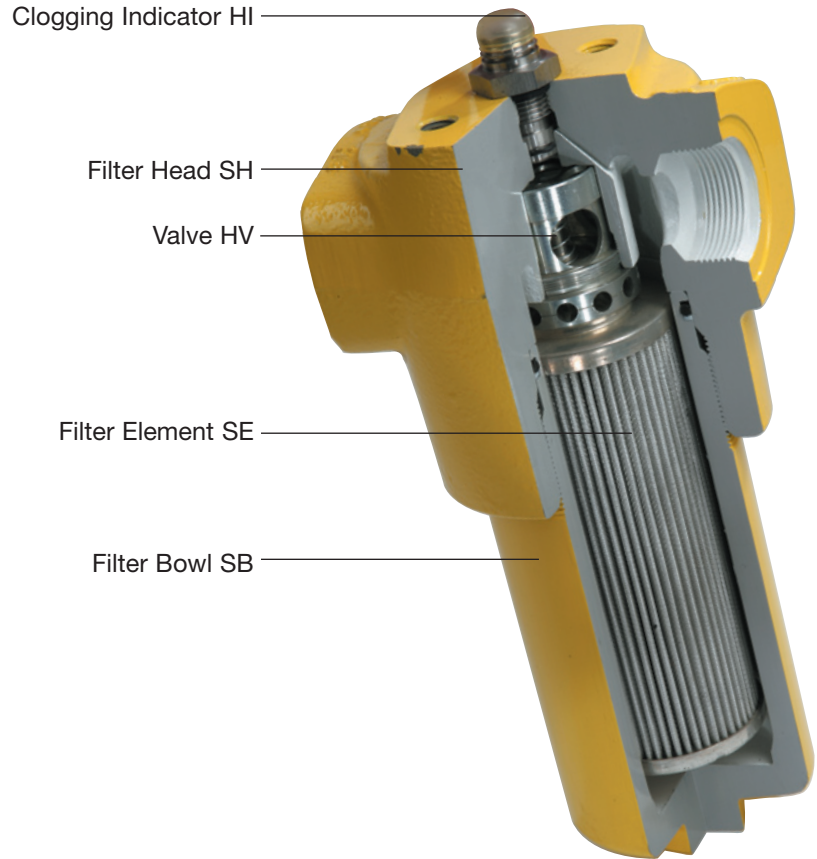


Technical Data

STAUFF high pressure filters are designed for in-line hydraulic applications, with a maximum operating pressure of 420 bar (6000 PSI). Used together with STAUFF filter elements, a high efficiency of contaminant removal is assured. The high dirt holding capacity of the elements ensures long service life and, as a result, reduced maintenance costs.

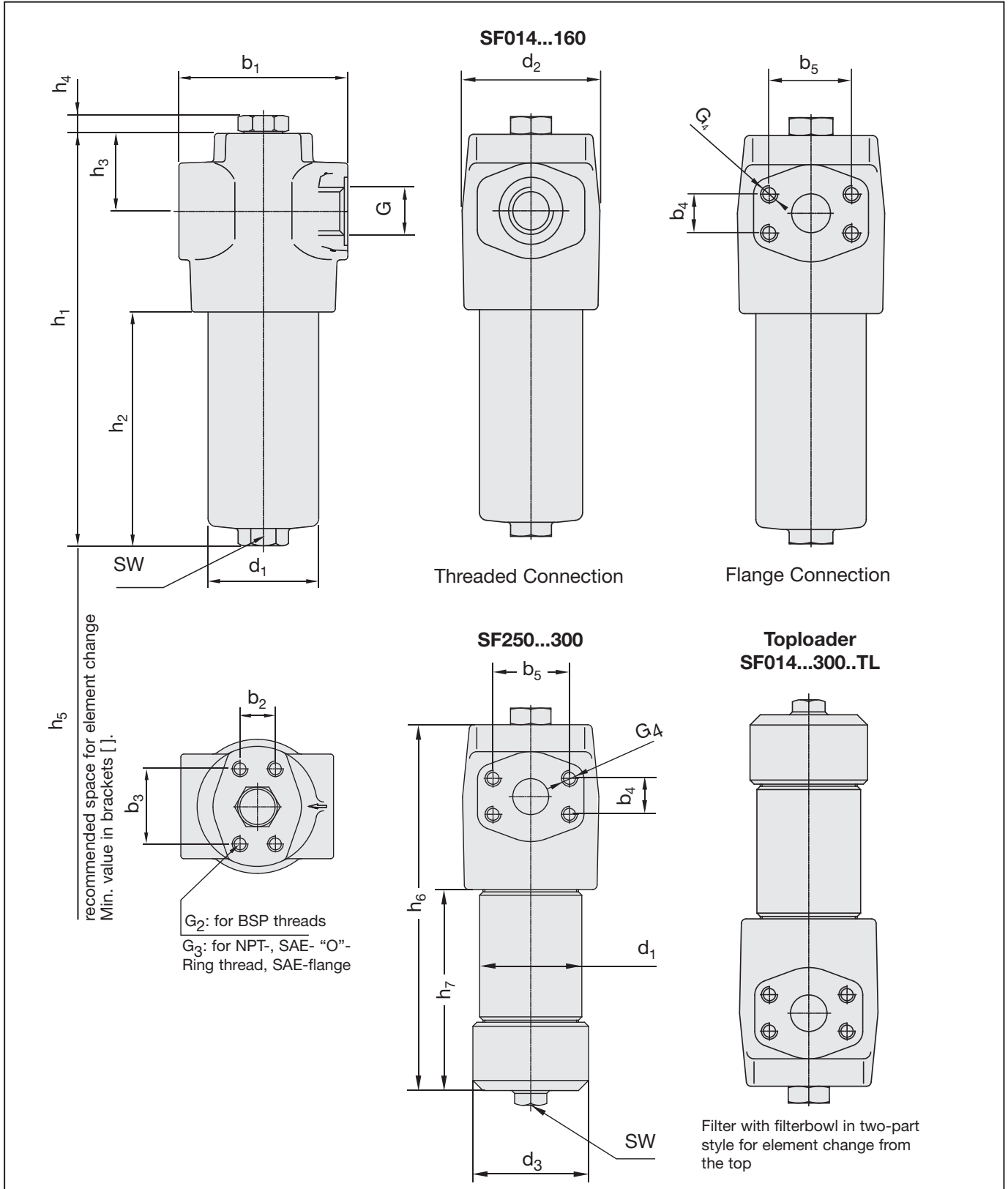


Technical Specification

Construction	In-line assembly, with threaded mounting holes on top of head
Filter head	Spheroidal graphite cast iron
Filter bowl	Cold drawn steel
Seals	O-Rings NBR (Buna-N®) FPM (Viton®) EPDM (Ethylene-propylene), support ring PTFE
Port connections	BSP, NPT, SAE "O"-Ring thread or SAE Code 61 & 62 flange
Operating pressure	max 420 bar (6000 PSI)
Proof pressure	630 bar (9100 PSI)
Burst pressure	>1260 bar (18250 PSI)
Temperature range	-10°C up to +100°C (14°F up to 212°F)
By-pass valve	Allows unfiltered oil to by-pass the contaminated element once the opening pressure has been reached, 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	Forward by-pass, reverse flow capability, and non return valve opening pressure 6 + 0,5 bar (87 + 7,25 PSI) Δp all in one valve
Clogging indicators	standard actuating pressure 5 + 0,5 bar (72 - 7,25 PSI) Δp Available indicators: visual, electrical and visual-electrical (24 V, 110 V, 220 V versions) other actuating pressures are available upon request
Filter elements	Specifications see page F10-12
Media	Mineral oils, other fluids on request

Dimensions



Dimensions in mm (inch)

Dimensions

Dimensions in mm (inch)

Filter Size	Thread Connection G				Weight including elements			
	BSP	NPT	SAE- "O"-Ring thread	SAE - flange	with bowl in one-part style		with bowl in two-part style	
					kg	lbs	kg	lbs
SF014	G 3/4	3/4"	1 1/16-12 UN	3/4"	5,3	11.7	5,9	13
SF030					6,2	13.7	6,9	15.2
SF045	G 1 1/4	1 3/4"	1 5/8-12 UN	1 1/4"	10,3	22.7	12,2	26.9
SF070					12	26.5	13,7	30.2
SF125					16,3	35.9	20	44.1
SF090	G 1 1/2	1 1/2"	1 7/8-12 UN	1 1/2"	27	59.9	32	70.5
SF160					35,5	78.3	39,3	86.5
SF250					-	-	49	108
SF300					-	-	57,3	126.3

Dimensions in mm (inch)

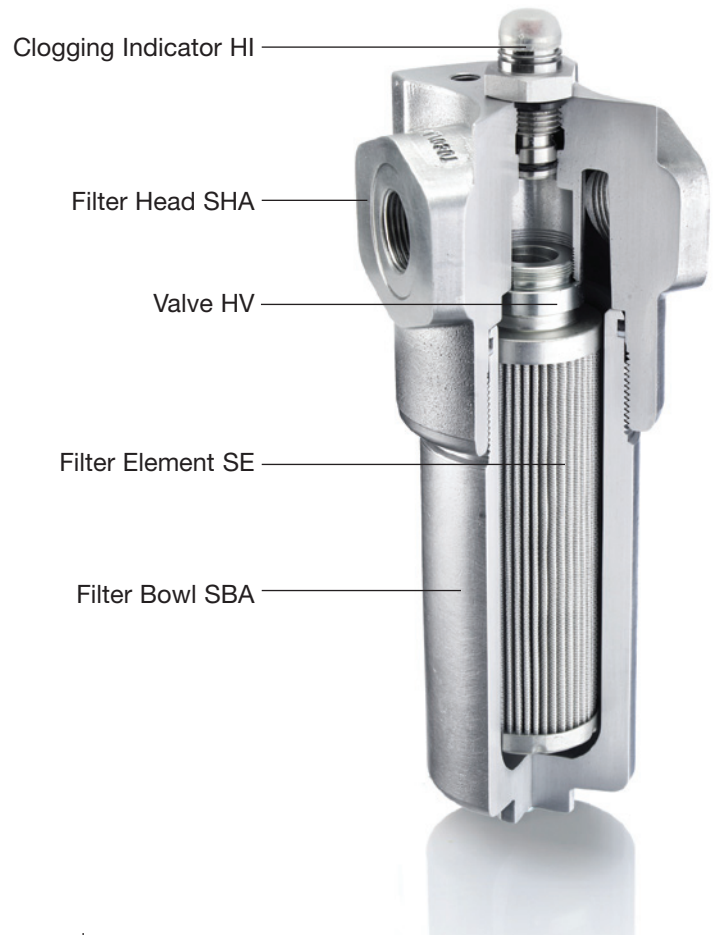
Filter Size	Dimensions														
						with Filter Bowl in one-part style Type SF					with filter bowl in two-part style Type SF...-TL				
	b ₁	d ₂	h ₃	h ₄	d ₁	h ₁	h ₂	h ₅	SW	d ₁	d ₃	h ₆	h ₇	h ₅	SW
SF014	104 (4.1)	83 (3.27)	48 (1.89)	12,5 (0,49)	68 (2.68)	188 (7.4)	78 (3.07)	100 [85] (3.94 [3.35])	27 (1.06)	70 (2.76)	84 (3.31)	190 (7.48)	80 (3.15)	65 (2,6)	27 (1.06)
SF030						254 (10)	144 (5.67)	170 [85] (6.69 [3.35])				256 (10.08)	146 (5.75)	130 (5.12)	
SF045						239 (9.41)	103 (4.06)	140 [120] (5.51 [4.72])				241 (9.49)	103 (4.06)	100 (3.94)	
SF070	140 (5.51)	116 (4.57)	49,5 (1.95)			95 (3.74)	298 (11.73)	161 (6.34)	200 [120] (7.87 [4.72])	32 (1.26)	101,6 (4)	115 (4.53)	300 (11.81)	163 (6.42)	160 (6.3)
SF125						483 (19.11)	343 (13.5)	380 [120] (14.96 [4.72])				485 (19.1)	344 (13.54)	340 (13.39)	
SF090						323 (12.72)	148 (5.83)	190 [150] (7.48 [5.91])				329,5 (12.97)	154,5 (6.08)	120 (4.72)	
SF160	178 (7.01)	159 (6.26)	72 (2.84)		130 (5.12)	494 (19.45)	319 (12.56)	360 [150] (14.17 [5.91])	36 (1.42)	133 (5.24)	155 (6.1)	500,5 (19.71)	325,5 (12.82)	290 (11.42)	36 (1.42)
SF250						not available						656,5 (25.85)	481,5 (18.96)	425 (16.73)	
SF300						not available						821,5 (32.34)	646,5 (25.45)	590 (23.23)	

Dimensions in mm (inch)

Filter Size	Dimensions Mounting Flange										
	T (Standard)				TH (Optional)				Dimensions SAE-Flange 6000 PSI		
	b ₂	b ₃	G ₂	G ₃	b ₂	b ₃	G ₂	G ₃	b ₄	b ₅	G ₄
SF014	23,8 (0.94)	50,8 (2)	M10x15	3/8 -16 UNC x 0.59	32 (1.26)	56 (2.21)	M6x9	1/4 - 28 UNF x 0.35	23,8 (0.94)	50,8 (2)	3/8 -16 UNC
SF030											
SF045	31,6 (1.24)	66,7 (2.63)	M14x20	1/2 -13 UNC x 0.79	35 (1.38)	85 (3.35)	M10x15	3/8 - 24 UNF x 0.59	31,6 (1.24)	66,7 (2.63)	1/2 -13 UNC
SF070											
SF125											
SF090	36,7 (1.45)	79,4 (3.13)	M16x20	5/8 -11 UNC x 0.79	60 (2.36)	115 (4.53)	M12x20	1/2 - 20 UNF x 0.79	36,7 (1.45)	79,4 (3.13)	5/8 -11 UNC
SF160											
SF250											
SF300											

Technical Data

STAUFF medium pressure filters are designed for in-line hydraulic applications with a maximum operating pressure of 190 bar (2755 PSI). Used together with STAUFF filter elements, a high efficiency of contamination removal is assured. The dirt holding capacity of the elements ensures long service life, and as a result, reduced maintenance costs.

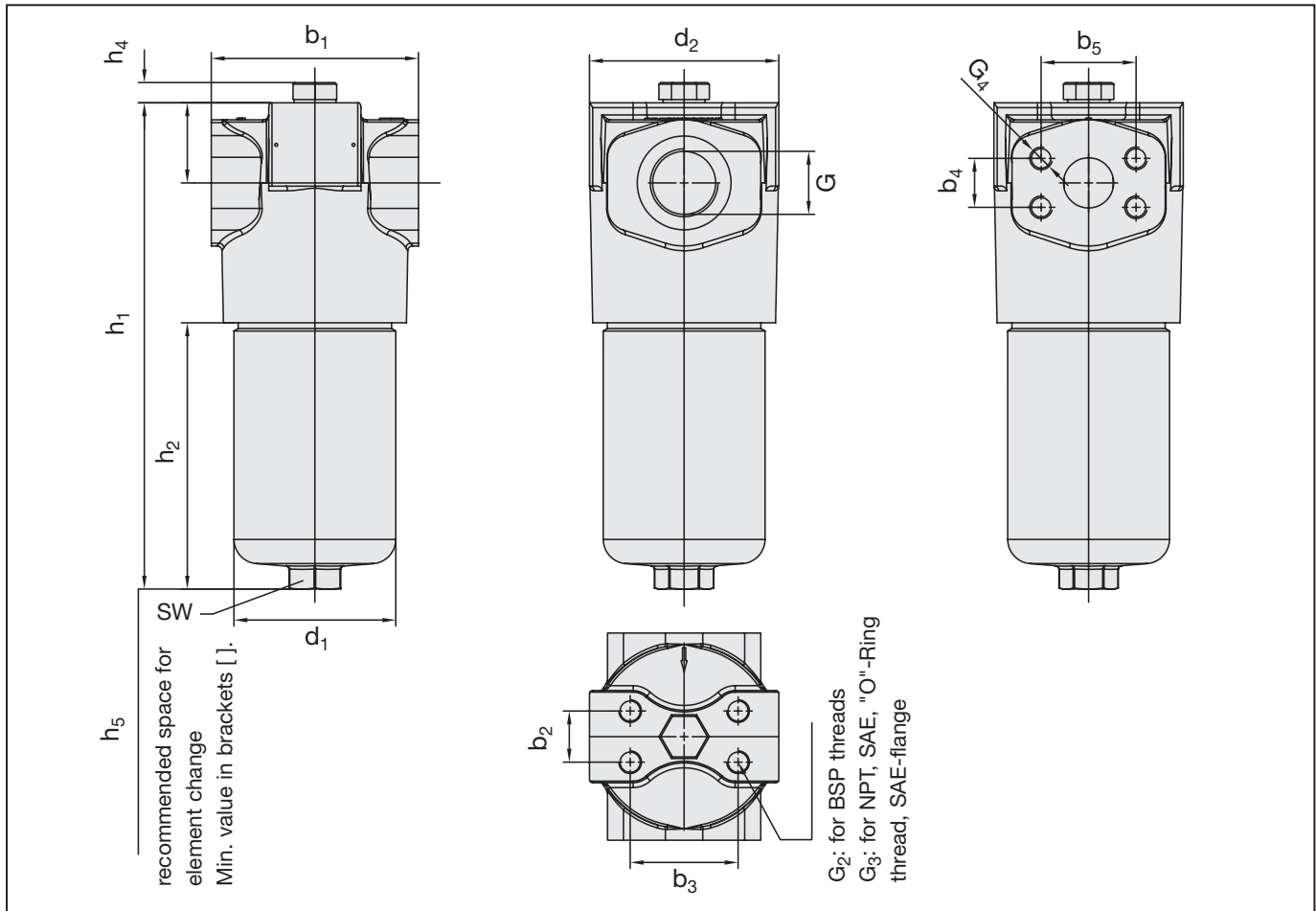


Technical Specification

Construction	In-line assembly, with threaded mounting holes on top of head
Filter head	Cast Aluminum
Filter bowl	Aluminum
Seals	O-Rings NBR (Buna-N®) FPM (Viton®) EPDM (Ethylene-propylene), support ring PTFE
Port connections	BSP, NPT, SAE "O"-Ring thread or SAE Code 61 flange Other port connections available on request
Operating pressure	190 bar (2755 PSI)
Proof pressure	285 bar (4132.5 PSI)
Burst pressure	570 bar (8265 PSI)
Temperature range	-10°C to 100°C (14°F to 212°F)
By-pass valve	Allows unfiltered oil to by-pass the contaminated element once the opening pressure has been reached, 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	Forward by-pass, reverse flow capability, and non return valve opening pressure 6 + 0,5 bar (87 + 7,25 PSI) Δp all in one valve
Clogging indicators	Standard actuating pressure 5 0,5 bar (72 - 7,25 PSI) Δp Available indicators: visual, electrical and visual- electrical (24 V, 110 V, 220 V versions) other actuating pressures are available upon request
Filter elements	Specifications see pages F10-F12
Media	Mineral oils, other fluids on request

Dimensions



Dimensions in mm (inch)

Filter Size	Thread Connection G			Dimensions						
	BSP	SAE Thread	SAE Code 61 flange	b ₁	d ₂	h ₃	h ₄	d ₁	h ₁	h ₂
SFA014	G 3/4	1-1/16-12 UN	3/4	92 (3.62)	86 (3.39)	40	12.5 (0.49)	72 (2.83)	187.5 (7.38)	78 (3.07)
SFA030									255 (10.04)	145.5 (5.73)
SFA045	G 1 1/4	1-5/8-12 UN	3/4	128 (5.04)	117 (4.61)	49.5 (1.95)		128 (5.04)	241.5 (9.51)	105 (4.13)
SFA070									301 (11.85)	164.5 (6.46)

Filter Size	Dimensions						Dimensions SAE Flange 3000 PSI		
	h ₅	SW	b ₂	b ₃	G ₂	G ₃	b ₄	b ₅	G ₄
SFA014	100 [85] (3.94 [3.35])	27 (1.05)	23.8 (0.94)	50.8 (2.00)	M10x15	3/8-16 UNC x 0.59	22 (0.88)	48 (1.88)	3/8-16 UNC
SFA030	170 [85] (6.69 [3.35])								
SFA045	140 [120] (5.51 [4.72])	32 (1.25)	31.6 (1.24)	66.7 (2.63)	M14x20	1/2-13 UNC x 0.79	30 (1.19)	59 (2.31)	7/16-14 UNC
SFA070	200 [120] (7.87 [4.72])								

Valves

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-by-pass standard insert** without any valve function. Element collapse rating should be higher than system pressure

HV-B **By-pass 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 back-flushing 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 by-pass, the element collapse rating should be higher than system pressure.

HV-M **Multi-function valve**
This valve combines the by-pass, 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.

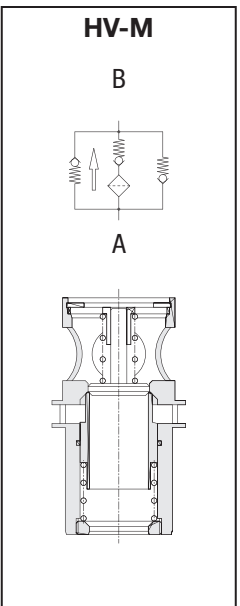
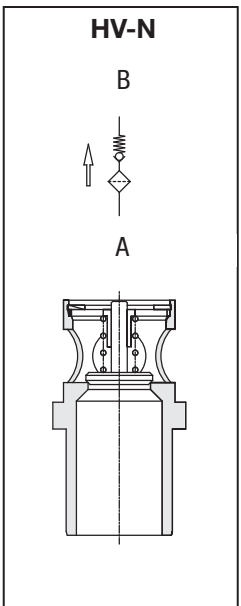
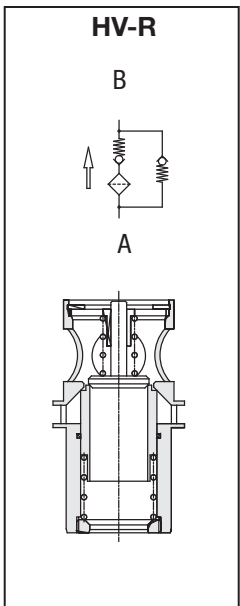
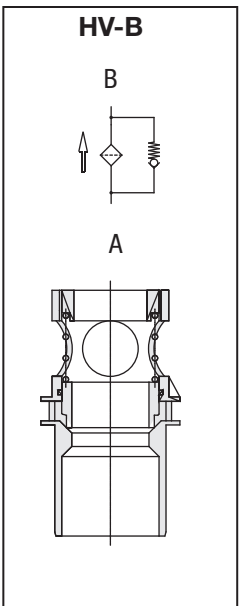
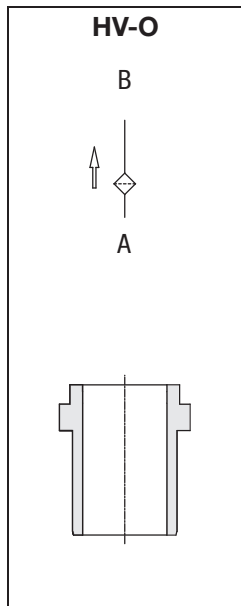
HV - M 014/030 /X

Valves

Design Code
only for information

Code	Valve Type
O	Non-bypass standard insert without any valve
B	By-pass Valve
R	Reverse Flow Valve
N	Non Return Valve
M	Multi-Function Valve

Filter Group
014/030
045/070/125
090/160/250/300



Flow characteristics of the valves see page F11

Clogging Indicators

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 must be at least 20°C (68°F) for the indicator to function.

Technical Specification

Body	Stainless steel
Seals	NBR (Buna-N®), FPM (Viton®), EPDM Seal 18,5x23,9x2 (0,73x 0,94x 0,08) "O"-Ring 15,5x1,5 (0,61x0,06)
Thread	1/2" BSP
Differential	5-0,5 bar (72-7,25 PSI) pressure setting (other settings on request)
Electrical	Standard DIN appliance plug, Screwed cable gland PG11, protection rating (DIN40050) IP65, both NO and NC contacts are available in the switch, rated capacity: see chart

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.

FILTRATION

HI - P T 220 B - 5,0B /X

Clogging Indicator	
Code	Execution
O	plug
A	visual, automatic reset
V	visual, manual reset
E	electrical
P	visual-electrical

Thermostop	
blank	without Thermostop
T	with Thermostop

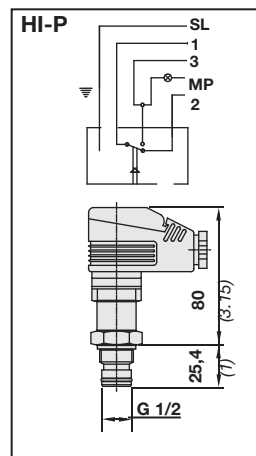
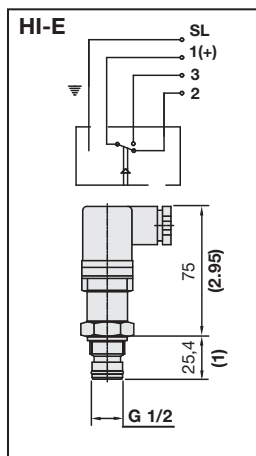
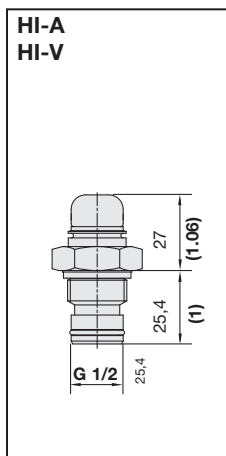
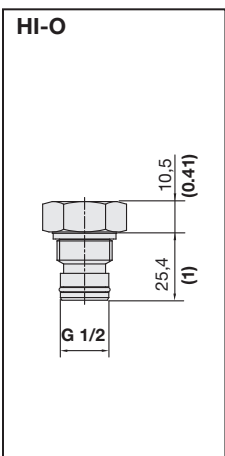
Voltage (only for Code P)		
24	24V	DC
110	110V	AC
220	220V	AC

Design Code	
only for information	

Differential pressure setting	
25P	1,72 bar (25 PSI)
2,0B	2,0 bar (29 PSI)
3,0B	3,0 bar (43.5 PSI)
5,0B	5,0 bar (72.5 PSI) (Standard)
7,0B	7,0 bar (101.5 PSI)
others on request	

Sealing Material	
B	NBR (Buna®)
V	FPM (Viton®)
E	EPDM

Dimensions in mm (inch)



Rated Capacity HI-E and HI-P

Alternating current
250V AC 5 Amps

Direct current:
see table below

Resistive Voltage V	Inductive Load Amps	Load Amps
24	8,00	7,00
110	0,50	0,20
220	0,25	0,10

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

Ordering Code Filter Housings

SF 014 ... V - T B / B / PT 220 / TL / X

Filter Type	SF	SFA
Group		
Size	Flow *	
	l/min	GPM
014	60	14
030	110	30
045	160	45
070	240	70
090	330	90
125	475	125
160	660	160
250	990	250
300	1320	300

Note: Exact flow will depend on filter element selected. Consult Technical data on pages F10 - F12

For Complete Filters:
identification filter material + micron rating code (see ordering code filter elements below)

Seal Material	
B	NBR (Buna®)
V	FPM (Viton®)
E	EPDM
other seal materials on request	

Connecting Flange	
T	Type T
TH	Type TH (optional)
see table page F4 dimensions connecting flange	

*Note: SFA available with one part bowl in the 014, 030, 045 and 070 sizes only. SFA standard port is SAE "O"- Ring threaded other ports available upon request.

Design Code
only for information

Style Filterbowl	
	with bowl in one-part style
TL	Toploader. with bowl in two-part style

Voltage (only for code P)	
24	24 V
110	110 V
220	220 V

Thermostop	
	without Thermostop
T	with Thermostop

Clogging Indicator	
O	without clogging indicator
A	visual, with autom. reset
V	visual, with manual reset
E	electrical
P	visual-electrical

Valve	
O	without valve
B	By-pass valve
R	Reverse flow valve
N	Non return valve
M	Multi-function valve

Connection Style		Group									
Code	Connection style	014	030	045	070	125	090	160	250	300	
B	BSP	G ^{3/4}			G1 ^{1/4}			G1 ^{1/2}			
B1	BSP	G1			G1 ^{1/2}			-			
N	NPT	3/4			1 ^{1/4}			1 ^{1/2}			
U	SAE-"O"-Ring thread	1 ^{1/16} - 12			1 ^{5/8} - 12			1 ^{7/8} - 12			
F	SAE-flange (3000 PSI)	3/4			1 ^{1/4}			1 ^{1/2}			
F1	SAE-flange (3000 PSI)	1			-			2			
G	SAE-flange (6000 PSI)	3/4			1 ^{1/4}			1 ^{1/2}			

Other port connections on request. Flanges do not belong to the scope of supply!

Ordering Code Filter Elements

SE 014 G 10 V / X

Series	SE
Group	according to filter housing

Filter material			Micron ratings available
Code	Material	max Δp* collapse	
A	Stainless fiber	210 bar (3045 PSI)	03, 05, 10, 20
G	Inorganic glass fiber	30 bar (435 PSI)	
H	Inorganic glass fiber	210 bar (3045 PSI)	
B, S	Stainless mesh	30 bar (435 PSI)	25, 50, 100, 200

*collapse / burst resistance as per ISO 2941

Bold type identifies preferred material, other materials or micron ratings on request

Design Code
only for information

Seal material	
B	NBR (Buna®)
V	FPM (Viton®)
E	EPDM
other seal materials on request	

Micron rating	
03	3 µm
05	5 µm
10	10 µm
20	20 µm
25	25 µm
50	50 µm
100	100 µm
200	200 µm
other micron ratings on request	

Replacement Filter Elements for SF/SFA Series

STAUFF replacement filter elements for SF/SFA series filters are manufactured in the common filter materials such as stainless fiber, stainless mesh, cellulose and inorganic glass fiber. As standard, all replacement elements series SF/SFA, 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.



SE 014 G 10 V /X

Series SE

Group
according to filter housing

Filter Material			Micron ratings available
Code	Material	max Δp^* collapse	
A	Stainless fiber	210 bar (3045 PSI)	03, 05, 10, 20
G	Inorganic glass fiber	30 bar (435 PSI)	
H	Inorganic glass fiber	210 bar (3045 PSI)	
B, S	Stainless mesh	30 bar (435 PSI)	25, 50, 100, 200

*collapse / burst resistance as per ISO 2941

Bold type identifies preferred material, other materials or micron ratings on request

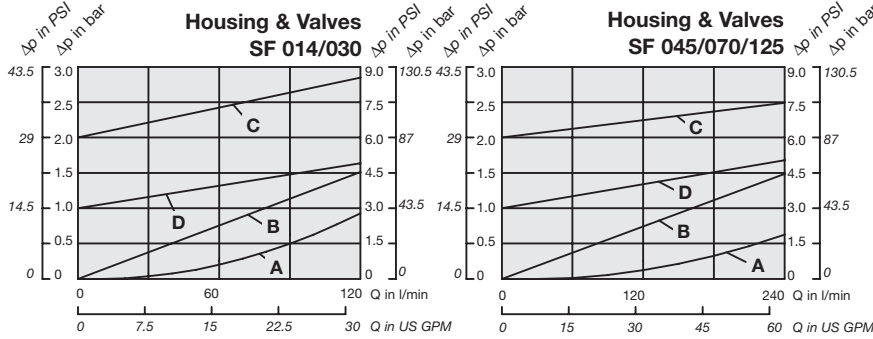
Design Code
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Seal Material	
B	NBR (Buna®)
V	FPM (Viton®)
E	EPDM
other seal materials on request	

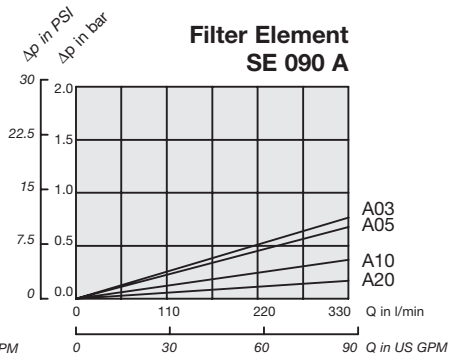
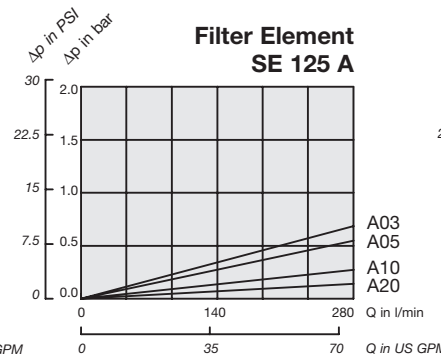
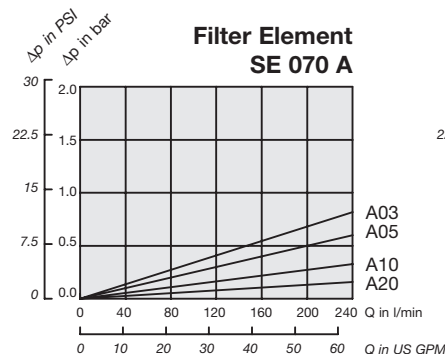
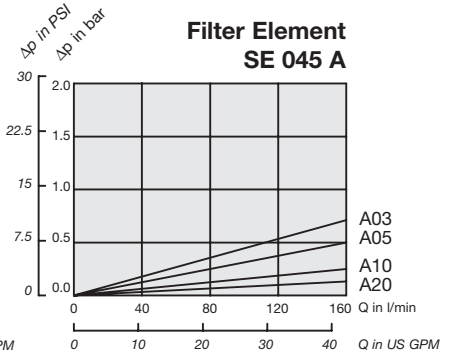
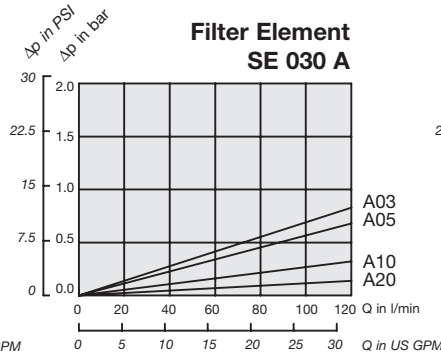
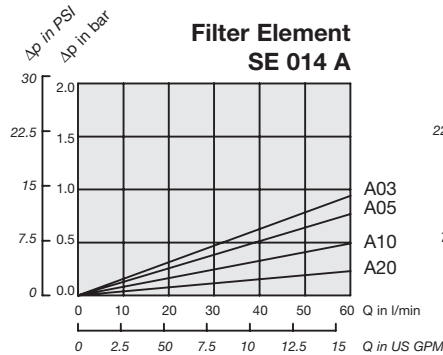
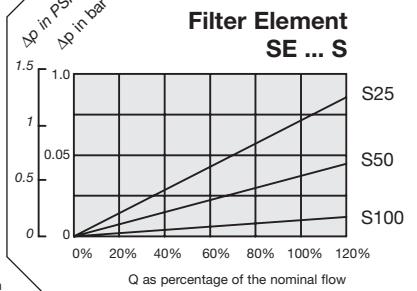
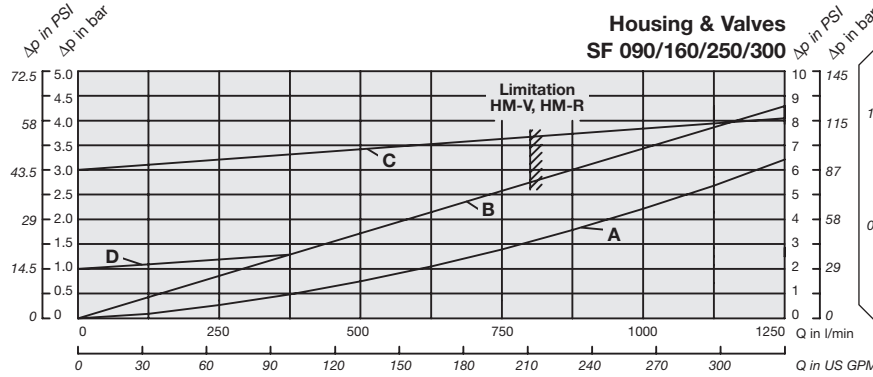
Micron Rating	
03	3 μ m
05	5 μ m
10	10 μ m
20	20 μ m
25	25 μ m
50	50 μ m
100	100 μ m
200	200 μ m
other micron ratings on request	

Flow Characteristics of Pressure Filters

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



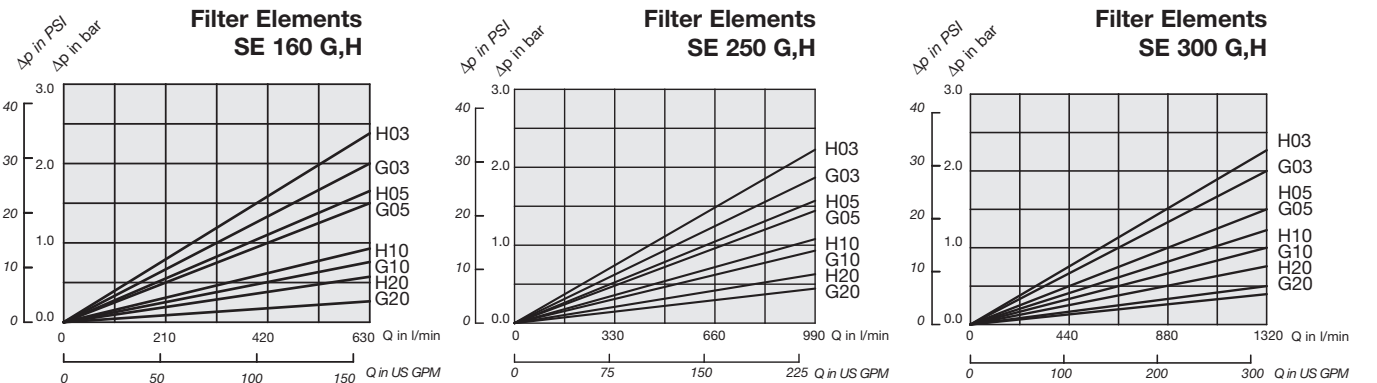
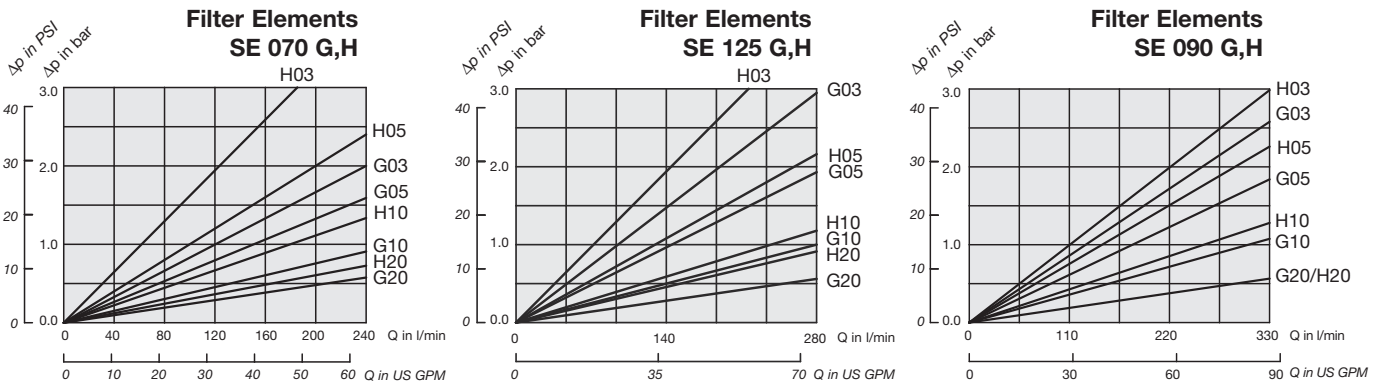
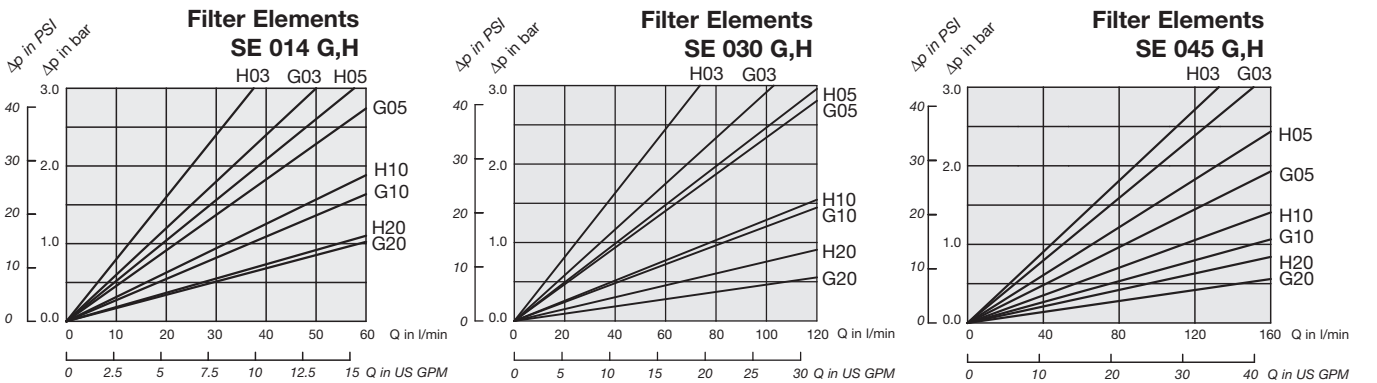
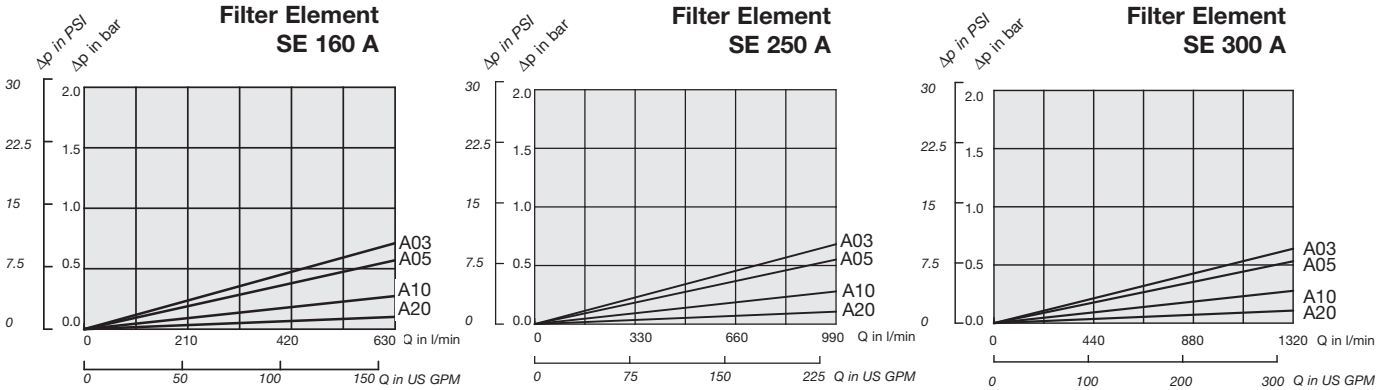
- A** - Housing with HV-O or HV-B In > Out (left scale)
- B** - HV-M, HV-R, HV-N In > Out (left scale)
- C** - HV-M, HV-B In > Out (right scale)
- Element 100% blocked Bypass only.
- In reality always mixed mode (right scale)
- D** - HV-M, HV-R Out > In Reverse mode (left scale)



FILTRATION

Flow Characteristics of Pressure Filters

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



FILTRATION