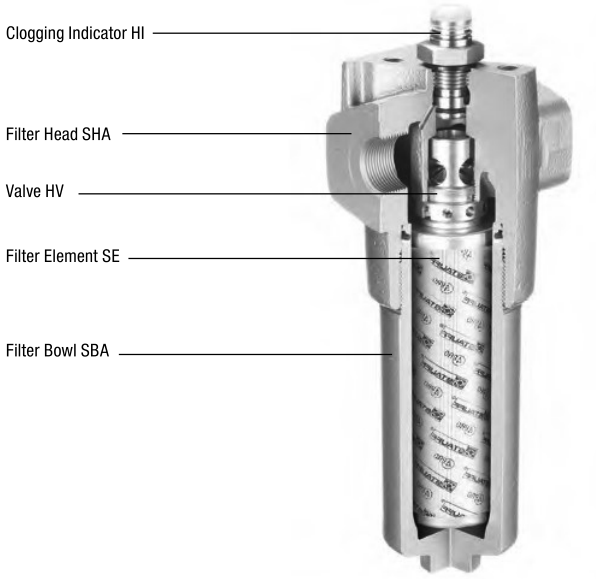
Medium Pressure Filters ▪ Type SFA



Product Description

STAUFF SFA series Medium Pressure Filters are designed for in-line hydraulic applications with a maximum operating pressure of 160 bar / 2320 PSI. Used together with STAUFF SE series Filter Elements, a high efficiency of contamination removal is assured. The dirt-hold capacity of the elements ensures long service life, and as a result, reduced maintenance costs.

Technical Data

Construction
- Designed for in-line assembly, with threaded mounting holes on top of the head.

Materials
- Filter head: Cast Aluminum
- Filter bowl: Aluminium
- O-rings: NBR (Buna-N®)
  FPM (Viton®)
  EPDM (Ethylene-Propylene-Diene-Monomer-Rubber)
- Support ring: PTFE (Polytetrafluoroethylene)

Port Connections
- BSP
- NPT
- SAE O-ring thread
- SAE Code 61 Flange

Operating Pressure
- SFA014/030: Max. 160 bar / 2320 PSI
  Max. 190 bar / 2755 PSI (according to ANSI T2.6.1. R2-2001)
- SFA045/070: Max. 150 bar / 2175 PSI
  Max. 171 bar / 2480 PSI (according to ANSI T2.6.1. R2-2001)

Burst Pressure
- Min. 480 bar / 6960 PSI

Temperature Range
- -10 °C ... +100 °C / +14 °F ... +212 °F

Filter Elements
- Specifications see page C38 / C41

Media Compatibility
- Mineral oils, other fluids on request

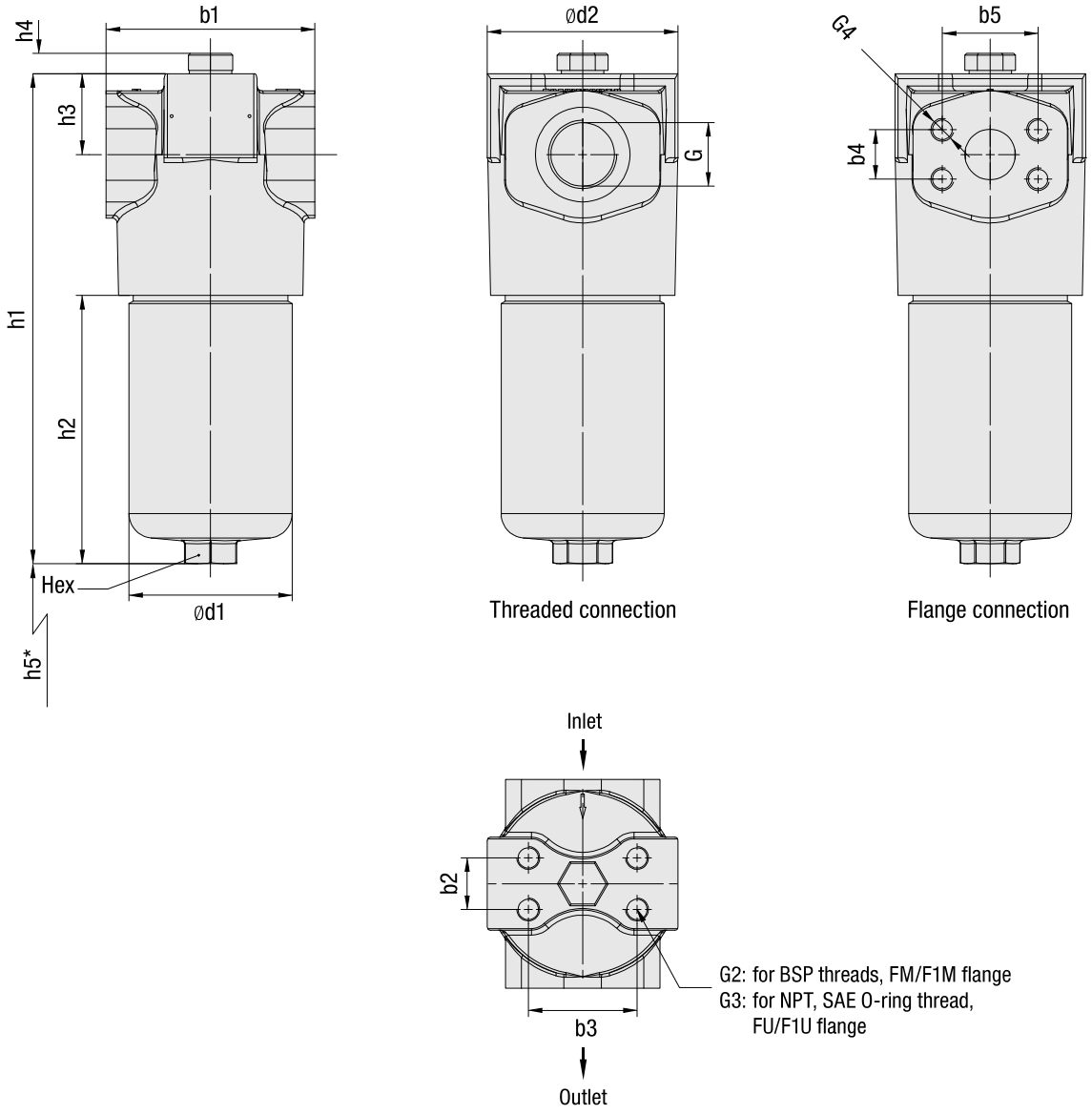
Options and Accessories

Valve
- Bypass valve: Allows unfiltered oil to bypass the contaminated element once the opening pressure has been reached, a differential pressure of $6^{+0,5}$ bar / $87^{+7.25}$ PSI Δp is the standard setting.
  Other settings available upon request.
- Reverse flow valve: Allows reverse flow through the filter head without backflushing the element.
- Non-return valve: Prevents draining of the delivery line during element change.
- Multi-function valve: Opening pressure $6^{+0,5}$ bar / $87^{+7.25}$ PSI
  Bypass, reverse flow capability and non-return valve combined in one valve.

Clogging Indicator
- Standard actuating pressure: $5_{-0,5}$ bar / $72.5_{-7.25}$ PSI Δp
  Other actuating pressure settings are available upon request.
- Available indicators: Visual
  Electrical
  Visual-electrical (24 V DC, 110 V AC, 230 V AC versions)

Medium Pressure Filters ▪ Type SFA

SFA014...070



* recommended space for element change

Medium Pressure Filters ▪ Type SFA

Thread Connection G	Filter Size SFA			
	014	030	045	070
BSP	3/4	3/4	1-1/4	1-1/4
NPT	3/4	3/4	1-1/4	1-1/4
SAE O-ring Thread	1-1/6–12	1-1/6–12	1-5/8–12	1-5/8–12
SAE Flange 3000 PSI	3/4	3/4	1-1/4	1-1/4
Weight (kg/lbs)	2,1	2,54	4,6	5,3
	4.7	5.6	10.2	11.8

Dimensions (mm/in)		Filter Size SFA			
		014	030	045	070
b1		92	92	128	128
		3.62	3.62	5.04	5.04
d1		72	72	100	100
		2.83	2.83	3.93	3.93
d2		86	86	117	117
		3.39	3.39	4.61	4.61
h1		187,5	255	241,5	301
		7.38	10.04	9.51	11.85
h2		78	145,5	105	164,5
		3.07	5.73	4.13	6.46
h3		40	40	49,5	49,5
		1.58	1.58	1.95	1.95
h4		12,5	12,5	12,5	12,5
		.49	.49	.49	.49
h5	rec.*	100	170	140	200
		3.94	6.69	5.51	7.87
	min.*	85	85	120	120
		3.35	3.35	4.72	4.72
Hex		27	27	32	32
		1.05	1.05	1.25	1.25
Dimensions SAE Flange 3000 PSI	b4	22,2	22,2	47,6	47,6
		.87	.87	1.87	1.87
	b5	30,2	30,2	58,7	58,7
		1.19	1.19	2.32	2.32
	G4	M10 x 15 or	M10 x 15 or	M14 x 17 or	M14 x 17 or
		3/8–16 UNC	3/8–16 UNC	7/8–14 UNC	7/8–14 UNC

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

Dimensions (mm/in)		Filter Size SFA			
		014	030	045	070
T	b2	23,8	23,8	31,6	31,6
		.94	.94	1.24	1.24
	b3	50,8	50,8	66,7	66,7
		2.00	2.00	2.63	2.63
	G2	M10 x 15	M10 x 15	M14 x 20	M14 x 20
	G3	3/8–16 UNC x .59	3/8–16 UNC x .59	1/2–13 UNC x .59	1/2–13 UNC x .59

Medium Pressure Filter Housings / Complete Filters ▪ Type SFA

SFA	014	...	...	V	/	T	B	/	B	/	P	T	230	/	X
1	2	3	4	5		6	7		8		9	10	11		12

1 Type

Medium Pressure Filter	**SFA**

2 Group

Flow	Size
60 l/min / 14 US GPM	**014**
110 l/min / 30 US GPM	**030**
160 l/min / 45 US GPM	**045**
240 l/min / 70 US GPM	**070**

Note: Exact flow will depend on filter element selected. Consult technical data on pages C43 / C44.

3 Filter Material

Material	max. Δp*collapse	Micron ratings available	Code
Without filter element	-	-	**...**
Inorg. glass fibre	25 bar / 363 PSI	3, 5, 10, 20	**G**
Inorg. glass fibre	210 bar / 3045 PSI		**H**
Stainless fibre	210 bar / 3045 PSI		**A**
Stainless mesh	30 bar / 435 PSI	25, 50, 100, 200	B, **S**

Note: * Collapse/burst resistance as per ISO 2941. Bold types identify preferred materials, other materials on request.

4 Micron Rating

3 µm	**03**
5 µm	**05**
10 µm	**10**
20 µm	**20**
25 µm	**25**
50 µm	**50**
100 µm	**100**
200 µm	**200**

Note: Other micron ratings on request.

5 Sealing Material

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

Note: Other sealing materials on request.

6 Connection Flange

Type T	**T**

7 Connection Style

Connection Style	Group				Thread Style	Code
	014	030	045	070		
BSP	3/4		1-1/4		metric	**B**
BSP	1		1-1/2		metric	B1
NPT	3/4		1-1/4		UNC	N
SAE O-ring Thread	1-1/16-12		1-5/8-12		UNC	U
SAE Flange 3000 PSI	3/4		1-1/4		metric	FM
SAE Flange 3000 PSI	3/4		1-1/4		UNC	FU
SAE Flange 3000 PSI	1		-		metric	F1M
SAE Flange 3000 PSI	1		-		UNC	F1U

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

8 Valve

Without valve	**0**
Bypass valve	**B**
Reverse flow valve	**R**
Non-return valve	**N**
Multi-function valve	**M**

9 Clogging Indicator

Without clogging indicator	**0**
Visual, with automatic reset	**A**
Visual, with manual reset	**V**
Electrical	**E**
Electrical, Deutsch plug	**ED**
Visual-electrical	**P**

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**

12 Design Code

Only for information	**X**

Filter Elements ▪ Type SE

SE	-	014	G	10	B	/	X
1		2	3	4	5		6

1 Type

Filter Element Series	**SE**

2 Group

According to filter housing

3 Filter Material

Material	max. Δp*collapse	Micron ratings available	Code
Inorganic glass fibre	25 bar / 363 PSI	3, 5, 10, 20	**G**
Inorganic glass fibre	210 bar / 3045 PSI		**H**
Stainless fibre	210 bar / 3045 PSI		**A**
Stainless mesh	30 bar / 435 PSI	25, 50, 100, 200	B, **S**

Note: Collapse/burst resistance as per ISO 2941. Bold types identify preferred materials, other materials on request.

4 Micron Rating

3 µm	**03**
5 µm	**05**
10 µm	**10**
20 µm	**20**
25 µm	**25**
50 µm	**50**
100 µm	**100**
200 µm	**200**

Note: Other micron ratings on request.

5 Sealing Material

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

Note: Other sealing materials on request.

6 Design Code

Only for information	**X**

Valves

Product Description (not available for SFZ)

The optional valves are fitted as an insert in the filter head and incorporate the spigot on which the element seals. The valve is selected to suit the filter application.

HV-O **Non-bypass standard insert** without any valve function. Element collapse rating should be higher than the system pressure

HV-B **Bypass valve** which allows oil to bypass the element when the differential pressure across the element reaches $6^{+0.5}$ bar / $87^{+7.25}$ PSI. (Other pressure settings available on request). The opening pressure should be higher than the Δp setting of an optional clogging indicator. Low collapse 30 bar / 435 PSI Δp elements are normally used with this valve.

HV-R **Reverse flow valve** is used in systems where there is flow in reverse through the filter. It allows reverse flow without backflushing the element but does not filter in the reverse direction. Element collapse rating should be higher than the system pressure.

HV-N **Non-return valve**
This valve prevents the oil in the delivery line from draining out while the filter is being serviced. Because there is no bypass, the element collapse rating should be higher than system pressure.

HV-M **Multi-function valve**
This valve combines the bypass, the reverse flow and the non-return functions in one unit. The by-pass opening pressure is $6^{+0.5}$ bar / $87^{+7.25}$ PSI Δp with other opening pressures available on request. The opening pressure should be higher than the Δp setting of an optional clogging indicator. Low collapse 30 bar / 435 PSI Δp elements are normally used with this valve.

Order Code

HV - M 014 / 030 / X

1 2 3 4

1 Type

Valve for Pressure Filters	**HV**

2 Valve Type

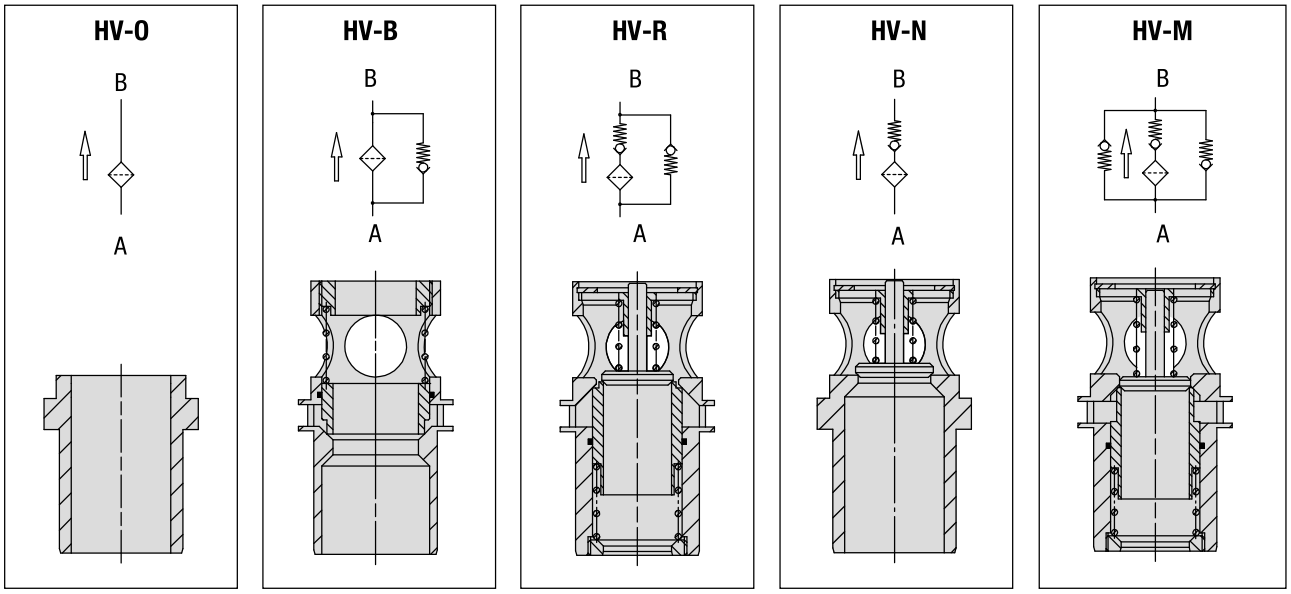
Non-bypass standard insert without any valve	**O**
Bypass valve	**B**
Reverse flow valve	**R**
Non-return valve	**N**
Multi-function valve	**M**

3 Filter Group

For filter size 014/030	**014/030**
For filter size 045/070/125	**045/070**
For filter size 090/160/250/300	**090/160**

4 Design Code

Only for information	**X**



Flow characteristics of the valves see page C42.

Clogging Indicators

Product Description

STAUFF Pressure Filters have a wide range of clogging indicators available. If no indicator is specified, the port is sealed by a plug (HI-O). The clogging indicators are actuated by the differential pressure (Δp) across the element. The special piston design minimizes the effects of peak pressures in the system. An optional thermal lockout (thermo-stop) is available to prevent false indication under cold start conditions. Fluid temperature have to be at least +20 °C / +68 °F for the indicator to function.

Technical Data

Materials
- Body: Stainless Steel
- Sealings: NBR (Buna-N®)
  FPM (Viton®)
  EPDM (Ethylene-Propylene-Diene-Monomer-Rubber)

Thread
- G 1/2

Differential Pressure
- $5_{-0,5}$ bar / $72.5_{-7.25}$ PSI pressure setting (other settings on request)

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

Electrical and visual-electrical clogging indicators are only available with automatic reset.

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

Order Code

HI	-	P	T	230	B	2,5B	/	X
1		2	3	4	5	6		7

1 Type

Clogging Indicator for Pressure Filters	**HI**

2 Indicator Type

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

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**
FPM (Viton®)	**V**
EPDM	**E**

6 Differential Pressure Setting

1,72 bar / 25 PSI	**25P**
2,0 bar / 29 PSI	**2,0B**
2,5 bar / 36.3 PSI	**2,5B**
3,0 bar / 43.5 PSI	**3,0B**
5,0 bar / 72.5 PSI (standard option)	**5,0B**
7,0 bar / 101.5 PSI	**7,0B**

7 Design Code

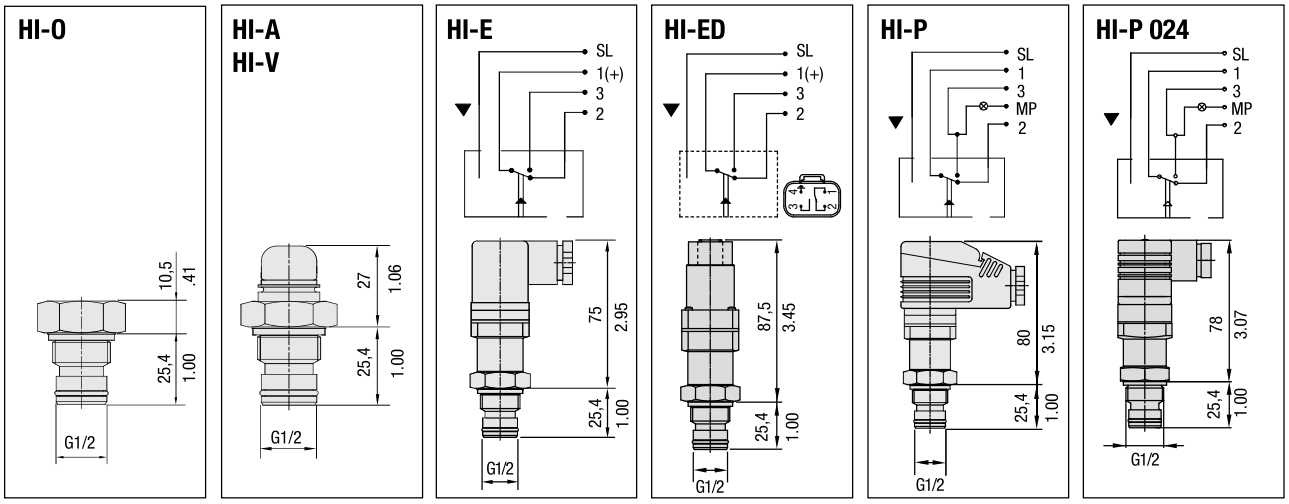
Only for information	**X**

Rated Capacity HI-E and HI-P

Voltage V	Resistive Load A	Inductive Load A
110 V AC	5A	3A
230 V AC	3A	2A
24 V DC	4A	3A

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.

Replacement Filter Elements ▪ Type SE

Product Description

STAUFF SE series Replacement Filter Elements for SF / SF-TM / SF-SM / SFZ / SFA series filter housings are manufactured in the common filter materials such as Stainless Fibre, Stainless Mesh and Inorganic Glass Fibre. As standard, all Replacement Elements SE series have tin-plated steel parts for use with aggressive media such as water glycol, other materials available on request. All STAUFF Replacement Elements comply with quality specifications in accordance with international standards.

Order Code

SE	-	014	G	10	B	/	X
1		2	3	4	5		6

1 Type

Filter Element Series	**SE**

2 Group

According to filter housing	

3 Filter Material

Material	max. Δp*collapse	Micron ratings available	Code
Inorganic glass fibre	25 bar / 363 PSI	3, 5, 10, 20	**G**
Inorganic glass fibre	210 bar / 3045 PSI		**H**
Stainless fibre	210 bar / 3045 PSI		**A**
Stainless mesh	30 bar / 435 PSI	25, 50, 100, 200	B, **S**

Note: * Collapse/burst resistance as per ISO 2941. Bold types identify preferred materials, other materials on request.

4 Micron Rating

3 µm	**03**
5 µm	**05**
10 µm	**10**
20 µm	**20**
25 µm	**25**
50 µm	**50**
100 µm	**100**
200 µm	**200**

Note: Other micron ratings on request.

5 Sealing Material

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

Note: Other sealing materials on request.

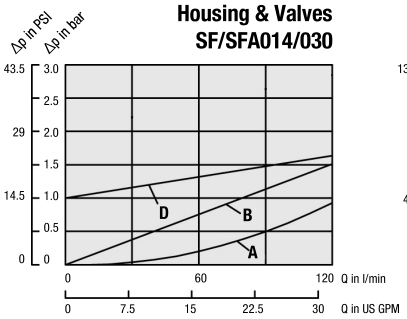
6 Design Code

Only for information	**X**

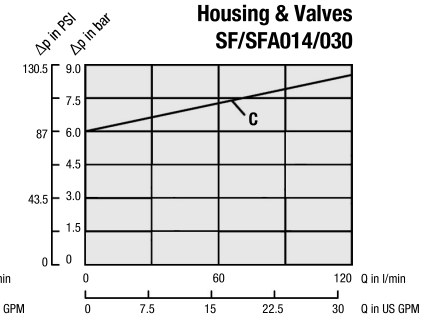
High and Medium Pressure Filters ▪ Type SF / SF-TM / SF-SM / SFZ / SFA

The following characteristics are valid for mineral oils with a density of 0,85 kg/dm³ and the kinematic viscosity of 30 mm²/s (30 cSt). The characteristics have been determined in accordance to ISO 3968. Multipass filter ratings have been obtained in accordance to ISO 16889. Consult STAUFF for details.

Housing & Valves SF/SFA014/030

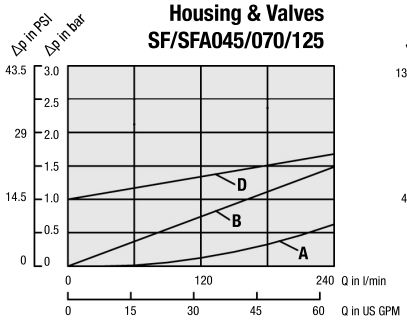


Housing & Valves SF/SFA014/030

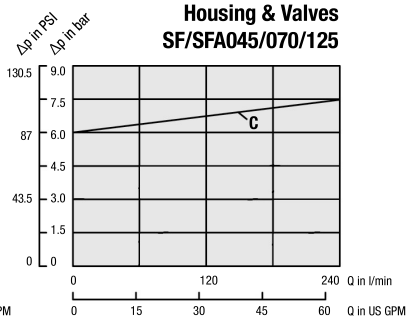


Valve Configuration	Flow direction	Curve
Housing with HV-O or HV-B	Inlet → Outlet	A
HVM, HV-R, HV-N	Inlet → Outlet	B
HV-M, HV-B ▪ Element 100% blocked Bypass only ▪ In reality always mixed mode	Inlet → Outlet	C
HV-M,HV-R Reverse mode	Outlet → Inlet	D

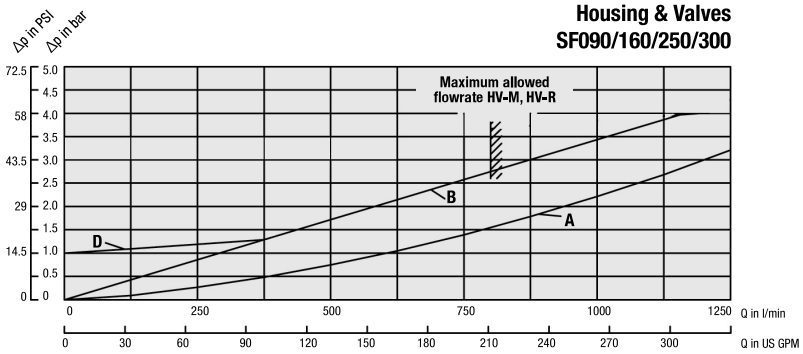
Housing & Valves SF/SFA045/070/125



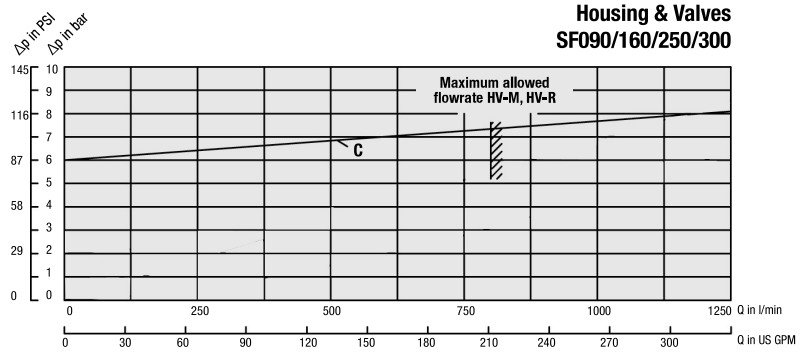
Housing & Valves SF/SFA045/070/125



Housing & Valves SF090/160/250/300



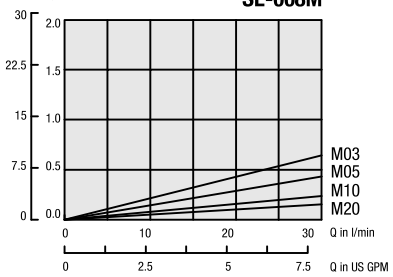
Housing & Valves SF090/160/250/300



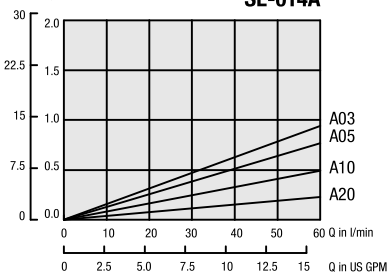
High and Medium Pressure Filters ▪ Type SF / SF-TM / SF-SM / SFZ / SFA

The following characteristics are valid for mineral oils with a density of 0,85 kg/dm³ and the kinematic viscosity of 30 mm²/s (30 cSt). The characteristics have been determined in accordance to ISO 3968. Multipass filter ratings have been obtained in accordance to ISO 16889. Consult STAUFF for details.

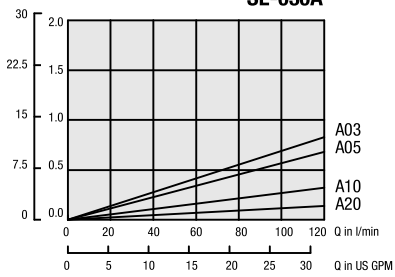
Filter Element SE-008M



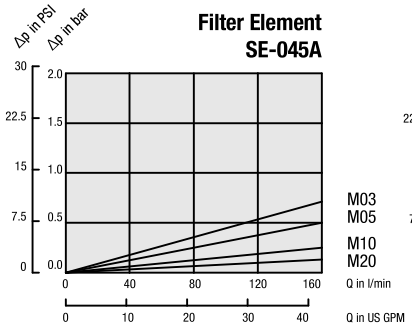
Filter Element SE-014A



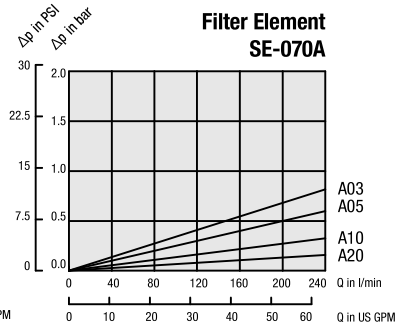
Filter Element SE-030A



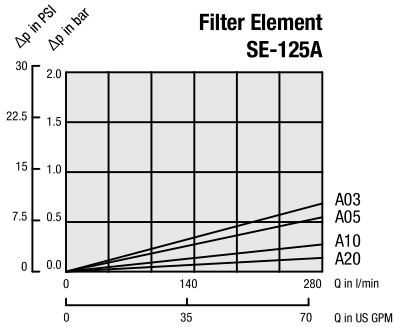
Filter Element SE-045A



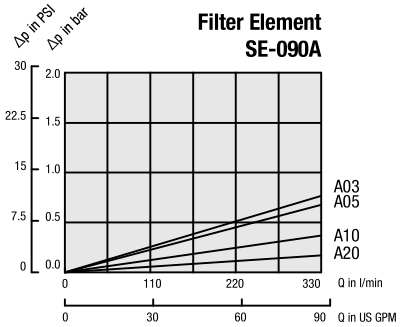
Filter Element SE-070A



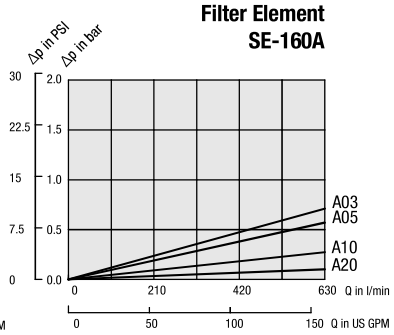
Filter Element SE-125A



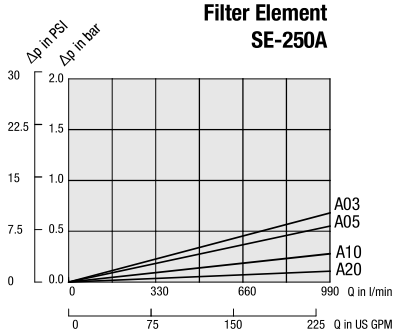
Filter Element SE-090A



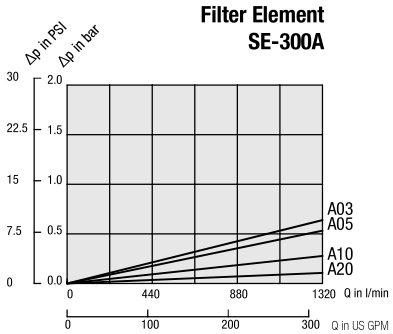
Filter Element SE-160A



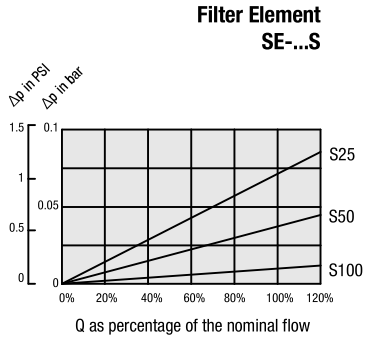
Filter Element SE-250A



Filter Element SE-300A



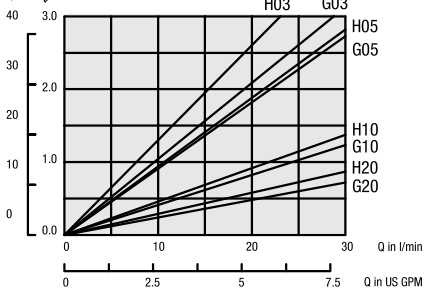
Filter Element SE-...S



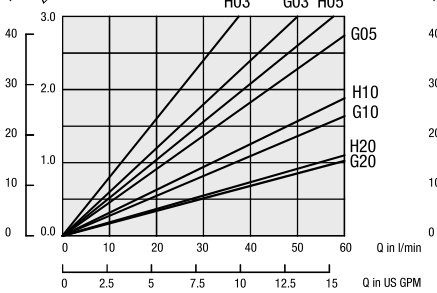
High and Medium Pressure Filters ▪ Type SF / SF-TM / SF-SM / SFZ / SFA

The following characteristics are valid for mineral oils with a density of 0,85 kg/dm³ and the kinematic viscosity of 30 mm²/s (30 cst). The characteristics have been determined in accordance to ISO 3968. Multipass filter ratings have been obtained in accordance to ISO 16889. Consult STAUFF for details.

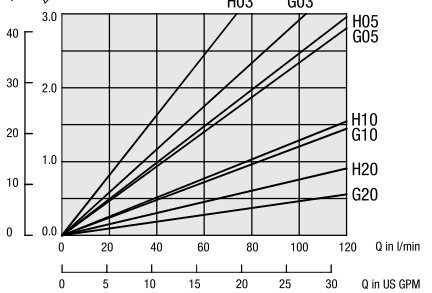
Filter Elements SE-008G,H



Filter Elements SE-014G,H



Filter Elements SE-030G,H



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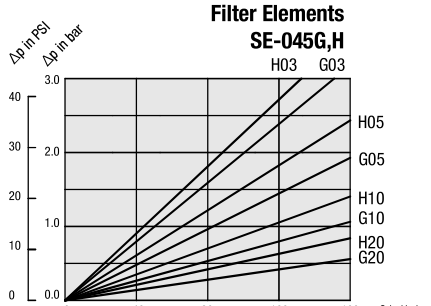

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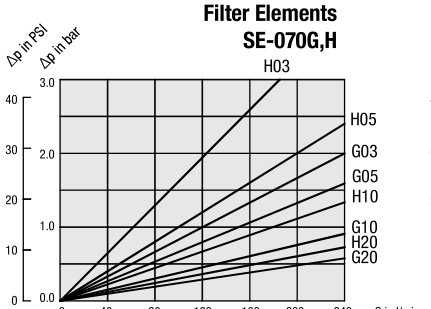

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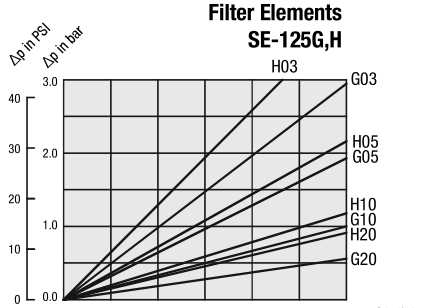
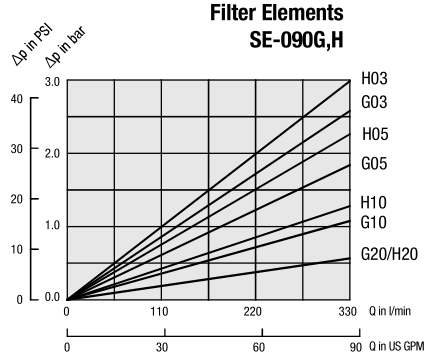
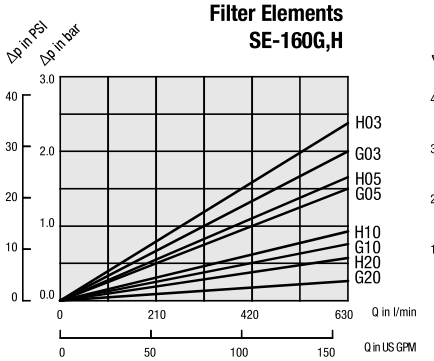


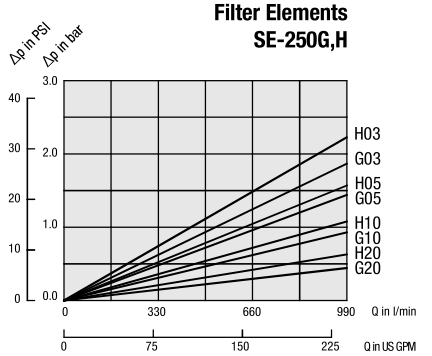
Filter Elements SE-090G,H



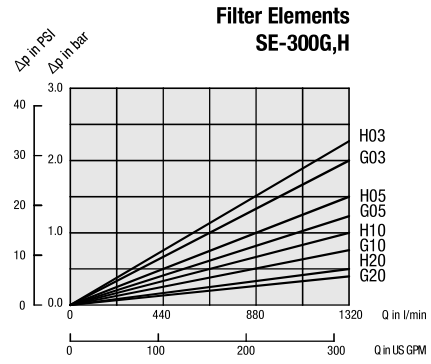
Filter Elements SE-160G,H



Filter Elements SE-250G,H



Filter Elements SE-300G,H



Medium Pressure Filters ▪ Type SMPF

Product Description

STAUFF SMPF Medium Pressure Filters are designed for in-line hydraulic applications with a maximum operating pressure of 110 bar / 1600 PSI. Used together with STAUFF Filter Elements, a high efficiency of contamination removal is assured.

Technical Data

Construction
- In-line assembly

Materials
- Filter head: Aluminium Alloy
- Filter bowl: Aluminium Alloy
- Sealings: NBR (Buna-N®)

Port Connections
- BSP
- SAE O-ring thread

Flow Rating
- Up to 90 l/min / 25 US GPM

Operating Pressure
- Max. 110 bar / 1600 PSI

Burst Pressure
- 300 bar / 4350 PSI

Temperature Range
- -25 °C ... +110 °C / -13 °F ... +230 °F

Filter Elements
- Specifications see page C48

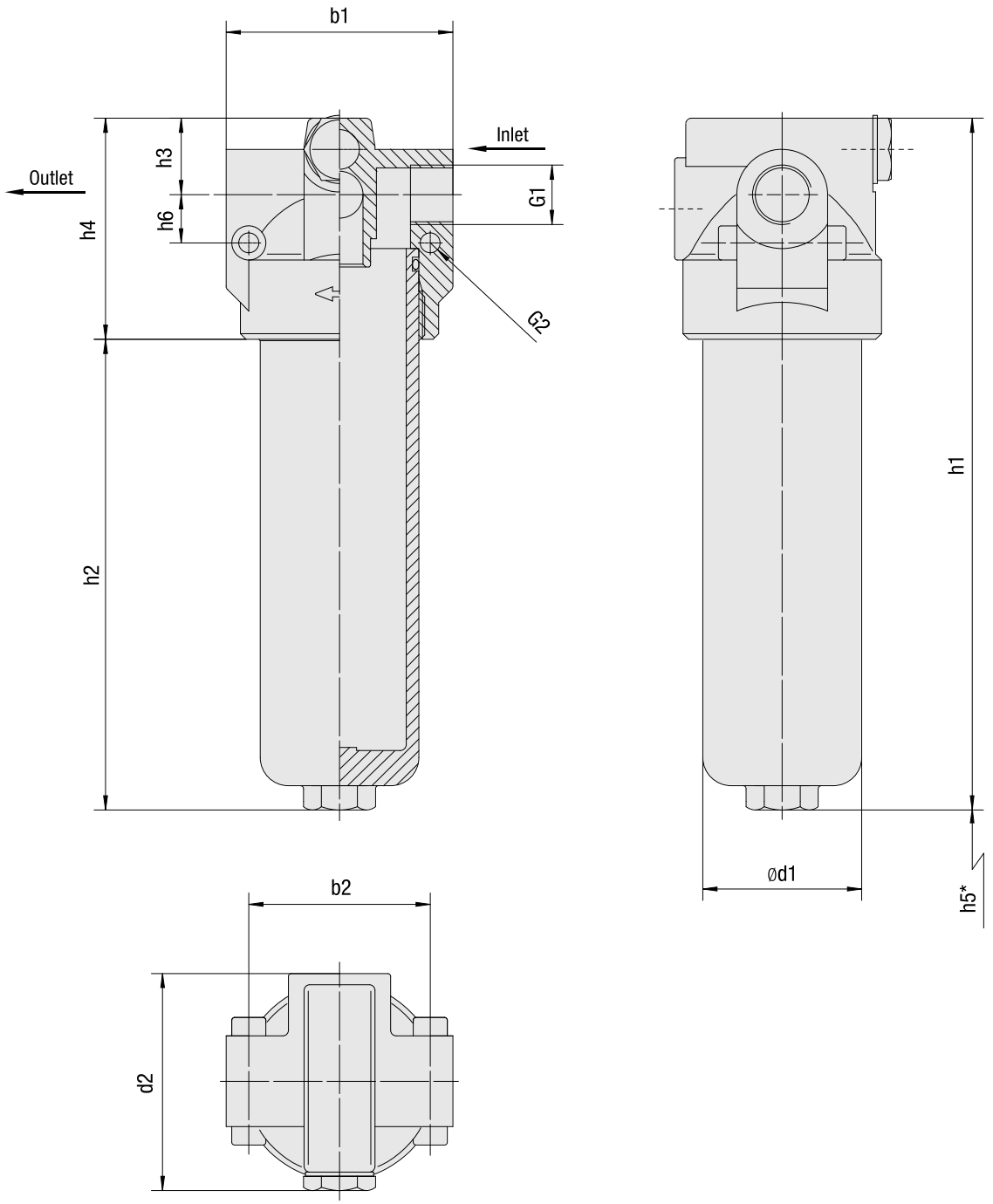
Media Compatibility
- Mineral oils, other fluids on request

Options and Accessories

Valve
- Bypass valve: Allows unfiltered oil to bypass the contaminated element once the opening pressure has been reached 6 bar / 87 PSI ±10% is the standard actuating pressure

Clogging Indicators
- Standard actuating pressure: 5 bar / 72.5 PSI ±10%
- Available indicators: Visual
  Visual-electrical

Medium Pressure Filters ▪ Type SMPF



* recommended space for element change

Medium Pressure Filters ▪ Type SMPF

Thread Connection G1	Filter Size SMPF	
	015	025
Nominal Flow (l/min / US GPM)	60 15	90 25
BSP	1/2	1/2
SAE O-ring thread	3/4–16	3/4–16
Weight (kg/lb)	0,95 2.09	1,25 2.76

Dimensions (mm/in)	Filter Size SMPF	
	015	025
b1	80 3.15	80 3.15
b2	64 2.52	64 2.52
d1	56 2.20	56 2.20
d2	76,5 3.01	76,5 3.01
h1	157 6.18	244 9.61
h2	79 3.11	166 6.54
h3	27 1.06	27 1.06
h4	78 3.07	78 3.07
h5	60 2.36	60 2.36
h6	17 .67	17 .67
G2	7 .28	7 .28

Medium Pressure Filter Housings / Complete Filters ▪ Type SMPF

SMPF	015	...	...	B	/	T	B	/	B	/	VE	/	X
1	2	3	4	5		6	7		8		9		10

1 Type

Medium Pressure Filter	**SMPF**

2 Group

Flow	Size
60 l/min / 15 US GPM	**015**
90 l/min / 25 US GPM	**025**

Note: Exact flow will depend on filter element selected
Consult technical data on page C50.

3 Filter Material

Material	Max. Δp*collapse	Micron ratings available	Code
Without filter element	-	-	**...**
Inorg. glass fibre	20 bar / 290 PSI	03, 10, 20	**E**
Stainless mesh	20 bar / 290 PSI	60	**S**

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

4 Micron Rating

3 µm	**03**
10 µm	**10**
20 µm	**20**
60 µm	**60**

Note: Other micron ratings on request.

5 Sealing Material

NBR (Buna®)	**B**

Note: Other sealing materials on request.

6 Mounting Style

In-line	**T**

7 Connection Style

BSP	1/2	**B**
SAE O-ring thread	3/4–16	**U**

8 Valve

Without valve	**0**
Bypass valve	**B**

9 Clogging Indicator

Without Clogging Indicator	**0**
Visual	**V**
Visual-electrical	**VE**

10 Design Code

Only for information	**X**

Filter Elements ▪ Type SME

SME	-	015	E	03	B	/	X
1		2	3	4	5		6

1 Type

Filter Element Series	**SME**

2 Group

According to filter housing

3 Filter Material

Material	Max. Δp*collapse	Micron ratings available	Code
Inorg. glass fibre	20 bar / 290 PSI	03, 10, 20	**E**
Stainless mesh	20 bar / 290 PSI	60	**S**

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

4 Micron Rating

3 µm	**03**
10 µm	**10**
20 µm	**20**
60 µm	**60**

Note: Other micron ratings on request.

5 Sealing Material

NBR (Buna®)	**B**

Note: Other sealing materials on request.

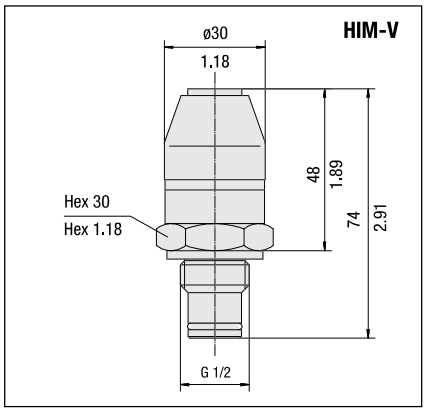
6 Design Code

Only for information	**X**

Medium Pressure Filters ▪ Type SMPF

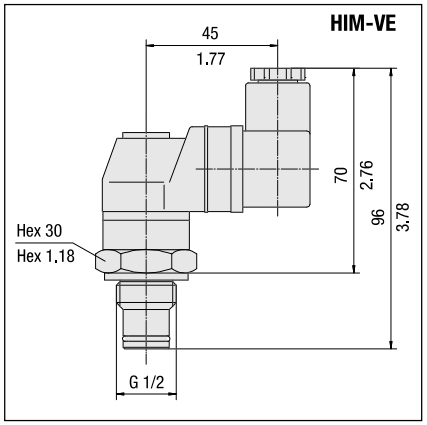
Visual Clogging Indicator

Part number HIM-V is a clogging indicator actuated by the differential pressure across the filter element. The actuating pressure of 5 bar / 72.5 PSI allows the dirty element to be changed before the bypass setting of 6 bar / 87 PSI is reached.



Visual-Electrical Clogging Indicator

Part number HIM-VE is used when an electrical signal is needed to indicate when the element needs changing. It is actuated by the differential pressure across the filter element. The actuating pressure of 5 bar / 72.5 PSI allows the dirty element to be changed before the bypass setting of 6 bar / 87 PSI is reached.

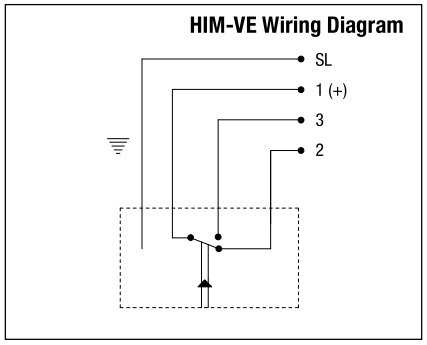


Dimensions in mm / in

HIM-VE Rated Capacity

Voltage V	Resistive Load A	Inductive Load A
125 V AC	5	5
250 V AC	5	5
15 V AC	10	10
30 V DC	5	5
50 V DC	1	1
125 V DC	0.50	0.06

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



Order Code

HIM - V B - 5,0B / X

1 2 3 4 5

1 Type

Clogging Indicator SMPF Series	**HIM**

2 Indicator Type

Visual	**V**
Visual-electrical	**VE**

3 Sealing Material

NBR (Buna®)	**B**

4 Differential Pressure Setting

5,0 bar / 72.5 PSI	**5,0B**

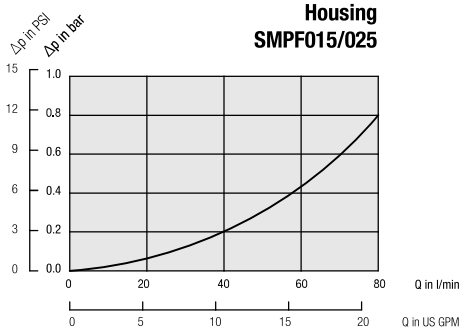
5 Design Code

Only for information	**X**

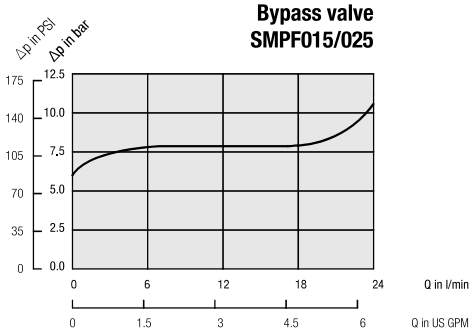
Medium Pressure Filters ▪ Type SMPF Flow Characteristics

The following characteristics are valid for mineral oils with a density of 0,85 kg/dm³ and the kinematic viscosity of 30 mm²/s (30 cSt). The characteristics have been determined in accordance to ISO 3968. Multipass filter ratings have been obtained in accordance to ISO 16889. Consult STAUFF for details.

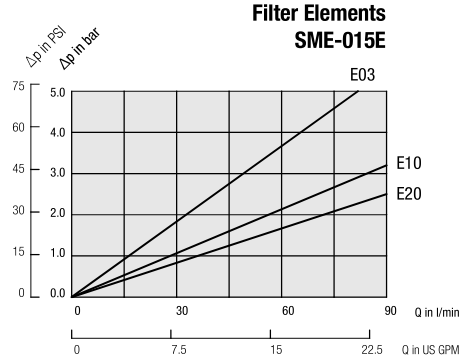
Housing SMPF015/025



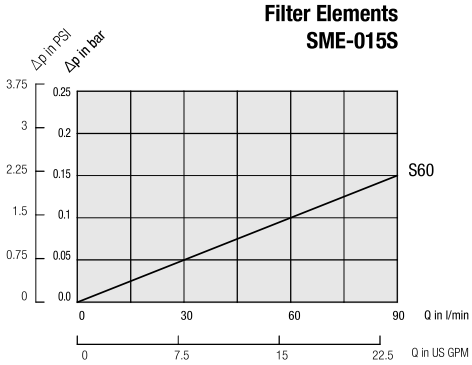
Bypass valve SMPF015/025



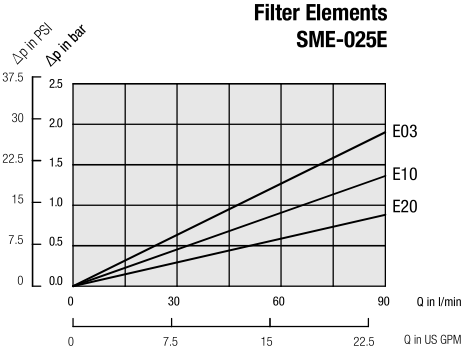
Filter Elements SME-015E



Filter Elements SME-015S



Filter Elements SME-025E



Filter Elements SME-025S