



FILTRATION TECHNOLOGY

2003

STAUFF



**Return Line Filters  
SRFL-S & SRFL-D**

**Quality and Service  
Worldwide**

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**Stauff Filtration Technology**

Stauff Filtration Technology offers a complete range of filtration products and services that will provide the system designer or user with the highest level of contamination control demanded by today's most sophisticated applications. Products include pressure filters, return line filters, elements, spin on filters suction strainers, and filler breathers for various hydraulic, lubrication and fuel oils.

Stauff has the technical expertise to provide superior filter element designs for the Stauff original filter housings and also for the interchange element market. Stauff manufactures more than 10,000 different elements. Many of these are designed to fit into filter housings produced by other companies while maintaining or surpassing the original performance.

The "Stauff Contamination Control Program" includes the diagnostic services including fluid sampling and laser particle counting products needed to monitor the system contamination level.

Stauff, through its global network of wholly owned companies and technically qualified distributors, is ideally placed to assist its customers in the total contamination process providing a well balanced filtration solution.

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### Technical Data

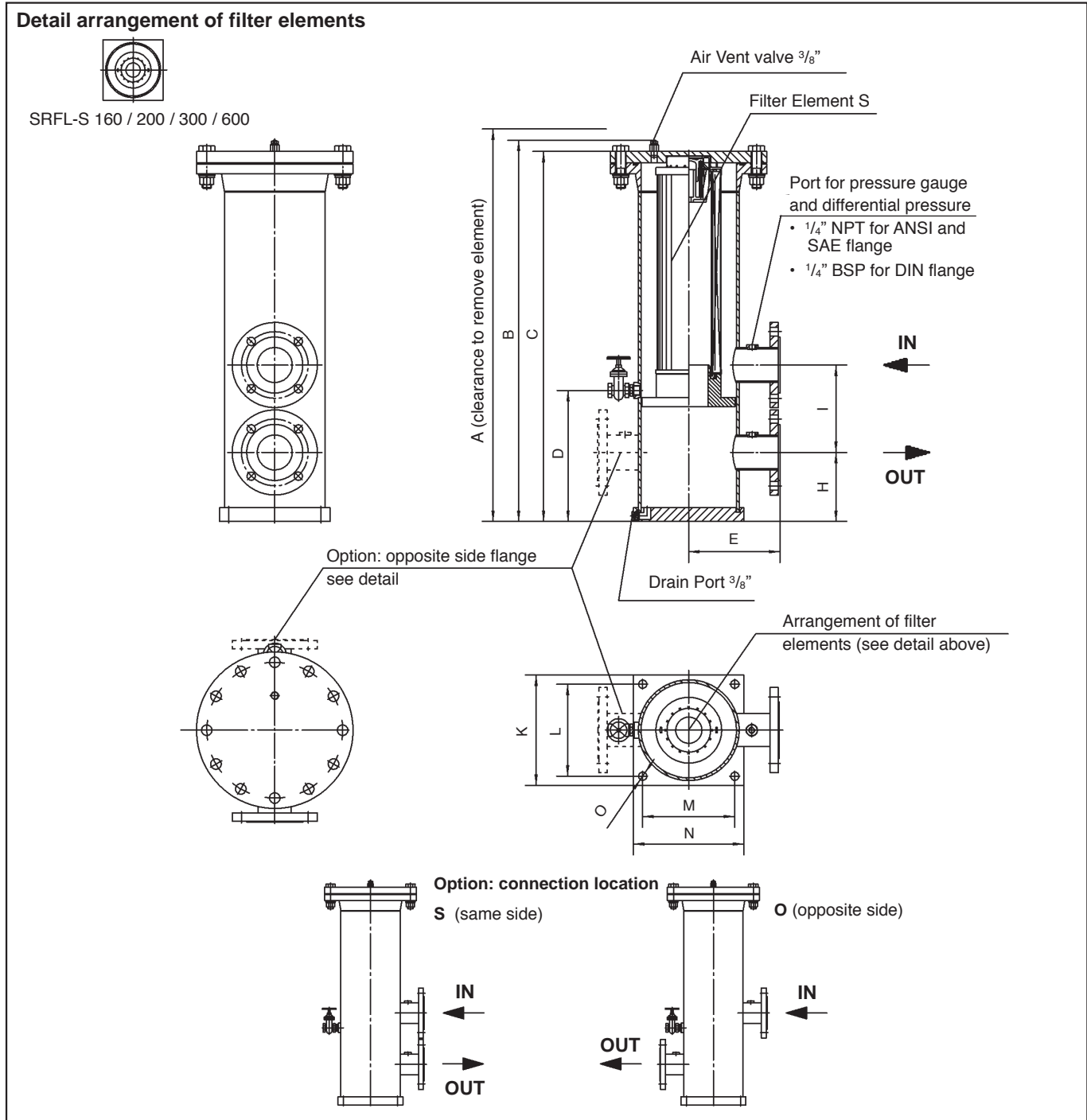
STAUFF return line simplex filter SRFL-S and duplex filter SRFL-D are designed for in-line hydraulic applications. With its compact construction and the easy to maintain assembly the filter SRFL-S and SRFL-D are suitable for flow rates up to 6600 l/min (1750 US GPM). The two housings of the duplex filter, SRFL-D are connected with a special gate valve that is operated with a lever or hand wheel. Therefore the filter may be serviced without shutting down the hydraulic system. A high efficiency of contaminant removal is assured by using STAUFF replacement filter elements RE series. The high dirt holding capacity of STAUFF elements ensures a long service life and, as a result, reduced maintenance costs.



### Technical Specification

Construction	In-line assembly, base mounted	By-pass valve (integrated in the filter element)	Opening pressure 3 bar $\pm$ 0,3 bar (43,5 PSI $\pm$ 4,35 PSI) other pressures on request
Housings	Carbon steel Stainless steel (on request)	Clogging indicator	Differential pressure switch, setting 1,6 bar (23 PSI) scale 0...1,6 bar (0...23 PSI)
Seals	NBR (Buna-N®), FPM (Viton®)	Filter elements	Specification see page 10
Port connection	ANSI, SAE and DIN flanges	Media	Mineral oils, lubrication oils other fluids on request
Operating pressure	max 14 bar (232 PSI)		
Flow rating	up to 6600 l/min (1750 US GPM)		
Temperature Range	-10°C up to +100°C (14°F up to 212°F)		

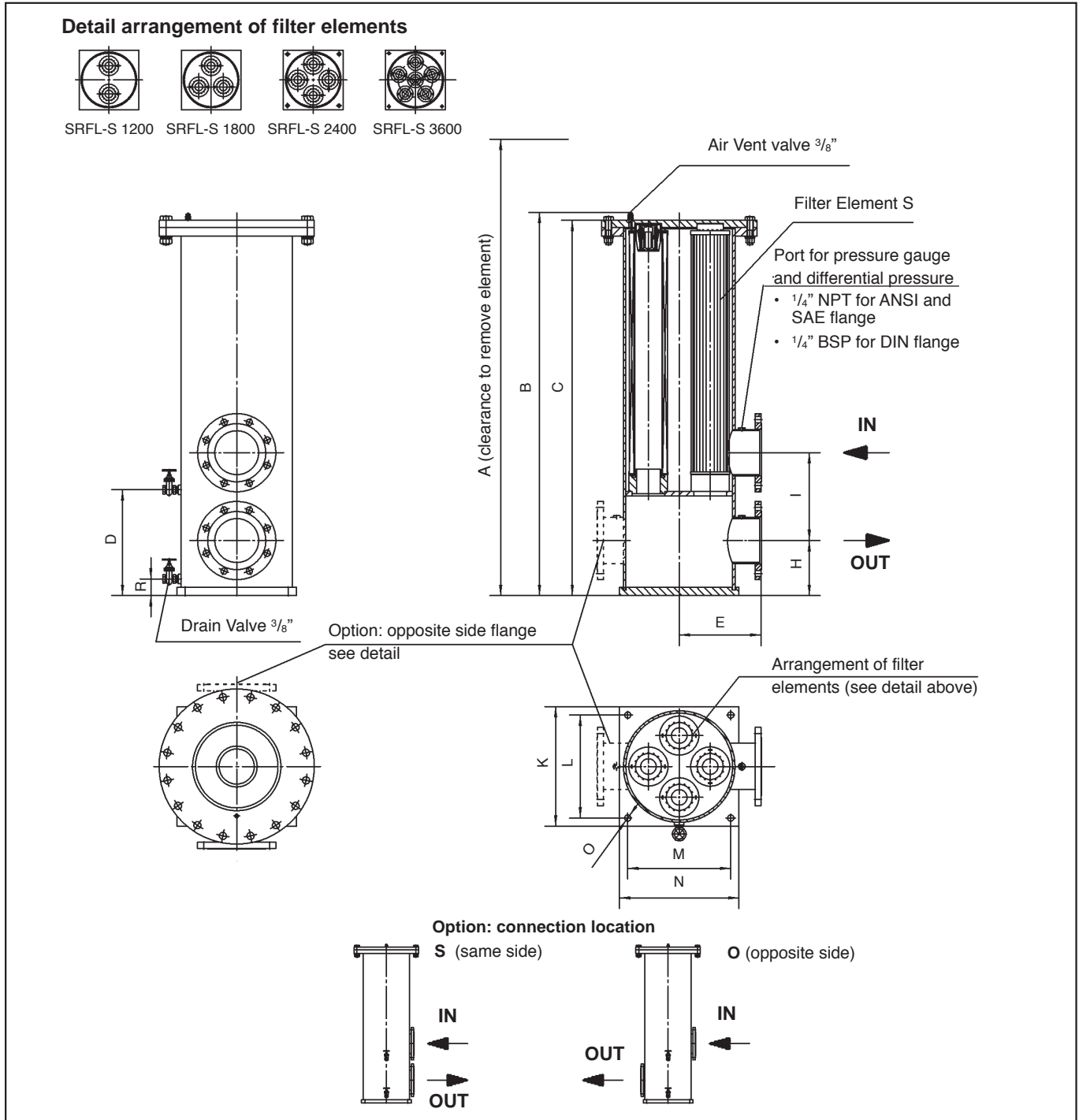
## Dimensions SRFL-S 160 / 200 / 300 / 600



All dimensions in mm (inch)

Filter Size	Flange Connection			Dimensions													Total oil Capacity		Weight (without element)		Filter Element S	
	DIN	ANSI	SAE	A	B	C	D	E	H	I	K	L	M	N	O	l	gal	kg	lbs	Designation	Qty	
SRFL-S-160	DN40	1-1/2"	1-1/2"	885,8 (34,87)	607,6 (23,92)	584 (22,99)	214 (8,43)	148 (5,83)	130 (5,12)	155 (6,1)	150 (5,91)	125 (4,92)	125 (4,92)	150 (5,91)	11 (0,43)	6,0	1,59	14,5	32	RE-160...	1 x 1	
SRFL-S-200	DN50	2"	2"	1045,8 (41,17)	688,7 (27,12)	664 (26,14)	214 (8,43)	148 (5,83)	140 (5,51)	190 (7,48)	150 (5,91)	125 (4,92)	125 (4,92)	150 (5,91)	11 (0,43)	7,1	1,86	15,9	35	RE-200...	1 x 1	
SRFL-S-300	DN65	2-1/2"	2-1/2"	1248,7 (49,16)	828,6 (32,63)	803,9 (31,65)	285 (11,22)	198 (7,8)	150 (5,91)	190 (7,48)	240 (9,45)	200 (7,87)	200 (7,87)	240 (9,45)	18 (0,71)	22,2	5,87	29	64	RE-300...	1 x 1	
SRFL-S-600	DN80	3"	3"	2126,7 (83,73)	1267,6 (49,91)	1242,9 (48,93)	285 (11,22)	198 (7,8)	160 (6,3)	220 (8,66)	240 (9,45)	200 (7,87)	200 (7,87)	240 (9,45)	18 (0,71)	37,1	9,80	34,5	76	RE-600...	1 x 1	

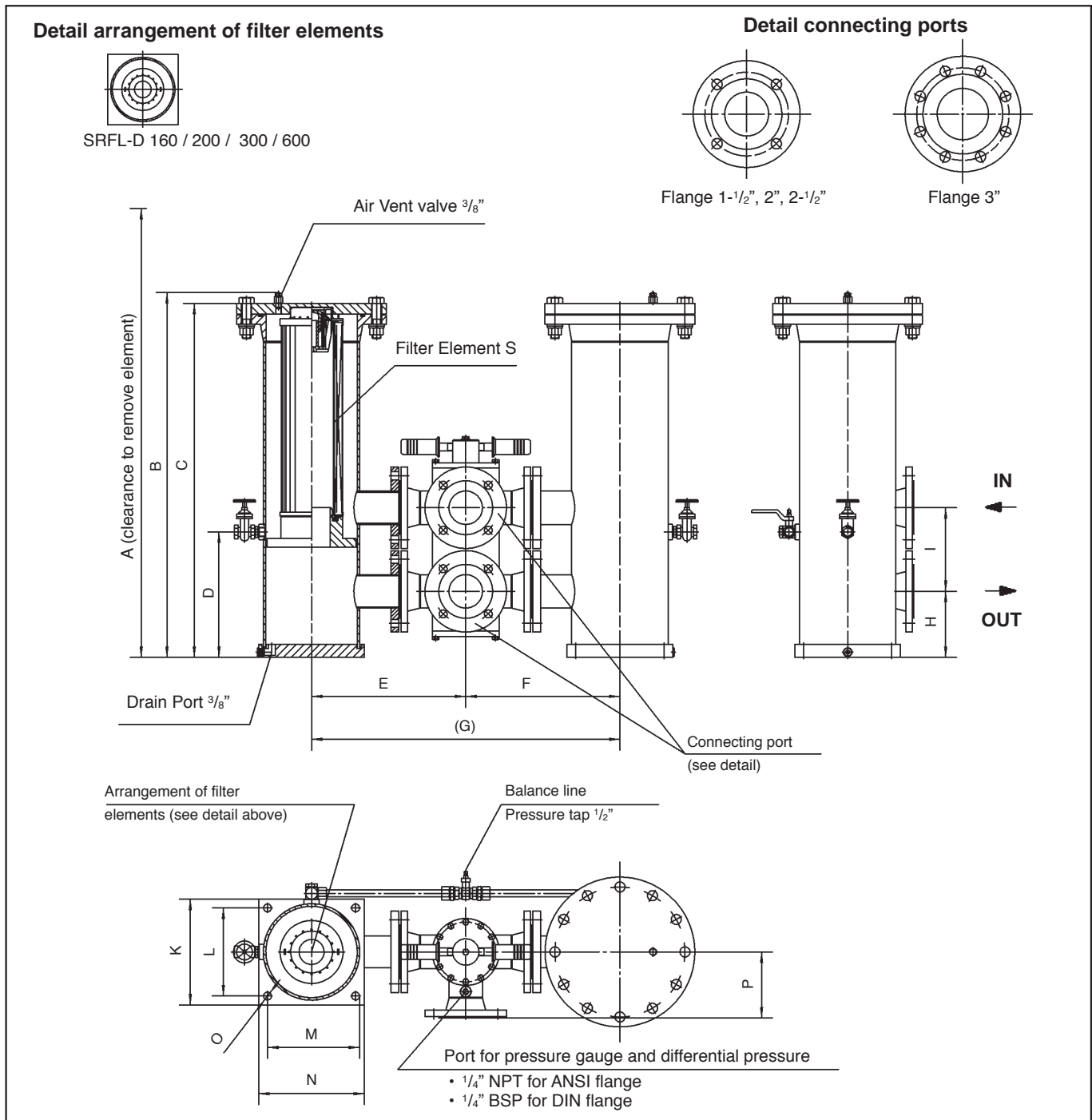
## Dimensions SRFL-S 1200 / 1800 / 2400 / 3600



All dimensions in mm (inch)

Filter Size	Flange Connection			Dimensions													Total oil Capacity		Weight (without element)		Filter Element S	
	DIN	ANSI	SAE	A	B	C	D	E	H	I	K	L	M	N	O	R	l	gal	kg	lbs	Designation	Qty
SRFL-S-1200	DN100	4"	4"	2176,7 (85,7)	1319,6 (51,96)	1294,9 (50,98)	275 (10,83)	273 (10,75)	190 (7,48)	250 (9,84)	385 (15,16)	325 (12,8)	325 (12,8)	385 (15,16)	23 (0,91)	60 (2,36)	103	27,2	86,2	190	RE-600...	1 x 2
SRFL-S-1800	DN125	5"	5"	2176,7 (85,7)	1323,6 (52,11)	1294,9 (50,98)	275 (10,83)	273 (10,75)	190 (7,48)	280 (11,02)	385 (15,16)	325 (12,8)	325 (12,8)	385 (15,16)	23 (0,91)	60 (2,36)	103	27,2	90,7	200	RE-600...	1 x 3
SRFL-S-2400	DN150	6"	6"	2249,1 (88,55)	1394,8 (54,92)	1366,1 (53,78)	325 (12,8)	298 (11,73)	200 (7,87)	320 (12,6)	435 (17,13)	375 (14,76)	375 (14,76)	435 (17,13)	23 (0,91)	60 (2,36)	149	39,3	105,2	232	RE-600...	1 x 4
SRFL-S-3600	DN200	8"	8"	2249,1 (88,55)	1392,8 (54,84)	1368,1 (53,68)	325 (12,8)	398 (15,67)	252 (9,92)	425 (16,73)	540 (21,26)	480 (18,9)	480 (18,9)	540 (21,26)	23 (0,91)	60 (2,36)	232	61,3	154,2	340	RE-600...	1 x 6

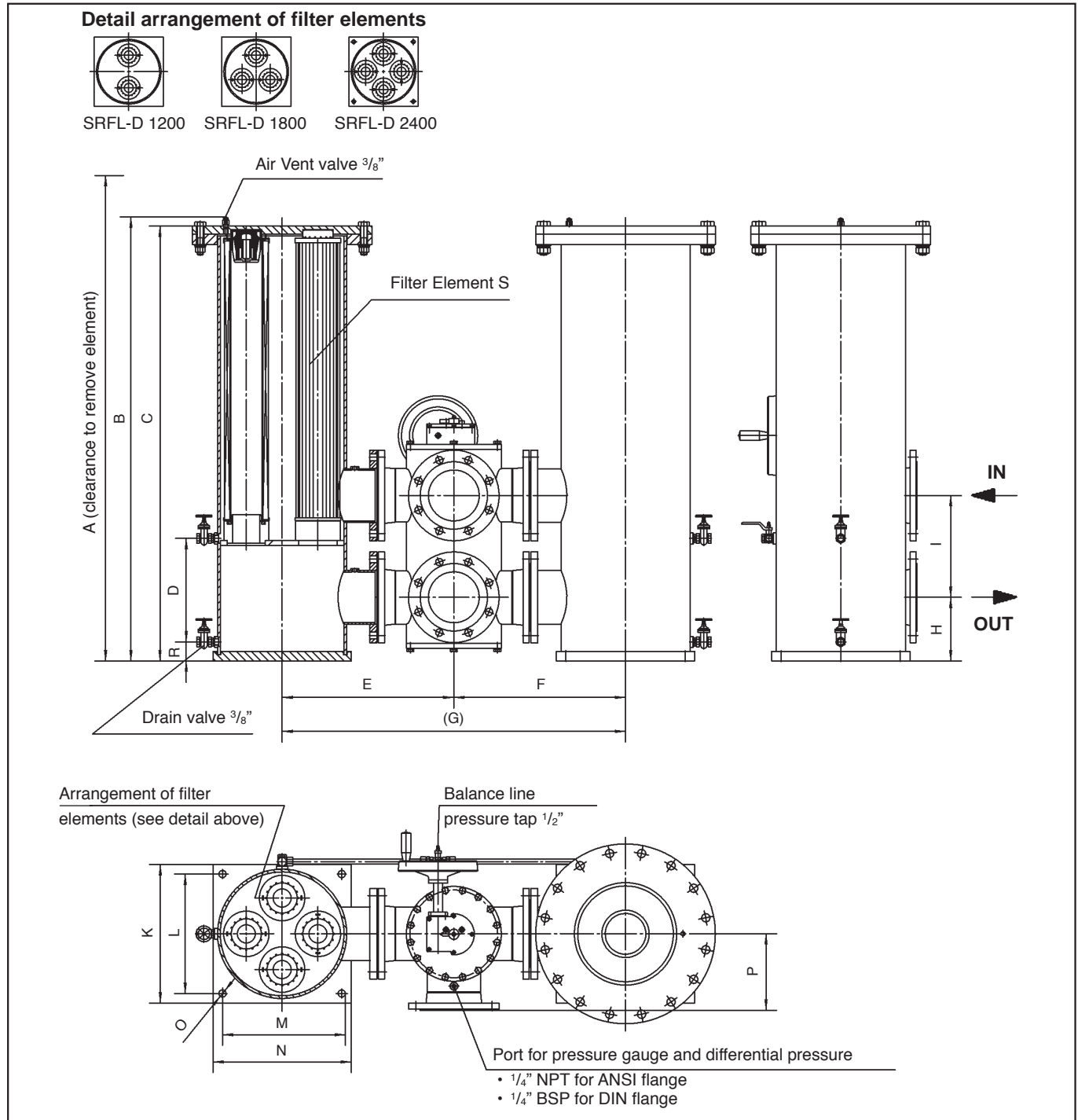
## Dimensions SRFL-D 160 / 200 / 300 / 600



All dimensions in mm (inch)

Filter Size	Flange Connection		Dimensions														Total oil Capacity		Weight (without element)		Filter Element S		
	DIN	ANSI	A	B	C	D	E	F	G	H	I	K	L	M	N	O	P	l	gal	kg	lbs	Designation	Qty
SRFL-D-160	DN 40	1-1/2"	885,8 (34,87)	607,6 (23,92)	584 (22,99)	214 (8,43)	260 (10,24)	260 (10,24)	520 (20,47)	130 (5,12)	155 (6,1)	150 (5,91)	125 (4,92)	125 (4,92)	150 (5,91)	11 (0,43)	110 (4,33)	6,02	1,59	43	95	RE-160...	2 x 1
SRFL-D-200	DN 50	2"	1045,8 (41,17)	688,7 (27,12)	642 (25,28)	214 (8,43)	300 (11,81)	300 (11,81)	600 (23,62)	140 (5,51)	190 (7,48)	150 (5,91)	125 (4,92)	125 (4,92)	150 (5,91)	11 (0,43)	150 (5,91)	7,11	1,86	56,7	125	RE-200...	2 x 1
SRFL-D-300	DN 65	2-1/2"	1248,7 (49,16)	828,6 (32,63)	803,9 (31,65)	285 (11,22)	350 (13,78)	350 (13,78)	700 (27,56)	150 (5,91)	190 (7,48)	240 (9,45)	200 (7,87)	200 (7,87)	240 (9,45)	18 (0,71)	150 (5,91)	22,24	5,87	84	185	RE-300...	2 x 1
SRFL-D-600	DN 80	3"	2126,7 (83,73)	1267,6 (49,91)	1242,9 (48,93)	285 (11,22)	375 (14,76)	375 (14,76)	750 (29,53)	160 (6,3)	220 (8,66)	240 (9,45)	200 (7,87)	200 (7,87)	240 (9,45)	18 (0,71)	175 (6,89)	37,1	9,8	104	230	RE-600...	2 x 1

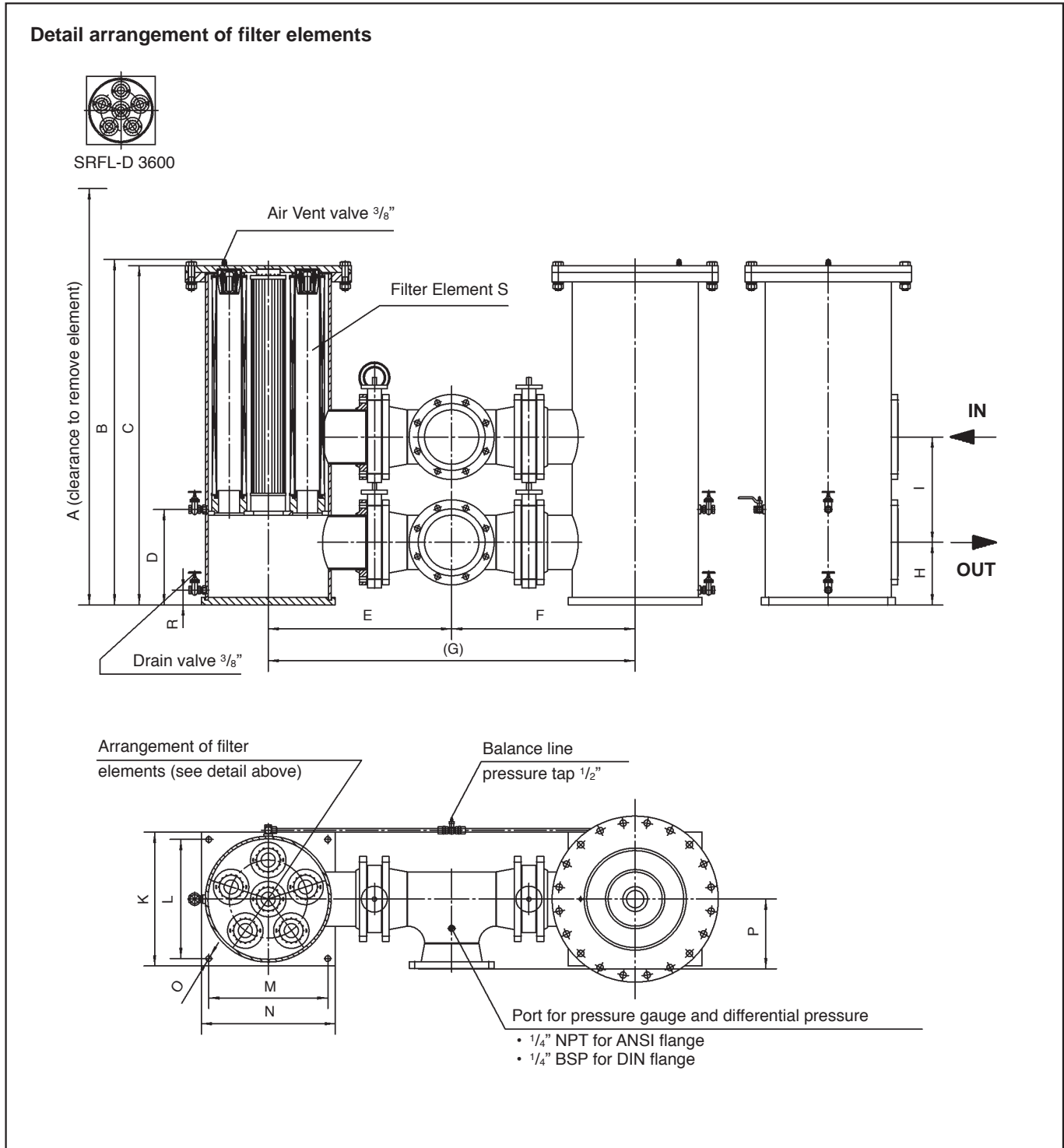
## Dimensions SRFL-D 1200 / 1800 / 2400



All dimensions in mm (inch)

Filter Size	Flange Connection		Dimensions															Total oil Capacity		Weight (without element)		Filter Element S		
	DIN	ANSI	A	B	C	D	E	F	G	H	I	K	L	M	N	O	P	R	l	gal	kg	lbs	Designation	Qty
SRFL-D-1200	DN 100	4"	2176,7 (85,7)	1319,6 (51,96)	1294,9 (50,98)	275 (10,83)	475 (18,7)	475 (18,7)	950 (37,4)	190 (7,48)	250 (9,84)	385 (15,16)	325 (12,8)	325 (12,8)	385 (15,16)	23 (0,91)	200 (7,87)	60 (2,36)	103	27,2	215	475	RE-600...	2 x 2
SRFL-D-1800	DN 125	5"	2176,7 (85,7)	1323,6 (52,11)	1294,9 (50,98)	275 (10,83)	500 (19,69)	500 (19,69)	1000 (39,37)	190 (7,48)	280 (11,02)	385 (15,16)	325 (12,8)	325 (12,8)	385 (15,16)	23 (0,91)	225 (8,86)	60 (2,36)	103	27,2	233	515	RE-600...	2 x 3
SRFL-D-2400	DN 150	6"	2249,1 (88,55)	1394,8 (54,92)	1366,1 (53,78)	325 (12,8)	540 (21,26)	1080 (42,52)	200 (7,87)	320 (12,6)	435 (17,13)	375 (14,76)	375 (14,76)	435 (17,13)	23 (0,91)	240 (9,45)	60 (2,36)	149	39,3	263	580	RE-600...	2 x 4	

## Dimensions SRFL- D 3600



All dimensions in mm (inch)

Filter Size	Flange Connection		Dimensions																	Total oil Capacity		Weight (without element)		Filter Element S	
	DIN	ANSI	A	B	C	D	E	F	G	H	I	K	L	M	N	O	P	R	l	gal	kg	lbs	Designation	Qty	
SRFL-D-3600	DN 200	8"	2249,1 (88,55)	1392,8 (54,84)	1368,1 (53,86)	325 (12,8)	739 (29,11)	739 (29,11)	1479 (58,22)	252 (9,92)	425 (16,73)	540 (21,26)	480 (18,9)	480 (18,9)	540 (21,26)	23 (0,91)	281,4 (11,08)	60 (2,36)	233	61,3	390	860	RE-600...	2 x 6	



## Ordering Code Filter Housings

**SRFL-D-160 ... B / A / O / CS / D / X**

<b>Filter type</b>	
SRFL-S	Return Line Simplex Housing
SRFL-D	Return Line Duplex Housing

<b>Group</b>	
Size	Flow
	l/min      US GPM
160	900      240
200	900      240
300	1400     370
1200	1400     370
1800	4000     1050
2400	4000     1050
3600	7000     1850

<b>Design code</b>	
Only for information	

<b>Clogging indicator</b>	
O	Without clogging indicator
D	Differential pressure switch
Other indicators on request	

<b>Material Housing</b>	
CS	Carbon steel
SS	Stainless steel

<b>Connection location</b>	
O	Oposite side
S	Same side
Omit for SRFL-D series	

<b>For complete filters:</b>	
Identification filter material + micron rating code (See ordering code filter elements below)	

<b>Seal material</b>	
B	NBR (Buna®)
V	FPM (Viton®)
Other seal material on request	

Connection style		Group							
Code	Connection style	160	200	300	600	1200	1800	2400	3600
A	ANSI flange	1-1/2"	2"	2-1/2"	3"	4"	5"	6"	8"
S	SAE flange (omit for SRFL-D)	1-1/2"	2"	2-1/2"	3"	4"	5"	6"	8"
D	DIN flange	DN 40	DN 50	DN 65	DN 80	DN 100	DN 125	DN 150	DN 200

## Ordering Code Filter Elements

**RE-160 G 10 V / X**

<b>Series</b>	RE
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<b>Design code</b>	
Only for information	

<b>Seal material</b>	
B	NBR (Buna®)
V	FPM (Viton®)
Other seal materials on request	

<b>Micron rating</b>	
03	3 µm
05	5 µm
10	10 µm
20	20 µm
10	10 µm
25	25 µm
50	50 µm
100	100 µm
200	200 µm
500	500 µm
Other micron ratings on request	

<b>Group</b>		
Size	Filter Element	
	Designation	Quantity SRFL-S   SRFL-D
160	RE-160	1 x 1   2 x 1
200	RE-200	1 x 1   2 x 1
300	RE-300	1 x 1   2 x 1
600	RE-600	1 x 1   2 x 1
1200	RE-600	1 x 2   2 x 2
1800	RE-600	1 x 3   2 x 3
2400	RE-600	1 x 4   2 x 4
3600	RE-600	1 x 6   2 x 6

<b>Filter material</b>			Micron ratings available
Code	Material	max Δp* collapse	
A	Stainless fiber	30 bar (435 PSI)	03, 05, 10, 20
N	Filter paper	16 bar (232 PSI)	
G	Inorganic glass fiber	30 bar (435 PSI)	10, 25, 50, 100, 200, 500
S	Stainless mesh	30 bar (435 PSI)	

\*Collapse / burst resistance as per ISO 2941

## 1. Replacement Filter Elements RE

STAUFF replacement filter elements for SRFL-S and SRFL-D series filters are manufactured in the common filter materials such as stainless fiber, stainless mesh, paper and inorganic glass fiber. As standard all replacement elements series RE have tin plated steel parts for use with aggressive media such as water glycol, on request you also can get other materials. All replacement elements made by STAUFF comply with quality specifications in accordance with international standards.



**RE-300 G 10 V /X**

<b>Series</b>	RE
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<b>Group</b>	According to filter housing (See ordering code page 9)
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Filter material			Micron ratings available
Code	Material	max $\Delta p^*$ collapse	
<b>A</b>	Stainless fiber	30 bar (435 PSI)	03, 05, 10, 20
<b>N</b>	Filter paper	16 bar (232 PSI)	
<b>G</b>	Inorganic glass fiber	30 bar (435 PSI)	
<b>S</b>	Stainless mesh	30 bar (435 PSI)	10, 25, 50, 100, 200, 500

\*Collapse / burst resistance as per ISO 2941

<b>Design code</b>	Only for information
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<b>Seal material</b>	
<b>B</b>	NBR (Buna®)
<b>V</b>	FPM (Viton®)
other seal materials on request	

<b>Micron rating</b>	
<b>03</b>	3 $\mu\text{m}$
<b>05</b>	5 $\mu\text{m}$
<b>10</b>	10 $\mu\text{m}$
<b>20</b>	20 $\mu\text{m}$
<b>10</b>	10 $\mu\text{m}$
<b>25</b>	25 $\mu\text{m}$
<b>50</b>	50 $\mu\text{m}$
<b>100</b>	100 $\mu\text{m}$
<b>200</b>	200 $\mu\text{m}$
<b>500</b>	500 $\mu\text{m}$
Other micron ratings on request	

## 2. Differential Pressure Switch with visual gauge indicator

The switch is used to indicate when the elements need changing. The switch can turn on a light, shut down the machine or any further function controlled by an electrical signal. The gauge visually indicates the differential pressure across the filter elements.

Diameter	100 mm (6,9")
Scale	0 ... 1,6 bar (0 ... 23 PSI)
Connection thread	1/4 "
Working pressure	Max 200 bar (2900 PSI)
Temperature range	-20 °C up to +80 °C (-4 °F up to +176 °F)
Body	Aluminium
Lens	Glass
Seal	NBR (Buna-N ®) FPM (Viton ®)

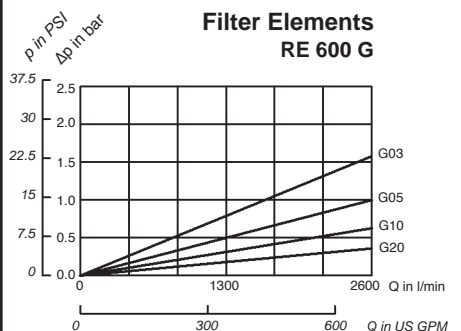
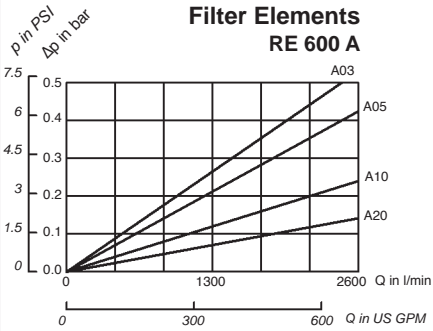
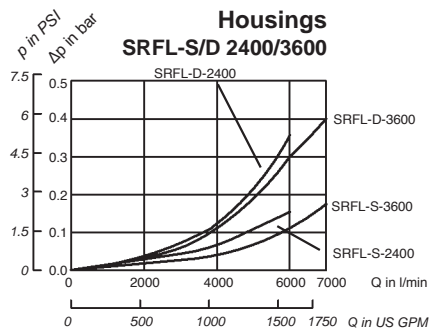
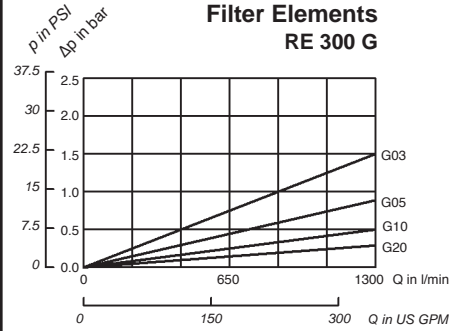
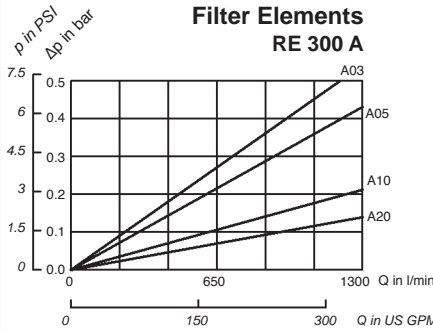
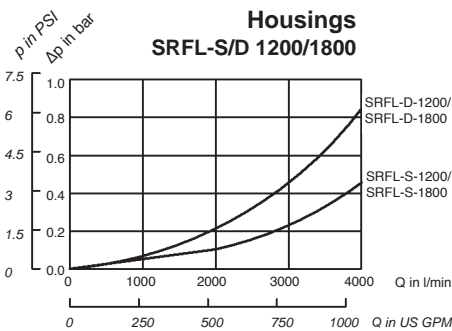
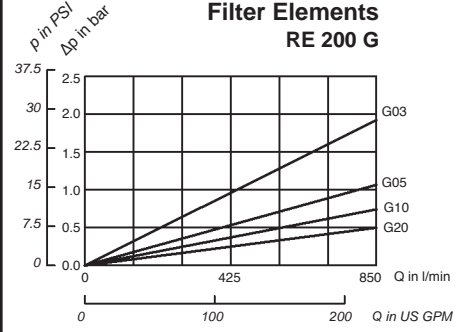
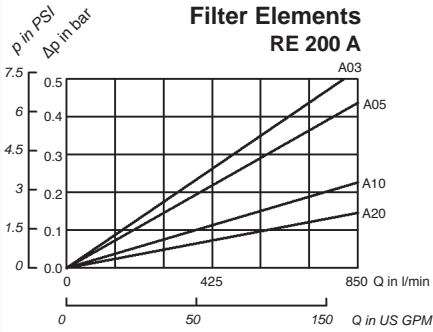
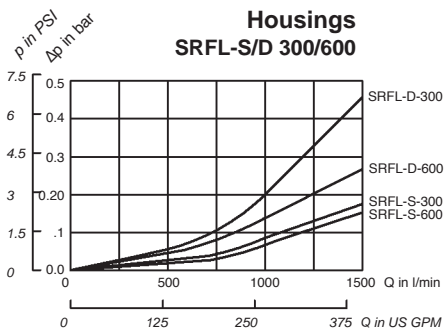
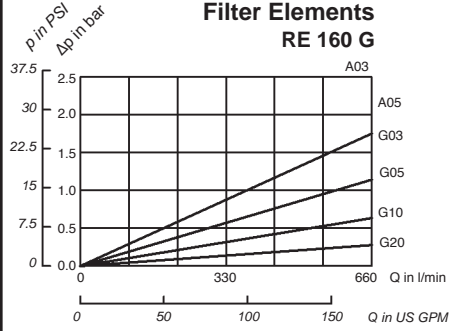
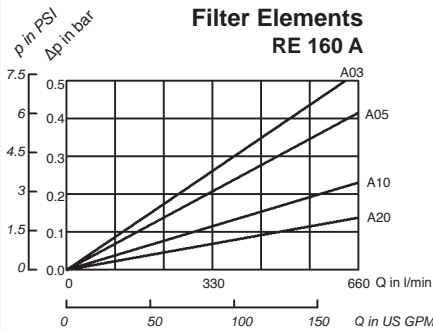
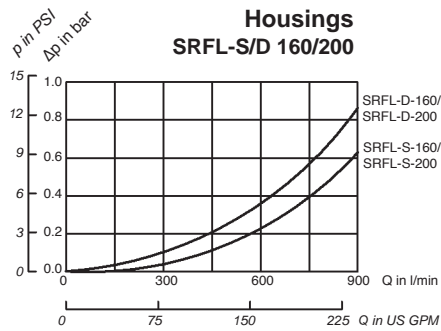


Protection system	IP 65
Switch Voltage	max 28 V AC/DC
Current on Contact	max 0,25 A AC/DC
Contact Rating	5 VA AC/DC

Other data on request

## Flow Characteristics of Return-line Filters SRFL-S and SRFL-D

The following characteristics are valid for mineral oils with a density of 0,85 kg/dm<sup>3</sup> and the kinematic viscosity of 30 mm<sup>2</sup>/s. The characteristics have been determined in accordance to ISO 3968. The housing pressure drop is directly proportional to the oil density.

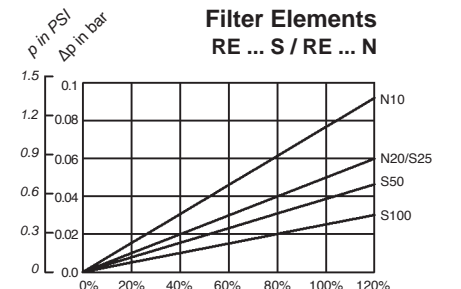


**Pressure drop of housing including filter elements**

General:  $\Delta p_{total} = \Delta p_{housing} + \Delta p_{Elem} \times (\text{operating viscosity [mm}^2\text{/s]} / 30\text{mm}^2\text{/s})$   
 with  $\Delta p_{housing}$  see diagrams above  
 $\Delta p_{Elem}$  pressure drop of element at a flow Q/n (at a viscosity of 30 mm<sup>2</sup>/s) and n= numbers of elements as listed in ordering code filter elements see page 9) see diagrams above.

**Example**

Data given  $Q_{max} = 6000 \text{ l/min (1585 US GPM)}$ , RFL-D-2400 with filter elements RE-600S25B;  
 operating viscosity = 100 mm<sup>2</sup>/s  
 $Q_{max} = 6000 \text{ l/min}; n=4 \text{ elements (SRFL-D-2400)}$   $Q/n=1500 \text{ l/min (396 gal)}$   
 $\Delta p_{housing} = 0,35 \text{ bar (5,07 PSI)}$ ,  $\Delta p_{Elem} = 0,043 \text{ bar (0,62 PSI)}$   
 Pressure drop:  $\Delta p_{total} = 0,35 \text{ bar} + 0,043 \text{ bar} \times (100 \text{ mm}^2\text{/s} / 30\text{mm}^2\text{/s})$   
 $= 0,49 \text{ bar (7,16 PSI)}$



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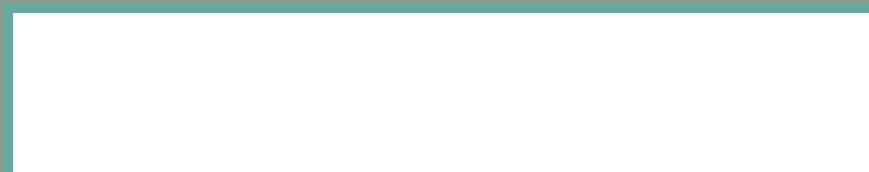


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