L2	Hex	Max. Operating Pressure (bar/PSI)
SLW - 04	1/4–18 NPT	8,6	16,0	4,8	16,0	275
		.34	.63	.19	.63	4000
SLW - 06	3/8–18 NPT	11,2	18,3	5,6	19,1	250
		.44	.72	.32	.75	3700
SLW - 08	1/2–14 NPT	14,2	19,8	5,6	23,9	240
		.56	.78	.32	.94	3500
SLW - 12	3/4–14 NPT	19,1	23,9	8,1	26,9	200
		.75	.94	.32	1.06	3000
SLW - 16	1–11-1/2 NPT	23,9	31,8	8,1	35,1	170
		.94	1.25	.32	1.38	2500
SLW - 20	1-1/4–11-1/2 NPT	30,5	31,0	10,4	44,5	138
		.120	1.22	.41	1.75	2000
SLW - 24	1-1/2–11-1/2 NPT	36,6	31,0	10,4	50,8	100
		1.44	1.22	.41	2.00	1500
SLW - 32	2–11-1/2 NPT	47,8	32,5	10,4	63,5	70
		1.88	1.28	.41	2.50	1000

Characteristics

Visual fluid level indication in hydraulic reservoirs

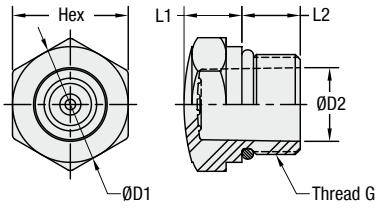
Nominal Sizes and Designs
- Thread sizes from 1/4–18 NPT to 2–11-1/2 NPT
- SAE thread available on request

Materials
- Housings made of Steel, electroless nickel plated
- Hermetically sealed prism lenses made of Glass

Consult STAUFF for alternative materials.

Technical Data
- Max. operating temperature: +260 °C / +500 °F

Plastic Sight Glasses ▪ Type OLG





Dimensions

Order Code	Thread G	Dimensions (mm/in) ØD1	ØD2	L1	L2	Hex
OLG - U08 - P - P	3/4–16 UNF	22	14	8	11	22,0
		.90	.55	.31	.43	.90
OLG - U12 - P - P	1-1/16–12 UNF	32	20	11,9	15,1	32
		1.26	.79	.47	.59	1.26
OLG - U16 - P - P	1-5/16–12 UNF	41	25	12,9	15,1	41
		1.61	.98	.51	.59	1.61
OLG - U20 - P - P	1-5/8–12 UNF	50	30	15,9	15,1	50
		1.97	1.18	.63	.59	1.97

Characteristics

Visual fluid level indication in hydraulic reservoirs

Nominal Sizes and Designs
- Thread sizes from 3/4–16 UNF to 1-5/8–12 UNF
- SAE thread available on request

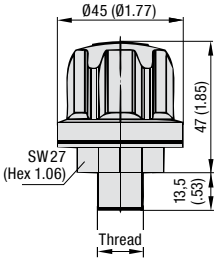
Materials
- Housings made of Polyamide (TR-90-UV)
- Sealings made of NBR (Buna-N®)

Consult STAUFF for alternative materials.

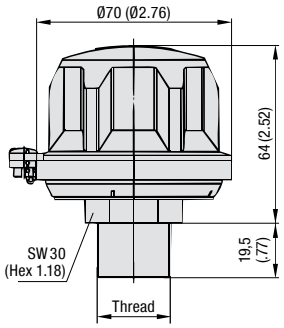
Technical Data
- Operating temp. range: -30 °C ... +90 °C / -22 °F ... +194 °F

Plastic Filler Breather ▪ Types SPB 1 / 2 / 3 (Screw-In Version)



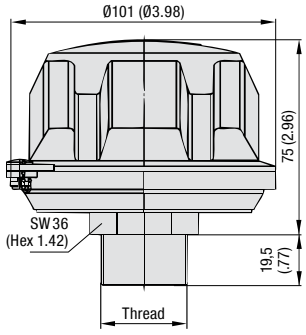


SPB 1



SPB 2

(See page E16 for compact version SPBN)



SPB 3

Characteristics

Designed to be used as filler ports for hydraulic reservoirs, allowing the reservoir to breathe whilst protecting it from contamination found in harsh environments

Features
- Available with 3 different cap diameters
- Screw-in version, equipped with male NPT thread (ANSI B1.20.1) or male BSP thread (ISO 228)
- Operating temperature range: -40 °C ... +120 °C / -40 °F ... +248 °F

Materials
- Made of non-corrosive materials
- Body and cap made of glass-fibre reinforced Polyamide (PA)
- Sealings made of NBR (Buna-N®)

Consult STAUFF for alternative materials.

Accessories / Options
- Pressurisation up to 0,7 bar / 10 PSI (not available for SPB 1)
- Air filter element
- Anti-splash feature
- Plastic dipstick with integrated anti-splash feature

Please see page E14 for details.

Maximum Air Flow Rate
- 0,15 m³/min / 5.30 cfm for SPB 1
- 0,40 m³/min / 14.13 cfm for SPB 2
- 1,00 m³/min / 35.31 cfm for SPB 3

Please see page E15 for detailed air flow curves.

Oil Displacement
- 150 l/min / 40 US GPM for SPB 1
- 400 l/min / 106 US GPM for SPB 2
- 1000 l/min / 264 US GPM for SPB 3

Installation
- Recommended mounting spaces: Ø48 mm / Ø1.89 in for SPB 1, Ø90 mm / Ø3.54 in for SPB 2, and Ø122 mm / Ø4.80 in for SPB 3

Thread Options

Thread		SPB 1	SPB 2	SPB 3	Code
Male NPT Thread (ANSI B1.20.1)	1/4	●	○	○	N04
	3/8	●	○	○	N06
	1/2	●	○	○	N08
	3/4	●	●	●	N12
	1	○	○	●	N16

Thread		SPB 1	SPB 2	SPB 3	Code
Male BSP Thread (ISO 228)	G1/4	●	○	○	B04
	G3/8	●	●	○	B06
	G1/2	●	●	●	B08
	G3/4	○	●	●	B12
	G1	○	○	●	B16

● Standard Option

Order Codes

SPB - S - 2 - 10 - N12 - 0 - D200

① ② ③ ④ ⑤ ⑥ ⑦

① Type

Plastic Filler Breather	**SPB**

② Pressurisation

Without pressurisation	**S**
Pressurised at 0,2 bar / 3 PSI	**P1**
Pressurised at 0,35 bar / 5 PSI	**P2**
Pressurised at 0,7 bar / 10 PSI	**P3**

Type SPB 1 is only available without pressurisation.
Please see page E14 for details.

③ Version

Screw-in version; Cap diameter Ø45 mm (Ø1.77 in)	**1**
Screw-in version; Cap diameter Ø70 mm (Ø2.76 in)	**2**
Screw-in version; Cap diameter Ø101 mm (Ø3.98 in)	**3**

④ Air Filter Element (Material / Micron Rating)

Without air filter element (special option)	**00**
10 µm Foam / PUR (standard option)	**10**
40 µm Foam / PUR	**40**
3 µm Inorganic Glass-Fibre, pleated (special option)	**E03**
10 µm Filter Paper, pleated (special option)	**L10**

Options E03 and L10 are only available for type SPB 3.
Consult STAUFF for alternative materials / micron ratings.

⑤ Connection Thread (Male)

1/4 NPT (for SPB 1 only)	**N04**
3/8 NPT (for SPB 1 only)	**N06**
1/2 NPT (for SPB 1 only)	**N08**
3/4 NPT (for SPB 1, 2 and 3)	**N12**
1 NPT (for SPB 3 only)	**N16**
G1/4 (for SPB 1 only)	**B04**
G3/8 (for SPB 1 and 2 only)	**B06**
G1/2 (for SPB 1, 2 and 3)	**B08**
G3/4 (for SPB 2 and 3 only)	**B12**
G1 (for SPB 3 only)	**B16**

⑥ Anti-Splash Feature

With anti-splash feature (standard option)	**A**
Without anti-splash feature	**0**

The anti-splash feature for the SPB 1, can only be achieved in conjunction with a dipstick, but is not available for the SPB 1 with connection sizes B04 and N04. Please see page E14 for details.

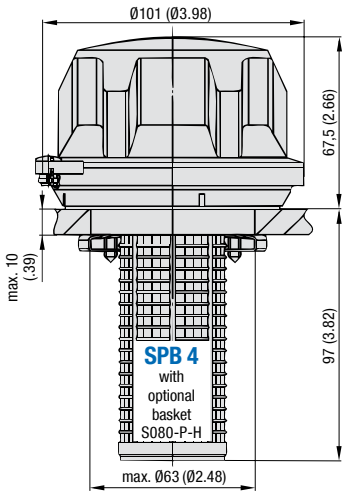
⑦ Dipstick

Plastic dipstick (200 mm / 7.88 in) with integrated anti-splash feature	**D200**
Plastic dipstick (300 mm / 11.81 in) with integrated anti-splash feature	**D300**
Without dipstick	**-**

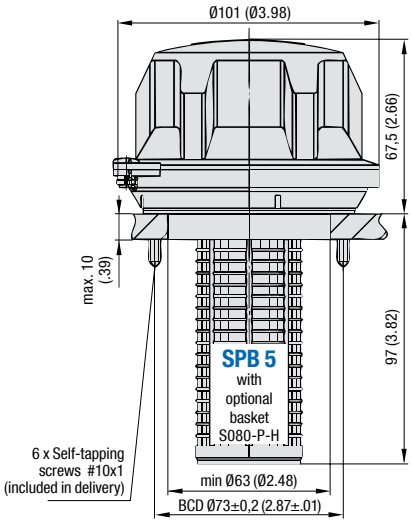
A shorter dipstick length can be achieved by simply cutting down the total length according to individual requirements. Please see page E14 for details.

Dimensional drawings: All dimensions in mm (in).

Plastic Filler Breather ▪ Types SPB 4 / 5 (Flange Version)



Clamping jaw installation to a single mounting hole



Installation to a six-hole bolt pattern with flange interface similar to DIN 24557, Part 2



Characteristics

Designed to be used as filler ports for hydraulic reservoirs, allowing the reservoir to breathe whilst protecting it from contamination found in harsh environments

Features
- Cap diameter of Ø101 mm / Ø3.98 in
- Either for clamping jaw installation to a single mounting hole or with a six-hole bolt pattern
- Operating temperature range: -40 °C ... +120 °C / -40 °F ... +248 °F

Materials
- Made of non-corrosive materials
- Body and cap made of glass-fibre reinforced Polyamide (PA)
- Sealings made of NBR (Buna-N®)

Consult STAUFF for alternative materials.

Accessories / Options
- Plastic basket (800 µm)
- Pressurisation up to 0,7 bar / 10 PSI
- Air filter element
- Anti-splash feature
- Plastic dipstick with integrated anti-splash feature

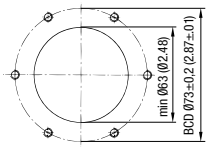
Please see page E14 for details.

Maximum Air Flow Rate
- 1,00 m³/min / 35.31 cfm for SPB 4+5

Please see page E15 for detailed air flow curves.

Oil Displacement
- 1000 l/min / 264 US GPM for SPB 4+5

Installation
- Recommended mounting space: Ø122 mm / Ø4.80 in
- Six-hole bolt pattern for flange interfaces similar to DIN 24557, part 2 (type SPB 5):



- 6 self-tapping screws #10x1 are included in delivery (type SPB 5); can be replaced by regular M5 socket cap screws (ISO 4762), if required
- Recommended diameters of the screw holes, depending on the sheet thickness of the reservoir (type SPB 5): Ø4,0 mm / Ø.16 in at a thickness of 1,20 mm / .05 in, Ø4,1 mm / Ø.16 in at a thickness of 2,00 mm / .08 in, Ø4,3 mm / Ø.17 in at a thickness of 4,00 mm / .16 in, and Ø4,4 mm / Ø.17 in at a thickness of 5,00 mm / .20 in

Order Codes

SPB - S - 4 - 10 - X - A - D200

① ② ③ ④ ⑤ ⑥ ⑦

① Type

Plastic Filler Breather	**SPB**

② Pressurisation

Without pressurisation	**S**
Pressurised at 0,2 bar / 3 PSI	**P1**
Pressurised at 0,35 bar / 5 PSI	**P2**
Pressurised at 0,7 bar / 10 PSI	**P3**

Please see page E14 for details.

③ Version

Bayonet version for clamping jaw installation to a single mounting hole; Cap diameter Ø101 mm (Ø3.98 in)	**4**
Bayonet Version with six-hole bolt pattern for flange interfaces similar to DIN 24557, part 2; Cap diameter Ø101 mm (Ø3.98 in)	**5**

④ Air Filter Element (Material / Micron Rating)

Without air filter element (special option)	**00**
10 µm Foam / PUR (standard option)	**10**
40 µm Foam / PUR	**40**
3 µm Inorganic Glass-Fibre, pleated (special option)	**E03**
10 µm Filter Paper, pleated (special option)	**L10**

Consult STAUFF for alternative materials / micron ratings.

⑤ Basket Option

Plastic basket S080-P-H (105 mm / 4.13 in)	**S080**
Telescopic plastic basket S200-P-H-T (max. 205 mm / max. 8.07 in)	**S200**
Plastic basket S095-P with flange interface similar to DIN 24557, part 2 (95 mm / 3.74 in)	**S095P**
Without basket	**X**

Option S095P is only available for type SPB 5.

Please see page E14 for details and order codes for spare parts.

⑥ Anti-Splash Feature

With anti-splash feature (standard option)	**A**
Without anti-splash feature	**0**

⑦ Dipstick

Plastic dipstick (200 mm / 7.88 in) with integrated anti-splash feature	**D200**
Plastic dipstick (300 mm / 11.81 in) with integrated anti-splash feature	**D300**
Without dipstick	**-**

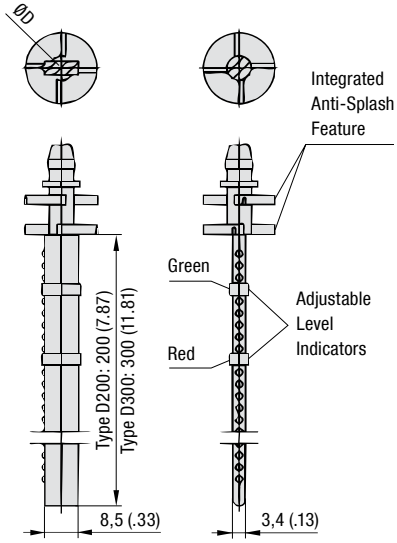
A shorter dipstick length can be achieved by simply cutting down the total length according to individual requirements. When choosing a combination of a basket and a dipstick, the dipstick has to be at least 15 mm / .59 in shorter than the basket.

Please see page E14 for details and order codes for spare parts.

Dimensional drawings: All dimensions in mm (in).

Plastic Dipstick ▪ Types DS 1 / 2 / 3 Anti-Splash Feature





Connection		Code	For Type	Suitable Dipstick*	ØD (mm/in)
Male NPT Thread (ANSI B1.20.1)	1/4	N04	SPB 1	Dipstick Option Not Available	
	3/8	N06	SPB 1+2	DS-1	10 / .39
	1/2	N08	SPB 1–3	DS-2	14 / .55
	3/4	N12	SPB 1+2 SPBN	DS-3	18 / .71
	1	N16	SPB 3 SPBN	DS-3	18 / .71
Male BSP Thread (ISO 228)	G1/4	B04	SPB 1	Dipstick Option Not Available	
	G3/8	B06	SPB 1	DS-1	10 / .39
	G1/2	B08	SPB 1	DS-2	14 / .55
	G3/4	B12	SPB 1–3 SPBN	DS-3	18 / .71
	G1	B16	SPB 3 SPBN	DS-3	18 / .71
Plastic Basket	S080		SPB 4+5	DS-3	18 / .71
	S095-P		SPB 5	DS-3	18 / .71
	S200		SPB 4+5	DS-3	18 / .71
w/o Basket		X	SPB 4+5	DS-3	18 / .71

* When ordered seperately, please add the length of the dipstick (in mm) to the ordering code (e.g. DS-2-300).

For all Plastic Filler Breathers (except type SPB 1 with connection sizes B04 and N04), dipsticks made of Polyamide are available as an option. These dipsticks are available in 2 standard lengths of 200 mm / 7.87 in and 300 mm / 11.81 in and equipped with 2 adjustable level indicators in green and red colour.

A shorter dipstick length can be achieved by simply cutting down the total length according to individual requirements.

All dipsticks have an integrated anti-splash feature protecting the SPB from backspilling fluid and avoiding an early breakdown of the air filter element.

For Plastic Filler Breathers without dipstick, the anti-splash function can be achieved by an integrated concave baffle. The anti-splash feature for the SPB 1 (except the type SPB 1 with connection sizes B04 and N04), can only be achieved in conjunction with a dipstick.

Please note: When choosing a combination of a dipstick and a basket (see below), the dipstick has to be at least 15 mm / .59 in shorter than the basket.

Special designs and alternative materials available on request. Please consult STAUFF for further details.

Plastic Basket ▪ Types S080-P-H / S095-P / S200-P-H-T

For the Plastic Filler Breathers SPB 4 and SPB 5, different types of baskets are available as an option. All baskets have a reinforced 0,8 x 3,5 mm / .03 x .14 in mesh (800 µm), so that rough dirt particles are filtered out of the medium and a smooth flow into the tank is being ensured.

The **Plastic Basket S080-P-H** (length of 105 mm / 4.13 in) snaps into the breather housing and suitable for the SPB 4 and SPB 5.

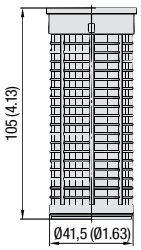
The **Plastic Basket S095-P** (length of 95 mm / 3.74 in) is equipped with a six-hole bolt pattern with flange interface similar to DIN 24557, part 2. It is suitable for the SPB 5 only and is installed between the breather housing of the SPB 5 and the reservoir.

The **Telescopic Plastic Basket S200-P-H-T** (maximum length of 205 mm / 8.07 in) is ideal to further improve the straining ability and oil flow-through and allowing longer dipstick lengths, where reservoir depth allows. It also snaps into the breather housing and is suitable for the SPB 4 and SPB 5.

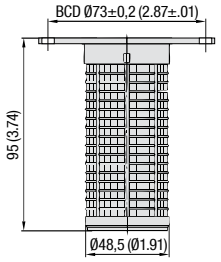
Please note: When choosing a combination of a dipstick (see above) and a basket, the dipstick has to be at least 15 mm / .59 in shorter than the basket.

Special designs and alternative materials available on request.
Please consult STAUFF for further details.

Plastic Basket
S080-P-H (for SPB 4+5)
Material: Polypropylene (PP)

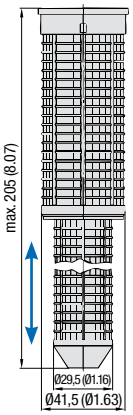


Plastic Basket
S095-P (only for SPB 5)
Material: Polyamide (PA)



Six-hole bolt pattern with flange interface according to DIN 24557, part 2

Telescopic Plastic Basket
S200-P-H-T (for SPB 4+5)
Material: Polypropylene (PP)



Pressurisation

All Plastic Filler Breathers (except the type SPB 1) are also available as pressurised versions with pressure settings of 0,7 bar / 10 PSI, 0,35 bar / 5 PSI or 0,2 bar / 3 PSI. In order to achieve an air flow, the actual tank pressure has to exceed the chosen pressure setting of the Plastic Filler Breather.

When the fluid level inside the reservoir rises, no air is expelled from the reservoir until the pressurisation level is reached.
When the fluid level inside the reservoir falls, the tank pressure drops and air is drawn into the reservoir.

Due to less breathing, the service life of a filler breather and the oil can be increased by using the pressurisation feature. It also minimizes foaming and cavitation, and provides additional protection from moisture entering the reservoir which causes erosion and oil degradation.

Further Accessories / Options



Weld Riser ▪ Type WR
Suitable for SPB 5
(See page E25 for details)



Side Mount Bracket (Polyamide) ▪ Type ASMB-1
Suitable for SPB 5
(See page E24 for details)

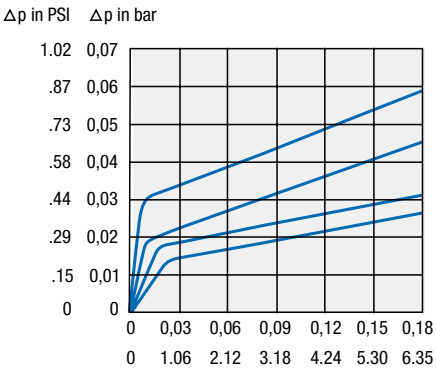


Side Mount Bracket (Aluminium) ▪ Type ASMB-2
Suitable for SPB 5
(See page E24 for details)

Dimensional drawings: All dimensions in mm (in).

Pressure Drop Flow Curves
Plastic Filler Breathers

Type SPB 1 (into / out of the tank)

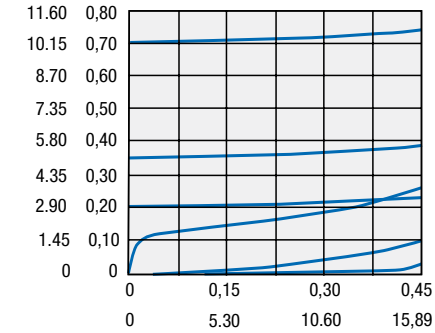


B04 and N04 (into / out of the tank)

B06 and N06 (into / out of the tank)

B08 and N08 (into / out of the tank)
B12 and N12 (into / out of the tank)

Type SPB 2 (into / out of the tank)



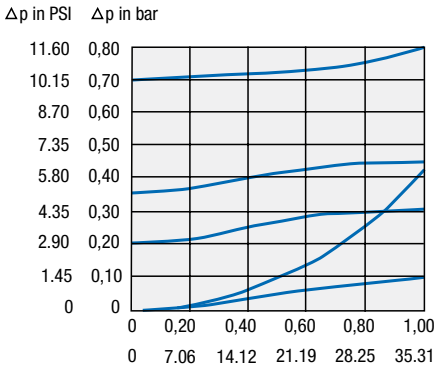
B12 and N12 (out of the tank; pressurised at 0,7 bar / 10 PSI)

B12 and N12 (out of the tank; pressurised at 0,35 bar / 5 PSI)

B12 and N12 (into the tank; pressurised at 0,7 bar / 10 PSI, 0,35 bar / 5 PSI or 0,2 bar / 3 PSI)
B12 and N12 (out of the tank; pressurised at 0,2 bar / 3 PSI)

B12 and N12 (out of the tank; without pressurisation)
B12 and N12 (into the tank; without pressurisation)

Type SPB 3 (into / out of the tank)



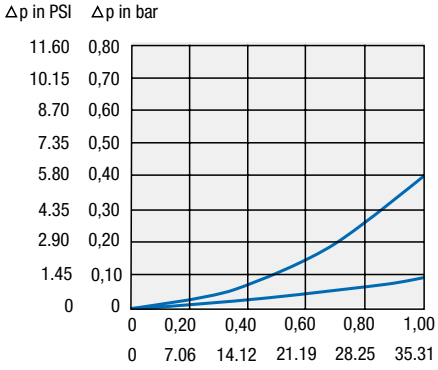
B12 and N12 (out of the tank; pressurised at 0,7 bar / 10 PSI)

B12 and N12 (out of the tank; pressurised at 0,35 bar / 5 PSI)
B12 and N12 (into the tank; pressurised at 0,7 bar / 10 PSI, 0,35 bar / 5 PSI or 0,2 bar / 3 PSI)

B12 and N12 (out of the tank; pressurised at 0,2 bar / 3 PSI)

B12 and N12 (into / out of the tank; without pressurisation)

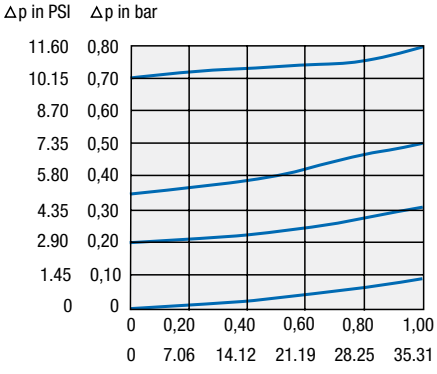
Type SPB 4+5 (into the tank)



(into the tank; pressurised at 0,7 bar / 10 PSI, 0,35 bar / 5 PSI or 0,2 bar / 3 PSI)

(into the tank; without pressurisation)

Type SPB 4+5 (out of the tank)



(out of the tank; pressurised at 0,7 bar / 10 PSI)

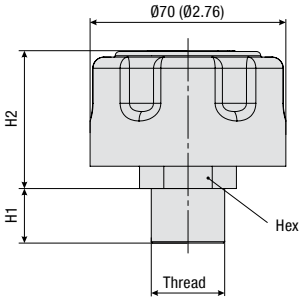
(out of the tank; pressurised at 0,35 bar / 5 PSI)

(out of the tank; pressurised at 0,2 bar / 3 PSI)

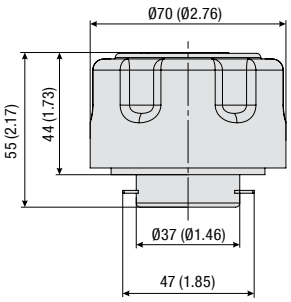
(out of the tank; without pressurisation)

Plastic Filler Breather ▪ Type SPBN
(Compact Design; Screw-In or Bayonet Version)





SPBN
Screw-In Version



SPBN
Bayonet Version

Characteristics

Designed to be used as filler ports for hydraulic reservoirs, allowing the reservoir to breathe whilst protecting it from contamination found in harsh environments; ideal for applications in which space is limited

Features
- Cap diameter of Ø70 mm / Ø2.76 in
- Screw-in version, equipped with male NPT thread (ANSI B1.20.1) or male BSP thread (ISO 228)
- Bayonet version with a six-hole bolt pattern for flange interfaces similar to DIN 24557, part 2
- Operating temperature range: -40 °C ... +120 °C / -40 °F ... +248 °F

Materials
- Body and cap made of glass-fibre reinforced Polyamide (PA)
- Socket made of Steel, zinc-plated
- Bayonet flange made of Steel, zinc-plated
- Basket made of Steel, zinc-plated or Polyamide (PA)
- Sealings made of NBR (Buna-N®)

Consult STAUFF for alternative materials.

Accessories / Options
- Mounting set including bayonet flange, steel or plastic basket (800 µm), gaskets and bolts
- Pressurisation up to 0,7 bar / 10 PSI
- Air filter element
- Anti-splash feature (for screw-in version only)
- Plastic dipstick with integrated anti-splash feature

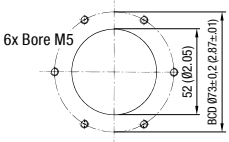
Please see page E17 for details.

Maximum Air Flow Rate
- 0,40 m³/min / 14.13 cfm

Please see page E17 for detailed air flow curves.

Oil Displacement
- 400 l/min / 106 US GPM

Installation
- Six-hole bolt pattern for flange interfaces similar to DIN 24557, part 2 (bayonet version with mounting set):



- 6 slotted pan head screws (ISO 1580 M5 x 12-5.8) are included in delivery of the bayonet version with mounting set

Dimensions (Screw-In Version)

Thread	Dimensions (mm/in)		
	H1	H2	Hex
Male 3/4 NPT (ANSI B1.20.1)	19,5 / .77	49,5 / 1.95	30 / 1.18
Male 1 NPT (ANSI B1.20.1)	24 / .95	49,5 / 1.95	36 / 1.42

Thread	Dimensions (mm/in)		
	H1	H2	Hex
Male G3/4 BSP (ISO 228)	19,5 / .77	49,5 / 1.95	30 / 1.18
Male G1 BSP (ISO 228)	24 / .95	49,5 / 1.95	36 / 1.42

Order Codes

SPBN - S - 2 - 10 - B12 - 0 - D200

① ② ③ ④ ⑤ ⑥ ⑦

① Type

Plastic Filler Breather (Compact Design)	**SPBN**

② Pressurisation

Without pressurisation	**S**
Pressurised at 0,2 bar / 3 PSI	**P1**
Pressurised at 0,35 bar / 5 PSI	**P2**
Pressurised at 0,7 bar / 10 PSI	**P3**

Please see page E17 for details.

③ Version

Cap diameter Ø70 mm (Ø2.76 in)	**2**

④ Air Filter Element (Material / Micron Rating)

Without air filter element	**00**
10 µm Foam / PUR (standard option)	**10**
40 µm Foam / PUR	**40**

Consult STAUFF for alternative materials / micron ratings.

⑤ Connection

Screw-in version; Male 3/4 NPT thread	**N12**
Screw-in version; Male 1 NPT thread	**N16**
Screw-in version; Male G3/4 thread	**B12**
Screw-in version; Male G1 thread	**B16**
Bayonet version; Breather only	**BS**
Bayonet version; Breather including mounting set (with bayonet flange, gaskets and bolts)	**BM**
Bayonet version; Breather incl. mounting set and plastic basket with flange interface (95 mm / 3.74 in)	**S095P**
Bayonet version; Breather incl. mounting set and metal basket with flange interface (80 mm / 3.15 in)	**S080**
Bayonet version; Breather incl. mounting set and metal basket with flange interface (100 mm / 3.94 in)	**S100**
Bayonet version; Breather incl. mounting set and metal basket with flange interface (150 mm / 5.91 in)	**S150**
Bayonet version; Breather incl. mounting set and metal basket with flange interface (200 mm / 7.87 in)	**S200**

⑥ Anti-Splash Feature

With anti-splash feature (standard option)	**A**
Without anti-splash feature	**0**

Please see page E17 for details.

⑦ Dipstick

Plastic dipstick DS-3-200 (200 mm / 7.88 in) with integrated anti-splash feature	**D200**
Plastic dipstick DS-3-300 (300 mm / 11.81 in) with integrated anti-splash feature	**D300**
Without dipstick	**-**

A shorter dipstick length can be achieved by simply cutting down the total length according to individual requirements. Please see pages E14 and E17 for details.

Order codes for spare parts: **DS-3-200** / **DS-3-300**.

Dimensional drawings: All dimensions in mm (in).

Plastic Dipstick Anti-Splash Feature

For all Plastic Filler Breathers SPBN, dipsticks made of Polyamide are available as an option. These dipsticks are available in 2 standard lengths of 200 mm / 7.87 in and 300 mm / 11.81 in and equipped with 2 adjustable level indicators in green and red colour. A shorter dipstick length can be achieved by simply cutting down the total length according to individual requirements.

All dipsticks have an integrated anti-splash feature protecting the SPBN from backspilling fluid and avoiding an early breakdown of the air filter element. For Plastic Filler Breathers without dipstick, the anti-splash function can be achieved by an integrated concave baffle.

Please note: When choosing a combination of a dipstick and a basket, the dipstick has to be at least 15 mm / .59 in shorter than the basket.

Special designs and alternative materials available on request.
Please consult STAUFF for further details.

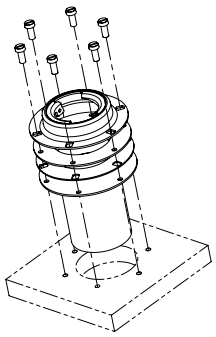
Pressurisation

All Plastic Filler Breathers are also available as pressurised versions with pressure settings of 0,7 bar / 10 PSI, 0,35 bar / 5 PSI or 0,2 bar / 3 PSI. In order to achieve an air flow, the actual tank pressure has to exceed the chosen pressure setting of the Plastic Filler Breather.

When the fluid level inside the reservoir rises, no air is expelled from the reservoir until the pressurisation level is reached. When the fluid level inside the reservoir falls, the tank pressure drops and air is drawn into the reservoir.

Due to less breathing, the service life of a filler breather and the oil can be increased by using the pressurisation feature. It also minimizes foaming and cavitation, and provides additional protection from moisture entering the reservoir and which causes erosion and oil degradation.

Mounting Set for Baskets (including Bayonet Flange, Gaskets and Bolts)





Scope of Delivery / Order Codes

Mounting sets for baskets include the following components:

- 6 slotted pan head screws made of steel, zinc-plated (ISO 1580 M5 x 12-5.8)
- Bayonet flange made of steel, zinc-plated, with six-hole bolt pattern acc. to DIN 24557, part 2
- 2 gaskets made of NBR (Buna-N®) - one for underneath and one for on top of the basket
- Plastic or metal basket (only if required):

Plastic basket (95 mm / 3.74 in):	**S-095-P-F-SPBN-BS-NBR**
Metal basket (80 mm / 3.15 in):	**S-080-M-F-SPBN-BS-NBR**
Metal basket (100 mm / 3.94 in):	**S-100-M-F-SPBN-BS-NBR**
Metal basket (150 mm / 5.91 in):	**S-150-M-F-SPBN-BS-NBR**
Metal basket (200 mm / 7.87 in):	**S-200-M-F-SPBN-BS-NBR**
Without basket:	**Adapter-SPBN-BM-NBR**

Mounting sets can also be ordered as part of a complete breather assembly.
Please see page E16 for details.

Further Accessories / Options



Extended Bayonet Flange ▪ Type EBF
Suitable for SPBN; Bayonet Version
(See page E25 for details)



Weld Riser ▪ Type WR
Suitable for SPBN; Bayonet Version
(See page E25 for details)

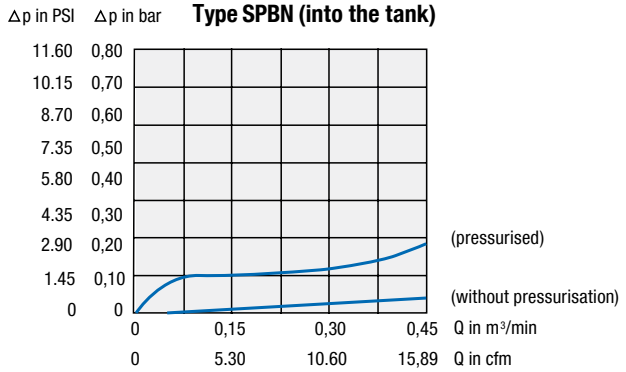


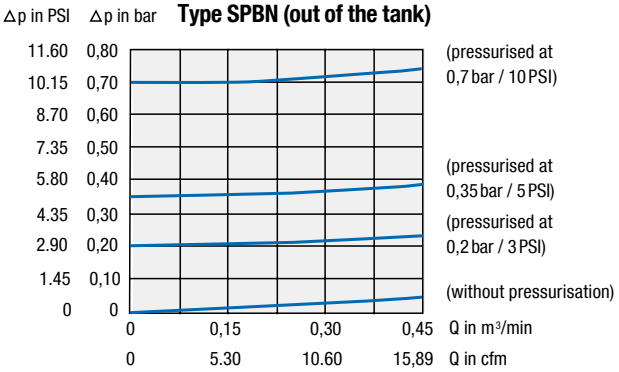
Side Mount Bracket (Polyamide) ▪ Type ASMB-1
Suitable for SPBN; Bayonet Version
(See page E24 for details)



Side Mount Bracket (Aluminium) ▪ Type ASMB-2
Suitable for SPBN; Bayonet Version
(See page E24 for details)

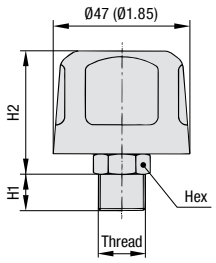
Pressure Drop Flow Curves Plastic Filler Breathers





Metal Filler Breather ▪ Type SMBT-47 (Screw-In Version)





Characteristics

Designed to be used as filler ports for hydraulic reservoirs, allowing the reservoir to breathe whilst protecting it from contamination found in harsh environments

Features
- Cap diameter of Ø47 mm / Ø1.85 in
- Screw-in version, equipped with male NPT thread (ANSI B1.20.1) or male BSP thread (ISO 228)

Materials
- Breather cap made of Steel, chrome-plated (standard option); zinc/nickel-plated (Fe/Zn Ni 6; free of hexavalent chromium CrVI) and epoxy-coated versions available
- Threaded socket made of Steel, zinc-plated

Consult STAUFF for alternative materials.

Accessories / Options
- Air filter element

Maximum Air Flow Rate
- 0,40 m³/min / 14.13 cfm

Consult STAUFF for detailed air flow curves.

Oil Displacement
- 400 l/min / 106 US GPM

Dimensions

Thread	Dimensions (mm/in)		
	H1	H2	Hex
Male 1/4 NPT (ANSI B1.20.1)	13 .51	41 2.38	17 .67
Male 3/8 NPT (ANSI B1.20.1)	15 .59	41 2.38	19 .74

Thread	Dimensions (mm/in)		
	H1	H2	Hex
Male G1/4 BSP (ISO 228)	10 .39	41 2.38	17 .67
Male G3/8 BSP (ISO 228)	13 .51	41 2.38	19 .74
Male G1/2 BSP (ISO 228)	14 .55	41 2.38	22 .88

Consult STAUFF for alternative threads.

Order Codes

SMBT - 47C - S - 10 - 0 - N08

① ② ③ ④ ⑤ ⑥

① Type / Version

Metal Filler Breather; Screw-in version	**SMBT**

② Cap Diameter / Material / Surface Finishing

Cap diameter Ø47 mm (Ø1.85 in); Breather cap made of Steel, chrome-plated (standard option)	**47C**
Cap diameter Ø47 mm (Ø1.85 in); Breather cap made of Steel, zinc/nickel-plated	**47**
Cap diameter Ø47 mm (Ø1.85 in); Breather cap made of Steel, expoxy-coated	**47E**

③ Label

With STAUFF logo (standard option)	**S**
Neutral design without any logo	**N**

④ Air Filter Element (Material / Micron Rating)

Without air filter element (special option)	**00**
10 µm Foam / PUR (standard option)	**10**
40 µm Foam / PUR	**40**

Consult STAUFF for alternative materials / micron ratings.

⑤ Pressurisation

Without pressurisation (standard option)	**0**

No pressurisation available for this cap diameter.

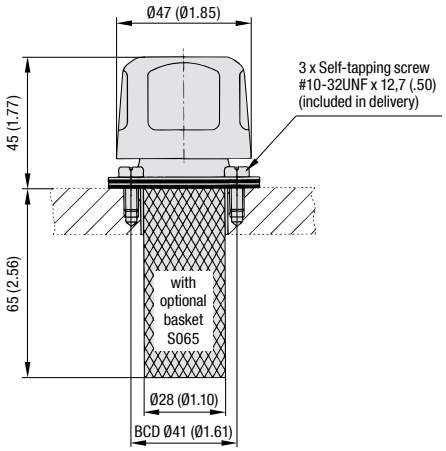
⑥ Connection Thread (Male)

1/4 NPT	**N04**
3/8 NPT	**N06**
G1/4	**B04**
G3/8	**B06**
G1/2	**B08**

Consult STAUFF for alternative threads.

Dimensional drawings: All dimensions in mm (in).

Metal Filler Breather ▪ Type SMBB-47 (Bayonet Version)





Characteristics

Designed to be used as filler ports for hydraulic reservoirs, allowing the reservoir to breathe whilst protecting it from contamination found in harsh environments

Features
- Cap diameter of Ø47 mm / Ø1.85 in
- Bayonet version with a three-hole bolt pattern

Materials
- Breather cap made of Steel, chrome-plated (standard option); zinc/nickel-plated (Fe/Zn Ni 6; free of hexavalent chromium CrVI) and epoxy-coated versions available
- Bayonet flange made of Steel, zinc-plated
- Basket made of Steel, zinc-plated
- Sealings made of Cork

Consult STAUFF for alternative materials.

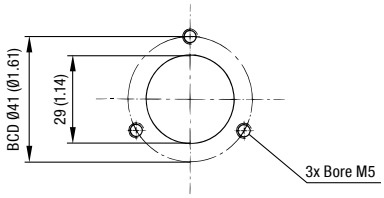
Accessories / Options
- Metal basket (800 µm)
- Air filter element

Maximum Air Flow Rate
- 0,40 m³/min / 14.13 cfm

Consult STAUFF for detailed air flow curves.

Oil Displacement
- 400 l/min / 106 US GPM

Installation
- Three-hole bolt pattern for flange interfaces:



- 3 self-tapping screws #10-32UNF x 12,7 (.50) are included in delivery; can be replaced by regular M5 bolts, if required

Order Codes

SMBB	-	47C	-	S	-	10	-	0	-	C	-	S065
①		②		③		④		⑤		⑥		⑦

① Type / Version

Metal Filler Breather; Bayonet version	**SMBB**

② Cap Diameter / Material / Surface Finishing

Cap diameter Ø47 mm (Ø1.85 in); Breather cap made of Steel, chrome-plated (standard option)	**47C**
Cap diameter Ø47 mm (Ø1.85 in); Breather cap made of Steel, zinc/nickel-plated	**47**
Cap diameter Ø47 mm (Ø1.85 in); Breather cap made of Steel, expoxy-coated	**47E**

③ Label

With STAUFF logo (standard option)	**S**
Neutral design without any logo	**N**

④ Air Filter Element (Material / Micron Rating)

Without air filter element (special option)	**00**
10 µm Foam / PUR (standard option)	**10**
40 µm Foam / PUR	**40**

Consult STAUFF for alternative materials / micron ratings.

⑤ Pressurisation

Without pressurisation (standard option)	**0**

No pressurisation available for this cap diameter.

⑥ Sealing Material

Cork (standard option)	**C**

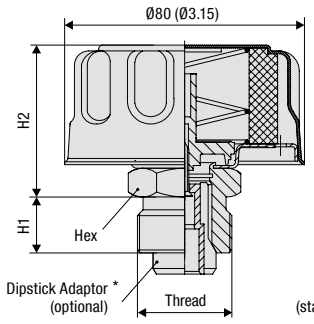
⑦ Basket Option

Metal basket (65 mm / 2.56 in)	**S065**
Without basket	**0**

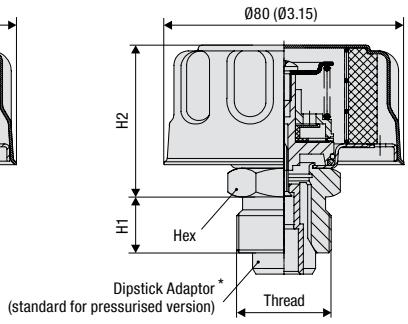
Dimensional drawings: All dimensions in mm (in).

Metal Filler Breather ▪ Type SMBT-80 (Screw-In Version)





Without Pressurisation



Pressurised

* Please note: The disptick adaptor is not available for connection threads 1/2 NPT and G1/2.

Characteristics

Designed to be used as filler ports for hydraulic reservoirs, allowing the reservoir to breathe whilst protecting it from contamination found in harsh environments

Features
- Cap diameter of Ø80 mm / Ø3.15 in
- Screw-in version, equipped with male NPT thread
- (ANSI B1.20.1) or male BSP thread (ISO 228)

Materials
- Breather cap made of Steel, chrome-plated (standard option); zinc/nickel-plated (Fe/Zn Ni 6; free of hexavalent chromium CrVI) and epoxy-coated versions available
- Threaded socket made of Steel, zinc-plated
- Dipstick adaptor made of Polyamide (PA)

Consult STAUFF for alternative materials.

Accessories / Options
- Pressurisation up to 0,7 bar / 10 PSI
- Air filter element
- Dipstick adaptor suitable for plastic dipstick DS-1 (not for connection threads G1/2 and 1/2 NPT)
- Plastic dipstick DS-1 with integrated anti-splash feature (not for connection threads G1/2 and 1/2 NPT)

Maximum Air Flow Rate
- 0,45 m³/min / 15.89 cfm

Consult STAUFF for detailed air flow curves.

Oil Displacement
- 450 l/min / 119 US GPM

Dimensions

Thread	Dimensions (mm/in)		
	H1	H2	Hex
Male 1/2 NPT (ANSI B1.20.1)	14 / .51	52,5 / 2.07	24 / .94
Male 3/4 NPT (ANSI B1.20.1)	16 / .59	52,5 / 2.07	30 / 1.18
Male G1 NPT (ANSI B1.20.1)	19 / .75	52,5 / 2.07	36 / 1.42

Thread	Dimensions (mm/in)		
	H1	H2	Hex
Male G1/2 BSP (ISO 228)	14 / .55	54 / 2.13	24 / .94
Male G3/4 BSP (ISO 228)	16 / .63	54 / 2.13	30 / 1.18
Male G1 BSP (ISO 228)	19 / .75	54 / 2.13	36 / 1.42

Order Codes

SMBT	-	80C	-	S	-	10	-	0	-	N08	-	0
①		②		③		④		⑤		⑥		⑦

① Type / Version

Metal Filler Breather; Screw-in version	**SMBT**

② Cap Diameter / Material / Surface Finishing

Cap diameter Ø80 mm (Ø3.15 in); Breather cap made of Steel, chrome-plated (standard option)	**80C**
Cap diameter Ø80 mm (Ø3.15 in); Breather cap made of Steel, zinc/nickel-plated	**80**
Cap diameter Ø80 mm (Ø3.15 in); Breather cap made of Steel, expoxy-coated	**80E**

③ Label

With STAUFF logo (standard option)	**S**
Neutral design without any logo	**N**

④ Air Filter Element (Material / Micron Rating)

Without air filter element	**00**
3 µm Filter Paper	**03**
10 µm Foam / PUR (standard option)	**10**
40 µm Foam / PUR	**40**

Consult STAUFF for alternative materials / micron ratings.

⑤ Pressurisation

Without pressurisation (standard option)	**0**
Pressurised at 0,35 bar / 5 PSI	**P2**
Pressurised at 0,7 bar / 10 PSI	**P3**

⑥ Connection Thread (Male)

1/2 NPT	**N08**
3/4 NPT	**N12**
1 NPT	**N16**
G1/2	**B08**
G3/4	**B12**
G1	**B16**

Consult STAUFF for alternative threads.

⑦ Dipstick

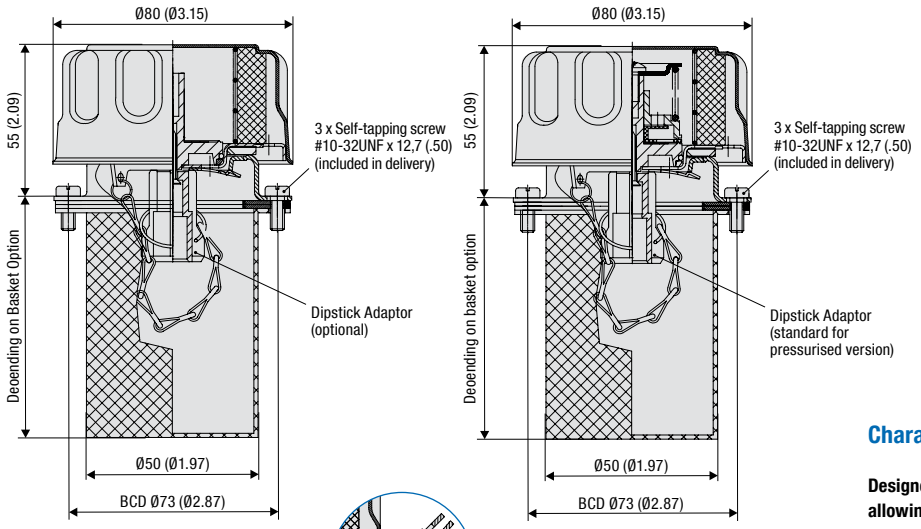
Without dipstick (standard option)	**0**
With dipstick adaptor suitable for dipstick DS-1 (not for connection threads G1/2 and 1/2 NPT)	**A**
With dipstick adaptor and plastic dipstick DS-1 (300 mm / 11.81 in) with integrated anti-splash feature (not for connection threads G1/2 and 1/2 NPT)	**D300**

A shorter dipstick length can be achieved by simply cutting down the total length according to individual requirements.

Please note: The dipstick adaptor is required for the subsequent installation of plastic dipsticks DS-1 (see page E14 for details), and is included in delivery when ordering a pressurised version. The dipstick adaptor is not available for connection threads G1/2 and 1/2 NPT.

Dimensional drawings: All dimensions in mm (in).

Metal Filler Breather ▪ Type SMBB-80 (Bayonet Version)





(Recommended mounting space: Ø126 mm / Ø4.96 in)

Order Codes

SMBB	-	80C	-	S	-	L	-	10	-	0	-	C	-	S095P	-	0
①		②		③		④		⑤		⑥		⑦		⑧		⑨

① Type / Version

Metal Filler Breather; Bayonet version	**SMBB**

② Cap Diameter / Material / Surface Finishing

Cap diameter Ø80 mm (Ø3.15 in); Breather cap made of Steel, chrome-plated (standard option)	**80C**
Cap diameter Ø80 mm (Ø3.15 in); Breather cap made of Steel, zinc/nickel-plated	**80**
Cap diameter Ø80 mm (Ø3.15 in); Breather cap made of Steel, expoxy-coated	**80E**

③ Label

With STAUFF logo (standard option)	**S**
Neutral design without any logo	**N**

④ Locking Feature

Without locking feature (standard option)	**0**
With locking feature (see drawing above)	**L**

⑤ Air Filter Element (Material / Micron Rating)

Without air filter element	**00**
3 µm Filter Paper	**03**
10 µm Foam / PUR (standard option)	**10**
40 µm Foam / PUR	**40**

Consult STAUFF for alternative materials / micron ratings.

⑥ Pressurisation

Without pressurisation (standard option)	**0**
Pressurised at 0,35 bar / 5 PSI	**P2**
Pressurised at 0,7 bar / 10 PSI	**P3**

⑦ Sealing Material

Cork (for filler breathers without pressurisation)	**C**
NBR (Buna-N®) (for pressurised filler breathers)	**B**

⑧ Basket Option

Without basket	**0**
Plastic basket (95 mm / 3.74 in) (standard option)	**S095P**
Metal basket (80 mm / 3.15 in)	**S080**
Metal basket (100 mm / 3.94 in)	**S100**
Metal basket (150 mm / 5.91 in)	**S150**
Metal basket (200 mm / 7.87 in)	**S200**
Heavy duty metal basket (200 mm / 7.87 in)	**S200HD**

⑨ Dipstick

Without dipstick (standard option)	**0**
Dipstick adaptor (suitable for dipstick DS-1)	**A**
With dipstick adaptor and plastic dipstick DS-1 (300 mm / 11.81 in) with integrated anti-splash feature	**D300**

A shorter dipstick length can be achieved by simply cutting down the total length according to individual requirements.

Please note: The dipstick adaptor is required for the subsequent installation of plastic dipsticks DS-1 (see page E14 for details), and is content of delivery when ordering a pressurised version.

Characteristics

Designed to be used as filler ports for hydraulic reservoirs, allowing the reservoir to breathe whilst protecting it from contamination found in harsh environments

Features

- Cap diameter of Ø80 mm / Ø3.15 in
- Bayonet version with a six-hole bolt pattern for flange interfaces similar to DIN 24557, part 2

Materials

- Breather cap made of Steel, chrome-plated (standard option); zinc/nickel-plated (Fe/Zn Ni 6; free of hexavalent chromium CrVI) and epoxy-coated versions available
- Bayonet flange made of Steel, zinc-plated
- Basket made of Steel, zinc-plated or Polyamide (PA)
- Dipstick adaptor made of Polyamide (PA)
- Sealings made of Cork (for filler breathers without pressurisation) or NBR (Buna-N®) (for pressurised filler breathers)

Consult STAUFF for alternative materials.

Accessories / Options

- Metal or plastic basket (800 µm)
- Pressurisation up to 0,7 bar / 10 PSI
- Air filter element
- Locking feature
- Dipstick adaptor (suitable for plastic dipstick DS-1)
- Plastic dipstick with integrated anti-splash feature

Maximum Air Flow Rate

- 0,45 m³/min / 15.89 cfm

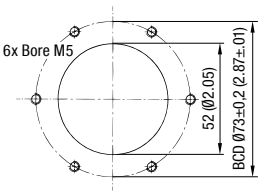
Consult STAUFF for detailed air flow curves.

Oil Displacement

- 450 l/min / 119 US GPM

Installation

- Six-hole bolt pattern for flange interfaces similar to DIN 24557, part 2:

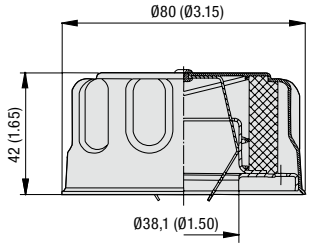


- 6 self-tapping screws #10-32UNF x 12,7 (.50) are included in delivery; can be replaced by regular M5 bolts, if required

Dimensional drawings: All dimensions in mm (in).

Metal Breather ▪ Type SMBP-80 (Push-On Version)





Characteristics

Designed to be used as filler ports for hydraulic reservoirs, allowing the reservoir to breathe whilst protecting it from contamination found in harsh environments

Features
- Cap diameter of Ø80 mm / Ø3.15 in
- Push-on version, suitable for pipe diameters up to 38 mm/ 1.50 in

Materials
- Breather cap made of Steel, chrome-plated (standard option); zinc/nickel-plated (Fe/Zn Ni 6; free of hexavalent chromium CrVI) and epoxy-coated versions available

Consult STAUFF for alternative materials.

Accessories / Options
- Air filter element

Maximum Air Flow Rate
- 0,45 m³/min / 15.89 cfm

Consult STAUFF for detailed air flow curves.

Oil Displacement
- 450 l/min / 119 US GPM

Order Codes

SMBP	-	80C	-	S	-	10	-	0
①		②		③		④		⑤

① Type / Version

Metal Breather; Push-on version	**SMBP**

② Cap Diameter / Material / Surface Finishing

Cap diameter Ø80 (Ø3.15 in); Breather cap made of Steel, chrome-plated (standard option)	**80C**
Cap diameter Ø80 mm (Ø3.15 in); Breather cap made of Steel, zinc/nickel-plated	**80**
Cap diameter Ø80 (Ø3.15 in); Breather cap made of Steel, expoxy-coated	**80E**

③ Label

With STAUFF logo (standard option)	**S**
Neutral design without any logo	**N**

④ Air Filter Element (Material / Micron Rating)

Without air filter element	**00**
10 µm Foam / PUR (standard option)	**10**
40 µm Foam / PUR	**40**

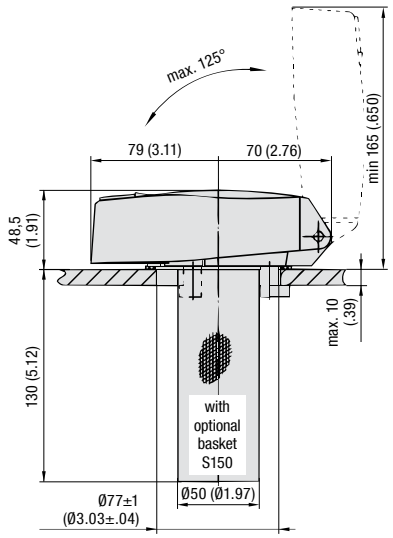
Consult STAUFF for alternative materials / micron ratings.

⑤ Dipstick

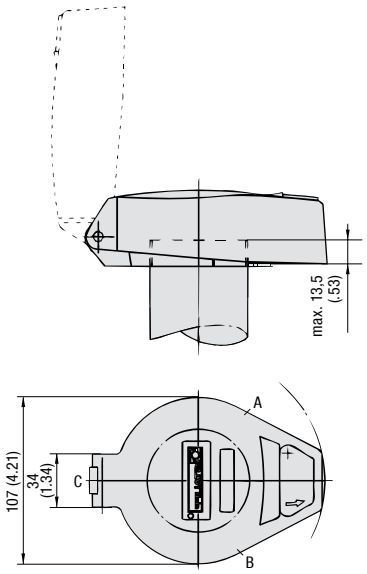
Without dipstick (standard option)	**0**

Dimensional drawings: All dimensions in mm (in).

Lockable Metal Filler Breather ▪ Type SMBL (Clamping, Threaded and Push-On Version)



Clamping Version



Threaded Version

Recommended mounting space: Ø162 mm / Ø6.38 in
2 locking screws M6 x 6 (DIN 916) at positions A and B

Push-On Version

3 locking screws M6 x 6 (DIN 916) at positions A, B and C



Clamping version with metal basket (150 mm / 5.91 in)

Characteristics

Designed to be used as lockable filler ports for hydraulic reservoirs, allowing the reservoir to breathe whilst protecting it from contamination found in harsh environments

Features

- Available as clamping version (with 3 clamping jaws), as threaded version (with female BSP thread) or push-on version, suitable for stand pipe mounting with pipe diameters up to 77,5 mm/ 3.05 in (secured by 3 locking screws)
- Key-lockable cap (2 keys included)
- Lock protected by rotating flap
- Operating temperature range: -30 °C ... +100 °C / -22 °F ... +212 °F
- Air flow in both directions, one direction only or no direction

Materials

- Breather cap made of Aluminium, lacquered (light-grey, RAL 9022)
- Breather body made of Aluminium, zinc-plated
- Basket made of Steel, zinc-plated or Polypropylene (PP)
- Sealings made of NBR (Buna-N®) (standard option); FPM (Viton®) sealed version available

Consult STAUFF for alternative materials.

Accessories / Options

- Metal or (telescopic) plastic basket (800 µm)
- Air filter element

Order Codes

SMBL	-	C	-	10	-	1	-	S150	-	B	-	0
①		②		③		④		⑤		⑥		⑦

① Type

Lockable Metal Filler Breather	**SMBL**

② Version

Clamping version with 3 clamping jaws; Installation to a tank mounting hole of Ø77±1 mm / Ø3.03±.04 in	**C**
Threaded version with female G2 BSP thread	**B32**
Threaded version with female G2-1/2 BSP thread	**B40**
Push-on version for stand pipe mounting	**P**

③ Air Filter Element (Material / Micron Rating)

Without air filter element	**00**
10 µm Foam / PUR (standard option)	**10**
40 µm Foam / PUR	**40**

Consult STAUFF for alternative materials / micron ratings.

④ Air Flow

Air flow in both directions (standard option)	**1**
No air flow	**2**
Air flow only into the tank	**3**

⑤ Basket Option

Without basket	**0**
Metal basket (150 mm / 5.91 in)	**S150**
Plastic basket (80 mm / 3.15 in)	**S080**
Telescopic plastic basket (max. 205 mm / max. 8.07 in)	**S200**

The baskets of the SMBB 47/80 series cannot be used in conjunction with the SMBL series.

⑥ Sealing Material

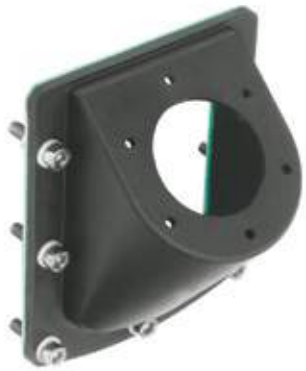
NBR (Buna-N®) (standard option)	**B**
FPM (Viton®)	**V**

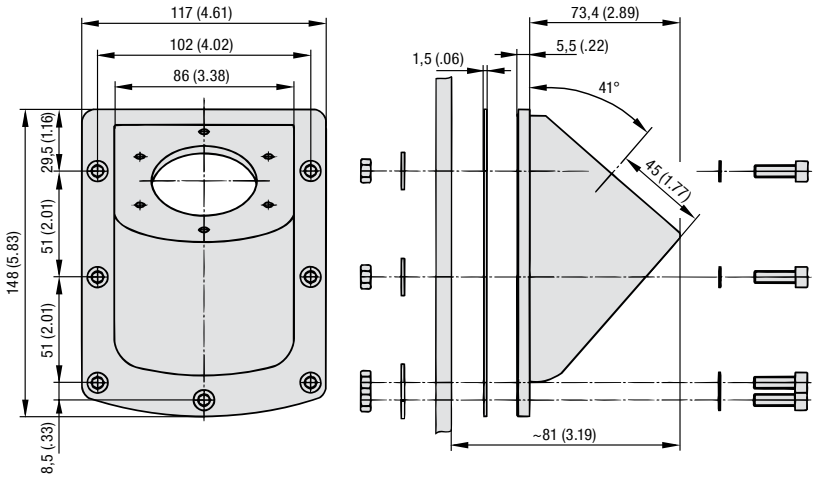
⑦ Cap Design

Breather cap made of Aluminium, lacquered (light-grey, RAL 9022)	**0**

Dimensional drawings: All dimensions in mm (in).

Side Mount Bracket ▪ Type ASMB-1 (Polyamide Version)





Characteristics

Lateral fastening of filler breathers with a six-hole flange connection similar to DIN 24557, part 2 to vertical or sloped walls of hydraulic reservoirs; ideal for applications in which space is limited

Suitability
- Suitable for Plastic Filler Breathers SPB 5 and SPBN (bayonet version) and Metal Filler Breathers SMBB 80

Materials
- Mounting bracket made of Polyamide (PA)
- Seal plate made of Klingerit
- Screws and hex nuts made of Steel, zinc-plated
- Washers made of Steel, zinc-plated
- Plastic spacers made of Polyamide (PA)

Scope of Delivery
- 1 mounting bracket
- 1 seal plate
- 7 socket cap screws M6 x 25 (ISO 4762)
- 7 plastic spacers 6,4 (DIN 125)
- 7 hex nuts M6 (ISO 4032)
- 7 washers 6,4 (DIN 9021)
- 6 sheet metal screws 4,8x13 (ISO 7049)

Installation
- Bolted to the side of the reservoir
- Bayonet flange of filler breather is placed on top
- Flange interface similar to DIN 24557, part 2 with 6 equally spaced mounting bores Ø4,5 mm / Ø.18 in (BCD Ø71±0,2 mm / Ø2.80±.01 in)

Order Codes

SMBB-ASMB - 1

① ②

① Type

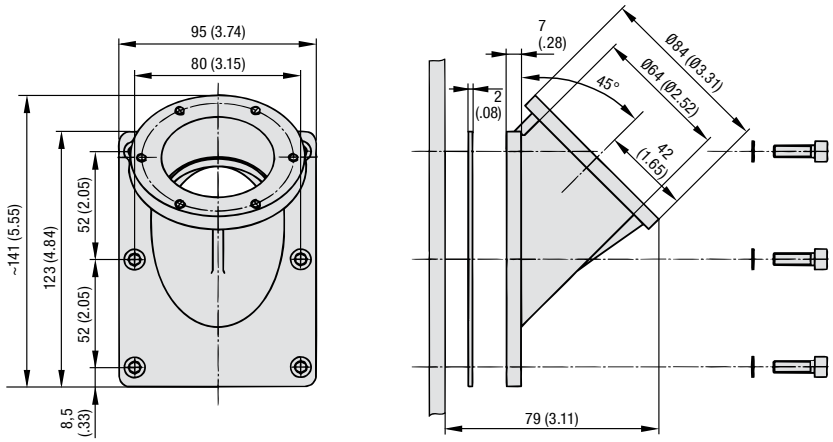
Side Mount Bracket	**SMBB-ASMB**

② Housing Material

Polyamide (PA)	**1**

Side Mount Bracket ▪ Type ASMB-2 (Aluminium Version)





Characteristics

Lateral fastening of filler breathers with a six-hole flange connection similar to DIN 24557, part 2 to vertical or sloped walls of hydraulic reservoirs; ideal for applications in which space is limited

Suitability
- Suitable for Plastic Filler Breathers SPB 5 and SPBN (bayonet version) and Metal Filler Breathers SMBB 80

Materials
- Mounting bracket made of Aluminium
- Seal plate made of Flexoid
- Screws made of Steel, zinc-plated
- Plastic spacers made of Klingerit

Scope of Delivery
- 1 mounting bracket
- 1 seal plate
- 6 socket cap screws M6 x 20 (ISO 4762)
- 6 plastic spacers 6,4 (DIN 125)

Installation
- Bolted to the side of the reservoir
- Bayonet flange of filler breather is placed on top
- Flange interface similar to DIN 24557, part 2 with 6 equally spaced bores M5 (BCD Ø73±0,2 mm / Ø2.87±.01 in)

Order Codes

SMBB-ASMB - 2

① ②

① Type

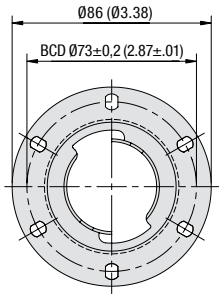
Side Mount Bracket	**SMBB-ASMB**

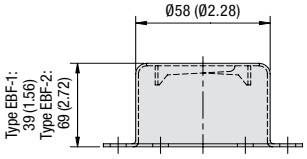
② Housing Material

Aluminium	**2**

Dimensional drawings: All dimensions in mm (in).

Extended Bayonet Flange ▪ Type EBF







Order Codes

EBF - 2
① ②

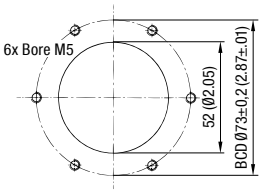
① Type

Extended Bayonet Flange	**EBF**

② Size

Total height of 39 mm (1.56 in)	**1**
Total height of 69 mm (2.72 in)	**2**

Installation
- Six-hole bolt pattern for flange interfaces similar to DIN 24557, part 2:



- Supplied without gaskets and bolts

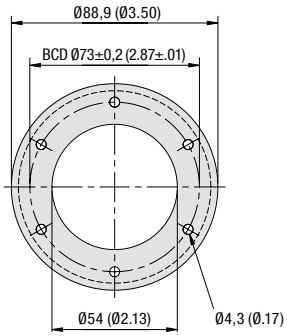
Characteristics

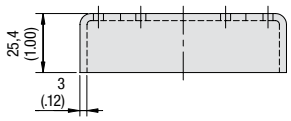
Designed to raise filler breathers either 39 mm / 1.56 in or 69 mm / 2.72 in above the actual mounting surface of the reservoir to prevent contamination from blocking the filter element

Suitability
- Suitable for Metal Filler Breathers SMBB 80 and Plastic Filler Breathers SPBN (bayonet version)
- Replaces the existing bayonet flanges of these breathers

Materials
- Bayonet flange made of Steel, zinc-plated

Weld Riser ▪ Type WR







Order Codes

WR - 1
① ②

① Type

Weld Riser	**WR**

② Size

Total height of 25,4 mm (1.00 in)	**1**

Materials
- Weld riser made of Steel, untreated

Installation
- Welded to the top of the reservoir
- No requirement to drill and tap on the reservoir
- Bayonet flange of filler breather is placed on top

Characteristics

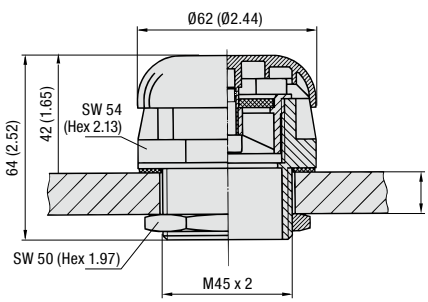
Designed to raise filler breathers 25,4 mm / 1.00 in above the actual mounting surface of the reservoir to prevent contamination from blocking the filter element whilst eliminating the requirement to drill and tap on the reservoir

Suitability
- Suitable for Metal Filler Breathers SMBB 80 as well as Plastic Filler Breathers SPB 5 and SPBN (bayonet version) and all components with a six-hole flange connection similar to DIN 24557, part 2

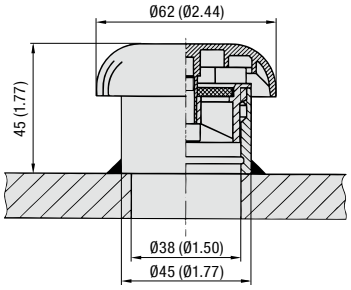
Dimensional drawings: All dimensions in mm (in).

Plastic Filler Breather ▪ Type SES (Screw-In or Welded Versions)





Screw-In Version



Welded Version

Characteristics

Designed to be used as filler ports for hydraulic reservoirs, allowing the reservoir to breathe whilst protecting it from contamination found in harsh environments

Features
- Cap diameter of Ø62 mm / Ø2.44 in
- Screw-in version, equipped with male Metric ISO thread M45 x 2 and lock nut, or welded version with welding socket made of Steel (1.0718), untreated
- Supplied with 45 µm air filter element

Materials
- Breather cap made of Polyamide (PA)
- Breather body / stud made of Polyamide (PA)
- Nut (type SES 1) made of Steel (1.0718); Polyamide (PA) available on request
- Welding socket (type SES 2) made of Steel (1.0718), untreated; Stainless Steel (V2A) available on request
- Air filter element made of Sintered Bronze
- Basket made of Polyamide (PA)
- Dipstick made of Steel (1.0718)
- Sealings made of NBR (Buna-N®)

Consult STAUFF for alternative materials.

Accessories / Options
- Plastic basket (300 µm)
- Metal dipstick

Maximum Air Flow Rate
- 0,30 m³/min / 10.60 cfm

Consult STAUFF for detailed air flow curves.

Oil Displacement
- 300 l/min / 79 US GPM

Order Codes

SES	1	-	M300
①	②		③

① Type

Plastic Filler Breather	**SES**

② Version

Screw-in version	**1**
Welded version	**2**

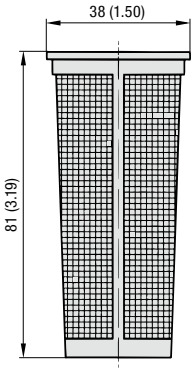
③ Basket / Dipstick Option

Plastic basket (81 mm / 3.19 in)	**S**
Metal dipstick (300 mm / 11.81 in)	**M300**
Metal dipstick (500 mm / 19.69 in)	**M500**
Without basket / dipstick	**-**

Accessories

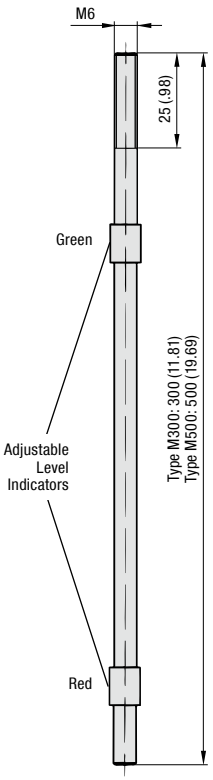


Plastic Basket





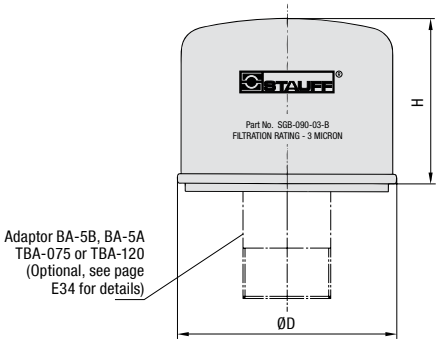
Metal Dipstick

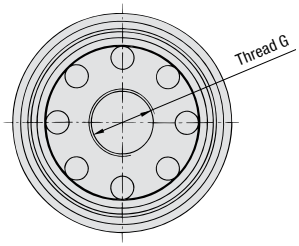


Dimensional drawings: All dimensions in mm (in).

Giant Air Breather ▪ Type SGB (Synthetic Fibre Media)







Characteristics

Originally designed to be used as replaceable air filter elements for STAUFF Desiccant Breathers, they can also be used as seperate air filters for hydraulic reservoirs

Features

- Diameter of Ø68 mm / Ø2.68 in (SGB-060), Ø100 mm / Ø3.94 in (SGB-090) or Ø130 mm / Ø5.12 in (SGB-120)
- Equipped with female BSP thread (ISO 228)
- Including sealing made of NBR (Buna-N®)

Accessories / Options

- Adaptors (for direct installation on top of hydraulic reservoirs)

Please see page E34 for a selection of adaptors available, and consult STAUFF for further information.

Air Flow

- Maximum air flow rates: 0,05 m³/min / 1.77 cfm for SGB-060, 0,70 m³/min / 24.71 cfm for SGB-090, and 1,50 m³/min / 52.97 cfm for SGB-120

Dimensions and Filter Specifications

Type	Thread G*	Dimensions (mm/in) ØD	H	Filter Material	Micron Rating	Filter Surface	Max. Air Flow Rate
SGB-060-03-B	Female G3/8 BSP (ISO 228)	68 2.68	60 2.36	Synthetic Fibre	3 µm	415 cm² 63 in²	0,05 m³/min 1.77 cfm
SGB-090-03-B	Female G3/4 BSP (ISO 228)	100 3.94	64 2.52	Synthetic Fibre	3 µm	752 cm² 115 in²	0,70 m³/min 24.71 cfm
SGB-120-03-B	Female G1-1/4 BSP (ISO 228)	130 5.12	100 3.94	Synthetic Fibre	3 µm	2095 cm² 320 in²	1,50 m³/min 52.97 cfm

* Use adaptors TBA (Steel) or BA-5A and BA-5B (Polyamide) to change female BSP thread into male BSP or male NPT thread. Please see page E34 for details.

Order Codes

SGB - 090 - 03 - B - BA5A

① ② ③ ④ ⑤

① Type

Giant Air Breather	**SGB**

② Size

Diameter of Ø68 mm (Ø2.68 in)	**060**
Diameter of Ø100 mm (Ø3.94 in)	**090**
Diameter of Ø130 mm (Ø5.12 in)	**120**

③ Filter Material / Micron Rating

3 µm Synthetic Fibre	**03**

Consult STAUFF for alternative materials / micron ratings.

④ Connection Thread

Female BSP thread (according to dimension table)	**B**

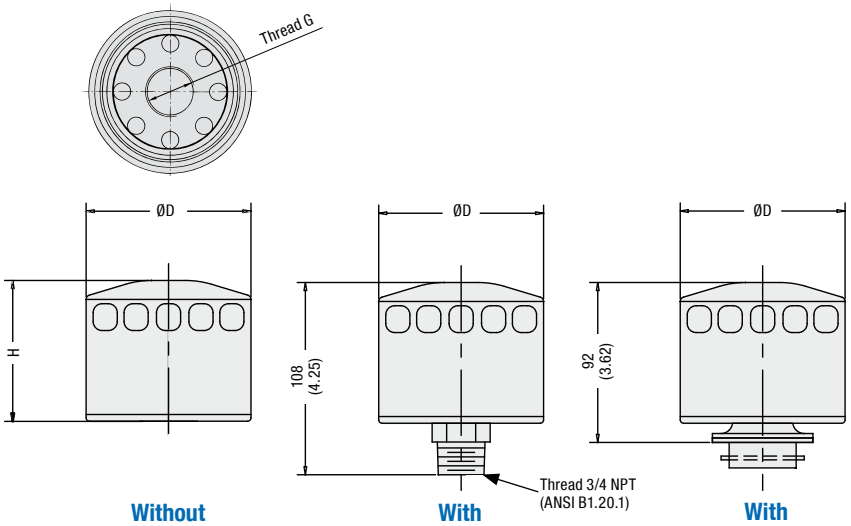
⑤ Adaptor Option

Without adaptor	**-**
BA-5B Polyamide adapter (for use with SGB-060-03-B)	**BA-5B**
BA-5A Polyamide adapter (for use with SGB-090-03-B)	**BA-5A**
TBA-075 Steel adapter (for use with SGB-090-03-B)	**TBA-075**
TBA-120 Steel adapter (for use with SGB-120-03-B)	**TBA-120**

Please see page E34 for details.

Dimensional drawings: All dimensions in mm (in).

Giant Air Breather ▪ Type SGB (Cellulose Media)



Without Adaptor | **With Threaded Adaptor BA-5** | **With Bayonet Adaptor BA-4A**



Characteristics

Designed to be used as seperate air filters for hydraulic reservoirs

Features

- Diameter of Ø94 mm / Ø3.70 in
- Equipped with female UN thread (ANSI B1.1)
- Including sealing made of NBR (Buna-N®)

Accessories / Options

- Threaded adaptor BA-5
- Bayonet adaptor BA-4A
- Standard and extended bayonet flanges
- Metal or plastic basket (800 µm)

Air Flow

- Maximum air flow rates: 1,13 m³/min / 39.90 cfm

Dimensions and Filter Specifications

Type	Thread G	Dimensions (mm/in) ØD	H	Filter Material	Micron Rating	Filter Surface	Max. Air Flow Rate
SGB-90-10P	1-1/8–16 UN	94	80	Cellulose	10 µm	700 cm²	1,13 m³/min
		3.70	3.15			109 in²	39.90 cfm

Order Codes

SGB - **090** - **10P** - **BA-4A** - **BB** - **S095P**

① ② ③ ④ ⑤ ⑥

① Type

Giant Air Breather	**SGB**

② Size

Diameter of Ø94mm (Ø3.70 in)	**090**

③ Filter Material / Micron Rating

10 µm Cellulose	**10P**

④ Adaptor Option

Without adaptor	**-**
Threaded adaptor	**BA-5**
Bayonet adaptor	**BA-4A**

⑤ Bayonet Flange Option

Without bayonet flange	**-**
Standard bayonet flange	**BB**
Extended bayonet flange EBF-1: 39 mm (1.56 in)	**B1**
Extended bayonet flange EBF-2: 69 mm (2.72 in)	**B2**

⑥ Basket Option

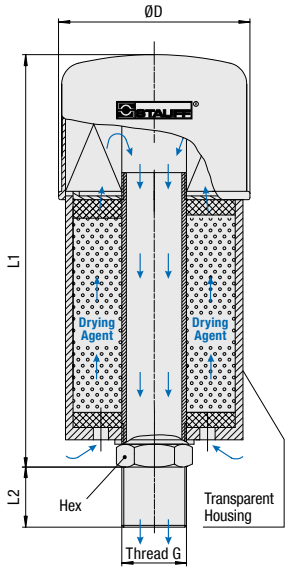
Without basket	**-**
Plastic basket (95 mm / 3.74 in)	**S095P**
Metal basket (80 mm / 3.15 in)	**S080**
Metal basket (100 mm / 3.94 in)	**S100**
Metal basket (150 mm / 5.91 in)	**S150**
Metal basket (200 mm / 7.87 in)	**S200**

Assembly with basket including gaskets and screws.

Dimensional drawings: All dimensions in mm (in).

Desiccant Air Breather ▪ Type SDB





Drying Agent
Capable in changing colours with increasing moisture

ACTIVE

REPLACE

This product does not contain any dangerous substances according to EC Council directives 99/45/EC and 2001/60/EC.

Dimensions and Technical Data

Type	Thread G	Dimensions (mm/in) ØD	L1	L2	Hex	Weight (g/lbs) Complete Unit	Drying Agent	Volume (cm³/in³) Drying Agent	Max. Water Absorption (g/lbs)	Air Filter Elements Type	Filter Material	Micron Rating	Filter Surface	Max. Air Flow Rate
SDB-093	Male G3/4 BSP (ISO 228)	100	160	20	32	1200	225	300	86	SGB-090-03-B	Synthetic Fibre	3µm	752 cm²	0,70 m³/min
		3.94	6.30	.79	1.26	2.65	.50	18.3	.19				115 in²	24.71 cfm
SDB-096	Male G3/4 BSP (ISO 228)	100	220	20	32	1500	450	600	172	SGB-090-03-B	Synthetic Fibre	3µm	752 cm²	0,70 m³/min
		3.94	8.66	.79	1.26	3.31	.99	36.6	.38				115 in²	24.71 cfm
SDB-121	Male G1-1/4 BSP (ISO 228)	130	256	>25	50	2700	750	1000	288	SGB-120-03-B	Synthetic Fibre	3µm	2095 cm²	1,50 m³/min
		5.12	10.08	>.98	1.98	5.92	1.65	61.0	.63				320 in²	52.97 cfm
SDB-122	Male G1-1/4 BSP (ISO 228)	130	366	>25	50	4000	1500	2000	576	SGB-120-03-B	Synthetic Fibre	3µm	2095 cm²	1,50 m³/min
		5.12	14.41	>.98	1.98	8.82	3.31	122.0	1.27				320 in²	52.97 cfm

Characteristics

Combination of air breather and water removal filter

When a reservoir or gearbox breathes, air containing water vapor is ingested into the system. Temperature fluctuations will cause this water vapor to condense which can speed up the oxidation of the fluid and lead to damage in the system.

While inhaling, Desiccant Air Breathers SDB first dry the air as it passes through the drying agent. The air then passes through a 3µm air filter element to remove any solid contamination particles.

As moisture is absorbed, the drying agent will gradually change from red to orange. When it is orange, replace the drying agent. If required, an optional visual indicator gives an indication of the status of the air breather. With the moisture absorbed, the oxidation process can be decreased and the lifetime of the oil and the entire machinery will be extended.

Desiccant Air Breathers SDB can also be re-fitted with a layer of active carbon (1/3) and a layer of regular drying agent (2/3) for vapor filtration.

Features
- Available in 4 different sizes
- Diameter of Ø100 mm / Ø3.94 in or Ø130 mm / Ø5.12 in
- Refillable with drying agent (non-toxic ZR gel grain) or a mix of drying agent and active carbon
- Replaceable air filter element SGB
- Connection: Male BSP thread (ISO 228) on Stainless Steel tube
- Available with adaptor plate to simplify installation and to enable the use of a visual contamination indicator

Accessories / Spare Parts

Connection adaptor (see page E34 for details)
- for SDB-093 and SDB-096 to be used with visual contamination indicator FM without adaptor plate AP-1: **DBA-75**

Adaptor plate (see page E33 for details)
- for SDB-093 and SDB-096: **AP-1**
- for SDB-121 and SDB-122: **AP-2**

Visual contamination indicator (see page E33 for details)
- for all sizes (in conjunction with adaptor plate only): **FM**

Drying agent refilling material (supplied in air tight container)
- for SDB-093 (300 cm³ / 18.3 in³): **RD-093**
- for SDB-096 (600 cm³ / 26.6 in³): **RD-096**
- for SDB-121 (1000 cm³ / 61.0 in³): **RD-121**
- for SDB-122 (2000 cm³ / 122.0 in³): **RD-122**

Active carbon refilling material (supplied in air tight container)
- for SDB-093, SDB-096/2 and SDB-121 (300 cm³ / 18.3 in³): **RC-093/096/121**
- for SDB-122 (600 cm³ / 18.3 in³): **RC-122**

Please note: Use one layer of active carbon (1/3) and one layer of regular drying agent (2/3).

Replacement air filter element (sealing included)
- for SDB-093 and SDB-096: **SGB-090-03-B**
- for SDB-121 and SDB-122: **SGB-120-03-B**

Order Codes

SDB - 122 - RC - AP - FM
① ② ③ ④ ⑤

① Type

Desiccant Air Breather	**SDB**

② Max. Water Absorption and Size

86 g / .19 lbs at Ø100 mm / Ø3.94 in	**093**
172 g / .38 lbs at Ø100 mm / Ø3.94 in	**096**
288 g / .63 lbs at Ø130mm / Ø5.12 in	**121**
576 g / 1.27 lbs at Ø130mm / Ø5.12 in	**122**

Please see table above for further technical details.

③ Drying Agent Material

Regular drying agent (standard option)	**-**
One layer of active carbon (1/3) and one layer of regular drying agent (2/3) for vapor filtration	**RC**

④ Adaptor Plate

Without adaptor plate	**-**
With adaptor plate	**AP**

⑤ Contamination Indicator

Without contamination indicator	**-**
With visual contamination indicator FM (in conjunction with adaptor plate AP only)	**FM**

Please see page E33 for details.

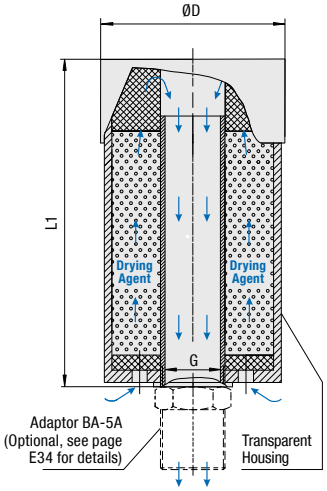
Desiccant Air Breather (Economy Version) ▪ Type SVDB

Drying Agent

Capable in changing colours with increasing moisture



This product does not contain any dangerous substances according to EC Council directives 99/45/EC and 2001/60/EC.





Dimensions and Technical Data

Type	Thread G	Dimensions (mm/in) ØD	L1	L2	Weight (g/lbs) Complete Unit	Drying Agent	Volume (cm³/in³) Drying Agent	Max. Water Absorption (g/lbs)	Max. Air Flow Rate
SVDB-093	Female G3/4 BSP (ISO 228)	94	109	18	400	225	300	86	0,70 m³/min
		3.70	4.68	.71	.88	.50	18.3	.19	24.71 cfm
SVDB-096	Female G3/4 BSP (ISO 228)	94	179	18	700	450	600	172	0,70 m³/min
		3.70	7.05	.71	1.54	.99	36.9	.38	24.71 cfm

Characteristics

Combination of air breather and water removal filter

When a reservoir or gearbox breathes, air containing water vapor is ingested into the system. Temperature fluctuations will cause this water vapor to condense which can speed up the oxidation of the fluid and lead to damage in the system.

Desiccant Air Breathers SVDB are the light-weight alternative to the proven SDB series, offering an almost identical filtration and absorption performance.

While inhaling, Desiccant Air Breathers SVDB also first dry the air as it passes through the drying agent. The air then passes through a 10 µm coarse filter to remove any solid contamination particles.

As moisture is absorbed, the drying agent will gradually change from red to orange. When it is orange, replace the entire unit. If required, an optional visual indicator gives an indication of the status of the air breather. With the moisture absorbed, the oxidation process can be decreased and the lifetime of the oil and the entire machinery will be extended.

Features

- Light-weight alternative to the SDB series
- Available in 2 different sizes
- Diameter of Ø94 mm / Ø3.70 in
- Filled with drying agent (non-toxic ZR gel grain)
- Connection: Female BSP thread (ISO 228) in Plastic housing

Please note that neither the air filter element nor the drying agent can be replaced when saturated.

Order Codes

SVDB - 096 - BA

① ② ③

① Type

Desiccant Air Breather (Economy Version)	**SVDB**

② Max. Water Absorption and Size

86 g / .19 lbs at Ø94 mm / Ø3.70	**093**
172 g / .38 lbs at Ø94 mm / Ø3.70	**096**

Please see table above for further technical details.

③ Connection Adaptor

Without connection adaptor	**-**
With connection adaptor BA-5A	**BA**

Please see page E34 for details.
Consult STAUFF for alternative adaptors.

Accessories / Spare Parts

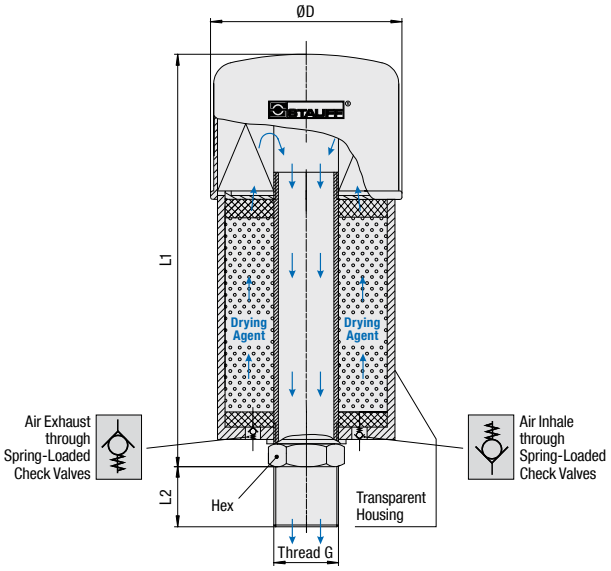
Connection adaptor (see page E34 for details)

▪ for all sizes:	**BA-5A**

Desiccant Air Breather with Check Valves ▪ Type SDB-CV







Drying Agent

Capable in changing colours with increasing moisture

ACTIVE

REPLACE

This product does not contain any dangerous substances according to EC Council directives 99/45/EC and 2001/60/EC.

Dimensions and Technical Data

Type	Thread G	Dimensions (mm/in)				Weight (g/lbs)		Volume (cm³/in³)	Max. Water Absorption	Air Filter Elements				
		ØD	L1	L2	Hex	Complete Unit	Drying Agent	Drying Agent	(g/lbs)	Type	Filter 67	Micron Rating	Filter Surface	Max. Air Flow Rate
SDB-061-CV	Female G3/8	68	143	14	22	350	75	100	29	SGB-060-03-B	Synthetic Fibre	3µm	415 cm²	0,05 m³/min
	BSP (ISO 228)	2.68	5.63	.55	.87	.77	.17	6.1	.06				63 in²	1.77 cfm
SDB-096-CV	Male G3/4	100	220	20	32	1500	450	600	172	SGB-090-03-B	Synthetic Fibre	3µm	752 cm²	0,70 m³/min
	BSP (ISO 228)	3.94	8.66	.79	1.26	3.31	.99	36.6	.38				115 in²	24.71 cfm
SDB-121-CV	Male G1-1/4	130	256	>25	50	2700	750	1000	288	SGB-120-03-B	Synthetic Fibre	3µm	2095 cm²	1,50 m³/min
	BSP (ISO 228)	5.12	10.08	>.98	1.98	5.92	1.65	61.0	.63				320 in²	52.97 cfm
SDB-122-CV	Male G1-1/4	130	366	>25	50	4000	1500	2000	576	SGB-120-03-B	Synthetic Fibre	3µm	2095 cm²	1,50 m³/min
	BSP (ISO 228)	5.12	14.41	>.98	1.98	8.82	3.31	122.0	1.27				320 in²	52.97 cfm

Characteristics

Combination of air breather and water removal filter with integrated check valves to increase the lifetime of the desiccant material; particularly suited for gearbox applications

When a reservoir or gearbox breathes, air containing water vapor is ingested into the system. Temperature fluctuations will cause this water vapor to condense which can speed up the oxidation of the fluid and lead to damage in the system.

While inhaling, Desiccant Air Breathers SDB-CV first dry the air as it passes through the drying agent. The air then passes through a 3 µm air filter element to remove any solid contamination particles.

Thanks to the spring-loaded check valves with an opening pressure of 0,01 bar / .15 PSI, the drying agent will be isolated from the atmosphere unless inhaling or exhaling, which increases the lifetime of the Desiccant Air Breather SDB-CV as well

As moisture is absorbed, the drying agent will gradually change from red to orange. When it is orange, replace the drying agent. If required, an optional visual indicator (not for the SDB-061-CV) gives an indication of the status of the air breather. With the moisture absorbed, the oxidation process can be decreased and the lifetime of the oil and the entire machinery will be extended. Desiccant Air Breathers SDB-CV can also be re-fitted with a layer of active carbon (1/3) and a layer of regular drying agent (2/3) for vapor filtration.

Features

- Available in 4 different sizes with diameter of Ø68 mm / Ø2.68 in, Ø100 mm / Ø3.94 in or Ø130 mm / Ø5.12 in
- Equipped with spring-loaded check valves in opposing directions with an opening pressure of 0,01 bar / .15 PSI
- Refillable with drying agent (non-toxic ZR gel grain) or a mix of drying agent and active carbon
- Replaceable air filter element SGB
- Connection: Male / Female BSP thread (ISO 228)

Please note: Using an Desiccant Air Breather with integrated spring-loaded check valves may cause an under or over pressure of 0,01 bar / .15 PSI inside the system, which does not cause any problems for the majority of gearboxes and reservoirs. In case of doubt, please consult your equipment supplier.

Accessories / Spare Parts

Connection adaptor (see page E34 for details)
- for SDB-061-CV: **BA-5B**

Adaptor plate (see page E33 for details)
- for SDB-096-CV: **AP-1**
- for SDB-121-CV and SDB-122-CV: **AP-2**

Visual contamination indicator (see page E33 for details)
- for SDB-096-CV, SDB-121-CV and SDB-122-CV (in conjunction with adaptor plate only): **FM**

Drying agent refilling material (supplied in air tight container)
- for SDB-061-CV (100 cm³ / 6.1 in³): **RD-061**
- for SDB-096-CV (600 cm³ / 26.6 in³): **RD-096**
- for SDB-121-CV (1000 cm³ / 61.0 in³): **RD-121**
- for SDB-122-CV (2000 cm³ / 122.0 in³): **RD-122**

Active carbon refilling material (supplied in air tight container)
- for SDB-096-CV and SDB-121-CV (300 cm³ / 18.3 in³): **RC-093/096/121**
- for SDB-122-CV (600 cm³ / 18.3 in³): **RC-122**

Please note: Use one layer of active carbon (1/3) and one layer of regular drying agent (2/3).

Replacement air filter element (sealing included)
- for SDB-061-CV: **SGB-060-03-B**
- for SDB-096-CV: **SGB-090-03-B**
- for SDB-121-CV and SDB-122-CV: **SGB-120-03-B**

Order Codes

SDB - 121 - CV - RC - AP - FM

① ② ③ ④ ⑤ ⑥

① Type

Desiccant Air Breather	**SDB**

② Max. Water Absorption and Size

29 g / .06 lbs at Ø68 mm / Ø2.68 in	**061**
172 g / .38 lbs at Ø100 mm / Ø3.94 in	**096**
288 g / .63 lbs at Ø130 mm / Ø5.12 in	**121**
576 g / 1.27 lbs at Ø130 mm / Ø5.12 in	**122**

Please see table above for further technical details.

③ Check Valves

With integrated spring-loaded check valves (0,01 bar / .15 PSI)	**CV**

④ Drying Agent Material

Regular drying agent (standard option)	**-**
One layer of active carbon (1/3) and one layer of regular drying agent (2/3) for vapor filtration	**RC**

⑤ Connection Adaptor

Without connection adaptor	**-**
With connection adaptor BA-5B (only for SDB-061-CV)	**BA**

Please see page E34 for details.
Consult STAUFF for alternative adaptors.

⑥ Adaptor Plate

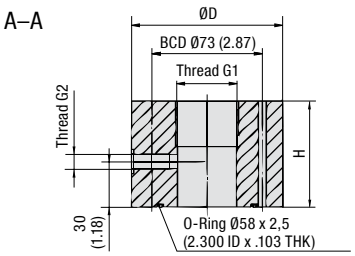
Without adaptor	**-**
With adaptor plate (not for SDB-061-CV)	**AP**

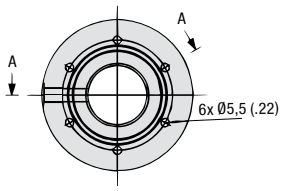
⑦ Contamination Indicator

Without contamination indicator	**-**
With visual contamination indicator FM (in conjunction with adaptor plate AP only)	**FM**

Please see page E33 for details.

Adaptor Plate ▪ Type AP







Desiccant Air Breather SDB with Adaptor Plate AP

Order Code and Dimensions

Order Code	Thread G1 (Breather Port)	Thread G2 (Indicator Port)	Dimensions (mm/in) H	ØD	Socket Cap Screws included	For Use with Desiccant Air Breathers
AP-1	Female G3/4 BSP (ISO 228)	Female 1/8 NPT (ANSI B1.20.1)	50 1.98	88 3.46	M5 x 60 - 8.8 (Steel, zinc-plated)	SDB-093 SDB-096
AP-2	Female G1-1/4 BSP (ISO 228)	Female 1/8 NPT (ANSI B1.20.1)	70 2.76	100 3.94	M5 x 80 - 8.8 (Steel, zinc-plated)	SDB-121 SDB-122 SDB-121-CV SDB-122-CV

Characteristics

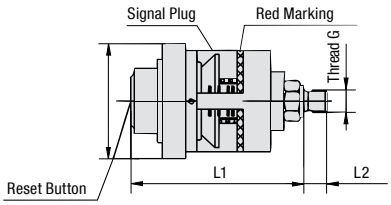
Designed to simplify the installation of Desiccant Air Breathers and enable the use of a visual contamination indicator

With Adaptor Plates AP, desiccant air breathers can be directly mounted to existing connections with a six-hole bolt pattern for flange interfaces similar to DIN 24557, part 2.

They are also equipped with a female 1/8 NPT thread (ANSI B1.20.1) to connect with the Visual Contamination Indicator FM.

Adaptor Plates AP are made of Polyamide (PA). A blind plug, O-ring made of NBR (Buna-N®) and 6 socket cap screws (ISO 4762) are supplied with AP as a standard.

Visual Contamination Indicator ▪ Type FM





Desiccant Air Breather SDB with Adaptor Plate AP and Visual Contamination Indicator FM

Order Code and Dimensions

Order Code	Thread G	Dimensions (mm/in) L1	L2
FM	Male 1/8 NPT (ANSI B1.20.1)	75 2.54	10 .39

Materials
- Housing made of Polycarbonate

Technical Data
- Operating temperature range: -40 °C ... +121 °F (-40 °F ... +250 °F)
- Accuracy: ±10% at red marking

Characteristics

Designed to indicate the status of air filter elements

Visual Contamination Indicators FM – the so-called Filter Minders® – are connected to the female 1/8 NPT thread (ANSI B1.20.1) of the Adaptor Plate AP and give a visual indiation of the contamination level of the air filter element SGB. A red marking indicates when the air filter element has to be replaced.

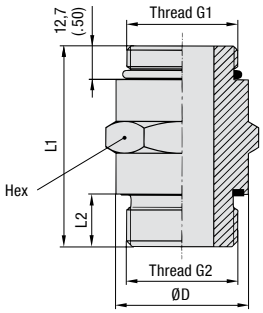
Visual Contamination Indicators FM can be reset afterwards.

Consult STAUFF for alternative types of monitoring devices (such as Graduated Switch Indicators FME, etc.).

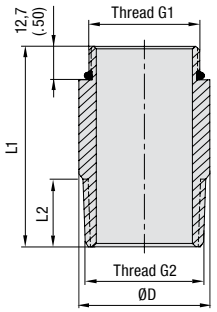
Dimensional drawings: All dimensions in mm (in).

Threaded Breather Adaptor Type TBA (Steel)





TBA-038-B
TBA-075-B
TBA-125-B



TBA-075
TBA-120
TBA-125

Characteristics

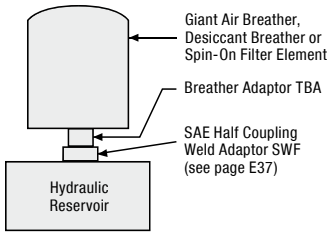
Adopts from female threaded Giant Air Breather or Spin-On Filter Element to female threads, and thus allows for direct installation on top of hydraulic reservoirs

Features
- Several thread combinations available to suit most common Spin-On filter elements
- Versions with male BSP threads on both ends are equipped with hex to simplify installation
- Sealings included in delivery

Materials
- Adaptor made of Steel, zinc-plated
- Sealings made of NBR (Buna-N®)

Consult STAUFF for alternative materials.

Application Example



Order Codes and Dimensions

Order Code	Thread G1	Thread G2	Dimensions (mm/in) L1	L2	ØD	Hex	For Use with ...*
TBA-038-B	Male G3/8 BSP (ISO 228)	Male G3/8 BSP (ISO 228)	43	11	21,9	22	**Giant Air Breathers SGB-060**
			1.69	.43	.86	.86	
TBA-075	Male 1–12 UNF (ANSI B1.1)	Male 3/4 NPT (ANSI B1.20.1)	51	20	27		Spin-On Series SF 6500
			2.00	.79	1.05		
TBA-075-B	Male G3/4 BSP (ISO 228)	Male G3/4 BSP (ISO 228)	57	16	32	32	**Giant Air Breathers SGB-090** Desiccant Air Breathers SVDB-093 Desiccant Air Breathers SVDB-096 Spin-On Series SF 35 Spin-On Series SF 36
			2.24	.63	1.26	1.26	
TBA-120	Male G1-1/4 BSP (ISO 228)	Male 1-1/4 NPT (ANSI B1.20.1)	76	22	42		**Giant Air Breathers SGB-120** Spin-On Series SF 57 Spin-On Series SF 58
			3.00	.88	1.65		
TBA-125	Male 1-1/2–16 UN (ANSI B1.1)	Male 1-1/4 NPT (ANSI B1.20.1)	76	26	45		Spin-On Series SF 6600 Spin-On Series SF 6700
			3.00	1.01	1.77		
TBA-125-B	Male G1-1/4 BSP (ISO 228)	Male G1-1/4 BSP (ISO 228)	76	20	50	50	**Giant Air Breathers SGB-120** Spin-On Series SF 57 Spin-On Series SF 58
			3.00	.79	1.97	1.97	

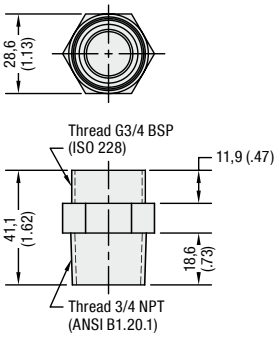
* Please see Filtration Technology section for technical details on Spin-On filter elements.

Threaded Breather Adaptor Type BA-5 (Polyamide)

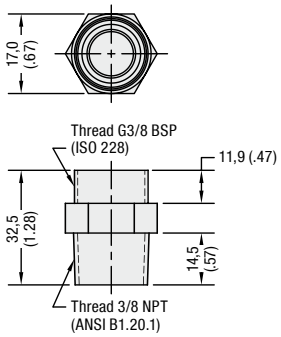
Characteristics

Features
- BA-5B suitable for SGB-060-03-B and SDB-061-CV
- BA-5A suitable for SGB-090-03-B, SVDB-093 and SVDB-096
- Equipped with hex to simplify installation

Materials
- Adaptor made of Polyamide



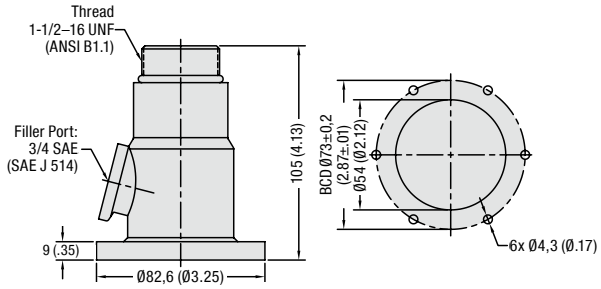
Order Code: BA-5A



Order Code: BA-5B

Dimensional drawings: All dimensions in mm (in).

Breather Adaptor with Filler Port
Type BA-6 (Aluminium)



Order Code: BA-6

Characteristics

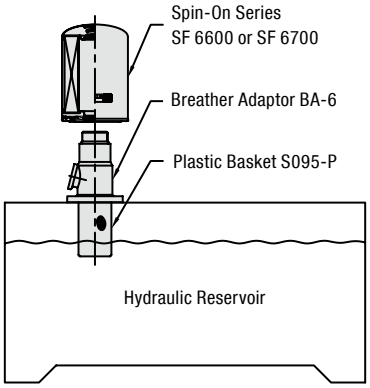


Features
- For use with Spin-On Series SF6600 and SF6700
- Equipped with female 3/4 SAE O-Ring Fluid Filler Port
- Can be used with baskets S080, S150, S200 and S095P

Materials
- Adaptor made of Aluminium

Installation
- Six-hole bolt pattern for flange interfaces similar to DIN 24557, part 2
- Supplied with O-ring, gasket and mounting hardware

Application Example





Spin-On Filter Element SF 6721

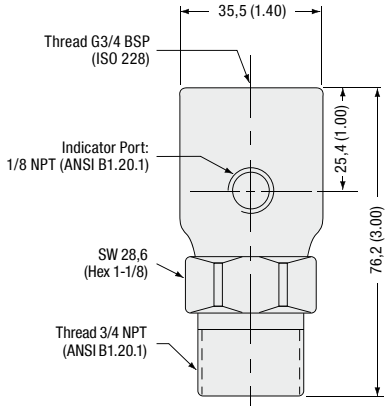
Breather Adaptor BA-6





Plastic Basket S095-P

Threaded Breather Adaptor
Type DBA-75 (Aluminium)



Order Code: DBA-75

Characteristics



Features
- For use with Desiccant Air Breathers SDB-093, SDB-096 and SDB-096-CV
- Equipped with female 1/8 NPT (ANSI B1.20.1) port for Visual Contamination Indicators FM (Filter Minder®)
- Equipped with hex to simplify installation

Materials
- Adaptor made of Aluminium (Black Anodized)

Application Example

Desiccant Air Breather SDB-093





Breather Adaptor DBA-75

Visual Contamination Indicator FM
(Filter Minder®)



Dimensional drawings: All dimensions in mm (in).

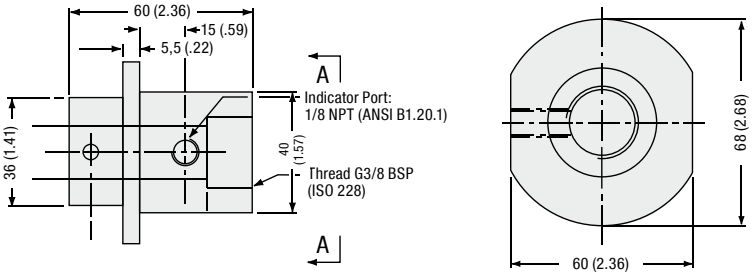
Bayonet Breather Adaptor Type BA-1 (Aluminium)



Characteristics

Features
- For use with Desiccant Air Breathers SDB-093, SDB-096 and SDB-096-CV
- Equipped with female 1/8 NPT (ANSI B1.20.1) port for Visual Contamination Indicators FM (Filter Minder®)

Materials
- Adaptor made of Aluminium (black-anodized)
- Sealings made of NBR (Buna-N®)



Order Code: BA-1

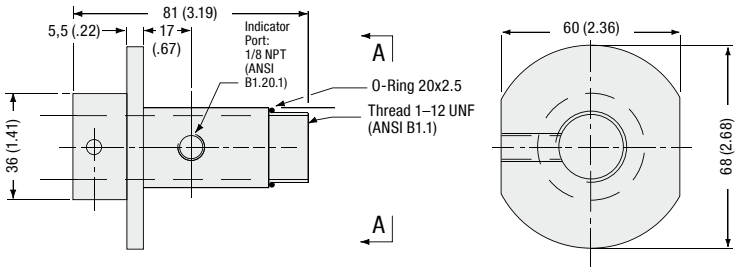
Bayonet Breather Adaptor Type BA-2 (Aluminium)



Characteristics

Features
- For use with Spin-On Filter Elements, series SF-6500
- Equipped with female 1/8 NPT (ANSI B1.20.1) port for Visual Contamination Indicators FM (Filter Minder®)

Materials
- Adaptor made of Aluminium (Black Anodized)
- Sealings made of NBR (Buna-N®)



Order Code: BA-2

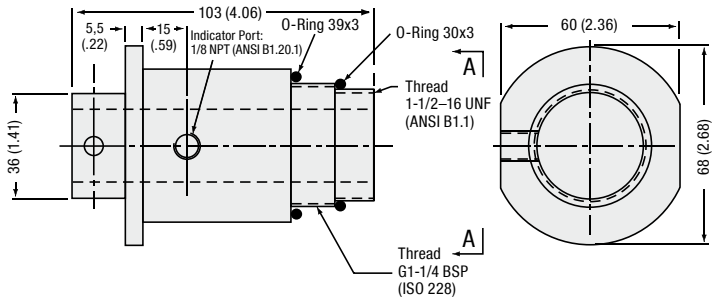
Bayonet Breather Adaptor Type BA-3 (Aluminium)



Characteristics

Features
- For use with Giant Air Breathers SGB-120 and Spin-On Filter Elements, series SF-6600 and SF-6700
- Equipped with female 1/8 NPT (ANSI B1.20.1) port for Visual Contamination Indicators FM (Filter Minder®)

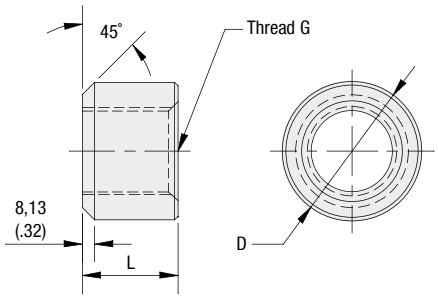
Materials
- Adaptor made of Aluminium (Black Anodized)
- Sealings made of NBR (Buna-N®)



Order Code: BA-3

Dimensional drawings: All dimensions in mm (in).

SAE Half Coupling Weld Adaptor Type SWF





Order Code and Dimensions

Order Code	Thread G	Dimensions (mm/in) ØD	L
SWF - 06	9/16–18 UNF	22	17,7
		.87	.70
SWF - 08	3/4–16 UNF	28,5	21,6
		1.12	.85
SWF - 10	7/8–14 UNF	34,9	24,1
		1.37	.95
SWF - 12	1-1/16–12 UNF	37,9	24,1
		1.49	.95
SWF - 16	1-5/16–12 UNF	41,2	27,9
		1.62	1.10
SWF - 20	1-5/8–12 UNF	62,9	27,9
		2.48	1.10
SWF - 24	1-7/8–12 UNF	63,5	27,9
		2.50	1.10
SWF - 32	2-1/2–12 UNF	76,2	30,4
		3.00	1.20

Characteristics

Used for a leak-free weld installation of breathers and breather adaptors with SAE O-ring thread

Features

- Equipped with female SAE O-ring thread as per SAE J514
- Designed for minimum weld distorsion
- Pilot minimised installation setup
- Labor and time saving

Consult STAUFF for custom adaptors.

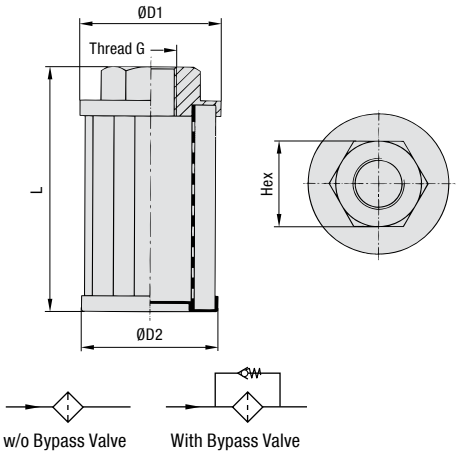
Materials

- Weld Flange made of Forged Steel

Consult STAUFF for alternative materials.

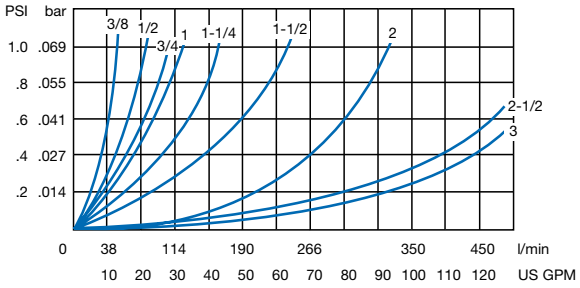
Suction Strainer ▪ Type SUS (Polyamide End Cap)





Flow Characteristics

Nominal Flow Rate vs. Pressure Drop ΔP
The following characteristics are valid for Mineral oils with a mass density of 0,85 kg/dm³ and a kinematic viscosity of 30 mm²/s (cSt) at +38 °C / +100 °F.



Characteristics

Designed as in-tank suction strainer elements for direct installation into suction lines of pumps; should always be installed below the minimum fluid level of the reservoir

Features
- Available with female NPT thread (ANSI B1.20.1) or female BSP thread (ISO 228)
- Operating temperature range: -20 °C ... +100 °C / -4 °F ... +212 °F

Media Compatibility
- Suitable for use with Mineral and Petroleum based hydraulic fluids (HL and HLP)

Materials
- Threaded end cap made of glass-fibre reinforced Polyamide (PA); see page E39 for version with Aluminium end cap
- Lower end cap and support tube made of Steel, zinc-plated
- Standard filter material is Stainless Steel Mesh (125 µm); alternative micron ratings of 60 µm and 250 µm on request

Consult STAUFF for alternative materials.

Options
- Integrated bypass valve with an opening pressure of 0,2 bar (3 PSI) to reduce the risks of high-pressure drops that can be caused by contaminated strainer elements or high-viscosity fluids

Special sizes, designs, materials and configurations are available on request. Consult STAUFF for details.

Dimensions and Technical Data (Female NPT Threaded Version)

Group Size	Thread G	Dimensions (mm/in) ØD1	ØD2	L	Hex	Filter Surface	Max. Flow Rate
050 - N06F - 067	3/8 NPT	50	49	67	26	296 cm²	12 l/min
		1.97	1.93	2.64	1.02	46 in²	3.1 US GPM
050 - N06F - 090	3/8 NPT	50	49	90	26	430 cm²	12 l/min
		1.97	1.93	3.54	1.02	67 in²	3.1 US GPM
050 - N08F - 105	1/2 NPT	50	49	105	26	518 cm²	15 l/min
		1.97	1.93	4.13	1.02	80 in²	3.9 US GPM
068 - N12F - 105	3/4 NPT	68	66	105	34	676 cm²	25 l/min
		2.68	2.60	4.13	1.34	105 in²	6.5 US GPM
068 - N16F - 140	1 NPT	68	66	140	42	930 cm²	50 l/min
		2.68	2.60	5.51	1.65	144 in²	13.0 US GPM
088 - N20F - 140	1-1/4 NPT	88	85	140	50	1172 cm²	65 l/min
		3.46	3.35	5.51	1.97	182 in²	16.9 US GPM
088 - N24F - 140	1-1/2 NPT	88	85	140	60	1172 cm²	140 l/min
		3.46	3.35	5.51	2.36	182 in²	36.4 US GPM
102 - N24F - 200	1-1/2 NPT	102	100	200	72	2427 cm²	140 l/min
		4.02	3.94	7.87	2.83	376 in²	36.4 US GPM
102 - N32F - 260	2 NPT	102	100	260	72	3249 cm²	230 l/min
		4.02	3.94	10.24	2.83	504 in²	59.8 US GPM
131 - N40F - 212	2-1/2 NPT	131	128	212	86	2748 cm²	340 l/min
		5.16	5.04	8.35	3.39	426 in²	88.4 US GPM
131 - N48F - 272	3 NPT	131	128	272	96	3626 cm²	400 l/min
		5.16	5.04	10.71	3.78	562 in²	104 US GPM

See page E39 for version with Polyamide (PA) end cap.

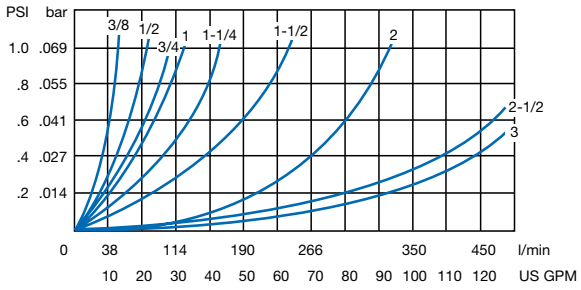
Dimensions and Technical Data (Female BSP Threaded Version)

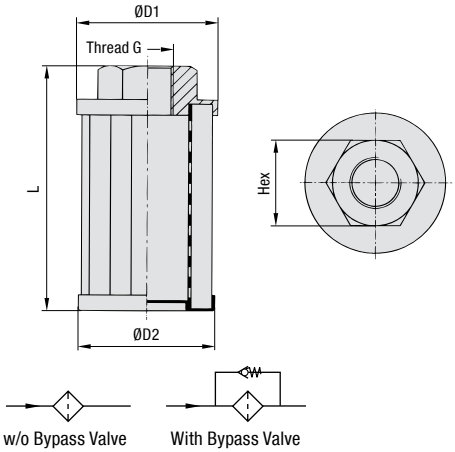
Group Size	Thread G	Dimensions (mm/in) ØD1	ØD2	L	Hex	Filter Surface	Max. Flow Rate
040 - B06F - 075	G3/8 BSP	39,5	38,5	75	22	279 cm²	12 l/min
		1.56	1.53	2.93	.87	43 in²	3.1 US GPM
050 - B06F - 067	G3/8 BSP	50	49	67	26	296 cm²	12 l/min
		1.97	1.93	2.64	1.02	46 in²	3.1 US GPM
050 - B08F - 105	G1/2 BSP	50	49	105	26	518 cm²	15 l/min
		1.97	1.93	4.13	1.02	80 in²	3.9 US GPM
068 - B12F - 105	G3/4 BSP	68	66	105	34	676 cm²	25 l/min
		2.68	2.60	4.13	1.34	105 in²	6.5 US GPM
068 - B16F - 140	G1 BSP	68	66	140	42	930 cm²	50 l/min
		2.68	2.60	5.51	1.65	144 in²	13.0 US GPM
088 - B20F - 140	G1-1/4 BSP	88	85	140	50	1172 cm²	65 l/min
		3.46	3.35	5.51	1.97	182 in²	16.9 US GPM
088 - B24F - 140	G1-1/2 BSP	88	85	140	60	1172 cm²	140 l/min
		3.46	3.35	5.51	2.36	182 in²	36.4 US GPM
102 - B24F - 200	G1-1/2 BSP	102	100	200	72	2427 cm²	140 l/min
		4.02	3.94	7.87	2.83	376 in²	36.4 US GPM
102 - B32F - 200	G2 BSP	102	100	200	72	2427 cm²	230 l/min
		4.02	3.94	7.87	2.83	376 in²	59.8 US GPM
102 - B32F - 225	G2 BSP	102	100	225	72	2811 cm²	230 l/min
		4.02	3.94	8.86	2.83	436 in²	59.8 US GPM
102 - B32F - 260	G2 BSP	102	100	260	72	3249 cm²	230 l/min
		4.02	3.94	10.24	2.83	504 in²	59.8 US GPM
102 - B32F - 300	G2 BSP	102	100	300	72	3798 cm²	230 l/min
		4.02	3.94	11.81	2.83	589 in²	59.8 US GPM
131 - B40F - 191	G2-1/2 BSP	131	128	191	86	2430 cm²	340 l/min
		5.16	5.04	10.24	3.39	377 in²	88.4 US GPM
131 - B40F - 212	G2-1/2 BSP	131	128	212	86	2748 cm²	340 l/min
		5.16	5.04	8.35	3.39	426 in²	88.4 US GPM
131 - B48F - 272	G3 BSP	131	128	272	96	3626 cm²	400 l/min
		5.16	5.04	10.71	3.78	562 in²	104 US GPM
150 - B32F - 151	G2 BSP	150	145	151	70	1812 cm²	400 l/min
		5.91	5.71	5.94	2.76	281 in²	104 US GPM

Suction Strainers ▪ Type SUS (Aluminium End Cap)

Flow Characteristics

Nominal Flow Rate vs. Pressure Drop ΔP
The following characteristics are valid for Mineral oils with a mass density of 0,85 kg/dm³ and a kinematic viscosity of 30 mm²/s (cSt) at +38 °C / +100 °F.







Characteristics

Designed as in-tank suction strainer elements for direct installation into suction lines of pumps; should always be installed below the minimum fluid level of the reservoir

Features
- Available with female NPT thread (ANSI B1.20.1)
- Operating temperature range:
  -20 °C ... +100 °C / -4 °F ... +212 °F

Media Compatibility
- Suitable for use with Mineral and Petroleum based hydraulic fluids (HL and HLP)

Materials
- Threaded end cap made of Aluminium; see page E38 for version with Polyamide (PA) end cap
- Lower end cap and support tube made of Steel, zinc-plated
- Filter material made of Stainless Steel Mesh (125 µm); alternative micron ratings of 60 µm and 250 µm on request

Consult STAUFF for alternative materials.

Options
- Integrated bypass valve with an opening pressure of 0,2 bar (3 PSI) to reduce the risks of high-pressure drops that can be caused by contaminated strainer elements or high-viscosity fluids

Special sizes, designs, materials and configurations are available on request. Consult STAUFF for details.

Dimensions and Technical Data (Female NPT Threaded Version)

Group Size	Thread G	Dimensions (mm/in) ØD1	ØD2	L	Hex	Filter Surface	Max. Flow Rate
050 - N06F - 067	3/8 NPT	50	49	67	26	296 cm²	12 l/min
		1.97	1.93	2.64	1.02	46 in²	3.1 US GPM
050 - N06F - 090	3/8 NPT	50	49	90	26	430 cm²	12 l/min
		1.97	1.93	3.54	1.02	67 in²	3.1 US GPM
050 - N08F - 105	1/2 NPT	50	49	105	26	518 cm²	15 l/min
		1.97	1.93	4.13	1.02	80 in²	3.9 US GPM
068 - N12F - 105	3/4 NPT	68	66	105	34	676 cm²	25 l/min
		2.68	2.60	4.13	1.34	105 in²	6.5 US GPM
068 - N16F - 140	1 NPT	68	66	140	42	930 cm²	50 l/min
		2.68	2.60	5.51	1.65	144 in²	13.0 US GPM
088 - N20F - 195	1-1/4 NPT	88	85	195	60	1709 cm²	65 l/min
		3.46	3.35	7.68	2.36	265 in²	16.9 US GPM
088 - N24F - 226	1-1/2 NPT	88	85	226	60	2012 cm²	140 l/min
		3.46	3.35	8.90	2.36	312 in²	36.4 US GPM
088 - N24F - 260	1-1/2 NPT	88	85	260	60	2344 cm²	140 l/min
		3.46	3.35	10.24	2.36	363 in²	36.4 US GPM
088 - N32F - 260	2 NPT	88	85	260	70	2344 cm²	230 l/min
		3.46	3.35	10.24	2.76	363 in²	59.8 US GPM
150 - N40F - 213	2-1/2 NPT	150	145	213	90	2741 cm²	340 l/min
		5.91	5.71	8.39	3.54	425 in²	88.4 US GPM
150 - N48F - 272	3 NPT	150	145	272	100	3625 cm²	400 l/min
		5.91	5.71	10.71	3.94	562 in²	104 US GPM

See page E38 for version with Aluminium end cap.

Order Codes

SUS - A - 088 - N24F - 226 - 125 - 0
① ② ③ ④ ⑤

① Type
Suction Strainer for direct installation into suction lines of pumps	**SUS**

② Material of Threaded End Cap
Glass-fibre reinforced Polyamide	**P**
Aluminium (for female NPT threaded version only)	**A**

③ Group Size
Select 'Group Size' from corresponding column in dimensional tables

The group size is defined by the diameter ØD1 of the threaded end cap, the thread code (type and size) and the total length of the suction strainer element (e.g. 088-N24F-226).

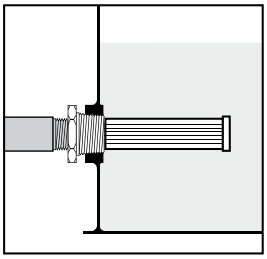
④ Filter Material / Micron Rating
Stainless Steel Mesh, 125 µm (standard option)	**125**
Stainless Steel Mesh, 60 µm	**060**
Stainless Steel Mesh, 250 µm	**250**

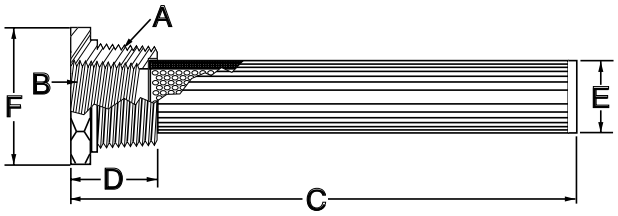
Consult STAUFF for alternative materials / micron ratings.

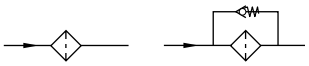
⑤ Bypass Option
Without bypass valve (standard option)	**0**
Integrated bypass valve with opening pressure of 0,2 bar (3 PSI)	**3**

Suction Strainer ▪ Type TMF (NPT Tank Mounted)

Mounting Information







w/o Bypass Valve | With Bypass Valve

Characteristics

Designed as in-tank suction strainer elements for direct installation into suction lines of pumps; should always be installed below the minimum fluid level of the reservoir

Features
- Equipped with female and male NPT thread (ANSI B1.20.1)
- Operating temperature up to +120 °C / +250 °F

Consult STAUFF for custom adaptors.

Media Compatibility
- Suitable for use with Mineral and Petroleum based hydraulic fluids (HL and HLP)

Materials
- Threaded end cap made of Cast Iron
- Standard filter material is Stainless Steel Mesh (125 µm); alternative micron ratings on request

Consult STAUFF for alternative materials.

Options
- Integrated bypass valve with an opening pressure of 0,35 bar (5 PSI) to reduce the risks of high-pressure drops that can be caused by contaminated strainer elements or high-viscosity fluids

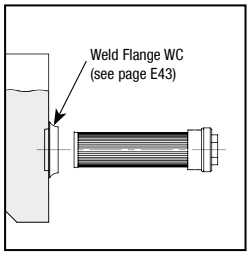
Special sizes, designs, materials and configurations are available on request. Consult STAUFF for details.

Order Codes, Dimensions and Technical Data

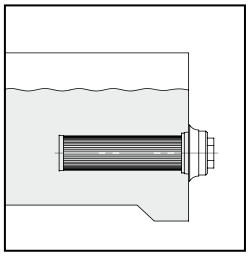
Order Codes w/o Bypass	Order Codes Bypass 0,35 bar / 5 PSI	Thread A	Thread B	Dimensions (mm/in) C	D	E	Hex F	Filter Surface	Max. Flow Rate
TMF - 03 - 0	TMF - 03 - 5	3/4 NPT	1/2 NPT	102	25	22	27	258 cm²	19 l/min
				4.02	0.98	0.87	1.06	40 in²	5 US GPM
TMF - 05 - 0	TMF - 05 - 5	1 NPT	1/2 NPT	135	27	29	41	258 cm²	19 l/min
				5.31	1.06	1.14	1.61	40 in²	5 US GPM
TMF - 10 - 0	TMF - 10 - 5	1-1/4 NPT	3/4 NPT	207	30	34	46	432 cm²	38 l/min
				8.15	1.18	1.34	1.81	67 in²	10 US GPM
TMF - 15 - 0	TMF - 15 - 5	1-1/2 NPT	1 NPT	208	31	42	55	554 cm²	57 l/min
				8.19	1.22	1.65	2.17	86 in²	15 US GPM
TMF - 25 - 0	TMF - 25 - 5	2 NPT	1-1/4 NPT	230	35	54	65	1025 cm²	95 l/min
				9.06	1.38	2.13	2.56	159 in²	25 US GPM
TMF - 50 - 0	TMF - 50 - 5	3 NPT	2 NPT	246	44	76	84	1625 cm²	189 l/min
				9.69	1.73	2.99	3.31	252 in²	50 US GPM
TMF - 100 - 0	TMF - 100 - 5	4 NPT	3 NPT	287	46	101	120	2032 cm²	378 l/min
				11.30	1.81	3.98	4.72	315 in²	100 US GPM

Suction Strainers ▪ Type TMF (SAE O-Ring Tank Mounted)

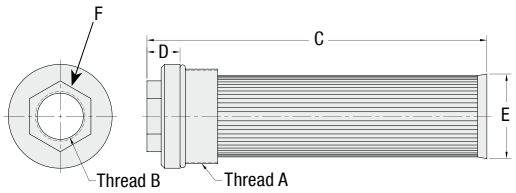
Mounting Information

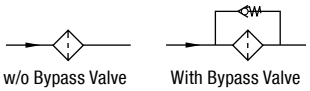


1. Weld Flange to Tank.



2. Screw Strainer into Tank.





Order Codes, Dimensions and Technical Data

Order Codes w/o Bypass	Order Codes Bypass 0,35 bar / 5 PSI	Thread A	Thread B	Dimensions (mm/in) C	D	E	Hex F	Filter Surface	Max. Flow Rate
TMF - 1625 - 0 - 0	TMF - 1625 - 0 - 5	2-1/2–12 UNF	1-5/16–12 UNF	229	19	58	54	580 cm²	34 l/min
				9.02	.75	2.28	2.13	90 in²	9 US GPM
TMF - 2025 - 0 - 0	TMF - 2025 - 0 - 5	2-1/2–12 UNF	1-5/8–12 UNF	229	19	58	54	580 cm²	53 l/min
				9.02	.75	2.28	2.13	90 in²	14 US GPM
TMF - 1834 - 0 - 0	TMF - 1834 - 0 - 5	3-3/8–12 UNF	1-7/8–12 UNF	224	23	80	64	1484 cm²	80 l/min
				8.82	.91	3.15	2.52	230 in²	21 US GPM
TMF - 2534 - 0 - 0	TMF - 2534 - 0 - 5	3-3/8–12 UNF	2-1/2–12 UNF	234	25	80	76	1484 cm²	148 l/min
				9.29	.98	3.15	2.99	230 in²	39 US GPM

Characteristics

Designed as in-tank suction strainer elements for direct installation into suction lines of pumps; should always be installed below the minimum fluid level of the reservoir

Features

- Equipped with female and male SAE O-ring thread as per SAE J514 for leak-free installation (O-ring included)
- Weld Flange WC supplied separately (see page E41)
- Operating temperature up to +100 °C / +212 °F

Consult STAUFF for custom adaptors.

Media Compatibility

- Suitable for use with Mineral and Petroleum based hydraulic fluids (HL and HLP)

Materials

- Threaded end cap made of Cast Iron
- O-ring made of NBR (Buna-N®)
- Standard filter material is Stainless Steel Mesh (125 µm); alternative micron ratings on request

Consult STAUFF for alternative materials.

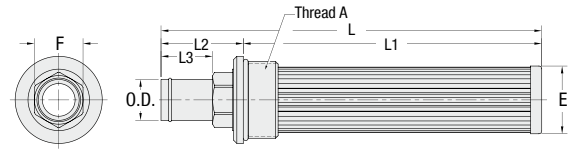
Options

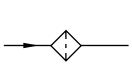
- Integrated bypass valve with an opening pressure of 0,35 bar (5 PSI) to reduce the risks of high-pressure drops that can be caused by contaminated strainer elements or high-viscosity fluids

Special sizes, designs, materials and configurations are available on request. Consult STAUFF for details.

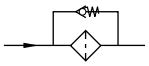
Suction Strainer ▪ Type TMF (Hose Barb Tank Mounted)





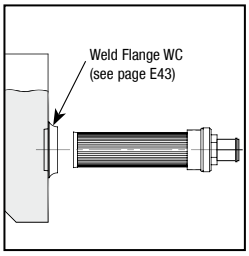


w/o Bypass Valve

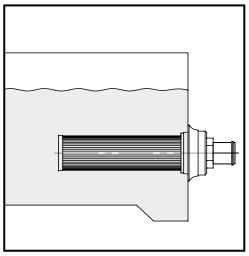


With Bypass Valve

Mounting Information



1. Weld Flange to Tank.



2. Screw Strainer into Tank.

Characteristics

Designed as in-tank suction strainer elements for direct installation into suction lines of pumps; should always be installed below the minimum fluid level of the reservoir

Features

- Equipped with male SAE O-ring thread as per SAE J514 for leak-free installation (O-ring included)
- Hose barb connection up to 2 in
- Weld Flange WC supplied separately (see page E41)
- Operating temperature up to +100 °C / +212 °F

Consult STAUFF for custom adaptors.

Media Compatibility

- Suitable for use with Mineral and Petroleum based hydraulic fluids (HL and HLP)

Materials

- Threaded end cap made of Steel, zinc plated
- O-ring made of NBR (Buna-N®)
- Standard filter material is Stainless Steel Mesh (125 µm); alternative micron ratings on request

Consult STAUFF for alternative materials.

Options

- Integrated bypass valve with an opening pressure of 0,35 bar (5 PSI) to reduce the risks of high-pressure drops that can be caused by contaminated strainer elements or high-viscosity fluids

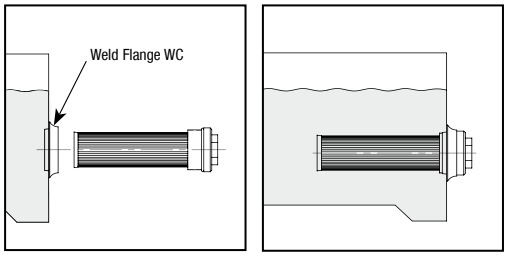
Special sizes, designs, materials and configurations are available on request. Consult STAUFF for details.

Order Codes, Dimensions and Technical Data

Order Codes		Thread A	Dimensions (mm/in)						
w/o Bypass	Bypass 0,35 bar / 5 PSI		O.D.	L	L1	L2	L3	E	Hex F
TMF - 1017HB - 0 - 0	TMF - 1017HB - 0 - 5	1-7/8–12 UNF	25,4	236	182	51	32	42	32
			1.00	9.29	7.17	2.01	1.26	1.65	1.26
TMF - 1225HB - 0 - 0	TMF - 1225HB - 0 - 5	2-1/2–12 UNF	31,8	254	203	51	32	54	38
			1.25	10.00	7.99	2.01	1.26	2.13	1.50
TMF - 1234HB - 0 - 0	TMF - 1234HB - 0 - 5	3-3/8–12 UNF	31,8	261	198	64	38	82	51
			1.25	10.28	7.80	2.52	1.50	3.23	2.01
TMF - 1534HB - 0 - 0	TMF - 1534HB - 0 - 5	3-3/8–12 UNF	38,1	261	198	64	38	82	51
			1.50	10.28	7.80	2.52	1.50	3.23	2.01
TMF - 2034HB - 0 - 0	TMF - 2034HB - 0 - 5	3-3/8–12 UNF	50,8	274	199	76	51	82	63
			2.00	10.79	7.83	2.99	2.01	3.23	2.48

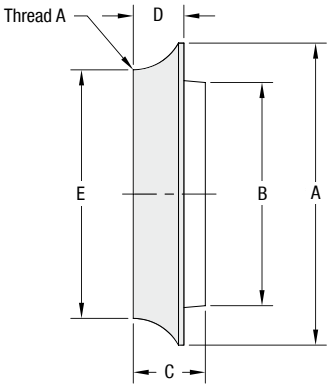
Weld Flange ▪ Type WC

Mounting Information



1. Weld Flange to Tank.

2. Screw Strainer into Tank.



Order Codes, Dimensions and Technical Data

Order Codes w/o Bypass	Thread A	Dimensions (mm/in) A	B	C	D	E
WC - 1017	1-7/8–12 UNF	76	57	19	13	60
		2.99	2.24	.75	.51	2.36
WC - 1225	2-1/2–12 UNF	89	52	21	15	73
		3.50	2.05	.83	.59	2.87
WS - 1634	3-3/8–12 UNF	118	93	25	21	100
		4.65	3.66	.98	.83	3.94

Characteristics

Used for a leak-free weld installation of tank mounted suction strainers with SAE O-ring thread

Features

- Equipped with female SAE O-ring thread as per SAE J514
- Designed for minimum weld distorsion
- Pilot minimised installation setup
- Labor and time saving

Consult STAUFF for custom adaptors.

Materials

- Weld Flange made of Forged Steel

Consult STAUFF for alternative materials.

Suction Flanges ▪ Type SF

Characteristics

Designed to seal suction lines passing through the top plate of the hydraulic reservoir and thus allowing access for easy inspection, cleaning and removal of suction elements

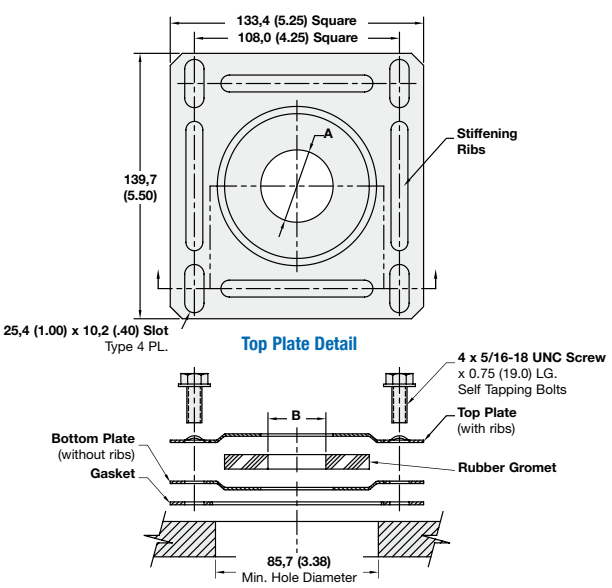
Scope of Delivery / Materials

- 1 top plate made of Steel
- 1 bottom plate made of Steel
- 1 seal plate / gasket made of treated paper
- 1 rubber grommet made of NBR (Buna-N®)
- 4 thread forming screws (UNC 5/16-18)

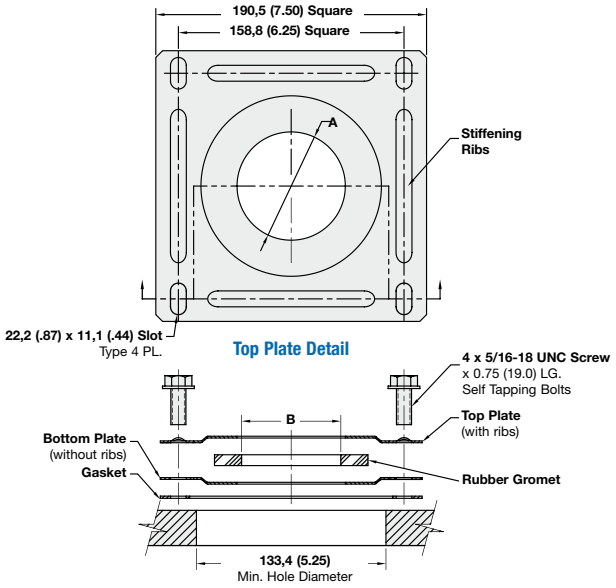
Order Codes

Order Code	Nominal Bore (in)	Dimensions (mm/in) A	B
SF - 050	1/2	38,1 1.50	20 .79
SF - 075	3/4	38,1 1.50	25 .98
SF - 100	1	38,1 1.50	30 1.18
SF - 125	1-1/4	50,8 2.00	41 1.61
SF - 150	1-1/2	50,8 2.00	46 1.81
SF - 200	2	50,8 2.50	58 2.28
SF - 250	2-1/2	76,2 3.00	70 2.76
SF - 300	3	95,3 3.75	89 3.50

Dimensions



SF - 50 ... 200

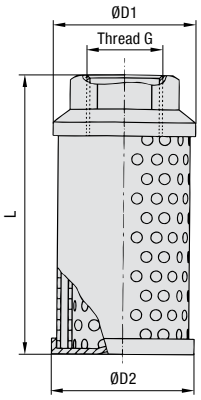


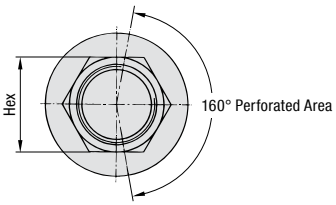
SF - 250 ... 300

Dimensional drawings: All dimensions in mm (in).

Diffuser ▪ Type SRV

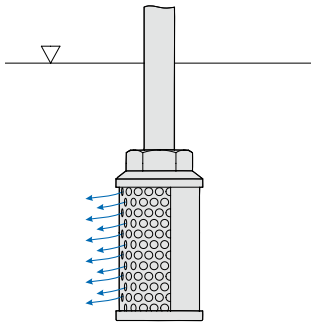






Installation

Installation below the minimum fluid level of the reservoir with the plain area facing the pump inlet



Characteristics

Designed for direct installation into return lines to reduce fluid aeration, foaming and noise; should always be installed below the minimum fluid level

Features

- Available with female BSP thread (ISO 228) or female NPT thread (ANSI B1.20.1)
- Operating temperature range: -20 °C ... +100 °C / -4 °F ... +212 °F
- Max. working pressure: 20 bar / 290 PSI

Media Compatibility

- Suitable for use with Mineral and Petroleum based hydraulic fluids (HL and HLP)

Construction and Materials

- 2 concentric tubes with inner spaced holes
- Threaded end cap made of Aluminium
- Other components made of Steel, zinc-plated

Special sizes, designs, materials and configurations are available on request. Consult STAUFF for details.



Diffusers SRV are ideally suited for use with STAUFF Return Line Filters of the RF series with threaded connection.

For details, please see **Filtration Technology** section of this catalogue.

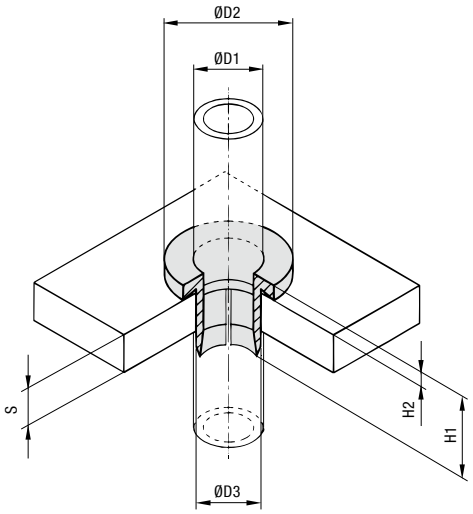
Dimensions and Order Codes (Female NPT Threaded Version)

Order Code	Thread G	Dimensions (mm/in) ØD1	ØD2	L	Hex	Max. Flow Rate
SRV - 050 - N12	3/4 NPT	64	60	109	36	50 l/min
		2.52	2.36	4.29	1.42	13 US GPM
SRV - 114 - N16	1 NPT	64	60	139	46	114 l/min
		2.52	2.36	5.47	1.81	30 US GPM
SRV - 200 - N20	1-1/4 NPT	86	82	139	60	200 l/min
		3.39	3.23	5.47	2.36	52 US GPM
SRV - 227 - N24	1-1/2 NPT	86	82	200	60	227 l/min
		3.39	3.23	7.87	2.36	59 US GPM
SRV - 454 - N32	2 NPT	86	82	260	70	454 l/min
		3.39	3.23	10.24	2.76	118 US GPM
SRV - 650 - N40	2-1/2 NPT	150	145	211	90	650 l/min
		5.91	5.71	8.31	3.54	169 US GPM
SRV - 950 - N48	3 NPT	150	145	272	100	950 l/min
		5.91	5.71	10.71	3.94	247 US GPM

Dimensions and Order Codes (Female BSP Threaded Version)

Order Code	Thread G	Dimensions (mm/in) ØD1	ØD2	L	Hex	Max. Flow Rate
SRV - 050 - B12	G3/4	64	60	109	36	50 l/min
		2.52	2.36	4.29	1.42	13 US GPM
SRV - 114 - B16	G1	64	60	139	46	114 l/min
		2.52	2.36	5.47	1.81	30 US GPM
SRV - 200 - B20	G1-1/4	86	82	139	60	200 l/min
		3.39	3.23	5.47	2.36	52 US GPM
SRV - 227 - B24	G1-1/2	86	82	200	60	227 l/min
		3.39	3.23	7.87	2.36	59 US GPM
SRV - 454 - B32	G2	86	82	260	70	454 l/min
		3.39	3.23	10.24	2.76	118 US GPM
SRV - 650 - B40	G2-1/2	150	145	211	90	650 l/min
		5.91	5.71	8.31	3.54	169 US GPM
SRV - 950 - B48	G3	150	145	272	100	950 l/min
		5.91	5.71	10.71	3.94	247 US GPM

Return Line Bushing ▪ Type SRF





Dimensions

Outside Diameter ØD1 (mm)	(in)	Nominal Bore (in)	Dimensions (mm/in) ØD2	H1	H2	Wall Thickness (mm/in) S	Mounting Bore (mm/in) ØD3
6	1/4		18	22	4	4 ... 12	10
			.71	.87	.16	.16 ... .47	.39
8	5/16		20	22	4	4 ... 12	12
			.79	.87	.16	.16 ... .47	.47
10	3/8	1/8 Pipe 1/4 Copper Tube	22	22	4	4 ... 12	14
			.87	.87	.16	.16 ... .47	.55
12	1/2	3/8 Copper Tube	24	22	4	4 ... 12	16
			.94	.87	.16	.16 ... .47	.63
14		1/4 Pipe	26	22	4	4 ... 12	18
			1.02	.87	.16	.16 ... .47	.71
15			28	22	4	4 ... 12	20
			1.10	.87	.16	.16 ... .47	.79
16	5/8	1/2 Copper Tube	28	22	4	4 ... 12	20
			1.10	.87	.16	.16 ... .47	.79
17		3/8 Pipe	30	22	4	4 ... 12	22
			1.18	.87	.16	.16 ... .47	.87
20	3/4		32	22	4	4 ... 12	24
			1.26	.87	.16	.16 ... .47	.94
22	7/8	3/4 Copper Tube	34	22	4	4 ... 12	26
			1.34	.87	.16	.16 ... .47	1.02
25	1		38	22	4	4 ... 12	30
			1.50	.87	.16	.16 ... .47	1.18
28		1 Copper Tube	41	22	4	4 ... 12	33
			1.61	.87	.16	.16 ... .47	1.30
30			43	22	4	4 ... 12	34
			1.69	.87	.16	.16 ... .47	1.39
35		1-1/4 Copper Tube	48	22	4	4 ... 12	40
			1.89	.87	.16	.16 ... .47	1.57
38	1-1/2		51	22	4	4 ... 12	43
			2.01	.87	.16	.16 ... .47	1.70
42		1-1/4 Pipe 1-1/2 Copper Tube	55	22	4	4 ... 12	47
			2.17	.87	.16	.16 ... .47	1.85

Characteristics

Designed as tubular support, vibration and noise absorber and protection element for rigid return lines entering the hydraulic reservoir

Features

- For all commonly available Metric and imperial pipe and tube diameters from 6 ... 42 mm and 1/4 ... 1-1/2 in
- Oil-tight and dust-proof sealing
- Simple assembly: Insert the bushing in to the bore hole and the install the lubricated pipe into the bushing
- Chemically resistant against oil and solvents

Media Compatibility

- Suitable for use with Mineral and Petroleum based hydraulic fluids (HL and HLP)

Materials

- Bushing made of Polypropylene (PP) or Thermoplastic Elastomer (TPE) with a hardness degree of 87 Shore-A

Consult STAUFF for alternative materials.

Order Codes

SRF - 20 - SA

① ② ③

① Type

Return Line Bushing	**SRF**

② Pipe / Tube Diameter

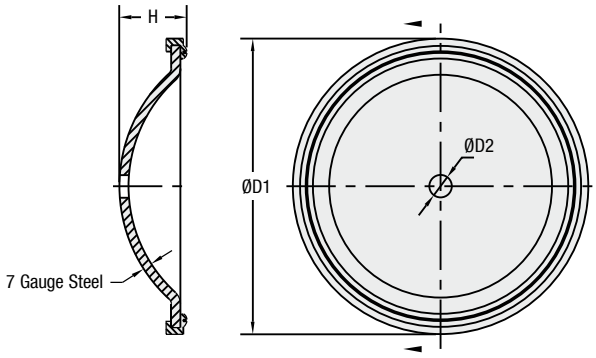
Outside diameter pipe / tube ØD1 in mm (according to dimension table)	**20**

③ Material

Polypropylene (PP) in natural colour	**PP**
Thermoplastic Elastomer (TPE) in black colour	**SA**

Consult STAUFF for alternative materials.

Reservoir End Covers ▪ Type EC



Characteristics

Materials

- End cover made of 7 Grade Steel (pickled and oiled); Stainless Steel available on request
- Double lip gasket (one-piece, molded) made of NBR (Buna-N®)
- Crush washer made of Polyamide (PA)

Options

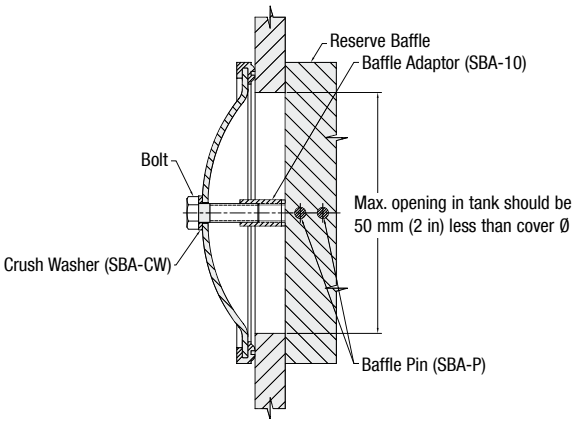
- 3/4" drain hole (not for EC-6 and EC-16)
- Back mounting brackets (included for EC-6)
- Baffle adaptors
- Seal kits (double lip gasket and crush washer)

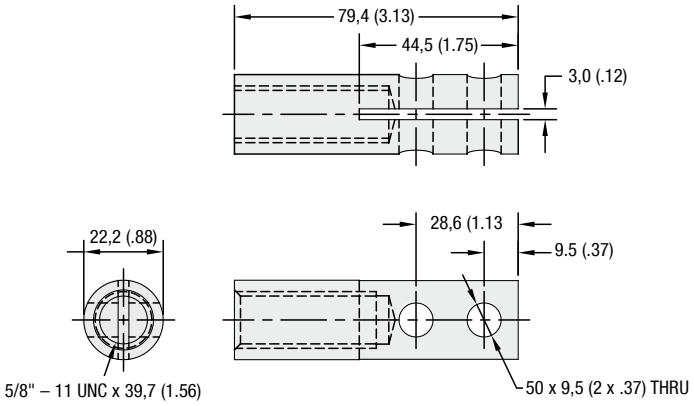
Special sizes, designs, materials and configurations are available on request. Consult STAUFF for details.

Dimensions and Order Codes

Order Code w/o Drain Hole	with Drain Hole	Seal Kit	Dimensions (mm/in) Diameter ØD1	Hole Size ØD2	H	Weight (kg/lbs)
EC - 6			146	11,1	33	1,2
			5.75	.44	1.31	2.5
EC - 10	EC - 10D	EC - 10 - SK	254	17,4	44,5	2,1
			10.00	.69	1.75	4.5
EC - 12	EC - 12D	EC - 12 - SK	308	17,4	44,5	3,0
			12.13	.69	1.75	6.5
EC - 14	EC - 14D	EC - 14 - SK	359	17,4	44,5	3,9
			14.13	.69	1.75	8.5
EC - 16		EC - 16 - SK	410	17,4	44,5	4,8
			16.15	.69	1.75	10.5
EC - 18	EC - 18D	EC - 18 - SK	460	17,4	51	6,2
			18.11	.69	1.75	13.5

Baffle Adaptors for Reservoir End Covers

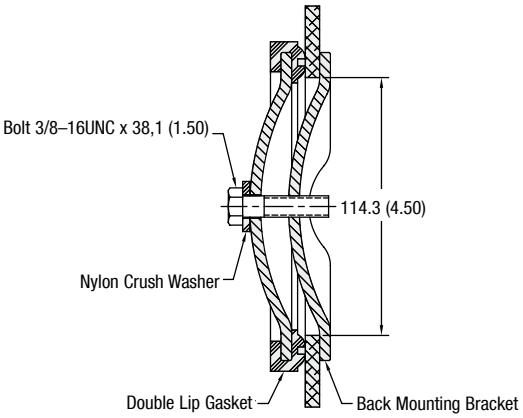




Dimensions and Order Codes

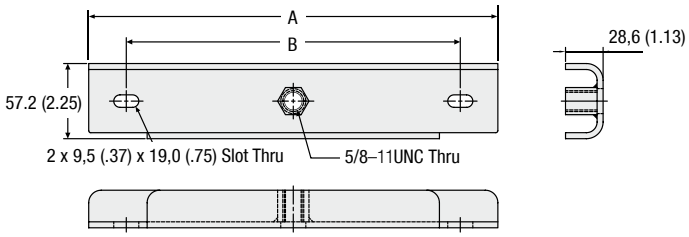
Order Code	Description
SBAB - 10	Mounting Bolt for EC-10 / EC-12: 5/8–11UNC x 38,1 (1.50)
SBAB - 14	Mounting Bolt for EC-14: 5/8–11UNC x 50,8 (2.00)
SBAB - 18	Mounting Bolt for EC-18: 5/8–11UNC x 63,5 (2.50)
SBA - 10	Baffle Adaptor
SBA - P	Baffle Pin
SBA - CW	Crush Washer

Back Mounting Brackets for Reservoir End Covers



Back Mounting Bracket for EC - 6

EC-6 supplied with back mounting bracket



Back Mounting Bracket for EC - 10 ... 18

Required when baffle adaptor is not used;
includes bracket and 2 weld on clips

Dimensions and Order Codes

Order Code	Dimensions (mm/in) End Cover Ø	Access Hole Ø	A	B	Weight (kg/lbs)
SBR - 10	254	203,2	305	254	1,2
	10.00	8.00	12.00	10.00	2.5
SBR - 12	308	254,0	356	305	1,4
	12.13	10.00	14.02	12.00	3.0
SBR - 14	359	304,8	413	362	1,4
	14.13	12.00	16.26	14.25	3.0
SBR - 16	410	355,6	464	413	1,8
	16.15	14.00	18.27	16.26	4.0
SBR - 18	460	406,6	514	464	1,8
	18.11	16.00	20.24	18.27	4.0

Dimensional drawings: All dimensions in mm (in).

Motor-Pump Adaptors for Electric Motors



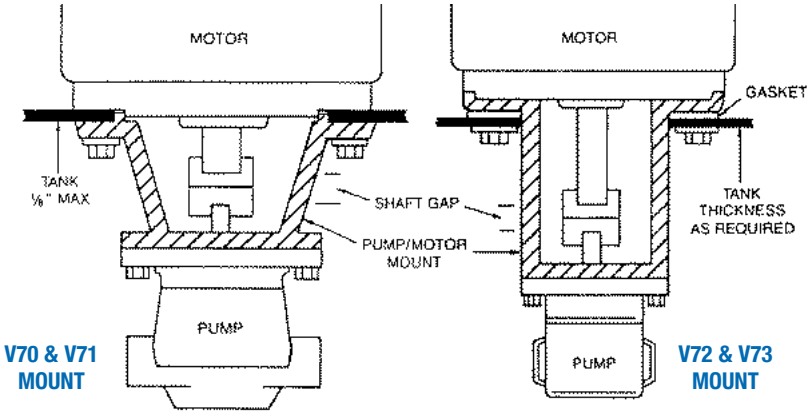
Characteristics

Product Features

- Vertical and horizontal mounts
- Easy assembly of pumps to electric motors
- For accurate alignment between pump and motor
- Light-weight, high-strength Aluminum casting
- One snap-in cover for access hole (standard)
- Suitable for electric motors to 74 kW / 100 hp

Consult STAUFF for options on Gas Engine Adaptors.

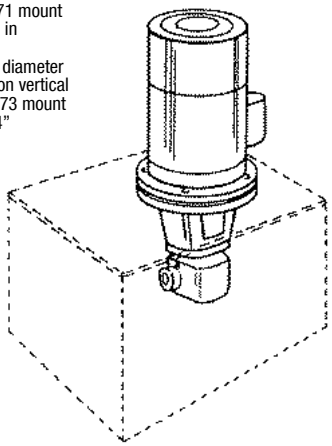
Vertical Mount Adaptors for Electric Motos



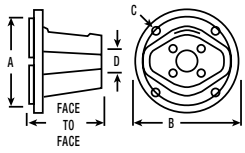
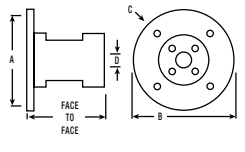
Note:

Outside diameter of pilot on vertical V70 &V71 mount is 4-7/8 in

Outside diameter of pilot on vertical V72 & V73 mount is 5 3/4”

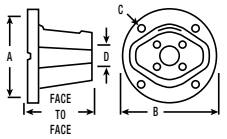
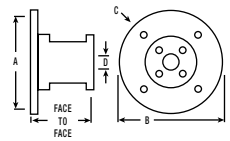
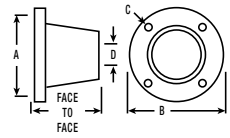
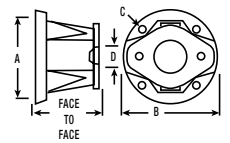
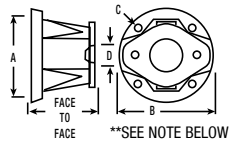
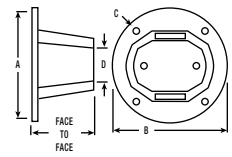
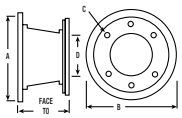
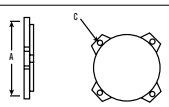


Vertical pump mounts allow pump/motor assembly to be directly mounted to reservoir.
Pump coupling and shafts are within reservoir for enclosed, quiet operation.
Faster assembly of equipment with this accurately machined, aluminum casting.

Frame Number	Pump Mount Part Number	Motor Frame Size	SAE Pump Flange	Face To Face		Dimensions of NEMA-C Face Mount End (inches)						Dimensions of Pump Face Mount End (inches)				
						A		B		C		D Nominal		Pump Bolt Circle		
				mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	
E70	V70-A4	56C	4F17	89	3.50"	114	4.50	168	6.625	149	5.875	45	1.78	72	2.828	
	V70-AA	143-145 TC	AA-2 BOLT									51	2.00	83	3.25	
	V70-A2		A-2 BOLT									83	3.25	106	4.188	
E71	V71-A4	56C	4F17	112	4.40"	114	4.50	168	6.625	149	5.875	45	1.78	72	2.828	
	V71-AA	143-145 TC	AA-2 BOLT									51	2.00	83	3.25	
	V71-A2		A-2 BOLT									83	3.25	106	4.188	
E72	V72-A4	182-184 TC	4F17	130	5.12"	216	8.50	222	8.75	184	7.25	45	1.78	72	2.828	
	V72-AA	213-215 TC	AA-2 BOLT									51	2.00	83	3.25	
	V72-A2	254-256 TC	A-2 BOLT									83	3.25	106	4.188	
E73	V73-A4	182-184 TC	4F17	163	6.40"	216	8.50	222	8.75	184	7.25	45	1.78	72	2.828	
	V73-AA	213-215 TC	AA-2 BOLT									51	2.00	83	3.25	
	V73-A2	254-256 TC	A-2 BOLT									83	3.25	106	4.188	

Motor-Pump Adaptors for Electric Motors

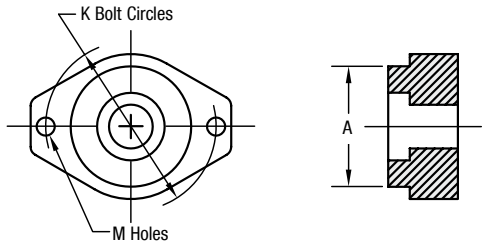
Vertical Mount Adaptors for Electric Motos

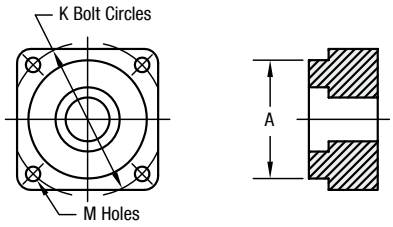
Frame Number	Pump Mount Part Number	Motor Frame Size	SAE Pump Flange	Face to Face		Dimensions of NEMA-C Face Mount End (Inches) A		B		C		Dimensions of Pump Face Mount End (Inches) D Nominal		Pump Bolt Circle		Maximum Coupling Diameter		
				mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	
E49	E49-A4	56C 143-145 TC	4F17	89	3.50	114	4.50	168	6.625	149	5.875	45	1.78	72	2.828	76	3.00	
	E49-AA		AA-2 BOLT									51	2.00	83	3.25			
	E49-A2		A-2 BOLT									83	3.25	106	4.188			
E50	E50-A4	56C 143-145 TC	4F17	112	4.40	114	4.50	168	6.625	149	5.875	45	1.78	72	2.828	76	3.00	
	E501-AA		AA-2 BOLT									51	2.00	83	3.25			
	E50-A2		A-2 BOLT									83	3.25	106	4.188			
	E501-A2/4	56C-145TC	A 2/4									83	3.25	106	4.188			
E51	E51-A4	182-184 TC	4F17	130	5.12	216	8.50	222	8.75	184	7.25	45	1.78	72	2.828	89	3.50	
	E51-AA		AA-2 BOLT									51	2.00	83	3.25			
	E51-A2		A-2 BOLT									83	3.25	106	4.188			
E52	E52-A4	213-215 TC 254-256 TC	4F17	163	6.40							45	1.78	72	2.828	89	3.50	
	E52-AA		AA-2 BOLT									51	2.00	83	3.25			
	E52-A2		A-2 BOLT									83	3.25	106	4.188			
E53	E53-A2	182-184 TC	A-2 BOLT	147	5.81	216	8.50	222	8.75	184	7.25	83	3.25	106	4.188	89	3.50	
E54	E54-B2		B-2 BOLT									102	4.00	146	5.75	102	4.00	
E55	E55-A2	213-215 TC	A-2 BOLT	172	6.81							83	3.25	106	4.188	89	3.50	
E56	E56-B2		B-2 BOLT									102	4.00	146	5.75	102	4.00	
E57	E57-A2S	254-256 TC	A-2 BOLT	129	5.06							83	3.25	106	4.188	89	3.50	
	E57-A2L		A-2 BOLT	130	5.12							83	3.25	106	4.188			
	E502-A2/4	182-256TC	A 2/4	133	5.25							83	3.25	106	4.188			
E58	E58-A2	182-182 TC	A-2 BOLT	147	5.81	216	8.50	222	8.75	184	7.25	83	3.25	106	4.188	102	4.00	
	E58-B2	213-215TC	B-2 BOLT									102	4.00	146	5.75			
	E58-C2	254-256 TC	C-2 BOLT									127	5.00	181	7.125			
E59	E59-A2	182-184 TC	A-2 BOLT	172	6.81	216	8.50	222	8.75	184	7.25	83	3.25	106	4.188			
	E59-B2	213-215 TC	B-2 BOLT									102	4.00	146	5.75			
	E59-C2	254-256 TC	C-2 BOLT									127	5.00	181	7.125			
E62	E62-A2	284-286 TC	A-2 BOLT	174	6.87	267	10.50	279	11.00	228	9.00	83	3.25	106	4.188	102	4.50	
	E62-B2	284-286 TSC	B-2 BOLT									102	4.00	146	5.75			
	E62-C2		C-2 BOLT									127	5.00	181	7.125			
E63	E63-A2	284-286 TC	A-2 BOLT	200	7.87	267	10.50	279	11.00	228	9.00	83	3.25	106	4.188			**SEE NOTE BELOW
	E63-B2	284-286 TSC	B-2 BOLT									102	4.00	146	5.75			
	E63-C2		C-2 BOLT									127	5.00	181	7.125			
E64	E64-A2	324-326 TSC	A-2 BOLT	168	6.62	318	12.50	330	13.00	279	11.00	83	3.25	106	4.188	133	5.25	
			B-2 BOLT									102	4.00	146	5.75			
	E64-B2/4	364-365 TSC	B-4 BOLT									102	4.00	127	5.00			
			C-2 BOLT									127	5.00	181	7.125			
	E64-C2/4	404-405 TSC	C-4 BOLT									127	5.00	162	6.375			
E65	E65-A2	324-326 TSC	A-2 BOLT	179	7.06	318	12.50	330	13.00	279	11.00	83	3.25	106	4.188	133	5.25	
			B-2 BOLT									102	4.00	146	5.75			
	E65-B2/4	364-326 TSC	B-4 BOLT									102	4.00	127	5.00			
			C-2 BOLT									127	5.00	181	7.125			
	E65-C2/4	404-405 TSC	C-4 BOLT									127	5.00	162	6.375			
E66	E66-A2	324-326 TSC	A-2 BOLT	222	8.75	318	12.50	330	13.00	279	11.00	83	3.25	106	4.188	133	5.25	
			B-2 BOLT									102	4.00	146	5.75			
	E66-B2/4	369-365 TSC	B-4 BOLT									102	4.00	127	5.00			
			C-2 BOLT									127	5.00	181	7.125			
	E66-C2/4	404-405 TSC	C-4 BOLT									127	5.00	162	6.375			
E67	E67-D2/4	324-326 TSC 264-365 TSC 404-405 TSC	D-2 BOLT	179	7.06	318	12.50	330	13.00	279	11.00	152	6.00	229	9.00	152	6.00	
			D-4 BOLT									152	6.00	229	9.00			
E68	E68-D2/4	324-326 TSC 269-365 TSC 404-405 TSC	D2 BOLT	222	8.75	318	12.50	330	13.00	279	11.00	152	6.00	229	9.00			
			D4 BOLT									152	6.00	229	9.00			
		ADAPTOR FOR E51-E59 TO CONVERT TO 284-286 TSC MOTORS																
E69	E69					267	10.50	279	11.00	228	9.00							

**Note: Use the E69 adaptor ring with E58 and E59 mounts for all E62 and E63 mounts.

Motor-Pump Adaptors for Electric Motors

Mounting Dimensions for SAE-2 and SAE-4 Bolt NEMA Electric Motors





SAE-2 Bolt Mount

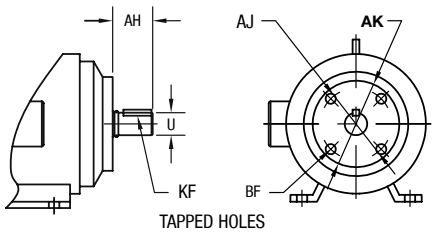
Dimensions in inch.

MOUNTING FLANGE SAE	PILOT DIMENSIONS A	FLANGE DIMENSIONS K	FLANGE DIMENSIONS M
AA	2.000/1.998	3.255 3.245	0.406
A	3.250/3.248	4.192 4.182	0.438
B	4.000/3.998	5.755 5.745	0.562
C	5.000/4.998	7.130 7.120	0.687
D	6.000/5.998	9.005 8.995	0.812
E	6.500/6.498	12.503 12.495	1.062
F	7.000/6.998	13.786 13.776	1.062

SAE-4 Bolt Mount

Dimensions in inch.

MOUNTING FLANGE SAE	PILOT DIMENSIONS A	FLANGE DIMENSIONS K	FLANGE DIMENSIONS M
USA 4F17	1.781/1.779	2.843 2.833	0.375
A	3.250/3.248	4.130 4.120	0.438
B	4.000/3.998	5.005 4.995	0.562
C	5.000/4.998	6.380 6.370	0.562
D	6.000/5.998	9.005 8.995	0.812
E	6.500/6.498	12.505 12.495	0.812
F	7.000/6.998	13.786 13.776	1.062



TAPPED HOLES

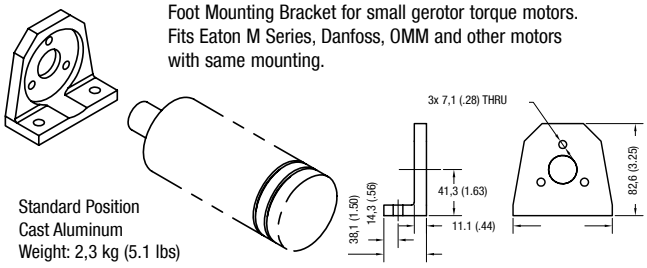
NEMA Electric Motor Shaft and C-Face Dimension

NEMA Motor	NEMA Frame	Bolt Circle AJ mm	Bolt Circle AJ in	Register AK	Shaft Diameter U mm	Shaft Diameter U in	Shaft Length AH mm	Shaft Length AH in	Key Sq. mm	Key Sq. in	Key Length mm	Key Length in	BP Tapped Holes Size	BP Tapped Holes No. Req'd.
	56C	149	5-7/8	4-1/2	16	5/8	52	2-1/16	5	3/16	25	1	3/8-16	4
	143TC	149	5-7/8	4-1/2	22	7/8	54	2-1/8	5	3/16	35	1-3/8	3/8-16	4
	145TC	149	5-7/8	4-1/2	22	7/8	54	2-1/8	5	3/16	35	1-3/8	3/8-16	4
	182TC	184	7-1/4	8-1/2	29	1-1/8	67	2-5/8	6	1/4	44	1-3/4	1/2-13	4
	184TC	184	7-1/4	8-1/2	29	1-1/8	67	2-5/8	6	1/4	44	1-3/4	1/2-13	4
	213TC	184	7-1/4	8-1/2	35	1-3/8	79	3-1/8	8	5/16	60	2-3/8	1/2-13	4
	215TC	184	7-1/4	8-1/2	35	1-3/8	79	3-1/8	8	5/16	60	2-3/8	1/2-13	4
	254TC	184	7-1/4	8-1/2	41	1-5/8	95	3-3/4	10	3/8	73	2-7/8	1/2-13	4
	256TC	184	7-1/4	8-1/2	41	1-5/8	95	3-3/4	10	3/8	73	2-7/8	1/2-13	4
	284TC	229	9	10-1/2	48	1-7/8	111	4-3/8	13	1/2	83	3-1/4	1/2-13	4
284TSC		229	9	10-1/2	41	1-5/8	76	3	10	3/8	48	1-7/8	1/2-13	4
	286TC	229	9	10-1/2	48	1-7/8	111	4-3/8	13	1/2	83	3-1/4	1/2-13	4
286TSC		229	9	10-1/2	41	1-5/8	76	3	10	3/8	48	1-7/8	1/2-13	4
	324TC	279	11	12-1/2	54	2-1/8	127	5	13	1/2	98	3-7/8	5/8-11	4
324TSC		279	11	12-1/2	48	1-7/8	89	3-1/2	13	1/2	51	2	5/8-11	4
	326TC	279	11	12-1/2	54	2-1/8	127	5	13	1/2	98	3-7/8	5/8-11	4
326TSC		279	11	12-1/2	48	1-7/8	89	3-1/2	13	1/2	51	2	5/8-11	4
	364TC	279	11	12-1/2	60	2-3/8	143	5-5/8	16	5/8	108	4-1/4	5/8-11	8
364TSC		279	11	12-1/2	48	1-7/8	89	3-1/2	13	1/2	51	2	5/8-11	8
	365TC	279	11	12-1/2	60	2-3/8	143	5-5/8	16	5/8	108	4-1/4	5/8-11	8
365TSC		279	11	12-1/2	48	1-7/8	89	3-1/2	13	1/2	51	2	5/8-11	8
	404TC	279	11	12-1/2	60	2-7/8	178	7	19	3/4	143	5-5/8	5/8-11	8
404TSC		279	11	12-1/2	54	2-1/8	102	4	13	1/2	70	2-3/4	5/8-11	8
	405TC	279	11	12-1/2	60	2-7/8	178	7	19	3/4	143	5-5/8	5/8-11	8
405TSC		279	11	12-1/2	54	2-1/8	102	4	13	1/2	70	2-3/4	5/8-11	8
	444TC	356	14	16	92	3-3/8	210	8-1/4	22	7/8	175	6-7/8	5/8-11	8
444TSC		356	14	16	60	2-3/8	114	4-1/2	16	5/8	76	3	5/8-11	8
	445TC	356	14	16	92	3-3/8	210	8-1/4	22	7/8	175	6-7/8	5/8-11	8
445TSC		356	14	16	60	2-3/8	114	4-1/2	16	5/8	76	3	5/8-11	8

Foot Mount Brackets for Hydraulic Pumps ▪ Type FM

FM-36-M3

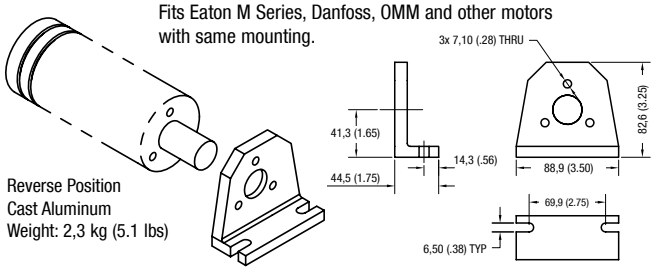
Foot Mounting Bracket for small gerotor torque motors.
Fits Eaton M Series, Danfoss, OMM and other motors with same mounting.



Standard Position
Cast Aluminum
Weight: 2,3 kg (5.1 lbs)

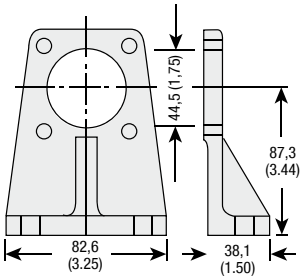
FM-37-M3R

Foot Mounting Bracket for small gerotor torque motors.
Fits Eaton M Series, Danfoss, OMM and other motors with same mounting.

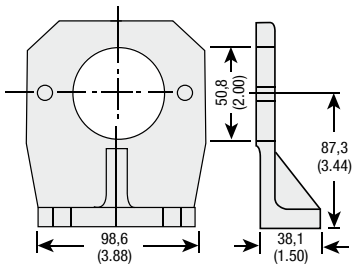


Reverse Position
Cast Aluminum
Weight: 2,3 kg (5.1 lbs)

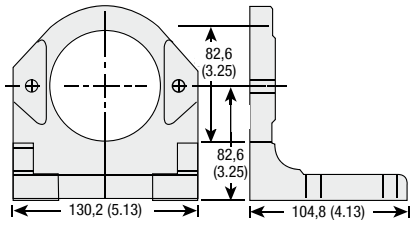
FM-38-4F



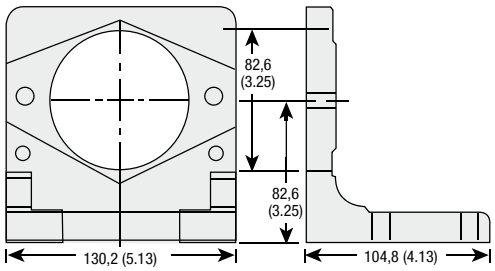
FM-39-AA2



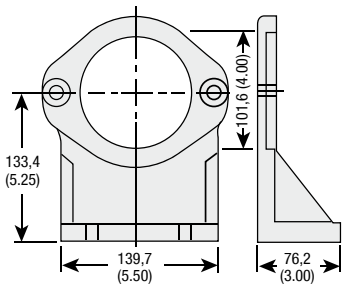
FM-40-A2



FM-41-A2C



FM-42-B2



Characteristics

- Lightweight Aluminum casting
- Sizes available:
  SAEAA - 4 Bolt
  SAEAA - 2 Bolt
  SAEA - 2 Bolt
  SAEB - 2 Bolt

Order Codes

FM - 40 - A2

① Type ② Frame Number ③ Pump Flange

Dimensional drawings: All dimensions in mm (in).

Pipe, Tube and Hose Cleaning System



Characteristics

Simple and low cost solution for the removal of unwanted contaminant from the inside surfaces of pipes, tubes and hoses

The STAUFF Clean system comprises of a pneumatic launcher and a range of specially designed nozzles. The launcher uses standard industrial compressed air in pressure between 6 and 8 bar / 87 and 116 PSI to propel a foam projectile through the nozzle and into the hose, tube or pipe to be cleaned. This provides a safe and environmentally friendly tool that requires little formal expertise to operate and apply.

The launcher is the part of the system that controls the air supply to propel the projectile from start to finish of the cleaning job.

The nozzles are specially designed to affect an airtight seal on any pipe, tube or hose with or without end fittings. It main purpose is to compress the foam projectile allowing it to enter the internal diameter of the pipe, tube or hose to be cleaned.

The projectile is the part of the system that does the cleaning: The foam projectile is sized to be approximately 15 % larger than the internal diameter of the pipe, tube or hose to be cleaned. The compression of the projectile against the internal wall cleans the internal surface and expels any loose contaminants from the end of the pipe, tube or hose.

The STAUFF Clean System is available as separate components or in a variety of kit forms comprising various nozzle types, adaptor and launcher, all contained in a heavy duty carrying case.

Launchers / Launcher Kits



Characteristics

Features

- Pneumatic pistol-grip launcher
- Light-weight and ergonomic design
- Easy to operate and apply
- Connection to air suppy with quick release coupling
- Suitable for any type of nozzle
- Delivered separately or in a variety of kit forms including carrying case, adaptor ring and nozzles (if required)

Technical Data

- Air compressor requirement: 6 ... 8 bar / 87 ... 116 PSI
- Effective air volume: 250 ... 400 l/min / 66 ... 106 US GPM

Order Codes

▪ Launcher only	**SC-LG-1**
▪ Launcher kit without nozzles	**SC-LK-1**
▪ Launcher kit with set of 10 Universal nozzles	**SC-10UV-K**
▪ Launcher kit with set of 18 Metric Tube nozzles	**SC-18MT-K**
▪ Launcher kit with set of 10 JIC nozzles	**SC-10J-K**
▪ Launcher kit with set of 7 BSP nozzles	**SC-7B-K**
▪ Launcher kit with set of 7 NPT nozzles	**SC-7N-K**
▪ Adaptor ring	**SC-UV-AR**

Consult STAUFF for special connection adaptors and couplings.

Nozzles / Nozzle Sets



If required, nozzles can also be supplied separately. Consult STAUFF for availability and order codes.

Universal Nozzle Set (Order Code: SC-10UV-S)

The Universal Nozzle is designed with a tapered seat that will allow it to suit for 90% of applications, including Hose, Tube and Pipe, with or without fittings, in hydraulic and pneumatic pipe systems, condenser tubes, boiler tubes and food lines.

The Universal Nozzle kit fits all and will accommodate applications with JIC, SAE and BSP end fittings.

The set of 10 nozzles consists of the following sizes:
6 mm, 8 mm, 10 mm, 13 mm, 16 mm, 19 mm, 25 mm, 32 mm, 38 mm and 50 mm.

Metric Tube Nozzle Set (Order Code: SC-18MT-S)

The Metric Tube Nozzle is intended for use specifically with Metric sized tube and is designed to fit over the outside of the tube or pipe being cleaned.

The inside diameter of the nozzle is reduced to match the inside diameter of the tube. The nozzles are machined from solid bar stock and designed for superior strength.

The set of 18 nozzles consist of the following Metric OD sizes:
6 mm, 8 mm, 10 mm, 12 mm, 14 mm, 15 mm, 16 mm, 18 mm, 20 mm, 22 mm, 25 mm, 28 mm, 30 mm, 35 mm, 38 mm, 42 mm, 50 mm and 60 mm.

JIC Nozzle Set (Order Code: SC-10J-S)

The JIC Nozzle is designed specifically for use with JIC and SAE type fittings. The nozzles are machined to accommodate both male and female configuration, ensuring a perfect airtight seal every time.

The set of 10 nozzles consist of the following sizes:
6 mm, 8 mm, 10 mm, 13 mm, 16 mm, 19 mm, 25 mm, 32 mm, 38 mm and 50 mm.

BSP Nozzle Set (Order Code: SC-7B-S)

The BSP Nozzle is designed specifically for BSP configuration fittings. The nozzles are machined to accommodate both male and female configurations, ensuring a perfect airtight seal every time.

The set of 7 nozzles consist of the following sizes:
6 mm, 10 mm, 13 mm, 16 mm, 19 mm, 25 mm and 32 mm.

NPT Nozzle Set (Order Code: SC-7N-S)

The NPT Nozzle is designed specifically for NPT configuration fittings. The nozzles are machined to accommodate both male and female configurations, ensuring a perfect airtight seal every time.

The set of 7 nozzles consist of the following sizes:
1/4 in, 3/8 in, 1/2 in, 5/8 in, 3/4 in, 1 in and 1-1/4 in.

Projectiles



Standard Series (S)

Not available in North America

Standard Series Projectiles are intended for the cleaning of hose, tube or pipe without end fittings or restrictions.



Coupling Series (C)

Standard in North America

Coupling Series Projectiles are intended for the cleaning of hose assemblies (hose with end fittings, adjustments, etc.) or the removal of loose particles from pipe or tube.



Abrasive Series (A)

Abrasive Series Projectiles are intended for the cleaning of metal pipe and tube to remove light rust and scale. They are recognised by the abrasive pad fixed to one end of the projectile.



Grinding Series (G)

Grinding Series Projectiles are intended for the cleaning of metal pipe and tube to remove medium and heavy rust and build up from the internal surface. They are coated in Silicon Carbide.

Pipe O.D. (mm)	Pipe/Hose I.D. (mm/in)	Order Codes Standard Series (S)	Order Codes Coupling Series (C)	Order Codes Abrasive Series (A)	Order Codes Grinding Series (G)	Packaging Units (Projectiles / Order Unit)
07	4,8 3/16	SC-S-07	SC-C-07	SC-A-07	SC-G-07	100
09	6,35 1/4	SC-S-09	SC-C-09	SC-A-09	SC-G-09	100
10	6,35 1/4	SC-S-10	SC-C-10	SC-A-10	SC-G-10	100
12	7,9 5/16	SC-S-12	SC-C-12	SC-A-12	SC-G-12	100
14	9,5 3/8	SC-S-14	SC-C-14	SC-A-14	SC-G-14	100
16	11,1 7/16	SC-S-16	SC-C-16	SC-A-16	SC-G-16	100
18	12,7 1/2	SC-S-18	SC-C-18	SC-A-18	SC-G-18	100
20	14,28 9/16	SC-S-20	SC-C-20	SC-A-20	SC-G-20	100
22	15,88 5/8	SC-S-22	SC-C-22	SC-A-22	SC-G-22	100
26	19,05 3/4	SC-S-26	SC-C-26	SC-A-26	SC-G-26	50
28	20,64 13/16	SC-S-28	SC-C-28	SC-A-28	SC-G-28	50
30	22,23 7/8	SC-S-30	SC-C-30	SC-A-30	SC-G-30	40
33	25,4 1	SC-S-33	SC-C-33	SC-A-33	SC-G-33	40
36	26 / 27 1-1/16	SC-S-36	SC-C-36	SC-A-36	SC-G-36	30
38	28,58 1-1/8	SC-S-38	SC-C-38	SC-A-38	SC-G-38	30
40	31,75 1-1/4	SC-S-40	SC-C-40	SC-A-40	SC-G-40	30
45	34,93 1-3/8	SC-S-45	SC-C-45	SC-A-45	SC-G-45	20
50	38,1 1-1/2	SC-S-50	SC-C-50	SC-A-50	SC-G-50	20
55	44,45 1-3/4	SC-S-55	SC-C-55	SC-A-55	SC-G-55	15
60	50,8 2	SC-S-60	SC-C-60	SC-A-60	SC-G-60	10

Please note: For optimum cleaning, it is recommended that projectiles are used once and then discarded.

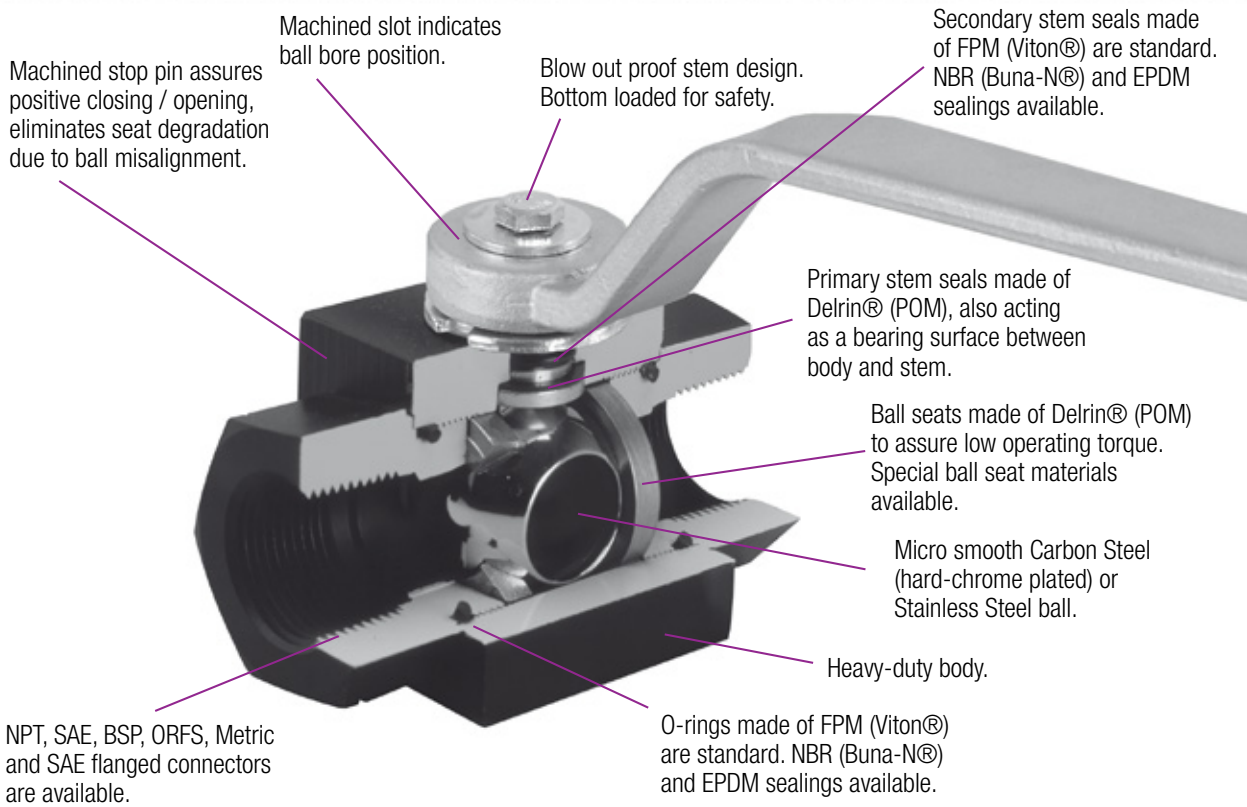
Safety note: A mesh collection bag should be secured to the pipe, tube or hose exit to avoid possible injury to personnel by the projectile exiting at high velocity.

Always wear protective safety glasses, ear protection and a dust mask when operating this device.

Home

- High-Pressure Ball Valves
- Medium / Low-Pressure
- Flow Control
- Gauge Isolator
- Options
- Special Apps
- Technical

Valves



Main Features

- "Floating Ball" design insures a positive, leak-free seal and automatically compensates for any seat wear or misalignment.
- Available in Carbon Steel and Stainless Steel.
- 1/4 turn positive operation.
- Hard-chrome plated micro-smooth ball greatly reduces friction and seat wear.
- Ball seats are available in a variety of materials to suit your special applications.
- Depending on size and materials, working pressures up to 800 bar / 12000 PSI and temperatures up to +500 °C / +930 °F can be accommodated.
- Full size ports on most two-way valves virtually eliminates pressure drop.
- STAUFF Ball Valves offer completely bidirectional operation, eliminating any chance of incorrect installation.
- No lubrication or maintenance required for the life of the valve.
- STAUFF Valves are easily and completely repairable.
- Long seal life.
- No threads in fluid service to contaminate flow or cause turbulence.

Options

- Alternative lever designs and materials
- Special ball seat and O-ring materials
- for lower/higher temperatures and more
- aggressive media
- Special threads and connections

Accessories

- Locking devices
- Actuator packages
- Limit switches

Special Versions

- Highest-pressure ball valves
- High-temperature ball valves
- Ball valves for gas, paints, lacquers and Isocyanate
- Ball valves with fire-safe approval
- Custom-designed ball valves

Contact STAUFF with your special requirements.

Home
High-Pressure Ball Valves
Two-Way
Three-Way
Four-Way
Medium / Low-Pressure
Flow Control
Gauge Isolator
Options
Special Apps
Technical

High-Pressure Two-Way Ball Valves

High-Pressure Block Body Ball Valve BBV
Introduction
Female NPT / BSP Thread
Female UN / UNF Thread
O-Ring Face Seal Connection - Male Thread
24° Cone Connection - Light / Heavy Series

High-Pressure Block Body Ball Valve (Medium Duty) BBVM

Introduction
Female NPT Thread
Female UN / UNF Thread

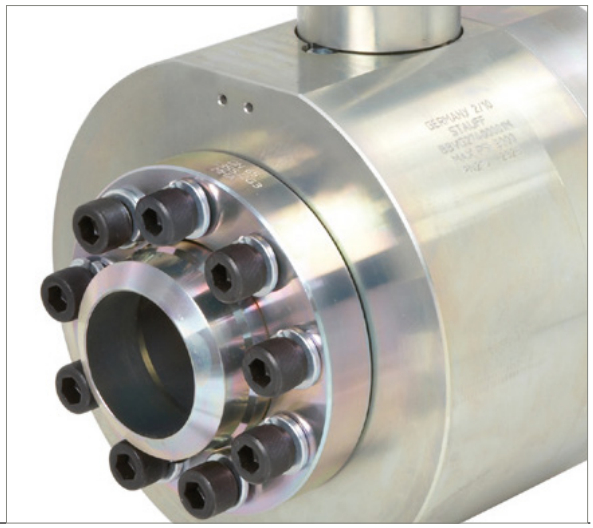
High-Pressure Forged Body Ball Valve FBV



Introduction
Female NPT / BSP Thread
Female UN / UNF Thread
O-Ring Face Seal Connection - Male Thread
24° Cone Connection - Light / Heavy Series

High-Pressure 800 bar / 12000 PSI Block Body Ball Valve HBV

Introduction
Female NPT Thread
24° Cone Connection - Heavy Series



High-Pressure Block Body Ball Valve BBV22/23

Introduction
3000 PSI SAE Split Flange Connection
6000 PSI SAE Split Flange Connection

High-Pressure Forged Body Ball Valve FBV22/23

Introduction
3000 PSI SAE Split Flange / Flange Connection
6000 PSI SAE Split Flange / Flange Connection

Home
High-Pressure Ball Valves
Two-Way
Three-Way
Four-Way
Medium / Low-Pressure
Flow Control
Gauge Isolator
Options
Special Apps
Technical

High-Pressure Two-Way Ball Valves

High-Pressure Block Body Ball Valve BBV2H/2T
Introduction
3000 PSI SAE Split Flange / Flange Connection
3000 PSI SAE Split Flange / Flange Connection
6000 PSI SAE Split Flange / Flange Connection

High-Pressure Block Body Ball Valve BBV2E/2S
Introduction
3000 PSI SAE Flange Connection
6000 PSI SAE Flange Connection

High-Pressure Forged Body Ball Valve FBV2H/2T
Introduction
3000 PSI SAE Split Flange / Flange Connection
6000 PSI SAE Split Flange / Flange Connection

High-Pressure Forged Body Ball Valve FBV2E/2S
Introduction
3000 PSI SAE Flange Connection
6000 PSI SAE Flange Connection

High-Pressure Round Body Ball Valve BBV29
Introduction
3000/6000 PSI Flange Connection

High-Pressure Round Body Ball Valve BBV27/28
Introduction
3000 PSI Flange Connection
6000 PSI Flange Connection

High-Pressure Round Body Ball Valve BBVF2A
Introduction
DIN Flange Connection with SCH 160 Butt Weld Ends

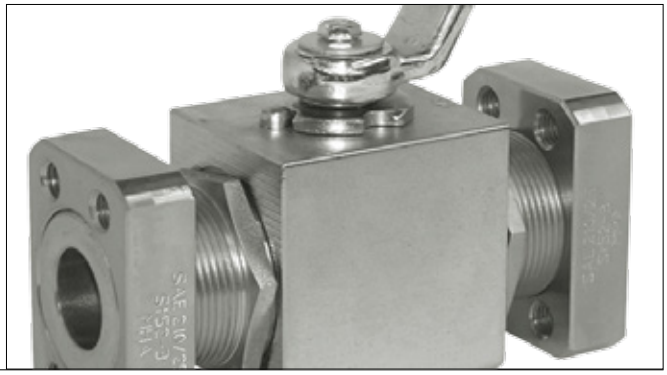
High-Pressure Round Body Ball Valve BBV2D1/D2
Introduction
ISO Flange Connection

High-Pressure Round Body Ball Valve BBV2Y1/Y2
Introduction
CETOP Flange Connection

High-Pressure Block Body Ball Valve KHZ27/28
Introduction
3000 PSI SAE Flange Connection
6000 PSI SAE Flange Connection

High-Pressure Block Body Ball Valve BBV25
Introduction
Manifold Mounting





Home
High-Pressure Ball Valves
Two-Way
Three-Way
Four-Way
Medium / Low-Pressure
Flow Control
Gauge Isolator
Options
Special Apps
Technical

High-Pressure Three-Way Ball Valves

High-Pressure Block Body Ball Valve L-Bore Three-Way Selector BBV35

Introduction • Manifold Mounting

High-Pressure Block Body Ball Valve L-Bore Three-Way Selector – BBVS35

Introduction • Manifold Mounting

High-Pressure Block Body Ball Valve L-Bore Three-Way Selector – CBV3

Introduction • Female NPT / BSP Thread • Female UN/UNF Thread

24° Cone Connection - Light / Heavy Series

High-Pressure Block Body Ball Valve L-Bore Three-Way Selector – CBV38

Introduction

6000 PSI SAE Flange Connection

High-Pressure Block Body Ball Valve L-Bore Three-Way Selector – CBVS3

Introduction

Female NPT / BSP Thread

Female UN/UNF Thread

24° Cone Connection - Light / Heavy Series

High-Pressure Block Body Ball Valve L-Bore Three-Way Selector – LBV3

Introduction

Female NPT / BSP Thread

Female UN/UNF Thread

24° Cone Connection - Light / Heavy Series

High-Pressure Block Body Ball Valve T-Bore Three-Way Selector – TBV3

Introduction

Female NPT / BSP Thread

Female UN/UNF Thread

24° Cone Connection - Light / Heavy Series



Home
High-Pressure Ball Valves
Two-Way
Three-Way
Four-Way
Medium / Low-Pressure
Flow Control
Gauge Isolator
Options
Special Apps
Technical

High-Pressure Four-Way Ball Valves

High-Pressure Block Body Ball Valve T-Bore Four-Way Selector – TBV4

Introduction

Female BSP / NPT Thread

Female UN/UNF Thread

24° Cone Connection - Light / Heavy Series

High-Pressure Block Body Ball Valve Double L-Bore Four-Way Selector – XBV4

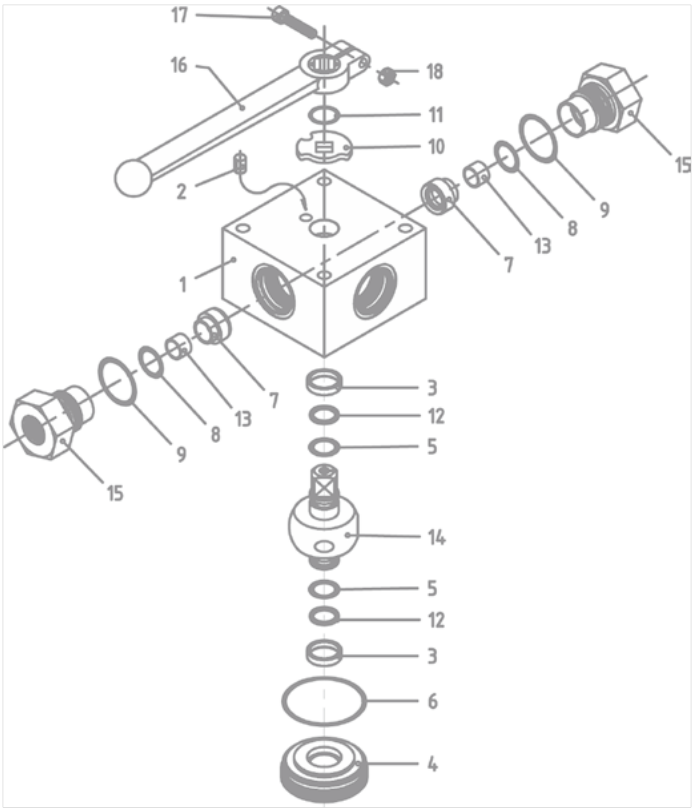
Introduction

Female BSP / NPT Thread

Female UN/UNF Thread

24° Cone Connection - Light / Heavy Series





Home
High-Pressure Ball Valves
Medium / Low-Pressure
Flow Control
Gauge Isolator
Options
Special Apps
Technical

Medium / Low-Pressure Ball Valves

Medium-Pressure Ball Valve 2BVM
Two-Piece Hex Body Ball Valve Low-Pressure Ball Valve 2BVL
Two-Piece Brass Body Ball Valve Port Adaptors
Medium-Pressure Hex Body Ball Valve 2BVM
Two-Piece Stainless Steel Body Medium-Pressure Hex Body Ball Valve 2BVM3
Three-Piece Stainless Steel Body Medium-Pressure Hex Body Two-Way Ball Valve 3BVM





Home

High-Pressure Ball Valves

Medium / Low-Pressure

Flow Control

Gauge Isolator

Options

Special Apps

Technical

Flow Control Valves

Heavy-Duty Throttle / Shut-Off Valve (In-Line Assembly) DV

Heavy-Duty Flow Control Valve (In-Line Assembly) DRV

Medium-Duty Throttle / Shut-Off Valve (In-Line Assembly) NVH

Medium-Duty Flow Control Valve (In-Line Assembly) FCH

Medium-Pressure Brass Throttle / Shut-Off Valve (In-Line Assembly) NVM

Medium-Pressure Brass Flow Control Valve (In-Line Assembly) FCM

Throttle / Shut-Off Valve (Manifold Assembly) DVP

Flow Control Valve (Manifold Assembly) DRVP

Throttle / Shut-Off Valve (Cartridge Assembly) DVE

Pressure Compensated Flow Control Valve (In-Line Assembly) PNDRV

Heavy-Duty Check Valve (In-Line Assembly) RV

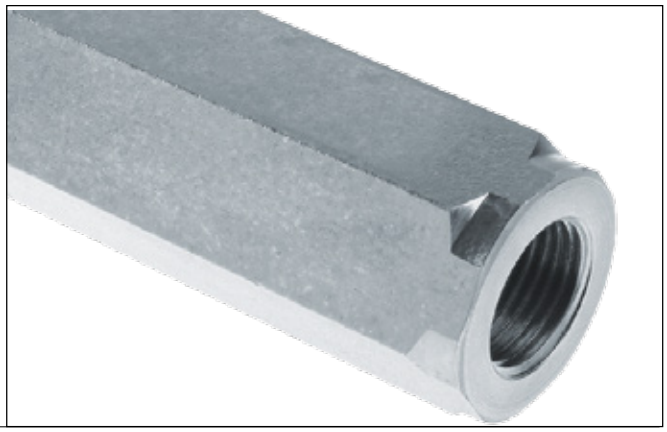
Medium-Duty Check Valve (In-Line Assembly) RVM

Flow Characteristics







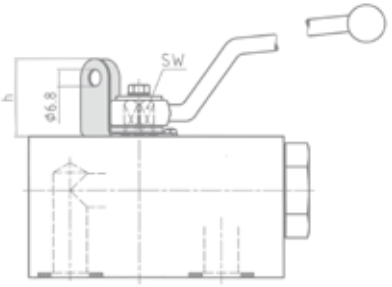


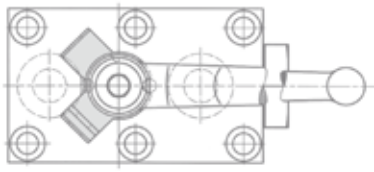


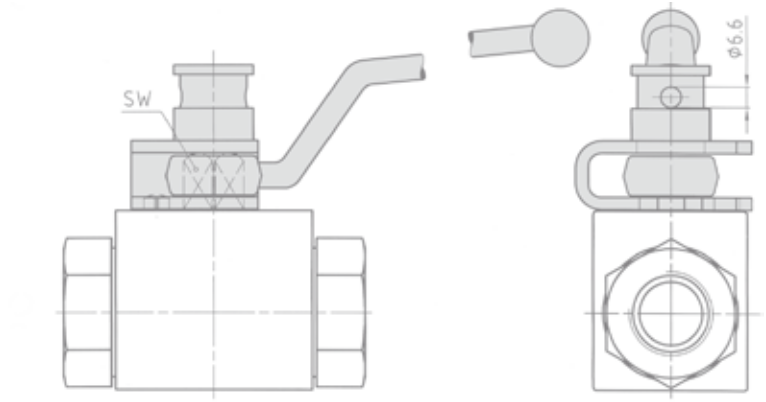
Home
High-Pressure Ball Valves
Medium / Low-Pressure
Flow Control
Gauge Isolator
Options
Special Apps
Technical

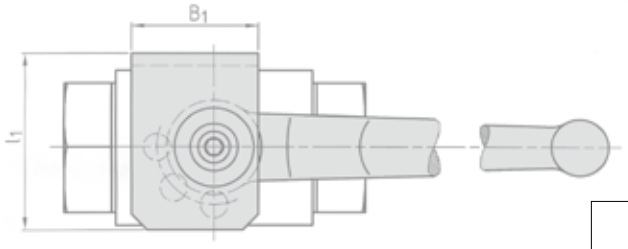
Accessories / Options

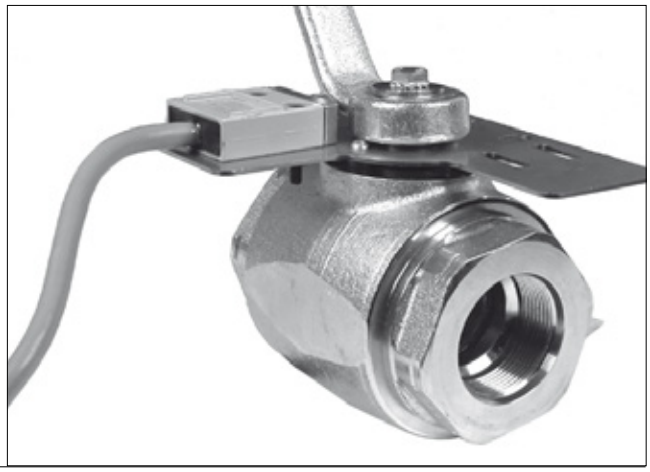
Levers
Locking Device LD
Double-Acting Pneumatic Actuator EDA
Single-Acting Pneumatic Actuator ESA
Limit Switches
Ball Valves with Detent
Ball Valves with Assembly Holes
Ball Valves with Assembly Threads
Alternative Porting Patterns











Home

High-Pressure Ball Valves

Medium / Low-Pressure

Flow Control

Gauge Isolator

Options

Special Apps

Technical

Special Application Valves

Highest-Pressure Ball Valves

High-Temperature Ball Valves

Ball Valves for Gas Applications

Ball Valves for Paints and Lacquers

Ball Valves for Isocyanates

Ball Valves with Fire-Safe Approval



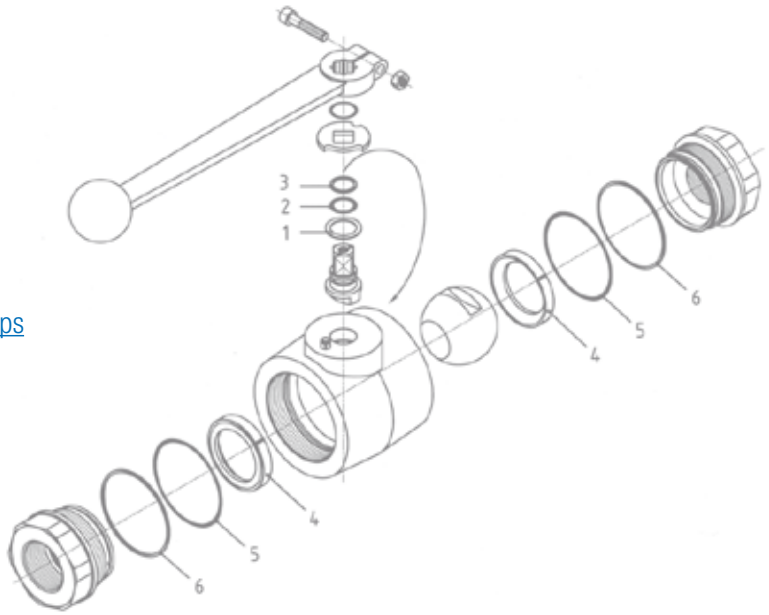




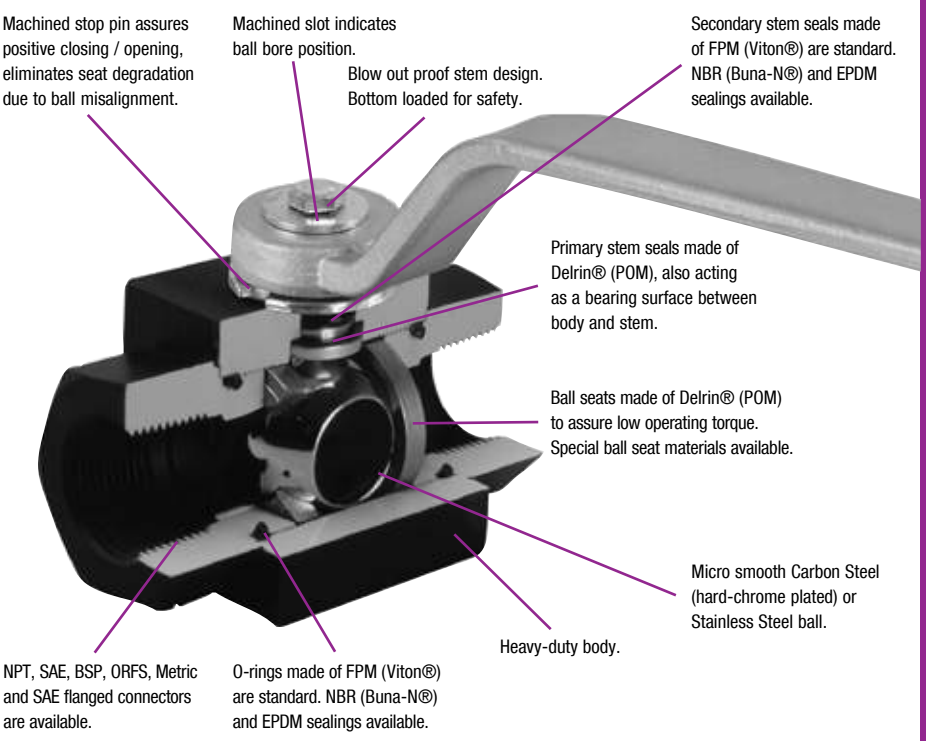
Home
High-Pressure Ball Valves
Medium / Low-Pressure
Flow Control
Gauge Isolator
Options
Special Apps
Technical

Technical Appendix

Nomenclature Definitions
Standard Materials
Admissible Working Pressures
Surface Coatings
Determination of Nominal Diameters
Sealing Variations
Torque Figures
Pressure Equipment Directive
CE-Marking of STAUFF Valves
Storing and Assembling Instructions
Seal Kits
Tightening Torques of Adaptors and Endcaps







Main Features

- "Floating Ball" design insures a positive, leak-free seal and automatically compensates for any seat wear or misalignment.
- Available in Carbon Steel and Stainless Steel.
- 1/4 turn positive operation.
- Hard-chrome plated micro-smooth ball greatly reduces friction and seat wear.
- Ball seats are available in a variety of materials to suit your special applications.
- Depending on size and materials, working pressures up to 800 bar / 12000 PSI and temperatures up to +500 °C / +930 °F can be accommodated.
- Full size ports on most two-way valves virtually eliminates pressure drop.
- STAUFF Ball Valves offer completely bidirectional operation, eliminating any chance of incorrect installation.
- No lubrication or maintenance required for the life of the valve.
- STAUFF Valves are easily and completely repairable.
- Long seal life.
- No threads in fluid service to contaminate flow or cause turbulence.

Options

- Alternative lever designs and materials
- Special ball seat and O-ring materials for lower/higher temperatures and more aggressive media
- Special threads and connections

Accessories

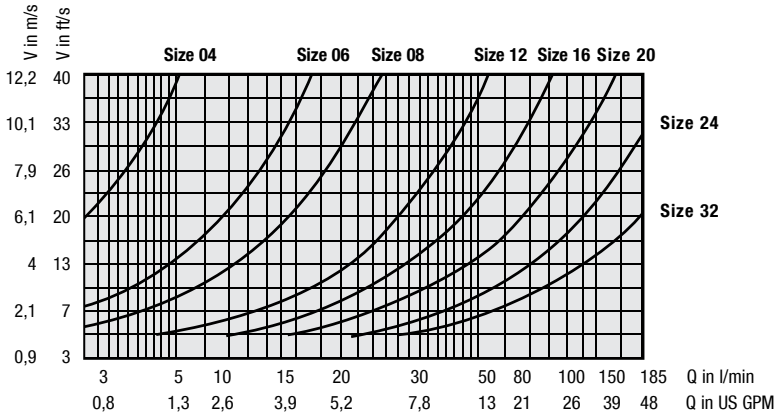
- Locking devices
- Actuator packages
- Limit switches

Special Versions

- Highest-pressure ball valves
- High-temperature ball valves
- Ball valves for gas, paints, lacquers and Isocyanate
- Ball valves with fire-safe approval
- Custom-designed ball valves

Contact STAUFF with your special requirements.

Ball Valve Selection Chart



F

Valves

Index	F2
High-Pressure Two-Way Ball Valves	F4
High-Pressure Three-Way Ball Valves	F44
High-Pressure Four-Way Ball Valves	F66
Medium- / Low-Pressure Ball Valves	F74
Flow Control Valves	F82
Gauge Isolator Valves	F96
Accessories / Options	F98
Special Application Valves	F106
Technical Appendix	F110

Please note:

STAUFF Ball Valves are designed for use as on/off devices and must not be used to throttle fluid flow. Use in any position other than fully open or fully closed can lead to rapid deterioration of valve components and possible product failure.

When operated from the fully closed position at rated operating pressure, manual operation may prove difficult due to opening torque requirements.

Please consult factory prior to field application.

High Pressure Two-Way Ball Valves



High-Pressure Block Body Ball Valve **BBV** **F4**
Introduction
Female NPT / BSP Thread **F5**
Female UN / UNF Thread **F6**
O-Ring Face Seal Connection - Male Thread **F6**
24° Cone Connection - Light / Heavy Series **F7**



High-Pressure Block Body Ball Valve (Medium Duty) **BBVM** **F8**
Introduction
Female NPT Thread **F9**
Female UN / UNF Thread **F10**



High-Pressure Forged Body Ball Valve **FBV** **F11**
Introduction
Female NPT / BSP Thread **F12**
Female UN / UNF Thread **F12**
O-Ring Face Seal Connection - Male Thread **F13**
24° Cone Connection - Light / Heavy Series **F13**



High-Pressure 800 bar / 12000 PSI Block Body Ball Valve **HBV** **F14**
Introduction
Female NPT Thread **F15**
24° Cone Connection - Heavy Series **F15**



High-Pressure Block Body Ball Valve **BBV22/23** **F16**
Introduction
3000 PSI SAE Split Flange Connection **F17**
6000 PSI SAE Split Flange Connection **F17**



High-Pressure Forged Body Ball Valve **FBV22/23** **F18**
Introduction
3000 PSI SAE Split Flange Connection **F19**
6000 PSI SAE Split Flange Connection **F19**



High-Pressure Block Body Ball Valve **BBV2H/2T** **F20**
Introduction
3000 PSI SAE Split Flange / Flange Connection **F21**
6000 PSI SAE Split Flange / Flange Connection **F21**



High-Pressure Block Body Ball Valve **BBV2E/2S** **F22**
Introduction
3000 PSI SAE Flange Connection **F23**
6000 PSI SAE Flange Connection **F23**



High-Pressure Forged Body Ball Valve **FBV2H/2T** **F24**
Introduction
3000 PSI SAE Split Flange / Flange Connection **F25**
6000 PSI SAE Split Flange / Flange Connection **F25**



High-Pressure Forged Body Ball Valve **FBV2E/2S** **F26**
Introduction
3000 PSI SAE Flange Connection **F27**
6000 PSI SAE Flange Connection **F27**



High-Pressure Round Body Ball Valve **BBV29** **F28**
Introduction
3000/6000 PSI Flange Connection **F29**



High-Pressure Round Body Ball Valve **BBV27/28** **F30**
Introduction
3000 PSI Flange Connection **F31**
6000 PSI Flange Connection **F31**



High-Pressure Round Body Ball Valve **BBVF2A** **F32**
Introduction
DIN Flange Connection with SCH 160 Butt Weld Ends **F33**



High-Pressure Round Body Ball Valve **BBV2D1/D2** **F34**
Introduction
ISO Flange Connection **F35**



High-Pressure Round Body Ball Valve **BBV2Y1/Y2** **F36**
Introduction
CETOP Flange Connection **F37**



High-Pressure Block Body Ball Valve **KHZ27/28** **F38**
Introduction
3000 PSI SAE Flange Connection **F39**
6000 PSI SAE Flange Connection **F40**



High-Pressure Block Body Ball Valve **BBV25** **F42**
Introduction
Manifold Mounting **F43**

High-Pressure Three-Way Ball Valves



High-Pressure Block Body Ball Valve **BBV35** **F44**
L-Bore Three-Way Selector
Introduction
Manifold Mounting **F45**



High-Pressure Block Body Ball Valve **BBVS35** **F46**
L-Bore Three-Way Selector - Introduction
Manifold Mounting **F47**



High-Pressure Block Body Ball Valve **CBV3** **F48**
L-Bore Three-Way Selector - Introduction
Female NPT / BSP Thread **F49**
Female UN/UNF Thread **F50**
24° Cone Connection - Light / Heavy Series **F51**



High-Pressure Block Body Ball Valve **CBV38** **F52**
L-Bore Three-Way Selector - Introduction
6000 PSI SAE Flange Connection **F53**



High-Pressure Block Body Ball Valve **CBVS3** **F54**
L-Bore Three-Way Selector - Introduction
Female NPT / BSP Thread **F55**
Female UN/UNF Thread **F56**
24° Cone Connection - Light / Heavy Series **F57**



High-Pressure Block Body Ball Valve **LBV3** **F58**
L-Bore Three-Way Selector - Introduction
Female NPT / BSP Thread **F59**
Female UN/UNF Thread **F60**
24° Cone Connection - Light / Heavy Series **F61**



High-Pressure Block Body Ball Valve **TBV3** **F62**
T-Bore Three-Way Selector - Introduction
Female NPT / BSP Thread **F63**
Female UN/UNF Thread **F64**
24° Cone Connection - Light / Heavy Series **F65**

High-Pressure Four-Way Ball Valves



High-Pressure Block Body Ball Valve **TBV4** **F66**
T-Bore Four-Way Selector - Introduction
Female BSP / NPT Thread **F67**
Female UN/UNF Thread **F68**
24° Cone Connection - Light / Heavy Series **F69**



High-Pressure Block Body Ball Valve **XBV4** **F70**
Double L-Bore Four-Way Selector - Introduction
Female BSP / NPT Thread **F71**
Female UN/UNF Thread **F72**
24° Cone Connection - Light / Heavy Series **F73**

Medium- / Low-Pressure Ball Valves


Medium-Pressure Ball Valve 2BVM F74
Two-Piece Hex Body Ball Valve


Low-Pressure Ball Valve 2BVL F75
Two-Piece Brass Body Ball Valve


Port Adaptors F77


Medium-Pressure Hex Body Ball Valve 2BVM F79
Two-Piece Stainless Steel Body


Medium-Pressure Hex Body Ball Valve 2BVM3 F80
Two-Piece Stainless Steel Body


Medium-Pressure Hex Body Ball Valve 3BVM F81
Three-Piece Stainless Steel Body

Flow Control Valves


Heavy-Duty Throttle / Shut-Off Valve DV F82
(In-Line Assembly)


Heavy-Duty Flow Control Valve DRV F83
(In-Line Assembly)


Medium-Duty Throttle / Shut-Off Valve NVH F84
(In-Line Assembly)


Medium-Duty Flow Control Valve FCH F85
(In-Line Assembly)


Medium-Pressure Brass Throttle / Shut-Off Valve NVM F86
(In-Line Assembly)


Medium-Pressure Brass Flow Control Valve FCM F87
(In-Line Assembly)


Throttle / Shut-Off Valve DVP F88
(Manifold Assembly)


Flow Control Valve DRVP F89
(Manifold Assembly)


Throttle / Shut-Off Valve DVE F90
(Cartridge Assembly)


Pressure Compensated Flow Control Valve PNDRV F91
(In-Line Assembly)


Heavy-Duty Check Valve RV F92
(In-Line Assembly)


Medium-Duty Check Valve RVM F93
(In-Line Assembly)

Flow Characteristics F94

Gauge Isolator Valves


Gauge Isolator Valve SWS-S1 F96
(Single Station)


Gauge Isolator Valve SWS-M F96
(Multi Station)


Gauge Isolator Needle Valve SWS-A1/A2 F97
(Single Station)

Accessories / Options

Levers F98
Locking Device LD F99
Double-Acting Pneumatic Actuator EDA F102
Single-Acting Pneumatic Actuator ESA F102
Limit Switches F102
Ball Valves with Detent F103
Ball Valves with Assembly Holes F103
Ball Valves with Assembly Threads F103
Alternative Porting Patterns F104

Special Application Valves

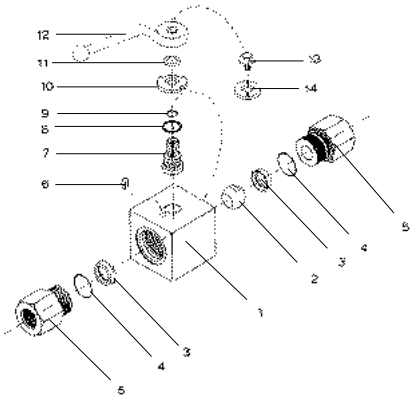
Highest-Pressure Ball Valves F106
High-Temperature Ball Valves F107
Ball Valves for Gas Applications F108
Ball Valves for Paints and Lacquers F108
Ball Valves for Isocyanates F108
Ball Valves with Fire-Safe Approval F109

Technical Appendix

Nomenclature Definitions F110
Standard Materials F110
Admissible Working Pressures F111
Surface Coatings F111
Determination of Nominal Diameters F112
Sealing Variations F113
Torque Figures F114
Pressure Equipment Directive F115
CE-Marking of STAUFF Valves F115
Storing and Assembling Instructions F115
Seal Kits F116
Tightening Torques of Adaptors and Endcaps F118

High-Pressure Block Body Ball Valve ▪ Type BBV





List of Components

No.	Qty.	Description
1	1	Housing
2	1	Ball
3*	2	Seat
4*	2	Connector O-Ring
5	2	Connector
6	1	Stop Pin
7	1	Stem
8*	1	Thrust Ring
9*	1	Stem O-Ring
10	1	Cam Plate
11	1	Snap Ring
12	1	Lever
13	1	Stem Screw
14	1	Flow Indicator

* Included in seal kit

Characteristics

Two-way high-pressure block body ball valves designed for use as on/off devices for hydraulic applications

Standard Construction
- Block body design for in-line assembly
- Supplied with off-set lever

Standard Materials
- Body: Carbon Steel, zinc/iron-plated
- Ball: Carbon Steel, hard chrome-plated
- Stem: Carbon Steel
- Lever: Zinc (STAUFF Sizes 02 to 08)
  Aluminium (STAUFF Size 10)
  Carbon Steel (STAUFF Sizes 12 to 24)
- Ball seat: Delrin® (POM)
- O-rings: FPM (Viton®)

Standard Connections Styles / Sizes
- Female NPT thread (ANSI B1.20.1) >1–11-1/2 NPT
- Female BSP thread (DIN ISO 228) >G 1 BSP
- Female UN/UNF thread (SAE J 514) >1-5/16–12 UN (1 SAE)
- Male O-Ring Face Seal Connection >1-11/16–12 UN
- 24° cone connection (DIN 2353); Light Series >42L
- 24° cone connection (DIN 2353); Heavy Series >38S

Pressure Range
- Pressure range: up to 500 bar / 7250 PSI (depending on size and material combination of the ball valve)

Temperature Range
- Operating temperature range:
  -20 °C ... +100 °C / -4 °F ... + 212 °F

Options / Accessories
- Alternative lever designs/materials (see page F98)
- Locking devices (see pages F99-F101)
- Pneumatic actuator packages (see page F102)
- Limit switches (see page F102)
- Stainless Steel body
- Stainless Steel ball and stem
- Special ball seat and O-ring materials available for lower/higher temperatures and more aggressive media
- Additional assembling threads / holes (see page F103)

- Electrical actuators available on request.
  Pease consult STAUFF for further information.

Order Codes

BBV	2	0	02	0	0	0	1	K	-	-
①	②	③	④	⑤	⑥	⑦	⑧	⑨	⑩	⑪

① Type

High-Pressure Block Body Ball Valve	**BBV**

② Number of Ports

Two Ports (Two-Way Ball Valve)	**2**

③ Connection Style

Female NPT Thread (ANSI B1.20.1)	**0**
Female BSP Thread (DIN ISO 228)	**G**
Female UN/UNF Thread (SAE J 514)	**1**
Male O-Ring Face Seal Connection	**B**
24° Cone Connection (Light / Heavy Series)	

DN04	DN06	DN08	DN10	DN13	DN16	DN20	DN25

Please consult STAUFF for alternative connection styles.

④ Connection Size

STAUFF Size (according to dimension table) for connection styles 0, G, 1 and B:

02	04	06	08	10	12	16

Tube Size (according to dimension table) for 24° Cone Connection (Light Series):

06L	08L	10L	12L	15L	18L	22L	28L	35L	42L

Tube Size (according to dimension table) for 24° Cone Connection (Heavy Series):

06S	08S	10S	12S	14S	16S	20S	25S	30S	38S

Please consult STAUFF for alternative connection sizes.

⑤ Body Material / Surface Finishing

Carbon Steel, zinc/iron-plated	**0**
Stainless Steel V4A (AISI 316Ti)	**1**

Alternative materials / surface finishings are available upon request. Consult STAUFF for further information.

⑥ Ball / Stem Material

Ball: Carbon Steel, hard chrome-plated Stem: Carbon Steel	**0**
Ball / Stem: Stainless Steel V4A (AISI 316Ti)	**1**

Alternative materials / surface finishings are available upon request. Consult STAUFF for further information.

⑦ Ball Seat Material

Delrin® (POM)	**0**

Alternative materials are available upon request. Consult STAUFF for further information.

⑧ O-Ring Material

NBR (Buna-N®)	**0**
FPM (Viton®)	**1**
EPDM	**3**

Alternative materials are available upon request. Consult STAUFF for further information.

⑨ Manufacturing Code

Manufacturing code for all connection styles (except Female NPT Thread)	**M**
Manufacturing code (only for Female NPT Thread)	**K**
Manufacturing code for high-pressure version of connection styles 0 and 1 (STAUFF Size 16)	**H**

⑩ Lever Options

Supplied with standard lever (according to table)	**-**
Supplied without lever	**-0**

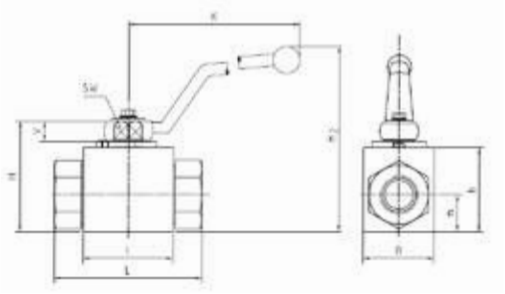
Alternative levers can be ordered separately. Please see page F98 for further information.

⑪ Accessories / Options

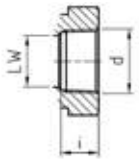
Supplied without accessories	**-**
Supplied with Locking Device LD1	**-LD1**
Supplied with Locking Device LD2	**-LD2**
Supplied with Locking Device LD3 (standard*[1])	**-LD3**
Supplied with Locking Device LD4	**-LD4**
Supplied with Double-Acting Pneumatic Actuator (Please add size **)	**-EDA****
Supplied with Single-Acting Pneumatic Actuator (Please add size **)	**-ESA****
Supplied with Limit Switch in open position	**-LS-O**
Supplied with Limit Switch in closed position	**-LS-C**
Supplied with Limit Switch in open and closed position	**-LS-OC**

*[1] LD4 is the standard locking device option for the high-pressure version (manufacuring code H). Please see page F99 for further information.

High-Pressure Block Body Ball Valve ▪ Type BBV
Female NPT Thread (ANSI B1.20.1)



Female NPT Thread (ANSI B1.20.1)



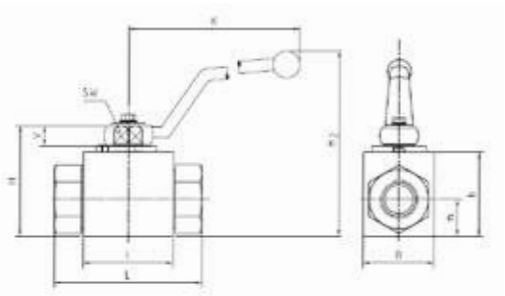
When ordering the standard option as indicated in the table below, the following materials will be supplied:

- Body, ball and stem: Carbon Steel
- Lever: Zinc (STAUFF Sizes 02 to 08)
  Carbon Steel (STAUFF Sizes 12 to 16)
- Ball seat: Delrin® (POM)
- O-rings: FPM (Viton®)

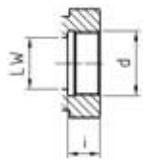
STAUFF Size	Thread Size d	Nominal Size DN	Dimensions (mm/in) LW	L	l	B	H	h	m	V	SW	K	i	H2	Nom. Pressure (bar/PSI)	Weight (kg/lbs)	Order Codes (Standard Option)
02	1/8–27 NPT	4	5	69	40	26	47	33	13,5	11	9	115	10,5	82	500	0,30	BBV20020001K
			.20	2.70	1.57	1.02	1.84	1.29	.53	.43	.35	4.50	.41	3.23	7250	.66	
04	1/4–18 NPT	6	6	69	40	26	47	33	13,5	11	9	115	13,7	82	500	0,40	BBV20040001K
			.23	2.70	1.57	1.02	1.84	1.29	.53	.43	.35	4.50	.54	3.23	7250	.88	
06	3/8–18 NPT	10	10	72	43	32	52	38	17,5	11	9	115	13,5	87	500	0,50	BBV20060001K
			.39	2.82	1.68	1.25	2.04	1.49	.69	.43	.35	4.50	.53	3.43	7250	1.10	
08	1/2–14 NPT	13	13	83	48	35	54	40	19	11	9	115	17	89	500	0,75	BBV20080001K
			.51	3.25	1.88	1.37	2.11	1.57	.74	.43	.35	4.50	.67	3.50	7250	1.65	
12	3/4–14 NPT	20	20	95	62	49	75	57	24,5	14	14	170	18,3	126	420	1,63	BBV20120001K
			.78	3.72	2.43	1.92	2.94	2.23	.96	.55	.55	6.69	.72	4.96	6000	3.57	
16	1–11-1/2 NPT	25	25	113	66	58	83	65	29,5	14	14	170	21,6	134	315	2,30	BBV20160001K
			.98	4.42	2.58	2.27	3.25	2.55	1.16	.55	.55	6.69	.85	5.28	4500	5.06	
16	1–11-1/2 NPT	25	25	113	74	70	88	70	34,5	14	14	170	20	139	420	2,20	BBV20160001H
			.98	4.42	2.91	2.76	3.46	2.76	1.36	.55	.55	6.69	.78	5.47	6000	4.85	

Please note the pressure ratings of the tube connections.

High-Pressure Block Body Ball Valve ▪ Type BBV
Female BSP Thread (DIN ISO 228)



Female BSP Thread (DIN ISO 228)



When ordering the standard option as indicated in the table below, the following materials will be supplied:

- Body, ball and stem: Carbon Steel
- Lever: Zinc (STAUFF Sizes 02 to 08)
  Aluminium (STAUFF Size 10)
  Carbon Steel (STAUFF Sizes 12 to 16)
- Ball seat: Delrin® (POM)
- O-rings: FPM (Viton®)

STAUFF Size	Thread Size d	Nominal Size DN	Dimensions (mm/in) LW	L	l	B	H	h	m	V	SW	K	i	H2	Nom. Pressure (bar/PSI)	Weight (kg/lbs)	Order Codes (Standard Option)
02	G 1/8 BSP	4	5	69	40	26	47	33	13,5	11	9	115	10	82	500	0,41	BBV2G020001M
			.20	2.70	1.57	1.02	1.84	1.29	.53	.43	.35	4.50	.39	3.23	7250	.90	
04	G 1/4 BSP	6	6	69	40	26	47	33	13,5	11	9	115	14	82	500	0,40	BBV2G040001M
			.23	2.70	1.57	1.02	1.84	1.29	.53	.43	.35	4.50	.55	3.23	7250	.88	
06	G 3/8 BSP	10	10	72	43	32	52	38	17,5	11	9	115	14	87	500	0,54	BBV2G060001M
			.39	2.82	1.68	1.25	2.04	1.49	.69	.43	.35	4.50	.55	3.43	7250	1.19	
08	G 1/2 BSP	13	13	83	48	35	54	40	19	11	9	115	16,3	89	500	0,65	BBV2G080001M
			.51	3.25	1.88	1.37	2.11	1.57	.74	.43	.35	4.50	.64	3.50	7250	1.43	
10	G 5/8 BSP	16	15	83	48	38	63	46	19	13	12	160	16	106	420	0,70	BBV2G100001M
			.59	3.25	1.88	1.49	2.47	1.80	.74	.51	.47	6.26	.63	4.17	6000	1.54	
12	G 3/4 BSP	20	20	95	62	49	75	57	24,5	14	14	170	18	126	420	1,50	BBV2G120001M
			.78	3.72	2.43	1.92	2.94	2.23	.96	.55	.55	6.69	.70	4.96	6000	3.31	
16	G 1 BSP	25	25	113	66	58	83	65	29,5	14	14	170	20	134	315	2,20	BBV2G160001M
			.98	4.42	2.58	2.27	3.25	2.55	1.16	.55	.55	6.69	.78	5.28	4500	4.85	

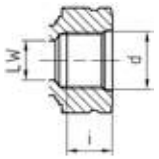
Please note the pressure ratings of the tube connections.

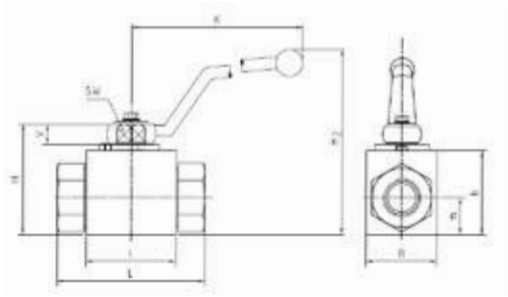
High-Pressure Block Body Ball Valve ▪ Type BBV
Female UN/UNF Thread (SAE J 514)

When ordering the standard option as indicated in the table below, the following materials will be supplied:

- Body, ball and stem: Carbon Steel
- Lever: Zinc (STAUFF Sizes 04 to 08)
  Carbon Steel (STAUFF Sizes 12 and 16)
- Ball seat: Delrin® (POM)
- O-rings: FPM (Viton®)

Female UN/UNF Thread (SAE J 514)





STAUFF Size	Thread Size d	Nominal Size DN	Dimensions (mm/in) LW	L	l	B	H	h	m	V	SW	K	i	H2	Nom. Pressure (bar/PSI)	Weight (kg/lbs)	Order Codes (Standard Option)
04	7/16–20 UNF	6	6	69	40	26	47	33	13,5	11	9	115	14	82	500	0,40	BBV21040001M
	(1/4" SAE)		.23	2.70	1.57	1.02	1.84	1.29	.53	.43	.35	4.50	.55	3.23	7250	.88	
06	9/16–18 UNF	10	10	72	43	32	52	38	17,5	11	9	115	14	87	500	0,50	BBV21060001M
	(3/8" SAE)		.39	2.82	1.68	1.25	2.04	1.49	.69	.43	.35	4.50	.55	3.43	7250	1.10	
08	3/4–16 UNF	13	13	83	48	35	54	40	19	11	9	115	16,3	89	500	0,70	BBV21080001M
	(1/2" SAE)		.51	3.25	1.88	1.37	2.11	1.57	.74	.43	.35	4.50	.64	3.50	7250	1.54	
12	1-1/16–12 UN	20	20	95	62	49	75	57	24,5	14	14	170	18	126	420	1,50	BBV21120001M
	(3/4" SAE)		.78	3.72	2.43	1.92	2.94	2.23	.96	.55	.55	6.69	.70	4.96	6000	3.31	
16	1-5/16–12 UN	25	25	113	66	58	83	65	29,5	14	14	170	20	134	315	2,20	BBV21160001M
	(1" SAE)		.98	4.42	2.58	2.27	3.25	2.55	1.16	.55	.55	6.69	.78	5.28	4500	4.85	
16	1-5/16–12 UN	25	25	121	74	70	88	70	34,5	14	14	170	20	139	420	2,20	BBV21160001H
	(1" SAE)		.98	4.76	2.91	2.76	3.46	2.76	1.36	.55	.55	6.69	.78	5.47	6000	4.85	

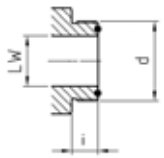
Please note the pressure ratings of the tube connections.

High-Pressure Block Body Ball Valve ▪ Type BBV
O-Ring Face Seal Connection ▪ Male Thread (ISO 8434-3)

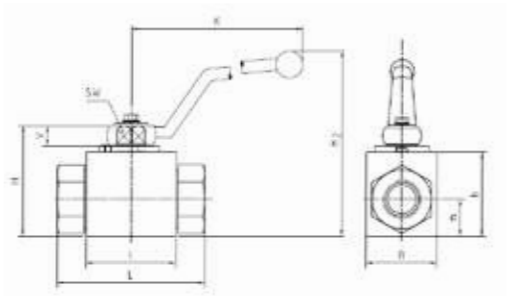
When ordering the standard option as indicated in the table below, the following materials will be supplied:

- Body, ball and stem: Carbon Steel
- Lever: Zinc (STAUFF Sizes 04 to 08)
  Aluminium (STAUFF Size 10)
  Carbon Steel (STAUFF Sizes 12 and 16)
- Ball seat: Delrin® (POM)
- O-rings: FPM (Viton®)

ORFS Connection (ISO 8434-3)



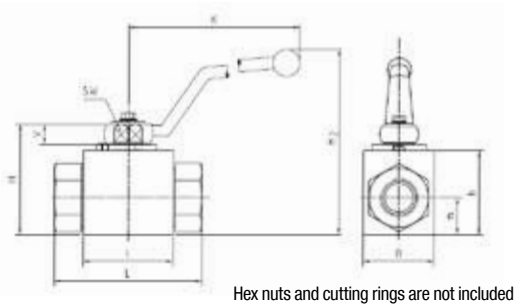
O-ring included in delivery.



STAUFF Size	Thread Size d	Nominal Size DN	Dimensions (mm/in) LW	L	l	B	H	h	m	V	SW	K	i	H2	O-ring	Nom. Pressure (bar/PSI)	Weight (kg/lbs)	Order Codes (Standard Option)
04	9/16–18 UNF	6	4,5	73	40	26	47	33	13,5	11	9	115	10	82	7,65 x 1,78	500	0,37	BBV2B040001M
			.18	2.87	1.57	1.02	1.84	1.29	.53	.43	.35	4.50	.39	3.23		7250	.81	
05	11/16–16 UN	8	6,5	73	40	26	47	33	13,5	11	9	115	11	82	9,25 x 1,78	500	0,38	BBV2B050001M
			.26	2.87	1.57	1.02	1.84	1.29	.53	.43	.35	4.50	.43	3.23		7250	.83	
06	13/16–16 UN	10	9,5	78	43	32	52	38	17,5	11	9	115	13	87	12,42 x 1,78	500	0,50	BBV2B060001M
			.37	3.07	1.68	1.25	2.04	1.49	.69	.43	.35	4.50	.51	3.43		7250	1.10	
08	1–14 UNS	13	12,5	90	48	35	54	40	19	11	9	115	15,5	89	15,60 x 1,78	420	0,61	BBV2B080001M
			.49	3.54	1.88	1.37	2.11	1.57	.74	.43	.35	4.50	.61	3.50		6000	1.34	
10	1-3/16–12 UN	16	15,5	98	48	35	63	40	19	13	12	160	17	106	18,77 x 1,78	420	0,80	BBV2B100001M
			.61	3.86	1.88	1.37	2.47	1.57	.74	.51	.47	6.26	.67	4.17		6000	1.76	
12	1-7/16–12 UN	20	20,5	111	62	49	75	57	24,5	14	14	170	17,5	126	23,52 x 1,78	315	1,55	BBV2B120001M
			.81	4.37	2.43	1.92	2.94	2.23	.96	.55	.55	6.69	.69	4.96		4500	3.41	
16	1-11/16–12 UN	25	26	120	66	58	83	65	29,5	14	14	170	17,5	134	29,87 x 1,78	315	2,10	BBV2B160001M
			1.02	4.72	2.58	2.27	3.25	2.55	1.16	.55	.55	6.69	.69	5.28		4500	4.63	

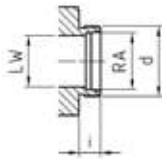
Please note the pressure ratings of the tube connections.

High-Pressure Block Body Ball Valve ▪ Type BBV
24° Cone Connection ▪ Light Series (DIN 2353 / ISO 8434-1)



Hex nuts and cutting rings are not included in delivery.

24° Cone Connection (DIN 2353 / ISO 8434-1)



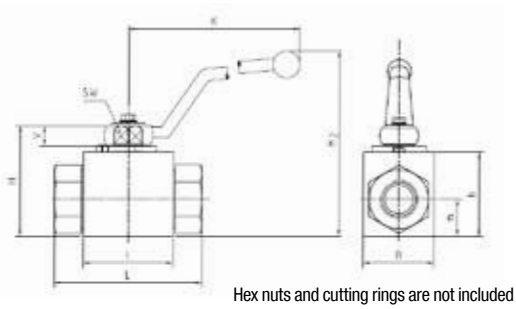
When ordering the standard option as indicated in the table below, the following materials will be supplied:

- Body, ball and stem: Carbon Steel
- Lever: Zinc (STAUFF Sizes 02 to 08)
  Carbon Steel (STAUFF Sizes 12 to 16)
- Ball seat: Delrin® (POM)
- O-rings: FPM (Viton®)

STAUFF Size	Tube/Thread Size d	Nominal Size DN	Dimensions (mm/in) RA	LW	L	l	B	H	h	m	V	SW	K	i	H2	Nom. Pressure (bar/PSI)	Weight (kg/lbs)	Order Codes (Standard Option)
02	06L / M12 x 1,5	4	6	5	67	40	26	47	33	13,5	11	9	115	10	82	500	0,36	BBV2DN0406L0001M
			.24	.20	2.64	1.57	1.02	1.85	1.30	.53	.43	.35	4.53	.39	3.23	7250	.79	
04	08L / M14 x 1,5	6	8	6	67	40	26	47	33	13,5	11	9	115	10	82	500	0,37	BBV2DN0608L0001M
			.31	.24	2.64	1.57	1.02	1.85	1.30	.53	.43	.35	4.53	.39	3.23	7250	.81	
05	10L / M16 x 1,5	8	10	8	74	40	26	47	33	13,5	11	9	115	11	82	500	0,38	BBV2DN0810L0001M
			.39	.31	2.91	1.57	1.02	1.85	1.30	.53	.43	.35	4.53	.43	3.23	7250	.83	
06	12L / M18 x 1,5	10	12	10	74	43	32	52	38	17,5	11	9	115	11	87	500	0,50	BBV2DN1012L0001M
			.47	.39	2.91	1.69	1.26	2.05	1.50	.69	.43	.35	4.53	.43	3.43	7250	1.10	
08	15L / M22 x 1,5	13	15	13	82	48	35	54	40	19	11	9	115	12	89	500	0,61	BBV2DN1315L0001M
			.59	.51	3.23	1.89	1.38	2.13	1.57	.75	.43	.35	4.53	.47	3.50	7250	1.34	
08	18L / M26 x 1,5	13	18	13	82	48	35	54	40	19	11	9	115	12	89	500	0,60	BBV2DN1318L0001M
			.71	.51	3.23	1.89	1.38	2.13	1.57	.75	.43	.35	4.53	.47	3.50	7250	1.32	
12	22L / M30 x 2	20	22	20	101	62	49	75	57	24,5	14	14	170	14	126	420	1,49	BBV2DN2022L0001M
			.87	.79	3.98	2.44	1.93	2.95	2.24	.96	.55	.55	6.69	.55	4.96	6000	3.33	
16	28L / M36 x 2	25	28	25	108	66	58	83	65	29,5	14	14	170	14	134	315	2,00	BBV2DN2528L0001M
			1.10	.98	4.25	2.60	2.28	3.27	2.56	1.16	.55	.55	6.69	.55	5.28	4500	4.41	

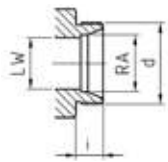
Please note the pressure ratings of the tube connections.

High-Pressure Block Body Ball Valve ▪ Type BBV
24° Cone Connection ▪ Heavy Series (DIN 2353 / ISO 8434-1)



Hex nuts and cutting rings are not included in delivery.

24° Cone Connection (DIN 2353 / ISO 8434-1)



When ordering the standard option as indicated in the table below, the following materials will be supplied:

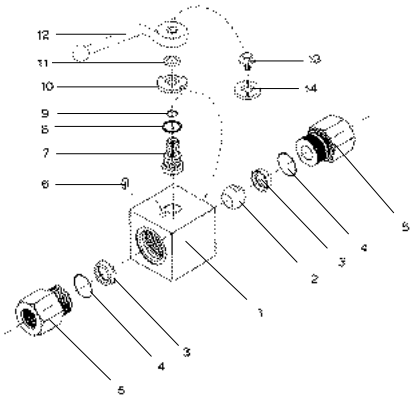
- Body, ball and stem: Carbon Steel
- Lever: Zinc (STAUFF Sizes 02 to 08)
- ▪ Aluminium (STAUFF Size 10)
  Carbon Steel (STAUFF Sizes 12 to 16)
- Ball seat: Delrin® (POM)
- O-rings: FPM (Viton®)

STAUFF Size	Tube/Thread Size d	Nominal Size DN	Dimensions (mm/in) RA	LW	L	l	B	H	h	m	V	SW	K	i	H2	Nom. Pressure (bar/PSI)	Weight (kg/lbs)	Order Codes (Standard Option)
02	08S / M16 x 1,5	4	8	5	73	40	26	47	33	13,5	11	9	115	10	82	500	0,38	BBV2DN0408S0001M
			.31	.20	2.87	1,57	1.02	1.85	1.30	.53	.43	.35	4.53	.39	3.23	7250	.84	
04	10S / M18 x 1,5	6	10	6	73	40	26	47	33	13,5	11	9	115	10	82	500	0,39	BBV2DN0610S0001M
			.39	.24	2.87	1.57	1.02	1.85	1.30	.53	.43	.35	4.53	.39	3.23	7250	.86	
05	12S / M20 x 1,5	8	12	8	76	40	26	47	33	13,5	11	9	115	11	82	500	0,39	BBV2DN0812S0001M
			.47	.31	2.99	1.57	1.02	1.85	1.30	.53	.43	.35	4.53	.43	3.23	7250	.86	
06	14S / M22 x 1,5	10	14	10	80	43	32	52	38	17,5	11	9	115	11	87	500	0,50	BBV2DN1014S0001M
			.55	.39	3.15	1.69	1.26	2.05	1.50	.69	.43	.35	4.53	.43	3.43	7250	1.10	
08	16S / M24 x 1,5	13	16	13	86	48	35	54	40	19	11	9	115	12	89	500	0,60	BBV2DN1316S0001M
			.63	.51	3.39	1.89	1.38	2.13	1.57	.75	.43	.35	4.53	.47	3.50	7250	1.32	
08	20S / M30 x 2	13	20	15	90	48	38	54	46	19	11	9	115	12	89	500	0,60	BBV2DN1320S0001M
			.79	.59	3,54	1.89	1,50	2.13	1.81	.75	.43	.35	4.53	.47	3.50	7250	1.32	
10	20S / M30 x 2	16	20	13	90	48	35	54	40	19	13	12	160	16	106	420	0,80	BBV2DN1620S0001M
			.79	.51	3,54	1.89	1.38	2.13	1,57	.75	.51	.47	6.26	.63	4.17	6000	1.76	
12	25S / M36 x 2	20	25	20	109	62	49	75	57	24,5	14	14	170	18	126	420	1,55	BBV2DN2025S0001M
			.98	.79	4.29	2.44	1.93	2.95	2.24	.96	.55	.55	6.69	.71	4.96	6000	3.41	
16	30S / M42 x 2	25	30	25	120	66	58	75	65	29,5	14	14	170	20	134	315	2,10	BBV2DN2530S0001M
			1.18	.98	4.72	2.60	2.28	2.95	2.56	1.16	.55	.55	6.69	.79	5.28	4500	4.63	

Please note the pressure ratings of the tube connections.

High-Pressure Block Body Ball Valve ▪ Type BBVM (Medium Duty)





List of Components

No.	Qty.	Description
1	1	Housing
2	1	Ball
3*	2	Seat
4*	2	Connector O-Ring
5	2	Connector
6	1	Stop Pin
7	1	Stem
8*	1	Thrust Ring
9*	1	Stem O-Ring
10	1	Cam Plate
11	1	Snap Ring
12	1	Lever
13	1	Stem Screw
14	1	Flow Indicator

* Included in seal kit

Characteristics

Two-way high-pressure block body ball valves designed for use as on/off devices for hydraulic applications

Standard Construction
- Block body design for in-line assembly
- Supplied with off-set lever

Standard Materials
- Body: Carbon Steel, zinc/iron-plated
- Ball: Brass, chrome-plated
- Stem: Carbon Steel
- Lever: Zinc (STAUFF Sizes 02 to 08)
  Aluminium (STAUFF Size 10)
  Carbon Steel (STAUFF Sizes 12 to 24)
- Ball seat: Delrin® (POM)
- O-rings: NBR (Buna-N®)

Standard Connections Styles / Sizes
- Female NPT thread (ANSI B1.20.1) >1-1/2–11-1/2 NPT
- Female UN/UNF thread (SAE J 514) >1-7/8–12 UN (1-1/2" SAE)

Pressure Range
- Pressure range: up to 500 bar / 7250 PSI (depending on size and material combination of the ball valve)

Temperature Range
- Operating temperature range:
  -20 °C ... +100 °C / -4 °F ... + 212 °F

Options / Accessories
- Alternative lever designs/materials (see page F98)
- Locking devices (see pages F99-F101)
- Limit switches (see page F102)
- Additional assembling threads / holes (see page F103)

Order Codes

BBVM	2	0	02	0	2	0	0	K	-	-
①	②	③	④	⑤	⑥	⑦	⑧	⑨	⑩	⑪

① Type

High-Pressure Block Body Ball Valve (Medium Duty)	**BBVM**

② Number of Ports

Two Ports (Two-Way Ball Valve)	**2**

③ Connection Style

Female NPT Thread (ANSI B1.20.1)	**0**
Female UN/UNF Thread (SAE J 514)	**1**

Please consult STAUFF for alternative connection styles.

④ Connection Size

STAUFF Size (according to dimension table)								
02	**04**	**06**	**08**	**10**	**12**	**16**	**20**	**24**

Please consult STAUFF for alternative connection sizes.

⑤ Body Material / Surface Finishing

Carbon Steel, zinc/iron-plated	**0**
Stainless Steel V4A (AISI 316Ti)	**1**

Alternative materials / surface finishings are available upon request. Consult STAUFF for further information.

⑥ Ball / Stem Material

Ball: Brass, chrome-plated Stem: Carbon Steel	**2**

⑦ Ball Seat Material

Delrin® (POM)	**0**

⑧ O-Ring Material

NBR (Buna-N®)	**0**

⑨ Manufacturing Code

Manufacturing code for all connection styles (except Female NPT Thread)	**M**
Manufacturing code (only for Female NPT Thread)	**K**
Manufacturing code for high-pressure version of connection styles 0 and 1 (STAUFF Size 16)	**H**

⑩ Lever Options

Supplied with standard lever (according to table)	**-**
Supplied without lever	**-0**

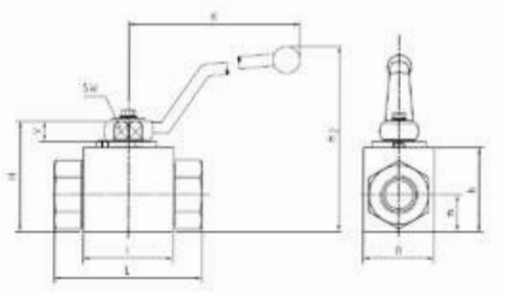
Alternative levers can be ordered separately. Please see page F98 for further information.

⑪ Accessories / Options

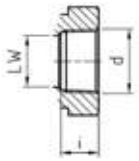
Supplied without accessories	**-**
Supplied with Locking Device LD1	**-LD1**
Supplied with Locking Device LD2	**-LD2**
Supplied with Locking Device LD3 (standard*[1])	**-LD3**
Supplied with Locking Device LD4	**-LD4**
Supplied with Limit Switch in open position	**-LS-O**
Supplied with Limit Switch in closed position	**-LS-C**
Supplied with Limit Switch in open and closed position	**-LS-OC**

*[1] LD4 is the standard locking device option for the high-pressure version (manufacuring code H). Please see page F99 for further information.

High-Pressure Block Body Ball Valve ▪ Type BBVM (Medium Duty)
Female NPT Thread (ANSI B1.20.1)



Female NPT Thread (ANSI B1.20.1)



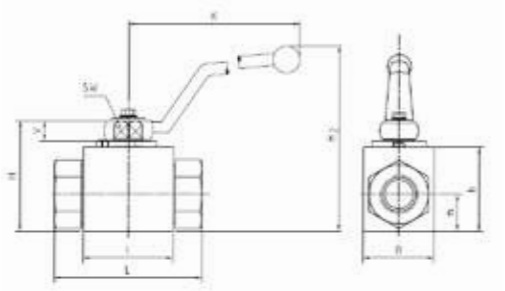
When ordering the standard option as indicated in the table below, the following materials will be supplied:

- Body and stem: Carbon Steel
- Ball: Brass
- Lever: Zinc (STAUFF Sizes 02 to 08)
  Carbon Steel (STAUFF Sizes 12 to 24)
- Ball seat: Delrin® (POM)
- O-rings: NBR (Buna-N®)

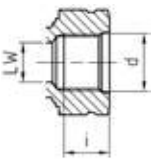
STAUFF Size	Thread Size d	Nominal Size DN	Dimensions (mm/in) LW	L	l	B	H	h	m	V	SW	K	i	H2	Nom. Pressure (bar/PSI)	Weight (kg/lbs)	Order Codes (Standard Option)
02	1/8–27 NPT	4	5	69	40	26	47	33	13,5	11	9	115	10,5	82	500	0,30	BBVM20020200K
			.20	2.70	1.57	1.02	1.84	1.29	.53	.43	.35	4.50	.41	3.23	7250	.66	
04	1/4–18 NPT	6	6	69	40	26	47	33	13,5	11	9	115	13,7	82	500	0,40	BBVM20040200K
			.23	2.70	1.57	1.02	1.84	1.29	.53	.43	.35	4.50	.54	3.23	7250	.88	
06	3/8–18 NPT	10	10	72	43	32	52	38	17,5	11	9	115	13,5	87	500	0,50	BBVM20060200K
			.39	2.82	1.68	1.25	2.04	1.49	.69	.43	.35	4.50	.53	3.43	7250	1.10	
08	1/2–14 NPT	13	13	83	48	35	54	40	19	11	9	115	17	89	500	0,75	BBVM20080200K
			.51	3.25	1.88	1.37	2.11	1.57	.74	.43	.35	4.50	.67	3.50	7250	1.65	
12	3/4–14 NPT	20	20	95	62	49	75	57	24,5	14	14	170	18,3	126	420	1,63	BBVM20120200K
			.78	3.72	2.43	1.92	2.94	2.23	.96	.55	.55	6.69	.72	4.96	6000	3.57	
16	1–11-1/2 NPT	25	25	113	66	58	83	65	29,5	14	14	170	21,6	134	315	2,30	BBVM20160200K
			.98	4.42	2.58	2.27	3.25	2.55	1.16	.55	.55	6.69	.85	5.28	4500	5.06	
16	1–11-1/2 NPT	25	25	113	74	70	88	70	34,5	14	14	170	20	139	420	2,20	BBVM20160200H
			.98	4.42	2.91	2.76	3.46	2.76	1.36	.55	.55	6.69	.78	5.47	6000	4.85	
20	1-1/4–11-1/2 NPT	25/32	25	120	66	58	83	65	29,5	14	14	170	22,1	134	315	2,51	BBVM20200200K
			.98	4.70	2.58	2.27	3.25	2.55	1.16	.55	.55	6.69	.87	5.28	4500	5.52	
24	1-1/2–11-1/2 NPT	25/40	25	130	66	58	83	65	29,5	14	14	170	22,1	134	250	2,70	BBVM20240200K
			.98	5.09	2.58	2.27	3.25	2.55	1.16	.55	.55	6.69	.87	5.28	3625	5.94	

Please note the pressure ratings of the tube connections.

High-Pressure Block Body Ball Valve ▪ Type BBVM (Medium Duty)
Female UN/UNF Thread (SAE J 514)



Female UN/UNF Thread (SAE J 514)



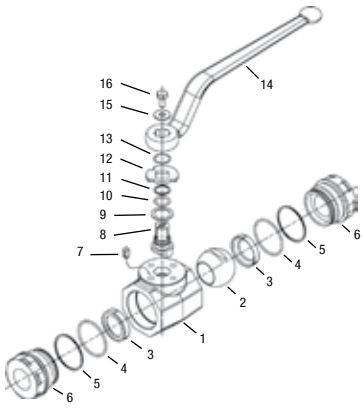
When ordering the standard option as indicated in the table below, the following materials will be supplied:

- Body and stem: Carbon Steel
- Ball: Brass
- Lever: Zinc (STAUFF Sizes 04 to 08)
  Carbon Steel (STAUFF Sizes 12 and 16)
- Ball seat: Delrin® (POM)
- O-rings: NBR (Buna-N®)

STAUFF Size	Thread Size d	Nominal Size DN	Dimensions (mm/in) LW	L	l	B	H	h	m	V	SW	K	i	H2	Nom. Pressure (bar/PSI)	Weight (kg/lbs)	Order Codes (Standard Option)
04	7/16–20 UNF (1/4" SAE)	6	6	69	40	26	47	33	13,5	11	9	115	14	82	500	0,40	BBVM21040200M
			.23	2.70	1.57	1.02	1.84	1.29	.53	.43	.35	4.50	.55	3.23	7250	.88	
06	9/16–18 UNF (3/8" SAE)	10	10	72	43	32	52	38	17,5	11	9	115	14	87	500	0,50	BBVM21060200M
			.39	2.82	1.68	1.25	2.04	1.49	.69	.43	.35	4.50	.55	3.43	7250	1.10	
08	3/4–16 UNF (1/2" SAE)	13	13	83	48	35	54	40	19	11	9	115	16,3	89	500	0,70	BBVM21080200M
			.51	3.25	1.88	1.37	2.11	1.57	.74	.43	.35	4.50	.64	3.50	7250	1.54	
12	1-1/16–12 UN (3/4" SAE)	20	20	95	62	49	75	57	24,5	14	14	170	18	126	420	1,50	BBVM21120200M
			.78	3.72	2.43	1.92	2.94	2.23	.96	.55	.55	6.69	.70	4.96	6000	3.31	
16	1-5/16–12 UN (1" SAE)	25	25	113	66	58	83	65	29,5	14	14	170	20	134	315	2,20	BBVM21160200M
			.98	4.42	2.58	2.27	3.25	2.55	1.16	.55	.55	6.69	.78	5.28	4500	4.85	
16	1-5/16–12 UN (1" SAE)	25	25	121	74	70	88	70	34,5	14	14	170	20	139	420	2,20	BBVM21160200H
			.98	4.76	2.91	2.76	3.46	2.76	1.36	.55	.55	6.69	.78	5.47	6000	4.85	
20	1-5/8–12 UN (1-1/4" SAE)	25/32	25	120	66	58	83	65	29,5	14	14	170	20	134	315	2,50	BBVM21200200M
			.98	4.70	2.60	2.28	3.27	2.56	1.16	.55	.55	6.69	.78	5.28	4500	5.50	
24	1-7/8–12 UN (1-1/2" SAE)	25/40	25	130	66	58	83	65	29,5	14	14	170	20	134	315	2,61	BBVM21240200M
			.98	5.09	2.60	2.28	3.27	2.56	1.16	.55	.55	6.69	.78	5.28	4500	5.74	

High-Pressure Forged Body Ball Valve ▪ Type FBV





List of Components

No.	Qty.	Description
1	1	Body
2	1	Ball
3*	2	Seat
4*	2	Connector O-Ring
5*	2	Connector Back-Up Ring
6	2	Connector
7	1	Stop Pin
8	1	Stem
9*	1	Thrust Ring
10*	1	Stem O-Ring
11*	1	Stem Back-Up Ring
12	1	Cam Plate
13	1	Snap Ring
14	1	Handle
15	1	Washer
16	1	Stem Bolt

* Included in seal kit

Characteristics

Two-way high-pressure forged body ball valves designed for use as on/off devices for hydraulic applications

Standard Construction
- Forged body design for in-line assembly
- Supplied with off-set lever

Standard Materials
- Body: Carbon Steel, zinc/iron-plated
- Ball: Carbon Steel, hard chrome-plated
- Stem: Carbon Steel
- Lever: Carbon Steel
- Ball seat: Delrin® (POM)
- O-rings: FPM (Viton®)

Standard Connections Styles / Sizes
- Female NPT thread (ANSI B1.20.1) >2–11-1/2 NPT
- Female BSP thread (DIN ISO 228) >G 2 BSP
- Female UN/UNF thread (SAE J 514) >2-1/2–12 UN (2" SAE)
- Male O-Ring Face Seal Connection >2–12 UN
- 24° cone connection (DIN 2353); Light Series >42L
- 24° cone connection (DIN 2353); Heavy Series >38S

Pressure Range
- Pressure range: up to 420 bar / 6000 PSI (depending on size and material combination of the ball valve)

Temperature Range
- Operating temperature range: -20 °C ... +100 °C / -4 °F ... + 212 °F

Options / Accessories
- Alternative lever designs/materials (see page F98)
- Locking devices (see pages F99-F101)
- Pneumatic actuator packages (see page F102)
- Limit switches (see page F102)
- Stainless Steel body
- Stainless Steel ball and stem
- Special ball seat and O-ring materials available for lower/higher temperatures and more aggressive media
- Additional assembling threads / holes (see page F103)

- Electrical actuators available on request. Pease consult STAUFF for further information.

Order Codes

FBV	2	0	20	0	0	0	1	M	-	-
①	②	③	④	⑤	⑥	⑦	⑧	⑨	⑩	⑪

① Type

High-Pressure Forged Body Ball Valve	**FBV**

② Number of Ports

Two Ports (Two-Way Ball Valve)	**2**

③ Connection Style

Female NPT Thread (ANSI B1.20.1)	**0**
Female BSP Thread (DIN ISO 228)	**G**
Female UN/UNF Thread (SAE J 514)	**1**
Male O-Ring Face Seal Connection	**B**
24° Cone Connection (Light / Heavy Series)	**DN32**
24° Cone Connection (only Light Series)	**DN40**

Please consult STAUFF for alternative connection styles.

④ Connection Size

STAUFF Size (according to dimension table) for connection styles G, 0, 1 and B:

20	24	32

Tube Size (according to dimension table) for 24° Cone Connection (Light Series):	**35L**
Tube Size (according to dimension table) for 24° Cone Connection (Light Series):	**42L**
Tube Size (according to dimension table) for 24° Cone Connection (Heavy Series):	**38S**

Please consult STAUFF for alternative connection sizes.

⑤ Body Material / Surface Finishing

Carbon Steel, zinc/iron-plated	**0**
Stainless Steel V4A (AISI 316Ti)	**1**

Alternative materials / surface finishings are available upon request. Consult STAUFF for further information.

⑥ Ball / Stem Material

Ball: Carbon Steel, hard chrome-plated Stem: Carbon Steel	**0**
Ball / Stem: Stainless Steel V4A (AISI 316Ti)	**1**

Alternative materials / surface finishings are available upon request. Consult STAUFF for further information.

⑦ Ball Seat Material

Delrin® (POM)	**0**

Alternative materials are available upon request. Consult STAUFF for further information.

⑧ O-Ring Material

NBR (Buna-N®)	**0**
FPM (Viton®)	**1**

Alternative materials are available upon request. Consult STAUFF for further information.

⑨ Manufacturing Code

Manufacturing code for all connection styles	**M**

⑩ Lever Options

Supplied with standard lever (according to table)	**-**
Supplied without lever	**-0**

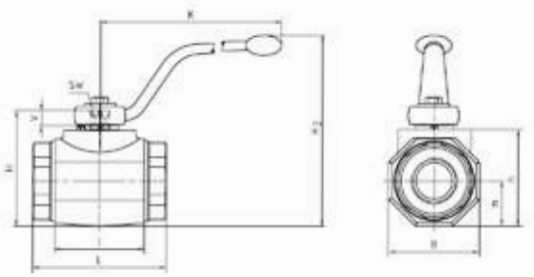
Alternative levers can be ordered separately. Please see page F98 for further information.

⑪ Accessories / Options

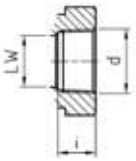
Supplied without accessories	**-**
Supplied with Locking Device LD1	**-LD1**
Supplied with Locking Device LD2	**-LD2**
Supplied with Locking Device LD3	**-LD3**
Supplied with Locking Device LD4	**-LD4**
Supplied with Locking Device LD6 (standard)	**-LD6**
Supplied with Double-Acting Pneumatic Actuator (Please add size **)	**-EDA****
Supplied with Single-Acting Pneumatic Actuator (Please add size **)	**-ESA****
Supplied with Limit Switch in open position	**-LS-O**
Supplied with Limit Switch in closed position	**-LS-C**
Supplied with Limit Switch in open and closed position	**-LS-OC**

Please see page F99 for further information.

High-Pressure Forged Body Ball Valve ▪ Type FBV
Female NPT Thread (ANSI B1.20.1)



Female NPT Thread (ANSI B1.20.1)



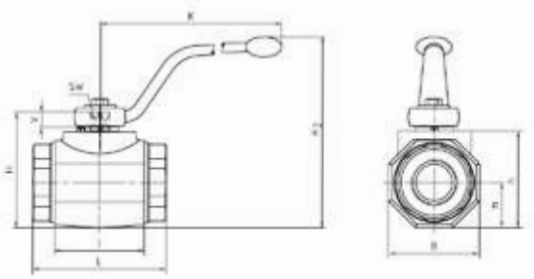
When ordering the standard option as indicated in the table below, the following materials will be supplied:

- Body, ball and stem: Carbon Steel
- Lever: Carbon Steel
- Ball seat: Delrin® (POM)
- O-rings: FPM (Viton®)

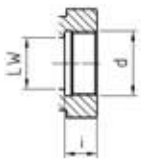
STAUFF Size	Thread Size d	Nominal Size DN	Dimensions (mm/in) LW	L	l	B	H	h	m	V	SW	K	i	H2	Nom. Pressure (bar/PSI)	Weight (kg/lbs)	Order Codes (Standard Option)
20	1-1/4–11-1/2 NPT	32	32	111	80	81	107	86	40,5	16,5	17	320	22	171	420	3,47	FBV20200001M
			1.26	4.37	3.15	3.19	4.21	3.39	1.59	.65	.67	12.60	.87	6.73	6000	7.63	
24	1-1/2–11-1/2 NPT	40	38	130	85	100	124	103	50	16,5	17	320	24	188	420	5,67	FBV20240001M
			1.50	5.12	3.35	3.94	4.88	4.06	1.97	.65	.67	12.60	.94	7.40	6000	12.47	
32	2–11-1/2 NPT	50	48	140	100	118	138	117	59	16,5	17	320	26	202	420	8,14	FBV20320001M
			1.89	5.51	3.94	4.65	2.43	4.61	2.32	.65	.67	12.60	1.02	7.96	6000	17.91	

Please note the pressure ratings of the tube connections.

High-Pressure Forged Body Ball Valve ▪ Type FBV
Female BSP Thread (DIN ISO 228)



Female BSP Thread (DIN ISO 228)



When ordering the standard option as indicated in the table below, the following materials will be supplied:

- Body, ball and stem: Carbon Steel
- Lever: Carbon Steel
- Ball seat: Delrin® (POM)
- O-rings: FPM (Viton®)

STAUFF Size	Thread Size d	Nominal Size DN	Dimensions (mm/in) LW	L	l	B	H	h	m	V	SW	K	i	H2	Nom. Pressure (bar/PSI)	Weight (kg/lbs)	Order Codes (Standard Option)
20	G 1-1/4 BSP	32	32	111	80	81	107	86	40,5	16,5	17	320	22	171	420	3,47	FBV2G200001M
			1.26	4.37	3.15	3.19	4.21	3.39	1.59	.65	.67	12.60	.87	6.73	6000	7.63	
24	G 1-1/2 BSP	40	38	130	85	100	124	103	50	16,5	17	320	24	188	420	5,67	FBV2G240001M
			1.50	5.12	3.35	3.94	4.88	4.06	1.97	.65	.67	12.60	.94	7.40	6000	12.47	
32	G 2 BSP	50	48	140	100	118	138	117	59	16,5	17	320	26	202	420	8,14	FBV2G320001M
			1.89	5.51	3.94	4.65	2.43	4.61	2.32	.65	.67	12.60	1.02	7.96	6000	17.91	

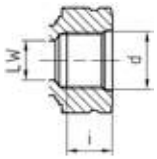
Please note the pressure ratings of the tube connections.

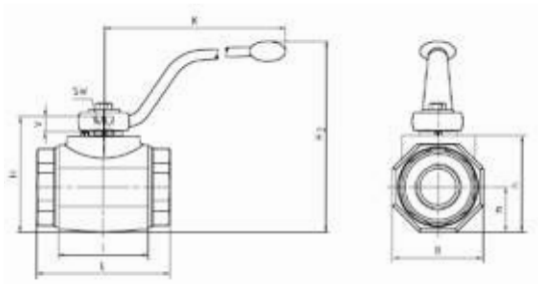
High-Pressure Forged Body Ball Valve ▪ Type FBV
Female UN/UNF Thread (SAE J 514)

When ordering the standard option as indicated in the table below, the following materials will be supplied:

- Body, ball and stem: Carbon Steel
- Lever: Carbon Steel
- Ball seat: Delrin® (POM)
- O-rings: FPM (Viton®)

Female UN/UNF Thread (SAE J 514)





STAUFF Size	Thread Size d	Nominal Size DN	Dimensions (mm/in) LW	L	l	B	H	h	m	V	SW	K	i	H2	Nom. Pressure (bar/PSI)	Weight (kg/lbs)	Order Codes (Standard Option)
20	1-5/8–12 UN (1-1/4" SAE)	32	30	111	80	81	107	86	40,5	16,5	17	320	20	171	420	3,52	FBV21200001M
			1.18	4.37	3.15	3.19	4.21	3.39	1.59	.65	.67	12.60	.79	6.73	6000	7.75	
24	1-7/8–12 UN (1-1/2" SAE)	40	38	130	85	100	124	103	50	16,5	17	320	20	188	420	5,69	FBV21240001M
			1.50	5.12	3.35	3.94	4.88	4.06	1.97	.65	.67	12.60	.79	7.40	6000	12.52	
32	2-1/2–12 UN (2" SAE)	50	45	140	100	118	138	117	59	16,5	17	320	20	202	420	8,14	FBV21320001M
			1.79	5.51	3.94	4.65	2.43	4.61	2.32	.65	.67	12.60	.79	7.96	6000	17.91	

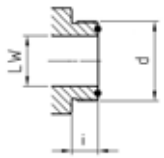
Please note the pressure ratings of the tube connections.

High-Pressure Forged Body Ball Valve ▪ Type FBV
O-Ring Face Seal Connection ▪ Male Thread (ISO 8434-3)

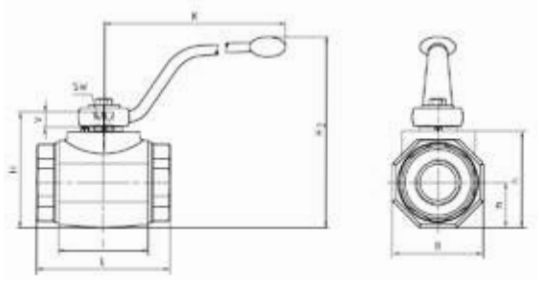
When ordering the standard option as indicated in the table below, the following materials will be supplied:

- Body, ball and stem: Carbon Steel
- Lever: Carbon Steel
- Ball seat: Delrin® (POM)
- O-rings: FPM (Viton®)

ORFS Connection (ISO 8434-3)



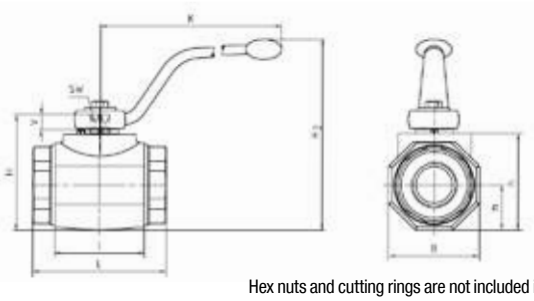
O-ring included in delivery.



STAUFF Size	Thread Size d	Nominal Size DN	Dimensions (mm/in) LW	L	l	B	H	h	m	V	SW	K	i	H2	O-ring	Nom. Pressure (bar/PSI)	Weight (kg/lbs)	Order Codes (Standard Option)
20	2–12 UN	32	32	139	80	81	107	86	40,5	16,5	17	320	17,5	171	37,82 x 1,78	320	3,52	FBV2B200001M
			1.26	5.47	3.15	3.19	4.21	3.39	1.59	.65	.67	12.60	.69	6.73		4640	7.75	

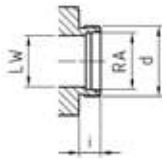
Please note the pressure ratings of the tube connections.

High-Pressure Forged Body Ball Valve ▪ Type FBV
24° Cone Connection ▪ Light Series (DIN 2353 / ISO 8434-1)



Hex nuts and cutting rings are not included in delivery.

24° Cone Connection (DIN 2353 / ISO 8434-1)



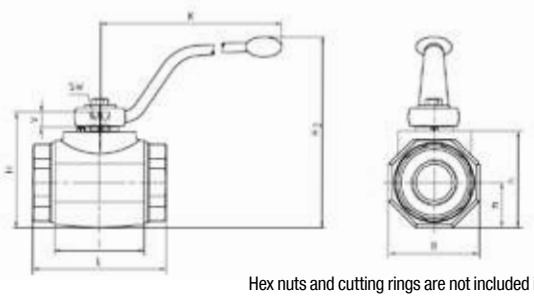
When ordering the standard option as indicated in the table below, the following materials will be supplied:

- Body, ball and stem: Carbon Steel
- Lever: Carbon Steel
- Ball seat: Delrin® (POM)
- O-rings: FPM (Viton®)

STAUFF Size	Tube/Thread Size d	Nominal Size DN	Dimensions (mm/in) RA	LW	L	l	B	H	h	m	V	SW	K	i	H2	Nom. Pressure (bar/PSI)	Weight (kg/lbs)	Order Codes (Standard Option)
20	35L / M45 x 2	32	35	32	136	80	81	107	86	40,5	16,5	17	320	16	171	420	3,58	FBV2DN3235L0001M
			1.38	1.26	5.35	3.15	3.19	4.21	3.39	1.59	.65	.67	12.60	.63	6.73	6000	7.88	
24	42L / M52 x 2	40	42	38	147	85	100	124	103	50	16,5	17	320	16	188	420	5,54	FBV2DN4042L0001M
			1.65	1.50	5.79	3.35	3.94	4.88	4.06	1.97	.65	.67	12.60	.63	7.40	6000	12.19	

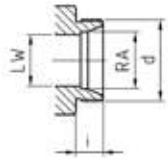
Please note the pressure ratings of the tube connections.

High-Pressure Forged Body Ball Valve ▪ Type FBV
24° Cone Connection ▪ Heavy Series (DIN 2353 / ISO 8434-1)



Hex nuts and cutting rings are not included in delivery.

24° Cone Connection (DIN 2353 / ISO 8434-1)



When ordering the standard option as indicated in the table below, the following materials will be supplied:

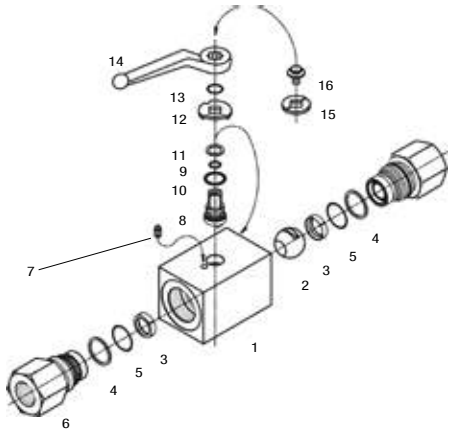
- Body, ball and stem: Carbon Steel
- Lever: Carbon Steel
- Ball seat: Delrin® (POM)
- O-rings: FPM (Viton®)

STAUFF Size	Tube/Thread Size d	Nominal Size DN	Dimensions (mm/in) RA	LW	L	l	B	H	h	m	V	SW	K	i	H2	Nom. Pressure (bar/PSI)	Weight (kg/lbs)	Order Codes (Standard Option)
20	38S / M52 x 2	32	38	32	148	80	81	107	86	40,5	16,5	17	320	22	171	420	3,77	FBV2DN3238S0001M
			1.50	1.26	5.83	3.15	3.19	4.21	3.39	1.59	.65	.67	12.60	.87	6.73	6000	8,29	

Please note the pressure ratings of the tube connections.

High-Pressure 800 bar / 12000 PSI Block Body Ball Valve ▪ Type HBV





List of Components

No.	Qty.	Description
1	1	Body
2	1	Ball
3*	2	Seat
4*	2	Connector O-Ring
5*	2	Pipe Back-up Ring
6	2	Connector
7	1	Stop Pin
8	1	Stem
9*	1	Thrust Ring
10*	1	Stem O-Ring
11*	1	Pipe Back-up
12	1	Cam Plate
13	1	Snap Ring
14	1	Handle
15	1	Flow Indicator
16	1	Stem Screw

* Included in seal kit

Characteristics

Two-way high-pressure block body ball valves designed for use as on/off devices for hydraulic applications (for pressures up to 800 bar / 12000 PSI)

Standard Construction
- Block body design for in-line assembly
- Supplied with lever

Standard Materials
- Body: Carbon Steel, zinc/iron-plated
- Ball: Carbon Steel, hard chrome-plated
- Stem: Carbon Steel
- Lever: Carbon Steel
- Ball seat: Delrin® (POM)
- O-rings: FPM (Viton®)

Standard Connections Styles / Sizes
- Female NPT thread (ANSI B1.20.1) >1–11-1/2 NPT

Pressure Range
- Pressure range: up to 800 bar / 12000 PSI (depending on size and material combination of the ball valve)

Temperature Range
- Operating temperature range: -20 °C ... +100 °C / -4 °F ... + 212 °F

Options / Accessories
- Alternative lever designs/materials (see page F98)
- Locking devices (see pages F99-F101)
- Pneumatic actuator packages (see page F102)
- Limit switches (see page F102)
- Stainless Steel body
- Stainless Steel ball and stem
- Special ball seat and O-ring materials available for lower/higher temperatures and more aggressive media
- Additional assembling threads (see page F103)

- Electrical actuators available on request. Pease consult STAUFF for further information.

Order Codes

HBV	2	0	16	0	0	0	1	M	-	-
①	②	③	④	⑤	⑥	⑦	⑧	⑨	⑩	⑪

① Type

High-Pressure Block Body Ball Valve	**HBV**

② Number of Ports

Two Ports (Two-Way Ball Valve)	**2**

③ Connection Style

Female NPT Thread (ANSI B1.20.1)	**0**

Please consult STAUFF for alternative connection styles.

④ Connection Size

STAUFF Size (according to dimension table) for connection styles G, 0, 1 and B:

04	06	08	12	16

Please consult STAUFF for alternative connection sizes.

⑤ Body Material / Surface Finishing

Carbon Steel, zinc/iron-plated	**0**
Stainless Steel V4A (AISI 316Ti)	**1**

Alternative materials / surface finishings are available upon request. Consult STAUFF for further information.

⑥ Ball / Stem Material

Ball: Carbon Steel, hard chrome-plated Stem: Carbon Steel	**0**
Ball / Stem: Stainless Steel V4A (AISI 316Ti)	**1**

Alternative materials / surface finishings are available upon request. Consult STAUFF for further information.

⑦ Ball Seat Material

Delrin® (POM)	**0**

Alternative materials are available upon request. Consult STAUFF for further information.

⑧ O-Ring Material

NBR (Buna-N®)	**0**
FPM (Viton®)	**1**

Alternative materials are available upon request. Consult STAUFF for further information.

⑨ Manufacturing Code

Manufacturing code for all connection styles	**M**

⑩ Lever Options

Supplied with standard lever (according to table)	**-**
Supplied without lever	**-0**

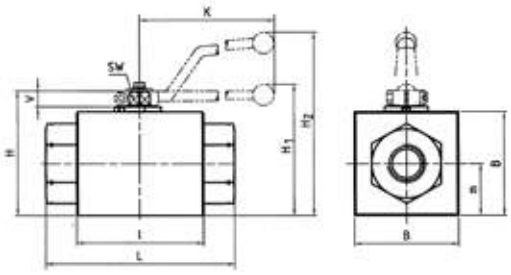
Alternative levers can be ordered separately. Please see page F98 for further information.

⑪ Accessories / Options

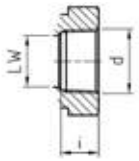
Supplied without accessories	**-**
Supplied with Locking Device LD1	**-LD1**
Supplied with Locking Device LD4 (standard)	**-LD4**
Supplied with Double-Acting Pneumatic Actuator (Please add size **)	**-EDA****
Supplied with Single-Acting Pneumatic Actuator (Please add size **)	**-ESA****
Supplied with Limit Switch in open position	**-LS-O**
Supplied with Limit Switch in closed position	**-LS-C**
Supplied with Limit Switch in open and closed position	**-LS-OC**

Please see page F99 for further information.

High-Pressure 800 bar / 12000 PSI Block Body Ball Valve ▪ Type HBV
Female NPT Thread (ANSI B1.20.1)



Female NPT Thread (ANSI B1.20.1)



When ordering the standard option as indicated in the table below, the following materials will be supplied:

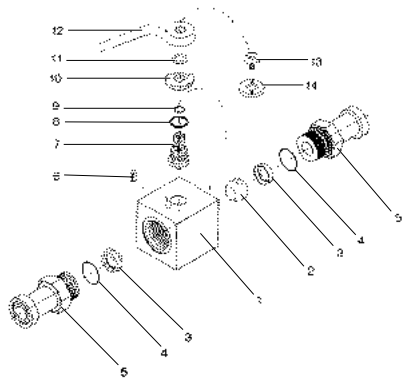
- Body, ball and stem: Carbon Steel
- Lever: Zinc
- Ball seat: Delrin® (POM)
- O-rings: FPM (Viton®)

STAUFF Size	Thread Size d	Nominal Size DN	Dimensions (mm/in) LW	L	l	B	H	m	V	SW	K	i	H1	H2	Nom. Pressure (bar/PSI)	Weight (kg/lbs)	Order Codes (Standard Option)
04	1/4–18 NPT	6	6	130	76	50	64	25	11	9	115	13,7		99	800	1,92	HBV20040001M
			.39	8.44	4.94	3.25	4.16	1.62	.71	.58	7.47	0.89		6.43	12000	4.22	
06	3/8–18 NPT	10	13	130	76	50	64	25	11	9	115	13,5		99	800	1,85	HBV20060001M
			.84	8.44	4.94	3.25	4.16	1.62	.71	.58	7.47	0.88		6.43	12000	4.07	
08	1/2–14 NPT	13	13	130	76	50	64	25	11	9	115	17		99	800	1,79	HBV20080001M
			.84	8.44	4.94	3.25	4.16	1.62	.71	.58	7.47	1.10		6.43	12000	3.93	
12	3/4–14 NPT	20	20	161	111	90	108	45	14	14	200	18,3	112		800	7,83	HBV20120001M
			1.30	10.45	7.21	5.84	7.01	2.92	.91	.91	12.99	1.19	7.27		12000	17.23	
16	1–11-1/2 NPT	25	25	164	111	90	108	45	14	14	200	21,6	112		800	7,68	HBV20160001M
			1.62	10.65	7.21	5.84	7.01	2.92	.91	.91	12.99	1.40	7.27		12000	16.90	

Please note the pressure ratings of the tube connections.

High-Pressure Block Body Ball Valve ▪ Type BBV22/23





List of Components

No.	Qty.	Description
1	1	Housing
2	1	Ball
3*	2	Seat
4*	2	Connector O-Ring
5	2	Connector
6	1	Stop Pin
7	1	Stem
8*	1	Thrust Ring
9*	1	Stem O-Ring
10	1	Cam Plate
11	1	Snap Ring
12	1	Handle
13	1	Stem Screw
14	1	Flow Indicator

* Included in seal kit

Characteristics

Two-way high-pressure block body ball valves designed for use as on/off devices for hydraulic applications

Standard Construction
- Block body design for in-line assembly
- Supplied with lever

Standard Materials
- Body: Carbon Steel, zinc/iron-plated
- Ball: Carbon Steel, hard chrome-plated
- Stem: Carbon Steel
- Lever: Zinc
- Ball seat: Delrin® (POM)
- O-rings: FPM (Viton®)

Standard Connections Styles / Sizes
- 3000 PSI (code 61) SAE split flange connectors
- 6000 PSI (code 62) SAE split flange connectors
- Standard and extended adapter lengths

Pressure Range
- Pressure range: up to 420 bar / 6000 PSI (depending on size and material combination of the ball valve)

Please note: The final maximum working pressure is determined by flange and pipe/tubing rating.

Temperature Range
- Operating temperature range: -20 °C ... +100 °C / -4 °F ... + 212 °F

Options / Accessories
- Flanges and flange kits (see Flanges section)
- Alternative lever designs/materials (see page F98)
- Locking devices (see pages F99-F101)
- Pneumatic actuator packages (see page F102)
- Limit switches (see page F102)
- Stainless Steel body
- Stainless Steel ball and stem
- Special ball seat and O-ring materials available for lower/higher temperatures and more aggressive media
- Additional assembling threads / holes (see page F103)

- Electrical actuators available on request. Pease consult STAUFF for further information.

Order Codes

BBV	2	2	16	0	0	0	1	M	-	-
①	②	③	④	⑤	⑥	⑦	⑧	⑨	⑩	⑪

① Type

High-Pressure Block Body Ball Valve	**BBV**

② Number of Ports

Two Ports (Two-Way Ball Valve)	**2**

③ Connection Style

3000 PSI (Code 61) SAE Split Flange Connectors (Standard Adaptor Length)	**2**
3000 PSI (Code 61) SAE Split Flange Connectors (Extended Adaptor Length)	**2X**
6000 PSI (code 62) SAE Split Flange Connectors (Standard Adaptor Length)	**3**
6000 PSI (code 62) SAE Split Flange Connectors (Extended Adaptor Length)	**3X**

Please consult STAUFF for alternative connection styles.

④ Connection Size

STAUFF Size (according to dimension table)		
08	**12**	**16**

Please consult STAUFF for alternative connection sizes.

⑤ Body Material / Surface Finishing

Carbon Steel, zinc/iron-plated	**0**
Stainless Steel V4A (AISI 316Ti)	**1**

Alternative materials / surface finishings are available upon request. Consult STAUFF for further information.

⑥ Ball / Stem Material

Ball: Carbon Steel, hard chrome-plated Stem: Carbon Steel	**0**
Ball / Stem: Stainless Steel V4A (AISI 316Ti)	**1**

Alternative materials / surface finishings are available upon request. Consult STAUFF for further information.

⑦ Ball Seat Material

Delrin® (POM)	**0**

Alternative materials are available upon request. Consult STAUFF for further information.

⑧ O-Ring Material

NBR (Buna-N®)	**0**
FPM (Viton®)	**1**

Alternative materials are available upon request. Consult STAUFF for further information.

⑨ Manufacturing Code

Manufacturing code for all connection styles	**M**
Manufacturing code for high-pressure version of 6000 PSI Series (STAUFF Size 16)	**H**

⑩ Lever Options

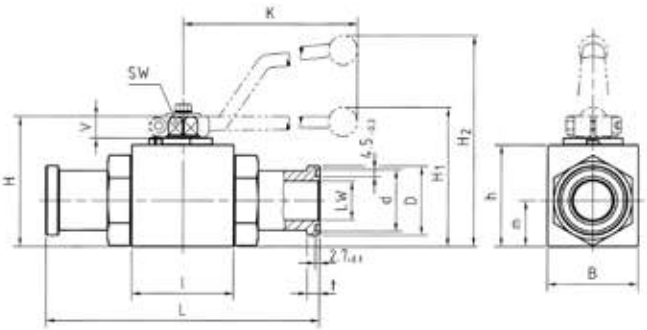
Supplied with standard lever (according to table)	**-**
Supplied without lever	**-0**

Alternative levers can be ordered separately. Please see page F98 for further information.

⑪ Accessories / Options

Supplied without accessories	**-**
Supplied with Locking Device LD1	**-LD1**
Supplied with Locking Device LD2	**-LD2**
Supplied with Locking Device LD3 (standard*[1])	**-LD3**
Supplied with Locking Device LD4	**-LD4**
Supplied with Double-Acting Pneumatic Actuator (Please add size **)	**-EDA****
Supplied with Single-Acting Pneumatic Actuator (Please add size **)	**-ESA****
Supplied with Limit Switch in open position	**-LS-O**
Supplied with Limit Switch in closed position	**-LS-C**
Supplied with Limit Switch in open and closed position	**-LS-OC**

*[1] LD4 is the standard locking device option for the high-pressure version (manufacuring code H). Please see page F99 for further information.



High-Pressure Block Body Ball Valve ▪ Type BBV22/23
3000 PSI SAE Split Flange Connection (ISO 6162-1)

When ordering the standard option as indicated in the table below, the following materials will be supplied:

- Body, ball and stem: Carbon Steel
- Lever: Zinc
- Ball seat: Delrin® (POM)
- O-rings: FPM (Viton®)

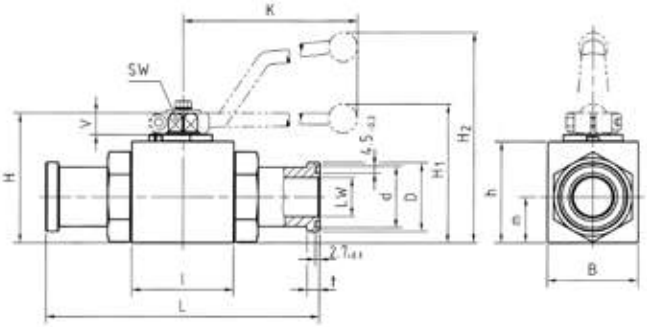
3000 PSI Series (Code 61) ▪ Standard Adaptor Length

STAUFF Size	SAE Flange Size	Nominal Size DN	Dimensions (mm/in) LW	L	l	B	H	h	m	V	SW	K	d¹	D²	t³	H1	H2	Nom. Pressure (bar/PSI)	Weight (kg/lbs)	Order Codes (Standard Option)
08	1/2	13	13	151	48	35	54	40	19	11	9	115	25,5	30,2	6,8		89	345	0,85	BBV22080001M
			.51	5.94	1.89	1.38	2.13	1.57	.75	.43	.35	4.53	1.00	1.19	.27		3.50	5000	1.87	
12	3/4	20	19	162	62	49	75	57	24,5	14	14	200	31,9	38,1	6,8	79		345	1,87	BBV22120001M
			.75	6.38	2.44	1.93	2.95	2.24	.96	.55	.55	7.87	1.26	1.50	.27	3.11		5000	4.11	
16	1	25	25	178	66	58	83	65	29,5	14	14	200	39,8	44,4	8,1	87		345	2,70	BBV22160001M
			.98	7.01	2.60	2.28	3.27	2.56	1.16	.55	.55	7.87	1.57	1.75	.32	3.43		5000	5.94	

3000 PSI Series (Code 61) ▪ Extended Adaptor Length

STAUFF Size	SAE Flange Size	Nominal Size DN	Dimensions (mm/in) LW	L	l	B	H	h	m	V	SW	K	d¹	D²	t³	H1	H2	Nom. Pressure (bar/PSI)	Weight (kg/lbs)	Order Codes (Standard Option)
08	1/2	13	13	170	48	35	54	40	19	11	9	115	25,5	30,2	6,8		89	345	0,89	BBV22X080001M
			.51	6.69	1.89	1.38	2.13	1.57	.75	.43	.35	4.53	1.00	1.19	.27		3.50	5000	1.96	
12	3/4	20	19	200	62	49	75	57	24,5	14	14	200	31,9	38,1	6,8	79		345	2,00	BBV22X120001M
			.75	7.87	2.44	1.93	2.95	2.24	.96	.55	.55	7.87	1.26	1.50	.27	3.11		5000	4.40	
16	1	25	25	215	66	58	83	65	29,5	14	14	200	39,8	44,4	8,1	87		345	2,85	BBV22X160001M
			.98	8.46	2.60	2.28	3.27	2.56	1.16	.55	.55	7.87	1.57	1.75	.32	3.43		5000	6.27	

Please note: The final maximum working pressure is determined by flange and pipe/tubing rating.



High-Pressure Block Body Ball Valve ▪ Type BBV22/23
6000 PSI SAE Split Flange Connection (ISO 6162-2)

When ordering the standard option as indicated in the table below, the following materials will be supplied:

- Body, ball and stem: Carbon Steel
- Lever: Zinc
- Ball seat: Delrin® (POM)
- O-rings: FPM (Viton®)

6000 PSI Series (Code 62) ▪ Standard Adaptor Length

STAUFF Size	SAE Flange Size	Nominal Size DN	Dimensions (mm/in) LW	L	l	B	H	h	m	V	SW	K	d¹	D²	t³	H1	H2	Nom. Pressure (bar/PSI)	Weight (kg/lbs)	Order Codes (Standard Option)
08	1/2	13	13	151	48	35	54	40	19	11	9	115	25,5	31,8	7,9		89	420	0,90	BBV23080001M
			.51	5.94	1.89	1.38	2.13	1.57	.75	.43	.35	4.53	1.00	1.25	.33		3.50	6000	1.98	
12	3/4	20	19	174	62	49	75	57	24,5	14	14	200	31,9	41,3	8,9	79		420	1,95	BBV23120001M
			.75	6.85	2.44	1.93	2.95	2.24	.96	.55	.55	7.87	1.26	1.63	.38	3.11		6000	4.29	
16	1	25	25	198	66	58	83	65	29,5	14	14	200	39,8	47,6	9,6	87		315	3,00	BBV23160001M
			.98	7.80	2.60	2.28	3.27	2.56	1.16	.55	.55	7.87	1.7	1.87	3.78	3.43		4500	6.60	
16	1	25	25	206	74	70	88	70	34,5	14	14	200	39,8	47,6	6,9	92		420	3,00	BBV23160001H
			.98	8.11	2.91	2.76	3.46	2.76	1.36	.55	.55	7.87	1.7	1.87	3.78	3.43		6000	6.60	

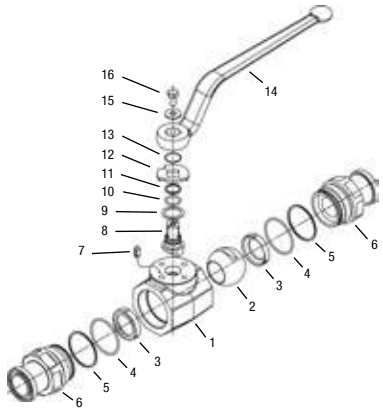
6000 PSI Series (Code 62) ▪ Extended Adaptor Length

STAUFF Size	SAE Flange Size	Nominal Size DN	Dimensions (mm/in) LW	L	l	B	H	h	m	V	SW	K	d¹	D²	t³	H1	H2	Nom. Pressure (bar/PSI)	Weight (kg/lbs)	Order Codes (Standard Option)
08	1/2	13	13	180	48	35	54	40	19	11	9	115	25,5	31,8	7,9		89	420	1,00	BBV23X080001M
			.51	7.09	1.89	1.38	2.13	1.57	.75	.43	.35	4.53	1.00	1.25	.33		3.50	6000	2.20	
12	3/4	20	19	200	62	49	75	57	24,5	14	14	200	31,9	41,3	8,9	79		420	2,10	BBV23X120001M
			.75	7.87	2.44	1.93	2.95	2.24	.96	.55	.55	7.87	1.26	1.63	.38	3.11		6000	4.62	
16	1	25	25	250	66	58	83	65	29,5	14	14	200	39,8	47,6	9,6	87		315	3,15	BBV23X160001M
			.98	9.84	2.60	2.28	3.27	2.56	1.16	.55	.55	7.87	1.7	1.87	3.78	3.43		4500	6.93	
16	1	25	25	250	74	70	88	70	34,5	14	14	200	39,8	47,6	6,9	92		420	3,15	BBV23X160001H
			.98	9.84	2.91	2.76	3.46	2.76	1.36	.55	.55	7.87	1.7	1.87	3.78	3.43		6000	6.93	

Please note: The final maximum working pressure is determined by flange and pipe/tubing rating.

High-Pressure Forged Body Ball Valve ▪ Type FBV22/23





List of Components

No.	Qty.	Description
1	1	Body
2	1	Ball
3*	2	Seat
4*	2	Connector O-Ring
5*	2	Connector Back-Up Ring
6	2	Connector
7	1	Stop Pin
8	1	Stem
9*	1	Thrust Ring
10*	1	Stem O-Ring
11*	1	Stem Back-Up Ring
12	1	Cam Plate
13	1	Snap Ring
14	1	Handle
15	1	Washer
16	1	Stem Bolt

* Included in seal kit

Characteristics

Two-way high-pressure forged body ball valves designed for use as on/off devices for hydraulic applications

Standard Construction
- Forged body design for in-line assembly
- Supplied with straight lever

Standard Materials
- Body: Carbon Steel, zinc/iron-plated
- Ball: Carbon Steel, hard chrome-plated
- Stem: Carbon Steel
- Lever: Carbon Steel
- Ball seat: Delrin® (POM)
- O-rings: FPM (Viton®)

Standard Connections Styles / Sizes
- 3000 PSI (code 61) SAE split flange connectors
- 6000 PSI (code 62) SAE split flange connectors
- Standard and extended adapter lengths

Pressure Range
- Pressure range: up to 420 bar / 6000 PSI (depending on size and material combination of the ball valve)

Please note: The final maximum working pressure is determined by flange and pipe/tubing rating.

Temperature Range
- Operating temperature range: -20 °C ... +100 °C / -4 °F ... + 212 °F

Options / Accessories
- Flanges and flange kits (see Flanges section)
- Alternative lever designs/materials (see page F98)
- Locking devices (see pages F99-F101)
- Pneumatic actuator packages (see page F102)
- Limit switches (see page F102)
- Stainless Steel body
- Stainless Steel ball and stem
- Special ball seat and O-ring materials available for lower/higher temperatures and more aggressive media
- Additional assembling threads (see page F103)

- Electrical actuators available on request. Pease consult STAUFF for further information.

Order Codes

FBV	2	2	20	0	0	0	1	M	-	-
①	②	③	④	⑤	⑥	⑦	⑧	⑨	⑩	⑪

① Type

High-Pressure Forged Body Ball Valve	**FBV**

② Number of Ports

Two Ports (Two-Way Ball Valve)	**2**

③ Connection Style

3000 PSI (Code 61) SAE Split Flange Connectors (Standard Adaptor Length)	**2**
3000 PSI (Code 61) SAE Split Flange Connectors (Extended Adaptor Length)	**2X**
6000 PSI (code 62) SAE Split Flange Connectors (Standard Adaptor Length)	**3**
6000 PSI (code 62) SAE Split Flange Connectors (Extended Adaptor Length)	**3X**

Please consult STAUFF for alternative connection styles.

④ Connection Size

STAUFF Size (according to dimension table)		
20	**24**	**32**

Please consult STAUFF for alternative connection sizes.

⑤ Body Material / Surface Finishing

Carbon Steel, zinc/iron-plated	**0**
Stainless Steel V4A (AISI 316Ti)	**1**

Alternative materials / surface finishings are available upon request. Consult STAUFF for further information.

⑥ Ball / Stem Material

Ball: Carbon Steel, hard chrome-plated Stem: Carbon Steel	**0**
Ball / Stem: Stainless Steel V4A (AISI 316Ti)	**1**

Alternative materials / surface finishings are available upon request. Consult STAUFF for further information.

⑦ Ball Seat Material

Delrin® (POM)	**0**

Alternative materials are available upon request. Consult STAUFF for further information.

⑧ O-Ring Material

NBR (Buna-N®)	**0**
FPM (Viton®)	**1**

Alternative materials are available upon request. Consult STAUFF for further information.

⑨ Manufacturing Code

Manufacturing code for all connection styles	**M**

⑩ Lever Options

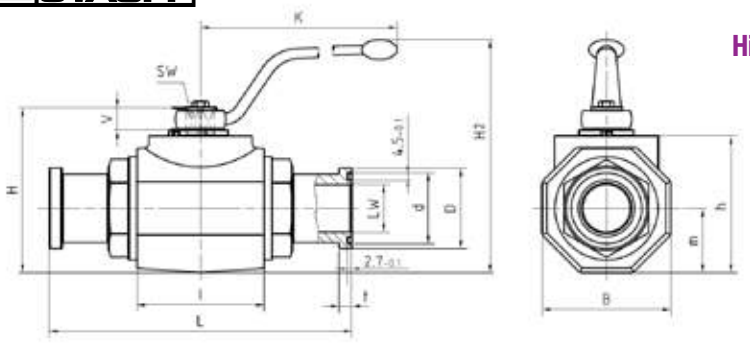
Supplied with standard lever (according to table)	**-**
Supplied without lever	**-0**

Alternative levers can be ordered separately. Please see page F98 for further information.

⑪ Accessories / Options

Supplied without accessories	**-**
Supplied with Locking Device LD1	**-LD1**
Supplied with Locking Device LD2	**-LD2**
Supplied with Locking Device LD6 (standard)	**-LD6**
Supplied with Double-Acting Pneumatic Actuator (Please add size **)	**-EDA****
Supplied with Single-Acting Pneumatic Actuator (Please add size **)	**-ESA****
Supplied with Limit Switch in open position	**-LS-O**
Supplied with Limit Switch in closed position	**-LS-C**
Supplied with Limit Switch in open and closed position	**-LS-OC**

Please see page F99 for further information.



High-Pressure Forged Body Ball Valve ▪ Type FBV22/23
3000 PSI SAE Split Flange Connection (ISO 6162-1)

When ordering the standard option as indicated in the table below, the following materials will be supplied:

- Body, ball and stem: Carbon Steel
- Lever: Carbon Steel
- Ball seat: Delrin® (POM)
- O-rings: FPM (Viton®)

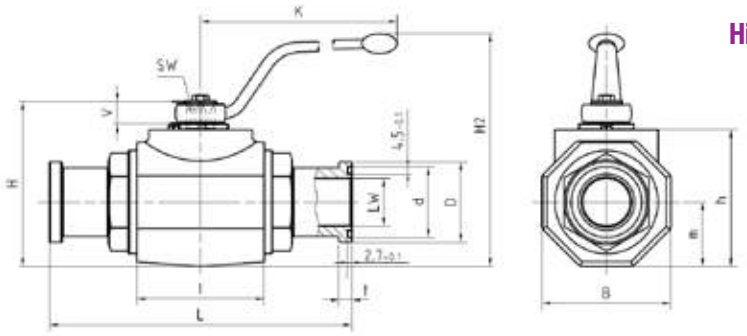
3000 PSI Series (Code 61) ▪ Standard Adaptor Length

STAUFF Size	SAE Flange Size	Nominal Size DN	Dimensions (mm/in) LW	L	l	B	H	h	m	V	SW	K	d¹	D²	t³	Nom. Pressure (bar/PSI)	Weight (kg/lbs)	Order Codes (Standard Option)
20	1-1/4	32	30	191	80	81	107	86	40,5	16,5	17	320	44,6	50,8	8,1	210	4,22	FBV22200001M
			1.18	7.52	3.15	3.19	4.21	3.39	1.59	.65	.67	12.60	1.76	2.00	.32	3000	9.28	
24	1-1/2	40	38	231	85	100	124	103	50	16,5	17	320	54,1	60,3	8,1	210	6,54	FBV22240001M
			1.50	9.09	3.35	3.94	4.88	4.06	1.97	.65	.67	12.60	2.13	2.37	.32	3000	14.39	
32	2	50	48	232	100	118	138	117	59	16,5	17	320	63,6	71,4	9,6	210	9,29	FBV22320001M
			1.89	9.13	3.94	4.65	5.43	4.61	2.32	.65	.67	12.60	2.50	2.81	.38	3000	20.44	

3000 PSI Series (Code 61) ▪ Extended Adaptor Length

STAUFF Size	SAE Flange Size	Nominal Size DN	Dimensions (mm/in) LW	L	l	B	H	h	m	V	SW	K	d¹	D²	t³	Nom. Pressure (bar/PSI)	Weight (kg/lbs)	Order Codes (Standard Option)
20	1-1/4	32	30	275	80	81	107	86	40,5	16,5	17	320	44,6	50,8	8,1	210	5,15	FBV22X200001M
			1.18	10.83	3.15	3.19	4.21	3.39	1.59	.65	.67	12.60	1.76	2.00	.32	3000	11.33	
24	1-1/2	40	38	320	85	100	124	103	50	16,5	17	320	54,1	60,3	8,1	210	7,20	FBV22X240001M
			1.50	12.60	3.35	3.94	4.88	4.06	1.97	.65	.67	12.60	2.13	2.37	.32	3000	15.84	
32	2	50	48	323	100	118	138	117	59	16,5	17	320	63,6	71,4	9,6	210	11,50	FBV22X320001M
			1.89	12.72	3.94	4.65	5.43	4.61	2.32	.65	.67	12.60	2.50	2.81	.38	3000	25.30	

Please note: The final maximum working pressure is determined by flange and pipe/tubing rating.



High-Pressure Forged Body Ball Valve ▪ Type FBV22/23
6000 PSI SAE Split Flange Connection (ISO 6162-2)

When ordering the standard option as indicated in the table below, the following materials will be supplied:

- Body, ball and stem: Carbon Steel
- Lever: Carbon Steel
- Ball seat: Delrin® (POM)
- O-rings: FPM (Viton®)

6000 PSI Series (Code 62) ▪ Standard Adaptor Length

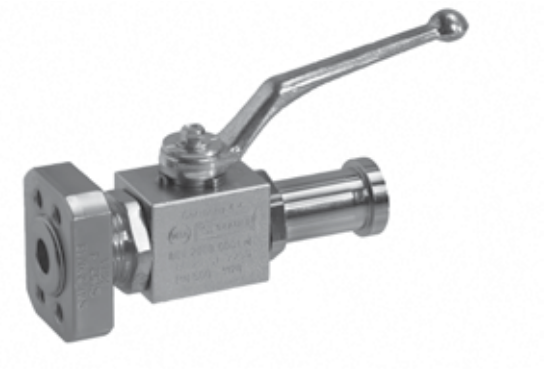
STAUFF Size	SAE Flange Size	Nominal Size DN	Dimensions (mm/in) LW	L	l	B	H	h	m	V	SW	K	d¹	D²	t³	Nom. Pressure (bar/PSI)	Weight (kg/lbs)	Order Codes (Standard Option)
20	1-1/4	32	30	223	80	81	107	86	40,5	16,5	17	320	44,6	54	10,4	420	4,72	FBV23200001M
			1.18	8.78	3.15	3.19	4.21	3.39	1.59	.65	.67	12.60	1.76	2.13	.41	6000	10.38	
24	1-1/2	40	38	281	85	100	124	103	50	16,5	17	320	54,1	63,5	12,7	420	7,49	FBV23240001M
			1.50	11.06	3.35	3.94	4.88	4.06	1.97	.65	.67	12.60	2.13	2.50	.50	6000	16.48	
32	2	50	48	316	100	118	138	117	59	16,5	17	320	63,6	79,4	12,7	420	11,39	FBV23320001M
			1.89	12.44	3.94	4.65	5.43	4.61	2.32	.65	.67	12.60	2.50	3.13	.50	6000	25.06	

6000 PSI Series (Code 62) ▪ Extended Adaptor Length

STAUFF Size	SAE Flange Size	Nominal Size DN	Dimensions (mm/in) LW	L	l	B	H	h	m	V	SW	K	d¹	D²	t³	Nom. Pressure (bar/PSI)	Weight (kg/lbs)	Order Codes (Standard Option)
20	1-1/4	32	30	322	80	81	107	86	40,5	16,5	17	320	44,6	54	10,4	420	5,55	FBV23X200001M
			1.18	12.68	3.15	3.19	4.21	3.39	1.59	.65	.67	12.60	1.76	2.13	.41	6000	12.21	
24	1-1/2	40	38	380	85	100	124	103	50	16,5	17	320	54,1	63,5	12,7	420	7,65	FBV23X240001M
			1.50	14.96	3.35	3.94	4.88	4.06	1.97	.65	.67	12.60	2.13	2.50	.50	6000	16.83	
32	2	50	48	385	100	118	138	117	59	16,5	17	320	63,6	79,4	12,7	420	12,00	FBV23X320001M
			1.89	15.16	3.94	4.65	5.43	4.61	2.32	.65	.67	12.60	2.50	3.13	.50	6000	26.40	

Please note: The final maximum working pressure is determined by flange and pipe/tubing rating.

High-Pressure Block Body Ball Valve ▪ Type BBV2H/2T



Characteristics

Two-way high-pressure block body ball valves designed for use as on/off devices for hydraulic applications

Standard Construction
- Block body design for in-line assembly
- Supplied with lever

Standard Materials
- Body: Carbon Steel, zinc/iron-plated
- Ball: Carbon Steel, hard chrome-plated
- Stem: Carbon Steel
- Lever: Zinc
- Ball seat: Delrin® (POM)
- O-rings: FPM (Viton®)

Standard Connections Styles / Sizes
- 3000 PSI (code 61) SAE split flange / SAE flange connection
- 6000 PSI (code 62) SAE split flange / SAE flange connection

Pressure Range
- Pressure range: up to 420 bar / 6000 PSI (depending on size and material combination of the ball valve)

Please note: The final maximum working pressure is determined by flange and pipe/tubing rating.

Temperature Range
- Operating temperature range: -20 °C ... +100 °C / -4 °F ... + 212 °F

Options / Accessories
- Flanges and flange kits (see Flanges section)
- Alternative lever designs/materials (see page F98)
- Locking devices (see pages F99-F101)
- Pneumatic actuator packages (see page F102)
- Limit switches (see page F102)
- Stainless Steel body
- Stainless Steel ball and stem
- Special ball seat and O-ring materials available for lower/higher temperatures and more aggressive media
- Additional assembling threads / holes (see page F103)

- Electrical actuators available on request. Pease consult STAUFF for further information.

Order Codes

BBV	2	H	16	0	0	0	1	M	-	-
①	②	③	④	⑤	⑥	⑦	⑧	⑨	⑩	⑪

① Type

High-Pressure Block Body Ball Valve	**BBV**

② Number of Ports

Two Ports (Two-Way Ball Valve)	**2**

③ Connection Style

3000 PSI (Code 61) SAE Split Flange / SAE Flange Connection	**H**
6000 PSI (Code 62) SAE Split Flange / SAE Flange Connection	**T**

Please consult STAUFF for alternative connection styles.

④ Connection Size

STAUFF Size (according to dimension table)		
08	**12**	**16**

Please consult STAUFF for alternative connection sizes.

⑤ Body Material / Surface Finishing

Carbon Steel, zinc/iron-plated	**0**
Stainless Steel V4A (AISI 316Ti)	**1**

Alternative materials / surface finishings are available upon request. Consult STAUFF for further information.

⑥ Ball / Stem Material

Ball: Carbon Steel, hard chrome-plated Stem: Carbon Steel	**0**
Ball / Stem: Stainless Steel V4A (AISI 316Ti)	**1**

Alternative materials / surface finishings are available upon request. Consult STAUFF for further information.

⑦ Ball Seat Material

Delrin® (POM)	**0**

Alternative materials are available upon request. Consult STAUFF for further information.

⑧ O-Ring Material

NBR (Buna-N®)	**0**
FPM (Viton®)	**1**

Alternative materials are available upon request. Consult STAUFF for further information.

⑨ Manufacturing Code

Manufacturing code for all connection styles	**M**
Manufacturing code for high-pressure version of 6000 PSI Series (STAUFF Size 16)	**H**

⑩ Lever Options

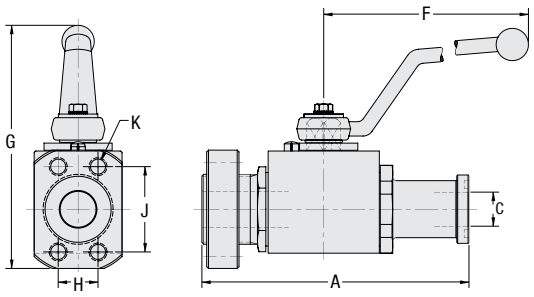
Supplied with standard lever (according to table)	**-**
Supplied without lever	**-0**

Alternative levers can be ordered separately. Please see page F98 for further information.

⑪ Accessories / Options

Supplied without accessories	**-**
Supplied with Locking Device LD1	**-LD1**
Supplied with Locking Device LD2	**-LD2**
Supplied with Locking Device LD3 (standard*[1])	**-LD3**
Supplied with Locking Device LD4	**-LD4**
Supplied with Double-Acting Pneumatic Actuator (Please add size **)	**-EDA****
Supplied with Single-Acting Pneumatic Actuator (Please add size **)	**-ESA****
Supplied with Limit Switch in open position	**-LS-O**
Supplied with Limit Switch in closed position	**-LS-C**
Supplied with Limit Switch in open and closed position	**-LS-OC**

*[1] LD4 is the standard locking device option for the high-pressure version (manufacuring code H). Please see page F99 for further information.



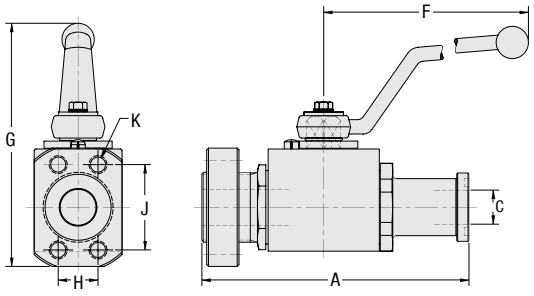
High-Pressure Block Body Ball Valve ▪ Type BBV2H/2T
3000 PSI SAE Split Flange / SAE Flange Connection (ISO 6162-1)

When ordering the standard option as indicated in the table below, the following materials will be supplied:

- Body, ball and stem: Carbon Steel
- Lever: Zinc
- Ball seat: Delrin® (POM)
- O-rings: FPM (Viton®)

3000 PSI Series (Code 61)

STAUFF Size	SAE Flange Size	Nominal Size DN	Dimensions (mm/in) A	C	F	G	H	J	K tap UN-2B	Nom. Pressure (bar/PSI)	Weight (kg/lbs)	Order Codes (Standard Option)
08	1/2	13	136	13	115	99	17,5	38,1	5/16–18	210	1,20	BBV2H080001M
			5.35	.51	4.53	3.90	.69	1.50		3000	2.60	
12	3/4	20	149	19	170	136	22,2	47,6	3/8–16	210	2,50	BBV2H120001M
			5.87	.75	6.69	5.35	.87	1.87		3000	5.50	
16	1	25	163	25	170	141	26,2	52,4	3/8–16	210	3,50	BBV2H160001M
			6.42	.98	6.69	5.55	1.03	2.06		3000	7.70	



High-Pressure Block Body Ball Valve ▪ Type BBV2H/2T
6000 PSI SAE Split Flange / SAE Flange Connection (ISO 6162-2)

When ordering the standard option as indicated in the table below, the following materials will be supplied:

- Body, ball and stem: Carbon Steel
- Lever: Zinc
- Ball seat: Delrin® (POM)
- O-rings: FPM (Viton®)

6000 PSI Series (Code 62)

STAUFF Size	SAE Flange Size	Nominal Size DN	Dimensions (mm/in) A	C	F	G	H	J	K tap UN-2B	Nom. Pressure (bar/PSI)	Weight (kg/lbs)	Order Codes (Standard Option)
08	1/2	13	136	13	115	99	18,2	40,5	5/16–18	420	1,20	BBV2T080001M
			5.35	.51	4.53	3.90	.72	1.59		6000	2.60	
12	3/4	20	155	19	170	138	23,8	50,8	3/8–16	420	2,50	BBV2T120001M
			6.10	.75	6.69	5.43	.94	2.00		6000	5.50	
16	1	25	173	25	170	146	27,8	57,2	7/16–14	420	3,50	BBV2T160001H
			6.81	.98	6.69	5.75	1.09	2.25		6000	7.70	

High-Pressure Block Body Ball Valve ▪ Type BBV



Characteristics

Two-way high-pressure block body ball valves designed for use as on/off devices for hydraulic applications

Standard Construction
- Block body design for in-line assembly
- Supplied with off-set lever

Standard Materials
- Body: Carbon Steel, zinc/iron-plated
- Ball: Carbon Steel, hard chrome-plated
- Stem: Carbon Steel
- Lever: Zinc (STAUFF Size 08)
  Carbon Steel (STAUFF Sizes 12 and 16)
- Ball seat: Delrin® (POM)
- O-rings: FPM (Viton®)

Standard Connections Styles / Sizes
- 3000 PSI (code 61) SAE mating flange connectors
- 6000 PSI (code 62) SAE mating flange connectors
- Metric ISO and unified coarse (UNC) threads

Pressure Range
- Pressure range: up to 420 bar / 6000 PSI (depending on size and material combination of the ball valve)

Please note: The final maximum working pressure is determined by flange and pipe/tubing rating.

Temperature Range
- Operating temperature range:
  -20 °C ... +100 °C / -4 °F ... + 212 °F

Options / Accessories
- Flanges and flange kits (see Flanges section)
- Alternative lever designs/materials (see page F98)
- Locking devices (see pages F99-F101)
- Pneumatic actuator packages (see page F102)
- Limit switches (see page F102)
- Stainless Steel body
- Stainless Steel ball and stem
- Special ball seat and O-ring materials available for lower/higher temperatures and more aggressive media
- Additional assembling threads / holes (see page F103)

- Electrical actuators available on request.
  Pease consult STAUFF for further information.

Order Codes

BBV	2	E	16	0	0	0	1	M	-	-
①	②	③	④	⑤	⑥	⑦	⑧	⑨	⑩	⑪

① Type

High-Pressure Block Body Ball Valve	**BBV**

② Number of Ports

Two Ports (Two-Way Ball Valve)	**2**

③ Connection Style

3000 PSI (Code 61) SAE Mating Flange Connectors with Metric ISO Threads	**EM**
3000 PSI (Code 61) SAE Mating Flange Connectors with Unified Coarse (UNC) Threads	**E**
6000 PSI (Code 62) SAE Mating Flange Connectors with Metric ISO Threads	**SM**
6000 PSI (Code 62) SAE Mating Flange Connectors with Unified Coarse (UNC) Threads	**S**

Please consult STAUFF for alternative connection styles.

④ Connection Size

STAUFF Size (according to dimension table)		
08	**12**	**16**

Please consult STAUFF for alternative connection sizes.

⑤ Body Material / Surface Finishing

Carbon Steel, zinc/iron-plated	**0**
Stainless Steel V4A (AISI 316Ti)	**1**

Alternative materials / surface finishings are available upon request. Consult STAUFF for further information.

⑥ Ball / Stem Material

Ball: Carbon Steel, hard chrome-plated Stem: Carbon Steel	**0**
Ball / Stem: Stainless Steel V4A (AISI 316Ti)	**1**

Alternative materials / surface finishings are available upon request. Consult STAUFF for further information.

⑦ Ball Seat Material

Delrin® (POM)	**0**

Alternative materials are available upon request. Consult STAUFF for further information.

⑧ O-Ring Material

NBR (Buna-N®)	**0**
FPM (Viton®)	**1**

Alternative materials are available upon request. Consult STAUFF for further information.

⑨ Manufacturing Code

Manufacturing code for all connection styles	**M**
Manufacturing code for high-pressure version of 6000 PSI Series (STAUFF Size 16)	**H**

⑩ Lever Options

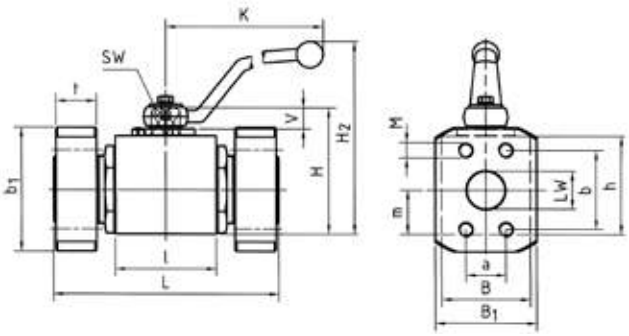
Supplied with standard lever (according to table)	**-**
Supplied without lever	**-0**

Alternative levers can be ordered separately. Please see page F98 for further information.

⑪ Accessories / Options

Supplied without accessories	**-**
Supplied with Locking Device LD1	**-LD1**
Supplied with Locking Device LD2	**-LD2**
Supplied with Locking Device LD3 (standard*[1])	**-LD3**
Supplied with Locking Device LD4	**-LD4**
Supplied with Double-Acting Pneumatic Actuator (Please add size **)	**-EDA****
Supplied with Single-Acting Pneumatic Actuator (Please add size **)	**-ESA****
Supplied with Limit Switch in open position	**-LS-O**
Supplied with Limit Switch in closed position	**-LS-C**
Supplied with Limit Switch in open and closed position	**-LS-OC**

*[1] LD4 is the standard locking device option for the high-pressure version (manufacuring code H). Please see page F99 for further information.



High-Pressure Block Body Ball Valve ▪ Type BBV
3000 PSI SAE Flange Connection (ISO 6162-1)

When ordering the standard option as indicated in the table below, the following materials will be supplied:

- Body, ball and stem: Carbon Steel
- Lever: Zinc (STAUFF Size 08)
  Carbon Steel (STAUFF Sizes 12 and 16)
- Ball seat: Delrin® (POM)
- O-rings: FPM (Viton®)

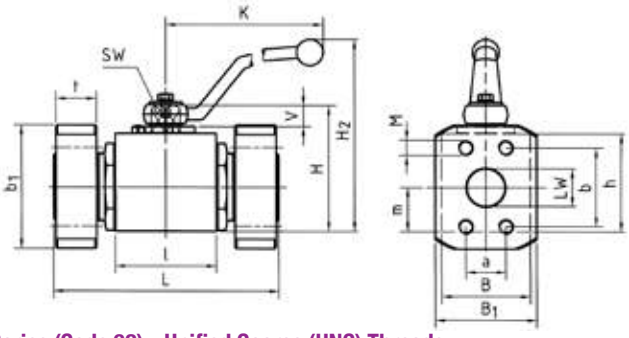
3000 PSI Series (Code 61) ▪ Unified Coarse (UNC) Threads

STAUFF Size	SAE Flange Size	Nominal Size DN	Dimensions (mm/in) LW	L	l	B	H	h	m	V	SW	K	B1	b1	t	a	b	M	H2	Nom. Pressure (bar/PSI)	Weight (kg/lbs)	Order Codes (Standard Option)
08	1/2	13	13	120	48	35	54	40	19	11	9	115	48	56	13	17,5	38,1	5/16–18	89	345	1,50	BBV2E080001M
			0,51	4,72	1,89	1,38	2,13	1,57	0,75	0,43	0,35	4,53	1,89	2,20	0,51	0,69	1,50	UNC	3.50	5000	3.30	
12	3/4	20	20	136	62	49	75	57	24,5	14	14	170	50	65	14	22,2	47,6	3/8–16	127	345	3,00	BBV2E120001M
			0,79	5,35	2,44	1,93	2,95	2,24	0,96	0,55	0,55	6,69	1,97	2,56	0,55	0,87	1,87	UNC	5.00	5000	6.60	
16	1	24	25	148	66	58	83	65	29,5	14	14	170	60	70	16	26,2	52,4	3/8–16	135	345	4,50	BBV2E160001M
			0,98	5,83	2,60	2,28	3,27	2,56	1,16	0,55	0,55	6,69	2,36	2,76	0,63	1,03	2,06	UNC	5.31	5000	9.90	

3000 PSI Series (Code 61) ▪ Metric ISO Threads

STAUFF Size	SAE Flange Size	Nominal Size DN	Dimensions (mm/in) LW	L	l	B	H	h	m	V	SW	K	B1	b1	t	a	b	M	H2	Nom. Pressure (bar/PSI)	Weight (kg/lbs)	Order Codes (Standard Option)
08	1/2	13	13	120	48	35	54	40	19	11	9	115	48	56	13	17,5	38,1	M8	89	345	1,50	BBV2EM080001M
			0,51	4,72	1,89	1,38	2,13	1,57	0,75	0,43	0,35	4,53	1,89	2,20	0,51	0,69	1,50		3.50	5000	3.30	
12	3/4	20	20	136	62	49	75	57	24,5	14	14	170	50	65	14	22,2	47,6	M10	127	345	3,00	BBV2EM120001M
			0,79	5,35	2,44	1,93	2,95	2,24	0,96	0,55	0,55	6,69	1,97	2,56	0,55	0,87	1,87		5.00	5000	6.60	
16	1	24	25	148	66	58	83	65	29,5	14	14	170	60	70	16	26,2	52,4	M10	135	345	4,50	BBV2EM160001M
			0,98	5,83	2,60	2,28	3,27	2,56	1,16	0,55	0,55	6,69	2,36	2,76	0,63	1,03	2,06		5.31	5000	9.90	

Please note: The final maximum working pressure is determined by flange and pipe/tubing rating.



High-Pressure Block Body Ball Valve ▪ Type BBV
6000 PSI SAE Flange Connection (ISO 6162-2)

When ordering the standard option as indicated in the table below, the following materials will be supplied:

- Body, ball and stem: Carbon Steel
- Lever: Zinc (STAUFF Size 08)
  Carbon Steel (STAUFF Sizes 12 and 16)
- Ball seat: Delrin® (POM)
- O-rings: FPM (Viton®)

6000 PSI Series (Code 62) ▪ Unified Coarse (UNC) Threads

STAUFF Size	SAE Flange Size	Nominal Size DN	Dimensions (mm/in) LW	L	l	B	H	h	m	V	SW	K	B1	b1	t	a	b	M	H2	Nom. Pressure (bar/PSI)	Weight (kg/lbs)	Order Codes (Standard Option)
08	1/2	13	13	120	48	35	54	40	19	11	9	115	48	56	16	18,2	40,5	5/16–18	89	420	1,50	BBV2S080001M
			.51	4.72	1.89	1.38	2.13	1.57	.75	.43	.35	4.53	1.89	2.20	.63	.72	1.59	UNC	3.50	6000	3.30	
12	3/4	20	20	136	62	49	75	57	24,5	14	14	170	60	71	19	23,8	50,8	3/8–16	127	420	3,00	BBV2S120001M
			.79	5.35	2.44	1.93	2.95	2.24	.96	.55	.55	6.69	2.36	2.80	.75	.94	2.00	UNC	5.00	6000	6.60	
16	1	24	25	148	66	58	83	65	29,5	14	14	170	70	81	24	27,8	57,2	7/16–14	135	420	4,50	BBV2S160001H
			.98	5.83	2.60	2.28	3.27	2.56	1.16	.55	.55	6.69	2.76	3.19	.94	1.09	2.25	UNC	5.31	6000	9.90	

6000 PSI Series (Code 62) ▪ Metric ISO Threads

STAUFF Size	SAE Flange Size	Nominal Size DN	Dimensions (mm/in) LW	L	l	B	H	h	m	V	SW	K	B1	b1	t	a	b	M	H2	Nom. Pressure (bar/PSI)	Weight (kg/lbs)	Order Codes (Standard Option)
08	1/2	13	13	120	48	35	54	40	19	11	9	115	48	56	16	18,2	40,5	M8	89	420	1,50	BBV2SM080001M
			.51	4.72	1.89	1.38	2.13	1.57	.75	.43	.35	4.53	1.89	2.20	.63	.72	1.59		3.50	6000	3.30	
12	3/4	20	20	136	62	49	75	57	24,5	14	14	170	60	71	19	23,8	50,8	M10	127	420	3,00	BBV2SM120001M
			.79	5.35	2.44	1.93	2.95	2.24	.96	.55	.55	6.69	2.36	2.80	.75	.94	2.00		5.00	6000	6.60	
16	1	24	25	148	66	58	83	65	29,5	14	14	170	70	81	24	27,8	57,2	M12	135	420	4,50	BBV2SM160001H
			.98	5.83	2.60	2.28	3.27	2.56	1.16	.55	.55	6.69	2.76	3.19	.94	1.09	2.25		5.31	6000	9.90	

Please note: The final maximum working pressure is determined by flange and pipe/tubing rating.

High-Pressure Forged Body Ball Valve ▪ Type FBV2H/2T



Characteristics

Two-way high-pressure forged body ball valves designed for use as on/off devices for hydraulic applications

Standard Construction
- Forged body design for in-line assembly
- Supplied with straight lever

Standard Materials
- Body: Carbon Steel, zinc/iron-plated
- Ball: Carbon Steel, hard chrome-plated
- Stem: Carbon Steel
- Lever: Carbon Steel
- Ball seat: Delrin® (POM)
- O-rings: FPM (Viton®)

Standard Connections Styles / Sizes
- 3000 PSI (code 61) SAE split flange / SAE flange connection
- 6000 PSI (code 62) SAE split flange / SAE flange connection

Pressure Range
- Pressure range: up to 420 bar / 6000 PSI (depending on size and material combination of the ball valve)

Please note: The final maximum working pressure is determined by flange and pipe/tubing rating.

Temperature Range
- Operating temperature range: -20 °C ... +100 °C / -4 °F ... + 212 °F

Options / Accessories
- Flanges and flange kits (see Flanges section)
- Alternative lever designs/materials (see page F98)
- Locking devices (see pages F99-F101)
- Pneumatic actuator packages (see page F102)
- Limit switches (see page F102)
- Stainless Steel body
- Stainless Steel ball and stem
- Special ball seat and O-ring materials available for lower/higher temperatures and more aggressive media
- Additional assembling threads (see page F103)

- Electrical actuators available on request. Pease consult STAUFF for further information.

Order Codes

FBV	2	H	20	0	0	0	1	M	-	-
①	②	③	④	⑤	⑥	⑦	⑧	⑨	⑩	⑪

① Type

High-Pressure Forged Body Ball Valve	**FBV**

② Number of Ports

Two Ports (Two-Way Ball Valve)	**2**

③ Connection Style

3000 PSI (Code 61) SAE Split Flange / SAE Flange Connection	**H**
6000 PSI (Code 62) SAE Split Flange / SAE Flange Connection	**T**

Please consult STAUFF for alternative connection styles.

④ Connection Size

STAUFF Size (according to dimension table)		
20	**24**	**32**

Please consult STAUFF for alternative connection sizes.

⑤ Body Material / Surface Finishing

Carbon Steel, zinc/iron-plated	**0**
Stainless Steel V4A (AISI 316Ti)	**1**

Alternative materials / surface finishings are available upon request. Consult STAUFF for further information.

⑥ Ball / Stem Material

Ball: Carbon Steel, hard chrome-plated Stem: Carbon Steel	**0**
Ball / Stem: Stainless Steel V4A (AISI 316Ti)	**1**

Alternative materials / surface finishings are available upon request. Consult STAUFF for further information.

⑦ Ball Seat Material

Delrin® (POM)	**0**

Alternative materials are available upon request. Consult STAUFF for further information.

⑧ O-Ring Material

NBR (Buna-N®)	**0**
FPM (Viton®)	**1**

Alternative materials are available upon request. Consult STAUFF for further information.

⑨ Manufacturing Code

Manufacturing code for all connection styles	**M**

⑩ Lever Options

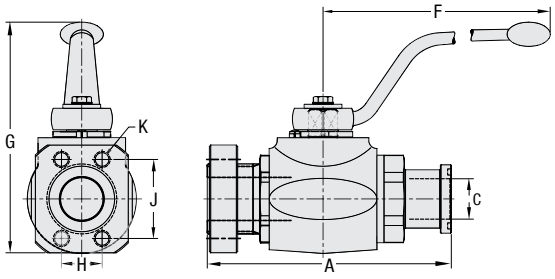
Supplied with standard lever (according to table)	**-**
Supplied without lever	**-0**

Alternative levers can be ordered separately. Please see page F98 for further information.

⑪ Accessories / Options

Supplied without accessories	**-**
Supplied with Locking Device LD1	**-LD1**
Supplied with Locking Device LD2	**-LD2**
Supplied with Locking Device LD6 (standard)	**-LD6**
Supplied with Double-Acting Pneumatic Actuator (Please add size **)	**-EDA****
Supplied with Single-Acting Pneumatic Actuator (Please add size **)	**-ESA****
Supplied with Limit Switch in open position	**-LS-O**
Supplied with Limit Switch in closed position	**-LS-C**
Supplied with Limit Switch in open and closed position	**-LS-OC**

Please see page F99 for further information.



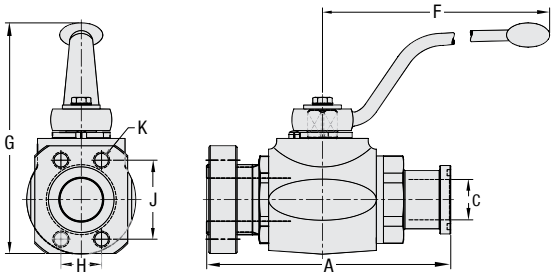
High-Pressure Forged Body Ball Valve ▪ Type FBV2H/2T
3000 PSI SAE Split Flange / SAE Flange Connection (ISO 6162-1)

When ordering the standard option as indicated in the table below, the following materials will be supplied:

- Body, ball and stem: Carbon Steel
- Lever: Carbon Steel
- Ball seat: Delrin® (POM)
- O-rings: FPM (Viton®)

3000 PSI Series (Code 61)

STAUFF Size	SAE Flange Size	Nominal Size DN	Dimensions (mm/in) A	C	F	G	H	J	K tap UN-2B	Nom. Pressure (bar/PSI)	Weight (kg/lbs)	Order Codes (Standard Option)
20	1-1/4	32	181	30	320	171	30,2	58,7	7/16–14	210	5,87	FBV2H200001M
			7.13	1.18	12.60	6.73	1.19	2.31		3000	12.94	
24	1-1/2	40	204	38	320	186	35,7	69,8	1/2–13	210	8,82	FBV2H240001M
			8.03	1.50	12.60	7.32	1.41	2.75		3000	19.45	
32	2	250	214	48	320	195	42,9	77,8	1/2–13	210	14,29	FBV2H320001M
			8.43	1.89	12.60	7.68	1.69	3.06		3000	31.50	



High-Pressure Forged Body Ball Valve ▪ Type FBV2H/2T
6000 PSI SAE Split Flange / SAE Flange Connection (ISO 6162-2)

When ordering the standard option as indicated in the table below, the following materials will be supplied:

- Body, ball and stem: Carbon Steel
- Lever: Carbon Steel
- Ball seat: Delrin® (POM)
- O-rings: FPM (Viton®)

6000 PSI Series (Code 62)

STAUFF Size	SAE Flange Size	Nominal Size DN	Dimensions (mm/in) A	C	F	G	H	J	K tap UN-2B	Nom. Pressure (bar/PSI)	Weight (kg/lbs)	Order Codes (Standard Option)
20	1-1/4	32	198	30	320	178	31,8	66,7	1/2–13	420	6,10	FBV2H200001M
			7.80	1.18	12.60	7.01	1.25	2.63		6000	13.45	
24	1-1/2	40	229	38	320	190	36,5	79,4	5/8–11	420	9,29	FBV2H240001M
			9.02	1.50	12.60	7.48	1.44	3.13		6000	20.48	
32	2	250	256	48	320	211	44,5	96,8	73/4–10	420	15,34	FBV2H320001M
			10.08	1.89	12.60	8.31	1.75	3.81		6000	33.82	

High-Pressure Forged Body Ball Valve ▪ Type FBV



Characteristics

Two-way high-pressure forged body ball valves designed for use as on/off devices for hydraulic applications

Standard Construction
- Forged body design for in-line assembly
- Supplied with off-set lever

Standard Materials
- Body: Carbon Steel, zinc/iron-plated
- Ball: Carbon Steel, hard chrome-plated
- Stem: Carbon Steel
- Lever: Carbon Steel
- Ball seat: Delrin® (POM)
- O-rings: FPM (Viton®)

Standard Connections Styles / Sizes
- 3000 PSI (code 61) SAE mating flange connectors
- 6000 PSI (code 62) SAE mating flange connectors
- Metric ISO and unified coarse (UNC) threads

Pressure Range
- Pressure range: up to 420 bar / 6000 PSI (depending on size and material combination of the ball valve)

Please note: The final maximum working pressure is determined by flange and pipe/tubing rating.

Temperature Range
- Operating temperature range: -20 °C ... +100 °C / -4 °F ... + 212 °F

Options / Accessories
- Flanges and flange kits (see Flanges section)
- Alternative lever designs/materials (see page F98)
- Locking devices (see pages F99-F101)
- Pneumatic actuator packages (see page F102)
- Limit switches (see page F102)
- Stainless Steel body
- Stainless Steel ball and stem
- Special ball seat and O-ring materials available for lower/higher temperatures and more aggressive media
- Additional assembling threads (see page F103)

- Electrical actuators available on request. Pease consult STAUFF for further information.

Order Codes

FBV	2	E	20	0	0	0	1	M	-	-
①	②	③	④	⑤	⑥	⑦	⑧	⑨	⑩	⑪

① Type

High-Pressure Forged Body Ball Valve	**FBV**

② Number of Ports

Two Ports (Two-Way Ball Valve)	**2**

③ Connection Style

3000 PSI (Code 61) SAE Mating Flange Connectors with Metric ISO Threads	**EM**
3000 PSI (Code 61) SAE Mating Flange Connectors with Unified Coarse (UNC) Threads	**E**
6000 PSI (Code 62) SAE Mating Flange Connectors with Metric ISO Threads	**SM**
6000 PSI (Code 62) SAE Mating Flange Connectors with Unified Coarse (UNC) Threads	**S**

Please consult STAUFF for alternative connection styles.

④ Connection Size

STAUFF Size (according to dimension table)		
20	**24**	**32**

Please consult STAUFF for alternative connection sizes.

⑤ Body Material / Surface Finishing

Carbon Steel, zinc/iron-plated	**0**
Stainless Steel V4A (AISI 316Ti)	**1**

Alternative materials / surface finishings are available upon request. Consult STAUFF for further information.

⑥ Ball / Stem Material

Ball: Carbon Steel, hard chrome-plated Stem: Carbon Steel	**0**
Ball / Stem: Stainless Steel V4A (AISI 316Ti)	**1**

Alternative materials / surface finishings are available upon request. Consult STAUFF for further information.

⑦ Ball Seat Material

Delrin® (POM)	**0**

Alternative materials are available upon request. Consult STAUFF for further information.

⑧ O-Ring Material

NBR (Buna-N®)	**0**
FPM (Viton®)	**1**

Alternative materials are available upon request. Consult STAUFF for further information.

⑨ Manufacturing Code

Manufacturing code for all connection styles	**M**

⑩ Lever Options

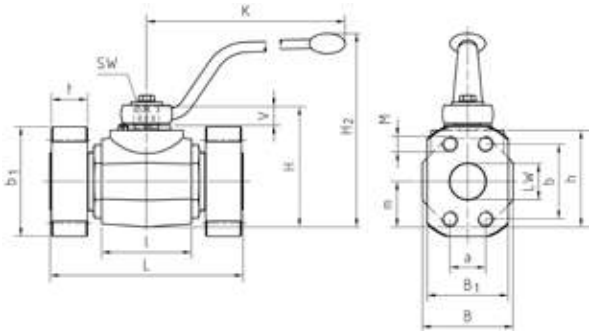
Supplied with standard lever (according to table)	**-**
Supplied without lever	**-0**

Alternative levers can be ordered separately. Please see page F98 for further information.

⑪ Accessories / Options

Supplied without accessories	**-**
Supplied with Locking Device LD1	**-LD1**
Supplied with Locking Device LD6 (standard)	**-LD6**
Supplied with Double-Acting Pneumatic Actuator (Please add size **)	**-EDA****
Supplied with Single-Acting Pneumatic Actuator (Please add size **)	**-ESA****
Supplied with Limit Switch in open position	**-LS-O**
Supplied with Limit Switch in closed position	**-LS-C**
Supplied with Limit Switch in open and closed position	**-LS-OC**

Please see page F99 for further information.



High-Pressure Forged Body Ball Valve ▪ Type FBV
3000 PSI SAE Flange Connection (ISO 6162-1)

When ordering the standard option as indicated in the table below, the following materials will be supplied:

- Body, ball and stem: Carbon Steel
- Lever: Carbon Steel
- Ball seat: Delrin® (POM)
- O-rings: FPM (Viton®)

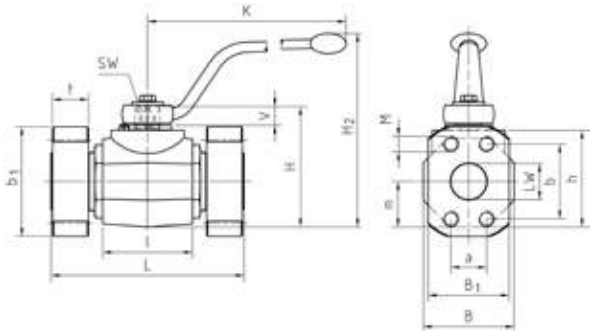
3000 PSI Series (Code 61) ▪ Metric ISO Threads

STAUFF Size	SAE Flange Size	Nominal Size DN	Dimensions (mm/in) LW	L	l	B	H	h	m	V	SW	K	B1	b1	t	a	b	M	H2	Nom. Pressure (bar/PSI)	Weight (kg/lbs)	Order Codes (Standard Option)
20	1-1/4	32	32	172	80	81	107	86	40.5	16,5	17	306	68	79	16	30,2	58,7	M10	171	210	7,52	FBV2EM200001M
			1.26	6.77	3.15	3.19	4.21	3.39	1.59	.65	.67	12.05	2.68	3.11	.63	1.19	2.31		6.73	3000	16.54	
24	1-1/2	40	38	177	85	100	124	103	50	16,5	17	306	78	93	16	35,7	69,8	M12	188	210	11,09	FBV2EM240001M
			1.50	6.97	3.35	3.94	4.88	4.06	1.97	.65	.67	12.05	3.07	3.66	.63	1.41	2.75		7.40	3000	24.40	
32	2	50	48	196	100	118	138	117	59	16,5	17	306	90	102	16	42,9	77,8	M12	202	210	19,29	FBV2EM320001M
			1.89	7.72	3.94	4.65	5.43	4.61	2.32	.65	.67	12.05	3.54	4.02	.63	1.69	3.06		7.95	3000	42.44	
40	2-1/2	50/65	48	196	100	118	138	117	59	16,5	17	306	105	114	19	50,8	88,9	M12	202	210	19,29	FBV2EM400001M
			1.89	7.72	3.94	4.65	5.43	4.61	2.32	.65	.67	12.05	4.13	4.49	.75	2.00	3.50		7.95	3000	42.44	

3000 PSI Series (Code 61) ▪ Unified Coarse (UNC) Threads

STAUFF Size	SAE Flange Size	Nominal Size DN	Dimensions (mm/in) LW	L	l	B	H	h	m	V	SW	K	B1	b1	t	a	b	M	H2	Nom. Pressure (bar/PSI)	Weight (kg/lbs)	Order Codes (Standard Option)
20	1-1/4	32	32	172	80	81	107	86	40,5	16,5	17	306	68	79	16	30,2	58,7	7/16–14	171	210	7,52	FBV2E200001M
			1.26	6.77	3.15	3.19	4.21	3.39	1.59	.65	.67	12.05	2.68	3.11	.63	1.19	2.31	UNC	6.73	3000	16.54	
24	1-1/2	40	38	177	85	100	124	103	50	16,5	17	306	78	93	16	35,7	69,8	1/2–13	188	210	11,09	FBV2E240001M
			1.50	6.97	3.35	3.94	4.88	4.06	1.97	.65	.67	12.05	3.07	3.66	.63	1.41	2.75	UNC	7.40	3000	24.40	
32	2	50	48	196	100	118	138	117	59	16,5	17	306	90	102	16	42,9	77,8	1/2–13	202	210	19,29	FBV2E320001M
			1.89	7.72	3.94	4.65	5.43	4.61	2.32	.65	.67	12.05	3.54	4.02	.63	1.69	3.06	UNC	7.95	3000	42.44	
40	2-1/2	50/65	48	196	100	118	138	117	59	16,5	17	306	105	114	19	50,8	88,9	1/2–13	202	210	19,29	FBV2E400001M
			1.89	7.72	3.94	4.65	5.43	4.61	2.32	.65	.67	12.05	4.13	4.49	.75	2.00	3.50	UNC	7.95	3000	42.44	

Please note: The final maximum working pressure is determined by flange and pipe/tubing rating.



High-Pressure Forged Body Ball Valve ▪ Type FBV
6000 PSI SAE Flange Connection (ISO 6162-2)

When ordering the standard option as indicated in the table below, the following materials will be supplied:

- Body, ball and stem: Carbon Steel
- Lever: Carbon Steel
- Ball seat: Delrin® (POM)
- O-rings: FPM (Viton®)

6000 PSI Series (Code 62) ▪ Metric ISO Threads

STAUFF Size	SAE Flange Size	Nominal Size DN	Dimensions (mm/in) LW	L	l	B	H	h	m	V	SW	K	B1	b1	t	a	b	M	H2	Nom. Pressure (bar/PSI)	Weight (kg/lbs)	Order Codes (Standard Option)
20	1-1/4	32	32	172	80	81	107	86	40,5	16,5	17	306	78	95	27	31,8	66,6	M12	171	420	7,52	FBV2SM200001M
			1.26	6.77	3.15	3.19	4.21	3.39	1.59	.65	.67	12.05	3.07	3.74	1.06	1.25	2.62		6.73	6000	16.54	
24	1-1/2	40	38	177	85	100	124	103	50	16,5	17	306	94	112	30	36,5	79,4	M16	188	420	11,09	FBV2SM240001M
			1.50	6.97	3.35	3.94	4.88	4.06	1.97	.65	.67	12.05	3.70	4.41	1.18	1.44	3.13		7.40	6000	24.40	
32	2	50	48	196	100	118	138	117	59	16,5	17	306	114	134	35	44,5	96,8	M20	202	420	19,29	FBV2SM320001M
			1.89	7.72	3.94	4.65	5.43	4.61	2.32	.65	.67	12.05	4.49	5.28	1.38	1.75	3.81		7.95	6000	42.44	

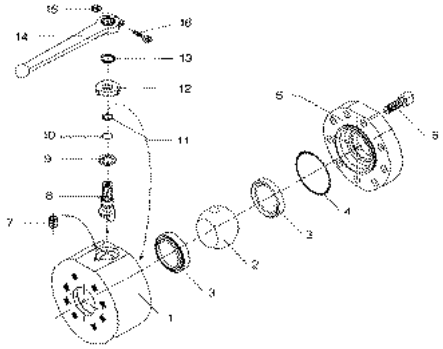
6000 PSI Series (Code 62) ▪ Unified Coarse (UNC) Threads

STAUFF Size	SAE Flange Size	Nominal Size DN	Dimensions (mm/in) LW	L	l	B	H	h	m	V	SW	K	B1	b1	t	a	b	M	H2	Nom. Pressure (bar/PSI)	Weight (kg/lbs)	Order Codes (Standard Option)
20	1-1/4	32	32	172	80	81	107	86	40,5	16,5	17	306	78	95	27	31,8	66,7	1/2–13	171	420	7,52	FBV2S200001M
			1.26	6.77	3.15	3.19	4.21	3.39	1.59	.65	.67	12.05	3.07	3.74	1.06	1.25	2.63	UNC	6.73	6000	16.54	
24	1-1/2	40	38	177	85	100	124	103	50	16,5	17	306	94	112	30	36,5	79,4	5/8–11	188	420	11,09	FBV2S240001M
			1.50	6.97	3.35	3.94	4.88	4.06	1.97	.65	.67	12.05	3.70	4.41	1.18	1.44	3.13	UNC	7.40	6000	24.40	
32	2	50	48	196	100	118	138	117	59	16,5	17	306	114	134	35	44,5	96,8	3/4–10	202	420	19,29	FBV2S320001M
			1.89	7.72	3.94	4.65	5.43	4.61	2.32	.65	.67	12.05	4.49	5.28	1.38	1.75	3.81	UNC	7.95	6000	42.44	

Please note: The final maximum working pressure is determined by flange and pipe/tubing rating.

High-Pressure Round Body Ball Valve ▪ Type BBV29





List of Components

No.	Qty.	Description
1	1	Housing
2	1	Ball
3*	2	Seat
4*	1	Cover O-Ring
5	7-9**	Cover Screws
6	1	Cover
7	1	Stop Pin
8	1	Stem
9*	1	Thrust Ring
10*	1	Stem O-Ring
11*	1	Back-up Ring
12	1	Cam Plate
13	1	Snap Ring
14	1	Handle
15	1	Nut
16	1	Screw

* Included in seal kit
** Depending on valve size

Characteristics

Two-way high-pressure round body ball valves designed for use as on/off devices for hydraulic applications

Standard Construction
- Round body design for in-line assembly
- Machined parts for reduced torque operation
- Designed for direct mount to reduce threads in fluid flow
- Supplied with lever

Standard Materials
- Body: Carbon Steel, zinc/iron-plated
- Ball: Carbon Steel, hard chrome-plated
- Stem: Carbon Steel
- Lever: Aluminium (STAUFF Size 08)
  Zinc (STAUFF Sizes 12 and 16)
  Aluminium (STAUFF Sizes 20 to 32)
- Ball seat: Delrin® (POM)
- O-rings: FPM (Viton®)

Standard Connections Styles / Sizes
- 3000 PSI (code 61) direct SAE flange connection
- 6000 PSI (code 62) direct SAE flange connection
- Dual pattern: 3000 PSI (code 61) arranged horizontally and 6000 PSI (code 62) arranged vertically
- Metric ISO and unified coarse (UNC) threads

Pressure Range
- Pressure range: up to 420 bar / 6000 PSI (depending on size and material combination of the ball valve)

Please note: The final maximum working pressure is determined by flange and pipe/tubing rating.

Temperature Range
- Operating temperature range:
  -20 °C ... +100 °C / -4 °F ... + 212 °F

Options / Accessories
- Flanges and flange kits (see Flanges section)
- Alternative lever designs/materials (see page F98)
- Locking devices (see pages F99-F101)
- Pneumatic actuator packages (see page F102)
- Limit switches (see page F102)
- Stainless Steel body
- Stainless Steel ball and stem
- Special ball seat and O-ring materials available for lower/higher temperatures and more aggressive media
- Electrical actuators available on request.
  Pease consult STAUFF for further information.

Order Codes

BBV	2	9	32	0	0	0	1	M	-	-
①	②	③	④	⑤	⑥	⑦	⑧	⑨	⑩	⑪

① Type

High-Pressure Round Body Ball Valve	**BBV**

② Number of Ports

Two Ports (Two-Way Ball Valve)	**2**

③ Connection Style

3000/6000 PSI (Code 61/62) SAE Direct Flange Connection with Unified Coarse (UNC) Threads	**9**
3000/6000 PSI (Code 61/62) SAE Direct Flange Connection with Metric ISO Threads	**9M**

Please consult STAUFF for alternative connection styles.

④ Connection Size

STAUFF Size (according to dimension table):					
08	**12**	**16**	**20**	**24**	**32**

Please consult STAUFF for alternative connection sizes.

⑤ Body Material / Surface Finishing

Carbon Steel, zinc/iron-plated	**0**
Stainless Steel V4A (AISI 316Ti)	**1**

Alternative materials / surface finishings are available upon request. Consult STAUFF for further information.

⑥ Ball / Stem Material

Ball: Carbon Steel, hard chrome-plated Stem: Carbon Steel	**0**
Ball / Stem: Stainless Steel V4A (AISI 316Ti)	**1**

Alternative materials / surface finishings are available upon request. Consult STAUFF for further information.

⑦ Ball Seat Material

Delrin® (POM)	**0**

Alternative materials are available upon request. Consult STAUFF for further information.

⑧ O-Ring Material

NBR (Buna-N®)	**0**
FPM (Viton®)	**1**

Alternative materials are available upon request. Consult STAUFF for further information.

⑨ Manufacturing Code

Manufacturing code for all connection styles	**M**

⑩ Lever Options

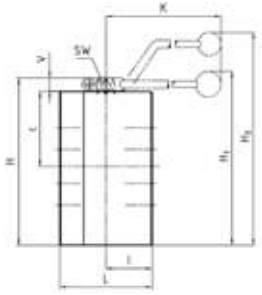
Supplied with standard lever (according to table)	**-**
Supplied without lever	**-0**

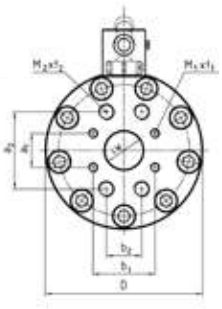
Alternative levers can be ordered separately. Please see page F98 for further information.

⑪ Accessories / Options

Supplied without accessories	**-**
Supplied with Locking Device LD4	**-LD4**
Supplied with Locking Device LD5A (standard)	**-LD5A**
Supplied with Double-Acting Pneumatic Actuator (Please add size **)	**-EDA****
Supplied with Single-Acting Pneumatic Actuator (Please add size **)	**-ESA****
Supplied with Limit Switch in open position	**-LS-O**
Supplied with Limit Switch in closed position	**-LS-C**
Supplied with Limit Switch in open and closed position	**-LS-OC**

Please see page F99 for further information.





High-Pressure Round Body Ball Valve ▪ Type BBV29
3000/6000 PSI Flange Connection (ISO 6162-1/2)

Flange Position


3000 PSI (Code 61)


6000 PSI (Code 62)

When ordering the standard option as indicated in the table below, the following materials will be supplied:

- Body, ball and stem: Carbon Steel
- Lever: Aluminium (STAUFF Size 08)
  Zinc (STAUFF Sizes 12 and 16)
  Aluminium (STAUFF Sizes 20 to 32)
- Ball seat: Delrin® (POM)
- O-rings: FPM (Viton®)

Dual Pattern ▪ 3000/6000 PSI Series (Code 61/62) ▪ Unified Coarse (UNC) Threads

STAUFF Size	SAE Flange Size	Nominal Size DN	Dimensions (mm/in) LW	L	l	D	H	c	V	K	SW	a1	b1	M1	t1	a2	b2	M2	t2	H1	H2	Max. Pressure (bar/PSI)	Weight (kg/lbs)	Order Codes (Standard Option)
08	1/2	15	15	75	35	88	88	31	13	160	12	17,5	38,1	5/16–18	18	40,5	18,2	5/16–18	18		132	420	2,96	BBV29080001M
			.59	2.95	1.38	3.46	3.46	1.22	.51	6.30	.47	.69	1.50	UNC	.71	1.59	.72	UNC	.71		5.20	6000	6.51	
12	3/4	20	20	80	35	98	100	36,5	14	200	14	22,2	47,6	3/8–16	18	50,8	23,8	3/8–16	18	103		420	4,20	BBV29120001M
			.79	3.15	1.38	3.86	3.94	1.44	.55	7.87	.55	.87	1.87	UNC	.71	2.00	.94	UNC	.71	4.06		6000	9.24	
16	1	25	25	88	38	118	113	39,5	14	200	14	27,8	57,2	7/16–14	20	52,4	26,2	3/8–16	20	116		420	6,00	BBV29160001M
			.98	3.46	1.50	4.65	4.45	1.56	.55	7.87	.55	1.09	2.25	UNC	.79	2.06	1.03	UNC	.79	4.57		6000	13.20	
20	1-1/4	32	32	100	50	145	158	68	17	320	17	30,2	58,7	7/16–14	20	66,6	31,8	1/2–13	22	167		420	11,71	BBV29200001M
			1.26	3.94	1.97	5.71	6.22	2.68	.67	12.60	.67	1.19	2.31	UNC	.79	2.62	1.25	UNC	.87	6.57		6000	25.76	
24	1-1/2	40	38	110	55	165	178	78	17	320	17	35,7	69,8	1/2–13	20	79,4	36,5	5/8–11	27	187		420	17,10	BBV29240001M
			1.50	4.33	2.17	6.50	7.01	3.07	.67	12.60	.67	1.41	2.75	UNC	.79	3.13	1.44	UNC	1.06	7.36		6000	37.62	
32	2	50	48	116	58	198	210	94	17	320	17	42,9	77,8	1/2–13	20	96,8	44,5	3/4–10	28	203		420	24,60	BBV29320001M
			1.89	4.57	2.28	7.80	8.27	3.70	.67	12.60	.67	1.69	3.06	UNC	.79	3.81	1.75	UNC	1.10	7.99		6000	54.12	

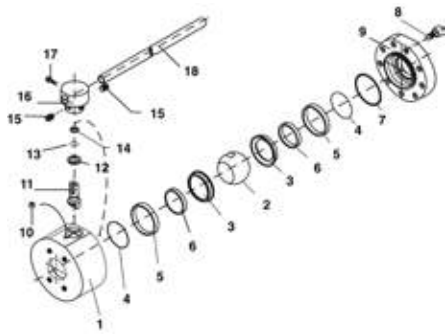
Dual Pattern ▪ 3000/6000 PSI Series (Code 61/62) ▪ Metric ISO Threads

STAUFF Size	SAE Flange Size	Nominal Size DN	Dimensions (mm/in) LW	L	l	D	H	c	V	K	SW	a1	b1	M1	t1	a2	b2	M2	t2	H1	H2	Max. Pressure (bar/PSI)	Weight (kg/lbs)	Order Codes (Standard Option)
08	1/2	15	15	75	35	88	88	31	13	160	12	17,5	38,1	M8	18	40,5	18,2	M8	18		132	420	2,96	BBV29M080001M
			.59	2.95	1.38	3.46	3.46	1.22	.51	6.30	.47	.69	1.50		.71	1.59	.72		.71		5.20	6000	6.51	
12	3/4	20	20	80	35	98	100	36,5	14	200	14	22,2	47,6	M10	18	50,8	23,8	M10	18	103		420	4,20	BBV29M120001M
			.79	3.15	1.38	3.86	3.94	1.44	.55	7.87	.55	.87	1.87		.71	2.00	.94		.71	4.06		6000	9.24	
16	1	25	25	88	38	118	113	39,5	14	200	14	27,8	57,2	M12	20	52,4	26,2	M10	20	116		420	6,00	BBV29M160001M
			.98	3.46	1.50	4.65	4.45	1.56	.55	7.87	.55	1.09	2.25		.79	2.06	1.03		.79	4.57		6000	13.20	
20	1-1/4	32	32	100	50	145	158	68	17	320	17	30,2	58,7	M10	20	66,6	31,8	M12	22	167		420	11,71	BBV29M200001M
			1.26	3.94	1.97	5.71	6.22	2.68	.67	12.60	.67	1.19	2.31		.79	2.62	1.25		.87	6.57		6000	25.76	
24	1-1/2	40	38	110	55	165	178	78	17	320	17	35,7	69,8	M12	20	79,4	36,5	M16	27	187		420	17,10	BBV29M240001M
			1.50	4.33	2.17	6.50	7.01	3.07	.67	12.60	.67	1.41	2.75		.79	3.13	1.44		1.06	7.36		6000	37.62	
32	2	50	48	116	58	198	210	94	17	320	17	42,9	77,8	M12	20	96,8	44,5	M20	28	203		420	24,60	BBV29M320001M
			1.89	4.57	2.28	7.80	8.27	3.70	.67	12.60	.67	1.69	3.06		.79	3.81	1.75		1.10	7.99		6000	54.12	

Please note: The final maximum working pressure is determined by flange and pipe/tubing rating.

High-Pressure Round Body Ball Valve ▪ Type BBV27/28





List of Components

No.	Qty.	Description
1	1	Housing
2	1	Ball
3*	2	Seat
4*	2	O-Ring
5	2	Outer S/S Support Ring
6	2	Inner S/S Support Ring
7*	1	Cover O-Ring
8	9	Cover Bolts
9	1	Cover
10	1	Stop Screw
11	1	Stem
12*	1	Thrust Ring
13*	1	Stem O-Ring
14*	1	Back-up Ring
15	2	Set Screws
16	1	Stem/Handle Adaptor
17	1	Screw
18	1	Steel Handle

* Included in seal kit

Characteristics

Two-way high-pressure round body ball valves designed for use as on/off devices for hydraulic applications

Standard Construction
- Round body design for in-line assembly
- Machined parts for reduced torque operation
- Designed for direct mount to reduce threads in fluid flow
- Supplied with removable, adjustable lever

Standard Materials
- Body: Carbon Steel, zinc/iron-plated
- Ball: Carbon Steel, hard chrome-plated
- Stem: Carbon Steel
- Lever: Carbon Steel
- Ball seat: Delrin® (POM)
- O-rings: FPM (Viton®)

Standard Connections Styles / Sizes
- 3000 PSI (code 61) direct SAE flange connection
- 6000 PSI (code 62) direct SAE flange connection
- Metric ISO and unified coarse (UNC) threads

Pressure Range
- Pressure range: up to 170 bar / 2500 PSI (depending on size and material combination of the ball valve)

Please note: The pressure range is limited to the SAE flange ratings. Higher pressures can be accomodated by using special flange connectors, type BBVF (see page F232).

Temperature Range
- Operating temperature range: -20 °C ... +100 °C / -4 °F ... + 212 °F

Options / Accessories
- Flanges and flange kits (see Flanges section)
- Locking devices (see pages F99-F101)
- Pneumatic actuator packages (see page F102)
- Limit switches (see page F102)
- Stainless Steel body
- Stainless Steel ball and stem
- Special ball seat and O-ring materials available for lower/higher temperatures and more aggressive media
- Electrical actuators available on request. Pease consult STAUFF for further information.

Order Codes

BBV	2	7	40	0	0	0	1	M	-	-
①	②	③	④	⑤	⑥	⑦	⑧	⑨	⑩	⑪

① Type

High-Pressure Round Body Ball Valve	**BBV**

② Number of Ports

Two Ports (Two-Way Ball Valve)	**2**

③ Connection Style

3000 PSI (Code 61) SAE Direct Flange Connection with Unified Coarse (UNC) Threads	**7**
3000 PSI (Code 61) SAE Direct Flange Connection with Metric ISO Threads	**7M**
6000 PSI (Code 62) SAE Direct Flange Connection with Unified Coarse (UNC) Threads	**8**
6000 PSI (Code 62) SAE Direct Flange Connection with Metric ISO Threads	**8M**

Please consult STAUFF for alternative connection styles.

④ Connection Size

STAUFF Size (according to dimension table):			
40	**48**	**64**	**80**

Please consult STAUFF for alternative connection sizes.

⑤ Body Material / Surface Finishing

Carbon Steel, zinc/iron-plated	**0**
Stainless Steel V4A (AISI 316Ti)	**1**

Alternative materials / surface finishings are available upon request. Consult STAUFF for further information.

⑥ Ball / Stem Material

Ball: Carbon Steel, hard chrome-plated Stem: Carbon Steel	**0**
Ball / Stem: Stainless Steel V4A (AISI 316Ti)	**1**

Alternative materials / surface finishings are available upon request. Consult STAUFF for further information.

⑦ Ball Seat Material

Delrin® (POM)	**0**

Alternative materials are available upon request. Consult STAUFF for further information.

⑧ O-Ring Material

NBR (Buna-N®)	**0**
FPM (Viton®)	**1**

Alternative materials are available upon request. Consult STAUFF for further information.

⑨ Manufacturing Code

Manufacturing code for all connection styles	**M**

⑩ Lever Options

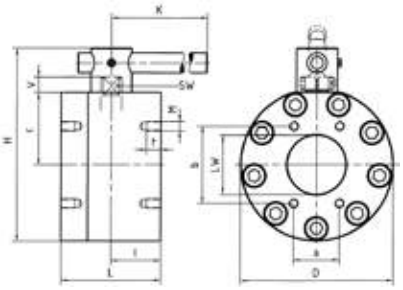
Supplied with standard lever (according to table)	**-**
Supplied without lever	**-0**

Alternative levers can be ordered separately. Please see page F98 for further information.

⑪ Accessories / Options

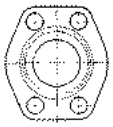
Supplied without accessories	**-**
Supplied with Locking Device LD5A (standard)	**-LD5A**
Supplied with Locking Device LD5B	**-LD5B**
Supplied with Double-Acting Pneumatic Actuator (Please add size **)	**-EDA****
Supplied with Single-Acting Pneumatic Actuator (Please add size **)	**-ESA****
Supplied with Limit Switch in open position	**-LS-O**
Supplied with Limit Switch in closed position	**-LS-C**
Supplied with Limit Switch in open and closed position	**-LS-OC**

Please see page F99 for further information.



High-Pressure Round Body Ball Valve ▪ Type BBV27/28
3000 PSI Flange Connection (ISO 6162-1)

Flange Position



3000 PSI
(Code 61)

When ordering the standard option as indicated in the table below, the following materials will be supplied:

- Body, ball and stem: Carbon Steel
- Lever: Carbon Steel
- Ball seat: Delrin® (POM)
- O-rings: FPM (Viton®)

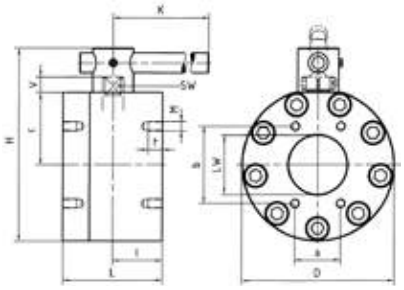
3000 PSI Series (Code 61) ▪ Unified Coarse (UNC) Threads

STAUFF Size	SAE Flange Size	Nominal Size DN	Dimensions (mm/in) LW	L	l	D	H	c	V	K	SW	a	b	M	t	Nom. Pressure (bar/PSI)	Weight (kg/lbs)	Order Codes (Standard Option)
40	2-1/2	65	63	150	75	198	259	94	20	600	16	50,8	88,9	1/2–13 UNC	19	170	33,50	BBV27400001M
			2.48	5.91	2.95	7.80	10.20	3.70	.79	23.62	.63	2.00	3.50		.75	2500	73.70	
48	3	80	76	140	70	210	277	100	26	600	19	61,9	106,4	5/8–11 UNC	24	138	33,50	BBV27480001M
			2.99	5.51	2.76	8.27	10.91	3.94	1.02	23.62	.75	2.44	4.19		.95	2000	73.70	
64	4	100	100	170	85	258	326	122	27	900	24	77,8	130,2	5/8–11 UNC	24	35	60,50	BBV27640001M
			3.94	6.69	3.35	10.16	12.83	4.80	1.06	35.43	.94	3.06	5.13		.95	500	133.10	
80	5	125	118	210	105	295	377	140	33	900	36	92,1	152,4	5/8–11 UNC	30	35	95,50	BBV27800001M
			4.65	8.27	4.13	11.61	14.84	5.51	1.30	35.43	1.42	3.63	6.00		1.18	500	210.10	

3000 PSI Series (Code 61) ▪ Metric ISO Threads

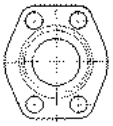
STAUFF Size	SAE Flange Size	Nominal Size DN	Dimensions (mm/in) LW	L	l	D	H	c	V	K	SW	a	b	M	t	Nom. Pressure (bar/PSI)	Weight (kg/lbs)	Order Codes (Standard Option)
40	2-1/2	65	63	150	75	198	259	94	20	600	16	50,8	88,9	M12	19	170	33,50	BBV27M400001M
			2.48	5.91	2.95	7.80	10.20	3.70	.79	23.62	.63	2.00	3.50		.75	2500	73.70	
48	3	80	76	140	70	210	277	100	26	600	19	61,9	106,4	M16	24	138	33,50	BBV27M480001M
			2.99	5.51	2.76	8.27	10.91	3.94	1.02	23.62	.75	2.44	4.19		.95	2000	73.70	
64	4	100	100	170	85	258	326	122	27	900	24	77,8	130,2	M16	24	35	60,50	BBV27M640001M
			3.94	6.69	3.35	10.16	12.83	4.80	1.06	35.43	.94	3.06	5.13		.95	500	133.10	
80	5	125	118	210	105	295	377	140	33	900	36	92,1	152,4	M16	30	35	95,50	BBV27M800001M
			4.65	8.27	4.13	11.61	14.84	5.51	1.30	35.43	1.42	3.63	6.00		1.18	500	210.10	

Please note: The final maximum working pressure is determined by flange and pipe/tubing rating.
Lever must be fixed in central position during operation. In case of vibration, the lever may otherwise operate the valve by itself.



High-Pressure Round Body Ball Valve ▪ Type BBV27/28
6000 PSI Flange Connection (ISO 6162-2)

Flange Position



6000 PSI
(Code 62)

When ordering the standard option as indicated in the table below, the following materials will be supplied:

- Body, ball and stem: Stainless Steel
- Lever: Carbon Steel
- Ball seat: Delrin® (POM)
- O-rings: FPM (Viton®)

6000 PSI Series (Code 62) ▪ Unified Coarse (UNC) Threads

STAUFF Size	SAE Flange Size	Nominal Size DN	Dimensions (mm/in) LW	L	l	D	H	c	V	K	SW	a	b	M	t	Nom. Pressure (bar/PSI)	Weight (kg/lbs)	Order Codes (Standard Option)
40	2-1/2	65	63	170	75	218	275	100	20	600	16	123,8	58,8	7/8–9 UNC	41	420	44,50	BBV28400001M
			2.48	6.69	2.95	8.58	10.83	3.94	.79	23.62	.63	4.87	2.31		1.61	6000	97.90	
48	3	80	76	170	70	248	307	111	21	600	19	152,4	71,4	1-1/8–7 UNC	47	420	55,00	BBV28480001M
			2.99	6.69	2.76	9.76	12.09	4.37	.83	23.62	.75	6.00	2.81		1.85	6000	121.00	

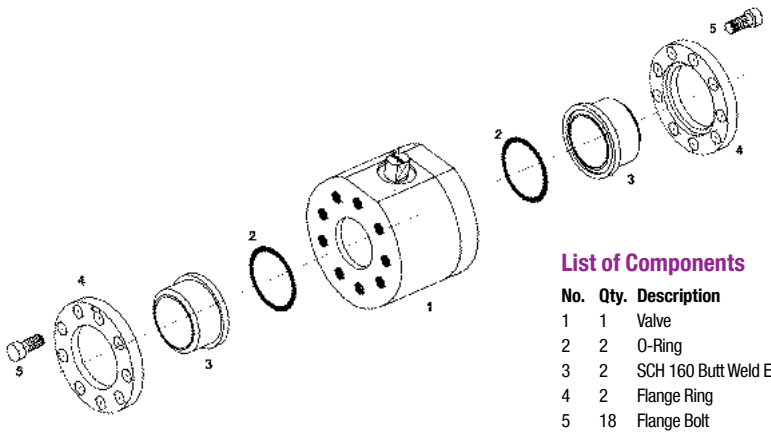
6000 PSI Series (Code 62) ▪ Metric ISO Threads

STAUFF Size	SAE Flange Size	Nominal Size DN	Dimensions (mm/in) LW	L	l	D	H	c	V	K	SW	a	b	M	t	Nom. Pressure (bar/PSI)	Weight (kg/lbs)	Order Codes (Standard Option)
40	2-1/2	65	63	170	75	218	275	100	20	600	16	123,8	58,8	M24	41	420	44,50	BBV28M400001M
			2.48	6.69	2.95	8.58	10.83	3.94	.79	23.62	.63	4.87	2.31		1.61	6000	97.90	
48	3	80	76	170	70	248	307	111	21	600	19	152,4	71,4	M30	47	420	55,00	BBV28M480001M
			2.99	6.69	2.76	9.76	12.09	4.37	.83	23.62	.75	6.00	2.81		1.85	6000	121.00	

Please note: The final maximum working pressure is determined by flange and pipe/tubing rating.
Lever must be fixed in central position during operation. In case of vibration, the lever may otherwise operate the valve by itself.

High-Pressure Round Body Ball Valve ▪ Type BBVF





List of Components

No.	Qty.	Description
1	1	Valve
2	2	O-Ring
3	2	SCH 160 Butt Weld End
4	2	Flange Ring
5	18	Flange Bolt

Characteristics

Two-way high-pressure round body ball valves designed for use as on/off devices for hydraulic applications

Standard Construction
- Round body design for in-line assembly
- Machined parts for reduced torque operation
- Designed for direct mount to reduce threads in fluid flow
- High-pressure DIN flange connection
- Supplied with removable, adjustable lever

Standard Materials
- Body: Carbon Steel, zinc/iron-plated
- Ball: Carbon Steel, hard chrome-plated
- Stem: Carbon Steel
- Lever: Carbon Steel
- Ball seat: Delrin® (POM)
- O-rings: FPM (Viton®)

Standard Connections Styles / Sizes
- DIN flange connection with SCH 160 butt weld ends

Pressure Range
- Pressure range: up to 345 bar / 5000 PSI (depending on size and material combination of the ball valve)

Temperature Range
- Operating temperature range: -20 °C ... +100 °C / -4 °F ... + 212 °F

Options / Accessories
- Locking devices (see pages F99-F101)
- Pneumatic actuator packages (see page F102)
- Limit switches (see page F102)
- Stainless Steel body
- Stainless Steel ball and stem
- Special ball seat and O-ring materials available for lower/higher temperatures and more aggressive media

- Electrical actuators available on request. Pease consult STAUFF for further information.

Order Codes

BBVF	2	A	40	0	0	0	1	M	-	-
①	②	③	④	⑤	⑥	⑦	⑧	⑨	⑩	⑪

① Type

High-Pressure Round Body Ball Valve	**BBVF**

② Number of Ports

Two Ports (Two-Way Ball Valve)	**2**

③ Connection Style

DIN Flange Connection with Butt Weld Ends with Unified Coarse (UNC) Bolts	**A**

Please consult STAUFF for alternative connection styles.

④ Connection Size

STAUFF Size (according to dimension table):			
40	**48**	**64**	**80**

Please consult STAUFF for alternative connection sizes.

⑤ Body Material / Surface Finishing

Carbon Steel, zinc/iron-plated	**0**
Stainless Steel V4A (AISI 316Ti)	**1**

Alternative materials / surface finishings are available upon request. Consult STAUFF for further information.

⑥ Ball / Stem Material

Ball: Carbon Steel, hard chrome-plated Stem: Carbon Steel	**0**
Ball / Stem: Stainless Steel V4A (AISI 316Ti)	**1**

Alternative materials / surface finishings are available upon request. Consult STAUFF for further information.

⑦ Ball Seat Material

Delrin® (POM)	**0**

Alternative materials are available upon request. Consult STAUFF for further information.

⑧ O-Ring Material

NBR (Buna-N®)	**0**
FPM (Viton®)	**1**

Alternative materials are available upon request. Consult STAUFF for further information.

⑨ Manufacturing Code

Manufacturing code for all connection styles	**M**

⑩ Lever Options

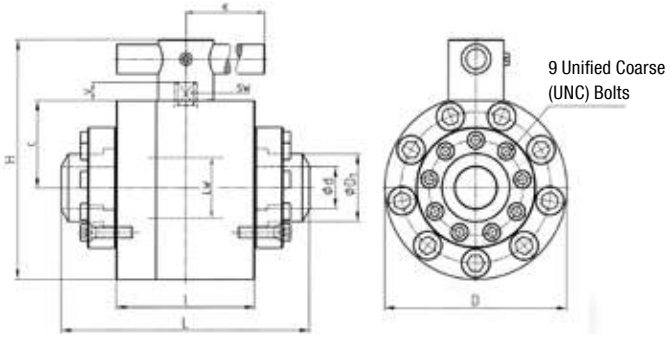
Supplied with standard lever (according to table)	**-**
Supplied without lever	**-0**

Alternative levers can be ordered separately. Please see page F98 for further information.

⑪ Accessories / Options

Supplied without accessories	**-**
Supplied with Locking Device LD5A (standard)	**-LD5A**
Supplied with Locking Device LD5B	**-LD5B**
Supplied with Double-Acting Pneumatic Actuator (Please add size **)	**-EDA****
Supplied with Single-Acting Pneumatic Actuator (Please add size **)	**-ESA****
Supplied with Limit Switch in open position	**-LS-O**
Supplied with Limit Switch in closed position	**-LS-C**
Supplied with Limit Switch in open and closed position	**-LS-OC**

Please see page F99 for further information.



High-Pressure Round Body Ball Valve ▪ Type BBVF
DIN Flange Connection with Butt Weld Ends

When ordering the standard option as indicated in the table below, the following materials will be supplied:

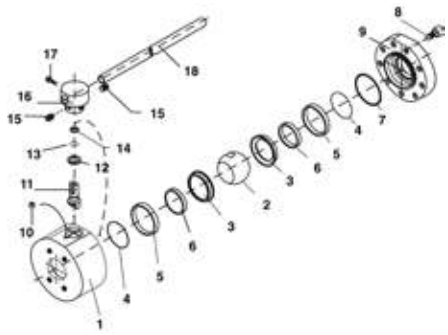
- Body, ball and stem: Carbon Steel
- Lever: Carbon Steel
- Ball seat: Delrin® (POM)
- O-rings: FPM (Viton®)

STAUFF Size	Nominal Size DN	Dimensions (mm/in) LW	L	l	D	H	c	V	K	SW	d	D1	Bolt Type	Nom. Pressure (bar/PSI)	Weight (kg/lbs)	Order Codes (Standard Option)
40	65	65	250	150	198	259	94	21	600	16	45	73	1/2–13 UNC x 1-3/4 (Grade 8)	475	40	BBVF2A400001M
		2.56	9.84	5.91	7.80	10.20	3.70	.83	23.62	.63	1.77	2.87		6800	88.00	
48	80	76	260	140	210	277	100	26	600	19	58,4	88,9	5/8–11 UNC x 1-3/4 (Grade 8)	420	45,5	BBVF2A480001M
		2.99	10.24	5.51	8.27	10.91	3.94	1.02	23.62	.75	2.30	3.50		6000	100.10	
64	100	100	330	170	260	327	122	27	900	24	80,1	114,3	5/8–11 UNC x 1-3/4 (Grade 8)	365	75	BBVF2A640001M
		3.94	12.99	6.69	10.24	12.87	4.80	1.06	35.43	0.94	3.15	4.50		5200	165.00	
80	125	118	370	210	300	380	140	33	900	36	103,2	141,3	3/4–10 UNC x 2-1/4 (Grade 8)	329	120	BBVF2A800001M
		4.65	14.57	8.27	11.81	14.96	5.51	1.30	35.43	1.42	4.06	5.56		4700	264.00	

Please note: Lever must be fixed in central position during operation. In case of vibration, the lever may otherwise operate the valve by itself.

High-Pressure Round Body Ball Valve ▪ Type BBV





List of Components

No.	Qty.	Description
1	1	Housing
2	1	Ball
3*	2	Seat
4*	2	O-Ring
5	2	Outer S/S Support Ring
6	2	Inner S/S Support Ring
7*	1	Cover O-Ring
8	9	Cover Bolts
9	1	Cover
10	1	Stop Screw
11	1	Stem
12*	1	Thrust Ring
13*	1	Stem O-Ring
14*	1	Back-up Ring
15	2	Set Screws
16	1	Stem/Handle Adaptor
17	1	Screw
18	1	Steel Handle

* Included in seal kit

Characteristics

Two-way high-pressure round body ball valves designed for use as on/off devices for hydraulic applications

Standard Construction
- Round body design for in-line assembly
- Machined parts for reduced torque operation
- Designed for direct mount to reduce threads in fluid flow
- Supplied with lever

Standard Materials
- Body: Carbon Steel, zinc/iron-plated
- Ball: Carbon Steel, hard chrome-plated
- Stem: Carbon Steel
- Lever: Aluminium (STAUFF Size 08)
  Zinc (STAUFF Sizes 12 and 16)
  Carbon Steel (STAUFF Sizes 20 and 64)
- Ball seat: Delrin® (POM)
- O-rings: FPM (Viton®)

Standard Connections Styles / Sizes
- 250 bar / 3600 PSI series ISO 6164 flange connection
- 400 bar / 5800 PSI series ISO 6164 flange connection
- Metric ISO threads

Pressure Range
- Pressure range: up to 400 bar / 5800 PSI (depending on size and material combination of the ball valve)

Please note: The final maximum working pressure is determined by flange and pipe/tubing rating.

Temperature Range
- Operating temperature range:
  -20 °C ... +100 °C / -4 °F ... + 212 °F

Options / Accessories
- Alternative lever designs/materials (see page F98)
- Locking devices (see pages F99-F101)
- Pneumatic actuator packages (see page F102)
- Limit switches (see page F102)
- Stainless Steel body
- Stainless Steel ball and stem
- Special ball seat and O-ring materials available for lower/higher temperatures and more aggressive media

- Electrical actuators available on request.
  Pease consult STAUFF for further information.

Order Codes

BBV	2	D2	48	0	0	0	1	M	-	-
①	②	③	④	⑤	⑥	⑦	⑧	⑨	⑩	⑪

① Type

High-Pressure Round Body Ball Valve	**BBV**

② Number of Ports

Two Ports (Two-Way Ball Valve)	**2**

③ Connection Style

250 bar / 3600 PSI Series ISO 6164 Flange Connection with Metric ISO Threads	**D1**
400 bar / 5800 PSI Series ISO 6164 Flange Connection with Metric ISO Threads	**D2**
250 bar / 3600 PSI Series and 400 bar / 5800 PSI Series ISO 6164 Flange Connection with Metric ISO Threads	**D(1-2)**

Please consult STAUFF for alternative connection styles.

④ Connection Size

STAUFF Size (according to dimension table):

08	12	16	20	24	32	40	48	64

Please consult STAUFF for alternative connection sizes.

⑤ Body Material / Surface Finishing

Carbon Steel, zinc/iron-plated	**0**
Stainless Steel V4A (AISI 316Ti)	**1**

Alternative materials / surface finishings are available upon request. Consult STAUFF for further information.

⑥ Ball / Stem Material

Ball: Carbon Steel, hard chrome-plated Stem: Carbon Steel	**0**
Ball / Stem: Stainless Steel V4A (AISI 316Ti)	**1**

Alternative materials / surface finishings are available upon request. Consult STAUFF for further information.

⑦ Ball Seat Material

Delrin® (POM)	**0**

Alternative materials are available upon request. Consult STAUFF for further information.

⑧ O-Ring Material

NBR (Buna-N®)	**0**
FPM (Viton®)	**1**

Alternative materials are available upon request. Consult STAUFF for further information.

⑨ Manufacturing Code

Manufacturing code for all connection styles	**M**

⑩ Lever Options

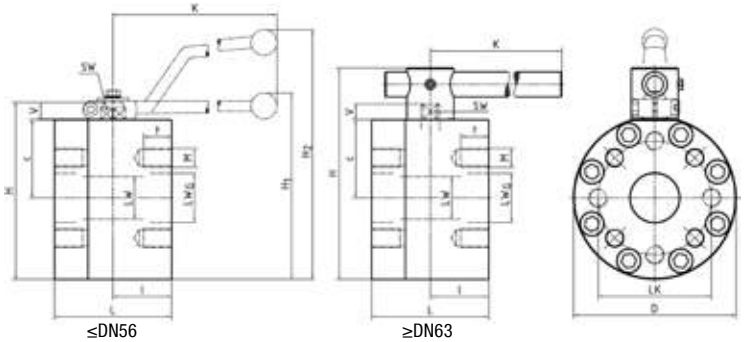
Supplied with standard lever (according to table)	**-**
Supplied without lever	**-0**

Alternative levers can be ordered separately. Please see page F98 for further information.

⑪ Accessories / Options

Supplied without accessories	**-**
Supplied with Locking Device LD4	**-LD4**
Supplied with Locking Device LD5B (standard)	**-LD5B**
Supplied with Double-Acting Pneumatic Actuator (Please add size **)	**-EDA****
Supplied with Single-Acting Pneumatic Actuator (Please add size **)	**-ESA***
Supplied with Limit Switch in open position	**-LS-O**
Supplied with Limit Switch in closed position	**-LS-C**
Supplied with Limit Switch in open and closed position	**-LS-OC**

Please see page F99 for further information.



High-Pressure Round Body Ball Valve ▪ Type BBV
ISO Flange Connection (ISO 6164)

When ordering the standard option as indicated in the table below, the following materials will be supplied:

- Body, ball and stem: Carbon Steel
- Lever: Aluminium (STAUFF Size 08)
  Zinc (STAUFF Sizes 12 and 16)
  Carbon Steel (STAUFF Sizes 20 to 64)
  Ball seat: Delrin® (POM)
- O-rings: FPM (Viton®)

250 bar / 3600 PSI Series (ISO 6164) ▪ Metric ISO Threads

STAUFF Size	Nominal Size DN	Dimensions (mm/in) LW	LW_G	L	I	D	H	c	V	K	SW	LK	M	t	H1	H2	Nom. Pressure (bar/PSI)		Weight (kg/lbs)	Order Codes (Standard Option)
08	13	15	15	85	45	78	83	31	13	160	12	42[1]	4 x M8	16		127	250	400	2,90	BBV2D(1-2)080001M [2]
		.59	.59	3.35	1.77	3.07	3.27	1.22	.51	6.30	.47	1.65[1]		.63		5.00	3600	5800	4.84	
12	19	20	20	88	38	119	110	36.5	14	200	14	50	4 x M8	15	114		250	400	6,80	BBV2D(1-2)120001M [2]
		.79	.79	3.46	1.50	4.69	4.33	1.44	.55	7.87	.55	1.97		.59	4.49		3600	5800	14.96	
16	25	25	25	88	38	126	117	39.5	14	200	14	62	4 x M10	20	120		250	400	7,20	BBV2D(1-2)160001M [2]
		.98	.98	3.46	1.50	4.96	4.61	1.56	.55	7.87	.55	2.44		.79	4.72		3600	5800	15.84	
20	32	32	32	105	50	145	158	68	17	320	17	73	4 x M12	21	167		250	400	12,50	BBV2D(1-2)200001M [2]
		1.26	1.26	4.13	1.97	5.71	6.22	2.68	.67	12.60	.67	2.87		.83	6.57		3600	5800	27.50	
24	38	38	38	110	55	165	178	78	17	320	17	85	4 x M16	24.5	187		250	400	16,60	BBV2D(1-2)240001M [2]
		1.50	1.50	4.33	2.17	6.50	7.01	3.07	.67	12.60	.67	3.35		.96	7.36		3600	5800	36.52	
32	51	48	47	116	58	198	210	94	17	320	17	98	4 x M16	25.5	219		250	400	24,90	BBV2D(1-2)320001M [2]
		1.89	1.85	4.57	2.28	7.80	8.27	3.70	.67	12.60	.67	3.86		1.00	8.62		3600	5800	54.78	
40	56	48	58	123	58	198	210	94	17	320	17	118	4 x M20	33	219		250	400	26,60	BBV2D(1-2)400001M [2]
		1.89	2.28	4.84	2.28	7.80	8.27	3.70	.67	12.60	.67	4.65		1.30	8.62		3600	5800	58.52	
48	63	63	70	150	75	208	270	100	20	600	16	145	4 x M20	33			250		36,90	BBV2D1480001M
		2.48	2.76	5.91	2.95	8.19	1.63	3.94	.79	23.62	.63	5.71		1.30			3600		81.18	

400 bar / 5800 PSI Series (ISO 6164) ▪ Metric ISO Threads

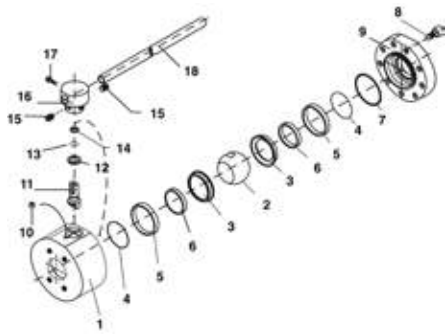
STAUFF Size	Nominal Size DN	Dimensions (mm/in) LW	LW_G	L	I	D	H	c	V	K	SW	LK	M	t	H1	H2	Nom. Pressure (bar/PSI)	Weight (kg/lbs)	Order Codes (Standard Option)
08	13	15	15	85	45	78	83	31	13	160	12	42[1]	4 x M8	16		127	400	2.90	BBV2D(1-2)080001M [2]
		.59	.59	3.35	1.77	3.07	3.27	1.22	.51	6.30	.47	1.65[1]		.63		5.00	5800	4.84	
12	19	20	20	88	38	119	110	36.5	14	200	14	50	4 x M8	15	114		400	6.80	BBV2D(1-2)120001M [2]
		.79	.79	3.46	1.50	4.69	4.33	1.44	.55	7.87	.55	1.97		.59	4.49		5800	14.96	
16	25	25	25	88	38	126	117	39.5	14	200	14	62	4 x M10	20	120		400	7.20	BBV2D(1-2)160001M [2]
		.98	.98	3.46	1.50	4.96	4.61	1.56	.55	7.87	.55	2.44		.79	4.72		5800	15.84	
20	32	32	32	105	50	145	158	68	17	320	17	73	4 x M12	21	167		400	12.50	BBV2D(1-2)200001M [2]
		1.26	1.26	4.13	1.97	5.71	6.22	2.68	.67	12.60	.67	2.87		.83	6.57		5800	27.50	
24	38	38	38	110	55	165	178	78	17	320	17	85	4 x M16	24.5	187		400	16.60	BBV2D(1-2)240001M [2]
		1.50	1.50	4.33	2.17	6.50	7.01	3.07	.67	12.60	.67	3.35		.96	7.36		5800	36.52	
32	51	48	47	116	58	198	210	94	17	320	17	98	4 x M16	25.5	219		400	24.90	BBV2D(1-2)320001M [2]
		1.89	1.85	4.57	2.28	7.80	8.27	3.70	.67	12.60	.67	3.86		1.00	8.62		5800	54.78	
40	56	48	58	123	58	198	210	94	17	320	17	118	4 x M20	33	219		400	26.60	BBV2D(1-2)400001M [2]
		1.89	2.28	4.84	2.28	7.80	8.27	3.70	.67	12.60	.67	4.65		1.30	8.62		5800	58.52	
48	63	65	58	150	75	224	286	108	20	600	16	145	4 x M24	37.5			400	42.53	BBV2D2480001M
		2.56	2.28	5.91	2.95	8.82	11.26	4.25	.79	23.62	.63	5.71		1.47			5800	93.56	
64	80	76	74	140	70	228	293	107	25	600	19	175	4 x M30	35			400	51.00	BBV2D2640001M
		2.99	2.91	5.51	2.76	8.98	11.54	4.21	.98	23.62	.75	6.89		1.38			5800	112.20	

Please note: The final maximum working pressure is determined by flange and pipe/tubing rating.
Lever must be fixed in central position during operation. In case of vibration, the lever may otherwise operate the valve by itself.

[1] Dimension LK turned by 45°.
[2] Suitable for 250 bar / 3600 PSI series and 400 bar / 5800 PSI series.

High-Pressure Round Body Ball Valve ▪ Type BBV





List of Components

No.	Qty.	Description
1	1	Housing
2	1	Ball
3*	2	Seat
4*	2	O-Ring
5	2	Outer S/S Support Ring
6	2	Inner S/S Support Ring
7*	1	Cover O-Ring
8	9	Cover Bolts
9	1	Cover
10	1	Stop Screw
11	1	Stem
12*	1	Thrust Ring
13*	1	Stem O-Ring
14*	1	Back-up Ring
15	2	Set Screws
16	1	Stem/Handle Adaptor
17	1	Screw
18	1	Steel Handle

* Included in seal kit

Characteristics

Two-way high-pressure round body ball valves designed for use as on/off devices for hydraulic applications

Standard Construction
- Round body design for in-line assembly
- Machined parts for reduced torque operation
- Designed for direct mount to reduce threads in fluid flow
- Supplied with lever

Standard Materials
- Body: Carbon Steel, zinc/iron-plated
- Ball: Carbon Steel, hard chrome-plated
- Stem: Carbon Steel
- Lever: Carbon Steel
- Ball seat: Delrin® (POM)
- O-rings: FPM (Viton®)

Standard Connections Styles / Sizes
- 250 bar / 3600 PSI series CETOP RP 63 H flange connection
- 400 bar / 5800 PSI series CETOP RP 63 H flange connection
- Metric ISO threads

Pressure Range
- Pressure range: up to 400 bar / 5800 PSI (depending on size and material combination of the ball valve)

Please note: The final maximum working pressure is determined by flange and pipe/tubing rating.

Temperature Range
- Operating temperature range: -20 °C ... +100 °C / -4 °F ... + 212 °F

Options / Accessories
- Alternative lever designs/materials (see page F98)
- Locking devices (see pages F99-F101)
- Pneumatic actuator packages (see page F102)
- Limit switches (see page F102)
- Stainless Steel body
- Stainless Steel ball and stem
- Special ball seat and O-ring materials available for lower/higher temperatures and more aggressive media
- Electrical actuators available on request. Pease consult STAUFF for further information.

Order Codes

BBV	2	Y1	48	0	0	0	1	M	-	-
①	②	③	④	⑤	⑥	⑦	⑧	⑨	⑩	⑪

① Type

High-Pressure Round Body Ball Valve	**BBV**

② Number of Ports

Two Ports (Two-Way Ball Valve)	**2**

③ Connection Style

250 bar / 3600 PSI Series CETOP Flange Connection with Metric ISO Threads	**Y1**
400 bar / 5800 PSI Series CETOP Flange Connection with Metric ISO Threads	**Y2**
250 bar / 3600 PSI Seriesand 400 bar / 5800 PSI Series CETOP Flange Connection with Metric ISO Threads	**Y(1-2)**

Please consult STAUFF for alternative connection styles.

④ Connection Size

STAUFF Size (according to dimension table):

08	12	16	20	24	32	40	48	64

Please consult STAUFF for alternative connection sizes.

⑤ Body Material / Surface Finishing

Carbon Steel, zinc/iron-plated	**0**
Stainless Steel V4A (AISI 316Ti)	**1**

Alternative materials / surface finishings are available upon request. Consult STAUFF for further information.

⑥ Ball / Stem Material

Ball: Carbon Steel, hard chrome-plated Stem: Carbon Steel	**0**
Ball / Stem: Stainless Steel V4A (AISI 316Ti)	**1**

Alternative materials / surface finishings are available upon request. Consult STAUFF for further information.

⑦ Ball Seat Material

Delrin® (POM)	**0**

Alternative materials are available upon request. Consult STAUFF for further information.

⑧ O-Ring Material

NBR (Buna-N®)	**0**
FPM (Viton®)	**1**

Alternative materials are available upon request. Consult STAUFF for further information.

⑨ Manufacturing Code

Manufacturing code for all connection styles	**M**

⑩ Lever Options

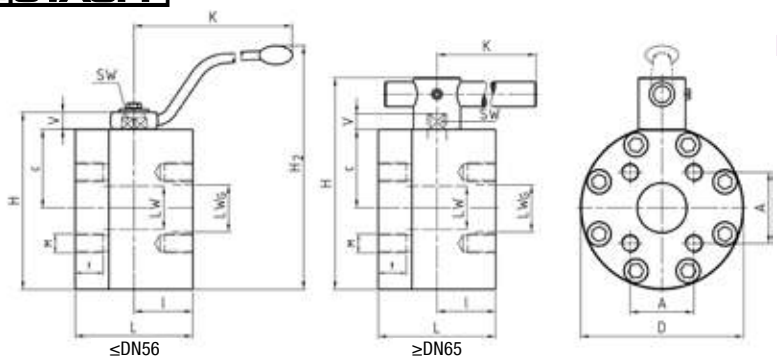
Supplied with standard lever (according to table)	**-**
Supplied without lever	**-0**

Alternative levers can be ordered separately. Please see page F98 for further information.

⑪ Accessories / Options

Supplied without accessories	**-**
Supplied with Locking Device LD4	**-LD4**
Supplied with Locking Device LD5B (standard)	**-LD5B**
Supplied with Double-Acting Pneumatic Actuator (Please add size **)	**-EDA****
Supplied with Single-Acting Pneumatic Actuator (Please add size **)	**-ESA****
Supplied with Limit Switch in open position	**-LS-O**
Supplied with Limit Switch in closed position	**-LS-C**
Supplied with Limit Switch in open and closed position	**-LS-OC**

Please see page F99 for further information.



≤DN56 ≥DN65

High-Pressure Round Body Ball Valve ▪ Type BBV
CETOP Flange Connection (CETOP RP 63 H)

When ordering the standard option as indicated in the table below, the following materials will be supplied:

- Body, ball and stem: Carbon Steel
- Lever: Carbon Steel
- Ball seat: Delrin® (POM)
- O-rings: FPM (Viton®)

250 bar / 3600 PSI Series (CETOP RP 63 H) ▪ Metric ISO Threads

STAUFF Size	Flange Size	Nominal Size DN	Dimensions (mm/in) LW	LWG	L	I	D	H	c	V	K	SW	A	M	t	H2	Nom. Pressure (bar/PSI)		Weight (kg/lbs)	Order Codes (Standard Option)
32	2	51	48	47	116	58	198	210	94	17	320	17	69,4	M16	24,5	219	250	400	24,90	BBV2Y(1-2)320001M [1]
			1.89	1.85	4.57	2.28	7.80	8.27	3.70	.67	12.60	.67	2.73		.96	8.62	3600	5800	54.78	
40	2-1/2	56	48	58	123	58	198	210	94	17	320	17	83,4	M20	33	219	250	400	26,60	BBV2Y(1-2)400001M [1]
			1.89	2.28	4.84	2.28	7.80	8.27	3.70	.67	12.60	.67	3.28		1.30	8.62	3600	5800	58.52	
48	3	65	63	70	150	75	208	270	100	20	600	16	102,5	M20	33		250		36,90	BBV2Y1480001M
			2.48	2.76	5.91	2.95	8.19	1.63	3.94	.79	23.62	.63	4.04		1.30		3600		81.18	
64	4	100	100	90	200	100	258	326	122	26	900	24	113,2	M24	40		250		70,40	BBV2Y1640001M
			3.94	3.54	7.87	3.93	10.16	12.83	4.80	1.02	35.43	.94	4.46		1.57		3600		154.88	

400 bar / 5800 PSI Series (CETOP RP 63 H) ▪ Metric ISO Threads

STAUFF Size	Flange Size	Nominal Size DN	Dimensions (mm/in) LW	LWG	L	I	D	H	c	V	K	SW	A	M	t	H2	Nom. Pressure (bar/PSI)		Weight (kg/lbs)	Order Codes (Standard Option)
32	2	51	48	47	116	58	198	210	94	17	320	17	69,4	M16	24,5	219	250	400	24,90	BBV2Y(1-2)320001M [1]
			1.89	1.85	4.57	2.28	7.80	8.27	3.70	.67	12.60	.67	2.73		.96	8.62	3600	5800	54.78	
40	2-1/2	56	48	58	123	58	198	210	94	17	320	17	83,4	M20	33	219	250	400	26,60	BBV2Y(1-2)400001M [1]
			1.89	2.28	4.84	2.28	7.80	8.27	3.70	.67	12.60	.67	3.28		1.30	8.62	3600	5800	58.52	
48	3	65	63	58	150	75	224	286	108	20	600	16	102,5	M20	37.5		400		42.53	BBV2Y2480001M [2]
			2.56	2.28	5.91	2.95	8.82	11.26	4.25	.79	23.62	.63	4.04		1.47		5800		93.56	
64	4	80	76	74	140	70	228	293	107	25	600	19	113,2	M24	35		400		51.00	BBV2Y2640001M [2]
			2.99	2.91	5.51	2.76	8.98	11.54	4.21	.98	23.62	.75	4.46		1.38		5800		112.20	

Please note: The final maximum working pressure is determined by flange and pipe/tubing rating.
Lever must be fixed in central position during operation. In case of vibration, the lever may otherwise operate the valve by itself.

[1] Suitable for 250 bar / 3600 PSI series and 400 bar / 5800 PSI series.
[2] Available on request.

High-Pressure Block Body Ball Valve ▪ Type KHZ



Characteristics

Two-way high-pressure block body ball valves designed for use as on/off devices for hydraulic applications

Standard Construction
- Compact block body design for manifold mounting or in-line assembly
- Supplied with off-set lever

Please note: Manifold side of valve must be secured to manifold or flange prior to operation. Failure to comply could lead to serious injury or death.

Standard Materials
- Body: Carbon Steel, zinc/iron-plated
- Ball: Carbon Steel, hard chrome-plated
- Stem: Carbon Steel
- Lever: Carbon Steel
- Ball seat: Delrin® (POM)
- O-rings: FPM (Viton®)

Standard Connections Styles / Sizes
- 3000 PSI (code 61) SAE flange bore patterns
- 6000 PSI (code 62) SAE flange bore patterns
- Metric ISO and unified coarse (UNC) threads

Pressure Range
- Pressure range: up to 420 bar / 6000 PSI (depending on size and material combination of the ball valve)

Please note: The final maximum working pressure is determined by flange and pipe/tubing rating.

Temperature Range
- Operating temperature range: -20 °C ... +100 °C / -4 °F ... + 212 °F

Options / Accessories
- Flanges and flange kits (see Flanges section)
- Alternative lever designs/materials (see page F98)
- Locking devices (see pages F99-F101)
- Pneumatic actuator packages (see page F102)
- Limit switches (see page F102)
- Special ball seat and O-ring materials available for lower/higher temperatures and more aggressive media
- Electrical actuators available on request. Pease consult STAUFF for further information.

Order Codes

KHZ	2	7	08	0	0	0	1	M	-	-
①	②	③	④	⑤	⑥	⑦	⑧	⑨	⑩	⑪

① Type

High-Pressure Compact Block Body Ball Valve	**KHZ**

② Number of Ports

Two Ports (Two-Way Ball Valve)	**2**

③ Connection Style

3000 PSI (code 61) SAE Flange Bore Patterns and Unified Coarse (UNC) Threads	**7**
3000 PSI (code 61) SAE Flange Bore Patterns and Metric ISO Threads	**7M**
6000 PSI (code 62) SAE Flange Bore Patterns and Unified Coarse (UNC) Threads	**8**
6000 PSI (code 62) SAE Flange Bore Patterns and Metric ISO Threads	**8M**

Please consult STAUFF for alternative connection styles.

④ Connection Size

STAUFF Size (according to dimension table):					
08	**12**	**16**	**20**	**24**	**32**

Please consult STAUFF for alternative connection sizes.

⑤ Body Material / Surface Finishing

Carbon Steel, zinc/iron-plated	**0**

Alternative materials / surface finishings are available upon request. Consult STAUFF for further information.

⑥ Ball / Stem Material

Ball: Carbon Steel, hard chrome-plated Stem: Carbon Steel	**0**

Alternative materials / surface finishings are available upon request. Consult STAUFF for further information.

⑦ Ball Seat Material

Delrin® (POM)	**0**

Alternative materials are available upon request. Consult STAUFF for further information.

⑧ O-Ring Material

NBR (Buna-N®)	**0**
FPM (Viton®)	**1**

Alternative materials are available upon request. Consult STAUFF for further information.

⑨ Manufacturing Code

Manufacturing code for all connection styles	**M**

⑩ Lever Options

Supplied with standard lever (according to table)	**-**
Supplied without lever	**-0**

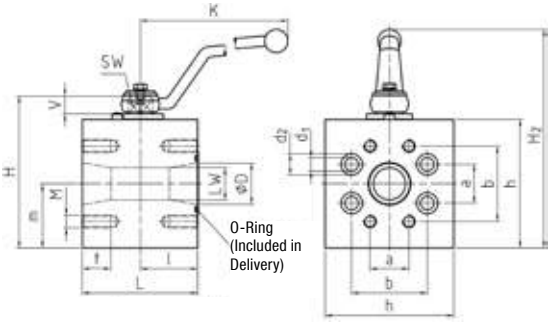
Alternative levers can be ordered separately. Please see page F98 for further information.

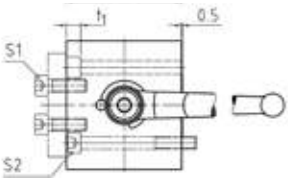
⑪ Accessories / Options

Supplied without accessories	**-**
Supplied with Locking Device LD1 (standard)	**-LD1**
Supplied with Double-Acting Pneumatic Actuator (Please add size **)	**-EDA****
Supplied with Single-Acting Pneumatic Actuator (Please add size **)	**-ESA****
Supplied with Limit Switch in open position	**-LS-O**
Supplied with Limit Switch in closed position	**-LS-C**
Supplied with Limit Switch in open and closed position	**-LS-OC**

Please see page F99 for further information.

High-Pressure Block Body Ball Valve ▪ Type KHZ
3000 PSI SAE Flange Connection (ISO 6162-1)





When ordering the standard option as indicated in the table below, the following materials will be supplied:

- Body, ball and stem: Carbon Steel
- Lever: Carbon Steel
- Ball seat: Delrin® (POM)
- O-rings: FPM (Viton®)

3000 PSI Series (Code 61) ▪ Unified Coarse (UNC) Threads

STAUFF Size	Flange Size	Nominal Size DN	Dimensions (mm/in) LW	D	L	l	H	h	m	K	SW	V	a	b	M	t	d1	d2	t1	H2	Nom. Pressure (bar/PSI)	Weight (kg/lbs)	Order Codes (Standard Option)
08	1/2	13	13	13	68	34	72	58	30	115	9	11	17,5	38,1	5/16–18 UNC	15	8,5	13,5	9	109	210	1,80	KHZ27080001M
			.51	.51	2.68	1.34	2.83	2.28	1.18	4.53	.35	.43	.69	1.50		.59	.33	.53	.35	4,29	3000	3.96	
12	3/4	20	20	20	70	35	93	75	37,5	170	14	14	22,3	47,6	3/8–16 UNC	17	10,5	16,5	11	146	210	2,80	KHZ27120001M
			.79	.79	2.76	1.38	3.66	2.95	1.48	6.69	.55	.55	.88	1.87		.67	.41	.65	.43	5,75	3000	6.16	
16	1	25	25	25	78	39	103	84,5	44	170	14	14	26,2	52,4	3/8–16 UNC	17	10,5	16,5	11	155	210	3,90	KHZ27160001M
			.98	.98	3.07	1.54	4.06	3.33	1.73	6.69	.55	.55	1.03	2.06		.67	.41	.65	.43	6,10	3000	8.58	
20	1-1/4	32	25	32	90	45	118,5	100	50	170	14	14	30,2	58,7	7/16–14 UNC	21	10,5	16,5	11	171	210	6,50	KHZ27200001M
			.98	1.26	3.54	1.77	4.67	3.94	1.97	6.69	.55	.55	1.19	2.31		.83	.41	.65	.43	6,73	3000	14.30	
24	1-1/2	40	32	38	99	49,5	141,5	120	60	306	17	17	35,7	69,9	1/2–13 UNC	21	13	19	13	206	210	10,50	KHZ27240001M
			1.26	1.50	3.90	1.95	5.57	4.72	2.36	12.05	.67	.67	1.41	2.75		.83	.51	.75	.51	8,11	3000	23.10	
32	2	50	38	49	120	60	158,5	137,5	70	306	17	17	42,9	77,8	1/2–13 UNC	21	13	19	13	223	210	16,50	KHZ27320001M
			1.50	1.93	4.72	2.36	6.24	5.41	2.76	12.05	.67	.67	1.69	3.06		.83	.51	.75	.51	8,78	3000	36.30	

3000 PSI Series (Code 61) ▪ Metric ISO Threads

STAUFF Size	Flange Size	Nominal Size DN	Dimensions (mm/in) LW	D	L	l	H	h	m	K	SW	V	a	b	M	t	d1	d2	t1	H2	Nom. Pressure (bar/PSI)	Weight (kg/lbs)	Order Codes (Standard Option)
08	1/2	13	13	13	68	34	72	58	30	115	9	11	17,5	38,1	M8	15	8,5	13,5	9	109	210	1,80	KHZ27M080001M
			.51	.51	2.68	1.34	2.83	2.28	1.18	4.53	.35	.43	.69	1.50		.59	.33	.53	.35	4,29	3000	3.96	
12	3/4	20	20	20	70	35	93	75	37,5	170	14	14	22,3	47,6	M10	17	10,5	16,5	11	146	210	2,80	KHZ27M120001M
			.79	.79	2.76	1.38	3.66	2.95	1.48	6.69	.55	.55	.88	1.87		.67	.41	.65	.43	5,75	3000	6.16	
16	1	25	25	25	78	39	103	84,5	44	170	14	14	26,2	52,4	M10	17	10,5	16,5	11	155	210	3,90	KHZ27M160001M
			.98	.98	3.07	1.54	4.06	3.33	1.73	6.69	.55	.55	1.03	2.06		.67	.41	.65	.43	6,10	3000	8.58	
20	1-1/4	32	25	32	90	45	118,5	100	50	170	14	14	30,2	58,7	M10	21	10,5	16,5	11	171	210	6,50	KHZ27M200001M
			.98	1.26	3.54	1.77	4.67	3.94	1.97	6.69	.55	.55	1.19	2.31		.83	.41	.65	.43	6,73	3000	14.30	
24	1-1/2	40	32	38	99	49,5	141,5	120	60	306	17	17	35,7	69,9	M12	21	13	19	13	206	210	10,50	KHZ27M240001M
			1.26	1.50	3.90	1.95	5.57	4.72	2.36	12.05	.67	.67	1.41	2.75		.83	.51	.75	.51	8,11	3000	23.10	
32	2	50	38	49	120	60	158,5	137,5	70	306	17	17	42,9	77,8	M12	21	13	19	13	223	210	16,50	KHZ27M320001M
			1.50	1.93	4.72	2.36	6.24	5.41	2.76	12.05	.67	.67	1.69	3.06		.83	.51	.75	.51	8,78	3000	36.30	

Recommended Bolts and O-Rings

STAUFF Size	Nominal Size DN	Recommendations Bolt S1 (min)	Bolt S2 (min)	O-ring (Included in Delivery)
08	13	M8 x 30 - 10.9	M8 x 70 - 10.9	18,64 x 3,53
		5/16–18 UNC x 1-1/4 - Gr. 8	5/16–18 UNC x 2-3/4 - Gr. 8	
12	20	M10 x 30 - 10.9	M10 x 80 - 10.9	24,99 x 3,53
		3/8–16 UNC x 1-1/4 - Gr. 8	3/8–16 UNC x 3-1/4 - Gr. 8	
16	25	M10 x 30 - 10.9	M10 x 80 - 10.9	32,92 x 3,53
		3/8–16 UNC x 1-1/4 - Gr. 8	3/8–16UNC x 3-1/4 - Gr. 8	
20	32	M10 x 30 - 10.9	M10 x 90 - 10.9	37,69 x 3,53
		7/16–14 UNC x 1-1/4 - Gr. 8	7/16–14 UNC x 3-1/2 - Gr. 8	
24	40	M12 x 35 - 10.9	M12 x 100 - 10.9	47,22 x 3,53
		1/2–13 UNC x 1-1/2 - Gr. 8	1/2–13 UNC x 4 - Gr. 8	
32	50	M12 x 35 - 10.9	M12 x 120 - 10.9	56,74 x 3,53
		1/2–13 UNC x 1-1/2 - Gr. 8	1/2–13 UNC x 4-3/4 - Gr. 8	

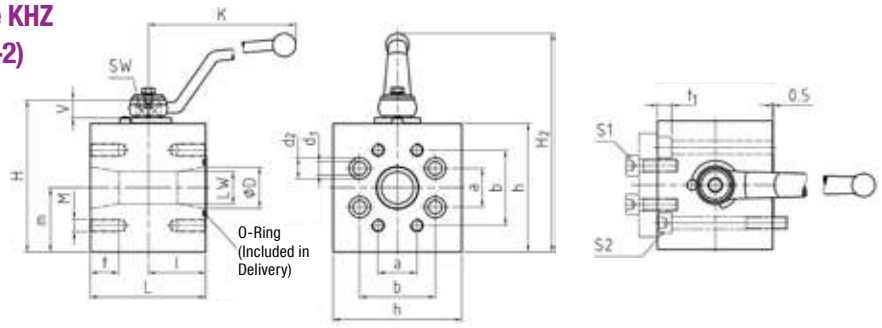
Please note: The final maximum working pressure is determined by flange and pipe/tubing rating.

Flanges and bolts are not included in delivery.

High-Pressure Block Body Ball Valve ▪ Type KHZ
6000 PSI SAE Flange Connection (ISO 6162-2)

When ordering the standard option as indicated in the table below, the following materials will be supplied:

- Body, ball and stem: Carbon Steel
- Lever: Carbon Steel
- Ball seat: Delrin® (POM)
- O-rings: FPM (Viton®)



6000 PSI Series (Code 62) ▪ Unified Coarse (UNC) Threads

STAUFF Size	Flange Size	Nominal Size DN	Dimensions (mm/in) LW	D	L	l	H	h	m	K	SW	V	a	b	M	t	d1	d2	t1	H2	Nom. Pressure (bar/PSI)	Weight (kg/lbs)	Order Codes (Standard Option)
08	1/2	13	13	13	68	34	72	58	30	115	9	11	18,2	40,5	5/16–18 UNC	15	8,5	13,5	9	109	420	1,80	KHZ28080001M
			.51	.51	2.68	1.34	2.83	2.28	1.18	4.53	.35	.43	.72	1.59		.59	.33	.53	.35	4.29	6000	3.96	
12	3/4	20	20	20	70	35	93	75	37,5	170	14	14	23,8	50,8	3/8–16 UNC	17	10,5	16,5	11	146	420	2,80	KHZ28120001M
			.79	.79	2.76	1.38	3.66	2.95	1.48	6.69	.55	.55	.94	2.00		.67	.41	.65	.43	5.75	6000	6.16	
16	1	25	25	25	78	39	103	84,5	44	170	14	14	27,8	57,2	7/16–14 UNC	21	13	19	13	155	420	3,90	KHZ28160001M
			.98	.98	3.07	1.54	4.06	3.33	1.73	6.69	.55	.55	1.09	2.25		.83	.51	.75	.51	6.10	6000	8.58	
20	1-1/4	32	25	32	90	45	118,5	100	50	170	14	14	31,8	66,6	1/2–13 UNC	20	13	19	13	171	420	6,50	KHZ28200001M
			.98	1.26	3.54	1.77	4.67	3.94	1.97	6.69	.55	.55	1.25	2.62		.79	.51	.75	.51	6.73	6000	14.30	
24	1-1/2	40	32	38	99	49,5	141,5	120	60	306	17	17	36,5	79,3	5/8–11 UNC	26	17	25	17,5	206	420	10,50	KHZ28240001M
			1.26	1.50	3.90	1.95	5.57	4.72	2.36	12.05	.67	.67	1.44	3.12		1.02	.67	.98	.69	8.11	6000	23.10	
32	2	50	38	49	120	60	158,5	137,5	70	306	17	17	44,5	96,8	3/4–10 UNC	34	21	31	21,5	223	420	16,50	KHZ28320001M
			1.50	1.93	4.72	2.36	6.24	5.41	2.76	12.05	.67	.67	1.75	3.81		1.34	.83	1.22	.85	8.78	6000	36.30	

6000 PSI Series (Code 62) ▪ Metric ISO Threads

STAUFF Size	Flange Size	Nominal Size DN	Dimensions (mm/in) LW	D	L	l	H	h	m	K	SW	V	a	b	M	t	d1	d2	t1	H2	Nom. Pressure (bar/PSI)	Weight (kg/lbs)	Order Codes (Standard Option)
08	1/2	13	13	13	68	34	72	58	30	115	9	11	18,2	40,5	M8	15	8,5	13,5	9	109	420	1,80	KHZ28M080001M
			.51	.51	2.68	1.34	2.83	2.28	1.18	4.53	.35	.43	.72	1.59		.59	.33	.53	.35	4.29	6000	3.96	
12	3/4	20	20	20	70	35	93	75	37,5	170	14	14	23,8	50,8	M10	17	10,5	16,5	11	146	420	2,80	KHZ28M120001M
			.79	.79	2.76	1.38	3.66	2.95	1.48	6.69	.55	.55	.94	2.00		.67	.41	.65	.43	5.75	6000	6.16	
16	1	25	25	25	78	39	103	84,5	44	170	14	14	27,8	57,2	M12	21	13	19	13	155	420	3,90	KHZ28M160001M
			.98	.98	3.07	1.54	4.06	3.33	1.73	6.69	.55	.55	1.09	2.25		.83	.51	.75	.51	6.10	6000	8.58	
20	1-1/4	32	25	32	90	45	118,5	100	50	170	14	14	31,8	66,6	M12	20	13	19	13	171	420	6,50	KHZ28M200001M
			.98	1.26	3.54	1.77	4.67	3.94	1.97	6.69	.55	.55	1.25	2.62		.79	.51	.75	.51	6.73	6000	14.30	
24	1-1/2	40	32	38	99	49,5	141,5	120	60	306	17	17	36,5	79,3	M16	26	17	25	17,5	206	420	10,50	KHZ28M240001M
			1.26	1.50	3.90	1.95	5.57	4.72	2.36	12.05	.67	.67	1.44	3.12		1.02	.67	.98	.69	8.11	6000	23.10	
32	2	50	38	49	120	60	158,5	137,5	70	306	17	17	44,5	96,8	M20	34	21	31	21,5	223	420	16,50	KHZ28M320001M
			1.50	1.93	4.72	2.36	6.24	5.41	2.76	12.05	.67	.67	1.75	3.81		1.34	.83	1.22	.85	8.78	6000	36.30	

Recommended Bolts and O-Rings

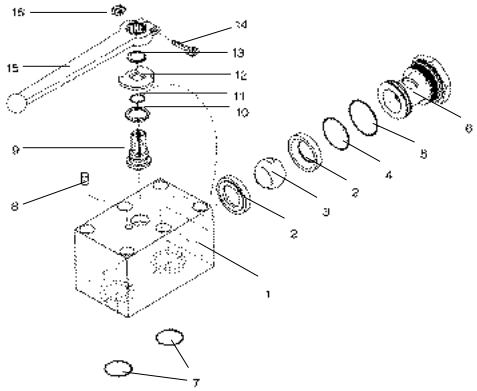
STAUFF Size	Nominal Size DN	Recommendations Bolt S1 (min)	Bolt S2 (min)	O-ring (Included in Delivery)
08	13	M8 x 30 - 10.9	M8 x 70 - 10.9	18,64 x 3,53
		5/16–18 UNC x 1-1/4 - Gr. 8	5/16–18 UNC x 2-3/4 - Gr. 8	
12	20	M10 x 35 - 12.9	M10 x 80 - 12.9	24,99 x 3,53
		3/8–16UNC x 1-1/2 - Gr. 10	3/8–16UNC x 3-1/4 - Gr. 10	
16	25	M12 x 45 - 10.9	M12 x 80 - 10.9	32,92 x 3,53
		7/16–14 UNC x 1-3/4 - Gr. 8	7/16–14 UNC x 3-1/4 - Gr. 8	
20	32	M12 x 45 - 10.9	M12 x 90 - 10.9	37,69 x 3,53
		7/16–14 UNC x 1-3/4 - Gr. 8	7/16–14 UNC x 3-1/2 - Gr. 8	
24	40	M16 x 55 - 10.9	M16 x 100 - 10.9	47,22 x 3,53
		5/8–11 UNC x 2-1/4- Gr. 8	5/8–11 UNC x 4- Gr. 8	
32	50	M20 x 70 - 10.9	M20 x 130 - 10.9	56,74 x 3,53
		3/4–10 UNC x 2-3/4 - Gr. 8	3/4–10 UNC x 5-1/4 - Gr. 8	

Please note: The final maximum working pressure is determined by flange and pipe/tubing rating.

Flanges and bolts are not included in delivery.

High-Pressure Block Body Ball Valve ▪ Type BBV25





List of Components

No.	Qty.	Description
1	1	Body
2*	1	Seats
3	2	Ball
4*	2	O-Ring
5*	2	O-Ring
6	2	Retainer Plug
7*	2	O-Ring
8	1	Stop Pin
9	1	Stem
10*	1	Thrust Ring
11	1	O-Ring
12	1	Cam Plate
13	1	Snap Ring
14	1	Clamping Screw
15	1	Handle
16	1	Clamping Nut

* Included in seal kit

Characteristics

Two-way high-pressure block body ball valves designed for use as on/off devices for hydraulic applications

Standard Construction
- Block body design for manifold mounting
- Improved manifold design eliminates external piping and connectors
- Supplied with lever

Standard Materials
- Body: Carbon Steel, zinc/iron-plated
- Ball: Carbon Steel, hard chrome-plated
- Stem: Carbon Steel
- Lever: Zinc (STAUFF Sizes 04 to 16)
  Carbon Steel (STAUFF Sizes 20 to 32)
- Ball seat: Delrin® (POM)
- O-rings: FPM (Viton®)

Standard Connections Styles / Sizes
- Manifold mounting
- Either 4 or 6 mounting holes for added safety (bolts are not included in delivery)

Pressure Range
- Pressure range: up to 500 bar / 7250 PSI (depending on size and material combination of the ball valve)

Temperature Range
- Operating temperature range: -20 °C ... +100 °C / -4 °F ... + 212 °F

Options / Accessories
- Three-way version with 90° operation (see pages F38-F39)
- Three-way version with 180° operation (see pages F40-F41)
- Alternative lever designs/materials (see page F98)
- Locking devices (see pages F99-F101)
- Pneumatic actuator packages (see page F102)
- Limit switches (see page F102)
- Stainless Steel body
- Stainless Steel ball and stem
- Special ball seat and O-ring materials available for lower/higher temperatures and more aggressive media

- Electrical actuators available on request. Pease consult STAUFF for further information.

Order Codes

BBV	2	5	08	0	0	0	1	M	-	-
①	②	③	④	⑤	⑥	⑦	⑧	⑨	⑩	⑪

① Type

High-Pressure Block Body Ball Valve	**BBV**

② Number of Ports

Two Ports (Two-Way Ball Valve)	**2**

③ Connection Style

Manifold Mounting	**5**

Please consult STAUFF for alternative connection styles.

④ Connection Size

STAUFF Size (according to dimension table):							
04	**06**	**08**	**12**	**16**	**20**	**24**	**32**

Please consult STAUFF for alternative connection sizes.

⑤ Body Material / Surface Finishing

Carbon Steel, zinc/iron-plated	**0**
Stainless Steel V4A (AISI 316Ti)	**1**

Alternative materials / surface finishings are available upon request. Consult STAUFF for further information.

⑥ Ball / Stem Material

Ball: Carbon Steel, hard chrome-plated Stem: Carbon Steel	**0**
Ball / Stem: Stainless Steel V4A (AISI 316Ti)	**1**

Alternative materials / surface finishings are available upon request. Consult STAUFF for further information.

⑦ Ball Seat Material

Delrin® (POM)	**0**
PEEK	**G**
Delrin® (POM) with Stainless Steel Inner Support Ring	**H**

Alternative materials are available upon request. Consult STAUFF for further information.

⑧ O-Ring Material

NBR (Buna-N®)	**0**
FPM (Viton®)	**1**
EPDM	**3**

Alternative materials are available upon request. Consult STAUFF for further information.

⑨ Manufacturing Code

Manufacturing code for all connection styles	**M**

⑩ Lever Options

Supplied with standard lever (according to table)	**-**
Supplied without lever	**-0**

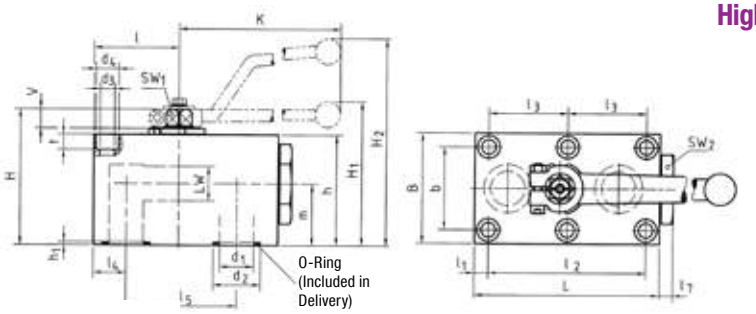
Alternative levers can be ordered separately. Please see page F98 for further information.

⑪ Accessories / Options

Supplied without accessories	**-**
Supplied with Locking Device LD1	**-LD1**
Supplied with Locking Device LD4 (standard)	**-LD4**
Supplied with Double-Acting Pneumatic Actuator (Please add size **)	**-EDA****
Supplied with Single-Acting Pneumatic Actuator (Please add size **)	**-ESA****
Supplied with Limit Switch in open position	**-LS-O**
Supplied with Limit Switch in closed position	**-LS-C**
Supplied with Limit Switch in open and closed position	**-LS-OC**

Please see page F99 for further information.

High-Pressure Block Body Ball Valve ▪ Type BBV25
Manifold Mounting



When ordering the standard option as indicated in the table below, the following materials will be supplied:

- Body, ball and stem: Carbon Steel
- Lever: Zinc (STAUFF Sizes 04 to 16)
  Carbon Steel (STAUFF Sizes 20 to 32)
- Ball seat: Delrin® (POM)
- O-rings: FPM (Viton®)

STAUFF Size	Nominal Size DN	Dimensions (mm/in) l	l1	l2	l3	l4	l5	l7	L	B	b	H	h	m	V	SW1	SW2	K	LW	H1	H2	d1	d2	h1	Nom. Pressure (bar/PSI)	Weight (kg/lbs)	Order Codes (Standard Option)
04	6	26	8,5	35		8,5	35	6	57	40	27	43	35	19,5	6	7	19	80	6		67	6	11,8	1,9	500	0,60	BBV25040001M
		1.02	.33	1.38		.33	1.38	.24	2.24	1.57	1.06	1.69	1.38	.77	.24	.28	.75	3.15	.24		2.64	.24	.46	.07	7250	1.32	
06	10	29	7,5	55		10	44	10	70	55	40	59	45	24,5	11	9	30	115	10		93	9,5	14,9	1,9	500	1,30	BBV25060001M
		1.14	.30	2.17		.39	1.73	.39	2.76	2.17	1.57	2.32	1.77	.96	.43	.35	1.18	4.53	.39		3.66	.37	.59	.07	7250	2.86	
08	13	42,5	7,5	83	41,5	16	58	10	98	60	45	69	55	34	11	9	32	115	13		104	13	24,9	1,9	400	2,20	BBV25080001M
		1.67	.30	3.27	1.63	.63	2.28	.39	3.86	2.36	1.77	2.72	2.17	1.34	.43	.35	1.26	4.53	.51		4.09	.51	.98	.07	5800	4.84	
12	20	51	10	97	48,5	20	69	10	117	70	51	88	70	37,5	14	14	46	200	20	92		20	29	2	315	3,90	BBV25120001M
		2.01	.39	3.82	1.91	.79	2.72	.39	4.61	2.76	2.01	3.46	2.76	1.48	.55	.55	1.81	7.87	.79	3.62		.79	1.14	.08	4500	8.58	
16	25	62	10	115	57,5	24	81	10	135	80	60	98	80	44,5	14	14	50	200	25	102		25	34,9	2,3	315	5,65	BBV25160001M
		2.44	.39	4.53	2.26	.94	3.19	.39	5.31	3.15	2.36	3.86	3.15	1.75	.55	.55	1.97	7.87	.98	4.02		.98	1.37	.09	4500	12.43	
20	32	75	12	136	68	29	96	10	165	100	78	121	100	54,5	17	17	65	320	32	130		32	40	2	315	11,10	BBV25200001M
		2.95	.47	5.35	2.68	1.14	3.78	.39	6.50	3.94	3.07	4.76	3.94	2.15	.67	.67	2.56	12.60	1.26	5.12		1.26	1.57	.08	4500	24.42	
24	40	84,5	28,5	112	56	28,5	112	17	200	130	95	131	110	57	17	17	80	320	38	140		38	47,7	2,3	420	19,00	BBV25240001M
		3.33	1.12	4.41	2.20	1.12	4.41	.67	7.87	5.12	3.74	5.16	4.33	2.24	.67	.67	3.15	12.60	1.50	5.51		1.50	1.88	.09	6000	41.80	
32	50	106	38	136	68	38	136	15	240	150	112	150	129	71	17	17	90	320	48	159		48	59,8	2,3	420	29,30	BBV25320001M
		4.17	1.50	5.35	2.68	1.50	5.35	.59	9.45	5.91	4.41	5.91	5.08	2.80	.67	.67	3.54	12.60	1.89	6.26		1.89	2.35	.09	6000	64.46	

Recommended Bolts, Tightening Torques and O-Rings

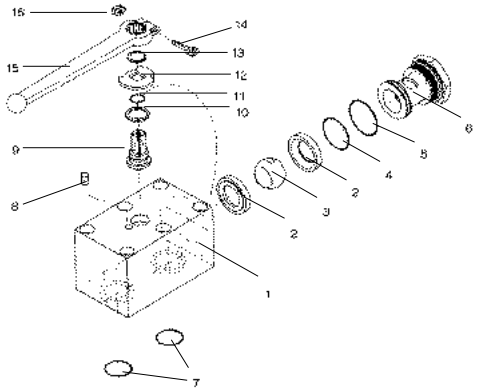
STAUFF Size	Nominal Size DN	Recommendations Bolt (min)	Dimensions (mm/in) d3	d4	t	Tightening Torque	O-Ring (Included in Delivery)
04	6	4 x M6 x 40 - 8.8	6,5	10,5	6,8	9 N·m	7x2,5
		4 x 1/4–20 x 1-1/2 UNC - Gr. 5	.26	.41	.27	10 ft·lb	
06	10	4 x M8 x 50 - 8.8	8,4	13,5	8,5	21 N·m	10x2,5
		4 x 1/4–20 x 2 UNC - Gr. 5	.33	.53	.33	10 ft·lb	
08	13	6 x M8 x 60 - 10.9	8,4	13,5	7	30 N·m	20x2,5
		6 x 5/16–18 x 2-1/2 UNC - Gr. 8	.33	.53	.28	29 ft·lb	
12	20	6 x M10 x 80 - 10.9	10,5	16,5	10,5	60 N·m	23,47x2,62
		6 x 3/8–16 x 3-1/4 UNC - Gr. 10	.41	.65	.41	58 ft·lb	
16	25	6 x M10 x 90 - 12.9	10,5	16,5	10,5	70 N·m	29x3
		6 x 3/8–16 x 3-1/2 UNC - Gr. 10	.41	.65	.41	58 ft·lb	
20	32	6 x M12 x 110 - 10.9	13	19	12	100 N·m	34,59x2,62
		6 x 7/16–14 x 4-1/2 UNC - Gr. 8	.51	.75	.47	70 ft·lb	
24	40	6 x M16 x 120 - 12.9	16,5	25	19	300 N·m	42x3
		6 x 5/8–11 x 5 UNC - Gr. 8	.65	.98	.75	170 ft·lb	
32	50	6 x M20 x 140 - 10.9	21	31	21,5	600 N·m	54x3
		6 x 3/4–10 x 5-1/2 UNC - Gr. 8	.83	1.22	.85	200 ft·lb	

Please note: Bolts are not included in delivery.

We recommend to use socket cap screws according to ISO 4762 or ANSI / ASME B18.3 for installation.

High-Pressure Block Body Ball Valve ▪ Type BBV35





List of Components

No.	Qty.	Description
1	1	Body
2*	1	Seats
3	2	Ball
4*	2	O-Ring
5*	2	O-Ring
6	2	Retainer Plug
7*	2	O-Ring
8	1	Stop Pin
9	1	Stem
10*	1	Thrust Ring
11	1	O-Ring
12	1	Cam Plate
13	1	Snap Ring
14	1	Clamping Screw
15	1	Handle
16	1	Clamping Nut

* Included in seal kit

Characteristics

Three-way high-pressure manifold mounted selector valve (L-bore, 90° operation) for hydraulic applications

Standard Construction
- Block body design for manifold mounting
- Improved manifold design eliminates external piping and connectors
- Supplied with lever

Standard Materials
- Body: Carbon Steel, zinc/iron-plated
- Ball: Carbon Steel, hard chrome-plated
- Stem: Carbon Steel
- Lever: Zinc (STAUFF Sizes 04 to 16)
  Carbon Steel (STAUFF Sizes 20 to 32)
- Ball seat: Delrin® (POM)
- O-rings: FPM (Viton®)

Standard Connections Styles / Sizes
- Manifold mounting
- Either 4 or 6 mounting holes for added safety (bolts are not included in delivery)

Pressure inlet only from the center port!
See page F113 for sealing details.

Pressure Range
- Pressure range: up to 500 bar / 7250 PSI (depending on size and material combination of the ball valve)

Temperature Range
- Operating temperature range:
  -20 °C ... +100 °C / -4 °F ... + 212 °F

Options / Accessories
- Alternative lever designs/materials (see page F98)
- Locking devices (see pages F99-F101)
- Pneumatic actuator packages (see page F102)
  Electrical actuators available on request.
- Limit switches (see page F102)
- Stainless Steel body
- Stainless Steel ball and stem
- Special ball seat and O-ring materials available for lower/higher temperatures and more aggressive media

Porting Pattern
(Ref. Code: 58-BBV35)
- Symbol: LLU
- Overlap: negative
- Operating: 90°



- Stop of end position:



Please see pages F104-F105 for alternative porting patterns.

Order Codes

BBV	3	5	08	0	0	0	1	M	-	-
①	②	③	④	⑤	⑥	⑦	⑧	⑨	⑩	⑪

① Type

High-Pressure Block Body Ball Valve	BBV

② Number of Ports

Three Ports (Three-Way Ball Valve)	3

③ Connection Style

Manifold Mounting	5

Please consult STAUFF for alternative connection styles.

④ Connection Size

STAUFF Size (according to dimension table):							
04	06	08	12	16	20	24	32

Please consult STAUFF for alternative connection sizes.

⑤ Body Material / Surface Finishing

Carbon Steel, zinc/iron-plated	0
Stainless Steel V4A (AISI 316Ti)	1

Alternative materials / surface finishings are available upon request. Consult STAUFF for further information.

⑥ Ball / Stem Material

Ball: Carbon Steel, hard chrome-plated Stem: Carbon Steel	0
Ball / Stem: Stainless Steel V4A (AISI 316Ti)	1

Alternative materials / surface finishings are available upon request. Consult STAUFF for further information.

⑦ Ball Seat Material

Delrin® (POM)	0
PEEK	G
Delrin® (POM) with Stainless Steel Inner Support Ring	H

Alternative materials are available upon request. Consult STAUFF for further information.

⑧ O-Ring Material

NBR (Buna-N®)	0
FPM (Viton®)	1
EPDM	3

Alternative materials are available upon request. Consult STAUFF for further information.

⑨ Manufacturing Code

Manufacturing code for all connection styles	M

⑩ Lever Options

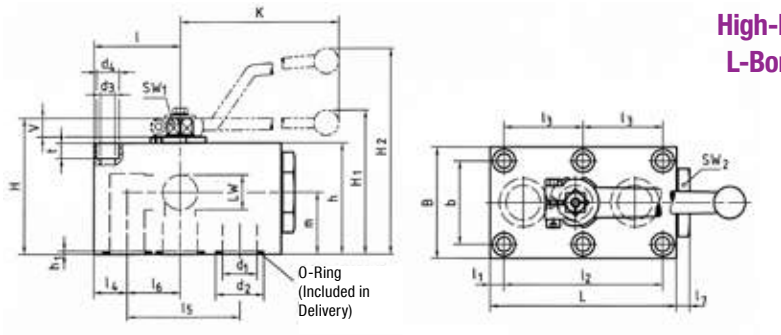
Supplied with standard lever (according to table)	-
Supplied without lever	-0

Alternative levers can be ordered separately. Please see page F98 for further information.

⑪ Accessories / Options

Supplied without accessories	-
Supplied with Locking Device LD1	-LD1
Supplied with Locking Device LD4 (standard)	-LD4
Supplied with Double-Acting Pneumatic Actuator (Please add size **)	-EDA**
Supplied with Single-Acting Pneumatic Actuator (Please add size **)	-ESA**
Supplied with Limit Switch in open position	-LS-O
Supplied with Limit Switch in closed position	-LS-C
Supplied with Limit Switch in open and closed position	-LS-OC

Please see page F99 for further information.



High-Pressure Block Body Ball Valve ▪ Type BBV35
L-Bore Three-Way Selector for Manifold Mounting

When ordering the standard option as indicated in the table below, the following materials will be supplied:

- Body, ball and stem: Carbon Steel
- Lever: Zinc (STAUFF Sizes 04 to 16)
  Carbon Steel (STAUFF Sizes 20 to 32)
- Ball seat: Delrin® (POM)
- O-rings: FPM (Viton®)

Pressure Inlet only from the Center Port ▪ 90° Operation

STAUFF Size	Nominal Size DN	Dimensions (mm/in) l	l1	l2	l3	l4	l5	l6	l7	L	B	b	H	h	m	V	SW1	SW2	K	LW	H1	H2	d1	d2	h1	Nom. Pressure (bar/PSI)	Weight (kg/lbs)	Order Codes (Standard Option)
04	6	26	8,5	35		8,5	35	17,5	6	57	40	27	43	35	19,5	6	7	19	80	6		67	6	11,8	1,9	500	0,60	BBV35040001M
		1.02	.33	1.38		.33	1.38	.69	.24	2.24	1.57	1.06	1.69	1.38	.77	.24	.28	.75	3.15	.24		2.64	.24	.46	.07	7250	1.32	
06	10	29	7,5	55		10	44	19	10	70	55	40	59	45	24,5	11	9	30	115	10		93	9,5	14,9	1,9	500	1,30	BBV35060001M
		1.14	.30	2.17		.39	1.73	.75	.39	2.76	2.17	1.57	2.32	1.77	.96	.43	.35	1.18	4.53	.39		3.66	.37	.59	.07	7250	2.86	
08	13	42,5	7,5	83	41,5	16	58	26,5	10	98	60	45	69	55	34	11	9	32	115	13		104	13	24,9	1,9	400	2,20	BBV35080001M
		1.67	.30	3.27	1.63	.63	2.28	1.04	.39	3.86	2.36	1.77	2.72	2.17	1.34	.43	.35	1.26	4.53	.51		4.09	.51	.98	.07	5800	4.84	
12	20	51	10	97	48,5	20	69	31,5	10	117	70	51	88	70	37,5	14	14	46	200	20	92		20	29	2	315	3,90	BBV35120001M
		2.01	.39	3.82	1.91	.79	2.72	1.24	.39	4.61	2.76	2.01	3.46	2.76	1.48	.55	.55	1.81	7.87	.79	3.62		.79	1.14	.08	4500	8.58	
16	25	62	10	115	57,5	24	81	38	10	135	80	60	98	80	44,5	14	14	50	200	25	102		25	34,9	2,3	315	5,65	BBV35160001M
		2.44	.39	4.53	2.26	.94	3.19	1.50	.39	5.31	3.15	2.36	3.86	3.15	1.75	.55	.55	1.97	7.87	.98	4.02		.98	1.37	.09	4500	12.43	
20	32	75	12	136	68	29	96	46	10	165	100	78	121	100	54,5	16,5	17	65	320	32	130		32	40	2	315	11,10	BBV35200001M
		2.95	.47	5.35	2.68	1.14	3.78	1.81	.39	6.50	3.94	3.07	4.76	3.94	2.15	.65	.67	2.56	12.60	1.26	5.12		1.26	1.57	.08	4500	24.42	
24	40	84,5	28,5	112	56	28,5	112	56	17	200	130	95	131	110	57	16,5	17	80	320	38	140		38	47,7	2,3	420	19,00	BBV35240001M
		3.33	1.12	4.41	2.20	1.12	4.41	2.20	.67	7.87	5.12	3.74	5.16	4.33	2.24	.65	.67	3.15	12.60	1.50	5.51		1.50	1.88	.09	6000	41.80	
32	50	106	38	136	68	38	136	68	15	240	150	112	150	129	71	16,5	17	90	320	48	159		48	59,8	2,3	420	29,30	BBV35320001M
		4.17	1.50	5.35	2.68	1.50	5.35	2.68	.59	9.45	5.91	4.41	5.91	5.08	2.80	.65	.67	3.54	12.60	1.89	6.26		1.89	2.35	.09	6000	64.46	

Recommended Bolts, Tightening Torques and O-Rings

STAUFF Size	Nominal Size DN	Recommendations Bolt (min)	Dimensions (mm/in) d3	d4	t	Tightening Torque	O-Ring (Included in Delivery)
04	6	4 x M6 x 40 - 8.8	6,5	10,5	6,8	9 N·m	7x2,5
		4 x 1/4–20 x 1-1/2 UNC - Gr. 5	.26	.41	.27	10 ft·lb	
06	10	4 x M8 x 50 - 8.8	8,4	13,5	8,5	21 N·m	10x2,5
		4 x 1/4–20 x 2 UNC - Gr. 5	.33	.53	.33	10 ft·lb	
08	13	6 x M8 x 60 - 10.9	8,4	13,5	7	30 N·m	20x2,5
		6 x 5/16–18 x 2-1/2 UNC - Gr. 8	.33	.53	.28	29 ft·lb	
12	20	6 x M10 x 80 - 10.9	10,5	16,5	10,5	60 N·m	23,47x2,62
		6 x 3/8–16 x 3-1/4 UNC - Gr. 10	.41	.65	.41	58 ft·lb	
16	25	6 x M10 x 90 - 12.9	10,5	16,5	10,5	70 N·m	29x3
		6 x 3/8–16 x 3-1/2 UNC - Gr. 10	.41	.65	.41	58 ft·lb	
20	32	6 x M12 x 110 - 10.9	13	19	12	100 N·m	34,59x2,62
		6 x 7/16–14 x 4-1/2 UNC - Gr. 8	.51	.75	.47	70 ft·lb	
24	40	6 x M16 x 120 - 12.9	16,5	25	19	300 N·m	42x3
		6 x 5/8–11 x 5 UNC - Gr. 8	.65	.98	.75	170 ft·lb	
32	50	6 x M20 x 140 - 10.9	21	31	21,5	600 N·m	54x3
		6 x 3/4–10 x 5-1/2 UNC - Gr. 8	.83	1.22	.85	200 ft·lb	

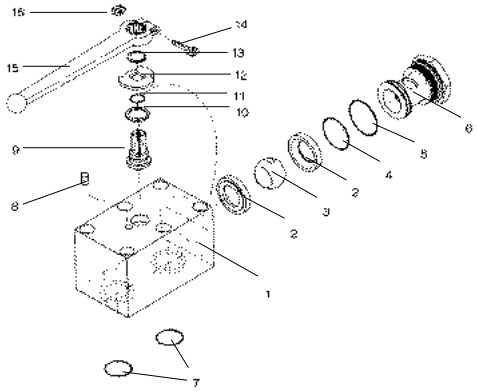
Pressure inlet only from the center port!

Please note: Bolts are not included in delivery.

We recommend to use socket cap screws according to ISO 4762 or ANSI / ASME B18.3 for installation.

High-Pressure Block Body Ball Valve ▪ Type BBVS35





List of Components

No.	Qty.	Description
1	1	Body
2*	1	Seats
3	2	Ball
4*	2	O-Ring
5*	2	O-Ring
6	2	Retainer Plug
7*	2	O-Ring
8	1	Stop Pin
9	1	Stem
10*	1	Thrust Ring
11	1	O-Ring
12	1	Cam Plate
13	1	Snap Ring
14	1	Clamping Screw
15	1	Handle
16	1	Clamping Nut

* Included in seal kit

Characteristics

Three-way high-pressure manifold mounted selector valve (L-bore, 180° operation) for hydraulic applications

Standard Construction
- Block body design for manifold mounting
- Improved manifold design eliminates external piping and connectors
- Supplied with lever

Standard Materials
- Body: Carbon Steel, zinc/iron-plated
- Ball: Carbon Steel, hard chrome-plated
- Stem: Carbon Steel
- Lever: Zinc (STAUFF Sizes 04 to 16)
  Carbon Steel (STAUFF Sizes 20 to 32)
- Ball seat: Delrin® (POM)
- O-rings: FPM (Viton®)

Standard Connections Styles / Sizes
- Manifold mounting
- Either 4 or 6 mounting holes for added safety (bolts are not included in delivery)

Pressure inlet possible from all ports!
See page F113 for sealing details.

Pressure Range
- Pressure range: up to 500 bar / 7250 PSI (depending on size and material combination of the ball valve)

Temperature Range
- Operating temperature range: -20 °C ... +100 °C / -4 °F ... + 212 °F

Options / Accessories
- Alternative lever designs/materials (see page F98)
- Locking devices (see pages F99-F101)
- Pneumatic actuator packages (see page F102) Electrical actuators available on request.
- Limit switches (see page F102)
- Stainless Steel body
- Stainless Steel ball and stem
- Special ball seat and O-ring materials available for lower/higher temperatures and more aggressive media

Porting Pattern (Ref. Code: 57-BBVS35)
- Symbol : LU
- Overlap: positive
- Operating: 180°



- Stop of end position:



Please see pages F104-F105 for alternative porting patterns.

Order Codes

BBVS	3	5	08	0	0	0	1	M	-	-
①	②	③	④	⑤	⑥	⑦	⑧	⑨	⑩	⑪

① Type

High-Pressure Block Body Ball Valve with Pressure Inlet Possible from all Ports	**BBVS**

② Number of Ports

Three Ports (Three-Way Ball Valve)	**3**

③ Connection Style

Manifold Mounting	**5**

Please consult STAUFF for alternative connection styles.

④ Connection Size

STAUFF Size (according to dimension table):							
04	**06**	**08**	**12**	**16**	**20**	**24**	**32**

Please consult STAUFF for alternative connection sizes.

⑤ Body Material / Surface Finishing

Carbon Steel, zinc/iron-plated	**0**
Stainless Steel V4A (AISI 316Ti)	**1**

Alternative materials / surface finishings are available upon request. Consult STAUFF for further information.

⑥ Ball / Stem Material

Ball: Carbon Steel, hard chrome-plated Stem: Carbon Steel	**0**
Ball / Stem: Stainless Steel V4A (AISI 316Ti)	**1**

Alternative materials / surface finishings are available upon request. Consult STAUFF for further information.

⑦ Ball Seat Material

Delrin® (POM)	**0**
PEEK	**G**
Delrin® (POM) with Stainless Steel Inner Support Ring	**H**

Alternative materials are available upon request. Consult STAUFF for further information.

⑧ O-Ring Material

NBR (Buna-N®)	**0**
FPM (Viton®)	**1**
EPDM	**3**

Alternative materials are available upon request. Consult STAUFF for further information.

⑨ Manufacturing Code

Manufacturing code for all connection styles	**M**

⑩ Lever Options

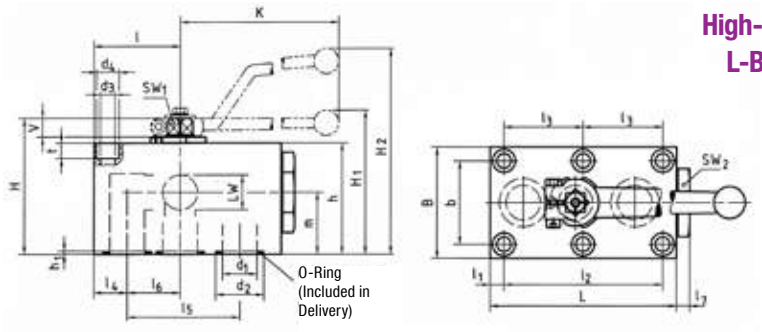
Supplied with standard lever (according to table)	**-**
Supplied without lever	**-0**

Alternative levers can be ordered separately. Please see page F98 for further information.

⑪ Accessories / Options

Supplied without accessories	**-**
Supplied with Locking Device LD1	**-LD1**
Supplied with Locking Device LD4 (standard)	**-LD4**
Supplied with Double-Acting Pneumatic Actuator (Please add size **)	**-EDA****
Supplied with Single-Acting Pneumatic Actuator (Please add size **)	**-ESA****
Supplied with Limit Switch in open position	**-LS-O**
Supplied with Limit Switch in closed position	**-LS-C**
Supplied with Limit Switch in open and closed position	**-LS-OC**

Please see page F99 for further information.



High-Pressure Block Body Ball Valve ▪ Type BBVS35
L-Bore Three-Way Selector for Manifold Mounting

When ordering the standard option as indicated in the table below, the following materials will be supplied:

- Body, ball and stem: Carbon Steel
- Lever: Zinc (STAUFF Sizes 04 to 16)
  Carbon Steel (STAUFF Sizes 20 to 32)
- Ball seat: Delrin® (POM)
- O-rings: FPM (Viton®)

Pressure Inlet possible from all Ports ▪ 180° Operation

STAUFF Size	Nominal Size DN	Dimensions (mm/in) l	l1	l2	l3	l4	l5	l6	l7	L	B	b	H	h	m	V	SW1	SW2	K	LW	H1	H2	d1	d2	h1	Nom. Pressure (bar/PSI)	Weight (kg/lbs)	Order Codes (Standard Option)
04	6	26	8,5	35		8,5	35	17,5	6	57	40	27	43	35	19,5	6	7	19	80	6		67	6	11,8	1,9	500	0,60	BBVS35040001M
		1.02	.33	1.38		.33	1.38	.69	.24	2.24	1.57	1.06	1.69	1.38	.77	.24	.28	.75	3.15	.24		2.64	.24	.46	.07	7250	1.32	
06	10	29	7,5	55		10	44	19	10	70	55	40	59	45	24,5	11	9	30	115	10		93	9,5	14,9	1,9	500	1,30	BBVS35060001M
		1.14	.30	2.17		.39	1.73	.75	.39	2.76	2.17	1.57	2.32	1.77	.96	.43	.35	1.18	4.53	.39		3.66	.37	.59	.07	7250	2.86	
08	13	42,5	7,5	83	41,5	16	58	26,5	10	98	60	45	69	55	34	11	9	32	115	13		104	13	24,9	1,9	400	2,20	BBVS35080001M
		1.67	.30	3.27	1.63	.63	2.28	1.04	.39	3.86	2.36	1.77	2.72	2.17	1.34	.43	.35	1.26	4.53	.51		4.09	.51	.98	.07	5800	4.84	
12	20	51	10	97	48,5	20	69	31,5	10	117	70	51	88	70	37,5	14	14	46	200	20	92		20	29	2	315	3,90	BBVS35120001M
		2.01	.39	3.82	1.91	.79	2.72	1.24	.39	4.61	2.76	2.01	3.46	2.76	1.48	.55	.55	1.81	7.87	.79	3.62		.79	1.14	.08	4500	8.58	
16	25	62	10	115	57,5	24	81	38	10	135	80	60	98	80	44,5	14	14	50	200	25	102		25	34,9	2,3	315	5,65	BBVS35160001M
		2.44	.39	4.53	2.26	.94	3.19	1.50	.39	5.31	3.15	2.36	3.86	3.15	1.75	.55	.55	1.97	7.87	.98	4.02		.98	1.37	.09	4500	12.43	
20	32	75	12	136	68	29	96	46	10	165	100	78	121	100	54,5	16,5	17	65	320	32	130		32	40	2	315	11,10	BBVS35200001M
		2.95	.47	5.35	2.68	1.14	3.78	1.81	.39	6.50	3.94	3.07	4.76	3.94	2.15	.65	.67	2.56	12.60	1.26	5.12		1.26	1.57	.08	4500	24.42	
24	40	84,5	28,5	112	56	28,5	112	56	17	200	130	95	131	110	57	16,5	17	80	320	38	140		38	47,7	2,3	420	19,00	BBVS35240001M
		3.33	1.12	4.41	2.20	1.12	4.41	2.20	.67	7.87	5.12	3.74	5.16	4.33	2.24	.65	.67	3.15	12.60	1.50	5.51		1.50	1.88	.09	6000	41.80	
32	50	106	38	136	68	38	136	68	15	240	150	112	150	129	71	16,5	17	90	320	48	159		48	59,8	2,3	420	29,30	BBVS35320001M
		4.17	1.50	5.35	2.68	1.50	5.35	2.68	.59	9.45	5.91	4.41	5.91	5.08	2.80	.65	.67	3.54	12.60	1.89	6.26		1.89	2.35	.09	6000	64.46	

Recommended Bolts, Tightening Torques and O-Rings

STAUFF Size	Nominal Size DN	Recommendations Bolt (min)	Dimensions (mm/in) d3	d4	t	Tightening Torque	O-Ring (Included in Delivery)
04	6	4 x M6 x 40 - 8.8	6,5	10,5	6,8	9 N·m	7x2,5
		4 x 1/4–20 x 1-1/2 UNC - Gr. 5	.26	.41	.27	10 ft·lb	
06	10	4 x M8 x 50 - 8.8	8,4	13,5	8,5	21 N·m	10x2,5
		4 x 1/4–20 x 2 UNC - Gr. 5	.33	.53	.33	10 ft·lb	
08	13	6 x M8 x 60 - 10.9	8,4	13,5	7	30 N·m	20x2,5
		6 x 5/16–18 x 2-1/2 UNC - Gr. 8	.33	.53	.28	29 ft·lb	
12	20	6 x M10 x 80 - 10.9	10,5	16,5	10,5	60 N·m	23,47x2,62
		6 x 3/8–16 x 3-1/4 UNC - Gr. 10	.41	.65	.41	58 ft·lb	
16	25	6 x M10 x 90 - 12.9	10,5	16,5	10,5	70 N·m	29x3
		6 x 3/8–16 x 3-1/2 UNC - Gr. 10	.41	.65	.41	58 ft·lb	
20	32	6 x M12 x 110 - 10.9	13	19	12	100 N·m	34,59x2,62
		6 x 7/16–14 x 4-1/2 UNC - Gr. 8	.51	.75	.47	70 ft·lb	
24	40	6 x M16 x 120 - 12.9	16,5	25	19	300 N·m	42x3
		6 x 5/8–11 x 5 UNC - Gr. 8	.65	.98	.75	170 ft·lb	
32	50	6 x M20 x 140 - 10.9	21	31	21,5	600 N·m	54x3
		6 x 3/4–10 x 5-1/2 UNC - Gr. 8	.83	1.22	.85	200 ft·lb	

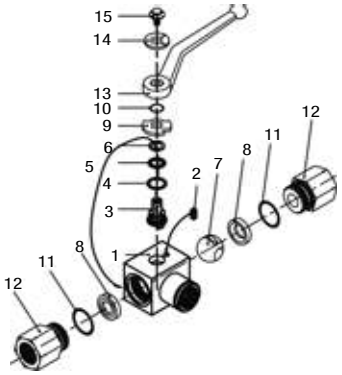
Pressure inlet possible from all ports!
Must be operated without pressure!

Please note: Bolts are not included in delivery.
We recommend to use socket cap screws according to ISO 4762 or ANSI / ASME B18.3 for installation.

High-Pressure Block Body Ball Valve ▪ Type CBV



Pressurize at center port to avoid internal leakage



List of Components

No.	Qty.	Description
1	1	Body
2	1	Stop Pin
3*	1	Stem
4*	1	Thrust Ring
5*	1	Stem O-Ring
6*	1	Stem Back Up Ring
7	1	Ball
8*	2	Ball Seat
9	1	Cam Plate
10	1	Snap Ring
11	2	Connector O-Ring
12	2	Connector
13	1	Handle
14	1	Flow Indicator
15	1	Stem Bolt

* Included in seal kit

Characteristics

Compact three-way high-pressure block body ball valves designed for use as three-way selectors (L-bore, 90° operation) for hydraulic applications

Standard Construction
- Block body design for in-line assembly
- Compact diverter style
- Supplied with off-set lever

Standard Materials
- Body: Carbon Steel, zinc/iron-plated
- Ball: Carbon Steel, hard chrome-plated
- Stem: Carbon Steel
- Lever: Zinc (STAUFF Sizes 02 to 08)
  Carbon Steel (STAUFF Sizes 12 to 32)
- Ball seat: Delrin® (POM)
- O-rings: FPM (Viton®)

Standard Connections Styles / Sizes
- Female NPT thread (ANSI B1.20.1) >2 NPT
- Female BSP thread (DIN ISO 228) >G 2 BSP
- Female UN/UNF thread (SAE J 514) >2-1/2–12 UN (2" SAE)
- 24° cone connection (DIN 2353); Light Series >35L
- 24° cone connection (DIN 2353); Heavy Series >38S

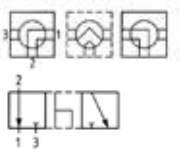
Pressure inlet only from the center port!
See page F113 for sealing details.

Pressure Range
- Pressure range: up to 500 bar / 7250 PSI (depending on size and material combination of the ball valve)

Temperature Range
- Operating temperature range:
  -20 °C ... +100 °C / -4 °F ... + 212 °F

Options / Accessories
- Alternative lever designs/materials (see page F98)
- Locking devices (see pages F99-F101)
- Pneumatic actuator packages (see page F102)
  Electrical actuators available on request.
- Limit switches (see page F102)
- Stainless Steel body
- Stainless Steel ball and stem
- Special ball seat and O-ring materials available for lower/higher temperatures and more aggressive media
- Additional assembling threads (see page F103)

Porting Pattern
(Ref. Code: 50-CBV)
- Symbol : L
- Overlap: negative
- Operating: 90°
- Stop of end position:



Please see pages F104-F105 for alternative porting patterns.

Order Codes

CBV	3	0	02	0	0	0	1	K	-	-
①	②	③	④	⑤	⑥	⑦	⑧	⑨	⑩	⑪

① Type

Compact High-Pressure Block Body Ball Valve	**CBV**

② Number of Ports

Three Ports (Three-Way Ball Valve)	**3**

③ Connection Style

Female NPT Thread (ANSI B1.20.1)	**0**
Female BSP Thread (DIN ISO 228)	**G**
Female UN/UNF Thread (SAE J 514)	**1**

24° Cone Connection (Light / Heavy Series)

DN04	DN06	DN08	DN10	DN13	DN16	DN20	DN25

Please consult STAUFF for alternative connection styles.

④ Connection Size

STAUFF Size (according to dimension table) for connection styles 0, G and 1:

02	04	06	08	10	12	16	20	24	32

Tube Size (according to dimension table) for 24° Cone Connection (Light Series):

06L	08L	10L	12L	15L	18L	22L	28L	35L

Tube Size (according to dimension table) for 24° Cone Connection (Heavy Series):

08S	10S	12S	14S	16S	20S	25S	30S	38S

Please consult STAUFF for alternative connection sizes.

⑤ Body Material / Surface Finishing

Carbon Steel, zinc/iron-plated	**0**
Stainless Steel V4A (AISI 316Ti)	**1**

Alternative materials / surface finishings are available upon request. Consult STAUFF for further information.

⑥ Ball / Stem Material

Ball: Carbon Steel, hard chrome-plated Stem: Carbon Steel	**0**
Ball / Stem: Stainless Steel V4A (AISI 316Ti)	**1**

Alternative materials / surface finishings are available upon request. Consult STAUFF for further information.

⑦ Ball Seat Material

Delrin® (POM)	**0**

Alternative materials are available upon request. Consult STAUFF for further information.

⑧ O-Ring Material

NBR (Buna-N®)	**0**
FPM (Viton®)	**1**
EPDM	**3**

Alternative materials are available upon request. Consult STAUFF for further information.

⑨ Manufacturing Code

Manufacturing code for all connection styles (except Female NPT Thread)	**M**
Manufacturing code (only for Female NPT Thread)	**K**

⑩ Lever Options

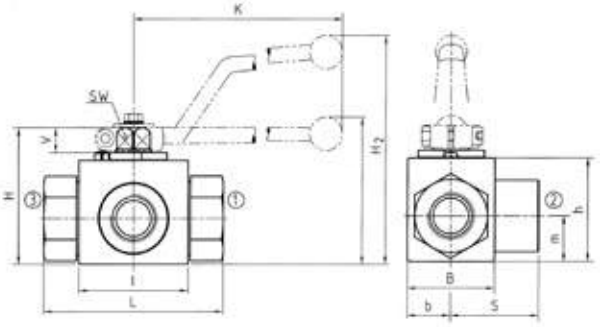
Supplied with standard lever (according to table)	**-**
Supplied without lever	**-0**

Alternative levers can be ordered separately. Please see page F98 for further information.

⑪ Accessories / Options

Supplied without accessories	**-**
Supplied with Locking Device LD1	**-LD1**
Supplied with Locking Device LD2	**-LD2**
Supplied with Locking Device LD3	**-LD3**
Supplied with Locking Device LD4 (standard)	**-LD4**
Supplied with Double-Acting Pneumatic Actuator (Please add size **)	**-EDA****
Supplied with Single-Acting Pneumatic Actuator (Please add size **)	**-ESA****
Supplied with Limit Switch in open position	**-LS-O**
Supplied with Limit Switch in closed position	**-LS-C**
Supplied with Limit Switch in open and closed position	**-LS-OC**

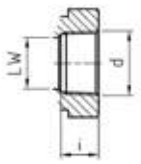
Please see page F99 for further information.



High-Pressure Block Body Ball Valve ▪ Type CBV
L-Bore Three-Way Selector ▪ Female NPT Thread (ANSI B1.20.1)

Pressure Inlet only from the Center Port

Female NPT Thread (ANSI B1.20.1)

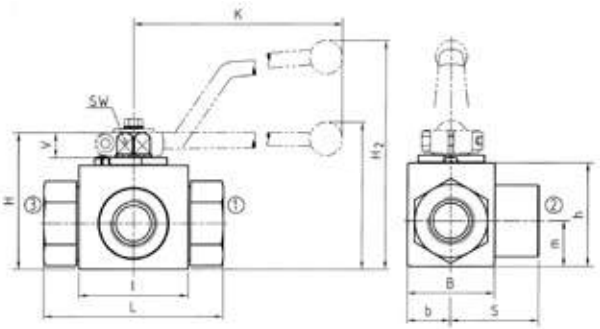


When ordering the standard option as indicated in the table below, the following materials will be supplied:

- Body, ball and stem: Carbon Steel
- Lever: Zinc (STAUFF Sizes 02 to 08)
  Carbon Steel (STAUFF Sizes 12 to 32)
- Ball seat: Delrin® (POM)
- O-rings: FPM (Viton®)

STAUFF Size	Thread Size d	NoKinal Size DN	Dimensions (mm/in) LW	L	l	b	B	H	h	K	S	V	SW	K	i	H2	Nom. Pressure (bar/PSI)	Weight (kg/lbs)	Order Codes (Standard Option)
02	1/8 NPT	4	5	69	40	13	29	47	33	13,5	34,5	11	9	115	10,5	82	500	0,40	CBV30020001K
			.20	2.72	1.57	.51	1.14	1.85	1.30	.53	1.36	.43	.35	4.53	.41	3.23	7250	.88	
04	1/4 NPT	6	6	69	40	13	29	47	33	13,5	34,5	11	9	115	13,7	82	500	0,46	CBV30040001K
			.24	2.72	1.57	.51	1.14	1.85	1.30	.53	1.36	.43	.35	4.53	.54	3.23	7250	1.01	
06	3/8 NPT	10	10	72	43	16	35	52	38	17,5	36	11	9	115	13,5	87	500	0,60	CBV30060001K
			.39	2.83	1.69	.63	1.38	2.05	1.50	.69	1.42	.43	.35	4.53	.53	3.42	7250	1.32	
08	1/2 NPT	13	13	83	48	17,5	38	54	40	19	41,5	11	9	115	17	89	500	0,70	CBV30080001K
			.51	3.27	1.89	.69	1.50	2.13	1.57	.75	1.63	.43	.35	4.53	.67	3.50	7250	1.54	
12	3/4NPT	20	20	95	62	24,5	52	75	57	24,5	47,5	14	14	170	18,3	126	315	1,80	CBV30120001K
			.79	3.74	2.44	.96	2.05	2.95	2.24	.96	1.87	.55	.55	6.69	.72	4.96	4567	3.96	
16	1 NPT	25	25	113	66	29	61	83	65	29,5	56,5	14	14	170	21,6	134	315	2,40	CBV30160001K
			.98	4.45	2.60	1.14	2.40	3.27	2.56	1.16	2.22	.55	.55	6.69	.85	5.73	4567	5.28	
20	1-1/4 NPT	32	30	120	81	39		106	84,5	39	55	16,5	17	320	22,1	170	350	3,80	CBV30200001K
			1.18	4.72	3.19	1.54		4.17	3.33	1.54	2.17	.65	.67	12.60	.87	6.69	5075	8.36	
24	1-1/2 NPT	40	38	140	104	53		127	106	53	65	16,5	17	320	22,1	191	350	6,20	CBV30240001K
			1.50	5.51	4.09	2.09		5.00	4.17	2.09	2.56	.65	.67	12.60	.87	7.52	5075	13.64	
32	2 NPT	50	48	150	118	58	116	137	116	58	75	16,5	17	320	30,2	201	350	7,80	CBV30320001K
			1.89	5.91	4.65	2.28	4.57	5.39	4.57	2.28	2.95	.65	.67	12.60	1.19	7.91	5075	17.16	

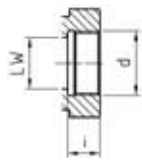
Please note the pressure ratings of the tube connections.



High-Pressure Block Body Ball Valve ▪ Type CBV
L-Bore Three-Way Selector ▪ Female BSP Thread (DIN ISO 228)

Pressure Inlet only from the Center Port

Female BSP Thread (DIN ISO 228)



When ordering the standard option as indicated in the table below, the following materials will be supplied:

- Body, ball and stem: Carbon Steel
- Lever: Zinc (STAUFF Sizes 02 to 08)
  Carbon Steel (STAUFF Sizes 12 to 32)
- Ball seat: Delrin® (POM)
- O-rings: FPM (Viton®)

STAUFF Size	Thread Size d	Nominal Size DN	Dimensions (mm/in) LW	L	l	b	B	H	h	m	S	V	SW	K	i	H2	Nom. Pressure (bar/PSI)	Weight (kg/lbs)	Order Codes (Standard Option)
02	G 1/8 BSP	4	5	69	40	13	29	47	33	13,5	34,5	11	9	115	10	82	500	0,40	CBV3G020001M
			.20	2.72	1.57	.51	1.14	1.85	1.30	.53	1.36	.43	.35	4.53	.39	3.23	7250	.88	
04	G 1/4 BSP	6	6	69	40	13	29	47	33	13,5	34,5	11	9	115	14	82	500	0,46	CBV3G040001M
			.24	2.72	1.57	.51	1.14	1.85	1.30	.53	1.36	.43	.35	4.53	.55	3.23	7250	1.01	
06	G 3/8 BSP	10	10	72	43	16	35	52	38	17,5	36	11	9	115	14	87	500	0,60	CBV3G060001M
			.39	2.83	1.69	.63	1.38	2.05	1.50	.69	1.42	.43	.35	4.53	.55	3.42	7250	1.32	
08	G 1/2 BSP	13	13	83	48	17,5	38	54	40	19	41,5	11	9	115	16,3	89	500	0,70	CBV3G080001M
			.51	3.27	1.89	.69	1.50	2.13	1.57	.75	1.63	.43	.35	4.53	.64	3.50	7250	1.54	
12	G 3/4BSP	20	20	95	62	24,5	52	75	57	24,5	47,5	14	14	170	18	126	315	1,80	CBV3G120001M
			.79	3.74	2.44	.96	2.05	2.95	2.24	.96	1.87	.55	.55	6.69	.71	4.96	4567	3.96	
16	G 1 BSP	25	25	113	66	29	61	83	65	29,5	56,5	14	14	170	20	134	315	2,40	CBV3G160001M
			.98	4.45	2.60	1.14	2.40	3.27	2.56	1.16	2.22	.55	.55	6.69	.79	5.73	4567	5.28	
20	G 1-1/4 BSP	32	30	111	81	39		106	84,5	39	55	16,5	17	320	22	170	350	3,80	CBV3G200001M
			1.18	4.37	3.19	1.54		4.17	3.33	1.54	2.17	.65	.67	12.60	.87	6.69	5075	8.36	
24	G 1-1/2 BSP	40	38	130	104	53		127	106	53	65	16,5	17	320	24	191	350	6,20	CBV3G240001M
			1.50	5.12	4.09	2.09		5.00	4.17	2.09	2.56	.65	.67	12.60	.94	7.52	5075	13.64	
32	G 2 BSP	50	48	150	118	58	116	137	116	58	75	16,5	17	320	26	201	350	7,80	CBV3G320001M
			1.89	5.91	4.65	2.28	4.57	5.39	4.57	2.28	2.95	.65	.67	12.60	1.02	7.91	5075	17.16	

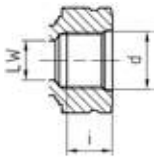
Please note the pressure ratings of the tube connections.

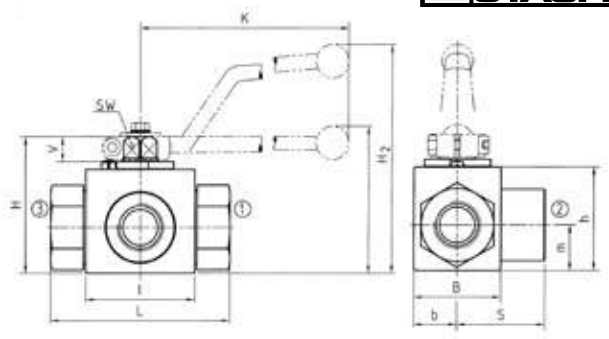
High-Pressure Block Body Ball Valve ▪ Type CBV
L-Bore Three-Way Selector ▪ Female UN/UNF Thread (SAE J 514)

When ordering the standard option as indicated in the table below, the following materials will be supplied:

- Body, ball and stem: Carbon Steel
- Lever: Zinc (STAUFF Sizes 04 to 08)
  Carbon Steel (STAUFF Sizes 12 to 32)
- Ball seat: Delrin® (POM)
- O-rings: FPM (Viton®)

Female UN/UNF Thread (SAE J 514)

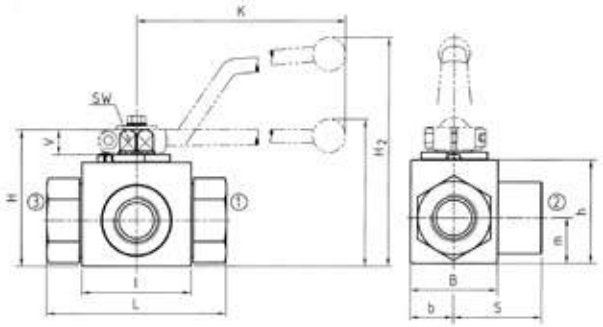




Pressure Inlet only from the Center Port

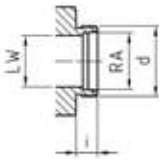
STAUFF Size	Thread Size d	Nominal Size DN	Dimensions (mm/in) LW	L	l	b	B	H	h	K	S	V	SW	K	i	H2	Nom. Pressure (bar/PSI)	Weight (kg/lbs)	Order Codes (Standard Option)
04	7/16–20 UNF	6	5	69	40	13	29	47	33	13,5	34,5	11	9	115	12	82	500	0,46	CBV31040001K
	(1/4" SAE)		.20	2.72	1.57	.51	1.14	1.85	1.30	.53	1.36	.43	.35	4.53	.47	3.23	7250	1.01	
06	9/16–18 UNF	10	10	72	43	16	35	52	38	17,5	36	11	9	115	13	87	500	0,60	CBV31060001K
	(3/4" SAE)		.39	2.83	1.69	.63	1.38	2.05	1.50	.69	1.42	.43	.35	4.53	.51	3.42	7250	1.32	
08	3/4–16 UNF	13	13	83	48	17,5	38	54	40	19	41,5	11	9	115	15	89	500	0,70	CBV31080001K
	(1/2" SAE)		.51	3.27	1.89	.69	1.50	2.13	1.57	.75	1.63	.43	.35	4.53	.59	3.50	7250	1.54	
12	1-1/16–12 UN	20	20	95	62	24,5	52	75	57	24,5	47,5	14	14	170	20	126	315	1,80	CBV31120001K
	(3/4" SAE)		.79	3.74	2.44	.96	2.05	2.95	2.24	.96	1.87	.55	.55	6.69	.79	4.96	4567	3.96	
16	1-5/16–12 UN	25	25	113	66	29	61	83	65	29,5	56,5	14	14	170	20	134	315	2,40	CBV31160001K
	(1" SAE)		.98	4.45	2.60	1.14	2.40	3.27	2.56	1.16	2.22	.55	.55	6.69	.79	5.73	4567	5.28	
20	1-5/8–12 UN	32	30	111	81	39		106	84,5	39	55	16,5	17	320	20	170	350	3,80	CBV31200001K
	(1-1/4" SAE)		1.18	4.37	3.19	1.54		4.17	3.33	1.54	2.17	.65	.67	12.60	.79	6.69	5075	8.36	
24	1-7/8–12 UN	40	38	130	104	53		127	106	53	65	16,5	17	320	20	191	350	6,20	CBV31240001K
	(1-1/2" SAE)		1.50	5.12	4.09	2.09		5.00	4.17	2.09	2.56	.65	.67	12.60	.79	7.52	5075	13.64	
32	2-1/2–12 UN	50	48	150	118	58	116	137	116	58	75	16,5	17	320	20	201	350	7,80	CBV31320001K
	(2" SAE)		1.89	5.91	4.65	2.28	4.57	5.39	4.57	2.28	2.95	.65	.67	12.60	.79	7.91	5075	17.16	

Please note the pressure ratings of the tube connections.



High-Pressure Block Body Ball Valve ▪ Type CBV
L-Bore Three-Way Selector ▪ 24° Cone Connection
Light Series (DIN 2353 / ISO 8434-1)

24° Cone Connection (DIN 2353 / ISO 8434-1)



When ordering the standard option as indicated in the table below, the following materials will be supplied:

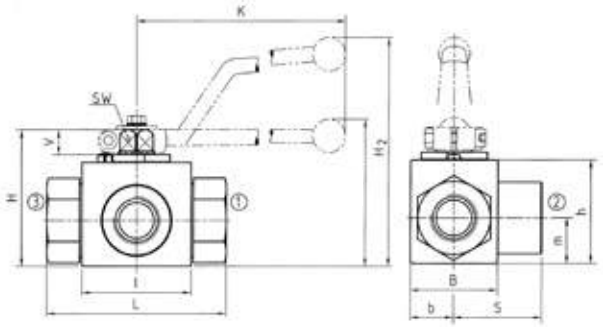
- Body, ball and stem: Carbon Steel
- Lever: Zinc (STAUFF Sizes 02 to 08)
  Carbon Steel (STAUFF Sizes 12 to 16)
- Ball seat: Delrin® (POM)
- O-rings: FPM (Viton®)

Pressure Inlet only from the Center Port

Hex nuts and cutting rings are not included in delivery.

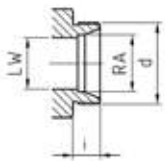
STAUFF Size	Tube/Thread Size d	Nominal Size DN	Dimensions (mm/in) RA	LW	L	l	b	B	H	h	m	S	V	SW	K	i	H2	Nom. Pressure (bar/PSI)	Weight (kg/lbs)	Order Codes (Standard Option)
02	06L / M12 x 1,5	4	6	5	69	40	13	29	47	33	13,5	34,5	11	9	115	10	82	500	0,30	CBV3DN0406L0001M
			.24	.20	2.72	1.57	.51	1.14	1.85	1.30	.53	1.36	.43	.35	4.53	.39	3.23	7250	.66	
04	08L / M14 x 1,5	6	8	6	69	40	13	29	47	33	13,5	34,5	11	9	115	10	82	500	0,40	CBV3DN0608L0001M
			.31	.24	2.72	1.57	.51	1.14	1.85	1.30	.53	1.36	.43	.35	4.53	.39	3.23	7250	.88	
05	10L / M16 x 1,5	8	10	6	69	40	13	29	47	33	13,5	34,5	11	9	115	11	82	500	0,40	CBV3DN0810L0001M
			.39	.24	2.72	1.57	.51	1.14	1.85	1.30	.53	1.36	.43	.35	4.53	.43	3.23	7250	.88	
06	12L / M18 x 1,5	10	12	10	72	43	16	35	52	38	17,5	36	11	9	115	11	87	500	0,50	CBV3DN1012L0001M
			.47	.39	2.83	1.69	.63	1.38	2.05	1.50	.69	1.42	.43	.35	4.53	.43	3.42	7250	1.10	
08	15L / M22 x 1,5	13	15	13	83	48	17,5	38	54	40	19	41,5	11	9	115	12	89	500	0,65	CBV3DN1315L0001M
			.59	.51	3.27	1.89	.69	1.50	2.13	1.57	.75	1.63	.43	.35	4.53	.47	3.50	7250	1.43	
08	18L / M26 x 1,5	13	18	13	83	48	17,5	38	54	40	19	41,5	11	9	115	12	89	500	0,69	CBV3DN1318L0001M
			.71	.51	3.27	1.89	.69	1.50	2.13	1.57	.75	1.63	.43	.35	4.53	.47	3.50	7250	1.52	
12	22L / M30 x 2	20	22	20	95	62	24,5	52	75	57	24,5	47,5	14	14	170	14	126	315	1,50	CBV3DN2022L0001M
			.87	.79	3.74	2.44	.96	2.05	2.95	2.24	.96	1.87	.55	.55	6.69	.55	4.96	4567	3.30	
16	28L / M36 x 2	25	28	25	113	66	29	61	83	65	29,5	56,5	14	14	170	14	134	315	2,10	CBV3DN2528L0001M
			1.10	.98	4.45	2.60	1.14	2.40	3.27	2.56	1.16	2.22	.55	.55	6.69	.55	5.73	4567	4.62	
16	35L / M45 x 2	25/32	35	25	113	66	29	61	83	65	29,5	56,5	14	14	170	16	134	315	2,50	CBV3DN2535L0001M
			1.38	.98	4.45	2.60	1.14	2.40	3.27	2.56	1.16	2.22	.55	.55	6.69	.63	5.73	4567	5.50	

Please note the pressure ratings of the tube connections.



High-Pressure Block Body Ball Valve ▪ Type CBV
L-Bore Three-Way Selector ▪ 24° Cone Connection
Heavy Series (DIN 2353 / ISO 8434-1)

24° Cone Connection (DIN 2353 / ISO 8434-1)



When ordering the standard option as indicated in the table below, the following materials will be supplied:

- Body, ball and stem: Carbon Steel
- Lever: Zinc (STAUFF Sizes 02 to 08)
  Carbon Steel (STAUFF Sizes 12 to 16)
- Ball seat: Delrin® (POM)
- O-rings: FPM (Viton®)

Pressure Inlet only from the Center Port

Hex nuts and cutting rings are not included in delivery.

STAUFF Size	Tube/Thread Size d	Nominal Size DN	Dimensions (mm/in) RA	LW	L	l	b	B	H	h	m	S	V	SW	K	i	H2	Nom. Pressure (bar/PSI)	Weight (kg/lbs)	Order Codes (Standard Option)
02	08S / M16 x 1,5	4	8	5	73	40	13	29	47	33	13,5	34,5	11	9	115	12	82	500	0,42	CBV3DN0408S0001M
			.31	.20	2.87	1.57	.51	1.14	1.85	1.30	.53	1.36	.43	.35	4.53	.47	3.23	7250	.92	
04	10S / M18 x 1,5	6	10	6	73	40	13	29	47	33	13,5	34,5	11	9	115	12	82	500	0,43	CBV3DN0610S0001M
			.39	.24	2.87	1.57	.51	1.14	1.85	1.30	.53	1.36	.43	.35	4.53	.47	3.23	7250	.95	
05	12S / M20 x 1,5	8	12	6	76	40	13	29	47	33	13,5	34,5	11	9	115	12	82	500	0,44	CBV3DN0812S0001M
			.47	.24	2.99	1.57	.51	1.14	1.85	1.30	.53	1.36	.43	.35	4.53	.47	3.23	7250	.97	
06	14S / M22 x 1,5	10	14	10	80	43	16	35	52	38	17,5	36,5	11	9	115	14	87	500	0,50	CBV3DN1014S0001M
			.55	.39	3.15	1.69	.63	1.38	2.05	1.50	.69	1.43	.43	.35	4.53	.55	3.42	7250	1.10	
08	16S / M24 x 1,5	13	16	13	86	48	17,5	38	54	40	19	43	11	9	115	14	89	500	0,65	CBV3DN1316S0001M
			.63	.51	3.39	1.89	.69	1.50	2.13	1.57	.75	1.69	.43	.35	4.53	.55	3.50	7250	1.43	
08	20S / M30 x 2	13	20	13	90	48	17,5	38	54	40	19	43	11	9	115	16	89	500	0,70	CBV3DN1320S0001M
			.79	.51	3.54	1.89	.69	1.50	2.13	1.57	.75	1.69	.43	.35	4.53	.63	3.50	7250	1.54	
12	25S / M36 x 2	20	25	20	109	62	24,5	52	75	57	24,5	48	14	14	170	18	126	315	1,70	CBV3DN2025S0001M
			.98	.79	4.29	2.44	.96	2.05	2.95	2.24	.96	1.89	.55	.55	6.69	.71	4.96	4567	3.74	
16	30S / M42 x 2	25	30	25	120	66	29	61	83	65	29,5	57,5	14	14	170	20	134	315	2,40	CBV3DN2530S0001M
			1.18	.98	4.72	2.60	1.14	2.40	3.27	2.56	1.16	2.26	.55	.55	6.69	.79	5.73	4567	5.28	
16	38S / M52 x 2	25/32	38	25	124	66	29	61	83	65	29,5	57,5	14	14	170	22	134	315	2,80	CBV3DN2538S0001M
			1.50	.98	4.88	2.60	1.14	2.40	3.27	2.56	1.16	2.26	.55	.55	6.69	.87	5.73	4567	6.16	

Please note the pressure ratings of the tube connections.

High-Pressure Block Body Ball Valve ▪ Type CBV



Characteristics

Compact three-way high-pressure block body ball valves designed for use as three-way selectors (L-bore, 90° operation) for hydraulic applications

Standard Construction
- Block body design for in-line assembly
- Compact diverter style
- Supplied with off-set lever

Standard Materials
- Body: Carbon Steel, zinc/iron-plated
- Ball: Carbon Steel, hard chrome-plated
- Stem: Carbon Steel
- Lever: Carbon Steel
- Ball seat: Delrin® (POM)
- O-rings: FPM (Viton®)

Standard Connections Styles / Sizes
- 6000 PSI (code 62) direct SAE flange connection
- Metric ISO and unified coarse (UNC) threads

See page F113 for sealing details.

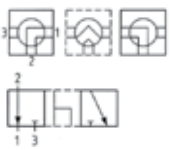
Pressure Range
- Pressure range: up to 420 bar / 6000 PSI (depending on size and material combination of the ball valve)

Please note: The final maximum working pressure is determined by flange and pipe/tubing rating.

Temperature Range
- Operating temperature range: -20 °C ... +100 °C / -4 °F ... + 212 °F

Options / Accessories
- Flanges and flange kits (see Flanges section)
- Alternative lever designs/materials (see page F98)
- Locking devices (see pages F99-F101)
- Pneumatic actuator packages (see page F102) Electrical actuators available on request.
- Limit switches (see page F102)
- Stainless Steel body
- Stainless Steel ball and stem
- Special ball seat and O-ring materials available for lower/higher temperatures and more aggressive media

Porting Pattern
(Ref. Code: 50-CBV)
- Symbol : L
- Overlap: negative
- Operating: 90°
- Stop of end position:



Please see pages F104-F105 for alternative porting patterns.

Order Codes

CBV	3	8	08	0	0	0	1	M	-	-
①	②	③	④	⑤	⑥	⑦	⑧	⑨	⑩	⑪

① Type

Compact High-Pressure Block Body Ball Valve	**CBV**

② Number of Ports

Three Ports (Three-Way Ball Valve)	**3**

③ Connection Style

6000 PSI (Code 62) SAE Direct Flange Connection with Unified Coarse (UNC) Threads	**8**
6000 PSI (Code 62) SAE Direct Flange Connection with Metric ISO Threads	**8M**

Please consult STAUFF for alternative connection styles.

④ Connection Size

STAUFF Size (according to dimension table):					
08	**12**	**16**	**20**	**24**	**32**

Please consult STAUFF for alternative connection sizes.

⑤ Body Material / Surface Finishing

Carbon Steel, zinc/iron-plated	**0**
Stainless Steel V4A (AISI 316Ti)	**1**

Alternative materials / surface finishings are available upon request. Consult STAUFF for further information.

⑥ Ball / Stem Material

Ball: Carbon Steel, hard chrome-plated Stem: Carbon Steel	**0**
Ball / Stem: Stainless Steel V4A (AISI 316Ti)	**1**

Alternative materials / surface finishings are available upon request. Consult STAUFF for further information.

⑦ Ball Seat Material

Delrin® (POM)	**0**

Alternative materials are available upon request. Consult STAUFF for further information.

⑧ O-Ring Material

NBR (Buna-N®)	**0**
FPM (Viton®)	**1**
EPDM	**3**

Alternative materials are available upon request. Consult STAUFF for further information.

⑨ Manufacturing Code

Manufacturing code for all connection styles	**M**

⑩ Lever Options

Supplied with standard lever (according to table)	**-**
Supplied without lever	**-0**

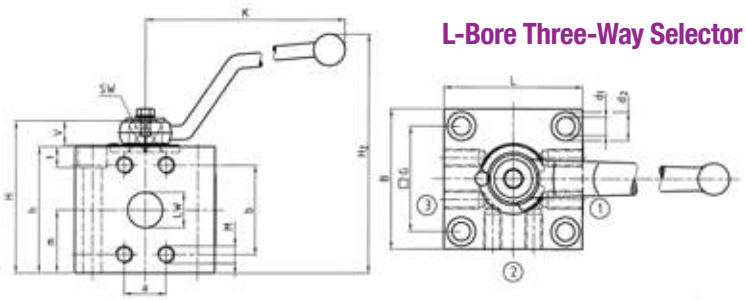
Alternative levers can be ordered separately. Please see page F98 for further information.

⑪ Accessories / Options

Supplied without accessories	**-**
Supplied with Locking Device LD1 (standard)	**-LD1**
Supplied with Double-Acting Pneumatic Actuator (Please add size **)	**-EDA****
Supplied with Single-Acting Pneumatic Actuator (Please add size **)	**-ESA****
Supplied with Limit Switch in open position	**-LS-O**
Supplied with Limit Switch in closed position	**-LS-C**
Supplied with Limit Switch in open and closed position	**-LS-OC**

Please see page F99 for further information.

High-Pressure Block Body Ball Valve ▪ Type CBV
L-Bore Three-Way Selector ▪ 6000 PSI SAE Flange Connection (ISO 6162-2)



When ordering the standard option as indicated in the table below, the following materials will be supplied:

- Body, ball and stem: Carbon Steel
- Lever: Carbon Steel
- Ball seat: Delrin® (POM)
- O-rings: FPM (Viton®)

6000 PSI Series (Code 62) ▪ Unified Coarse (UNC) Threads

STAUFF Size	SAE Flange Size	Nominal Size DN	Dimensions (mm/in) LW	L	B	H	h	m	V	SW	K	a	b	M	G	d1	d2	t	H2	Nom. Pressure (bar/PSI)	Weight (kg/lbs)	Order Codes (Standard Option)
08	1/2	13	13	70	70	63	56	28	11	9	115	18,2	40,5	5/16–18 UNC	43	8,5	13,5	9	101	420	2,00	CBV38080001M
			.51	2.76	2.76	2.48	2.20	1.10	.43	.35	4.53	.72	1.59		1.69	.33	.53	.35	3.98	6000	4.40	
12	3/4	20	20	80	80	87	72	36	14	14	170	23,8	50,8	3/8–16 UNC	60	10,5	16,5	11	137	420	3,40	CBV38120001M
			.79	3.15	3.15	3.43	2.83	1.42	.55	.55	6.69	.94	2.00		2.36	.41	.65	.43	5.39	6000	7.48	
16	1	25	25	94	94	96	81	42	14	14	170	27,8	57,2	7/16–14 UNC	70	10,5	16,5	11	147	420	5,40	CBV38160001M
			.98	3.70	3.70	3.78	3.19	1.65	.55	.55	6.69	1.09	2.25		2.76	.41	.65	.43	5.79	6000	11.88	
20	1-1/4	32	30	100	100	117	100	50,5	16,5	17	306	31,8	66,6	1/2–13 UNC	76	13	19	13	181	420	6,80	CBV38200001M
			1.18	3.94	3.94	4.61	3.94	1.99	.65	.67	12.05	1.25	2.62		2.99	.51	.75	.51	7.13	6000	14.96	
24	1-1/2	40	38	110	110	129	112	55	16,5	17	306	36,5	79,4	5/8–11 UNC	84	13	19	13	193	420	10,20	CBV38240001M
			1.50	4.33	4.33	5.08	4.41	2.17	.65	.67	12.05	1.44	3.13		3.31	.51	.75	.51	7.60	6000	22.44	
32	2	50	48	135	135	147	135	67,5	16,5	17	306	44,5	96,8	3/4–10 UNC	108	13	19	13	211	420	18,50	CBV38320001M
			1.89	5.31	5.31	5.79	5.31	2.66	.65	.67	12.05	1.75	3.81		4.25	.51	.75	.51	8.31	6000	40.70	

Please note: The final maximum working pressure is determined by flange and pipe/tubing rating.

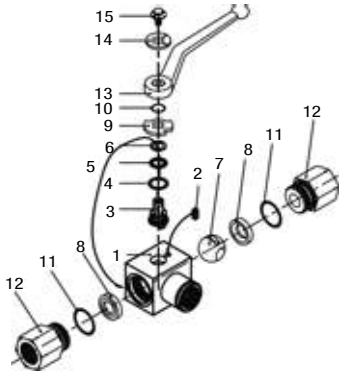
6000 PSI Series (Code 62) ▪ Metric ISO Threads

STAUFF Size	SAE Flange Size	Nominal Size DN	Dimensions (mm/in) LW	L	B	H	h	m	V	SW	K	a	b	M	G	d1	d2	t	H2	Nom. Pressure (bar/PSI)	Weight (kg/lbs)	Order Codes (Standard Option)
08	1/2	13	13	70	70	63	56	28	11	9	115	18,2	40,5	M8	43	8,5	13,5	9	101	420	2,00	CBV38M080001M
			.51	2.76	2.76	2.48	2.20	1.10	.43	.35	4.53	.72	1.59		1.69	.33	.53	.35	3.98	6000	4.40	
12	3/4	20	20	80	80	87	72	36	14	14	170	23,8	50,8	M10	60	10,5	16,5	11	137	420	3,40	CBV38M120001M
			.79	3.15	3.15	3.43	2.83	1.42	.55	.55	6.69	.94	2.00		2.36	.41	.65	.43	5.39	6000	7.48	
16	1	25	25	94	94	96	81	42	14	14	170	27,8	57,2	M12	70	10,5	16,5	11	147	420	5,40	CBV38M160001M
			.98	3.70	3.70	3.78	3.19	1.65	.55	.55	6.69	1.09	2.25		2.76	.41	.65	.43	5.79	6000	11.88	
20	1-1/4	32	30	100	100	117	100	50,5	16,5	17	306	31,8	66,6	M12	76	13	19	13	181	420	6,80	CBV38M200001M
			1.18	3.94	3.94	4.61	3.94	1.99	.65	.67	12.05	1.25	2.62		2.99	.51	.75	.51	7.13	6000	14.96	
24	1-1/2	40	38	110	110	129	112	55	16,5	17	306	36,5	79,4	M16	84	13	19	13	193	420	10,20	CBV38M240001M
			1.50	4.33	4.33	5.08	4.41	2.17	.65	.67	12.05	1.44	3.13		3.31	.51	.75	.51	7.60	6000	22.44	
32	2	50	48	135	135	147	135	67,5	16,5	17	306	44,5	96,8	M20	108	13	19	13	211	420	18,50	CBV38M320001M
			1.89	5.31	5.31	5.79	5.31	2.66	.65	.67	12.05	1.75	3.81		4.25	.51	.75	.51	8.31	6000	40.70	

High-Pressure Block Body Ball Valve ▪ Type CBVS



Pressure inlet possible from all ports!



List of Components

No.	Qty.	Description
1	1	Body
2	1	Stop Pin
3*	1	Stem
4*	1	Thrust Ring
5*	1	Stem O-Ring
6*	1	Stem Back Up Ring
7	1	Ball
8*	2	Ball Seat
9	1	Cam Plate
10	1	Snap Ring
11	2	Connector O-Ring
12	2	Connector
13	1	Handle
14	1	Flow Indicator
15	1	Stem Bolt

* Included in seal kit

Characteristics

Compact three-way high-pressure block body ball valves designed for use as three-way selectors (L-bore, 90° operation) for hydraulic applications

Standard Construction
- Block body design for in-line assembly
- Compact diverter style
- Supplied with off-set lever

Standard Materials
- Body: Carbon Steel, zinc/iron-plated
- Ball: Carbon Steel, hard chrome-plated
- Stem: Carbon Steel
- Lever: Zinc (STAUFF Sizes 02 to 08)
  Carbon Steel (STAUFF Sizes 12 to 32)
- Ball seat: Delrin® (POM)
- O-rings: FPM (Viton®)

Standard Connections Styles / Sizes
- Female NPT thread (ANSI B1.20.1) >2 NPT
- Female BSP thread (DIN ISO 228) >G 2 BSP
- Female UN/UNF thread (SAE J 514) >2-1/2–12 UN (2" SAE)
- 24° cone connection (DIN 2353); Light Series >35L
- 24° cone connection (DIN 2353); Heavy Series >38S

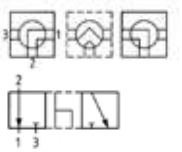
Pressure inlet possible from all ports!
Must be operated without pressure!
See page F113 for sealing details.

Pressure Range
- Pressure range: up to 500 bar / 7250 PSI (depending on size and material combination of the ball valve)

Temperature Range
- Operating temperature range:
  -20 °C ... +100 °C / -4 °F ... + 212 °F

Options / Accessories
- Alternative lever designs/materials (see page F98)
- Locking devices (see pages F99-F101)
- Pneumatic actuator packages (see page F102)
  Electrical actuators available on request.
- Limit switches (see page F102)
- Stainless Steel body
- Stainless Steel ball and stem
- Special ball seat and O-ring materials available for lower/higher temperatures and more aggressive media
- Additional assembling threads (see page F103)

Porting Pattern
(Ref. Code: 55-CBVS)
- Symbol : L
- Overlap: negative
- Operating: 90°
- Stop of end position:



Please see pages F104-F105 for alternative porting patterns.

Order Codes

CBVS	3	0	02	0	0	0	1	K	-	-
①	②	③	④	⑤	⑥	⑦	⑧	⑨	⑩	⑪

① Type

Compact High-Pressure Block Body Ball Valve with Pressure Inlet Possible from all Ports	**CBVS**

② Number of Ports

Three Ports (Three-Way Ball Valve)	**3**

③ Connection Style

Female NPT Thread (ANSI B1.20.1)	**0**
Female BSP Thread (DIN ISO 228)	**G**
Female UN/UNF Thread (SAE J 514)	**1**

24° Cone Connection (Light / Heavy Series)

DN04	DN06	DN08	DN10	DN13	DN16	DN20	DN25

Please consult STAUFF for alternative connection styles.

④ Connection Size

STAUFF Size (according to dimension table) for connection styles O, G and 1:

02	04	06	08	10	12	16	20	24	32

Tube Size (according to dimension table) for 24° Cone Connection (Light Series):

06L	08L	10L	12L	15L	18L	22L	28L	35L

Tube Size (according to dimension table) for 24° Cone Connection (Heavy Series):

08S	10S	12S	14S	16S	20S	25S	30S	38S

Please consult STAUFF for alternative connection sizes.

⑤ Body Material / Surface Finishing

Carbon Steel, zinc/iron-plated	**0**
Stainless Steel V4A (AISI 316Ti)	**1**

Alternative materials / surface finishings are available upon request. Consult STAUFF for further information.

⑥ Ball / Stem Material

Ball: Carbon Steel, hard chrome-plated Stem: Carbon Steel	**0**
Ball / Stem: Stainless Steel V4A (AISI 316Ti)	**1**

Alternative materials / surface finishings are available upon request. Consult STAUFF for further information.

⑦ Ball Seat Material

Delrin® (POM)	**0**

Alternative materials are available upon request. Consult STAUFF for further information.

⑧ O-Ring Material

NBR (Buna-N®)	**0**
FPM (Viton®)	**1**
EPDM	**3**

Alternative materials are available upon request. Consult STAUFF for further information.

⑨ Manufacturing Code

Manufacturing code for all connection styles (except Female NPT Thread)	**M**
Manufacturing code (only for Female NPT Thread)	**K**

⑩ Lever Options

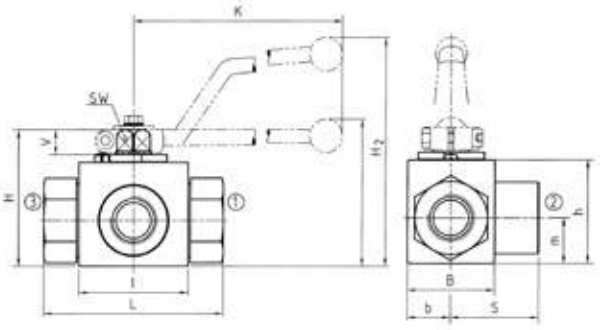
Supplied with standard lever (according to table)	**-**
Supplied without lever	**-0**

Alternative levers can be ordered separately. Please see page F98 for further information.

⑪ Accessories / Options

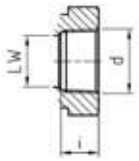
Supplied without accessories	**-**
Supplied with Locking Device LD1	**-LD1**
Supplied with Locking Device LD4 (standard)	**-LD4**
Supplied with Double-Acting Pneumatic Actuator (Please add size **)	**-EDA****
Supplied with Single-Acting Pneumatic Actuator (Please add size **)	**-ESA****
Supplied with Limit Switch in open position	**-LS-O**
Supplied with Limit Switch in closed position	**-LS-C**
Supplied with Limit Switch in open and closed position	**-LS-OC**

Please see page F99 for further information.



High-Pressure Block Body Ball Valve ▪ Type CBVS
L-Bore Three-Way Selector ▪ Female NPT Thread (ANSI B1.20.1)

Female NPT Thread (ANSI B1.20.1)



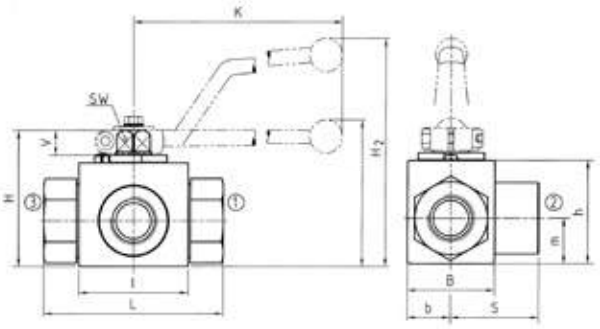
When ordering the standard option as indicated in the table below, the following materials will be supplied:

- Body, ball and stem: Carbon Steel
- Lever: Zinc (STAUFF Sizes 02 to 08)
  Carbon Steel (STAUFF Sizes 12 to 32)
- Ball seat: Delrin® (POM)
- O-rings: FPM (Viton®)

Pressure Inlet possible from all Ports

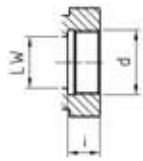
STAUFF Size	Thread Size d	Nominal Size DN	Dimensions (mm/in) LW	L	l	b	B	H	h	K	S	V	SW	K	i	H2	Nom. Pressure (bar/PSI)	Weight (kg/lbs)	Order Codes (Standard Option)
02	1/8 NPT	4	5	69	40	13	29	47	33	13,5	34,5	11	9	115	10,5	82	500	0,40	CBVS30020001K
			.20	2.72	1.57	.51	1.14	1.85	1.30	.53	1.36	.43	.35	4.53	.41	3.23	7250	.88	
04	1/4 NPT	6	6	69	40	13	29	47	33	13,5	34,5	11	9	115	13,7	82	500	0,46	CBVS30040001K
			.24	2.72	1.57	.51	1.14	1.85	1.30	.53	1.36	.43	.35	4.53	.54	3.23	7250	1.01	
06	3/8 NPT	10	10	72	43	16	35	52	38	17,5	36	11	9	115	13,5	87	500	0,60	CBVS30060001K
			.39	2.83	1.69	.63	1.38	2.05	1.50	.69	1.42	.43	.35	4.53	.53	3.42	7250	1.32	
08	1/2 NPT	13	13	83	48	17,5	38	54	40	19	41,5	11	9	115	17	89	500	0,70	CBVS30080001K
			.51	3.27	1.89	.69	1.50	2.13	1.57	.75	1.63	.43	.35	4.53	.67	3.50	7250	1.54	
12	3/4NPT	20	20	95	62	24,5	52	75	57	24,5	47,5	14	14	170	18,3	126	315	1,80	CBVS30120001K
			.79	3.74	2.44	.96	2.05	2.95	2.24	.96	1.87	.55	.55	6.69	.72	4.96	4567	3.96	
16	1 NPT	25	25	113	66	29	61	83	65	29,5	56,5	14	14	170	21,6	134	315	2,40	CBVS30160001K
			.98	4.45	2.60	1.14	2.40	3.27	2.56	1.16	2.22	.55	.55	6.69	.85	5.73	4567	5.28	
20	1-1/4 NPT	32	30	120	81	39		106	84,5	39	55	16,5	17	320	22,1	170	350	3,80	CBVS30200001K
			1.18	4.72	3.19	1.54		4.17	3.33	1.54	2.17	.65	.67	12.60	.87	6.69	5075	8.36	
24	1-1/2 NPT	40	38	140	104	53		127	106	53	65	16,5	17	320	22,1	191	350	6,20	CBVS30240001K
			1.50	5.51	4.09	2.09		5.00	4.17	2.09	2.56	.65	.67	12.60	.87	7.52	5075	13.64	
32	2 NPT	50	48	150	118	58	116	137	116	58	75	16,5	17	320	30,2	201	350	7,80	CBVS30320001K
			1.89	5.91	4.65	2.28	4.57	5.39	4.57	2.28	2.95	.65	.67	12.60	1.19	7.91	5075	17.16	

Please note the pressure ratings of the tube connections.



High-Pressure Block Body Ball Valve ▪ Type CBVS
L-Bore Three-Way Selector ▪ Female BSP Thread (DIN ISO 228)

Female BSP Thread (DIN ISO 228)



When ordering the standard option as indicated in the table below, the following materials will be supplied:

- Body, ball and stem: Carbon Steel
- Lever: Zinc (STAUFF Sizes 02 to 08)
  Carbon Steel (STAUFF Sizes 12 to 32)
- Ball seat: Delrin® (POM)
- O-rings: FPM (Viton®)

Pressure Inlet possible from all Ports

STAUFF Size	Thread Size d	Nominal Size DN	Dimensions (mm/in) LW	L	l	b	B	H	h	m	S	V	SW	K	i	H2	Nom. Pressure (bar/PSI)	Weight (kg/lbs)	Order Codes (Standard Option)
02	G 1/8 BSP	4	5	69	40	13	29	47	33	13,5	34,5	11	9	115	10	82	500	0,40	CBVS3G020001M
			.20	2.72	1.57	.51	1.14	1.85	1.30	.53	1.36	.43	.35	4.53	.39	3.23	7250	.88	
04	G 1/4 BSP	6	6	69	40	13	29	47	33	13,5	34,5	11	9	115	14	82	500	0,46	CBVS3G040001M
			.24	2.72	1.57	.51	1.14	1.85	1.30	.53	1.36	.43	.35	4.53	.55	3.23	7250	1.01	
06	G 3/8 BSP	10	10	72	43	16	35	52	38	17,5	36	11	9	115	14	87	500	0,60	CBVS3G060001M
			.39	2.83	1.69	.63	1.38	2.05	1.50	.69	1.42	.43	.35	4.53	.55	3.42	7250	1.32	
08	G 1/2 BSP	13	13	83	48	17,5	38	54	40	19	41,5	11	9	115	16,3	89	500	0,70	CBVS3G080001M
			.51	3.27	1.89	.69	1.50	2.13	1.57	.75	1.63	.43	.35	4.53	.64	3.50	7250	1.54	
12	G 3/4BSP	20	20	95	62	24,5	52	75	57	24,5	47,5	14	14	170	18	126	315	1,80	CBVS3G120001M
			.79	3.74	2.44	.96	2.05	2.95	2.24	.96	1.87	.55	.55	6.69	.71	4.96	4567	3.96	
16	G 1 BSP	25	25	113	66	29	61	83	65	29,5	56,5	14	14	170	20	134	315	2,40	CBVS3G160001M
			.98	4.45	2.60	1.14	2.40	3.27	2.56	1.16	2.22	.55	.55	6.69	.79	5.73	4567	5.28	
20	G 1-1/4 BSP	32	30	111	81	39		106	84,5	39	55	16,5	17	320	22	170	350	3,80	CBVS3G200001M
			1.18	4.37	3.19	1.54		4.17	3.33	1.54	2.17	.65	.67	12.60	.87	6.69	5075	8.36	
24	G 1-1/2 BSP	40	38	130	104	53		127	106	53	65	16,5	17	320	24	191	350	6,20	CBVS3G240001M
			1.50	5.12	4.09	2.09		5.00	4.17	2.09	2.56	.65	.67	12.60	.94	7.52	5075	13.64	
32	G 2 BSP	50	48	150	118	58	116	137	116	58	75	16,5	17	320	26	201	350	7,80	CBVS3G320001M
			1.89	5.91	4.65	2.28	4.57	5.39	4.57	2.28	2.95	.65	.67	12.60	1.02	7.91	5075	17.16	

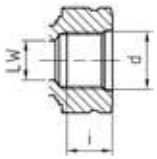
Please note the pressure ratings of the tube connections.

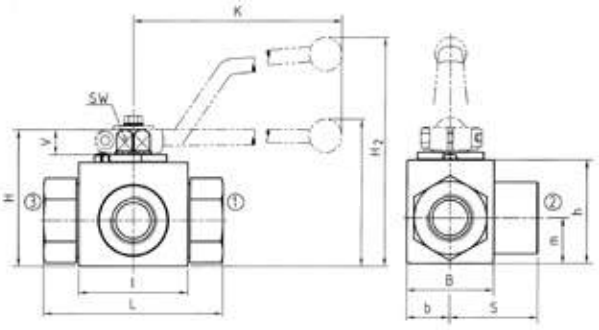
High-Pressure Block Body Ball Valve ▪ Type CBVS
L-Bore Three-Way Selector ▪ Female UN/UNF Thread (SAE J 514)

When ordering the standard option as indicated in the table below, the following materials will be supplied:

- Body, ball and stem: Carbon Steel
- Lever: Zinc (STAUFF Sizes 04 to 08)
  Carbon Steel (STAUFF Sizes 12 to 32)
- Ball seat: Delrin® (POM)
- O-rings: FPM (Viton®)

Female UN/UNF Thread (SAE J 514)

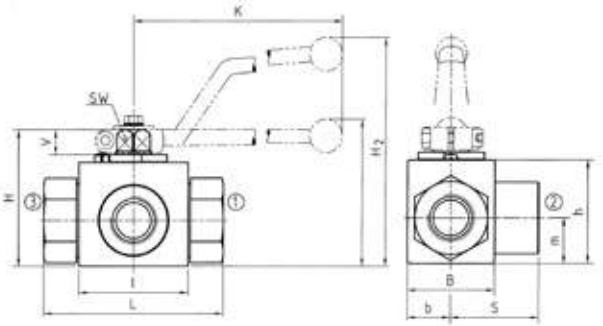




Pressure Inlet possible from all Ports

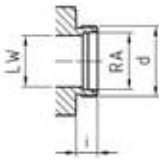
STAUFF Size	Thread Size d	Nominal Size DN	Dimensions (mm/in) LW	L	l	b	B	H	h	K	S	V	SW	K	i	H2	Nom. Pressure (bar/PSI)	Weight (kg/lbs)	Order Codes (Standard Option)
04	7/16–20 UNF	6	5	69	40	13	29	47	33	13,5	34,5	11	9	115	12	82	500	0,46	CBVS31040001M
	(1/4" SAE)		.20	2.72	1.57	.51	1.14	1.85	1.30	.53	1.36	.43	.35	4.53	.47	3.23	7250	1.01	
06	9/16–18 UNF	10	10	72	43	16	35	52	38	17,5	36	11	9	115	13	87	500	0,60	CBVS31060001M
	(3/8" SAE)		.39	2.83	1.69	.63	1.38	2.05	1.50	.69	1.42	.43	.35	4.53	.51	3.42	7250	1.32	
08	3/4–16 UNF	13	13	83	48	17,5	38	54	40	19	41,5	11	9	115	15	89	500	0,70	CBVS31080001M
	(1/2" SAE)		.51	3.27	1.89	.69	1.50	2.13	1.57	.75	1.63	.43	.35	4.53	.59	3.50	7250	1.54	
12	1-1/16–12 UN	20	20	95	62	24,5	52	75	57	24,5	47,5	14	14	170	20	126	315	1,80	CBVS31120001M
	(3/4" SAE)		.79	3.74	2.44	.96	2.05	2.95	2.24	.96	1.87	.55	.55	6.69	.79	4.96	4567	3.96	
16	1-5/16–12 UN	25	25	113	66	29	61	83	65	29,5	56,5	14	14	170	20	134	315	2,40	CBVS31160001M
	(1" SAE)		.98	4.45	2.60	1.14	2.40	3.27	2.56	1.16	2.22	.55	.55	6.69	.79	5.73	4567	5.28	
20	1-5/8–12 UN	32	30	111	81	39		106	84,5	39	55	16,5	17	320	20	170	350	3,80	CBVS31200001M
	(1-1/4" SAE)		1.18	4.37	3.19	1.54		4.17	3.33	1.54	2.17	.65	.67	12.60	.79	6.69	5075	8.36	
24	1-7/8–12 UN	40	38	130	104	53		127	106	53	65	16,5	17	320	20	191	350	6,20	CBVS31240001M
	(1-1/2" SAE)		1.50	5.12	4.09	2.09		5.00	4.17	2.09	2.56	.65	.67	12.60	.79	7.52	5075	13.64	
32	2-1/2–12 UN	50	48	150	118	58	116	137	116	58	75	16,5	17	320	20	201	350	7,80	CBVS31320001M
	(2" SAE)		1.89	5.91	4.65	2.28	4.57	5.39	4.57	2.28	2.95	.65	.67	12.60	.79	7.91	5075	17.16	

Please note the pressure ratings of the tube connections.



High-Pressure Block Body Ball Valve ▪ Type CBVS
L-Bore Three-Way Selector ▪ 24° Cone Connection
Light Series (DIN 2353 / ISO 8434-1)

24° Cone Connection (DIN 2353 / ISO 8434-1)



When ordering the standard option as indicated in the table below, the following materials will be supplied:

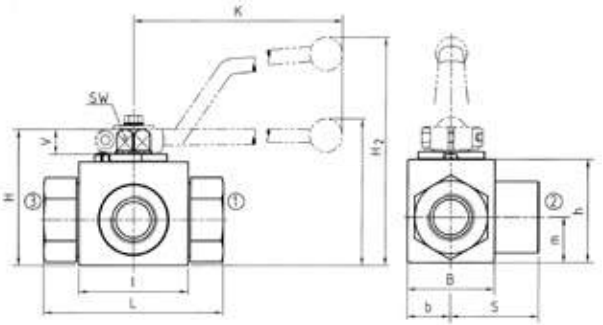
- Body, ball and stem: Carbon Steel
- Lever: Zinc (STAUFF Sizes 02 to 08)
  Carbon Steel (STAUFF Sizes 12 to 16)
- Ball seat: Delrin® (POM)
- O-rings: FPM (Viton®)

Pressure Inlet possible from all Ports

Hex nuts and cutting rings are not included in delivery.

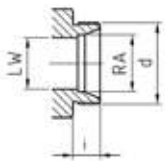
STAUFF Size	Tube/Thread Size d	Nominal Size DN	Dimensions (mm/in) RA	LW	L	l	b	B	H	h	m	S	V	SW	K	i	H2	Nom. Pressure (bar/PSI)	Weight (kg/lbs)	Order Codes (Standard Option)
02	06L / M12 x 1,5	4	6	5	69	40	13	29	47	33	13,5	34,5	11	9	115	10	82	500	0,30	CBVS3DN0406L0001M
			.24	.20	2.72	1.57	.51	1.14	1.85	1.30	.53	1.36	.43	.35	4.53	.39	3.23	7250	.66	
04	08L / M14 x 1,5	6	8	6	69	40	13	29	47	33	13,5	34,5	11	9	115	10	82	500	0,40	CBVS3DN0608L0001M
			.31	.24	2.72	1.57	.51	1.14	1.85	1.30	.53	1.36	.43	.35	4.53	.39	3.23	7250	.88	
05	10L / M16 x 1,5	8	10	6	69	40	13	29	47	33	13,5	34,5	11	9	115	11	82	500	0,40	CBVS3DN0810L0001M
			.39	.24	2.72	1.57	.51	1.14	1.85	1.30	.53	1.36	.43	.35	4.53	.43	3.23	7250	.88	
06	12L / M18 x 1,5	10	12	10	72	43	16	35	52	38	17,5	36	11	9	115	11	87	500	0,50	CBVS3DN1012L0001M
			.47	.39	2.83	1.69	.63	1.38	2.05	1.50	.69	1.42	.43	.35	4.53	.43	3.42	7250	1.10	
08	15L / M22 x 1,5	13	15	13	83	48	17,5	38	54	40	19	41,5	11	9	115	12	89	500	0,65	CBVS3DN1315L0001M
			.59	.51	3.27	1.89	.69	1.50	2.13	1.57	.75	1.63	.43	.35	4.53	.47	3.50	7250	1.43	
08	18L / M26 x 1,5	13	18	13	83	48	17,5	38	54	40	19	41,5	11	9	115	12	89	500	0,69	CBVS3DN1318L0001M
			.71	.51	3.27	1.89	.69	1.50	2.13	1.57	.75	1.63	.43	.35	4.53	.47	3.50	7250	1.52	
12	22L / M30 x 2	20	22	20	95	62	24,5	52	75	57	24,5	47,5	14	14	170	14	126	315	1,50	CBVS3DN2022L0001M
			.87	.79	3.74	2.44	.96	2.05	2.95	2.24	.96	1.87	.55	.55	6.69	.55	4.96	4567	3.30	
16	28L / M36 x 2	25	28	25	113	66	29	61	83	65	29,5	56,5	14	14	170	14	134	315	2,10	CBVS3DN2528L0001M
			1.10	.98	4.45	2.60	1.14	2.40	3.27	2.56	1.16	2.22	.55	.55	6.69	.55	5.73	4567	4.62	
16	35L / M45 x 2	25/32	35	25	113	66	29	61	83	65	29,5	56,5	14	14	170	16	134	315	2,50	CBVS3DN2535L0001M
			1.38	.98	4.45	2.60	1.14	2.40	3.27	2.56	1.16	2.22	.55	.55	6.69	.63	5.73	4567	5.50	

Please note the pressure ratings of the tube connections.



High-Pressure Block Body Ball Valve ▪ Type CBVS
L-Bore Three-Way Selector ▪ 24° Cone Connection
Heavy Series (DIN 2353 / ISO 8434-1)

24° Cone Connection (DIN 2353 / ISO 8434-1)



When ordering the standard option as indicated in the table below, the following materials will be supplied:

- Body, ball and stem: Carbon Steel
- Lever: Zinc (STAUFF Sizes 02 to 08)
  Carbon Steel (STAUFF Sizes 12 to 16)
- Ball seat: Delrin® (POM)
- O-rings: FPM (Viton®)

Pressure Inlet possible from all Ports

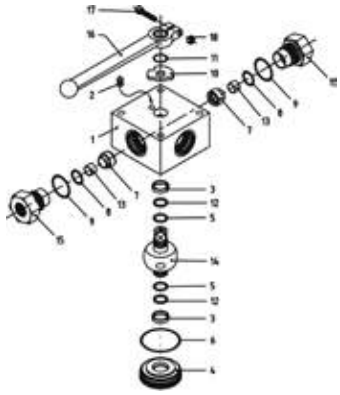
Hex nuts and cutting rings are not included in delivery.

STAUFF Size	Tube/Thread Size d	Nominal Size DN	Dimensions (mm/in) RA	LW	L	l	b	B	H	h	m	S	V	SW	K	i	H2	Nom. Pressure (bar/PSI)	Weight (kg/lbs)	Order Codes (Standard Option)
02	08S / M16 x 1,5	4	8	5	73	40	13	29	47	33	13,5	34,5	11	9	115	12	82	500	0,42	CBVS3DN0408S0001M
			.31	.20	2.87	1.57	.51	1.14	1.85	1.30	.53	1.36	.43	.35	4.53	.47	3.23	7250	.92	
04	10S / M18 x 1,5	6	10	6	73	40	13	29	47	33	13,5	34,5	11	9	115	12	82	500	0,43	CBVS3DN0610S0001M
			.39	.24	2.87	1.57	.51	1.14	1.85	1.30	.53	1.36	.43	.35	4.53	.47	3.23	7250	.95	
05	12S / M20 x 1,5	8	12	6	76	40	13	29	47	33	13,5	34,5	11	9	115	12	82	500	0,44	CBVS3DN0812S0001M
			.47	.24	2.99	1.57	.51	1.14	1.85	1.30	.53	1.36	.43	.35	4.53	.47	3.23	7250	.97	
06	14S / M22 x 1,5	10	14	10	80	43	16	35	52	38	17,5	36,5	11	9	115	14	87	500	0,50	CBVS3DN1014S0001M
			.55	.39	3.15	1.69	.63	1.38	2.05	1.50	.69	1.43	.43	.35	4.53	.55	3.42	7250	1.10	
08	16S / M24 x 1,5	13	16	13	86	48	17,5	38	54	40	19	43	11	9	115	14	89	500	0,65	CBVS3DN1316S0001M
			.63	.51	3.39	1.89	.69	1.50	2.13	1.57	.75	1.69	.43	.35	4.53	.55	3.50	7250	1.43	
08	20S / M30 x 2	13	20	13	90	48	17,5	38	54	40	19	43	11	9	115	16	89	500	0,70	CBVS3DN1320S0001M
			.79	.51	3.54	1.89	.69	1.50	2.13	1.57	.75	1.69	.43	.35	4.53	.63	3.50	7250	1.54	
12	25S / M36 x 2	20	25	20	109	62	24,5	52	75	57	24,5	48	14	14	170	18	126	315	1,70	CBVS3DN2025S0001M
			.98	.79	4.29	2.44	.96	2.05	2.95	2.24	.96	1.89	.55	.55	6.69	.71	4.96	4567	3.74	
16	30S / M42 x 2	25	30	25	120	66	29	61	83	65	29,5	57,5	14	14	170	20	134	315	2,40	CBVS3DN2530S0001M
			1.18	.98	4.72	2.60	1.14	2.40	3.27	2.56	1.16	2.26	.55	.55	6.69	.79	5.73	4567	5.28	
16	38S / M52 x 2	25/32	38	25	124	66	29	61	83	65	29,5	57,5	14	14	170	22	134	315	2,80	CBVS3DN2538S0001M
			1.50	.98	4.88	2.60	1.14	2.40	3.27	2.56	1.16	2.26	.55	.55	6.69	.87	5.73	4567	6.16	

Please note the pressure ratings of the tube connections.

High-Pressure Block Body Ball Valve ▪ Type LBV





List of Components

No.	Qty.	Description
1	1	Body
2	1	Stop Pin
3*	2	Bearing
4	1	Trunnion Retainer
5*	2	Trunnion O-Ring
6*	1	Retainer O-Ring
7*	3	Ball Seat
8*	3	Seat O-Ring
9*	3	Connector O-Ring
10	1	Cam Plate
11	1	Snap Ring
12*	2	Trunnion Back Up Ring
13	3	Seat Support
14	1	Trunnion Ball
15	3	Connector
16	1	Handle
17	1	Handle Bolt

* Included in seal kit

Characteristics

Three-way high-pressure block body ball valves designed for use as three-way selectors (L-bore, 90° operation) for hydraulic applications

Standard Construction
- Block body design for in-line assembly
- Multi-way valve with trunnion-style ball
- Supplied with lever

Standard Materials
- Body: Carbon Steel, zinc/iron-plated
- Ball: Carbon Steel, hard chrome-plated
- Stem: Carbon Steel
- Lever: Aluminium (STAUFF Sizes 02 and 04)
  Zinc (STAUFF Sizes 06 to 10)
  Aluminium (STAUFF Sizes 12 to 24)
- Ball seat: Delrin® (POM)
- O-rings: FPM (Viton®)

Standard Connections Styles / Sizes
- Female NPT thread (ANSI B1.20.1) >1-1/2 NPT
- Female BSP thread (DIN ISO 228) >G 1-1/2 BSP
- Female UN/UNF thread (SAE J 514) >1-5/16–12 UN (1" SAE)
- 24° cone connection (DIN 2353); Light Series >35L
- 24° cone connection (DIN 2353); Heavy Series >38S

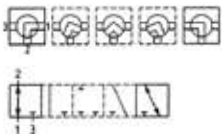
See page F113 for sealing details.

Pressure Range
- Pressure range: up to 500 bar / 7250 PSI (depending on size and material combination of the ball valve)

Temperature Range
- Operating temperature range: -20 °C ... +100 °C / -4 °F ... + 212 °F

Options / Accessories
- Alternative lever designs/materials (see page F98)
- Locking devices (see pages F99-F101)
- Pneumatic actuator packages (see page F102)
  Electrical actuators available on request.
- Limit switches (see page F102)
- Stainless Steel body
- Stainless Steel ball and stem
- Special ball seat and O-ring materials available for lower/higher temperatures and more aggressive media

Porting Pattern
(Ref. Code: 01-LBV)
- Symbol : L
- Overlap: positive
- Operating: 90°
- Stop of end position:



Please see pages F104-F105 for alternative porting patterns.

Order Codes

LBV	3	0	02	0	0	0	1	M	-	-
①	②	③	④	⑤	⑥	⑦	⑧	⑨	⑩	⑪

① Type

Multi-Way L-Bore Ball Valve	**LBV**

② Number of Ports

Three Ports (Three-Way Ball Valve)	**3**

③ Connection Style

Female NPT Thread (ANSI B1.20.1)	**0**
Female BSP Thread (DIN ISO 228)	**G**
Female UN/UNF Thread (SAE J 514)	**1**

24° Cone Connection (Light / Heavy Series)

DN04	DN06	DN08	DN10	DN13	DN16	DN20	DN25

Please consult STAUFF for alternative connection styles.

④ Connection Size

STAUFF Size (according to dimension table) for connection styles 0, G and 1:

02	04	06	08	10	12	16	20	24

Tube Size (according to dimension table) for 24° Cone Connection (Light Series):

06L	08L	10L	12L	15L	18L	22L	28L	35L

Tube Size (according to dimension table) for 24° Cone Connection (Heavy Series):

08S	10S	12S	14S	16S	20S	25S	30S	38S

Please consult STAUFF for alternative connection sizes.

⑤ Body Material / Surface Finishing

Carbon Steel, zinc/iron-plated	**0**
Stainless Steel V4A (AISI 316Ti)	**1**

Alternative materials / surface finishings are available upon request. Consult STAUFF for further information.

⑥ Ball / Stem Material

Ball: Carbon Steel, hard chrome-plated Stem: Carbon Steel	**0**
Ball / Stem: Stainless Steel V4A (AISI 316Ti)	**1**

Alternative materials / surface finishings are available upon request. Consult STAUFF for further information.

⑦ Ball Seat Material

Delrin® (POM)	**0**

Alternative materials are available upon request. Consult STAUFF for further information.

⑧ O-Ring Material

NBR (Buna-N®)	**0**
FPM (Viton®)	**1**
EPDM	**3**

Alternative materials are available upon request. Consult STAUFF for further information.

⑨ Manufacturing Code

Manufacturing code for all connection styles	**M**

⑩ Lever Options

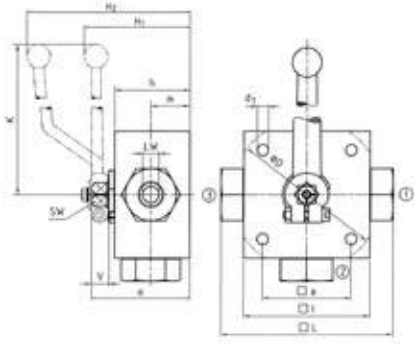
Supplied with standard lever (according to table)	**-**
Supplied without lever	**-0**

Alternative levers can be ordered separately. Please see page F98 for further information.

⑪ Accessories / Options

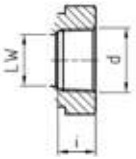
Supplied without accessories	**-**
Supplied with Locking Device LD4 (standard)	**-LD4**
Supplied with Double-Acting Pneumatic Actuator (Please add size **)	**-EDA****
Supplied with Single-Acting Pneumatic Actuator (Please add size **)	**-ESA****
Supplied with Limit Switch in open position	**-LS-O**
Supplied with Limit Switch in closed position	**-LS-C**
Supplied with Limit Switch in open and closed position	**-LS-OC**

Please see page F99 for further information.



High-Pressure Block Body Ball Valve ▪ Type LBV
L-Bore Three-Way Selector ▪ Female NPT Thread (ANSI B1.20.1)

Female NPT Thread (ANSI B1.20.1)

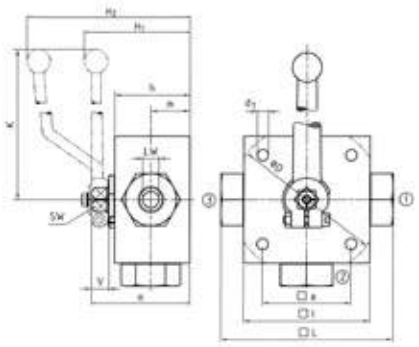


When ordering the standard option as indicated in the table below, the following materials will be supplied:

- Body, ball and stem: Carbon Steel
- Lever: Aluminium (STAUFF Sizes 02 and 04)
  Zinc (STAUFF Sizes 06 to 10)
  Aluminium (STAUFF Sizes 12 to 24)
- Ball seat: Delrin® (POM)
- O-rings: FPM (Viton®)

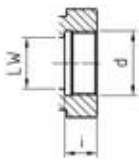
STAUFF Size	Thread Size d	Nominal Size DN	Dimensions (mm/in) LW	L	D	l	a	H	h	m	K	V	SW	i	d1	H1	H2	Nom. Pressure (bar/PSI)	Weight (kg/lbs)	Order Codes (Standard Option)
02	1/8 NPT	4	5	100		70	55	58	40	22	160	14	12	10,5	6,5		101	500	1,60	LBV30020001M
			.20	3.94		2.76	2.17	2.28	1.57	.87	6.30	.55	.47	.41	.26		3.98	7250	3.52	
04	1/4 NPT	6	5	100		70	55	58	40	22	160	14	12	13,7	6,5		101	500	1,60	LBV30040001M
			.20	3.94		2.76	2.17	2.28	1.57	.87	6.30	.55	.47	.54	.26		3.98	7250	3.52	
06	3/8 NPT	10	8	115		80	65	68	50	27	200	14	14	13,5	6,5	72		500	2,80	LBV30060001M
			.31	4.53		3.15	2.56	2.68	1.97	1.06	7.87	.55	.55	.53	.26	2.83		7250	6.16	
08	1/2 NPT	13	13	136		100	80	78	60	31	200	14	14	17	9	82		400	5,20	LBV30080001M
			.51	5.35		3.94	3.15	3.07	2.36	1.22	7.87	.55	.55	.67	.35	3.23		5800	11.44	
12	3/4NPT	20	18	154	138	113	85	88	67	36,5	320	16,5	17	18,3	8,5	96		315	6,80	LBV30120001M
			.71	6.06	5.43	4.45	3.35	3.46	2.64	1.44	12.60	.65	.67	.72	.33	3.78		4567	14.96	
16	1 NPT	25	23	172	138	119	85	103	82	47,5	320	16,5	17	21,6	8,5	112		315	8,50	LBV30160001M
			.91	6.77	5.43	4.69	3.35	4.06	3.23	1.87	12.60	.65	.67	.85	.33	4.41		4567	18.70	
20	1-1/4 NPT	25/32	23	180	138	119	85	103	82	47,5	320	16,5	17	22,1	8,5	112		315	8,80	LBV30200001M
			.91	7.09	5.43	4.69	3.35	4.06	3.23	1.87	12.60	.65	.67	.87	.33	4.41		4567	19.36	
24	1-1/2 NPT	25/40	23	180	138	119	85	103	82	47,5	320	16,5	17	22,1	8,5	112		250	8,80	LBV30240001M
			.91	7.09	5.43	4.69	3.35	4.06	3.23	1.87	12.60	.65	.67	.87	.33	4.41		3625	19.36	

Please note the pressure ratings of the tube connections.



High-Pressure Block Body Ball Valve ▪ Type LBV
L-Bore Three-Way Selector ▪ Female BSP Thread (DIN ISO 228)

Female BSP Thread (DIN ISO 228)



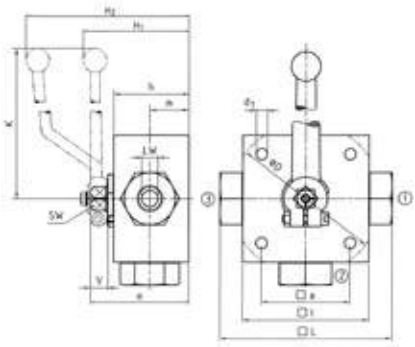
When ordering the standard option as indicated in the table below, the following materials will be supplied:

- Body, ball and stem: Carbon Steel
- Lever: Aluminium (STAUFF Sizes 02 and 04)
  Zinc (STAUFF Sizes 06 to 10)
  Aluminium (STAUFF Sizes 12 to 24)
- Ball seat: Delrin® (POM)
- O-rings: FPM (Viton®)

STAUFF Size	Thread Size d	Nominal Size DN	Dimensions (mm/in) LW	L	D	l	a	H	h	m	K	V	SW	i	d1	H1	H2	Nom. Pressure (bar/PSI)	Weight (kg/lbs)	Order Codes (Standard Option)
02	G 1/8 BSP	4	5	100		70	55	58	40	22	160	14	12	10	6,5		101	500	1,60	LBV3G020001M
			.20	3.94		2.76	2.17	2.28	1.57	.87	6.30	.55	.47	.39	.26		3.98	7250	3.52	
04	G 1/4 BSP	6	5	100		70	55	58	40	22	160	14	12	14	6,5		101	500	1,60	LBV3G040001M
			.20	3.94		2.76	2.17	2.28	1.57	.87	6.30	.55	.47	.55	.26		3.98	7250	3.52	
06	G 3/8 BSP	10	8	115		80	65	68	50	27	200	14	14	14	6,5	72		500	2,70	LBV3G060001M
			.31	4.53		3.15	2.56	2.68	1.97	1.06	7.87	.55	.55	.55	.26	2.83		7250	5.94	
08	G 1/2 BSP	13	13	136		100	80	78	60	31	200	14	14	16,3	9	82		400	4,90	LBV3G080001M
			.51	5.35		3.94	3.15	3.07	2.36	1.22	7.87	.55	.55	.64	.35	3.23		5800	10.78	
10	G 5/8 BSP	16	13	139		100	80	78	60	31	200	14	14	18	9	82		400	4,90	LBV3G100001M
			.51	5.47		3.94	3.15	3.07	2.36	1.22	7.87	.55	.55	.71	.35	3.23		5800	10.78	
12	G 3/4 BSP	20	18	154	138	113	85	88	67	36,5	320	16,5	17	18	8,5	96		315	6,70	LBV3G120001M
			.71	6.06	5.43	4.45	3.35	3.46	2.64	1.44	12.60	.65	.67	.71	.33	3.78		4567	14.74	
16	G 1 BSP	25	23	172	138	119	85	103	82	47,5	320	16,5	17	20	8,5	112		315	8,30	LBV3G160001M
			.91	6.77	5.43	4.69	3.35	4.06	3.23	1.87	12.60	.65	.67	.79	.33	4.41		4567	18.26	
20	G 1-1/4 BSP	25/32	23	180	138	119	85	103	82	47,5	320	16,5	17	22	8,5	112		315	8,50	LBV3G200001M
			.91	7.09	5.43	4.69	3.35	4.06	3.23	1.87	12.60	.65	.67	.87	.33	4.41		4567	18.70	
24	G 1-1/2 BSP	25/40	23	180	138	119	85	103	82	47,5	320	16,5	17	24	8,5	112		250	8,50	LBV3G240001M
			.91	7.09	5.43	4.69	3.35	4.06	3.23	1.87	12.60	.65	.67	.94	.33	4.41		3625	18.70	

Please note the pressure ratings of the tube connections.

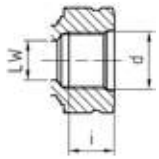
High-Pressure Block Body Ball Valve ▪ Type LBV
L-Bore Three-Way Selector ▪ Female UN/UNF Thread (SAE J 514)



When ordering the standard option as indicated in the table below, the following materials will be supplied:

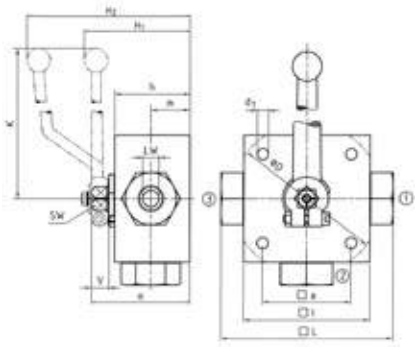
- Body, ball and stem: Carbon Steel
- Lever: Aluminium (STAUFF Size 04)
  Zinc (STAUFF Sizes 06 and 08)
  Aluminium (STAUFF Sizes 12 and 16)
- Ball seat: Delrin® (POM)
- O-rings: FPM (Viton®)

Female UN/UNF Thread (SAE J 514)



STAUFF Size	Thread Size d	Nominal Size DN	Dimensions (mm/in) LW	L	D	l	a	H	h	m	K	V	SW	i	d1	H1	H2	Nom. Pressure (bar/PSI)	Weight (kg/lbs)	Order Codes (Standard Option)
04	7/16–20 UNF	6	5	100		70	55	58	40	22	160	14	12	14	6,5		101	500	1,60	LBV31040001M
	(1/4" SAE)		.20	3.94		2.76	2.17	2.28	1.57	.87	6.30	.55	.47	.55	.26		3.98	7250	3.52	
06	9/16–18 UNF	10	8	115		80	65	68	50	27	200	14	14	14	6,5	72		500	2,80	LBV31060001M
	(3/4" SAE)		.31	4.53		3.15	2.56	2.68	1.97	1.06	7.87	.55	.55	.55	.26	2.83		7250	6.16	
08	3/4–16 UNF	13	13	144		100	80	78	60	31	200	14	14	16,3	9	82		400	5,20	LBV31080001M
	(1/2" SAE)		.51	5.67		3.94	3.15	3.07	2.36	1.22	7.87	.55	.55	.64	.35	3.23		5800	11.44	
12	1-1/16–12 UN	20	18	164	138	113	85	88	67	36,5	320	16,5	17	18	8,5	96		315	6,80	LBV31120001M
	(3/4" SAE)		.71	6.46	5.43	4.45	3.35	3.46	2.64	1.44	12.60	.65	.67	.71	.33	3.78		4567	14.96	
16	1-5/16–12 UN	25	23	180	138	119	85	103	82	47,5	320	16,5	17	20	8,5	112		315	8,50	LBV31160001M
	(1" SAE)		.91	7.09	5.43	4.69	3.35	4.06	3.23	1.87	12.60	.65	.67	.79	.33	4.41		4567	18.70	

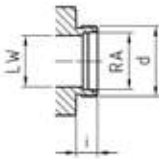
Please note the pressure ratings of the tube connections.



Hex nuts and cutting rings are not included in delivery.

High-Pressure Block Body Ball Valve ▪ Type LBV
L-Bore Three-Way Selector ▪ 24° Cone Connection
Light Series (DIN 2353 / ISO 8434-1)

24° Cone Connection (DIN 2353 / ISO 8434-1)

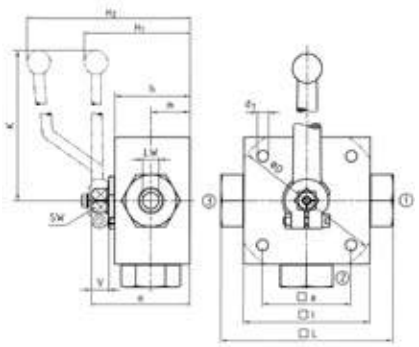


When ordering the standard option as indicated in the table below, the following materials will be supplied:

- Body, ball and stem: Carbon Steel
- Lever: Aluminium (STAUFF Sizes 02 and 04)
  Zinc (STAUFF Sizes 05 to 10)
  Aluminium (STAUFF Sizes 12 to 20)
- Ball seat: Delrin® (POM)
- O-rings: FPM (Viton®)

STAUFF Size	Tube/Thread Size d	Nominal Size DN	Dimensions (mm/in) RA	LW	L	D	l	a	H	h	m	K	V	SW	i	d1	H1	H2	Nom. Pressure (bar/PSI)	Weight (kg/lbs)	Order Codes (Standard Option)
02	06L / M12 x 1,5	4	6	5	105		70	55	58	40	22	160	14	12	10	6,5		101	500	1,60	LBV3DN0406L0001M
			.24	.20	4.13		2.76	2.17	2.28	1.57	.87	6.30	.55	.47	.39	.26		3.98	7250	3.52	
04	08L / M14 x 1,5	6	8	5	105		70	55	58	40	22	160	14	12	10	6,5		101	500	1,80	LBV3DN0608L0001M
			.31	.20	4.13		2.76	2.17	2.28	1.57	.87	6.30	.55	.47	.39	.26		3.98	7250	3.96	
05	10L / M16 x 1,5	8	10	8	114		80	65	68	50	27	200	14	14	11	6,5	72		500	2,60	LBV3DN0810L0001M
			.39	.31	4.49		3.15	2.56	2.68	1.97	1.06	7.87	.55	.55	.43	.26	2.83		7250	5.72	
06	12L / M18 x 1,5	10	12	8	114		80	65	68	50	27	200	14	14	11	6,5	72		500	2,60	LBV3DN1012L0001M
			.47	.31	4.49		3.15	2.56	2.68	1.97	1.06	7.87	.55	.55	.43	.26	2.83		7250	5.72	
08	15L / M22 x 1,5	13	15	13	137		100	80	78	60	31	200	14	14	12	9	82		400	4,70	LBV3DN1315L0001M
			.59	.51	5.39		3.94	3.15	3.07	2.36	1.22	7.87	.55	.55	.47	.35	3.23		5800	10.34	
10	18L / M26 x 1,5	16	18	18	137		113	85	88	67	36,5	320	16,5	17	12	8,5	82		400	4,70	LBV3DN1618L0001M
			.71	.71	5.39		4.45	3.35	3.46	2.64	1.44	12.60	.65	.67	.47	.33	3.23		5800	10.34	
12	22L / M30 x 2	20	22	23	152	138	119	85	103	82	47,5	320	16,5	17	14	8,5	96		315	6,60	LBV3DN2022L0001M
			.87	.91	5.98	5.43	4.69	3.35	4.06	3.23	1.87	12.60	.65	.67	.55	.33	3.78		4567	14.52	
16	28L / M36 x 2	25	28	23	166	138	119	85	103	82	47,5	320	16,5	17	14	8,5	112		315	8,00	LBV3DN2528L0001M
			1.10	.91	6.54	5.43	4.69	3.35	4.06	3.23	1.87	12.60	.65	.67	.55	.33	4.41		4567	17.60	
20	35L / M45 x 2	25/32	35	23	170	138	119	85	103	82	47,5	320	16,5	17	16	8,5	112		315	8,12	LBV3DN2535L0001M
			1.38	.91	6.69	5.43	4.69	3.35	4.06	3.23	1.87	12.60	.65	.67	.63	.33	4.41		4567	17.86	

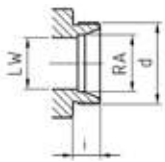
Please note the pressure ratings of the tube connections.



Hex nuts and cutting rings are not included in delivery.

High-Pressure Block Body Ball Valve ▪ Type LBV
L-Bore Three-Way Selector ▪ 24° Cone Connection
Heavy Series (DIN 2353 / ISO 8434-1)

24° Cone Connection (DIN 2353 / ISO 8434-1)



When ordering the standard option as indicated in the table below, the following materials will be supplied:

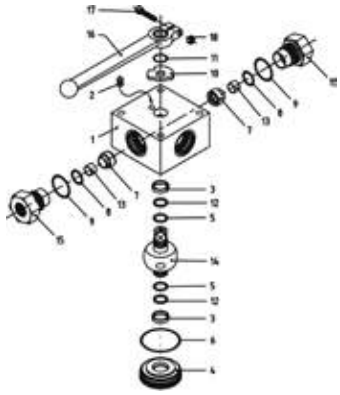
- Body, ball and stem: Carbon Steel
- Lever: Aluminium (STAUFF Sizes 02 and 04)
  Zinc (STAUFF Sizes 05 to 10)
  Aluminium (STAUFF Sizes 12 to 20)
- Ball seat: Delrin® (POM)
- O-rings: FPM (Viton®)

STAUFF Size	Tube/Thread Size d	Nominal Size DN	Dimensions (mm/in) RA	LW	L	D	l	a	H	h	m	K	V	SW	i	d1	H1	H2	Nom. Pressure (bar/PSI)	Weight (kg/lbs)	Order Codes (Standard Option)
02	08S / M16 x 1,5	4	8	5	105		70	55	58	40	22	160	14	12	12	6,5		101	500	1,60	LBV3DN0408S0001M
			.31	.20	4.13		2.76	2.17	2.28	1.57	.87	6.30	.55	.47	.47	.26		3.98	7250	3.52	
04	10S / M18 x 1,5	6	10	5	105		70	55	58	40	22	160	14	12	12	6,5		101	500	1,80	LBV3DN0610S0001M
			.39	.20	4.13		2.76	2.17	2.28	1.57	.87	6.30	.55	.47	.47	.26		3.98	7250	3.96	
05	12S / M20 x 1,5	8	12	8	116		80	65	68	50	27	200	14	14	12	6,5	72		500	2,60	LBV3DN0812S0001M
			.47	.31	4.57		3.15	2.56	2.68	1.97	1.06	7.87	.55	.55	.47	.26	2.83		7250	5.72	
06	14S / M22 x 1,5	10	14	8	120		80	65	68	50	27	200	14	14	14	6,5	72		500	2,60	LBV3DN1014S0001M
			.55	.31	4.72		3.15	2.56	2.68	1.97	1.06	7.87	.55	.55	.55	.26	2.83		7250	5.72	
08	16S / M24 x 1,5	13	16	13	141		100	80	78	60	31	200	14	14	14	9	82		400	4,70	LBV3DN1316S0001M
			.63	.51	5.55		3.94	3.15	3.07	2.36	1.22	7.87	.55	.55	.55	.35	3.23		5800	10.34	
10	20S / M30 x 2	16	20	18	145		113	85	88	67	36,5	320	16,5	17	16	8,5	82		400	4,70	LBV3DN1620S0001M
			.79	.71	5.71		4.45	3.35	3.46	2.64	1.44	12.60	.65	.67	.63	.33	3.23		5800	10.34	
12	25S / M36 x 2	20	25	23	160	138	119	85	103	82	47,5	320	16,5	17	18	8,5	96		315	6,60	LBV3DN2025S0001M
			.98	.91	6.30	5.43	4.69	3.35	4.06	3.23	1.87	12.60	.65	.67	.71	.33	3.78		4567	14.52	
16	30S / M42 x 2	25	30	23	176	138	119	85	103	82	47,5	320	16,5	17	20	8,5	112		315	8,00	LBV3DN2530S0001M
			1.18	.91	6.93	5.43	4.69	3.35	4.06	3.23	1.87	12.60	.65	.67	.79	.33	4.41		4567	17.60	
20	38S / M52 x 2	25/32	38	23	180	138	119	85	103	82	47,5	320	16,5	17	22	8,5	112		315	8,12	LBV3DN2538S0001M
			1.50	.91	7.09	5.43	4.69	3.35	4.06	3.23	1.87	12.60	.65	.67	.87	.33	4.41		4567	17.86	

Please note the pressure ratings of the tube connections.

High-Pressure Block Body Ball Valve ▪ Type TBV





List of Components

No.	Qty.	Description
1	1	Body
2	1	Stop Pin
3*	2	Bearing
4	1	Trunnion Retainer
5*	2	Trunnion O-Ring
6*	1	Retainer O-Ring
7*	3	Ball Seat
8*	3	Seat O-Ring
9*	3	Connector O-Ring
10	1	Cam Plate
11	1	Snap Ring
12*	2	Trunnion Back Up Ring
13	3	Seat Support
14	1	Trunnion Ball
15	3	Connector
16	1	Handle
17	1	Handle Bolt

* Included in seal kit

Characteristics

Three-way high-pressure block body ball valves designed for use as three-way selectors (T-bore, 90° operation) for hydraulic applications

Standard Construction
- Block body design for in-line assembly
- Multi-way valve with trunnion-style ball
- Supplied with lever

Standard Materials
- Body: Carbon Steel, zinc/iron-plated
- Ball: Carbon Steel, hard chrome-plated
- Stem: Carbon Steel
- Lever: Aluminium (STAUFF Sizes 02 and 04)
  Zinc (STAUFF Sizes 06 to 10)
  Aluminium (STAUFF Sizes 12 to 24)
- Ball seat: Delrin® (POM)
- O-rings: FPM (Viton®)

Standard Connections Styles / Sizes
- Female NPT thread (ANSI B1.20.1) >1-1/2 NPT
- Female BSP thread (DIN ISO 228) >G 1-1/2 BSP
- Female UN/UNF thread (SAE J 514) >1-5/16–12 UN (1" SAE)
- 24° cone connection (DIN 2353); Light Series >35L
- 24° cone connection (DIN 2353); Heavy Series >38S

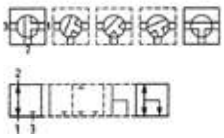
See page F113 for sealing details.

Pressure Range
- Pressure range: up to 500 bar / 7250 PSI (depending on size and material combination of the ball valve)

Temperature Range
- Operating temperature range:
  -20 °C ... +100 °C / -4 °F ... + 212 °F

Options / Accessories
- Alternative lever designs/materials (see page F98)
- Locking devices (see pages F99-F101)
- Pneumatic actuator packages (see page F102)
  Electrical actuators available on request.
- Limit switches (see page F102)
- Stainless Steel body
- Stainless Steel ball and stem
- Special ball seat and O-ring materials available for lower/higher temperatures and more aggressive media

Porting Pattern
(Ref. Code: 02-TBV)
- Symbol : T
- Overlap: positive
- Operating: 90°
- Stop of end position:



Please see pages F104-F105 for alternative porting patterns.

Order Codes

TBV	3	0	02	0	0	0	1	M	-	-
①	②	③	④	⑤	⑥	⑦	⑧	⑨	⑩	⑪

① Type

Multi-Way T-Bore Ball Valve	**TBV**

② Number of Ports

Three Ports (Three-Way Ball Valve)	**3**

③ Connection Style

Female NPT Thread (ANSI B1.20.1)	**0**
Female BSP Thread (DIN ISO 228)	**G**
Female UN/UNF Thread (SAE J 514)	**1**

24° Cone Connection (Light / Heavy Series)

DN04	DN06	DN08	DN10	DN13	DN16	DN20	DN25

Please consult STAUFF for alternative connection styles.

④ Connection Size

STAUFF Size (according to dimension table) for connection styles O, G and 1:

02	04	06	08	10	12	16	20	24

Tube Size (according to dimension table) for 24° Cone Connection (Light Series):

06L	08L	10L	12L	15L	18L	22L	28L	35L

Tube Size (according to dimension table) for 24° Cone Connection (Heavy Series):

08S	10S	12S	14S	16S	20S	25S	30S	38S

Please consult STAUFF for alternative connection sizes.

⑤ Body Material / Surface Finishing

Carbon Steel, zinc/iron-plated	**0**
Stainless Steel V4A (AISI 316Ti)	**1**

Alternative materials / surface finishings are available upon request. Consult STAUFF for further information.

⑥ Ball / Stem Material

Ball: Carbon Steel, hard chrome-plated Stem: Carbon Steel	**0**
Ball / Stem: Stainless Steel V4A (AISI 316Ti)	**1**

Alternative materials / surface finishings are available upon request. Consult STAUFF for further information.

⑦ Ball Seat Material

Delrin® (POM)	**0**

Alternative materials are available upon request. Consult STAUFF for further information.

⑧ O-Ring Material

NBR (Buna-N®)	**0**
FPM (Viton®)	**1**
EPDM	**3**

Alternative materials are available upon request. Consult STAUFF for further information.

⑨ Manufacturing Code

Manufacturing code for all connection styles	**M**

⑩ Lever Options

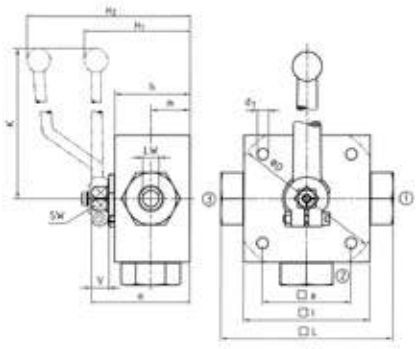
Supplied with standard lever (according to table)	**-**
Supplied without lever	**-0**

Alternative levers can be ordered separately. Please see page F98 for further information.

⑪ Accessories / Options

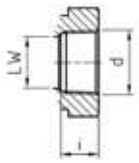
Supplied without accessories	**-**
Supplied with Locking Device LD4 (standard)	**-LD4**
Supplied with Double-Acting Pneumatic Actuator (Please add size **)	**-EDA****
Supplied with Single-Acting Pneumatic Actuator (Please add size **)	**-ESA****
Supplied with Limit Switch in open position	**-LS-O**
Supplied with Limit Switch in closed position	**-LS-C**
Supplied with Limit Switch in open and closed position	**-LS-OC**

Please see page F99 for further information.



High-Pressure Block Body Ball Valve ▪ Type TBV
T-Bore Three-Way Selector ▪ Female NPT Thread (ANSI B1.20.1)

Female NPT Thread (ANSI B1.20.1)

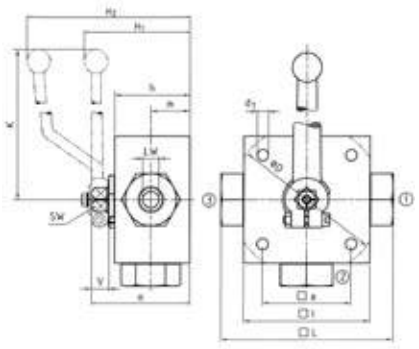


When ordering the standard option as indicated in the table below, the following materials will be supplied:

- Body, ball and stem: Carbon Steel
- Lever: Aluminium (STAUFF Sizes 02 and 04)
  Zinc (STAUFF Sizes 06 to 10)
  Aluminium (STAUFF Sizes 12 to 24)
- Ball seat: Delrin® (POM)
- O-rings: FPM (Viton®)

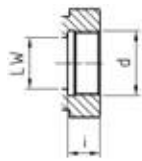
STAUFF Size	Thread Size d	Nominal Size DN	Dimensions (mm/in) LW	L	D	l	a	H	h	m	K	V	SW	i	d1	H1	H2	Nom. Pressure (bar/PSI)	Weight (kg/lbs)	Order Codes (Standard Option)
02	1/8 NPT	4	5	100		70	55	58	40	22	160	14	12	10,5	6,5		101	500	1,60	TBV30020001M
			.20	3.94		2.76	2.17	2.28	1.57	.87	6.30	.55	.47	.41	.26		3.98	7250	3.52	
04	1/4 NPT	6	5	100		70	55	58	40	22	160	14	12	13,7	6,5		101	500	1,60	TBV30040001M
			.20	3.94		2.76	2.17	2.28	1.57	.87	6.30	.55	.47	.54	.26		3.98	7250	3.52	
06	3/8 NPT	10	8	115		80	65	68	50	27	200	14	14	13,5	6,5	72		500	2,80	TBV30060001M
			.31	4.53		3.15	2.56	2.68	1.97	1.06	7.87	.55	.55	.53	.26	2.83		7250	6.16	
08	1/2 NPT	13	13	136		100	80	78	60	31	200	14	14	17	9	82		400	5,20	TBV30080001M
			.51	5.35		3.94	3.15	3.07	2.36	1.22	7.87	.55	.55	.67	.35	3.23		5800	11.44	
12	3/4NPT	20	18	154	138	113	85	88	67	36,5	320	16,5	17	18,3	8,5	96		315	6,80	TBV30120001M
			.71	6.06	5.43	4.45	3.35	3.46	2.64	1.44	12.60	.65	.67	.72	.33	3.78		4567	14.96	
16	1 NPT	25	23	172	138	119	85	103	82	47,5	320	16,5	17	21,6	8,5	112		315	8,50	TBV30160001M
			.91	6.77	5.43	4.69	3.35	4.06	3.23	1.87	12.60	.65	.67	.85	.33	4.41		4567	18.70	
20	1-1/4 NPT	25/32	23	180	138	119	85	103	82	47,5	320	16,5	17	22,1	8,5	112		315	8,80	TBV30200001M
			.91	7.09	5.43	4.69	3.35	4.06	3.23	1.87	12.60	.65	.67	.87	.33	4.41		4567	19.36	
24	1-1/2 NPT	25/40	23	180	138	119	85	103	82	47,5	320	16,5	17	22,1	8,5	112		250	8,80	TBV30240001M
			.91	7.09	5.43	4.69	3.35	4.06	3.23	1.87	12.60	.65	.67	.87	.33	4.41		3625	19.36	

Please note the pressure ratings of the tube connections.



High-Pressure Block Body Ball Valve ▪ Type TBV
T-Bore Three-Way Selector ▪ Female BSP Thread (DIN ISO 228)

Female BSP Thread (DIN ISO 228)



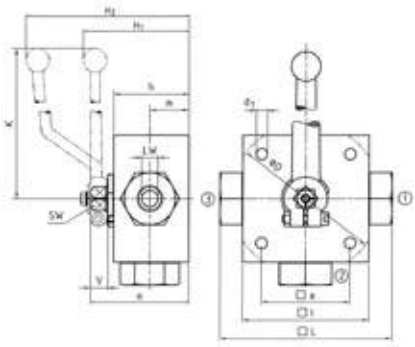
When ordering the standard option as indicated in the table below, the following materials will be supplied:

- Body, ball and stem: Carbon Steel
- Lever: Aluminium (STAUFF Sizes 02 and 04)
  Zinc (STAUFF Sizes 06 to 10)
  Aluminium (STAUFF Sizes 12 to 24)
- Ball seat: Delrin® (POM)
- O-rings: FPM (Viton®)

STAUFF Size	Thread Size d	Nominal Size DN	Dimensions (mm/in) LW	L	D	l	a	H	h	m	K	V	SW	i	d1	H1	H2	Nom. Pressure (bar/PSI)	Weight (kg/lbs)	Order Codes (Standard Option)
02	G 1/8 BSP	4	5	100		70	55	58	40	22	160	14	12	10	6,5		101	500	1,60	TBV3G020001M
			.20	3.94		2.76	2.17	2.28	1.57	.87	6.30	.55	.47	.39	.26		3.98	7250	3.52	
04	G 1/4 BSP	6	5	100		70	55	58	40	22	160	14	12	14	6,5		101	500	1,60	TBV3G040001M
			.20	3.94		2.76	2.17	2.28	1.57	.87	6.30	.55	.47	.55	.26		3.98	7250	3.52	
06	G 3/8 BSP	10	8	115		80	65	68	50	27	200	14	14	14	6,5	72		500	2,70	TBV3G060001M
			.31	4.53		3.15	2.56	2.68	1.97	1.06	7.87	.55	.55	.55	.26	2.83		7250	5.94	
08	G 1/2 BSP	13	13	136		100	80	78	60	31	200	14	14	16,3	9	82		400	4,90	TBV3G080001M
			.51	5.35		3.94	3.15	3.07	2.36	1.22	7.87	.55	.55	.64	.35	3.23		5800	10.78	
10	G 5/8 BSP	16	13	139		100	80	78	60	31	200	14	14	18	9	82		400	4,90	TBV3G100001M
			.51	5.47		3.94	3.15	3.07	2.36	1.22	7.87	.55	.55	.71	.35	3.23		5800	10.78	
12	G 3/4 BSP	20	18	154	138	113	85	88	67	36,5	320	16,5	17	18	8,5	96		315	6,70	TBV3G120001M
			.71	6.06	5.43	4.45	3.35	3.46	2.64	1.44	12.60	.65	.67	.71	.33	3.78		4567	14.74	
16	G 1 BSP	25	23	172	138	119	85	103	82	47,5	320	16,5	17	20	8,5	112		315	8,30	TBV3G160001M
			.91	6.77	5.43	4.69	3.35	4.06	3.23	1.87	12.60	.65	.67	.79	.33	4.41		4567	18.26	
20	G 1-1/4 BSP	25/32	23	180	138	119	85	103	82	47,5	320	16,5	17	22	8,5	112		315	8,50	TBV3G200001M
			.91	7.09	5.43	4.69	3.35	4.06	3.23	1.87	12.60	.65	.67	.87	.33	4.41		4567	18.70	
24	G 1-1/2 BSP	25/40	23	180	138	119	85	103	82	47,5	320	16,5	17	24	8,5	112		250	8,50	TBV3G240001M
			.91	7.09	5.43	4.69	3.35	4.06	3.23	1.87	12.60	.65	.67	.94	.33	4.41		3625	18.70	

Please note the pressure ratings of the tube connections.

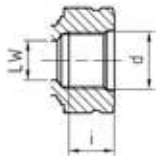
High-Pressure Block Body Ball Valve ▪ Type TBV
T-Bore Three-Way Selector ▪ Female UN/UNF Thread (SAE J 514)



When ordering the standard option as indicated in the table below, the following materials will be supplied:

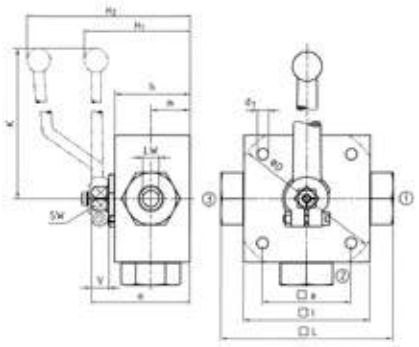
- Body, ball and stem: Carbon Steel
- Lever: Aluminium (STAUFF Size 04)
  Zinc (STAUFF Sizes 06 and 08)
  Aluminium (STAUFF Sizes 12 and 16)
- Ball seat: Delrin® (POM)
- O-rings: FPM (Viton®)

Female UN/UNF Thread (SAE J 514)



STAUFF Size	Thread Size d	Nominal Size DN	Dimensions (mm/in) LW	L	D	l	a	H	h	m	K	V	SW	i	d1	H1	H2	Nom. Pressure (bar/PSI)	Weight (kg/lbs)	Order Codes (Standard Option)
04	7/16–20 UNF	6	5	100		70	55	58	40	22	160	14	12	14	6,5		101	500	1,60	TBV31040001M
	(1/4" SAE)		0,20	3,94		2,76	2,17	2,28	1,57	0,87	6,30	0,55	0,47	0,55	0,26		3,98	7250	3.52	
06	9/16–18 UNF	10	8	115		80	65	68	50	27	200	14	14	14	6,5	72		500	2,80	TBV31060001M
	(3/8" SAE)		0,31	4,53		3,15	2,56	2,68	1,97	1,06	7,87	0,55	0,55	0,55	0,26	2.83		7250	6.16	
08	3/4–16 UNF	13	13	144		100	80	78	60	31	200	14	14	16,3	9	82		400	5,20	TBV31080001M
	(1/2" SAE)		0,51	5.67		3,94	3,15	3,07	2,36	1,22	7,87	0,55	0,55	0,64	0,35	3.23		5800	11.44	
12	1-1/16–12 UN	20	18	164	138	113	85	88	67	36,5	320	16,5	17	18	8,5	96		315	6,80	TBV31120001M
	(3/4" SAE)		0,71	6.46	5,43	4,45	3,35	3,46	2,64	1,44	12,60	0,65	0,67	0,71	0,33	3,78		4567	14.96	
16	1-5/16–12 UN	25	23	180	138	119	85	103	82	47,5	320	16,5	17	20	8,5	112		315	8,50	TBV31160001M
	(1" SAE)		0,91	7.09	5,43	4,69	3,35	4,06	3,23	1,87	12,60	0,65	0,67	0,79	0,33	4,41		4567	18.70	

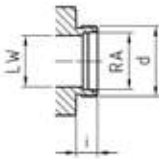
Please note the pressure ratings of the tube connections.



Hex nuts and cutting rings are not included in delivery.

High-Pressure Block Body Ball Valve ▪ Type TBV
T-Bore Three-Way Selector ▪ 24° Cone Connection
Light Series (DIN 2353 / ISO 8434-1)

24° Cone Connection (DIN 2353 / ISO 8434-1)

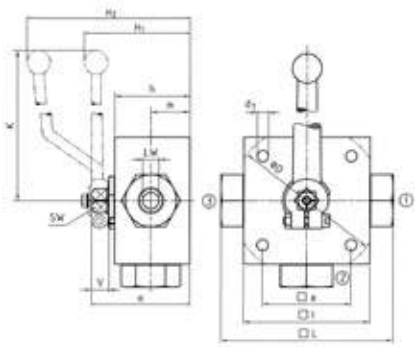


When ordering the standard option as indicated in the table below, the following materials will be supplied:

- Body, ball and stem: Carbon Steel
- Lever: Aluminium (STAUFF Sizes 02 and 04)
  Zinc (STAUFF Sizes 05 to 10)
  Aluminium (STAUFF Sizes 12 to 20)
- Ball seat: Delrin® (POM)
- O-rings: FPM (Viton®)

STAUFF Size	Tube/Thread Size d	Nominal Size DN	Dimensions (mm/in) RA	LW	L	D	l	a	H	h	m	K	V	SW	i	d1	H1	H2	Nom. Pressure (bar/PSI)	Weight (kg/lbs)	Order Codes (Standard Option)
02	06L / M12 x 1,5	4	6	5	105		70	55	58	40	22	160	14	12	10	6,5		101	500	1,60	TBV3DN0406L0001M
			.24	.20	4.13		2.76	2.17	2.28	1.57	.87	6.30	.55	.47	.39	.26		3.98	7250	3.52	
04	08L / M14 x 1,5	6	8	5	105		70	55	58	40	22	160	14	12	10	6,5		101	500	1,80	TBV3DN0608L0001M
			.31	.20	4.13		2.76	2.17	2.28	1.57	.87	6.30	.55	.47	.39	.26		3.98	7250	3.96	
05	10L / M16 x 1,5	8	10	8	114		80	65	68	50	27	200	14	14	11	6,5	72		500	2,60	TBV3DN0810L0001M
			.39	.31	4.49		3.15	2.56	2.68	1.97	1.06	7.87	.55	.55	.43	.26	2.83		7250	5.72	
06	12L / M18 x 1,5	10	12	8	114		80	65	68	50	27	200	14	14	11	6,5	72		500	2,60	TBV3DN1012L0001M
			.47	.31	4.49		3.15	2.56	2.68	1.97	1.06	7.87	.55	.55	.43	.26	2.83		7250	5.72	
08	15L / M22 x 1,5	13	15	13	137		100	80	78	60	31	200	14	14	12	9	82		400	4,70	TBV3DN1315L0001M
			.59	.51	5.39		3.94	3.15	3.07	2.36	1.22	7.87	.55	.55	.47	.35	3.23		5800	10.34	
10	18L / M26 x 1,5	16	18	18	137		113	85	88	67	36,5	320	16,5	17	12	8,5	82		400	4,70	TBV3DN1618L0001M
			.71	.71	5.39		4.45	3.35	3.46	2.64	1.44	12.60	.65	.67	.47	.33	3.23		5800	10.34	
12	22L / M30 x 2	20	22	23	152	138	119	85	103	82	47,5	320	16,5	17	14	8,5	96		315	6,60	TBV3DN2022L0001M
			.87	.91	5.98	5.43	4.69	3.35	4.06	3.23	1.87	12.60	.65	.67	.55	.33	3.78		4567	14.52	
16	28L / M36 x 2	25	28	23	166	138	119	85	103	82	47,5	320	16,5	17	14	8,5	112		315	8,00	TBV3DN2528L0001M
			1.10	.91	6.54	5.43	4.69	3.35	4.06	3.23	1.87	12.60	.65	.67	.55	.33	4.41		4567	17.60	
20	35L / M45 x 2	25/32	35	23	170	138	119	85	103	82	47,5	320	16,5	17	16	8,5	112		315	8,12	TBV3DN2535L0001M
			1.38	.91	6.69	5.43	4.69	3.35	4.06	3.23	1.87	12.60	.65	.67	.63	.33	4.41		4567	17.86	

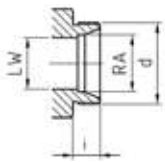
Please note the pressure ratings of the tube connections.



Hex nuts and cutting rings are not included in delivery.

High-Pressure Block Body Ball Valve ▪ Type TBV
T-Bore Three-Way Selector ▪ 24° Cone Connection
Heavy Series (DIN 2353 / ISO 8434-1)

24° Cone Connection (DIN 2353 / ISO 8434-1)



When ordering the standard option as indicated in the table below, the following materials will be supplied:

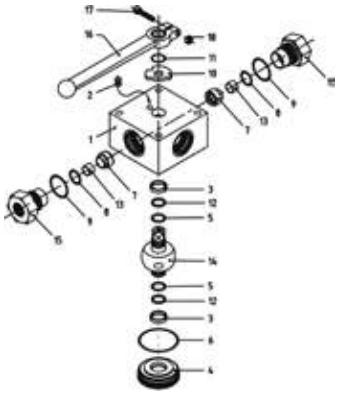
- Body, ball and stem: Carbon Steel
- Lever: Aluminium (STAUFF Sizes 02 and 04)
  Zinc (STAUFF Sizes 05 to 10)
  Aluminium (STAUFF Sizes 12 to 20)
- Ball seat: Delrin® (POM)
- O-rings: FPM (Viton®)

STAUFF Size	Tube/Thread Size d	Nominal Size DN	Dimensions (mm/in) RA	LW	L	D	l	a	H	h	m	K	V	SW	i	d1	H1	H2	Nom. Pressure (bar/PSI)	Weight (kg/lbs)	Order Codes (Standard Option)
02	08S / M16 x 1,5	4	8	5	105		70	55	58	40	22	160	14	12	12	6,5		101	500	1,60	TBV3DN0408S0001M
			.31	.20	4.13		2.76	2.17	2.28	1.57	.87	6.30	.55	.47	.47	.26		3.98	7250	3.52	
04	10S / M18 x 1,5	6	10	5	105		70	55	58	40	22	160	14	12	12	6,5		101	500	1,80	TBV3DN0610S0001M
			.39	.20	4.13		2.76	2.17	2.28	1.57	.87	6.30	.55	.47	.47	.26		3.98	7250	3.96	
05	12S / M20 x 1,5	8	12	8	116		80	65	68	50	27	200	14	14	12	6,5	72		500	2,60	TBV3DN0812S0001M
			.47	.31	4.57		3.15	2.56	2.68	1.97	1.06	7.87	.55	.55	.47	.26	2.83		7250	5.72	
06	14S / M22 x 1,5	10	14	8	120		80	65	68	50	27	200	14	14	14	6,5	72		500	2,60	TBV3DN1014S0001M
			.55	.31	4.72		3.15	2.56	2.68	1.97	1.06	7.87	.55	.55	.55	.26	2.83		7250	5.72	
08	16S / M24 x 1,5	13	16	13	141		100	80	78	60	31	200	14	14	14	9	82		400	4,70	TBV3DN1316S0001M
			.63	.51	5.55		3.94	3.15	3.07	2.36	1.22	7.87	.55	.55	.55	.35	3.23		5800	10.34	
10	20S / M30 x 2	16	20	18	145		113	85	88	67	36,5	320	16,5	17	16	8,5	82		400	4,70	TBV3DN1620S0001M
			.79	.71	5.71		4.45	3.35	3.46	2.64	1.44	12.60	.65	.67	.63	.33	3.23		5800	10.34	
12	25S / M36 x 2	20	25	23	160	138	119	85	103	82	47,5	320	16,5	17	18	8,5	96		315	6,60	TBV3DN2025S0001M
			.98	.91	6.30	5.43	4.69	3.35	4.06	3.23	1.87	12.60	.65	.67	.71	.33	3.78		4567	14.52	
16	30S / M42 x 2	25	30	23	176	138	119	85	103	82	47,5	320	16,5	17	20	8,5	112		315	8,00	TBV3DN2530S0001M
			1.18	.91	6.93	5.43	4.69	3.35	4.06	3.23	1.87	12.60	.65	.67	.79	.33	4.41		4567	17.60	
20	38S / M52 x 2	25/32	38	23	180	138	119	85	103	82	47,5	320	16,5	17	22	8,5	112		315	8,12	TBV3DN2538S0001M
			1.50	.91	7.09	5.43	4.69	3.35	4.06	3.23	1.87	12.60	.65	.67	.87	.33	4.41		4567	17.86	

Please note the pressure ratings of the tube connections.

High-Pressure Block Body Ball Valve ▪ Type TBV





List of Components

No.	Qty.	Description
1	1	Body
2	1	Stop Pin
3*	2	Bearing
4	1	Trunnion Retainer
5*	2	Trunnion O-Ring
6*	1	Retainer O-Ring
7*	4	Ball Seat
8*	4	Seat O-Ring
9*	4	Connector O-Ring
10	1	Cam Plate
11	1	Snap Ring
12*	2	Trunnion Back Up Ring
13	4	Seat Support
14	1	Trunnion Ball
15	4	Connector
16	1	Handle
17	1	Handle Bolt

* Included in seal kit

Characteristics

Four-way high-pressure block body ball valves designed for use as 4-way selectors (T-bore, 90° operation) for hydraulic applications

Standard Construction
- Block body design for in-line assembly
- Multi-way valve with trunnion-style ball
- Supplied with lever

Standard Materials
- Body: Carbon Steel, zinc/iron-plated
- Ball: Carbon Steel, hard chrome-plated
- Stem: Carbon Steel
- Lever: Aluminium (STAUFF Sizes 02 and 04)
  Zinc (STAUFF Sizes 06 to 10)
  Aluminium (STAUFF Sizes 12 to 24)
- Ball seat: Delrin® (POM)
- O-rings: FPM (Viton®)

Standard Connections Styles / Sizes
- Female NPT thread (ANSI B1.20.1) >1-1/2 NPT
- Female BSP thread (DIN ISO 228) >G 1-1/2 BSP
- Female UN/UNF thread (SAE J 514) >1-5/16–12 UN (1" SAE)
- 24° cone connection (DIN 2353); Light Series >35L
- 24° cone connection (DIN 2353); Heavy Series >38S

See page F113 for sealing details.

Pressure Range
- Pressure range: up to 500 bar / 7250 PSI (depending on size and material combination of the ball valve)

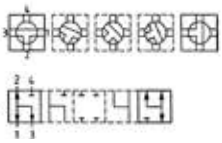
Temperature Range
- Operating temperature range:
  -20 °C ... +100 °C / -4 °F ... + 212 °F

Options / Accessories
- Alternative lever designs/materials (see page F98)
- Locking devices (see pages F99-F101)
- Pneumatic actuator packages (see page F102)
  Electrical actuators available on request.
- Limit switches (see page F102)
- Stainless Steel body
- Stainless Steel ball and stem
- Special ball seat and O-ring materials available for lower/higher temperatures and more aggressive media

Porting Pattern

(Ref. Code: 13-TBV)

- Symbol : T
- Overlap: positive
- Operating: 90°
- Stop of end position:



Please see pages F104-F105 for alternative porting patterns.

Order Codes

TBV	4	0	02	0	0	0	1	M	-	-
①	②	③	④	⑤	⑥	⑦	⑧	⑨	⑩	⑪

① Type

Multi-Way T-Bore Ball Valve	**TBV**

② Number of Ports

Four Ports (Four-Way Ball Valve)	**4**

③ Connection Style

Female NPT Thread (ANSI B1.20.1)	**0**
Female BSP Thread (DIN ISO 228)	**G**
Female UN/UNF Thread (SAE J 514)	**1**

24° Cone Connection (Light / Heavy Series)

DN04	DN06	DN08	DN10	DN13	DN16	DN20	DN25

Please consult STAUFF for alternative connection styles.

④ Connection Size

STAUFF Size (according to dimension table) for connection styles O, G and 1:

02	04	06	08	10	12	16	20	24

Tube Size (according to dimension table) for 24° Cone Connection (Light Series):

06L	08L	10L	12L	15L	18L	22L	28L	35L

Tube Size (according to dimension table) for 24° Cone Connection (Heavy Series):

08S	10S	12S	14S	16S	20S	25S	30S	38S

Please consult STAUFF for alternative connection sizes.

⑤ Body Material / Surface Finishing

Carbon Steel, zinc/iron-plated	**0**
Stainless Steel V4A (AISI 316Ti)	**1**

Alternative materials / surface finishings are available upon request. Consult STAUFF for further information.

⑥ Ball / Stem Material

Ball: Carbon Steel, hard chrome-plated Stem: Carbon Steel	**0**
Ball / Stem: Stainless Steel V4A (AISI 316Ti)	**1**

Alternative materials / surface finishings are available upon request. Consult STAUFF for further information.

⑦ Ball Seat Material

Delrin® (POM)	**0**

Alternative materials are available upon request. Consult STAUFF for further information.

⑧ O-Ring Material

NBR (Buna-N®)	**0**
FPM (Viton®)	**1**
EPDM	**3**

Alternative materials are available upon request. Consult STAUFF for further information.

⑨ Manufacturing Code

Manufacturing code for all connection styles	**M**

⑩ Lever Options

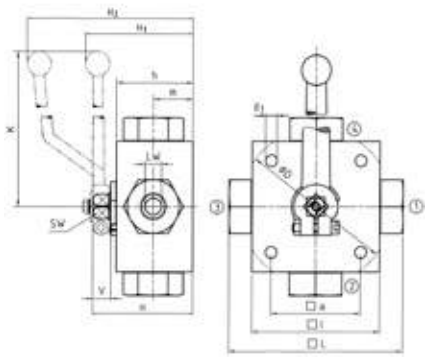
Supplied with standard lever (according to table)	**-**
Supplied without lever	**-0**

Alternative levers can be ordered separately. Please see page F98 for further information.

⑪ Accessories / Options

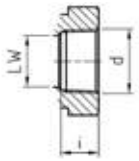
Supplied without accessories	**-**
Supplied with Locking Device LD4 (standard)	**-LD4**
Supplied with Double-Acting Pneumatic Actuator (Please add size **)	**-EDA****
Supplied with Single-Acting Pneumatic Actuator (Please add size **)	**-ESA****
Supplied with Limit Switch in open position	**-LS-O**
Supplied with Limit Switch in closed position	**-LS-C**
Supplied with Limit Switch in open and closed position	**-LS-OC**

Please see page F99 for further information.



High-Pressure Block Body Ball Valve ▪ Type TBV
T-Bore Four-Way Selector ▪ Female NPT Thread (ANSI B1.20.1)

Female NPT Thread (ANSI B1.20.1)

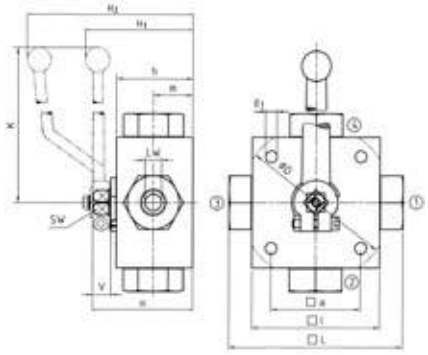


When ordering the standard option as indicated in the table below, the following materials will be supplied:

- Body, ball and stem: Carbon Steel
- Lever: Aluminium (STAUFF Sizes 02 and 04)
  Zinc (STAUFF Sizes 06 to 10)
  Aluminium (STAUFF Sizes 12 to 24)
- Ball seat: Delrin® (POM)
- O-rings: FPM (Viton®)

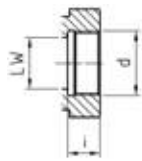
STAUFF Size	Thread Size d	Nominal Size DN	Dimensions (mm/in) LW	L	D	l	a	H	h	m	K	V	SW	i	d1	H1	H2	Nom. Pressure (bar/PSI)	Weight (kg/lbs)	Order Codes (Standard Option)
02	1/8 NPT	4	5	100		70	55	58	40	22	160	14	12	10,5	6,5		101	500	1,60	TBV40020001M
			.20	3.94		2.76	2.17	2.28	1.57	.87	6.30	.55	.47	.41	.26		3.98	7250	3.52	
04	1/4 NPT	6	5	100		70	55	58	40	22	160	14	12	13,7	6,5		101	500	1,60	TBV40040001M
			.20	3.94		2.76	2.17	2.28	1.57	.87	6.30	.55	.47	.54	.26		3.98	7250	3.52	
06	3/8 NPT	10	8	115		80	65	68	50	27	200	14	14	13,5	6,5	72		500	2,80	TBV40060001M
			.31	4.53		3.15	2.56	2.68	1.97	1.06	7.87	.55	.55	.53	.26	2.83		7250	6.16	
08	1/2 NPT	13	13	136		100	80	78	60	31	200	14	14	17	9	82		400	4,90	TBV40080001M
			.51	5.35		3.94	3.15	3.07	2.36	1.22	7.87	.55	.55	.67	.35	3.23		5800	10.78	
12	3/4NPT	20	18	154	138	113	85	88	67	36,5	320	16,5	17	18,3	8,5	96		315	6,80	TBV40120001M
			.71	6.06	5.43	4.45	3.35	3.46	2.64	1.44	12.60	.65	.67	.72	.33	3.78		4567	14.96	
16	1 NPT	25	23	172	138	119	85	103	82	47,5	320	16,5	17	21,6	8,5	112		315	8,50	TBV40160001M
			.91	6.77	5.43	4.69	3.35	4.06	3.23	1.87	12.60	.65	.67	.85	.33	4.41		4567	18.70	
20	1-1/4 NPT	25/32	23	180	138	119	85	103	82	47,5	320	16,5	17	22,1	8,5	112		315	8,80	TBV40200001M
			.91	7.09	5.43	4.69	3.35	4.06	3.23	1.87	12.60	.65	.67	.87	.33	4.41		4567	19.36	
24	1-1/2 NPT	25/40	23	180	138	119	85	103	82	47,5	320	16,5	17	22,1	8,5	112		250	8,80	TBV40240001M
			.91	7.09	5.43	4.69	3.35	4.06	3.23	1.87	12.60	.65	.67	.87	.33	4.41		3625	19.36	

Please note the pressure ratings of the tube connections.



High-Pressure Block Body Ball Valve ▪ Type TBV
T-Bore Four-Way Selector ▪ Female BSP Thread (DIN ISO 228)

Female BSP Thread (DIN ISO 228)



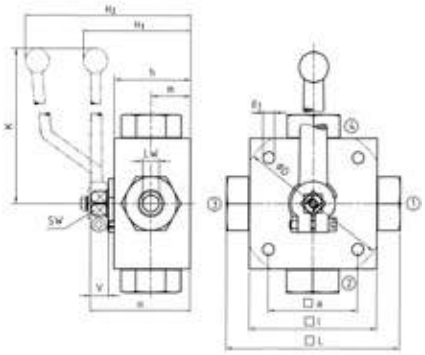
When ordering the standard option as indicated in the table below, the following materials will be supplied:

- Body, ball and stem: Carbon Steel
- Lever: Aluminium (STAUFF Sizes 02 and 04)
  Zinc (STAUFF Sizes 06 to 10)
  Aluminium (STAUFF Sizes 12 to 24)
- Ball seat: Delrin® (POM)
- O-rings: FPM (Viton®)

STAUFF Size	Thread Size d	Nominal Size DN	Dimensions (mm/in) LW	L	D	l	a	H	h	m	K	V	SW	i	d1	H1	H2	Nom. Pressure (bar/PSI)	Weight (kg/lbs)	Order Codes (Standard Option)
02	G 1/8 BSP	4	5	100		70	55	58	40	22	160	14	12	10	6,5		101	500	1,60	TBV4G020001M
			.20	3.94		2.76	2.17	2.28	1.57	.87	6.30	.55	.47	.39	.26		3.98	7250	3.52	
04	G 1/4 BSP	6	5	100		70	55	58	40	22	160	14	12	14	6,5		101	500	1,60	TBV4G040001M
			.20	3.94		2.76	2.17	2.28	1.57	.87	6.30	.55	.47	.55	.26		3.98	7250	3.52	
06	G 3/8 BSP	10	8	115		80	65	68	50	27	200	14	14	14	6,5	72		500	2,80	TBV4G060001M
			.31	4.53		3.15	2.56	2.68	1.97	1.06	7.87	.55	.55	.55	.26	2.83		7250	6.16	
08	G 1/2 BSP	13	13	136		100	80	78	60	31	200	14	14	16,3	9	82		400	4,90	TBV4G080001M
			.51	5.35		3.94	3.15	3.07	2.36	1.22	7.87	.55	.55	.64	.35	3.23		5800	10.78	
10	G 5/8 BSP	16	13	139		100	80	78	60	31	200	14	14	18	9	82		400	4,90	TBV4G100001M
			.51	5.47		3.94	3.15	3.07	2.36	1.22	7.87	.55	.55	.71	.35	3.23		5800	10.78	
12	G 3/4 BSP	20	18	154	138	113	85	88	67	36,5	320	16,5	17	18	8,5	96		315	6,80	TBV4G120001M
			.71	6.06	5.43	4.45	3.35	3.46	2.64	1.44	12.60	.65	.67	.71	.33	3.78		4567	14.96	
16	G 1 BSP	25	23	172	138	119	85	103	82	47,5	320	16,5	17	20	8,5	112		315	8,50	TBV4G160001M
			.91	6.77	5.43	4.69	3.35	4.06	3.23	1.87	12.60	.65	.67	.79	.33	4.41		4567	18.70	
20	G 1-1/4 BSP	25/32	23	180	138	119	85	103	82	47,5	320	16,5	17	22	8,5	112		315	8,80	TBV4G200001M
			.91	7.09	5.43	4.69	3.35	4.06	3.23	1.87	12.60	.65	.67	.87	.33	4.41		4567	19.36	
24	G 1-1/2 BSP	25/40	23	180	138	119	85	103	82	47,5	320	16,5	17	24	8,5	112		250	8,80	TBV4G240001M
			.91	7.09	5.43	4.69	3.35	4.06	3.23	1.87	12.60	.65	.67	.94	.33	4.41		3625	19.36	

Please note the pressure ratings of the tube connections.

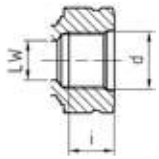
High-Pressure Block Body Ball Valve ▪ Type TBV
T-Bore Four-Way Selector ▪ Female UN/UNF Thread (SAE J 514)



When ordering the standard option as indicated in the table below, the following materials will be supplied:

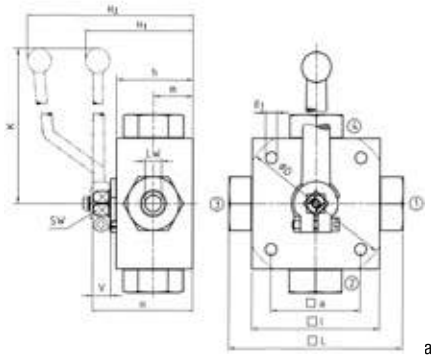
- Body, ball and stem: Carbon Steel
- Lever: Aluminium (STAUFF Size 04)
  Zinc (STAUFF Sizes 06 and 08)
  Aluminium (STAUFF Sizes 12 and 16)
- Ball seat: Delrin® (POM)
- O-rings: FPM (Viton®)

Female UN/UNF Thread (SAE J 514)



STAUFF Size	Thread Size d	Nominal Size DN	Dimensions (mm/in) LW	L	D	l	a	H	h	m	K	V	SW	i	d1	H1	H2	Nom. Pressure (bar/PSI)	Weight (kg/lbs)	Order Codes (Standard Option)
04	7/16–20 UNF	6	5	100		70	55	58	40	22	160	14	12	14	6,5		101	500	1,60	TBV41040001M
	(1/4" SAE)		0,20	3,94		2,76	2,17	2,28	1,57	0,87	6,30	0,55	0,47	0,55	0,26		3,98	7250	3.52	
06	9/16–18 UNF	10	8	115		80	65	68	50	27	200	14	14	14	6,5	72		500	2,80	TBV41060001M
	(3/8" SAE)		0,31	4,53		3,15	2,56	2,68	1,97	1,06	7,87	0,55	0,55	0,55	0,26	2.83		7250	6.16	
08	3/4–16 UNF	13	13	144		100	80	78	60	31	200	14	14	16,3	9	82		400	5,20	TBV41080001M
	(1/2" SAE)		0,51	5.67		3,94	3,15	3,07	2,36	1,22	7,87	0,55	0,55	0,64	0,35	3.23		5800	11.44	
12	1-1/16–12 UN	20	18	164	138	113	85	88	67	36,5	320	16,5	17	18	8,5	96		315	6,80	TBV41120001M
	(3/4" SAE)		0,71	6.46	5,43	4,45	3,35	3,46	2,64	1,44	12,60	0,65	0,67	0,71	0,33	3,78		4567	14.96	
16	1-5/16–12 UN	25	23	180	138	119	85	103	82	47,5	320	16,5	17	20	8,5	112		315	8,50	TBV41160001M
	(1" SAE)		0,91	7.09	5,43	4,69	3,35	4,06	3,23	1,87	12,60	0,65	0,67	0,79	0,33	4,41		4567	18.70	

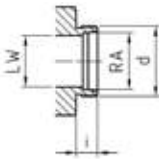
Please note the pressure ratings of the tube connections.



High-Pressure Block Body Ball Valve ▪ Type TBV
T-Bore Four-Way Selector ▪ 24° Cone Connection
Light Series (DIN 2353 / ISO 8434-1)

Hex nuts and cutting rings are not included in delivery.

24° Cone Connection (DIN 2353 / ISO 8434-1)

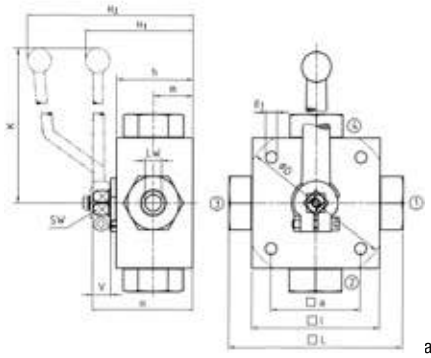


When ordering the standard option as indicated in the table below, the following materials will be supplied:

- Body, ball and stem: Carbon Steel
- Lever: Aluminium (STAUFF Sizes 02 and 04)
  Zinc (STAUFF Sizes 05 to 10)
  Aluminium (STAUFF Sizes 12 to 20)
- Ball seat: Delrin® (POM)
- O-rings: FPM (Viton®)

STAUFF Size	Tube/Thread Size d	Nominal Size DN	Dimensions (mm/in) RA	LW	L	D	l	a	H	h	m	K	V	SW	i	d1	H1	H2	Nom. Pressure (bar/PSI)	Weight (kg/lbs)	Order Codes (Standard Option)
02	06L / M12 x 1,5	4	6	5	105		70	55	58	40	22	160	14	12	10	6,5		101	500	1,60	TBV4DN0406L0001M
			.24	.20	4.13		2.76	2.17	2.28	1.57	.87	6.30	.55	.47	.39	.26		3.98	7250	3.52	
04	08L / M14 x 1,5	6	8	5	105		70	55	58	40	22	160	14	12	10	6,5		101	500	1,80	TBV4DN0608L0001M
			.31	.20	4.13		2.76	2.17	2.28	1.57	.87	6.30	.55	.47	.39	.26		3.98	7250	3.96	
05	10L / M16 x 1,5	8	10	8	114		80	65	68	50	27	200	14	14	11	6,5	72		500	2,60	TBV4DN0810L0001M
			.39	.31	4.49		3.15	2.56	2.68	1.97	1.06	7.87	.55	.55	.43	.26	2.83		7250	5.72	
06	12L / M18 x 1,5	10	12	8	114		80	65	68	50	27	200	14	14	11	6,5	72		500	2,60	TBV4DN1012L0001M
			.47	.31	4.49		3.15	2.56	2.68	1.97	1.06	7.87	.55	.55	.43	.26	2.83		7250	5.72	
08	15L / M22 x 1,5	13	15	13	137		100	80	78	60	31	200	14	14	12	9	82		400	4,70	TBV4DN1315L0001M
			.59	.51	5.39		3.94	3.15	3.07	2.36	1.22	7.87	.55	.55	.47	.35	3.23		5800	10.34	
10	18L / M26 x 1,5	16	18	18	137		113	85	88	67	36,5	320	16,5	17	12	8,5	82		400	4,70	TBV4DN1618L0001M
			.71	.71	5.39		4.45	3.35	3.46	2.64	1.44	12.60	.65	.67	.47	.33	3.23		5800	10.34	
12	22L / M30 x 2	20	22	23	152	138	119	85	103	82	47,5	320	16,5	17	14	8,5	96		315	6,60	TBV4DN2022L0001M
			.87	.91	5.98	5.43	4.69	3.35	4.06	3.23	1.87	12.60	.65	.67	.55	.33	3.78		4567	14.52	
16	28L / M36 x 2	25	28	23	166	138	119	85	103	82	47,5	320	16,5	17	14	8,5	112		315	8,00	TBV4DN2528L0001M
			1.10	.91	6.54	5.43	4.69	3.35	4.06	3.23	1.87	12.60	.65	.67	.55	.33	4.41		4567	17.60	
20	35L / M45 x 2	25/32	35	23	170	138	119	85	103	82	47,5	320	16,5	17	16	8,5	112		315	8,12	TBV4DN2535L0001M
			1.38	.91	6.69	5.43	4.69	3.35	4.06	3.23	1.87	12.60	.65	.67	.63	.33	4.41		4567	17.86	

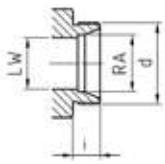
Please note the pressure ratings of the tube connections.



High-Pressure Block Body Ball Valve ▪ Type TBV
T-Bore Four-Way Selector ▪ 24° Cone Connection
Heavy Series (DIN 2353 / ISO 8434-1)

Hex nuts and cutting rings are not included in delivery.

24° Cone Connection (DIN 2353 / ISO 8434-1)



When ordering the standard option as indicated in the table below, the following materials will be supplied:

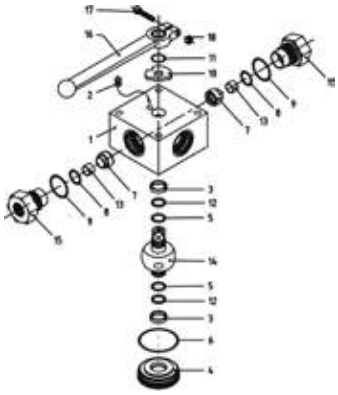
- Body, ball and stem: Carbon Steel
- Lever: Aluminium (STAUFF Sizes 02 and 04)
  Zinc (STAUFF Sizes 05 to 10)
  Aluminium (STAUFF Sizes 12 to 20)
- Ball seat: Delrin® (POM)
- O-rings: FPM (Viton®)

STAUFF Size	Tube/Thread Size d	Nominal Size DN	Dimensions (mm/in) RA	LW	L	D	l	a	H	h	m	K	V	SW	i	d1	H1	H2	Nom. Pressure (bar/PSI)	Weight (kg/lbs)	Order Codes (Standard Option)
02	08S / M16 x 1,5	4	8	5	105		70	55	58	40	22	160	14	12	12	6,5		101	500	1,60	TBV4DN0408S0001M
			.31	.20	4.13		2.76	2.17	2.28	1.57	.87	6.30	.55	.47	.47	.26		3.98	7250	3.52	
04	10S / M18 x 1,5	6	10	5	105		70	55	58	40	22	160	14	12	12	6,5		101	500	1,80	TBV4DN0610S0001M
			.39	.20	4.13		2.76	2.17	2.28	1.57	.87	6.30	.55	.47	.47	.26		3.98	7250	3.96	
05	12S / M20 x 1,5	8	12	8	116		80	65	68	50	27	200	14	14	12	6,5	72		500	2,60	TBV4DN0812S0001M
			.47	.31	4.57		3.15	2.56	2.68	1.97	1.06	7.87	.55	.55	.47	.26	2.83		7250	5.72	
06	14S / M22 x 1,5	10	14	8	120		80	65	68	50	27	200	14	14	14	6,5	72		500	2,60	TBV4DN1014S0001M
			.55	.31	4.72		3.15	2.56	2.68	1.97	1.06	7.87	.55	.55	.55	.26	2.83		7250	5.72	
08	16S / M24 x 1,5	13	16	13	141		100	80	78	60	31	200	14	14	14	9	82		400	4,70	TBV4DN1316S0001M
			.63	.51	5.55		3.94	3.15	3.07	2.36	1.22	7.87	.55	.55	.55	.35	3.23		5800	10.34	
10	20S / M30 x 2	16	20	18	145		113	85	88	67	36,5	320	16,5	17	16	8,5	82		400	4,70	TBV4DN1620S0001M
			.79	.71	5.71		4.45	3.35	3.46	2.64	1.44	12.60	.65	.67	.63	.33	3.23		5800	10.34	
12	25S / M36 x 2	20	25	23	160	138	119	85	103	82	47,5	320	16,5	17	18	8,5	96		315	6,60	TBV4DN2025S0001M
			.98	.91	6.30	5.43	4.69	3.35	4.06	3.23	1.87	12.60	.65	.67	.71	.33	3.78		4567	14.52	
16	30S / M42 x 2	25	30	23	176	138	119	85	103	82	47,5	320	16,5	17	20	8,5	112		315	8,00	TBV4DN2530S0001M
			1.18	.91	6.93	5.43	4.69	3.35	4.06	3.23	1.87	12.60	.65	.67	.79	.33	4.41		4567	17.60	
20	38S / M52 x 2	25/32	38	23	180	138	119	85	103	82	47,5	320	16,5	17	22	8,5	112		315	8,12	TBV4DN2538S0001M
			1.50	.91	7.09	5.43	4.69	3.35	4.06	3.23	1.87	12.60	.65	.67	.87	.33	4.41		4567	17.86	

Please note the pressure ratings of the tube connections.

High-Pressure Block Body Ball Valve ▪ Type XBV





List of Components

No.	Qty.	Description
1	1	Body
2	1	Stop Pin
3*	2	Bearing
4	1	Trunnion Retainer
5*	2	Trunnion O-Ring
6*	1	Retainer O-Ring
7*	4	Ball Seat
8*	4	Seat O-Ring
9*	4	Connector O-Ring
10	1	Cam Plate
11	1	Snap Ring
12*	2	Trunnion Back Up Ring
13	4	Seat Support
14	1	Trunnion Ball
15	4	Connector
16	1	Handle
17	1	Handle Bolt

* Included in seal kit

Characteristics

Four-way high-pressure block body ball valves designed for use as 4-way selectors (double L-bore, 90° operation with closed position) for hydraulic applications

Standard Construction
- Block body design for in-line assembly
- Multi-way valve with trunnion-style ball
- Supplied with lever

Standard Materials
- Body: Carbon Steel, zinc/iron-plated
- Ball: Carbon Steel, hard chrome-plated
- Stem: Carbon Steel
- Lever: Aluminium (STAUFF Sizes 02 and 04)
  Zinc (STAUFF Sizes 06 to 10)
  Aluminium (STAUFF Sizes 12 to 24)
- Ball seat: Delrin® (POM)
- O-rings: FPM (Viton®)

Standard Connections Styles / Sizes
- Female NPT thread (ANSI B1.20.1) >1-1/2 NPT
- Female BSP thread (DIN ISO 228) >G 1-1/2 BSP
- Female UN/UNF thread (SAE J 514) >1-5/16–12 UN (1" SAE)
- 24° cone connection (DIN 2353); Light Series >35L
- 24° cone connection (DIN 2353); Heavy Series >38S

See page F113 for sealing details.

Pressure Range
- Pressure range: up to 500 bar / 7250 PSI (depending on size and material combination of the ball valve)

Temperature Range
- Operating temperature range:
  -20 °C ... +100 °C / -4 °F ... + 212 °F

Options / Accessories
- Alternative lever designs/materials (see page F98)
- Locking devices (see pages F99-F101)
- Pneumatic actuator packages (see page F102)
  Electrical actuators available on request.
- Limit switches (see page F102)
- Stainless Steel body
- Stainless Steel ball and stem
- Special ball seat and O-ring materials available for lower/higher temperatures and more aggressive media

Porting Pattern
- Symbol : X (Ref. Code: 14-XBV)
- Overlap: positive
- Operating: 90° with closed position



- Stop of end position:



Please see pages F104-F105 for alternative porting patterns.

Order Codes

XBV	4	0	02	0	0	0	1	M	-	-
①	②	③	④	⑤	⑥	⑦	⑧	⑨	⑩	⑪

① Type

Multi-Way Double L-Bore Ball Valve	XBV

② Number of Ports

Four Ports (Four-Way Ball Valve)	4

③ Connection Style

Female NPT Thread (ANSI B1.20.1)	0
Female BSP Thread (DIN ISO 228)	G
Female UN/UNF Thread (SAE J 514)	1

24° Cone Connection (Light / Heavy Series)

DN04	DN06	DN08	DN10	DN13	DN16	DN20	DN25

Please consult STAUFF for alternative connection styles.

④ Connection Size

STAUFF Size (according to dimension table) for connection styles O, G and 1:

02	04	06	08	10	12	16	20	24

Tube Size (according to dimension table) for 24° Cone Connection (Light Series):

06L	08L	10L	12L	15L	18L	22L	28L	35L

Tube Size (according to dimension table) for 24° Cone Connection (Heavy Series):

08S	10S	12S	14S	16S	20S	25S	30S	38S

Please consult STAUFF for alternative connection sizes.

⑤ Body Material / Surface Finishing

Carbon Steel, zinc/iron-plated	0
Stainless Steel V4A (AISI 316Ti)	1

Alternative materials / surface finishings are available upon request. Consult STAUFF for further information.

⑥ Ball / Stem Material

Ball: Carbon Steel, hard chrome-plated Stem: Carbon Steel	0
Ball / Stem: Stainless Steel V4A (AISI 316Ti)	1

Alternative materials / surface finishings are available upon request. Consult STAUFF for further information.

⑦ Ball Seat Material

Delrin® (POM)	0

Alternative materials are available upon request. Consult STAUFF for further information.

⑧ O-Ring Material

NBR (Buna-N®)	0
FPM (Viton®)	1
EPDM	3

Alternative materials are available upon request. Consult STAUFF for further information.

⑨ Manufacturing Code

Manufacturing code for all connection styles	M

⑩ Lever Options

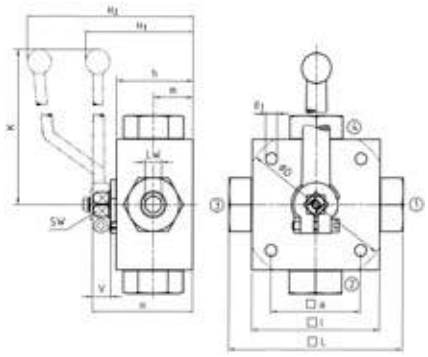
Supplied with standard lever (according to table)	-
Supplied without lever	-0

Alternative levers can be ordered separately. Please see page F98 for further information.

⑪ Accessories / Options

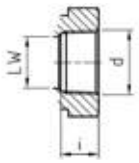
Supplied without accessories	-
Supplied with Locking Device LD4 (standard)	-LD4
Supplied with Double-Acting Pneumatic Actuator (Please add size **)	-EDA**
Supplied with Single-Acting Pneumatic Actuator (Please add size **)	-ESA**
Supplied with Limit Switch in open position	-LS-O
Supplied with Limit Switch in closed position	-LS-C
Supplied with Limit Switch in open and closed position	-LS-OC

Please see page F99 for further information.



High-Pressure Block Body Ball Valve ▪ Type XBV
Double L-Bore Four-Way Selector ▪ Female NPT Thread (ANSI B1.20.1)

Female NPT Thread (ANSI B1.20.1)

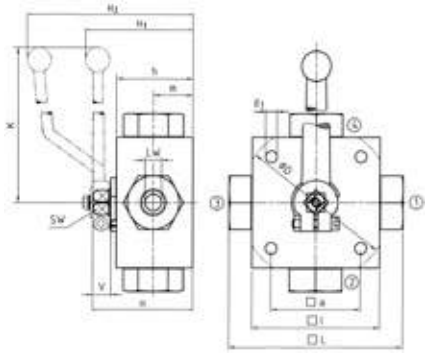


When ordering the standard option as indicated in the table below, the following materials will be supplied:

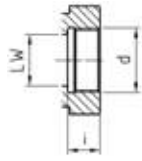
- Body, ball and stem: Carbon Steel
- Lever: Aluminium (STAUFF Sizes 02 and 04)
  Zinc (STAUFF Sizes 06 to 10)
  Aluminium (STAUFF Sizes 12 to 24)
- Ball seat: Delrin® (POM)
- O-rings: FPM (Viton®)

STAUFF Size	Thread Size d	Nominal Size DN	Dimensions (mm/in) LW	L	D	l	a	H	h	m	K	V	SW	i	d1	H1	H2	Nom. Pressure (bar/PSI)	Weight (kg/lbs)	Order Codes (Standard Option)
02	1/8 NPT	4	4	100		70	55	58	40	22	160	14	12	10,5	6,5		101	500	1,60	XBV40020001M
			.16	3.94		2.76	2.17	2.28	1.57	.87	6.30	.55	.47	.41	.26		3.98	7250	3.52	
04	1/4 NPT	6	4	100		70	55	58	40	22	160	14	12	13,7	6,5		101	500	1,60	XBV40040001M
			.16	3.94		2.76	2.17	2.28	1.57	.87	6.30	.55	.47	.54	.26		3.98	7250	3.52	
06	3/8 NPT	10	7	115		80	65	68	50	27	200	14	14	13,5	6,5	72		500	2,80	XBV40060001M
			.28	4.53		3.15	2.56	2.68	1.97	1.06	7.87	.55	.55	.53	.26	2.83		7250	6.16	
08	1/2 NPT	13	10	136		100	80	78	60	31	200	14	14	17	9	82		400	4,90	XBV40080001M
			.39	5.35		3.94	3.15	3.07	2.36	1.22	7.87	.55	.55	.67	.35	3.23		5800	10.78	
12	3/4NPT	20	14	154	138	113	85	88	67	36,5	320	16,5	17	18,3	8,5	96		315	6,80	XBV40120001M
			.55	6.06	5.43	4.45	3.35	3.46	2.64	1.44	12.60	.65	.67	.72	.33	3.78		4567	14.96	
16	1 NPT	25	17	172	138	119	85	103	82	47,5	320	16,5	17	21,6	8,5	112		315	8,50	XBV40160001M
			.67	6.77	5.43	4.69	3.35	4.06	3.23	1.87	12.60	.65	.67	.85	.33	4.41		4567	18.70	
20	1-1/4 NPT	25/32	17	180	138	119	85	103	82	47,5	320	16,5	17	22,1	8,5	112		315	8,80	XBV40200001M
			.67	7.09	5.43	4.69	3.35	4.06	3.23	1.87	12.60	.65	.67	.87	.33	4.41		4567	19.36	
24	1-1/2 NPT	25/40	17	180	138	119	85	103	82	47,5	320	16,5	17	22,1	8,5	112		250	8,80	XBV40240001M
			.67	7.09	5.43	4.69	3.35	4.06	3.23	1.87	12.60	.65	.67	.87	.33	4.41		3625	19.36	

Please note the pressure ratings of the tube connections.



High-Pressure Block Body Ball Valve ▪ Type XBV
Double L-Bore Four-Way Selector ▪ Female BSP Thread (DIN ISO 228)



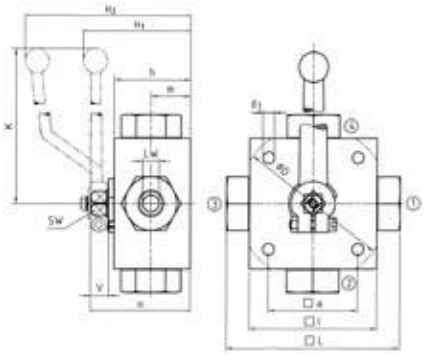
When ordering the standard option as indicated in the table below, the following materials will be supplied:

- Body, ball and stem: Carbon Steel
- Lever: Aluminium (STAUFF Sizes 02 and 04)
  Zinc (STAUFF Sizes 06 to 10)
  Aluminium (STAUFF Sizes 12 to 24)
- Ball seat: Delrin® (POM)
- O-rings: FPM (Viton®)

STAUFF Size	Thread Size d	Nominal Size DN	Dimensions (mm/in) LW	L	D	l	a	H	h	m	K	V	SW	i	d1	H1	H2	Nom. Pressure (bar/PSI)	Weight (kg/lbs)	Order Codes (Standard Option)
02	G 1/8 BSP	4	4	100		70	55	58	40	22	160	14	12	10	6,5		101	500	1,60	XBV4G020001M
			.16	3.94		2.76	2.17	2.28	1.57	.87	6.30	.55	.47	.39	.26		3.98	7250	3.52	
04	G 1/4 BSP	6	4	100		70	55	58	40	22	160	14	12	14	6,5		101	500	1,60	XBV4G040001M
			.16	3.94		2.76	2.17	2.28	1.57	.87	6.30	.55	.47	.55	.26		3.98	7250	3.52	
06	G 3/8 BSP	10	7	115		80	65	68	50	27	200	14	14	14	6,5	72		500	2,80	XBV4G060001M
			.28	4.53		3.15	2.56	2.68	1.97	1.06	7.87	.55	.55	.55	.26	2.83		7250	6.16	
08	G 1/2 BSP	13	10	136		100	80	78	60	31	200	14	14	16,3	9	82		400	4,90	XBV4G080001M
			.39	5.35		3.94	3.15	3.07	2.36	1.22	7.87	.55	.55	.64	.35	3.23		5800	10.78	
10	G 5/8 BSP	16	10	139		100	80	78	60	31	200	14	14	18	9	82		400	4,90	XBV4G100001M
			.39	5.47		3.94	3.15	3.07	2.36	1.22	7.87	.55	.55	.71	.35	3.23		5800	10.78	
12	G 3/4 BSP	20	14	154	138	113	85	88	67	36,5	320	16,5	17	18	8,5	96		315	6,80	XBV4G120001M
			.55	6.06	5.43	4.45	3.35	3.46	2.64	1.44	12.60	.65	.67	.71	.33	3.78		4567	14.96	
16	G 1 BSP	25	17	172	138	119	85	103	82	47,5	320	16,5	17	20	8,5	112		315	8,50	XBV4G160001M
			.67	6.77	5.43	4.69	3.35	4.06	3.23	1.87	12.60	.65	.67	.79	.33	4.41		4567	18.70	
20	G 1-1/4 BSP	25/32	17	180	138	119	85	103	82	47,5	320	16,5	17	22	8,5	112		315	8,80	XBV4G200001M
			.67	7.09	5.43	4.69	3.35	4.06	3.23	1.87	12.60	.65	.67	.87	.33	4.41		4567	19.36	
24	G 1-1/2 BSP	25/40	17	180	138	119	85	103	82	47,5	320	16,5	17	24	8,5	112		250	8,80	XBV4G240001M
			.67	7.09	5.43	4.69	3.35	4.06	3.23	1.87	12.60	.65	.67	.94	.33	4.41		3625	19.36	

Please note the pressure ratings of the tube connections.

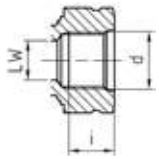
High-Pressure Block Body Ball Valve ▪ Type XBV
Double L-Bore Four-Way Selector ▪ Female UN/UNF Thread (SAE J 514)



When ordering the standard option as indicated in the table below, the following materials will be supplied:

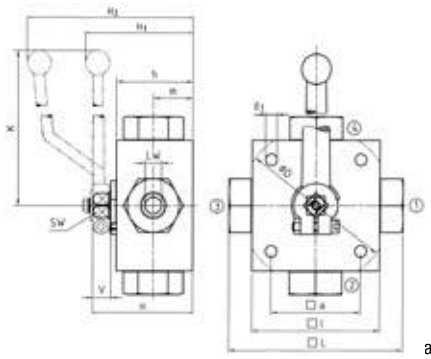
- Body, ball and stem: Carbon Steel
- Lever: Aluminium (STAUFF Size 04)
  Zinc (STAUFF Sizes 06 and 08)
  Aluminium (STAUFF Sizes 12 and 16)
- Ball seat: Delrin® (POM)
- O-rings: FPM (Viton®)

Female UN/UNF Thread (SAE J 514)



STAUFF Size	Thread Size d	Nominal Size DN	Dimensions (mm/in) LW	L	D	l	a	H	h	m	K	V	SW	i	d1	H1	H2	Nom. Pressure (bar/PSI)	Weight (kg/lbs)	Order Codes (Standard Option)
04	7/16–20 UNF	6	4	100		70	55	58	40	22	160	14	12	14	6,5		101	500	1,60	XBV41040001M
	(1/4" SAE)		.16	3,94		2,76	2,17	2,28	1,57	0,87	6,30	0,55	0,47	0,55	0,26		3,98	7250	3.52	
06	9/16–18 UNF	10	7	115		80	65	68	50	27	200	14	14	14	6,5	72		500	2,80	XBV41060001M
	(3/8" SAE)		.28	4,53		3,15	2,56	2,68	1,97	1,06	7,87	0,55	0,55	0,55	0,26	2.83		7250	6.16	
08	3/4–16 UNF	13	10	144		100	80	78	60	31	200	14	14	16,3	9	82		400	5,20	XBV41080001M
	(1/2" SAE)		.39	5.67		3,94	3,15	3,07	2,36	1,22	7,87	0,55	0,55	0,64	0,35	3.23		5800	11.44	
12	1-1/16–12 UN	20	14	164	138	113	85	88	67	36,5	320	16,5	17	18	8,5	96		315	6,80	XBV41120001M
	(3/4" SAE)		.55	6.46	5,43	4,45	3,35	3,46	2,64	1,44	12,60	0,65	0,67	0,71	0,33	3,78		4567	14.96	
16	1-5/16–12 UN	25	17	180	138	119	85	103	82	47,5	320	16,5	17	20	8,5	112		315	8,50	XBV41160001M
	(1" SAE)		.67	7.09	5,43	4,69	3,35	4,06	3,23	1,87	12,60	0,65	0,67	0,79	0,33	4,41		4567	18.70	

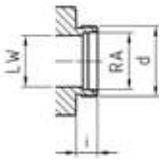
Please note the pressure ratings of the tube connections.



High-Pressure Block Body Ball Valve ▪ Type XBV
Double L-Bore Four-Way Selector ▪ 24° Cone Connection
Light Series (DIN 2353 / ISO 8434-1)

Hex nuts and cutting rings are not included in delivery.

24° Cone Connection (DIN 2353 / ISO 8434-1)

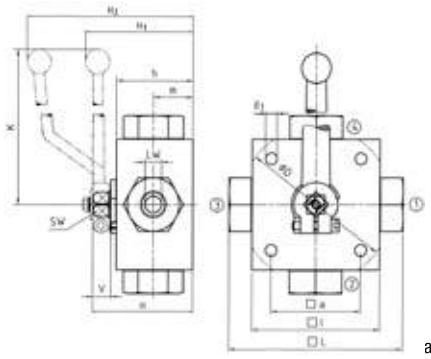


When ordering the standard option as indicated in the table below, the following materials will be supplied:

- Body, ball and stem: Carbon Steel
- Lever: Aluminium (STAUFF Sizes 02 and 04)
  Zinc (STAUFF Sizes 05 to 10)
  Aluminium (STAUFF Sizes 12 to 20)
- Ball seat: Delrin® (POM)
- O-rings: FPM (Viton®)

STAUFF Size	Tube/Thread Size d	Nominal Size DN	Dimensions (mm/in) RA	LW	L	D	l	a	H	h	m	K	V	SW	i	d1	H1	H2	Nom. Pressure (bar/PSI)	Weight (kg/lbs)	Order Codes (Standard Option)
02	06L / M12 x 1,5	4	6	4	105		70	55	58	40	22	160	14	12	10	6,5		101	500	1,60	XBV4DN0406L0001M
			.24	.16	4.13		2.76	2.17	2.28	1.57	.87	6.30	.55	.47	.39	.26		3.98	7250	3.52	
04	08L / M14 x 1,5	6	8	4	105		70	55	58	40	22	160	14	12	10	6,5		101	500	1,80	XBV4DN0608L0001M
			.31	.16	4.13		2.76	2.17	2.28	1.57	.87	6.30	.55	.47	.39	.26		3.98	7250	3.96	
05	10L / M16 x 1,5	8	10	7	114		80	65	68	50	27	200	14	14	11	6,5	72		500	2,60	XBV4DN0810L0001M
			.39	.28	4.49		3.15	2.56	2.68	1.97	1.06	7.87	.55	.55	.43	.26	2.83		7250	5.72	
06	12L / M18 x 1,5	10	12	7	114		80	65	68	50	27	200	14	14	11	6,5	72		500	2,60	XBV4DN1012L0001M
			.47	.28	4.49		3.15	2.56	2.68	1.97	1.06	7.87	.55	.55	.43	.26	2.83		7250	5.72	
08	15L / M22 x 1,5	13	15	10	137		100	80	78	60	31	200	14	14	12	9	82		400	4,70	XBV4DN1315L0001M
			.59	.39	5.39		3.94	3.15	3.07	2.36	1.22	7.87	.55	.55	.47	.35	3.23		5800	10.34	
10	18L / M26 x 1,5	16	18	10	137		113	85	88	67	36,5	320	16,5	17	12	8,5	82		400	4,70	XBV4DN1618L0001M
			.71	.39	5.39		4.45	3.35	3.46	2.64	1.44	12.60	.65	.67	.47	.33	3.23		5800	10.34	
12	22L / M30 x 2	20	22	14	152	138	119	85	103	82	47,5	320	16,5	17	14	8,5	96		315	6,60	XBV4DN2022L0001M
			.87	.55	5.98	5.43	4.69	3.35	4.06	3.23	1.87	12.60	.65	.67	.55	.33	3.78		4567	14.52	
16	28L / M36 x 2	25	28	17	166	138	119	85	103	82	47,5	320	16,5	17	14	8,5	112		315	8,00	XBV4DN2528L0001M
			1.10	.67	6.54	5.43	4.69	3.35	4.06	3.23	1.87	12.60	.65	.67	.55	.33	4.41		4567	17.60	
20	35L / M45 x 2	25/32	35	17	170	138	119	85	103	82	47,5	320	16,5	17	16	8,5	112		315	8,12	XBV4DN2535L0001M
			1.38	.67	6.69	5.43	4.69	3.35	4.06	3.23	1.87	12.60	.65	.67	.63	.33	4.41		4567	17.86	

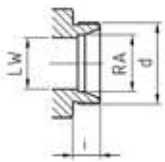
Please note the pressure ratings of the tube connections.



High-Pressure Block Body Ball Valve ▪ Type XBV
Double L-Bore Four-Way Selector ▪ 24° Cone Connection
Heavy Series (DIN 2353 / ISO 8434-1)

Hex nuts and cutting rings are not included in delivery.

24° Cone Connection (DIN 2353 / ISO 8434-1)



When ordering the standard option as indicated in the table below, the following materials will be supplied:

- Body, ball and stem: Carbon Steel
- Lever: Aluminium (STAUFF Sizes 02 and 04)
  Zinc (STAUFF Sizes 05 to 10)
  Aluminium (STAUFF Sizes 12 to 20)
- Ball seat: Delrin® (POM)
- O-rings: FPM (Viton®)

STAUFF Size	Thread Size d	Nominal Size DN	Dimensions (mm/in) RA	LW	L	D	l	a	H	h	m	K	V	SW	i	d1	H1	H2	Nom. Pressure (bar/PSI)	Weight (kg/lbs)	Order Codes (Standard Option)
02	08S / M16 x 1,5	4	8	4	105		70	55	58	40	22	160	14	12	12	6,5		101	500	1,60	XBV4DN0408S0001M
			.31	.16	4.13		2.76	2.17	2.28	1.57	.87	6.30	.55	.47	.47	.26		3.98	7250	3.52	
04	10S / M18 x 1,5	6	10	4	105		70	55	58	40	22	160	14	12	12	6,5		101	500	1,80	XBV4DN0610S0001M
			.39	.16	4.13		2.76	2.17	2.28	1.57	.87	6.30	.55	.47	.47	.26		3.98	7250	3.96	
05	12S / M20 x 1,5	8	12	7	116		80	65	68	50	27	200	14	14	12	6,5	72		500	2,60	XBV4DN0812S0001M
			.47	.28	4.57		3.15	2.56	2.68	1.97	1.06	7.87	.55	.55	.47	.26	2.83		7250	5.72	
06	14S / M22 x 1,5	10	14	7	120		80	65	68	50	27	200	14	14	14	6,5	72		500	2,60	XBV4DN1014S0001M
			.55	.28	4.72		3.15	2.56	2.68	1.97	1.06	7.87	.55	.55	.55	.26	2.83		7250	5.72	
08	16S / M24 x 1,5	13	16	10	141		100	80	78	60	31	200	14	14	14	9	82		400	4,70	XBV4DN1316S0001M
			.63	.39	5.55		3.94	3.15	3.07	2.36	1.22	7.87	.55	.55	.55	.35	3.23		5800	10.34	
10	20S / M30 x 2	16	20	10	145		113	85	88	67	36,5	320	16,5	17	16	8,5	82		400	4,70	XBV4DN1620S0001M
			.79	.39	5.71		4.45	3.35	3.46	2.64	1.44	12.60	.65	.67	.63	.33	3.23		5800	10.34	
12	25S / M36 x 2	20	25	14	160	138	119	85	103	82	47,5	320	16,5	17	18	8,5	96		315	6,60	XBV4DN2025S0001M
			.98	.55	6.30	5.43	4.69	3.35	4.06	3.23	1.87	12.60	.65	.67	.71	.33	3.78		4567	14.52	
16	30S / M42 x 2	25	30	17	176	138	119	85	103	82	47,5	320	16,5	17	20	8,5	112		315	8,00	XBV4DN2530S0001M
			1.18	.67	6.93	5.43	4.69	3.35	4.06	3.23	1.87	12.60	.65	.67	.79	.33	4.41		4567	17.60	
20	38S / M52 x 2	25/32	38	17	180	138	119	85	103	82	47,5	320	16,5	17	22	8,5	112		315	8,12	XBV4DN2538S0001M
			1.50	.67	7.09	5.43	4.69	3.35	4.06	3.23	1.87	12.60	.65	.67	.87	.33	4.41		4567	17.86	

Please note the pressure ratings of the tube connections.

Two-Piece Hex Body Ball Valve ▪ Type 2BVM



Characteristics

Two-way medium pressure ball valves designed for use as a on/off devices for hydraulic applications

Features
- Two-piece hex bar stock construction
- Body made of Carbon Steel, black phosphate-coated
- Ball made of Carbon Steel, chrome-plated
- Female NPT connection

Options
- Locking devices

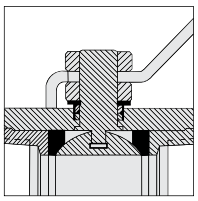
Media Compatibility
- Suitable for hydraulic fluids

Please consult STAUFF before using with other media.

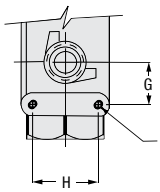
Materials
- Body: Carbon Steel, black phosphate-coated
- Stem: Carbon Steel, nickel-plated
- Ball: Carbon Steel, chrome-plated
- Seals: Reinforced Teflon® (PTFE)
- Ball seats: Reinforced Teflon® (PTFE)
- Handle: Carbon Steel, zinc plated, vinyl grip

Technical Data
- Operation Pressure:
  For STAUFF Sizes 04 to 16: 138 bar / 2000 PSI (cold, non-shock)
  For STAUFF Sizes 20 to 32: 103 bar / 1500 PSI (cold, non-shock)
- Operating temperature range:
  -7 °C ... +82 °C / +20 °F ... +180 °F

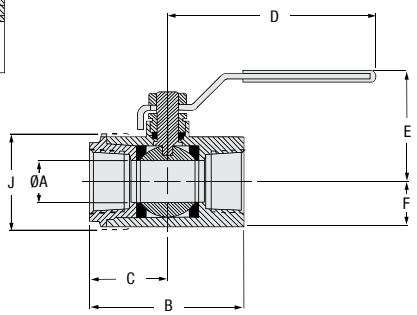
Please see the pressure / temperature rating chart for details.



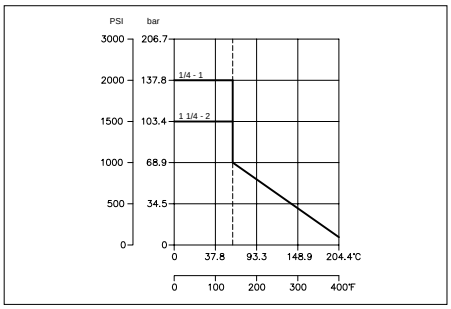
Stem Details for
STAUFF Sizes 08 to 20



2x Thread 250-20 UNC
Depth: 7,1 (.28)
(only for STAUFF
Sizes 20, 24 and 32)



Pressure / Temperature Rating



Dimensions & Order Codes

STAUFF Size	Thread Size	Dimensions (mm/in) ØA	B	C	D	E	F	G	H	J	Flow Factor Cv	Weight (kg/lbs)	Order Codes (Standard Option)
04	1/4 NPT	10	51	25	96	41	13				6	0,60	2BVM-20 04 S
		.39	2.01	0,98	3.78	1.61	.51					.27	
06	3/8 NPT	10	51	25	96	41	13				12	0,60	2BVM-20 06 S
		.39	2.01	.98	3.78	1.61	.51					.27	
08	1/2 NPT	14	60	28	96	44	16				15	0,80	2BVM-20 08 S
		.55	2.36	1.10	3.78	1.73	.63					.36	
12	3/4 NPT	17	74	36	130	53	21				23	1,40	2BVM-20 12 S
		.67	2.91	1.42	5.12	2.09	.83					.63	
16	1 NPT	22	87	42	130	58	25				36	2,40	2BVM-20 16 S
		.87	3.43	1.65	5.12	2.28	.98					1.09	
20	1-1/4 NPT	25	100	51	155	70	29	24	38		44	2,70	2BVM-20 20 S
		.98	3.94	2.01	6.10	2.76	1.14	.94	1.50			1.22	
24	1-1/2 NPT	32	118	60	155	76	34	24	38	70	64	6,50	2BVM-20 24 S
		1.26	4.65	2.36	6.10	2.99	1.34	.94	1.50	2.76		3.04	
32	2 NPT	38	127	65	218	90	39	26	51		114	6,10	2BVM-20 32 S
		1.50	5.00	2.56	8.58	3.54	1.54	1.02	2.01			2.77	

Order Codes

2BVM 2 0 - 08 S LD

① ② ③ ④ ⑤ ⑥

① Type
Two-Piece Hex-Body Valve	**2BVM**

② Number of Ports
Two Ports (Two Way Ball Valve)	**2**

③ Connection Style
Female NPT Thread (ANSI B1.20.1)	**0**

Please consult STAUFF for alternative connection styles.

④ Connection Size
STAUFF Size							
04	**06**	**08**	**12**	**16**	**20**	**24**	**32**

Please consult STAUFF for alternative connection sizes.

⑤ Manufacturing Code
Manufacturing code for all connection styles	**S**

⑥ Accessories / Options
Supplied without accessories	**-**
Supplied with Locking Device	**LD**

Dimensional drawings: All dimensions in mm (in).

Two-Piece Brass Body Valve ▪ Type 2BVL

Characteristics

Two-way low pressure ball valves designed for use as a on/off devices for hydraulic applications



Features
- Forged / cast construction with blow-out proof stem
- Body and ball made of Brass
- Female NPT or SAE connections (modified BSPP O-ring port for sizes 40, 48 and 64)

Options
- Locking devices
- Limit switches
- Actuator packages

Please see page F76 for detailed ordering information.

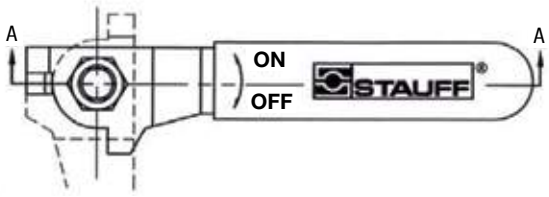
Media Compatibility
- Suitable for hydraulic fluids

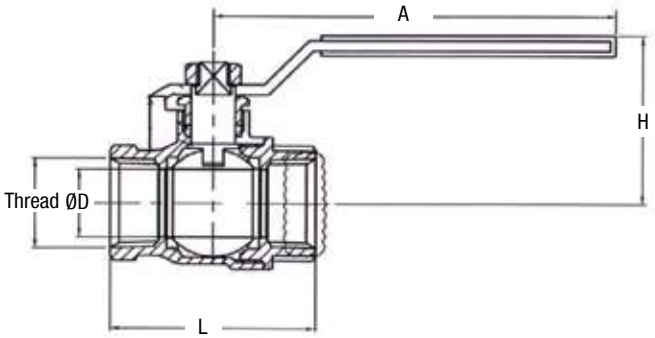
Please consult STAUFF before using with other media.

Materials
- Body: Forged Brass for Sizes 04 to 24
  Cast Brass for Sizes 32 to 64
- Stem: Brass
- Ball: Brass, chrome plated
- Seals: Teflon® (PTFE)
- Ball seats: Teflon® (PTFE)
- Handle: Carbon Steel, zinc plated, vinyl grip

Technical Data
- Operation Pressure:
  For STAUFF Sizes 04 and 06: 40 bar / 600 PSI
  For STAUFF Sizes 08 to 16: 30 bar / 435 PS
  For STAUFF Sizes 20 to 64: 25 bar / 362 PSI
- Operating temperature range up to +160 °C / +366 °F

Please see the pressure / temperature rating chart on page F76 for details.





Dimensions & Order Codes

STAUFF Size	Thread Size	Dimensions (mm/in) ØD	L	A	H	Flow Factor Cv	Max. Working Pressure (bar/PSI)	Weight (kg/lbs)	Order Codes (NPT + SAE Version)
04	1/4 NPT 1/4" SAE (7/16–20 UNF)	10 .39	46 1.81	84 3.31	44,5 1.75	6	40 600	0,13 .30	2BVL-20 04 F 2BVL-21 04 F
06	3/8 NPT 3/8" SAE (9/16–18 UNF)	10 .39	46 1.81	84 3.31	44,5 1.75	7	40 600	0,13 .28	2BVL-21 06 F 2BVL-21 06 F
08	1/2 NPT 1/2" SAE (3/4–16 UNF)	12,7 .50	55 2.17	84 3.31	48 1.88	19	30 435	0,19 .41	2BVL-20 08 F 2BVL-21 08 F
12	3/4 NPT 3/4" SAE (1-1/16–12 UN)	20 .78	64 2.52	84 3.31	58 2.28	34	30 435	0,30 .67	2BVL-20 12 F 2BVL-21 12 F
16	1 NPT 1" SAE (1-5/16–12 UN)	25 .98	76 2.99	118 4.65	62 2.44	50	30 435	0,50 1.09	2BVL-20 16 F 2BVL-21 16 F
20	1-1/4 NPT 1-1/4" SAE (1-5/8–12 UN)	32 1.25	87 3.43	118 4.65	78 3.07	104	30 435	0,90 2.01	2BVL-20 20 F 2BVL-21 20 F
24	1-1/2 NPT 1-1/2" SAE (1-7/8–12 UN)	38 1.50	93 3.66	134 5.28	85 3.34	268	25 362	1,40 3.08	2BVL-20 24 F 2BVL-21 24 F
32	2 NPT 2" SAE (2-1/2–12 UN)	50 1.96	110 4.33	134 5.28	96,5 3.79	309	25 362	1,90 4.18	2BVL-20 32 F 2BVL-21 32 F
40	2-1/2 NPT 2-1/2–11 BSPP *	63 2.48	131 5.16	200 7.88	127,5 5.02	629	25 362	3,60 8.00	2BVL-20 40 F 2BVL-2R 40 F
48	3 NPT 3–11 BSPP *	75 2.95	150 5.91	200 7.88	138,5 5.45	1018	25 362	5,90 12.90	2BVL-20 48 F 2BVL-2R 48 F
64	4 NPT 4–11 BSPP *	100 3.94	214 8.43	260 10.23	161 6.34	1622	25 362	10,00 22.04	2BVL-20 64 B 2BVL-2R 64 B

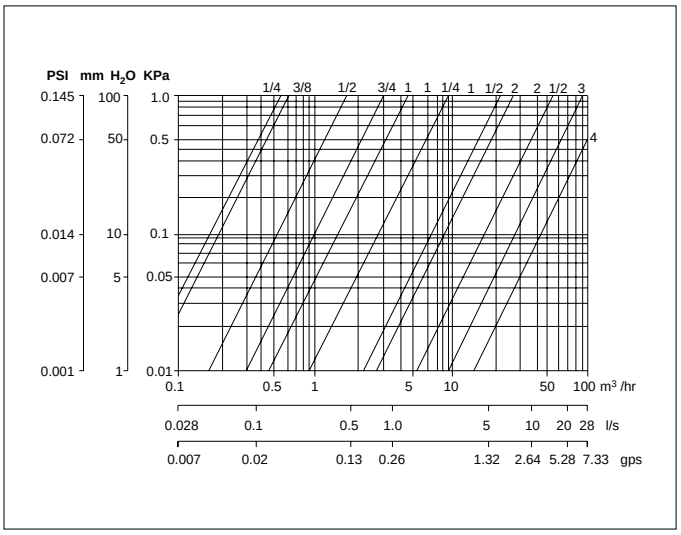
* Please note: STAUFF Size 40, 48 and 64 ball valves are not equipped with a standard SAE port.
The O-ring port is a modified BSPP port to duplicate the benefits of an O-ring seal such as SAE that is only available up to STAUFF Size 32.



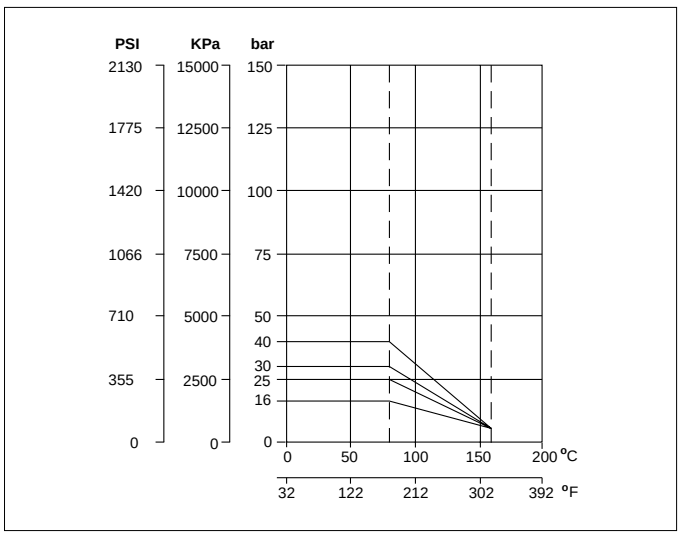
These valves can be used with a wide range of STAUFF port adapters.
See pages F77 and F78 for details.

Two-Piece Brass Body Valve ▪ Type 2BVL

Pressure Drop Flow Curves



Pressure / Temperature Rating



Order Codes

2BVL 2 0 - 08 F L

① ② ③ ④ ⑤ ⑥

① Type

Two-Piece Brass Body Valve	**2BVL**

② Number of Ports

Two Ports (Two Way Ball Valve)	**2**

③ Connection Style

Female NPT Thread (ANSI B1.20.1)	**0**
Female UN/UNF Thread (SAE J 514)	**1**
Modified Female BSPP Thread (DIN ISO 228) (For connection sizes 40, 48 and 64 only)	**R**

Please consult STAUFF for alternative connection styles.

④ Connection Size

STAUFF Size										
04	**06**	**08**	**12**	**16**	**20**	**24**	**32**	**40**	**48**	**64**

Please consult STAUFF for alternative connection sizes.

⑤ Manufacturing Code

Manufacturing code for all connection styles	**F**

⑥ Accessories / Options

Supplied without accessories	**-**
Supplied with Locking Device	**L**
Supplied with Limit Switch	**S**
Supplied with Locking Device and Limit Switch	**X**

Port Adaptors

Characteristics

- Leak Free O-Ring Sealing to 4" with a Variety of Connection Options: Socket Weld, Hose Barb (Straight 45° & 90°) or Split Flange
- Carbon Steel Construction
- Lock Nut Design Simplifies the Positioning of Valves and Eliminates Weld Damage to Valve
- Buna-N Seals

Options

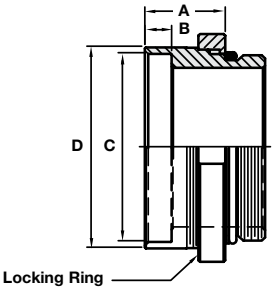
- Viton Seals
- Step Sizes Available (Consult Factory)
- 1/2 or 3/4 Sizes Available (Consult Factory)



Please note: All O-ring seals should be lubricated before assembly.

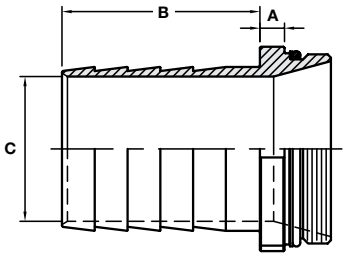
Swivel Socket Weld Adaptor ▪ Type SWA

STAUFF Size	Thread Size	Dimensions (mm/in) A	B	C	D	Order Codes (Standard Option)
16 / 1"	1-5/16–12 UN - 2B	22.4	6,4	33,8	41,4	SWA-16
		.88	.25	1.33	1.63	
20 / 1-1/4"	1-5/8–12 UN - 2B	22.4	6,4	42,4	50,8	SWA-20
		.88	.25	1.67	2.00	
24 / 1-1/2"	1-7/8–12 UN - 2B	22.4	6,4	48,5	57,2	SWA-24
		.88	.25	1.91	2.25	
32 / 2"	2-1/2–12 UN -2B	25,4	6,4	60,7	69,9	SWA-32
		1.00	.25	2.39	2.75	
40 2-1/2"	2-1/2–11 BSPP	38,1	.50	73,4	82,6	SWA-40
		1.50	12,7	2.89	3.25	
48 / 3"	3–11 BSPP	38,1	.50	89,2	95,3	SWA-48
		1.50	12,7	3.51	3.75	
64 / 4"	4–11 BSPP	38,1	.50	114,6	120,7	SWA-64
		1.50	12,7	4.51	4.75	



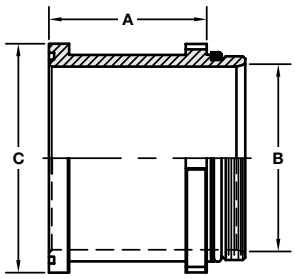
SAE Swivel to Hose Barb Adaptor ▪ Type HA

STAUFF Size	Thread Size	Dimensions (mm/in) A	B	C	Order Codes (Standard Option)
16 / 1"	1-5/16–12 UN - 2B	9,7	34,8	21,3	HA-16
		.38	1.37	.84	
20 / 1-1/4"	1-5/8–12 UN - 2B	10,2	48,3	26,9	HA-20
		.40	1.90	1.06	
24 / 1-1/2"	1-7/8–12 UN - 2B	10,2	49,3	31,8	HA-24
		.40	1.94	1.25	
32 / 2"	2-1/2–12 UN -2B	10,4	61,7	43,2	HA-32
		.41	2.43	1.70	
40 2-1/2"	2-1/2–11 BSPP	11,4	78,5	54,6	HA-40
		.45	3.09	2.15	
48 / 3"	3–11 BSPP	11,4	91,9	67,3	HA-48
		.45	3.62	2.65	
64 / 4"	4–11 BSPP	11,4	124,5	92,7	HA-64
		.45	4.90	3.65	



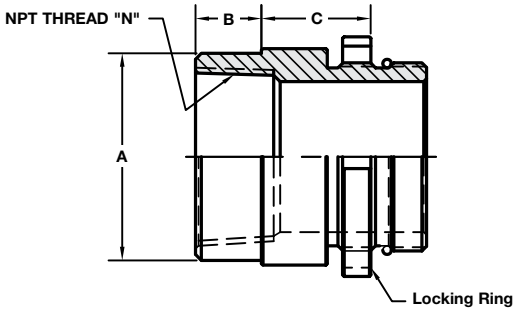
SAE to Split Flange (Code 61) Adaptor ▪ Type SAS

STAUFF Size	Thread Size	Dimensions (mm/in)			Order Codes (Standard Option)
16 / 1"	1-5/16–12 UN - 2B	61,0	25,4	44,5	SAS-16
		2.40	1.00	1.75	
20 / 1-1/4"	1-5/8–12 UN - 2B	69,1	31,8	50,8	SAS-20
		2.72	1.25	2.00	
24 / 1-1/2"	1-7/8–12 UN - 2B	69,1	38,1	60,5	SAS-24
		2.72	1.50	2.38	
32 / 2"	2-1/2–12 UN -2B	75,4	50,8	71,4	SAS-32
		2.97	2.00	2.81	
40 2-1/2"	2-1/2–11 BSPP	80,8	63,5	84,1	SAS-40
		3.18	2.50	3.31	
48 / 3"	3–11 BSPP	80,8	76,2	101,6	SAS-48
		3.18	3.00	4.00	
64 / 4"	4–11 BSPP	87,4	101,6	127,0	SAS-64
		3.44	4.00	5.00	



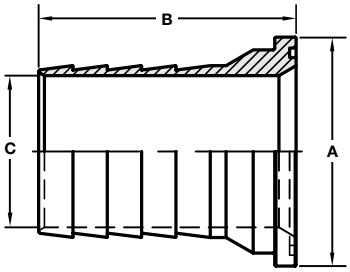
Port Adaptors

SAE Swivel to NPT Female Adaptor ▪ Type SNN



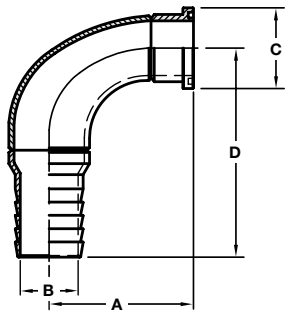
STAUFF Size	Thread Size	Dimensions (mm/in) A	B	C	Order Codes (Standard Option)
16 / 1“	1-5/16–12 UN - 2B	41,4 1.63	22,4 .88	38,1 1.50	SNN-16
20 / 1-1/4“	1-5/8–12 UN - 2B	47,8 1.88	22,4 .88	39,6 1.56	SNN-20
24 / 1-1/2“	1-7/8–12 UN - 2B	57,2 2.25	22,4 .88	39,6 1.56	SNN-24
32 / 2“	2-1/2–12 UN -2B	69,9 2.75	22,4 .88	44,5 1.75	SNN-32
40 2-1/2“	2-1/2–11 BSPP	79,5 3.13	25,4 1.00	44,5 1.75	SNN-40
48 / 3“	3–11 BSPP	98,6 3.88	25,4 1.00	44,5 1.75	SNN-48
64 / 4“	4–11 BSPP	124,0 4.88	25,4 1.00	44,5 1.75	SNN-64

Split Flange to Hose Barb Adaptor ▪ Type HAS



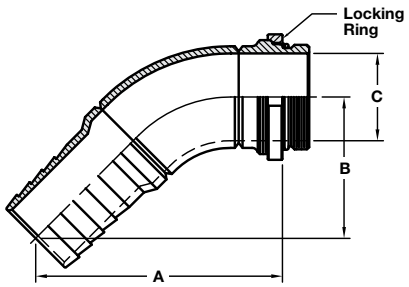
STAUFF Size	Thread Size	Dimensions (mm/in) A	B	C	Order Codes (Standard Option)
16 / 1“	Code 61	44,5 1.75	66,8 2.63	21,3 .84	HAS-16
20 / 1-1/4“	Code 61	50,8 2.00	76,2 3.00	26,9 1.06	HAS-20
24 / 1-1/2“	Code 61	60,5 2.38	76,2 3.00	31,8 1.25	HAS-24
32 / 2“	Code 61	71,4 2.81	82,6 3.25	43,2 1.70	HAS-32
40 2-1/2“	Code 61	84,1 3.31	101,6 4.00	54,6 2.15	HAS-40
48 / 3“	Code 61	101,6 4.00	114,3 4.50	67,3 2.65	HAS-48
64 / 4“	Code 61	127,0 5.00	127,0 5.00	92,7 3.65	HAS-64

Split Flange to Hose Barb Elbow 90° Adaptor ▪ Type HAS90



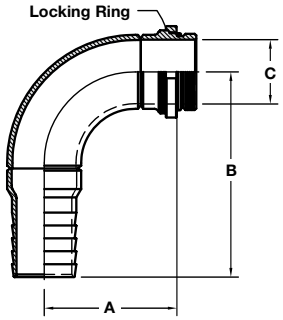
STAUFF Size	Dimensions (mm/in) A	B	C	D	Order Codes (Standard Option)
16 / 1“	69,9 2.75	25,4 1.00	44,5 1.75	92,2 3.63	HAS90-16
20 / 1-1/4“	82,6 3.25	31,8 1.25	50,8 2.00	117,6 4.63	HAS90-20
24 / 1-1/2“	165,1 6.50	38,1 1.50	60,5 2.38	127,0 5.00	HAS90-24
32 / 2“	108,0 4.25	50,8 2.00	71,4 2.81	158,8 6.25	HAS90-32
40 2-1/2“	139,7 5.50	63,5 2.50	84,1 3.31	200,2 7.88	HAS90-40
48 / 3“	162,1 6.38	76,2 3.00	101,6 4.00	228,6 9.00	HAS90-48
64 / 4“	203,2 8.00	101,6 4.00	127,0 5.00	289,1 11.38	HAS90-64

SAE Swivel to Hose Barb Elbow 45° Adaptor ▪ Type HA45



STAUFF Size	Thread Size	Dimensions (mm/in) A	B	C	Order Codes (Standard Option)
16 / 1“	1-5/16–12 UN - 2B	88,9 3.50	50,8 2.00	25,4 1.00	HA45-16
20 / 1-1/4“	1-5/8–12 UN - 2B	108,0 4.25	63,5 2.50	31,8 1.25	HA45-20
24 / 1-1/2“	1-7/8–12 UN - 2B	111,3 4.38	63,5 2.50	38,1 1.50	HA45-24
32 / 2“	2-1/2–12 UN -2B	136,7 5.38	79,5 3.13	50,8 2.00	HA45-32
40 2-1/2“	2-1/2–11 BSPP	177,8 7.00	101,6 4.00	63,5 2.50	HA45-40
48 / 3“	3–11 BSPP	203,2 8.00	117,9 4.64	76,2 3.00	HA45-48
64 / 4“	4–11 BSPP	241,3 9.50	139,7 5.50	101,6 4.00	HA45-64

SAE Swivel to Hose Barb Elbow 90° Adaptor ▪ Type HA90



STAUFF Size	Thread Size	Dimensions (mm/in) A	B	C	Order Codes (Standard Option)
16 / 1“	1-5/16–12 UN - 2B	60,5 2.38	92,2 3.63	25,4 1.00	HA90-16
20 / 1-1/4“	1-5/8–12 UN - 2B	69,9 2.75	114,3 4.50	31,8 1.25	HA90-20
24 / 1-1/2“	1-7/8–12 UN - 2B	79,5 3.13	127,0 5.00	38,1 1.50	HA90-24
32 / 2“	2-1/2–12 UN -2B	101,6 4.00	158,8 6.25	50,8 2.00	HA90-32
40 2-1/2“	2-1/2–11 BSPP	133,4 5.25	204,7 8.06	63,5 2.50	HA90-40
48 / 3“	3–11 BSPP	152,4 6.00	230,1 9.06	76,2 3.00	HA90-48
64 / 4“	4–11 BSPP	196,9 7.75	289,1 11.38	101,6 4.00	HA90-64

Two-Way Stainless Steel Valve ▪ Type 2BVM

Characteristics

Two-way Stainless Steel ball valves designed for use as a on/off devices



Features
- Two-piece body made of Stainless Steel
- Seats and seals made of Teflon® (PTFE)
- Female NPT connection
- Full and reduced port (see chart below)
- Blowout-proof stem
- Anti-static device
- Adjustable packing nut
- Locking handle standard
- Mounting pad

Options
- Full ports for STAUFF Sizes 16 to 32
- Pneumatic and electric actuator packages
- Sanitary sonnections
- STAUFF sizes 40 to 64

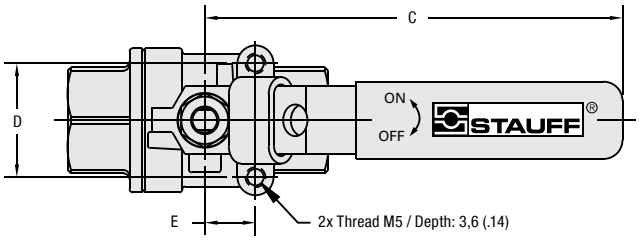
Consult STAUFF for details.

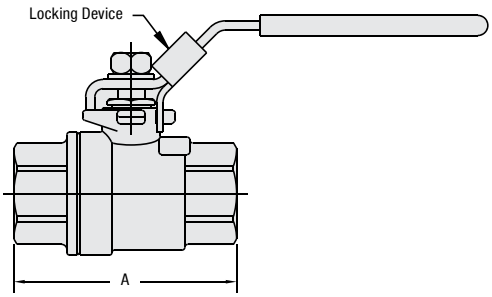
Materials
- Body: Stainless Steel A351-CF8M (316)
  Stem: Stainless Steel A351-CF8M (316)
- Ball: Stainless Steel A351-CF8M (316)
- Seals: Teflon® (PTFE)
- Ball seats: Teflon® (PTFE)
- Handle: Stainless Steel (304), PVC grip

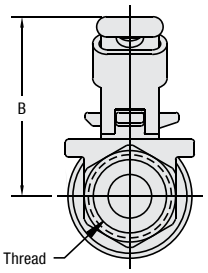
Technical Data
- Operating Pressure:
  140 bar / 2000 PSI (cold, non-shock)
- Operating temperature range:
  -29 °C ... +200 °C / -20 °F ... +400 °F

Please see the pressure / temperature rating chart for details.

Media Compatibility
- Suitable for a wide range of Chemicals





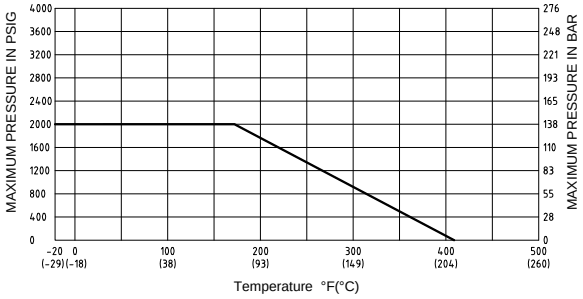


Dimensions & Order Codes

STAUFF Size	Thread Size	Dimensions (mm/in) A	B	C	D	E	Order Codes (Standard Option)
04	1/4 NPT	51	48	120	28.5	12,7	2BVM20041144G/LD
		2.01	1.89	4.72	1.12	.50	
06	3/8 NPT	51	48	120	28.5	12,7	2BVM20061144G/LD
		2.01	1.89	4.72	1.12	.50	
08	1/2 NPT	51	49	120	28.5	12,7	2BVM20081144G/LD
		2.01	1.93	4.72	1.12	.50	
12	3/4 NPT	68	55	130	22,4	36	2BVM20121144G/LD
		2.68	2.17	5.12	.88	1.42	
16 *	1 NPT	83	69	155	22,4	36	2BVM20161144G/LD
		3.27	2.72	6.10	.88	1.42	
20 *	1-1/4 NPT	90	77	155	22,4	36	2BVM20201144G/LD
		3.54	3.03	6.10	.88	1.42	
24 *	1-1/2 NPT	104	84	185	25,4	38.1	2BVM20241144G/LD
		4.09	3.31	7.28	1.00	1.50	
32 *	2 NPT	117	93	185	25,4	38.1	2BVM20321144G/LD
		4.61	3.66	7.28	1.00	1.50	

* Reduced Bore

Pressure / Temperature Rating



Dimensional drawings: All dimensions in mm (in).

Two-Piece Three-Way Stainless Steel Valve ▪ Type 2BVM3



Characteristics

Three-way Stainless Steel ball valves designed for use as flow diverter style valves

Features
- Two-piece body made of Stainless Steel
- Seats and seals made of Teflon® (PTFE)
- Female NPT connection
- Full and reduced port (see chart below)
- L bore
- Blowout-proof stem
- Anti-static device
- Adjustable packing nut
- Locking handle standard
- Mounting pad to ISO 5211

Options
- T bore
- Pneumatic and electric actuator packages

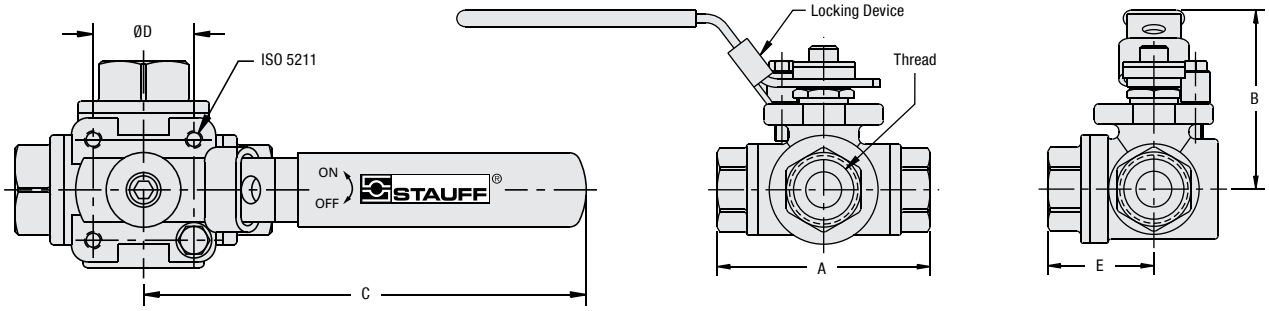
Consult STAUFF for details.

Media Compatibility
- Suitable for a wide range of Chemicals

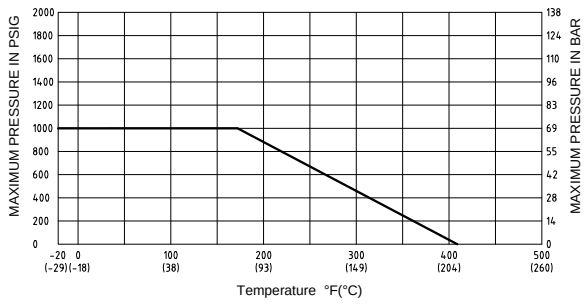
Materials
- Body: Stainless Steel A351-CF8M (316)
  Stem: Stainless Steel A351-CF8M (316)
- Ball: Stainless Steel A351-CF8M (316)
- Seals: Teflon® (PTFE)
- Ball seats: Teflon® (PTFE)
- Handle: Stainless Steel (304), PVC grip

Technical Data
- Operating Pressure:
  70 bar / 1000 PSI (cold, non-shock)
  Operating temperature range:
  -29 °C ... +200 °C / -20 °F ... +400 °F

Please see the pressure / temperature rating chart for details.



Pressure / Temperature Rating



Dimensions & Order Codes

STAUFF Size	Thread Size	Dimensions (mm/in) A	B	C	ØD	E	Order Codes (Standard Option)
08	1/2 NPT	75	42	106	36	38,1	2BVM30081144G/LD
		2.95	1.65	4.17	1.42	1.50	
12 *	3/4 NPT	86	46,5	133	42	43,8	2BVM30121144G/LD
		3.39	1.83	5.24	1.65	1.72	
16 *	1 NPT	101	55	133	42	50,3	2BVM30161144G/LD
		3.98	2.17	5.24	1.65	1.98	
20 *	1-1/4 NPT	115	63	133	50	57,5	2BVM30201144G/LD
		4.53	2.48	5.24	1.97	2.26	
24 *	1-1/2 NPT	125	74	187	50	64	2BVM30241144G/LD
		4.92	2.91	7.36	1.97	2.52	
32 *	2 NPT	149	88,3	187	70	75,5	2BVM30321144G/LD
		5.87	3.48	7.36	2.76	2.97	

* Reduced Bore

Three-Piece Two-Way Stainless Steel Valve ▪ Type 3BVM

Characteristics

Two-way Stainless Steel ball valves designed for use as a on/off devices



Features
- Three-piece body made of Stainless Steel
- Seats and seals made of Teflon® (PTFE)
- Female NPT connection (1/2 to 4)
- Full port
- Swing-out design for easy repair
- Blowout-proof stem
- Anti-static device
- Adjustable packing nut
- Locking handle standard
- Mounting pad to ISO 5211

Options
- Pneumatic and electric actuator packages

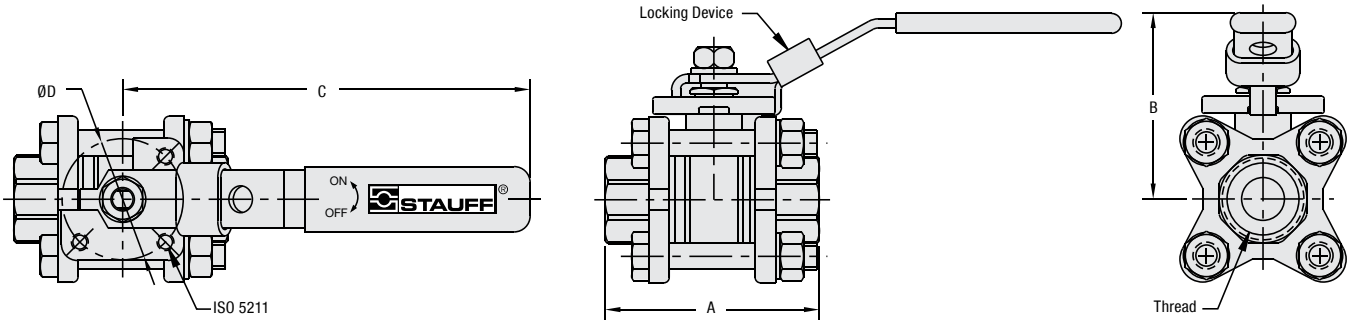
Consult STAUFF for details.

Materials
- Body: Stainless Steel A351-CF8M (316)
  Stem: Stainless Steel A351-CF8M (316)
- Ball: Stainless Steel A351-CF8M (316)
- Seals: Teflon® (PTFE)
- Ball seats: Teflon® (PTFE)
- Handle: Stainless Steel (304), PVC grip

Technical Data
- Operating Pressure:
  70 bar / 1000 PSI (cold, non-shock)
  Operating temperature range:
  -29 °C ... +202 °C / -20 °F ... +400 °F

Please see the pressure / temperature rating chart for details.

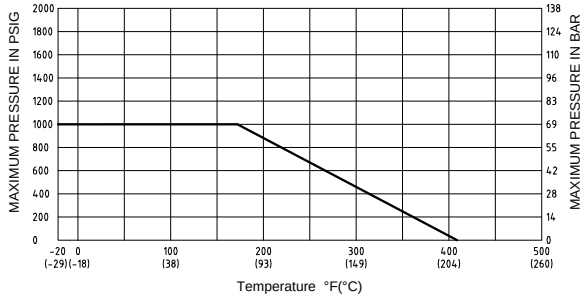
Media Compatibility
- Suitable for a wide range of Chemicals



Dimensions & Order Codes

STAUFF Size	Thread Size	Dimensions (mm/in) A	B	C	ØD	Order Codes (Standard Option)
08	1/2 NPT	65	53	100	36	3BVM20081144G/LD
		2.56	2.09	3.94	1.42	
12	3/4 NPT	75	58	103	36	3BVM20121144G/LD
		2.95	2.28	4.06	1.42	
16	1 NPT	85	70	158	42	3BVM20161144G/LD
		3.35	2.76	6.22	1.65	
20	1-1/4 NPT	100	76	158	42	3BVM20201144G/LD
		3.94	2.99	6.22	1.65	
24	1-1/2 NPT	110	88	183	50	3BVM20241144G/LD
		4.33	3.46	7.20	1.97	
32	2 NPT	130	95	183	50	3BVM20321144G/LD
		5.12	3.74	7.20	1.97	
40	2-1/2 NPT	160	135	243	70	3BVM20401144G/LD
		6.30	5.31	9.57	2.76	
48	3 NPT	185	145	243	70	3BVM20481144G/LD
		7.28	5.71	9.57	2.76	
64	4 NPT	220	165	328	102	3BVM20641144G/LD
		8.66	6.50	12.91	4.02	

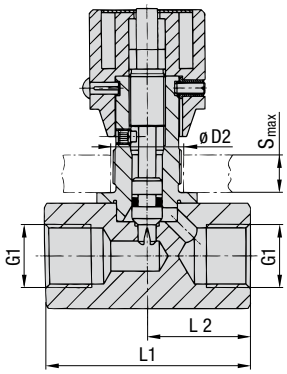
Pressure / Temperature Rating

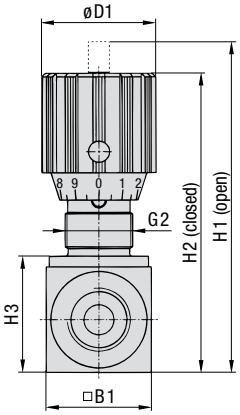


F Valves

Heavy-Duty Throttle / Shut-Off Valve ▪ Type DV (In-Line Assembly)







Characteristics

Throttle and shut-off the flow of liquid media in both directions

Features
- Designed for in-line assembly with female NPT, SAE and BSP threaded connections
- Panel mounting nuts available on request
- Graduated turning knob and coded spindle to accurately control flow
- Set-screw located on side of turning knob to lock valve in position

Media Compatibility
- Suitable for hydraulic fluids

Please consult STAUFF before using with other media.

Materials
- Body and spindle made of Steel (1.0715), zinc/iron-plated (Fe/Zn Fe Co 8 C) and free of hexavalent chromium CrVI (standard option); Stainless Steel (1.4571) version available
- Turning knob made of Polyamide (PA)
- O-rings made of FPM (Viton®); NBR (Buna-N®) and EPDM sealed version available

Consult STAUFF for alternative materials.

Technical Data
- Maximum working pressure: 350 bar / 5000 PSI (for all sizes)
- Operating temperature range: -20 °C ... +100 °C / -4 °F ... +212 °F

Please see page F94 for detailed flow characteristics.

Dimensions

Type + Nominal Size	Thread Options G1	G2	H1	H2	H3	B1	ØD1	ØD2	S (Max.)	L1	L2	Weight (kg/lbs)
DV-06	1/8 NPT G1/8 BSP	PG 7	64 2.52	59 2.32	18 .71	16 .63	24 .94	13 .51	3 .12	38 1.50	19 .75	0,12 .26
DV-08	1/4 NPT 7/16–20 UNF (1/4" SAE) G1/4 BSP	PG 11	83,5 3.29	77,5 3.05	27 1.06	25 .98	29 1.14	19 .75	7 .28	48 1.89	24 .94	0,25 .55
DV-10	3/8 NPT 9/16–18 UNF (3/4" SAE) G3/8 BSP	PG 11	90 3.54	83 3.27	32 1.26	30 1.18	29 1.14	19 .75	7 .28	58 2.28	29 1.14	0,40 .88
DV-12	1/2 NPT 3/4–16 UNF (1/2" SAE) G1/2 BSP	PG 11	109,5 4.31	99,5 3.92	38 1.50	35 1.38	38 1.50	23 .91	7 .28	68 2.68	34 1.34	0,60 1.32
DV-16	3/4 NPT 1-1/16–12 UN (3/4" SAE) G3/4 BSP	PG 16	128,5 5.06	118,5 4.67	48 1.89	45 1.77	38 1.50	23 .91	7 .28	78 3.07	39 1.54	1,10 2.43
DV-20	1 NPT 1-5/16–12 UN (1" SAE) G1 BSP	PG 16	159 6.26	146 5.75	55 2.17	50 1.97	49 1.93	38 1.50	10 .39	108 4.25	54 2.13	2,40 5.29
DV-25	1-1/4 NPT 1-5/8–12 UN (1-1/4" SAE) G1-1/4 BSP	PG 29	169 6.65	156 6.14	65 2.56	60 2.36	49 1.93	38 1.50	10 .39	108 4.25	54 2.13	2,80 6.17
DV-30	1-1/2 NPT 1-7/8–12 UN (1-1/2" SAE) G1-1/2 BSP	PG 29	175 6.89	166 6.54	75 2.95	70 2.76	49 1.93	38 1.50	10 .39	108 4.25	54 2.13	3,50 7.72
DV-40	2 NPT 2-1/2–12 UN (2" SAE) G2 BSP	PG 29	199 7.83	186 7.32	95 3.74	90 3.54	49 1.93	38 1.50	10 .39	120 4.72	60 2.36	6,30 13.89

Order Codes

DV - 25 - V - N - PM - SS

① ② ③ ④ ⑤ ⑥

① Type

Heavy-Duty Throttle / Shut-Off Valve (In-Line Assembly)	**DV**

② Nominal Size DN

06	08	10	12	16	20	25	30	40

③ Sealing Material

FPM (Viton®) (standard option)	**V**
NBR (Buna-N®)	**P**
EPDM	**E**

④ Connection

Female NPT threads (ANSI B1.20.1)	**N**
Female UN/UNF threads (SAE J514)	**S**
Female BSP threads (ISO 228)	**B**

⑤ Panel Mounting Nut

Without panel mounting nut (standard option)	**-**
With panel mounting nut	**PM**

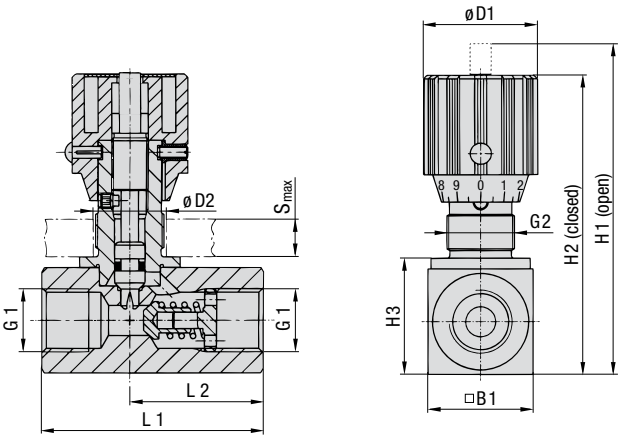
⑥ Body / Spindle Material

Steel (standard option)	**-**
Stainless Steel	**SS**

Accessories / Spare Parts

Panel Mounting Kits
- for DV/DRV/DVP/DRVP-8 (thread size PG 11): **PMK-8-10-M**
- for DV/DRV/DVP/DRVP-10 (thread size PG 11): **PMK-8-10-M**
- for DV/DRV/DVP/DRVP-12 (thread size PG 16): **PMK-12-16-M**
- for DV/DRV/DVP/DRVP-16 (thread size PG 16): **PMK-12-16-M**
- for DV/DRV/DVP/DRVP-20 (thread size PG 29): **PMK-20-40-M**
- for DV/DRV/DVP/DRVP-25 (thread size PG 29): **PMK-20-40-M**
- for DV/DRV/DVP/DRVP-30 (thread size PG 29): **PMK-20-40-M**
- for DV/DRV/DVP/DRVP-40 (thread size PG 29): **PMK-20-40-M**

Heavy-Duty Flow Control Valve ▪ Type DRV (In-Line Assembly)





Dimensions

Type + Nominal Size	Thread Options G1	G2	H1	H2	H3	B1	ØD1	ØD2	S (Max.)	L1	L2	Weight (kg/lbs)
DRV-06	1/8 NPT	PG 7	64	59	18	16	24	13	3	45	26	0,10
	G1/8 BSP		2.52	2.32	.71	.63	.94	.51	.12	1.77	1.02	.22
DRV-08	1/4 NPT 7/16–20 UNF (1/4" SAE) G1/4 BSP	PG 11	83,5	77,5	27	25	29	19	7	55	34	0,30
			3.29	3.05	1.06	.98	1.14	.75	.28	2.17	1.32	.66
DRV-10	3/8 NPT 9/16–18 UNF (3/4" SAE) G3/8 BSP	PG 11	90	83	32	30	29	19	7	65	41	0,45
			3.54	3.27	1.26	1.18	1.14	.75	.28	2.56	1.61	.99
DRV-12	1/2 NPT 3/4–16 UNF (1/2" SAE) G1/2 BSP	PG 11	109,5	99,5	38	35	38	23	7	73	44	0,70
			4.31	3.92	1.50	1.38	1.50	.91	.28	2.87	1.73	1.54
DRV-16	3/4 NPT 1-1/16–12 UN (3/4" SAE) G3/4 BSP	PG 16	128,5	118,5	48	45	38	23	7	88	57	1,26
			5.06	4.67	1.89	1.77	1.50	.91	.28	3.46	2.24	2.78
DRV-20	1 NPT 1-5/16–12 UN (1" SAE) G1 BSP	PG 16	159	146	55	50	49	38	10	127	77	2,60
			6.26	5.75	2.17	1.97	1.93	1.50	.39	5.00	3.03	5.73
DRV-25	1-1/4 NPT 1-5/8–12 UN (1-1/4" SAE) G1-1/4 BSP	PG 29	169	156	65	60	49	38	10	143	93	3,70
			6.65	6.14	2.56	2.36	1.93	1.50	.39	5.63	3.66	8.16
DRV-30	1-1/2 NPT 1-7/8–12 UN (1-1/2" SAE) G1-1/2 BSP	PG 29	175	166	75	70	49	38	10	143	91	4,76
			6.89	6.54	2.95	2.76	1.93	1.50	.39	5.63	3.58	10.49
DRV-40	2 NPT 2-1/2–12 UN (2" SAE) G2 BSP	PG 29	199	186	95	90	49	38	10	165	111	8,52
			7.83	7.32	3.74	3.54	1.93	1.50	.39	6.50	4.37	18.78

Order Codes

DRV - 25 - V - N - PM - SS

① ② ③ ④ ⑤ ⑥

① Type

Heavy-Duty Flow Control Valve (In-Line Assembly)	**DRV**

② Nominal Size DN

06	08	10	12	16	20	25	30	40

③ Sealing Material

FPM (Viton®) (standard option)	**V**
NBR (Buna-N®)	**P**
EPDM	**E**

④ Connection

Female NPT threads (ANSI B1.20.1)	**N**
Female UN/UNF threads (SAE J514)	**S**
Female BSP threads (ISO 228)	**B**

⑤ Panel Mounting Nut

Without panel mounting nut (standard option)	**-**
With panel mounting nut	**PM**

⑥ Body / Spindle Material

Steel (standard option)	**-**
Stainless Steel	**SS**

Characteristics

Throttle and shut-off the flow of liquid media in direction A-B (free flow in reverse direction)

Features

- Designed for in-line assembly with female NPT, SAE and BSP threaded connections
- Panel mounting nuts available on request
- Graduated turning knob and coded spindle to accurately control flow
- Set-screw located on side of turning knob to lock valve in position

Media Compatibility

- Suitable for hydraulic fluids

Please consult STAUFF before using with other media.

Materials

- Body and spindle made of Steel (1.0715), zinc/iron-plated (Fe/Zn Fe Co 8 C) and free of hexavalent chromium CrVI (standard option); Stainless Steel (1.4571) version available
- Turning knob made of Polyamide (PA)
- O-rings made of FPM (Viton®); NBR (Buna-N®) and EPDM sealed version available

Consult STAUFF for alternative materials.

Technical Data

- Opening pressure: 0,5 bar / 7 PSI (4,5 bar / 65 PSI available on request)
- Maximum working pressure: 350 bar / 5000 PSI (for all sizes)
- Operating temperature range: -20 °C ... +100 °C / -4 °F ... +212 °F

Please see page F94 for detailed flow characteristics.

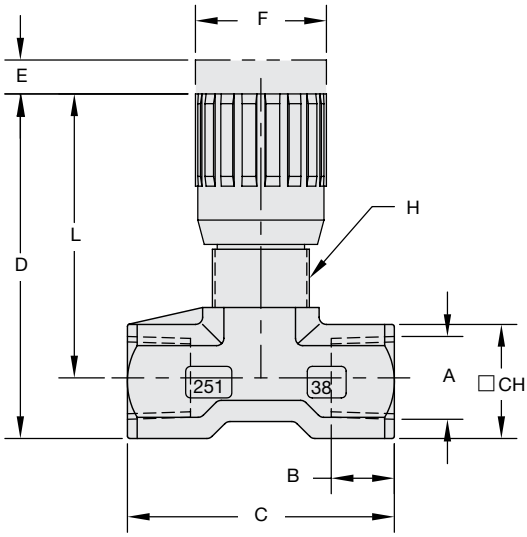
Accessories / Spare Parts

Panel Mounting Kits

- for DV/DRV/DVP/DRVP-8 (thread size PG 11): **PMK-8-10-M**
- for DV/DRV/DVP/DRVP-10 (thread size PG 11): **PMK-8-10-M**
- for DV/DRV/DVP/DRVP-12 (thread size PG 16): **PMK-12-16-M**
- for DV/DRV/DVP/DRVP-16 (thread size PG 16): **PMK-12-16-M**
- for DV/DRV/DVP/DRVP-20 (thread size PG 29): **PMK-20-40-M**
- for DV/DRV/DVP/DRVP-25 (thread size PG 29): **PMK-20-40-M**
- for DV/DRV/DVP/DRVP-30 (thread size PG 29): **PMK-20-40-M**
- for DV/DRV/DVP/DRVP-40 (thread size PG 29): **PMK-20-40-M**

Medium-Duty Throttle / Shut-Off Valve ▪ NVH (In-Line Assembly)





Characteristics

Throttle and shut-off the flow of liquid media in both directions

Features
- Designed for in-line assembly with female NPT and SAE threaded connections; female BSP threaded connections available on request
- Ideal for medium-duty applications
- Panel mounting kits available on request
- Graduated turning knob to accurately control flow
- Set-screw located on side of turning knob to lock valve in position

Media Compatibility
- Suitable for hydraulic fluids

Please consult STAUFF before using with other media.

Materials
- Body made of Steel, nickel-plated
- Internal components made of Stainless Steel
- O-rings made of NBR (Buna-N®); FPM (Viton®) sealed version available
- Anti-extrusion ring made of PTFE

Consult STAUFF for alternative materials.

Technical Data
- Maximum working pressure: 350 bar / 5000 PSI (for all sizes)
- Operating temperature range: -34 °C ... +121 °C / -30 °F ... +250 °F

Accessories / Spare Parts

Panel Mounting Kits
- for NVH/FCH/NVW/FCM-08 (thread size M17x1): **PMK-8-T**
- for NVH/FCH/NVW/FCM-10 (thread size M20x1): **PMK-810-T**
- for NVH/FCH/NVW/FCM-12 (thread size M25x1,5): **PMK-1012-T**

Dimensions

Type + Nominal Size	Thread Options A	Dimensions (mm/in) B	C	D	E	F	Thread H	L	□CH	Weight (kg/lbs)
NVH-8	1/4 NPT	12	46	61	4,5	22	M17x1	52,5	17	0,12
	7/16–20 UNF (1/4" SAE)	.47	1.81	2.40	.18	.87		2.07	.67	.26
NVH-10	3/8 NPT	13	55	74	7	27	M20x1	63	22	0,23
	9/16–18 UNF (3/4" SAE)	.51	2.17	2.91	.28	1.06		2.48	.97	.51
NVH-12	1/2 NPT	16	82	85,5	10	33	M25x1,5	72	27	0,45
	3/4–16 UNF (1/2" SAE)	.63	2.76	3.37	.39	1.30		2.83	1.06	1.00

Order Codes

NVH - 8 N

① ② ③

① Type

Medium-Duty Throttle / Shut-Off Valve (In-Line Assembly)	**NVH**

② STAUFF Size

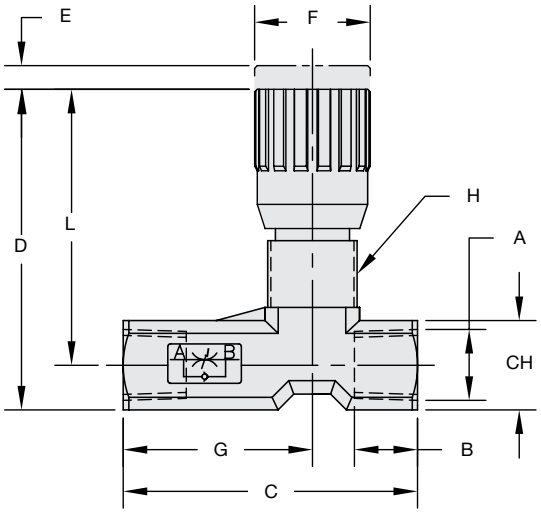
08	**10**	**12**

③ Connection

Female NPT threads (ANSI B1.20.1)	**N**
Female UN/UNF thread (SAE J514)	**S**

Female BSP threads (ISO 228) available on request.

Medium-Duty Flow Control Valve ▪ Type FCH (In-Line Assembly)





Dimensions

Type + Nominal Size	Thread Options A	Dimensions (mm/in) B	C	D	E	F	G	Thread H	L	□CH	Weight (kg/lbs)
FCH-8	1/4 NPT	12	56	61	4,5	22	36	M17x1	52,5	17	0,14
	7/16–20 UNF (1/4" SAE)	.47	2.20	2.40	.18	.87	1.42		2.07	.67	.31
FCH-10	3/8 NPT	13	64,5	74	7	27	41,5	M20x1	63	22	0,26
	9/16–18 UNF (3/4" SAE)	.51	2.54	2.91	.28	1.06	1.63		2.48	.97	.57
FCH-12	1/2 NPT	16	87	85,5	10	33	57	M25x1,5	72	27	0,49
	3/4–16 UNF (1/2" SAE)	.63	3.42	3.37	.39	1.30	2.24		2.83	1.06	1.08

Order Codes

FCH - 8 N

① ② ③

① Type

Medium-Duty Flow Control Valve (In-Line Assembly)	**FCH**

② STAUFF Size

08	**10**	**12**

③ Connection

Female NPT threads (ANSI B1.20.1)	**N**
Female UN/UNF thread (SAE J514)	**S**

Female BSP threads (ISO 228) available on request.

Characteristics

Throttle and shut-off the flow of liquid media in direction A-B (free flow in reverse direction)

Features

- Designed for in-line assembly with female NPT and SAE threaded connections; female BSP threaded connections available on request
- Ideal for medium-duty applications
- Panel mounting kits available on request
- Graduated turning knob to accurately control flow
- Set-screw located on side of turning knob to lock valve in position

Media Compatibility

- Suitable for hydraulic fluids

Please consult STAUFF before using with other media.

Materials

- Body made of Steel, nickel-plated
- Internal components made of Stainless Steel
- O-rings made of NBR (Buna-N®); FPM (Viton®) sealed version available
- Anti-extrusion ring made of PTFE

Consult STAUFF for alternative materials.

Technical Data

- Maximum working pressure: 350 bar / 5000 PSI (for all sizes)
- Operating temperature range: -34 °C ... +121 °C / -30 °F ... +250 °F

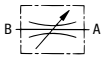
Accessories / Spare Parts

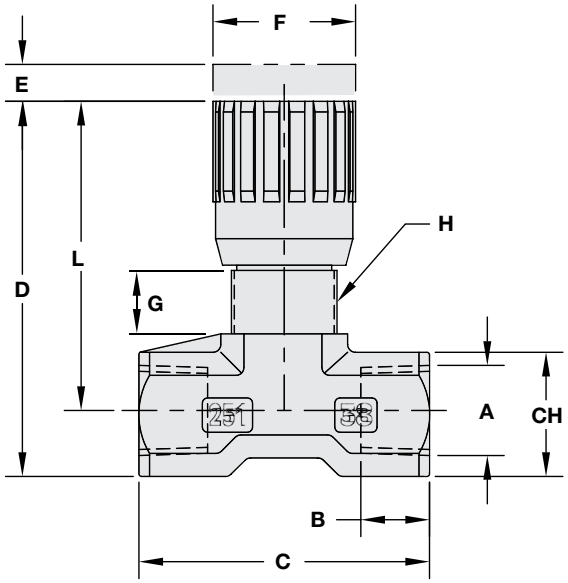
Panel Mounting Kits

- for NVH/FCH/NVW/FCM-08 (thread size M17x1): **PMK-8-T**
- for NVH/FCH/NVW/FCM-10 (thread size M20x1): **PMK-810-T**
- for NVH/FCH/NVW/FCM-12 (thread size M25x1,5): **PMK-1012-T**

Medium-Pressure Brass Throttle / Shut-Off Valve ▪ Type NVM (In-Line Assembly)







Characteristics

Throttle and shut-off the flow of liquid media in both directions

Features
- Designed for in-line assembly with female NPT, SAE and BSP threaded connections
- Ideal for medium-pressure applications
- Panel mounting kits available on request
- Graduated turning knob to accurately control flow
- Set-screw located on side of turning knob to lock valve in position

Media Compatibility
- Suitable for hydraulic fluids

Please consult STAUFF before using with other media.

Materials
- Body made of Brass, nickel-plated
- Internal components made of Stainless Steel
- O-rings made of NBR (Buna-N®); FPM (Viton®) sealed version available
- Anti-extrusion ring made of PTFE

Consult STAUFF for alternative materials.

Technical Data
- Maximum working pressure: 200 bar / 3000 PSI (for all sizes)
- Operating temperature range: -34 °C ... +121 °C / -30 °F ... +250 °F

Accessories / Spare Parts

Panel Mounting Kits
- for NVH/FCH/NVW/FCM-08 (thread size M17x1): **PMK-8-T**
- for NVH/FCH/NVW/FCM-10 (thread size M20x1): **PMK-810-T**
- for NVH/FCH/NVW/FCM-12 (thread size M25x1,5): **PMK-1012-T**

Dimensions

Type + Nominal Size	Thread Options A	Dimensions (mm/in) B	C	D	E	F	Thread H	L	□CH	Weight (kg/lbs)
NVM-8	1/4 NPT 7/16–20 UNF (1/4" SAE) 1/4 BSP	12 .47	46 1.81	57 2.24	4,5 .18	22 .87	M17x1	11 .43	17 .67	0,12 .26
NVM-10	3/8 NPT 9/16–18 UNF (3/4" SAE) 3/8 BSP	13 .51	55 2.17	69 2.72	7 .28	27 1.06	M20x1	15 .59	22 .97	0,23 .51
NVM-12	1/2 NPT 3/4–16 UNF (1/2" SAE) 1/2 BSP	16 .63	70 2.76	82 3.23	10 .39	33 1.30	M25x1,5	19 .75	27 1.06	0,45 1.00

Order Codes

NVM - 8 N

① ② ③

① Type

Medium-Pressure Throttle / Shut-Off Valve (In-Line Assembly)	**NVM**

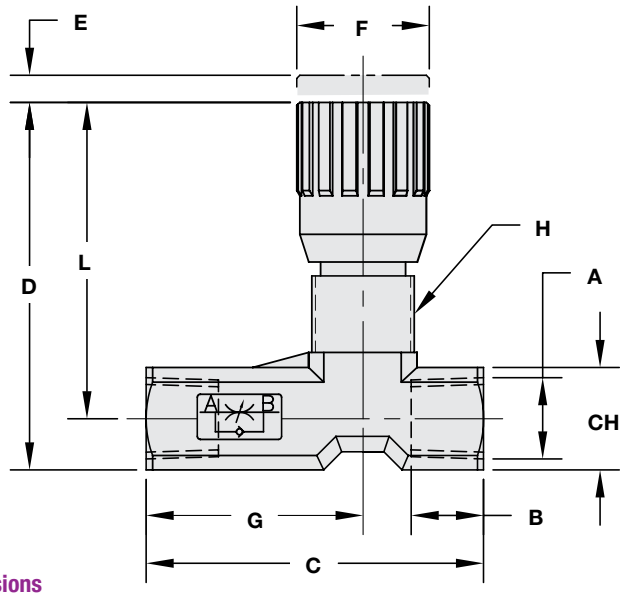
② STAUFF Size

08	**10**	**12**

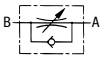
③ Connection

Female NPT threads (ANSI B1.20.1) (standard option)	**N**
Female UN/UNF thread (SAE J514)	**S**
Female BSP threads (ISO 228)	**B**

Medium-Pressure Brass Flow Control Valve ▪ Type FCM (In-Line Assembly)







Dimensions

Type + Nominal Size	Thread Options A	Dimensions (mm/in) B	C	D	E	F	G	Thread H	L	□CH	Weight (kg/lbs)
FCM-8	1/4 NPT 7/16–20 UNF (1/4" SAE) 1/4 BSP	12 .47	56 2.20	61 2.40	4,5 .18	22 .87	11,5 .45	M17x1	11 .43	17 .67	0,14 .31
FCM-10	3/8 NPT 9/16–18 UNF (3/4" SAE) 3/8 BSP	13 .51	64,5 2.54	74 2.91	7 .28	27 1.06	12,5 .49	M20x1	15 .59	22 .97	0,26 .57
FCM-12	1/2 NPT 3/4–16 UNF (1/2" SAE) 1/2 BSP	16 .63	87 3.42	82 3.23	10 .39	33 1.30	13 .51	M25x1,5	19 .75	27 1.06	0,49 1.08

Order Codes

FCM - 8 N

① ② ③

① Type

Medium-Pressure Flow Control Valve (In-Line Assembly)	**FCM**

② STAUFF Size

08	**10**	**12**

③ Connection

Female NPT threads (ANSI B1.20.1) (standard option)	**N**
Female UN/UNF thread (SAE J514)	**S**
Female BSP threads (ISO 228)	**B**

Characteristics

Throttle and shut-off the flow of liquid media in direction A-B (free flow in reverse direction)

Features

- Designed for in-line assembly with female NPT, SAE and BSP threaded connections
- Ideal for medium-pressure applications
- Panel mounting kits available on request
- Graduated turning knob to accurately control flow
- Set-screw located on side of turning knob to lock valve in position

Media Compatibility

- Suitable for hydraulic fluids

Please consult STAUFF before using with other media.

Materials

- Body made of Brass, nickel-plated
- Internal components made of Stainless Steel
- O-rings made of NBR (Buna-N®); FPM (Viton®) sealed version available
- Anti-extrusion ring made of PTFE

Consult STAUFF for alternative materials.

Technical Data

- Maximum working pressure: 200 bar / 3000 PSI (for all sizes)
- Operating temperature range: -34 °C ... +121 °C / -30 °F ... +250 °F

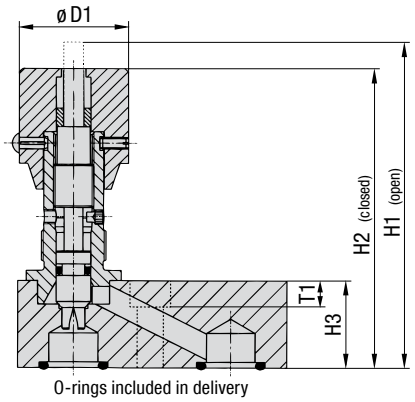
Accessories / Spare Parts

Panel Mounting Kits

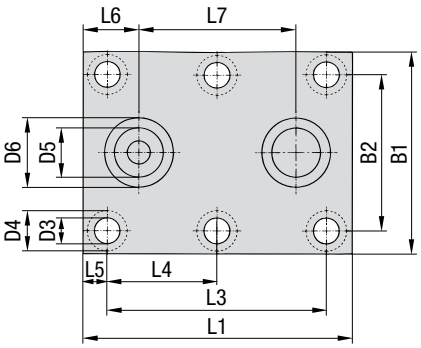
- for NVH/FCH/NVW/FCM-08 (thread size M17x1): **PMK-8-T**
- for NVH/FCH/NVW/FCM-10 (thread size M20x1): **PMK-810-T**
- for NVH/FCH/NVW/FCM-12 (thread size M25x1,5): **PMK-1012-T**

Throttle / Shut-Off Valve ▪ Type DVP (Manifold Assembly)





O-rings included in delivery



Characteristics

Throttle and shut-off the flow of liquid media in both directions

Features
- Designed for manifold mounting
- Panel mounting nuts available on request
- Graduated turning knob and coded spindle to accurately control flow
- Set-screw located on side of turning knob to lock valve in position

Media Compatibility
- Suitable for hydraulic fluids

Please consult STAUFF before using with other media.

Materials
- Body and spindle made of Steel (1.0715), zinc/iron-plated (Fe/Zn Fe Co 8 C) and free of hexavalent chromium CrVI (standard option); Stainless Steel (1.4571) version available
- Turning knob made of Polyamide (PA)
- O-rings made of FPM (Viton®); NBR (Buna-N®) and EPDM sealed version available

Consult STAUFF for alternative materials.

Technical Data
- Maximum working pressure: 350 bar / 5000 PSI (for all sizes)
- Operating temperature range: -20 °C ... +100 °C / -4 °F ... +212 °F

Please see page F94 for detailed flow characteristics.

Recommended Bolts / Tightening Torques
- Socket cap screws according to ISO 4762 or ANSI / ASME B18.3 recommended for installation (not included in delivery):

DVP-06	M6 x 20 - 8.8 (9 N·m) 1/4–20 UNC x 3/4 - Gr. 5 (10 ft·lb)
DVP-08	M6 x 25 - 8.8 (9 N·m) 1/4–20 UNC x 1 - Gr. 5 (10 ft·lb)
DVP-10	M6 x 30 - 10.9 (12 N·m) 1/4–20 UNC x 1-1/4 - Gr. 8 (12 ft·lb)
DVP-12	M6 x 30 - 12.9 (15 N·m) 1/4–20 UNC x 1-1/4 - Gr. 10 (14 ft·lb)
DVP-16	M8 x 35 - 10.9 (30 N·m) 5/16–18 UNC x 1-1/2 - Gr. 8 (24 ft·lb)
DVP-20	M8 x 50 - 12.9 (35 N·m) 5/16–18 UNC x 2 - Gr. 10 (29 ft·lb)
DVP-25	M10 x 50 - 12.9 (70 N·m) 3/8–16 UNC x 2 - Gr. 10 (58 ft·lb)
DVP-30	M12 x 60 - 10.9 (100 N·m) 7/16–14 UNC x 2-1/2 - Gr. 8 (63 ft·lb)

Dimensions

For panel mounting, please see dimensions G2, D2 and S (Max.) on page F82.

Type + Nom. Size	Dimensions (mm/in) ØD1	ØD3	ØD4	ØD5	ØD6	L1	L3	L4	L5	L6	L7	B1	B2	T1	H1	H2	H3	O-ring	Weight (kg/lbs)
DVP-06	24	6,5	10,5	5	9,8	35	19		8	9,5	16	41,5	28,5	6,8	64	59	16	6,35 x 1,78	0,20
	.94	.26	.41	.20	.39	1.38	.75		.31	.37	.63	1.63	1.12	.27	2.52	2.32	.63		.44
DVP-08	29	6,5	10,5	7	12,4	47,5	35		6,5	11	25,5	46	33,5	6,8	79	72	20	8,5 x 2	0,40
	1.14	.26	.41	.28	.49	1.87	1.38		.26	.43	1.00	1.81	1.32	.27	3.11	2.83	.79		.88
DVP-10	29	6,5	10,5	10	15,7	51	33,5		8,5	12,7	25,5	51	38	6,8	84	78	25	12 x 2	0,60
	1.14	.26	.41	.39	.62	2.01	1.32		.33	.50	1.00	2.01	1.50	.27	3.31	3.07	.98		1.32
DVP-12	38	6,5	10,5	13	18,7	75	38		18,5	22,5	30	57,5	44,5	6,8	100	89	25	15 x 2	1,00
	1.50	.26	.41	.51	.74	2.95	1.50		.73	.89	1.18	2.26	1.75	.27	3.94	3.50	.98		2.20
DVP-16	38	8,5	13,5	17	23,9	93,5	76	38	8,5	19,5	54	70	54	9	113	103	30	19 x 2,5	1,50
	1.50	.33	.53	.67	.94	3.68	2.99	1.50	.33	.77	2.13	2.76	2.13	.35	4.45	4.06	1.18		3.31
DVP-20	49	8,5	13,5	22	30,5	111	95	47,5	8	27	57	76,5	60	9	154	142	45	25 x 3	3,40
	1.93	.33	.53	.87	1.20	4.37	3.74	1.87	.31	1.06	2.24	3.01	2.36	.35	6.06	5.59	1.77		7.50
DVP-25	49	10,5	16,5	28,5	37,5	143	120	60	11	32	79,5	100	76	11	154	142	45	32 x 3	5,15
	1.93	.41	.65	1.12	1.48	5.63	4.72	2.36	.43	1.26	3.13	3.94	2.99	.43	6.06	5.59	1.77		11.35
DVP-30	49	13	19	35	43,5	171	143	71,5	15	39	95	115	92	13	159	147	50	38 x 3	7,50
	1.93	.51	.75	1.38	1.71	6.73	5.63	2.81	.59	1.54	3.74	4.53	3.62	.51	6.26	5.79	1.97		16.53

Order Codes

DVP - 25 - V - PM - SS

① ② ③ ④ ⑤

① Type

Throttle / Shut-Off Valve (Manifold Assembly)	**DVP**

② Nominal Size DN

06	08	10	12	16	20	25	30

③ Sealing Material

FPM (Viton®) (standard option)	**V**
NBR (Buna-N®)	**P**
EPDM	**E**

④ Panel Mounting Nut

Without panel mounting nut (standard option)	**-**
With panel mounting nut	**PM**

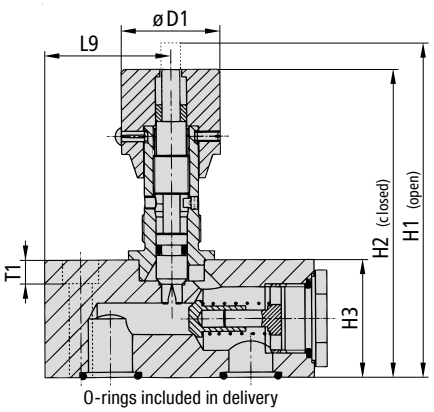
⑤ Body / Spindle Material

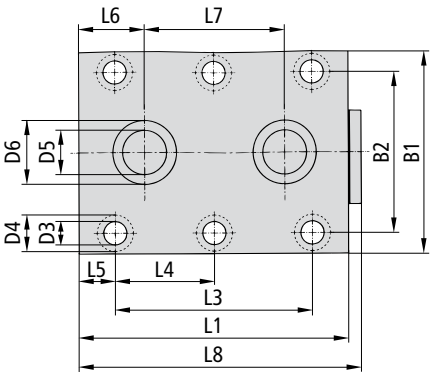
Steel (standard option)	**-**
Stainless Steel	**SS**

Accessories / Spare Parts

Panel Mounting Kits
- See Page F83 for details.

Flow Control Valve ▪ Type DRVP (Manifold Assembly)







Dimensions

For panel mounting, please see dimensions G2, D2 and **S** (Max.) on page F83.

Type + Nom. Size	Dimensions (mm/in) ØD1	ØD3	ØD4	ØD5	ØD6	L1	L3	L4	L5	L6	L7	L8	L9	B1	B2	T1	H1	H2	H3	O-ring	Weight (kg/lbs)
DRVP-06	24	6,5	10,5	5	9,8	41,5	19		6,4	8	16	47	13,5	41,5	28,5	6,8	64	59	16	6,35 x 1,78	0,26
	.94	.26	.41	.20	.39	1.63	.75		.25	.31	.63	1.85	.53	1.63	1.12	.27	2.52	2.32	.63		.57
DRVP-08	29	6,5	10,5	7	12,4	63,5	35		14,2	18,7	25,5	70	31	46	33,5	6,8	79	72	20	8,5 x 2	0,50
	1.14	.26	.41	.28	.49	2.50	1.38		.56	.74	1.00	2.76	1.22	1.81	1.32	.27	3.11	2.83	.79		1.10
DRVP-10	29	6,5	10,5	10	15,7	70	33,5		18	22,0	25,5	75	29,5	51	38	6,8	84	78	25	12 x 2	0,80
	1.14	.26	.41	.39	.62	2.76	1.32		.71	.87	1.00	2.95	1.16	2.01	1.50	.27	3.31	3.07	.98		1.76
DRVP-12	38	6,5	10,5	13	18,7	80	38		21	25,0	30	86	36,5	57,5	44,5	6,8	107	96	32	15 x 2	1,20
	1.50	.26	.41	.51	.74	3.15	1.50		.83	.98	1.18	3.39	1.44	2.26	1.75	.27	4.21	3.78	1.26		2.65
DRVP-16	38	8,5	13,5	17	23,9	104	76	38	14	25,4	54	110	49	70	54	9	128	118	45	19 x 2,5	2,50
	1.50	.33	.53	.67	.94	4.09	2.99	1.50	.55	1.00	2.13	4.33	1.93	2.76	2.13	.35	5.04	4.65	1.77		5.51
DRVP-20	49	8,5	13,5	22	30,5	127	95	47,5	16	35	57	133	49	76,5	60	9	159	147	50	25 x 3	3,90
	1.93	.33	.53	.87	1.20	5.00	3.74	1.87	.63	1.38	2.24	5.24	1.93	3.01	2.36	.35	6.26	5.79	1.97		8.60
DRVP-25	49	10,5	16,5	28,5	37,5	165	120	60	15	35,6	79,5	171	77	100	76	11	164	152	55	32 x 3	6,70
	1.93	.41	.65	1.12	1.48	6.50	4.72	2.36	.59	1.40	3.13	6.73	3.03	3.94	2.99	.43	6.46	5.98	2.17		14.77
DRVP-30	49	13	19	35	43,5	186	143	71,5	15	38,8	95	192	85	115	92	13	184	172	75	38 x 3	11,00
	1.93	.51	.75	1.38	1.71	7.32	5.63	2.81	.59	1.53	3.74	7.56	3.35	4.53	3.62	.51	7.24	6.77	2.95		24.25
DRVP-40	49	13	19	47,5	57,5	192	133,5	67,5	16	41,5	89	197	64	140	111	13	209	197	100	52 x 3	18,80
	1.93	.51	.75	1.87	2.26	7.56	5.25	2.66	.63	1.63	3.50	7.76	2.52	5.51	4.37	.51	8.23	7.76	3.94		41.45

Order Codes

DRVP - 25 - V - PM - SS

① ② ③ ④ ⑤

① Type

Flow Control Valve (Manifold Assembly)	**DRVP**

② Nominal Size DN

06	08	10	12	16	20	25	30	40

③ Sealing Material

FPM (Viton®) (standard option)	**V**
NBR (Buna-N®)	**P**
EPDM	**E**

④ Panel Mounting Nut

Without panel mounting nut (standard option)	**-**
With panel mounting nut	**PM**

⑤ Body / Spindle Material

Steel (standard option)	**-**
Stainless Steel	**SS**

Accessories / Spare Parts

Panel Mounting Kits

▪ See Page F83 for details.

Characteristics

Throttle and shut-off the flow of liquid media in direction A-B (free flow in reverse direction)

Features

- Designed for manifold mounting
- Panel mounting nuts available on request
- Graduated turning knob and coded spindle to accurately control flow
- Set-screw located on side of turning knob to lock valve in position

Media Compatibility

- Suitable for hydraulic fluids

Please consult STAUFF before using with other media.

Materials

- Body and spindle made of Steel (1.0715), zinc/iron-plated (Fe/Zn Fe Co 8 C) and free of hexavalent chromium CrVI (standard option); Stainless Steel (1.4571) version available
- Turning knob made of Polyamide (PA)
- O-rings made of FPM (Viton®); NBR (Buna-N®) and EPDM sealed version available

Consult STAUFF for alternative materials.

Technical Data

- Opening pressure: 0,5 bar / 7 PSI (4,5 bar / 65 PSI available on request)
- Maximum working pressure: 350 bar / 5000 PSI (for all sizes)
- Operating temperature range: -20 °C ... +100 °C / -4 °F ... +212 °F

Please see page F94 for detailed flow characteristics.

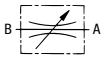
Recommended Bolts / Tightening Torques

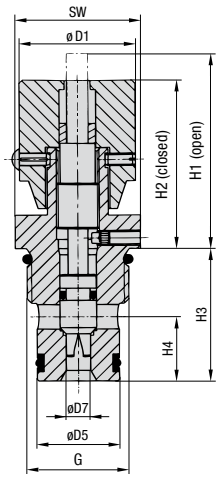
- Socket cap screws according to ISO 4762 or ANSI / ASME B18.3 recommended for installation (not included in delivery):

DRVP-06	M6 x 20 - 8.8 (9 N·m) 1/4–20 UNC x 3/4 - Gr. 5 (10 ft·lb)
DRVP-08	M6 x 25 - 8.8 (9 N·m) 1/4–20 UNC x 1 - Gr. 5 (10 ft·lb)
DRVP-10	M6 x 30 - 10.9 (12 N·m) 1/4–20 UNC x 1-1/4 - Gr. 8 (12 ft·lb)
DRVP-12	M6 x 35 - 12.9 (15 N·m) 1/4–20 UNC x 1-1/2 - Gr. 10 (14 ft·lb)
DRVP-16	M8 x 50 - 10.9 (30 N·m) 5/16–18 UNC x 2 - Gr. 8 (24 ft·lb)
DRVP-20	M8 x 55 - 12.9 (35 N·m) 5/16–18 UNC x 2-1/4 - Gr. 10 (29 ft·lb)
DRVP-25	M10 x 60 - 12.9 (70 N·m) 3/8–16 UNC x 2-1/2 - Gr. 10 (58 ft·lb)
DRVP-30	M12 x 85 - 10.9 (100 N·m) 7/16–14 x 3-1/2 - Gr. 8 (63 ft·lb)
DRVP-40	M12 x 100 - 12.9 (130 N·m) 7/16–14 x 4 - Gr. 10 (70 ft·lb)

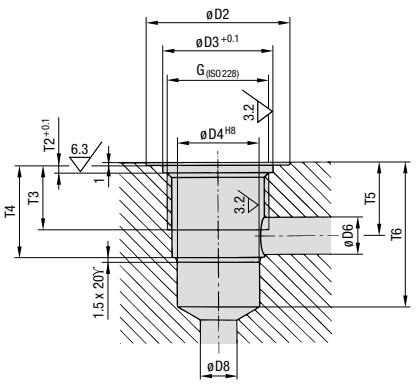
Throttle / Shut-Off Valve ▪ Type DVE (Cartridge Assembly)







Installation Details



Characteristics

Throttle and shut-off the flow of liquid media in both directions

Features
- Designed for direct installation into hydraulic manifolds with male BSP threaded stud
- Graduated turning knob and coded spindle to accurately control flow
- Set-screw located on side of turning knob to lock valve in position

Media Compatibility
- Suitable for hydraulic fluids

Please consult STAUFF before using with other media.

Materials
- Body and spindle made of Steel (1.0715), zinc/iron-plated (Fe/Zn Fe Co 8 C) and free of hexavalent chromium CrVI (standard option); Stainless Steel (1.4571) version available
- Turning knob made of Polyamide (PA)
- O-rings made of NBR (Buna-N®); FPM (Viton®) and EPDM sealed version available

Consult STAUFF for alternative materials.

Technical Data
- Maximum working pressure: 350 bar / 5000 PSI (for all sizes)
- Operating temperature range: -20 °C ... +100 °C / -4 °F ... +212 °F

Please see page F94 for detailed flow characteristics.

Dimensions

Type + Nom. Size	Thread Options G	Dimensions (mm/in) H1	H2	H3	H4	ØD1	ØD2	ØD3	ØD4	ØD5	ØD6	ØD7	ØD8	SW	T2	T3	T4	T5	T6	Weight (kg/lbs)
DVE-08	G1/2 BSP	47	41	28	12,0	29	32	24	14	14	5	5	5	27	1,9	14	17,5	15	29	0,15
		1.85	1.61	1.08	.47	1.14	1.26	.94	.55	.55	.20	.20	.20	1.06	.07	.55	.69	.59	1.14	.33
DVE-10	G1/2 BSP	64	54	31	14,5	38	32	24	16	16	8	6	8	27	1,9	14	20,5	17	33	0,25
		2.52	2.13	1.21	.57	1.50	1.26	.94	.63	.63	.31	.24	.31	1.06	.07	.55	.81	.67	1.30	.55
DVE-12	G3/4 BSP	65	55	40	17,5	38	37	30	19	19	10	8	10	32	1,9	21	29,0	24	43	0,50
		2.56	2.17	1.57	.69	1.50	1.46	1.18	.75	.75	.39	.31	.39	1.26	.07	.83	1.14	.94	1.69	1.10
DVE-16	G1 BSP	65	55	44	21,1	38	47	36	27	27	12	8	12	41	1,9	21	30,0	24	47	0,70
		2.56	2.17	1.71	.83	1.50	1.85	1.42	1.06	1.06	.47	.31	.47	1.61	.07	.83	1.18	.94	1.85	1.54

Order Codes

DVE - 16 - V - V - SS

① ② ③ ④ ⑤

① Type

Throttle / Shut-Off Valve (Cartridge Assembly)	**DVE**

② Nominal Size DN

08	**10**	**12**	**16**

③ Sealing Material

FPM (Viton®) (standard option)	**V**
NBR (Buna-N®)	**P**
EPDM	**E**

④ Connection

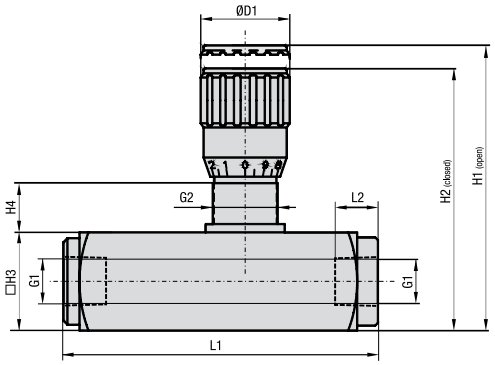
Male BSP thread (ISO 228)	**B**

⑤ Body / Spindle Material

Steel (standard option)	**-**
Stainless Steel	**SS**

Dimensional drawings: All dimensions in mm only.

Pressure Compensated Flow Control Valve ▪ Type PNDRV (In-Line Assembly)





Dimensions

Type + Nominal Size	Thread Options G1	Dimensions (mm/in) L1	L2	H1	H2	H3	H4	G2	Weight (kg/lbs)
PNDRV-08	1/4 NPT	94	12,5	88,5	81,5	30	15	M20 x 1	0,58
	7/16–20 UNF (1/4" SAE)	3.70	.49	3.48	3.21	1.18	.59		.77
	G1/4 BSP								
PNDRV-10	3/8 NPT	110,5	13	103	94,5	35	17	M25 x 1,5	0,94
	9/16–18 UNF (3/4" SAE)	4.35	.51	4.06	3.72	1.38	.67		2.09
	G3/8 BSP								
PNDRV-12	1/2 NPT	137	15,5	122	112	45	18	M30 x 1,5*	1,83
	3/4–16 UNF (1/2" SAE)	5.39	.61	4.80	4.41	1.77	.71		4.07
	G1/2 BSP								
PNDRV-16	3/4 NPT	163	17	150	138	55	24	M40 x 1,5	3,35
	1-1/16–12 UN (3/4" SAE)	6.42	.67	5.91	5.43	2.17	.94		7.44
	G3/4 BSP								

* M25 x 1,5 for version with female UN/UNF thread (SAE J514)

Order Codes

PNDRV - 12 - V - N - PM

① ② ③ ④ ⑤

① Type

Pressure Compensated Flow Control Valve (In-Line Assembly)	**PNDRV**

② Nominal Size DN

08	10	12	16

③ Sealing Material

FPM (Viton®) (standard option)	**V**
NBR (Buna-N®)	**P**
EPDM	**E**

④ Connection

Female NPT thread (ANSI B1.20.1)	**N**
Female UN/UNF thread (SAE J514)	**S**
Female BSP thread (ISO 228)	**B**

⑤ Panel Mounting Nut

Without panel mounting nut (standard option)	**-**
With panel mounting nut	**PM**

Accessories / Spare Parts

Panel Mounting Kits

- for PNDRV-08 (thread size M20x1): **PMK-810-T**
- for PNDRV-10 / 12S (thread size M25x1,5): **PMK-1012-T**
- for PNDRV-12N / -12S (thread size M30x1,5): **PMK-1212-T**
- for PNDRV-16 (thread size M40x1,5): **PMK-1616-T**

Characteristics

Throttle and shut-off the flow of liquid media in direction A-B (free flow in reverse direction) with pressure compensating feature via built-in compensating piston

Features

- Designed for in-line assembly with female NPT, SAE and BSP threaded connections
- Panel mounting nuts available on request
- Graduated turning knob to accurately control flow
- Set-screw located on side of turning knob to lock valve in position

Media Compatibility

- Suitable for hydraulic fluids

Please consult STAUFF before using with other media.

Materials

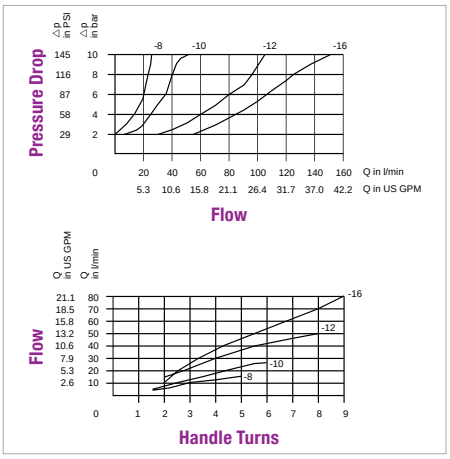
- Body made of Steel, phosphated
- Internal components made of Stainless Steel
- Turning knob made of Aluminium
- O-rings made of FPM (Viton®)
- Anti-extrusion ring made of PTFE

Consult STAUFF for alternative materials.

Technical Data

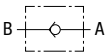
- Maximum working pressure: 210 bar / 3000 PSI (for all sizes)
- Operating temperature range: -20 °C ... +120 °C / -4 °F ... +248 °F
- Minimum filtration grade: 25 µm (absolute) to ensure the correct functioning, reduce wear and tear and increase the service life of the valve

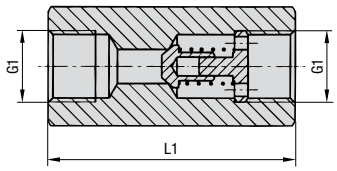
Flow Characteristics

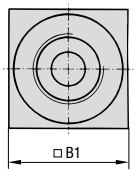


Heavy-Duty Check Valve ▪ Type RV (In-Line Assembly)









Characteristics

Allows a single-directional flow only

Features
- Designed for in-line assembly with female NPT, SAE and BSP threaded connections
- Metal-to-metal seat

Media Compatibility
- Suitable for hydraulic fluids

Please consult STAUFF before using with other media.

Materials
- Body made of Steel (1.0715), zinc/iron-plated (Fe/Zn Fe Co 8 C) and free of hexavalent chromium CrVI (standard option); Stainless Steel (1.4571) version available

Technical Data
- Opening pressure: 0,5 bar / 7 PSI (4,5 bar / 65 PSI available on request)
- Maximum working pressure: 500 bar / 7250 PSI (depending on size)
- Operating temperature range: -20 °C ... +100 °C / -4 °F ... +212 °F

Please see page F94 for detailed flow characteristics.

Dimensions

Type + Nominal Size	Thread Options G1	Dimensions (mm/in) L1	B1	Working Pressure PN (bar/PSI)	Weight (kg/lbs)
RV-06	1/8 NPT G1/8 BSP	45	16	500	0,10
		1.77	.63	7250	.22
RV-08	1/4 NPT 7/16–20 UNF (1/4" SAE) G1/4 BSP	55	25	500	0,20
		2.17	.98	7250	.44
RV-10	3/8 NPT 9/16–18 UNF (3/4" SAE) G3/8 BSP	65	30	500	0,40
		2.56	1.18	7250	.88
RV-12	1/2 NPT 3/4–16 UNF (1/2" SAE) G1/2 BSP	73	35	500	0,70
		2.87	1.38	7250	1.54
RV-16	3/4 NPT 1-1/16–12 UN (3/4" SAE) G3/4 BSP	88	45	500	1,20
		3.46	1.77	7250	2.64
RV-20	1 NPT 1-5/16–12 UN (1" SAE) G1 BSP	127	50	500	2,00
		5.00	1.97	7250	4.40
RV-25	1-1/4 NPT 1-5/8–12 UN (1-1/4" SAE) G1-1/4 BSP	143	60	400	3,30
		5.63	2.36	5800	7.26
RV-30	1-1/2 NPT 1-7/8–12 UN (1-1/2" SAE) G1-1/2 BSP	143	70	315	4,20
		5.63	2.75	4500	9.24
RV-40	2 NPT 2-1/2–12 UN (2" SAE) G2 BSP	165	90	315	7,20
		6.49	3.54	4500	15.84

Order Codes

RV - 25 - 07 - N - SS

① ② ③ ④ ⑤

① Type

Heavy-Duty Check Valve (In-Line Assembly)	**RV**

② Nominal Size DN

06	08	10	12	16	20	25	30	40

③ Opening Pressure

0,5 bar / 7 PSI (standard option)	**07**
4,5 bar / 65 PSI	**65**

Consult STAUFF for alternative opening pressures.

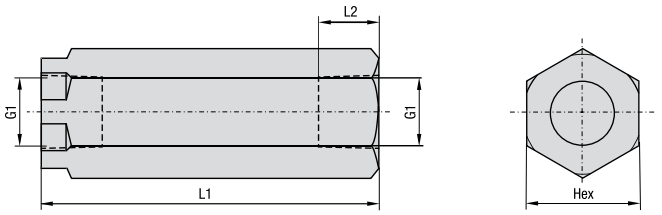
④ Connection

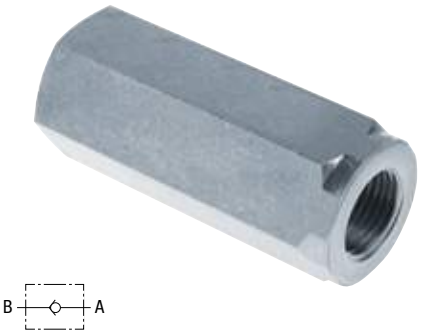
Female NPT thread (ANSI B1.20.1)	**N**
Female UN/UNF thread (SAE J514)	**S**
Female BSP thread (ISO 228)	**B**

⑤ Body Material

Steel (standard option)	**-**
Stainless Steel	**SS**

Medium-Duty Check Valve ▪ Type RVM (In-Line Assembly)





Dimensions

Type + Nominal Size	Thread Options G1	Dimensions (mm/in) L1	L2	Hex	Working Pressure PN (bar/PSI)	Weight (kg/lbs)
RVM-08	1/4 NPT G1/4 BSP	63,0	12,5	22	400	0,17
		2.48	.49	.87	5800	.38
RVM-10	3/8 NPT G3/8 BSP	69,0	12,5	27	400	0,26
		2.72	.49	1.06	5800	.58
RVM-12	1/2 NPT G1/2 BSP	80,5	15,5	32	400	0,42
		3.17	.61	1.26	5800	.93
RVM-16	3/4 NPT G3/4 BSP	99,5	17,0	36	400	0,61
		3.92	.67	1.42	5800	1.36

Order Codes

RVM - 12 - 07 - N

① ② ③ ④

① Type

Medium-Duty Check Valve (In-Line Assembly)	**RVM**

② Nominal Size DN

08	**10**	**12**	**16**

③ Opening Pressure

0,5 bar / 7 PSI (standard option)	**07**
2 bar / 30 PSI	**30**
4 bar / 60 PSI	**60**

Consult STAUFF for alternative opening pressures.

④ Connection

Female NPT thread (ANSI B1.20.1)	**N**
Female BSP thread (ISO 228)	**B**

Characteristics

Allows a single-directional flow only

Features

- Designed for in-line assembly with female NPT and BSP threaded connections
- Ideal for medium-duty applications
- Metal-to-metal seat

Media Compatibility

- Suitable for hydraulic fluids

Please consult STAUFF before using with other media.

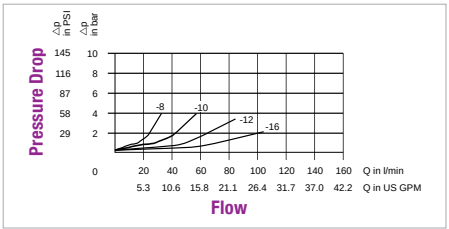
Materials

- Body made of Steel, zinc/nickel-coated (free of hexavalent chromium CrVI)
- Ball made of Stainless Steel

Technical Data

- Opening pressure: 0,5 bar / 7 PSI
- Field replaceable springs with a pressure setting of 2 bar / 30 PSI or 4 bar / 60 PSI
- Maximum working pressure: 400 bar / 5800 PSI (for all sizes)
- Operating temperature range: -20 °C ... +100 °C / -4 °F ... +212 °F

Flow Characteristics



Accessories / Spare Parts

Field replaceable springs

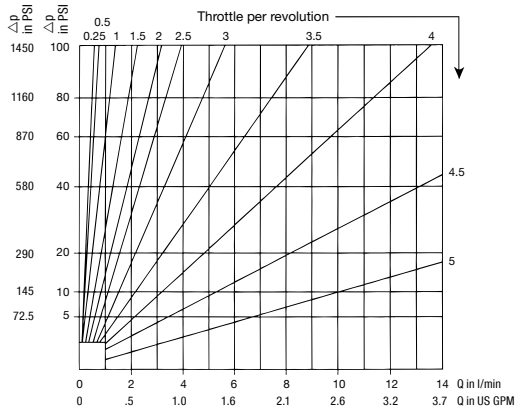
- for RVM-08 (setting of 2 bar / 30 PSI): **RVM-08-30**
- for RVM-08 (setting of 4 bar / 60 PSI): **RVM-08-60**
- for RVM-10 (setting of 2 bar / 30 PSI): **RVM-10-30**
- for RVM-10 (setting of 4 bar / 60 PSI): **RVM-10-60**
- for RVM-12 (setting of 2 bar / 30 PSI): **RVM-12-30**
- for RVM-12 (setting of 4 bar / 60 PSI): **RVM-12-60**
- for RVM-16 (setting of 2 bar / 30 PSI): **RVM-16-30**
- for RVM-16 (setting of 4 bar / 60 PSI): **RVM-16-60**

Consult STAUFF for alternative pressure settings.

Nominal Flow Rate vs. Pressure Drop

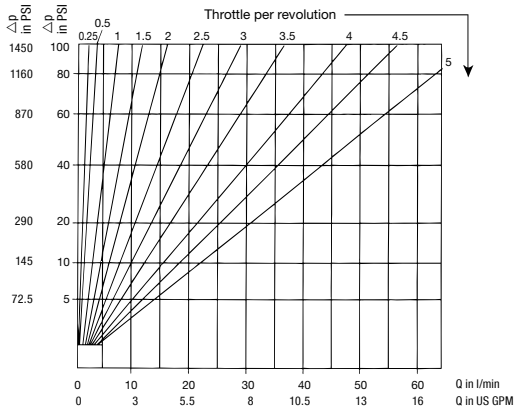
DV
DRV
DVP
DRVP
DVE

DN 06



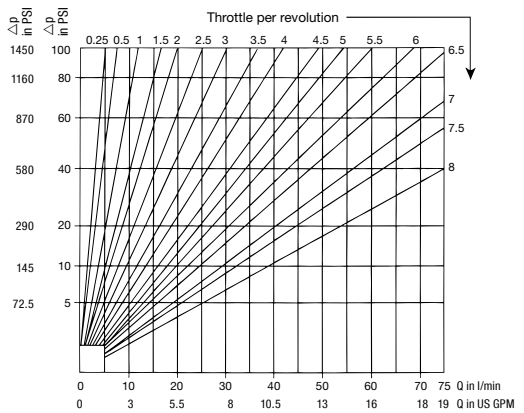
DV
DRV
DVP
DRVP
DVE

DN 08



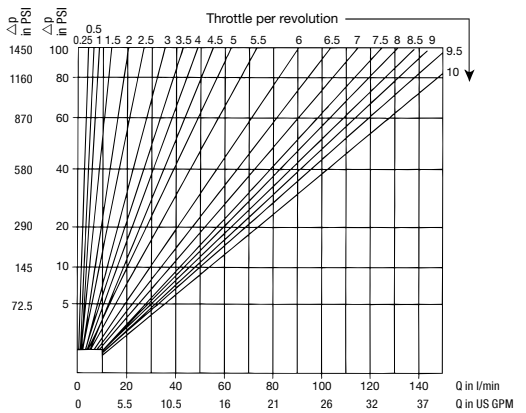
DV
DRV
DVP
DRVP
DVE

DN 10



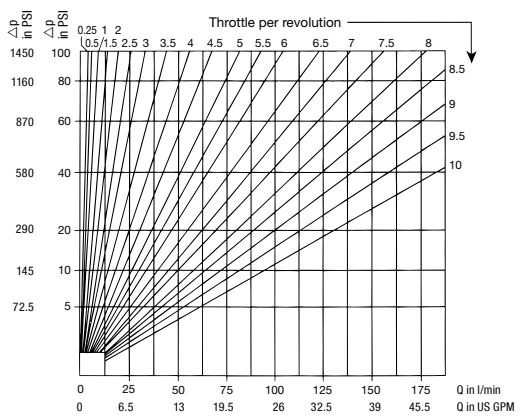
DV
DRV
DVP
DRVP
DVE

DN 12



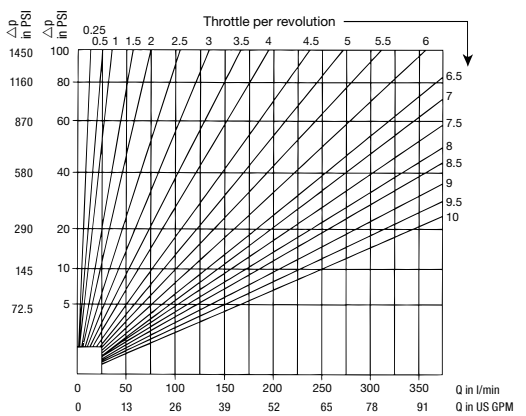
DV
DRV
DVP
DRVP
DVE

DN 16



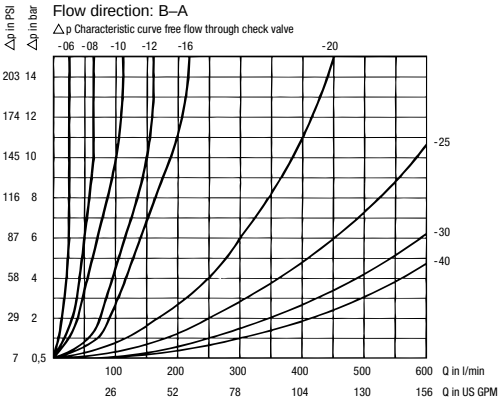
DV
DRV
DVP
DRVP
DVE

DN 20-40



DRV
DRVP
RV

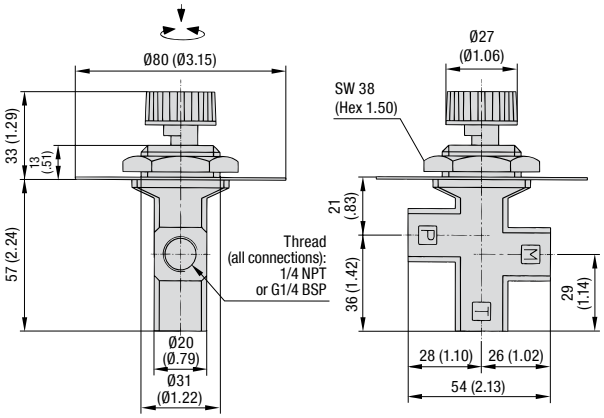
DN 06-40

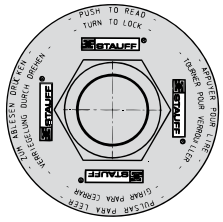


Please note: The flow characteristics mentioned on this page are valid for mineral oils with a density of 0,86 kg/dm³ and the kinematic viscosity of 35 mm²/s (35 cSt). The characteristics have been determined in accordance to ISO 3968.

Gauge Isolator Valve ▪ Type SWS-S1 (Single Station)







Characteristics

Effective protection of pressure gauges against overload caused by pressure peaks

Features
- Suitable for panel installation
- Max. panel thickness of 5 mm / .20 in
- Fixed with hexagonal nut
- Push button to read and turn to lock
- Multilingual instructions printed on face plate

Media Compatibility
- Suitable for hydraulic fluids

Please consult STAUFF before using with other media.

Materials
- Body made of Cast Iron
- Spindle made of Steel
- Push / turn button made of Polyamide (PA)
- Face plate made of Aluminium
- O-rings made of NBR (Buna-N®)

Technical Data
- Maximum working pressure: 400 bar / 5800 PSI
- Operating temperature range: -30 °C ... +115 °C / -22 °F ... +239 °F

Order Codes

SWS - N04 - S1

① ② ③

① Type

Gauge Isolator Valve	**SWS**

② Connection Thread

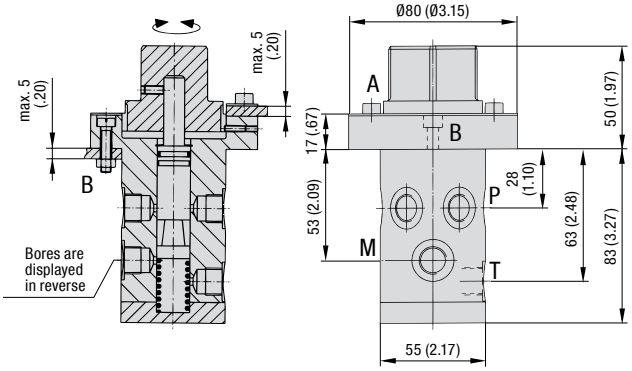
1/4 NPT (for all connections)	**N04**
G1/4 BSP (for all connections)	**B04**

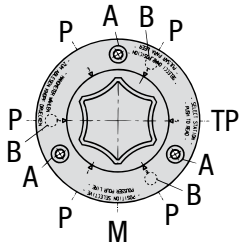
③ Style

Single station	**S1**

Gauge Isolator Valve ▪ Type SWS-M (Multi Station)







Mounting Bores (ø6 mm / .24 in)
- **A** 3 bores, equally spaced (120°), BCD ø65 mm / 2.56 in
- **B** 3 bores, equally spaced (120°), BCD ø65 mm / 2.56 in

Connections (7/16–20 UNF or G1/4 BSP)
- **P** 6 bores, equally spaced (60°)
- **M** 1 bore
- **T** 1 bore

Characteristics

Pressure measurement on six positions in the hydraulic circuit with only one pressure gauge

Features
- Suitable for bulkhead installation
- Max. panel thickness of 5 mm / .20 in
- Fixed with connection flange and screws: 3 hexagon head bolts M5 x 10 (DIN 933) for mounting the printed panel and 3 socket cap screws M5 x 25 (DIN 912) with washers (DIN 127) and nut (DIN 934) for panel installation included in delivery
- Turn button to select position of measurement
- Multilingual instructions printed on panel

Media Compatibility
- Suitable for hydraulic fluids

Please consult STAUFF before using with other media.

Materials
- Body made of Cast Iron
- Spindle made of Steel
- Push / turn button made of Polyamide (PA)
- Face plate and end cover made of Aluminium
- O-rings made of NBR (Buna-N®)

Technical Data
- Maximum working pressure: 400 bar / 5800 PSI
- Operating temperature range: -30 °C ... +115 °C / -22 °F ... +239 °F

Order Codes

SWS - U04 - M

① ② ③

① Type

Gauge Isolator Valve	**SWS**

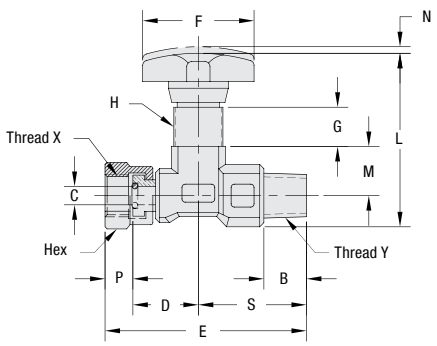
② Connection Thread

7/16–20 UNF (1/4" SAE) for all connections	**U04**
G1/4 BSP for all connections	**B04**

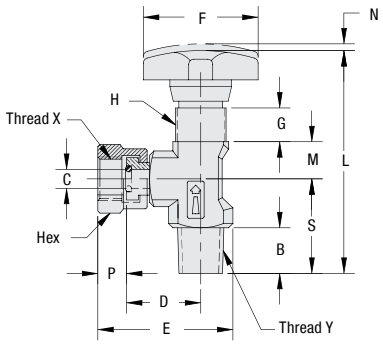
③ Style

Multi station	**M**

Gauge Isolator Needle Valve ▪ Types SWS-A1/A2 (Single Station)



In-Line Version



90° Version



Dimensions

Type	Thread X (Female)	Thread Y (Male)	Dimensions (mm/in) B	C	D	E	F	G	H	L	M	N	P	S	Hex	Weight (kg/lbs)
SWS-A1	1/4 NPT G1/4 BSP	1/4 NPT 7/16–20 UNF (1/4" SAE) R1/4 BSPT	13	5,6	20	61,5	34	12	M15 x 1	53	15	2	8,5	33	18	0,13
			.51	.22	.78	2.42	1.34	.47		2.09	.59	.08	.33	1.30	.71	.22
SWS-A2	1/4 NPT G1/4 BSP	1/4 NPT R1/4 BSPT	13,5	5,6	22	40	34	10	M15 x 1	66	11	2	8,5	28	18	0,11
			.53	.22	.87	1.57	1.34	.39		2.60	.43	.08	.33	1.10	.71	.44

Order Codes

SWS - N04 - A1 - PM

① ② ③ ④

① Type

Gauge Isolator Valve	SWS

② Connection Threads

Female 1/4 NPT and Male 1/4 NPT	N04
Female 1/4 NPT and Male 7/16–20 UNF (1/4" SAE) (only available for in-line version)	S04
Female G1/4 BSP and Male R1/4 BSPT	B04

③ Style

Single station, in-line version	A1
Single station, 90° version	A2

④ Panel Mounting Kit

Without panel mounting kit (standard option)	-
With panel mounting kit	PM

Characteristics

Effective protection of pressure gauges against overload caused by pressure peaks

Features

- Designed for in-line assembly (type A1) or 90° assembly (type A2) with female NPT / male NPT, female NPT / male SAE or female BSP / male BSPT threaded connections
- Panel mounting nuts available on request
- Rotating swivel nut allows for accurate orientation of the pressure gauge

Materials

- Body made of Steel, zinc/nickel-coated (free of hexavalent chromium CrVI)
- Spindle made of Steel
- Hand-wheel made of Polyamide (PA)
- O-rings made of NBR (Buna-N®)
- Anti-extrusion ring made of PTFE

Consult STAUFF for alternative materials.

Technical Data

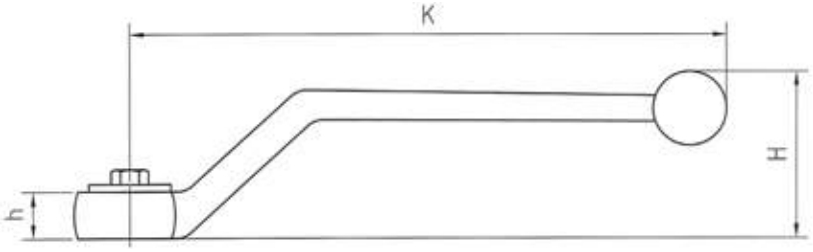
- Maximum working pressure: 400 bar / 5800 PSI (for all sizes)
- Operating temperature range: -20 °C ... +100 °C / -4 °F ... +212 °F



Pressure Gauges

Please see the **Diagtronics** section of this product catalogue for details on our full range of analog and digital pressure measurement equipment.

Levers



Zinc ▪ Off-Set Design

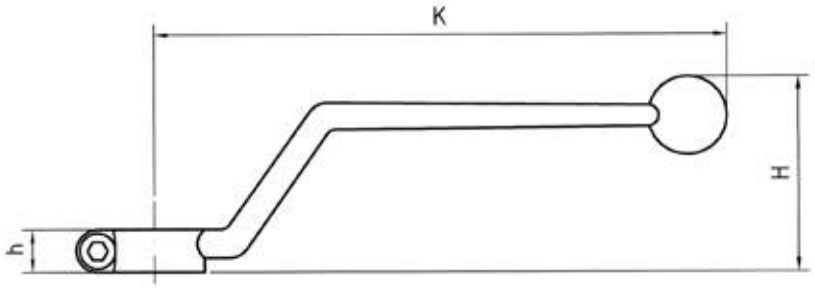
SW	Dimensions (mm/in) K	h	H	Weight (kg/lbs)	Order Codes
7	80	6,5	30	0,03	SW7/OS-ZN
	3.15	.26	1.18	.07	
9	115	8,7	45	0,09	SW9/OS-ZN
	4.52	.34	1.77	.20	

Steel ▪ Off-Set Design

SW	Dimensions (mm/in) K	h	H	Weight (kg/lbs)	Order Codes
7	80	6,5	30	0,05	SW7/OS-S
	3.15	.26	1.18	.11	
9	115	9	47	0,09	SW9/OS-S
	4.52	.35	1.85	.20	
14	117	12	64	0,23	SW14/OS-S
	4.61	.47	2.52	.51	
17	306	17	80	0,66	SW17/OS-S
	12.04	.69	3.15	1.45	

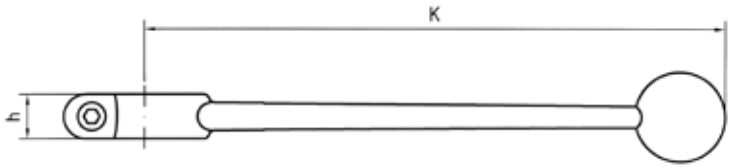
Stainless Steel V4A ▪ Off-Set Design

SW	Dimensions (mm/in) K	h	H	Weight (kg/lbs)	Order Codes
7	60	6,5	22	0,04	SW7/OS-SS
	2.36	.26	.87	.09	
9	115	9	47	0,10	SW9/OS-SS
	4.52	.35	1.85	.22	
14	173	12	64	0,23	SW14/OS-SS
	6.8	.47	2.52	.51	
17	227,5	15	90	0,66	SW17/OS-SS
	8.96	.59	3.54	1.45	



Aluminium ▪ Off-Set Design

SW	Dimensions (mm/in) K	h	H	Weight (kg/lbs)	Order Codes
12	160	12	55	0,07	SW12/OS-AL
	6.30	.47	2.17	1.54	



Zinc ▪ Straight Design

SW	Dimensions (mm/in) K	h	Weight (kg/lbs)	Order Codes
9	155	10	0,09	SW9/ST-ZN
	6.10	.29	.20	
14	200	14	0,22	SW14/ST-ZN
	7.87	.55	.48	

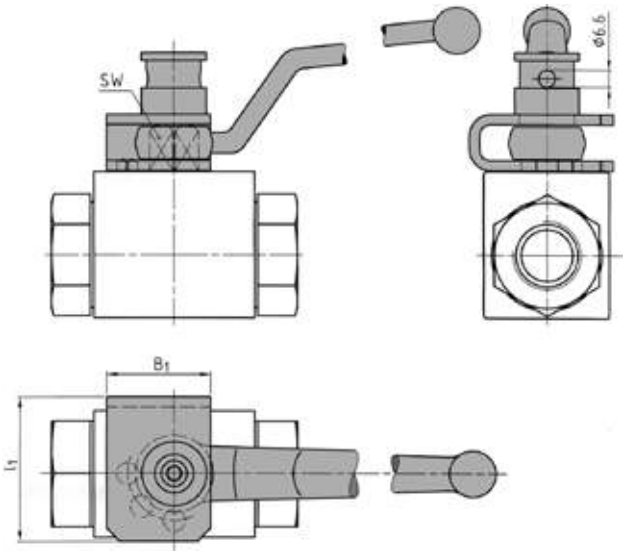
Aluminium ▪ Straight Design

SW	Dimensions (mm/in) K	h	Weight (kg/lbs)	Order Codes
9	150	11	0,06	SW9/ST-AL
	5.91	.43	.13	
14	200	12	0,11	SW14/ST-AL
	7.87	.47	.24	
17	320	16	0,27	SW17/ST-AL
	12.60	.63	.59	

Locking Device ▪ Type LD1

Dimensions / Order Codes

Nominal Size DN	SW	Dimensions (mm/in) B	L1	Order Codes
4-13	9	9	25	LD1-SW9
		.35	.98	
16	12	12	40	LD1-SW12
		.47	1.57	
20-25	14	14	40	LD1-SW14
		.55	1.57	
32-50	17	17	50	LD1-SW17
		.67	1.97	



Characteristics

Locking kit consisting of shackle, sliding sleeve, link with screw and Steel lever.

Features
- Universal field-installed locking device
- High security: Cannot be dismounted when locked

Suitability

Type	Description
BBV	Block Body Valve with Threaded Connections (SW 9-14)
FBV	Forged Body Valve with Threaded Connections (SW 17)
HBV	High-Pressure Block Body Valve with Threaded Connections (SW 9-14)
BBV22/23	Block Body Valve with SAE Split Flange Connections (SW 9-14)
FBV22/23	Forged Body Valve with SAE Split Flange Connections (SW 17)

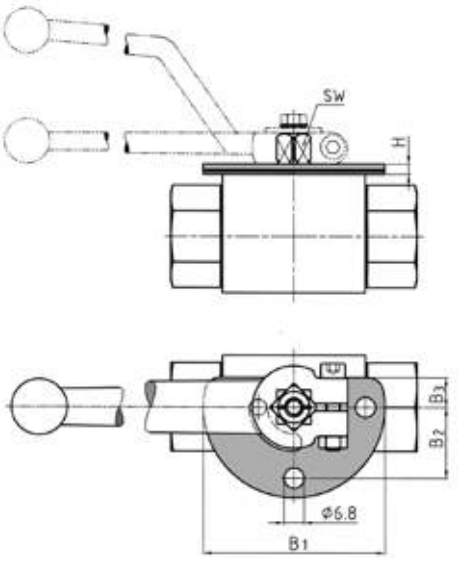
Type	Description
BBV	Block Body Valve with SAE Flange Connections (SW 9-14)
FBV	Forged Body Valve with SAE Flange Connections (SW 17)
BBV25	Block Body Valve (Two-Way Selector) for Manifold Mounting (SW 9-17)
BBV35	Block Body Valve (Three-Way Selector) for Manifold Mounting (SW 9-17)
BBVS35	Block Body Valve (Three-Way Selector) for Manifold Mounting (SW 9-17)

Type	Description
CBV	Block Body Valve (Three-Way Selector) with Threaded Connections (SW 9-17)
CBVS	Block Body Valve (Three-Way Selector) with Threaded Connections (SW 9-17)
KHZ	Compact Block Body Valve for Manifold or In-Line Assembly

Locking Device ▪ Type LD2

Dimensions / Order Codes

Nominal Size DN	SW	Dimensions (mm/in) H	B1	B2	B3	Order Codes
4-8	9	3,5	61	24	10	LD2-DN4-8
		.14	2.41	.94	.39	
10-13	9	3,5	61	24	10	LD2-DN10-13
		.14	2.41	.94	.39	
16	12	4,5	64	25,5	12	LD2-DN16
		.18	2.52	1.00	.47	
20-25	14	4,5	84	35,5	14	LD2-DN20-25
		.18	3.31	1.40	.55	
32-50	17	4,5	136	61,5	15	LD2-DN32-50
		.18	5.35	2.42	.59	



Characteristics

Locking kit consisting of locking plate, stopping disk and ring.

Features
- Field-installed locking device
- Can be dismounted after disassembly of lever

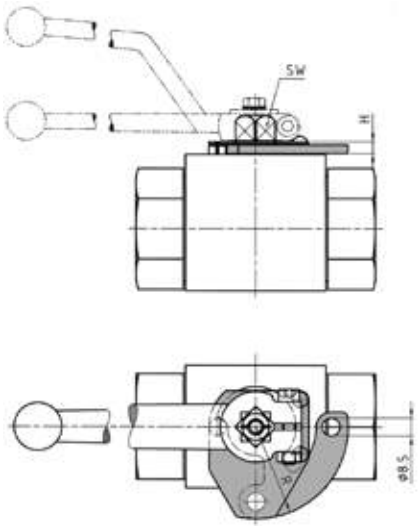
Suitability

Type	Description
BBV	Block Body Valve with Threaded Connections (SW 9-14)
FBV	Forged Body Valve with Threaded Connections (SW 17)

Type	Description
BBV22/23	Block Body Valve with SAE Split Flange Connections (SW 9-14)
FBV22/23	Forged Body Valve with SAE Split Flange Connections (SW 17)

Type	Description
CBV (≤DN25)	Block Body Valve (Three-Way Selector) with Threaded Connections

Locking Device ▪ Type LD3



Dimensions / Order Codes

Nominal Size DN	SW	Dimensions (mm/in) H	R	Order Codes
4-13	9	4	37	LD3-SW9-SS
		.16	1.47	
16	12	4,3	40	LD3-SW12-SS
		.17	1.57	
20-25	14	5,5	43,5	LD3-SW14-SS
		.22	1.71	
32-50	17	6	69,5	LD3-SW17-SS
		.24	2.74	

Characteristics

Only available in combination with suitable ball valve.

Features

- Factory-installed locking device
- High security: Cannot be dismounted when locked

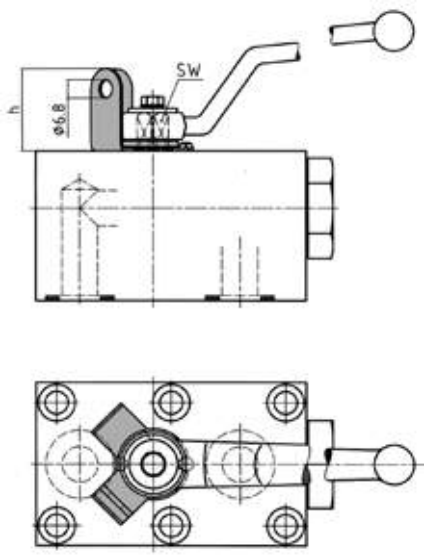
Suitability

Type	Description
BBV	Block Body Valve with Threaded Connections

Type	Description
FBV	Forged Body Valve with Threaded Connections

Type	Description
CBV (≤DN25)	Block Body Valve (Three-Way Selector) with Threaded Connections

Locking Device ▪ Type LD4



Dimensions / Order Codes

SW	Dimensions (mm/in) H	Order Codes
7	24	LD4-SW7-SS
	.94	
9 *	28	LD4-SW9-SS
	1.10	
14 *	34,5	LD4-SW14-SS
	1.36	
17	44	LD4-SW17-SS
	1.73	

* Lever displaced by 180°

Characteristics

Locking kit consisting of locking plate, stopping disk and ring.

Features

- Universal field-installed locking device (for off-set lever)
- Can be dismounted after disassembly of lever

Suitability

Type	Description
BBV	Block Body Valve with Threaded Connections
FBV	Forged Body Valve with Threaded Connections
HBV	High-Pressure Block Body Valve with Threaded Connections
BBV29	Round Body Valve with Direct SAE Flange Connections
BBV2D	Round Body Valve with ISO Flange Connections
BBV2Y	Round Body Valve with CETOP Flange Connections

Type	Description
BBV25	Block Body Valve (Two-Way Selector) for Manifold Mounting
BBV35	Block Body Valve (Three-Way Selector) for Manifold Mounting
BBVS35	Block Body Valve (Three-Way Selector) for Manifold Mounting
CBV	Block Body Valve (Three-Way Selector) with Threaded Connections
CBV	Block Body Valve (Three-Way Selector) with SAE Flange Connections
CBVS	Block Body Valve (Three-Way Selector) with Threaded Connections
LBV	Block Body Valve (Three-Way Selector) with Threaded Connections
TBV	Block Body Valve (Three-Way Selector) with Threaded Connections
TBV	Block Body Valve (Four-Way Selector) with Threaded Connections
XBV	Block Body Valve (Four-Way Selector) with Threaded Connections

Locking Device ▪ Type LD5A

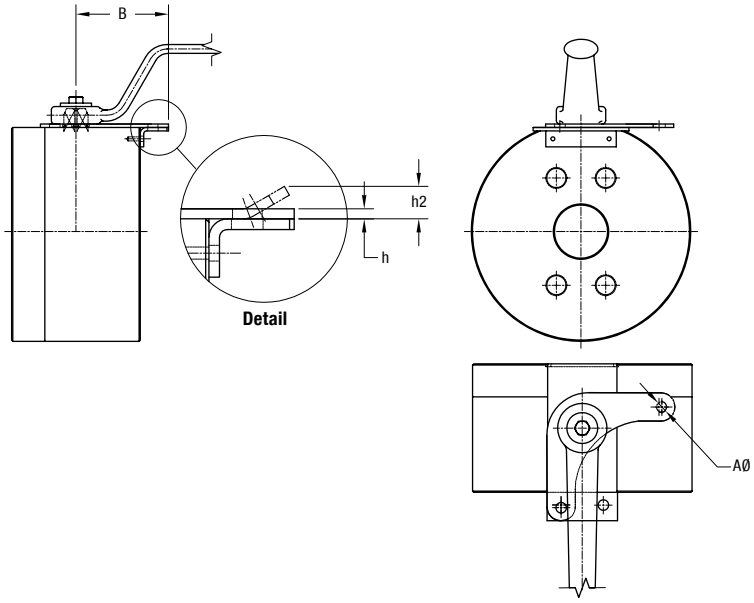
Dimensions / Order Codes

STAUFF Size	SW	Dimensions (mm/in) ØA	B	h	h2	Order Codes
08	12	8,5 .33	59 2.32	2 .08		LD5A-SW12
12-16	14	8,5 .33	64 2.52	2 .08		LD5A-SW14
20-32	17	9,5 .37	83 3.27	2 .08		LD5A-SW17
40	16	9,5 .37	102 4.01	3 .12		LD5A-40
48	19	9,5 .37	93 3.66		27 1.06	LD5A-48
64	24	9,5 .37	113 4.45	3 .12		LD5A-64
80	36	9,5 .37	134 5.28	3 .12		LD5A-80

Suitability

Type	Description
BBV29	Round Body Valve
BBV27/28	Round Body Valve
BBVF	Round Body Valve

Please consult STAUFF for use with types BBV2D (direct ISO 6164 flange connection) and BBV2Y (direct CETOP flange connection).



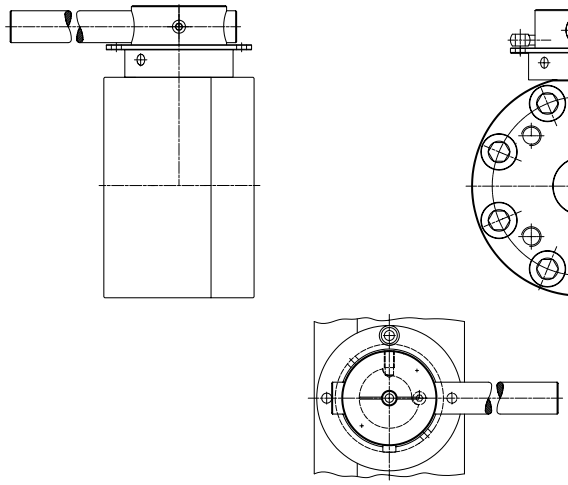
Locking Device ▪ Type LD5B

Order Codes

STAUFF Size	SW	Order Codes
40	16	LD5B-40
48	19	LD5B-48
64	24	LD5B-64

Suitability

Type	Description
BBV27/28	Round Body Valve with Direct SAE Flange Connections
BBVF	Round Body Valve with DIN Flange Connections with Butt Weld Ends
BBV2Y	Round Body Valve with Direct ISO 6164 Flange Connection
BBV2D	Round Body Valve with Direct CETOP Flange Connection



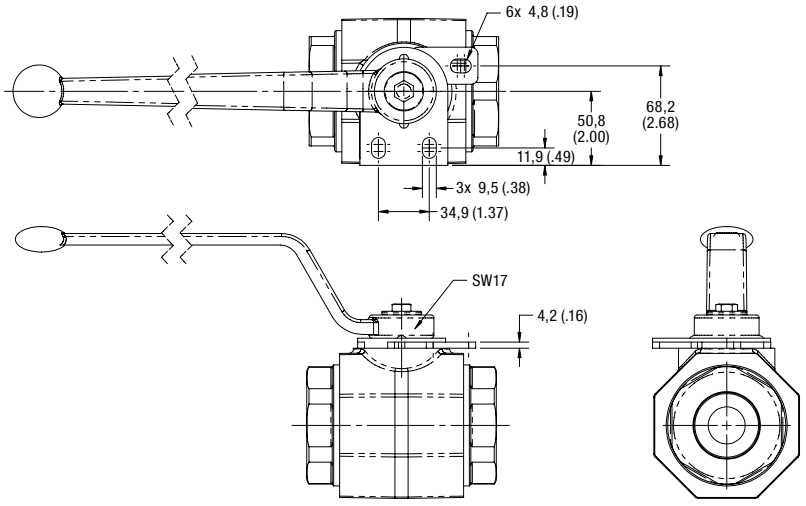
Locking Device ▪ Type LD6

Order Codes

Nominal Size DN	SW	Order Codes
20-32	17	LD6-SW17

Suitability

Type	Description
FBV	Forged Body Valve with Threaded Connections
FBV22/23	Forged Body Valve with SAE Split Flange Connections
FBV	Forged Body Valve with SAE Flange Connections



Dimensional drawings: All dimensions in mm (in).

Double-Acting Pneumatic Actuators ▪ Type EDA
Single-Acting Pneumatic Actuators ▪ Type ESA

Warning: The selection charts are only valid for the following ball valve types supplied by STAUFF: BBV, FBV or CBV (all ending in ... K, ... M or ... H)



Most STAUFF ball valves can be factory-mounted to compact, efficient double-acting or single-acting pneumatic actuators for both high-pressure and low-pressure applications.

The actuators feature simple, robust construction and are suitable for applications with high cycle requirements.

Please note: The minimum air supply for STAUFF actuators is usually 5,5 bar / 80 PSI. They are designed for 90° open / close applications only and should not be used for valve throttling.

Select the size of your pneumatic actuator from the selection charts on the right and consult STAUFF for further information.

Limit Switches

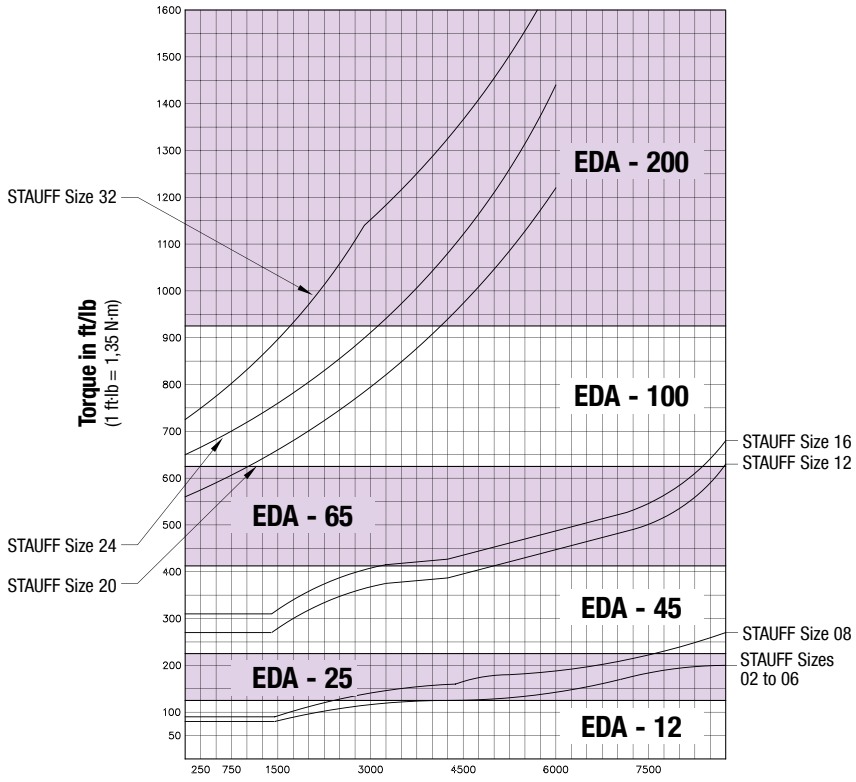


Electric actuator packages as well as solenoid valves and limit switches are also available and can also be offered for different valve styles and sizes.

Please consult STAUFF for further information.

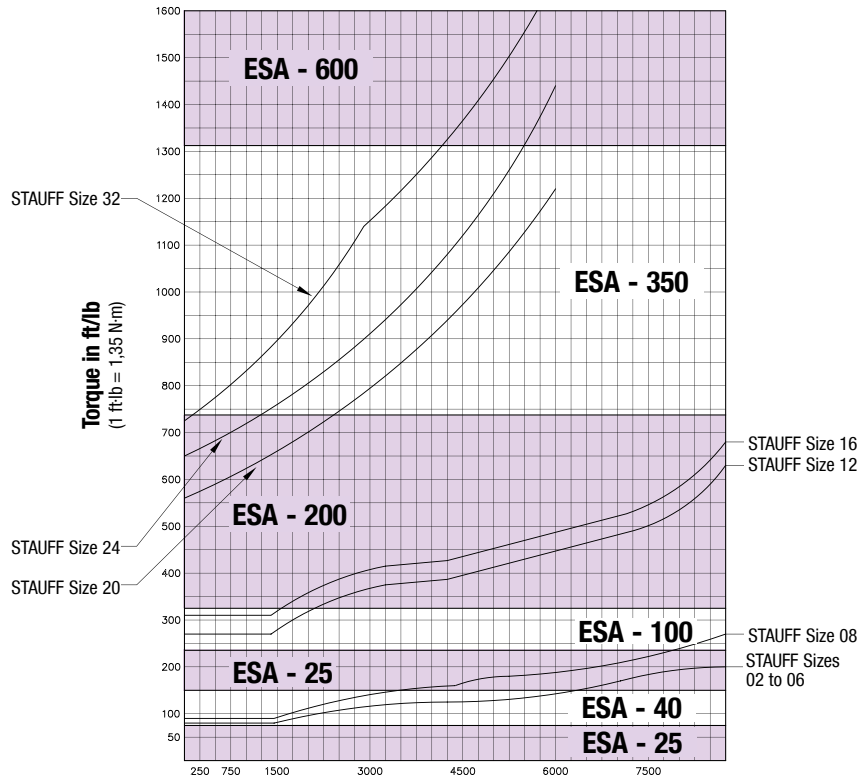
Selection Chart for Double-Acting Pneumatic Actuators EDA

for Two-Way Ball Valves used with Standard Mineral Oil according to DIN 51524 T1 and T2



Selection Chart for Single-Acting Pneumatic Actuators ESA

for Two-Way Ball Valves used with Standard Mineral Oil according to DIN 51524 T1 and T2

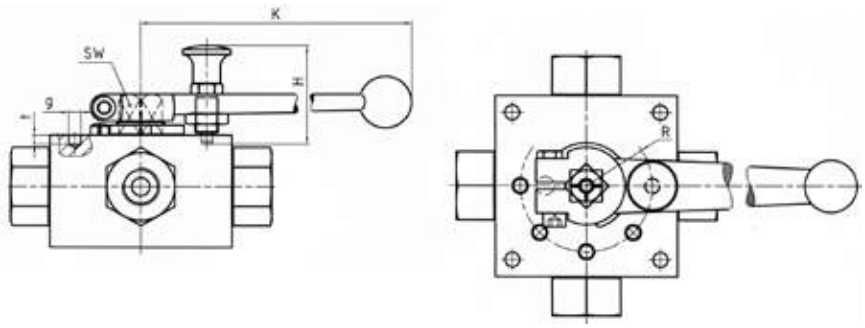


Ball Valves with Detent

Dimensions

Multi-Way Ball Valves (Types LBV / TBV / XBV)

STAUFF Size	Nominal Size DN	Dimensions (mm/in) SW	K	H	R	g	t
02	4	12	175	45	20	6	7
		.47	6.89	1.77	.79	.24	.28
04	6	12	175	45	20	6	7
		.47	6.89	1.77	.79	.24	.28
05	8	14	200	45	29	6	4
		.55	7.87	1.77	1.14	.24	.16
06	10	14	200	45	29	6	4
		.55	7.87	1.77	1.14	.24	.16
08	13	14	200	45	29	6	4
		.55	7.87	1.77	1.14	.24	.16
10	16	17	200	45	29	6	4
		.67	7.87	1.77	1.14	.24	.16
12	20	17	240	45	28	6	4
		.67	9.45	1.77	1.10	.24	.16
16	25	17	240	45	28	6	4
		.67	9.45	1.77	1.10	.24	.16



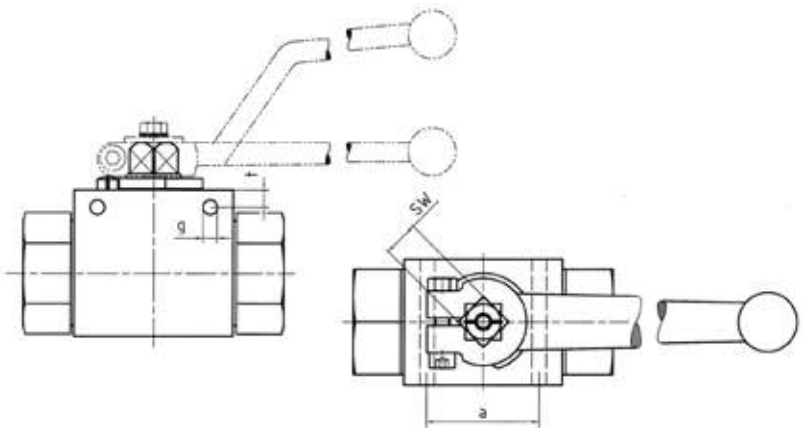
Please consult STAUFF for further information.

Ball Valves with Assembly Holes

Dimensions

Block Body Ball Valves (Types BBV / CBV / CBVS)

STAUFF Size	Nominal Size DN	Dimensions (mm/in) SW	a	g	t
02	4	9	31	4,3	4,5
		.35	1.22	.17	.18
04	6	9	31	4,3	4,5
		.35	1.22	.17	.18
05	8	9	31	4,3	4,5
		.35	1.22	.17	.18
06	10	9	32	4,3	4
		.35	1.26	.17	.16
08	13	9	32	4,3	4
		.35	1.26	.17	.16
10	16	12	32	5,2	6
		.47	1.26	.20	.24
12	20	14	44	6,2	6
		.55	1.73	2.44	.24
16	25	14	44	6,3	6
		.55	1.73	.25	.24



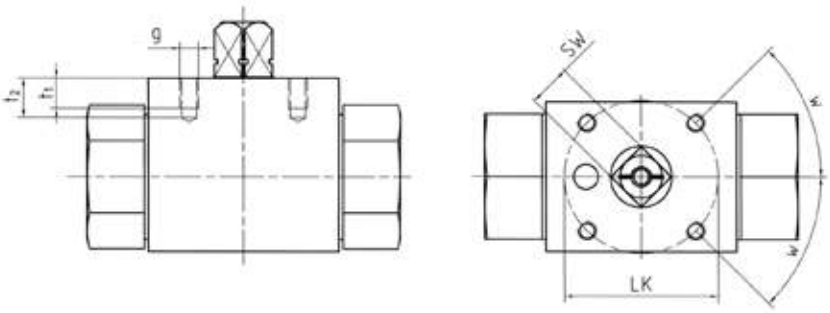
Please consult STAUFF for further information.

Ball Valves with Assembly Threads

Dimensions

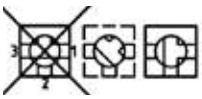
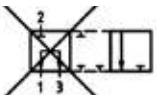
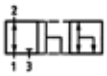
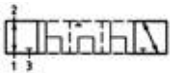
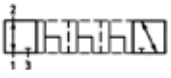
Block Body Ball Valves (Types BBV / HBV / CBV / CBVS up to STAUFF Size 16)
Forged Body Ball Valves (Types FBV from STAUFF Size 20 on)

STAUFF Size	Nominal Size DN	Dimensions (mm/in) SW	LK	g	t1	t2	w	ISO 5211
02	4	9	36	M5	6	7,5	30° *	F03 *
		.35	1.42		.24	.30		
04	6	9	36	M5	6	7,5	30° *	F03 *
		.35	1.42		.24	.30		
05	8	9	36	M5	6	7,5	30° *	F03 *
		.35	1.42		.24	.30		
06	10	9	36	M5	7	9	45°	F03
		.35	1.42		.28	.35		
08	13	9	36	M5	6	8	45°	F03
		.35	1.42		.24	.31		
10	16	12	42	M5	8	10	45°	F04
		.47	1.65		.31	.39		
12	20	14	50	M6	10	14	45°	F05
		.55	1.97		.39	.55		
16	25	14	50	M6	10	12	45°	F05
		.55	1.97		.39	.47		
20	32	17	50	M6	8	12	45°	F05
		.67	1.97		.31	.47		
24	40	17	50	M6	8	12	45°	F05
		.67	1.97		.31	.47		
32	50	17	50	M6	8	12	45°	F05
		.67	1.97		.31	.47		

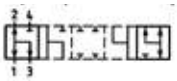
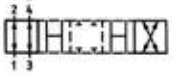
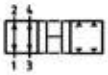
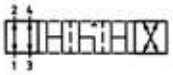
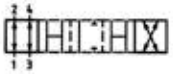
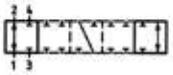


* 30° is not corresponding to ISO 5211
Please consult STAUFF for further information.

Alternative Porting Patterns

Type	Symbol	Porting Pattern		Stop of End Position	Operating Angle	Overlap
BBV35	LLu		58-BBV35		90°	negative
BBVS358	Lu		57-BBVS35		180°	negative
		* Pressure inlet possible from all ports! Must be operated without pressure!				
CBV	L		50-CBV		90°	negative
	T		51-CBV		90°	negative
CBVS	L		55-CBVS *		90°	negative
	T		56-CBVS *		90°	negative
		* Pressure inlet possible from all ports! Must be operated without pressure!				
Not Allowed	T					
Three-Way LBV/ TBV with Stop of End Position	L		01		90°	positive
	T		02		90°	positive
	LL		03		45°	negative
	TL		04		45°	negative
	LI		06		90°	negative
	TL		08		90°	negative
	TI		09		90°	negative

Alternative Porting Patterns

Type	Symbol	Porting Pattern		Stop of End Position	Operating Angle	Overlap
Four-Way TBV / XBV with Stop of End Position	T		13		90°	positive
	X		16		90°	negative with closed position
	X		15		45°	negative
	XI		16		45°	negative
	XI		17		90°	negative
	LI		18		90°	negative
	XT		19		90°	negative
	TL		21		90°	negative
	XL		22		90°	negative
	XL		23		90°	negative
	L		24		180°	positive

Highest-Pressure Ball Valves



800 bar / 1200 PSI ball valve combination for alternating pressure demands from 6 bar / 87 PSI up to 800 bar / 12000 PSI working in a hose testing plant.



Ball valve for a test bed: The customers demand was to apply high pressure and great volume to the specimen in a short time.



Descaling of steel sheets and profiles.

The STAUFF range of valves have stood the test of time for ultra high pressure applications up to 800 bar / 12000 PSI.

The high demands on ball valves will be maintained through the utilisation of high quality STAUFF specified materials. The extreme loads on the seals caused by the high pressures will be absorbed by a special chambering of the seals. Additionally the sealing system is protected against erosion and therefore rapid wear.

The ball valves are utilised in Test Stations, Steel Works, Cleaning and Cutting Systems.

These valves are being utilised:

For High pressure water blasting
- internal cleaning of reactors, containers and mixers
- sewer cleaning
- pipe cleaning
- surface treatment like chamfering, descaling, varnish removal

For process and industrial technology
- CO2 – extraction
- hydroforming
- test bed technology
- water jet cutting systems

High-Temperature Ball Valves



High temperature ball valves with heating elements for polymer production.

In order to provide the many advantages of ball valves in high temperature applications, STAUFF has developed the FBVT series of ball valves.

These valves are designed with a gland packing of special material. This sealing allows applications with high pressure and simultaneously high temperatures.

Up to a temperature of +260 °C / +500 °F high quality plastic seats are being utilised. These are suitable for high pressure and temperature loads due to their proven chambering.

For temperatures up to +500 °C / +932 °F STAUFF has developed a special sealing system with metal seats. Despite the additional demands on compression, wear and corrosion under high temperatures, the leak rate of these ball valves can be compared with standard valves.

Ball Valves for Gas Applications

STAUFF ball valves are used for many gas applications, such as:

- General gas supply systems,
- Filling plants,
- compressor stations,
- gas stations,
- analysis equipment

The design follows the Pressure Equipment Directive 97/23/EC.

The ATEX Directive for hazardous location EX II 2G c will be proved in single test on demand.

The materials for body, ball and seals are dependant on the gas and application in consideration of the directives.



Ball valves with pneumatic actuator in gas stations.

Ball Valve Type	DN	PN (bar)	Approved Material Combination	Approved Material Combination for Hazardous Location EXII 2G c (ATEX)
BBV	6 - 25	16	Carbon or Stainless Steel / NBR (Buna-N®)	11aA / 44aA
FBV	32 - 50	16	Carbon or Stainless Steel / NBR (Buna-N®)	21 aA / 44aA
BBV	6 - 25	100	Carbon or Stainless Steel / NBR (Buna-N®)	11 aA / 44aA
BBV	6 - 25	500 / 315*	24HA / 44HA	21aA / 44aA
FBV	32 - 50	315*	24HA / 44HA	24aA / 44aA

* Pressure up to max. allowed nominal pressure of the ball valve

Further ball valves up to DN 200 with flange connector, as well as 3/2-way-selector ball valves, multi-way ball valves and ball valves for manifold mounting and cartridge ball valves are also available.

The requirements and tests are in accordance to DIN 3230 Part 5, test group PG1 or PG2, Material and test certificate DIN EN 10204-3.1, Certification to Pressure Equipment Directive 97/23/EC.

The leaking rate can be proved with a Helium leakage test device up to a leakage rate of 10^{-9} mbar x l/sec.

STAUFF recommends the use of the version with errosion protection ring in order to extend the lifetime of the seats look page 101.
Only if the most important parameters like pressure, medium, temperature, medium concentration and operation cycles are known the best or most suitable material combination and the most economical solution can be offered.

Except the general suggestions for the material combinations the chemical resistance and further directives are to be considered. For Fluids like oxygen, hydrogen, argon, helium and sour gas we request a consultation.

Sour gas application: For fluids with hydrogen sulphide (H2S) – parts ball valves can be delivered in accordance to the NACE Standard MR0175.



Double block and bleed valve for sampling.



Filter station for the filtration of gases with STAUFF-3-way-selector ball valves for 250 bar / 3600 PSI and +200°C / +392 °F.

Gas stations:
For gas pumps both ball valves with floating ball and with trunnion ball are suitable. Most important for the design are the frequency of operation cycles in use with actuators. Assembling of actuators to ISO 5211 or direct mounting.

Ball valves for analysis techniques and Sampling
Ball valves are deliverable as "double block and bleed valve". Part of this product range are the TALFIRE – ball valves. These ball valves meet the requirements of the TA-Luft (technical directive for clean air).
They are used in applications with air pollution substances.

In case of maintenance the gas flow is diverted by a 3-way-selector valve combination allowing the filter elements to be changed. Due to the excellent KV-value this valve is the ideal switch over unit for use in high leak-tightness application.

Ball Valves for Paints and Lacquers





Ball valve application in airless spraying device.

Ball valves for paints and lacquers must be resistant against the varying viscosities and dye particles in the fluid.

The sealing material is the determining factor to guarantee an optimal lifetime. The choice of the seals is depending on the required operating cycles and after consideration of the pressure differential.
In case of operating the ball valve without differential pressure, standard ball seats can be used.



To increase the lifetime we recommend a seat version with erosion protection ring. For a further increase of the lifetime and also a reduction of repair and maintenance time, a metal seat is the best solution.

The specified material combinations are suitable for most applications.

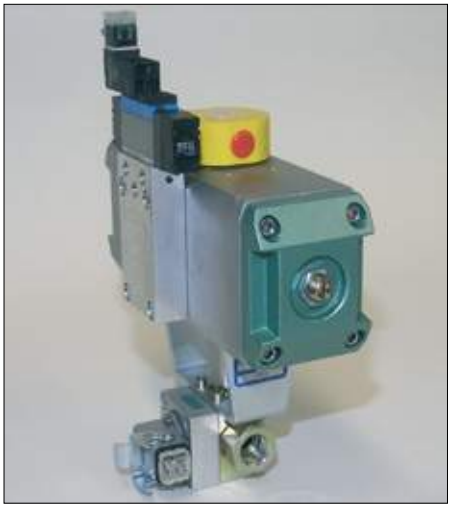
The chemical resistance to the used solvent has to be tested when selecting the ball valve.

To maintain or repair the valve, it is necessary that the return and non-return lines in colour spraying plants can be blocked off.

Due to the opening of the bypass ball valve, an un-pressurised circulation has to be guaranteed.

The locking or opening of the bypass line is carried out manually, thereby incorrect operation is impossible.

Ball Valves for Isocyanates



Isocyanates react with humidity and develop crystalline particles. To avoid that the isocyanates get in contact with environmental humidity, the ball valves have to be completely leakproof.

On the other hand the crystalline particles in the fluid mustn't damage the ball seats. Special seats are used because standard plastic seats can be damaged by crystalline particles.

With these sealing system from STAUFF a ball valve provides extended lifetime.

These valves are being used in the foaming systems and pasters. Ball valves are also available with heating devices and temperature sensors in order to keep the temperature regulated during the manufacturing process.

Equipped with actuators and limit switches STAUFF ball valves being operated in many instances by robots.

Ball Valves with Fire-Safe Approval







When handling flammable liquids safety must be a prime consideration. Great importance is therefore attributed to the design of "fire-safe" shut-off valves utilized in many industrial environments including:

This is most important for:

- Chemical Plants
- Petrochemical Plants
- Oil Drilling
- On-Shore and Off-Shore Installations
- Oil Refineries

When fire does break out, it is important that it does not spread through failures in pipe-work systems.
Even under the most extreme conditions shut-off valves must provide:

- Secure Operation
- Reliable Sealing in shut-off position
- Reliable Sealing to the outside

Due to their quarter turn shut-off design, STAUFF ball valves provide a solution to meet these demands.

Metal seat edges at the ball seats guarantee the sealing function during and after contact with fire, even if the seals themselves are burnt.

In addition both housings and shafts are also sealed with heat resistant seats ensuring their continued operation.

The "fire-safe" test undergone by STAUFF ball valves subjected them to flames and a resulting temperature of +760 °C / +1400 °F where the ball valve is heated to a general temperature of min. +650 °C / +1202 °F.

The STAUFF "fire-safe" design ensured that after this burn period of 30 min. the valves remained operable and that a continued “emergency” sealing of the valve could be guaranteed.

The test conditions under which "fire-safe" requirements are specified are characterised in various international standards.

STAUFF ball valves of the BBV series have been tested successfully according to British Standard BS 6755 T.2, API 6 FA and ISO 10497. The tests were testified by the German TÜV Inspectorate.

At this time, certification as "fire-safe" relates to our BBV series with threaded connections and nominal sizes from DN 25 to DN 50 and the BBV series with flange connections and nominal sizes from DN 25 to DN 125 and within a nominal pressure range from 260 ... 420 bar / 3700 PSI ... PN 6000 PSI.

The material utilized for the soft seals in "fire-safe" valves remains dependant upon the required chemical resistance to suit the fluid, the application and operation conditions.

A wide variety of ball valve terminations are available from STAUFF to suit the individual applications or requirements and additionally other characteristics such as antistatic design can be incorporated within the STAUFF product.

Nomenclature Definitions

Nominal Pressure PN

The nominal pressure indicates the pressure rate of a hydraulic component and continuous dynamic application. The number is rounded up in order to comply with the internationally specified terms.

These nominal pressure values are internationally recognised and assist to appoint common component dimensions. For all ball valves conform to a design and test pressure 1.5 x PN according to DIN 3230 T5 and ISO 5108 for body. For ball seats we admit 1,1 x PN.

The nominal pressure specifies the admissible working overpressure at +20 °C / 68 °F. Please consider the pressure reduction at higher temperature.

Maximum Working Pressure $P_{max.}$

$P_{max.}$ is the maximum working pressure of a component including pressure peaks for limited duration of dynamic application resp. the maximum working pressure which considers temperature reduction ratings.

Burst Pressure P_{Burst}

The safety factor for burst pressure tests is a minimum of 2.4 times the nominal pressure.
P_{Burst} = 2.4 x PN

Nominal Diameter DN

The nominal diameter is a numeric dimension of mating parts without indication of outer tube diameter or thread size, for example flanges. The nominal diameters match approximately the clear diameter of the ball valves in mm. Reduced diameters are marked by STAUFF with for example DN25/32. That corresponds to the ball valve being DN 25 and the adapter being DN 32.

Leakage Rate

Leakage rate of ball valves with synthetic ball seats: DIN EN 12266 leakage rate A (No visually noticeable leakage during the duration of the test with fluid or air).

Standard Materials

Valve Body, Connections Adapters, Stem and Ball

Material Description	Standard	Temperature Range [1]	Applications
Free Cutting Steel 11SMn30 (formerly 9SMn28K)	1.0715 / DIN EN 10277-3 (SAE 1213)	-20°C ... +120°C -4°F ... +248°F	General oil hydraulics without special requirements on the material
Low Alloy Steel S355J2G3 (formerly St52-3)	1.0570 / DIN EN 10025	-40°C ... +120°C -40°F ... +248°F	General oil and water hydraulics as well as gas applications with special requirements to the yield stress
Stainless Steel X6CrNiMoTi17-12-2 X5CrNiMo17-12-2 X2CrNiMo17-13-2	DIN EN 10088 1.4571 (AISI 316 Ti) 1.4401 (AISI 316) 1.4404 (AISI 316 L)	-200°C ... +200°C -328°F ... +392°F	Special applications in the chemical and power industries with specific requirements on the material and corrosion protection

Ball Seats

Material Description	Trade Name	Temperature Range	Applications
Polyacetal POM	Delrin Hostaform C Ultraform	-30°C ... +100°C -86°F ... +212°F	High pressure and wear resistance, low water absorption, particularly suitable for hydraulic oils, other oils and water based hydraulic fluids
Polytetrafluorethylene PTFE	Teflon Hostflon Fluon	-200°C to +220°C [2] -328°F ... +428°F [2]	Excellent chemical resistance to almost all fluids, no water absorption, low surface friction. (Suitable for food FDA-US Food and Drug Administration) Higher characteristic compounds available.
Polyvinnylidenfluorid PVDF	Dyflor Kynar Solef	-40°C ... +120°C [2] -40°F ... +302°F [2]	Mechanical properties like Teflon, but higher rigidity and lower thermal stability, resistant to ketones and esters at higher temperatures
Polyetheretherketone PEEK	Arlon Victrex	-40°C ... +250°C -40°F ... +482°F	Good chemical resistance to many mediums, suitable for steam, high temperature resistance, high wearability
Cast iron GG25	0.60257 DIN 1651	-40°C ... +250°C -40°F ... +482°F	Applications for abrasive fluids

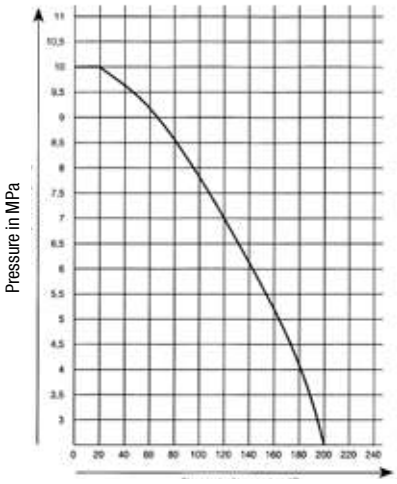
Stem and Adapter Sealing Materials

Material description	Trade Name	Temperature Range	Applications
Acrylonitrile Butadiene Rubber **NBR**	Buna N Perbunan Hycar Chemigum	-30°C ... +100°C -86°F ... +212°F	Good technical properties, therefore especially suitable for oils and gaseous mediums
Fluor Rubber **FPM**	Viton Fuorel Tecnoflon	-20°C ... +200°C -4°C ... +392°F	High chemical resistance to various mediums, in particular mineral oils, fuels and concentrated acids
Ethylene Propylene Diene Monomer Rubber **EPDM**	Buna AP Nordel	-50°C ... +130°C -58°C ... 266°F	Good ageing stability, low wear, especially suitable for actylene, brake fluids, hot water, superheated steam, cooling gases, low-flammable liquids based upon Phosphoric acid
Polytetrafluorethylene **PTFE**	Teflon Hostflon Fluon	-200°C ... +220°C [2] -328°F ... +428°F [2]	Excellent chemical resistance to almost all fluids, no water absorption, low surface friction. (Suitable for food FDA-US Food and Drug Administration) Higher characteristic compounds available.

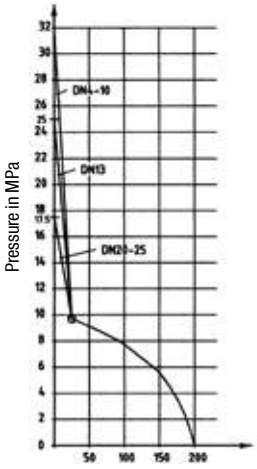
[1] General temperature limits: A rating above the indicated limits is possible when the temperature reduction ratings are taken into consideration.
[2] Pressure / temperature curve must be observed.

Admissible Working Pressures

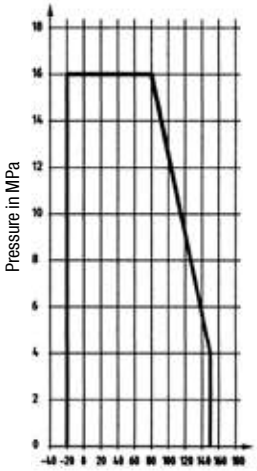
PTFE Ball Seats



PTFE Ball Seats
Glass-Fibre Reinforced



PVDV Ball Seats



Surface Coatings

Zinc/Iron-Coating

Carbon steel products are supplied as standard with a high-quality zinc/iron-coating, which is a CrVI-free is a galvanic plated surface protection, corresponding to all demands according to the valid European regulations of the automobile industry, as well as the RoHS decree.

This surface protection also has a visual effect. It can be easily varnished to suit any product design, if required. The achieved corrosion protection is excellent and more effective than the protection of the yellow chrome-plating. The cathodic remote protective action prevents early occuring corrosions, that are due to handling or assembly damages.

As opposed to yellow plated surfaces zinc/iron-coated surfaces do not lose on corrosion protection with increasing thermal load from +80 ... +90°C / +176 ... +194°F. In the contrary, temperatures from approximately +100°C / +212°F increase the corrosion protection.

- Fe / ZnFe8 / Cn according to DIN 50979
- Approx. 96 hours resistance against white rust in the salt spray test to DIN EN ISO 9227
- Approx. 300 hours resistance against red rust in the salt spray test to DIN EN ISO 9227
- Free of hexavalent chromium Cr(VI)
- RoHS compliant according to 2002/95/EC (Restrictions of the Use of Hazardous Substances)
- ELV compliant according to 2000/53/EC(End of Life Vehicles Directive)

Besides the standard zinc/iron-coating, STAUFF can also supply the following surface coatings or surface treatments for the body materials:

Carbon Steel
- chemically nickel-plated
- varnished

Stainless Steel
- rotary or traction quality
- glass bead blasted
- electro polished
- ceramic finished

Aluminium
- anodised
- hard anodised

Please consult STAUFF for further information.

STAUFF Zinc/Iron-Coating

Approx. **96 hours** resistance against white rust
Approx. **300 hours** resistance against red rust
in the salt spray test to DIN EN ISO 9227



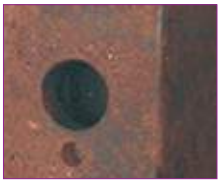
Yellow Zinc Plating

Corrosion clearly visible after **154 hours**
in the salt spray test to DIN EN ISO 9227



Phosphating

Corrosion clearly visible after **19.5 hours**
in the salt spray test to DIN EN ISO 9227



Determination of the Nominal Diameter

Using a Nomogram

This nomogramm provides a guide for the determination of the nominal diameter (DN). We recommend to use the following flow rates as a basic guideline:

Suction lines:	0,5 ... 0,8 m/sec (.15 ... .24 ft/sec)
Return lines:	2,0 ... 4,0 m/sec (.61 ... 1.22 ft/sec)
Pressure lines >10 MPa:	2,0 ... 4,0 m/sec (.61 ... 1.22 ft/sec)
Pressure lines >50 MPa:	3,0 ... 12,0 m/sec (.91 ... 3.66 ft/sec)

Example 1

Velocity v = 8 m/sec (2.44 ft/sec)
Flow rate Q = 150 l/min (40 US GPM)

The straight line linking these two values on the outer scales intersects the nominal diameter DN 20 on the middle scale.

Example 2

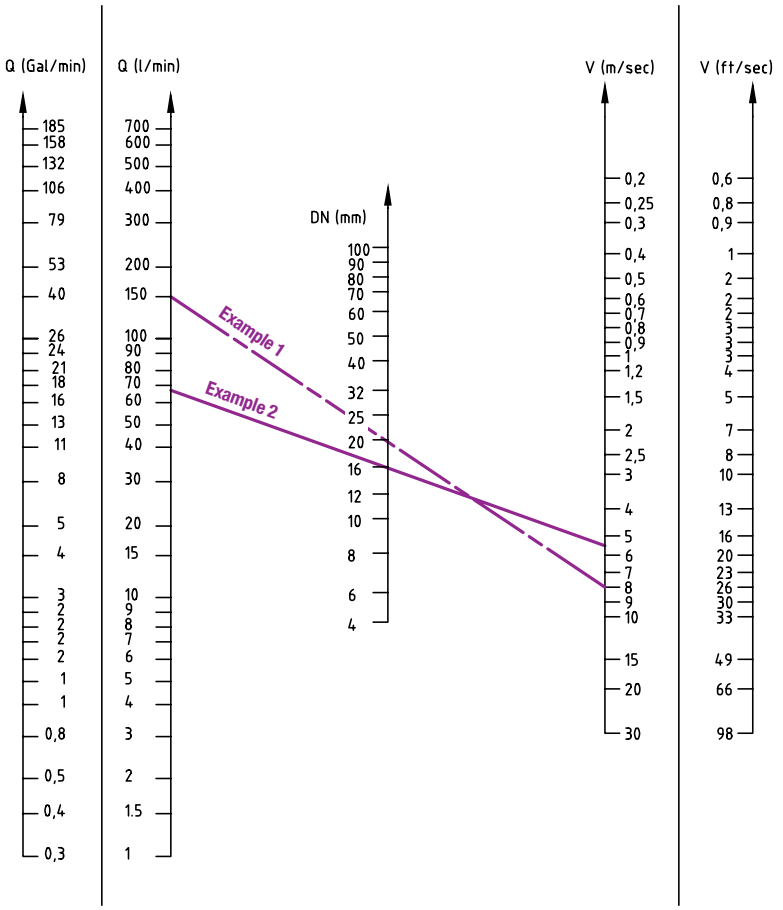
Velocity v = 5,5 m/sec (1.68 ft/sec)
Flow rate Q = 66 l/min (17 US GPM)

The straight line linking these two values on the outer scales intersects the nominal diameter DN 16 on the middle scale.

Please note:

No allowance is incorporated for the resistance of the pipes, elbows and valves, viscosity, the effect to temperature on viscosity and other factors.

Consult STAUFF for further information.



Determination of the Nominal Diameter

Using a List of Nominal Flow Rates

The indicated flow rates have been determined for ball valves in open position with water at a temperature of +15°C / +60°F.

K_v Coefficient

The nominal flow rate coefficient K_v according to German standard VDI/VDE 2173 indicates the quantity of water in cubic meter per hour (m³/h) at

Δp = 1 bar / 14.5 PSI and 35 mm²/s (cSt)
at +5 ... +30°C / +41 ... +86°C.

C_v Coefficient

The C_v value (which is still common practice in USA) specifies how much US gallons of water flow through the valve per minute (US GPM) at

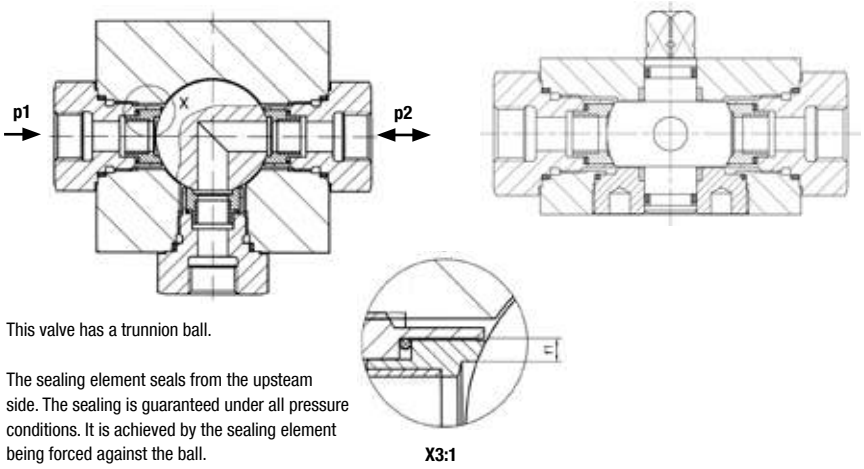
Δp = 1 bar / 14.5 PSI at +15°C / +60°F.

Consult STAUFF for further information.

Nominal Size DN		K_v	C_v
(mm)	(in)	(m³/h)	(US GPM)
15	1/2	19,4	22,6
20	3/4	45,6	53,0
25	1	71,5	83,1
32	1-1/4	105	122,1
40	1-1/2	170	197,7
50	2	275	319,8
65	2-1/2	507	589,5
80	3	905	1052,3
100	4	1414	1644,2
125	5	2362	2746,5
150	6	3694	4295,3

Sealing Variations

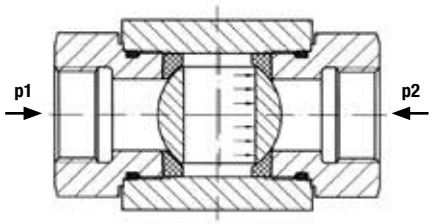
Multi-Way Ball Valves



This valve has a trunnion ball.

The sealing element seals from the upsteam side. The sealing is guaranteed under all pressure conditions. It is achieved by the sealing element being forced against the ball.

Two-Way Ball Valves (Type LBV)

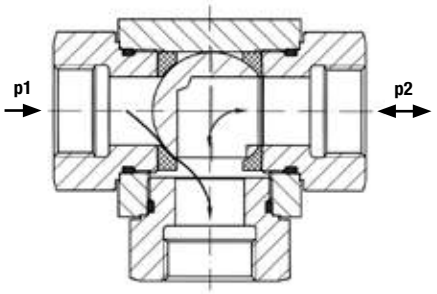


This valve has a floating ball.

The ball seats act as bearing seats for the ball. Sealing is achieved by the ball being pushed against the downstream seal due to the pressure p1 at .

Without pressure the sealing is guaranteed by the preloading of the sealing elements.

Three-Way Ball Valves (Type CBV)



The selector ball valve has 2 seats and a floating ball.

If the shut-off port is pressurised and p1 is higher than p2, then the ball is being forced against the opposite sealing element.

A gap forms and the ball valve is leaking.

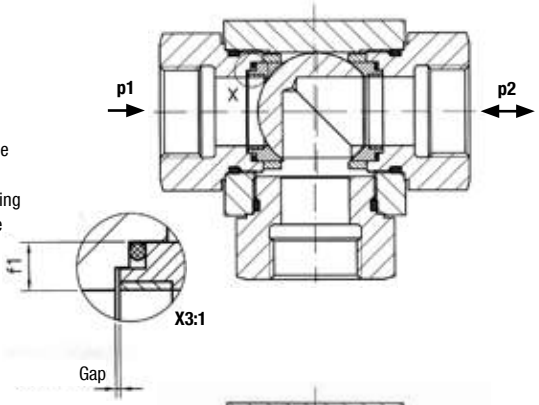
Three-Way Ball Valves (Type CBVS)

The selector ball valve has 2 front side sealing seats and a floating ball.

p1 > p2

Due to the forming of the ring surface „f1“ and the pressure (p1-p2) the left sealing element will be forced against the ball and consequently the sealing is achieved. The „floating“ ball moves against the right sealing surface - the ball valve remains sealed.

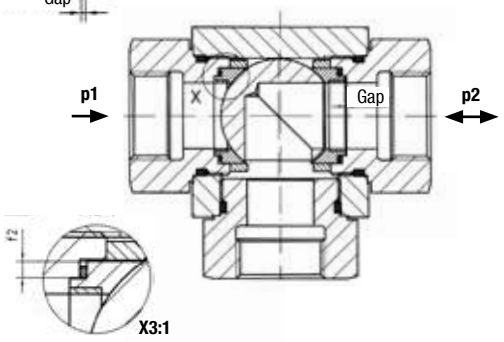
Pressure inlet possible from all ports!
Must be operated without pressure!



p1 < p2

Due to the ring surface „f2“ and the pressure (p2-p1) the right sealing element will also be forced against the ball and consequently the sealing is achieved. The „floating“ ball moves against the left sealing surface - the ball valve remains sealed.

Pressure inlet possible from all ports!
Must be operated without pressure!



For compressible and abrasive media special protected seats are utilised.

During the first part opening of the ball valve, standard plastic seats are located unprotected in the critical cross sectional area.

During gas applications and with all kinds of compressive media this narrowest cross section can result in a very high flow rate that cause erosion of the seats.

If media contain solids, for example paint, the abrasion risk in the first opening section is extremely high.

Ball valves with standard seats can quickly become inoperative.

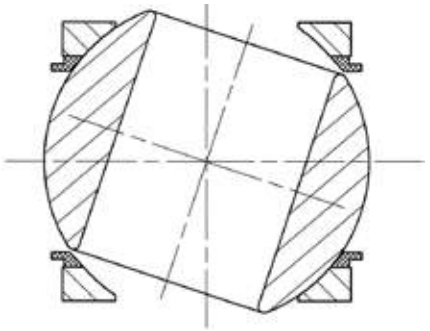
For this application, STAUFF has designed a sealing version with erosion protection ring. This ring is made of special material and keeps the high flow forces and the abrasive solids away from the plastic seals.

Tests and long term experience with this application have shown that ball valves with this sealing system provide substantially improved life times.

Times of non-use as well as maintenance and repair times are therefore reduced.

A further increase of the lifetime is possible by using metal seating elements.

Special Protected Seats



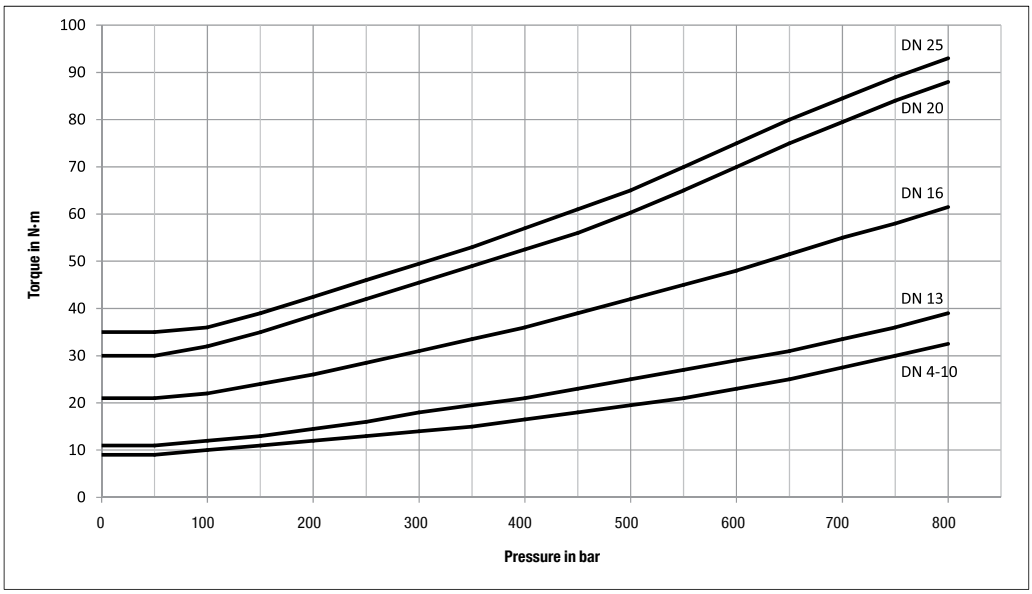
The ring is made of special material and protects the seats against erosion.

Torque Figures

Torque / Operation Pressure Curves

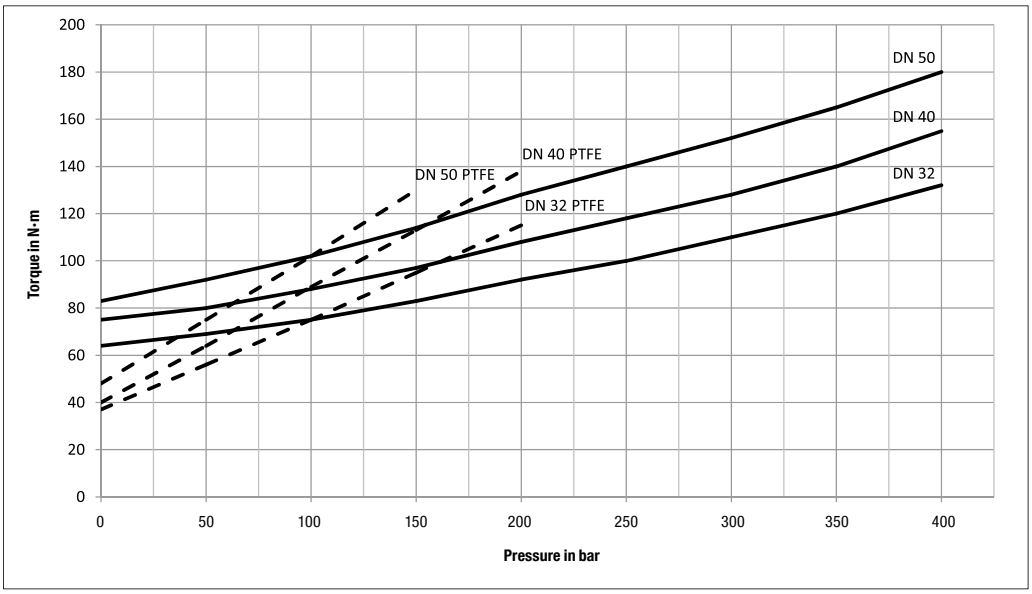
Operating torque for ball valves with POM seats

BBV
CBV
BBV22/23



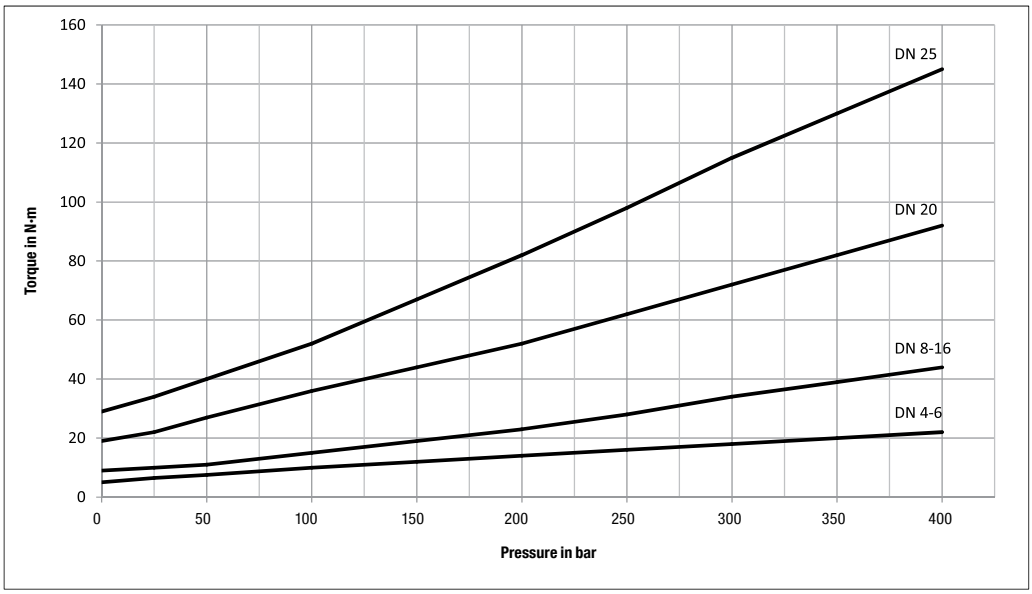
Operating torque for ball valves with Teflon or POM seats

FBV
FBV22/23



Operating torque for ball valves with POM seats

LBV
TBV
XBV



Pressure Equipment Directive CE-Marking of STAUFF Valves

Information about essential contents and consequences of the Pressure Equipment Directive (PED 97/23 EC) and the CE-marking for STAUFF valves

From 29th May 2002 the application of the Pressure Equipment Directive (PED 97/23 EC) is mandatory throughout in the European Community.

Responsibility

Manufacturers are obliged to ensure that products which are placed on the market in the European Community are designed and manufactured according to the regulations of the Pressure Equipment Directive.

The company is only allowed to purchase and use pressure equipment which corresponds to the regulations of the Pressure Equipment Directive.

Procedure

Valves have to be classified in categories (category I to III). Category I relates to the lowest, category III to the highest, hazard category.

The classification is carried out under consideration of

- diameter
- pressure
- medium-hazardous or harmless gases or liquids

Group 1 comprises hazardous mediums

- explosive
- extremely flammable
- highly flammable
- flammable (where the maximum allowable temperature is above flashpoint)
- very toxic
- toxic
- oxidising

Group 2 comprises all harmless mediums which are not listed in Group 1 such as hydraulic oil, water, air and oxygen.

Consequences

No CE-marking for:

- All valves < DN200 for harmless liquids of Group 2, such as hydraulic oil, water
- All valves up to and including DN 25 for all mediums in Group 1 and 2 (gaseous and liquid)

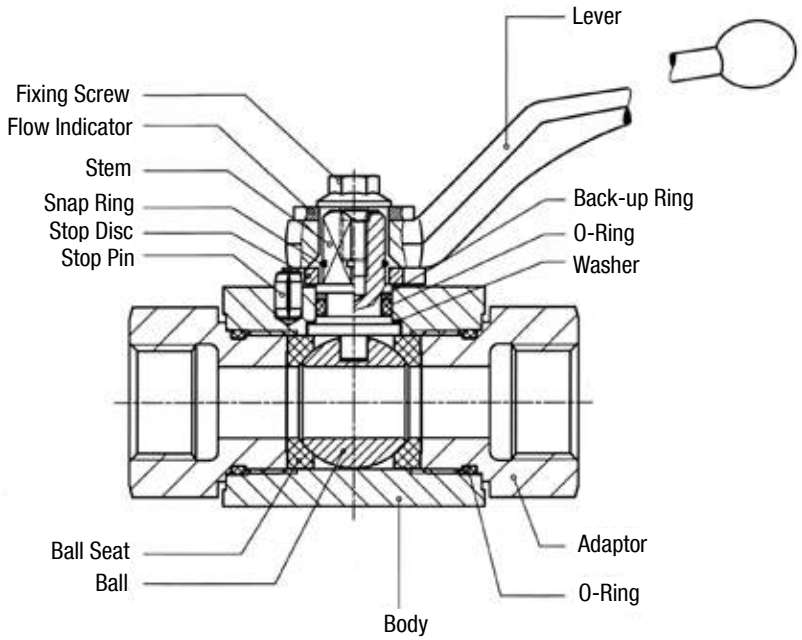
CE-marking for valves ≥ DN 32:

- With regards to valves of category I and II, STAUFF prepares a declaration of conformity.
- With regards to valves of category III an external conformity examination is necessary.
- The resulting costs will be included in our quotation.

Concerning valves of the categories I to III, it has to be observed that:

- a certification of conformity has to be enclosed with each delivery.
- operating instructions have to be enclosed with each packing unity.
- the traceability of products must be guaranteed.

Storing and Assembling Instructions



The assembly of the lever and the flow indicator has to be carried out the way that the groove of the stem and the groove of the indicator are identical in direction.

STAUFF delivers ball valves of first-class quality. This is guaranteed by the utmost care as far as construction and production of our products are concerned. All STAUFF products must pass our rigid quality assurance system ensuring the high standard of quality. As a matter of course, quality approvals can be supplied on request.

In order to guarantee the proper function of our products, the following criteria must be adhered to (non-observance can lead to expiration of this guarantee):

1. After receipt of order, the goods must be kept from moisture, erosion and thermal shock.
2. Ball valves are being delivered in open position. Store in a dry and clean place. Do not remove protective dust caps until final installation.
3. Pipe systems must be flushed before installing ball valves (dirt and other residues can damage seals).
4. It is possible to change the switching direction from our standard „clockwise“ to „counter clockwise“ by reversing the stop disc (see illustration).
5. When mounting pipes or fittings to the ball valve, the valve connectors must be held in place at the hexagon with a suitable tool (open end wrench) to prevent expanding the end connectors.
6. Pressure test max. with 1,1 x PN with closed ball valve; 1,5 x PN in half opened position.

Flanged ball valves and ball valves in larger nominal diameters must be carefully aligned with pipe to prevent line stress. When welding ball valves into the pipe system, the temperature at the body must not exceed +200°C / +392°C.

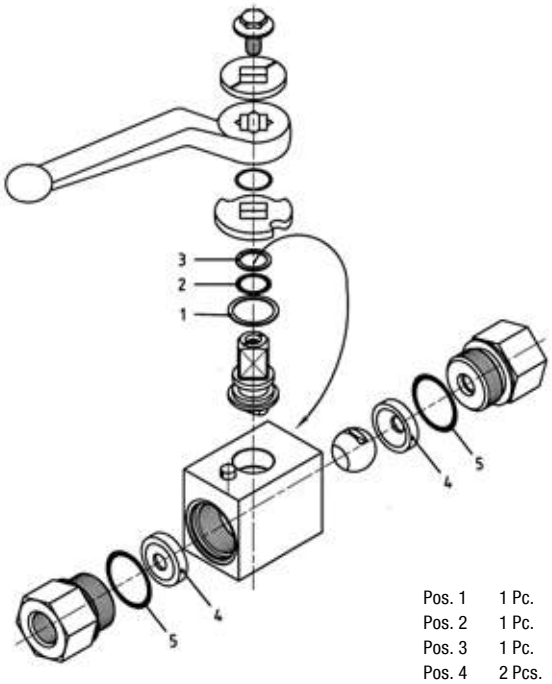
When bleeding a pipe system, the ball valve must be opened 45° to assure complete drainage.

In case of a defect please contact the factory prior to disassembly of our ball valves.



Seal Kits

Seal Kit for Two/Three-Way Block Body Valves



Pos. 1	1 Pc.	Thrust washer
Pos. 2	1 Pc.	O-ring for stem
Pos. 3	1 Pc.	Back-up ring for stem
Pos. 4	2 Pcs.	Ball seat for ball
Pos. 5	2 Pcs.	O-ring for adapter

Assembly Instructions

Notice: The change of seals should only be undertaken by experienced and qualified experts. We recommend that seals are only replaced at STAUFF or by one of our authorized distributors, so that the quality of repair can be guaranteed.

1. **Dismantlement**: Release any remaining fluid from the valve by first placing the ball in the HALF OPEN position and then to the OPEN position. Unscrew both adapters (anti-clockwise). Remove seals (note order and direction that these are in). The ball can only be removed when the valve is in the CLOSED position. Disassemble the stem by pressing it into the body of the valve. Remove all O-rings from the stem with suitable tools (e.g. small screw driver). Remove the thrust washer (on the stem collar) from the stem.

2. **Preparation**: Prior to replacing seals ensure that all components are clean and free of any contamination. All seal elements and O-rings as well as the areas of the valves that will be in contact with the seals have to be greased slightly with Vaseline.

3. **Pre-Assembly**: Mount the thrust washer (Pos.1) onto the stem collar. Replace O-rings (Pos.2+5) (using suitable tools) onto the stem and onto each adapter. Ensure that O-rings are not damaged on keen edges or overstreched, (e.g. by covering screw threads resp. of the shaft square by using suitable tools, alternatively by using a thin and soft foil).

Back-up rings (Pos.3) are located above the stem O-ring (Pos.2), e.g. on the pressure less side. Ensure that the back-up ring is located in the groove to avoid any damages by assembling the stem to the body.

4. **Assembly**: Reassemble the stem to the body by pressing and turning at the same time, and then align the body axially to the ball operating claw.

Then put the ball in and centre it. Turn the shaft 90° (CLOSED position) in order to retain the ball within the body. Place the new seals into the body ensuring that the concave areas face the ball. Gently screw the adapters into the body and make sure that the O-ring will not be damaged.

Tighten to the prescribed torque settings as indicated below:

DN4-6:	48 Nm
DN10:	90 Nm
DN13:	110 Nm
DN16:	110 Nm
DN20:	220 Nm
DN25:	250 Nm

Place stop disc over the shaft square ensuring that the valve closes when turned to the right and secure with a snap ring. Assemble handle or actuator.

5. **Test**: Test to ensure that the valve can be opened and closed easily. We recommend that the valve is tested with air at 0,6 MPa and under working pressure with a compatible liquid, max. 1,1 x PN in closed position of the ball. If water is used for testing ensure after the test procedure has been carried out that all water is removed from the valve. This is best achieved by blowing through the valve with air, whilst the valve is in a half open position. Treat with an anti-corrosion treatment.

Store the valve in the OPEN position.

Order Codes for Seal Kit

Ordering Guide for Block Body Ball Valves ending in …01M (Delrin/Viton seat/seal combination)

Threaded and SAE Flange Connections
Types BBV and CBV

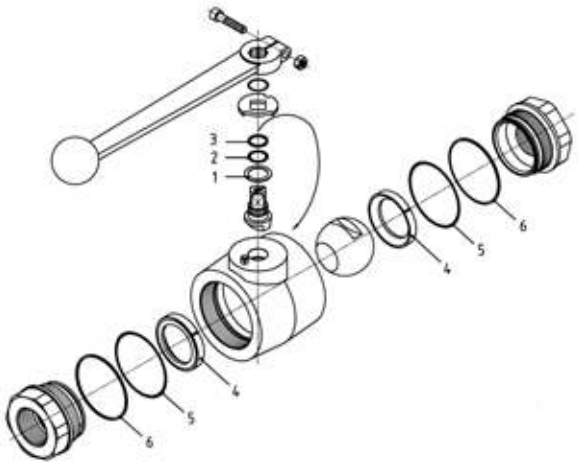
STAUFF Size	Order Codes
04	**BBVS/K047101M**
06	**BBVS/K067101M**
08	**BBVS/K087101M**
12	**BBVS/K124501M**
16	**BBVS/K164501M**

Direct Mount Flange Connections
Types BBV27/29 and BBVF

STAUFF Size	Order Codes
24	**BBVS/K242701M**
32	**BBVS/K322701M**
48	**BBVS/K482701M**
60	**BBVS/K602701M**

Seal Kits

Seal Kit for Two-Way Forged Body Valves



Pos. 1	1 Pc.	Thrust washer
Pos. 2	1 Pc.	O-ring for stem
Pos. 3	1 Pc.	Back-up ring for stem
Pos. 4	2 Pcs.	Ball seat for ball
Pos. 5	2 Pcs.	O-ring for adapter
Pos. 6	2 Pcs.	Back-up ring for adapter

Assembly Instructions

Note: The change of seals should only be undertaken by experienced and qualified experts. We recommend that seals are only replaced at STAUFF or by one of our authorized distributors to guarantee the quality of repair.

1. **Dismantlement**: Release any remaining fluid from the valve by first placing the ball in the HALF OPEN and then to the OPEN position. Unscrew both adapters (anti-clockwise). Remove seals (note the order and direction that these are in). The ball can only be removed when the valve is in CLOSED position. Disassemble the stem by pressing it into the body of the valve. Remove all O-rings from the stem with suitable tools (e.g. small screw driver). Remove the thrust washer (on the stem collar) from the stem.

2. **Preparation**: Prior to replacing seals ensure that all components are clean and free of any contamination. Slightly grease all seals and O-rings as well as the areas of the valves that will be in contact with the seals with Vaseline.

3. **Pre-Assembly**: Mount the thrust washer (Pos.1) onto the stem collar. Mount o-ring (Pos.2) and back-up ring (Pos.3) carefully onto the stem using suitable tools and avoid damages through sharp edges or overstretching (e.g. by covering screw threads resp. of the shaft square by using suitable tools, alternatively by using a thin and soft foil). Mount the stem back-up ring (Pos.3) on top of the stem o-ring (Pos.2), e.g. on the pressure less side. Ensure that the back-up ring is located in the groove to avoid any damages by assembling the stem to the body. Mounting of the endless back-up ring to the adapter.

Mount the back-up ring (Pos.6) carefully onto the adapter by using a rounded tool (no sharp edges), but ensure to stetch it as little and constantly as possible. After a short time (approx. 30 to 60 sec.) the back-up ring returns to its original form and size. Push the back-up ring towards the threads and mount the O-ring (Pos.5).

4. **Assembly**: Reassemble the stem to the body by pressing and turning at the same time, and then align the ball operating claw axially to the body. Insert the ball and centre it. Turn the shaft 90° (CLOSED position) in order to retain the ball within the body. Place the new seals into the body ensuring that the concave areas face the ball. Gently screw the adapters into the body and make sure that the O-ring will not be damaged.

Tighten to the prescribed torque settings as indicated below:

DN32-DN50: 800Nm

Place stop disc over the stem square ensuring that the valve closes when turned to the right and secure with the snap ring. Assemble handle or actuator.

5. **Test**: Check that the valve can be opened and closed easily. We recommend that the valve is tested with air at 0,6 MPa and under working pressure with a compatible liquid (e.g. water), max. 1,1 x PN in closed position of the ball. Afterwards all the fluid has to be removed again from the valve. This can be achieved by blowing air through the valve, whilst in HALF OPEN position. Let completely dry and treat with an anti-corrosive agent, if necessary.

Store the valve in the OPEN position.

Please consult STAUFF for details on the recommended assembling tool for back-up ring assembly on adapter.

Order Codes for Seal Kit

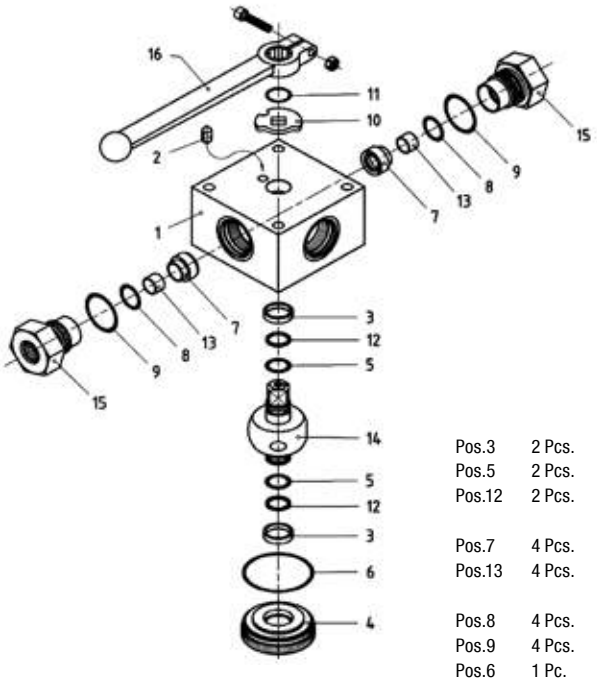
Ordering Guide for Two-Way Forged Body Ball Valves ending in …01M (Delrin/Viton seat/seal combination)

Threaded and SAE Flange Connections
Types FBV

STAUFF Size	Order Codes
20	**FBVS/K204501M**
24	**FBVS/K244501M**
32	**FBVS/K324501M**

Seal Kits

Seal Kit for Multi-Way Block Body Valves



Pos.3	2 Pcs.	Bearing
Pos.5	2 Pcs.	O-ring for trunnion
Pos.12	2 Pcs.	back-up ring for O-ring on trunnion
Pos.7	4 Pcs.	Ball seats
Pos.13	4 Pcs.	Mounting tube for ball seat
Pos.8	4 Pcs.	O-ring for ball seat
Pos.9	4 Pcs.	O-ring for adapter
Pos.6	1 Pc.	O-ring for cap

Order Codes for Seal Kit

Ordering Guide for Block Body Ball Valves ending in …01M (Delrin/Viton seat/seal combination)

Threaded Connections
Types LBV / TBV / XBV

STAUFF Size	Order Codes
04	**XBVS/K047101M**
06	**XBVS/K067101M**
08	**XBVS/K085801M**
12	**XBVS/K124501M**
16	**XBVS/K164501M**
20	**XBVS/K164501M**
24	**XBVS/K164501M**

Assembly Instructions

Notice: The change of seals should only be undertaken by experienced and qualified experts. We recommend that seals are only replaced at STAUFF or by one of our authorized distributors, so that the quality of repair can be guaranteed.

1.**Dismantlement**: In order to release the remaining pressure, carry out 1x reciprocating movement.

Disassemble the shaft handle (Pos.16). Unscrew all adapters (Pos.15) anti-clockwise. Remove seals (Pos.7). Unscrew cap (Pos.4) at body bottom with suitable tools anti-clockwise. Remove trunnions (Pos.14) and bearing shells (Pos.3). Remove all O-rings and back-up rings from trunnion resp. adapters and cap with suitable tools (for example with a small screw driver).

2. **Preparation**: Prior to replacing seals ensure that all components are clean and free of any contamination. Grease slightly with Vaseline all sealing elements and O-rings as well as the areas of the valves that will be in contact with the seals.

3. Pre-Assembly: Assemble O-rings (Pos.5) and back-up rings (Pos.12) in the grooves of the trunnion, back-up rings outwards to the pressure end.

Mount carefully O-rings on to the (Pos.9) adapters (Pos.15) by using suitable tools (at DN20 u. –25).

Attention: Ensure that O-rings are not damaged on keen edges or overstretched, (for example by covering screw threads resp. of the shaft square by using suitable tools, alternatively by using a thin and soft foil).

At DN4 to DN16: Place mounting tubes (Pos.13) in the provided bore of the seal elements (Pos.7), resp. at DN20 and DN25: place seal element in the sleeve (no description in this figure), spherical side directed to the exterior.
Push O-ring for sealing element (Pos.8) on to the sealing element (Pos.7), (resp. at DN20 and DN25 push on to sleeve) and place together in adapter.

Pre-assemble O-ring (Pos.6) on to the cap (Pos.4). (notice: ensure that there cannot occur any damages!).

4. **Assembly**: First assemble the bearing shells (bushing) (=Pos.3) in the body (Pos.1) and cap (Pos.4) so that the bevel shows towards the ball valve center and thus it can be used as chamfer for the O-ring (and back-up ring) of the trunnion.
Notice: Ensure that the back-up rings lie close to each other in the groove so that during the assembly process to the body and cap they are not damaged.

Assemble the shaft end of the trunnion (shaft square shows towards exterior) to the cap (Pos.4) by pressing and turning at the same time.

DN4 to DN16: place O-ring for cap (Pos.6) in the body.

Push the trunnion (together with cap) in the body, until the cap thread touches the body thread, afterwards screw in the cap and tighten to the prescribed torque. (see table).

Gently screw in the pre-assembled adapters into the body and ensure that the O-ring is not damaged. Tighten the adapters with the prescribed torque.

Replace stop disc (Pos.10) over the shaft square so that the desired operation function is achieved, secure with snap ring (Pos.11). Assemble the handle (Pos.16) or the actuator (after it had been tested).

5. **Test**: Test to ensure that the valve can be opened and closed easily. We recommend that the valve is tested with 6 bar air and under working pressure with a compatible liquid, max. 1,1 x PN. If water is used for testing ensure the after the test procedure has been carried out that all water is removed from the valve.

This is best achieved by blowing air through the valve, whilst the valve is in a half open position. Treat with anti-corrosion treatment.

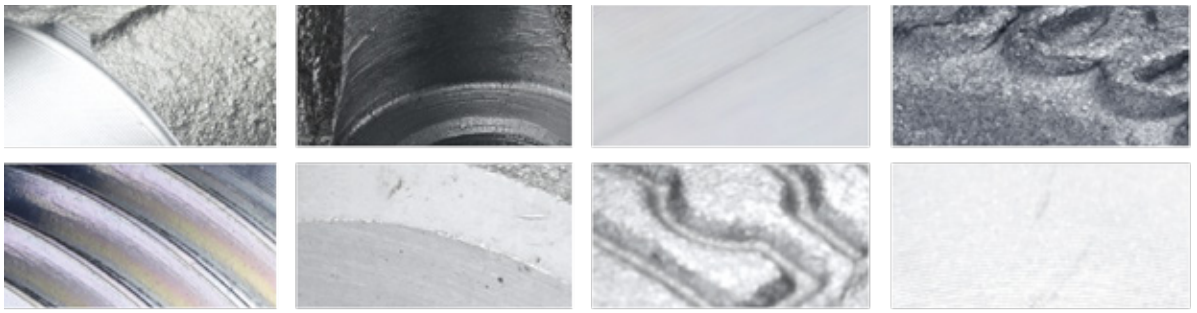
Store the valve in the „OPEN" or "CLOSED" position, resp. end position.

Tightening Torques of Adaptors and Endcaps

Nominal Size	Adapter Tightening Torque in N·m	Thread	Endcap Tightening Torque in N·m	Thread
DN 4-6	40	M18 x 1,5	120 ... 140	M38 x 1,5
DN 8-10	70	M22 x 1,5	140 ... 160	M45 x 1,5
DN 13-16	110	M30 x 1,5	320 ... 350	M60 x 1,5
DN 20	180	M38 x 1,5	550 ... 600	M80 x 2
DN 25 (-32, -40)	250	M45 x 1,5	650 ... 700	M92 x 3

Home
SAE Flanges
Gear Pump Flange
Technical

Flanges



The STAUFF range of flanges gives you extensive product diversity, whether it is the DIN ISO 6162-1/2 range or SAEJ518 compliant SAE flanges, as well as the range of gear pump flanges.

The standard pressure series of STAUFF SAE flanges contains components for a flange connection with maximum operating pressures from 35 ... 350 bar / 507 ... 5076 PSI. They are available in all nominal sizes between DN13 (1/2") and DN127 (5").

STAUFF covers maximum operating pressures of up to 420 bar / 6092 PSI and nominal sizes between DN13 (1/2") and DN51 (2") with this high-pressure series.

STAUFF SAE flanges are available as individual flanges without any accessories, or as complete components with gaskets and suitable sets of bolts. A large number of different components are available at all times.

STAUFF SAE flanges are made of high-quality materials. The exact steel quality and the surface treatment are adapted individually to the needs and requirements of the flange. Naturally, all our coated parts have CrVI-free surfaces.

Stainless steel (1.4404/1.4571), alternate gasket materials and higher bolt strengths are also available on request. The STAUFF range of gear pump flanges is used as a supplement for gear-type rotary pumps, motors, and other smaller size pumps. We offer you a wide range of different variations, divided into various sizes and designs, like, for example, a straight or 90° design with 3-hole or 4-hole fastening. It goes without saying that we manufacture our pump flanges from high-quality materials, and naturally they also have CrVI-free surfaces.

Please do not hesitate to contact STAUFF.

Home
SAE Flanges
Gear Pump Flange
Technical

SAE Flanges

SAE Split Flange Halves DB

SAE Flange Clamp BM

SAE Split Flange Halves (Flat Style) DB-FL

SAE Flange Clamp (Flat Style) BM-FL

SAE Flange Clamp with Metric Tapped Holes BM-G

SAE Butt Weld Flange Adapter and Companion Flange Adapter CAG/CSG-ST

SAE Socket Weld Adapter and Companion Flange Adapter CAG/CSG-ES



SAE Single Part Screw-In Flanges

NPT Threaded Flange and Companion Flange BFX-N / BAS-N

UN Threaded Flange BFX-U / BAS-U

BSPP Threaded Flange and Companion Flange BFX-G / BAS-G

Metric Threaded Flange BFX-M

SAE Single Part Butt Weld Flanges / Companion Flanges

High Pressure Pipe Flanges (Schedule 80/160) BFX-ST / BAS-ST

Low Pressure Pipe Flanges (Schedule 40) BFX-STRE / BAS-STRE

Metric Tube Flanges BFX-SRE / BAS-SRE

SAE Single Part Socket Weld Flanges / Companion Flanges

Standard BFX-ES / BAS-ES

Flat Style BFX-FLNA-ES / BAS-FLNA-ES

E Single-Part Fitting Flange with JIC 37° Cone Connector BFX-J



Home
SAE Flanges
Gear Pump Flange
Technical

SAE Flanges

SAE 90° Single-Part Screw-in Flanges

NPT Threaded Flange BFX90-N

BSPP Threaded Flange BFX90-G



SAE 90° Single-Part Butt Weld Flanges

Schedule 80 BFX90-ST

Metric Tube Flanges BFX90-SRE

SAE 90° Single-Part Socket Weld Flanges

BFX90-ES

Other SAE Flanges

SAE Blanking Flange and Companion Flange BFX-CP / BAS-CP

SAE Sandwich Plate (e.g. for Test Point) - Female BSP Port SPL-G1/4-L

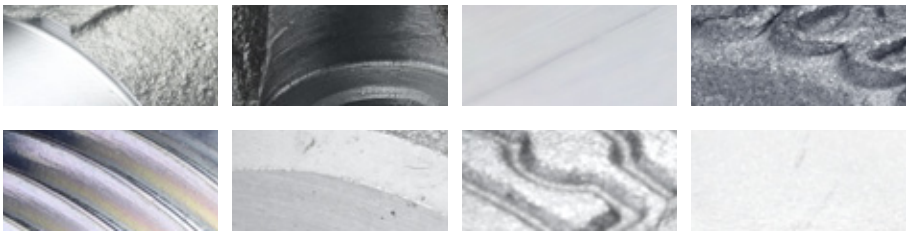
SAE Blindplug SAE Blindplug (High Version) CAG-BP / CAG-BPH

SAE Sandwich Plate SPL

SAE Cover Plate CPL

SAE Flanges Also available





G
Flanges

Index	G2
SAE Flanges	G4
Gear Pump Flanges	G51

The STAUFF range of flanges gives you extensive product diversity, whether it is the DIN ISO 6162-1/2 range or SAEJ518 compliant SAE flanges, as well as the range of gear pump flanges.

The standard pressure series of STAUFF SAE flanges contains components for a flange connection with maximum operating pressures from 35 ... 350 bar / 507 ... 5076 PSI.
They are available in all nominal sizes between DN13 (1/2") and DN127 (5").

STAUFF covers maximum operating pressures of up to 420 bar / 6092 PSI and nominal sizes between DN13 (1/2") and DN51 (2") with this high-pressure series.

STAUFF SAE flanges are available as individual flanges without any accessories, or as complete components with gaskets and suitable sets of bolts. A large number of different components are available at all times.

STAUFF SAE flanges are made of high-quality materials. The exact steel quality and the surface treatment are adapted individually to the needs and requirements of the flange. Naturally, all our coated parts have CrVI-free surfaces. Stainless steel (1.4404/1.4571), alternate gasket materials and higher bolt strengths are also available on request.

The STAUFF range of gear pump flanges is used as a supplement for gear-type rotary pumps, motors, and other smaller size pumps. We offer you a wide range of different variations, divided into various sizes and designs, like, for example, a straight or 90° design with 3-hole or 4-hole fastening. It goes without saying that we manufacture our pump flanges from high-quality materials, and naturally they also have CrVI-free surfaces.

Please do not hesitate to contact STAUFF.

www.stauff.com

SAE Flanges


SAE Split Flange Halves DB **G4**


SAE Flange Clamp BM **G6**


SAE Split Flange Halves (Flat Style) DB-FL **G8**


SAE Flange Clamp (Flat Style) BM-FL **G9**


SAE Flange Clamp with Metric Tapped Holes BM-G **G10**


SAE Butt Weld Flange Adapter and Companion Flange Adapter CAG/CSG-ST **G11**


SAE Socket Weld Adapter and Companion Flange Adapter CAG/CSG-ES **G12**


SAE Single-Part Screw-in NPT Threaded Flange and Companion Flange BFX-N / BAS-N **G14**


SAE Single-Part Screw-in UN Threaded Flange BFX-U / BAS-U **G18**


SAE Single-Part Screw-in BSPP Threaded Flange and Companion Flange BFX-G / BAS-G **G22**


SAE Single-Part Screw-in Metric Threaded Flange BFX-M **G24**


SAE Single-Part Butt Weld Flange for High Pressure Pipes and Companion Flange (Schedule 80/160) BFX-ST / BAS-ST **G26**


SAE Single-Part Butt Weld Flange for Low Pressure Pipes and Companion Flange (Schedule 40) BFX-STRE / BAS-STRE **G28**


SAE Single-Part Butt Weld Flange for Metric Tubes and Companion Flange BFX-SRE / BAS-SRE **G30**


SAE Single-Part Socket Weld Flange and Companion Flange BFX-ES / BAS-ES **G32**


SAE Single-Part Socket Weld Flange and Companion Flange (Flat Style) BFX-FLNA-ES BAS-FLNA-ES **G34**


SAE Single-Part Fitting Flange with JIC 37° Cone Connector BFX-J **G39**


SAE 90° Single-Part Screw-in NPT Threaded Flange BFX90-N **G39**


SAE 90° Single-Part Screw-in BSPP Threaded Flange BFX90-G **G40**


SAE 90° Single-Part Butt Weld Flange (Schedule 80) BFX90-ST **G41**


SAE 90° Single-Part Butt Weld Flange for Metric Tubes BFX90-SRE **G42**


SAE 90° Single-Part Socket Weld Flange BFX90-ES **G43**



SAE Blanking Flange
and Companion Flange — BFX-CP / BAS-CP — **G44**



SAE Sandwich Plate
(e.g. for Test Point) - Female BSP Port — SPL-G1/4-L — **G46**



SAE Blindplug
SAE Blindplug (High Version) — CAG-BP / CAG-BPH — **G47**



SAE Sandwich Plate — SPL — **G48**



SAE Cover Plate — CPL — **G49**

SAE Flanges
Also available ... — **G50**

Gear Pump Flanges

Gear Pump Flanges
Also available ... — **G51**

Accessories / Technical Appendix



Accessories — **G52**

Technical Appendix — **G52**

Pressure Information

The pressure information (maximum working pressures) stated in this catalogue only apply to the single components mentioned. It does not apply to the used bolts, fittings, welded or screwed connections. Please take notice of the information and specification of the manufacturers for all further components used and also the legal regulations.

Please note: The pressure information of the components of flange combinations (consisiting of the flange itself and a tube end) may vary from each other.
Please consider the lowest pressure as the maximum working pressure of this combination.

Temperature Information

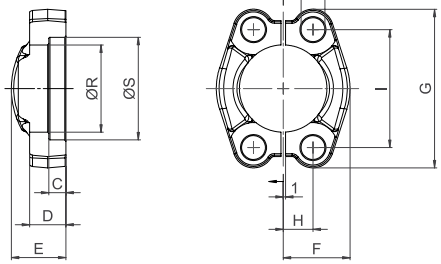
All information apply to a temperature range of

-20 °C ... +90 °C / -4 °F ... +194 °F

Outside of this temperature range, the material-specific properties could be reduced. This applies to the selection of the sealing materials in particular.

SAE Split Flange Halves
DB





Material S355J0 / C45 or equivalent
Surface CrVI-free
Special Material Stainless Steel 1.4404 "-W5" on request

Order Codes Examples

Split Flange Set
* Pair of SAE Split Flange Halves **DB-...**

Split Flange Half
* Individual half only **DB-...-HALF**

Split Flange Kits
* Incl. UNC hexagon head bolts (Gr10), spring rings, O-ring made of NBR (Buna-N®) (packed in kits) **DB-...-AS-U-B#K**
* Incl. Metric hexagon head bolts 8.8, spring rings, O-ring made of NBR (Buna-N®) (packed in kits) **DB-...-AS-M-B#K**

3000 PSI Standard Pressure Series (according to ISO 6162-1)

PN (bar/PSI)[1]		Nominal Size		Order Codes	Dimensions (mm/in)										for Bolts	
8.8 Bolts	10.9 (Gr10) Bolts	DN	(in)		Ø R	Ø S	C	D	E	F	G	H	I	Ø K[2]	UNC	Metr.
350	350	13	1/2	**DB-301**	24,3	31	6,2	13	19	22,8	54	8,75	38,1	8,7	5/16–18 UNC x 1-1/4	M8x25
5075	5075				.96	1.22	.24	.51	.75	.90	2.13	.34	1.50	.34		
350	350	19	3/4	**DB-302**	32,2	38,9	6,2	14	22	25,9	65	11,15	47,6	10,5	3/8–16 UNC x 1-1/4	M10x30
5075	5075				1.27	1.53	.24	.55	.87	1.02	2.56	.44	1.87	.41		
250	315	25	1	**DB-303**	38,5	45,3	7,5	16	24	29,2	70	13,1	52,4	10,5	3/8–16 UNC x 1-1/4	M10x30
3625	4565				1.52	1.78	.30	.63	.94	1.15	2.76	.52	2.06	.41		
200	250	32	1-1/4	**DB-304-U**	43,7	51,6	7,5	14	24	36,3	79,5	15,1	58,7	12	7/16–14 UNC x 1-1/2	
2900	3625				1.72	2.03	.30	.55	.94	1.43	3.13	.59	2.31	.47		
200	250	32	1-1/4	**DB-304-M12**	43,7	51,6	7,5	14	24	36,3	79,5	15,1	58,7	12,5		M12x35
2900	3625				1.72	2.03	.30	.55	.94	1.43	3.13	.59	2.31	.49		
200	250	32	1-1/4	**DB-304-M**	43,7	51,6	7,5	14	24	36,3	79,5	15,1	58,7	10,5		M10x30
2900	3625				1.72	2.03	.30	.55	.94	1.43	3.13	.59	2.31	.41		
200	200	38	1-1/2	**DB-305**	50,8	61,1	7,5	16	25	41,1	94	17,85	69,9	13,5	1/2–13 UNC x 1-1/2	M12x35
2900	2900				2.00	2.41	.30	.63	.98	1.62	3.70	.70	2.75	.53		
200	200	38	1-1/2	**DB-305-M14**	50,8	61,1	7,5	16	25	41,1	94	17,85	69,9	14,5		M14x35
2900	2900				2.00	2.41	.30	.63	.98	1.62	3.70	.70	2.75	.57		
160	200	51	2	**DB-306**	62,8	72,3	9	16	26	48,2	102	21,45	77,8	13,5	1/2–13 UNC x 1-1/2	M12x35
2320	2900				2.47	2.85	.35	.63	1.02	1.90	4.02	.84	3.06	.53		
160	200	51	2	**DB-306-M14**	62,8	72,3	9	16	26	48,2	102	21,45	77,8	14,5		M14x35
2320	2900				2.47	2.85	.35	.63	1.02	1.90	4.02	.84	3.06	.57		
100	160	64	2-1/2	**DB-307**	74,9	84,9	9	19	38	54,1	114,5	25,4	88,9	13,5	1/2–13 UNC x 1-1/2	M12x40
1450	2320				2.95	3.34	.35	.75	1.50	2.13	4.51	1.00	3.50	.53		
100	160	64	2-1/2	**DB-307-M14**	74,9	84,9	9	19	38	54,1	114,5	25,4	88,9	14,5		M14x40
1450	2320				2.95	3.34	.35	.75	1.50	2.13	4.51	1.00	3.50	.57		
100	160	76	3	**DB-308**	90,9	102,4	9	22	41	65,3	135	30,95	106,4	17	5/8–11 UNC x 2	M16x50
1450	2320				3.58	4.03	.35	.87	1.61	2.57	5.31	1.22	4.19	.67		
35	35	89	3-1/2	**DB-309**	102,4	115,1	10,7	22	28	69,6	152	34,95	120,7	17	5/8–11 UNC x 2	M16x50
505	505				4.03	4.53	.42	.87	1.10	2.74	5.98	1.38	4.75	.67		
35	35	102	4	**DB-310**	115	127,8	10,7	25	35	75,9	162	38,9	130,2	17	5/8–11 UNC x 2	M16x50
505	505				4.53	5.03	.42	.98	1.38	2.99	6.38	1.53	5.13	.67		
35	35	127	5	**DB-311**	140,5	153,2	10,7	28	41	90,4	184	46,05	152,4	17	5/8–11 UNC x 2	M16x55
505	505				5.53	6.03	.42	1.10	1.61	3.56	7.24	1.81	6.00	.67		

[1] The maximum working pressure applies only to the flange itself and depends on the Metric bolts (Grade 8.8 / 10.9) and UNC bolts (Gr10) used. The actual maximum working pressure depends on the thickness and the quality of the tube used.
[2] Dimensions of screw holes in part different to the ISO to match both Metric and UNC screws.

For flange kit part number, refer to the ordering code at the top of the page.

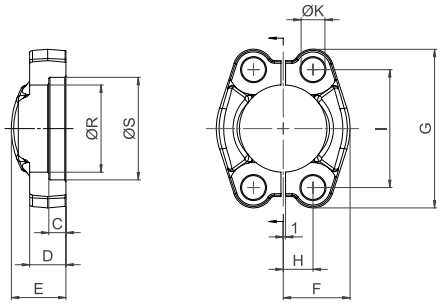
SAE Split Flange Halves
DB

Order Codes Examples

Split Flange Set
* Pair of SAE Split Flange Halves — **DB-...**

Split Flange Half
* Individual half only — **DB-...-HALF**

Split Flange Kits
* Incl. UNC hexagon head bolts (Gr10), spring rings, O-ring made of NBR (Buna-N®) (packed in kits) — **DB-...-AS-U-B#K**
* Incl. Metric hexagon head bolts 8.8, spring rings, O-ring made of NBR (Buna-N®) (packed in kits) — **DB-...-AS-M-B#K**





Material S355J0 / C45 or equivalent
Surface CrVI-free
Special Material Stainless Steel 1.4404 "-W5" on request

6000 PSI High Pressure Series (according to ISO 6162-2)

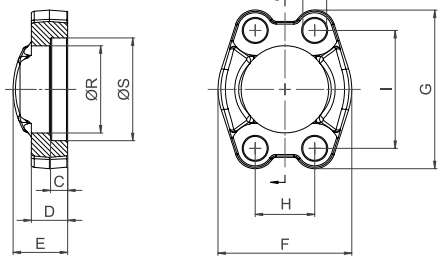
PN ([bar]/[PSI])[1]		Nominal Size		Order Codes	Dimensions ([mm]/[in])										for Bolts	
8.8 Bolts	10.9 (Gr10) Bolts	DN	(in)		Ø R	Ø S	C	D	E	F	G	H	I	Ø K[2]	UNC	Metr.
350	400	13	1/2	**DB-601**	24,6	32,5	7,2	16	22	23,6	56,5	9,1	40,5	8,7	5/16–18 UNC x 1-1/4	M8x30
5075	5800				.97	1.28	.28	.63	.87	.93	2.22	.36	1.59	.34		
350	400	19	3/4	**DB-602**	32,5	42	8,2	19	28	30	71	11,9	50,8	10,5	3/8–16 UNC x 1-1/2	M10x35
5075	5800				1.28	1.65	.32	.75	1.10	1.18	2.80	.47	2.00	.41		
350	400	25	1	**DB-603-U**	38,8	48,4	9	24	33	34,8	81	13,9	57,2	11,9	7/16–14 UNC x 1-1/4	
5075	5800				1.53	1.91	.35	.94	1.30	1.37	3.19	.55	2.25	.47		
350	400	25	1	**DB-603-M**	38,8	48,4	9	24	33	34,8	81	13,9	57,2	13		M12x45
5075	5800				1.53	1.91	.35	.94	1.30	1.37	3.19	.55	2.25	.51		
350	400	32	1-1/4	**DB-604**	44,5	54,8	9,8	27	38	38,6	95	15,9	66,6	13,5	1/2–13 UNC x 1-3/4	M12x45
5075	5800				1.75	2.16	.39	1.06	1.50	1.52	3.74	.63	2.62	.53		
350	400	32	1-1/4	**DB-604-M14**	44,5	54,8	9,8	27	38	38,6	95	15,9	66,6	15		M14x45
5075	5800				1.75	2.16	.39	1.06	1.50	1.52	3.74	.63	2.62	.59		
350	400	38	1-1/2	**DB-605**	51,6	64,3	12	30	43	47,5	113	18,25	79,3	17	5/8–11 UNC x 2	M16x55
5075	5800				2.03	2.53	.47	1.18	1.69	1.87	4.45	.72	3.12	.67		
350	400	51	2	**DB-606**	67,6	80,2	12	37	52	56,9	133	22,25	96,8	21	3/4–10 UNC x 2-1/2	M20x70
5075	5800				2.66	3.16	.47	1.46	2.05	2.24	5.24	.88	3.81	.83		

[1] The maximum working pressure applies only to the flange itself and depends on the Metric bolts (Grade 8.8 / 10.9) and UNC bolts (Gr10) used The actual maximum working pressure depends on the thickness and the quality of the tube used.
[2] Dimensions of screw holes in part different to the ISO to match both Metric and UNC screws.

For flange kit part number, refer to the ordering code at the top of the page.

SAE Flange Clamp
BM





Order Codes Examples

* SAE Flange Clamp **BM-...**

Flange Kits

* Incl. UNC hexagon head bolts (Gr10), spring rings, O-ring made of NBR (Buna-N®) (packed in kits) **BM-...-AS-U-B#K**
* Incl. Metric hexagon head bolts 8.8, spring rings, O-ring made of NBR (Buna-N®) (packed in kits) **BM-...-AS-M-B#K**

Material S355J0 / C45 or equivalent
Surface CrVI-free
Special Material Stainless Steel 1.4404 "-W5" on request

3000 PSI Standard Pressure Series (according to ISO 6162-1)

PN (bar/PSI)[1]		Nominal Size		Order Codes	Dimensions (mm/in)										for Bolts	
8.8 Bolts	10.9 (Gr10) Bolts	DN	(in)		Ø R	Ø S	C	D	E	F	G	H	I	Ø K[2]	UNC	Metr.
350	350	13	1/2	**BM-301**	24,3	31	6,2	13	19	46	54	17,5	38,1	8,7	5/16–18 UNC x 1-1/4	M8x25
5075	5075				.96	1.22	.24	.51	.75	1.81	2.13	.69	1.50	.34		
350	350	19	3/4	**BM-302**	32,2	38,9	6,2	14	22	52	65	22,3	47,6	10,5	3/8–16 UNC x 1-1/4	M10x30
5075	5075				1.27	1.53	.24	.55	.87	2.05	2.56	.88	1.87	.41		
250	315	25	1	**BM-303**	38,5	45,3	7,5	16	24	59	70	26,2	52,4	10,5	3/8–16 UNC x 1-1/4	M10x30
3625	4565				1.52	1.78	.30	.63	.94	2.32	2.76	1.03	2.06	.41		
200	250	32	1-1/4	**BM-304-U**	43,7	51,6	7,5	14	24	73	79,5	30,2	58,7	12	7/16–14 UNC x 1-1/2	
2900	3625				1.72	2.03	.30	.55	.94	2.87	3.13	1.19	2.31	.47		
200	250	32	1-1/4	**BM-304-M12**	43,7	51,6	7,5	14	24	73	79,5	30,2	58,7	12,5		M12x35
2900	3625				1.72	2.03	.30	.55	.94	2.87	3.13	1.19	2.31	.49		
200	250	32	1-1/4	**BM-304-M**	43,7	51,6	7,5	14	24	73	79,5	30,2	58,7	10,5		M10x30
2900	3625				1.72	2.03	.30	.55	.94	2.87	3.13	1.19	2.31	.41		
200	200	38	1-1/2	**BM-305**	50,8	61,1	7,5	16	25	83	94	35,7	69,9	13,5	1/2–13 UNC x 1-1/2	M12x35
2900	2900				2.00	2.41	.30	.63	.98	3.27	3.70	1.41	2.75	.53		
200	200	38	1-1/2	**BM-305-M14**	50,8	61,1	7,5	16	25	83	94	35,7	69,9	14,5		M14x35
2900	2900				2.00	2.41	.30	.63	.98	3.27	3.70	1.41	2.75	.57		
160	200	51	2	**BM-306**	62,8	72,3	9	16	26	97	102	42,9	77,8	13,5	1/2–13 UNC x 1-1/2	M12x35
2320	2900				2.47	2.85	.35	.63	1.02	3.82	4.02	1.69	3.06	.53		
160	200	51	2	**BM-306-M14**	62,8	72,3	9	16	26	97	102	42,9	77,8	14,5		M14x35
2320	2900				2.47	2.85	.35	.63	1.02	3.82	4.02	1.69	3.06	.57		
100	160	64	2-1/2	**BM-307**	74,9	84,9	9	19	38	109	114,5	50,8	88,9	13,5	1/2–13 UNC x 1-1/2	M12x40
1450	2320				2.95	3.34	.35	.75	1.50	4.29	4.51	2.00	3.50	.53		
100	160	64	2-1/2	**BM-307-M14**	74,9	84,9	9	19	38	109	114,5	50,8	88,9	14,5		M14x40
1450	2320				2.95	3.34	.35	.75	1.50	4.29	4.51	2.00	3.50	.57		
100	160	76	3	**BM-308**	90,9	102,4	9	22	41	131	135	61,9	106,4	17	5/8–11 UNC x 2	M16x50
1450	2320				3.58	4.03	.35	.87	1.61	5.16	5.31	2.44	4.19	.67		
35	35	89	3-1/2	**BM-309**	102,4	115,1	10,7	22	28	140	152	69,9	120,7	17	5/8–11 UNC x 2	M16x50
505	505				4.03	4.53	.42	.87	1.10	5.51	5.98	2.75	4.75	.67		
35	35	102	4	**BM-310**	115	127,8	10,7	25	35	152	162	77,8	130,2	17	5/8–11 UNC x 2	M16x50
505	505				4.53	5.03	.42	.98	1.38	5.98	6.38	3.06	5.13	.67		
35	35	127	5	**BM-311**	140,5	153,2	10,7	28	41	181	184	92,1	152,4	17	5/8–11 UNC x 2	M16x55
505	505				5.53	6.03	.42	1.10	1.61	7.13	7.24	3.63	6.00	.67		

[1] The maximum working pressure applies only to the flange itself and depends on the Metric bolts (Grade 8.8 / 10.9) and UNC bolts (Gr10) used. The actual maximum working pressure depends on the thickness and the quality of the tube used.
[2] Dimensions of screw holes in part different to the ISO to match both Metric and UNC screws.

For flange kit part number, refer to the ordering code at the top of the page.

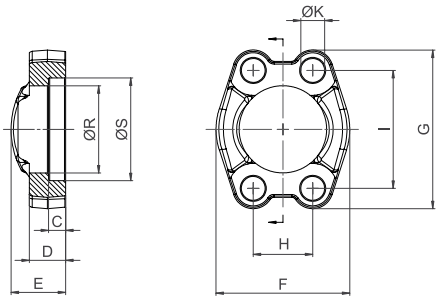
SAE Flange Clamp
BM

Order Codes Examples

* SAE Flange Clamp **BM-...**

Flange Kits

* Incl. UNC hexagon head bolts (Gr10), spring rings, O-ring made of NBR (Buna-N®) (packed in kits) **BM-...-AS-U-B#K**
* Incl. Metric hexagon head bolts 8.8, spring rings, O-ring made of NBR (Buna-N®) (packed in kits) **BM-...-AS-M-B#K**





Material S355J0 / C45 or equivalent
Surface CrVI-free
Special Material Stainless Steel 1.4404 "-W5" on request

6000 PSI High Pressure Series (according to ISO 6162-2)

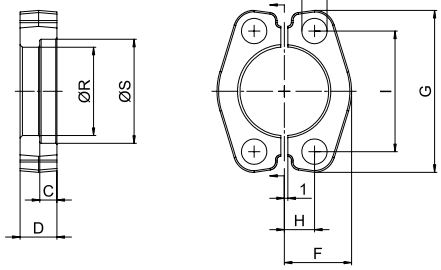
PN (bar)[1]		Nominal Size		Order Codes	Dimensions (mm)										for Bolts	
8.8 Bolts	10.9 (Gr10) Bolts	DN	(in)		Ø R	Ø S	C	D	E	F	G	H	I	Ø K[2]	UNC	Metr.
350	400	13	1/2	**BM-601**	24,6	32,5	7,2	16	22	48	56,5	18,2	40,5	8,7	5/16–18 UNC x 1-1/4	M 8
5075	5800				0,97	1,28	0,28	0,63	0,87	1,89	2,22	0,72	1,59	0,34		
350	400	19	3/4	**BM-602**	32,5	42	8,2	19	28	60	71	23,8	50,8	10,5	3/8–16 UNC x 1-1/2	M 10
5075	5800				1,28	1,65	0,32	0,75	1,10	2,36	2,80	0,94	2,00	0,41		
350	400	25	1	**BM-603-U**	38,8	48,4	9	24	33	70	81	27,8	57,2	12	7/16–14 UNC x 1-1/4	
5075	5800				1,53	1,91	0,35	0,94	1,30	2,76	3,19	1,09	2,25	0,47		
350	400	25	1	**BM-603-M**	38,8	48,4	9	24	33	70	81	27,8	57,2	13		M 12
5075	5800				1,53	1,91	0,35	0,94	1,30	2,76	3,19	1,09	2,25	0,51		
350	400	32	1-1/4	**BM-604**	44,5	54,8	9,8	27	38	78	95	31,8	66,6	13,5	1/2–13 UNC x 1-3/4	M 12
5075	5800				1,75	2,16	0,39	1,06	1,50	3,07	3,74	1,25	2,62	0,53		
350	400	32	1-1/4	**BM-604-M14**	44,5	54,8	9,8	27	38	78	95	31,8	66,6	15		M 14
5075	5800				1,75	2,16	0,39	1,06	1,50	3,07	3,74	1,25	2,62	0,59		
350	400	38	1-1/2	**BM-605**	51,6	64,3	12	30	43	95	113	36,5	79,3	17	5/8–11 UNC x 2	M 16
5075	5800				2,03	2,53	0,47	1,18	1,69	3,74	4,45	1,44	3,12	0,67		
350	400	51	2	**BM-606**	67,6	80,2	12	37	52	114	133	44,5	96,8	21	3/4–10 UNC x 2-1/2	M 20
5075	5800				2,66	3,16	0,47	1,46	2,05	4,49	5,24	1,75	3,81	0,83		

[1] The maximum working pressure applies only to the flange itself and depends on the Metric bolts (Grade 8.8 / 10.9) and UNC bolts (Gr10) used. The actual maximum working pressure depends on the thickness and the quality of the tube used.
[2] Dimensions of screw holes in part different to the ISO to match both Metric and UNC screws.

For flange kit part number, refer to the ordering code at the top of the page.

SAE Split Flange Halves (Flat Style)
DB-FL





Material C60 / C55 or equivalent
Surface CrVI-free

Order Codes Examples

Split Flange Set
* Pair of SAE Split Flange Halves (Flat Style) **DB-FL-...**

Split Flange Half
* Individual half only (Flat Style) **DB-FL-...-HALF**

Split Flange Kits
* Incl. UNC hexagon head bolts (Gr10), spring rings, O-ring made of NBR (Buna-N®) (packed in kits) **DB-FL-...-AS-U-B#K**
* Incl. Metric hexagon head bolts 8.8, spring rings, O-ring made of NBR (Buna-N®) (packed in kits) **DB-FL-...-AS-M-B#K**

3000 PSI Standard Pressure Series (according to ISO 6162-1)

PN (bar/PSI)[1]		Nominal Size		Order Codes	Dimensions (mm/in)									for Bolts	
8.8 Bolts	10.9 (Gr10) Bolts	DN	(in)		Ø R	Ø S	C	D	F	G	H	I	Ø K²	UNC	Metr.
350	350	13	1/2	**DB-FL-301**	24,3	31	6,2	13	22,8	54	8,75	38,1	8,7	5/16–18 UNC x 1-1/4	M8x25
5075	5075				.96	1.22	.24	.51	.90	2.13	.34	1.50	.34		
350	350	19	3/4	**DB-FL-302**	32,2	38,9	6,2	14	25,9	65	11,15	47,6	10,5	3/8–16 UNC x 1-1/4	M10x30
5075	5075				1.27	1.53	.24	.55	1.02	2.56	.44	1.87	.41		
250	315	25	1	**DB-FL-303**	38,5	45,3	7,5	16	29,2	70	13,1	52,4	10,5	3/8–16 UNC x 1-1/4	M10x30
3625	4565				1.52	1.78	.30	.63	1.15	2.76	.52	2.06	.41		
200	250	32	1-1/4	**DB-FL-304-M**	43,7	51,6	7,5	14	36,6	79	15,1	58,7	10,5		M10x30
2900	3625				1.72	2.03	.30	.55	1.44	3.11	.59	2.31	.41		
200	200	38	1-1/2	**DB-FL-305**	50,8	61,6	7,5	16	41,1	94	17,85	69,9	13,5	1/2–13 UNC x 1-1/2	M12x35
2900	2900				2.00	2.43	.30	.63	1.62	3.70	.70	2.75	.53		
160	200	51	2	**DB-FL-306**	62,8	72,3	9	16	48,2	102	21,45	77,8	13,5	1/2–13 UNC x 1-1/2	M12x35
2320	2900				2.47	2.85	.35	.63	1.90	4.02	.84	3.06	.53		
100	160	64	2-1/2	**DB-FL-307**	74,9	84,9	9	19	53	115	25,4	88,9	13,5	1/2–13 UNC x 1-1/2	M12x40
1450	2320				2.95	3.34	.35	.75	2.09	4.53	1.00	3.50	.53		
100	160	76	3	**DB-FL-308**	90,9	102,4	9	22	64,3	135	30,95	106,4	17	5/8–11 UNC x 1-1/2	M16x50
1450	2320				3.58	4.03	.35	.87	2.53	5.31	1.22	4.19	.67		

6000 PSI High Pressure Series (according to ISO 6162-2)

PN (bar/PSI)[1]		Nominal Size		Order Codes	Dimensions (mm/in)									for Bolts	
8.8 Bolts	10.9 (Gr10) Bolts	DN	(in)		Ø R	Ø S	C	D	F	G	H	I	Ø K²	UNC	Metr.
350	400	13	1/2	**DB-FL-601**	24,6	32,5	7,2	16	23,6	56	9,1	40,5	8,7	5/16–18 UNC x 1-1/4	M8x30
5075	5800				.97	1.28	.28	.63	.93	2.20	.36	1.59	.34		
350	400	19	3/4	**DB-FL-602**	32,5	42	8,2	20	30	71	11,9	50,8	10,5	3/8–16 UNC x 1-1/2	M10x35
5075	5800				1.28	1.65	.32	.79	1.18	2.80	.47	2.00	.41		
350	400	25	1	**DB-FL-603-M**	38,8	48,4	9	25	34,8	81	13,9	57,2	13		M12x45
5075	5800				1.53	1.91	.35	.98	1.37	3.19	.55	2.25	.51		
350	400	32	1-1/4	**DB-FL-604-M14**	44,5	54,8	9,8	27	38,6	95	15,9	66,6	15		M14x45
5075	5800				1.75	2.16	.39	1.06	1.52	3.74	.63	2.62	.59		
350	400	38	1-1/2	**DB-FL-605**	51,6	64,3	12	30	47,5	113	18,25	79,3	17	5/8–11 UNC x 2	M16x55
5075	5800				2.03	2.53	.47	1.18	1.87	4.45	.72	3.12	.67		
350	400	51	2	**DB-FL-606**	67,6	80,2	12	37	56,9	133	22,25	96,8	21	3/4–10 UNC x 2-1/2	M20x70
5075	5800				2.66	3.16	.47	1.46	2.24	5.24	.88	3.81	.83		

[1] The maximum working pressure applies only to the flange itself and depends on the Metric bolts (Grade 8.8 / 10.9) and UNC bolts (Gr10) used. The actual maximum working pressure depends on the thickness and the quality of the tube used.
[2] Dimensions of screw holes in part different to the ISO to match both Metric and UNC screws.

For flange kit part number, refer to the ordering code at the top of the page.

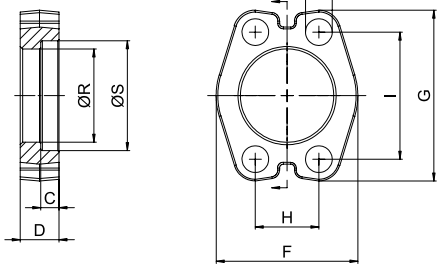
SAE Flange Clamp (Flat Style)
BM-FL

Order Codes Examples

- SAE Flange Clamp (Flat Style) **BM-FL-...**

Flange Kits

- Incl. UNC hexagon head bolts (Gr10), spring rings, O-ring made of NBR (Buna-N®) (packed in kits) **BM-FL-...-AS-U-B#K**
- Incl. Metric hexagon head bolts 8.8, spring rings, O-ring made of NBR (Buna-N®) (packed in kits) **BM-FL-...-AS-M-B#K**





Material C60 / C55 or equivalent
Surface CrVI-free

3000 PSI Standard Pressure Series (according to ISO 6162-1)

PN (bar/PSI)[1]		Nominal Size		Order Codes	Dimensions (mm/in)									for Bolts	
8.8 Bolts	10.9 (Gr10) Bolts	DN	(in)		Ø R	Ø S	C	D	F	G	H	I	Ø K[2]	UNC	Metr.
350	350	13	1/2	**BM-FL-301**	24,3	31	6,2	13	45,6	54	17,5	38,1	8,7	5/16–18 UNC x 1-1/4	M8x25
5075	5075				.96	1.22	.24	.51	1.80	2.13	.69	1.50	.34		
350	350	19	3/4	**BM-FL-302**	32,2	38,9	6,2	14	51,8	65	22,3	47,6	10,5	3/8–16 UNC x 1-1/4	M10x30
5075	5075				1.27	1.53	.24	.55	2.04	2.56	.88	1.87	.41		
250	315	25	1	**BM-FL-303**	38,5	45,3	7,5	16	58,4	70	26,2	52,4	10,5	3/8–16 UNC x 1-1/4	M10x30
3625	4565				1.52	1.78	.30	.63	2.30	2.76	1.03	2.06	.41		
200	250	32	1-1/4	**BM-FL-304-M**	43,7	51,6	7,5	14	73,2	79	30,2	58,7	10,5		M10x30
2900	3625				1.72	2.03	.30	.55	2.88	3.11	1.19	2.31	.41		
200	200	38	1-1/2	**BM-FL-305**	50,8	61,1	7,5	16	82,2	94	35,7	69,9	13,5	1/2–13 UNC x 1-1/2	M12x35
2900	2900				2.00	2.41	.30	.63	3.24	3.70	1.41	2.75	.53		
160	200	51	2	**BM-FL-306**	62,8	72,3	9	16	96,4	102	42,9	77,8	13,5	1/2–13 UNC x 1-1/2	M12x35
2320	2900				2.47	2.85	.35	.63	3.80	4.02	1.69	3.06	.53		
100	160	64	2-1/2	**BM-FL-307**	74,9	84,9	9	19	106	115	50,8	88,9	13,5	1/2–13 UNC x 1-1/2	M12x40
1450	2320				2.95	3.34	.35	.75	4.17	4.53	2.00	3.50	.53		
100	160	76	3	**BM-FL-308**	90,9	102,4	9	22	128,6	135	61,9	106,4	17	5/8–11 UNC x 2	M16x50
1450	2320				3.58	4.03	.35	.87	5.06	5.31	2.44	4.19	.67		

6000 PSI High Pressure Series (according to ISO 6162-2)

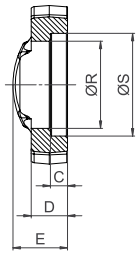
PN (bar/PSI)[1]		Nominal Size		Order Codes	Dimensions (mm/in)									for Bolts	
8.8 Bolts	10.9 (Gr10) Bolts	DN	(in)		Ø R	Ø S	C	D	F	G	H	I	Ø K[2]	UNC	Metr.
350	400	13	1/2	**BM-FL-601**	24,6	32,5	7,2	16	47,2	56	18,2	40,5	8,7	5/16–18 UNC x 1-1/4	M8x30
5075	5800				.97	1.28	.28	.63	1.86	2.20	.72	1.59	.34		
350	400	19	3/4	**BM-FL-602**	32,5	42	8	20	60	71	23,8	50,8	10,5	3/8–16 UNC x 1-1/2	M10x35
5075	5800				1.28	1.65	.31	.79	2.36	2.80	.94	2.00	.41		
350	400	25	1	**BM-FL-603-M**	38,8	48,4	9	25	69,6	81	27,8	57,2	13		M12x45
5075	5800				1.53	1.91	.35	.98	2.74	3.19	1.09	2.25	.51		
350	400	32	1-1/4	**BM-FL-604-M14**	44,5	54,8	9,8	27	77,2	95	31,8	66,6	15		M14x45
5075	5800				1.75	2.16	.39	1.06	3.04	3.74	1.25	2.62	.59		
350	400	38	1-1/2	**BM-FL-605**	51,6	64,3	12	30	89,4	113	36,5	79,3	17	5/8–11 UNC x 2	M16x55
5075	5800				2.03	2.53	.47	1.18	3.52	4.45	1.44	3.12	.67		
350	400	51	2	**BM-FL-606**	67,6	80,2	12	37	113,4	133	44,5	96,8	21	3/4–10 UNC x 2-1/2	M20x70
5075	5800				2.66	3.16	.47	1.46	4.46	5.24	1.75	3.81	.83		

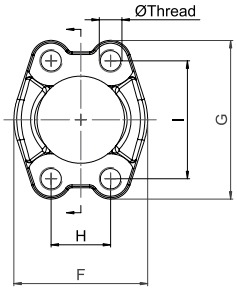
[1] The maximum working pressure applies only to the flange itself and depends on the Metric bolts (Grade 8.8 / 10.9) and UNC bolts (Gr10) used. The actual maximum working pressure depends on the thickness and the quality of the tube used.
[2] Dimensions of screw holes in part different to the ISO to match both Metric and UNC screws.

For flange kit part number, refer to the ordering code at the top of the page.

SAE Flange Clamp with Metric Tapped Holes
BM-G







Order Codes Examples

- SAE Flange Clamp with Metric tapped holes **BM-G-...**
- Deviant Metric tapped holes (M14) **BM-G-...M14**

Material S355J0 / C45 or equivalent
Surface CrVI-free
Special Material Stainless Steel 1.4404 "-W5" on request

3000 PSI Standard Pressure Series (according to ISO 6162-1)

PN (bar)[1]		Nominal Size		Order Codes	Dimensions (mm)									Ø Thread [2]
8.8 Bolts	10.9 (Gr10) Bolts	DN	(in)		Ø R	Ø S	C	D	E	F	G	H	I	
350	350	13	1/2	**BM-G-301**	24,3	31	6,2	13	19	46	54	17,5	38,1	M8
350	350	19	3/4	**BM-G-302**	32,2	38,9	6,2	14	22	52	65	22,3	47,6	M10
250	315	25	1	**BM-G-303**	38,5	45,3	7,5	16	24	59	70	26,2	52,4	M10
200	250	32	1-1/4	**BM-G-304**	43,7	51,6	7,5	14	24	73	79,5	30,2	58,7	M10 (M12)
200	200	38	1-1/2	**BM-G-305**	50,8	61,1	7,5	16	25	83	94	35,7	69,9	M12 (M14)
160	200	51	2	**BM-G-306**	62,8	72,3	9	16	26	97	102	42,9	77,8	M12 (M14)
100	160	64	2-1/2	**BM-G-307**	74,9	84,9	9	19	38	109	114,5	50,8	88,9	M12 (M14)
100	160	76	3	**BM-G-308**	90,9	102,4	9	22	41	131	135	61,9	106,4	M16
35	35	89	3-1/2	**BM-G-309**	102,4	115,1	10,7	22	28	140	152	69,9	120,7	M16
35	35	102	4	**BM-G-310**	115	127,8	10,7	25	35	152	162	77,8	130,2	M16
35	35	127	5	**BM-G-311**	140,5	153,2	10,7	28	41	181	184	92,1	152,4	M16

6000 PSI High Pressure Series (according to ISO 6162-2)

PN (bar)[1]		Nominal Size		Order Codes	Dimensions (mm)									Ø Thread
8.8 Bolts	10.9 (Gr10) Bolts	DN	(in)		Ø R	Ø S	C	D	E	F	G	H	I	
350	400	13	1/2	**BM-G-601**	24,6	32,5	7,2	16	22	48	56,5	18,2	40,5	M8
350	400	19	3/4	**BM-G-602**	32,5	42	8,2	19	28	60	71	23,8	50,8	M10
350	400	25	1	**BM-G-603**	38,8	48,4	9	24	33	70	81	27,8	57,2	M12
350	400	32	1-1/4	**BM-G-604**	44,5	54,8	9,8	27	38	78	95	31,8	66,6	M12
350	400	32	1-1/4	**BM-G-604-M14**	44,5	54,8	9,8	27	38	78	95	31,8	66,6	M14
350	400	38	1-1/2	**BM-G-605**	51,6	64,3	12	30	43	95	113	36,5	79,3	M16
350	400	51	2	**BM-G-606**	67,6	80,2	12	37	52	114	133	44,5	96,8	M20

[1] The maximum working pressure applies only to the flange itself and depends on the Metric bolts (Grade 8.8 / 10.9) and UNC bolts (Gr10) used. The actual maximum working pressure depends on the thickness and the quality of the tube used.
[2] Alternative options shown in brackets are available on request.

SAE Butt Weld Flange Adapter / SAE Butt Weld Companion Flange Adapter CAG/CSG-ST

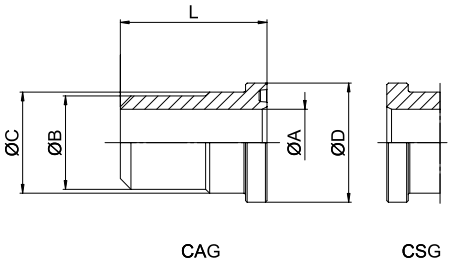
Order Codes Examples

- SAE Butt Weld Flange Adapter (without O-ring) **CAG-...-ST-**/****
- SAE Butt Weld Companion Flange Adapter **CSG-...-ST-**/****

Flange Kits

- Incl. UNC hexagon head bolts (Gr10), spring rings, O-ring made of NBR (Buna-N®) and DB (packed in kits) **CAG-...-ST-**/**-U#K**
- Incl. UNC hexagon head bolts (Gr10), spring rings, O-ring made of FPM (Viton®) and BM (packed in kits) **CAG-...-ST-**/**-V-U-BM#K**
- Incl. Metric hexagon head bolts 8.8, spring rings, O-ring made of NBR (Buna-N®) and DB (packed in kits) **CAG-...-ST-**/**#K**

****/** Please indicate pipe-OD and pipe-ID**





Material	S355J0 or equivalent
Surface	blank, oiled
Special Material	Stainless Steel 1.4571 "-W5" on request

3000 PSI Standard Pressure Series (according to ISO 6162-1)

PN (bar)[1]		Nominal Size		Order Codes	Dimensions (mm)				
8.8 Bolts	10.9 (Gr10) Bolts	DN	(in)		**Ø A min.**	**Ø B max.**	Ø C	Ø D	L
350	350	13	1/2	**CAG-301-ST-**/****	12	22	24	30,2	41
350	350	19	3/4	**CAG-302-ST-**/****	13	28	31,5	38,1	50
250	315	25	1	**CAG-303-ST-**/****	19	38	38	44,45	50
200	250	32	1-1/4	**CAG-304-ST-**/****	19	42,4	43	50,8	55
200	200	38	1-1/2	**CAG-305-ST-**/****	30	50	50	60,35	57
160	200	51	2	**CAG-306-ST-**/****	38	61	62	71,4	57
100	160	64	2-1/2	**CAG-307-ST-**/****	47	74	74	84,1	58
100	160	76	3	**CAG-308-ST-**/****	58	90	90	101,6	60
35	35	89	3-1/2	**CAG-309-ST-**/****	73	100	102	114,3	80
35	35	102	4	**CAG-310-ST-**/****	97	114	114	127	80
35	35	127	5	**CAG-311-ST-**/****	120	140	140	152,4	80

6000 PSI High Pressure Series (according to ISO 6162-2)

PN (bar)[1]		Nominal Size		Order Codes	Dimensions (mm)				
8.8 Bolts	10.9 (Gr10) Bolts	DN	(in)		**Ø A min.**	**Ø B max.**	Ø C	Ø D	L
350	400	13	1/2	**CAG-601-ST-**/****	10	22	24	31,8	34
350	400	19	3/4	**CAG-602-ST-**/****	12	28	32	41,3	38
350	400	25	1	**CAG-603-ST-**/****	18	38	38	47,6	40
350	400	32	1-1/4	**CAG-604-ST-**/****[2]	19	42,4	44	54	45
350	400	38	1-1/2	**CAG-605-ST-**/****	28	51	51	63,5	50
350	400	51	2	**CAG-606-ST-**/****	32	61	67	79,4	58

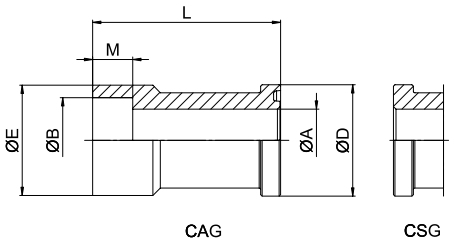
[1] The maximum working pressure applies only to the flange itself and depends on the Metric bolts (Grade 8.8 / 10.9) and UNC bolts (Gr10) used. The actual maximum working pressure depends on the thickness and the quality of the tube used.

[2] According to ISO 6162-2 bolts M12 should be used but because usually bolts M14 are used the description of the complete part must show M14 (e.g. CAG-604-ST-/**-M14#K).**

For flange kit part number, refer to the ordering code at the top of the page.

SAE Socket Weld Flange Adapter / SAE Socket Weld Companion Flange Adapter CAG/CSG-ES





Material S355J0 or equivalent
Surface blank, oiled
Special Material Stainless Steel 1.4571 "-W5" on request

Order Codes Examples

- SAE Socket Weld Flange Adapter (without O-ring) **CAG-...-ES-...**
- SAE Socket Weld Companion Flange Adapter **CSG-...-ES-...**

Flange Kits

- Incl. UNC hexagon head bolts (Gr10), spring rings, O-ring made of NBR (Buna-N®) and DB (packed in kits) **CAG-...-ES-...-U#K**
- Incl. UNC hexagon head bolts (Gr10), spring rings, O-ring made of FPM (Viton®) and DB (packed in kits) **CAG-...-ES-...-V-U#K**
- Incl. Metric hexagon head bolts 8.8, spring rings, O-ring made of NBR (Buna-N®) and DB (packed in kits) **CAG-...-ES-...#K**

3000 PSI Standard Pressure Series (according to ISO 6162-1)

PN (bar)[1]		Nominal Size		Order Codes	Dimensions (mm)					
8.8 Bolts	10.9 (Gr10) Bolts	DN	(in)		Ø A	Ø B	Ø D	Ø E	M	L
350	350	13	1/2	**CAG-301-ES-20,5/15**	15	20,5	30,2	30	13	60
350	350	13	1/2	**CAG-301-ES-21,7/15**	15	21,7	30,2	30	13	60
350	350	19	3/4	**CAG-302-ES-25,5/19**	19	25,5	38,1	35	13	68
350	350	19	3/4	**CAG-302-ES-27,3/19**	19	27,3	38,1	35	13	68
250	315	25	1	**CAG-303-ES-30,5/23**	23	30,5	44,45	44	16	75
250	315	25	1	**CAG-303-ES-34/25**	25	34	44,45	44	16	75
200	250	32	1-1/4	**CAG-304-ES-38,5/32**	32	38,5	50,8	55	18	95
200	250	32	1-1/4	**CAG-304-ES-43/32**	32	43	50,8	55	18	95
200	200	38	1-1/2	**CAG-305-ES-49/38**	38	49	60,3	63	20	100
200	200	38	1-1/2	**CAG-305-ES-50,4/38**	38	50,4	60,3	63	20	100
160	200	51	2	**CAG-306-ES-61/50**	50	61	71,4	79	22	107
100	160	64	2-1/2	**CAG-307-ES-77/58**	58	77	84,1	98	24	130
100	160	76	3	**CAG-308-ES-90,5/70**	70	90,5	101,6	116	28	150

6000 PSI High Pressure Series (according to ISO 6162-2)

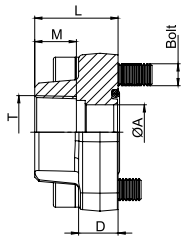
PN (bar)[1]		Nominal Size		Order Codes	Dimensions (mm)					
8.8 Bolts	10.9 (Gr10) Bolts	DN	(in)		Ø A	Ø B	Ø D	Ø E	M	L
350	400	13	1/2	**CAG-601-ES-20,5/15**	20,5	15	31,8	32	13	60
350	400	13	1/2	**CAG-601-ES-21,7/15**	21,7	15	31,8	32	13	60
350	400	19	3/4	**CAG-602-ES-25,7/19**	25,7	19	41,3	40	13	68
350	400	19	3/4	**CAG-602-ES-27,3/19**	27,3	19	41,3	40	13	68
350	400	25	1	**CAG-603-ES-34/25**	34,0	25	47,6	48	16	75

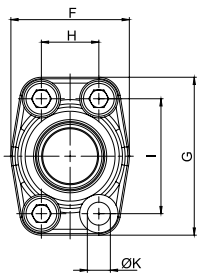
[1] The maximum working pressure applies only to the flange itself and depends on the Metric bolts (Grade 8.8 / 10.9) and UNC bolts (Gr10) used. The actual maximum working pressure depends on the thickness and the quality of the tube used.

For flange kit part number, refer to the ordering code at the top of the page.

SAE Single-Part Screw-in NPT Threaded Flange
BFX-N







Material S355J0 or equivalent
Surface blank, oiled
Special Material Stainless Steel 1.4404 "-W5" on request

Order Codes Examples

Single-Part Flange
* SAE Single-Part Screw-in NPT Threaded Flange (without O-ring) **BFX-...-N**

Flange Kits
* Including UNC bolts (Gr10), spring rings, O-ring made of NBR (Buna-N®) (packed in kits) **BFX-...-N-U#K**
* Including UNC bolts (Gr10), spring rings, O-ring made of FPM (Viton®) (packed in kits) **BFX-...-N-V-U#K**
* Including Metric bolts 8.8, spring rings, O-ring made of NBR (Buna-N®) (packed in kits) **BFX-...-N#K**

3000 PSI Standard Pressure Series (according to ISO 6162-1)

PN (bar/PSI)[1]		Nominal Size		Order Codes	Dimensions (mm/in)										for Bolts	
8.8 Bolts	10.9 (Gr10) Bolts	DN	(in)		Ø A	D	F	G	H	I	L	M	T (NPT)	Ø K[3]	UNC	Metr.[3]
350	350	13	1/2	**BFX-301-N**	13	16	47	57	17,5	38,1	36	15	1/2	8,7	5/16–18 UNC x 1-1/4	M8x30
5075	5075				.51	.63	1.85	2.24	.69	1.50	1.42	.59		.34		
350	350	13	1/2	**BFX-301-N038**	13	16	47	57	17,5	38,1	36	20	3/8	8,7	5 /16–18 UNC x 1-1/4	M8x30
5075	5075				.51	.63	1.85	2.24	.69	1.50	1.42	.79		.34		
350	350	19	3/4	**BFX-302-N**	19	18	50	67	22,3	47,6	36	18	3/4	10,5	3/8–16 UNC x 1-1/2	M10x35
5075	5075				.75	.71	1.97	2.64	.88	1.87	1.42	.71		.41		
350	350	19	3/4	**BFX-302-N012**	13	18	50	67	22,3	47,6	36	15	1/2	10,5	3/8–16 UNC x 1-1/2	M10x35
5075	5075				.51	.71	1.97	2.64	.88	1.87	1.42	.59		.41		
250	315	25	1	**BFX-303-N**	25	18	54	72	26,2	52,4	38	20	1	10,5	3/8–16 UNC x 1-1/2	M10x35
3625	4565				.98	0.71	2.13	2.83	1.03	2.06	1.50	.79		.41		
250	315	25	1	**BFX-303-N034**	19	18	54	72	26,2	52,4	38	18	3/4	10,5	3/8–16 UNC x 1-1/2	M10x35
3625	4565				.75	.71	2.13	2.83	1.03	2.06	1.50	.71		.41		
200	250	32	1-1/4	**BFX-304-N**	31	21	68	82	30,2	58,7	41	22	1-1/4	11,7 (13,5)	7/16–14 UNC x 1-1/2	M10x40 (M12x40)
2900	3625				1.22	.83	2.68	3.23	1.19	2.31	1.61	.87		.46 (.53)		
200	250	32	1-1/4	**BFX-304-N100**	25	21	68	82	30,2	58,7	41	20	1	11,7 (13,5)	7/16–14 UNC x 1-1/2	M10x40 (M12x40)
2900	3625				.98	.83	2.68	3.23	1.19	2.31	1.61	.79		.46 (.53)		
200	200	38	1-1/2	**BFX-305-N**	38	25	79	96	35,7	69,9	44	24	1-1/2	13,5 (14,5)	1/2–13 UNC x 1-3/4	M12x45 (M14x45)
2900	2900				1.50	.98	3.11	3.78	1.41	2.75	1.73	.94		.53 (.57)		
200	200	38	1-1/2	**BFX-305-N114**	31	25	79	96	35,7	69,9	44	22	1-1/4	13,5 (14,5)	1/2–13 UNC x 1-3/4	M12x45 (M14x45)
2900	2900				1.22	.98	3.11	3.78	1.41	2.75	1.73	.87		.53 (.57)		
160	200	51	2	**BFX-306-N**	50	25,5	88	102	42,9	77,8	45	26	2	13,5 (14,5)	1/2–13 UNC x 1-3/4	M12x45 (M14x45)
2320	2900				1.97	1.00	3.46	4.02	1.69	3.06	1.77	1.02		.53 (.57)		
160	200	51	2	**BFX-306-N112**	38	25,5	88	102	42,9	77,8	45	24	1-1/2	13,5 (14,5)	1/2–13 UNC x 1-3/4	M12x45 (M14x45)
2320	2900				1.50	1.00	3.46	4.02	1.69	3.06	1.77	.94		.53 (.57)		
100	160	64	2-1/2	**BFX-307-N**	63	26	101	115	50,8	88,9	50	30	2-1/2	13,5 (14,5)	1/2–13 UNC x 1-3/4	M12x45 (M14x45)
1450	2320				2.48	1.02	3.98	4.53	2.00	3.50	1.97	1.18		.53 (.57)		
100	160	64	2-1/2	**BFX-307-N200**	50	26	101	115	50,8	88,9	50	26	2	13,5 (14,5)	1/2–13 UNC x 1-3/4	M12x45 (M14x45)
1450	2320				1.97	1.02	3.98	4.53	2.00	3.50	1.97	1.02		.53 (.57)		
100	160	76	3	**BFX-308-N**	73	27,5	127	137	61,9	106,4	50	30	3	17	5/8–11 UNC x 2	M16x50
1450	2320				2.87	1.08	5.00	5.39	2.44	4.19	1.97	1,.18		.67		
100	160	76	3	**BFX-308-N212**	63	27,5	127	137	61,9	106,4	50	30	2-1/2	17	5/8–11 UNC x 2	M16x50
1450	2320				2.48	1.08	5.00	5.39	2.44	4.19	1.97	1.18		.67		
35	35	89	3-1/2	**BFX-309-N**	89	27,5	138	155	69,8	120,7	50	30	3-1/2	17	5/8–11 UNC x 2	M16x50
505	505				3.50	1.08	5.43	6.10	2.75	4.75	1.97	1.18		.67		
35	35	102	4	**BFX-310-N**	99	27,5	147	163	77,8	130,2	50	30	4	17	5/8–11 UNC x 2	M16x50
505	505				3.90	1.08	5.79	6.42	3.06	5.13	1.97	1.18		.67		
35	35	127	5	**BFX-311-N**	120	28	180	184	92	152,4	50	30	5	17	5/8–11 UNC x 2-1/4	M16x55
505	505				4.72	1.10	7.09	7.24	3.62	6.00	1.97	1.18		.67		

[1] The maximum working pressure applies only to the flange itself and depends on the Metric bolts (Grade 8.8 / 10.9) and UNC bolts (Gr10) used. The actual maximum working pressure depends on the thickness and the quality of the tube used.
[3] Alternative options shown in brackets are available on request.

For flange kit part number, refer to the ordering code at the top of the page.

SAE Single-Part Screw-in NPT Threaded Flange
BFX-N

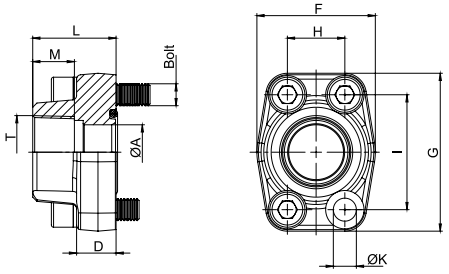
Order Codes Examples

Single-Part Flange

* SAE Single-Part Screw-in NPT Threaded Flange (without O-ring) **BFX-...-N**

Flange Kits

* Including UNC bolts (Gr10), spring rings, O-ring made of NBR (Buna-N®) (packed in kits) **BFX-...-N-U#K**
* Including UNC bolts (Gr10), spring rings, O-ring made of FPM (Viton®) (packed in kits) **BFX-...-N-V-U#K**
* Including Metric bolts 8.8, spring rings, O-ring made of NBR (Buna-N®) (packed in kits) **BFX-...-N#K**





Material S355J0 or equivalent
Surface blank, oiled
Special Material Stainless Steel 1.4404 "-W5" on request

6000 PSI High Pressure Series (according to ISO 6162-2)

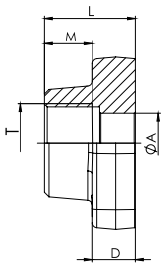
PN (bar/PSI)[1]		Nominal Size		Order Codes	Dimensions (mm/in)										for Bolts	
8.8 Bolts	10.9 (Gr10) Bolts	DN	(in)		Ø A	D	F	G	H	I	L	M	T (NPT)	Ø K	UNC	Metr.
350	400	13	1/2	**BFX-601-N**	14	16,5	47	57	18,2	40,5	36	15	1/2	8,7	5/16–18 UNC x 1-1/4	M8x30
5075	5800				.55	.65	1.85	2.24	.72	1.59	1.42	.59		.34		
350	400	13	1/2	**BFX-601-N038**	14	16,5	47	57	18,2	40,5	36	20	3/8	8,7	5/16–18 UNC x 1-1/4	M8x30
5075	5800				.55	.65	1.85	2.24	.72	1.59	1.42	.79		.34		
350	400	19	3/4	**BFX-602-N**	19	19,5	54	72	23,8	50,8	36	18	3/4	10,5	3/8–16 UNC x 1-1/2	M10x35
5075	5800				.75	.77	2.13	2.83	.94	2.00	1.42	.71		.41		
350	400	19	3/4	**BFX-602-N012**	14	19,5	54	72	23,8	50,8	36	15	1/2	10,5	3/8–16 UNC x 1-1/2	M10x35
5075	5800				.55	.77	2.13	2.83	.94	2.00	1.42	.59		.41		
350	400	25	1	**BFX-603-N**	25	24,5	68	82	27,8	57,2	44	20	1	13	7/16–14 UNC x 1-3/4	M12x45
5075	5800				.98	.96	2.68	3.23	1.09	2.25	1.73	.79		.51		
350	400	25	1	**BFX-603-N034**	19	24,5	68	82	27,8	57,2	44	18	3/4	13	7/16–14 UNC x 1-3/4	M12x45
5075	5800				.75	.96	2.68	3.23	1.09	2.25	1.73	.71		.51		
350	400	32	1-1/4	**BFX-604-N**	31	27,5	79	95	31,6	66,6	44	22	1-1/4	13,5	1/2–13 UNC x 1-3/4	M12x45
5075	5800				1.22	1.08	3.11	3.74	1.24	2.62	1.73	.87		.53		
350	400	32	1-1/4	**BFX-604-N-M14**	31	27,5	79	95	31,6	66,6	44	22	1-1/4	15		M14x45
5075	5800				1.22	1.08	3.11	3.74	1.24	2.62	1.73	.87		.59		
350	400	32	1-1/4	**BFX-604-N100**	25	27,5	79	95	31,6	66,6	44	20	1	13,5	1/2–13 UNC x 1-3/4	M12x45
5075	5800				.98	1.08	3.11	3.74	1.24	2.62	1.73	.79		.53		
350	400	32	1-1/4	**BFX-604-N100-M14**	25	27,5	79	95	31,6	66,6	44	20	1	15		M14x45
5075	5800				.98	1.08	3.11	3.74	1.24	2.62	1.73	.79		.59		
350	400	38	1-1/2	**BFX-605-N**	38	31	88	108	36,5	79,3	51	24	1-1/2	17	5/8–11 UNC x 2-1/4	M16x55
5075	5800				1.50	1.22	3.46	4.25	1.44	3.12	2.01	.94		.67		
350	400	38	1-1/2	**BFX-605-N114**	31	31	88	108	36,5	79,3	51	22	1-1/4	17	5/8–11 UNC x 2-1/4	M16x55
5075	5800				1.22	1.22	3.46	4.25	1.44	3.12	2.01	.87		.67		
350	400	51	2	**BFX-606-N**	50	37	118	137	44,5	96,8	65	33	2	21	3/4–10 UNC x 2-3/4	M20x70
5075	5800				1.97	1.46	4.65	5.39	1.75	3.81	2.56	1.30		.83		

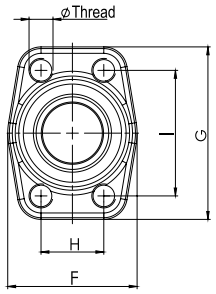
[1] The maximum working pressure applies only to the flange itself and depends on the Metric bolts (Grade 8.8 / 10.9) and UNC bolts (Gr10) used. The actual maximum working pressure depends on the thickness and the quality of the tube used.
[3] Alternative options shown in brackets are available on request.

For flange kit part number, refer to the ordering code at the top of the page.

SAE Single-Part Screw-in NPT Threaded Companion Flange
BAS-N







Order Codes Examples

- SAE Single-Part Screw-in NPT Threaded Companion Flange for UNC bolts **BAS-...-NU**
- SAE Single-Part Screw-in NPT Threaded Companion Flange for Metric bolts **BAS-...-N**

Material S355J0 or equivalent
Surface blank, oiled
Special Material Stainless Steel 1.4404 "-W5" on request

3000 PSI Standard Pressure Series (according to ISO 6162-1)

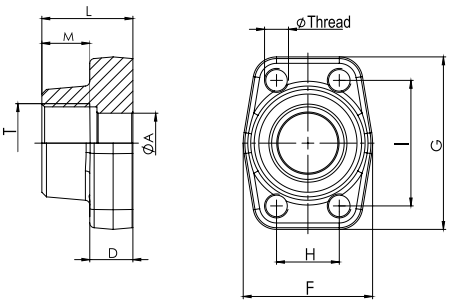
PN ([bar]/[PSI])[1]		Nominal Size		Order Codes	Dimensions ([mm]/[in])									Ø Thread	
8.8 Bolts	10.9 (Gr10) Bolts	DN	(in)		Ø A	D	F	G	H	I	L	M	T (NPT)	UNC	Metr.[3]
350	350	13	1/2	**BAS-301-NU**	13	16	47	57	17,5	38,1	36	15	1/2	5/16–18 UNC	M8
5075	5075				.51	.63	1.85	2.24	.69	1.50	1.42	.59			
350	350	13	1/2	**BAS-301-NU038**	13	16	47	57	17,5	38,1	36	20	3/8	5/16–18 UNC	M8
5075	5075				.51	.63	1.85	2.24	.69	1.50	1.42	.79			
350	350	19	3/4	**BAS-302-NU**	19	18	50	67	22,3	47,6	36	18	3/4	3/8–16 UNC	M10
5075	5075				.75	.71	1.97	2.64	.88	1.87	1.42	.71			
350	350	19	3/4	**BAS-302-NU012**	13	18	50	67	22,3	47,6	36	15	1/2	3/8–16 UNC	M10
5075	5075				.51	.71	1.97	2.64	.88	1.87	1.42	.59			
250	315	25	1	**BAS-303-NU**	25	18	54	72	26,2	52,4	38	20	1	3/8–16 UNC	M10
3625	4565				.98	.71	2.13	2.83	1.03	2.06	1.50	.79			
250	315	25	1	**BAS-303-NU034**	19	18	54	72	26,2	52,4	38	18	3/4	3/8–16 UNC	M10
3625	4565				.75	.71	2.13	2.83	1.03	2.06	1.50	.71			
200	250	32	1-1/4	**BAS-304-NU**	31	21	68	82	30,2	58,7	41	22	1-1/4	7/16–14 UNC	M10 (M12)
2900	3625				1.22	.83	2.68	3.23	1.19	2.31	1.61	.87			
200	250	32	1-1/4	**BAS-304-NU100**	25	21	68	82	30,2	58,7	41	20	1	7/16–14 UNC	M10 (M12)
2900	3625				.98	.83	2.68	3.23	1.19	2.31	1.61	.79			
200	200	38	1-1/2	**BAS-305-NU**	38	25	79	96	35,7	69,9	44	24	1-1/2	1/2–13 UNC	M12 (M14)
2900	2900				1.50	.98	3.11	3.78	1.41	2.75	1.73	.94			
200	200	38	1-1/2	**BAS-305-NU114**	31	25	79	96	35,7	69,9	44	22	1-1/4	1/2–13 UNC	M12 (M14)
2900	2900				1.22	.98	3.11	3.78	1.41	2.75	1.73	.87			
160	200	51	2	**BAS-306-NU**	50	25,5	88	102	42,9	77,8	45	26	2	1/2–13 UNC	M12 (M14)
2320	2900				1.97	1.00	3.46	4.02	1.69	3.06	1.77	1.02			
160	200	51	2	**BAS-306-NU112**	38	25,5	88	102	42,9	77,8	45	24	1-1/2	1/2–13 UNC	M12 (M14)
2320	2900				1.50	1.00	3.46	4.02	1.69	3.06	1.77	.94			
100	160	64	2-1/2	**BAS-307-NU**	63	26	101	115	50,8	88,9	50	30	2-1/2	1/2–13 UNC	M12 (M14)
1450	2320				2.48	1.02	3.98	4.53	2.00	3.50	1.97	1.18			
100	160	64	2-1/2	**BAS-307-NU200**	50	26	101	115	50,8	88,9	50	26	2	1/2–13 UNC	M12 (M14)
1450	2320				1.97	1.02	3.98	4.53	2.00	3.50	1.97	1.02			
100	160	76	3	**BAS-308-NU**	73	27,5	127	137	61,9	106,4	50	30	3	5/8–11 UNC	M16
1450	2320				2.87	1.08	5.00	5.39	2.44	4.19	1.97	1.18			
100	160	76	3	**BAS-308-NU212**	63	27,5	127	137	61,9	106,4	50	30	2-1/2	5/8–11 UNC	M16
1450	2320				2.48	1.08	5.00	5.39	2.44	4.19	1.97	1.18			
35	35	89	3-1/2	**BAS-309-NU**	89	27,5	138	155	69,8	120,7	50	30	3-1/2	5/8–11 UNC	M16
505	505				3.50	1.08	5.43	6.10	2.75	4.75	1.97	1.18			
35	35	102	4	**BAS-310-NU**	99	27,5	147	163	77,8	130,2	50	30	4	5/8–11 UNC	M16
505	505				3.90	1.08	5.79	6.42	3.06	5.13	1.97	1.18			
35	35	127	5	**BAS-311-NU**	120	28	180	184	92	152,4	50	30	5	5/8–11 UNC	M16
505	505				4.72	1.10	7.09	7.24	3.62	6.00	1.97	1.18			

[1] The maximum working pressure applies only to the flange itself and depends on the Metric bolts (Grade 8.8 / 10.9) and UNC bolts (Gr10) used. The actual maximum working pressure depends on the thickness and the quality of the tube used.
[3] Alternative options shown in brackets are available on request.

SAE Single-Part Screw-in NPT Threaded Companion Flange
BAS-N

Order Codes Examples

* SAE Single-Part Screw-in **BAS-...-NU**
  NPT Threaded Companion Flange for UNC bolts
* SAE Single-Part Screw-in **BAS-...-N**
  NPT Threaded Companion Flange for Metric bolts





Material S355J0 or equivalent
Surface blank, oiled
Special Material Stainless Steel 1.4404 "-W5" on request

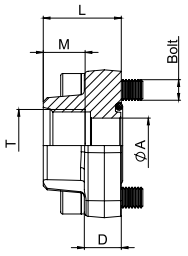
6000 PSI High Pressure Series (according to ISO 6162-2)

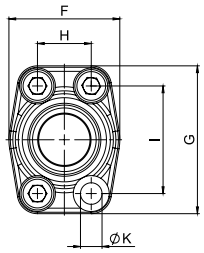
PN (bar/PSI)[1]		Nominal Size		Order Codes	Dimensions (mm/in)									Ø Thread	
8.8 Bolts	10.9 (Gr10) Bolts	DN	(in)		Ø A	D	F	G	H	I	L	M	T (NPT)	UNC	Metr.
350	400	13	1/2	**BAS-601-NU**	14	16,5	47	57	18,2	40,5	36	15	1/2	5/16–18 UNC	M8
5075	5800				.55	.65	1.85	2.24	.72	1.59	1.42	.59			
350	400	13	1/2	**BAS-601-NU038**	14	16,5	47	57	18,2	40,5	36	20	3/8	5/16–18 UNC	M8
5075	5800				.55	.65	1.85	2.24	.72	1.59	1.42	.79			
350	400	19	3/4	**BAS-602-NU**	19	19,5	54	72	23,8	50,8	36	18	3/4	3/8–16 UNC	M10
5075	5800				.75	.77	2.13	2.83	.94	2.00	1.42	.71			
350	400	19	3/4	**BAS-602-NU012**	14	19,5	54	72	23,8	50,8	36	15	1/2	3/8–16 UNC	M10
5075	5800				.55	.77	2.13	2.83	.94	2.00	1.42	.59			
350	400	25	1	**BAS-603-NU**	25	24,5	68	82	27,8	57,2	44	20	1	7/16–14 UNC	M12
5075	5800				.98	.96	2.68	3.23	1.09	2.25	1.73	.79			
350	400	25	1	**BAS-603-NU034**	19	24,5	68	82	27,8	57,2	44	18	3/4	7/16–14 UNC	M12
5075	5800				.75	.96	2.68	3.23	1.09	2.25	1.73	.71			
350	400	32	1-1/4	**BAS-604-NU**	31	27,5	79	95	31,6	66,6	44	22	1-1/4	1/2–13 UNC	M12
5075	5800				1.22	1.08	3.11	3.74	1.24	2.62	1.73	.87			
350	400	32	1-1/4	**BAS-604-NM14**	31	27,5	79	95	31,6	66,6	44	22	1-1/4		M14
5075	5800				1.22	1.08	3.11	3.74	1.24	2.62	1.73	.87			
350	400	32	1-1/4	**BAS-604-NU100**	25	27,5	79	95	31,6	66,6	44	20	1	1/2–13 UNC	M12
5075	5800				.98	1.08	3.11	3.74	1.24	2.62	1.73	.79			
350	400	32	1-1/4	**BAS-604-NM14-100**	25	27,5	79	95	31,6	66,6	44	20	1		M14
5075	5800				.98	1.08	3.11	3.74	1.24	2.62	1.73	.79			
350	400	38	1-1/2	**BAS-605-NU**	38	31	88	108	36,5	79,3	51	24	1-1/2	5/8–11 UNC	M16
5075	5800				1.50	1.22	3.46	4.25	1.44	3.12	2.01	.94			
350	400	38	1-1/2	**BAS-605-NU114**	31	31	88	108	36,5	79,3	51	22	1-1/4	5/8–11 UNC	M16
5075	5800				1.22	1.22	3.46	4.25	1.44	3.12	2.01	.87			
350	400	51	2	**BAS-606-NU**	50	37	118	137	44,5	96,8	58	33	2	3/4–10 UNC	M20
5075	5800				1.97	1.46	4.65	5.39	1.75	3.81	2.28	1.30			

[1] The maximum working pressure applies only to the flange itself and depends on the Metric bolts (Grade 8.8 / 10.9) and UNC bolts (Gr10) used. The actual maximum working pressure depends on the thickness and the quality of the tube used.
[3] Alternative options shown in brackets are available on request.

SAE Single-Part Screw-in UN Threaded Flange
BFX-U







Material S355J0 or equivalent
Surface blank, oiled
Special Material Stainless Steel 1.4404 "-W5" on request

Order Codes Examples

Single-Part Flange
* SAE Single-Part Screw-in UN Threaded Flange (without O-ring) **BFX-...-U**

Flange Kits
* Including UNC bolts (Gr10), spring rings, O-ring made of NBR (Buna-N®) (packed in kits) **BFX-...-U-**-U#K**
* Including UNC bolts (Gr10), spring rings, O-ring made of FPM (Viton®) (packed in kits) **BFX-...-U-**-V-U#K**
* Including Metric bolts 8.8, spring rings, O-ring made of NBR (Buna-N®) (packed in kits) **BFX-...-U**#K**

3000 PSI Standard Pressure Series (according to ISO 6162-1)

PN (bar/PSI)[1]		Nominal Size		Order Codes	Dimensions (mm/in)										for Bolts	
8.8 Bolts	10.9 (Gr10) Bolts	DN	(in)		Ø A	D	F	G	H	I	L	M	T (UN/UNF)	Ø K[3]	UNC	Metr.[3]
350	350	13	1/2	**BFX-301-U3/4**	13	16	47	57	17,5	38,1	36	14,3	3/4–16	8,7	5/16–18 UNC x 1-1/4	M8x30
5075	5075				.51	.63	1.85	2.24	.69	1.50	1.42	.56		0,34		
350	350	19	3/4	**BFX-302-U7/8**	19	18	50	67	22,3	47,6	36	16,7	7/8–14	10,5	3/8–16 UNC x 1-1/2	M10x35
5075	5075				.75	.71	1.97	2.64	.88	1.87	1.42	.66		0,41		
350	350	19	3/4	**BFX-302-U11/16**	19	18	50	67	22,3	47,6	36	16,7	1-1/16–12	10,5	3/8–16 UNC x 1-1/2	M10x35
5075	5075				.75	.71	1.97	2.64	.88	1.87	1.42	.66		0,41		
250	315	25	1	**BFX-303-U11/16**	25	18	54	72	26,2	52,4	38	19	1-1/16–12	10,5	3/8–16 UNC x 1-1/2	M10x35
3625	4565				.98	.71	2.13	2.83	1.03	2.06	1.50	.75		0,41		
250	315	25	1	**BFX-303-U15/16**	25	18	54	72	26,2	52,4	38	19	1-5/16–12	10,5	3/8–16 UNC x 1-1/2	M10x35
3625	4565				.98	.71	2.13	2.83	1.03	2.06	1.50	.75		0,41		
200	250	32	1-1/4	**BFX-304-U15/16**	31	21	68	82	30,2	58,7	41	19	1-5/16–12	11,7 (13,5)	7/16–14 UNC x 1-1/2	M10x40 (M12x40)
2900	3625				1.22	.83	2.68	3.23	1.19	2.31	1.61	.75		.46 (.53)		
200	250	32	1-1/4	**BFX-304-U15/8**	31	21	68	82	30,2	58,7	41	19	1-5/8–12	11,7 (13,5)	7/16–14 UNC x 1-1/2	M10x40 (M12x40)
2900	3625				1.22	.83	2.68	3.23	1.19	2.31	1.61	.75		.46 (.53)		
200	200	38	1-1/2	**BFX-305-U15/8**	38	25	79	96	35,7	69,9	44	19	1-5/8–12	13,5 (14,5)	1/2–13 UNC x 1-3/4	M12x45 (M14x45)
2900	2900				1.50	.98	3.11	3.78	1.41	2.75	1.73	.75		.53 (.57)		
200	200	38	1-1/2	**BFX-305-U17/8**	38	25	79	96	35,7	69,9	44	19	1-7/8–12	13,5 (14,5)	1/2–13 UNC x 1-3/4	M12x45 (M14x45)
2900	2900				1.50	.98	3.11	3.78	1.41	2.75	1.73	.75		.53 (.57)		
160	200	51	2	**BFX-306-U21/2**	38	25,5	88	102	42,9	77,8	45	19	2-1/2–12	13,5 (14,5)	1/2–13 UNC x 1-3/4	M12x45 (M14x45)
2320	2900				2.00	.98	3.54	4.00	1.69	3.06	1.77	.75		.53 (.57)		

[1] The maximum working pressure applies only to the flange itself and depends on the Metric bolts (Grade 8.8 / 10.9) and UNC bolts (Gr10) used. The actual maximum working pressure depends on the thickness and the quality of the tube used.
[3] Alternative options shown in brackets are available on request.

For flange kit part number, refer to the ordering code at the top of the page.

SAE Single-Part Screw-in UN Threaded Flange
BFX-U

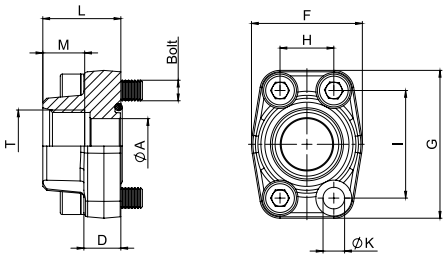
Order Codes Examples

Single-Part Flange

* SAE Single-Part Screw-in UN Threaded Flange (without O-ring) **BFX-...-U**

Flange Kits

* Including UNC bolts (Gr10), spring rings, O-ring made of NBR (Buna-N®) (packed in kits) **BFX-...-U-**-U#K**
* Including UNC bolts (Gr10), spring rings, O-ring made of FPM (Viton®) (packed in kits) **BFX-...-U-**-V-U#K**
* Including Metric bolts 8.8, spring rings, O-ring made of NBR (Buna-N®) (packed in kits) **BFX-...-U**#K**





Material	S355J0 or equivalent
Surface	blank, oiled
Special Material	Stainless Steel 1.4404 "-W5" on request

6000 PSI High Pressure Series (according to ISO 6162-2)

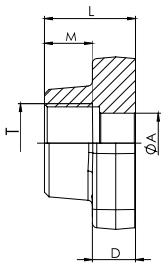
PN ($^{bar}/_{PSI}$)[1]		Nominal Size		Order Codes	Dimensions ($^{mm}/_{in}$)										for Bolts	
8.8 Bolts	10.9 (Gr10) Bolts	DN	(in)		Ø A	D	F	G	H	I	L	M	T (UN/UNF)	Ø K	UNC	Metr.
350	400	13	1/2	**BFX-601-U3/4**	13	16,5	47	57	18,2	40,5	36	14,3	3/4–16	8,7	5/16–18 UNC x 1-1/4	M8x30
5075	5800				.51	.65	1.85	2.24	.72	1.59	1.42	.56		.34		
350	400	19	3/4	**BFX-602-U7/8**	19	19,5	54	72	23,8	50,8	36	16,7	7/8–14	10,5	3/8–16 UNC x 1-1/2	M10x35
5075	5800				.75	.77	2.13	2.83	.94	2.00	1.42	.66		.41		
350	400	19	3/4	**BFX-602-U11/16**	19	19,5	54	72	23,8	50,8	36	16,7	1-1/16–12	10,5	3/8–16 UNC x 1-1/2	M10x35
5075	5800				.75	.77	2.13	2.83	.94	2.00	1.42	.66		.41		
350	400	25	1	**BFX-603-U11/16**	25	24,5	68	82	27,8	57,1	44	19	1-1/16–12	13	7/16–14 UNC x 1-3/4	M12x45
5075	5800				.98	.96	2.68	3.23	1.09	2.25	1.73	.75		.51		
350	400	25	1	**BFX-603-U15/16**	25	24,5	68	82	27,8	57,1	44	19	1-5/16–12	13	7/16–14 UNC x 1-3/4	M12x45
5075	5800				.98	.96	2.68	3.23	1.09	2.25	1.73	.75		.51		
350	400	32	1-1/4	**BFX-604-U15/16**	31	27,5	79	95	31,6	66,7	44	19	1-5/16–12	13,5	1/2–13 UNC x 1-3/4	
5075	5800				1.22	1.08	3.11	3.74	1.24	2.63	1.73	.75		.53		
350	400	32	1-1/4	**BFX-604-U15/16-M14**	31	27,5	79	95	31,6	66,7	44	19	1-5/16–12	15		M14x45
5075	5800				1.22	1.08	3.11	3.74	1.24	2.63	1.73	.75		.59		
350	400	32	1-1/4	**BFX-604-U15/8**	31	27,5	79	95	31,6	66,7	44	19	1-5/8–12	13,5	1/2–13 UNC x 1-3/4	
5075	5800				1.22	1.08	3.11	3.74	1.24	2.63	1.73	.75		.53		
350	400	32	1-1/4	**BFX-604-U15/8-M14**	31	27,5	79	95	31,6	66,7	44	19	1-5/8–12	15		M14x45
5075	5800				1.22	1.08	3.11	3.74	1.24	2.63	1.73	.75		.59		
350	400	38	1-1/2	**BFX-605-U15/8**	38	31	88	108	36,5	79,4	51	19	1-5/8–12	17	5/8–11 UNC x 2-1/4	M16x55
5075	5800				1.50	1.22	3.46	4.25	1.44	3.13	2.01	.75		.67		
350	400	38	1-1/2	**BFX-605-U17/8**	38	31	88	108	36,5	79,4	51	19	1-7/8–12	17	5/8–11 UNC x 2-1/4	M16x55
5075	5800				1.50	1.22	3.46	4.25	1.44	3.13	2.01	.75		.67		
350	400	51	2	**BFX-606-U21/2**	50	37	118	137	44,5	96,8	65	19	2-1/2–12	21	3/4–10 UNC x 2-3/4	M20x70
5075	5800				1.97	1.46	4.65	5.39	1.75	3.81	2.65	.75		.83		

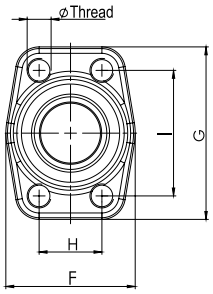
[1] The maximum working pressure applies only to the flange itself and depends on the Metric bolts (Grade 8.8 / 10.9) and UNC bolts (Gr10) used. The actual maximum working pressure depends on the thickness and the quality of the tube used.

For flange kit part number, refer to the ordering code at the top of the page.

SAE Single-Part Screw-in UN Threaded Companion Flange
BAS-U







Order Codes Examples

- SAE Single-Part Screw-in **BAS-...-UU**
  UN Threaded Companion Flange for UNC bolts
- Deviant screw-in UN thread **BAS-...-UU*****
- SAE Single-Part Screw-in **BAS-...-U**
  UN Threaded Companion Flange for Metric bolts

Material S355J0 or equivalent
Surface blank, oiled
Special Material Stainless Steel 1.4404 "-W5" on request

3000 PSI Standard Pressure Series (according to ISO 6162-1)

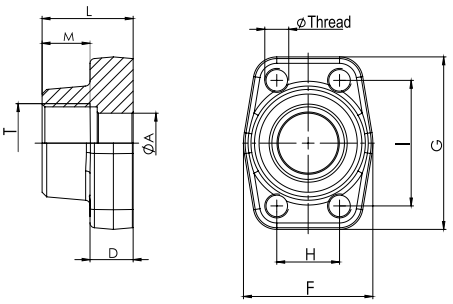
PN (bar/PSI)[1]		Nominal Size		Order Codes	Dimensions (mm/in)									Ø Thread	
8.8 Bolts	10.9 (Gr10) Bolts	DN	(in)		Ø A	D	F	G	H	I	L	M	T (UN/UNF)	UNC	Metr.[3]
350	350	13	1/2	**BAS-301-UU3/4**	13	16	47	57	17,5	38,1	36	14,3	3/4–16	5/16–18 UNC	M8
5075	5075				.51	.63	1.85	2.24	.69	1.50	1.42	.56			
350	350	19	3/4	**BAS-302-UU7/8**	19	18	50	67	22,3	47,6	36	16,7	7/8–14	3/8–16 UNC	M10
5075	5075				.75	.71	1.97	2.64	.88	1.87	1.42	.66			
350	350	19	3/4	**BAS-302-UU11/16**	19	18	50	67	22,3	47,6	36	16,7	1-1/16–12	3/8–16 UNC	M10
5075	5075				.75	.71	1.97	2.64	.88	1.87	1.42	.66			
250	315	25	1	**BAS-303-UU11/16**	25	18	54	72	26,2	52,4	38	19	1-1/16–12	3/8–16 UNC	M10
3625	4565				.98	.71	2.13	2.83	1.03	2.06	1.50	.75			
250	315	25	1	**BAS-303-UU15/16**	25	18	54	72	26,2	52,4	38	19	1-5/16–12	3/8–16 UNC	M10
3625	4565				.98	.71	2.13	2.83	1.03	2.06	1.50	.75			
200	250	32	1-1/4	**BAS-304-UU15/16**	31	21	68	82	30,2	58,7	41	19	1-5/16–12	7/16–14 UNC	M10 (M12)
2900	3625				1.22	.83	2.68	3.23	1.19	2.31	1.61	.75			
200	250	32	1-1/4	**BAS-304-UU15/8**	31	21	68	82	30,2	58,7	41	19	1-5/8–12	7/16–14 UNC	M10 (M12)
2900	3625				1.22	.83	2.68	3.23	1.19	2.31	1.61	.75			
200	200	38	1-1/2	**BAS-305-UU15/8**	38	25	79	96	35,7	69,9	44	19	1-5/8–12	1/2–13 UNC	M12 (M14)
2900	2900				1.50	.98	3.11	3.78	1.41	2.75	1.73	.75			
200	200	38	1-1/2	**BAS-305-UU17/8**	38	25	79	96	35,7	69,9	44	19	1-7/8–12	1/2–13 UNC	M12 (M14)
2900	2900				1.50	.98	3.11	3.78	1.41	2.75	1.73	.75			
160	200	51	2	**BAS-306-UU21/2**	38	25,5	88	102	42,9	77,8	45	19	2-1/2–12	1/2–13 UNC	M12 (M14)
2320	2900				2.00	.98	3.54	4.00	1.69	3.06	1.77	.75			

[1] The maximum working pressure applies only to the flange itself and depends on the Metric bolts (Grade 8.8 / 10.9) and UNC bolts (Gr10) used. The actual maximum working pressure depends on the thickness and the quality of the tube used.
[3] Alternative options shown in brackets are available on request.

SAE Single-Part Screw-in UN Threaded Companion Flange
BAS-U

Order Codes Examples

- SAE Single-Part Screw-in **BAS-...-UU**
  UN Threaded Companion Flange for UNC bolts
- Deviant screw-in UN thread **BAS-...-UU*****
- SAE Single-Part Screw-in **BAS-...-U**
  UN Threaded Companion Flange for Metric bolts





Material	S355J0 or equivalent
Surface	blank, oiled
Special Material	Stainless Steel 1.4404 “-W5” on request

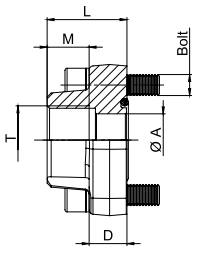
6000 PSI High Pressure Series (according to ISO 6162-2)

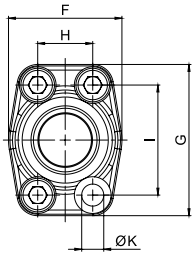
PN ($^{bar}/_{PSI}$)[1]		Nominal Size		Order Codes	Dimensions ($^{mm}/_{in}$)									Ø Thread	
8.8 Bolts	10.9 (Gr10) Bolts	DN	(in)		Ø A	D	F	G	H	I	L	M	T (UN/UNF)	UNC	Metr.
350	400	13	1/2	**BAS-601-UU3/4**	13	16,5	47	57	18,2	40,5	36	14,3	3/4–16	5/16–18 UNC	M8
5075	5800				.51	.65	1.85	2.24	.72	1.59	1.42	.56			
350	400	19	3/4	**BAS-602-UU7/8**	19	19,5	54	72	23,8	50,8	36	16,7	7/8–14	3/8–16 UNC	M10
5075	5800				.75	.77	2.13	2.83	.94	2.00	1.42	.66			
350	400	19	3/4	**BAS-602-UU11/16**	19	19,5	54	72	23,8	50,8	36	16,7	1-1/16–12	3/8–16 UNC	M10
5075	5800				.75	.77	2.13	2.83	.94	2.00	1.42	.66			
350	400	25	1	**BAS-603-UU11/16**	25	24,5	68	82	27,8	57,1	44	19	1-1/16–12	7/16–14 UNC	M12
5075	5800				.98	.96	2.68	3.23	1.09	2.25	1.73	.75			
350	400	25	1	**BAS-603-UU15/16**	25	24,5	68	82	27,8	57,1	44	19	1-5/16–12	7/16–14 UNC	M12
5075	5800				.98	.96	2.68	3.23	1.09	2.25	1.73	.75			
350	400	32	1-1/4	**BAS-604-UU15/16**	31	27,5	79	95	31,6	66,7	44	19	1-5/16–12	1/2–13 UNC	
5075	5800				1.22	1.08	3.11	3.74	1.24	2.63	1.73	.75			
350	400	32	1-1/4	**BAS-604-U15/16-M14**	31	27,5	79	95	31,6	66,7	44	19	1-5/16–12		M14
5075	5800				1.22	1.08	3.11	3.74	1.24	2.63	1.73	.75			
350	400	32	1-1/4	**BAS-604-UU15/8**	31	27,5	79	95	31,6	66,7	44	19	1-5/8–12	1/2–13 UNC	
5075	5800				1.22	1.08	3.11	3.74	1.24	2.63	1.73	.75			
350	400	32	1-1/4	**BAS-604-U15/8-M14**	31	27,5	79	95	31,6	66,7	44	19	1-5/8–12		M14
5075	5800				1.22	1.08	3.11	3.74	1.24	2.63	1.73	.75			
350	400	38	1-1/2	**BAS-605-UU15/8**	38	31	88	108	36,5	79,4	51	19	1-5/8–12	5/8–11 UNC	M16
5075	5800				1.50	1.22	3.46	4.25	1.44	3.13	2.01	.75			
350	400	38	1-1/2	**BAS-605-UU17/8**	38	31	88	108	36,5	79,4	51	19	1-7/8–12	5/8–11 UNC	M16
5075	5800				1.50	1.22	3.46	4.25	1.44	3.13	2.01	.75			
350	400	51	2	**BFX-606-U21/2**	50	37	118	137	44,5	96,8	65	19	2-1/2–12	3/4–10 UNC	M20
5075	5800				1.97	1.46	4.65	5.39	1.75	3.81	2.65	.75			

[1] The maximum working pressure applies only to the flange itself and depends on the Metric bolts (Grade 8.8 / 10.9) and UNC bolts (Gr10) used. The actual maximum working pressure depends on the thickness and the quality of the tube used.

SAE Single-Part Screw-in BSPP Threaded Flange
BFX-G







Material S355J0 or equivalent
Surface blank, oiled
Special Material Stainless Steel 1.4404 "-W5" on request

Order Codes Examples

Single-Part Flange
- SAE Single-Part Screw-in BSPP Threaded Flange (without O-ring) **BFX-...-G**

Flange Kits
- Including UNC bolts (Gr10), spring rings, O-ring made of NBR (Buna-N®) (packed in kits) **BFX-...-G-U#K**
- Including UNC bolts (Gr10), spring rings, O-ring made of FPM (Viton®) (packed in kits) **BFX-...-G-V-U#K**
- Including Metric bolts 8.8, spring rings, O-ring made of NBR (Buna-N®) (packed in kits) **BFX-...-G#K**

3000 PSI Standard Pressure Series (according to ISO 6162-1)

PN (bar)[1]		Nominal Size		Order Codes	Dimensions (mm)										for Bolts	
8.8 Bolts	10.9 (Gr10) Bolts	DN	(in)		Ø A	D	F	G	H	I	L	M	T (BSPP)	Ø K[3]	UNC	Metr.[3]
350	350	13	1/2	**BFX-301-G**	13	16,0	47	57	17,5	38,1	36	15	1/2	8,7	5/16–18 UNC x 1-1/4	M8x30
350	350	13	1/2	**BFX-301-G038**	13	16,0	47	57	17,5	38,1	36	20	3/8	8,7	5/16–18 UNC x 1-1/4	M8x30
350	350	19	3/4	**BFX-302-G**	19	18,0	50	67	22,3	47,6	36	18	3/4	10,5	3/8–16 UNC x 1-1/2	M10x35
350	350	19	3/4	**BFX-302-G012**	13	18,0	50	67	22,3	47,6	36	15	1/2	10,5	3/8–16 UNC x 1-1/2	M10x35
250	315	25	1	**BFX-303-G**	25	18,0	54	72	26,2	52,4	38	20	1	10,5	3/8–16 UNC x 1-1/2	M10x35
250	315	25	1	**BFX-303-G034**	19	18,0	54	72	26,2	52,4	38	18	3/4	10,5	3/8–16 UNC x 1-1/2	M10x35
200	250	32	1-1/4	**BFX-304-G**	31	21,0	68	82	30,2	58,7	41	22	1-1/4	11,7 (13,5)	7/16–14 UNC x 1-1/2	M10x40 (M12x40)
200	250	32	1-1/4	**BFX-304-G100**	25	21,0	68	82	30,2	58,7	41	20	1	11,7 (13,5)	7/16–14 UNC x 1-1/2	M10x40 (M12x40)
200	200	38	1-1/2	**BFX-305-G**	38	25,0	79	96	35,7	69,9	44	24	1-1/2	13,5 (14,5)	1/2–13 UNC x 1-3/4	M12x45 (M14x45)
200	200	38	1-1/2	**BFX-305-G114**	31	25,0	79	96	35,7	69,9	44	22	1-1/4	13,5 (14,5)	1/2–13 UNC x 1-3/4	M12x45 (M14x45)
160	200	51	2	**BFX-306-G**	50	25,5	88	102	42,9	77,8	45	26	2	13,5 (14,5)	1/2–13 UNC x 1-3/4	M12x45 (M14x45)
160	200	51	2	**BFX-306-G112**	38	25,5	88	102	42,9	77,8	45	24	1-1/2	13,5 (14,5)	1/2–13 UNC x 1-3/4	M12x45 (M14x45)
100	160	64	2-1/2	**BFX-307-G**	63	26,0	101	115	50,8	88,9	50	30	2-1/2	13,5 (14,5)	1/2–13 UNC x 1-3/4	M12x45 (M14x45)
100	160	64	2-1/2	**BFX-307-G200**	50	26,0	101	115	50,8	88,9	50	26	2	13,5 (14,5)	1/2–13 UNC x 1-3/4	M12x45 (M14x45)
100	160	76	3	**BFX-308-G**	73	27,5	127	137	61,9	106,4	50	30	3	17,0	5/8–11 UNC x 2	M16x50
100	160	76	3	**BFX-308-G212**	63	27,5	127	137	61,9	106,4	50	30	2-1/2	17,0	5/8–11 UNC x 2	M16x50
35	35	89	3-1/2	**BFX-309-G**	89	27,5	138	155	69,8	120,7	50	30	3-1/2	17,0	5/8–11 UNC x 2	M16x50
35	35	102	4	**BFX-310-G**	99	27,5	147	163	77,8	130,2	50	30	4	17,0	5/8–11 UNC x 2	M16x50
35	35	127	5	**BFX-311-G**	120	28,0	180	184	92,0	152,4	50	30	5	17,0	5/8–11 UNC x 2-1/4	M16x55

6000 PSI High Pressure Series (according to ISO 6162-2)

PN (bar)[1]		Nominal Size		Order Codes	Dimensions (mm)										for Bolts	
8.8 Bolts	10.9 (Gr10) Bolts	DN	(in)		Ø A	D	F	G	H	I	L	M	T (BSPP)	Ø K	UNC	Metr.
350	400	13	1/2	**BFX-601-G**	14	16,5	47	57	18,2	40,5	36	15	1/2	8,7	5/16–18 UNC x 1-1/4	M8x30
350	400	13	1/2	**BFX-601-G038**	14	16,5	47	57	18,2	40,5	36	20	3/8	8,7	5/16–18 UNC x 1-1/4	M8x30
350	400	19	3/4	**BFX-602-G**	19	19,5	54	72	23,8	50,8	36	18	3/4	10,5	3/8–16 UNC x 1-1/2	M10x35
350	400	19	3/4	**BFX-602-G012**	14	19,5	54	72	23,8	50,8	36	15	1/2	10,5	3/8–16 UNC x 1-1/2	M10x35
350	400	25	1	**BFX-603-G**	25	24,5	68	82	27,8	57,2	44	20	1	13,0	7/16–14 UNC x 1-3/4	M12x45
350	400	25	1	**BFX-603-G034**	19	24,5	68	82	27,8	57,2	44	18	3/4	13,0	7/16–14 UNC x 1-3/4	M12x45
350	400	32	1-1/4	**BFX-604-G**	31	27,5	79	95	31,6	66,6	44	22	1-1/4	13,5	1/2–13 UNC x 1-3/4	M12x45
350	400	32	1-1/4	**BFX-604-G-M14**	31	27,5	79	95	31,6	66,6	44	22	1-1/4	15,0		M14x45
350	400	32	1-1/4	**BFX-604-G100**	25	27,5	79	95	31,6	66,6	44	20	1	13,5	1/2–13 UNC x 1-3/4	M12x45
350	400	32	1-1/4	**BFX-604-G100-M14**	25	27,5	79	95	31,6	66,6	44	20	1	15,0		M14x45
350	400	38	1-1/2	**BFX-605-G**	38	31,0	88	108	36,5	79,3	51	24	1-1/2	17,0	5/8–11 UNC x 2-1/4	M16x55
350	400	38	1-1/2	**BFX-605-G114**	31	31,0	88	108	36,5	79,3	51	22	1-1/4	17,0	5/8–11 UNC x 2-1/4	M16x55
350	400	51	2	**BFX-606-G**	50	37,0	118	137	44,5	96,8	65	33	2	21,0	3/4–10 UNC x 2-3/4	M20x70

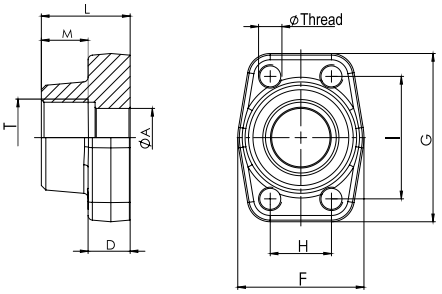
[1] The maximum working pressure applies only to the flange itself and depends on the Metric bolts (Grade 8.8 / 10.9) and UNC bolts (Gr10) used. The actual maximum working pressure depends on the thickness and the quality of the tube used.
[3] Alternative options shown in brackets are available on request.

For flange kit part number, refer to the ordering code at the top of the page.

SAE Single-Part Screw-in BSPP Threaded Companion Flange
BAS-G

Order Codes Examples

- SAE Single-Part Screw-in BSPP Threaded Companion Flange for UNC bolts **BAS-...-GU**
- SAE Single-Part Screw-in BSPP Threaded Companion Flange for Metric bolts **BAS-...-G**





Material S355J0 or equivalent
Surface blank, oiled
Special Material Stainless Steel 1.4404 "-W5" on request

3000 PSI Standard Pressure Series (according to ISO 6162-1)

PN (bar)[1]		Nominal Size		Order Codes	Dimensions (mm)									Ø Thread	
8.8 Bolts	10.9 (Gr10) Bolts	DN	(in)		Ø A	D	F	G	H	I	L	M	T (BSPP)	UNC	Metr.[3]
350	350	13	1/2	**BAS-301-GU**	13	16,0	47	57	17,5	38,1	36	15	1/2	5/16–18 UNC	M8
350	350	13	1/2	**BAS-301-GU038**	13	16,0	47	57	17,5	38,1	36	20	3/8	5/16–18 UNC	M8
350	350	19	3/4	**BAS-302-GU**	19	18,0	50	67	22,3	47,6	36	18	3/4	3/8–16 UNC	M10
350	350	19	3/4	**BAS-302-GU012**	13	18,0	50	67	22,3	47,6	36	15	1/2	3/8–16 UNC	M10
250	315	25	1	**BAS-303-GU**	25	18,0	54	72	26,2	52,4	38	20	1	3/8–16 UNC	M10
250	315	25	1	**BAS-303-GU034**	19	18,0	54	72	26,2	52,4	38	18	3/4	3/8–16 UNC	M10
200	250	32	1-1/4	**BAS-304-GU**	31	21,0	68	82	30,2	58,7	41	22	1-1/4	7/16–14 UNC	M10 (M12)
200	250	32	1-1/4	**BAS-304-GU100**	25	21,0	68	82	30,2	58,7	41	20	1	7/16–14 UNC	M10 (M12)
200	200	38	1-1/2	**BAS-305-GU**	38	25,0	79	96	35,7	69,9	44	24	1-1/2	1/2–13 UNC	M12 (M14)
200	200	38	1-1/2	**BAS-305-GU114**	31	25,0	79	96	35,7	69,9	44	22	1-1/4	1/2–13 UNC	M12 (M14)
160	200	51	2	**BAS-306-GU**	50	25,5	88	102	42,9	77,8	45	26	2	1/2–13 UNC	M12 (M14)
160	200	51	2	**BAS-306-GU112**	38	25,5	88	102	42,9	77,8	45	24	1-1/2	1/2–13 UNC	M12 (M14)
100	160	64	2-1/2	**BAS-307-GU**	63	26,0	101	115	50,8	88,9	50	30	2-1/2	1/2–13 UNC	M12 (M14)
100	160	64	2-1/2	**BAS-307-GU200**	50	26,0	101	115	50,8	88,9	50	26	2	1/2–13 UNC	M12 (M14)
100	160	76	3	**BAS-308-GU**	73	27,5	127	137	61,9	106,4	50	30	3	5/8–11 UNC	M16
100	160	76	3	**BAS-308-GU212**	63	27,5	127	137	61,9	106,4	50	30	2-1/2	5/8–11 UNC	M16
35	35	89	3-1/2	**BAS-309-GU**	89	27,5	138	155	69,8	120,7	50	30	3-1/2	5/8–11 UNC	M16
35	35	102	4	**BAS-310-GU**	99	27,5	147	163	77,8	130,2	50	30	4	5/8–11 UNC	M16
35	35	127	5	**BAS-311-GU**	120	28,0	180	184	92,0	152,4	50	30	5	5/8–11 UNC	M16

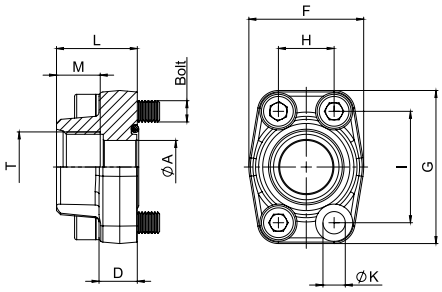
6000 PSI High Pressure Series (according to ISO 6162-2)

PN (bar)[1]		Nominal Size		Order Codes	Dimensions (mm)									Ø Thread	
8.8 Bolts	10.9 (Gr10) Bolts	DN	(in)		Ø A	D	F	G	H	I	L	M	T (BSPP)	UNC	Metr.
350	400	13	1/2	**BAS-601-GU**	14	16,5	47	57	18,2	40,5	36	15	1/2	5/16–18 UNC	M8
350	400	13	1/2	**BAS-601-GU038**	14	16,5	47	57	18,2	40,5	36	20	3/8	5/16–18 UNC	M8
350	400	19	3/4	**BAS-602-GU**	19	19,5	54	72	23,8	50,8	36	18	3/4	3/8–16 UNC	M10
350	400	19	3/4	**BAS-602-GU012**	14	19,5	54	72	23,8	50,8	36	15	1/2	3/8–16 UNC	M10
350	400	25	1	**BAS-603-GU**	25	24,5	68	82	27,8	57,2	44	20	1	7/16–14 UNC	M12
350	400	25	1	**BAS-603-GU034**	19	24,5	68	82	27,8	57,2	44	18	3/4	7/16–14 UNC	M12
350	400	32	1-1/4	**BAS-604-GU**	31	27,5	79	95	31,6	66,6	44	22	1-1/4	1/2–13 UNC	M12
350	400	32	1-1/4	**BAS-604-GM14**	31	27,5	79	95	31,6	66,6	44	22	1-1/4		M14
350	400	32	1-1/4	**BAS-604-GU100**	25	27,5	79	95	31,6	66,6	44	20	1	1/2–13 UNC	M12
350	400	32	1-1/4	**BAS-604-GM14-100**	25	27,5	79	95	31,6	66,6	44	20	1		M14
350	400	38	1-1/2	**BAS-605-GU**	38	31,0	88	108	36,5	79,3	51	24	1-1/2	5/8–11 UNC	M16
350	400	38	1-1/2	**BAS-605-GU114**	31	31,0	88	108	36,5	79,3	51	22	1-1/4	5/8–11 UNC	M16
350	400	51	2	**BAS-606-GU**	50	37,0	118	137	44,5	96,8	58	33	2	3/4–10 UNC	M20

[1] The maximum working pressure applies only to the flange itself and depends on the Metric bolts (Grade 8.8 / 10.9) and UNC bolts (Gr10) used. The actual maximum working pressure depends on the thickness and the quality of the tube used.
[3] Alternative options shown in brackets are available on request.

SAE Single-Part Screw-in Metric Threaded Flange
BFX-M





Material S355J0 or equivalent
Surface blank, oiled
Special Material Stainless Steel 1.4404 "-W5" on request

Order Codes Examples

Single-Part Flange
* SAE Single-Part Screw-in Metric Threaded Flange (without O-ring) **BFX-...-M*****

Flange Kits
* Including Metric bolts 8.8, spring rings, O-ring made of NBR (Buna-N®) (packed in kits) **BFX-...-M****#K**

3000 PSI Standard Pressure Series (according to ISO 6162-1)

PN (bar)[1]		Nominal Size		Order Codes	Dimensions (mm)										for Bolts
8.8 Bolts	10.9 (Gr10) Bolts	DN	(in)		Ø A	D	F	G	H	I	L	M	T (Metric)	Ø K[3]	Metr.[3]
350	350	13	1/2	**BFX-301-M18**	13	16	47	57	17,5	38,1	36	15	18x1,5	8,7	M8x30
350	350	13	1/2	**BFX-301-M20**	13	16	47	57	17,5	38,1	36	15	20x1,5	8,7	M8x30
350	350	19	3/4	**BFX-302-M22**	19	18	50	67	22,3	47,6	36	16	22x1,5	10,5	M10x35
350	350	19	3/4	**BFX-302-M27**	19	18	50	67	22,3	47,6	36	19	27x2	10,5	M10x35
250	315	25	1	**BFX-303-M27**	25	18	54	72	26,2	52,4	38	19	27x2	10,5	M10x35
250	315	25	1	**BFX-303-M33**	25	18	54	72	26,2	52,4	38	19	33x2	10,5	M10x35
200	250	32	1-1/4	**BFX-304-M33**	31	21	68	82	30,2	58,7	41	19	33x2	10,5 (12,5)	M10x40 (M12x40)
200	250	32	1-1/4	**BFX-304-M42**	31	21	68	82	30,2	58,7	41	20	42x2	10,5 (12,5)	M10x40 (M12x40)
200	200	38	1-1/2	**BFX-305-M42**	38	25	79	96	35,7	69,9	44	20	42x2	13,5 (14,5)	M12x45 (M14x45)
200	200	38	1-1/2	**BFX-305-M48**	38	25	79	96	35,7	69,9	44	22	48x2	13,5 (14,5)	M12x45 (M14x45)

6000 PSI High Pressure Series (according to ISO 6162-2)

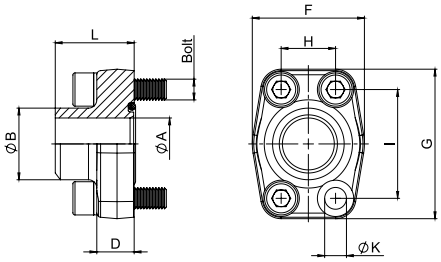
PN (bar)[1]		Nominal Size		Order Codes	Dimensions (mm)										for Bolts
8.8 Bolts	10.9 (Gr10) Bolts	DN	(in)		Ø A	D	F	G	H	I	L	M	T (Metric)	Ø K	Metr.
350	400	13	1/2	**BFX-601-M18**	13	16,5	47	57	18,2	40,5	36	15	18x1,5	8,7	M8x30
350	400	13	1/2	**BFX-601-M20**	13	16,5	47	57	18,2	40,5	36	15	20x1,5	8,7	M8x30
350	400	19	3/4	**BFX-602-M22**	19	19,5	54	72	23,8	50,8	36	16	22x1,5	10,5	M10x35
350	400	19	3/4	**BFX-602-M27**	19	19,5	54	72	23,8	50,8	36	19	27x2	10,5	M10x35
350	400	25	1	**BFX-603-M27**	25	24,5	68	82	27,8	57,2	44	19	27x2	13,0	M12x45
350	400	25	1	**BFX-603-M33**	25	24,5	68	82	27,8	57,2	44	19	33x2	13,0	M12x45
350	400	32	1-1/4	**BFX-604-M33**	31	27,5	79	95	31,6	66,6	44	19	33x2	13,5	M12x45
350	400	32	1-1/4	**BFX-604-M33-M14**	31	27,5	79	95	31,6	66,6	44	19	33x2	15,0	M14x45
350	400	32	1-1/4	**BFX-604-M42**	31	27,5	79	95	31,6	66,6	44	20	42x2	13,5	M12x45
350	400	32	1-1/4	**BFX-604-M42-M14**	31	27,5	79	95	31,6	66,6	44	20	42x2	15,0	M14x45
350	400	38	1-1/2	**BFX-605-M42**	38	31,0	88	108	36,5	79,3	51	20	42x2	17,0	M16x55
350	400	38	1-1/2	**BFX-605-M48**	38	31,0	88	108	36,5	79,3	51	22	48x2	17,0	M16x55

[1] The maximum working pressure applies only to the flange itself and depends on the Metric bolts (Grade 8.8 / 10.9) and UNC bolts (Gr10) used. The actual maximum working pressure depends on the thickness and the quality of the tube used.
[3] Alternative options shown in brackets are available on request.

For flange kit part number, refer to the ordering code at the top of the page.

SAE Single-Part Butt Weld Flange for High Pressure Pipes (Schedule 80/160)
BFX-ST





Order Codes Examples

Single-Part Flange

* SAE Single-Part Butt Weld Flange **BFX-...-ST-**/**** (without O-ring)

Flange Kits

* Including UNC bolts (Gr10), **BFX-...-ST-**/**-U#K** spring rings, O-ring made of NBR (Buna-N®) (packed in kits)
* Including UNC bolts (Gr10), **BFX-...-ST-**/**-V-U#K** spring rings, O-ring made of FPM (Viton®) (packed in kits)
* Including Metric bolts 8.8, **BFX-...-ST-**/**#K** spring rings, O-ring made of NBR (Buna-N®) (packed in kits)

Material S355J0 or equivalent
Surface blank, oiled
Special Material Stainless Steel 1.4404 "-W5" on request

3000 PSI Standard Pressure Series (according to ISO 6162-1)

PN (bar)[1]		Nominal Size		Order Codes	Dimensions (mm)									for Bolts	
8.8 Bolts	10.9 (Gr10) Bolts	DN	(in)		Ø A	Ø B	D	F	G	H	I	L	Ø K[3]	UNC	Metr.[3]
350	350	13	1/2	**BFX-301-ST-21,6/13**	13	21,6	16,0	47	57	17,5	38,1	36	8,7	5/16–18 UNC x 1-1/4	M8x30
350	350	13	1/2	**BFX-301-ST-17,5/13**	13	17,5	16,0	47	57	17,5	38,1	36	8,7	5/16–18 UNC x 1-1/4	M8x30
350	350	19	3/4	**BFX-302-ST-27,2/19**	19	27,2	18,0	50	67	22,3	47,6	36	10,5	3/8–16 UNC x 1-1/2	M10x35
250	315	25	1	**BFX-303-ST-34/25**	25	34,0	18,0	54	72	26,2	52,4	38	10,5	3/8–16 UNC x 1-1/2	M10x35
200	250	32	1-1/4	**BFX-304-ST-42,8/32**	32	42,8	21,0	68	82	30,2	58,7	41	11,7 (13,5)	7/16–14 UNC x 1-1/2	M10x40 (M12x40)
200	200	38	1-1/2	**BFX-305-ST-48,6/38**	38	48,6	25,0	79	96	35,7	69,8	44	13,5 (14,5)	1/2–13 UNC x 1-3/4	M12x45 (M14x45)
160	200	51	2	**BFX-306-ST-61/51**	51	61,0	25,5	88	102	42,9	77,8	45	13,5 (14,5)	1/2–13 UNC x 1-3/4	M12x45 (M14x45)
100	160	64	2-1/2	**BFX-307-ST-77/63**	63	77,0	26,0	101	115	50,8	88,9	50	13,5 (14,5)	1/2–13 UNC x 1-3/4	M12x45 (M14x45)
100	160	76	3	**BFX-308-ST-92/73**	73	92,0	27,5	127	137	61,9	106,4	50	17,0	5/8–11 UNC x 2	M16x50
35	35	89	3-1/2	**BFX-309-ST-103/89**	89	103,0	27,5	138	155	69,9	120,7	50	17,0	5/8–11 UNC x 2	M16x50
35	35	102	4	**BFX-310-ST-115,5/99**	99	115,5	27,5	147	163	77,8	130,2	50	17,0	5/8–11 UNC x 2	M16x50
35	35	127	5	**BFX-311-ST-140,2/120**	120	140,2	28,0	180	184	92,0	152,4	50	17,0	5/8–11 UNC x 2-1/4	M16x55

6000 PSI High Pressure Series (according to ISO 6162-2)

PN (bar)[1]		Nominal Size		Order Codes	Dimensions (mm)									for Bolts	
8.8 Bolts	10.9 (Gr10) Bolts	DN	(in)		Ø A	Ø B	D	F	G	H	I	L	Ø K	UNC	Metr.
350	400	13	1/2	**BFX-601-ST-21,6/13**	13	21,6	16,5	47	57	18,2	40,5	36	8,7	5/16–18 UNC x 1-1/4	M8x30
350	400	13	1/2	**BFX-601-ST-17,5/13**	13	17,5	16,5	47	57	18,2	40,5	36	8,7	5/16–18 UNC x 1-1/4	M8x30
350	400	19	3/4	**BFX-602-ST-28/19**	19	28,0	19,5	54	72	23,8	50,8	36	10,5	3/8–16 UNC x 1-1/2	M10x35
350	400	25	1	**BFX-603-ST-34/25**	25	34,0	24,5	68	82	27,8	57,2	41	13,0	7/16–14 UNC x 1-3/4	M12x45
350	400	32	1-1/4	**BFX-604-ST-42,8/32**	32	42,8	27,5	79	95	31,8	66,6	44	13,5	1/2–13 UNC x 1-3/4	M12x45
350	400	32	1-1/4	**BFX-604-ST-42,8/32-M14**	32	42,8	27,5	79	95	31,8	66,6	44	15,0		M14x45
350	400	32	1-1/4	**BFX-604-ST-42,8/29 (Sch160)**	29	42,8	27,5	79	95	31,8	66,6	44	13,5	1/2–13 UNC x 1-3/4	M12x45
350	400	32	1-1/4	**BFX-604-ST-42,8/29-M14**	29	42,8	27,5	79	95	31,8	66,6	44	15,0		M14x45
350	400	38	1-1/2	**BFX-605-ST-48,6/38**	38	48,6	31,0	88	108	36,5	79,3	51	17,0	5/8–11 UNC x 2-1/4	M16x55
350	400	38	1-1/2	**BFX-605-ST-48,6/32 (Sch160)**	32	48,6	31,0	88	108	36,5	79,3	51	17,0	5/8–11 UNC x 2-1/4	M16x55
350	400	51	2	**BFX-606-ST-61/51**	51	61,0	37,0	118	137	44,5	96,8	70	21,0	3/4–10 UNC x 2-3/4	M20x70
350	400	51	2	**BFX-606-ST-61/43 (Sch160)**	43	61,0	37,0	118	137	44,5	96,8	70	21,0	3/4–10 UNC x 2-3/4	M20x70
350	400	64	2-1/2	**BFX-607-ST-76,1/51**	51	76,1	45,0	150	180	58,7	123,8	80	26,0		M24x90
350	400	64	2-1/2	**BFX-607-ST-90/60 (Sch160)**	60	90,0	45,0	150	180	58,7	123,8	80	26,0		M24x90

[1] The maximum working pressure applies only to the flange itself and depends on the Metric bolts (Grade 8.8 / 10.9) and UNC bolts (Gr10) used. The actual maximum working pressure depends on the thickness and the quality of the tube used.
[3] Alternative options shown in brackets are available on request.

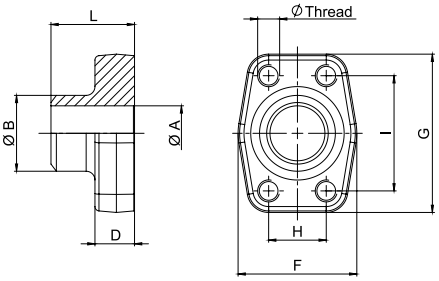
For flange kit part number, refer to the ordering code at the top of the page.

See page G52 for details on the Nominal Pipe and Tube Sizes.

SAE Single-Part Butt Weld Companion Flange for High Pressure Pipes (Schedule 80/160)
BAS-ST

Order Codes Examples

* SAE Single-Part Butt Weld Companion Flange for UNC bolts **BAS-...-STU-**/**
* SAE Single-Part Butt Weld Companion Flange for Metric bolts **BAS-...-ST-**/**





Material	S355J0 or equivalent
Surface	blank, oiled
Special Material	Stainless Steel 1.4404 "-W5" on request

3000 PSI Standard Pressure Series (according to ISO 6162-1)

PN (bar)[1]		Nominal Size		Order Codes	Dimensions (mm)								Ø Thread	
8.8 Bolts	10.9 (Gr10) Bolts	DN	(in)		Ø A	Ø B	D	F	G	H	I	L	UNC	Metr.[3]
350	350	13	1/2	**BAS-301-STU-21,6/13**	13	21,6	16,0	47	57	17,5	38,1	36	5/16–18 UNC	M8
350	350	13	1/2	**BAS-301-STU-17,5/13**	13	17,5	16,0	47	57	17,5	38,1	36	5/16–18 UNC	M8
350	350	19	3/4	**BAS-302-STU-27,2/19**	19	27,2	18,0	50	67	22,3	47,6	36	3/8–16 UNC	M10
250	315	25	1	**BAS-303-STU-34/25**	25	34,0	18,0	54	72	26,2	52,4	38	7/16–14 UNC	M10 (M12)
200	250	32	1-1/4	**BAS-304-STU-42,8/32**	32	42,8	21,0	68	82	30,2	58,7	41	7/16–14 UNC	M10 (M12)
200	200	38	1-1/2	**BAS-305-STU-48,6/38**	38	48,6	25,0	79	96	35,7	69,8	44	1/2–13 UNC	M12 (M14)
160	200	51	2	**BAS-306-STU-61/51**	51	61,0	25,5	88	102	42,9	77,8	45	1/2–13 UNC	M12 (M14)
100	160	64	2-1/2	**BAS-307-STU-76,6/63**	63	76,6	26,0	101	115	50,8	88,9	50	1/2–13 UNC	M12 (M14)
100	160	76	3	**BAS-308-STU-92/73**	73	92,0	27,5	127	137	61,9	106,4	50	5/8–11 UNC	M16
35	35	89	3-1/2	**BAS-309-STU-103/89**	89	103,0	27,5	138	155	69,9	120,7	50	5/8–11 UNC	M16
35	35	102	4	**BAS-310-STU-115,5/99**	99	115,5	27,5	147	163	77,8	130,2	50	5/8–11 UNC	M16
35	35	127	5	**BAS-311-STU-140,2/120**	120	140,2	28,0	180	184	92,0	152,4	50	5/8–11 UNC	M16

6000 PSI High Pressure Series (according to ISO 6162-2)

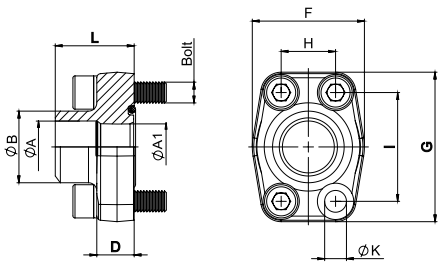
PN (bar)[1]		Nominal Size		Order Codes	Dimensions (mm)								Ø Thread	
8.8 Bolts	10.9 (Gr10) Bolts	DN	(in)		Ø A	Ø B	D	F	G	H	I	L	UNC	Metr.
350	400	13	1/2	**BAS-601-STU-21,6/13**	13,0	21,6	16,5	47	57	18,2	40,5	36	5/16–18 UNC	M8
350	400	13	1/2	**BAS-601-STU-17,5/13**	13,0	17,5	16,5	47	57	18,2	40,5	36	5/16–18 UNC	M8
350	400	19	3/4	**BAS-602-STU-28/19**	19,0	28,0	19,5	54	72	23,8	50,8	36	3/8–16 UNC	M10
350	400	25	1	**BAS-603-STU-34/25**	25,0	34,0	24,5	68	82	27,8	57,2	41	1/2–13 UNC	M12
350	400	32	1-1/4	**BAS-604-STU-42,8/32**	32,0	42,8	27,5	79	95	31,8	66,6	44	1/2–13 UNC	M12
350	400	32	1-1/4	**BAS-604-STM14-42,8/32**	32,0	42,8	27,5	79	95	31,8	66,6	44		M14
350	400	32	1-1/4	**BAS-604-STU-42,8/29 (Sch160)**	29,0	42,8	27,5	79	95	31,8	66,6	44	1/2–13 UNC	M12
350	400	32	1-1/4	**BAS-604-STM14-42,8/29**	29,0	42,8	27,5	79	95	31,8	66,6	44		M14
350	400	38	1-1/2	**BAS-605-STU-48,6/38**	38,0	48,3	31,0	88	108	36,5	79,3	51	5/8–11 UNC	M16
350	400	38	1-1/2	**BAS-605-STU-48,6/32 (Sch160)**	32,0	48,3	31,0	88	108	36,5	79,3	51	5/8–11 UNC	M16
350	400	51	2	**BAS-606-STU-61/51**	51,0	61,0	37,0	118	137	44,5	96,8	70	3/4–10 UNC	M20
350	400	51	2	**BAS-606-STU-61/43 (Sch160)**	43,0	61,0	37,0	118	137	44,5	96,8	70	3/4–10 UNC	M20
350	400	64	2-1/2	**BAS-607-ST-76,1/51**	51,0	76,1	45,0	150	180	58,7	123,8	80		M24
350	400	64	2-1/2	**BAS-607-ST-90/60,5 (Sch160)**	60,5	90,0	45,0	150	180	58,7	123,8	80		M24

[1] The maximum working pressure applies only to the flange itself and depends on the Metric bolts (Grade 8.8 / 10.9) and UNC bolts (Gr10) used. The actual maximum working pressure depends on the thickness and the quality of the tube used.
[3] Alternative options shown in brackets are available on request.

See page G52 for details on the Nominal Pipe and Tube Sizes.

SAE Single-Part Butt Weld Flange for Low Pressure Pipes (Schedule 40)
BFX-STRE





Material S355J0 or equivalent
Surface blank, oiled
Special Material Stainless Steel 1.4404 "-W5" on request

Order Codes Examples

Single-Part Flange
* SAE Single-Part Butt Weld Flange (without O-ring) **BFX-...-STRE-**/****

Flange Kits
* Including UNC bolts (Gr10), spring rings, O-ring made of NBR (Buna-N®) (packed in kits) **BFX-...-STRE-**/**-U#K**
* Including UNC bolts (Gr10), spring rings, O-ring made of FPM (Viton®) (packed in kits) **BFX-...-STRE-**/**-V-U#K**
* Including Metric bolts 8.8, spring rings, O-ring made of NBR (Buna-N®) (packed in kits) **BFX-...-STRE-**/**#K**

3000 PSI Standard Pressure Series (according to ISO 6162-1)

PN (bar)[1]		Nominal Size		Order Codes	Dimensions (mm)										for Bolts	
8.8 Bolts	10.9 (Gr10) Bolts	DN	(in)		Ø A	Ø A1	Ø B	D	F	G	H	I	L	Ø K[3]	UNC	Metr.[3]
350	350	13	1/2	**BFX-301-STRE-22/16**	16,0	13,0	22,0	16,0	47	57	17,5	38,1	36	8,7	5/16–18 UNC x 1-1/4	M8x30
350	350	19	3/4	**BFX-302-STRE-28/21,5**	21,5	19,0	28,0	18,0	50	67	22,3	47,6	36	10,5	3/8–16 UNC x 1-1/2	M10x35
250	315	25	1	**BFX-303-STRE-35/27**	27,0	25,0	35,0	18,0	54	72	26,2	52,4	38	10,5	3/8–16 UNC x 1-1/2	M10x35
200	250	32	1-1/4	**BFX-304-STRE-43/36**	36,0	31,0	43,0	21,0	68	82	30,2	58,7	41	11,7 (13,5)	7/16–14 UNC x 1-1/2	M10x40 (M12x40)
200	200	38	1-1/2	**BFX-305-STRE-49/42**	42,0	38,0	49,0	25,0	79	96	35,7	69,8	44	13,5 (14,5)	1/2–13 UNC x 1-3/4	M12x45 (M14x45)
160	200	51	2	**BFX-306-STRE-49/42**	42,0	42,0	49,0	25,5	88	102	42,9	77,8	45	13,5 (14,5)	1/2–13 UNC x 1-3/4	M12x45 (M14x45)
160	200	51	2	**BFX-306-STRE-61/53**	53,0	49,0	61,0	25,5	88	102	42,9	77,8	45	13,5 (14,5)	1/2–13 UNC x 1-3/4	M12x45 (M14x45)
100	160	64	2-1/2	**BFX-307-STRE-61/53**	53,0	53,0	61,0	26,0	101	115	50,8	88,9	50	13,5 (14,5)	1/2–13 UNC x 1-3/4	M12x45 (M14x45)
100	160	64	2-1/2	**BFX-307-STRE-77/70**	70,0	62,0	77,0	26,0	101	115	50,8	88,9	50	13,5 (14,5)	1/2–13 UNC x 1-3/4	M12x45 (M14x45)
100	160	76	3	**BFX-308-STRE-90/82**	82,0	74,0	90,0	27,5	127	137	61,9	106,4	50	17,0	5/8–11 UNC x 2	M16x50
35	35	89	3-1/2	**BFX-309-STRE-90/82**	82,0	82,0	90,0	27,5	138	155	69,9	120,7	50	17,0	5/8–11 UNC x 2	M16x50
35	35	89	3-1/2	**BFX-309-STRE-77/70**	70,0	70,0	77,0	27,5	138	155	69,9	120,7	50	17,0	5/8–11 UNC x 2	M16x50
35	35	102	4	**BFX-310-STRE-90/82**	82,0	82,0	90,0	27,5	147	163	77,8	130,2	50	17,0	5/8–11 UNC x 2	M16x50
35	35	102	4	**BFX-310-STRE-115/107**	107,0	102,0	115,0	27,5	147	163	77,8	130,2	50	17,0	5/8–11 UNC x 2	M16x50
35	35	127	5	**BFX-311-STRE-140/131**	131,0	120,0	140,2	28,0	180	184	92,0	152,4	50	17,0	5/8–11 UNC x 2-1/4	M16x55

[1] The maximum working pressure applies only to the flange itself and depends on the Metric bolts (Grade 8.8 / 10.9) and UNC bolts (Gr10) used. The actual maximum working pressure depends on the thickness and the quality of the tube used.
[3] Alternative options shown in brackets are available on request.

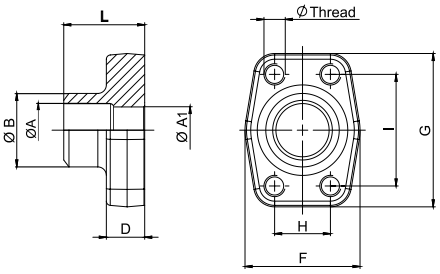
For flange kit part number, refer to the ordering code at the top of the page.

See page G52 for details on the Nominal Pipe and Tube Sizes.

SAE Single-Part Butt Weld Companion Flange for Low Pressure Pipes (Schedule 40)
BAS-STRE

Order Codes Examples

* SAE Single-Part Butt Weld **BAS-...-STREU-**/**** Companion Flange for UNC bolts
* SAE Single-Part Butt Weld **BAS-...-STRE-**/**** Companion Flange for Metric bolts





Material S355J0 or equivalent
Surface blank, oiled
Special Material Stainless Steel 1.4404 "-W5" on request

3000 PSI Standard Pressure Series (according to ISO 6162-1)

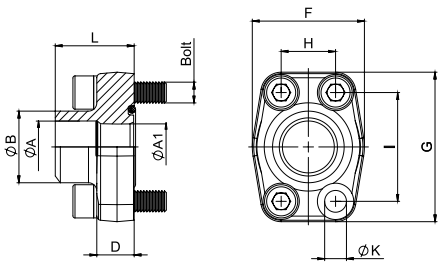
PN (bar)[1]		Nominal Size		Order Codes	Dimensions (mm)									Ø Thread	
8.8 Bolts	10.9 (Gr10) Bolts	DN	(in)		Ø A	Ø A1	Ø B	D	F	G	H	I	L	UNC	Metr.[3]
350	350	13	1/2	**BAS-301-STREU-22/16**	16,0	13	22	16,0	47	57	17,5	38,1	36	5/16–18 UNC	M8
350	350	19	3/4	**BAS-302-STREU-28/21,5**	21,5	19	28	18,0	50	67	22,3	47,6	36	3/8–16 UNC	M10
250	315	25	1	**BAS-303-STREU-35/27**	27,0	25	35	18,0	54	72	26,2	52,4	38	3/8–16 UNC	M10
200	250	32	1-1/4	**BAS-304-STREU-43/36**	36,0	31	43	21,0	68	82	30,2	58,7	41	7/16–14 UNC	M10 (M12)
200	200	38	1-1/2	**BAS-305-STREU-49/42**	42,0	38	49	25,0	79	96	35,7	69,8	44	1/2–13 UNC	M12 (M14)
160	200	51	2	**BAS-306-STREU-49/42**	42,0	42	49	25,5	88	102	42,9	77,8	45	1/2–13 UNC	M12 (M14)
160	200	51	2	**BAS-306-STREU-61/53**	53,0	49	61	25,5	88	102	42,9	77,8	45	1/2–13 UNC	M12 (M14)
100	160	64	2-1/2	**BAS-307-STREU-61/53**	53,0	53	61	26,0	101	115	50,8	88,9	50	1/2–13 UNC	M12 (M14)
100	160	64	2-1/2	**BAS-307-STREU-77/70**	70,0	62	77	26,0	101	115	50,8	88,9	50	1/2–13 UNC	M12 (M14)
100	160	76	3	**BAS-308-STREU-90/82**	82,0	74	90	27,5	127	137	61,9	106,4	50	5/8–11 UNC	M16
35	35	89	3-1/2	**BAS-309-STREU-90/82**	82,0	82	90	27,5	138	155	69,9	120,7	50	5/8–11 UNC	M16
35	35	89	3-1/2	**BAS-309-STREU-77/70**	70,0	70	77	27,5	138	155	69,9	120,7	50	5/8–11 UNC	M16
35	35	102	4	**BAS-310-STREU-90/82**	82,0	82	90	27,5	147	163	77,8	130,2	50	5/8–11 UNC	M16
35	35	102	4	**BAS-310-STREU-115/107**	107,0	102	115	27,5	147	163	77,8	130,2	50	5/8–11 UNC	M16
35	35	127	5	**BAS-311-STREU-140/131**	131,0	120	140,2	28,0	180	184	92,0	152,4	50	5/8–11 UNC	M16

[1] The maximum working pressure applies only to the flange itself and depends on the Metric bolts (Grade 8.8 / 10.9) and UNC bolts (Gr10) used. The actual maximum working pressure depends on the thickness and the quality of the tube used.
[3] Alternative options shown in brackets are available on request.

See page G52 for details on the Nominal Pipe and Tube Sizes.

SAE Single-Part Butt Weld Flange for Metric Tubes
BFX-SRE





Material S355J0 or equivalent
Surface blank, oiled
Special Material Stainless Steel 1.4404 "-W5" on request

Order Codes Examples

Single-Part Flange
* SAE Single-Part Butt Weld Flange (without O-ring) **BFX-...-SRE-**/****

Flange Kits
* Including UNC bolts (Gr10), spring rings, O-ring made of NBR (Buna-N®) (packed in kits) **BFX-...-SRE-**/**-U#K**
* Including UNC bolts (Gr10), spring rings, O-ring made of FPM (Viton®) (packed in kits) **BFX-...-SRE-**/**-V-U#K**
* Including Metric bolts 8.8, spring rings, O-ring made of NBR (Buna-N®) (packed in kits) **BFX-...-SRE-**/**#K**

3000 PSI Standard Pressure Series (according to ISO 6162-1)

PN (bar)[1]		Nominal Size		Order Codes	Dimensions (mm)										for Bolts	
8.8 Bolts	10.9 (Gr10) Bolts	DN	(in)		Ø A	Ø A1	Ø B	D	F	G	H	I	L	Ø K[3]	UNC	Metr.[3]
350	350	13	1/2	**BFX-301-SRE-20/14**	14,0	14	20	16,0	47	57	17,5	38,1	36	8,7	5/16–18 UNC x 1-1/4	M8x30
350	350	13	1/2	**BFX-301-SRE-22/16**	16,0	13	22	16,0	47	57	17,5	38,1	36	8,7	5/16–18 UNC x 1-1/4	M8x30
350	350	19	3/4	**BFX-302-SRE-25/19**	19,0	19	25	18,0	50	67	22,3	47,6	36	10,5	3/8–16 UNC x 1-1/2	M10x35
350	350	19	3/4	**BFX-302-SRE-28/21,5**	21,5	19	28	18,0	50	67	22,3	47,6	36	10,5	3/8–16 UNC x 1-1/2	M10x35
250	315	25	1	**BFX-303-SRE-30/22**	22,0	22	30	18,0	54	72	26,2	52,4	38	10,5	3/8–16 UNC x 1-1/2	M10x35
250	315	25	1	**BFX-303-SRE-35/27**	27,0	25	35	18,0	54	72	26,2	52,4	38	10,5	3/8–16 UNC x 1-1/2	M10x35
200	250	32	1-1/4	**BFX-304-SRE-38/30**	30,0	30	38	21,0	68	82	30,2	58,7	41	11,7 (13,5)	7/16–14 UNC x 1-1/2	M10x40 (M12x40)
200	250	32	1-1/4	**BFX-304-SRE-43/36**	36,0	31	43	21,0	68	82	30,2	58,7	41	11,7 (13,5)	7/16–14 UNC x 1-1/2	M10x40 (M12x40)
200	200	38	1-1/2	**BFX-305-SRE-38/30**	30,0	30	38	25,0	79	96	35,7	69,9	44	13,5 (14,5)	1/2–13 UNC x 1-3/4	M12x45 (M14x45)
200	200	38	1-1/2	**BFX-305-SRE-42/36**	36,0	36	42	25,0	79	96	35,7	69,9	44	13,5 (14,5)	1/2–13 UNC x 1-3/4	M12x45 (M14x45)
200	200	38	1-1/2	**BFX-305-SRE-49/38**	38,0	38	49	25,0	79	96	35,7	69,9	44	13,5 (14,5)	1/2–13 UNC x 1-3/4	M12x45 (M14x45)
160	200	51	2	**BFX-306-SRE-61/49**	49,0	49	61	25,5	88	102	42,9	77,8	45	13,5 (14,5)	1/2–13 UNC x 1-3/4	M12x45 (M14x45)
100	160	64	2-1/2	**BFX-307-SRE-77/62**	62,0	62	77	26,0	101	115	50,8	88,9	50	13,5 (14,5)	1/2–13 UNC x 1-3/4	M12x45 (M14x45)
100	160	76	3	**BFX-308-SRE-77/62**	62,0	62	77	27,5	127	137	61,9	106,4	50	17,0	5/8–11 UNC x 2	M16x50

6000 PSI High Pressure Series (according to ISO 6162-2)

PN (bar)[1]		Nominal Size		Order Codes	Dimensions (mm)										for Bolts	
8.8 Bolts	10.9 (Gr10) Bolts	DN	(in)		Ø A	Ø A1	Ø B	D	F	G	H	I	L	Ø K	UNC	Metr.
350	400	13	1/2	**BFX-601-SRE-20/14**	14	14	20	16,5	47	57	18,2	40,5	36	8,7	5/16–18 UNC x 1-1/4	M8x30
350	400	19	3/4	**BFX-602-SRE-20/14**	14	14	20	19,5	54	72	23,8	50,8	36	10,5	3/8–16 UNC x 1-1/2	M10x35
350	400	19	3/4	**BFX-602-SRE-25/17**	17	17	25	19,5	54	72	23,8	50,8	36	10,5	3/8–16 UNC x 1-1/2	M10x35
350	400	25	1	**BFX-603-SRE-25/17**	17	17	25	24,5	68	82	27,8	57,2	44	13,0	7/16–14 UNC x 1-3/4	M12x45
350	400	25	1	**BFX-603-SRE-30/22**	22	22	30	24,5	68	82	27,8	57,2	44	13,0	7/16–14 UNC x 1-3/4	M12x45
350	400	32	1-1/4	**BFX-604-SRE-30/22**	22	22	30	27,5	79	95	31,6	66,6	44	13,5	1/2–13 UNC x 1-3/4	M12x45
350	400	32	1-1/4	**BFX-604-SRE-30/22-M14**	22	22	30	27,5	79	95	31,6	66,6	44	15,0		M14x45
350	400	32	1-1/4	**BFX-604-SRE-38/26**	26	26	38	27,5	79	95	31,6	66,6	44	13,5	1/2–13 UNC x 1-3/4	M12x45
350	400	32	1-1/4	**BFX-604-SRE-38/26-M14**	26	26	38	27,5	79	95	31,6	66,6	44	15,0		M14x45
350	400	38	1-1/2	**BFX-605-SRE-38/26**	26	26	38	28,0	88	108	36,5	79,3	56	17,0	5/8–11 UNC x 2-1/4	M16x55
350	400	38	1-1/2	**BFX-605-SRE-49/32**	32	32	49	28,0	88	108	36,5	79,3	56	17,0	5/8–11 UNC x 2-1/4	M16x55
350	400	38	1-1/2	**BFX-605-SRE-61/40**	40	40	61	28,0	88	108	36,5	79,3	56	17,0	5/8–11 UNC x 2-1/4	M16x55
350	400	51	2	**BFX-606-SRE-61/40**	40	40	61	37,0	118	137	44,5	96,8	70	21,0	3/4–10 UNC x 2-3/4	M20x70
350	400	51	2	**BFX-606-SRE-76/50**	50	48	76	33,0	118	137	44,5	96,8	70	21,0	3/4–10 UNC x 2-1/2	M20x65

[1] The maximum working pressure applies only to the flange itself and depends on the Metric bolts (Grade 8.8 / 10.9) and UNC bolts (Gr10) used. The actual maximum working pressure depends on the thickness and the quality of the tube used.
[3] Alternative options shown in brackets are available on request.

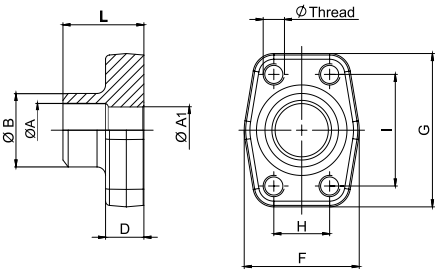
For flange kit part number, refer to the ordering code at the top of the page.

See page G52 for details on the Nominal Pipe and Tube Sizes.

SAE Single-Part Butt Weld Companion Flange for Metric Tubes
BAS-SRE

Order Codes Examples

- SAE Single-Part Butt Weld Companion Flange for UNC bolts **BAS-...-SREU-**/**
- SAE Single-Part Butt Weld Companion Flange for Metric bolts **BAS-...-SRE-**/**





Material S355J0 or equivalent
Surface blank, oiled
Special Material Stainless Steel 1.4404 "-W5" on request

3000 PSI Standard Pressure Series (according to ISO 6162-1)

PN (bar)[1]		Nominal Size		Order Codes	Dimensions (mm)									Ø Thread	
8.8 Bolts	10.9 (Gr10) Bolts	DN	(in)		Ø A	Ø A1	Ø B	D	F	G	H	I	L	UNC	Metr.[3]
350	350	13	1/2	**BAS-301-SREU-20/14**	14,0	14	20	16,0	47	57	17,5	38,1	36	5/16–18 UNC	M8
350	350	13	1/2	**BAS-301-SREU-22/16**	16,0	13	22	16,0	47	57	17,5	38,1	36	5/16–18 UNC	M8
350	350	19	3/4	**BAS-302-SREU-25/19**	19,0	19	25	18,0	50	67	22,3	47,6	36	3/8–16 UNC	M10
350	350	19	3/4	**BAS-302-SREU-28/21,5**	21,5	19	28	18,0	50	67	22,3	47,6	36	3/8–16 UNC	M10
250	315	25	1	**BAS-303-SREU-30/22**	22,0	22	30	18,0	54	72	26,2	52,4	38	3/8–16 UNC	M10
250	315	25	1	**BAS-303-SREU-35/27**	27,0	25	35	18,0	54	72	26,2	52,4	38	3/8–16 UNC	M10
200	250	32	1-1/4	**BAS-304-SREU-38/30**	30,0	30	38	21,0	68	82	30,2	58,7	41	7/16–14 UNC	M10 (M12)
200	250	32	1-1/4	**BAS-304-SREU-43/36**	36,0	31	43	21,0	68	82	30,2	58,7	41	7/16–14 UNC	M10 (M12)
200	200	38	1-1/2	**BAS-305-SREU-38/30**	30,0	30	38	25,0	79	96	35,7	69,9	44	1/2–13 UNC	M12 (M14)
200	200	38	1-1/2	**BAS-305-SREU-42/36**	36,0	36	42	25,0	79	96	35,7	69,9	44	1/2–13 UNC	M12 (M14)
200	200	38	1-1/2	**BAS-305-SREU-49/38**	38,0	38	49	25,0	79	96	35,7	69,9	44	1/2–13 UNC	M12 (M14)
160	200	51	2	**BAS-306-SREU-61/49**	49,0	49	61	25,5	88	102	42,9	77,8	45	1/2–13 UNC	M12 (M14)
100	160	64	2-1/2	**BAS-307-SREU-77/62**	62,0	62	77	26,0	101	115	50,8	88,9	50	1/2–13 UNC	M12 (M14)
100	160	76	3	**BAS-308-SREU-77/62**	62,0	62	77	27,5	127	137	61,9	106,4	50	5/8–11 UNC	M16

6000 PSI High Pressure Series (according to ISO 6162-2)

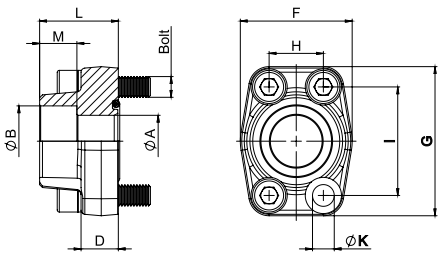
PN (bar)[1]		Nominal Size		Order Codes	Dimensions (mm)									Ø Thread	
8.8 Bolts	10.9 (Gr10) Bolts	DN	(in)		Ø A	Ø A1	Ø B	D	F	G	H	I	L	UNC	Metr.
350	400	13	1/2	**BAS-601-SREU-20/14**	14	14	20	16,5	47	57	18,2	40,5	36	5/16–18 UNC	M8
350	400	19	3/4	**BAS-602-SREU-20/14**	14	14	20	19,5	54	72	23,8	50,8	36	3/8–16 UNC	M10
350	400	19	3/4	**BAS-602-SREU-25/17**	17	17	25	19,5	54	72	23,8	50,8	36	3/8–16 UNC	M10
350	400	25	1	**BAS-603-SREU-25/17**	17	17	25	24,5	68	82	27,8	57,2	44	7/16–14 UNC	M12
350	400	25	1	**BAS-603-SREU-30/22**	22	22	30	24,5	68	82	27,8	57,2	44	7/16–14 UNC	M12
350	400	32	1-1/4	**BAS-604-SREU-30/22**	22	22	30	27,5	79	95	31,6	66,6	44	1/2–13 UNC	M12
350	400	32	1-1/4	**BAS-604-SREM14-30/22**	22	22	30	27,5	79	95	31,6	66,6	44		M14
350	400	32	1-1/4	**BAS-604-SREU-38/26**	26	26	38	27,5	79	95	31,6	66,6	44	1/2–13 UNC	M12
350	400	32	1-1/4	**BAS-604-SREM14-38/26**	26	26	38	27,5	79	95	31,6	66,6	44		M14
350	400	38	1-1/2	**BAS-605-SREU-38/26**	26	26	38	28,0	88	108	36,5	79,3	56	5/8–11 UNC	M16
350	400	38	1-1/2	**BAS-605-SREU-49/32**	32	32	49	28,0	88	108	36,5	79,3	56	5/8–11 UNC	M16
350	400	38	1-1/2	**BAS-605-SREU-61/40**	40	40	61	28,0	88	108	36,5	79,3	56	5/8–11 UNC	M16
350	400	51	2	**BAS-606-SREU-61/40**	40	40	61	37,0	118	137	44,5	96,8	70	3/4–10 UNC	M20
350	400	51	2	**BAS-606-SREU-76/50**	50	48	76	33,0	118	137	44,5	96,8	70	3/4–10 UNC	M20

[1] The maximum working pressure applies only to the flange itself and depends on the Metric bolts (Grade 8.8 / 10.9) and UNC bolts (Gr10) used. The actual maximum working pressure depends on the thickness and the quality of the tube used.
[3] Alternative options shown in brackets are available on request.

See page G52 for details on the Nominal Pipe and Tube Sizes.

SAE Single-Part Socket Weld Flange
BFX-ES





Material S355J0 or equivalent
Surface blank, oiled
Special Material Stainless Steel 1.4404 "-W5" on request

Order Codes Examples

Single-Part Flange
* SAE Single-Part Socket Weld Flange (without O-ring) **BFX-...-ES-**/****

Flange Kits
* Including UNC bolts (Gr10), spring rings, O-ring made of NBR (Buna-N®) (packed in kits) **BFX-...-ES-**/**-U#K**
* Including UNC bolts (Gr10), spring rings, O-ring made of FPM (Viton®) (packed in kits) **BFX-...-ES-**/**-V-U#K**
* Including Metric bolts 8.8, spring rings, O-ring made of NBR (Buna-N®) (packed in kits) **BFX-...-ES-**/**#K**

3000 PSI Standard Pressure Series (according to ISO 6162-1)

PN (bar)[1]		Nominal Size		Order Codes	Dimensions (mm)										for Bolts	
8.8 Bolts	10.9 (Gr10) Bolts	DN	(in)		Ø A	Ø B	D	F	G	H	I	L	M	Ø K[3]	UNC	Metr.[3]
350	350	13	1/2	**BFX-301-ES-21,6/13**	13	21,6	16	47	57	17,5	38,1	36	18	8,7	5/16–18 UNC x 1-1/4	M8x30
350	350	13	1/2	**BFX-301-ES-17,5/13**	13	17,5	16,0	47	57	17,5	38,1	36	18	8,7	5/16–18 UNC x 1-1/4	M8x30
350	350	13	1/2	**BFX-301-ES-20,3/13**	13	20,3	16,0	47	57	17,5	38,1	36	18	8,7	5/16–18 UNC x 1-1/4	M8x30
350	350	19	3/4	**BFX-302-ES-27,2/19**	19	27,2	18,0	50	67	22,3	47,6	36	18	10,5	3/8–16 UNC x 1-1/2	M10x35
350	350	19	3/4	**BFX-302-ES-25,3/19**	19	25,3	18,0	50	67	22,3	47,6	36	18	10,5	3/8–16 UNC x 1-1/2	M10x35
250	315	25	1	**BFX-303-ES-34/25**	25	34,0	18,0	54	72	26,2	52,4	38	18	10,5	3/8–16 UNC x 1-1/2	M10x35
250	315	25	1	**BFX-303-ES-30,3/25**	25	30,3	18,0	54	72	26,2	52,4	38	18	10,5	3/8–16 UNC x 1-1/2	M10x35
200	250	32	1-1/4	**BFX-304-ES-42,8/32**	32	42,8	21,0	68	82	30,2	58,7	41	20	11,7 (13,5)	7/16–14 UNC x 1-1/2	M10x40 (M12x40)
200	250	32	1-1/4	**BFX-304-ES-38,3/32**	32	38,3	21,0	68	82	30,2	58,7	41	20	11,7 (13,5)	7/16–14 UNC x 1-1/2	M10x40 (M12x40)
200	200	38	1-1/2	**BFX-305-ES-48,6/38**	38	48,6	25,0	79	96	35,7	69,9	44	22	13,5 (14,5)	1/2–13 UNC x 1-3/4	M12x45 (M14x45)
200	200	38	1-1/2	**BFX-305-ES-50,5/38**	38	50,5	25,0	79	96	35,7	69,9	44	22	13,5 (14,5)	1/2–13 UNC x 1-3/4	M12x45 (M14x45)
160	200	51	2	**BFX-306-ES-61/51**	51	61,0	25,5	88	102	42,9	77,8	45	24	13,5 (14,5)	1/2–13 UNC x 1-3/4	M12x45 (M14x45)
100	160	64	2-1/2	**BFX-307-ES-76,6/63**	63	76,6	26,0	101	115	50,8	88,9	50	28	13,5 (14,5)	1/2–13 UNC x 1-3/4	M12x45 (M14x45)
100	100	76	3	**BFX-308-ES-90,5/73**	73	90,5	27,5	127	137	61,9	106,4	50	28	17,0	5/8–11 UNC x 2	M16x50
35	35	89	3-1/2	**BFX-309-ES-103/89**	89	103,0	27,5	138	155	69,9	120,7	50	30	17,0	5/8–11 UNC x 2	M16x50
35	35	102	4	**BFX-310-ES-115,5/99**	99	115,5	27,5	147	163	77,8	130,2	50	30	17,0	5/8–11 UNC x 2	M16x50
35	35	127	5	**BFX-311-ES-142/120**	120	142,0	28,0	180	184	92,1	152,4	50	30	17,0	5/8–11 UNC x 2-1/4	M16x55

6000 PSI High Pressure Series (according to ISO 6162-2)

PN (bar)[1]		Nominal Size		Order Codes	Dimensions (mm)										for Bolts	
8.8 Bolts	10.9 (Gr10) Bolts	DN	(in)		Ø A	Ø B	D	F	G	H	I	L	M	Ø K	UNC	Metr.
350	400	13	1/2	**BFX-601-ES-21,6/13**	13	21,6	16,5	47	57	18,2	40,5	36	18	8,7	5/16–18 UNC x 1-1/4	M8x30
350	400	13	1/2	**BFX-601-ES-17,5/13**	13	17,5	16,5	47	57	18,2	40,5	36	18	8,7	5/16–18 UNC x 1-1/4	M8x30
350	400	13	1/2	**BFX-601-ES-20,3/13**	13	20,3	16,5	47	57	18,2	40,5	36	18	8,7	5/16–18 UNC x 1-1/4	M8x30
350	400	19	3/4	**BFX-602-ES-27,2/19**	19	27,2	19,5	54	72	23,8	50,8	36	20	10,5	3/8–16 UNC x 1-1/2	M10x35
350	400	19	3/4	**BFX-602-ES-25,3/19**	19	25,3	19,5	54	72	23,8	50,8	36	20	10,5	3/8–16 UNC x 1-1/2	M10x35
350	400	25	1	**BFX-603-ES-34/25**	25	34,0	24,5	68	82	27,8	57,2	44	22	13,0	7/16–14 UNC x 1-3/4	M12x45
350	400	25	1	**BFX-603-ES-30,3/25**	25	30,3	24,5	68	82	27,8	57,2	44	22	13,0	7/16–14 UNC x 1-3/4	M12x45
350	400	32	1-1/4	**BFX-604-ES-42,8/32**	32	42,8	27,5	79	95	31,8	66,6	44	22	13,5	1/2–13 UNC x 1-3/4	M12x45
350	400	32	1-1/4	**BFX-604-ES-42,8/32-M14**	32	42,8	27,5	79	95	31,8	66,6	44	22	15,0		M14x45
350	400	32	1-1/4	**BFX-604-ES-38,3/32**	32	38,3	27,5	79	95	31,8	66,6	44	22	13,5	1/2–13 UNC x 1-3/4	M12x45
350	400	32	1-1/4	**BFX-604-ES-38,3/32-M14**	32	38,3	27,5	79	95	31,8	66,6	44	22	15,0		M14x45
350	400	38	1-1/2	**BFX-605-ES-48,6/38**	38	48,6	31,0	88	108	36,5	79,3	51	24	17,0	5/8–11 UNC x 2-1/4	M16x55
350	400	38	1-1/2	**BFX-605-ES-50,5/38**	38	50,5	31,0	88	108	36,5	79,3	51	24	17,0	5/8–11 UNC x 2-1/4	M16x55
350	400	51	2	**BFX-606-ES-61/51**	51	61,0	37,0	118	137	44,5	96,8	70	33	21,0	3/4–10 UNC x 2-3/4	M20x70
350	400	64	2-1/2	**BFX-607-ES-76,6/63**	63	76,6	45,0	152	180	58,7	123,8	80	32	26,0		M24x90
350	400	76	3	**BFX-608-ES-90,5/73**	73	90,5	55,0	178	208	71,4	152,4	90	30	33,0		M30x100

[1] The maximum working pressure applies only to the flange itself and depends on the Metric bolts (Grade 8.8 / 10.9) and UNC bolts (Gr10) used. The actual maximum working pressure depends on the thickness and the quality of the tube used.
[3] Alternative options shown in brackets are available on request.

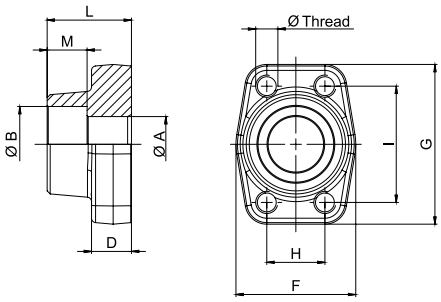
For flange kit part number, refer to the ordering code at the top of the page.

See page G52 for details on the Nominal Pipe and Tube Sizes.

SAE Single-Part Socket Weld Companion Flange
BAS-ES

Order Codes Examples

- SAE Single-Part Butt Weld Companion Flange for UNC bolts **BAS-...-ESU-**/**
- SAE Single-Part Butt Weld Companion Flange for Metric bolts **BAS-...-ES-**/**





Material S355J0 or equivalent
Surface blank, oiled
Special Material Stainless Steel 1.4404 "-W5" on request

3000 PSI Standard Pressure Series (according to ISO 6162-1)

PN (bar)[1]		Nominal Size		Order Codes	Dimensions (mm)									Ø Thread	
8.8 Bolts	10.9 (Gr10) Bolts	DN	(in)		Ø A	Ø B	D	F	G	H	I	L	M	UNC	Metr.[3]
350	350	13	1/2	**BAS-301-ESU-21,6/13**	13	21,6	16,0	47	57	17,5	38,1	36	18	5/16–18 UNC	M8
350	350	13	1/2	**BAS-301-ESU-17,5/13**	13	17,5	16,0	47	57	17,5	38,1	36	18	5/16–18 UNC	M8
350	350	13	1/2	**BAS-301-ESU-20,3/13**	13	20,3	16,0	47	57	17,5	38,1	36	18	5/16–18 UNC	M8
350	350	19	3/4	**BAS-302-ESU-27,2/19**	19	27,2	18,0	50	67	22,3	47,6	36	18	3/8–16 UNC	M10
350	350	19	3/4	**BAS-302-ESU-25,3/19**	19	25,3	18,0	50	67	22,3	47,6	36	18	3/8–16 UNC	M10
250	315	25	1	**BAS-303-ESU-34/25**	25	34,0	18,0	54	72	26,2	52,4	38	18	3/8–16 UNC	M10
250	315	25	1	**BAS-303-ESU-30,3/25**	25	30,3	18,0	54	72	26,2	52,4	38	18	3/8–16 UNC	M10
200	250	32	1-1/4	**BAS-304-ESU-42,8/32**	32	42,8	21,0	68	82	30,2	58,7	41	20	7/16–14 UNC	M10 (M12)
200	250	32	1-1/4	**BAS-304-ESU-38,3/32**	32	38,3	21,0	68	82	30,2	58,7	41	20	7/16–14 UNC	M10 (M12)
200	200	38	1-1/2	**BAS-305-ESU-48,6/38**	38	48,6	25,0	79	96	35,7	69,9	44	22	1/2–13 UNC	M12 (M14)
200	200	38	1-1/2	**BAS-305-ESU-50,5/38**	38	50,5	25,0	79	96	35,7	69,9	44	22	1/2–13 UNC	M12 (M14)
160	200	51	2	**BAS-306-ESU-61/51**	51	61,0	25,5	88	102	42,9	77,8	45	24	1/2–13 UNC	M12 (M14)
100	160	64	2-1/2	**BAS-307-ESU-76,6/63**	63	76,6	26,0	101	115	50,8	88,9	50	28	1/2–13 UNC	M12 (M14)
100	100	76	3	**BAS-308-ESU-90,5/73**	73	90,5	27,5	127	137	61,9	106,4	50	28	5/8–11 UNC	M16
35	35	89	3-1/2	**BAS-309-ESU-103/89**	89	103,0	27,5	138	155	69,9	120,7	50	30	5/8–11 UNC	M16
35	35	102	4	**BAS-310-ESU-115,5/99**	99	115,5	27,5	147	163	77,8	130,2	50	30	5/8–11 UNC	M16
35	35	127	5	**BAS-311-ESU-142/120**	120	142,0	28,0	180	184	92,1	152,4	50	30	5/8–11 UNC	M16

6000 PSI High Pressure Series (according to ISO 6162-2)

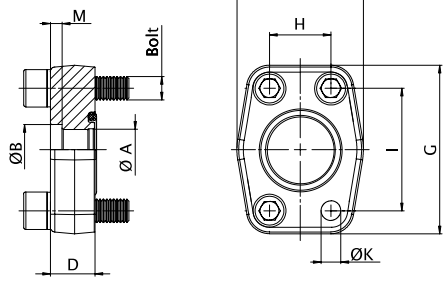
PN (bar)[1]		Nominal Size		Order Codes	Dimensions (mm)									Ø Thread	
8.8 Bolts	10.9 (Gr10) Bolts	DN	(in)		Ø A	Ø B	D	F	G	H	I	L	M	UNC	Metr.
350	400	13	1/2	**BAS-601-ESU-21,6/13**	13	21,6	16,5	47	57	18,2	40,5	36	18	5/16–18 UNC	M8
350	400	13	1/2	**BAS-601-ESU-17,5/13**	13	17,5	16,5	47	57	18,2	40,5	36	18	5/16–18 UNC	M8
350	400	13	1/2	**BAS-601-ESU-20,3/13**	13	20,3	16,5	47	57	18,2	40,5	36	18	5/16–18 UNC	M8
350	400	19	3/4	**BAS-602-ESU-27,2/19**	19	27,2	19,5	54	72	23,8	50,8	36	20	3/8–16 UNC	M10
350	400	19	3/4	**BAS-602-ESU-25,3/19**	19	25,3	19,5	54	72	23,8	50,8	36	20	3/8–16 UNC	M10
350	400	25	1	**BAS-603-ESU-34/25**	25	34,0	24,5	68	82	27,8	57,2	44	22	7/16–14 UNC	M12
350	400	25	1	**BAS-603-ESU-30,3/25**	25	30,3	24,5	68	82	27,8	57,2	44	22	7/16–14 UNC	M12
350	400	32	1-1/4	**BAS-604-ESU-42,8/32**	32	42,8	27,5	79	95	31,8	66,6	44	22	1/2–13 UNC	M12
350	400	32	1-1/4	**BAS-604-ESM14-42,8/32**	32	42,8	27,5	79	95	31,8	66,6	44	22		M14
350	400	32	1-1/4	**BAS-604-ESU-38,3/32**	32	38,3	27,5	79	95	31,8	66,6	44	22	1/2–13 UNC	M12
350	400	32	1-1/4	**BAS-604-ESM14-38,3/32**	32	38,3	27,5	79	95	31,8	66,6	44	22		M14
350	400	38	1-1/2	**BAS-605-ESU-48,6/38**	38	48,6	31,0	88	108	36,5	79,3	51	24	5/8–11 UNC	M16
350	400	38	1-1/2	**BAS-605-ESU-50,5/38**	38	50,5	31,0	88	108	36,5	79,3	51	24	5/8–11 UNC	M16
350	400	51	2	**BAS-606-ESU-61/51**	51	61,0	37,0	118	137	44,5	96,8	70	33	3/4–10 UNC	M20
350	400	64	2-1/2	**BAS-607-ES-76,6/63**	63	76,6	45,0	152	180	58,7	123,8	80	32		M24
350	400	76	3	**BAS-608-ES-90,5/73**	73	90,5	55,0	178	208	71,4	152,4	90	30		M30

[1] The maximum working pressure applies only to the flange itself and depends on the Metric bolts (Grade 8.8 / 10.9) and UNC bolts (Gr10) used. The actual maximum working pressure depends on the thickness and the quality of the tube used.
[3] Alternative options shown in brackets are available on request.

See page G52 for details on the Nominal Pipe and Tube Sizes.

SAE Single-Part Socket Weld Flange (Flat Style)
BFX-FLNA-ES





Material S355J0 or equivalent
Surface blank, oiled
Special Material Stainless Steel 1.4404 "-W5" on request

Order Codes Examples

Single-Part Flange

* SAE Single-Part Socket Weld Flange (Flat Style) (without O-ring) **BFX-FLNA-...-ES-**/**

Flange Kits

* Incl. UNC bolts (Gr10), spring rings, O-ring made of NBR (Buna-N®) (packed in kits) **BFX-FLNA-...-ES-**/**-U#K**
* Incl. UNC bolts (Gr10), spring rings, O-ring made of FPM (Viton®) (packed in kits) **BFX-FLNA-...-ES-**/**-V-U#K**

3000 PSI Standard Pressure Series (according to ISO 6162-1)

PN (bar/PSI)[1] 10.9 (Gr10) Bolts	Nominal Size DN	(in)	Order Codes	Dimensions (mm/in) Ø A	Ø B	D	F	G	H	I	M	Ø K	for Bolts UNC
350	13	1/2	**BFX-FLNA-301-ES-22,4/12,7**	12,7	22,4	19,1	46,0	54,1	17,5	38,1	14,2	8,6	5/16–18 UNC x 1-1/2
5075				.50	.88	.75	1.81	2.13	.69	1.50	.56	.34	
350	19	3/4	**BFX-FLNA-302-ES-19,1/16,0**	16,0	19,1	19,1	52,3	65,0	22,4	47,8	14,2	10,4	3/8–16 UNC x 1-1/2
5075				.63	.75	.75	2.06	2.56	.88	1.88	.56	.41	
350	19	3/4	**BFX-FLNA-302-ES-26,9/19,1**	19,1	26,9	19,1	52,3	65,0	22,4	47,8	14,2	10,4	3/8–16 UNC x 1-1/2
5075				.75	1.06	.75	2.06	2.56	.88	1.88	.56	.41	
315	25	1	**BFX-FLNA-303-ES-25,5/22,4**	22,4	25,5	22,4	58,7	69,9	26,2	52,3	16,0	10,4	3/8–16 UNC x 1-3/4
4565				.88	1.00	.88	2.31	2.75	1.03	2.06	.63	.41	
315	25	1	**BFX-FLNA-303-ES-33,8/25,4**	25,4	33,8	22,4	58,7	69,9	26,2	52,3	16,0	10,4	3/8–16 UNC x 1-3/4
4565				1.00	1.33	.88	2.31	2.75	1.03	2.06	.63	41	
250	32	1-1/4	**BFX-FLNA-304-ES-31,8/28,7**	28,7	31,8	23,9	73,2	79,2	30,2	58,7	17,5	11,9	7/16–14 UNC x 1-3/4
3625				1.13	1.25	.94	2.88	3.12	1.19	2.31	.69	.47	
250	32	1-1/4	**BFX-FLNA-304-ES-42,4/31,8**	31,8	42,4	23,9	73,2	79,2	30,2	58,7	17,5	11,9	7/16–14 UNC x 1-3/4
3625				1.25	1.67	.94	2.88	3.13	1.19	2.31	.69	.47	
200	38	1-1/2	**BFX-FLNA-305-ES-38,1/35,1**	35,1	38,1	30,2	82,6	93,7	35,8	69,9	19,1	13,5	1/2–13 UNC x 2-1/4
2900				1.38	1.50	1.19	3.25	3.69	1.41	2.75	.75	.53	
200	38	1-1/2	**BFX-FLNA-305-ES-48,8/38,1**	38,1	48,8	30,2	82,6	93,7	35,8	69,9	19,1	13,5	1/2–13 UNC x 2-1/4
2900				1.50	1.92	1.19	3.25	3.69	1.41	2.75	.75	.53	
200	51	2	**BFX-FLNA-306-ES-51,1/47,8**	47,8	51,1	35,1	96,8	101,6	42,9	77,7	22,4	13,5	1/2–13 UNC x 2-1/2
2900				1.88	2.01	1.38	3.81	4.00	1.69	3.06	.88	.53	
200	51	2	**BFX-FLNA-306-ES-61,2/50,8**	50,8	61,2	35,1	96,8	101,6	42,9	77,7	22,4	13,5	1/2–13 UNC x 2-1/2
2900				2.00	2.41	1.38	3.81	4.00	1.69	3.06	.88	.53	
160	64	2-1/2	**BFX-FLNA-307-ES-73,9/63,5**	63,5	73,9	44,5	108,7	114,3	51,1	88,9	25,4	13,5	1/2–13 UNC x 2-3/4
2320				2.50	2.91	1.75	4.28	4.50	2.01	3.50	1.00	.53	
160	76	3	**BFX-FLNA-308-ES-90,2/76,2**	76,2	90,2	53,8	131,1	134,9	62,0	106,4	31,8	16,8	5/8–11 UNC x 3-1/2
2320				3.00	3.55	2.12	5.16	5.31	2.44	4.19	1.25	.66	

[1] The maximum working pressure applies only to the flange itself. The actual maximum working pressure depends on the thickness and the quality of the tube used.

For flange kit part number, refer to the ordering code at the top of the page.

See page G52 for details on the Nominal Pipe and Tube Sizes.

SAE Single-Part Socket Weld Flange (Flat Style)
BFX-FLNA-ES

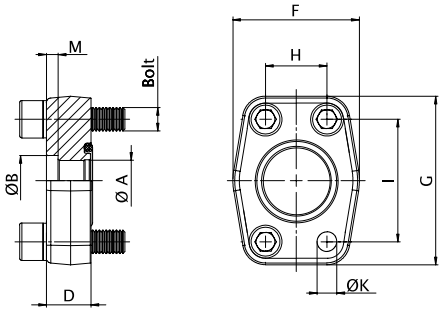
Order Codes Examples

Single-Part Flange

* SAE Single-Part Socket Weld Flange (Flat Style) (without O-ring) **BFX-FLNA-...-ES-**/**

Flange Kits

* Incl. UNC bolts (Gr10), spring rings, O-ring made of NBR (Buna-N®) (packed in kits) **BFX-FLNA-...-ES-**/**-U#K**
* Incl. UNC bolts (Gr10), spring rings, O-ring made of FPM (Viton®) (packed in kits) **BFX-FLNA-...-ES-**/**-V-U#K**





Material	S355J0 or equivalent
Surface	blank, oiled
Special Material	Stainless Steel 1.4404 "-W5" on request

6000 PSI Standard Pressure Series (according to ISO 6162-2)

PN (bar/PSI)[1] 10.9 (Gr10) Bolts	Nominal Size DN	(in)	Order Codes	Dimensions (mm/in) Ø A	Ø B	D	F	G	H	I	M	Ø K	for Bolts UNC
Bolts	13	1/2	**BFX-FLNA-601-ES-21,8/12,7**	12,7	21,8	32,0	49,3	58,4	18,3	40,4	14,2	8,6	5/16–18 UNC x 2
5800				.50	.86	1.26	1.94	2.30	.72	1.59	.56	.34	
400	19	3/4	**BFX-FLNA-602-ES-19,1/16,0**	16,0	19,1	31,8	63,5	74,9	23,9	51,1	14,2	10,4	3/8–16 UNC x 2
5800				.63	.75	1.25	2.50	2.95	.94	2.01	.56	.41	
400	19	3/4	**BFX-FLNA-602-ES-26,9/19,1**	19,1	26,9	31,8	63,5	74,9	23,9	51,1	14,2	10,4	3/8–16 UNC x 2
5800				.75	1.06	1.25	2.50	2.95	.94	2.01	.56	.41	
400	25	1	**BFX-FLNA-603-ES-25,4/22,4**	22,4	25,4	38,1	69,9	81,0	27,7	57,2	16,0	12,4	7/16–14 UNC x 2-1/2
5800				.88	1.00	1.50	2.75	3.19	1.09	2.25	.63	.49	
400	25	1	**BFX-FLNA-603-ES-33,8/25,4**	25,4	33,8	38,1	69,9	81,0	27,7	57,2	16,0	12,4	7/16–14 UNC x 2-1/2
5800				1.00	1.33	1.50	2.75	3.19	1.09	2.25	.63	.49	
400	32	1-1/4	**BFX-FLNA-604-ES-31,8/28,7**	28,7	31,8	38,1	77,7	95,3	31,8	66,8	17,5	13,5	1/2–13 UNC x 2-1/2
5800				1.13	1.25	1.50	3.06	3.75	1.25	2.63	.69	.53	
400	32	1-1/4	**BFX-FLNA-604-ES-42,4/31,8**	31,8	42,4	38,1	77,7	95,3	31,8	66.8	17,5	13,5	1/2–13 UNC x 2-1/2
5800				1.25	1.67	1.50	3.06	3.75	1.25	2.63	.69	.53	
400	38	1-1/2	**BFX-FLNA-605-ES-38,1/35,1**	35,1	38,1	44,5	95,3	112,8	36,6	79,5	19,1	16,8	5/8–11 UNC x 3
5800				1.38	1.50	1.75	3.75	4.44	1.44	3.13	.75	.66	
400	38	1-1/2	**BFX-FLNA-605-ES-48,8/38,1**	38,1	48,8	44,5	95,3	112,8	36,6	79,5	19,1	16,8	5/8–11 UNC x 3
5800				1.50	1.92	1.75	3.75	4.44	1.44	3.13	.75	.66	
400	51	2	**BFX-FLNA-606-ES-50,8/47,8**	47,8	50,8	44,5	114,3	133,4	44,5	96,8	22,4	19,8	3/4–10 UNC x 3
5800				1.88	2.00	1.75	4.50	5.25	1.75	3.81	.88	.78	
400	51	2	**BFX-FLNA-606-ES-61,2/50,8**	50,8	61,2	44,5	114,3	133,4	44,5	96,8	22,4	19,8	3/4–10 UNC x 3
5800				2.00	2.41	1.75	4.50	5.25	1.75	3.81	.88	.78	
400	64	2-1/2	**BFX-FLNA-607-ES-73,9/63,5**	63,5	73,9	52,3	149,1	174,5	58,7	124,0	25,4	23,1	7/8–9 UNC x 3-1/2
5800				2.50	2.91	2.06	5.87	6.87	2.31	4.88	1.00	.91	
400	76	3	**BFX-FLNA-608-ES-90,2/76,2**	76,2	90,2	66,5	177,8	215,9	71,4	152,4	31,8	30,2	1-1/4–7 UNC x 4-1/2
5800				3.00	3.55	2.62	7.00	8.50	2.81	6.00	1.25	1.19	

500 PSI Standard Pressure Series (according to ISO 6162-2)

PN (bar/PSI)[1] 10.9 (Gr10) Bolts	Nominal Size DN	(in)	Order Codes	Dimensions (mm/in) Ø A	Ø B	D	F	G	H	I	M	Ø K	for Bolts UNC
35	76	3	**BFX-FLNA-508-ES-90,2/76,2**	76,2	90,2	35,1	130,0	134,9	62,0	104,1	28,5	16,8	5/8–11 UNC x 3
505				3.00	3.55	1.38	5.12	5.31	2.44	4.19	1.12	.66	
35	89	3-1/2	**BFX-FLNA-509-ES-102,9/88,9**	88,9	102,9	36,6	139,7	152,4	69,9	120,7	30,2	16,8	5/8–11 UNC x 3
505				3.50	4.05	1.44	5.50	6.00	2.75	4.75	1.19	.66	
35	102	4	**BFX-FLNA-510-ES-116,3/101,6**	101,6	116,3	38,1	152,4	162,1	77,7	130,3	31,8	16,8	5/8–11 UNC x 3
505				4.00	4.58	1.50	6.00	6.38	3.06	5.13	1.25	.66	
35	127	5	**BFX-FLNA-511-ES-143,3/127,0**	127,0	143,3	44,5	180,9	184,2	92,2	152,4	35,1	16,8	5/8–11 UNC x 3
505				5.00	5.64	1.75	7.12	7.25	3.63	6.00	1.38	.66	

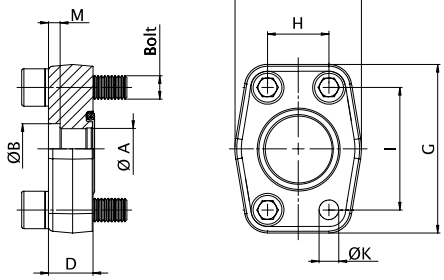
[1] The maximum working pressure applies only to the flange itself. The actual maximum working pressure depends on the thickness and the quality of the tube used.

For flange kit part number, refer to the ordering code at the top of the page.

See page G52 for details on the Nominal Pipe and Tube Sizes.

SAE Single-Part Socket Weld Companion Flange (Flat Style)
BAS-FLNA-ES





Order Codes Examples

* SAE Single-Part Socket Weld Companion Flange for UNC bolts (Flat Style) **BAS-FLNA-...-ESU**

Material S355J0 or equivalent
Surface blank, oiled
Special Material Stainless Steel 1.4404 "-W5" on request

3000 PSI Standard Pressure Series (according to ISO 6162-1)

PN ($^{bar}/_{PSI}$)[1] 10.9 (Gr10) Bolts	Nominal Size DN	(in)	Order Codes	Dimensions ($^{mm}/_{in}$) Ø A	Ø B	D	F	G	H	I	M	Ø K	for Bolts UNC
350	13	1/2	**BAS-FLNA-301-ESU-22,4/12,7**	12,7	22,4	19,1	46,0	54,1	17,5	38,1	14,2	8,6	5/16–18 UNC
5075				.50	.88	.75	1.81	2.13	.69	1.50	.56	.34	
350	19	3/4	**BAS-FLNA-302-ESU-19,1/16,0**	16,0	19,1	19,1	52,3	65,0	22,4	47,8	14,2	10,4	3/8–16 UNC
5075				.63	.75	.75	2.06	2.56	.88	1.88	.56	.41	
350	19	3/4	**BAS-FLNA-302-ESU-26,9/19,1**	19,1	26,9	19,1	52,3	65,0	22,4	47,8	14,2	10,4	3/8–16 UNC
5075				.75	1.06	.75	2.06	2.56	.88	1.88	.56	.41	
315	25	1	**BAS-FLNA-303-ESU-25,5/22,4**	22,4	25,5	22,4	58,7	69,9	26,2	52,3	16,0	10,4	3/8–16 UNC
4565				.88	1.00	.88	2.31	2.75	1.03	2.06	.63	.41	
315	25	1	**BAS-FLNA-303-ESU-33,8/25,4**	25,4	33,8	22,4	58,7	69,9	26,2	52,3	16,0	10,4	3/8–16 UNC
4565				1.00	1.33	.88	2.31	2.75	1.03	2.06	.63	41	
250	32	1-1/4	**BAS-FLNA-304-ESU-31,8/28,7**	28,7	31,8	23,9	73,2	79,2	30,2	58,7	17,5	11,9	7/16–14 UNC
3625				1.13	1.25	.94	2.88	3.12	1.19	2.31	.69	.47	
250	32	1-1/4	**BAS-FLNA-304-ESU-42,4/31,8**	31,8	42,4	23,9	73,2	79,2	30,2	58,7	17,5	11,9	7/16–14 UNC
3625				1.25	1.67	.94	2.88	3.13	1.19	2.31	.69	.47	
200	38	1-1/2	**BAS-FLNA-305-ESU-38,1/35,1**	35,1	38,1	30,2	82,6	93,7	35,8	69,9	19,1	13,5	1/2–13 UNC
2900				1.38	1.50	1.19	3.25	3.69	1.41	2.75	.75	.53	
200	38	1-1/2	**BAS-FLNA-305-ESU-48,8/38,1**	38,1	48,8	30,2	82,6	93,7	35,8	69,9	19,1	13,5	1/2–13 UNC
2900				1.50	1.92	1.19	3.25	3.69	1.41	2.75	.75	.53	
200	51	2	**BAS-FLNA-306-ESU-51,1/47,8**	47,8	51,1	35,1	96,8	101,6	42,9	77,7	22,4	13,5	1/2–13 UNC
2900				1.88	2.01	1.38	3.81	4.00	1.69	3.06	.88	.53	
200	51	2	**BAS-FLNA-306-ESU-61,2/50,8**	50,8	61,2	35,1	96,8	101,6	42,9	77,7	22,4	13,5	1/2–13 UNC
2900				2.00	2.41	1.38	3.81	4.00	1.69	3.06	.88	.53	
160	64	2-1/2	**BAS-FLNA-307-ESU-73,9/63,5**	63,5	73,9	44,5	108,7	114,3	51,1	88,9	25,4	13,5	1/2–13 UNC
2320				2.50	2.91	1.75	4.28	4.50	2.01	3.50	1.00	.53	
160	76	3	**BAS-FLNA-308-ESU-90,2/76,2**	76,2	90,2	53,8	131,1	134,9	62,0	106,4	31,8	16,8	5/8–11 UNC
2320				3.00	3.55	2.12	5.16	5.31	2.44	4.19	1.25	.66	

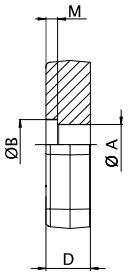
[1] The maximum working pressure applies only to the flange itself. The actual maximum working pressure depends on the thickness and the quality of the tube used.

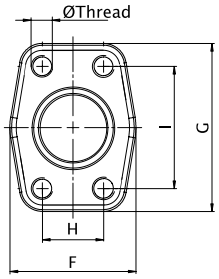
See page G52 for details on the Nominal Pipe and Tube Sizes.

SAE Single-Part Socket Weld Companion Flange (Flat Style)
BAS-FLNA-ES

Order Codes Examples

* SAE Single-Part Socket Weld Companion Flange for UNC bolts (Flat Style) **BAS-FLNA-...-ESU**







Material	S355J0 or equivalent
Surface	blank, oiled
Special Material	Stainless Steel 1.4404 "-W5" on request

6000 PSI Standard Pressure Series (according to ISO 6162-2)

PN ([bar]/[PSI])[1] 10.9 (Gr10) Bolts	Nominal Size DN	(in)	Order Codes	Dimensions ([mm]/[in]) Ø A	Ø B	D	F	G	H	I	M	Ø K	for Bolts UNC
400	13	1/2	**BAS-FLNA-601-ESU-21,8/12,7**	12,7	21,8	32,0	49,3	58,4	18,3	40,4	14,2	8,6	5/16–18 UNC
5800				.50	.86	1.26	1.94	2.30	.72	1.59	.56	.34	
400	19	3/4	**BAS-FLNA-602-ESU-19,1/16,0**	16,0	19,1	31,8	63,5	74,9	23,9	51,1	14,2	10,4	3/8–16 UNC
5800				.63	.75	1.25	2.50	2.95	.94	2.01	.56	.41	
400	19	3/4	**BAS-FLNA-602-ESU-26,9/19,1**	19,1	26,9	31,8	63,5	74,9	23,9	51,1	14,2	10,4	3/8–16 UNC
5800				.75	1.06	1.25	2.50	2.95	.94	2.01	.56	.41	
400	25	1	**BAS-FLNA-603-ESU-25,4/22,4**	22,4	25,4	38,1	69,9	81,0	27,7	57,2	16,0	12,4	7/16–14 UNC
5800				.88	1.00	1.50	2.75	3.19	1.09	2.25	.63	.49	
400	25	1	**BAS-FLNA-603-ESU-33,8/25,4**	25,4	33,8	38,1	69,9	81,0	27,7	57,2	16,0	12,4	7/16–14 UNC
5800				1.00	1.33	1.50	2.75	3.19	1.09	2.25	.63	.49	
400	32	1-1/4	**BAS-FLNA-604-ESU-31,8/28,7**	28,7	31,8	38,1	77,7	95,3	31,8	66,8	17,5	13,5	1/2–13 UNC
5800				1.13	1.25	1.50	3.06	3.75	1.25	2.63	.69	.53	
400	32	1-1/4	**BAS-FLNA-604-ESU-42,4/31,8**	31,8	42,4	38,1	77,7	95,3	31,8	66.8	17,5	13,5	1/2–13 UNC
5800				1.25	1.67	1.50	3.06	3.75	1.25	2.63	.69	.53	
400	38	1-1/2	**BAS-FLNA-605-ESU-38,1/35,1**	35,1	38,1	44,5	95,3	112,8	36,6	79,5	19,1	16,8	5/8–11 UNC
5800				1.38	1.50	1.75	3.75	4.44	1.44	3.13	.75	.66	
400	38	1-1/2	**BAS-FLNA-605-ESU-48,8/38,1**	38,1	48,8	44,5	95,3	112,8	36,6	79,5	19,1	16,8	5/8–11 UNC
5800				1.50	1.92	1.75	3.75	4.44	1.44	3.13	.75	.66	
400	51	2	**BAS-FLNA-606-ESU-50,8/47,8**	47,8	50,8	44,5	114,3	133,4	44,5	96,8	22,4	19,8	3/4–10 UNC
5800				1.88	2.00	1.75	4.50	5.25	1.75	3.81	.88	.78	
400	51	2	**BAS-FLNA-606-ESU-61,2/50,8**	50,8	61,2	44,5	114,3	133,4	44,5	96,8	22,4	19,8	3/4–10 UNC
5800				2.00	2.41	1.75	4.50	5.25	1.75	3.81	.88	.78	
400	64	2-1/2	**BAS-FLNA-607-ESU-73,9/63,5**	63,5	73,9	52,3	149,1	174,5	58,7	124,0	25,4	23,1	7/8–9 UNC
5800				2.50	2.91	2.06	5.87	6.87	2.31	4.88	1.00	.91	
400	76	3	**BAS-FLNA-608-ESU-90,2/76,2**	76,2	90,2	66,5	177,8	215,9	71,4	152,4	31,8	30,2	1-1/4–7 UNC
5800				3.00	3.55	2.62	7.00	8.50	2.81	6.00	1.25	1.19	

500 PSI Standard Pressure Series (according to ISO 6162-2)

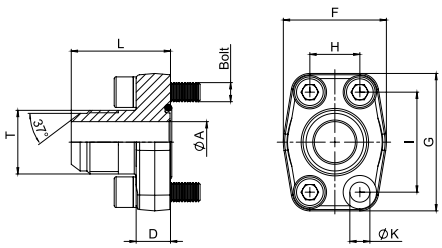
PN ([bar]/[PSI])[1] 10.9 (Gr10) Bolts	Nominal Size DN	(in)	Order Codes	Dimensions ([mm]/[in]) Ø A	Ø B	D	F	G	H	I	M	Ø K	for Bolts UNC
35	76	3	**BAS-FLNA-508-ESU-90,2/76,2**	76,2	90,2	35,1	130,0	134,9	62,0	104,1	28,5	16,8	5/8–11 UNC
505				3.00	3.55	1.38	5.12	5.31	2.44	4.19	1.12	.66	
35	89	3-1/2	**BAS-FLNA-509-ESU-102,9/88,9**	88,9	102,9	36,6	139,7	152,4	69,9	120,7	30,2	16,8	5/8–11 UNC
505				3.50	4.05	1.44	5.50	6.00	2.75	4.75	1.19	.66	
35	102	4	**BAS-FLNA-510-ESU-116,3/101,6**	101,6	116,3	38,1	152,4	162,1	77,7	130,3	31,8	16,8	5/8–11 UNC
505				4.00	4.58	1.50	6.00	6.38	3.06	5.13	1.25	.66	
35	127	5	**BAS-FLNA-511-ESU-143,3/127,0**	127,0	143,3	44,5	180,9	184,2	92,2	152,4	35,1	16,8	5/8–11 UNC
505				5.00	5.64	1.75	7.12	7.25	3.63	6.00	1.38	.66	

[1] The maximum working pressure applies only to the flange itself. The actual maximum working pressure depends on the thickness and the quality of the tube used.

See page G52 for details on the Nominal Pipe and Tube Sizes.

SAE Single-Part Fitting Flange with JIC 37° Cone Connector (acc. to ISO 8434-2 / SAE J514)
BFX-J





Material S355J0 / C45 or equivalent
Surface CrVI-free
Special Material Stainless Steel 1.4404 "-W5" on request

Order Codes Examples

Single-Part Flange
* SAE Single-Part Fitting Flange (without O-ring) **BFX-...-J**

Flange Kits
* Including UNC bolts (Gr10), spring rings, O-ring made of NBR (Buna-N®) (packed in kits) **BFX-...-J**-U#K**
* Including UNC bolts (Gr10), spring rings, O-ring made of FPM (Viton®) (packed in kits) **BFX-...-J**-V-U#K**
* Including Metric bolts 8.8, spring rings, O-ring made of NBR (Buna-N®) (packed in kits) **BFX-...-J**#K**

3000 PSI Standard Pressure Series (according to ISO 6162-1)

PN (bar)[1]		Nominal Size		Order Codes	Dimensions (mm)									for Bolts	
8.8 Bolts	10.9 (Gr10) Bolts	DN	(in)		Ø A	D	F	G	H	i	L	T (UN/UNF)	Ø K[3]	UNC	Metr.[3]
350	350	13	1/2	**BFX-301-J3/4**	9,9	16	43	57	17,5	38,1	41	3/4–16	8,7	5/16–18 UNC x 1-1/4	M8x30
350	350	13	1/2	**BFX-301-J7/8**	12,3	16	43	57	17,5	38,1	41	7/8–14	8,7	5/16–18 UNC x 1-1/4	M8x30
350	350	19	3/4	**BFX-302-J11/16**	15,5	18	50	67	22,3	47,6	49	1-1/16–12	10,5	3/8–16 UNC x 1-1/2	M10x35
250	315	25	1	**BFX-303-J15/16**	21,5	18	54	72	26,2	52,4	52	1-5/16–12	10,5	3/8–16 UNC x 1-1/2	M10x35
200	200	32	1-1/4	**BFX-304-J15/16**	21,5	21	68	82	30,2	58,7	56	1-5/16–12	11,7 (13,5)	7/16–14 UNC x 1-1/2	M10x40 (M12x40)
200	200	32	1-1/4	**BFX-304-J15/8**	27,5	21	68	82	30,2	58,7	58	1-5/8–12	11,7 (13,5)	7/16–14 UNC x 1-1/2	M10x40 (M12x40)
160	160	38	1-1/2	**BFX-305-J17/8**	33,0	24	74	96	35,7	69,9	67	1-7/8–12	13,5 (14,5)	7/16–14 UNC x 1-3/4	M12x45 (M14x45)

6000 PSI High Pressure Series (according to ISO 6162-2)

PN (bar)[1]		Nominal Size		Order Codes	Dimensions (mm)									for Bolts	
8.8 Bolts	10.9 (Gr10) Bolts	DN	(in)		Ø A	D	F	G	H	i	L	T (UN/UNF)	Ø K	UNC	Metr.
350	400	13	1/2	**BFX-601-J3/4**	9,9	16	43	57	18,2	40,5	42	3/4–16	8,7	5/16–18 UNC x 1-1/4	M8x30
350	400	13	1/2	**BFX-601-J7/8**	12,3	16	43	57	18,2	40,5	45	7/8–14	8,7	5/16–18 UNC x 1-1/4	M8x30
350	400	19	3/4	**BFX-602-J11/16**	15,5	18	54	72	23,8	50,8	51	1-1/16–12	10,5	3/8–16 UNC x 1-1/2	M10x35
350	400	25	1	**BFX-603-J15/16**	21,5	21	68	82	27,8	57,2	59	1-5/16–12	13,0	7/16–14 UNC x 1-3/4	M12x40
350	400	32	1-1/4	**BFX-604-J15/16**	21,5	24	75	95	31,6	66,6	64	1-5/16–12	13,5	1/2–13 UNC x 1-3/4	M12x45
350	400	32	1-1/4	**BFX-604-J15/16-M14**	21,5	24	75	95	31,6	66,6	64	1-5/16–12	15,0		M14x45
350	400	32	1-1/4	**BFX-604-J15/8**	27,5	24	75	95	31,6	66,6	66	1-5/8–12	13,5	1/2–13 UNC x 1-3/4	M12x45
350	400	32	1-1/4	**BFX-604-J15/8-M14**	27,5	24	75	95	31,6	66,6	66	1-5/8–12	15,0		M14x45
350	400	38	1-1/2	**BFX-605-J17/8**	33,0	27	84	108	36,5	79,3	73	1-7/8–12	17,0	5/8–11 UNC x 2	M16x50

[1] The maximum working pressure applies only to the flange itself and depends on the Metric bolts (Grade 8.8 / 10.9) and UNC bolts (Gr10) used. The actual maximum working pressure depends on the thickness and the quality of the tube used.
[3] Alternative options shown in brackets are available on request.

For flange kit part number, refer to the ordering code at the top of the page.

SAE 90° Single-Part Screw-in NPT Threaded Flange
BFX90-N

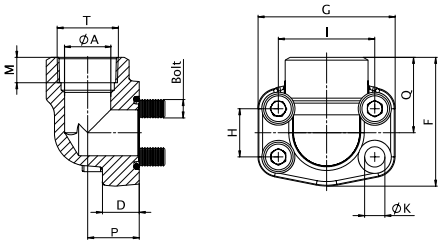
Order Codes Examples

Single-Part Flange

* SAE 90° Single-Part Screw-in NPT Threaded Flange (without O-ring) **BFX90-...-N**

Flange Kits

* Including UNC bolts (Gr10), spring rings, O-ring made of NBR (Buna-N®) (packed in kits) **BFX90-...-N-U#K**
* Including UNC bolts (Gr10), spring rings, O-ring made of FPM (Viton®) (packed in kits) **BFX90-...-N-V-U#K**
* Including Metric bolts 8.8, spring rings, O-ring made of NBR (Buna-N®) (packed in kits) **BFX90-...-N#K**





Material S355J0 or equivalent
Surface blank, oiled
Special Material Stainless Steel 1.4404 "-W5" on request

3000 PSI Standard Pressure Series (according to ISO 6162-1)

PN (bar)[1]		Nominal Size		Order Codes	Dimensions (mm)											for Bolts	
8.8 Bolts	10.9 (Gr10) Bolts	DN	(in)		ØA	D	F	G	H	I	M	P	Q	T (NPT)	Ø K[3]	UNC	Metr.[3]
350	350	13	1/2	**BFX90-301-N**	13	16	60	54	17,5	38,1	19	20	37	1/2	8,7	5/16–18 UNC x 1-1/4	M8x30
350	350	13	1/2	**BFX90-301-N038**	13	16	60	54	17,5	38,1	19	20	37	3/8	8,7	5/16–18 UNC x 1-1/4	M8x30
350	350	19	3/4	**BFX90-302-N**	19	18	63	65	22,3	47,6	19	24	38	3/4	10,5	3/8–16 UNC x 1-1/2	M10x35
250	315	25	1	**BFX90-303-N**	25	19	70	70	26,2	52,4	20	28	43	1	10,5	3/8–16 UNC x 1-1/2	M10x35
200	250	32	1-1/4	**BFX90-304-N**	32	21	85	79	30,2	58,7	22	34	51	1-1/4	11,7 (13,5)	7/16–14 UNC x 1-1/2	M10x40 (M12x40)
200	200	38	1-1/2	**BFX90-305-N**	38	25	95	93	35,7	69,9	25	38	56	1-1/2	13,5 (14,5)	1/2–13 UNC x 1-3/4	M12x45 (M14x45)
160	200	51	2	**BFX90-306-N**	51	25	110	110	42,9	77,8	28	42	65	2	13,5 (14,5)	1/2–13 UNC x 1-3/4	M12x45 (M14x45)

6000 PSI High Pressure Series (according to ISO 6162-2)

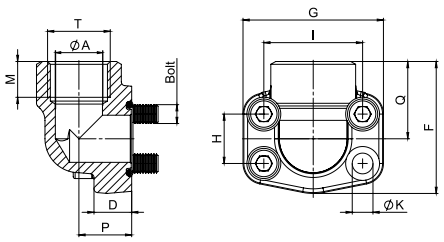
PN (bar)[1]		Nominal Size		Order Codes	Dimensions (mm)											for Bolts	
8.8 Bolts	10.9 (Gr10) Bolts	DN	(in)		ØA	D	F	G	H	I	M	P	Q	T (NPT)	Ø K	UNC	Metr.
350	400	13	1/2	**BFX90-601-N**	13	16	60	56	18,2	40,5	19	20	37	1/2	8,7	5/16–18 UNC x 1-1/4	M8x30
350	400	13	1/2	**BFX90-601-N038**	13	16	60	56	18,2	40,5	19	20	37	3/8	8,7	5/16–18 UNC x 1-1/4	M8x30
350	400	19	3/4	**BFX90-602-N**	19	19	70	70	23,8	50,8	20	28	43	3/4	10,5	3/8–16 UNC x 1-1/2	M10x35
350	400	25	1	**BFX90-603-N**	25	21	85	79	27,8	57,2	22	34	51	1	13	7/16–14 UNC x 1-3/4	M12x45
350	400	32	1-1/4	**BFX90-604-N**	32	25	95	93	31,6	66,6	25	38	56	1-1/4	13,5	1/2–13 UNC x 1-3/4	M12x45
350	400	32	1-1/4	**BFX90-604-N-M14**	32	25	95	93	31,6	66,6	25	38	56	1-1/4	15		M14x45
350	400	38	1-1/2	**BFX90-605-N**	38	25	110	110	36,5	79,3	28	42	65	1-1/2	17	5/8–11 UNC x 2	M16x50
350	400	51	2	**BFX90-606-N**	51	35	132	134	44,5	96,8	33	45	75	2	21	3/4–10 UNC x 2-3/4	M20x70

[1] The maximum working pressure applies only to the flange itself and depends on the Metric bolts (Grade 8.8 / 10.9) and UNC bolts (Gr10) used. The actual maximum working pressure depends on the thickness and the quality of the tube used.
[3] Alternative options shown in brackets are available on request.

For flange kit part number, refer to the ordering code at the top of the page.

SAE 90° Single-Part Screw-in BSPP Threaded Flange
BFX90-G





Material S355J0 or equivalent
Surface blank, oiled
Special Material Stainless Steel 1.4404 "-W5" on request

Order Codes Examples

Single-Part Flange
* SAE 90° Single-Part Screw-in BSPP Threaded Flange (without O-ring) **BFX90-...-G**

Flange Kits
* Including UNC bolts (Gr10), spring rings, O-ring made of NBR (Buna-N®) (packed in kits) **BFX90-...-G-U#K**
* Including UNC bolts (Gr10), spring rings, O-ring made of FPM (Viton®) (packed in kits) **BFX90-...-G-V-U#K**
* Including Metric bolts 8.8, spring rings, O-ring made of NBR (Buna-N®) (packed in kits) **BFX90-...-G#K**

3000 PSI Standard Pressure Series (according to ISO 6162-1)

PN (bar)[1]		Nominal Size		Order Codes	Dimensions (mm)											for Bolts	
8.8 Bolts	10.9 (Gr10) Bolts	DN	(in)		ØA	D	F	G	H	I	M	P	Q	T (BSPP)	Ø K[3]	UNC	Metr.[3]
350	350	13	1/2	**BFX90-301-G**	13	16	60	54	17,5	38,1	19	20	37	1/2	8,7	5/16–18 UNC x 1-1/4	M8x30
350	350	13	1/2	**BFX90-301-G038**	13	16	60	54	17,5	38,1	19	20	37	3/8	8,7	5/16–18 UNC x 1-1/4	M8x30
350	350	19	3/4	**BFX90-302-G**	19	18	63	65	22,3	47,6	19	24	38	3/4	10,5	3/8–16 UNC x 1-1/2	M10x35
250	315	25	1	**BFX90-303-G**	25	19	70	70	26,2	52,4	20	28	43	1	10,5	3/8–16 UNC x 1-1/2	M10x35
200	250	32	1-1/4	**BFX90-304-G**	32	21	85	79	30,2	58,7	22	34	51	1-1/4	11,7 (13,5)	7/16–14 UNC x 1-1/2	M10x40 (M12x40)
200	200	38	1-1/2	**BFX90-305-G**	38	25	95	93	35,7	69,9	25	38	56	1-1/2	13,5 (14,5)	1/2–13 UNC x 1-3/4	M12x45 (M14x45)
160	200	51	2	**BFX90-306-G**	51	25	110	110	42,9	77,8	28	42	65	2	13,5 (14,5)	1/2–13 UNC x 1-3/4	M12x45 (M14x45)

6000 PSI High Pressure Series (according to ISO 6162-2)

PN (bar)[1]		Nominal Size		Order Codes	Dimensions (mm)											for Bolts	
8.8 Bolts	10.9 (Gr10) Bolts	DN	(in)		ØA	D	F	G	H	I	M	P	Q	T (BSPP)	Ø K	UNC	Metr.
350	400	13	1/2	**BFX90-601-G**	13	16	60	56	18,2	40,5	19	20	37	1/2	8,7	5/16–18 UNC x 1-1/4	M8x30
350	400	13	1/2	**BFX90-601-G038**	13	16	60	56	18,2	40,5	19	20	37	3/8	8,7	5/16–18 UNC x 1-1/4	M8x30
350	400	19	3/4	**BFX90-602-G**	19	19	70	70	23,8	50,8	20	28	43	3/4	10,5	3/8–16 UNC x 1-1/2	M10x35
350	400	25	1	**BFX90-603-G**	25	21	85	79	27,8	57,2	22	34	51	1	13	7/16–14 UNC x 1-3/4	M12x45
350	400	32	1-1/4	**BFX90-604-G**	32	25	95	93	31,6	66,6	25	38	56	1-1/4	13,5	1/2–13 UNC x 1-3/4	M12x45
350	400	32	1-1/4	**BFX90-604-G-M14**	32	25	95	93	31,6	66,6	25	38	56	1-1/4	15		M14x45
350	400	38	1-1/2	**BFX90-605-G**	38	25	110	110	36,5	79,3	28	42	65	1-1/2	17	5/8–11 UNC x 2	M16x50
350	400	51	2	**BFX90-606-G**	51	35	132	134	44,5	96,8	33	45	75	2	21	3/4–10 UNC x 2-3/4	M20x70

[1] The maximum working pressure applies only to the flange itself and depends on the Metric bolts (Grade 8.8 / 10.9) and UNC bolts (Gr10) used. The actual maximum working pressure depends on the thickness and the quality of the tube used.
[3] Alternative options shown in brackets are available on request.

For flange kit part number, refer to the ordering code at the top of the page.

SAE 90° Single-Part Butt Weld Flange (Schedule 80)
BFX90-ST

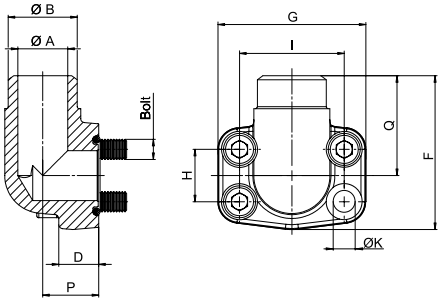
Order Codes Examples

Single-Part Flange

* SAE 90° Single-Part Butt Weld Flange (without O-ring) **BFX90-...-ST-**/****

Flange Kits

* Including UNC bolts (Gr10), spring rings, O-ring made of NBR (Buna-N®) (packed in kits) **BFX90-...-ST-**/**-U#K**
* Including UNC bolts (Gr10), spring rings, O-ring made of FPM (Viton®) (packed in kits) **BFX90-...-ST-**/**-V-U#K**
* Including Metric bolts 8.8, spring rings, O-ring made of NBR (Buna-N®) (packed in kits) **BFX90-...-ST-**/**#K**





Material S355J0 or equivalent
Surface blank, oiled
Special Material Stainless Steel 1.4404 "-W5" on request

3000 PSI Standard Pressure Series (according to ISO 6162-1)

PN (bar)[1]		Nominal Size		Order Codes	Dimensions (mm)										for Bolts	
8.8 Bolts	10.9 (Gr10) Bolts	DN	(in)		ØA	Ø B	D	F	G	H	I	P	Q	Ø K	UNC	Metr.
350	350	13	1/2	**BFX90-301-ST-21,5/13**	13	21,5	16	60	54	17,5	38,1	20	37	9	5/16–18 UNC x 1-1/4	M8x30
350	350	19	3/4	**BFX90-302-ST-27/19**	19	27	16	63	65	22,3	47,6	24	38	11	3/8–16 UNC x 1-1/2	M10x35
350	350	25	1	**BFX90-303-ST-34,5/23**	23	34,5	19	70	70	26,2	52,4	28	43	11	3/8–16 UNC x 1-1/2	M10x35
250	315	32	1-1/4	**BFX90-304-ST-43/31**	311	43	21	85	79	30,2	58,7	34	51	11,5	7/16–14 UNC x 1-1/2	M10x40
200	250	38	1-1/2	**BFX90-305-ST-50/35**	35	50	25	95	93	35,7	69,8	38	56	13,5	1/2–13 UNC x 1-3/4	M12x45
200	200	51	2	**BFX90-306-ST-65/48**	48	65	25	110	110	42,9	77,8	42	65	13,5	1/2–13 UNC x 1-3/4	M12x45

6000 PSI High Pressure Series (according to ISO 6162-2)

PN (bar)[1]		Nominal Size		Order Codes	Dimensions (mm)										for Bolts	
8.8 Bolts	10.9 (Gr10) Bolts	DN	(in)		ØA	Ø B	D	F	G	H	I	P	Q	Ø K	UNC	Metr.
350	400	13	1/2	**BFX90-601-ST-21,5/13**	13	21,5	16	60	54	18,2	40,5	20	37	9	5/16–18 UNC x 1-1/4	M8x30
350	400	19	3/4	**BFX90-602-ST-28/19**	19	28	19	70	70	23,8	50,8	28	43	11	3/8–16 UNC x 1-1/2	M10x35
350	400	25	1	**BFX90-603-ST-34/25**	25	34	21	85	79	27,8	57,2	34	51	13	7/16–14 UNC x 1-3/4	M12x45
350	400	32	1-1/4	**BFX90-604-ST-42/32-M14**	32	42	25	95	93	31,8	66,6	38	56	15		M14x45
350	400	38	1-1/2	**BFX90-605-ST-48/38**	38	48	25	110	110	36,5	79,3	42	65	17	5/8–11 UNC x 2	M16x55

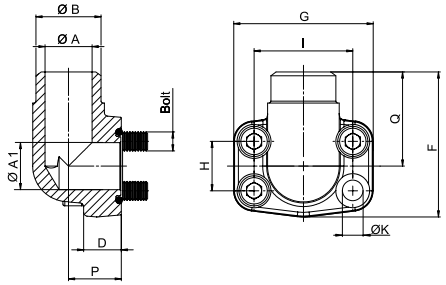
[1] The maximum working pressure applies only to the flange itself and depends on the Metric bolts (Grade 8.8 / 10.9) and UNC bolts (Gr10) used. The actual maximum working pressure depends on the thickness and the quality of the tube used.

For flange kit part number, refer to the ordering code at the top of the page.

See page G52 for details on the Nominal Pipe and Tube Sizes.

SAE 90° Single-Part Butt Weld Flange for Metric Tubes
BFX90-SRE





Material S355J0 or equivalent
Surface blank, oiled
Special Material Stainless Steel 1.4404 "-W5" on request

Order Codes Examples

Single-Part Flange
* SAE 90° Single-Part Butt Weld Flange (without O-ring) **BFX90-...-SRE-**/****

Flange Kits
* Including UNC bolts (Gr10), spring rings, O-ring made of NBR (Buna-N®) (packed in kits) **BFX90-...-SRE-**/**-U#K**
* Including UNC bolts (Gr10), spring rings, O-ring made of FPM (Viton®) (packed in kits) **BFX90-...-SRE-**/**-V-U#K**
* Including Metric bolts 8.8, spring rings, O-ring made of NBR (Buna-N®) (packed in kits) **BFX90-...-SRE-**/**#K**

3000 PSI Standard Pressure Series (according to ISO 6162-1)

PN (bar)[1]		Nominal Size		Order Codes	Dimensions (mm)											for Bolts	
8.8 Bolts	10.9 (Gr10) Bolts	DN	(in)		Ø A	Ø A1	Ø B	D	F	G	H	I	P	Q	Ø K[3]	UNC	Metr.[3]
350	350	13	1/2	**BFX90-301-SRE-20/14**	14	13	20	16	60	54	17,5	38,1	20	37	8,7	5/16–18 UNC x 1-1/4	M8x30
350	350	13	1/2	**BFX90-301-SRE-22/18**	18	13	22	16	60	54	17,5	38,1	20	37	8,7	5/16–18 UNC x 1-1/4	M8x30
350	350	13	1/2	**BFX90-301-SRE-25/19**	19	13	25	16	60	54	17,5	38,1	20	37	8,7	5/16–18 UNC x 1-1/4	M8x30
350	350	19	3/4	**BFX90-302-SRE-25/19**	19	19	25	18	63	65	22,3	47,6	24	38	10,5	3/8–16 UNC x 1-1/2	M10x35
350	350	19	3/4	**BFX90-302-SRE-28/22**	22	19	28	18	63	65	22,3	47,6	24	38	10,5	3/8–16 UNC x 1-1/2	M10x35
350	350	19	3/4	**BFX90-302-SRE-30/22**	22	19	30	18	63	65	22,3	47,6	24	38	10,5	3/8–16 UNC x 1-1/2	M10x35
350	350	19	3/4	**BFX90-302-SRE-35/27**	27	19	35	18	63	65	22,3	47,6	24	38	10,5	3/8–16 UNC x 1-1/2	M10x35
250	315	25	1	**BFX90-303-SRE-30/22**	22	25	30	19	70	70	26,2	52,4	28	43	10,5	3/8–16 UNC x 1-1/2	M10x35
250	315	25	1	**BFX90-303-SRE-35/27**	27	25	35	19	70	70	26,2	52,4	28	43	10,5	3/8–16 UNC x 1-1/2	M10x35
250	315	25	1	**BFX90-303-SRE-38/30**	30	25	38	19	70	70	26,2	52,4	28	43	10,5	3/8–16 UNC x 1-1/2	M10x35
250	315	25	1	**BFX90-303-SRE-42/36**	36	25	42	19	70	70	26,2	52,4	28	43	10,5	3/8–16 UNC x 1-1/2	M10x35
200	250	32	1-1/4	**BFX90-304-SRE-38/30**	30	32	38	21	85	79	30,2	58,7	34	51	11,7 (13,5)	7/16–14 UNC x 1-1/2	M10x40 (M12x40)
200	250	32	1-1/4	**BFX90-304-SRE-42/36**	36	32	42	21	85	79	30,2	58,7	34	51	11,7 (13,5)	7/16–14 UNC x 1-1/2	M10x40 (M12x40)
200	250	32	1-1/4	**BFX90-304-SRE-49/39**	39	32	49	21	85	79	30,2	58,7	34	51	11,7 (13,5)	7/16–14 UNC x 1-1/2	M10x40 (M12x40)
200	200	38	1-1/2	**BFX90-305-SRE-38/30**	30	38	38	25	95	93	35,7	69,9	38	56	13,5 (14,5)	1/2–13 UNC x 1-3/4	M12x45 (M14x45)
200	200	38	1-1/2	**BFX90-305-SRE-42/36**	36	38	42	25	95	93	35,7	69,9	38	56	13,5 (14,5)	1/2–13 UNC x 1-3/4	M12x45 (M14x45)
200	200	38	1-1/2	**BFX90-305-SRE-49/39**	39	38	49	25	95	93	35,7	69,9	38	56	13,5 (14,5)	1/2–13 UNC x 1-3/4	M12x45 (M14x45)
160	200	51	2	**BFX90-306-SRE-61/49**	49	51	61	25	110	110	42,9	77,8	42	65	13,5 (14,5)	1/2–13 UNC x 1-3/4	M12x45 (M14x45)

6000 PSI High Pressure Series (according to ISO 6162-2)

PN (bar)[1]		Nominal Size		Order Codes	Dimensions (mm)											for Bolts	
8.8 Bolts	10.9 (Gr10) Bolts	DN	(in)		Ø A	Ø A1	Ø B	D	F	G	H	I	P	Q	Ø K	UNC	Metr.
350	400	13	1/2	**BFX90-601-SRE-20/14**	14	13	20	16	60	54	18,2	40,5	20	37	8,7	5/16–18 UNC x 1-1/4	M8x30
350	400	13	1/2	**BFX90-601-SRE-25/17**	17	13	25	16	60	54	18,2	40,5	20	37	8,7	5/16–18 UNC x 1-1/4	M8x30
350	400	19	3/4	**BFX90-602-SRE-25/17**	17	19	25	19	70	70	23,8	50,8	28	43	10,5	3/8–16 UNC x 1-1/2	M10x35
350	400	19	3/4	**BFX90-602-SRE-30/22**	22	19	30	19	70	70	23,8	50,8	28	43	10,5	3/8–16 UNC x 1-1/2	M10x35
350	400	25	1	**BFX90-603-SRE-30/22**	22	25	30	21	85	79	27,8	57,2	34	51	13,5	7/16–14 UNC x 1-3/4	M12x45
350	400	25	1	**BFX90-603-SRE-38/28**	28	25	38	21	85	79	27,8	57,2	34	51	13,5	7/16–14 UNC x 1-3/4	M12x45
350	400	32	1-1/4	**BFX90-604-SRE-38/28**	28	32	38	25	95	93	31,8	66,6	38	56	13,5	1/2–13 UNC x 1-3/4	M12x45
350	400	32	1-1/4	**BFX90-604-SRE-38/28-M14**	28	32	38	25	95	93	31,8	66,6	38	56	15,0		M14x45
350	400	32	1-1/4	**BFX90-604-SRE-49/32**	32	32	49	25	95	93	31,8	66,6	38	56	13,5	1/2–13 UNC x 1-3/4	M12x45
350	400	32	1-1/4	**BFX90-604-SRE-49/32-M14**	32	32	49	25	95	93	31,8	66,6	38	56	15,0		M14x45
350	400	38	1-1/2	**BFX90-605-SRE-38/28**	28	38	38	25	110	110	36,5	79,3	42	65	17,0	5/8–11 UNC x 2	M16x50
350	400	38	1-1/2	**BFX90-605-SRE-49/32**	32	38	49	25	110	110	36,5	79,3	42	65	17,0	5/8–11 UNC x 2	M16x50
350	400	38	1-1/2	**BFX90-605-SRE-61/40**	40	38	61	25	110	110	36,5	79,3	42	65	17,0	5/8–11 UNC x 2	M16x50
350	400	51	2	**BFX90-606-SRE-61/40**	40	51	61	35	132	134	44,5	96,8	45	75	21,0	3/4–10 UNC x 2-3/4	M20x70
350	400	51	2	**BFX90-606-SRE-74/50**	50	51	74	35	132	134	44,5	96,8	45	75	21,0	3/4–10 UNC x 2-3/4	M20x70

[1] The maximum working pressure applies only to the flange itself and depends on the Metric bolts (Grade 8.8 / 10.9) and UNC bolts (Gr10) used. The actual maximum working pressure depends on the thickness and the quality of the tube used.
[3] Alternative options shown in brackets are available on request.

For flange kit part number, refer to the ordering code at the top of the page.

SAE 90° Single-Part Socket Weld Flange
BFX90-ES

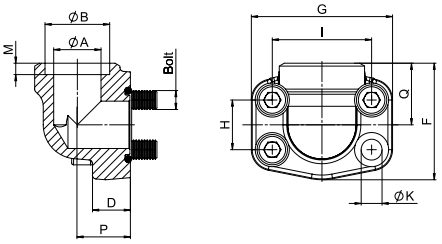
Order Codes Examples

Single-Part Flange

- SAE 90° Single-Part Socket Weld Flange (without O-ring) **BFX90-...-ES-**/****

Flange Kits

- Including UNC bolts (Gr10), spring rings, O-ring made of NBR (Buna-N®) (packed in kits) **BFX90-...-ES-**/**-U#K**
- Including UNC bolts (Gr10), spring rings, O-ring made of FPM (Viton®) (packed in kits) **BFX90-...-ES-**/**-V-U#K**
- Including Metric bolts 8.8, spring rings, O-ring made of NBR (Buna-N®) (packed in kits) **BFX90-...-ES-**/**#K**





Material	S355J0 or equivalent
Surface	blank, oiled
Special Material	Stainless Steel 1.4404 "-W5" on request

3000 PSI Standard Pressure Series (according to ISO 6162-1)

PN (bar)[1]		Nominal Size		Order Codes	Dimensions (mm)											for Bolts	
8.8 Bolts	10.9 (Gr10) Bolts	DN	(in)		Ø A	Ø B	D	F	G	H	I	M	P	Q	Ø K[3]	UNC	Metr.[3]
350	350	13	1/2	**BFX90-301-ES-21,6/13**	13	21,6	16	60	54	17,5	38,1	10	20	37	8,7	5/16–18 UNC x 1-1/4	M8x30
350	350	13	1/2	**BFX90-301-ES-17,5/13**	13	17,5	16	60	54	17,5	38,1	10	20	37	8,7	5/16–18 UNC x 1-1/4	M8x30
350	350	19	3/4	**BFX90-302-ES-27,2/19**	19	27,2	18	63	65	22,3	47,6	10	24	38	10,5	3/8–16 UNC x 1-1/2	M10x35
250	315	25	1	**BFX90-303-ES-34/25**	25	34,0	19	70	70	26,2	52,4	12	28	43	10,5	3/8–16 UNC x 1-1/2	M10x35
200	250	32	1-1/4	**BFX90-304-ES-42,8/32**	32	42,8	21	85	79	30,2	58,7	14	34	51	11,7 (13,5)	7/16–14 UNC x 1-1/2	M10x40 (M12x40)
200	200	38	1-1/2	**BFX90-305-ES-48,6/38**	38	48,6	25	95	93	35,7	69,9	16	38	56	13,5 (14,5)	1/2–13 UNC x 1-3/4	M12x45 (M14x45)
160	200	51	2	**BFX90-306-ES-61/51**	51	61,0	25	110	110	42,9	77,8	18	42	65	13,5 (14,5)	1/2–13 UNC x 1-3/4	M12x45 (M14x45)

6000 PSI High Pressure Series (according to ISO 6162-2)

PN (bar)[1]		Nominal Size		Order Codes	Dimensions (mm)											for Bolts	
8.8 Bolts	10.9 (Gr10) Bolts	DN	(in)		ØA	Ø B	D	F	G	H	I	M	P	Q	Ø K	UNC	Metr.
350	400	13	1/2	**BFX90-601-ES-21,6/13**	13	21,6	16	60	54	18,2	40,5	10	20	37	8,7	5/16–18 UNC x 1-1/4	M8x30
350	400	13	1/2	**BFX90-601-ES-17,5/13**	13	17,5	16	60	54	18,2	40,5	10	20	37	8,7	5/16–18 UNC x 1-1/4	M8x30
350	400	19	3/4	**BFX90-602-ES-27,2/19**	19	27,2	19	70	70	23,8	50,8	12	28	43	10,5	3/8–16 UNC x 1-1/2	M10x35
350	400	19	3/4	**BFX90-602-ES-20,3/16**	16/19	20,3	19	70	70	23,8	50,8	12	28	43	10,5	3/8–16 UNC x 1-1/2	M10x35
350	400	19	3/4	**BFX90-602-ES-25,3/19**	19	25,3	19	70	70	23,8	50,8	12	28	43	10,5	3/8–16 UNC x 1-1/2	M10x35
350	400	19	3/4	**BFX90-602-ES-30,3/25**	25/19	30,3	19	70	70	23,8	50,8	12	28	43	10,5	3/8–16 UNC x 1-1/2	M10x35
350	400	25	1	**BFX90-603-ES-34/25**	25	34,0	21	85	79	27,8	57,2	14	34	51	13,0	7/16–14 UNC x 1-3/4	M12x45
350	400	25	1	**BFX90-603-ES-30,3/25**	25	30,3	21	85	79	27,8	57,2	14	34	51	13,0	7/16–14 UNC x 1-3/4	M12x45
350	400	32	1-1/4	**BFX90-604-ES-42,8/32**	32	42,8	25	95	93	31,8	66,6	16	38	56	13,5	1/2–13 UNC x 1-3/4	M12x45
350	400	32	1-1/4	**BFX90-604-ES-42,8/32-M14**	32	42,8	25	95	93	31,8	66,6	16	38	56	15,0		M14x45
350	400	32	1-1/4	**BFX90-604-ES-30,3/22**	22/32	30,3	25	95	93	31,8	66,6	16	38	56	13,5	1/2–13 UNC x 1-3/4	M12x45
350	400	32	1-1/4	**BFX90-604-ES-30,3/22-M14**	22/32	30,3	25	95	93	31,8	66,6	16	38	56	15,0		M14x45
350	400	32	1-1/4	**BFX90-604-ES-38,3/27**	27/32	38,3	25	95	93	31,8	66,6	16	38	56	13,5	1/2–13 UNC x 1-3/4	M12x45
350	400	32	1-1/4	**BFX90-604-ES-38,3/27-M14**	27/32	38,3	25	95	93	31,8	66,6	16	38	56	15,0		M14x45
350	400	38	1-1/2	**BFX90-605-ES-48,6/38**	38	48,6	25	110	110	36,5	79,3	18	42	65	17,0	5/8–11 UNC x 2	M16x50
350	400	51	2	**BFX90-606-ES-61/51**	51	61,0	35	132	134	36,5	79,3	28	45	75	21,0	3/4–10 UNC x 2-3/4	M20x70

[1] The maximum working pressure applies only to the flange itself and depends on the Metric bolts (Grade 8.8 / 10.9) and UNC bolts (Gr10) used. The actual maximum working pressure depends on the thickness and the quality of the tube used.

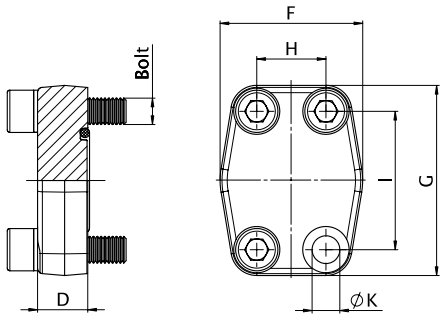
[3] Alternative options shown in brackets are available on request.

For flange kit part number, refer to the ordering code at the top of the page.

See page G52 for details on the Nominal Pipe and Tube Sizes.

SAE Single-Part Blanking Flange
BFX-CP





Material S355J0/C45 or equivalent
Surface blank, oiled
Special Material Stainless Steel 1.4404 "-W5" on request

Order Codes Examples

Single-Part Flange
* SAE Single-Part Blanking Flange (without O-ring) **BFX-...-CP**

Flange Kits
* Including including UNC bolts (Gr10), spring rings, O-ring made of NBR (Buna-N®)(packed in kits) **BFX-...-CP-U#K**
* Including UNC bolts (Gr10), spring rings, O-ring made of FPM (Viton®) (packed in kits) **BFX-...-CP-V-U#K**
* Including Metric bolts 8.8, spring rings, O-ring made of NBR (Buna-N®) (packed in kits) **BFX-...-CP#K**

3000 PSI Standard Pressure Series (according to ISO 6162-1)

PN (bar/PSI)[1]		Nominal Size		Order Codes	Dimensions (mm/in)						for Bolts	
8.8 Bolts	10.9 (Gr10) Bolts	DN	(in)		D	F	G	H	I	Ø K[3]	UNC	Metr.[3]
350	350	13	1/2	**BFX-301-CP**	16	47	57	17,5	38,1	8,7	5/16–18 UNC x 1-1/4	M8x30
5075	5075				.63	1.85	2.24	.69	1.50	.34		
350	350	19	3/4	**BFX-302-CP**	18	50	67	22,3	47,6	10,5	3/8–16 UNC x 1-1/2	M10x35
5075	5075				.71	1.97	2.64	.88	1.87	.41		
250	315	25	1	**BFX-303-CP**	19	54	72	26,2	52,4	10,5	3/8–16 UNC x 1-1/2	M10x35
3625	4565				.75	2.13	2.83	1.03	2.06	.41		
200	250	32	1-1/4	**BFX-304-CP**	18	68	82	30,2	58,7	11,7 (13,5)	7/16–14 UNC x 1-1/2	M10x40 (M12x40)
2900	3625				.71	2.68	3.23	1.19	2.31	.46 (.53)		
200	200	38	1-1/2	**BFX-305-CP**	20	79	96	35,7	69,9	13,5 (14,5)	1/2–13 UNC x 1-3/4	M12x45 (M14x45)
2900	2900				.79	3.11	3.78	1.41	2.75	.53 (.57)		
160	200	51	2	**BFX-306-CP**	20	88	102	42,9	77,8	13,5 (14,5)	1/2–13 UNC x 1-3/4	M12x45 (M14x45)
2320	2900				.79	3.46	4.02	1.69	3.06	.53 (.57)		
100	160	64	2-1/2	**BFX-307-CP**	20	101	115	50,8	88,9	13,5 (14,5)	1/2–13 UNC x 1-3/4	M12x45 (M14x45)
1450	2320				.79	3.98	4.53	2.00	3.50	.53 (.57)		
100	160	76	3	**BFX-308-CP**	24	127	137	61,9	106,4	17	5/8–11 UNC x 2	M16x50
1450	2320				.94	5.00	5.39	2.44	4.19	.67		
35	35	89	3-1/2	**BFX-309-CP**	22	138	155	69,8	120,7	17	5/8–11 UNC x 2	M16x50
505	505				.87	5.43	6.10	2.75	4.75	.67		
35	35	102	4	**BFX-310-CP**	25	147	163	77,8	130,2	17	5/8–11 UNC x 2	M16x50
505	505				.98	5.79	6.42	3.06	5.13	.67		
35	35	127	5	**BFX-311-CP**	25	180	184	92	152,4	17	5/8–11 UNC x 2-1/4	M16x55
505	505				.98	7.09	7.24	3.62	6.00	.67		

6000 PSI High Pressure Series (according to ISO 6162-2)

PN (bar/PSI)[1]		Nominal Size		Order Codes	Dimensions (mm/in)						for Bolts	
8.8 Bolts	10.9 (Gr10) Bolts	DN	(in)		D	F	G	H	I	Ø K	Metr.	UNC
350	400	13	1/2	**BFX-601-CP**	16	47	57	18,2	40,5	8,7	M8x30	5/16–18 UNC x 1-1/4
5075	5800				.63	1.85	2.24	.72	1.59	.34		
350	400	19	3/4	**BFX-602-CP**	19	54	72	23,8	50,8	10,5	M10x35	3/8–16 UNC x 1-1/2
5075	5800				.75	2.13	2.83	.94	2.00	.41		
350	400	25	1	**BFX-603-CP**	24	68	82	27,8	57,2	13	M12x45	7/16–14 UNC x 1-3/4
5075	5800				.94	2.68	3.23	1.09	2.25	.51		
350	400	32	1-1/4	**BFX-604-CP**	27	79	95	31,8	66,6	13,5	M12x45	1/2–13 UNC x 1-3/4
5075	5800				1.06	3.11	3.74	1.25	2.62	.53		
350	400	32	1-1/4	**BFX-604-CP-M14**	27	79	95	31,8	66,6	15	M14x45	
5075	5800				1.06	3.11	3.74	1.25	2.62	.59		
350	400	38	1-1/2	**BFX-605-CP**	30	88	108	36,5	79,3	17	M16x55	5/8–11 UNC x 2-1/4
5075	5800				1.18	3.46	4.25	1.44	3.12	.67		
350	400	51	2	**BFX-606-CP**	30	118	137	44,5	96,8	21	M20x65	3/4–10 UNC x 2-3/4
5075	5800				1.18	4.65	5.39	1.75	3,81	.83		

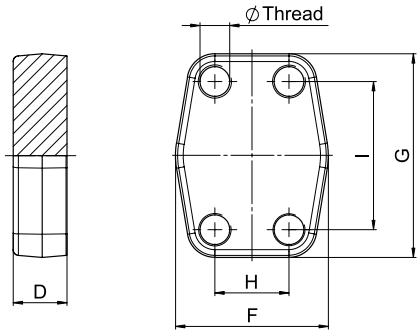
[1] The maximum working pressure applies only to the flange itself and depends on the Metric bolts (Grade 8.8 / 10.9) and UNC bolts (Gr10) used.
[3] Alternative options shown in brackets are available on request.

For flange kit part number, refer to the ordering code at the top of the page.

SAE Single-Part Blanking Companion Flange
BAS-CP

Order Codes Examples

- SAE Single-Part Blanking Companion Flange for UNC bolts **BAS-...-CPU**
- SAE Single-Part Blanking Companion Flange for Metric bolts **BAS-...-CP**





Material	S355J0/C45 or equivalent
Surface	blank, oiled
Special Material	Stainless Steel 1.4404 "-W5" on request

3000 PSI Standard Pressure Series (according to ISO 6162-1)

PN ([bar]/[PSI])[1]		Nominal Size		Order Codes	Dimensions ([mm]/[in])					Ø Thread	
8.8 Bolts	10.9 (Gr10) Bolts	DN	(in)		D	F	G	H	I	UNC	Metr.[3]
350	350	13	1/2	**BAS-301-CPU**	16	47	57	17,5	38,1	5/16–18 UNC	M8
5075	5075				.63	1.85	2.24	.69	1.50		
350	350	19	3/4	**BAS-302-CPU**	18	50	67	22,3	47,6	3/8–16 UNC	M10
5075	5075				.71	1.97	2.64	.88	1.87		
250	315	25	1	**BAS-303-CPU**	19	54	72	26,2	52,4	3/8–16 UNC	M10
3625	4565				.75	2.13	2.83	1.03	2.06		
200	250	32	1-1/4	**BAS-304-CPU**	18	68	82	30,2	58,7	7/16–14 UNC	M10 (M12)
2900	3625				.71	2.68	3.23	1.19	2.31		
200	200	38	1-1/2	**BAS-305-CPU**	20	79	96	35,7	69,9	1/2–13 UNC	M12 (M14)
2900	2900				.79	3.11	3.78	1.41	2.75		
160	200	51	2	**BAS-306-CPU**	20	88	102	42,9	77,8	1/2–13 UNC	M12 (M14)
2320	2900				.79	3.46	4.02	1.69	3.06		
100	160	64	2-1/2	**BAS-307-CPU**	20	101	115	50,8	88,9	1/2–13 UNC	M12 (M14)
1450	2320				.79	3.98	4.53	2.00	3.50		
100	160	76	3	**BAS-308-CPU**	24	127	137	61,9	106,4	5/8–11 UNC	M16
1450	2320				.94	5.00	5.39	2.44	4.19		
35	35	89	3-1/2	**BAS-309-CPU**	22	138	155	69,8	120,7	5/8–11 UNC	M16
505	505				.87	5.43	6.10	2.75	4.75		
35	35	102	4	**BAS-310-CPU**	25	147	163	77,8	130,2	5/8–11 UNC	M16
505	505				.98	5.79	6.42	3.06	5.13		
35	35	127	5	**BAS-311-CPU**	25	180	184	92	152,4	5/8–11 UNC	M16
505	505				.98	7.09	7.24	3.62	6.00		

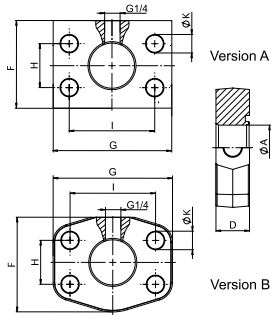
6000 PSI High Pressure Series (according to ISO 6162-2)

PN ([bar]/[PSI])[1]		Nominal Size		Order Codes	Dimensions ([mm]/[in])					Ø Thread	
8.8 Bolts	10.9 (Gr10) Bolts	DN	(in)		D	F	G	H	I	UNC	Metr.
350	400	13	1/2	**BAS-601-CPU**	16	47	57	18,2	40,5	5/16–18 UNC	M8
5075	5800				.63	1.85	2.24	.72	1.59		
350	400	19	3/4	**BAS-602-CPU**	19	54	72	23,8	50,8	3/8–16 UNC	M10
5075	5800				.75	2.13	2.83	.94	2.00		
350	400	25	1	**BAS-603-CPU**	24	68	82	27,8	57,2	7/16–14 UNC	M12
5075	5800				.94	2.68	3.23	1.09	2.25		
350	400	32	1-1/4	**BAS-604-CPU**	27	79	95	31,8	66,6	1/2–13 UNC	M12
5075	5800				1.06	3.11	3.74	1.25	2.62		
350	400	32	1-1/4	**BAS-604-CP-M14**	27	79	95	31,8	66,6		M14
5075	5800				1.06	3.11	3.74	1.25	2.62		
350	400	38	1-1/2	**BAS-605-CPU**	30	88	108	36,5	79,3	5/8–11 UNC	M16
5075	5800				1.18	3.46	4.25	1.44	3.12		
350	400	51	2	**BAS-606-CPU**	30	118	137	44,5	96,8	3/4–10 UNC	M20
5075	5800				1.18	4.65	5.39	1.75	3,81		

[1] The maximum working pressure applies only to the flange itself and depends on the Metric bolts (Grade 8.8 / 10.9) and UNC bolts (Gr10) used.
[3] Alternative options shown in brackets are available on request.

SAE Sandwich Plate (e.g. for Test Point) - Female BSPP Port
SPL-G1/4-L





Material S355J0/C45 or equivalent
Surface blank, oiled
Special Material Stainless Steel 1.4404 "-W5" on request

Order Codes Examples

* SAE Sandwich Plate (e.g. for Test Point) Female BSPP Port — **SPL-...-G1/4-L**



Please see **STAUFF Test** section for further information on the corresponding test points.

3000 PSI Standard Pressure Series (according to ISO 6162-1)

PN (bar)[1]		Nominal Size		Order Codes	Dimensions (mm)							
8.8 Bolts	10.9 (Gr10) Bolts	DN	(in)		Ø A	D	F	G	H	I	Ø K	Version
350	350	13	1/2	**SPL-301-G1/4-L**	12	24	40	55.0	17.5	38.1	8.7	A
350	350	19	3/4	**SPL-302-G1/4-L**	19	28	50	65.0	22.3	47.6	10.5	A
250	315	25	1	**SPL-303-G1/4-L**	24	25	60	70.6	26.2	52.4	10.5	B
200	250	32	1-1/4	**SPL-304-G1/4-L**	31	23	68	82.0	30.2	58.7	11.7	B
200	200	38	1-1/2	**SPL-305-G1/4-L**	38	24	79	96.0	35.7	69.9	13.5	B
160	200	51	2	**SPL-306-G1/4-L**	50	24	88	102.0	42.9	77.8	13.5	B

6000 PSI High Pressure Series (according to ISO 6162-2)

PN (bar)[1]		Nominal Size		Order Codes	Dimensions (mm)							
8.8 Bolts	10.9 (Gr10) Bolts	DN	(in)		Ø A	D	F	G	H	I	Ø K	Version
350	400	13	1/2	**SPL-601-G1/4-L**	12	24	40	55.0	18.2	40.5	8.7	A
350	400	19	3/4	**SPL-602-G1/4-L**	19	25	60	70.6	23.8	50.8	10.5	A
350	400	25	1	**SPL-603-G1/4-L**	25	23	68	82.0	27.8	57.2	13.0	B
350	400	32	1-1/4	**SPL-604-G1/4-L**	31	25	79	95.0	31.8	66.6	13.5	B
350	400	32	1-1/4	**SPL-604-G1/4-L-M14**	31	25	79	95.0	31.8	66.6	15.0	B
350	400	38	1-1/2	**SPL-605-G1/4-L**	38	28	88	108.0	36.5	79.3	17.0	B
350	400	51	2	**SPL-606-G1/4-L**	50	33	118	137.0	44.5	96.8	21.0	B

[1] The maximum working pressure applies only to the flange itself and depends on the Metric bolts (Grade 8.8 / 10.9) and UNC bolts (Gr10) used.

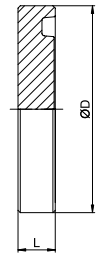
SAE Blindplug
CAG-BP / CAG-BPH (high Version)

Order Codes Examples

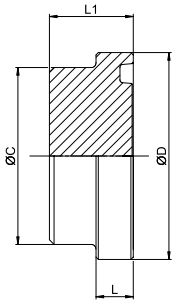
- SAE Blindplug (without O-ring) **CAG-BP-...**
- SAE Blindplug - high Version (without O-ring) **CAG-BPH-...**
- SAE Blindplug Companion Flange high Version **CSG-BPH-...**

Flange Kits

- Incl. UNC bolts (Gr10), spring rings, O-ring made of NBR (Buna-N®) and DB (packed in kits) **CAG-BP-...-U#K**



CAG-BP



CAG-BPH



Material	S355J0/C45 or equivalent
Surface	CrVI free
Special Material	Stainless Steel 1.4571 "-W5" on request

3000 PSI Standard Pressure Series (according to ISO 6162-1)

PN (bar)		Nominal Size		Order Codes	Order Codes	Dimensions (mm)			
BP	BPH	DN	(in)			Ø C	Ø D	L	L1
210	350	13	1/2	**CAG-BP-301**	**CAG-BPH-301**	24	30,2	6.8	15
210	350	19	3/4	**CAG-BP-302**	**CAG-BPH-302**	31,5	38,1	6.8	16
210	315	25	1	**CAG-BP-303**	**CAG-BPH-303**	38	44,45	8	18
200	250	32	1-1/4	**CAG-BP-304**	**CAG-BPH-304**	43	50,8	8	18
160	200	38	1-1/2	**CAG-BP-305**	**CAG-BPH-305**	50	60,35	8	18
160	200	51	2	**CAG-BP-306**	**CAG-BPH-306**	61,8	71,4	9,6	21
100	160	64	2-1/2	**CAG-BP-307**	**CAG-BPH-307**	73,8	84,1	9,6	21
100	160	76	3	**CAG-BP-308**	**CAG-BPH-308**	90	101,6	9,6	24
35	35	89	3-1/2	**CAG-BP-309**	**CAG-BPH-309**	102	114,3	11,3	45
35	35	102	4	**CAG-BP-310**	**CAG-BPH-310**	114	127	11,3	55

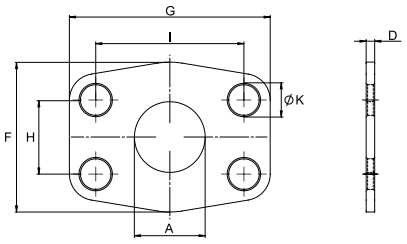
6000 PSI High Pressure Series (according to ISO 6162-2)

PN (bar)		Nominal Size		Order Codes	Order Codes	Dimensions (mm)			
BP	BPH	DN	(in)			Ø C	Ø D	L	L1
250	350	13	1/2	**CAG-BP-601**	**CAG-BPH-601**	24	31,8	7,8	18
250	350	19	3/4	**CAG-BP-602**	**CAG-BPH-602**	32	41,3	8,8	21
250	350	25	1	**CAG-BP-603**	**CAG-BPH-603**	38	47,6	9,5	26
250	350	32	1-1/4	**CAG-BP-604** [2]	**CAG-BPH-604** [2]	43,8	54	10,3	31
250	350	38	1-1/2	**CAG-BP-605**	**CAG-BPH-605**	50,8	63,5	12,6	34
250	350	51	2	**CAG-BP-606**	**CAG-BPH-606**	66,5	79,4	12,6	42

[2] According to ISO 6162-2 bolts M12 should be used but because usually bolts M14 are used the description of the complete clamp must show M14 (e.g. CAG-BP-604-M14#K).

SAE Sandwich Plate
SPL





Material ST35 or equivalent
Surface blank, oiled

Order Codes Examples

* SAE Sandwich Plate **SPL-...**

3000 PSI Standard Pressure Series (according to ISO 6162-1)

Nominal Size		Order Codes	Dimensions (mm)						
DN	(in)		A	D	F	G	H	I	Ø K
13	1/2	**SPL-301**	13	3	47	57	17,5	38,1	9
19	3/4	**SPL-302**	19	3	49	66	22,3	47,6	11
25	1	**SPL-303**	25	3	53	71	26,2	52,4	11
32	1-1/4	**SPL-304**	32	3	69	80	30,2	58,7	11,5
38	1-1/2	**SPL-305**	38	3	77	95	35,7	69,9	13,5
51	2	**SPL-306**	51	3	89	103	42,9	77,8	13,5
64	2-1/2	**SPL-307**	63	3	101	116	50,8	88,9	13,5
76	3	**SPL-308**	73	4	124	136	61,9	106,4	17
89	3-1/2	**SPL-309**	89	4	136	152	69,8	120,7	17
102	4	**SPL-310**	99	4	146	162	77,8	130,2	17
127	5	**SPL-311**	120	4	180	184	92	152,4	17

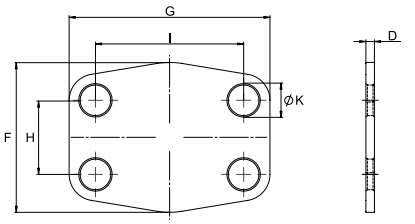
6000 PSI High Pressure Series (according to ISO 6162-2)

Nominal Size		Order Codes	Dimensions (mm)						
DN	(in)		A	D	F	G	H	I	Ø K
13	1/2	**SPL-601**	13	4	47	57	18,2	40,5	9
19	3/4	**SPL-602**	17	4	53	71	23,8	50,8	11
25	1	**SPL-603**	24	4	66	80	27,8	57,2	13
32	1-1/4	**SPL-604-M14**	31	4	77	94	31,8	66,6	15
38	1-1/2	**SPL-605**	38	4	89	103	36,5	79,3	17
51	2	**SPL-606**	51	4	116	135	44,5	96,8	21
64	2-1/2	**SPL-607**	63	4	150	166	58,7	123,8	25
76	3	**SPL-608**	73	4	178	208	71,4	152,4	32

SAE Cover Plate
CPL

Order Codes Examples

* SAE Cover Plate **CPL-...**





Material ST35 or equivalent
Surface blank, oiled

3000 PSI Standard Pressure Series (according to ISO 6162-1)

Nominal Size		Order Codes	Dimensions (mm)					
DN	(in)		D	F	G	H	I	Ø K
13	1/2	**CPL-301**	3	47	57	17,5	38,1	9
19	3/4	**CPL-302**	3	49	66	22,3	47,6	11
25	1	**CPL-303**	3	53	71	26,2	52,4	11
32	1-1/4	**CPL-304**	3	69	80	30,2	58,7	11,5
38	1-1/2	**CPL-305**	3	77	95	35,7	69,9	13,5
51	2	**CPL-306**	3	89	103	42,9	77,8	13,5
64	2-1/2	**CPL-307**	3	101	116	50,8	88,9	13,5
76	3	**CPL-308**	4	124	136	61,9	106,4	17
89	3-1/2	**CPL-309**	4	136	152	69,8	120,7	17
102	4	**CPL-310**	4	146	162	77,8	130,2	17
127	5	**CPL-311**	4	180	184	92	152,4	17

6000 PSI High Pressure Series (according to ISO 6162-2)

Nominal Size		Order Codes	Dimensions (mm)					
DN	(in)		D	F	G	H	I	Ø K
13	1/2	**CPL-601**	4	47	57	18,2	40,5	9
19	3/4	**CPL-602**	4	53	71	23,8	50,8	11
25	1	**CPL-603**	4	66	80	27,8	57,2	13
32	1-1/4	**CPL-604-M14**	4	77	94	31,8	66,6	15
38	1-1/2	**CPL-605**	4	89	103	36,5	79,3	17
51	2	**CPL-606**	4	116	135	44,5	96,8	21
64	2-1/2	**CPL-607**	4	150	166	58,7	123,8	25
76	3	**CPL-608**	4	178	208	71,4	152,4	32

SAE Flange Adapters

SAE Flange Adapter with 24° Cone Connector
(acc. to ISO 8434-1 / DIN 2353)
CAG-L/S



Material	S355J0 or equivalent
Surface	CrVI-free
Special Material	Stainless Steel 1.4571 "-W5" on request

SAE 90° Flange Adapter with 24° Cone Connector
(acc. to ISO 8434-1 / DIN 2353)
CAG90-L/S



Material	S355J0 or equivalent
Surface	CrVI-free
Special Material	Stainless Steel 1.4571 "-W5" on request

SAE 90° Butt Weld Flange Adapter
CAG90-ST



Material	S355J0 or equivalent
Surface	blank, oiled
Special Material	Stainless Steel 1.4404 "-W5" on request

SAE Single-Part Socket Weld Flange

SAE Single-Part Socket Weld Flange and Companion Flange
Low Pressure ND40 / 500 PSI
BFX-FL-ES / BAS-FL-ES



Material	S355J0 or equivalent
Surface	blank, oiled
Special Material	Stainless Steel 1.4404 "-W5" on request

SAE Single-Part Fitting Flanges

SAE Single-Part Fitting Flange with 24° Cone Connector
(acc. to ISO 8434-1 / DIN 2353)
BFX-L/S



Material	S355J0 / C45 or equivalent
Surface	CrVI-free
Special Material	Stainless Steel 1.4404 "-W5" on request

SAE Single-Part Fitting Flange
with BSP 60° Cone Connector
BFX-B



Material	S355J0 / C45 or equivalent
Surface	CrVI-free
Special Material	Stainless Steel 1.4404 "-W5" on request

SAE Blocks

SAE 90° Single-Part Fitting Flange
with 24° Cone Connector (acc. to ISO 8434-1 / DIN 2353)
BFX90-L/S



Material	S355J0 / C45 or equivalent
Surface	CrVI-free
Special Material	Stainless Steel 1.4404 "-W5" on request

SAE Block T-Connection
Adapter and Connector Style
BF-T / BC-T



Material	S355J0 or equivalent
Surface	CrVI-free
Special Material	Stainless Steel 1.4404 "-W5" on request

SAE Block L-Connection
Adapter and Connector Style
BF-L / BC-L



Material	S355J0 or equivalent
Surface	CrVI-free
Special Material	Stainless Steel 1.4404 "-W5" on request

Also available various SAE Flange Adapters, Flanges and Blocks.
For further information please contact STAUFF.

Flange Connections with 24° Cone Connector

4-hole Flange Connection with 24° Cone Connector
(acc. to ISO 8434-1 / DIN 2353)
GP-LK-L/S



Material	S355J0 or equivalent
Surface	ZnNi

4-hole 90° Flange Connection with 24° Cone Connector
(acc. to ISO 8434-1 / DIN 2353)
WP-LK-L/S



Material	S355J0 or equivalent
Surface	ZnNi

3-hole 90° Flange Connection with 24° Cone Connector
(acc. to ISO 8434-1 / DIN 2353)
WP-3-LK-L/S



Material	S355J0 or equivalent
Surface	ZnNi

90° Screw-in BSPP Threaded Flanges

3-hole 90° Screw-in
BSPP Threaded Flange
WP-3-LK-G



Material	S355J0 or equivalent
Surface	CrVI-free - gradual adaptation to ZnNi

4-hole 90° Screw-in
BSPP Threaded Flange
WP-LK-G



Material	S355J0 or equivalent
Surface	CrVI-free - gradual adaptation to ZnNi

3-hole 90° Screw-in
BSPP Threaded Flange (Aluminium)
WP-3-LK-G-W50



Material	Aluminium [EN AC-Al Si9Cu(Fe)]

4-hole 90° Screw-in
BSPP Threaded Flange (Aluminium)
WP-LK-G-W50



Material	Aluminium [EN AC-Al Si9Cu(Fe)]

Screw-in BSPP Threaded Flanges

4-hole Screw-in
BSPP Threaded Flange
WP-3-LK-G



Material	S355J0 or equivalent
Surface:	CrVI-free

4-hole Screw-in
BSPP Threaded Flange (Flat Style)
WP-LK-G



Material	S355J0 or equivalent
Surface	CrVI-free

Butt Weld Flange

4-hole Butt Weld Flange
GP-LK...-ST.../...#K



Material	S355J0 or equivalent
Surface:	blank, oiled

Fitting Flange

4-hole Fitting Flange with BSP 60°
Cone Connector (acc. to BS 5200)
GP-LK...-AG...#K



Material	S355J0 or equivalent
Surface	CrVI-free

Also available various Gear Pump Flanges.
For further information please contact STAUFF.

Ordering of Separate Sealings

Ordering of separate sealings by using the ordering code as stated below:

O-Ring ∗∗∗ - ID x Cross-section - SH90

∗∗∗	Material Code (NBR or FKM)
ID x Cross-section	Dimensions according to Dimension Table
SH90	Shore Hardness (Standard)

Nominal Size DN	(in)	Sealing ID x Cross-section SAE J515 - STAUFF Standard
13	1/2	**18,64 x 3,53**
19	3/4	**24,99 x 3,53**
25	1	**32,92 x 3,53**
32	1-1/4	**37,69 x 3,53**
38	1-1/2	**47,22 x 3,53**
51	2	**56,74 x 3,53**
64	2-1/2	**69,44 x 3,53**
76	3	**85,32 x 3,53**
89	3-1/2	**98,02 x 3,53**
102	4	**110,72 x 3,53**
127	5	**136,12 x 3,53**

Sealings / Sealing Materials

NBR (Buna-N®)

90 Shore	Shore Hardness
-30 °C ... +100 °C	Temperature Range
-22 °F ... + 212 °F	Temperature Range

FPM (Viton®)

85 ... 90 Shore	Shore Hardness
-20 °C ... +200 °C	Temperature Range
-4 °F ... +392 °F	Temperature Range

Other sealing materials are available on request.

Ordering of Separate Bolt Sets

Ordering of separate bolt sets (consisting of 4 hexagon socket head cap bolts and 4 spring rings) by using the ordering code as stated below:

Metric bolts 8.8	**SET-BFX-IS-M12x50-8.8-ISO4762-W66 (CrVI-free)**
Metric bolts 10.9	**SET-BFX-IS-M12x50-10.9-ISO4762-W1**
UNC bolts	**SET-BFX-IS-U5/16"-18x1"1/4-GR10-AB18.3-W1**

Thread diameter, length (see corresponding catalogue pages) and type (8.8 or 10.9 for MH / GR10 for U) have to be replaced according to your requirements. Bolts MH (Strength Properties 10.9) are delivered in blank, oiled. Please replace W66 (zinc plated) for Metric bolts and W1 (blank, oiled) with W5 to order stainless Steel (1.4571) bolts.

Metric bolts	ISO 4762
Spring rings for Metric bolts	DIN 7980
UNC bolts	ANSI B 18.3
Spring rings for UNC bolts	ANSI B 18.21.1

Chart for Nominal Pipe and Tube Sizes

Ø Nominal Size		ØB - Dimension		Nominal Bore
in	mm	in	mm	
1/2	13	.85	21,6	1/2 Pipe
1/2	13	.80	20,3	20 mm Tube
3/4	19	1.07	27,2	3/4 Pipe
3/4	19	1.00	25,3	25 mm Tube
1	25	1.34	34,0	1 Pipe
1	25	1.19	30,3	30 mm Tube
1-1/4	32	1.69	42,8	1-1/4 Pipe
1-1/4	32	1.51	38,3	38 mm Tube
1-1/2	38	1.91	48,6	1-1/2 Pipe
1-1/2	38	1.99	50,5	50 mm Tube
2	51	2.41	61,0	2 Pipe
2-1/2	64	3.02	76,6	2-1/2 Pipe
3	76	3.56	90,5	3 Pipe
3-1/2	89	4.05	103,0	3-1/2 Pipe
4	102	4.55	115,5	4 Pipe
5	127	5.59	142,0	5 Pipe

Used Bolts: Property Classes and Tightening Torques

Bolts 8.8 M (Metric Standard)

3000 PSI Standard Pressure Series (according to ISO 6162-1)

Nominal Size		Diameter	Tightening Torques	Working Pressure	Burst Pressure
ISO	SAE		(Nm)+10%	max (bar)	min (bar)
13	1/2	M8	24	350	1400
19	3/4	M10	50	350	1400
25	1	M10	50	250	1000
32	1-1/4	M10	50	200	800
38	1-1/2	M12	92	200	800
51	2	M12	92	160	640
64	2-1/2	M12	92	100	400
76	3	M16	210	100	400
89	3-1/2	M16	210	35	140
102	4	M16	210	35	140
127	5	M16	210	35	140

6000 PSI High Pressure Series (according to ISO 6162-2)

Nominal Size		Diameter	Tightening Torques	Working Pressure	Burst Pressure
ISO	SAE		(Nm)+10%	max (bar)	min (bar)
13	1/2	M8	24	350	1400
19	3/4	M10	50	350	1400
25	1	M12	92	350	1400
32	1-1/4	M12	92	350	1400
32	1-1/4	M14 [1]	130	350	1400
38	1-1/2	M16	210	350	1400
51	2	M20	400	350	1400

Bolts 10.9 MH (Metric High)

3000 PSI Standard Pressure Series (according to ISO 6162-1)

Nominal Size		Diameter	Tightening Torques	Working Pressure	Burst Pressure
ISO	SAE		(Nm)+10%	max (bar)	min (bar)
13	1/2	M8	32	350	1400
19	3/4	M10	70	350	1400
25	1	M10	70	315	1260
32	1-1/4	M10	70	250	1000
38	1-1/2	M12	130	200	800
51	2	M12	130	200	800
64	2-1/2	M12	130	160	640
76	3	M16	295	160	640
89	3-1/2	M16	295	35	140
102	4	M16	295	35	140
127	5	M16	295	35	140

6000 PSI High Pressure Series (according to ISO 6162-2)

Nominal Size		Diameter	Tightening Torques	Working Pressure	Burst Pressure
ISO	SAE		(Nm)+10%	max (bar)	min (bar)
13	1/2	M8	32	400	1600
19	3/4	M10	70	400	1600
25	1	M12	130	400	1600
32	1-1/4	M12	130	400	1600
32	1-1/4	M14 [1]	180	400	1600
38	1-1/2	M16	295	400	1600
51	2	M20	550	400	1600

Bolts Gr10 U (UNC)

3000 PSI Standard Pressure Series (according to ISO 6162-1)

Nominal Size		Diameter	Tightening Torques	Working Pressure	Burst Pressure
ISO	SAE		(Nm)+10%	max (bar)	min (bar)
13	1/2	5/16-18 UNC	32	350	1400
19	3/4	3/8-16 UNC	60	350	1400
25	1	3/8-16 UNC	60	315	1260
32	1-1/4	7/16-14 UNC	92	250	1000
38	1-1/2	1/2-13 UNC	150	200	800
51	2	1/2-13 UNC	150	200	800
64	2-1/2	1/2-13 UNC	150	160	640
76	3	5/8-11 UNC	295	160	640
89	3-1/2	5/8-11 UNC	295	35	140
102	4	5/8-11 UNC	295	35	140
127	5	5/8-11 UNC	295	35	140

6000 PSI High Pressure Series (according to ISO 6162-2)

Nominal Size		Diameter	Tightening Torques	Working Pressure	Burst Pressure
ISO	SAE		(Nm)+10%	max (bar)	min (bar)
13	1/2	5/16-18 UNC	32	400	1600
19	3/4	3/8-16 UNC	60	400	1600
25	1	7/16-14 UNC	92	400	1600
32	1-1/4	1/2-13 UNC	150	400	1600
38	1-1/2	5/8-11 UNC	295	400	1600
51	2	3/4-10 UNC	450	400	1600

Notes

[1] Not to be used for new designs.

Attention: All bolts have to be pre-tightened before applying the full tightening torque to the bolts. Otherwise, the flange may break.

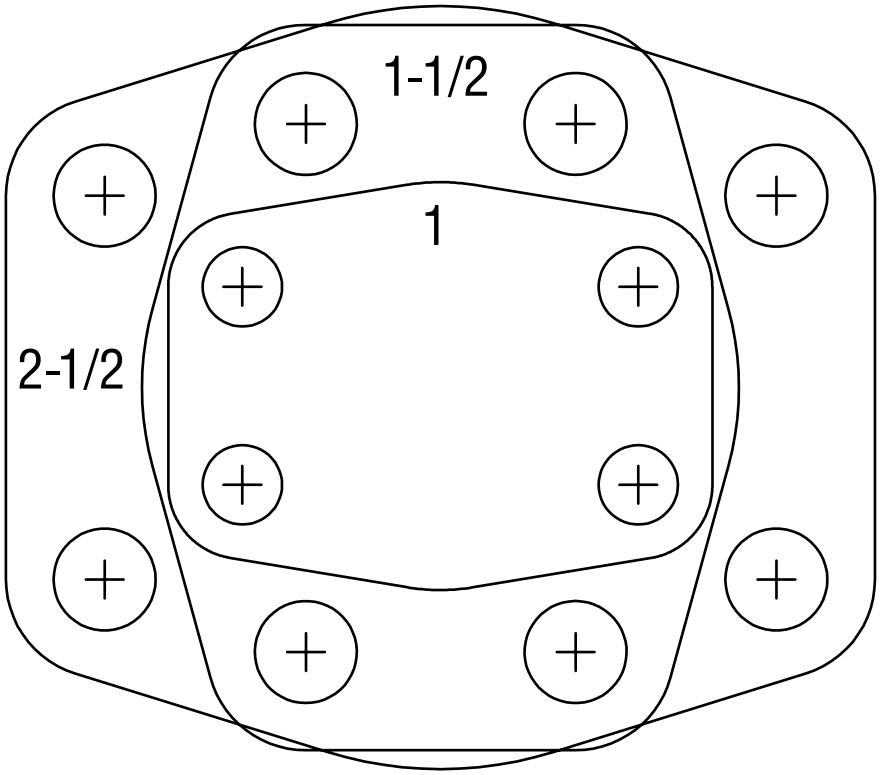
Please note that the tightening torques as stated above are only recommendations. These values correspond to oiled bolts with a friction coefficient of 0.17 and the material combination Steel/Steel. The exact tightening torques depend on factors like material, finishing, coating and lubrication of the components used, and have to be determined by the user himself.

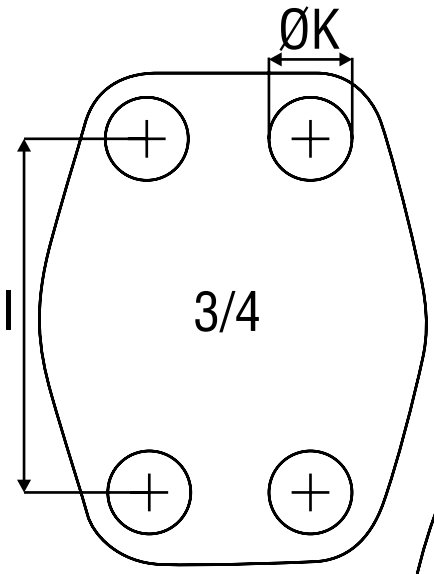
SAE Flange Sizing Guide Standard Pressure Series (3000 PSI)

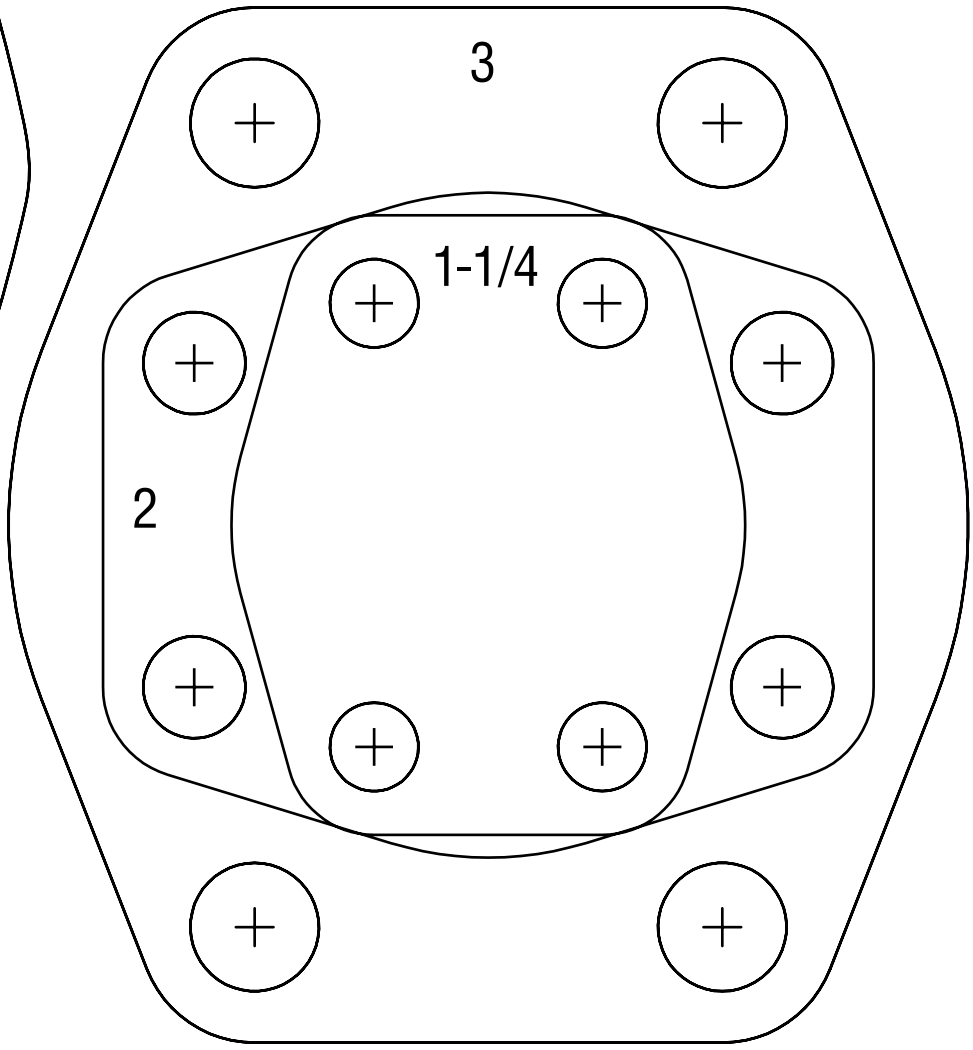
Instructions

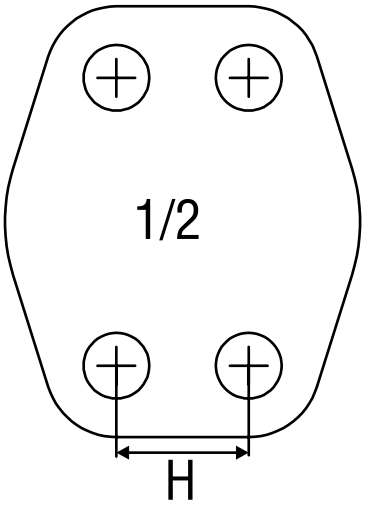
To determine flange type and size, place flange over drawing provided and line up holes.

Size	H	I	Ø Screw Holes	Ø Threads
1/2	17,5	38,1	8,7	5/16–18 UNC
3/4	22,3	47,6	10,5	3/8–16 UNC
1	26,2	52,4	10,5	3/8–16 UNC
1-1/4	30,2	58,7	10,5 / 13,5	7/16–14 UNC
1-1/2	35,7	69,9	13,5 / 14,5	1/2–13 UNC
2	42,9	77,8	13,5 / 14,5	1/2–13 UNC
2-1/2	50,8	88,9	13,5 / 14,5	1/2–13 UNC
3	61,9	106,4	17	5/8–11 UNC
3-1/2	69,9	120,7	17	5/8–11 UNC
4	77,8	130,2	17	5/8–11 UNC
5	92,1	152,4	17	5/8–11 UNC







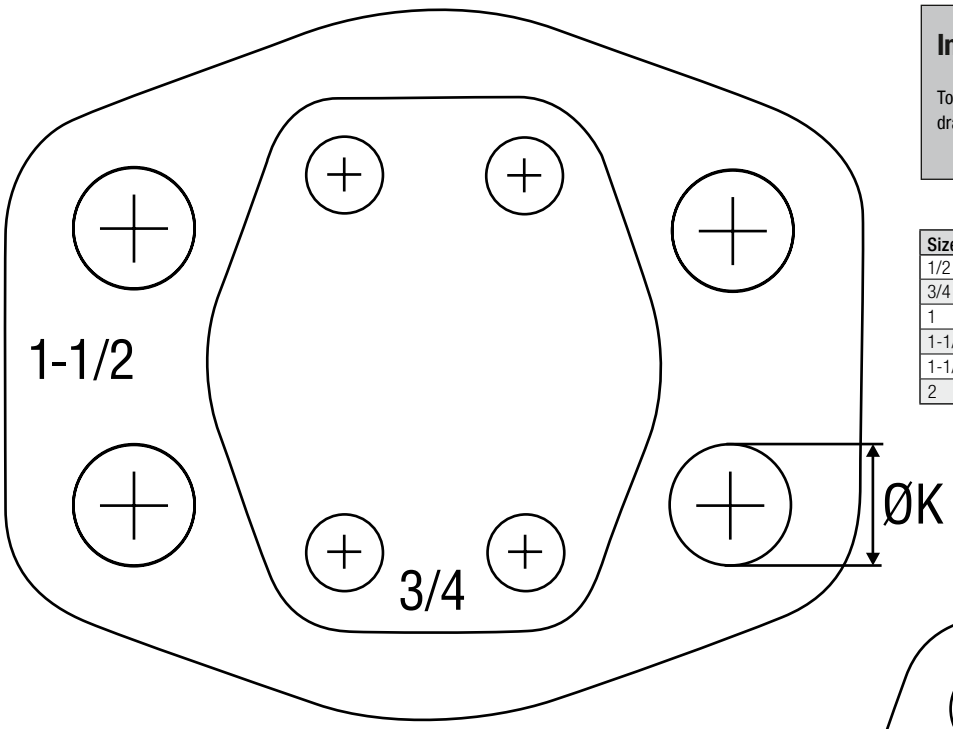


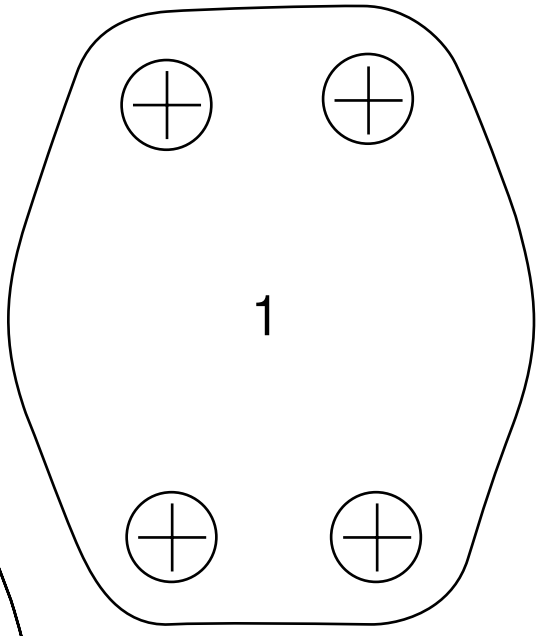
SAE Flange Sizing Guide High Pressure Series (6000 PSI)

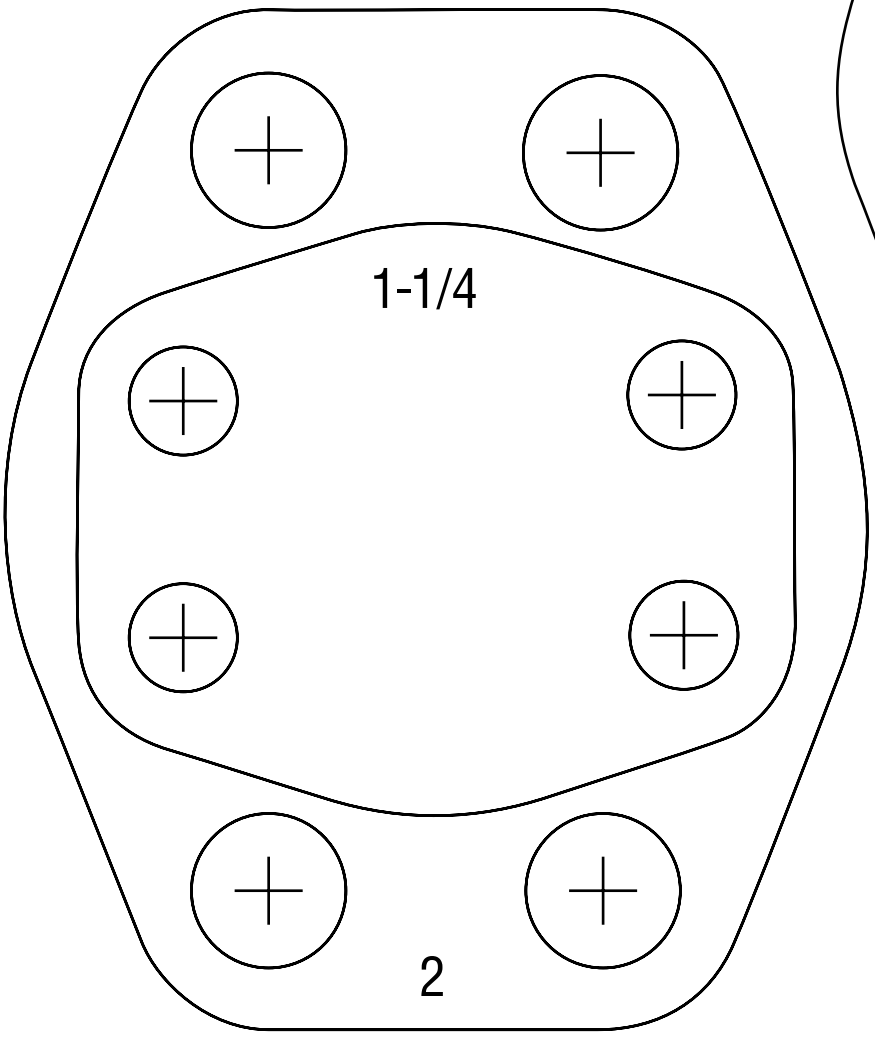
Instructions

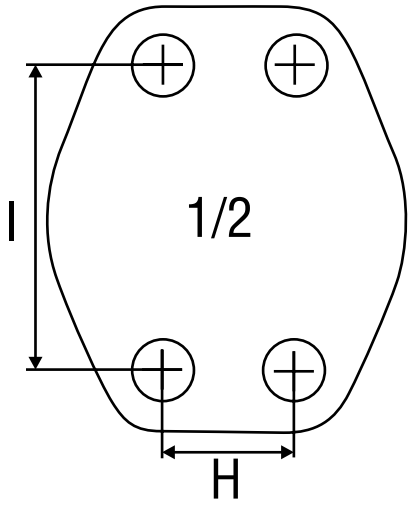
To determine flange type and size, place flange over drawing provided and line up holes.

Size	H	I	Ø Screw Holes	Ø Threads
1/2	18,2	40,5	8,7	5/16–18 UNC
3/4	23,8	50,8	10,5	3/8–16 UNC
1	27,8	57,2	13	7/16–14 UNC
1-1/4	31,8	66,6	13,5 / 15	1/2–13 UNC
1-1/2	36,5	79,3	17	5/8–11 UNC
2	44,5	96,8	21	3/4–10 UNC











Home
Bladder
Diaphragm
Accessories
Bladder Maintenance
Diaphragm Maintenance

Stauff Accumulators






Introduction

Bladder accumulators provide a means of regulating the performance of a hydraulic system.

They are suitable for storing energy under pressure, absorbing hydraulic shock, dampening pump pulsation and flow fluctuations.

Bladder accumulators provide excellent gas and fluid separation ensuring dependable performance, maximum efficiency, and long service life.

Why use a Bladder Accumulator?

- Improves your systems efficiency
- Supplements your pump flow
- Supplies extra power in an emergency
- Compensates for any system leakage
- Absorbs hydraulic shocks
- Accepted world wide
- High/Low temperature tolerance
- Extremely safe (can not disassemble under pressure)
- Quick response
- Wide range of compounds for a variety of fluids

Accumulator Function

The design of the Stauff bladder accumulator makes use of the difference in the compressibility between a gas (nitrogen) and a liquid (hydraulic fluids). The bladder contained in the shell is pre-charged with nitrogen gas to a pressure determined by the work to be done.

After pre-charging, the bladder occupies the entire volume of the shell, from there the work can be split into three steps.

Step 1.
When the hydraulic fluid enters the accumulator, the nitrogen contained in the bladder is compressed and its pressure is increased.

Step 2.
The compression of the bladder stops when the pressure of the fluid and nitrogen are equal (balanced). During this step the bladder is not subject to any abnormal mechanical stress.

Step 3.
On demand, as system pressure falls, the accumulator's stored fluid is returned to the system under pressure applied by the compressed nitrogen. On completion of the hydraulic system functions, the accumulator reverts to step 1.

Home
Bladder
Diaphragm
Accessories
Bladder Maintenance
Diaphragm Maintenance

Stauff Bladder Accumulators

Stauff STBA Series
Design Features & Benefits

3000 PSI / 207 Bar Bottom Repairable
3000 PSI / 207 Bar Bottom Repairable High Flow
3000 PSI / 207 Bar Top Repairable

5000 PSI / 345 Bar Bottom Repairable High Flow

Bladder Accumulator Order Code Type STBA

Technical Data & Dimensions Replacement Bladders
3000 PSI / 5000 PSI - 207 / 345 Bar

Replacement Bladders Order Code Type STB

Charge Kits, Repair Kits, Port Adaptors & Safety Valves



Home
Bladder
Diaphragm
Accessories
Bladder Maintenance
Diaphragm Maintenance

Stauff Diaphragm Accumulators

STDA Series

Dimensions

Order Code

Charge Kits & Gas Valve Conversion Kits



Home
Bladder
Diaphragm
Accessories
Bladder Maintenance
Diaphragm Maintenance

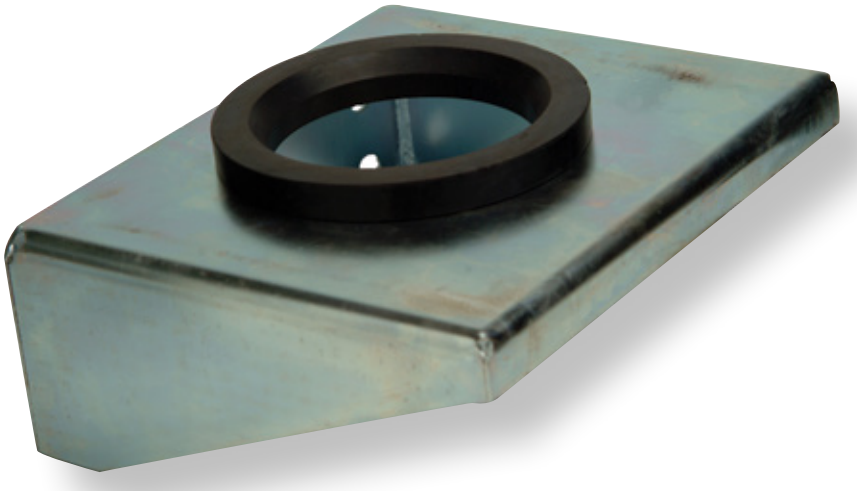
Stauff Accumulator Accessories

Accumulator Brackets Type AMP & AMP/D

Base Brackets & Rubber Rings Type BB & RR Series

Mounting Brackets Compatibility Information for Bladder Accumulators

Dimensions & Order Code Round Steel U-Bolt Clamps Type RBD





Home
Bladder
Diaphragm
Accessories
Bladder Maintenance
Diaphragm Maintenance

Stauff Bladder Accumulator Operating & Maintenance

Instructions

3000 PSI Accumulators

Parts Breakdown

3000 PSI Top Repairable, 1 Qt.

3000 PSI Bottom Repairable, 1 to 15 Gallon, Standard and High Flow

3000 PSI Bottom Repairable, 2.5 to 15 Gallon

Pre-Charging

Checking Pre-Charge Pressure

5000 PSI Accumulators

Bottom Repairable, 2.5 to 15 Gallon

Parts Breakdown

Pre-Charging

Checking Pre-Charge Pressure

Bladder Accumulators

Disassembling Procedures

Disassembling Instructions

Trouble Shooting Guide

Assembly Procedures

Assembly Instructions

Sizing Data & Application

Discharge Coefficient

Instructions for Selection of Discharge Coefficient “n”

Sizing Problem #1

Supplementing Pump Flow

Sizing Problem #2

Increasing Actuation Speed in an Existing Hydraulic System

Sizing Problem #3

Shock Suppression



Home
Bladder
Diaphragm
Accessories
Bladder Maintenance
Diaphragm Maintenance

Stauff Diaphragm Accumulator Operating & Maintenance

Guidelines for Selection, Installation and Operation

Operating & Maintenance Instructions

Pre-Charging Diaphragm Accumulators

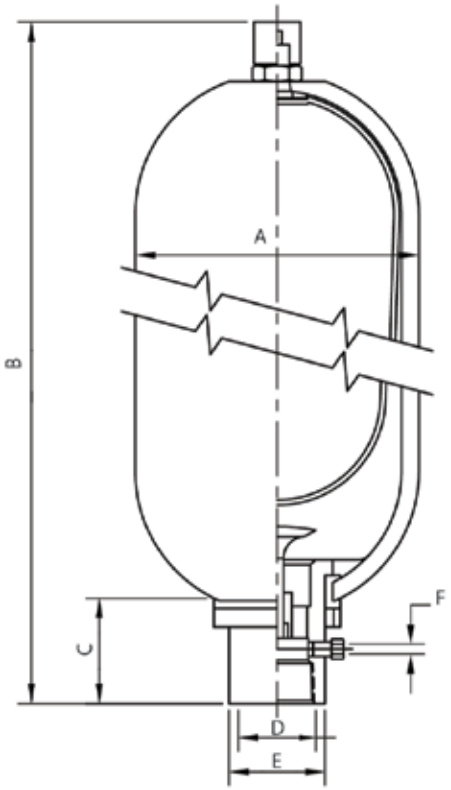
US Style Cored Gas Valve

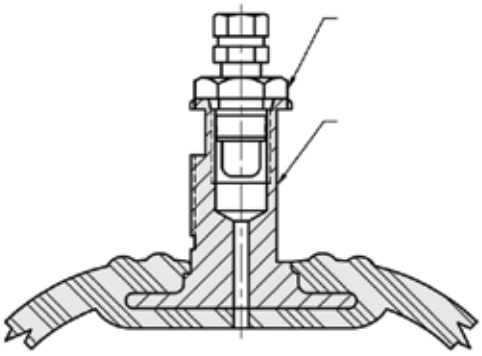
Metric M28 x 1.5 Gas Valve

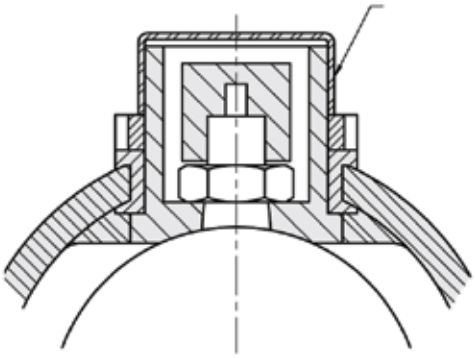
Checking Pre-Charge Pressure

Metric M28 x 1.5 Gas Valve

US Style Cored Gas Valve







Accumulators and Accessories

Stauff Bladder Accumulators STBA			1
		Material Options	2
	3000 PSI / 201 Bar Bottom Repairable	Design Features	3
		Dimensions	4
	3000 PSI / 201 Bar Bottom Repairable High Flow	Dimensions	5
	3000 PSI / 201 Bar Top Repairable	Dimensions	6
	5000 PSI / 345 Bar Bottom Repairable	Dimensions	7
	Ordering Codes		8
	Availability Chart		8
Replacement Bladders STB			9
Replacement Gas Valves - STA-AS-GV			9
	Technical Data		9
	Odering Codes		10
Charging Kits	3000 PSI Bottom and Top Repairable STBA-CK-B/T-P3		11
	5000 PSI Bottom Repairable STBA-CK-B-P5		11
Repair Kit	STA-R-1		11
SAE to Spit Flange Connector	Code 61 3000 PSI 302		11
	Code 62 6000 PSI 602		11
Spilt Flanges	Code 61 3000 PSI DB		11
	Code 62 6000 PSI DB		11
Diaphragm Accumulators STDA			12
	Technical Data		12
	Dimensions		13
	Ordering Codes		14
	US Style Gas Valve Conversion Kit	STDA-X-K	15
	Charging Kits	Metric Gas Valve STDA-CK-M-P3	15
		US Style Gas Valve STBA-CK-B-P3	15
Accumulator Accesories	Accumulator Brackets AMP, AMP/D		16
	Base Brackets BB		17
	Rubber Rings RR		17
	U Bolts RBD		19
Bladder Accumulator Operating and Maintenance Instructions			20
	Parts Break Down	3000 PSI Bottom Repairable, 1 Qt	21
		3000 PSI Bottom Repairable, 1 to 15 Gallon	22
		3000 PSI Top Repairable, 2.5 to 15 Gallon	23
		3000 PSI	24
		5000 PSI Bottom Repairable 2.5 to 15 Gallon	26
	Pre-Charging and Pre-Charge Checking	5000 PSI	27
	Disassembly Procedures		29
	Trouble Shooting		31
	Assembly Procedures		33
	Sizing		35
Diaphragm Accumulator Operating and Maintenance Instructions			40
	Guidelines, Installation, and Operation		40
	Pre-Charging	US Style Gas Valve	42
		Metric Gas Valve	43
	Pre-Charge Checking	US Style Gas Valve	44
		Metric Gas Valve	45

Bladder Accumulators



Introduction

Bladder accumulators provide a means of regulating the performance of a hydraulic system.

They are suitable for storing energy under pressure, absorbing hydraulic shock, dampening pump pulsation and flow fluctuations.

Bladder accumulators provide excellent gas and fluid separation ensuring dependable performance, maximum efficiency, and long service life.

Why use a Bladder Accumulator?

- Improves your systems efficiency
- Supplements your pump flow
- Supplies extra power in an emergency
- Compensates for any system leakage
- Absorbs hydraulic shocks
- Accepted world wide
- High/ Low temperature tolerance
- Extremely safe (can not disassemble under pressure)
- Quick response
- Wide range of compounds for a variety of fluids

Accumulator Function

The design of the Stauff bladder accumulator makes use of the difference in the compressibility between a gas (nitrogen) and a liquid (hydraulic fluids). The bladder contained in the shell is pre-charged with nitrogen gas to a pressure determined by the work to be done.

After pre-charging, the bladder occupies the entire volume of the shell, from there the work can be split into three steps.

Step 1.
When the hydraulic fluid enters the accumulator, the nitrogen contained in the bladder is compressed and its pressure is increased.

Step 2.
The compression of the bladder stops when the pressure of the fluid and nitrogen are equal (balanced). During this step the bladder is not subject to any abnormal mechanical stress.

Step 3.
On demand, as system pressure falls, the accumulator's stored fluid is returned to the system under pressure applied by the compressed nitrogen. On completion of the hydraulic system functions, the accumulator reverts to step 1.

Stauff STBA Series

Material Options & Features

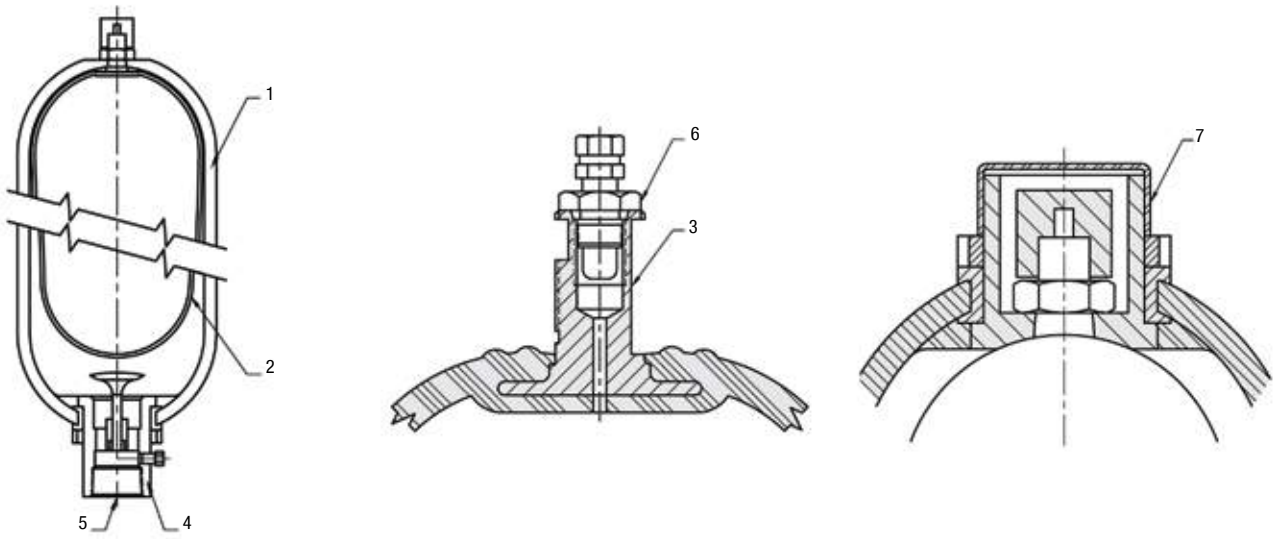
Main Components	Standard Material			Material Options			Features
Shell	Chrome-Mollybdenum Alloy Steel (SA-372) All sizes comply with ASME materials specifications Black Epoxy coating			Consult factory for details			Meets 4:1 safety requirements Seamless shell 1 Gallon and larger supplied with ASME Certification
Bladder		Temp ˚C	Rating ˚F	EPDM (D) Consult factory for other options	Temp ˚C	Rating ˚F	With molded steel valve stems Wide range of materials and temperature ranges
	Nitrile (N) (Buna N)	-23 ... +104	-10 ... +220		-48 ... 166	-55 ... +330	
	Low Temp Nitrile (L)	-51 ... +93	-60 ... +200				
	FPM (F) (Viton)	-17 ... +176	0 ... +350				
Oil Port Assembly	Carbon Steel ANSI 4130 Material Specification Black Phosphate coating			Consult factory for other options			Proven design and reliability Many port options available High flow option

Bladder Accumulator Features

- Meets A.S.M.E. specifications
- 4:1 design factor at normal operating pressures.
- Also available with foreign certificates (upon request)
- Interchangeable with most competitor's units.
- All standard accumulators available from stock.

Size (Gallon)	Maximum Recomended Flow	
	GPM	LPM
1 Qt	40	150
1	150	565
2.5 - 15	220	830
2.5 - 15 High Flow	396	1495

Design Features & Benefits



1. Shell
STAUFF accumulator shells are made from Chrome-Molybdenum Alloy Steel (SA372) with forged ends for maximum strength providing a minimum 4 to 1 design factor at normal operating pressures. All sizes comply with ASME material specifications, 1 gallon & larger are supplied with ASME Certifications upon request.

2. Bladder
STAUFF bladders are manufactured from the most advanced elastomers which are capable of meeting a wide range of systems requirements. Bladders are offered in a variety of compounds to meet a wide range of fluids and operating temperatures. STAUFF can supply Buna, Low Temperature Buna and Viton bladders from stock.

3. Bladder Stems
All bladder accumulators, sizes 1 gallon and larger, are fitted as standard with a two-piece bladder stem and a replaceable gas valve cartridge for ease of serviceability.

4. Port Assemblies
Standard oil service ports are made from high-strength alloy steel for maximum durability.

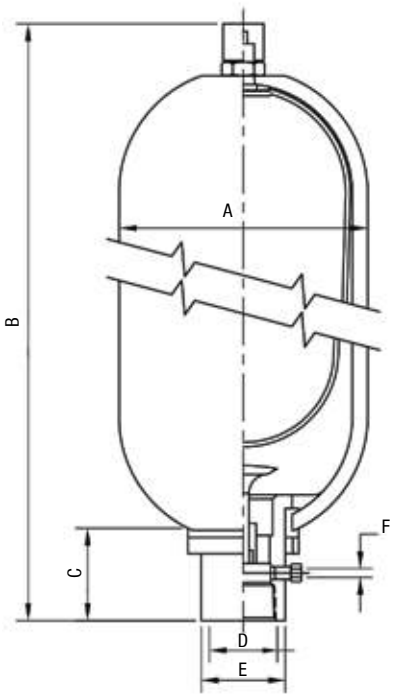
5. Fluid Ports
SAE straight thread (standard), NPT and Split Flange Adaptors are available (See page 11). A Bleed Port (plugged) is included as standard on all accumulator sizes 1 gallon and larger.

6. Gas Valve
All accumulators are fitted with a gas valve for ease of gas pre-charging. One-gallon and larger units are equipped with a cored gas valve cartridge (ISO-4570-8V1) for ease of maintenance. 5000 PSI units are equipped with a high pressure cored gas valve cartridge (Mil. Spec. M6164-2). For safety, the gas valve vents if unscrewed.

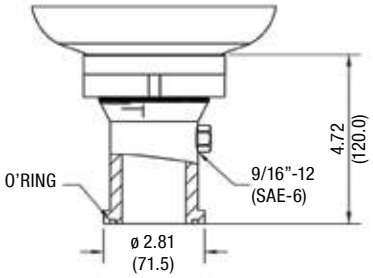
7. Top Repairable
The top repairable design permits easy maintenance of the Accumulator Bladder without removing the accumulator from service, thus minimizing costly downtime.

3000 PSI / 207 Bar Bottom Repairable

Dimensions



Installation Note:
Leave approximately 8"(200mm) for installation of gas charging valve.



Optional Split Flange Adapter Port. For use with 2" SAE code 61 split flange (not included).

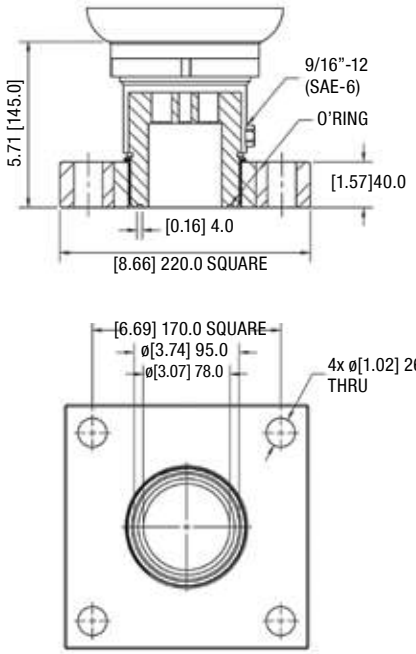
Nominal Capacity (Gallons/Liter)	Gas Volume (in^3/cm^3)	Maximum Working (PSI/Bar)	Dimensions (mm/in)							Net Weight (Kg/Lb)
			A	B	C	D SAE	D NPT	E	F SAE	
*1 Qt.	67.1	3000	114	291	50	SAE-12 (1-1/16" - 12)	3/4"	42	N/A	4.5
1.0	1190	207 .	4.49	11.46	1.97			1.65		10
1.0	234.6	3000	168	420	87	SAE-20 (1-5/8" - 12)	1-1/4"	60	SAE-6 (9/16"-18)	15
4.0	3845	207	6.8	16.55	3.42			2.36		34
2.5	587	3000	229	545	90	SAE-24 (1-7/8" - 12)	2"	76	SAE-6 9/16"-18)	36
10	9620	207	9.02	21.45	3.54			3.00		79
5	1132	3000	229	850	90	SAE-24 (1-7/8" - 12)	2"	76	SAE-6 (9/16"-18)	54
20	18548	207	9.02	33.46	3.54			3.00		119
10	2075	3000	229	1375	90	SAE-24 (1-7/8" - 12)	2"	76	SAE-6 (9/16"-18)	100
40	34000	207	9.02	54.13	3.54			3.00		220
11	2514	3000	229	1530	90	SAE-24 (1-7/8" - 12)	2"	76	SAE-6 (9/16"-18)	109
44	41210	207	9.02	60.24	3.54			3.00		240
15	3234	3000	229	1980	90	SAE-24 (1-7/8" - 12)	2"	76	SAE-6 (9/16"-18)	138
60	53000	207	9.02	77.95	3.54			3.00		304

* In accordance with ASME VII calculations only

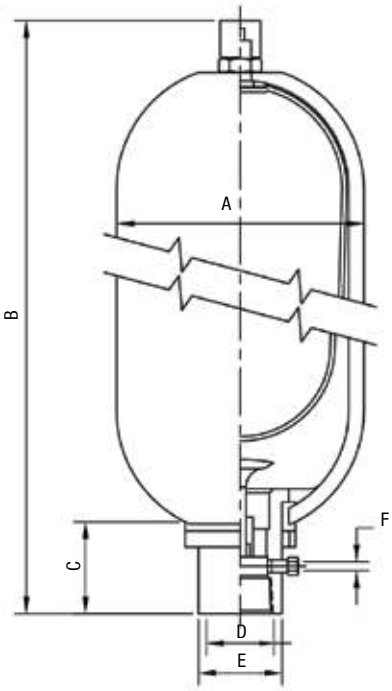
3000 PSI / 207 Bar Bottom Repairable High Flow

Dimensions

Optional Split Flange Adapter Port. For use with 2" SAE code 62 split flange (not included).



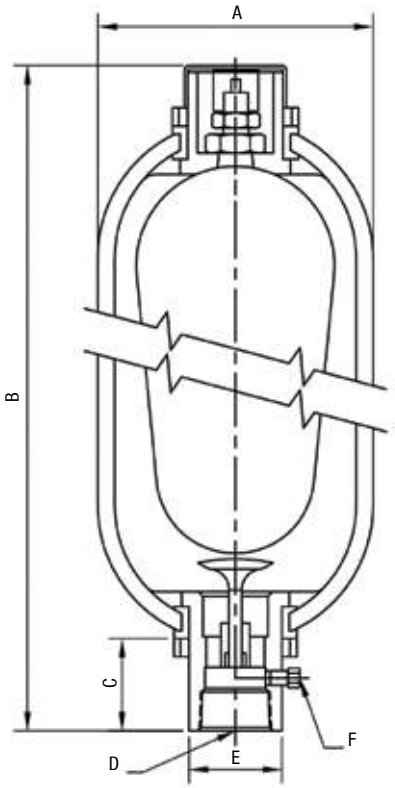
Installation Note:
Leave approximately 8"(200mm) for installation of gas charging valve.



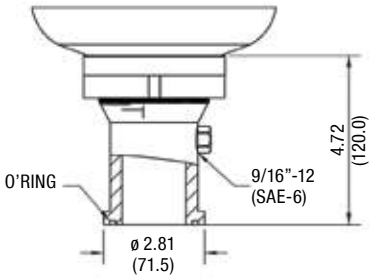
Nominal Capacity (Gallons/Liter)	Gas Volume (in^3/cm^3)	Maximum Working (PSI/Bar)	Dimensions (mm/in)						Net Weight (Kg/Lb)
			A	B	C	D NPT	E	F SAE	
2.5	587	3000	229	608	155	3-1/2" Male or 3" Female	108	SAE-6 (9/16"-18)	37
10	9620	207	9.02	23.94	6.10		4.25		82
5	1132	3000	229	913	155	3-1/2" Male or 3" Female	108	SAE-6 (9/16"-18)	55
20	18548	207	9.02	35.95	6.10		4.25		121
10	2075	3000	229	1438	155	3-1/2" Male or 3" Female	108	SAE-6 (9/16"-18)	101
40	34000	207	9.02	56.61	6.10		4.25		223
11	2514	3000	229	1588	155	3-1/2" Male or 3" Female	108	SAE-6 (9/16"-18)	110
44	41210	207	9.02	62.52	6.10		4.25		243
15	3234	3000	229	2043	155	3-1/2" Male or 3" Female	108	SAE-6 (9/16"-18)	139
60	53000	207	9.02	80.43	6.10		4.25		306

3000 PSI / 207 Bar Top Repairable

Dimensions



Installation Note:
Leave approximately 8"(200mm) for installation of gas charging valve.



Optional Split Flange Adapter Port. For use with 2" SAE code 61 split flange (not included).

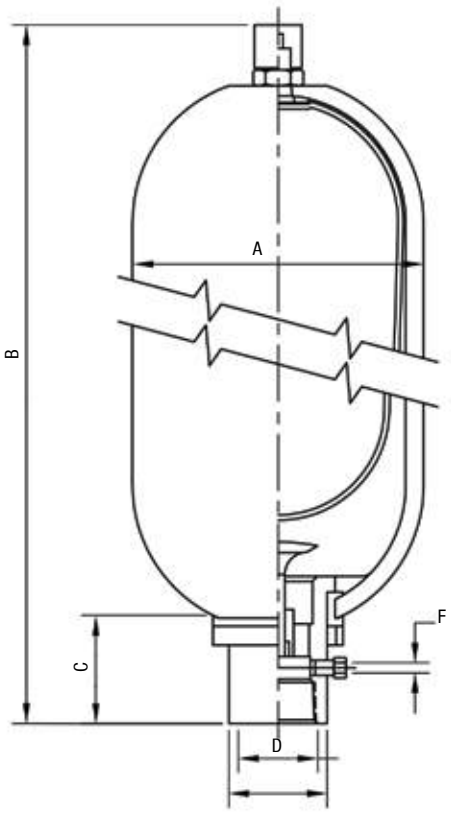
Nominal Capacity (Gallons/Liter)	Gas Volume (in^3/cm^3)	Maximum Working (PSI/Bar)	Dimensions (mm/in)							Net Weight (Kg/Lb)
			A	B	C	D SAE	D NPT	E	F SAE	
2.5	587	3000	229	541	90	SAE-24 (1-7/8" - 12)	2"	76	SAE-6 9/16"-18)	36
10	9620	207	9.02	21.30	3.54			3.00		79
5	1132	3000	229	841	90	SAE-24 (1-7/8" - 12)	2"	76	SAE-6 (9/16"-18)	54
20	18548	207	9.02	33.11	3.54			3.00		119
10	2075	3000	229	1371	90	SAE-24 (1-7/8" - 12)	2"	76	SAE-6 (9/16"-18)	100
40	34000	207	9.02	54.00	3.54			3.00		220
11	2514	3000	229	1371	90	SAE-24 (1-7/8" - 12)	2"	76	SAE-6 (9/16"-18)	109
44	41210	207	9.02	54.00	3.54			3.00		240
15	3234	3000	229	1976	90	SAE-24 (1-7/8" - 12)	2"	76	SAE-6 (9/16"-18)	138
60	53000	207	9.02	77.80	3.54			3.00		304

Consult factory for other sizes

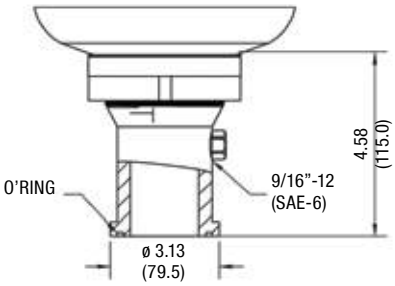
5000 PSI / 345 Bar Bottom Repairable

Dimensions

Installation Note:
Leave approximately 8"(200mm) for installation of gas charging valve.



Optional Split Flange Adapter Port. For use with 2" SAE code 62 split flange (not included).



Nominal Capacity (Gallons/Liter)	Gas Volume (in^3/cm^3)	Maximum Working (PSI/Bar)	Dimensions (mm/in)							Net Weight (Kg/Lb)
			A	B	C	D SAE	D NPT	E	F SAE	
2.5	587	5000	245	560	90	SAE-24 (1-7/8" - 12)	2"	76	SAE-6 9/16"-18)	57
10	9620	345	9.65	22.05	3.54			3.00		126
5	1132	5000	245	870	90	SAE-24 (1-7/8" - 12)	2"	76	SAE-6 (9/16"-18)	91
20	18548	345	9.65	34.25	3.54			3.00		200
10	2075	5000	245	1395	90	SAE-24 (1-7/8" - 12)	2"	76	SAE-6 (9/16"-18)	159
40	34000	345	9.65	54.92	3.54			3.00		350
15	3234	5000	245	1990	90	SAE-24 (1-7/8" - 12)	2"	76	SAE-6 (9/16"-18)	227
60	53000	345	9.65	78.35	3.54			3.00		500

Consult factory for other sizes

Bladder Accumulator ▪ Type STBA

Order Codes

STBA	H	-	010	-	3000	S	B	/	N	U	C	7	C	/	N	C	/	C
①	②		③		④	⑤	⑥		⑦	⑧	⑨	⑩	⑪		⑫	⑬		⑭

① Model Code

Bladder Accumulator	**STBA**

② Accumulator Type

Standard	**Omit**
Hi Flow	**H**

③ Size

Volume (Gal)	Size
1 Quart	**001**
1 Gallon	**004**
2.5 Gallon	**010**
5 Gallon	**020**
10 Gallon	**035**
11 Gallon	**040**
15 Gallon	**055**

④ Pressure Rating According to Standard

3000 PSI / 207 Bar	**3000**
5000 PSI / 345 Bar	**5000**

⑤ Design Approval

ASME	**S**

This catalog relates to ASME certified accumulators. ASME certifications are available upon request. Please request at the time of ordering.
CE PED (Europe), AS1210 (Australia) and GB/T 20663 (China) certified accumulators are also available. Please consult STAUFF for details.

⑥ Bottom or Top Repairable

Bottom Repairable	**B**
Top Repairable	**T**

⑦ Bladder Material

Nitrile (Buna N)	**N**
Low Temp Nitrile	**L**
EPDM	**D**
FPM	**F**

Please consult STAUFF for availability of other materials

⑧ Gas Valve Connection

Cored gas valve for 3000 PSI Accumulators	**U**
Military Style Gas Valve for 5000 PSI Accumulators	**M**

⑨ Gas Valve Material

Carbon Steel (Standard)	**C**

Consult STAUFF for availability of other materials

⑩ Bladder Stem Size

5/8”-18 UNF (For use with 1 Quart 3000 PSI)	**5**
7/8”-14 UNF (For use with 1 Gal to 15 Gal 3000 PSI)	**7**
2”-12 UNF (For use with 5000 PSI)	**2**

⑪ Bladder Stem Material

Carbon Steel (Standard)	**C**

Please consult STAUFF for availability of other materials

⑫ Fluid Port Connection

SAE Threaded	**U**
NPT	**N**
1-1/2” SAE Code 61 Split Flanged (3000 PSI)	**S**
1-1/2” SAE Code 62 Split Flanged (6000 PSI)	**F**
Four Bolt Flange (High Flow)	**H**

⑬ Material

Carbon Steel (STD)	**C**

Please consult STAUFF for availability of other materials

⑭ Material or Coating of the Shell

Carbon Steel, Black Epoxy Coated (STD)	**C**

Please consult STAUFF for availability of other materials

Availability Chart

Size Code	Gallons (Ltrs) Volume	3000 PSI Bottom Repairable	3000 PSI Bottom Repairable High Flow	3000 PSI Top Repairable	5000 PSI Bottom Repairable
001	1 Quart (1 Litre)	Yes	N/A	N/A	N/A
004	1 Gallon (4 Litre)	Yes	N/A	N/A	N/A
010	2.5 Gallon (10 Litre)	Yes	Yes	Yes	Yes
020	5 Gallon (20 Litre)	Yes	Yes	Yes	Yes
035	10 Gallon (35 Litre)	Yes	Yes	N/A	Yes
040	11 Gallon (40 Litre)	Yes	Yes	Yes	N/A
055	15 Gallon (55 Litre)	Yes	Yes	Yes	Yes

Fluid Port Connections

	Size Code	1 Qrt	1 Gal	2.5 to 15 Gal	High Flow 2.5 to 15 Gal
Threaded SAE	U	SAE 12 (1-1/16”-12)	SAE 20 (1-5/8”-12)	SAE 24 (1-7/8”-12)	N/A
NPT	N	3/4	1-1/4	2”	3.5” Male
	N1	N/A	N/A	N/A	3” Female
Split Flanged Code 61 - 3000 PSI	S	N/A	N/A	1-1/2”	N/A
Split Flanged Code 62 - 6000 PSI	F	N/A	N/A	1-1/2”	N/A
Four Bolt Flange	H	N/A	N/A	1-1/2”	See page 5

3000 PSI / 5000 PSI - 207 / 345 Bar

Stauff offers a wide range of bladder materials to suit most applications.
Stauff bladder kits include
Qty (1) Bladder with molded valve stem
Qty (1) Gas valve and o-ring
Qty (1) Poppet valve o-ring
Qty (1) Back up seal o-ring
See the technical appendix for more information

	Temperature Rating	
	˚C	˚F
Nitrile (N) (Buna N) Low Temp Nitrile (L) FPM (F) Viton	-23 ... +104 -51 ... +93 -17 ... +176	-10 ... +220 -60 ... +200 0 ... +350
EPDM (D) Consult Factory for other options	-48 .. 166	-55 .. +330

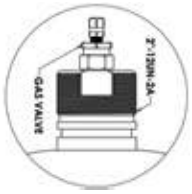
1 Qt. Stem Detail
3000 PSI

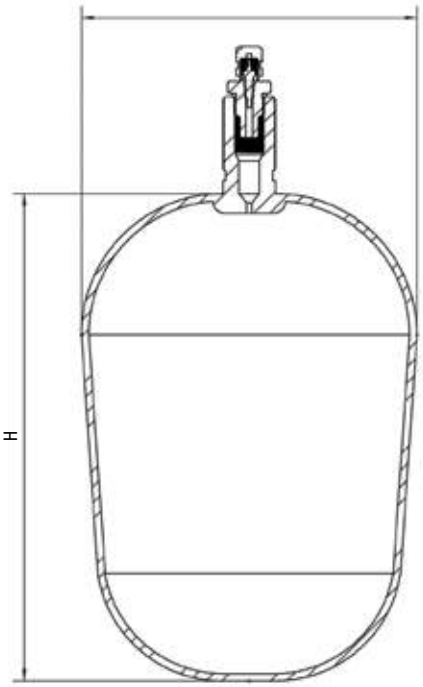


1 to 15 Gallon
Stem Detail 3000 PSI



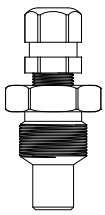
2.5 to 15 Gallon
Stem Detail 5000 PSI





Accumulator Nominal Capacity Gallons/Liter	Dimensions (mm/in)					
	H	D	Stem Thread		Gas Valve	
			3000 PSI	5000 PSI	3000 PSI	5000 PSI
1 Qt.	146 +/- 12.7	95.3	5/8"-18 UNF-2A	N/A	Valve Core STDA-AS-GV-1Qt-P3	N/A
1.0	5.75 +/- 0.5	3.75				
1.0	203 +/- 12.7	139.7	7/8"-14 UNF-2A	N/A	Valve Cartridge STA-AS-GV-1-15-P3	N/A
4.0	8.0 +/- 0.5	5.50				
2.5	292 +/- 12.7	203	7/8"-14 UNF-2A	2"-12 UN-2A	Valve Cartridge STA-AS-GV-1-15-P3	Valve Cartridge STA-AS-GV-1-15-P5
10	11.50 +/- 0.5	8.0				
5	584 +/- 25.4	203	7/8"-14 UNF-2A	2"-12 UN-2A	Valve Cartridge STA-AS-GV-1-15-P3	Valve Cartridge STA-AS-GV-1-15-P5
20	23.0 +/- 1.0	8.0				
10	1105 +/- 25.4	203	7/8"-18 UNF-2A	2"-12 UN-2A	Valve Cartridge STA-AS-GV-1-15-P3	Valve Cartridge STA-AS-GV-1-15-P5
35	43.5 +/- 1.0	8.0				
11	1257 +/- 25.4	203	7/8"-14 UNF-2A	2"-12 UN-2A	Valve Cartridge STA-AS-GV-1-15-P3	Valve Cartridge STA-AS-GV-1-15-P5
40	49.5 +/- 1.0	8.0				
13	1626 +/- 25.4	203	7/8"-18 UNF-2A	2"-12 UN-2A	Valve Cartridge STA-AS-GV-1-15-P3	Valve Cartridge STA-AS-GV-1-15-P5
50	64.0 +/- 1.0	8.0				
15	1727 +/- 25.4	203	7/8"-14 UNF-2A	2"-12 UN-2A	Valve Cartridge STA-AS-GV-1-15-P3	Valve Cartridge STA-AS-GV-1-15-P5
60	68.0 +/- 1.0	8.0				

Stauff accumulators and replacement bladder kits are shipped with industry standard gas valves and protective caps.



3000 PSI Cored Gas Valve
Cartridge (ISO-4570-8V1)
Stauff Part Number
STA-AS-GV-1-15-P3

For 3000 PSI Accumulators,
1 Gallon to 15 Gallon



5000 PSI Valve Cartridge
Stauff Part Number
STA-AS-GV-1-15-P5

For 5000 PSI Accumulators,
2.5 Gallon to 15 Gallon

Bladder Accumulator ▪ Type STB

Order Codes

STB	-	010	-	3000	/	N	U	C	7	C
①		②		③		④	⑤	⑥	⑦	⑧

① Model Code

Bladder Kit	**STB**

② Size

Volume (Gal)	Code
1 Quart	**001**
1 Gallon	**004**
2.5 Gallon	**010**
5 Gallon	**020**
10 Gallon	**035**
11 Gallon	**040**
15 Gallon	**055**

③ Pressure Rating According to Standard

3000 PSI / 207 Bar	**3000**
5000 PSI / 345 Bar	**5000**

④ Bladder Material

Nitrile (Buna N)	**N**
Low Temp Nitrile	**L**
EPDM	**D**
FPM	**F**

Please consult STAUFF for availability of other materials

⑤ Gas Valve Connection

Cored gas valve for 3000 PSI Accumulators	**U**
Military Style Gas Valve for 5000 PSI Accumulators	**M**

⑥ Gas Valve Material

Carbon Steel (Standard)	**C**

Consult STAUFF for availability of other materials

⑦ Bladder Stem Size

5/8"-18 UNF (For use with 1 Quart 3000 PSI)	**5**
7/8"-14 UNF (For use with 1 Gal to 15 Gal 3000 PSI)	**7**
2"-12 UNF (For use with 5000 PSI)	**2**

⑧ Bladder Stem Material

Carbon Steel (Standard)	**C**

Please consult STAUFF for availability of other materials

Stauff Bladder Kits include:
Qty (1) Bladder with molded valve stem
Qty (1) Gas valve and o-ring
Qty (1) Poppet valve o-ring
Qty (1) Back up seal o-ring

Please see the maintenance instructions on page 20 for details

Charging Kit

STBA-CK-B/T-P3
Charging Kit for Bottom and Top Repairable
3000 PSI Accumulators
Includes:
- STBA-PC2157 Charge Valve assembly and test point
- SPG-063-0250-01-P-B04 Gauge 0 to 3625 PSI (0 to 250 bar)
- STBA-P3-3048MM-B 3000 PSI Nitrogen bottle adapter and hose assembly, 3048mm (12 in) long
- STBA-50019 Fitting Adaptor, .305-32 UNS (female) to 5/8"-18-2AUNF (Male)
- STBA-10143 Fitting Adaptor, 7/8"-14 UNF (female) to 5/8"-18-2AUNF (Male)
- STBA-VLV-EXT-1 Gas Valve Extension for 3000 PSI Top Repairable Accumulator
- STBA-C-1 Case with foam

STBA-CK-B-P5
Charging Kit for Bottom Repairable
5000 PSI Accumulators
Includes:
- STBA-PC2157 Charge Valve assembly and test point
- SPG-063-0400-01-P-B04 Gauge 0 to 5800 PSI (0 ... 400 bar)
- STBA-P5-3048MM-B 5000 PSI Nitrogen bottle adapter and hose assembly, 3048mm (12 in) long
- STBA-50019 Fitting Adaptor, .305-32 UNS (female) to 5/8"-18-2A UNF (Male)
- STBA-C-1 Case with foam



Repair Kit

Repair Kit Part # STA-R-1
Repair kit includes the following parts:
- Set of pull rods
- Hydraulic wrench
- Set of gas valve tools
- Case and foam



Accumulator Safety Valve

Accumulator Safety Valves
- Provides manual isolation of the accumulator from the hydraulic circuit
- Integrated relief valve to protect the accumulator from over pressure
- Available with manual or electric dump vavles
- Consult STAUFF for more information



Port Adaptors (SAE to Flange)

Code #61 (3000 PSI)

SAE to Split Flange Connector	
Part #	**Description**
302-12-12	#12 SAE to 3/4" Flange
302-20-20	#20 SAE to 1-1/4" Flange
302-24-24	#24 SAE to 1-1/2" Flange

Code #61 (3000 PSI)

Split Flanges	
Part #	**Description**
DB-302--AS-U-B#K	3/4" Split Flange
DB-304--AS-U-B#K	1-1/4" Split Flange
DB-305--AS-U-B#K	1-1/2" Split Flange

Code #62 (6000 PSI)

SAE to Split Flange Connector	
Part #	**Description**
602-12-12	#12 SAE to 3/4" Flange
602-20-20	#20 SAE to 1-1/4" Flange
602-24-24	#24 SAE to 1-1/2" Flange

Code #62 (6000 PSI)

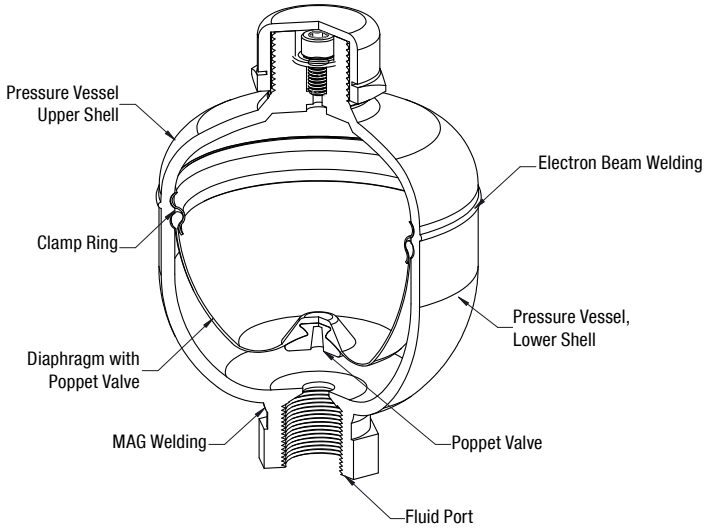
Split Flanges	
Part #	**Description**
DB-602-AS-U-B#K	3/4" Split Flange
DB-604--AS-U-B#K	1-1/4" Split Flange
DB-605--AS-U-B#K	1-1/2" Split Flange



Diaphragm Accumulator ▪ STDA Series

Technical Data





Technical Data

- Electron Beam Welded Construction
- High Strength Alloy Steel Shell
- Compact Design
- Operating Pressure to 3600 PSI (250 Bar)
- Capacity up to 3.5 Liters
- Hydrin (ECO) Diaphragm Material (Standard)
- Operating Temperature Range -40° ... +80°C / (-40° ... +170°F)
- Low Permeation Coefficient
- Up to 1:8 Compression Ration (Precharge/Maximum Working)
- UNF Oil Port Connection (Standard)
- Conforms to CE97/23
- Corrosion Resistant Black Gloss Finish
- Metric Gas Valve (Standard)

Main Components	Standard Material			Material Options
Shell	High Strength Alloy Steel Black Enamel Coating (Non-repairable electron-beam welded construction)			Consult factory
Diaphragm	Eco (Hydrin)	Temperature Rating °C	Temperature Rating °F	Consult factory for other options
		-40 ... +80	-40 ... +176	
	NBR (Nitril-Buna-N)	-10 ... +80	+14 ... +176	
Shut-Off Button	Delrin			Consult factory
Gas Valve	M28 x 1.5			US Style Gas Valve For Hermetically Sealed or other options, please consult the factory
Fluid Port	Steel			Consult factory

Options

Gas Port
- Precharged Hermetically Sealed (non-rechargeable)
- US Style Gas Valve

Oil Port
- BSP, Metric, Male/Female Metric Combination, ORFS

Diaphragm Material
- Nitrile (Buna)
- Fluroelastomer (Viton)
- Other materials upon request

Why use a Diaphragm Accumulator?
- Compact & Lightweight Design
- Fast Response Time
- Cost Effective
- Supplements Pump Flow
- Extends System Life
- Absorbs Shock
- Contamination Tolerant

Diaphragm Accumulator Features

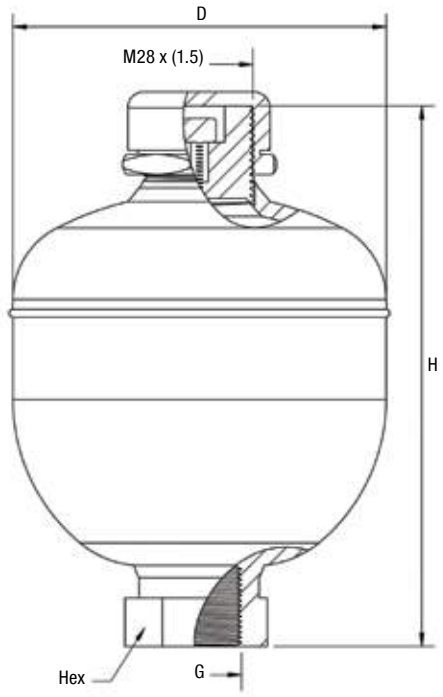
- Maximum compression ratio = 1 : 8 (maximum working pressure / pre-charge pressure) Refer to Stauff catalog for individual accumulator compression ratios.
- Compact and light weight
- Cost effective
- Non-repairable design
- Interchange with most competitor's units
- All standard accumulators available from stock.

Maximum Flow Rates

Size (Liters)	Max. Recommended Flow			
	Normal Operation		When fully discharging	
	GPM	LPM	GPM	LPM
0.075 & 0.16	11	40	2.6	10
0.32 & 1.40	26	100	11	40
2.00 & 3.50	42	160	16	60

Diaphragm Accumulator ▪ STDA Series

Dimensions



Nominal Size Code	Gas Volume (in³/litre)	Maximum Working Pressure (PSI/Bar)	Test Pressure (PSI/Bar)	Maximum ΔP Dynamic (PSI/Bar)	Maximum Gas Pre-Charge (PSI/Bar)	Maximum Compression Ratio	Dimension (mm/in)		Oil Port		Net Weight (Kg/Lb)
							H	D	G Female	Hex (mm/in)	
007	4.6	3625	5439	2031	1885	1:8	111	64	SAE-6 (9/16"-18)	32	0.7
	0.075	250	375	140	130		4.35	2.52		1.25	1.54
016	9.8	3625	5439	2031	1885		119	75	SAE-6 (9/16"-18)	32	1
	0.16	250	375	140	130		4.69	2.95		1.25	2.2
032	19.5	3045	4568	1740	1885		134	92.5	SAE-8 (3/4"-16)	32	1.4
	0.32	210	315	120	130		5.28	3.64		1.25	3.08
050	30.5	3045	4568	1450	1885		151	106.7	SAE-8 (3/4"-16)	41	2
	0.5	210	315	100	130		5.95	4.2		1.61	4.4
075	45.8	3045	4568	1483	1885		166	121.5	SAE-8 (3/4"-16)	41	2.6
	0.75	210	315	93	130		6.54	4.78		1.61	5.72
100	61	3045	4568	1667	1885		180	136.2	SAE-8 (3/4"-16)	41	3.5
	1.0	210	315	115	130		7.09	5.06		1.61	7.7
140	85.4	3045	4568	2031	1885		191	147.3	SAE-8 (3/4"-16)	41	6.6
	1.4	210	315	140	130		7.52	5.8		1.61	14.52
200	122	3625	5439	2031	1885		252	156	SAE-12 (1/16"-12)	41	9.2
	2.0	250	375	140	130		9.92	6.14		1.61	20.24
280	170.9	3625	5439	2031	1885	1:6	267	174	SAE-12 (1/16"-12)	41	10
	2.8	250	375	140	130		10.51	6.85		1.61	22
350	213.6	3625	5439	2031	1885	1:4	306	174	SAE-12 (1/16"-12)	41	12.8
	3.5	250	375	140	130		12.05	6.85		1.61	28.16

Consult the factory for additional pressure ratings and port options. Minimum order quanities may be required

Diaphragm Accumulator ▪ STDA Series

Order Codes

STDA	-	075	-	NBR	/	P3	U	M	*	*
①		②		③		④	⑤	⑥	⑦	⑧

① Model Code

STAUFF Non Repairable Diaphragm Accumulator	**STDA**

② Volume

0.075 Liter / 250 Bar	**007**
0.16 Liter / 250 Bar	**016**
0.32 Liter / 210 Bar	**032**
0.5 Liter / 210 Bar	**050**
0.75 Liter / 210 Bar	**075**
1 Liter / 210 Bar	**100**
1.4 Liter / 210 Bar	**140**
2 Liter / 210 Bar	**200**
2.8 Liter / 250 Bar	**280**
3.5 Liter / 250 Bar	**350**

Other pressures available on request.

③ Diaphragm Material

Nitrile	**NBR**
Hydrin for Low Temp	**ECO**
Fluoroelastomer	**FKM**

Other materials available on request.

④ Maximum Working Pressure

210 Bar	**P3**
250 Bar	**P4**

Other pressures available on request.

⑤ Port Options

Connection Style		Volume (Liters)									
Code	**Connection Type**	0.075	0.16	0.32	0.5	0.75	1	1.4	2	2.8	3.5
U**	**UNF**	9/16-18	9/16-18	3/4-16	3/4-16	3/4-16	3/4-16	3/4-16	1 -1/16-12	1 -1/16-12	1 -1/16-12
B*	**BSPP**	G 1/2"	G 1/2"	G 1/2"	G 1/2"	G 1/2"	G1/2"	G 1/2"	G 3/4"	G 3/4"	G 3/4"

** Standard for North America
* Consult STAUFF for availability
* Consult STAUFF for additional port options

⑥ Gas Port Connection

M28 x 1.5 (Standard)	**M**
US Style Valve (Uses adaptor)	**U**
Hermetically Sealed	**H**

Note: Minimum order requirement needed for sealed gas port. Consult STAUFF.

⑦ Design Approval

No certification	**Blank**
(1-3.6 ltr) CE Mark	**C**

Please consult STAUFF for other certifications

⑧ Pre-Charge (Factory filled)

Factory filled during manufacture xxx pressure (Bar)	**NXXX**

Gas Valve Conversion Kit

STDA-X-AK
Easily converts the standard M28 X 1.5 gas valve on diaphragm accumulators to the “US Style” cored type gas valve.

Parts included in the adapter kit:

- Aluminum Protective cap (item 7)
- Gas valve adapter assembly with installed gas valve core (item5)
- Gas Valve seal (item4)
- Assembly instructions

- **IMPORTANT: Before installing the new gas valve, make sure the accumulator is isolated from the hydraulic system and that the gas pressure has been released from the accumulator using the proper charging kit. Please see the operating and maintenance instructions for details.**



Charging Kit

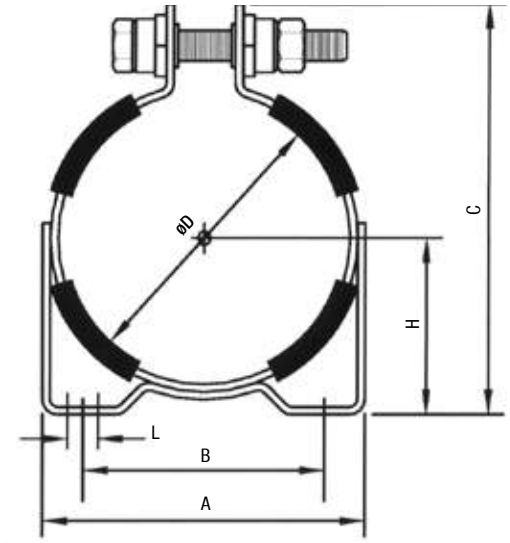
STDA-CK-M-P3
Charging kit for diaphragm accumulators with the M28 X 1.5 gas Valve 3625 PSI (250 bar) rated
Includes:
- STDA-PCM2155 Charge Valve assembly and test point
- SPG-063-0250-01-P-B04 Gauge 0 ... 3625 PSI (0 ... 250 bar)
- STBA-P3-3048MM-B 3000 PSI Nitrogen bottle adapter and hose assembly, 3048mm (12 in) long
- STDA-AW6MM 6 mm hexagon wrench
- STBA-C-1 Case with foam

STBA-CK-B-P3
Charging kit for diaphragm accumulators with the US style cored gas valve 3625 PSI (250 bar) rated
Includes:
- STBA-PC2157 Charge Valve assembly and test point
- SPG-063-0250-01-P-B04 Gauge 0 ... 3625 PSI (0 ... 250 bar)
- STBA-P3-3048MM-B 3000 PSI Nitrogen bottle adapter and hose assembly, 3048mm (12 in) long
- STBA-50019 Fitting Adaptor, .305-32 UNS (female) to 5/8”-18-2AUNF(Male)
- STBA-10143 Fitting Adaptor, 7/8”-14 UNF (female) to 5/8”-18-2AUNF (Male)
- STBA-C-1 Case with foam

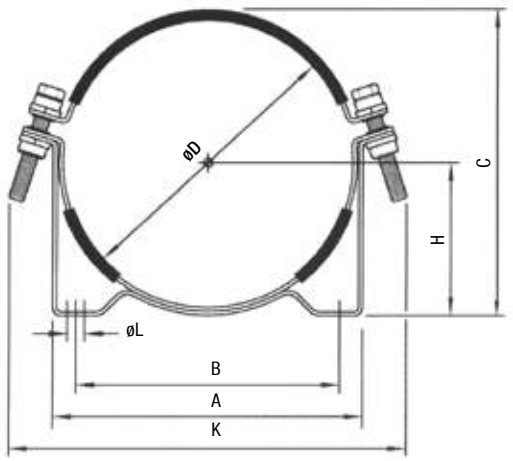


Accumulator Brackets ▪ Type AMP & AMP/D

Type AMP



Type AMP/D



STAUFF Clamp Part Number	Dimensions (mm/in)						
	"øD" Nom	A	B	C	H	L (Slot)	Width
AMP108	108	138	100	150	64	9.7 X 12.7	32
	4.25	5.43	3.94	5.91	2.52	.38 X .50	1.25
AMP114	114	134	100	170	73	9.7 X 12.7	32
	4.50	5.26	3.94	6.68	2.87	.38 X .50	1.25
AMP126	126	175	136	181	77	9.7 X 12.7	32
	4.96	6.89	5.35	7.12	3.03	.38 X .50	1.25
AMP146	146	168	136	197	89	9.7 X 12.7	32
	5.75	6.63	5.35	7.75	3.50	.38 X .50	1.25
AMP172	172	191	153	229	100	9.7 X 12.7	32
	6.75	7.50	6.02	9.00	3.94	.38 X .50	1.25
AMP206	206	254	208	248	115	9.7 X 12.7	32
	8.11	10.00	8.20	9.75	4.53	.38 X .50	1.25
AMP231	231	254	208	274	125	9.7 X 12.7	32
	9.10	10.00	8.20	10.80	4.93	.38 X .50	1.25

STAUFF Clamp Part Number	Dimensions (mm/in)							
	"øD" Nom	A	B	C	H	K	L	Width
AMP/D206	206	260	208	230	118	275	15.0	38
	8.11	10.24	8.19	9.06	4.65	10.83	0.59	1.50
AMP/D210	213	270	216	238	123	285	15.0	38
	8.39	10.63	8.50	9.37	4.84	11.22	0.59	1.50
AMP/D219	219	268	216	242	123	285	15.0	38
	8.63	10.55	8.50	9.53	4.84	11.22	0.59	1.50
AMP/D228	232	254	216	251	126	317	15.0	38
	9.12	10	8.50	9.89	4.95	12.48	0.59	1.50
AMP/D254	248	264	216	267	135	330	15.0	38
	9.75	10.40	8.50	10.50	5.31	13.00	0.59	1.50
AMP/D286	286	332	280	315	163	355	15.0	38
	11.26	13.07	11.02	12.40	6.42	13.98	0.59	1.50
AMP/D310	310	332	280	334	170	380	15.0	38
	12.20	13.07	11.02	13.15	6.69	14.96	0.59	1.50
AMP/D362	359	427	365	383	195	424	15.0	38
	14.13	16.80	14.35	15.08	7.68	16.70	0.59	1.50

Type BB & RR Series

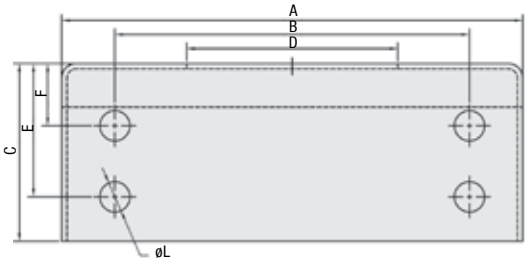
Specifications

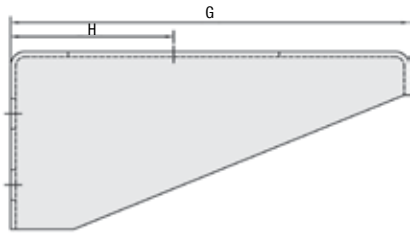
- Rubber Bushing to reduce vibration and noise
- Compensation for thermal expansion and contraction
- Galvanized to resist corrosion
- Special sizes and designs are available upon request

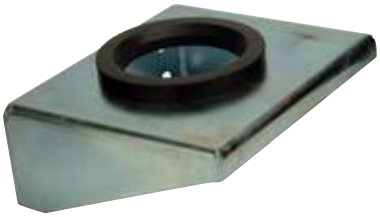


Base Bracket with Rubber Ring

(to specify base bracket less rubber ring remove “R” from model number)

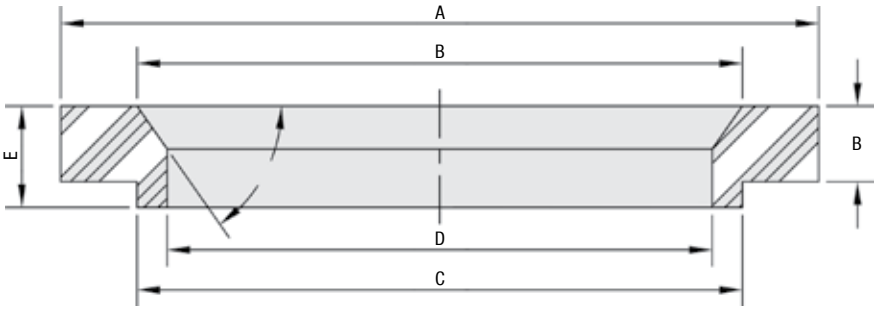






Model	Dimensions (mm/in)									Weight (kg/lbs)
	A	B	C	D	E	F	G	H	L	
BB120R	260	200	100	120	75	35	225	100	17	2.3
	10.24	7.87	3.94	4.72	2.95	1.38	8.86	3.94	.67	5.1
BB170R	260	200	100	170	75	35	225	123	17	2.0
	10.24	7.87	3.94	6.69	2.95	1.38	8.86	4.84	.67	4.5
BB211R	390	270	240	211	7.09	60	390	195	22	7.7
	15.35	10.63	9.45	8.31	60	2.36	15.35	7.68	.87	16.9

Rubber Ring Only





Model	Dimensions (mm/in)						Use with Base Bracket No.
	A	B	C	D	E	F	
RR108	150	120	119	108	20	15	BB-120
	5.91	4.72	4.69	4.25	0.79	0.59	
RR160	200	170	169	159	20	15	BB-170
	7.87	6.69	6.65	6.26	0.79	0.59	
RR200	250	220	210	200	25	20	BB-211
	9.84	8.66	8.27	7.87	0.98	0.79	

Mounting Brackets Compatibility Information for Bladder Accumulators

For 3000 PSI Bladder Accumulators				
Bladder Accumulator Size	**Clamp Number**	**Qty.**	**Nominal Diameter (mm/in)**	**Base Bracket**
1 Quart	AMP114	1	114 4.50	None
1 Gallon	AMP172	1	171 6.75	BB120R
2.5 Gallon	AMP/D228	1	231 9.10	BB170R
5 Gallon	AMP/D228	2	231 9.10	BB170R
10 Gallon	AMP/D228	2	231 9.10	BB170R
11 Gallon	AMP/D228	2	231 9.10	BB170R
15 Gallon	AMP/D228	3	231 9.10	BB170R

For 5000 PSI Bladder Accumulators				
Bladder Accumulator Size	**Clamp Number**	**Qty.**	**Nominal Diameter (mm/in)**	**Base Bracket**
1 Quart	AMP126	1	126 4.96	None
1 Gallon	AMP172	1	180 7.00	BB120R
2.5 Gallon	AMP/D254	1	248 9.75	BB170R
5 Gallon	AMP/D254	2	248 9.75	BB170R
10 Gallon	AMP/D254	2	248 9.75	BB170R
15 Gallon	AMP/D254	3	248 9.75	BB170R

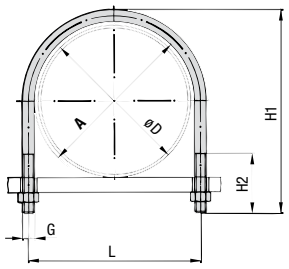
Mounting Brackets Compatibility Information for Piston Accumulators

Piston Accumulator Size	**Clamp Number**	**Qty.**	**Diameter (mm/in)**	**Base Bracket**
1 Quart	AMP114	1	114 4.50	None
2 Quart	AMP114	1	114 4.50	None
1 Gallon	AMP114	1	114 4.50	None
	AMP146	2	140 5.5	None
	AMP172	1	178 7.0	BB120R
1.5 Gallon	AMP114	2	114 4.50	None
	AMP146	2	140 5.5	None
	AMP172	1	178 7.0	BB120R
2 Gallon	AMP114	1	114 4.50	None
2.5 Gallon	AMP146	2	140 5.5	None
	AMP172	1	178 7.0	BB120R
	AMP/D206	1	203 8.0	BB170R
3 Gallon	AMP146	2	140 5.5	None
	AMP172	1	178 7.0	BB120R
	AMP/D206	1	203 8.0	BB170R
4 Gallon	AMP146	2	140 5.5	None
	AMP172	1	178 7.0	BB120R
	AMP/D206	1	203 8.0	BB170R

Bladder Accumulator Size	**Clamp Number**	**Qty.**	**Diameter (mm/in)**	**Base Bracket**
5 Gallon	AMP146	3	140 5.5	None
	AMP172	2	178 7.0	BB170R
	AMP/D206	1	203 8.0	BB170R
	AMP/D228	1	228 9.0	BB170R
7.5 Gallon	AMP/D206	2	203 8.0	BB170R
	AMP/D228	1	228 9.0	BB170R
10 Gallon	AMP/D206	2	203 8.0	BB170R
	AMP/D228	2	228 9.0	BB170R
15 Gallon	AMP/D206	2	203 8.0	BB170R
	AMP/D228	2	228 9.0	BB170R
17.5 Gallon	AMP/D228	2	228 9.0	BB170R
20 Gallon	AMP/D206	3	203 8.0	BB170R
	AMP/D228	3	228 9.0	BB170R
23 Gallon	AMP/D228	3	228 9.0	BB170R
25 Gallon	AMP/D228	3	228 9.0	BB170R

Round Steel U-Bolt Clamps
Type RBD





Order Codes

Clamp Assembly *RBD*W1*A 30

One clamp assembly is consisting of one Round Steel U-Bolt (type RBD) and two Nuts (to DIN EN ISO 4032).

* Clamp Assembly (as listed above)		**RBD**
* Material code	Carbon Steel, untreated	**W1**
	Carbon Steel, zinc-plated and thick-film passivated	**W66**
* Dimension A (mm)		**A 30**

Please note: All items are supplied non-assembled.

Round Steel U-Bolt (type RBD)

Diameter Nominal	Outside Diameter Pipe / Tube Ø D		Nominal Bore Pipe	Dimensions (mm/in) Round Steel U-Bolt (Type RBD)				
DN	(mm)	(in)	(in)	A	L	H1	H2	Thread G
20	**25**	.98		**30**	40	70	40	M10
					1.57	2.76	1.57	
	26,9	1.06	3/4	1.18	40	70	40	M10
					1.57	2.76	1.57	
25	**30**	1.18		**38**	48	76	40	M10
					1.89	2.99	1.57	
	33,7	1.33	1	1.50	48	76	40	M10
					1,89	2.99	1.57	
32	**38**	1.50		**46**	56	86	50	M10
					2.20	3.39	1.97	
	42,4	1.69	1-1/4	1.81	56	86	50	M10
					2.20	3.39	1.97	
40	**44,5**	1.76		**52**	62	92	50	M10
					2.44	3.62	1.97	
	48,3	1.90	1-1/2	2.05	62	92	50	M10
					2.44	3.62	1.97	
50	**57**	2.28		**64**	76	109	50	M12
					2.99	4.29	1.97	
	60,3	2.41	2	2.52	76	109	50	M12
					2.99	4.29	1.97	
65	**76,1**	3.04	2-1/2	**82**	94	125	50	M12
				3.23	3.70	4.92	1.97	
80	**88,9**	3.56	3	**94**	106	138	50	M12
				3.70	4.17	5.43	1.97	
100	**108**	4.32		**120**	136	171	60	M12
					5.35	6.73	2.36	
	114,3	4.57	4	4.72	136	171	60	M16
					5.35	6.73	2.36	
125	**133**	5.32		**148**	164	191	60	M16
					6.46	7.52	2.36	
	139,7	5.59	5	5.83	164	191	60	M16
					6.46	7.52	2.36	
150	**159**	6.36		**176**	192	217	60	M16
					7.56	8.54	2.36	
	168,3	6.73	6	6.93	192	217	60	M16
					7.56	8.54	2.36	
175	**193,7**	7.75		**202**	218	249	60	M16
				7.96	8.58	9.80	2.36	
200	**216**	8.64		**228**	248	283	70	M20
					9.76	11.14	2.76	
	219,1	8.76	8	8.98	248	283	70	M20
					9.76	11.14	2.76	
250	**267**	10.68		**282**	303	334	70	M20
					11.93	13.15	2.76	
	273	10.92	10	11.10	302	334	70	M20
					11.89	13.15	2.76	
300	**318**	12.72		**332**	352	385	70	M20
					13.86	15.16	2.76	
	323,9	12.96	12	13.07	352	385	70	M20
					13.86	15.16	2.76	
350	**355,6**	14.22	14	**378**	402	435	70	M24
					15.83	17.13	2.76	
	368	14.72		14.88	402	435	70	M24
					15.83	17.13	2.76	
400	**406,4**	16.26	16	**428**	452	487	70	M24
					17.80	19.17	2.76	
	419	16.76		16.85	452	487	70	M24
					17.80	19.17	2.76	
500	**508**	20.32	20	**530**	554	589	70	M24
					21.81	23.19	2.76	
	521	20.84		20.87	554	589	70	M24
					21.81	23.19	2.76	

Operating and Maintenance Instructions

Installation

- The accumulator in a hydraulic circuit should be placed as near as practical to the source of shock or potential energy requirement.
- All accumulators will be shipped from the factory with a nominal pre-charge pressure. This is done to seat the accumulator poppet valve on the hydraulic port and too keep the accumulator bladder inflated at all times.
- Keep the accumulator hydraulic port covered until you are ready to make the hydraulic connection. This is done to keep out any foreign or contaminating material from the accumulator.
- Normally an accumulator should be installed in a vertical position with the oil port connection facing down. If required, it may be installed no more than within 25° of vertical with the hydraulic port facing downward. Bladder type accumulators not mounted vertical have an increased risk of the bladder floating, which traps usable fluid inside. The bladder can be pinched by the poppet valve closing, which may rupture the bladder. A non-vertical accumulator position requires more care when draining the fluid from the accumulator.
- When installing an accumulator and using “U” bolt type clamps, care should be exercised so as not to distort the accumulator with excessive force.
- Welding hangers to the accumulator is not recommended. Mounting brackets, bases and rubber rings are available from STAUFF, (See accumulator accessories pages 16-18).
- The hydraulic fluid used must be kept free of foreign matter to prevent damaging the accumulator. For maximum seal and accumulator life, the fluid should be filtered to 10 microns or better.
- It is not advisable to change the hydraulic fluid from that for which the accumulator was originally purchased for, without first checking its compatibility with the accumulator seals and bladder materials.

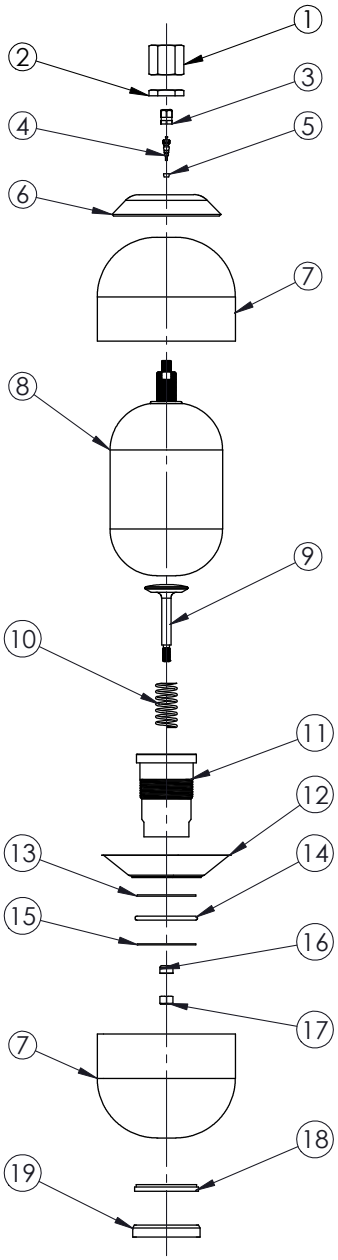
Pre-Charging Procedure
General Information

- The condition of the accumulator is primarily determined by periodically checking the pre-charge pressure.
- Hydraulic accumulators are pressure vessels and only qualified personnel should perform any maintenance.
- Drain all fluid completely from accumulator before performing any maintenance.
- The most accurate pre-charge readings can only be taken when the fluid pressure is at “0 psig”.
- Always observe the maximum working pressure and operating temperature ranges of the accumulator.
- **CAUTION - DO NOT** weld, braze or machine directly on the accumulator shell.
- **CAUTION - DO NOT** use automotive type valve cores with high pressure accumulator gas valves.
- **CAUTION - DO NOT** use the gas valve or the fluid port assembly as lifting points.
- **CAUTION - DO NOT** use oxygen or air for precharging the accumulator due to risk of explosion, USE only dry 99.99% pure nitrogen for charging accumulators.

DO NOT USE OXYGEN FOR PRE-CHARGING THE ACCUMULATOR!

Parts Breakdown

3000 PSI Bottom Repairable, 1 Qt.



Item	Description
1	Protective Cap
2	Bladder Nut
3	Gas Valve Cap
4	Gas Valve Core
5	Gas Valve core Seal
6	Name Plate
7	Shell
8	Bladder
9	Poppet Valve
10	Poppet Spring
11	Oil Port
12	Anti Extrusion Ring
13	Metal Back up Ring
14	O-Ring
15	Back up Ring
16	Poppet Piston
17	Poppet Lock Nut
18	FlangeWasher
19	Locking Ring

Please see page 10 for replacement bladder kit part numbers.

Replacement bladder kits includes items (1 ea.): 3, 4, 5, 8, 13, 14, 15

Replacement Gas Valve Core

Replacement gas valve for the 3000 PSI 1 Qt accumulators

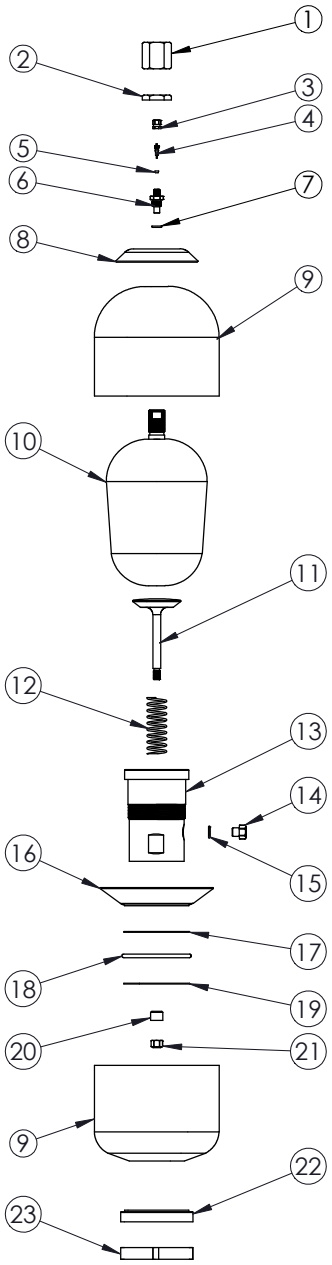
Gas Valve Core Part Number
STDA-X-VC

Includes items (1 ea.):
3, 4, 5

Note: The complete gas valve assembly is included with STAUFF replacement bladder kits

Parts Breakdown

3000 PSI Bottom Repairable, 1 to 15 Gallon, Standard and High Flow

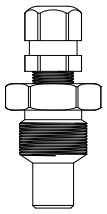


Item	Description
1	Protective Cap
2	Bladder Nut
3	Gas Valve Cap
4	Gas Valve Core
5	Gas Valve core Seal
6	Gas Valve Body
7	Gas Valve O'Ring
8	Name Plate
9	Shell
10	Bladder
11	Poppet Valve
12	Poppet Spring
13	Oil Port
14	Bleed Plug
15	Bleed Plug Seal
16	Anti Extrusion Ring
17	Metal Back up Ring
18	O-Ring
19	Back up Ring
20	Poppet Piston
21	Poppet Lock Nut
22	FlangeWasher
23	Locking Ring

Please see page 10 for replacement bladder kit part numbers.

Replacement bladder kits includes items (1 ea.): 3, 4, 5, 6, 7, 10, 17, 18, 19

Replacement Gas Valve



Replacement gas valve for the 3000 PSI accumulators 1 gallon to 15 Gallon

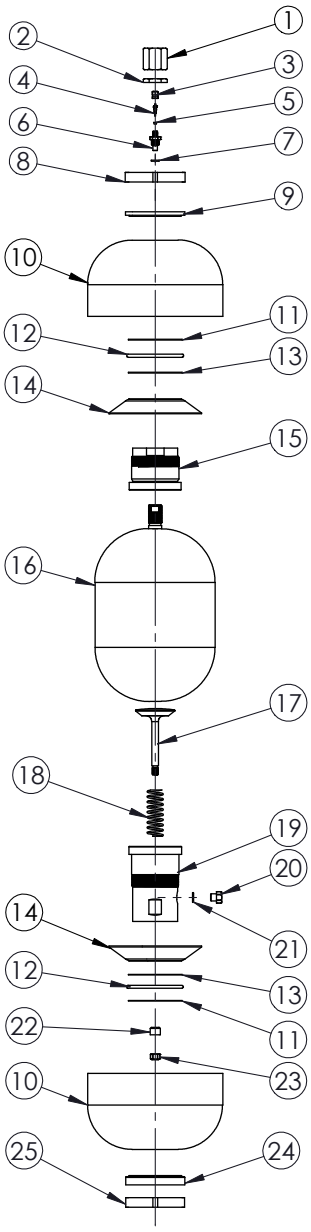
Cored Valve Cartridge Part Number STA-AS-GV-1-15-P3

Includes items (1 ea.):
3, 4, 5, 6, 7

Note: The complete gas valve assembly is included with STAUFF replacement bladder kits

Parts Breakdown

3000 PSI Top Repairable, 2.5 to 15 Gallon

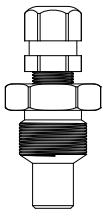


Item	Description
1	Protective Cap
2	Bladder Nut
3	Gas Valve Cap
4	Gas Valve Core
5	Gas Valve core Seal
6	Gas Valve Body
7	Gas Valve O'Ring
8	Top Locking Ring
9	Top Flange Washer
10	Shell
11	Back up Ring
12	O-Ring
13	Metal Back up Ring
14	Anti Extrusion Ring
15	Top Adapter
16	Bladder
17	Poppet Valve
18	Poppet Spring
19	Oil Port
20	Bleed Plug
21	Bleed Plug Seal
22	Poppet Piston
23	Poppet Lock Nut
24	Flange Washer
25	Locking Ring

Please see page 10 for replacement bladder kit part numbers.

Replacement bladder kits includes items (1 ea.): 3, 4, 5, 6, 7, and items (2 ea.) 11, 12, 13

Replacement Gas Valve



Replacement gas valve for the 3000 PSI accumulators 1 gallon to 15 Gallon

Cored Valve Cartridge Part Number STA-AS-GV-1-15-P3

Includes items (1 ea.):
3, 4, 5, 6, 7

Note: The complete gas valve assembly is included with STAUFF replacement bladder kits

Pre-Charging

3000 PSI Bladder Accumulators



Figure 1.



Figure 2.

1. Isolate the accumulator from the system and make sure hydraulic fluid pressure is zero.

2. Remove the gas valve protection guard and then the gas valve cap from the accumulator **(for top repairable accumulators connect a gas valve extension unit similar to Stauff Part # STA-VLV-EXT-1 at this time).**

3. To charge the accumulator, use a charging hose and gauge assembly similar to Stauff Charging Kit # STBA-CK-B/T-P3 rated for 3,000 psig minimum (higher pressure kits are available).

4. Before using the charging assembly (Figure 1.) make sure that valve **A** is completely open (counter-clockwise), ensure that bleed valve **B** (Figure 1.) is completely closed (clockwise) and that the non-return valve **C** (Figure 1.) is capped.

5. Connect the charging unit to the gas fill valve or gas valve extension unit (for top repairable) on the accumulator by means of knurled cap **D** (Figure 1.).

6. Make sure the valve on the nitrogen bottle is completely closed, then fit the nitrogen gas valve adapter/hose assembly (included in Stauff charging kit # STBA-CK-B/T-P3) onto the nitrogen bottle (Figure 2.).

7. Connect the other end of gas hose to the non-return valve **C** (Figure 1.), after taking off the cap.

8. Turn valve **A** (Figure 1.) clockwise until it stops **(Do not over Torque)**.

9. **SLOWLY** open the valve on nitrogen bottle (Figure 2.) and allow the nitrogen gas to flow into the accumulator. The pressure gauge should begin to register pressure.

10. Once the desired gas pre-charge pressure has been reached, close valve on nitrogen bottle (Figure 2.). The pressure should be slightly higher than the desired pre-charge pressure.

11. Open valve **A** (Figure 1.) (Fully counter-clockwise) to bleed the trapped pressure in the gas line to zero by means of bleed valve **B** (Figure 1.), open valve **B** (turn counterclockwise) until gauge reads 0 psig.

12. Remove hose from non-return valve **C** (Figure 1.) and replace cap.

13. Close the bleed valve **B** (Figure 1.) and wait a few minutes for pressure to stabilize.

14. Screw valve **A** (Figure 1.) clockwise until pressure can be read on gauge. This should be slightly higher than the required pressure.

15. Adjust to desired pressure by means of bleed valve **B** (Figure 1.), then remove charging unit from the accumulator gas valve and from the nitrogen bottle (after making sure that the nitrogen bottle valve is completely closed.

16. If necessary remove the gas valve extension unit (top repairable accumulators only), then reinstall the gas valve cap and protective guard cap on the accumulator. The accumulator is now ready for use.

NOTE: Allow the accumulator to rest approximately 10-15 minutes after gas precharging. This will allow gas temperature to adjust and equalize. Recheck gas pressure and adjust if necessary. Check accumulator gas valve for any leaks with soapy water. Always wear safely glasses.

Checking Pre-Charge Pressure

3000 PSI Bladder Accumulators



Figure 1.

General Information

The condition of the accumulator is primarily determined by periodic checking of pre-charge pressure. Only qualified personnel should perform any maintenance on accumulators. Nitrogen gas pre-charge pressure should be checked at least once during the first week of operation to assure that no leak has developed. The pre-charge pressure and ambient temperature should be recorded at installation. If there is no loss of gas pre-charge pressure, it should be rechecked in approximately 4 months. Thereafter, it should be checked annually. Check pre-charge if the system is acting sluggishly. If pre-charge is low, check the gas valve for leakage and recharge.

Pre-Charge Checking Procedure for 3000 PSI Bladder Accumulators.

1. Use appropriate valving in the hydraulic system, to discharge all hydraulic fluid from accumulator.

2. To check or adjust pre-charge pressure, **HYDRAULIC PRESSURE MUST BE REDUCED TO 0 PSIG**. Pre-charge pressure should be checked periodically. Charging and checking should be done with an accumulator charge assembly kit similar to Stauff Part # STBA-CK-B/T-P3.

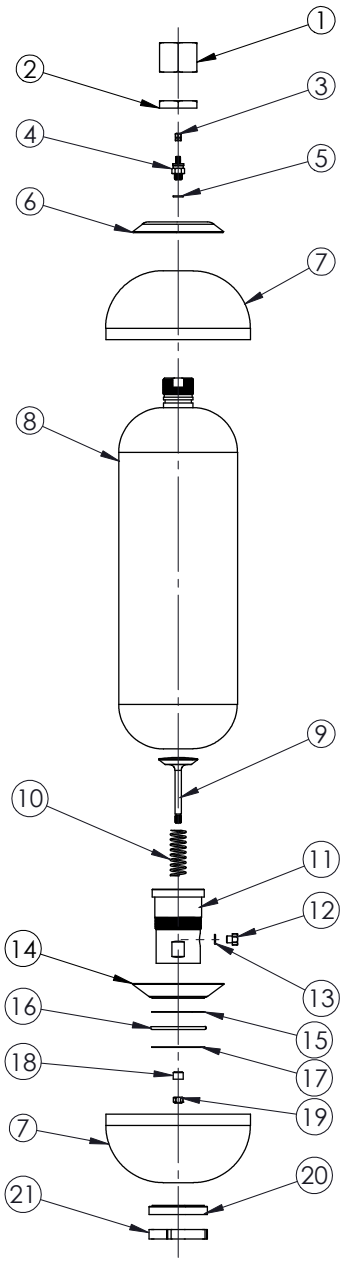
3. Follow pre-charging instructions for 3000 psi bladder accumulators - instructions #4 through #15.

4. If necessary remove the gas valve extension unit (top repairable accumulators only), then reinstall the gas valve cap and protective guard cap on the accumulator. The accumulator is now ready for use.

NOTE: Allow accumulator to rest approximately 10-15 minutes after gas pre-charging. This will allow gas temperature to adjust and equalize. Recheck gas pressure and adjust if necessary. Check accumulator gas valve for any leaks with soapy water. Always wear safely glasses.

Parts Breakdown

5000 PSI Bottom Repairable, 2.5 to 15 Gallon,

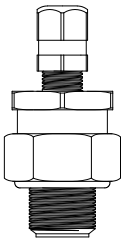


Item	Description
1	Protective Cap
2	Bladder Nut
3	Gas Valve Cap
4	Gas Valve
5	Gas Valve O'Ring
6	Name Plate
7	Shell
8	Bladder
9	Poppet Valve
10	Poppet Spring
11	Oil Port
12	Bleed Plug
13	Bleed Plug Seal
14	Anti Extrusion Ring
15	Metal Back up Ring
16	O-Ring
17	Back up Ring
18	Poppet Piston
19	Poppet Lock Nut
20	FlangeWasher
21	Locking Ring

Please see page 10 for replacement bladder kit part numbers.

Replacement bladder kits includes items (1 ea.): 3, 4, 5, 8, 15, 16, 17

Replacement Gas Valve



Replacement gas valve for the 5000 PSI accumulators 2.5 gallon to 15 Gallon

Cored Valve Cartridge Part Number STA-AS-GV-1-15-P5

Includes items (1 ea.):
3, 4, 5

Note: The complete gas valve assembly is included with STAUFF replacement bladder kits

Pre-Charging

5000 PSI Bottom Repairable Bladder Accumulators



Figure 1.



Figure 2.

Pre-Charging Procedure for 5000 PSI Bottom Repairable Bladder Accumulators.

1. Isolate the accumulator from the system and make sure hydraulic fluid pressure is zero.

2. Remove the gas valve protection guard and then the gas valve cap from the accumulator.

3. To charge the accumulator, use a charging hose and gauge assembly similar to Stauff Charging Kit # STBA-CK-B-P5, rated for 5,000 psig minimum.

4. Before using the charging assembly (Figure 1.) make sure that valve **A** is completely open (counter-clockwise), that bleed valve **B** (Figure 1.) is completely closed (clockwise) and that the non-return valve **C** (Figure 1.) is capped.

5. Connect the charging unit to the 5000 psi gas fill valve on the accumulator by means of knurled cap **D** (Figure 1.).

6. Open the gas valve adapter on the accumulator (referring to the 5000 PSI gas valve STA-AS-GV-1-15-P5) by securing the bottom hex on the gas valve with one (1) wrench while unscrewing the top hex on the gas valve (counter clockwise) with a second (2) wrench. This will open the poppet inside the gas valve. Note, four (4) turns should fully open the poppet.

7. Make sure the valve on the nitrogen bottle is completely closed, then fit the 5000 PSI nitrogen gas valve adapter/hose assembly (included in Stauff Charging Kit # STBA-CK-B-P5) onto the nitrogen bottle (Figure 2.).

8. Connect the other end of the gas hose to the non-return valve **C** (Figure 1.), after taking off its cap.

9. Turn valve **A** (Figure 1.) clockwise until it stops **(Do not over Torque).**

10. **SLOWLY** open the valve on nitrogen bottle (Figure 2.) and allow the nitrogen gas to flow to the accumulator. The pressure gauge should begin to register pressure.

11. Once the desired gas pre-charge pressure has been reached, close valve on nitrogen bottle (Figure 2.).

12. Open valve **A** (Figure 1.) (Fully counter-clockwise) and bleed the trapped pressure in the gas line to zero by means of bleed valve **B** (Figure 1.), open valve **B** (turn counterclockwise) until gauge reads 0 psig.

13. Remove hose from non-return valve **C** (Figure 1.) and replace cap.

14. Close the bleed valve **B** (Figure 1.) and wait a few minutes for pressure to stabilize.

15. Screw valve **A** (Figure 1.) clockwise until pressure can be read on gauge. This should be slightly higher than the required pressure.

16. Adjust to desired pressure by means of bleed valve **B** (Figure 1.), then, with a wrench screw in the top hex on the accumulator gas valve until tight, then remove charging unit from the accumulator gas valve and from the nitrogen bottle (after making sure that the nitrogen bottle valve is completely closed.

17. Reinstall the gas valve cap and protective guard cap on the accumulator. The accumulator is now ready for use.

NOTE: Allow the accumulator to rest approximately 10-15 minutes after gas pre-charging. This will allow gas temperature to adjust and equalize. Recheck gas pressure and adjust if necessary. Check accumulator gas valve for any leaks with soapy water. Always wear safely glasses.

Checking Pre-Charge Pressure

5000 PSI Bladder Accumulators

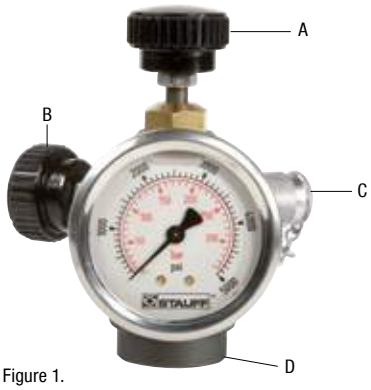


Figure 1.

General Information

The condition of the accumulator is primarily determined by periodic checking of pre-charge pressure. Only qualified personnel should perform any maintenance on accumulators. Nitrogen gas pre-charge pressure should be checked at least once during the first week of operation to assure that no leak has developed. The pre-charge pressure and ambient temperature should berecorded at installation. If there is no loss of gas pre-charge pressure, it should be rechecked in approximately 4 months. Thereafter, it should be checked annually. Check pre-charge if the system is acting sluggishly. If pre-charge is low, check the gas valve for leakage and recharge.

Pre-charge Checking Procedure for 5000 PSI Bladder Accumulators

1. Use appropriate valving in the hydraulic system, to discharge all hydraulic fluid from accumulator.

2. To check or adjust pre-charge pressure, **HYDRAULIC PRESSURE MUST BE REDUCED TO 0 PSIG.** Pre-charge pressure should be checked periodically. Charging and checking should be done with an accumulator charge assembly kit similar to Stauff Part # STBA-CK-B-P5.

3. Follow pre-charging instructions for 5000 psi bottom repairable bladder accumulators - instructions #4 through #16.

4. Reinstall the gas valve cap and protective guard cap on the accumulator. The accumulator is now ready for use.

NOTE: Allow accumulator to rest approximately 10-15 minutes after gas pre-charging. This will allow gas temperature to adjust and equalize. Recheck gas pressure and adjust if necessary. Check accumulator gas valve for any leaks with soapy water. Always wear safely glasses.

Disassembly Procedures for Bladder Accumulators

Bladder Accumulators are Pressure Vessels and are fundamentally hazardous because they store energy in the form of compressed Gas and pressurized Fluid . Only people who have had the appropriate training with regard to disassembly of Accumulators should attempt to dismantle an Accumulator.

Note: Prior to disassembly of the Accumulator please ensure the following are checked first.

A. The pre-charge pressure is released from the Accumulator and there is no gas pressure left in the Accumulator. Use an appropriate pre-charging head connected to the Gas Valve and check to see that the gauge reads zero pressure. Open up the bleed valve on the charging head and make sure no gas can be heard coming from the Accumulator. (See Stauff Pre-Charging Instructions Pgs. 20 - 28).

B. Check to make sure that the poppet valve located in the Fluid Port is fully in the open position. (see Figure 4a.)

Note - in cases where the poppet valve is still in the closed position and the stem is extended (out position), do not attempt to service the vessel and contact the manufacturer.

C. Where possible check to make sure that any potential system fluid still in the Accumulator is not dangerous or can cause harm if it comes into contact with human skin, especially phosphate ester fluids. If necessary wear protective clothing and safety glasses.

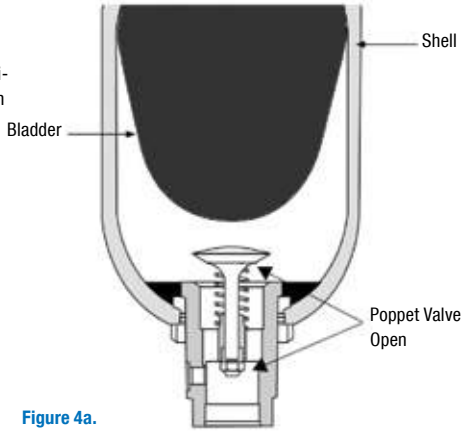
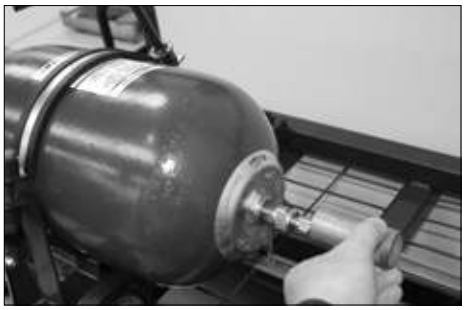


Figure 4a.

Disassembly Instructions



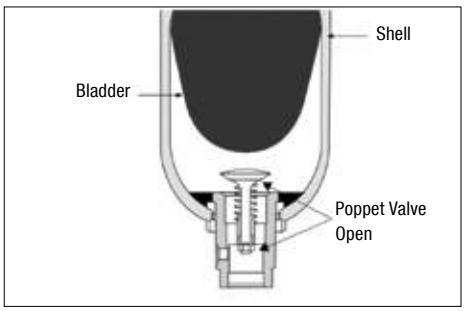
1. Remove the Protection Cap.



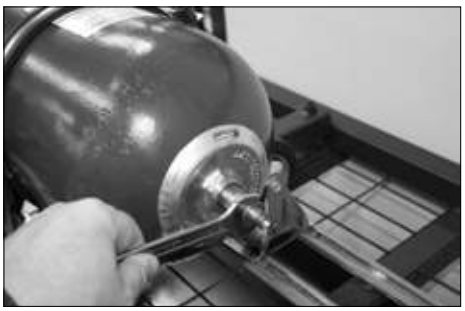
2. Remove the Gas Valve Assembly Cap.



3. Attach STAUFF pre-charging head and release any pre-charge from the Accumulator.



4. Ensure that the poppet valve is not closed. The stem should be fully in and free to move.



5. Remove the Gas Valve Assembly or Gas Valve Core.



6. Remove the Bladder Lock Nut and Name Plate.

Disassembly Intructions



7. Remove the Bleed Valve on the Fluid Port.



8. Remove the Fluid port Lock Nut with an appropriate “C” spanner along with the flanged washer.



9. Remove the Nylon Back-up Washer and the metal back-up ring along with the O-Ring.



10a. Remove the Fluid Port Assy by first pushing the Fluid Port back into the inside of the shell.



10b. From inside the shell slide the Anti extrusion ring off the Fluid Port body and remove from the shell.



10c. The Fluid Port can then be removed from the shell.



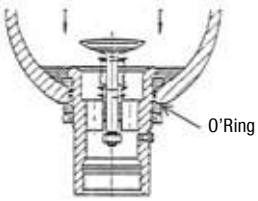
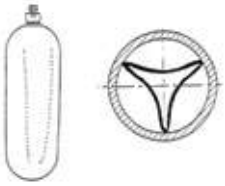
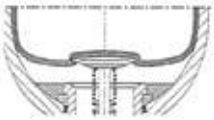
11. Remove as much air as possible from the Bladder, then remove the bladder from the Shell - do not use any sharp objects that could damage the bladder.

12. Inspect the Bladder.

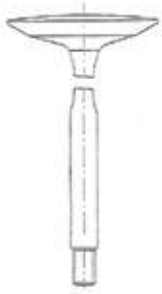
In cases where there are signs of damage, wear or swelling then the Bladder should be replaced.

Refer to page 31 and 32. outlining potential Damages, Causes and Response.

Trouble Shooting Guide

Type of Damage	Cause	Response	
External Leakage from Gas Valve			
Any leakage from the gas valve if not detected will eventually lead to bladder failure.	Any loss of Nitrogen from the gas valve will cause the compression ratio on the bladder to be exceeded and eventually cause the bladder to fail.	Always ensure that after pre-charging, or during service intervals where the pre-charge is checked, that the gas valve is inspected for leaks.	
Severe leakage from the Gas Valve	Gas valve assembly or valve core damaged. In-correct charge valve used – gas valve has been tampered with.	Replace Gas Valve. Ensure the correct charging equipment is used.	
External Leakage from Fluid Port			
Leaking Oil between Fluid Port body and Accumulator Shell.	Damaged O-Ring caused during assembly or 'O' ring has become hard due to high oil temperatures.	Replace Fluid Port O-Ring. Check Assembly Methods Check oil system temperature.	
Internal Leakage from Bladder			
Upon pre-charge and less than 29 PSI (2 bar) the Bladder fails leaving a star shape burst pattern at the bottom of the Bladder.	The Accumulator was not lubricated properly and / or pre-charged too quickly. Excessive stretching of the bladder or the lower region has been caught in the poppet valve.	Replace Bladder. Ensure that the Shell and Bladder are well lubricated with system fluid. Pre-charge very slowly until the poppet valve is closed.	
Bladder has abrasion lines on 1, 2 or 3 sides. There is a failure along one of marked lines.	The compression ratio between Max. and Min. pressure is too high. The pre-charge pressure is too low or has not been checked for a long time. Gas permeation is an issue.	Replace Bladder. Ensure that the compression ratio is below 4:1 – Check pre-charge pressure more frequently. Replace with Bladder that has a higher acrolynitrile percentage.	
Bladder has failed at the bonded seam – Vulcanizing failure.	Bladder has rubbed on the inside of the shell due to the compression ratio too high. Manufacturing or Material fault.	Replace Bladder. Ensure that the compression ratio is below 4:1 Check pre-charge pressure more frequently.	
Bladder has Circular cut mark on the base.	Pre-charge pressure is too high.	Lower Pre-charge pressure.	
Bladder has a pin hole around the tip of the Bladder.	Loss of pre-charge pressure, leaking gas valve, the pre-charge pressure has not been checked.	Check / replace gas valve Check pre-charge more frequently.	

Trouble Shooting Guide

Type of Damage	Cause	Response	
Internal Leakage from Bladder			
Bladder has hardened and is carbonized.	Accumulator cycle time is very quick along with a very high compression ratio, causing high gas temperature. Oil temperature is too high..	Replace Bladder, Check Accumulator cycle time and reduce or increase size of Accumulator. Ensure oil temperature is lowered to the correct level.	
Bladder is swollen.	Incorrect bladder material. System fluid is not compatible with the bladder material.	Check compatibility of the bladder material with the fluid used. Consult Accumulator manufacturer.	
Anti- Extrusion Ring			
Anti-Extrusion Ring has split into two halves after disassembly.	Normal wear and tear.	Re-place Anti-Extrusion Ring.	
Fluid Port Assembly			
Worn Poppet Valve. Excessive side movement in the poppet valve or poppet valve is sticking when pushed down.	Normal Wear. Poppet valve is operated during each cycle. The pre-charge is too close or higher than the minimum working pressure. The flow rate from the accumulator is above the recommend flow rate for that model.	Replace Fluid Port Assy. Ensure pre-charge pressure is lowered to <90% of minimum working pressure. Decrease flow rate, use a larger Accumulator with bigger port. Increase the number of Accumulators used to reduce the output flow.	
Poppet Valve is broken. Very High Cycling application.	Poppet valve is operated during each cycle. The pre-charge is too close or higher than the minimum working pressure. The flow rate from the accumulator is above the recommend flow rate for that model.	Replace Fluid Port Assy. Ensure pre-charge pressure is lowered to <90% of minimum working pressure. Decrease flow rate, use a larger Accumulator with bigger port. Increase the number of Accumulators used to reduce the output flow.	

Assembly Procedures for Bladder Accumulators

Note: Prior to assembly of the Accumulator please ensure the following are checked first.

A. Always ensure that the Assembly is done in a clean area.

B. Make sure that the replacement Bladder is designed and sized for Accumulator being repaired.

C. Ensure that any system fluid still inside the Accumulator is not dangerous to the human skin. (Wear protective clothing if necessary).

D. Make sure there is no internal or external corrosion on the Accumulator or any evidence of damage to the shell prior to assembling the Accumulator.

E. It is the responsibility of the person doing the repair to ensure that the Accumulator complies with any relevant government requirements, such as Design and Inspection criteria.

If there is any doubt with regard to D. and E. above, the Accumulator should not be reassembled and preferably discarded.

Assembly Instructions



1. Ensure that the inside of the Shell is well lubricated with System Fluid.

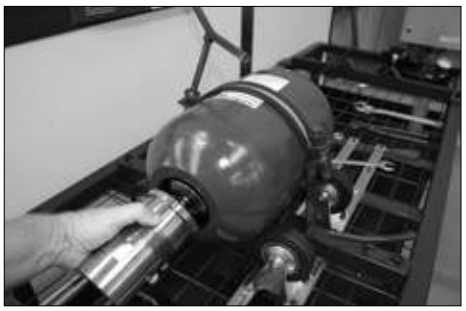
Note: In some cases Standard Hydraulic Fluid may not be compatible with the System Fluid therefore an alternative fluid may need to be used.



2. Take Bladder and remove Gas Valve. Remove all air from the Bladder and fold neatly. Position Bladder inside Accumulator so that the Bladder Stem protrudes through the small opening at the other end of the Shell.



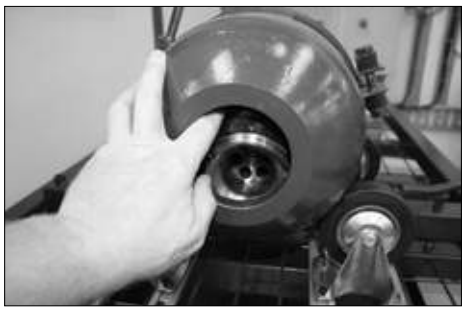
3. Fit Name Plate and Locknut to Bladder Stem.



4. Place Fluid Port inside the Shell Poppet Valve facing inwards.



5. Place Anti-Extrusion Ring inside the Shell and make sure the metal ring is facing you.



6. Slide the Anti-Extrusion Ring over the Fluid Port inside the Accumulator Shell.

Assembly Intructions



7. Grip the Fluid Port Body from inside the Shell and pull out as far as possible.



8. Holding the Fluid Port Body firmly install the metal back-up ring and the O-Ring. Ensure no sharp tools are used and that the O-Ring is inserted evenly around the Fluid Port Body.



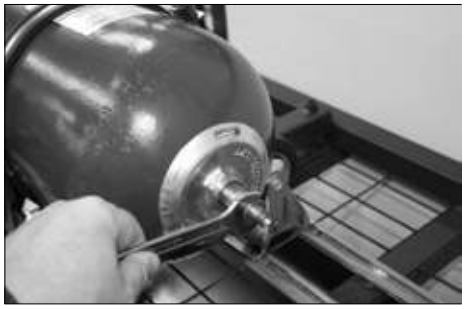
9. Ensuring the Fluid Port Body does not get dislodged - insert the Nylon Back-Up washer so that the rounded face on the washer faces the O-Ring.



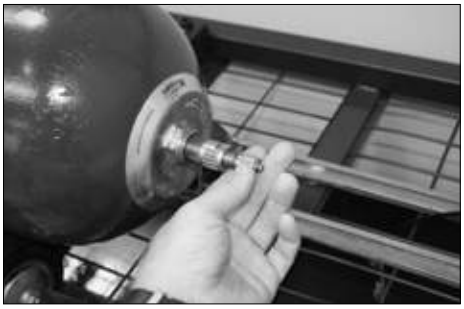
10. Attach first the Flanged washer and then the Lock-Nut. Ensure the Lock-Nut is tightened using an appropriate spanner.



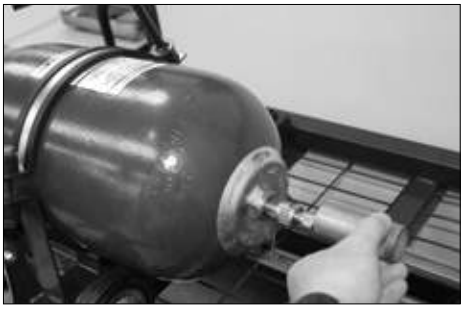
11. Fit the Bleed Plug or Test Point (if fitted) and tighten.



12. Fit the Gas Valve Assembly to the Bladder Stem and tighten to the correct setting. Ensure that when tightened the Bladder stem does not rotate.



13. Fit the Gas Valve Assembly Cap.



14. Fit the Gas Valve Protection Cap.

Note: With regard to pre-charging the Accumulator with Nitrogen, please refer to the STAUFF Pre-Charging Instructions.

Sizing Accumulators

Sizing Accumulators

In selecting the proper accumulator size V1 (size of accumulator in cubic inches) when Vw (volume of fluid to be discharged from accumulator) is known.

$$V1 = \frac{(Vw)(E)}{f}$$

E in the above equation adjusts the equation due to the accumulator efficiency versus the gas pre-charge pressure.
Use the following constants.

For Supplementing Pump
E = 1.24 for bladder accumulators.

For Auxiliary Power Source (No Pump)
E = 1.60 for bladder accumulators.

In the above equation the discharge coefficient “f” adjusts the equation for the change in the gas temperature due to heat gains and losses by expansion and compression of the gas (Calculate “f” as shown below).

Adiabatic Operation

In an adiabatic operation where the gas temperature is rapidly changing as a result of rapid compression and expansion of the gas:

$$f = 1 - \left(\frac{1}{a}\right)^{1/n}$$ (See Table 1, Page 36 for Calculations.)

Where:
$a = \frac{P_3}{P_2}$ = working pressure ratio
P_3 = Maximum system pressure
P_2 = Minimum system pressure
n = Polytropic exponent for adiabatic operation
(See Charts on Page 37)

Sizing Accumulators

In an isothermal operation where the compression and expansion of the gas is very slow, allowing enough time for heat transfer resulting in little or no change in gas temperature.

$$f = 1 - \left(\frac{1}{a}\right)$$

Where:
$a = \frac{P_3}{P_2}$ = working pressure ratio
P_3 = Maximum system pressure
P_2 = Minimum system pressure

Discharge Coefficient

$$f = 1 - \left(\frac{1}{a}\right)^{1/n}$$

Note: Use this formula if "a" is less than 1.1 or over 3.
If exact values of "a" are not shown, select the next higher value (See charts below).

How to Read Table 1

Locate "a" value in left-hand column and locate "n" value at top of Table 1. The point at which "n" and "a" intersect will be the "f" value.

Table 1

a Values	"n" Values											
	1.40	1.45	1.50	1.55	1.60	1.65	1.70	1.75	1.80	1.85	1.90	1.95
1.0	0	0	0	0	0	0	0	0	0	0	0	0
1.1	.0658	.0636	.0616	.0596	. 0578	.0561	.0545	.0530	.0516	.0502	.0489	.0480
1.2	.1221	.1182	.1145	.1110	.1077	.1046	.1017	.0989	.0963	.0939	.0915	.0896
1.3	.1709	.1655	.1605	.1557	.1512	.1470	.1430	.1392	.1356	.1322	.1290	.1264
1.4	.2136	.2071	.2009	.1951	.1897	.1845	.1796	.1749	.1705	.1663	.1623	.1594
1.5	.2515	.2439	.2369	.2302	.2239	.2179	.2122	.2068	.2017	.1968	.1922	.1887
1.6	.2852	.2769	.2690	.2616	.2545	.2479	.2415	.2355	.2298	.2244	.2191	.2154
1.7	.3155	.3065	.2980	.2899	.2823	.2750	.2681	.2616	.2553	.2494	.2437	.2395
1.8	.3429	.3333	.3242	.3156	.3074	.2997	.2923	.2853	.2786	.2722	.2661	.2617
1.9	.3677	.3577	.3481	.3391	.3305	.3223	.3145	.3070	.2999	.2932	.2867	.2819
2.0	.3905	.3800	.3700	.3606	.3516	.3430	.3348	.3270	.3196	.3125	.3057	.3010
2.1	.4114	.4005	.3902	.3804	.3711	.3622	.3537	.3456	.3378	.3304	.3233	.3181
2.2	.4306	.4194	.4088	.3987	.3891	.3799	.3711	.3627	.3547	.3470	.3396	.3344
2.3	.4484	.4370	.4261	.4157	.4058	.3964	.3873	.3787	.3704	.3625	.3549	.3493
2.4	.4649	.4533	.442	.4315	.4214	.4117	.4025	.3936	.3851	.3770	.3692	.3634
2.5	.4803	.4684	.4571	.4463	.4360	.4261	.4167	.4076	.3989	.3906	.3820	.3766
2.6	.4947	.4826	.4711	.4601	.4496	.4396	.4300	.4207	.4119	.4034	.3952	.3891
2.7	.5081	.4959	.4843	.4731	.4625	.4523	.4425	.4331	.4241	.4154	.4071	.4010
2.8	.5207	.5084	.4966	.4854	.4746	.4642	.4543	.4448	.4356	.4268	.4184	.4120
2.9	.5326	.5226	.5083	.4969	.4860	.4755	.4654	.4558	.4465	.4376	.4290	.4226
3.0	.5438	.5337	.5193	.5078	.4967	,4862	.4760	.4662	.4568	.4478	.4391	.4326

Table 2

n	C3
1.41 - 1.45	.0300
1.46 - 1.49	.0318
1.50 - 1.53	.0336
1.54 - 1.57	.0352
1.58 - 1.62	.0371
1.63 - 1.67	.0389
1.68 - 1.73	.0410
1.74 - 1.79	.0429
1.80 - 1.85	.0447
1.86 - 1.91	.0464
1.92 - 1.94	.0472

Instructions for Selection of Discharge Coefficient “n”

1. Determine Average System Pressure

$$\frac{P2 + P3}{2} = \text{Average System Pressure}$$

2. Determine the time in seconds to discharge the oil from the accumulator.

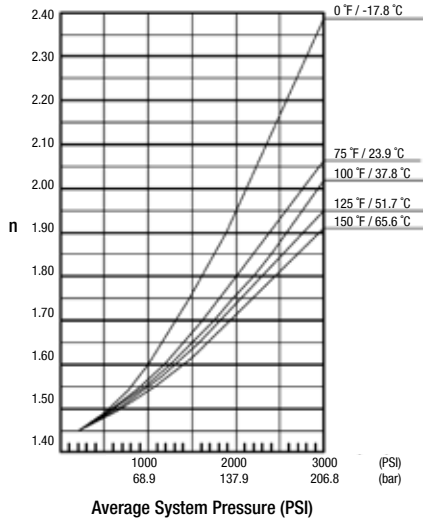
3. Select the graph which corresponds to the time (sec.) required to discharge the accumulator.

4. Select the curve on the graph which corresponds to the gas operating temperature (If gas temperature under operating conditions is not known assume 100 °F / 38°C.)

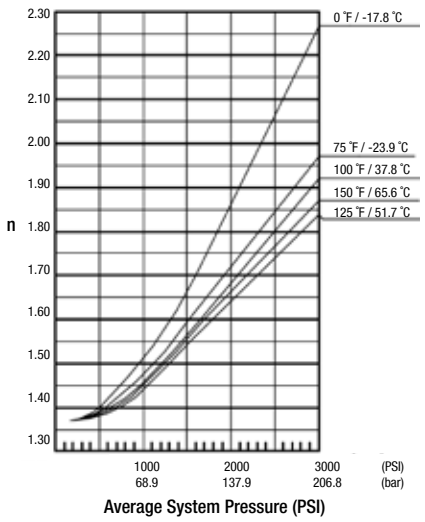
5. To use the graph, locate the average system pressure along the bottom portion of the graph. Move vertically along this column until you intersect the line corresponding to the gas temperature. Then move horizontally along this line and read the discharge coefficient to the left side of the graph.

Selection Charts for Discharge Coefficient “n”

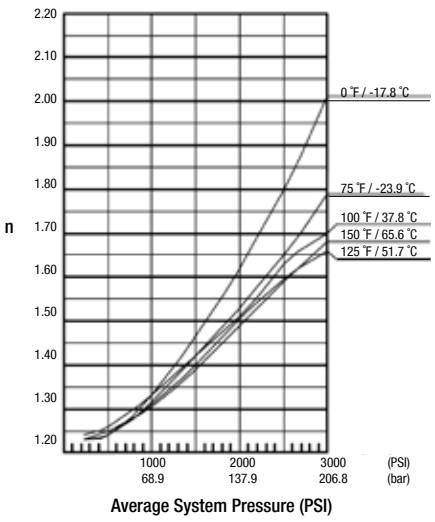
0 - 8 Seconds



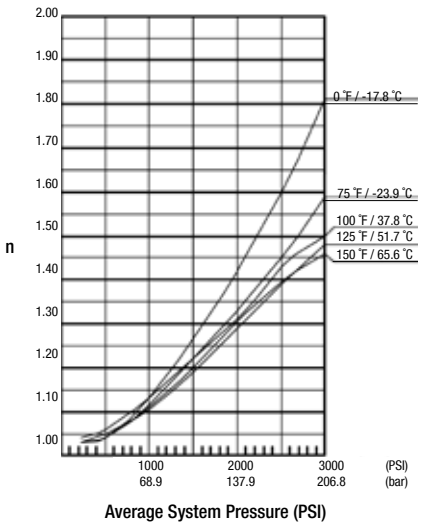
9 - 30 Seconds



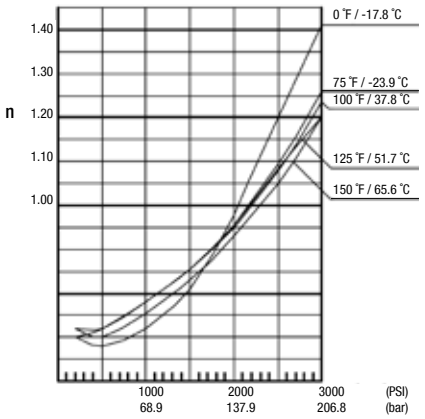
31- 60 Seconds



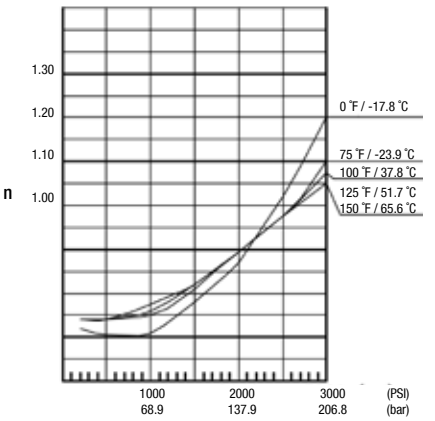
61 - 120 Seconds



121 - 500 Seconds



501 - 900 Seconds



Problem #1

Supplementing Pump Flow

Given: A 4.5" bore x 10" stroke cylinder with a 2" diameter rod must extend and retract in 6 seconds. Minimum pressure required to cycle cylinder is 1000 PSI (68 bar). Dwell time between cycles is 1.5 minutes. Gas temperature is 100 °F. Maximum system pressure is 2000 PSI (136 bar).

Information Required

P_2 = 1000 PSI (68 bar) = Minimum system pressure
P_3 = 2000 PSI (136 bar) = Maximum system pressure
CT = 6 sec. = Cycle time of actuator
VC = 286.5 in^3 = Displacement of actuator per cycle
DT = 90 sec. = Dwell time between cycles
T = 100 °F. = Gas operating temperature

Solve For:

PC = 3.0 in3/ sec. = $\frac{VC}{DT+CT}$ = minimum required output of pump (in^3/sec)
Q = .78 GPM = .26 PC = pump output (GPM)
Vw = 269 in^3 = VC – (3.85) (Q) (CT) = cubic inches of fluid required from accumulator
a = 2 = $\frac{P3}{P2}$ = working pressure ratio
n = 1.65 = From Page 37
f = .3430 = From Page 36 (Table 1) (Based on values of "a" & "n")

Solution:

$V1\ (in^3) = \frac{(Vw)\ (E)}{f}$

E = 1.24 for bladder accumulator (See Page 35).

$V_1\ (in^3) = \frac{269\ (1.24)}{.3430} = 973\ in^3$ or 4.25 Gallons

Where V_1 = Accumulator size required in cubic inches

Once V_1 has been determined, select the accumulator from Pages 4-8 which has a gas volume equal to or greater then V_1. In this example a 5 gallon bladder accumulator would satisfy the system. P = gas pre-charge, which should be 80% of P_2 in bladder accumulators.

Problem #2

Increasing Actuation Speed in an Existing Hydraulic System

Given: Present system has a 5 GPM pump capable of 3000 PSI (207 bar), 6" bore x 12" stroke cylinder with a 2" rod. Minimum pressure to extend and retract cylinder is 1500 PSI (103 bar). Gas temperature is 150 °F. Bladder accumulator to be used. Cylinder cycle time is to be reduced from 40 seconds to 8 seconds. Dwell time between cycles is 40 seconds.

Information Required

P_2 = 1500 PSI (103 bar) = Minimum system pressure
P_3 = 3000 PSI (207 bar) = Maximum system pressure
CT = 8 sec. = Cycle time of actuator
VC = 640.5 in^3 = Displacement of actuator per cycle
DT = 40 sec. = Dwell time between cycles
Q = 5 GPM = Present pump flow
T = 150 °F. = Gas operating temperature

Solve For:

Vw = 486.5 in^3 = VC – (3.85) (Q) (CT)
VR = 770 in^3 = (3.85) (Q) (DT) is the pump output during the dwell period. VR must be Greater than Vw to accomplish the new cycle rate. If not, cycle time (CT) or dwell time (DT) must be increased.
a = 2 = $\frac{P_3}{P_2}$ = Pressure ratio
n = 1.76 = From Page 37
f = .3196 = From Page 36 (Table 1) (Based on values of "a" & "n")

Solution:

$V_1\ (in^3) = \frac{(Vw)\ (E)}{f}$

E = 1.24 for bladder accumulator (See Page 35).

$V_1\ (in^3) = \frac{486.5\ (1.24)}{.3196} = 1887.5\ in^3$ or 8.2 Gallons

Where V_1 = Accumulator size required in cubic inches

Once V_1 has been determined, select the accumulator from Pages 4-8 which has a gas volume equal to or greater then V_1. In this example a 10 gallon bladder accumulator would satisfy the system. P = gas pre-charge, which should be 80% of P_2 in bladder accumulators.

Problem #3
Shock Suppression

Given: System has a 120 GPM pump operating at 2200 PSI (152 bar). Shock is caused by rapidly closing the directional control valve. 80 feet of pipe is between the pump and valve causing shock. Internal area of pipe is 1.4 square inches. Gas operating temperature is 100°F (38°C). Using standard petroleum oil (54.3 lbs/ft^3). What size of accumulator (V1) would be required to limit shock pressure to 10% above system pressure P2?

Information Required

L = 80 ft. = Length of pipe between pump and valve causing shock.
A = 1.4 in^2 = Internal area of pipe
P2 = 2200 PSI (152 bar) = Operating pressure
Q = 120 GPM = Rate of flow
T = 100 °F = Gas operating temperature

Solve For:

n = 1.80 = Discharge coefficient – See Page 37. Use 0-8 second curves.

VT = 0.78 ft^3 = (L) (A) / 144 = Total volume of oil in pipe

WT = 54.3 lbs/ ft^3 = Weight of fluid per cubic foot

W = 42.2 lbs = (VT) (WT) = Total weight of liquid in pipe

V = 27.5 ft/ sec. = $\frac{(.3208)\ (Q)}{A}$ = Flow velocity

C3 = .0447 = From Page 36 (Table 2) (Opposite the “n” value selected)

Solution:

$V1\ (in^3) = \frac{(Vw)\ (E)}{f}$ = Size of accumulator required

$V_1 = \frac{(V)^2\ (W)\ (n\text{-}1)\ (.205)}{(P2)\ (C3)}$

$V_1\ \text{Gallons} = \frac{(27.5)2\ (42.2)\ (1.80\text{-}1)\ (.205)}{(2200)\ (.0447)} = 53.2\ in^3$ or .23

A_1 Qt. accumulator would satisfy the system.

P_1 gas pre-charge pressure should normally be 60% of P_2, (in a shock suppression application).

Guidelines for Selection, Installation and Operation

General
Hydraulic Diaphragm Accumulators from Stauff Corporation have been in use in numerous branches of industry for many years and are proven components. Optimal function and long service life are however only achieved if specific selection criteria are observed and incorrect installations and incorrect operating conditions are avoided.

For improved understanding of the following sections, the most important expressions and terms are briefly explained here.

Operating pressure
Normally the accumulator operates between P1 and P2

P0 = pre-charge pressure (normally 90% of P1)
P1 = minimum operating pressure
P2 = maximum operating pressure
P3 = system relieve pressure setting
P4 = maximum working pressure of accumulator
Pm= mean operating pressure

Permissible excess operating pressure P4
Max. pressure for which the accumulator is designed and that can be found in the technical documentation and the marking (rating plate, lettering).

Gas filling pressure
Before the diaphragm accumulator can be installed in a hydraulic system, it must be pre-charged with dry nitrogen gas. The pre-charge pressure is normally 95% to 90% of P1 at operating temperature.

Permissible pressure ratio
P_2/P_0 or P3/P0 = pressure ratio < 8:1, 6:1, 4:1 depending on accumulator size. Figure stipulated by the manufacturer in relation to the compression ratio of the diaphragm accumulator, e.g. 8:1; this figure should not be exceeded (use pressure as absolute figures).

Aspects on the selection of a diaphragm accumulator
Selection in relation to the perm. excess operating pressure P4
The diaphragm accumulator is to be selected such that the permissible excess operating pressure P4, is in all circumstances above the upper operating pressure P2 to be expected and also above any pressure peaks that may occur.

Pressure peaks or pressure increase occur, e.g., due the switching of multiway valves and the resulting retardation of oil masses, retardation of fast moving masses, pressure translation in differential circuits, etc.

In this respect it is highlighted that pressure peaks may be so short that they can often not be measured with the aid of clamped measuring instruments such as pressure gauges. Safety valves also do not always react to such short pressure peaks.

Correct selection of the pre-charge pressure P0
The magnitude of the pre-charge pressure is dependent on the operating pressures to be expected and the type of application.

The following figures can be used as general guidance:

- with pulsation damping
  Po = 0.6 to 0.8 x Pm (Pm = mean operating pressure)

- with surge damping or volume storage
  Po = 0.6 to 0.9 x P1 (p1 = lower working pressure)

It is to be ensured that the pre-charge pressure does not exceed the value 0.9 x P1 also at the operating temperature. The pre-charge pressure established and specified at room temperature increases with increasing temperature in accordance with gas laws.

As a rule of thumb, a pressure increase of 10% for a 30 °C (86F) temperature increase can be expected.

If the pre-charge pressure is too low this may result in a drop in performance from the accumulator and result in high flexing loads on the diaphragm and shortened life of the diaphragm.

Gas Losses
Inadequate gas pressures can also be due to gas losses as a consequence of permeation processes. As elastic separating materials are not leak-proof in the absolute sense, gas molecules pass through the membrane, are dissolved in the operating fluid and transported to the reservoir where there can again separate from the fluid. The gas losses increase proportionally with the operating pressure and exponentially with the temperature. With conditions that are otherwise the same, gas losses will result in a faster reduction of the pre-charge on smaller hydraulic accumulators than on larger accumulators.

Estimates on possible gas losses can be determined on initial installations by monitoring the pre-charge on regular intervals. From this information it is possible to estimate maintenance intervals.

A pre-charge pressure that is too low from the start will be further reduced by gas pressure losses, and, under operating conditions that otherwise remain the same, a diaphragm accumulator will not be able to store the same volume of fluid. Diaphragms or bladders as separating components are overloaded resulting in a reduction in the service life. The damping capacity of the hydraulic accumulator will be reduced, and any pressure peaks that occur can exceed the permissible excess operating pressure. For this reason, the magnitudes of the pre-charge pressure losses are to be checked and increased at intervals to suit the application. The check can be performed very easily by using the pre-charge kit STDA-CK-M-1.

Correct Installation

Safety –related equipment
It is important that the maximum working pressure of the accumulator is not exceeded and that a safety pressure relieve device is installed in the system.

Fastening/Mounting
Accumulators must be securely fastened in order to prevent any vibration or stress on the accumulator fluid port. Special brackets and clamps are available.

Operating states to be avoided

Excessively high pressure ratio
An excessively high pressure ratio between the maximum operating pressure P2 and the pre-charge pressure P0 is to be avoided for various reasons. The max. permissible compression ratio and maximum pressure differential ΔP stated by the manufacturer takes into account a reasonable service life of diaphragms or bladders. If the ratio is exceeded, a significant reduction in the service life cannot be excluded. A further reason is that accumulator has a progressive characteristic curve, i.e. with increasing pressure the increase in the fluid volume stored per pressure unit becomes less and less. Expressed in a different way, the accumulator becomes “harder and harder”. In an application with volume storage, an increasing amount of (lost) energy must be expended to store less and less additional fluid.

Insufficient spacing of the pre-charge pressure P0 from the lower Operating pressure P1
If the pre-charge pressure (P0) is greater than the lower operating pressure (P1), the diaphragm accumulator empties itself completely during each operating cycle. Particularly on diaphragm accumulators, the sealing elements on the diaphragm sit on or hit the inside of the housing in the area of the fluid connection. Continuous contact can cause flash to form or cause other material deformations that can in turn destroy the diaphragm.

It is important to note that the pre-charge pressure can increase dramatically through an increase of temperature.

Briefly passing the pre-charge pressure during starting and shut down cannot be avoided for functional reasons, it is strongly recommended to consult the manufacturer, as special designs are available for difficult applications.

Sudden complete draining of a hydraulic accumulator
Applications in which a diaphragm accumulator can empty suddenly and without control are to be avoided. One of the possible disadvantages has already been described earlier. If the pre-charge pressure P0 is too close to the minimum operating pressure P1 then this can result in damage to the bottom of the diaphragm.

The result of a very high discharge rate from the accumulator may reduce the output stored volume due to a premature closure of the fluid port by the diaphragm.

Raised temperatures

The usual operating conditions for diaphragm accumulators is between -10°C and +80 °C. Higher temperatures are possible with separating components (bladders, diaphragms) made of special materials. However, here the progressively increasing gas losses with raised temperatures must be taken into account. In addition, a reduction in the permissible maximum working pressure is to be expected, as the strength figures for the housing material must be reduced.

Low temperatures

At temperatures below -10°C, the elasticity of the standard materials (NBR) for diaphragms and bladders reduces and there is a risk of fractures. If usage at such low temperatures cannot be avoided, special diaphragm materials must be used e.g. ECO. Please consult the manufacturer. It is also to be noted that not all housing materials are suitable or approved for low temperatures, as a drop in the notch impact strength can occur. In usage a differentiation is to be made between temperatures due to weather conditions and low temperatures of the medium stored.

Incompatible fluids

Hydraulic accumulators are designed as standard for use with mineral oil. If other fluids like water or even aggressive chemicals are to be used, special material combinations may be required. Please consult Stauff for questionable compatibility. Using a fluid that is not compatible with the housing or the diaphragm will result in damage.

Maintenance

Along with the external inspection for corrosion damage and correct mounting, the maintenance of a hydraulic accumulator is limited to the regular checking and correction, if necessary, of the pre-charge pressure. While for volume storage, variations in the gas filling pressure is mostly to be noticed in the form of inadequate function, for pulsation damping or surge damping, incorrect precharge pressure can remain undetected for long periods and cause damage to the accumulators or the system. Rule of thumb: Initially, check pre-charge pressure on monthly bases, then increase intervals, if no pressure loss is detected, to maintain proper pre-charge pressure.

To check, suitable charge devices should be used that are offered by the manufacturer for the various types of gas connections (M28x1,5 or Schrader ® valve). Suitable charge kits are also used to pre-charge the accumulator with dry Nitrogen.

If only the magnitude of the pre-charge pressure is to be determined, this task can also be performed on the fluid side, if it is possible to slowly fill or drain the hydro accumulator.

During slow filling, the filling process will be seen to slow down considerably when the gas filling pressure is reached. During discharge, the slow drop in pressure, a sudden pressure drop to zero occurs, which can be clearly seen on a pressure gauge. This process can be performed if necessary within a system without removing the accumulator.

Pre-charge the accumulator with zero pressure on the fluid port.

Installation

- The accumulator in a hydraulic circuit should be placed as near as practical to the source of shock or potential energy requirement.
- An installation space of 200mm (approximately 8 inches) should be maintained above the gas valve of the accumulator for any testing and charging devices that maybe required
- Normally an accumulator should be installed in a vertical position with the oil port connection facing downward (this is what Stauff recommends), however, a diaphragm accumulator may be mounted in any position without causing any harm to the accumulator, (horizontally or vertically)
- All accumulators must be installed securely by using clamps and support brackets that are designed specifically for mounting the accumulator
- When installing an accumulator using “U” bolt type clamps, care should be exercised so as not to distort the accumulator with excessive force

Pre-Charging Procedure

General Information

- The condition of the accumulator is primarily determined by periodic checking of the pre-charge pressure.
- Hydraulic Accumulators are pressure vessels and only qualified personnel should perform maintenance.
- Drain all fluid completely from accumulator before performing any maintenance.
- DO NOT weld or braze directly on the accumulator shell.
- DO NOT use automotive type valve cores as high pressure accumulator gas valves.
- The most accurate pre-charge readings can only be taken when fluid pressure is at “0 PSI”.
- Always observe the maximum working pressure and operating temperature ranges.

Do not use oxygen for pre-charging the Accumulator!

Pre-Charging Diaphragm Accumulators with US Style Cored Gas Valve



Figure 1.


Figure 2.

1. Isolate the accumulator from the system and make sure hydraulic fluid pressure is zero.

2. Remove the gas valve protection guard and then the gas valve cap from the accumulator.

3. To charge the accumulator, use a charging hose and gauge assembly similar to Stauff Charging Kit # STBA-CK-B-P3 rated for 3,000 psig minimum (higher pressure kits are available).

4. Before using the charging assembly (Figure 1.) make sure that valve **A** is completely open (counter-clockwise), ensure that bleed valve **B** (Figure 1.) is completely closed (clockwise) and that the non-return valve **C** (Figure 1.) is capped.

5. Connect the charging unit to the gas fill valve on the accumulator by means of knurled cap **D** (Figure 1.).

6. Make sure the valve on the nitrogen bottle is completely closed, then fit the nitrogen gas valve adapter/hose assembly (included in Stauff charging kit # STBA-CK-B-P3) onto the nitrogen bottle (Figure 2.)

7. Connect the other end of gas hose to the non-return valve **C** (Figure 1.), after taking off the cap.

8. Turn valve **A** (Figure 1.) clockwise until it stops **(Do not over Torque).**

9. **SLOWLY** open the valve on nitrogen bottle (Figure 2.) and allow the nitrogen gas to flow into the accumulator. The pressure gauge should begin to register pressure.

10. Once the desired gas pre-charge pressure has been reached, close valve on nitrogen bottle (Figure 2.).

11. Open valve **A** (Figure 1.) (Fully counter-clockwise) to bleed the trapped pressure in the gas line to zero by means of bleed valve **B** (Figure 1.), open valve **B** (turn counter-clockwise) until gauge reads 0 psig.

12. Remove hose from non-return valve **C** (Figure 1.) and replace cap.

13. Close the bleed valve **B** (Figure 1.) and wait a few minutes for pressure to stabilize.

14. Screw valve **A** (Figure 1.) clockwise until pressure can be read on gauge. This should be slightly higher than the required pressure.

15. Adjust to desired pressure by means of bleed valve **B** (Figure 1.), then remove charging unit from the accumulator gas valve and from the nitrogen bottle (after making sure that the nitrogen bottle valve is completely closed.

16. Reinstall the gas valve cap and protective guard cap on the accumulator. The accumulator is now ready for use.

NOTE: Allow the accumulator to rest for approximately 10-15 minutes after gas pre-charging. This will allow gas temperature to adjust and equalize. Recheck gas pressure and adjust if necessary. Check accumulator gas valve for any leaks with soapy water. Always wear safety glasses.

Pre-Charging Diaphragm Accumulators with Metric M28 x 1.5 Gas Valve

1. Isolate the accumulator from the system and make sure hydraulic fluid pressure is zero.

2. Remove gas valve protection cap and guard from the accumulator.

3. To charge the accumulator, use a charging and gauge kit similar to Stauff' Charging Kit # STDA-CK-M-P3 rated for 3,700 psig minimum.

DANGER: DO NOT attempt to remove the accumulator gas valve screw with a hexagon wrench, as it could be ejected under very high pressure.

4. Before using the charging assembly (Figure 1.) make sure that hex valve **B** is completely closed (clockwise) and visually check that the engaging hex on the bottom of the assembly is fully extended. Ensure that bleed valve **A** (Figure 1.) is completely closed (clockwise) and that the non-return valve **C** (Figure 1.) is capped.

5. Connect the charging unit to the gas fill valve on the accumulator by means of knurled cap **D** (Figure 1.), connect by turning clockwise.

6. Make sure that the valve on the nitrogen bottle is completely closed, then fit the nitrogen gas valve adapter/hose assembly (included in Stauff Charging Kit # STDA-CK-M-P3) onto the nitrogen bottle (Figure 2.).

7. Connect the other end of gas hose to the non-return valve **C** (Figure 1.), after taking off its cap.

8. Turn valve **B** (Figure 1.) counter-clockwise a minimum of three complete turns, thereby opening the hex gas valve **(Do not over Torque).**

9. **SLOWLY** open valve on nitrogen bottle (Figure 2.) and allow the nitrogen gas to flow into the accumulator. The pressure gauge on the charging assembly will begin to register a pressure increase in the accumulator.

10. Once the desired gas pre-charge pressure has been reached, close the valve on nitrogen bottle (Figure 2.). The reading on the gauge should be slightly higher than the required pressure.

11. Adjust to desired pre-charge pressure by means of bleed valve **A** (Figure 1.) turn counter-clockwise and slowly bleed nitrogen until pre-charge pressure setting is reached, then close bleed valve **A** (Figure 1.) by turning clockwise until completely closed.

12. Close valve **B (**Figure 1.) clockwise until fully closed (to a maximum 14.75 foot pounds of torque) making sure the socket-headed gas valve is tight, bleed the trapped pressure in the gas line to zero by means of bleed valve **A** (Figure 1.), open valve **A** (Figure 1.), counter-clockwise until the gauge reads 0 psig, close bleed valve **A** (Figure 1.) by turning clockwise until completely closed.

13. Disconnect the end of gas hose from the non-return valve **C** (Figure 1.) and replace its cap, remove the gas valve adapter / hose assembly from the nitrogen bottle (Figure 2.).

14. Remove the charging unit from the gas fill valve on the accumulator by means of knurled cap **D** (Figure 1.) turn counter-clockwise until removed.

15. Using the 6mm hexagon wrench supplied in Stauff' Charging Kit # STDA-CK-M-P3, ensure that the metric M28x1.5 socket-headed gas valve is firmly tightened to a maximum of 14.75 foot pounds of torque.

16. Reinstall the gas valve cap and protective guard cap on the accumulator. The accumulator is now ready for use.

17. **Note:** When charging Stauff Diaphragm accumulators with a North American style gas valve please refer to pre-charging instructions for Stauff Diaphragm Accumulators with North American Style Gas Valves.

NOTE: Allow the accumulator to rest for approximately 10-15 minutes after gas pre-charging. This will allow gas temperature to adjust and equalize. Recheck gas pressure and adjust if necessary. Check accumulator gas valve for any leaks with soapy water. Always wear safely glasses.

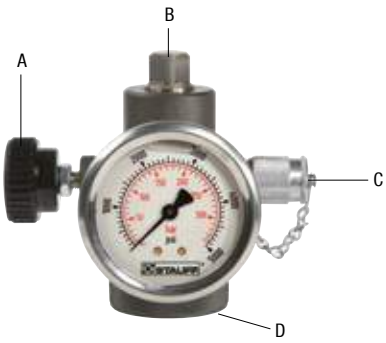


Figure 1.


Figure 2.

Checking Pre-Charge Pressure

General Information

The condition of the accumulator is primarily determined by periodic checking of pre-charge pressure. Only qualified personnel should perform any maintenance on accumulators. Nitrogen gas pre-charge pressure should be checked at least once during the first week of operation to assure that no leak has developed. The pre-charge pressure and ambient temperature should be recorded at installation. If there is no loss of gas pre-charge pressure, it should be rechecked in approximately 4 months. Thereafter, it should be checked annually. Check pre-charge if the system is acting sluggishly. If pre-charge is low, check the gas valve for leakage and recharge.

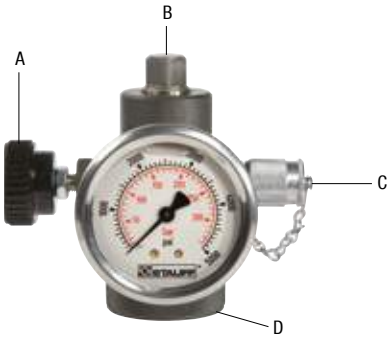


Figure 1.

Pre-Charge Checking Procedure for Diaphragm Accumulators with Metric M28 x 1.5 Gas Valve

1. Use appropriate valving in the hydraulic system, to discharge all hydraulic fluid from accumulator.

2. To check or adjust pre-charge pressure, **HYDRAULIC PRESSURE MUST BE REDUCED TO 0 PSIG**. Pre-charge pressure should be checked periodically. Charging and checking should be done with an accumulator gauge assembly kit similar to Stauff Part # STDA-CK-M-P3.

DANGER: DO NOT attempt to remove the accumulator gas valve screw with a hexagon wrench, as it could be ejected under very high pressure.

3. Follow pre-charging instructions for Diaphragm Accumulators with M28x1.5 Style Gas Valves instructions #4 through #15.

4. Reinstall the gas valve cap and protective guard cap on the accumulator. The accumulator is now ready for use.

NOTE: Allow accumulator to rest approximately 10-15 minutes after gas pre-charging. This will allow gas temperature to adjust and equalize. Recheck gas pressure and adjust if necessary. Check accumulator gas valve for any leaks with soapy water. Always wear safely glasses.

Checking Pre-Charge Pressure

General Information

The condition of the accumulator is primarily determined by periodic checking of pre-charge pressure. Only qualified personnel should perform any maintenance on accumulators. Nitrogen gas pre-charge pressure should be checked at least once during the first week of operation to assure that no leak has developed. The pre-charge pressure and ambient temperature should be recorded at installation. If there is no loss of gas pre-charge pressure, it should be rechecked in approximately 4 months. Thereafter, it should be checked annually. Check pre-charge if the system is acting sluggishly. If pre-charge is low, check the gas valve for leakage and recharge.

Pre-Charge Checking Procedure for Diaphragm Accumulators with US Style Gas Valve

1. Use appropriate valuing in the hydraulic system, to discharge all hydraulic fluid from accumulator.

2. To check or adjust pre-charge pressure, **HYDRAULIC PRESSURE MUST BE REDUCED 0 PSIG.** Pre-charge pressure should be checked periodically. Charging and checking should be done with an accumulator gauge assembly kit similar to Stauff Part # STBA-CK-B-P3.

3. Follow pre-charging instructions for Diaphragm Accumulators with US Style Gas Valve - instructions #4 through #15.

4. Reinstall the gas valve cap and protective guard cap on the accumulator. The accumulator is now ready for use.

NOTE: Allow accumulator to rest approximately 10-15 minutes after gas pre-charging. This will allow gas temperature to adjust and equalize. Recheck gas pressure and adjust if necessary. Check accumulator gas valve for any leaks with soapy water. Always wear safely glasses.

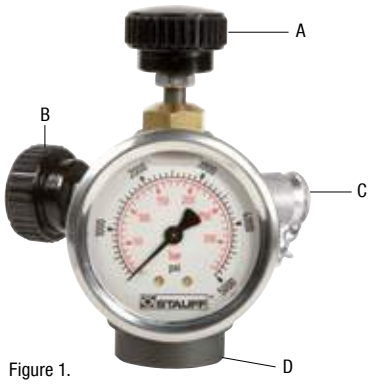


Figure 1.



Stauff on your iPad

3 steps to complete mobility ...

Step 1

Acquire GoodReader

Purchase the GoodReader App from the app store. For less than $5.00, this app maintains all the interactivity.
Consistent 5 star ratings ★★★★★

Step 2

Prep for Download

When you open GoodReader, on the lower right there is a settings link. Click on it, then open the "Viewing PDF Files" section. Here are the settings

Horizontal Swipe: On
Pre-Cache Adjacent Pages: Off

Lowest page scale: Both items should be off

Page Reflow–did not alter.
Flip search string–did not alter

PDF Links: Show link Bounds OFF
(when this is set to on, the link is shaded in blue)

For PDF Internet links... Use Safari Set to OFF
(this allows the video to play within GoodReader's browser)

Double-tap for zooming: on
iPad-style Tap Zones: on

Flash page number: off

Remove PDF watermarks: on

PDF display engine:
Prefer faster engine: on
Higher quality images: on
Textured background: on

Unflattening is allowed: off

When you click on the "?" at the bottom of the second column, you will open the help menu. You can read through the topics to familiarize yourself with the application.

Step 3

Download Stauff Catalog

Turn your iPad on and open up the GoodReader app.

There are two columns, in the right column, find "Web Downloads" and tap. Then tap "Enter URL."

Type in: navcat.com/Stauff.zip

The download will begin.

The zip file will be in your download folder under "My Documents" in the left hand column. Double tap to unzip the file.

Open the Stauff folder and you will see folders for each of the product lines and a PDF named "Stauff NavCat." Open the PDF and you are ready to go.

Moving the Stauff Folder to "My Documents"

Open the download folder. In the right column, select "Manage Files."

Select the Stauff folder on the left, tap "Move" at the top of the Manage Files menu on the right. This opens a window. Tap "My Documents" in the top left. And in the lower right, tap "Move 1 item here."

To delete the zip file, you can select it, and tap "Delete" on the Manage Files" menu.