



CONTRIBUTING TO YOUR SUCCESS ✓

Spin-On Filter Assemblies



Return-Line Filter Assemblies



Pressure Filter Assemblies



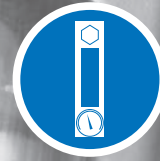
Suction Strainers



Diffusors



Fluid Level and Temperature Indicators



Tank Filler Breathers



Giant and Dessiccant Air Breathers



Filtration Technology and Accessories

UK Product Overview



A



B



C



D



E



F



G



H



I



J



K



L



M



N



O



P



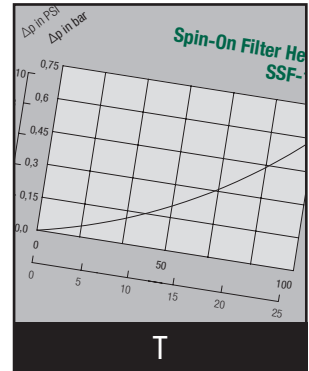
Q



R



S



T

A	3/4" BSP Spin-on Filter Assembly Single Head	Type: SSF-12	3 - 6	A
B	1. 1/4" BSP Spin-on Filter Assembly Single Head	Type: SSF-20L	7 - 10	B
C	1.1/2" BSP Spin-on Filter Assembly Twin Head	Type: SSF-24B	11 - 14	C
D	1.1/2" BSP Spin-on Filter Assembly Twin Head	Type: SSF-25B	15 - 18	D
E	3/4" BSP Spin-on Filter Assembly Tank Top	Type: SSFT-12B	19 - 22	E
F	1.1/2" BSP Spin-on Filter Assembly Tank Top	Type: SSFT-20B	23 - 26	F
G	1/2" BSP & 1" BSP Return-Line Filter Assembly	Type RTF-10 & 25	27 - 30	G
H	3/4" BSP - 2" BSP Return-Line Filter Assembly	Type RF	31 - 35	H
I	1" BSP Return-Line Filter Assembly	Type RFB 046 & 052	37 - 40	I
J	High Pressure Filters	Type SF	41 - 46	J
K	Suction Strainer - (Polyamide End Cap)	Type SUS	47 - 49	K
L	Diffusers	Type SRV	51 - 53	L
M	Level Gauges	Type SNA	55 - 57	M
N	Thermo Switch	Type TS	59 - 61	N
O	Plastic Filler Breathers (Screw-in version) including Plastic Dipsticks	Types SPB 1 / 2 / 3	63 - 66	O
P	Plastic Filler Breathers (Flange version) including Plastic Dipsticks	Type SPB 4 / 5	67 - 70	P
Q	Metal Filler Breather Bayonet version	Type SMBB-80	71 - 74	Q
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STAUFF Complete Range of Filter Components



Pressure Filters Series SF / SF-TM / SFZ / SFA / SMPF

Pressure Filters 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 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.



Return-Line Filters Series RF / RFA / RFB / RFS / RTF

Return-Line Filters 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 is filtered before returning to 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 / Suction Strainers / Filler Breathers / Desiccant Air Breathers

Diffusers 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** 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.

Filter Breathers 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).



Offline and Bypass Filters / Mobile Filter Units

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**. The additional function of this filter is dehumidification of the inflowing air with a special silicate gel.

Offline / Bypass Filters 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 Offline / Bypass Filters, purity levels are reached that cannot be achieved with conventional main filter systems.

Offline 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**.



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.

3/4" BSP Spin-on Filter Assembly

Single Head Type: SSF-12

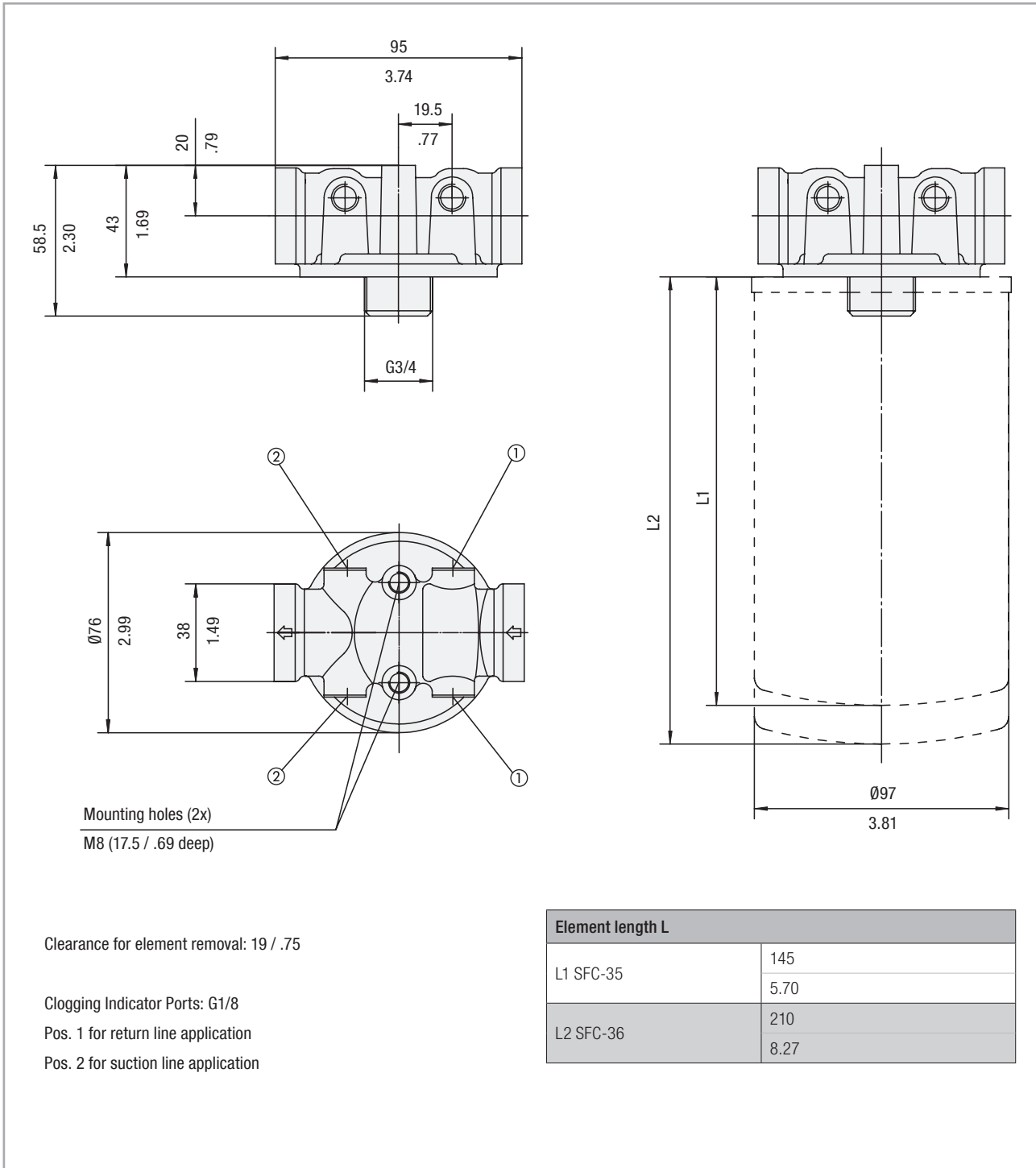
A



Construction	In-line Spin-On filter
Material	Aluminium
Port Connections	3/4" BSP
Flow Rate	90 l/min for Return-Line application 23 l/min for Suction-Line application
Operating Pressure	Max. 12 bar / 174 PSI Max. 5 bar / 72.5 PSI differential pressure (for any applicaton without bypass valve)
Temperature Range	-30 °C ... +100 °C / -22 °F ... +212 °F
Media Compatibility	Mineral oils, other fluids on request

Dimensions

3/4" BSP Spin-on Filter Assembly, Single Head Type: SSF-12



Construction

In-line Spin-On filter

Material

Aluminium

Port Connections

3/4" BSP

Flow Rate

90 l/min for Return-Line application
23 l/min for Suction-Line application

Operating Pressure

Max. 12 bar / 174 PSI
Max. 5 bar / 72.5 PSI differential pressure (for any application without bypass valve)

Temperature Range

-30 °C ... +100 °C / -22 °F ... +212 °F

Media Compatibility

Mineral oils, other fluids on request

Suction-line

Order Code for Complete Assembly	Element				Seals	Ported	Clogging Indicator	Bypass Valve	
	Media	Length		Micron Rating µm				bar	PSI
		mm	inch						
SSF-12-B0.2-4-SFC-3510-AE-V09	Inorg Glass Fibre	145	5.7	10	NBR	3/4 BSP	Visual	0.2	3
SSF-12-B0.2-4-SFC-3525-AE-V09	Inorg Glass Fibre	145	5.7	25	NBR	3/4 BSP	Visual	0.2	3

Return-line

Order Code for Complete Assembly	Element				Seals	Ported	Clogging Indicator	Bypass Valve	
	Media	Length		Micron Rating µm				bar	PSI
		mm	inch						
SSF-12-B1.7-4-SFC-3510-AE-V02	Inorg Glass Fibre	145	5.7	10	NBR	3/4 BSP	Visual	1.7	2.5
SSF-12-B1.7-4-SFC-3525-AE-V02	Inorg Glass Fibre	145	5.7	25	NBR	3/4 BSP	Visual	1.7	2.5

Alternative Elements

Replace specified element (highlighted above in red) to suit your requirement.

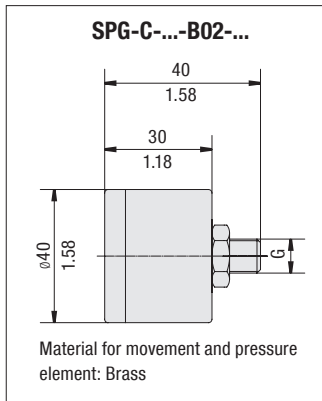
Order Code	Element	Length		Media	Micron Rating µm
		mm	inch		
1910000439	SFC-3510-E	145	5.7	Filter Paper	10
1910000667	SFC-3610-E	210	8.27	Filter Paper	10
1910000666	SFC-3525-E	145	5.7	Filter Paper	25
1910000668	SFC-3625-E	210	8.27	Filter Paper	25
1020013979	SFC-3503-AE	145	5.7	Inorg Glass Fibre	3
1020016132	SFC-3603-AE	210	8.27	Inorg Glass Fibre	3
1910000438	SFC-3510-AE	145	5.7	Inorg Glass Fibre	10
1910000906	SFC-3610-AE	210	8.27	Inorg Glass Fibre	10
1910001423	SFC-3525-AE	145	5.7	Inorg Glass Fibre	25
1020013980	SFC-3625-AE	210	8.27	Inorg Glass Fibre	25
1910000992	SFC-5760-E	177	6.97	Wire Mesh	60
1910000993	SFC-5860-E	226	8.9	Wire Mesh	60
1910000442	SFC-57125-E	177	6.97	Brass Mesh	125
1910000912	SFC-58125-E	226	8.9	Brass Mesh	125

Flow charts for Filter Heads and Elements can be found on Pages 83

Clogging Indicators & Switches ... Page 6

Clogging Indicators

Visual Indicators



SPG-C-...-B02-...
V01 & V02



SPG-C-...-B02-...
V09

Visual Pressure Clogging Indicators (for Spin-On Filter in Return-Line applications)							Order Code	Designation Code
Thread	Unit of scale	Range of scale	Coloured Segments					
Connection G			Green	Yellow	Red			
BSP	1/8	bar	0 ... 2,5	0 ... 1,2	1,2 ... 1,5	1,5 ... 2,5	1910001081	V01
	1/8	bar	0 ... 4	0 ... 2,5	2,5 ... 3	3 ... 4	1910000948	V02
Visual Vacuum Clogging Indicators (for Spin-On Filter in Suction-Line applications)							Order Code	
BSP	1/8	cm Hg	-76 ... 0	-13 ... 0	-18 ... -13	-76 ... -18	1910000458	V09

Clogging Switch

Limit-Switch - G42NO - S - G02 - B1.3

①

②

③

④

⑤

① Type

Limit-Switch

② Connector Type

Electrical Clogging Switch 42 V, NO	G42NO
Electrical Clogging Switch 42 V, NC	G42NC
Electrical Clogging Switch 110 V ... 230 V, two-way contact (only for Plug Type W)	G230

③ Plug Type

M12 Five-Pin Connector according to IEC 61076-2-101 M12	
AMP-Junior-Timer Plug	A
DEUTSCH Plug DT04-2P	D
Rubber boot	S
90 degree Polyamide cap (only for Connector Type G230)	W

④ Thread Type

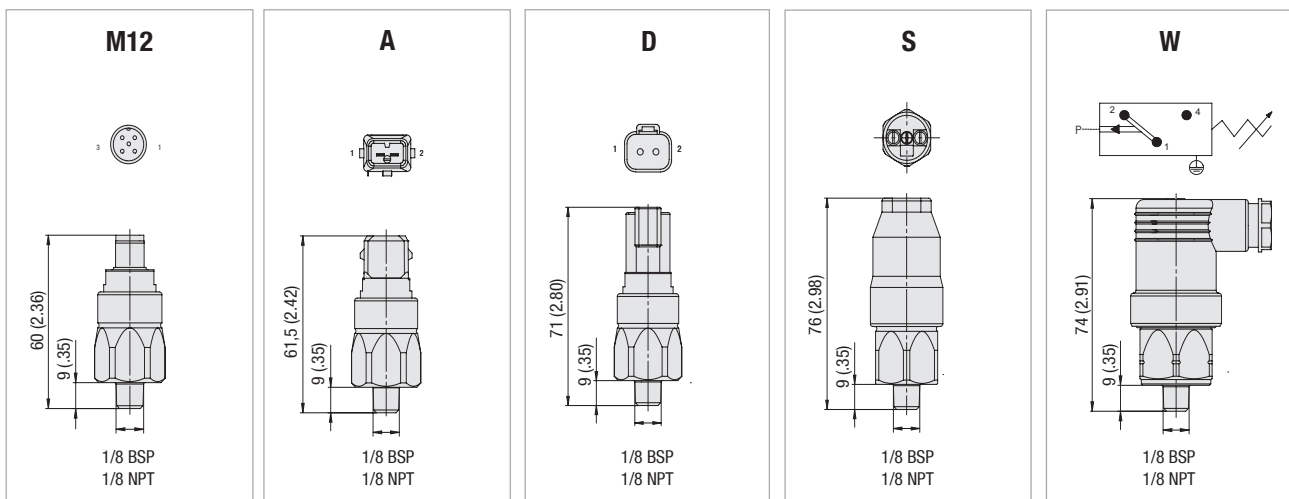
1/8 BSP	G02
1/8 NPT	N02

⑤ Pressure Setting

1,3 bar / 18.8 PSI	B1.3
-0,1 bar / -1.45 PSI*	B-0.1

*(only for Plug Type W and Connector Type G230)

Dimensions Plug Type



Note: The customer / user carries the responsibility for the electrical connection.

Dimensional drawings: All dimensions in mm/in.

1. 1/4" BSP Spin-on Filter Assembly

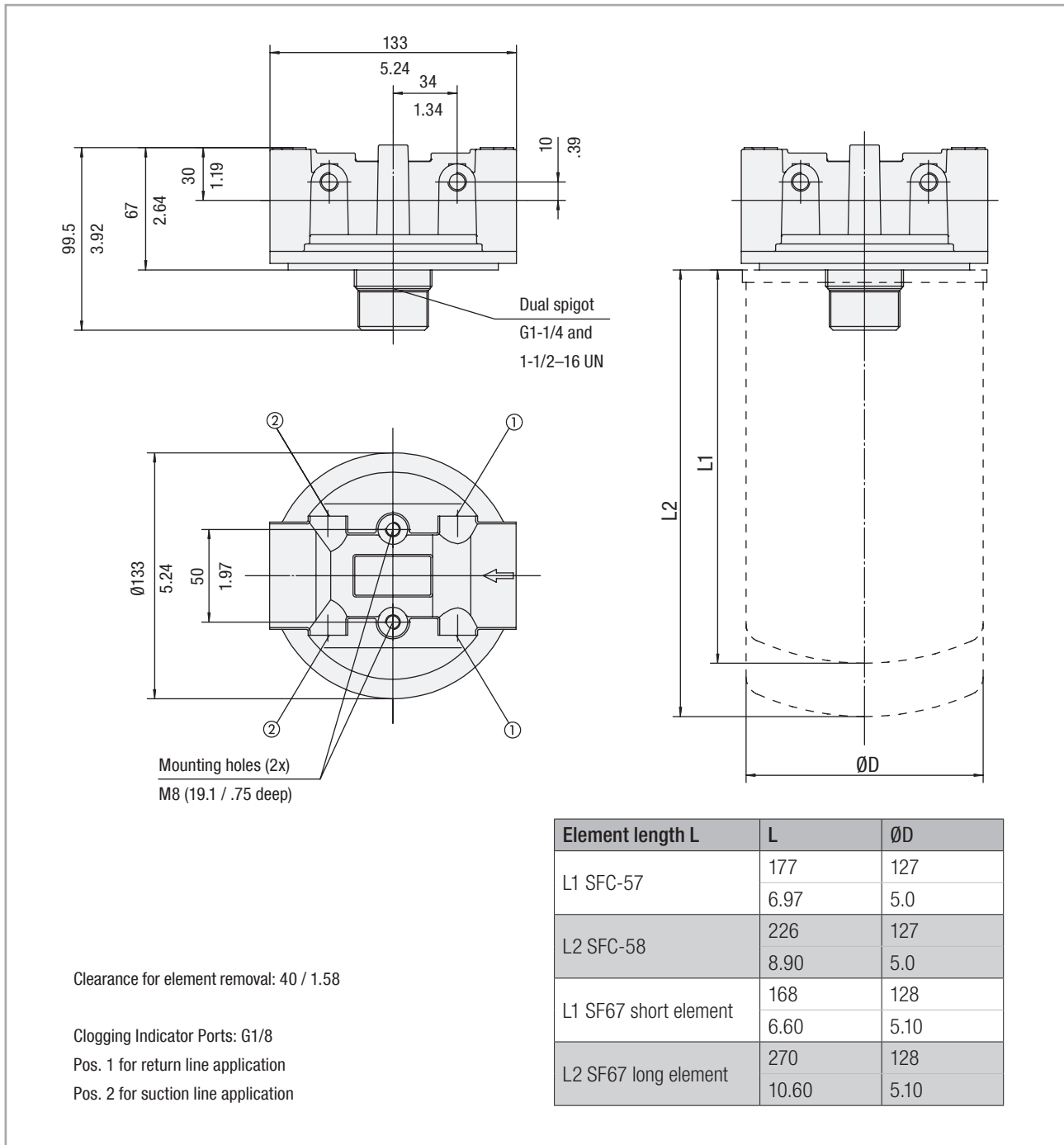
Single Head Type: SSF-20L

B



Construction	In-line Spin-On filter
Material	Aluminium
Port Connections	1.1/4" BSP
Flow Rate	225 l/min for Return-Line application 46 l/min for Suction-Line application
Operating Pressure	Max. 12 bar / 174 PSI Max. 5 bar / 72.5 PSI differential pressure (for any applicaton without bypass valve)
Temperature Range	-30 °C ... +100 °C / -22 °F ... +212 °F
Media Compatibility	Mineral oils, other fluids on request

Dimensions 1.1/4" BSP Spin-on Filter Assembly, Single Head Type: SSF-20L



Dimensions in mm / in

Construction	In-line Spin-On filter
Material	Aluminium
Port Connections	1.1/4" BSP
Flow Rate	225 l/min for Return-Line application 46 l/min for Suction-Line application
Operating Pressure	Max. 12 bar / 174 PSI Max. 5 bar / 72.5 PSI differential pressure (for any applicaton without bypass valve)
Temperature Range	-30 °C ... +100 °C / -22 °F ... +212 °F
Media Compatibility	Mineral oils, other fluids on request

Suction-line

Order Code for Complete Assembly	Element				Seals	Ported	Clogging Indicator	Bypass Valve	
	Media	Length		Micron Rating µm				bar	PSI
		mm	inch						
SSF-20L-B0.2-4-SFC-5710-AE-V09	Inorg Glass Fibre	177	6.97	10	NBR	1.1/4 BSP	Visual	0.2	3
SSF-20L-B0.2-4-SFC-5725-AE-V09	Inorg Glass Fibre	177	6.97	25	NBR	1.1/4 BSP	Visual	0.2	3

Return-line

Order Code for Complete Assembly	Element				Seals	Ported	Clogging Indicator	Bypass Valve	
	Media	Length		Micron Rating µm				bar	PSI
		mm	inch						
SSF-20L-B1.7-4-SFC-5703-AE-V02	Inorg Glass Fibre	177	6.97	3	NBR	1.1/4 BSP	Visual	1.7	25
SSF-20L-B1.7-4-SFC-5710-AE-V02	Inorg Glass Fibre	177	6.97	10	NBR	1.1/4 BSP	Visual	1.7	25
SSF-20L-B1.7-4-SFC-5725-AE-V02	Inorg Glass Fibre	177	6.97	25	NBR	1.1/4 BSP	Visual	1.7	25
SSF-20L-B1.7-4-SFC-5803-AE-V02	Inorg Glass Fibre	226	8.9	3	NBR	1.1/4 BSP	Visual	1.7	25
SSF-20L-B1.7-4-SFC-5810-AE-V02	Inorg Glass Fibre	226	8.9	10	NBR	1.1/4 BSP	Visual	1.7	25
SSF-20L-B1.7-4-SFC-5825-AE-V02	Inorg Glass Fibre	226	8.9	25	NBR	1.1/4 BSP	Visual	1.7	25

Alternative Elements

Replace specified element (highlighted above in red) to suit your requirement.

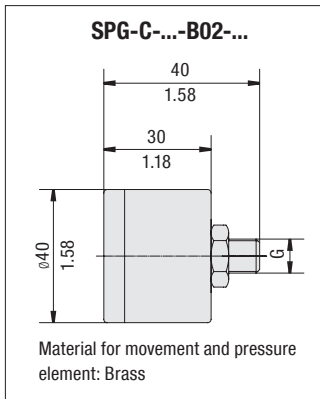
Order Code	Element	Length		Media	Micron Rating µm
		mm	inch		
1910000441	SFC-5710-E	177	6.97	Filter Paper	10
1910000444	SFC-5810-E	226	8.9	Filter Paper	10
1910000443	SFC-5725-E	117	6.97	Filter Paper	25
1910000670	SFC-5825-E	226	8.9	Filter Paper	25
1910000881	SFC-5703-AE	177	6.97	Inorg Glass Fibre	3
1910001654	SFC-5803-AE	226	8.9	Inorg Glass Fibre	3
1910000440	SFC-5710-AE	177	6.79	Inorg Glass Fibre	10
1910000836	SFC-5810-AE	226	8.9	Inorg Glass Fibre	10
1910001033	SFC-5725-AE	177	6.97	Inorg Glass Fibre	25
1020013981	SFC-5825-AE	226	8.9	Inorg Glass Fibre	25
1020013837	SF-6702-MG	270	10.6	Inorg Glass Fibre	1
1020013522	SF-6703-MG	168	6.6	Inorg Glass Fibre	3
1020013321	SF-6704-MG	270	10.6	Inorg Glass Fibre	3
1020013523	SF-6705-MG	168	6.6	Inorg Glass Fibre	6
1020013524	SF-6707-MG	270	10.6	Inorg Glass Fibre	6
1020013528	SF-6730-MG	168	6.6	Inorg Glass Fibre	12
1020013529	SF-6731-MG	270	10.6	Inorg Glass Fibre	12
1020013530	SF-6728-MG	168	6.6	Inorg Glass Fibre	25
1020013531	SF-6726-MG	270	10.6	Inorg Glass Fibre	25
1020013117	SF-6720	168	6.6	Filter Paper	10
1020013527	SF-6721	270	10.6	Filter Paper	10
1020013525	SF-6710	168	6.6	Filter Paper	25
1020013526	SF-6711	270	10.6	Filter Paper	25
1020013541	SF-6790	168	6.6	Stainless Wire Mesh	125
1020013543	SF-6791	270	10.6	Stainless Wire Mesh	125
1020013538	SF-6721-W	270	10.6	Water Absorbing	10

Flow charts for Filter Heads and Elements can be found on Page 83

Clogging Indicators & Switches ... Page 10

Clogging Indicators

Visual Indicators



SPG-C-...-B02-...
V01 & V02



SPG-C-...-B02-...
V09

Visual Pressure Clogging Indicators (for Spin-On Filter in Return-Line applications)							Order Code	Designation Code
Thread Connection G	Unit of scale	Range of scale	Coloured Segments					
			Green	Yellow	Red			
BSP	1/8	bar	0 ... 2,5	0 ... 1,2	1,2 ... 1,5	1,5 ... 2,5	1910001081	V01
	1/8	bar	0 ... 4	0 ... 2,5	2,5 ... 3	3 ... 4	1910000948	V02
Visual Vacuum Clogging Indicators (for Spin-On Filter in Suction-Line applications)							Order Code	Designation Code
BSP	1/8	cm Hg	-76 ... 0	-13 ... 0	-18 ... -13	-76 ... -18	1910000458	V09

Clogging Switch

Limit-Switch - G42NO - S - G02 - B1.3

①

②

③

④

⑤

① Type

Limit-Switch

② Connector Type

Electrical Clogging Switch 42 V, NO	G42NO
Electrical Clogging Switch 42 V, NC	G42NC
Electrical Clogging Switch 110 V ... 230 V, two-way contact (only for Plug Type W)	G230

③ Plug Type

M12 Five-Pin Connector according to IEC 61076-2-101 M12	
AMP-Junior-Timer Plug	A
DEUTSCH Plug DT04-2P	D
Rubber boot	S
90 degree Polyamide cap (only for Connector Type G230)	W

④ Thread Type

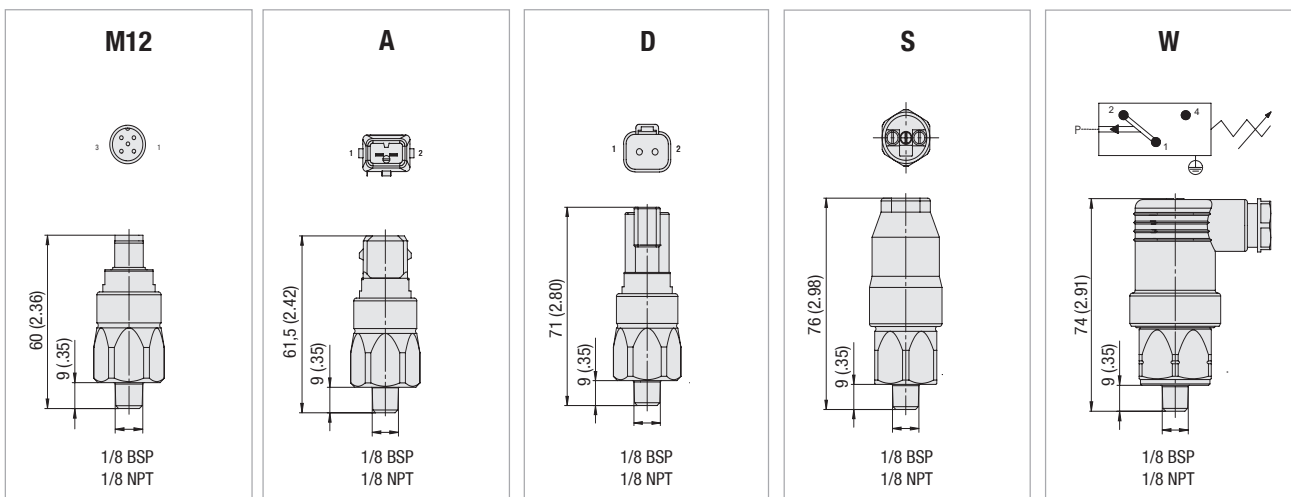
1/8 BSP	G02
1/8 NPT	N02

⑤ Pressure Setting

1,3 bar / 18.8 PSI	B1.3
-0,1 bar / -1.45 PSI*	B-0.1

*(only for Plug Type W and Connector Type G230)

Dimensions Plug Type



Note: The customer / user carries the responsibility for the electrical connection.

Dimensional drawings: All dimensions in mm/in.

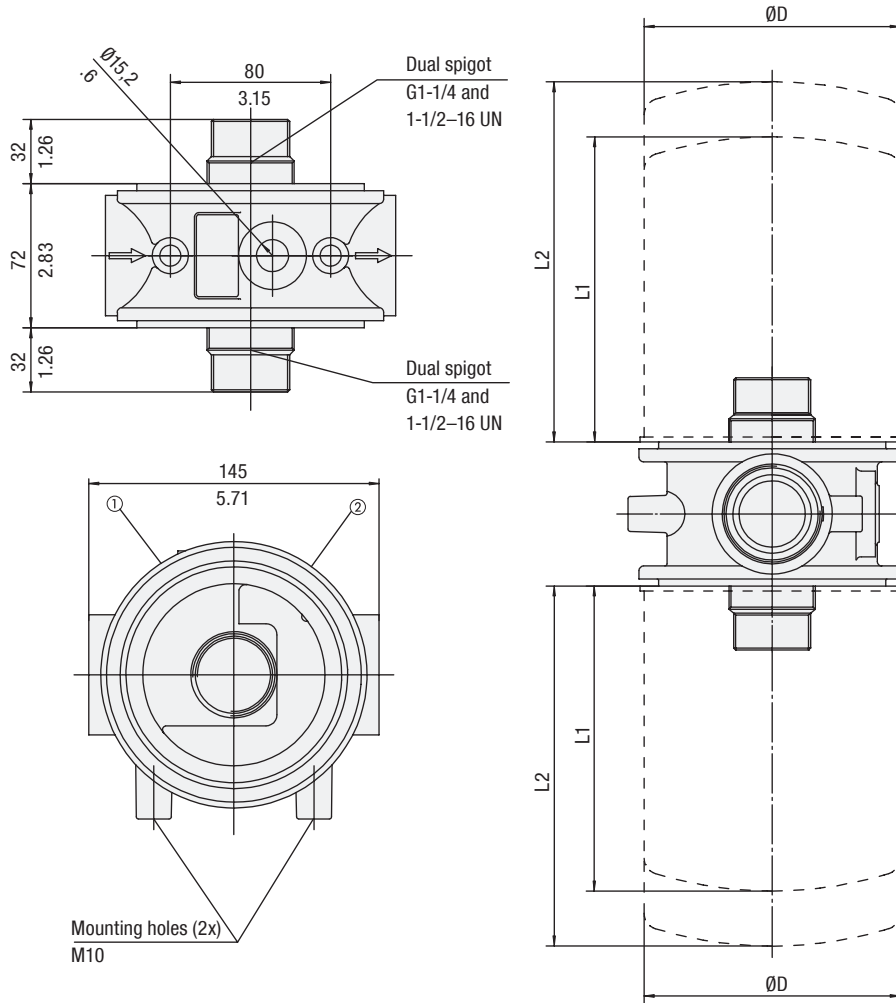
1.1/2" BSP Spin-on Filter Assembly Twin Head Type: SSF-24B

C



Construction	In-line Double Spin-On filter
Material	Aluminium
Port Connections	1.1/2" BSP
Flow Rate	454 l/min for Return-Line application 132 l/min for Suction-Line application
Operating Pressure	Max. 12 bar / 174 PSI Max. 5 bar / 72.5 PSI differential pressure (for any applicaton without bypass valve)
Temperature Range	-30 °C ... +100 °C / -22 °F ... +212 °F
Media Compatibility	Mineral oils, other fluids on request

Dimensions 1.1/2" BSP Spin-on Filter Assembly, Single Head Type: SSF-24B



Clearance for element removal: 40 / 1.58

Clogging Indicator Port: G1/8
 Pos. 1 for Return-Line application
 Pos. 2 for Suction-Line application

Element length L	L	ØD
L1 SFC-57	177	127
	6.97	5.0
L2 SFC-58	226	127
	8.90	5.0
L1 SF-67 short element	168	128
	6.60	5.10
L2 SF-67 long element	270	128
	10.60	5.10

Dimensions in mm / in

Construction	In-line Double Spin-On filter
Material	Aluminium
Port Connections	1 - 1/2" BSP
Flow Rate	454 l/min for Return-Line application 132 l/min for Suction-Line application
Operating Pressure	Max. 12 bar / 174 PSI Max. 5 bar / 72.5 PSI differential pressure (for any applicaton without bypass valve)
Temperature Range	-30 °C ... +100 °C / -22 °F ... +212 °F
Media Compatibility	Mineral oils, other fluids on request

Suction-line

Order Code for Complete Assembly	Element				Seals	Ported	Clogging Indicator	Bypass Valve	
	Media	Length		Micron Rating µm				bar	PSI
		mm	inch						
SSF-24B-0.2-4-SFC-5703-AE-V09	Inorg Glass Fibre	177	6.97	3	NBR	1.1/2 BSP	Visual	0.2	3
SSF-24B-0.2-4-SFC-5803-AE-V09	Inorg Glass Fibre	226	8.9	10	NBR	1.1/2 BSP	Visual	0.2	3
SSF-24B-0.2-4-SFC-5710-E-V09	Paper	177	6.97	10	NBR	1.1/2 BSP	Visual	0.2	3

Return-line

Order Code for Complete Assembly	Element				Seals	Ported	Clogging Indicator	Bypass Valve	
	Media	Length		Micron Rating µm				bar	PSI
		mm	inch						
SSF-24B-B1.7-4-SFC-5710-AE-V02	Inorg Glass Fibre	177	6.97	10	NBR	1.1/2 BSP	Visual	1.7	25
SSF-24B-B1.7-4-SFC-5725-E-V02	Paper	177	6.97	25	NBR	1.1/2 BSP	Visual	1.7	25
SSF-24B-B1.7-4-SF-6704-MG-V02	Inorg Glass Fibre	270	10.6	3	NBR	1.1/2 BSP	Visual	1.7	25

Alternative Elements

Replace specified element (highlighted above in red) to suit your requirement.

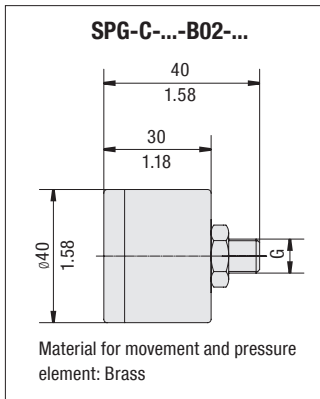
Order Code	Element	Length		Media	Micron Rating µm
		mm	inch		
1910000441	SFC-5710-E	177	6.97	Filter Paper	10
1910000444	SFC-5810-E	226	8.9	Filter Paper	10
1910000443	SFC-5725-E	117	6.97	Filter Paper	25
1910000670	SFC-5825-E	226	8.9	Filter Paper	25
1910000881	SFC-5703-AE	177	6.97	Inorg Glass Fibre	3
1910001654	SFC-5803-AE	226	8.9	Inorg Glass Fibre	3
1910000440	SFC-5710-AE	177	6.79	Inorg Glass Fibre	10
1910000836	SFC-5810-AE	226	8.9	Inorg Glass Fibre	10
1910001033	SFC-5725-AE	177	6.97	Inorg Glass Fibre	25
1020013981	SFC-5825-AE	226	8.9	Inorg Glass Fibre	25
1020013837	SF-6702-MG	270	10.6	Inorg Glass Fibre	1
1020013522	SF-6703-MG	168	6.6	Inorg Glass Fibre	3
1020013321	SF-6704-MG	270	10.6	Inorg Glass Fibre	3
1020013523	SF-6705-MG	168	6.6	Inorg Glass Fibre	6
1020013524	SF-6707-MG	270	10.6	Inorg Glass Fibre	6
1020013528	SF-6730-MG	168	6.6	Inorg Glass Fibre	12
1020013529	SF-6731-MG	270	10.6	Inorg Glass Fibre	12
1020013530	SF-6728-MG	168	6.6	Inorg Glass Fibre	25
1020013531	SF-6726-MG	270	10.6	Inorg Glass Fibre	25
1020013117	SF-6720	168	6.6	Filter Paper	10
1020013527	SF-6721	270	10.6	Filter Paper	10
1020013525	SF-6710	168	6.6	Filter Paper	25
1020013526	SF-6711	270	10.6	Filter Paper	25
1020013541	SF-6790	168	6.6	Stainless Wire Mesh	125
1020013543	SF-6791	270	10.6	Stainless Wire Mesh	125
1020013538	SF-6721-W	270	10.6	Water Absorbing	10

Flow charts for Filter Heads and Elements can be found on Page 84

Clogging Indicators & Switches ... Page 14

Clogging Indicators

Visual Indicators



SPG-C-...-B02-...
V01 & V02



SPG-C-...-B02-...
V09

Visual Pressure Clogging Indicators (for Spin-On Filter in Return-Line applications)							Order Code	Designation Code
Thread	Unit of scale	Range of scale	Coloured Segments					
Connection G			Green	Yellow	Red			
BSP	1/8	bar	0 ... 2,5	0 ... 1,2	1,2 ... 1,5	1,5 ... 2,5	1910001081	V01
	1/8	bar	0 ... 4	0 ... 2,5	2,5 ... 3	3 ... 4	1910000948	V02
Visual Vacuum Clogging Indicators (for Spin-On Filter in Suction-Line applications)							Order Code	
BSP	1/8	cm Hg	-76 ... 0	-13 ... 0	-18 ... -13	-76 ... -18	1910000458	V09

Clogging Switch

Limit-Switch - G42NO - S - G02 - B1.3

①

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① Type

Limit-Switch

② Connector Type

Electrical Clogging Switch 42 V, NO	G42NO
Electrical Clogging Switch 42 V, NC	G42NC
Electrical Clogging Switch 110 V ... 230 V, two-way contact (only for Plug Type W)	G230

③ Plug Type

M12 Five-Pin Connector according to IEC 61076-2-101 M12	
AMP-Junior-Timer Plug	A
DEUTSCH Plug DT04-2P	D
Rubber boot	S
90 degree Polyamide cap (only for Connector Type G230)	W

④ Thread Type

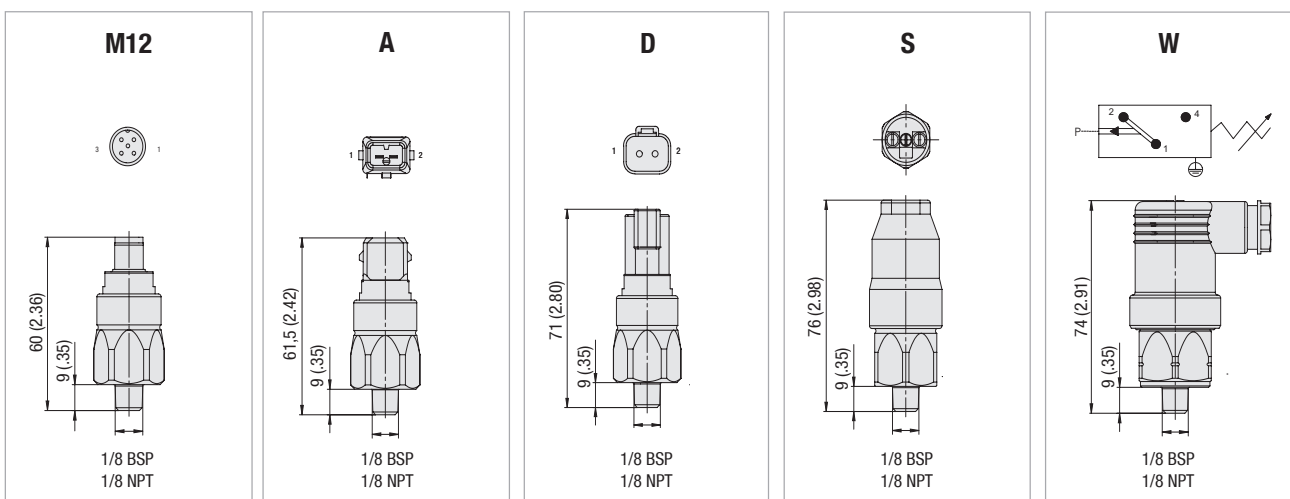
1/8 BSP	G02
1/8 NPT	N02

⑤ Pressure Setting

1,3 bar / 18.8 PSI	B1.3
-0,1 bar / -1.45 PSI*	B-0.1

*(only for Plug Type W and Connector Type G230)

Dimensions Plug Type



Note: The customer / user carries the responsibility for the electrical connection.

Dimensional drawings: All dimensions in mm/in.

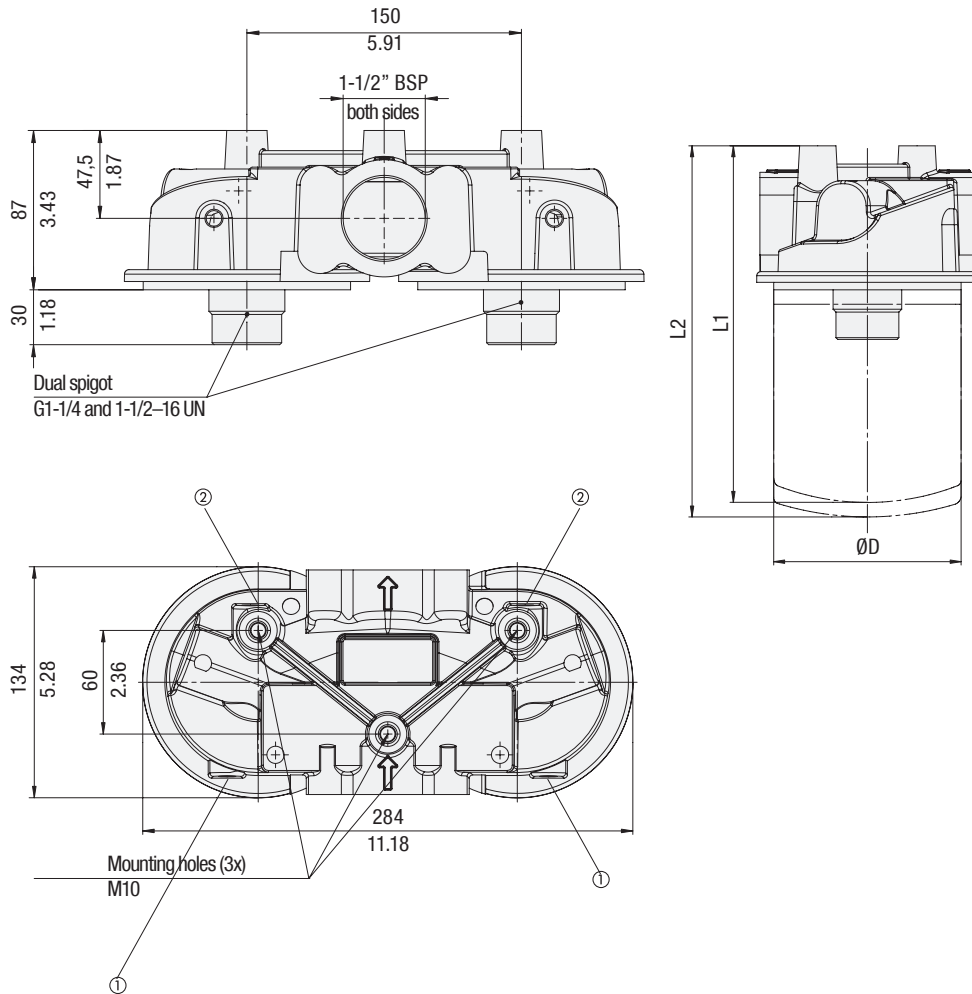
1.1/2" BSP Spin-on Filter Assembly Twin Head Type: SSF-25B



D

Construction	In-line Double Spin-On filter
Material	Aluminium
Port Connections	1.1/2" BSP
Flow Rate	454 l/min for Return-Line application 132 l/min for Suction-Line application
Operating Pressure	Max. 12 bar / 174 PSI Max. 5 bar / 72.5 PSI differential pressure (for any applicaton without bypass valve)
Temperature Range	-30 °C ... +100 °C / -22 °F ... +212 °F
Media Compatibility	Mineral oils, other fluids on request

Dimensions 1.1/2" BSP Spin-on Filter Assembly, Single Head Type: SSF-25B



Clearance for element removal: 40 / 1.58

Clogging Indicator Port: G1/8
 Pos. 1 for Return-Line application
 Pos. 2 for Suction-Line application

Element length L	L	ØD
L1 SFC-57	177	127
	6.97	5.0
L2 SFC-58	226	127
	8.90	5.0
L1 SF-67 short element	168	128
	6.60	5.10
L2 SF-67 long element	270	128
	10.60	5.10

Dimensions in mm / in

Construction	In-line Double Spin-On filter
Material	Aluminium
Port Connections	1.1/2" BSP
Flow Rate	454 l/min for Return-Line application 132 l/min for Suction-Line application
Operating Pressure	Max. 12 bar / 174 PSI Max. 5 bar / 72.5 PSI differential pressure (for any applicaton without bypass valve)
Temperature Range	-30 °C ... +100 °C / -22 °F ... +212 °F
Media Compatibility	Mineral oils, other fluids on request

Suction-line

Order Code for Complete Assembly	Element				Seals	Ported	Clogging Indicator	Bypass Valve	
	Media	Length		Micron Rating µm				bar	PSI
		mm	inch						
SSF-25B-B0.2-4-SFC-5710-AE-V09	Inorgan Glass Fibre	177	6.97	10	NBR	1-1/4 BSP	Visual	0.2	3
SSF-25B-B0.2-4-SF-6721-V09	Paper	270	10.6	10	NBR	1-1/4 BSP	Visual	0.2	3

Return-line

SSF-25B-B1.7-4-SFC-5710-AE-V02	Inorgan Glass Fibre	177	6.97	10	NBR	1-1/4 BSP	Visual	1.7	25
SSF-25B-B1.7-4-SFC-5710-E-V02	Paper	177	6.97	10	NBR	1-1/4 BSP	Visual	1.7	25
SSF-25B-B1.7-4-SF-6707-MG-V02	Inorgan Glass Fibre	270	10.6	6	NBR	1-1/4 BSP	Visual	1.7	25
SSF-25B-B1.7-4-SF-6721-W-V02	Water Absorbing	270	10.6	10	NBR	1-1/4 BSP	Visual	1.7	25

Alternative Elements

Replace specified element (highlighted above in red) to suit your requirement.

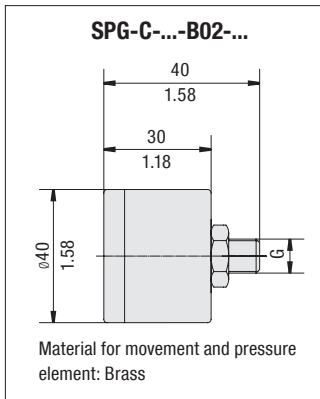
Order Code	Element	Length		Media	Micron Rating µm
		mm	inch		
1910000441	SFC-5710-E	177	6.97	Filter Paper	10
1910000444	SFC-5810-E	226	8.9	Filter Paper	10
1910000443	SFC-5725-E	117	6.97	Filter Paper	25
1910000670	SFC-5825-E	226	8.9	Filter Paper	25
1910000881	SFC-5703-AE	177	6.97	Inorg Glass Fibre	3
1910001654	SFC-5803-AE	226	8.9	Inorg Glass Fibre	3
1910000440	SFC-5710-AE	177	6.79	Inorg Glass Fibre	10
1910000836	SFC-5810-AE	226	8.9	Inorg Glass Fibre	10
1910001033	SFC-5725-AE	177	6.97	Inorg Glass Fibre	25
1020013981	SFC-5825-AE	226	8.9	Inorg Glass Fibre	25
1020013837	SF-6702-MG	270	10.6	Inorg Glass Fibre	1
1020013522	SF-6703-MG	168	6.6	Inorg Glass Fibre	3
1020013321	SF-6704-MG	270	10.6	Inorg Glass Fibre	3
1020013523	SF-6705-MG	168	6.6	Inorg Glass Fibre	6
1020013524	SF-6707-MG	270	10.6	Inorg Glass Fibre	6
1020013528	SF-6730-MG	168	6.6	Inorg Glass Fibre	12
1020013529	SF-6731-MG	270	10.6	Inorg Glass Fibre	12
1020013530	SF-6728-MG	168	6.6	Inorg Glass Fibre	25
1020013531	SF-6726-MG	270	10.6	Inorg Glass Fibre	25
1020013117	SF-6720	168	6.6	Filter Paper	10
1020013527	SF-6721	270	10.6	Filter Paper	10
1020013525	SF-6710	168	6.6	Filter Paper	25
1020013526	SF-6711	270	10.6	Filter Paper	25
1020013541	SF-6790	168	6.6	Stainless Wire Mesh	125
1020013543	SF-6791	270	10.6	Stainless Wire Mesh	125
1020013538	SF-6721-W	270	10.6	Water Absorbing	10

Flow charts for Filter Heads and Elements can be found on Page 84

Clogging Indicators & Switches ... Page 18

Clogging Indicators

Visual Indicators



SPG-C-...-B02-...
V02

Visual Pressure Clogging Indicators (for Spin-On Filter in Return-Line applications)						Order Code	Designation Code	
Thread Connection G	Unit of scale	Range of scale	Coloured Segments					
			Green	Yellow	Red			
BSP	1/8	bar	0 ... 4	0 ... 2,5	2,5 ... 3	3 ... 4	1910000948	V02

Clogging Switch

Limit-Switch - G42NO - S - G02 - B1.3

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① Type

Limit-Switch

② Connector Type

Electrical Clogging Switch 42 V, NO	G42NO
Electrical Clogging Switch 42 V, NC	G42NC
Electrical Clogging Switch 110 V ... 230 V, two-way contact (only for Plug Type W)	G230

③ Plug Type

M12 Five-Pin Connector according to IEC 61076-2-101 M12	
AMP-Junior-Timer Plug	A
DEUTSCH Plug DT04-2P	D
Rubber boot	S
90 degree Polyamide cap (only for Connector Type G230)	W

④ Thread Type

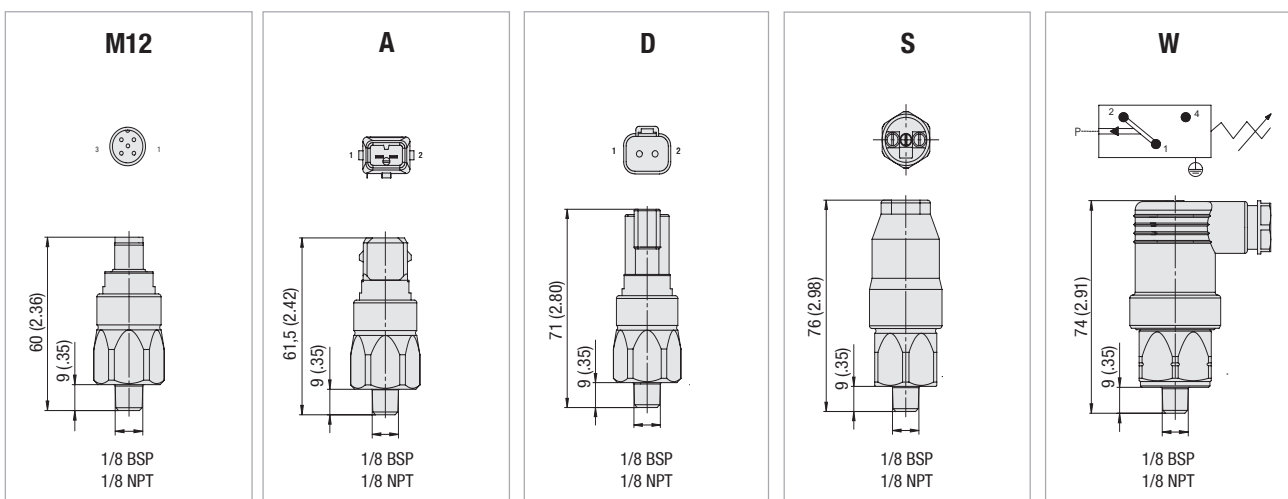
1/8 BSP	G02
1/8 NPT	N02

⑤ Pressure Setting

1,3 bar / 18.8 PSI	B1.3
-0,1 bar / -1.45 PSI*	B-0.1

*(only for Plug Type W and Connector Type G230)

Dimensions Plug Type



Note: The customer / user carries the responsibility for the electrical connection.

Dimensional drawings: All dimensions in mm/in.

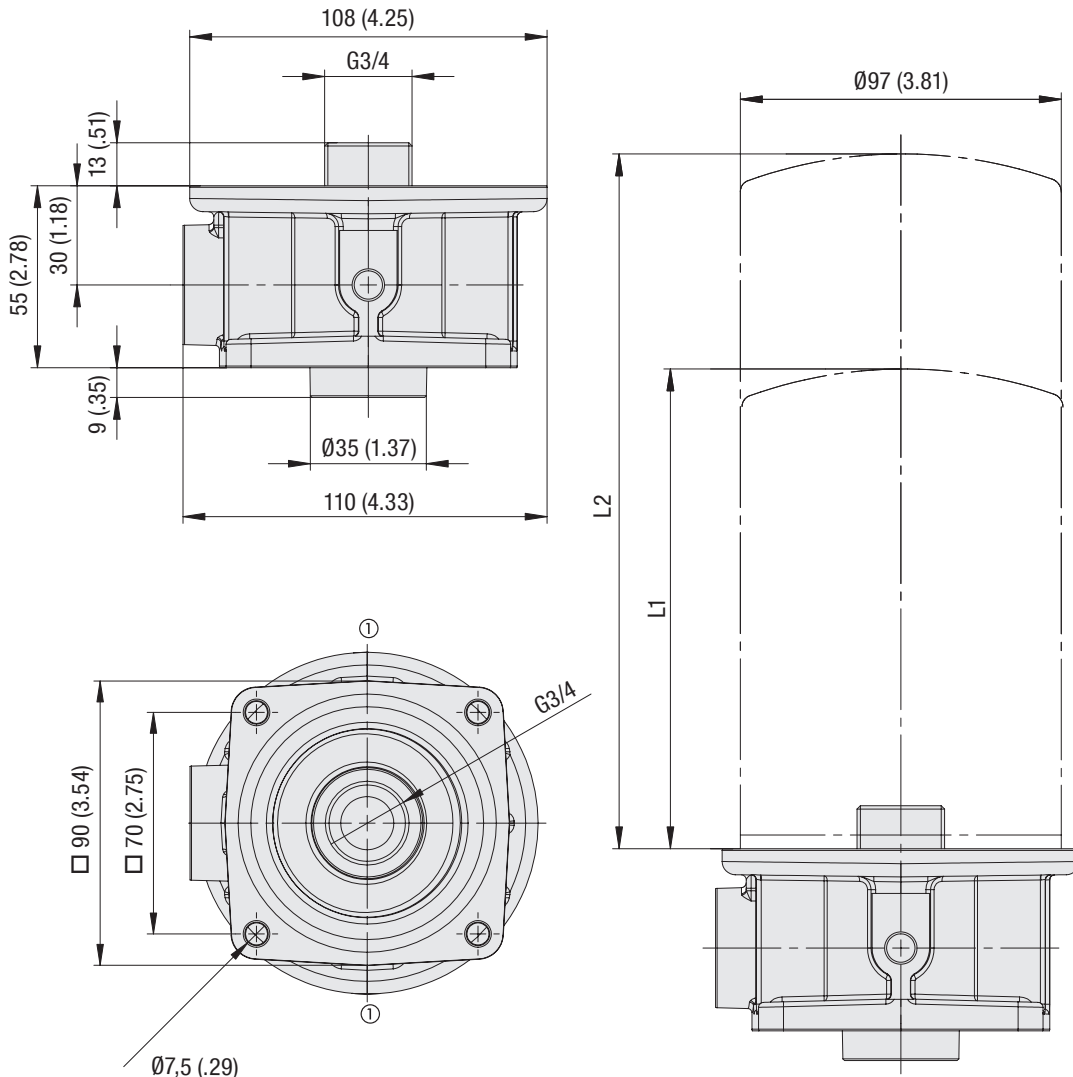
3/4" BSP Spin-on Filter Assembly Tank Top Type: SSFT-12B



Construction	Tank Top Spin-On filter
Material	Aluminium
Port Connections	3/4" BSP
Flow Rate	75 l/min
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

Dimensions

3/4" BSP Spin-on Filter Assembly, Tank Top Type: SSFT-12B



Clearance for element removal: 20 / .8

Clogging Indicator Ports: G1/8
Pos. 1 for Return-Line application

Element length L	
L1 SFCT-35	145
	5.71
L2 SFCT-36	210
	8.27

Dimensions in mm / in

Construction	Tank Top Spin-On filter
Material	Aluminium
Port Connections	3/4" BSP
Flow Rate	75 l/min
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

Return-line

Order Code for Complete Assembly	Element				Seals	Ported	Clogging Indicator	Bypass Valve	
	Media	Length		Micron Rating µm				bar	PSI
		mm	inch						
SSFT-12B-1-SFCT-3510-AE-V02	Inorg Glass Fibre	195	7.67	10	NBR	3/4BSP	Visual	1.7	25
SSFT-12B-1-SFCT-3625-AE-V02	Inorg Glass Fibre	260	10.24	25	NBR	3/4BSP	Visual	1.7	25

Alternative Elements

Replace specified element (highlighted above in red) to suit your requirement.

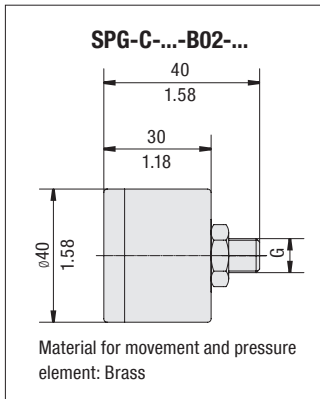
Order Code	Element	Length		Media	Micron Rating µm
		mm	inch		
1910000446	SFCT-3510-E	145	5.7	Filter Paper	10
1910000672	SFCT-3610-E	210	8.27	Filter Paper	10
1910000671	SFCT-3525-E	145	5.7	Filter Paper	25
1910000673	SFCT-3625-E	210	8.27	Filter Paper	25
1910000445	SFCT-3510-AE	145	5.7	Inorg Glass Fibre	10
1020013982	SFCT-3610-AE	210	8.27	Inorg Glass Fibre	10
1910001426	SFCT-3525-AE	145	5.7	Inorg Glass Fibre	25
1020013984	SFCT-3625-AE	210	8.27	Inorg Glass Fibre	25
1020013985	SFCT-3660-E	210	8.27	Wire Mesh	60
1910001425	SFCT-35125-E	145	5.7	Brass Mesh	125
1020013983	SFCT-36125-E	210	8.27	Brass Mesh	125

Flow charts for Filter Heads and Elements can be found on Page 84

Clogging Indicators & Switches ... Page 22

Clogging Indicators

Visual Indicators



SPG-C-...-B02-...
V02

Visual Pressure Clogging Indicators (for Spin-On Filter in Return-Line applications)							Order Code	Designation Code
Thread Connection G	Unit of scale	Range of scale	Coloured Segments					
			Green	Yellow	Red			
BSP	1/8	bar	0 ... 4	0 ... 2,5	2,5 ... 3	3 ... 4	1910000948	V02

Clogging Switch

Limit-Switch - G42NO - S - G02 - B1.3

①

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① Type

Limit-Switch

② Connector Type

Electrical Clogging Switch 42 V, NO	G42NO
Electrical Clogging Switch 42 V, NC	G42NC
Electrical Clogging Switch 110 V ... 230 V, two-way contact (only for Plug Type W)	G230

③ Plug Type

M12 Five-Pin Connector according to IEC 61076-2-101 M12	
AMP-Junior-Timer Plug	A
DEUTSCH Plug DT04-2P	D
Rubber boot	S
90 degree Polyamide cap (only for Connector Type G230)	W

④ Thread Type

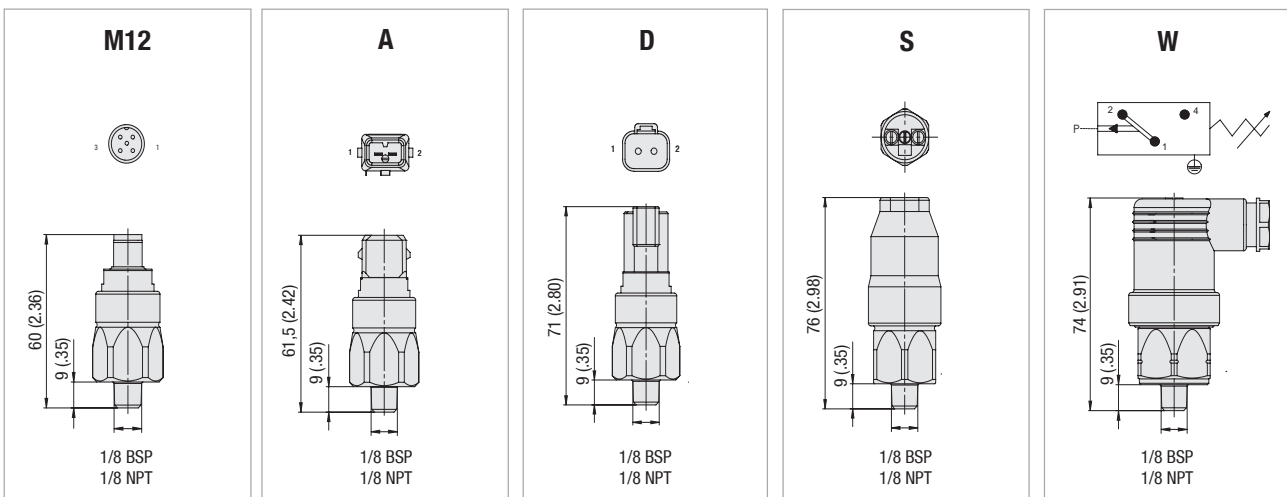
1/8 BSP	G02
1/8 NPT	N02

⑤ Pressure Setting

1,3 bar / 18.8 PSI	B1.3
-0,1 bar / -1.45 PSI*	B-0.1

*(only for Plug Type W and Connector Type G230)

Dimensions Plug Type



Note: The customer / user carries the responsibility for the electrical connection.

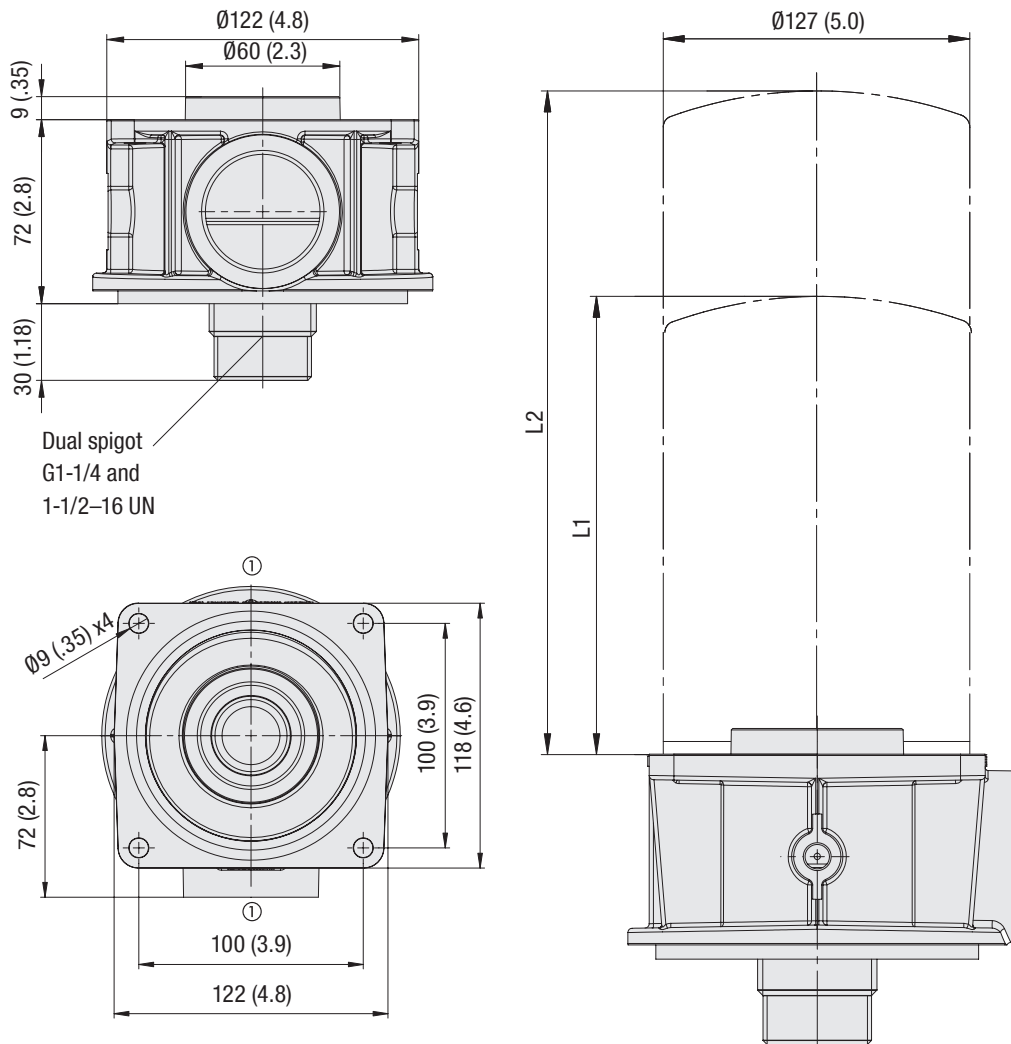
Dimensional drawings: All dimensions in mm/in.

1.1/2" BSP Spin-on Filter Assembly Tank Top Type: SSFT-20B



Construction	Tank Top Spin-On filter
Material	Aluminium
Port Connections	1.1/2" BSP
Flow Rate	200 l/min
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

Dimensions 1.1/2" BSP Spin-on Filter Assembly, Tank Top Type: SSFT-20B



Dual spigot
G1-1/4 and
1-1/2-16 UN

Clearance for element removal: 20 / .8

Clogging Indicator Ports: G1/8
Pos. 1 for Return-Line application

Element length L	
L1 SFCT-57	177
	6.97
L2 SFCT-58	226
	8.90

Dimensions in mm / in

Construction	Tank Top Spin-On filter
Material	Aluminium
Port Connections	1.1/2" BSP
Flow Rate	200 l/min
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

Return-line

Order Code for Complete Assembly	Element				Seals	Ported	Clogging Indicator	Bypass Valve	
	Media	Length		Micron Rating µm				bar	PSI
		mm	inch						
SSFT-20B-1-SFCT-5710-AE-V02	Inorg Glass Fibre	195	7.67	10	NBR	1-1/2BSP	Visual	1.7	25
SSFT-20B-1-SFCT-5825-AE-V02	Inorg Glass Fibre	260	10.24	25	NBR	1-1/2BSP	Visual	1.7	25

Alternative Elements

Replace specified element (highlighted above in red) to suit your requirement.

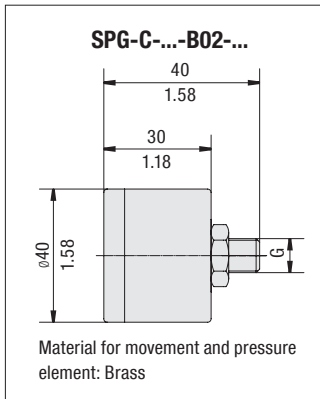
Order Code	Element	Length		Media	Micron Rating µm
		mm	inch		
1910000448	SFCT-5710-E	177	6.97	Filter Paper	10
1910000675	SFCT-5810-E	226	8.9	Filter Paper	10
1910000674	SFCT-5725-E	177	6.97	Filter Paper	25
1910000676	SFCT-5825-E	226	8.9	Filter Paper	25
6100025561	SFCT-5703-AE	177	6.97	Inorg Glass Fibre	3
6100025562	SFCT-5803-AE	226	8.9	Inorg Glass Fibre	3
1910000447	SFCT-5710-AE	177	6.97	Inorg Glass Fibre	10
1020013987	SFCT-5810-AE	226	8.9	Inorg Glass Fibre	10
1910001428	SFCT-5725-AE	117	6.97	Inorg Glass Fibre	25
1020013988	SFCT-5825-AE	226	8.9	Inorg Glass Fibre	25
1020013986	SFCT-5760-E	177	6.97	Wire Mesh	60
1020013989	SFCT-5860-E	226	8.9	Wire Mesh	60
1910001427	SFCT-57125-E	177	6.97	Brass Mesh	125
1910001734	SFCT-58125-E	226	8.9	Brass Mesh	125

Flow charts for Filter Heads and Elements can be found on Page 85

Clogging Indicators & Switches ... Page 26

Clogging Indicators

Visual Indicators



SPG-C-...-B02-...
V02

Visual Pressure Clogging Indicators (for Spin-On Filter in Return-Line applications)							Order Code	Designation Code
Thread Connection G	Unit of scale	Range of scale	Coloured Segments					
			Green	Yellow	Red			
BSP	1/8	bar	0 ... 4	0 ... 2,5	2,5 ... 3	3 ... 4	1910000948	V02

Clogging Switch

Limit-Switch - G42NO - S - G02 - B1.3

①

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⑤

① Type

Limit-Switch

② Connector Type

Electrical Clogging Switch 42 V, NO	G42NO
Electrical Clogging Switch 42 V, NC	G42NC
Electrical Clogging Switch 110 V ... 230 V, two-way contact (only for Plug Type W)	G230

③ Plug Type

M12 Five-Pin Connector according to IEC 61076-2-101 M12	
AMP-Junior-Timer Plug	A
DEUTSCH Plug DT04-2P	D
Rubber boot	S
90 degree Polyamide cap (only for Connector Type G230)	W

④ Thread Type

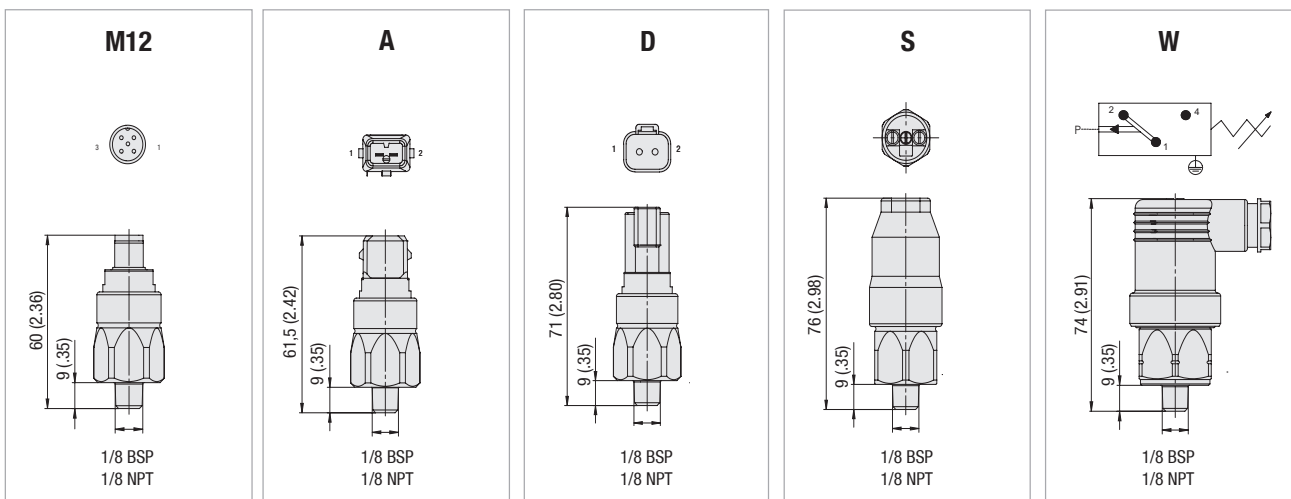
1/8 BSP	G02
1/8 NPT	N02

⑤ Pressure Setting

1,3 bar / 18.8 PSI	B1.3
-0,1 bar / -1.45 PSI*	B-0.1

*(only for Plug Type W and Connector Type G230)

Dimensions Plug Type



Note: The customer / user carries the responsibility for the electrical connection.

Dimensional drawings: All dimensions in mm/in.

1/2" BSP & 1" BSP Return-Line Filter Assembly Type RTF-10 & 25

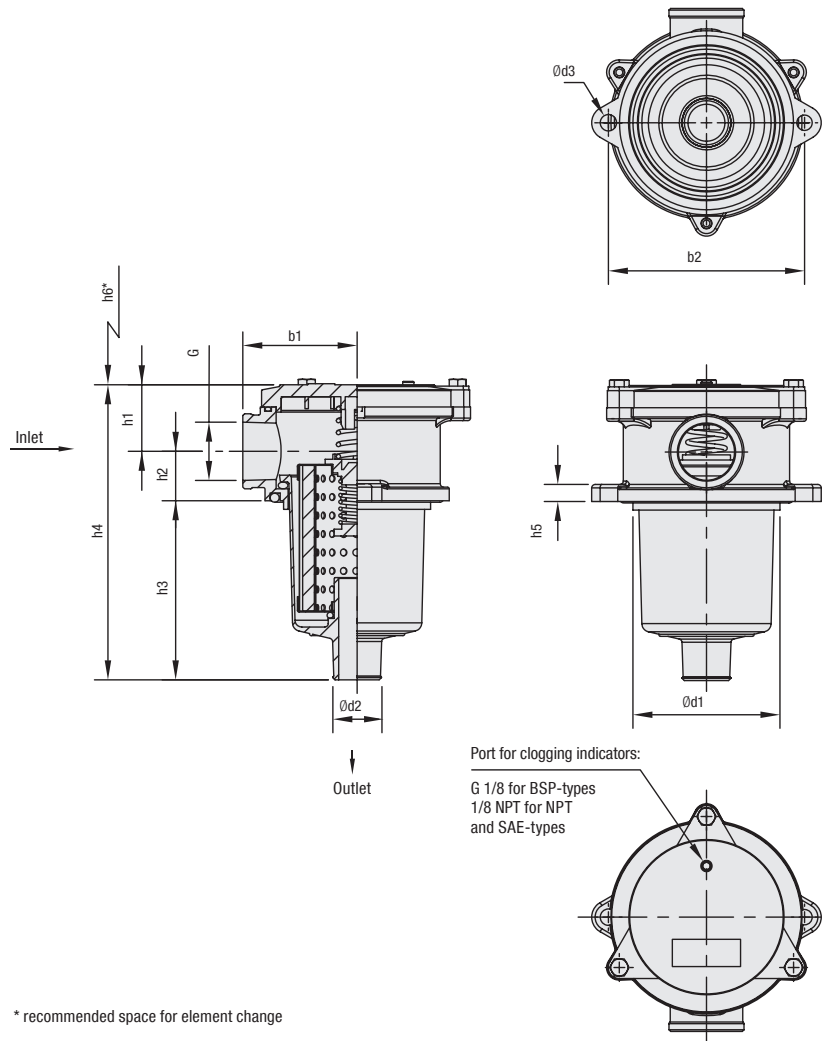


G

Construction	Tank Top flange mounting
Materials	Filter head: Aluminium Filter bowl: Polyamide Seals: NBR (Buna-N®) FKM/FPM (Viton®) - Other seals available on request
Port Connections	1/2" & 1" BSP
Flow Rate	Up to 90 l/min
Operating Pressure	Max. 3.4 bar / 49 PSI
Temperature Range	-25 °C ... +95 °C / -13 °F ... +203 °F
Media Compatibility	Mineral oils, other fluids on request

Dimensions 1/2" BSP & 1" BSP Return-Line Filter Assembly Type RTF-10 & 25

Dimensions (mm/in)	Filter Size RTF	
	10	25
h1	26	34
	1.02	1.34
h2	21	29
	.83	1.14
h3	85	151
	3.34	5.95
h4	129	212
	5.07	8.35
h5	8	10
	.32	.39
h6	110	175
	4.33	6.89
b1	50	67
	1.97	2.64
b2	90	115
	3.54	4.52
d1	66	86
	2.60	3.39
d2	24	28
	.94	1.10
d3	7	9
	.28	.35
Weight (kg/lbs)	0,45	1
	1	2.2



* recommended space for element change

Port Thread Connection G	Filter Size RTF	
	10	25
BSP	1/2	1

Construction Materials

Tank Top flange mounting
 Filter head: Aluminium
 Filter bowl: Polyamide
 Seals: NBR (Buna-N®)
 FKM/FPM (Viton®) - Other seals available on request

Port Connections

1/2" & 1" BSP

Flow Rate

Up to 90 l/min

Operating Pressure

Max. 3.4 bar / 49 PSI

Temperature Range

-25 °C ... +95 °C / -13 °F ... +203 °F

Media Compatibility

Mineral oils, other fluids on request

Return-line

Order Code for Complete Assembly	Element				Seals	Ported	Clogging Indicator	Bypass Valve	
	Media	Length		Micron Rating µm				bar	PSI
		mm	inch						
RTF-10-D-25-B-G08-V02	Paper	129	5.07	25	NBR	1 BSP	Visual	1.7	25
RTF-10-G-10-B-G08-V02	Inorg Glass Fibre	129	5.07	10	NBR	1 BSP	Visual	1.7	25
RTF-25-D-25-B-G16-V02	Paper	212	8.35	25	NBR	1 BSP	Visual	1.7	25
RTF-25-G-10-B-G16-V02	Inorg Glass Fibre	212	8.35	10	NBR	1 BSP	Visual	1.7	25

Alternative Elements

Replace specified element (highlighted above in red) to suit your requirement.

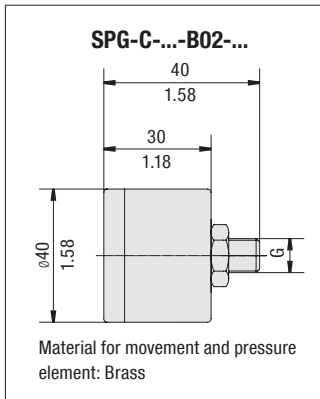
Order Code	Element	Seals	Media	Micron Rating µm
1020013925	RTE-10-D-25-B	NBR	Paper	25
1020013417	RTE-10-G-10-B	NBR	Inorgan Glass Fibre	10
1020013423	RTE-25-D-10-B	NBR	Paper	10
1020013425	RTE-25-G-10-B	NBR	Inorgan Glass Fibre	10

Flow charts for Filter Heads and Elements can be found on Page 85

Clogging Indicators & Switches ... Page 30

Clogging Indicators

Visual Indicators



SPG-C-...-B02-...
V02

Visual Pressure Clogging Indicators (for Spin-On Filter in Return-Line applications)							Order Code	Designation Code
Thread Connection G	Unit of scale	Range of scale	Coloured Segments					
			Green	Yellow	Red			
BSP	1/8	bar	0 ... 4	0 ... 2,5	2,5 ... 3	3 ... 4	1910000948	V02

Clogging Switch

Limit-Switch - G42NO - S - G02 - B1.3

①

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① Type

Limit-Switch

② Connector Type

Electrical Clogging Switch 42 V, NO	G42NO
Electrical Clogging Switch 42 V, NC	G42NC
Electrical Clogging Switch 110 V ... 230 V, two-way contact (only for Plug Type W)	G230

③ Plug Type

M12 Five-Pin Connector according to IEC 61076-2-101 M12	
AMP-Junior-Timer Plug	A
DEUTSCH Plug DT04-2P	D
Rubber boot	S
90 degree Polyamide cap	W
(only for Connector Type G230)	

④ Thread Type

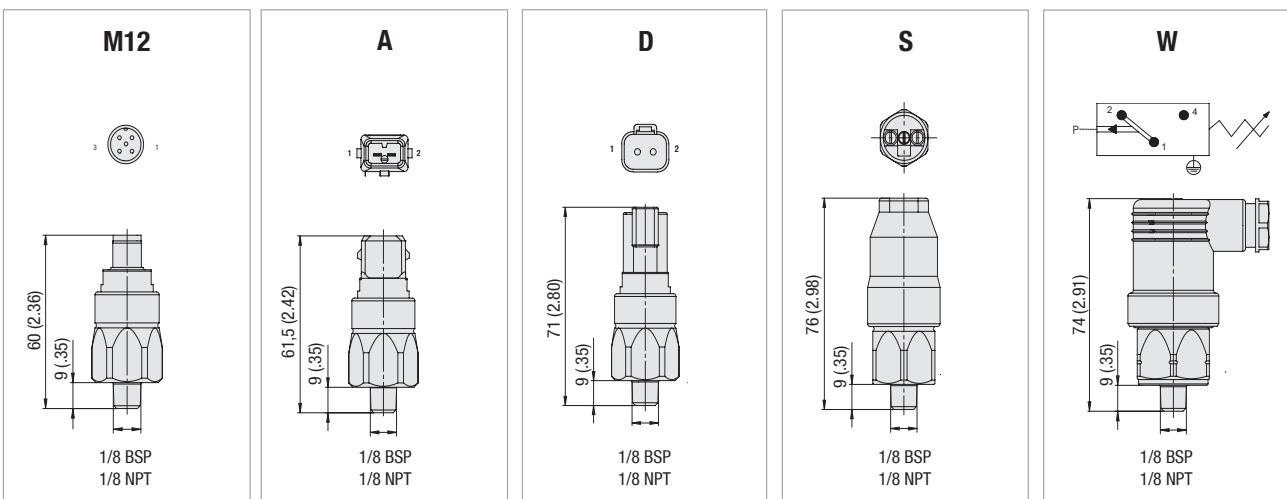
1/8 BSP	G02
1/8 NPT	N02

⑤ Pressure Setting

1,3 bar / 18.8 PSI	B1.3
-0,1 bar / -1.45 PSI*	B-0.1

*(only for Plug Type W and Connector Type G230)

Dimensions Plug Type



Note: The customer / user carries the responsibility for the electrical connection.

Dimensional drawings: All dimensions in mm/in.

3/4" BSP - 2" BSP Return-Line Filter Assembly Type RF

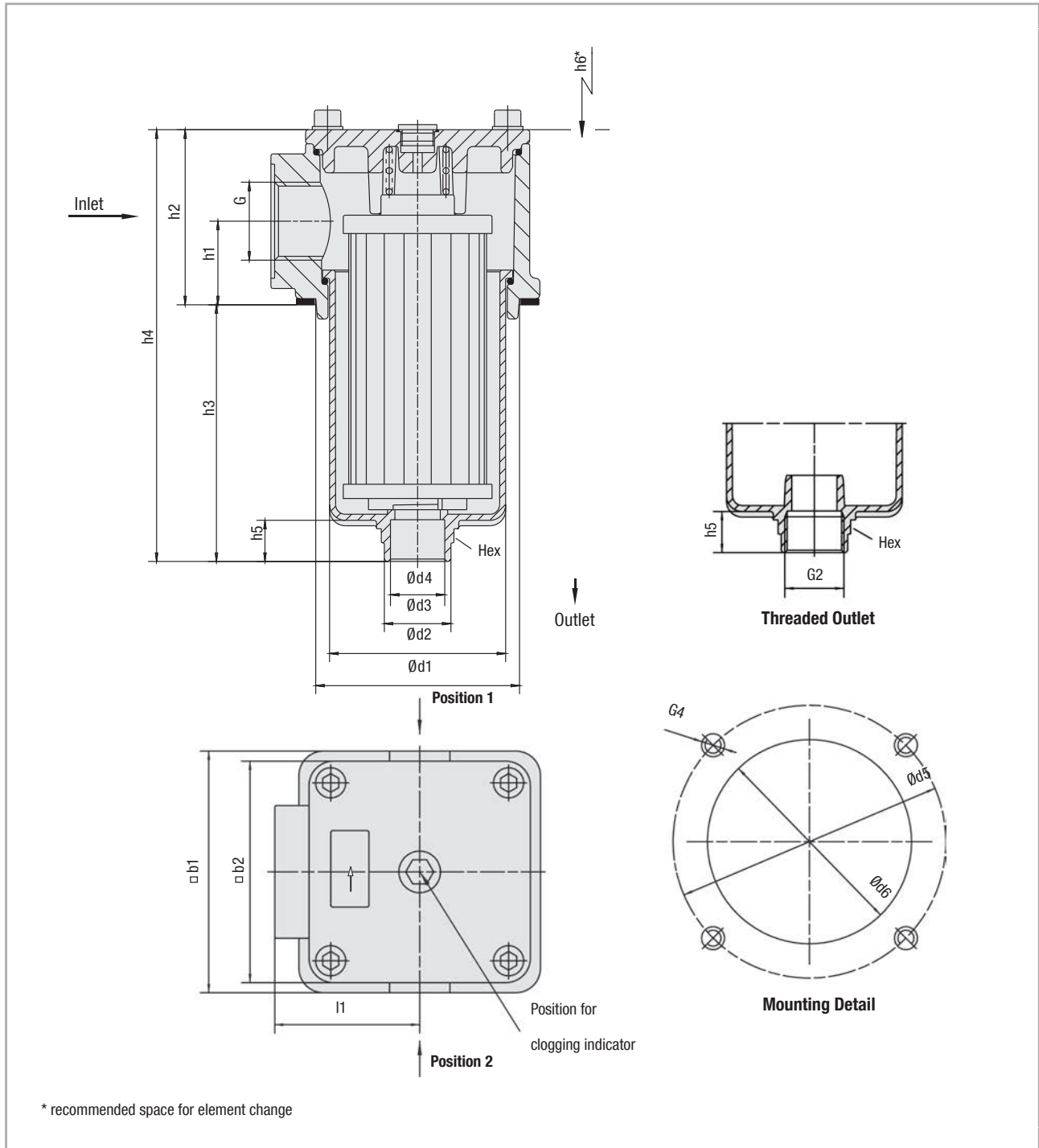


H

Construction	Tank Top flange mounting
Materials	Filter head: Aluminium Filter bowl and cup: Glass Fibre Reinforced Polyamide Seals: NBR (Buna-N®) FKM/FPM (Viton®) EPDM (Ethylene Propylene Diene Monomer Rubber) Other seals available on request
Port Connections	3/4" - 2" BSP
Operating Pressure	Max. 16 bar / 232 PSI
Temperature Range	-10°C ... +100°C / +14°F ... +212°F
Media Compatibility	Mineral oils, other fluids on request

Dimensions

3/4" BSP - 2" BSP Return-Line Filter Assembly Type RF



Construction Materials

Tank Top flange mounting
 Filter head: Aluminium
 Filter bowl and cup: Glass Fibre Reinforced Polyamide
 Seals: NBR (Buna-N®)
 FKM/FPM (Viton®)
 EPDM (Ethylene Propylene Diene Monomer Rubber)
 Other seals available on request

Port Connections
Operating Pressure
Temperature Range
Media Compatibility

3/4" - 2" BSP
 Max. 16 bar / 232 PSI
 -10°C ... +100°C / +14°F ... +212°F
 Mineral oils, other fluids on request

Thread Connection G	Filter Size RF					
	014	030	045	070	090	130
BSP	3/4	1	1-1/4	1-1/2	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	17	17	28	28	37,5	37,5
	.67	.67	1.1	1.1	1.48	1.48
d5	100	100	135	135	170	170
	3.94	3.94	5.31	5.31	6.69	6.69
d6	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

Flow charts for Filter Heads and Elements can be found on Page 86
 Clogging Indicators & Switches ... Page 35

Return-line 3/4" BSP - 2" BSP Return-Line Filter Assembly Type RF

Order Code for Complete Assembly	Element				Seals	Ported	Clogging Indicator	Bypass Valve	
	Media	Length		Micron Rating µm				bar	PSI
		mm	inch						
RF-014-G-10-B-G12-V02	Inorgan Glass Fibre	157.5	6.2	10	NBR	3/4 BSP	Visual	3	43.5
RF-014-G-20-B-G16-V02	Inorgan Glass Fibre	157.5	6.2	20	NBR	1" BSP	Visual	3	43.5
RF-030-G-10-B-G12-V02	Inorgan Glass Fibre	225.5	8.88	10	NBR	3/4 BSP	Visual	3	43.5
RF-030-G-10-B-G16-V02	Inorgan Glass Fibre	225.5	8.88	10	NBR	1" BSP	Visual	3	43.5
RF-045-G-10-B-G20-V02	Inorgan Glass Fibre	206	8.11	10	NBR	1-1/4 BSP	Visual	3	43.5
RF-045-G-10-B-G24-V02	Inorgan Glass Fibre	206	8.11	10	NBR	1-1/2 BSP	Visual	3	43.5
RF-070-G-10-B-G20-V02	Inorgan Glass Fibre	267	10.51	10	NBR	1-1/4 BSP	Visual	3	43.5
RF-070-G-05-B-G24-V02	Inorgan Glass Fibre	267	10.51	5	NBR	1-1/2 BSP	Visual	3	43.5
RF-090-G-05-B-G32-V02	Inorgan Glass Fibre	273.5	10.77	5	NBR	2" BSP	Visual	3	43.5
RF-090-G-10-B-G32-V02	Inorgan Glass Fibre	273.5	10.77	10	NBR	2" BSP	Visual	3	43.5

Alternative Elements

Replace specified element (highlighted above in red) to suit your requirement.

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	10, 20	A
Filter paper	10 bar / 145 PSI	10, 20	N
Stainless mesh	30 bar / 435 PSI	25, 50, 100, 200	S

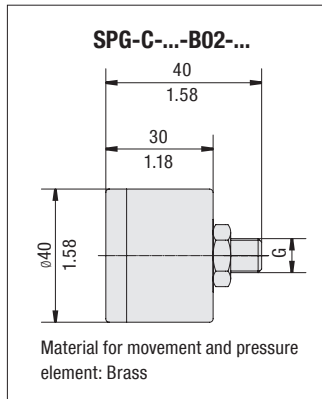
Note: *Collapse/burst resistance as per ISO 2941. Other materials on request.

Flow charts for Filter Heads and Elements can be found on Page 86

Clogging Indicators & Switches ... Page 35

Clogging Indicators

Visual Indicators



SPG-C-...-B02-...
V02

Visual Pressure Clogging Indicators (for Spin-On Filter in Return-Line applications)							Order Code	Designation Code
Thread Connection G	Unit of scale	Range of scale	Coloured Segments					
			Green	Yellow	Red			
BSP	1/8	bar	0 ... 4	0 ... 2,5	2,5 ... 3	3 ... 4	1910000948	V02

Electrical Clogging Switch

The switch is used where an electrical signal is needed to indicate when the element needs to be changed. 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.

Standard type with plug connector and rubber cap. Available with DEUTSCH DT04-2P plug (industrial standard), AMP Junior Timer plug (industrial standard) and five-pin circular connector M12, A-coded, according to IEC 61076-2-101.

Order Code

Limit-Switch - **G42NO** - **S** - **M10** - **B2.5**

①

②

③

④

⑤

① Type

Limit-Switch

② Connector Type

Electrical Clogging Switch 42 V, NO	G42NO
Electrical Clogging Switch 42 V, NC	G42NC
Electrical Clogging Switch 110 V ... 230 V, two-way contact (only for Plug Type W)	G230

③ Plug Type

M12 Five-Pin Connector according to IEC 61076-2-101	M12
AMP-Junior-Timer Plug	A
DEUTSCH Plug DT04-2P	D
Rubber boot	S
90 degree Polyamide cap (only for Connector Type G230)	W

④ Thread Type

M10 x 1

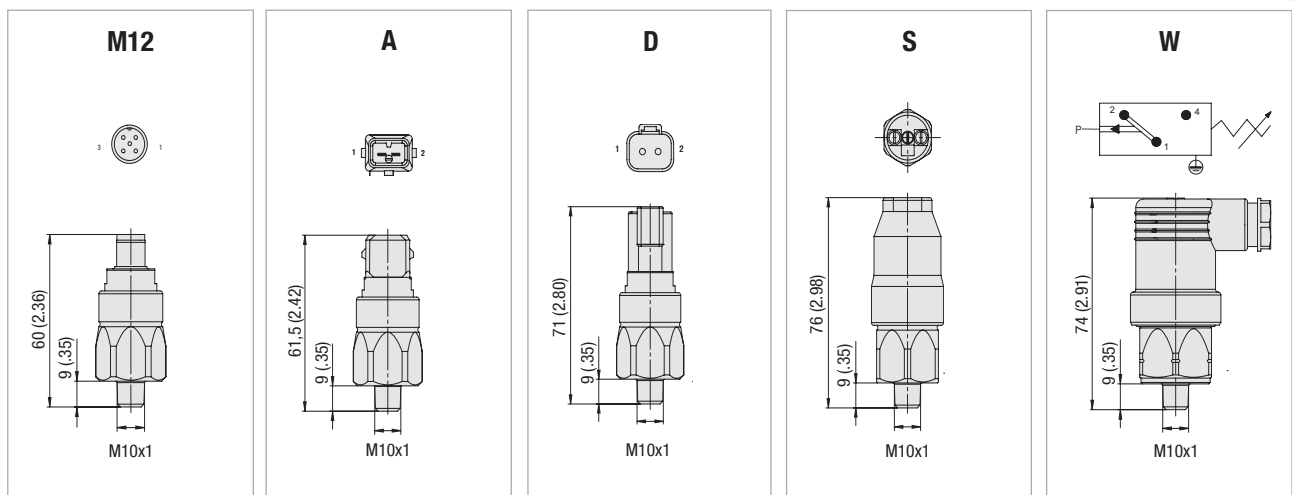
M10

⑤ Pressure Setting

2,5 bar / 36.3 PSI

B2.5

Dimensions Plug Type



Note: The customer / user carries the responsibility for the electrical connection.

Dimensional drawings: All dimensions in mm/in.

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
- Donaldson
- Eppensteiner Bosch Rexroth
- Fairey Arlon
- Hydac
- Mahle
- Internormen
- Pall
- Parker
- Other types are available on request

STAUFF offers many options for filter conversion, design and calculation and supports interested parties and customers with the design of efficient solutions:

- 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 B value stability:

- Inorganic glass fibre, filter paper, stainless fibre (micron ratings between 3 µm and 25 µm respectively) as well as stainless mesh (micron ratings between 10 µm and 1000 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.

Find the suitable STAUFF replacement filter element at

www.filterinterchange.com



It's this easy:



search



enquire



save

Your advantages:

- Over 65000 datasets from various manufacturers
- Conversion for all common filter brands and types
- Watch list function for storing search results
- Request price and delivery time with enquiry history



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Immediate access to and free download of 3D models and 2D drawings for a growing number of STAUFF products

www.filterinterchange.com

Online database for the quick and easy identification and interchange of almost all common brands and types of replacement filter elements

1" BSP Return-Line Filter Assembly Type RFB 046 & 052



**Construction
Materials**

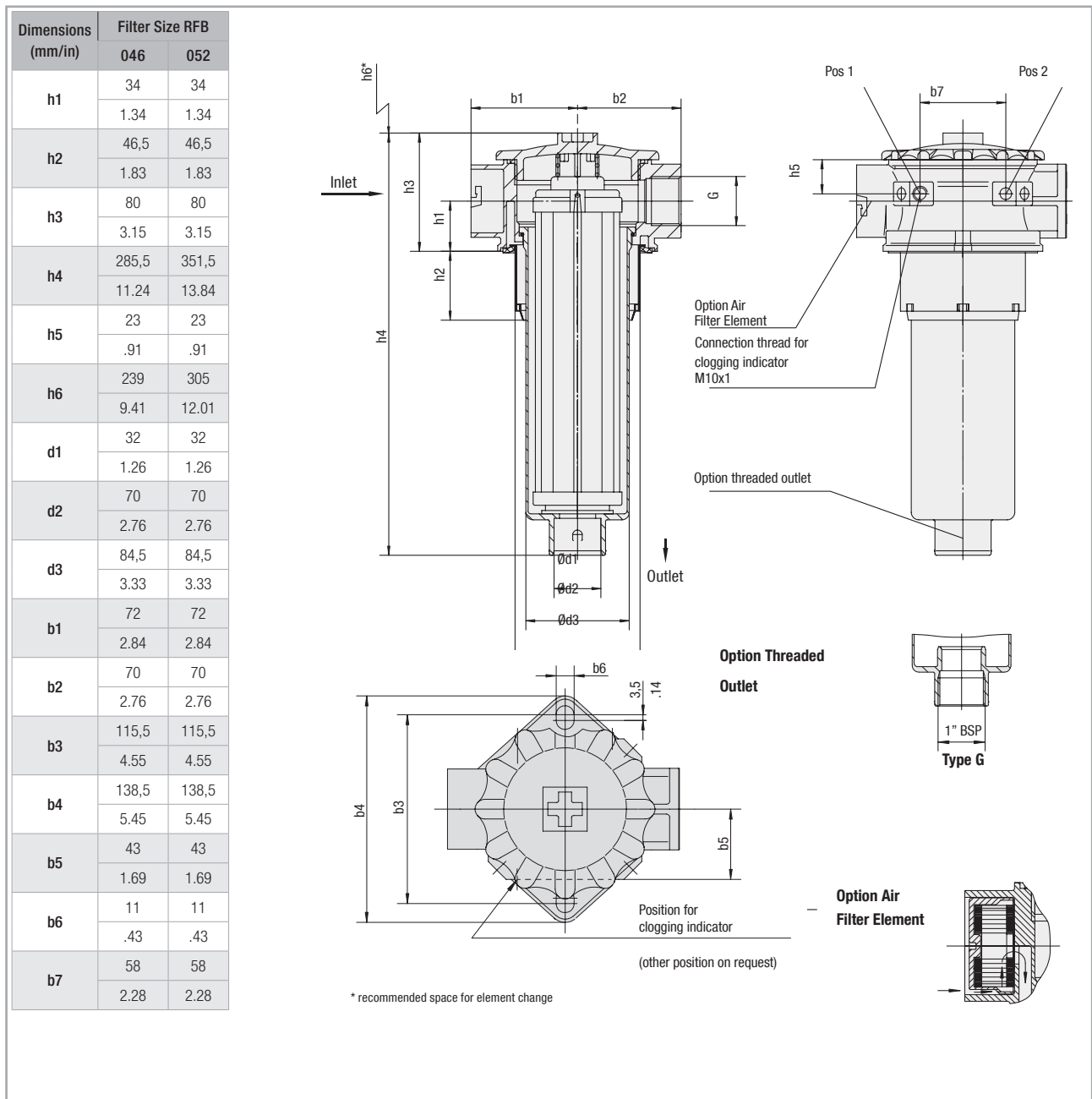
Tank Top flange mounting
 Filter head: Aluminium
 Filter bowl and cup: Glass Fibre Reinforced Polyamide
 Seals: NBR (Buna-N®)
 FKM/FPM (Viton®)
 EPDM (Ethylene Propylene Diene Monomer Rubber)
 Other seals available on request

**Port Connections
Operating Pressure
Temperature Range
Media Compatibility**

1" BSP
 Max. 10 bar / 145 PSI
 -10°C ... +100°C / +14°F ... +212°F
 Mineral oils, other fluids on request

Dimensions

1" BSP Return-Line Filter Assembly Type RFB-046 & 052



Construction Materials

Tank Top flange mounting
 Filter head: Aluminium
 Filter bowl and cup: Glass Fibre Reinforced Polyamide
 Seals: NBR (Buna-N®)
 FKM/FPM (Viton®)
 EPDM (Ethylene Propylene Diene Monomer Rubber)
 Other seals available on request

Port Connections Operating Pressure Temperature Range Media Compatibility

1" BSP
 Max. 10 bar / 145 PSI
 -10°C ... +100°C / +14°F ... +212°F
 Mineral oils, other fluids on request

Return-line

Order Code for Complete Assembly	Element				Seals	Ported	Clogging Indicator	Bypass Valve	
	Media	Length		Micron Rating µm				bar	PSI
		mm	inch						
RFB-046-G-5-B-G16-V-G-V02	Inorgan Glass Fibre	285.5	11.24	5	NBR	1" BSP	Visual	3	43.5
RFB-046-G-10-B-G16-V-G-V02	Inorgan Glass Fibre	285.5	11.24	10	NBR	1" BSP	Visual	3	43.5
RFB-052-G-3-B-G16-V-G-V02	Inorgan Glass Fibre	351.5	13.84	3	NBR	1" BSP	Visual	3	43.5
RFB-052-G-10-B-G16-V-G-V02	Inorgan Glass Fibre	351.5	13.84	10	NBR	1" BSP	Visual	3	43.5
RFB-052-G-20-B-G16-V-G-V02	Inorgan Glass Fibre	351.5	13.84	20	NBR	1" BSP	Visual	3	43.5
RFB-052-G-25-B-G16-V-G-V02	Inorgan Glass Fibre	351.5	13.84	25	NBR	1" BSP	Visual	3	43.5
RFB-052-G-20-B-G16-V-G-V02	Inorgan Glass Fibre	351.5	13.84	10	NBR	1" BSP	Visual	3	43.5
RFB-052-G-10-B-G16-V-G-V02	Inorgan Glass Fibre	351.5	13.84	20	NBR	1" BSP	Visual	3	43.5

Alternative Elements

Replace specified element (highlighted above in red) to suit your requirement.

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.

Flow charts for Filter Heads and Elements can be found on Page 87

Clogging Indicators & Switches ... Page 40

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

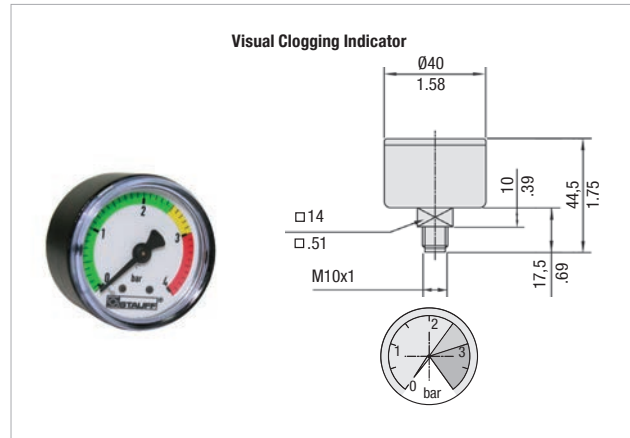
Order Codes

SPG-C-040-00004-02-P-M10-402922



① Type

Visual Clogging Indicator SPG-C-040-00004-02-P-M10-402922



Electrical Clogging Switch

The switch is used where an electrical signal is needed to indicate when the element needs to be changed. 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.

Standard type with plug connector and rubber cap. Available with DEUTSCH DT04-2P plug (industrial standard), AMP Junior Timer plug (industrial standard) and five-pin circular connector M12, A-coded, according to IEC 61076-2-101.

Order Code

Limit-Switch - G42NO - S - M10 - B2.5



① Type

Limit-Switch

② Connector Type

Electrical Clogging Switch 42 V, NO	G42NO
Electrical Clogging Switch 42 V, NC	G42NC
Electrical Clogging Switch 110 V ... 230 V, two-way contact (only for Plug Type W)	G230

③ Plug Type

M12 Five-Pin Connector according to IEC 61076-2-101	M12
AMP-Junior-Timer Plug	A
DEUTSCH Plug DT04-2P	D
Rubber boot	S
90 degree Polyamide cap (only for Connector Type G230)	W

④ Thread Type

M10 x 1

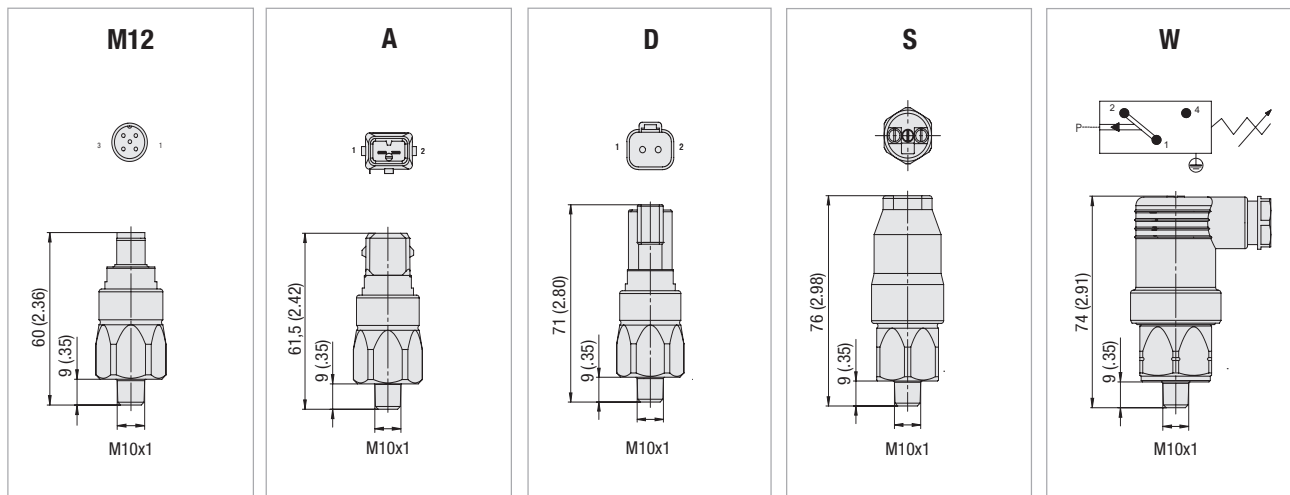
M10

⑤ Pressure Setting

2,5 bar / 36.3 PSI

B2.5

Dimensions Plug Type



Note: The customer / user carries the responsibility for the electrical connection.

Dimensional drawings: All dimensions in mm/in.

High Pressure Filters Type SF

NEW

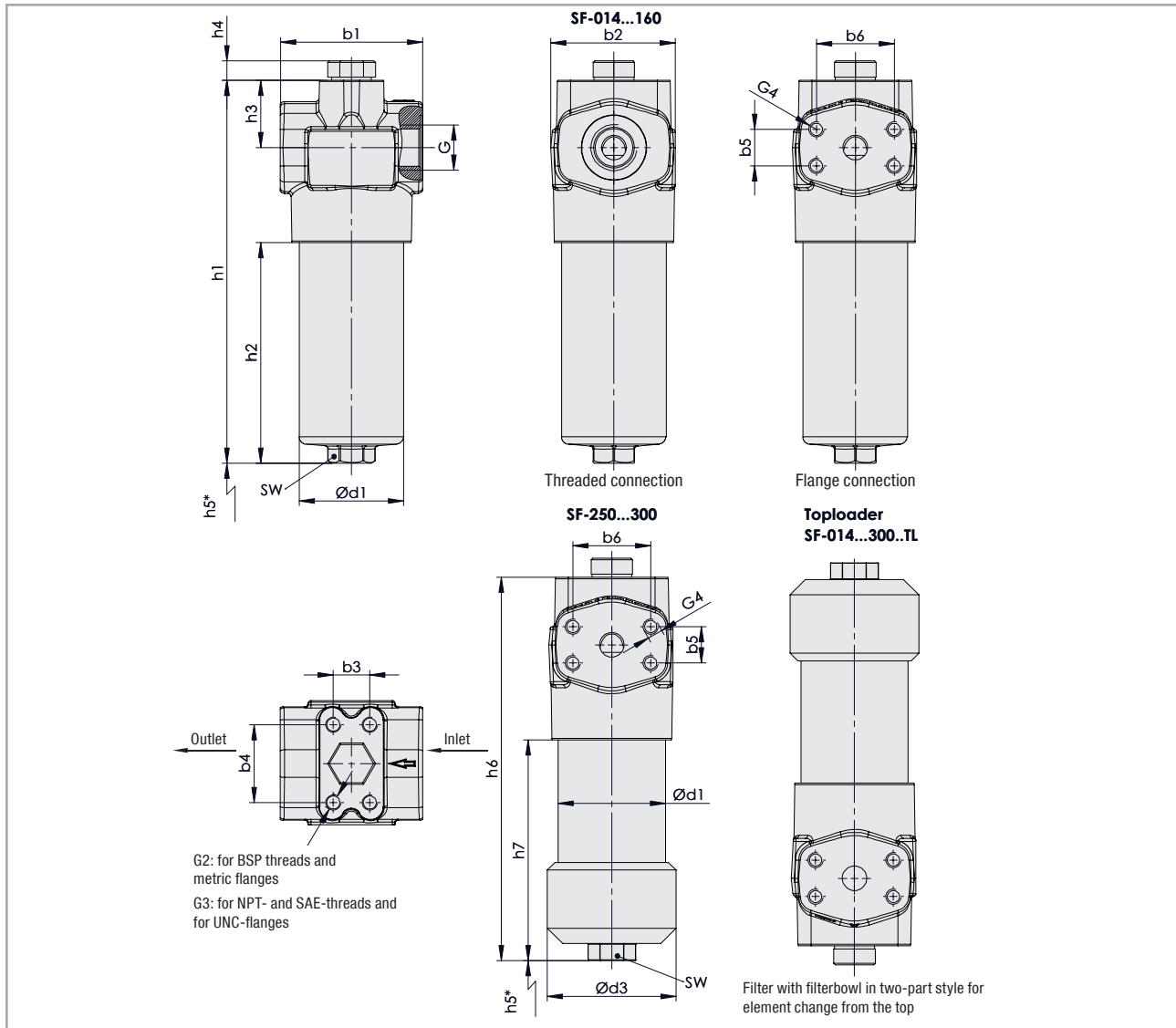


Optimised design for OEM applications.
Weight and space saving construction.
Also available in customised versions.

Construction	Designed for in-line assembly, with threaded mounting holes on top of the head.	Port Connections	BSP SAE 3000 PSI (Code 61) flange SAE 6000 PSI (Code 62) flange Other port connections available on request.
Materials	Filter head: Spheroidal Graphite Cast Iron Filter bowl: Cold Drawn Steel O-rings: NBR (Buna-N®) FKM/FPM (Viton®) EPDM (Ethylene-Propylene-Diene-Monomer-Rubber) Support ring: PTFE (Polytetrafluoroethylene)	Operating Pressure	Max. 420 bar / 6000 psi
		Burst Pressure	Min. 1260 bar / 18275 psi
		Temperature Range	-10 °C ... +100 °C / +14 °F ... +212 °F
		Media Compatibility	Mineral oils, other fluids on request

Dimensions

High Pressure Filters - Type SF



Construction	Designed for in-line assembly, with threaded mounting holes on top of the head.	Reverse flow valve	Allows reverse flow through the filter head without backflushing the element.
Materials	Filter head: Spheroidal Graphite Cast Iron Filter bowl: Cold Drawn Steel O-rings: NBR (Buna-N®) FKM/FPM (Viton®) EPDM (Ethylene-Propylene-Diene-Monomer-Rubber) Support ring: PTFE (Polytetrafluoroethylene)	Non-return valve	Prevents draining of the delivery line during element change.
Port Connections	BSP SAE 3000 PSI (Code 61) flange SAE 6000 PSI (Code 62) flange Other port connections available on request.	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.
Operating Pressure	Max. 420 bar / 6000 psi	Clogging Indicators	
Burst Pressure	Min. 1260 bar / 18275 psi	Standard actuating pressure	5 ^{-0.5} bar / 72.5 ^{-7.25} PSI Δp Other actuating pressure settings are available upon request.
Temperature Range	-10 °C ... +100 °C / +14 °F ... +212 °F	Available indicators	Visual Electrical Visual-electrical (24 V DC, 110 V AC, 230 V AC versions) Double Visual-electrical (24 V DC)
Media Compatibility	Mineral oils, other fluids on request		
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		

NEW
NEW

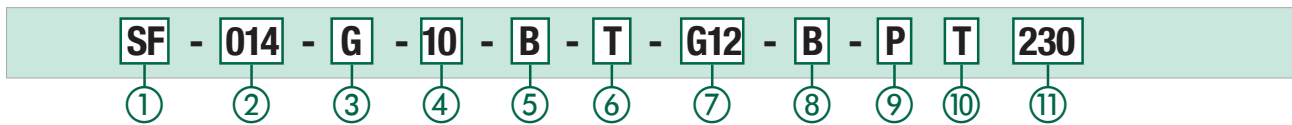
Thread Connection G	Filter Size SF						
	014	030	045	070	125	090	160
BSP	3/4	3/4	1-1/4	1-1/4	1-1/4	1-1/2	1-1/2
NPT	3/4	3/4	1-1/4	1-1/4	1-1/4	1-1/2	1-1/2
SAE O-ring Thread	1-1/16-12	1-1/16-12	1-5/8-12	1-5/8-12	1-5/8-12	1-7/8-12	1-7/8-12
SAE Flange 3000 PSI	3/4	3/4	1-1/4	1-1/4	1-1/4	1-1/2	1-1/2
SAE Flange 6000 PSI	3/4	3/4	1-1/4	1-1/4	1-1/4	1-1/2	1-1/2
Weight (kg/lbs) incl. Elements with Filter Bowl in One-Part Style	5 11	5,9 13	10,3 22,7	12 26,5	16,3 35,9	26,4 58,2	34,9 76,9
Weight (kg/lbs) incl. Elements with Filter Bowl in Two-Part Style	5,6 12,3	6,6 14,6	12,2 26,9	13,7 30,2	20 44,1	31,4 69,2	38,7 85,3

Dimensions (mm/in)	Filter Size SF							
	014	030	045	070	125	090	160	
b1	93	93	126	126	126	160	160	
	3.66	3.66	4.96	4.96	4.96	6.29	6.29	
b2	81	81	120	120	120	156	156	
	3.19	3.19	4.72	4.72	4.72	6.14	6.14	
h3	44	44	44,5	44,5	44,5	66,5	66,5	
	1.73	1.73	1.75	1.75	1.75	2.62	2.62	
h4	12,5	12,5	12,5	12,5	12,5	12,5	12,5	
	.49	.49	.49	.49	.49	.49	.49	
with Filter Bowl in One-Part Style Type SF	d1	68	68	95	95	95	130	130
		2.68	2.68	3.74	3.74	3.74	5.12	5.12
	h1	184	250	233,5	292	477,5	317,5	488,5
		7.24	9.84	9.19	11.51	18.8	12.5	19.23
	h2	78	144	102,5	161,5	346,5	148	319
		3.07	5.67	4.03	6.35	13.64	5.83	12.56
	rec.*	100	170	140	200	380	190	360
		3.94	6.69	5.51	7.87	14.96	7.48	14.17
	h5	85	85	120	120	120	150	150
		3.35	3.35	4.72	4.72	4.72	5.91	5.91
min.*	27	27	32	32	32	36	36	
	1.06	1.06	1.26	1.26	1.26	1.42	1.42	
Dimensions SAE Flange 3000 PSI	b5	22,3	22,3	30,2	30,2	30,2	35,7	35,7
		.88	.88	1.87	1.87	1.87	1.41	1.41
	b6	47,6	47,6	58,7	58,7	58,7	69,9	69,9
		1.19	1.19	2.32	2.32	2.32	2.75	2.75
G4	M10 x 15	M10 x 15	M10 x 18			M12 x 20		
	3/8-16 UNC	3/8-16 UNC	7/16-14 UNC			1/2-13 UNC		
Dimensions SAE Flange 6000 PSI	b5	23,8	23,8	31,8	31,8	31,8	36,5	36,7
		.94	.94	1.25	1.25	1.25	1.44	1.45
	b6	50,8	50,8	66,6	66,6	66,6	79,3	79,4
		2.00	2.00	2.62	2.62	2.62	3.12	3.13
G4	M10 x 15	M14 x 17			M16 x 20			
	3/8-16 UNC	1/2-13 UNC			5/8-11 UNC			

Reference: rec.*: Recommended | min.*: Minimum

Dimensions (mm/in)	Filter Size SF							
	014	030	045	070	125	090	160	
T	b3	23,8	23,8	31,6	31,6	31,6	36,7	36,7
		.94	.94	1.24	1.24	1.24	1.45	1.45
	b4	50,8	50,8	66,7	66,7	66,7	79,4	79,4
		2.00	2.00	2.63	2.63	2.63	3.13	3.13
G2	M10 x 15			M14 x 17			M16 x 20	
	3/8-16 UNC x .59			1/2-13 UNC x .79			5/8-11 UNC x .79	
TH (optional)	b3	32	32	35	35	35	60	60
		1.26	1.26	1.38	1.38	1.38	2.36	2.36
	b4	56	56	85	85	85	115	115
		2.20	2.20	3.35	3.35	3.35	4.53	4.53
	G2	M6 x 9			M10 x 15			M12 x 20
		1/2-28 UNF x .35			3/8-24 UNF x .59			1/2-20 UNF x .79

High Pressure Filter Housings / Complete Filters - Type SF



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
1135 l/min / 300 US GPM	300

Note: Exact flow will depend on the selected filter element.

③ Filter Material

Material	max. Δp*collapse	Micron ratings available	Code
Without filter element	-	-	O
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	S

Note: * Collapse/burst resistance as per ISO 2941.

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**
 Note: Other sealing materials on request.

⑥ Connecting Flange

Type T **T**
 Type TH (optional) **TH**

⑦ Connection Style

Connection Style	Thread Style	Group		Code	Group			Code		
		014	030		045	070	125		090	160
BSP	metric	3/4		G12	1-1/4		G20	1-1/2		G24
BSP	metric	1		G16	1-1/2		G24	-		-
SAE Flange 6000 PSI	metric	3/4		C612M	1-1/4		C620M	1-1/2		C624M
SAE Flange 6000 PSI	UNC	3/4		C612U	1-1/4		C620U	1-1/2		C624U
SAE Flange 3000 PSI	metric	3/4		C312M	1-1/4		C320M	1-1/2		C324M
SAE Flange 3000 PSI	UNC	3/4		C312U	1-1/4		C320U	1-1/2		C324U
SAE Flange 3000 PSI	metric	1		C316M	-		-	2		C332M
SAE Flange 3000 PSI	UNC	1		C316U	-		-	2		C332U

Note: Other port connections on request. Bold types identify preferred connection styles.

⑧ Valve

Without valve **O**
 Bypass valve **B**
 Reverse flow valve **R**
 Non-return valve **N**
 Multi-function valve **M**

⑨ Clogging Indicator

Without clogging indicator **O**
 Visual, with automatic reset **A**
 Visual, with manual reset **V**
 Electrical **E**
 Electrical, Deutsch plug **ED**
 Visual-electrical **P**
 Double Visual-electrical **D024**

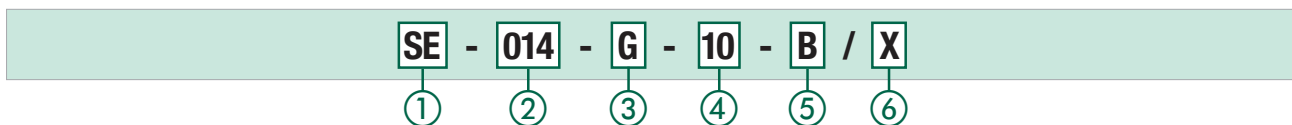
⑩ Thermostop

Without thermostop **none**
 With thermostop **T**

⑪ Voltage (only for Code P)

24 V DC **024**
 110 V AC **110**
 230 V AC **230**

Filter Elements - Type SE



① Type

Filter Element Series **SE**

② Group

According to filter housing **SE**

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		M
Stainless mesh	30 bar / 435 PSI	25, 50, 100, 200	S

Note: * Collapse/burst resistance as per ISO 2941.

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**
 FKM/FPM (Viton®) **V**
 EPDM **E**

Note: Other sealing materials on request.

⑥ Design Code

Only for information **X**

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-0). 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.

Technical Data

Materials

- Body: Stainless Steel
- Sealings: NBR (Buna-N®)
FKM/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

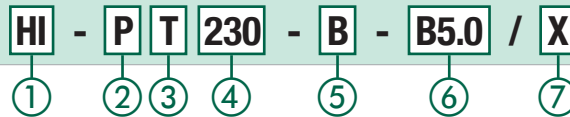
- Plug according to DIN-EN 175301-803 A (DIN 43650-A).
- Screwed cable gland PG11
- Protection rating (DIN 40050) IP65 e.g. IP67
- Both NO and NC contacts are available in the switch, rated capacity: see chart below
- Deutsch plug

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.

Note: The customer / user carries the responsibility for the electrical connection.

Order Code



① Type

Clogging Indicator for Pressure Filters **HI**

② Indicator Type

Plug	O
Visual, automatic reset	A
Visual, manual reset	V
Electrical	E
Electrical, Deutsch plug	ED
Visual-electrical	P
Double visual-electrical	D024

③ Thermostop

Without thermostop	none
With thermostop	T

④ Voltage (only for Code P)

24 V DC	024
110 V AC	110
230 V AC	230

⑤ Sealing Material

NBR (Buna-N®)	B
FKM/FPM (Viton®)	V
EPDM	E

Rated Capacity HI-E, HI-P and HI-D024

Voltage V	Resistive Load A	Inductive Load A
110 V AC	5A	3A
230 V AC	3A	2A
24 V DC	4A	3A
Max. Load		
24 V AC ± 10%	1A	

⑥ Differential Pressure Setting

1,72 bar / 25 PSI	B1.7
2,0 bar / 29 PSI	B2.0
2,5 bar / 36.3 PSI	B2.5
3,0 bar / 43.5 PSI	B3.0
5,0 bar / 72.5 PSI (standard option)	B5.0
5,5 bar / 79.7 PSI (only for HI-D024)	B5.5
7,0 bar / 101.5 PSI	B7.0

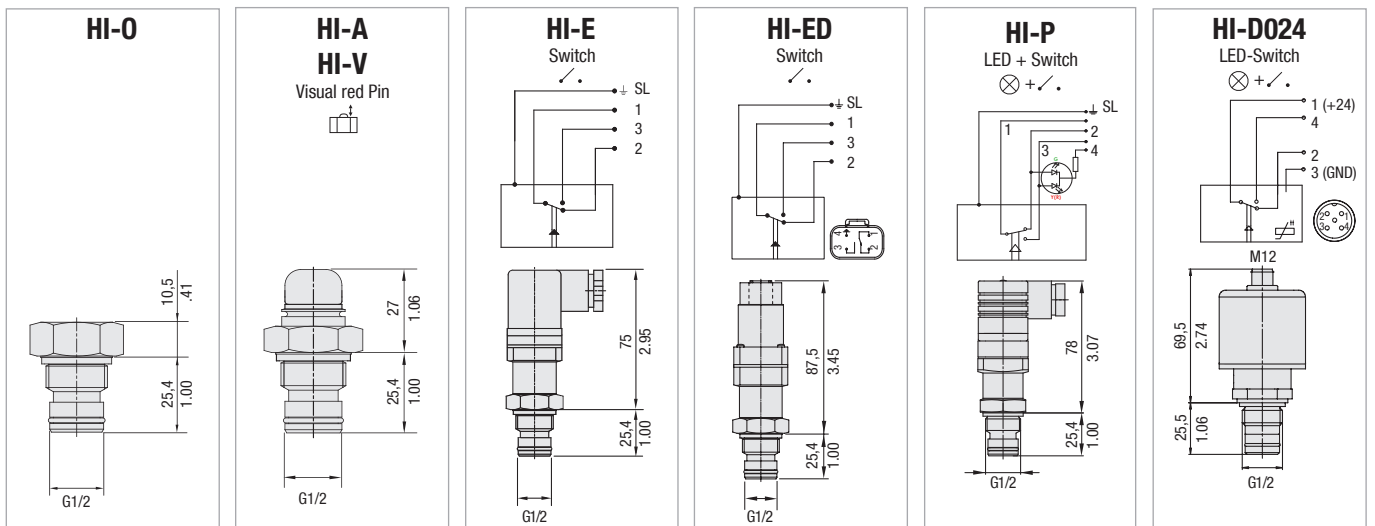
Note: Bold types identify standard option

⑦ Design Code

Only for information **X**

High voltage peaks occur when inductive loads are switched off. Protective circuitry should be employed to reduce contact burnout.

Dimensions



Dimensional drawings: All dimensions in mm/in.

Clogging Indicators

Double Visual-electrical Clogging Indicator

The differential pressure indicator HI-D024 is a microprocessor controlled pressure switch with two alarm outputs for pre-alarm and shut-off.

It is used to monitor the capacity of oil filters in oil-circulating systems.

For this purpose, a microprocessor-controlled pressure sensor observes the dynamic pressure in front of the filter element or the differential pressure at the filter element. The pressure increases depending on the cumulative clogging of the filter.

To avoid false alarms due to high viscosity during start-up, the device is equipped with a temperature control and time delay function. The unit is ready for operation if the temperature is $> 30\text{ }^{\circ}\text{C} / 86\text{ }^{\circ}\text{F}$.



Technical Data

Connection Thread

- G1/2

Operating Pressure

- Max. 400 bar / 5800 PSI

Temperature Range

- $-20\text{ }^{\circ}\text{C} \dots +85\text{ }^{\circ}\text{C} / -4\text{ }^{\circ}\text{F} \dots +185\text{ }^{\circ}\text{F}$
- ready for operation $> 30\text{ }^{\circ}\text{C} / 86\text{ }^{\circ}\text{F}$

Materials

- Body: Stainless Steel
- Sealing Material: NBR (Buna-N®)

Protection Rating

- IP 67

Switch Voltage

- Max. 1 A @ 24 V DC

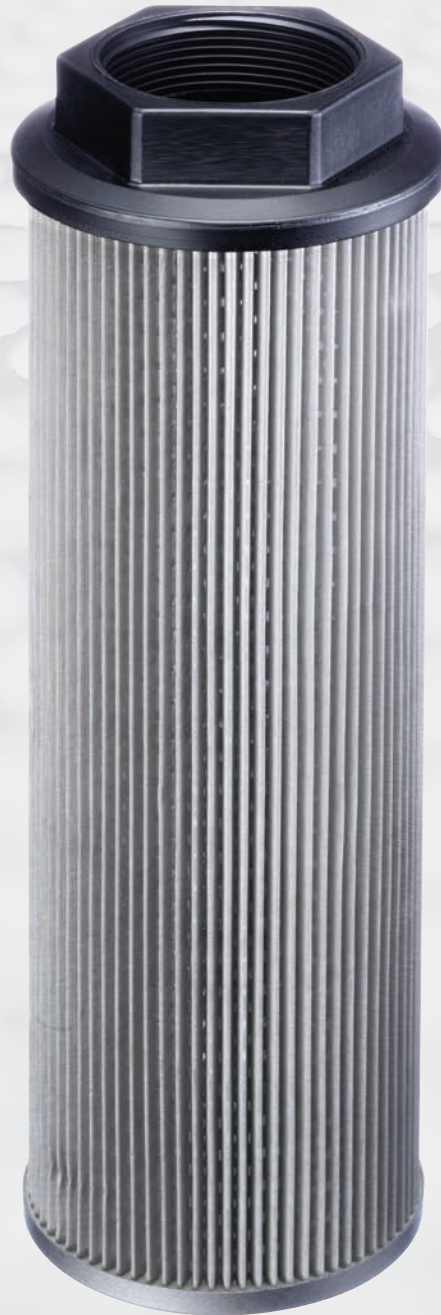
Operating Voltage

- 24 V AC/DC

Alarm outputs

- $4,1\text{ }^{+10\%}\text{ bar} / 59,4\text{ }^{+10\%}\text{ PSI } \Delta p = 75\%$ (Yellow LED lights up)
- $5,5\text{ }^{+10\%}\text{ bar} / 79,7\text{ }^{+10\%}\text{ PSI } \Delta p = 100\%$ (Red LED appears additionally)

Suction Strainer - Type SUS (Polyamide End Cap)

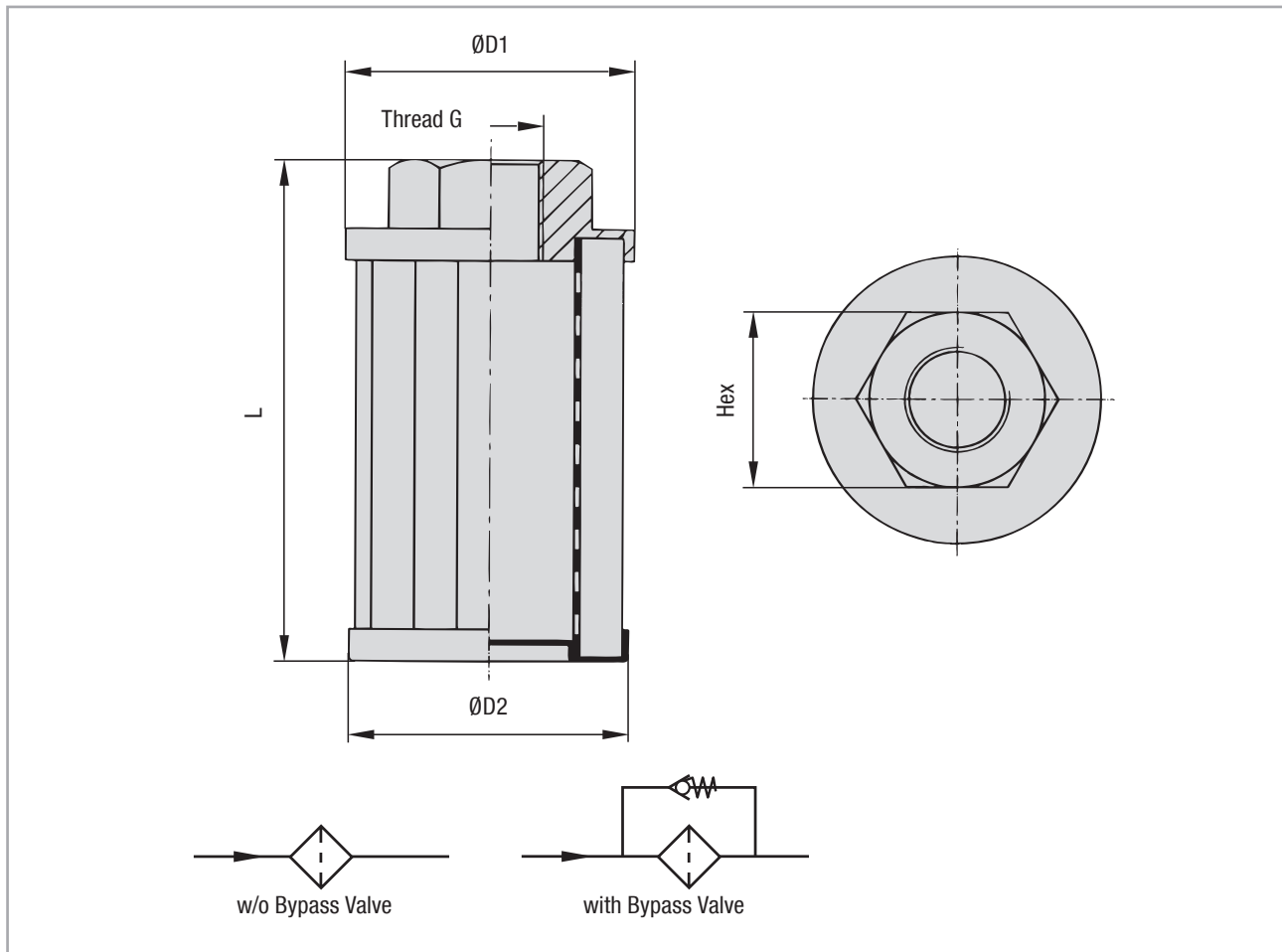


K

Features	Available with 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)

Dimensions

Suction Strainer - Type SUS (Polyamide End Cap)



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.	Materials	Threaded end cap made of glass-fibre reinforced Polyamide (PA); see Catalogue 10 - Hydraulic Accessories page 10 for version with Aluminium end cap
Features	Available with female BSP thread (ISO 228) or female NPT thread (ANSI B1.20.1)	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	Contact your local sales office for alternative materials.
Operating temperature range	-20 °C ... +100°C / -4 °F ... +212°F	Options	Integrated bypass valve with an opening pressure of 0.2 bar (3PSI) to reduce the risks of high-pressure drops that can be caused by contaminated strainer elements or high-viscosity fluids
Media Compatibility	Suitable for use with Mineral and Petroleum based hydraulic fluids (HL and HLP)	Special sizes, designs, materials and configurations are available on request.	Contact your local sales office for details.

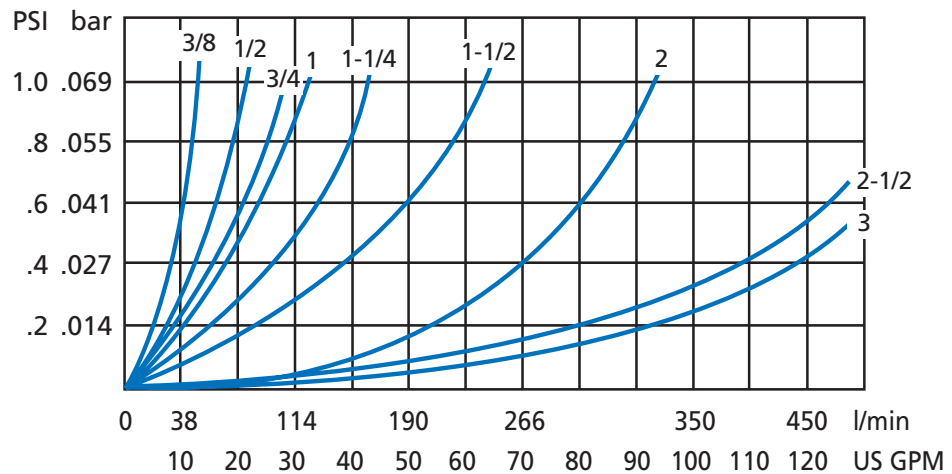
Dimensions and Technical Data (Female BSP Threaded Version)

Order Code	Description	Thread G	Dimensions (MM)				Filter Surface	Max. Flow Rate
			ØD1	ØD2	L	HEX		
1910000995	SUS-040-G06-075-125-P-0	G3/8 BSP	39.5	38.5	75	22	279 cm ²	12 l/min
1910000637	SUS-050-G06-067-125-P-0	G3/8 BSP	50	49	67	26	296 cm ²	12 l/min
1910000647	SUS-050-G08-105-125-P-0	G1/2 BSP	50	49	105	26	518 cm ²	15 l/min
1910000648	SUS-068-G12-105-125-P-0	G3/4 BSP	68	66	105	34	676 cm ²	25 l/min
1910000649	SUS-068-G16-140-125-P-0	G1 BSP	68	66	140	42	930 cm ²	50 l/min
1910000638	SUS-088-G20-140-125-P-0	G1-1/4 BSP	88	85	140	50	1172 cm ²	65 l/min
1910000650	SUS-088-G24-140-125-P-0	G1-1/2 BSP	88	85	140	60	1172 cm ²	140 l/min
1910000651	SUS-102-G24-200-125-P-0	G1-1/2 BSP	102	100	200	72	2427 cm ²	140 l/min
1910000896	SUS-102-G32-200-125-P-0	G2 BSP	102	100	200	72	2427 cm ²	230 l/min
1910001078	SUS-102-G32-225-125-P-0	G2 BSP	102	100	225	72	2811 cm ²	230 l/min
1910000652	SUS-102-G32-260-125-P-0	G2 BSP	102	100	260	72	3249 cm ²	230 l/min
1910000911	SUS-102-G32-300-125-P-0	G2 BSP	102	100	300	72	3798 cm ²	230 l/min
1910000897	SUS-131-G40-191-125-P-0	G2-1/2 BSP	131	128	191	86	2430 cm ²	340 l/min
1910000639	SUS-131-G40-212-125-P-0	G2-1/2 BSP	131	128	212	86	2748 cm ²	340 l/min
1910000653	SUS-131-G48-272-125-P-0	G3 BSP	131	128	272	96	3626 cm ²	400 l/min
1910000528	SUS-150-G32-151-125-P-0	G2 BSP	150	145	151	70	1812 cm ²	400 l/min

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.



K



SECURE REPEAT BUSINESS WITH STAUFF'S REPLACEMENT FILTER ELEMENT **PRINTING SERVICE**



We can print details to ensure your customer engages with you when a replacement element is required:

- **COMPANY NAME**
- **LOGO**
- **CONTACT DETAILS**
- **PART NUMBER**
- **FITTING INSTRUCTIONS**
- **FILTER SPECIFICATIONS**
- **REPLACEMENT SCHEDULE**
- **QR CODES**

CONTRIBUTING TO
YOUR SUCCESS 

Contact your nearest sales office to discuss your requirements

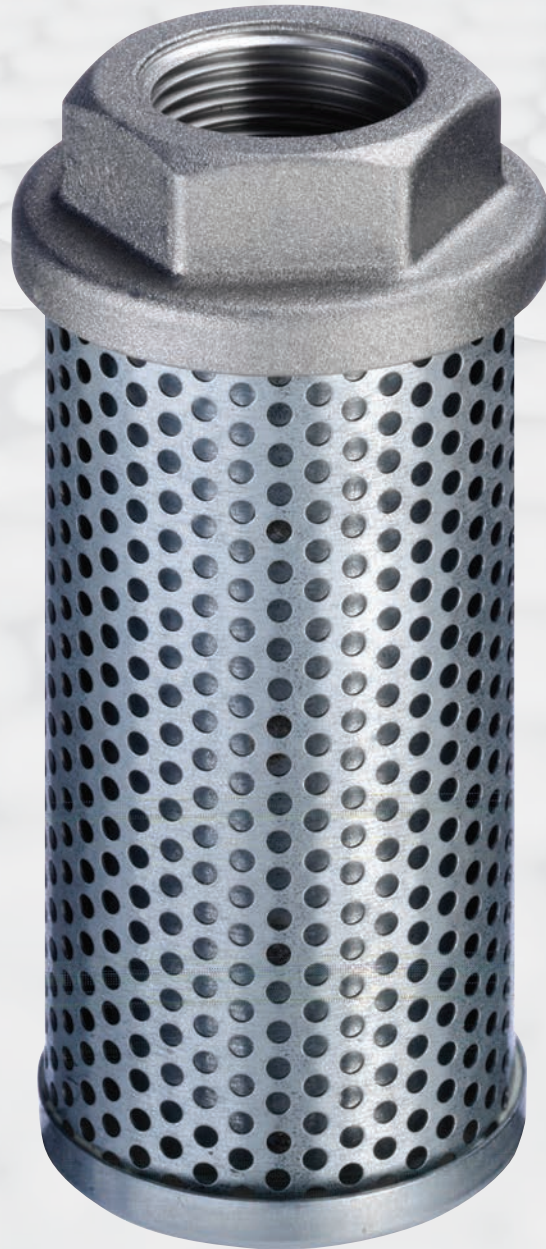
SHEFFIELD
500 CARLISLE STREET EAST
OFF DOWNGATE DRIVE
SHEFFIELD
S4 8BS
T: 0114 251 8518
F: 0114 251 8519
sales@stauff.co.uk

ABERDEEN
BADENTOY AVENUE
BADENTOY INDUSTRIAL ESTATE
PORTLETHEN
ABERDEEN AB12 4YB
T: 01224 786166
F: 01224 786177
sales@stauffscotland.co.uk

IRELAND
9 FERGUSON DRIVE
KNOCKMORE HILL INDUSTRIAL PARK
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COUNTY ANTRIM BT28 2EX
T: 02892 606900
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sales@stauffireland.com

SOUTHAMPTON
UNIT 9, SOUTHAMPTON TRADE PARK
THIRD AVENUE
MILLBROOK
SOUTHAMPTON SO15 0AD
T: 023 8069 8700
F: 023 8069 8701
sales@stauffsouthampton.co.uk

Diffuser - Type SRV

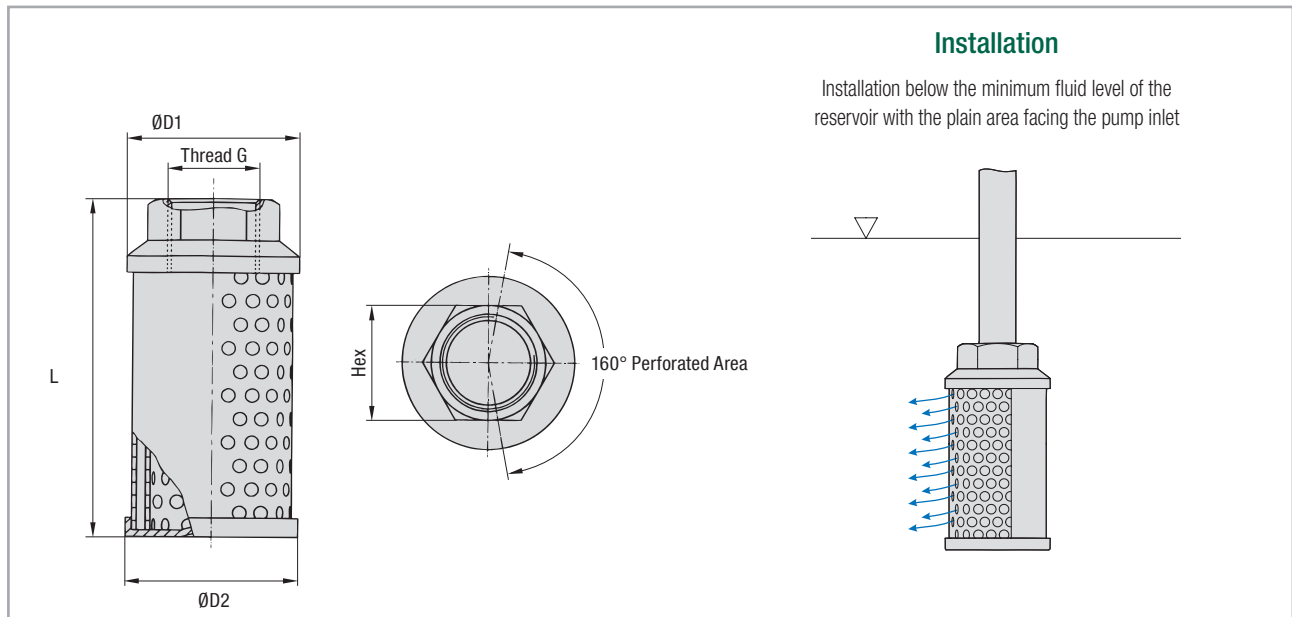


L

Features	Available with female BSP thread (ISO 228)	Media Compatibility	Suitable for use with Mineral and Petroleum based hydraulic fluids (HL and HLP)
Operating temperature range	-20 °C ... +100°C / -4 °F ... +212°F	Construction and Materials	2 concentric tubes with inner spaced holes Threaded end cap made of Aluminium Other components made of Steel, zinc plated
Max. working pressure	20 bar / 290 PSI		

Dimensions

Diffuser - Type SRV



Characteristics	Designed for direct installation into return lines to reduce fluid aeration, foaming and noise; should always be installed below the minimum fluid level	Max. working pressure	20 bar / 290 PSI
Features	Available with female BSP thread (ISO 228)	Media Compatibility	Suitable for use with Mineral and Petroleum based hydraulic fluids (HL and HLP)
Operating temperature range	-20°C ... +100°C / -4°F ... +212°F	Construction and Materials	2 concentric tubes with inner spaced holes Threaded end cap made of Aluminium Other components made of Steel, zinc-plated

Female BSP Threaded Version

Order Code	Description	Thread G	Dimensions (MM)				Max. Flow Rate
			ØD1	ØD2	L	HEX	
1910000420	SRV-050-G12	G3/4	64	62	109	36	50 l/min
1910000421	SRV-114-G16	G1	64	62	139	46	114 l/min
1910000422	SRV-200-G20	G1-1/4	86	84	139	60	200 l/min
1910000423	SRV-227-G24	G1-1/2	86	84	200	60	227 l/min
1910000424	SRV-454-G32	G2	86	84	260	70	454 l/min
1910000425	SRV-650-G40	G2-1/2	150	148	212	90	650 l/min



Diffusers SRV are ideally suited for use with STAUFF Return Line Filters of the RF series with threaded connection.

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
- Donaldson
- Eppensteiner Bosch Rexroth
- Fairey Arlon
- Hydac
- Mahle
- Internormen
- Pall
- Parker
- Other types are available on request

STAUFF offers many options for filter conversion, design and calculation and supports interested parties and customers with the design of efficient solutions:

- 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 25 μm respectively) as well as stainless mesh (micron ratings between 10 μm and 1000 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.

Find the suitable STAUFF replacement filter element at

www.filterinterchange.com



It's this easy:



search



enquire



save

Your advantages:

- Over 65000 datasets from various manufacturers
- Conversion for all common filter brands and types
- Watch list function for storing search results
- Request price and delivery time with enquiry history



Level Gauges Type SNA



M

Maximum tank pressures	Not exceeding 2 bar / 29 PSI	Media Compatibility	Suitable for use with Mineral and Petroleum based hydraulic fluids (HL and HLP)
Nominal Sizes and Designs	7 nominal sizes from 76 mm / 2.99 in to 381 mm / 15.00 in	Materials	Housing made of Steel St 12, black powder-coated Sight tube and plugs made of Polyamide (PA) Sealings made of NBR (Buna-N®) Scale plate made of PVC
Display	Either undivided (SNA-076 ... 176) or subdivided by strut(s) into 2 (SNA-254) or 3 sections (SNA-305 and SNA-381)		

Dimensions

Level Gauges - Type SNA

Dial Thermometer with Probe T1/
T2 (optional)

Clearance Hole:
Ø13 (Ø.51) for M12 / Ø10.5 (Ø.41) for M10 /
Ø13.5 (Ø.53) for UNC, UNF and UNEF

Design of Scale Plates

Capillary Tube Thermometer with a dual
Celsius / Fahrenheit scale up to +80 °C /
+180 °F

S - T

Maximum admissible tolerance for the bolt center spacing (dimension L2) according to DIN ISO 2768-f: ±0.20mm / .008in for all nominal sizes.
Dimensional drawings: All dimensions in mm (in).

<p>Visual fluid level indication in hydraulic reservoirs with maximum tank pressures not exceeding 2bar / 29PSI</p>	<p>Technical Data IP 65 protection rating: Dust tight and protected against water jets</p>
<p>Nominal Sizes and Designs 7 nominal sizes from 76 mm / 2.99 in to 381 mm / 15.00 in Display either undivided (SNA-076 ... 176) or subdivided by strut(s) into 2 (SNA-254) or 3 sections (SNA-305 and SNA-381)</p>	<p>Operating temperature range: -30 °C ... +80 °C / -22 °F ... +176 °F</p>
<p>Media Compatibility Suitable for use with Mineral and Petroleum based hydraulic fluids (HL and HLP)</p>	<p>Recommended tightening torque 8 N·m / 5.9 ft·lb</p>
<p>Materials Housing made of Steel St 12, black powder-coated Sight tube and plugs made of Polyamide (PA) Sealings made of NBR (Buna-N®) Scale plate made of PVC For the individual components of the level gauge (sight glass, housing, sealings, bolts), alternative materials for improved UV or chemical resistance, low-temperature applications down to -50°C / -58 °F and use with special media (such as bio-degradable fluids, diesel oils, gasolines) are available on request.</p>	<p>Accessories /Options Red / blue capillary tube thermometers with 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 / +200 °F Thermo Switches Temperature Sensors Floating Ball</p>

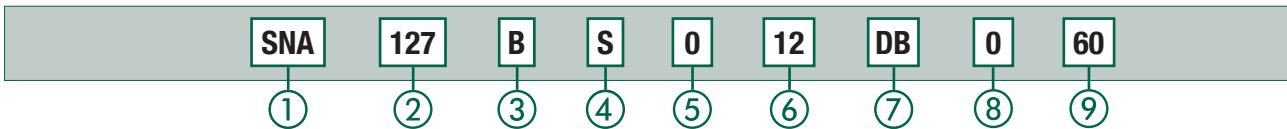
Standard

Order Code	Description	Dimensions (MM)									
		A	B	C (MAX.)	D	E	F (With T1)	F (With T2)	L1	L2	L3
191000086	SNA-076-B-S-O-10	45	34.5	8	28	43.5	165.5	265.5	108	76	31
191000072	SNA-076-B-S-O-12	45	34.5	8	28	43.5	165.5	265.5	108	76	31
1910000106	SNA-127-B-S-O-10	45	34.5	8	28	43.5	165.5	265.5	159	127	76
1910000092	SNA-127-B-S-O-12	45	34.5	8	28	43.5	165.5	265.5	159	127	76
1910000570	SNA-176-B-S-O-10	45	34.5	8	28	43.5	165.5	265.5	208	176	124
1910000571	SNA-176-B-S-O-12	45	34.5	8	28	43.5	165.5	265.5	208	176	124
1910000126	SNA-254-B-S-O-10	45	34.5	8	28	43.5	165.5	265.5	285	254	192
1910000112	SNA-254-B-S-O-12	45	34.5	8	28	43.5	165.5	265.5	285	254	192

Supplied with thermometer on scale

Order Code	Description	Dimensions (MM)									
		A	B	C (MAX.)	D	E	F (With T1)	F (With T2)	L1	L2	L3
1910000557	SNA-076-B-S-T-10	45	34.5	8	28	43.5	165.5	265.5	108	76	31
1910000757	SNA-076-B-S-T-12	45	34.5	8	28	43.5	165.5	265.5	108	76	31
1910000708	SNA-127-B-S-T-10	45	34.5	8	28	43.5	165.5	265.5	159	127	76
1910000329	SNA-127-B-S-T-12	45	34.5	8	28	43.5	165.5	265.5	159	127	76
1910000574	SNA-176-B-S-T-10	45	34.5	8	28	43.5	165.5	265.5	208	176	124
1910000575	SNA-176-B-S-T-12	45	34.5	8	28	43.5	165.5	265.5	208	176	124
1910000758	SNA-254-B-S-T-10	45	34.5	8	28	43.5	165.5	265.5	285	254	192
1910000330	SNA-254-B-S-T-12	45	34.5	8	28	43.5	165.5	265.5	285	254	192

Order Codes



① Type

- Level Gauge with visual fluid level indication

SNA

② Nominal Size

- SNA-076 (nominal size of 76 mm / 2.99 in)
- SNA-127 (nominal size of 127 mm / 5.00 in)
- SNA-150 (nominal size of 150 mm / 5.91 in)
- SNA-176 (nominal size of 176 mm / 6.93 in)
- SNA-254 (nominal size of 254 mm / 10.00 in)
- SNA-305 (nominal size of 305 mm / 12.00 in)
- SNA-381 (nominal size of 381 mm / 15.00 in)

076

127

150

176

254

305

381

③ Sealing Material

- NBR (Buna-N®) (standard option)
- FPM (Viton®)

B

V

④ Design of Scale Plate

- With STAUFF logo (standard option)
- Neutral design without any logo
- Custom-designed scale plate (please specify)

S

N

X

⑤ Thermometer Option

- Supplied without thermometer (standard option)
- Red Capillary Tube thermometer on scale plate
- Blue Capillary Tube thermometer on scale plate
- Dial thermometer with probe (200 mm / 7.87 in) and a Celsius scale up to 100 °C
- Dial thermometer with probe (300 mm / 11.81 in) and a Celsius scale up to 100 °C
- Dial thermometer with probe (200 mm / 7.87 in) and a dual scale up to 100 °C / 200 °F
- Dial thermometer with probe (300 mm / 11.81 in) and a dual scale up to 100 °C / 200 °F

0

T

TB

T1C

T2C

T1CF

T2CF

⑥ Banjo Bolt Size

- Metric ISO thread M12 (standard option)
- Metric ISO thread M10
- Unified coarse thread 1/2-13 UNC
- Unified fine thread 1/2-20 UNF
- Unified extra-fine thread 1/2-28 UNEF

12

10

U1

U2

U3

⑦ Anti-Drain Valve Option

- without (standard option)
- Set A
- Set B

0

DA

DB

⑧ Thermo Switch / Temperature Sensor Option

- Supplied without Thermo Switch / Temperature Sensor
- Thermo Switch TS-SNA/SNK; Break contact (normally closed); Equipped with standard connector
- Thermo Switch TS-SNA/SNK; Break contact (normally closed); Equipped with connector M12
- Thermo Switch TS-SNA/SNK; Make contact (normally open); Equipped with standard connector
- Thermo Switch TS-SNA/SNK; Make contact (normally open); Equipped with connector M12
- Temperature Sensor TS-SNA/SNK-PT100; Equipped with connector M12

-

0

OD

C

CD

PT100

Thermo Switches / Temperature Sensors only available for banjo bolt size M12. Please see page 740 for details.

⑨ Switching Temperature

- 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

60

70

80

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 to be used in conjunction with Thermo Switches or Temperature Sensors.



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(E) Observar el indicador de contaminación y cambiar el cartucho si necesario. El primer cartucho se debe cambiar a las 50 horas de servicio. Después, si no hay indicador de contaminación instalado, cambiar los cartuchos cada 250 horas de servicio.

(I) Controllare l'indicatore d'intasamento e sostituire l'elemento se necessario. Nello fase di avviamento sostituire l'elemento dopo 50 ore. Nei tipi approvati d'indicatore d'intasamento la sostituzione della cartuccia deve avvenire ogni 250 ore.

(P) Verificar o indicador sob pressão de operação e substituir o elemento se necessário. Substituir o elemento inicialmente após 50 horas. Se não existir indicador instalado no filtro substituir o elemento após 250 horas.



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Thermo Switch Type TS



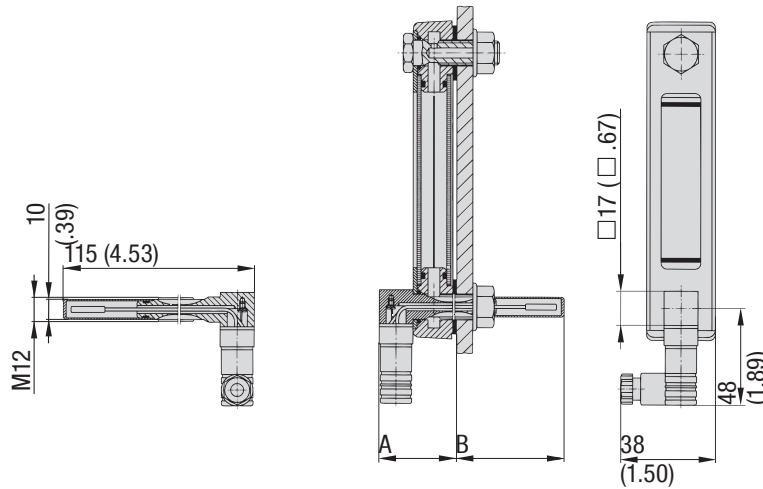
N

For use with with STAUFF Level Gauges SNA only see pages 55 - 57

Installation Replaces the lower banjo bolt of the Level Gauge
Available for bolt size M12 only
Clearance hole: $\varnothing 13$ mm / $\varnothing 0.51$ in

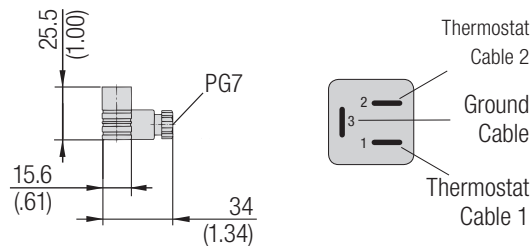
Materials Metal parts made of Steel (1.0718)
Plastic parts made of glass-fibre reinforced Polyamide (PA)

Dimensions Thermo Switches - Type TS for use with SNA Level Gauge only

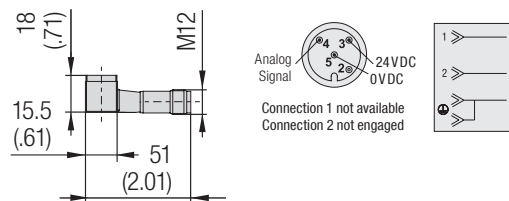


Connection Details and Electrical Functions

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



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: $\varnothing 13$ mm / $\varnothing .51$ 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 $+60^{\circ}\text{C}$ / $+140^{\circ}\text{F}$, $+70^{\circ}\text{C}$ / $+158^{\circ}\text{F}$, $+80^{\circ}\text{C}$ / $+176^{\circ}\text{F}$ or $+90^{\circ}\text{C}$ / $+194^{\circ}\text{F}$ (with a switching tolerance of $\pm 5^{\circ}\text{C}$ / $\pm 9^{\circ}\text{F}$ and a hysteresis of 35°C / 63°F)
Available as a break contact (normally closed) or make contact (normally open)

Electrical Specifications (Alternating Current)

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

- Maximum voltage: 250 V, 2,5 (1,6) A, 50 Hz
Maximum current at 2000 operations:
4,0 A at $\cos \varphi = 4,45$ / 250 V, 135°C
Maximum current at 10000 operations:
2,5 A at $\cos \varphi = 1,00$ / 250 V, 150°C
Minimum current: 20 mA

MAKE CONTACT, CLOSES AT SWITCHING TEMPERATURE (NORMALLY OPEN)

Order Code	Description
1920000302	TS-SNA/SNK-C-60
1910003474	TS-SNA/SNK-C-70
6100011043	TS-SNA/SNK-C-90

BREAK CONTACT, OPENS AT SWITCHING TEMPERATURE (NORMALLY CLOSED)

Order Code	Description
1920000044	TS-SNA/SNK-O-60
1920000045	TS-SNA/SNK-O-70
1910003225	TS-SNA/SNK-O-90

Order Codes



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

Filtration Systems

Product Description

STAUFF Mobile Filtration Systems type SMFS are designed to cover a wide application range in the area of offline-filtration.

Being compact, powerful and robust the units assist the preventive maintenance, either when transferring fresh oils or purifying existing hydraulic and lubrication oil systems.

By selecting high-quality components, the SMFS is suitable for purifying small and medium size systems in a very short time or for a permanent offline-filtration on large hydraulic systems.

- High nominal flow rates of 15 l/min / 4 US GPM respectively 110 l/min / 30 US GPM by using high-quality gear pumps and energy-efficient, high-performance three phase motors suitable for continuous duty cycle
- Flexible use (mobile or stationary offline-filtration, filter elements available in different micro ratings)
- All Units are equipped with a 200 µm pre filter
- Drip pan for residual oil
- Easy and safe handling
- Rugged construction
- Filter elements with 4Pro media provide high dirt holding capacity and filtration performance
- Made in Germany



Type SMFS-P-015

- Portable hand-held unit
- Compact and light-weight design
- Very flexibility
- High-quality gear pump
- Nominal flow rate: max. 15 l/min / 4 US GPM
- Motor versions: 230 V 50 Hz or 400 V 50 Hz
- Micron rating available from 3 ... 125 µm
- Also available with a blank filter element for the reason of used oil to be removed from the hydraulic reservoir
- Weight: approx. 33 kg / 73 lbs



Type SMFS-U-060

- Mobile Filtration system
- High nominal flow rates
- Long-term operating times
- High-quality gear pump
- Nominal flow rate: max. 60 l/min / 15 US GPM
- Motor unit 400 V 50 Hz
- Micron rating available from 3 ... 125 µm
- Weight: approx. 165 kg / 364 lbs



Type SMFS-U-030

- Mobile Filtration system
- Robust steel frame push cart
- Maximum flexibility
- High-quality gear pump
- Nominal flow rate: max. 30 l/min / 8 US GPM
- Motor versions: 230 V 50 Hz or 400 V 50 Hz
- Micron rating available from 3 ... 125 µm
- Water absorbing element SF-6721-W
- Also available with a blank filter element for the reason of used oil to be removed from the hydraulic reservoir
- Weight: approx. 58,5 kg / 129 lbs



Type SMFS-U-110

- Mobile Filtration system
- High nominal flow rates
- Long-term operating times
- High-quality gear pump
- Nominal flow rate: max. 110 l/min / 30 US GPM
- Motor unit 400 V 50 Hz
- Micron rating available from 3 ... 125 µm
- Weight: approx. 177,2 kg / 391 lbs



Type SMFS-U-DL-015-G

- Extremely robust transport cart
- Heavy-duty rollers, steerable and with locking device on the rear end
- Convenient filling nozzle
- High-quality gear pump
- for 200 l / 52 US GAL oil drums
- Nominal flow rate: max. 15 l/min / 4 US GPM
- Motor versions: 230 V 50 Hz oder 400 V 50 Hz
- Spin-On filter Element of the series SFC-57/58 including visual clogging indicator
- Micron rating available from 3 ... 125 µm
- Water absorbing element SF-6721-W
- Weight: approx. 85 kg / 187 lbs (without oil drum)



Type SMFS-U-CM-110

- Mobile Filtration system
- High nominal flow rates
- Long-term operating times
- High-quality gear pump
- Integrated 8-channel particle counter
- Nominal flow rate: max. 110 l/min / 30 US GPM
- Motor unit 400 V 50 Hz
- Micron rating available from 3 ... 125 µm
- Weight: approx. 220 kg / 485 lbs

Plastic Filler Breathers

Types SPB 1 / 2 / 3

(Screw-in version)

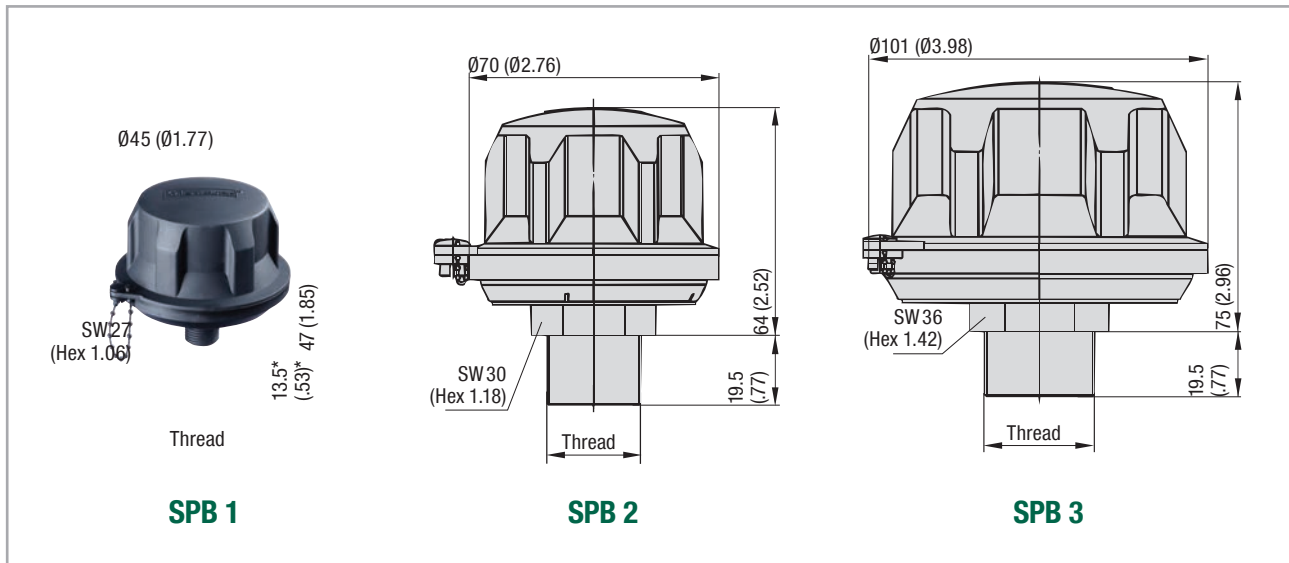


Including Plastic
Dipsticks
See page 66



Features	Available with 3 different cap diameters Screw-in version, equipped with 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®)

Dimensions Plastic Filler Breathers - Types SPB 1 / 2 / 3 (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

Available with 3 different cap diameters
Screw-in version, equipped with 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®)

Contact your local sales office 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
Plastic dipstick with integrated magnet
Oil Demister (not available for SPB-1)

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

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

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

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

Screw-in version; Cap diameter Ø45 mm

Order Code	Description	Connection Thread	Feature
1910000433	SPB-1-0-10-B04-A	G1/4	With Anti-Splash
1910000866	SPB-1-0-10-B06-A	G3/8	With Anti-Splash
1910001527	SPB-1-0-10-B08-A	G1/2	With Anti-Splash

Screw-in version; Cap diameter Ø70 mm

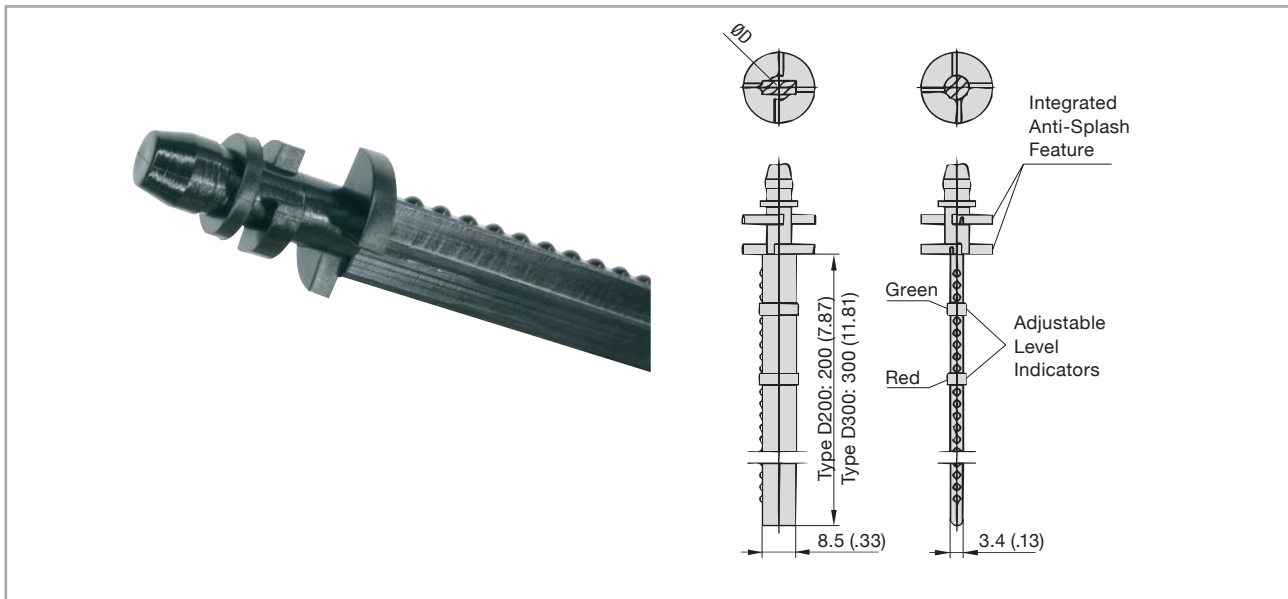
Order Code	Description	Connection Thread	Feature
1910000561	SPB-2-0-10-B06-A	G3/8	With Anti-Splash
1910000562	SPB-2-0-10-B08-A	G1/2	With Anti-Splash
1910000435	SPB-2-0-10-B12-A	G3/4	With Anti-Splash

Screw-in version; Cap diameter Ø101 mm

Order Code	Description	Connection Thread	Feature
1910001268	SPB-3-0-10-B08-A	G1/2	With Anti-Splash
1910000434	SPB-3-0-10-B12-A	G3/4	With Anti-Splash
1910020130	SPB-3-0-10-B16-A	G1	With Anti-Splash

Dimensions

Plastic Dipstick - Type DS 1 / 2 / 3 - Anti-Splash Feature



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 and 300 mm 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 shorter than the basket.

Special designs and alternative materials available on request. Please contact your local sales office for further details.

Connection		Code	To Suit Type	Suitable Dipstick	OD MM
Male BSP Thread (ISO 228)	G1/4	B04	SPB 1	Dipstick Option Not Available	
	G3/8	B06	SPB 1+2	DS-1	10
	G1/2	B08	SPB 1-3	DS-2	14
	G3/4	B12	SPB 1+2	DS-3	18
	G1	B16	SPB 3	DS-3	18
w/o Basket		X	SPB 4+5	DS-3	18

Order Code	Description
1910000644	DS-1-300
1910000645	DS-2-300
1910000646	DS-3-300

Plastic Filler Breathers Type SPB 4 / 5 (Flange version)

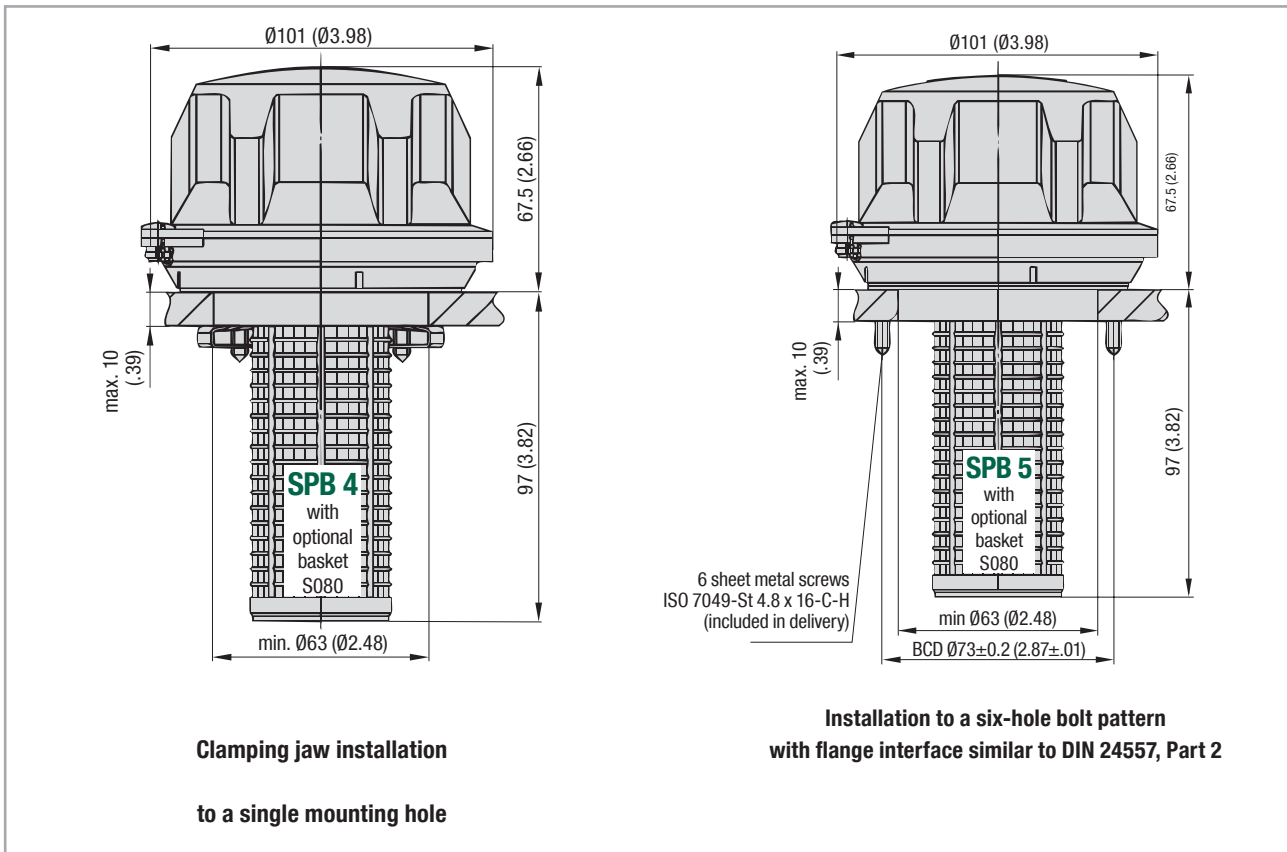


Including Plastic Dipsticks
See page 70

Features	Cap diameter of Ø101 mm / Ø3.98 in Either for clamping installation (with 3 clamping jaws and cross-drive screws) or with a six-hole bolt pattern	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 Plastic dipstick with integrated magnet
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®) Contact your local sales office for a lternative materials.		

Dimensions

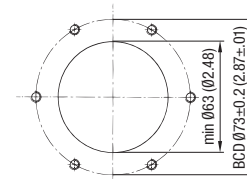
Plastic Filler Breathers - Type SPB 4 / 5 (Flange version)



**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.	Maximum Air Flow Rate	1.00 m ³ /min / 35.31 cfm for SPB 4+5
Features	Cap diameter of Ø101 mm / Ø3.98 in Either for clamping installation (with 3 clamping jaws and cross-drive screws) or with a six-hole bolt pattern	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):
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®) Contact your local sales office 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 Plastic dipstick with integrated magnet Please see page 759 for details.		



6 sheet metal screws (ISO 7049-St 4.8 x 16-C-H) 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

Bayonet Version for Clamping Jaw with Optional Basket

Order Code	Description	Basket Option	Feature
1910000238	SPB-4-0-10-S080-A	Plastic Basket	Anti-Splash

Cap Only

Order Code	Description	Basket Option	Feature
1910001812	SPB-4-0-10-X-A	Cap only	Anti-Splash

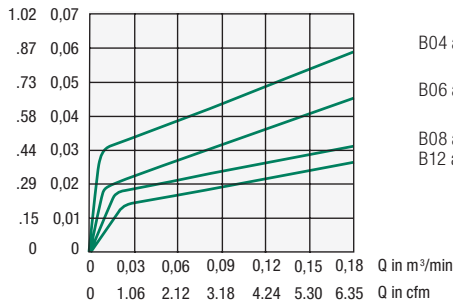
Bayonet Version with 6 Hole Bolt Pattern with Optional Basket

Order Code	Description	Basket Option	Feature
1910000661	SPB-5-0-10-S080-A	Plastic Basket	Anti-Splash

Cap Only

Order Code	Description	Basket Option	Feature
191000102	SPB-5-0-10-X-A	Cap Only	Anti-Splash

Δp in PSI Δp in bar

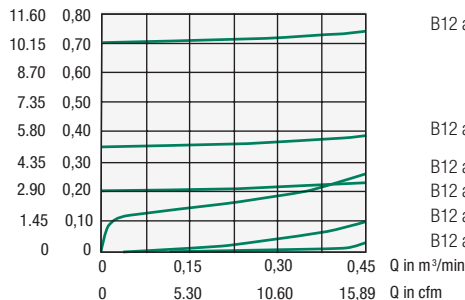


Type SPB-1 (into / out of the tank)

- 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)

Pressure Drop Flow Curves Plastic Filler Breathers

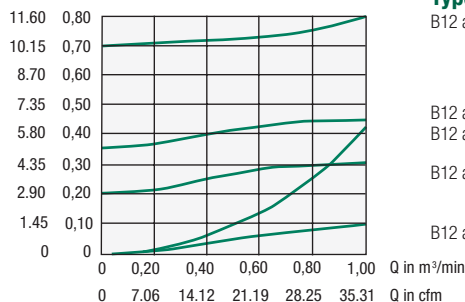
Δp in PSI Δp in bar



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)

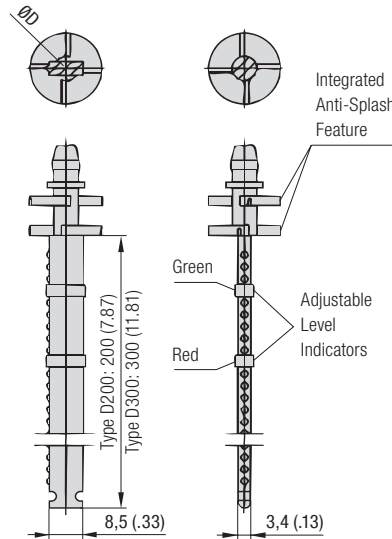
Δp in PSI Δp in bar



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)

Plastic Dipstick Types DS-1 / 2 / 3 Anti-Splash Feature



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. The markings at 25,4 mm / 1.00 in do assist simply cutting.

All dipsticks have an integrated anti-splash feature protecting the SPB from backspilling fluid and avoiding an early breakdown of the air filter element.

Optionally a powerful magnet collects metal particles from the oil and gives extra safety for your application.

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.

Connection	Code	For Type	Suitable Dipstick*	ØD (mm/in)	
Male BSP Thread (ISO 228)	G1/4	B04	SPB-1	Dipstick Option Not Available	
	G3/8	B06	SPB-1/2	DS-1	10 / .39
	G1/2	B08	SPB-1/2/3	DS-2	14 / .55
			SPBM		
	G3/4	B12	SPB-1/2	DS-3	18 / .71
			SMBT-80	DS-1	10 / .39
G1	B16	SPB-3	DS-3	18 / .71	
		SMBT-80	DS-1	10 / .39	
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	
		SMBB-80	DS-1	10 / .39	

* When ordered separately, please add the length of the dipstick (in mm) to the ordering code (e.g. DS-2-300).

Special designs and alternative materials available on request. Please contact STAUFF for further details.

Plastic Basket • Types S080 / S095-P / S200

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** (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 / SMBB-80 only and is installed between the breather housing and the reservoir.

The **Telescopic Plastic Basket S200** (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.

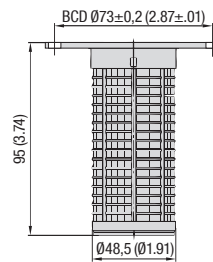
Please note: When choosing a combination of a dipstick (see above) and a basket, the dipstick has to be at least 15 mm / .59 in shorter than the basket.

Special designs and alternative materials available on request. Please contact STAUFF for further details.

Plastic Basket S080 (for SPB-4/5)
Material: Polypropylene (PP)

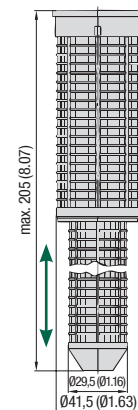


Plastic Basket S095-P (only for SPB-5 / SMBB-80)
Material: Polyamide (PA)



Six-hole bolt pattern with flange interface according to DIN 24557, part 2

Telescopic Plastic Basket S200 (for SPB-4/5)
Material: Polypropylene (PP)



Pressurisation

Many tank filler breathers of the SPB, SMBB and SMBT series are also available as pressurised versions. Information on the specific valve and pressurization settings that are available by default can be found on the corresponding catalogue pages.

When the fluid level inside the reservoir rises, no air is expelled from the reservoir until the pressurisation level is reached. With decreasing fluid level inside the reservoir, the tank pressure drops and it is ensured that 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.

Metal Filler Breather Type SMBB-80 Bayonet version



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

Operating

temperature range -30 °C ... +120 °C / -22 °F ... +248 °F

Materials

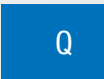
Breather cap made of Steel, zinc/nickel-plated (Fe/Zn Ni 6) and free of hexavalent chromium CrVI (standard option); chrome-plated and epoxy-coated versions available

Bayonet flange made of Steel, zinc-plated

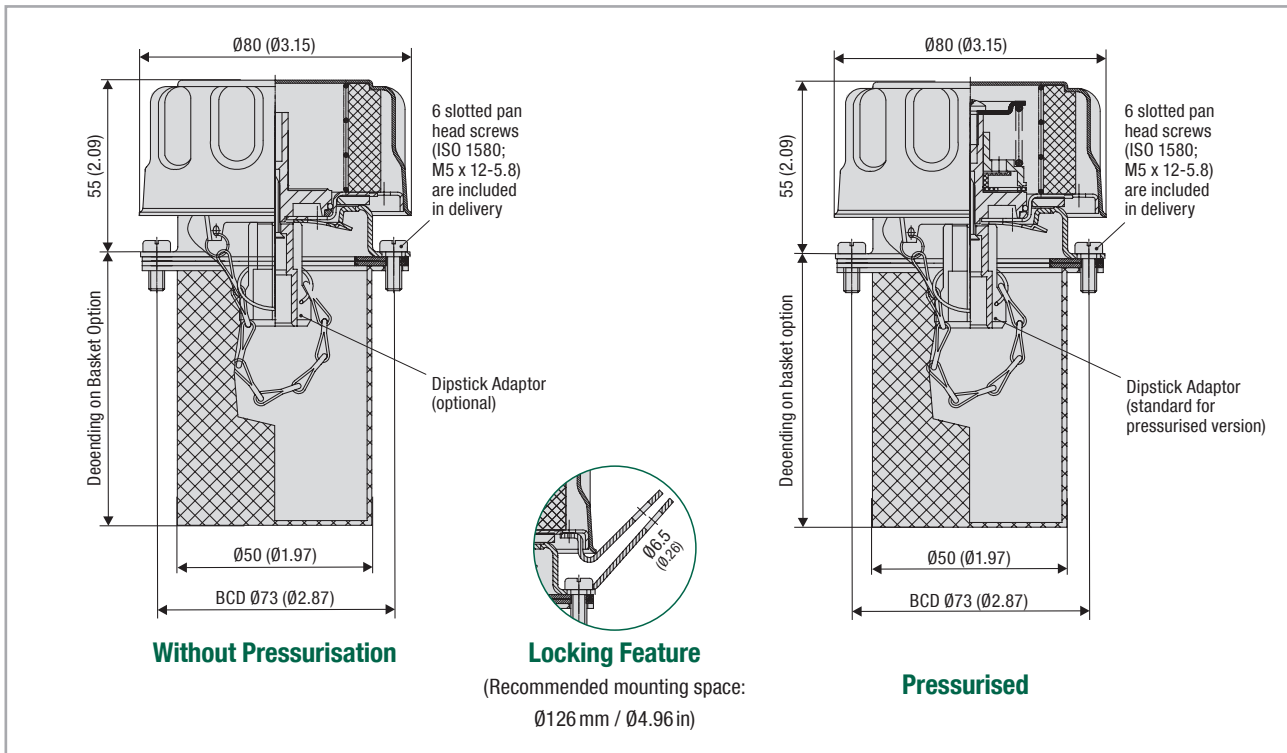
Basket made of Steel, zinc-plated or Polyamide (PA)

Dipstick adaptor made of Polyamide (PA)

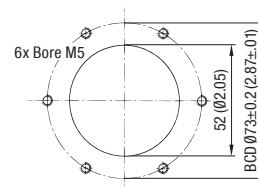
Sealings made of Cork (for filler breathers without pressurisation) or NBR (Buna-N®) (for pressurised filler breathers)



Dimensions Metal Filler Breathers - Types SMBB-80 (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	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 Plastic dipstick with integrated magnet
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	Maximum Air Flow Rate	0.45 m³/min / 15.89 cfm Contact your local sales office for detailed air flow curves.
Operating temperature range	-30 °C ... +120 °C / -22 °F ... +248 °F	Oil Displacement	450 l/min / 119 US GPM
Materials	Breather cap made of Steel, zinc/nickel-plated (Fe/Zn Ni 6) and free of hexavalent chromium CrVI (standard option); chrome-plated 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) Contact your local sales office for alternative materials.	Installation	Six-hole bolt pattern for flange interfaces similar to DIN 24557, part 2:

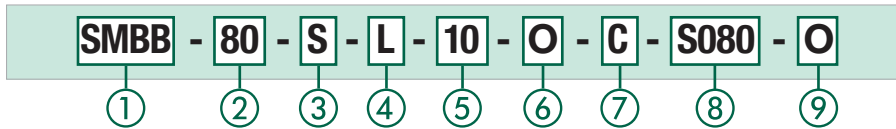


6 slotted pan head screws (ISO 1580 M5 x 12-5.8) are included in delivery; can be replaced by regular M5 bolts, if required

CAP DIAMETER Ø80 MM; BREATHER CAP MADE OF STEEL, ZINC/NICKEL-PLATED (STANDARD OPTION)

Order Code	Description	Basket Option
1910000236	SMBB-80-S-0-10-0-C-S080-0	Metal Basket (80mm)
1910002291	SMBB-80-S-0-10-0-C-S100-0	Metal Basket (100mm)
1910000233	SMBB-80-S-0-10-0-C-S150-0	Metal Basket (150mm)

Other Micron Ratings on request

Order Codes

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, zinc/nickel-plated (standard option) **80**

 Cap diameter Ø80 mm (Ø3.15 in); Breather cap made of Steel, chrome-plated **80C**

 Cap diameter Ø80 mm (Ø3.15 in); Breather cap made of Steel, epoxy-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 Breather Function **0**

 3 µm Filter Paper **03**

 10 µm Foam / PUR (standard option) **10**

 40 µm Foam / PUR **40**

Contact STAUFF for alternative materials / micron ratings.

⑥ Pressurisation

 Without pressurisation (standard option) **0**

 Pressurised at 0,35 bar / 5 PSI **B0.35**

 Pressurised at 0,7 bar / 10 PSI **B0.7**

Please see page 26 for details.

⑦ Sealing Material

 Cork (for filler breathers without pressurisation) **C**

 NBR (Buna-N®) (for pressurised filler breathers) **B**
⑧ Basket Option

 Without basket **0**

 Metal basket (80 mm / 3.15 in) (standard option) **S080**

 Plastic basket (95 mm / 3.74 in) **S095P**

 Metal basket (100 mm / 3.94 in) **S100**

 Metal basket (150 mm / 5.91 in) **S150**

 Metal basket (200 mm / 7.87 in) **S200**
⑨ Dipstick

 Without dipstick (standard option) **0**

 Dipstick adaptor (suitable for dipstick DS-1) **A**

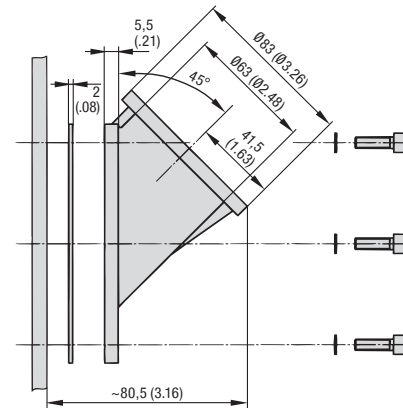
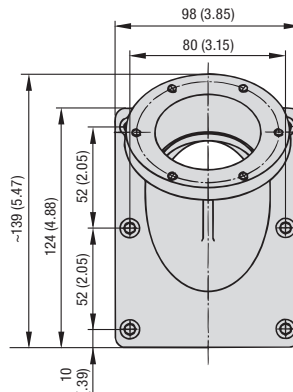
 With dipstick adaptor and plastic dipstick DS-1 (300 mm / 11.81 in) with integrated anti-splash feature **D300**

 Plastic dipstick (300 mm / 11.81 in) with integrated magnet **D300M**

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 70 for details), and is content of delivery when ordering a pressurised version.

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 NBR (Buna-N®)
- Screws made of Steel, phosphated
- Washers made of gasket paper

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 $\varnothing 73 \pm 0,2$ mm / $\varnothing 2.87 \pm .01$ 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).

Giant Air Breather & Breather Adaptor

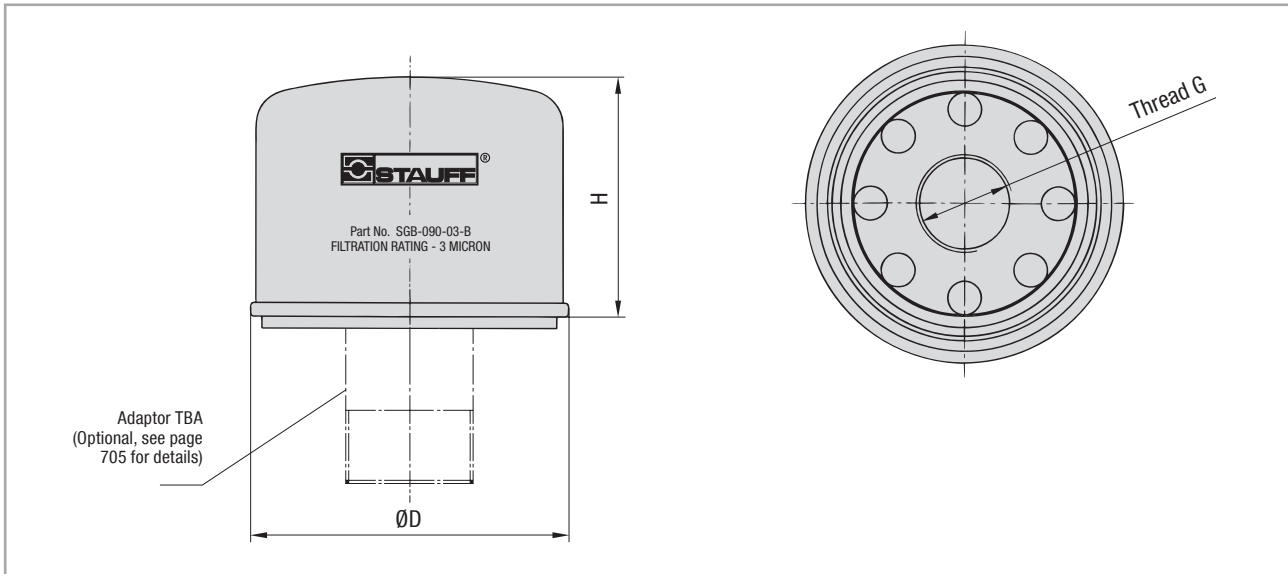


Features Diameter of Ø68 mm / Ø2.68 in (SGB-060),
Ø100 mm / Ø3.94 in (SGB-090) or
Ø130 mm / Ø5.12 in (SGB-120)
Equipped with female BSP thread (ISO 228)
Including sealing made of NBR (Buna-N®)

**Operating
temperature
range:** -32 °C ... +100 °C / -25 °F ... +212 °F

Dimensions

Giant Air Breather - Type SGB



Characteristics

Originally designed to be used as replaceable air filter elements for STAUFF Desiccant Breathers, they can also be used as separate air filters for hydraulic reservoirs

Operating temperature range:

-32 °C ... +100 °C / -25 °F ... +212 °F

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

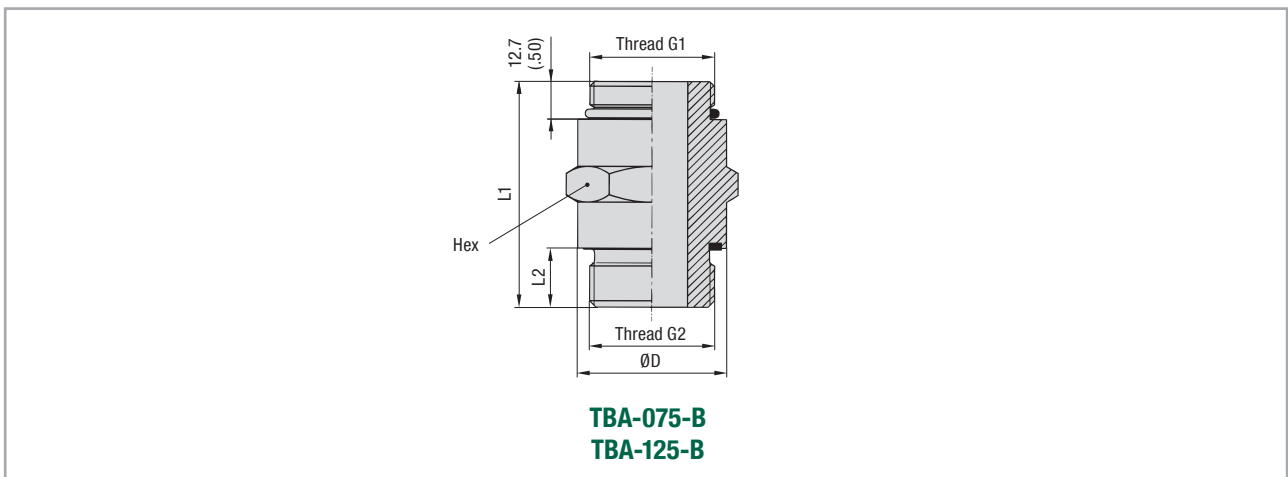
Adaptors (for direct installation on top of hydraulic reservoirs)

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

Breather Adaptor - Type TBA



TBA-075-B
TBA-125-B

Characteristics

Adapts from female threaded Giant Air Breather or Spin-On Filter Element to a male thread, and thus allows for direct installation on top of hydraulic reservoirs.

Materials

Adaptor made of Steel, zinc-plated
 Sealings made of NBR (Buna-N®)

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

GIANT AIR BREATHERS - Dimensions and Filter Specifications Standard Range

Order Code	Description	Thread G*	Dimensions (MM)		Filter Material	Micron Rating	Filter Surface	Max. Air Flow Rate
			ØD	H				
1910000485	SGB-090-03-B	Female G3/4 BSP (ISO 228)	100	64	Synthetic Fibre	3 µm	752 cm ²	0.70 m ³ /min
1910000486	SGB-120-03-B	Female G1-1/4 BSP (ISO 228)	130	100	Synthetic Fibre	3 µm	2095 cm ²	1.50 m ³ /min

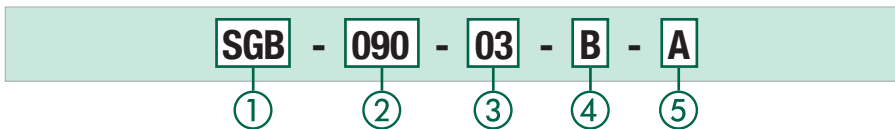
* Use adaptors TBA to change female BSP thread into male BSP or male NPT thread.

Breather Adaptor - Type Tba

Order Code	Description	Thread G1	Thread G2	Dimensions (MM)				For use with ...*
				L1	L2	ØD	HEX	
1910000707	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
1910000706	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

Others available on request

Order Codes



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

Contact STAUFF for alternative materials / micron ratings.

④ Connection Thread

Female BSP thread B
(according to dimension table)

⑤ Adaptor Option

Without adaptor -
With adaptor TBA-075-B (for SGB-090-03-B) or A
TBA-125-B (for SGB-120-03-B)

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
- Donaldson
- Eppensteiner Bosch Rexroth
- Fairley Arlon
- Hydac
- Mahle
- Internormen
- Pall
- Parker
- Other types are available on request

STAUFF offers many options for filter conversion, design and calculation and supports interested parties and customers with the design of efficient solutions:

- 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 25 μm respectively) as well as stainless mesh (micron ratings between 10 μm and 1000 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.

Find the suitable STAUFF replacement filter element at

www.filterinterchange.com



It's this easy:



search



enquire



save

Your advantages:

- Over 65000 datasets from various manufacturers
- Conversion for all common filter brands and types
- Watch list function for storing search results
- Request price and delivery time with enquiry history



www.stauff.com

General information about the companies of STAUFF Group, latest business and product news as well as complete global contact details

www.stauff.com/cad

Immediate access to and free download of 3D models and 2D drawings for a growing number of STAUFF products

www.filterinterchange.com

Online database for the quick and easy identification and interchange of almost all common brands and types of replacement filter elements

Desiccant Air Breather -Type SDB



Features Available in 4 different sizes
Refillable with drying agent (non-toxic ZR gel grain)
or a mix of drying agent and active carbon

Diameters Ø100 mm / Ø3.94 in or Ø130 mm / Ø5.12 in

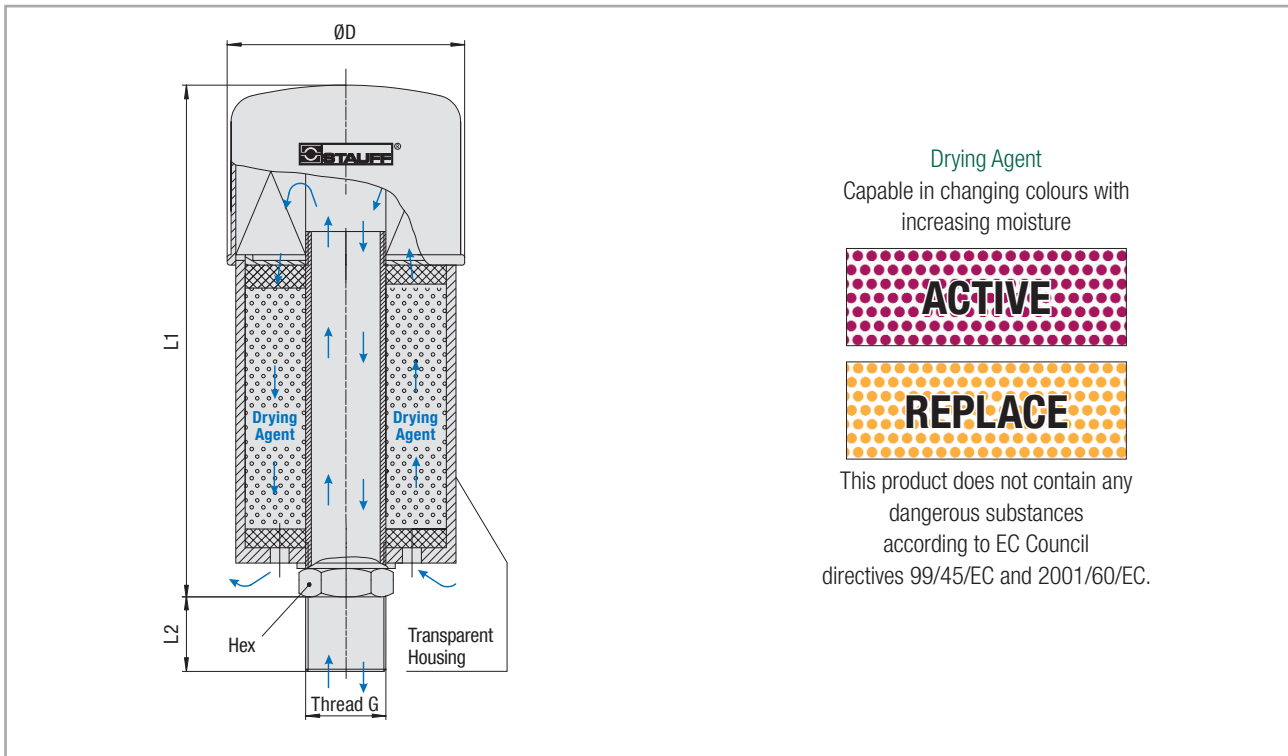
**Replaceable air
filter element** SGB

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

**Operating
temperature
range** -40 °C ... +90 °C / -40 °F ... +194 °F*

Dimensions

Desiccant Air Breather -Type SDB



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.

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 3 µm 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

Operating temperature range

-40 °C ... +90 °C / -40 °F ... +194 °F*

Accessories / Spare Parts Adaptor plate

for SDB-093/2 and SDB-096/2: AP-1
for SDB-121/2 and SDB-122/2: AP-2

Visual contamination indicator

for all sizes (in conjunction with adaptor plate only): FM

Drying agent refilling material

(supplied in air tight container)
for SDB-093/2 (300 cm³ / 18.3 in³): RD-093
for SDB-096/2 (600 cm³ / 26.6 in³): RD-096
for SDB-121/2 (1000 cm³ / 61.0 in³): RD-121
for SDB-122/2 (2000 cm³ / 122.0 in³): RD-122

Active carbon refilling material

(supplied in air tight container)
for SDB-093/2, SDB-096/2 and SDB-121/2 (300 cm³ / 18.3 in³): RC-093/096/121
for SDB-122/2 (600 cm³ / 26.6 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

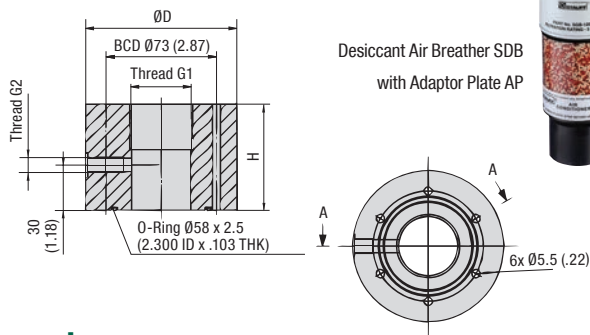
(supplied in air tight container)
for SDB-093/2 and SDB-096/2: SGB-090-03-B
for SDB-121/2 and SDB-122/2: SGB-120-03-B

Dimensions and technical data: Filter Material: Synthetic Fibre, Micron Rating 3µM

Order Code	Description	Thread G	Dimensions (MM)				Weight (g/lbs) Complete Unit	Drying Agent	Volume (cm ³ /in ³) Drying Agent	Max. Water Absorption (g/lbs)	Air Filter Elements		
			ØD	L1	L2	Hex					Type	Filter Surface	Max. Air Flow Rate
1910000481	SDB-093/2	Male G3/4 BSP (ISO 228)	100	160	20	32	1200	225	300	86	SGB-090-03-B	752 cm ²	0.70 m ³ /min
1910000482	SDB-096/2	Male G3/4 BSP (ISO 228)	100	220	20	32	1500	450	600	172	SGB-090-03-B	752 cm ²	0.70 m ³ /min
1910000483	SDB-121/2	Male G1-1/4 BSP (ISO 228)	130	256	>25	50	2700	750	1000	288	SGB-120-03-B	2095 cm ²	1.50 m ³ /min
1910000484	SDB-122/2	Male G1-1/4 BSP (ISO 228)	130	366	>25	50	4000	1500	2000	576	SGB-120-03-B	2095 cm ²	1.50 m ³ /min

Adaptor Plate - Type AP

A-A



Desiccant Air Breather SDB with Adaptor Plate AP



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.

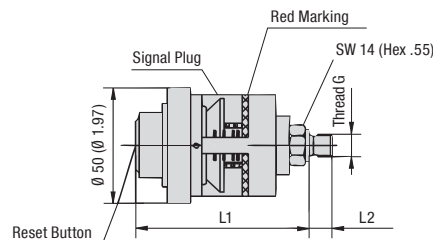
They are also equipped with a female G1/8 BSP thread (ISO 228) to connect with the Visual Contamination Indicator FM.

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.

Dimensions

Order Code	Type	Thread G1 (Breather Port)	Thread G2 (Indicator Port)	Dimensions (MM)		SOCKET CAP Screws included	FOR USE WITH Desiccant Air Breathers
				H	ØD		
1910000487	AP-1	Female G3/4 BSP (ISO 228)	Female G1/8 BSP (ISO 228)	50	88	M5 x 60 - 8.8 (Steel, zinc-plated)	SDB-096/2 SDB-093/2 SVDB-096 SVDB-093 SDB-096-CV
1910000488	AP-2	Female G1-1/4 BSP (ISO 228)	Female G1/8 BSP (ISO 228)	70	100	M5 x 80 - 8.8 (Steel, zinc-plated)	SDB-121/2 SDB-122/2 SDB-121-CV SDB-122-CV

Visual Contamination Indicator - Type FM



Desiccant Air Breather SDB with Adaptor Plate AP and Visual Contamination Indicator FM



Dimensions

Order Code	Type	Thread G	Dimensions (mm)	
			L1	L2
1910000489	FM	Male G1/8 BSP (ISO 228)	75	10

Characteristics

Designed to indicate the status of air filter elements

Visual Contamination Indicators FM – the so-called Filter Minders® – are connected to the female G1/8 BSP thread (ISO 228) of the Adaptor Plate AP and give a visual indication 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.

Materials

- Housing made of Polycarbonate

Technical Data

- Operating temperature range: -40°C ... +121°F (-40°F ... +250°F)
- Accuracy: ±10% at red marking

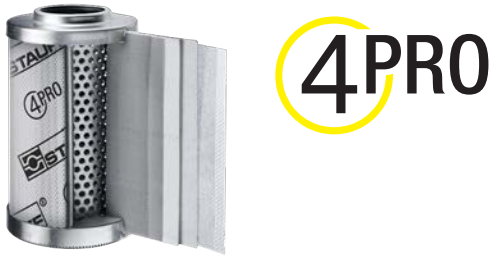


Replacement Filter Elements for Applications Involving Hydraulic and Lubrication Oils

The STAUFF 4PRO Glass Fibre Elements

The PLUS for customers:

- Longer operating times through higher dirt holding capacity
- Improved energy efficiency through lower differential pressure
- Excellent β values and outstanding β stability



The 4Pro stands for 4 pros that characterise STAUFF glass fibre materials:

- proACTIVE
- proGRESSIVE
- proFESSIONAL
- proTECTION

Or simply: **Fo(u)r Protection**

In terms of the β value, STAUFF elements have always exhibited excellent performance. For those who take filtration seriously, there's no other valid approach – the measured values must hold up under any inspection. The elements cannot afford any vulnerabilities. The new generation of elements also have excellent dirt holding capacities. Values that users have been looking for. Values that make it possible for the user to extend operating times thereby providing significant reductions to purchasing costs for elements as well maintenance costs.

Protecting Filter Elements Against Direct Flow Impact

The sensitive filter bellows on filter elements are frequently prone to damage during transportation, storage and filter replacement work. In addition, large particles in the flow of fluid may harm the filter material.

STAUFF offers a solution: SE and RE series filter elements with protective sheath (only available for glass fibre elements). This is a thin, perforated plastic sheet that completely encases the pleats of the filter from the outside as well as making the element more stable. A further positive effect is that the volume of flow is distributed more evenly by the protective sheath, thus ensuring an efficient flow rate.

In its standard version, the foil is printed with the STAUFF 4PRO logo, eliminating any mix-up with other brands. Larger quantities can also be produced with a customised imprint on the sheath.

β value

Key evaluation criteria for filter elements using glass fibre technology are the retention rate (micron rating) the β value, the β stability, the dirt holding capacity and the initial pressure differential. These values are determined using the multipass test established by ISO 16889.

The designation for STAUFF elements typically includes a rating based on filter fineness.

Filter designation β value > 200 according to ISO 4406	$\beta_{(c)} > 200$ ISO 11171	$\beta_{(c)} > 1000$ ISO 11171
03	4,0 $\mu\text{m}_{(c)}$	4,5 $\mu\text{m}_{(c)}$
05	5,0 $\mu\text{m}_{(c)}$	6,0 $\mu\text{m}_{(c)}$
10	8,8 $\mu\text{m}_{(c)}$	11,0 $\mu\text{m}_{(c)}$
20	21,0 $\mu\text{m}_{(c)}$	23,0 $\mu\text{m}_{(c)}$

Filter Material – Quality And Properties

The choice of the right filter material is dependent on different criteria. Among others, this includes the type of application, the filter function, degree of contamination or alternatively the required dirt-hold capacity as well as requirements of chemical or physical resistance. Inorganic Glass Fibre, Polyester, Cellulose, Stainless Fibre Material and Stainless Steel Wire Mesh are used for hydraulic applications.

The following list gives you an overview of how these five filter materials differ with regard to specific properties:

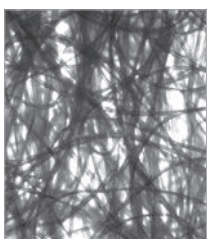


Inorganic Glass Fibre

- Inorganic Glass Fibre based on synthetic fibres with acrylic resin binding
- Large dirt-hold capacity
- Excellent separation efficiency of the finest particles due to the three-dimensional labyrinth structure with deep-bed filtration
- Outstanding price/performance ratio

Micron rating

- 3 ... 25 μm (alternative micron ratings on request)

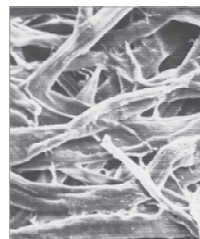


Polyester Fibre

- 100% Polyester Fibres with thermal bonding
- High pressure differential resistance
- Good chemical resistance
- High separation efficiency of the finest particle
- Tear-proof structure

Micron rating

- 3 ... 25 μm (alternative micron ratings on request)

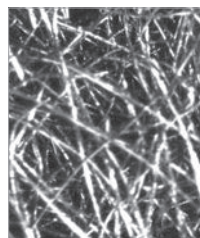


Cellulose Fibre

- Filter material made of Cellulose Fibres with special impregnation
- Variants with lowest price with good dirt-hold capacity
- Not suitable for water based fluids

Micron rating

- 10 ... 50 μm (alternative micron ratings on request)

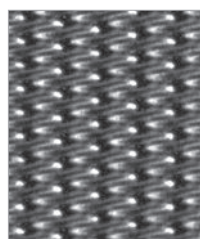


Stainless Fibre

- Sintered Stainless Fibres with three-dimensional labyrinth structure for depth filtration
- Low flow resistance with high dirt-hold capacity
- Excellent chemical and thermal resistance

Micron rating

- 3 ... 25 μm (alternative micron ratings on request)



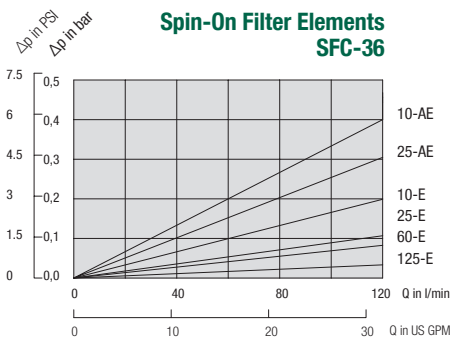
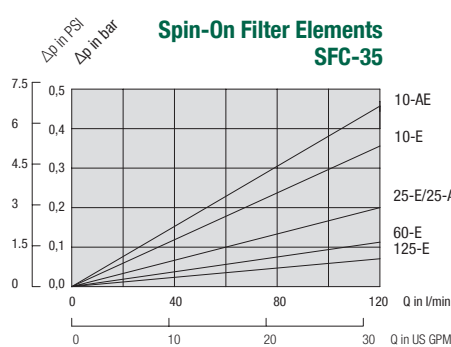
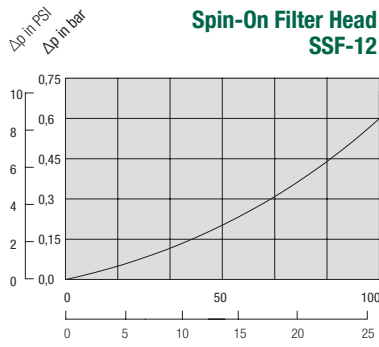
Stainless Mesh

- Wire Mesh fabric made of material 1.4301 or 1.4305 for surface (other material on request)
- Type of weave: square weave or Dutch weave
- Low flow resistance due to large-pored screening surface
- Excellent chemical and thermal resistance

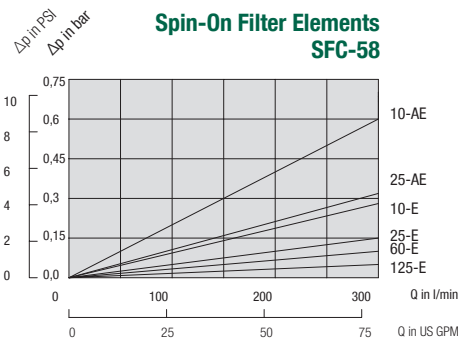
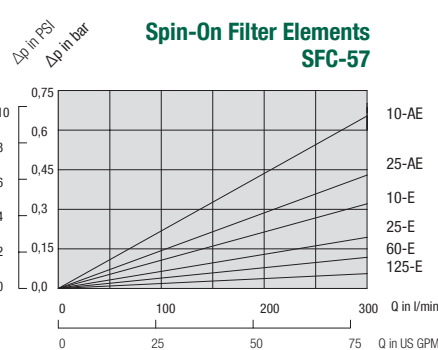
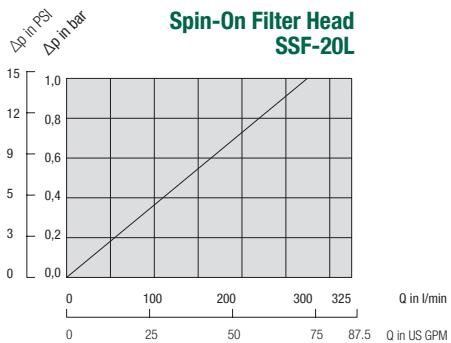
Micron rating

- 10 ... 1000 μm (alternative micron ratings on request)

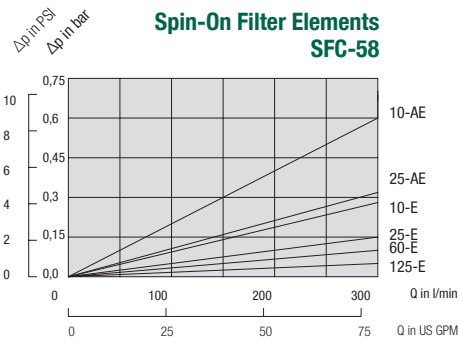
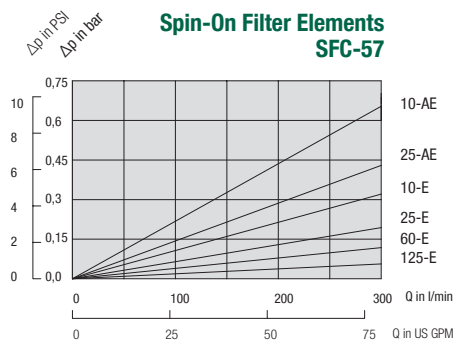
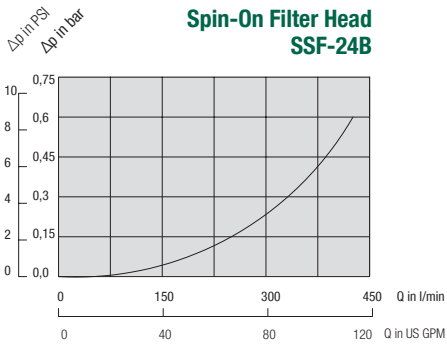
3/4" BSP Spin-on Filter Assembly, Single Head Type: SSF-12 Page 5



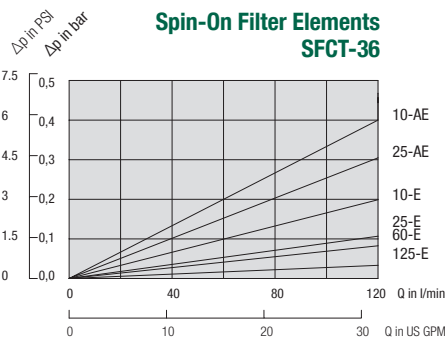
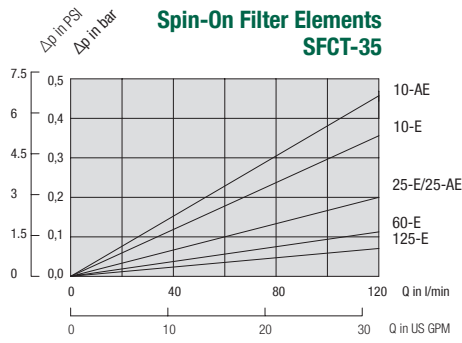
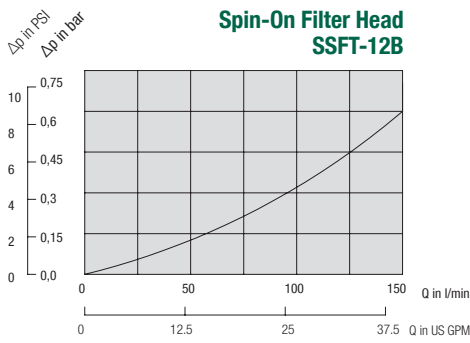
1.1/4" BSP Spin-on Filter Assembly, Single Head Type: SSF-20L Page 9



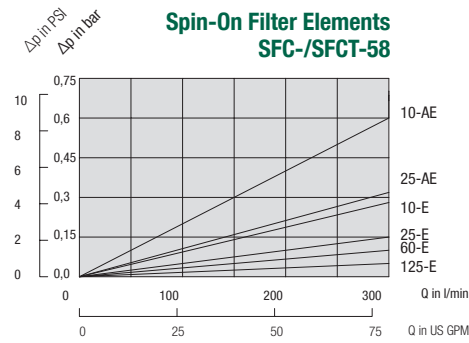
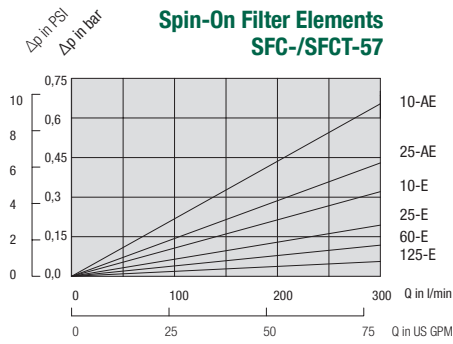
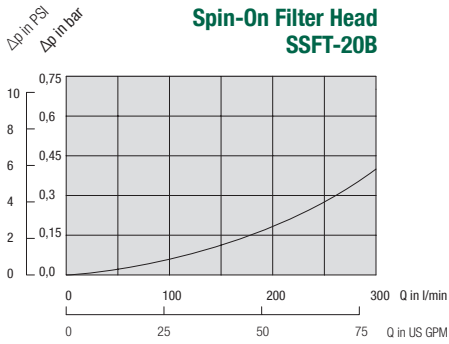
1.1/2" BSP Spin-on Filter Assembly, Single Head Type: SSF-24B



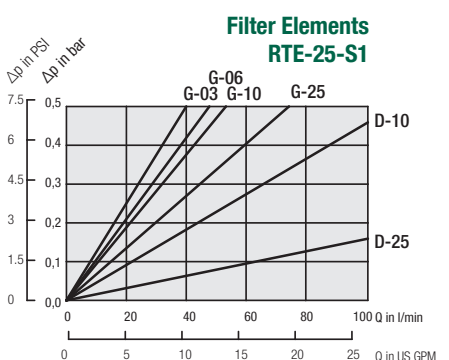
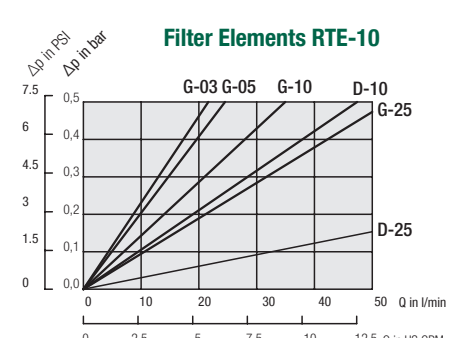
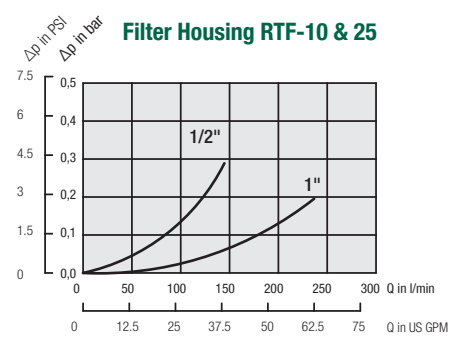
3/4" BSP Spin-on Filter Assembly, Tank Top Type: SSFT-12B



1.1/2" BSP Spin-on Filter Assembly, Tank Top Type: SSFT-20B Page 25

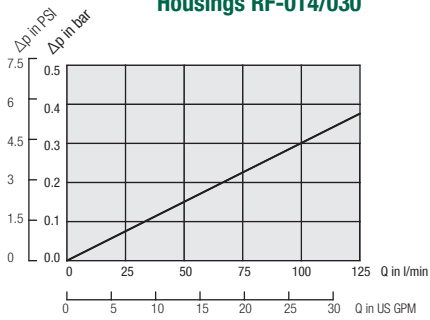


1/2" BSP & 1" BSP Return-Line Filter Assembly Type RTF-10 & 25 Page 29

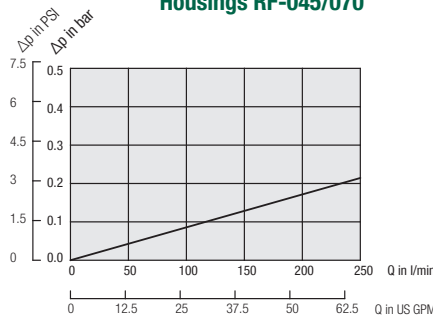


3/4" BSP - 2" BSP Return-Line Filter Assembly Type RF Page 33

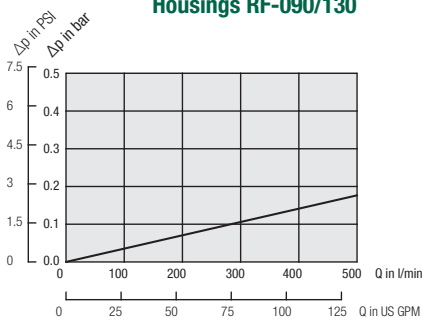
Housings RF-014/030



Housings RF-045/070

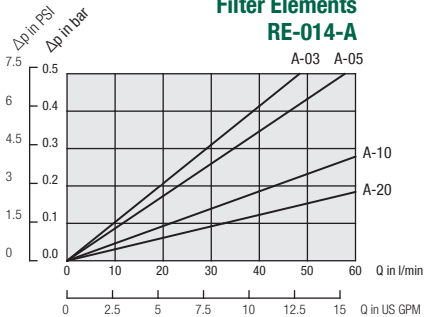


Housings RF-090/130

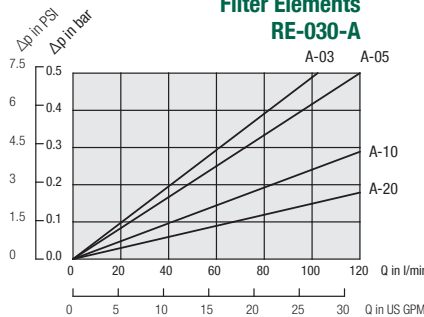


3/4" BSP - 2" BSP Return-Line Filter Assembly Type RF Page 34

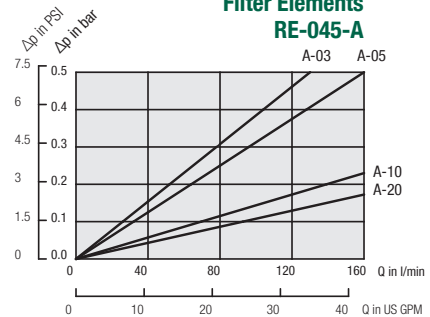
Filter Elements RE-014-A



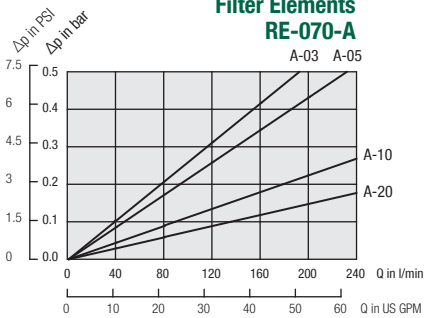
Filter Elements RE-030-A



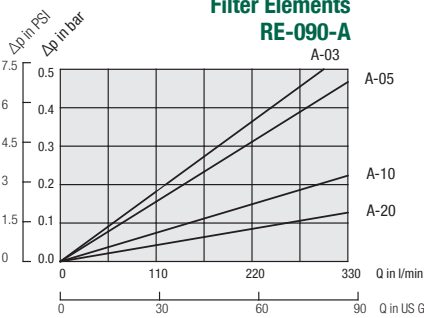
Filter Elements RE-045-A



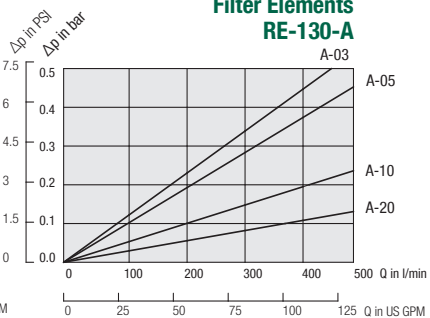
Filter Elements RE-070-A



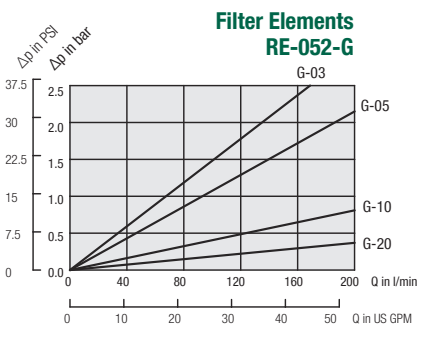
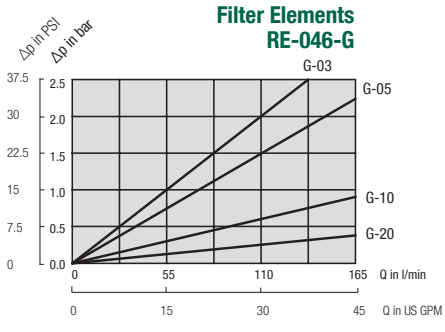
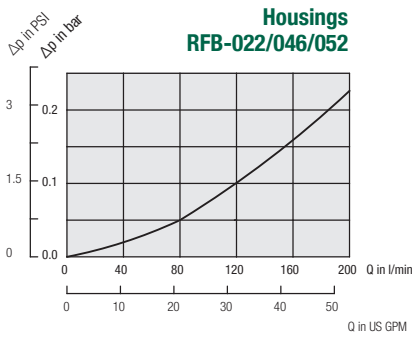
Filter Elements RE-090-A



Filter Elements RE-130-A



1" BSP Return-Line Filter Assembly Type RF^B-046 & 052 Page 39



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 guarantee high accuracy and repeatability. These compact units 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 brilliant accuracy/reliability.

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)	Bottle Sampler 110	Bottle Sampler 500	LPM-II
Laser Type	Twin-Laser	Twin-Laser	-	-	LED Laser
Analysis Range	8 channels (4,6,14,21,25,38,50,68 µm ₉₀)	8 channels (4,6,14,21,25,38,50,68 µm ₉₀)	-	-	8 channels (4,6,14,21,25,38,50,68 µm ₉₀)
Power Supply	External	External	-	-	External
Battery Option	Internal	Internal (optional)	-	-	-
Display	Integrated (large)	Integrated (small)	-	-	Internal / External
Keyboard	Integrated	-	-	-	-
Printer	Integrated	-	-	-	-
Data Storage	Internal (for approximately 600 tests)	Internal (for approximately 600 tests)	-	-	Internal (for approximately 4000 tests)
PC Interface	RS-232	RS-232	-	-	RS485, RS232, Modbus, CAN Bus
Fluid Preparation	-	-	Integrated vacuum/pressure pump	Integrated vacuum/pressure pump	-
Maximal Bottle Size	-	-	110 ml	500 ml	-
Compatible with	Mineral oil and petroleum based fluids, Specific Water Glycol fluids or phosphate ester	Mineral oil and petroleum based fluids, Specific Water Glycol fluids or phosphate ester	Mineral oil and petroleum based fluids	Mineral oil, petroleum based fluids and Specific Water Glycol fluids or phosphate ester	Mineral oil and Specific Water Glycol fluids or phosphate ester

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.

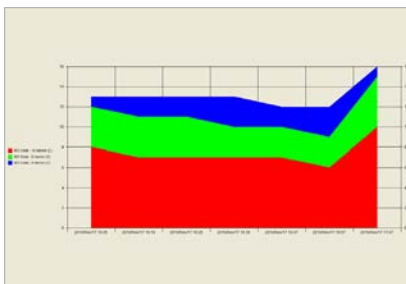
In contrast, the measuring cell of the LasPaC-II is completely examined, and all particles are registered. In addition to this, a second laser is used to analyze all particles sizes smaller than $6 \mu\text{m}_d$.

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

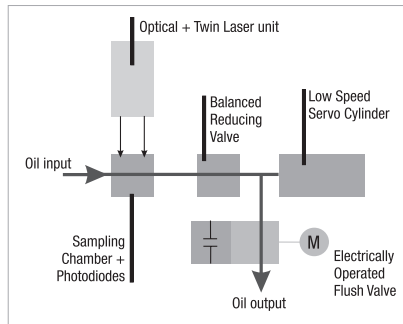
The LasPaC-II devices are calibrated with ISO Medium Test Dust (MTD) based on the ISO 11 171:1999 calibration standard.

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).


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 adaptors ensure a worldwide applicability of the LasPaC-II.

Always Secure - External Alarms

The LasPaC-II-P 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 alternatively 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 Micro-soft Excel®.

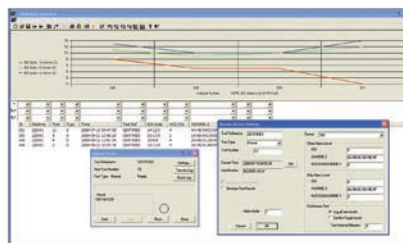
Always up-to-date - Integrated Clock

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.


Laser Particle Counter - Type LasPaC-II
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.

For further information please see on page 67.

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 500 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. For further information please see on page 66.

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
- 1x Pressure hose: 1,5 m / 2.67 ft
- 1x Waste bottle
- 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)



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

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.

Origin of Contamination

The main cause of failures and downtimes is dirt in the hydraulic system.

Failure analysis indicate that 80% 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

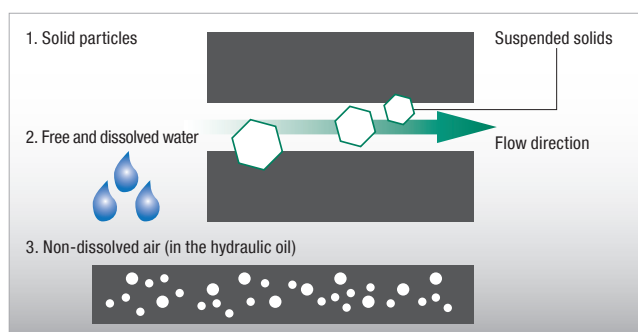
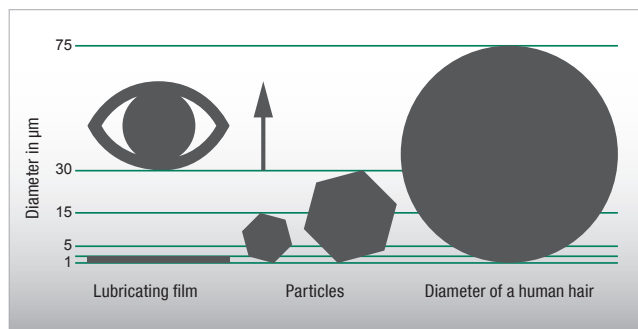
- Filling and refilling the hydraulic tank
- Inadequately dimensioned breathers
- Damaged tank seals
- Replacement of hydraulic lines and components (pumps, cylinders)
- Impurities in the air

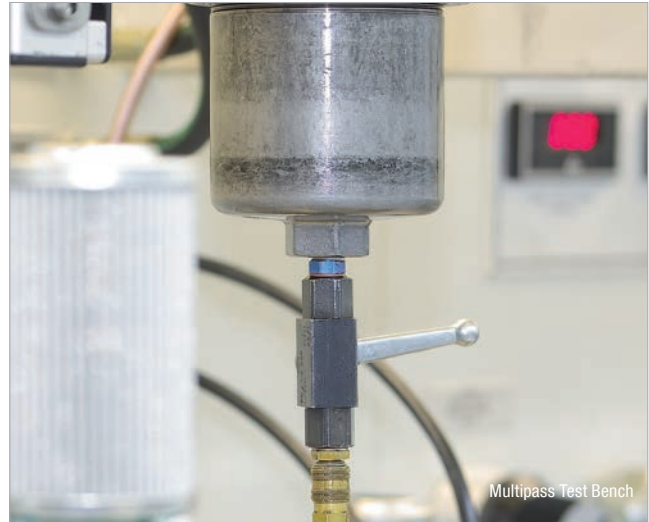
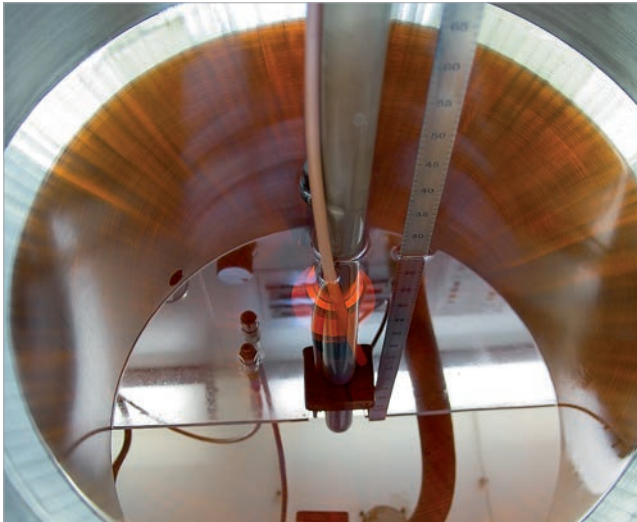
Types of Internal Contamination

- 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)





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 $>4 \mu\text{m}_{(c)}$, $>6 \mu\text{m}_{(c)}$ and $>14 \mu\text{m}_{(c)}$ in 100 ml of hydraulic oil. The number of particles is then assigned with a classification number (e.g. 14/11/8) 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	$> 4 \mu\text{m}_{(e)}$	$> 6 \mu\text{m}_{(e)}$	$> 14 \mu\text{m}_{(c)}$
16000000	32000000	25	25	25
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
1000	2000	11	11	11
500	1000	10	10	10
250	500	9	9	9
130	250	8	8	8
64	130	7	7	7
32	64	6	6	6
16	32	5	5	5



STAUFF Laser Particle Counter
LasPaC-II, LPM-II
and Bottle Sampler

Short & Curt: Filter Rating

(For exact recommendation see SCCP - STAUFF Contamination Control Program see on page 15)

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

β-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 β-value as per ISO 16889 is the relevant characteristic value for the filtration efficiency. The β-value is the ratio of particles before (N_{up x}) and after (N_{down x}) the filter related to a specific particle size x.

$$\beta_x = \frac{N_{up\ x}}{N_{down\ x}}$$

β₁₀ > 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 β-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 β-value and is calculated as follows:

$$E = \frac{(\beta_x - 1)}{\beta_x}$$

β₁₀ > 200 corresponds to filtration efficiency of 99,5%.

Comparison of the β-Value and Efficiency E (each related to a defined Particle Size)

β-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 β-value, the dirt-hold capacity (DHC) and the differential pressure (Δp) must be carefully matched.



Checklist for the selection of filter housings

Please use the following checklist as a guideline when preparing an enquiry for the selection of filter housings.

Detach, scan or copy the page from the catalogue, complete it with as much information as possible, before sending it by email or fax to the closest STAUFF branch office.

If possible, please also let us know the quantities required, and if the enquiry is for a one-time or recurring demand.

We look forward to hearing from you, and are always available for consultation, when required.

Information on the fluid in use	
Type of fluid	<input type="text"/> Brand <input type="text"/> ISO designation
Fluid viscosity	<input type="text"/> mm ² /sec <input type="checkbox"/> cSt
Fluid temperature	<input type="checkbox"/> °C <input type="checkbox"/> °F <input type="text"/> In cold condition <input type="text"/> In warm condition
Information on the filter housing	
Position in the hydraulic system	<input type="checkbox"/> Suction line <input type="checkbox"/> Pressure line <input type="checkbox"/> Return line
Operating pressure	<input type="text"/> bar <input type="checkbox"/> PSI
Nominal flow	<input type="text"/> l/min <input type="checkbox"/> US GPM
Valve	<input type="checkbox"/> No, not required
	<input type="checkbox"/> Yes, the following type: <input type="checkbox"/> Bypass valve <input type="checkbox"/> Non-return valve <input type="checkbox"/> Reverse flow valve <input type="checkbox"/> Multi-function valve
Clogging indicator	<input type="checkbox"/> No, not required
	<input type="checkbox"/> Yes, the following type: <input type="checkbox"/> Visual <input type="checkbox"/> Electrical <input type="checkbox"/> Visual-electrical
Connection type and size	<input type="text"/>
Sealing material	<input type="checkbox"/> NBR (Buna®) <input type="checkbox"/> FKM/FPM (Viton®) <input type="text"/> Other
Information on the filter element	
Filter media	<input type="checkbox"/> Inorganic Glass Fibre <input type="checkbox"/> Polyester Fibre <input type="checkbox"/> Cellulose Fibre <input type="checkbox"/> Stainless Fibre <input type="checkbox"/> Stainless Mesh
Micron rating	<input type="text"/> µm
Cleanliness level	<input type="text"/> (to ISO 4406)
Information on the application	<input type="text"/>
Information on the ambient conditions	<input type="text"/>
Additional information and requirements	<input type="text"/>



Checklist for the selection of filter housings

Please use the following checklist as a guideline when preparing an enquiry for the selection of filter housings.

Detach, scan or copy the page from the catalogue, complete it with as much information as possible, before sending it by email or fax to the closest STAUFF branch office.

If possible, please also let us know the quantities required, and if the enquiry is for a one-time or recurring demand.

We look forward to hearing from you, and are always available for consultation, when required.

Information on the fluid in use	
Type of fluid	<input type="text"/> Brand <input type="text"/> ISO designation
Fluid viscosity	<input type="text"/> <input type="checkbox"/> mm ² /sec <input type="checkbox"/> cSt
Fluid temperature	<input type="checkbox"/> °C <input type="checkbox"/> °F <input type="text"/> In cold condition <input type="text"/> In warm condition
Information on the filter housing	
Position in the hydraulic system	<input type="checkbox"/> Suction line <input type="checkbox"/> Pressure line <input type="checkbox"/> Return line
Operating pressure	<input type="text"/> <input type="checkbox"/> bar <input type="checkbox"/> PSI
Nominal flow	<input type="text"/> <input type="checkbox"/> l/min <input type="checkbox"/> US GPM
Valve	<input type="checkbox"/> No, not required
	<input type="checkbox"/> Yes, the following type: <input type="checkbox"/> Bypass valve <input type="checkbox"/> Non-return valve <input type="checkbox"/> Reverse flow valve <input type="checkbox"/> Multi-function valve
Clogging indicator	<input type="checkbox"/> No, not required
	<input type="checkbox"/> Yes, the following type: <input type="checkbox"/> Visual <input type="checkbox"/> Electrical <input type="checkbox"/> Visual-electrical
Connection type and size	<input type="text"/>
Sealing material	<input type="checkbox"/> NBR (Buna®) <input type="checkbox"/> FKM/FPM (Viton®) <input type="text"/> Other
Information on the filter element	
Filter media	<input type="checkbox"/> Inorganic Glass Fibre <input type="checkbox"/> Polyester Fibre <input type="checkbox"/> Cellulose Fibre <input type="checkbox"/> Stainless Fibre <input type="checkbox"/> Stainless Mesh
Micron rating	<input type="text"/> μm
Cleanliness level	<input type="text"/> (to ISO 4406)
Information on the application	<input type="text"/>
Information on the ambient conditions	<input type="text"/>
Additional information and requirements	<input type="text"/>



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Connection type and size	<input type="text"/>
Sealing material	<input type="checkbox"/> NBR (Buna®) <input type="checkbox"/> FKM/FPM (Viton®) <input type="text"/> Other
Information on the filter element	
Filter media	<input type="checkbox"/> Inorganic Glass Fibre <input type="checkbox"/> Polyester Fibre <input type="checkbox"/> Cellulose Fibre <input type="checkbox"/> Stainless Fibre <input type="checkbox"/> Stainless Mesh
Micron rating	<input type="text"/> µm
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Information on the application	<input type="text"/>
Information on the ambient conditions	<input type="text"/>
Additional information and requirements	<input type="text"/>



Checklist for the selection of filter housings

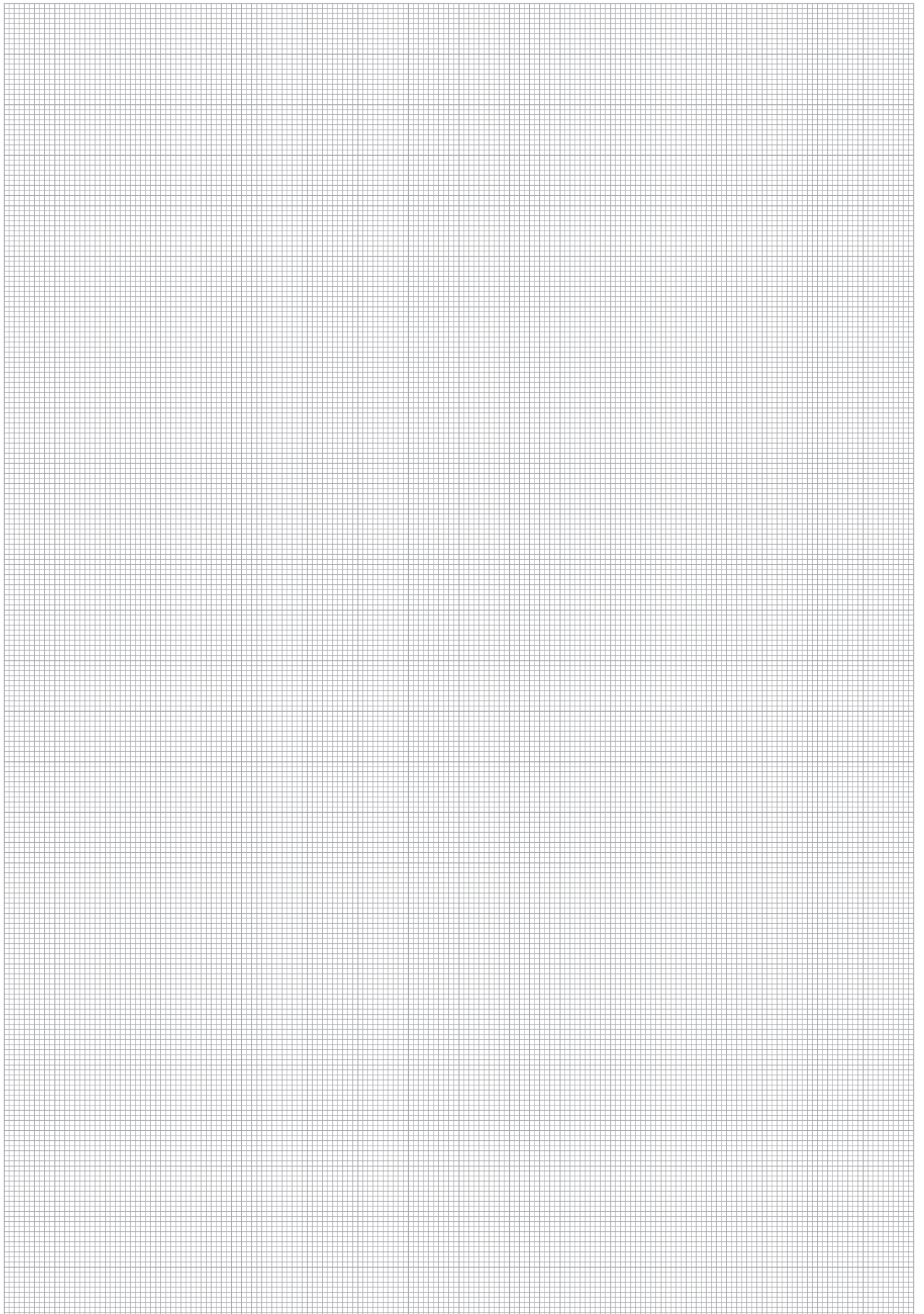
Please use the following checklist as a guideline when preparing an enquiry for the selection of filter housings.

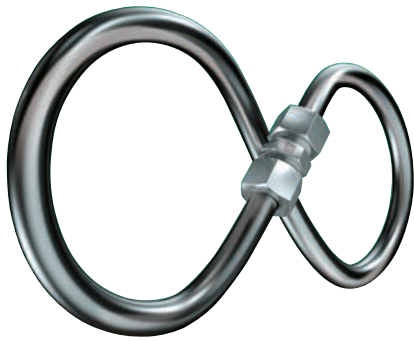
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