

## Return Line Filters - Type RIF48



### Product Description

STAUFF RIF48 series return filters are designed for in-line hydraulic applications with a maximum opening pressure of 20 bar / 300 PSI. **The RIF48 series in-line filter meets the HF4 Automotive Standard.**

### Technical Data

#### Construction

- In-line assembly

#### Materials

- Filter head: Die Cast Aluminium
- Element case: Steel
- Sealings: NBR (Buna-N®), FPM (Viton®)

#### Port Connections

- BSP
- NPT
- SAE O-ring thread
- SAE code 61 flange

#### Flow Rating

- Up to 380 l/min / 100 US GPM for 32 cSt / 150 SUS fluids,

#### Operating Pressure

- Max. 20 bar / 300 PSI

#### Burst Pressure

- Min. 70 bar / 1000 PSI

#### Temperature Range

- -29°C ... +107°C / -20°F ... +225°F

#### Filter Elements

- Specifications see page C106

#### Media Compatibility

- Mineral oils, other fluids on request

### Options and Accessories

#### Valve

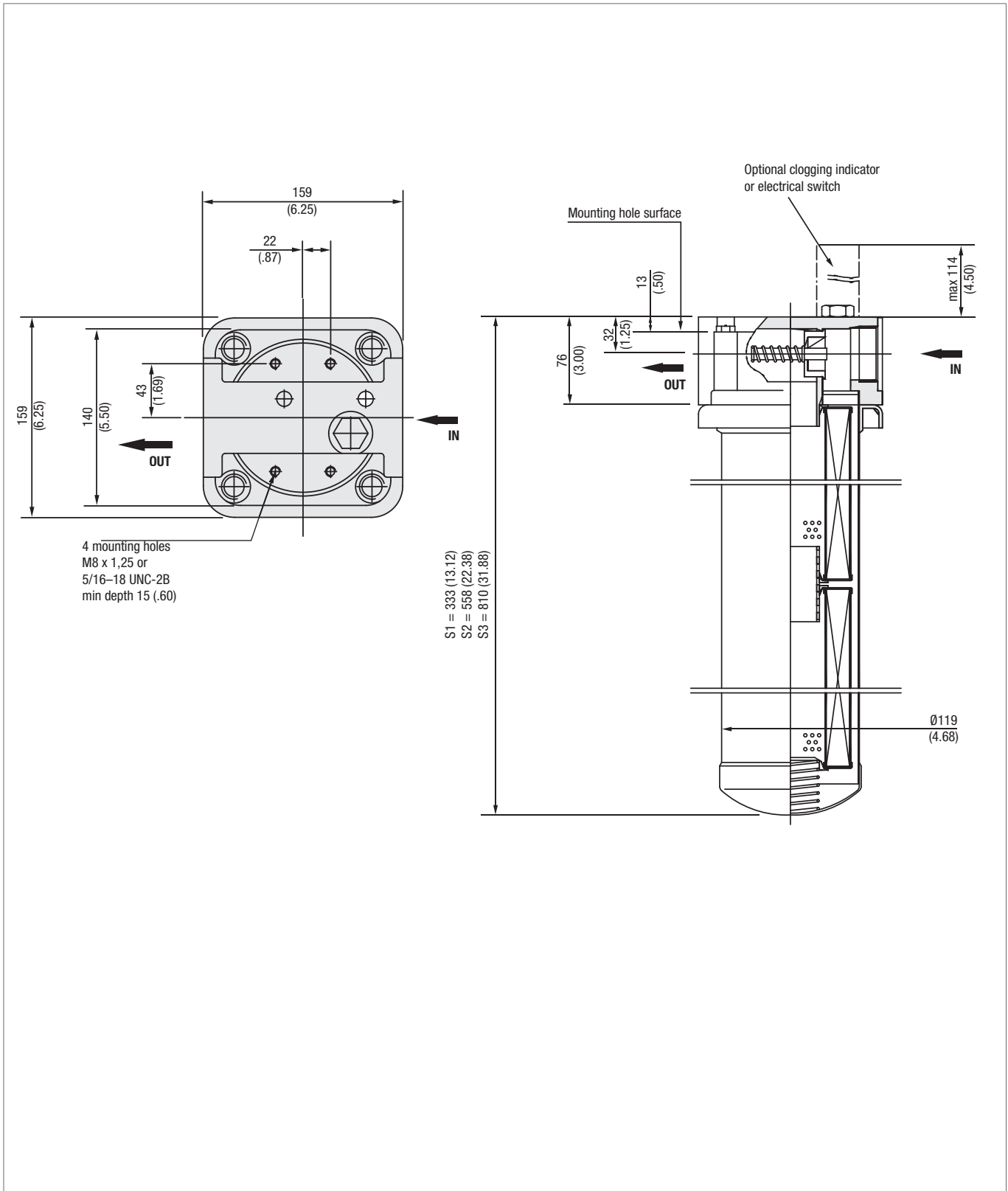
- Bypass valve: Allows unfiltered oil to bypass the contaminated element once the opening pressure has been reached

- Bypass setting: 2,8 bar / 40 PSI

#### Clogging Indicators

- Standard actuating pressure: 2,4 bar / 35 PSI
- Available indicators: Visual, Electrical

Return Line Filters - Type RIF48



## Return Line Filter Housing / Complete Filters - Type RIF48

RIF48 S G 10 B S1 V / X

1 2 3 4 5 6 7 8

## 1 Type

Return Line Filter **RIF48**

## 2 Port Size

Connection Type	Code
1-1/2 BSP	<b>B</b>
1-7/8-12 SAE (standard option)	<b>S</b>
1-1/2 NPT	<b>N</b>
1-1/2 SAE Code 61 Flange	<b>F</b>

## 3 Filter Material

Material	Max. $\Delta p^*$ collapse	Micron ratings available	Code
Filter paper	10 bar / 150 PSI	03, 10, 25	<b>D</b>
Inorg. glass fibre	10 bar / 150 PSI	03, 10, 25	<b>G</b>

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

## 4 Micron Rating

3 $\mu\text{m}$	<b>03</b>
10 $\mu\text{m}$	<b>10</b>
20 $\mu\text{m}$	<b>25</b>

Note: Other micron ratings on request.

## 5 Sealing Material

NBR (Buna®)	<b>B</b>
FPM (Viton®)	<b>V</b>

Note: Other sealing materials on request.

## 7 Clogging Indicator

Without Clogging Indicator	<b>N</b>
Visual	<b>V</b>
Visual - Thermostop	<b>VT</b>
Electrical	<b>E</b>

## 8 Design Code

Only for information	<b>X</b>
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## Filter Elements - Type RTE48

RTE48 G 10 B / X

1 2 3 4 5

## 1 Type

For Return Line Filter RIF48 **RTE48**

## 2 Filter Material

Material	Max. $\Delta p^*$ collapse	Micron ratings available	Code
Filter paper	10 bar / 150 PSI	03, 10, 25	<b>D</b>
Inorg. glass fibre	10 bar / 150 PSI	03, 10, 25	<b>G</b>

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

## 4 Micron Rating

3 $\mu\text{m}$	<b>03</b>
10 $\mu\text{m}$	<b>10</b>
20 $\mu\text{m}$	<b>25</b>

Note: Other micron ratings on request.

## 5 Sealing Material

NBR (Buna®)	<b>B</b>
FPM (Viton®)	<b>V</b>

Note: Other sealing materials on request.

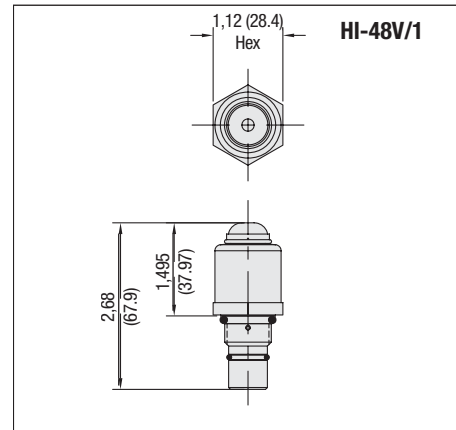
## 8 Design Code

Only for information	<b>X</b>
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## Return Line Filters - Type RIF48

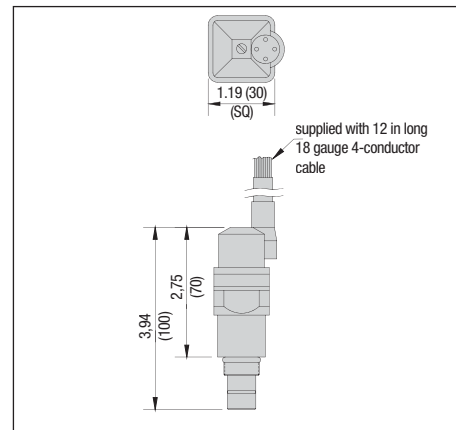
## Visual Clogging Indicator

Part number HI48-V is a mechanical magnetic cartridge with a highly visible red disk that pops up at 2,4 bar / 35 PSI. Once activated the red signal continues to indicate a bypass condition until it is manually reset.



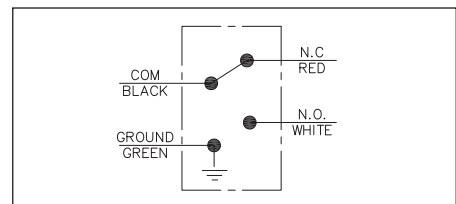
## Electrical Clogging Indicator

Part number HI48 are used when a electrical signal is needed to indicate when the element needs changing. The solid state switch is activated at 2,4 bar / 35 PSI. The indicators are supplied with 305 mm / 12 in long 4 wire cable, and meet NEMA4 and IP65 specifications.



## Electrical Clogging Indicator - HI48-E Ratings

	AC Rating	DC Rating
Voltage	max 240 V AC	max 100 V DC
Wattage	max 720 Watts	max 50 Watts
Current	0.10 to 6 amps	0.01 to 2 amps
Contact type	solid state	solid state



## Order Code

**HI 48 E / X**

1      2      3

**1** Type

 Clogging Indicator SIF48 Series **HI48**
**2** Indicator Type

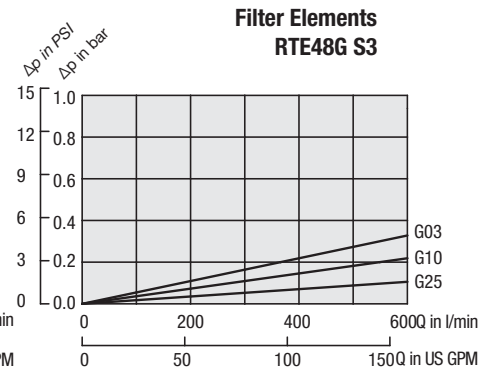
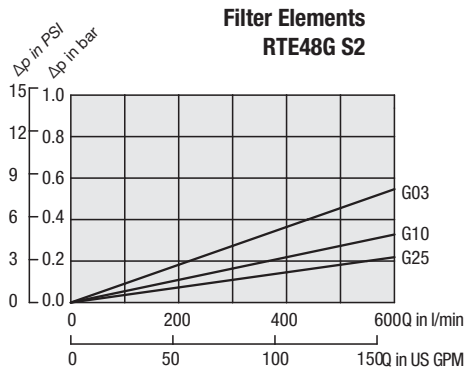
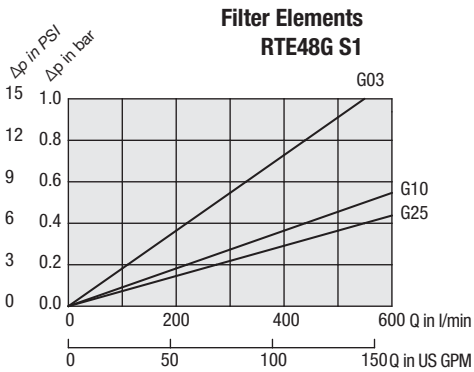
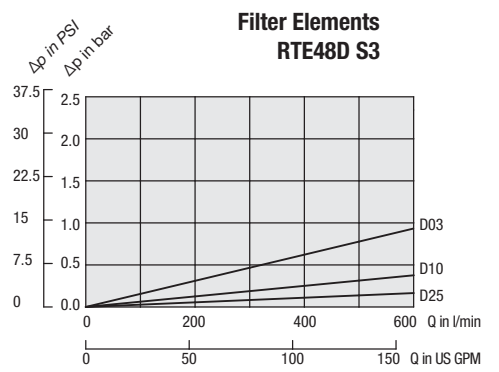
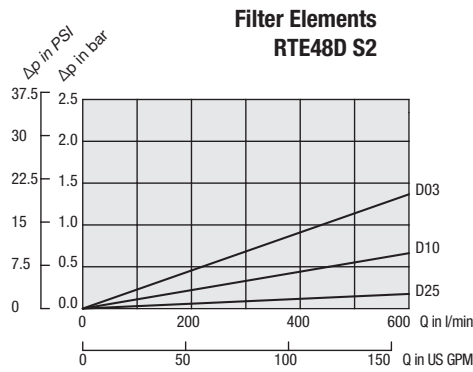
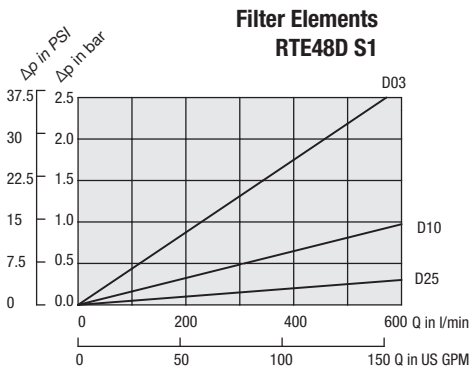
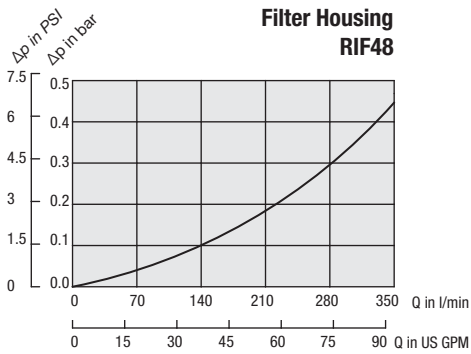
Visual	<b>V</b>
Electrical	<b>E</b>
Visual - Thermostop	<b>VT</b>

**3** Design Code

 Only for information **X**

### Return Line Filters - Type RIF48 Flow Characteristics

The following characteristics are valid for mineral oils with a density of 0,85 kg/dm<sup>3</sup> and the kinematic viscosity of 30 mm<sup>2</sup>/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.



## Return Line Filters ▪ Type SRFL-S / D


**Product Description**

STAUFF Return Line Simplex Filters SRFL-S and Duplex Filters SRFL-D are designed for in-line hydraulic applications. With its compact construction and the easy to maintain assembly the SRFL-S and SRFL-D Filters are suitable for flow rates up to 7000 l/min / 1850 US GPM. The two housings of the Duplex Filter SRFL-D are connected with a special gate valve that is operated with a level or hand wheel. Therefore the filter may be serviced without shutting down the hydraulic system. A high efficiency of contaminant removal is assured by using STAUFF RE series Replacement Filter Elements. The high dirt-hold capacity of STAUFF Elements ensures a long service life and, as a result, reduced maintenance costs.

**Technical Data**
**Construction**

- In-line assembly, base mounted

**Materials**

- Filter housing: Carbon Steel  
Stainless Steel (on request)
- Sealings: NBR (Buna-N®)  
FPM (Viton®)  
Other sealing materials on request

**Port Connection**

- DIN flange
- ANSI flange
- SAE flange

**Operating Pressure**

- Max. 14 bar / 200 PSI

**Flow Rating**

- Up to 7000 l/min / 1850 US GPM

**Temperature Range**

- -10°C ... +100°C / +14°F ... +212°F

**Filter Elements**

- Specifications see page C69

**Media Compatibility**

- Mineral oils, lubrication oils, other fluids on request

**Options and Accessories**
**Valve**

- Bypass valve: Opening pressure 3 bar ± 0,3 bar / 43.5 PSI ± 4.35 PSI  
(integrated in the filter element) Other settings available on request

**Clogging Indicators**

- Differential pressure switch, setting 1,6 bar / 23 PSI  
Other clogging indicators available on request

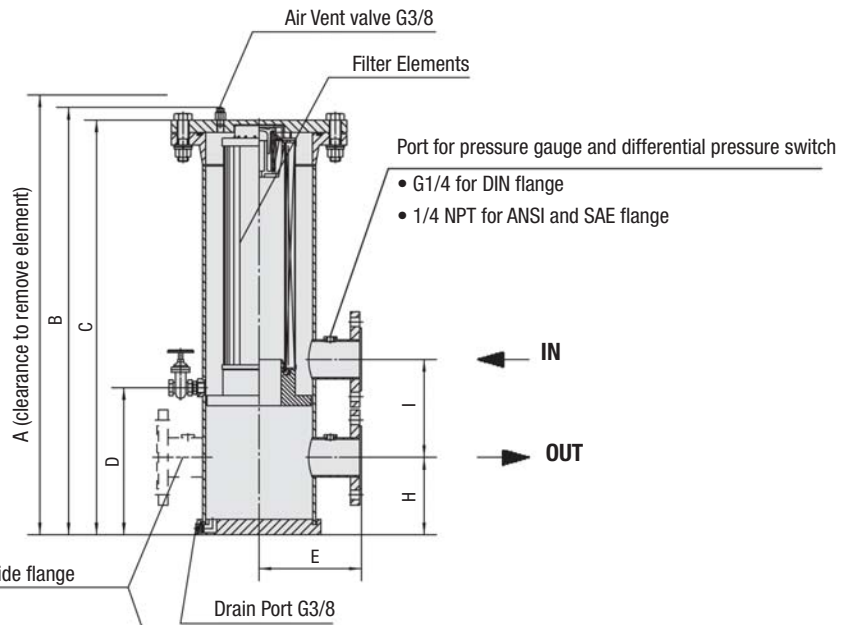
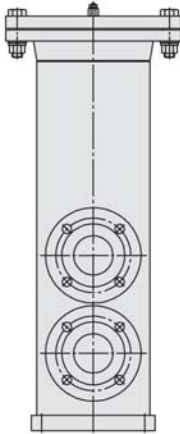
Filter Size	Flow l/min/ US GPM	Flange			Filter Element quantity		Arrangement of filter elements	Page
		DIN 2501	ANSI B16.5	SAE 3000 PSI	SRFL-S	SRFL-D		
SRFL-S/D-160	900/240	DN 40	1-1/2	1-1/2	1x RE-160	2x RE-160		C58/C62
SRFL-S/D-200	900/240	DN 50	2	2	1x RE-200	2x RE-200		
SRFL-S/D-300	1400/370	DN 65	2-1/2	2-1/2	1x RE-300	2x RE-300		
SRFL-S/D-600	1400/370	DN 80	3	3	1x RE-600	2x RE-600		
SRFL-S/D-1200	4000/1050	DN 100	4	4	2x RE-600	4x RE-600		C60/C64
SRFL-S/D-1800	4000/1050	DN 125	5	5	3x RE-600	6x RE-600		
SRFL-S/D-2400	6000/1580	DN 150	6	6	4x RE-600	8x RE-600		
SRFL-S/D-3600	7000/1850	DN 200	8	8	6x RE-600	12x RE-600		C60/C66

Return Line Filters - Type SRFL-S 160 / 200 / 300 / 600

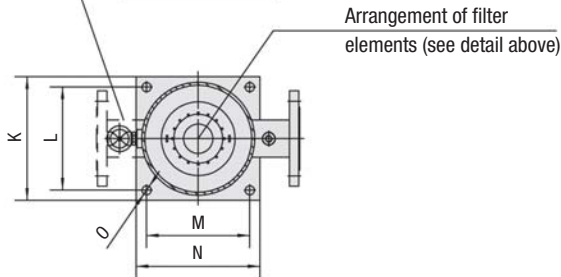
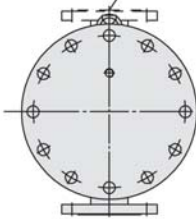
Detail arrangement of filter elements



SRFL-S 160 / 200 / 300 / 600

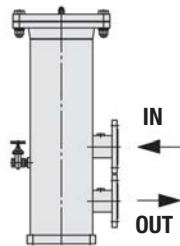


Option: Opposite side flange  
see detail

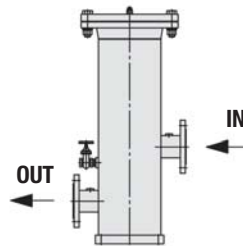


Option: Connection location

S (same side)



O (opposite side)



## Return Line Filters ■ Type SRFL-S 160 / 200 / 300 / 600

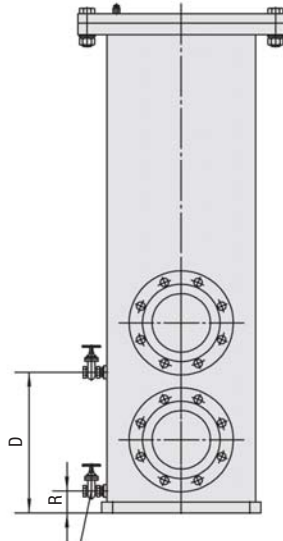
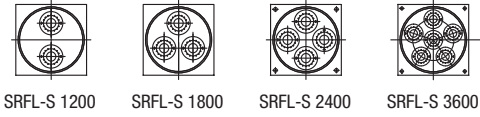
Flange Connection	Filter Size SRFL-S			
	160	200	300	600
DIN	DN 40	DN 50	DN 65	DN 80
ANSI	1-1/2	2	2-1/2	3
SAE	1-1/2	2	2-1/2	3

Dimensions (mm/in)	Filter Size SRFL-S			
	160	200	300	600
A	885,8	1045,8	1248,7	2126,7
	34.87	41.17	49.16	83.73
B	607,6	688,7	828,6	1267,6
	23.92	27.12	32.63	49.91
C	584	664	803,9	1242,9
	22.99	26.14	31.65	48.93
D	214	214	285	285
	8.43	8.43	11.22	11.22
E	148	148	198	198
	5.83	5.83	7.80	7.80
H	130	140	150	160
	5.12	5.51	5.91	6.30
I	155	190	190	220
	6.10	7.48	7.48	8.66
K	150	150	240	240
	5.91	5.91	9.45	9.45
L	125	125	200	200
	4.92	4.92	7.87	7.87
M	125	125	200	200
	4.92	4.92	7.87	7.87
N	150	150	240	240
	5.91	5.91	9.45	9.45
O	11	11	18	18
	.43	.43	.71	.71
Total Oil Capacity (l/gal)	6,0	7,1	22,2	37,1
	1.59	1.86	5.87	9.80
Weight (kg/lbs)	14,5	15,9	29	34,5
	32	35	64	76
Filter Elements	Designation	RE-160 ...	RE-200 ...	RE-300 ...
	Quantity	1 x 1	1 x 1	1 x 1



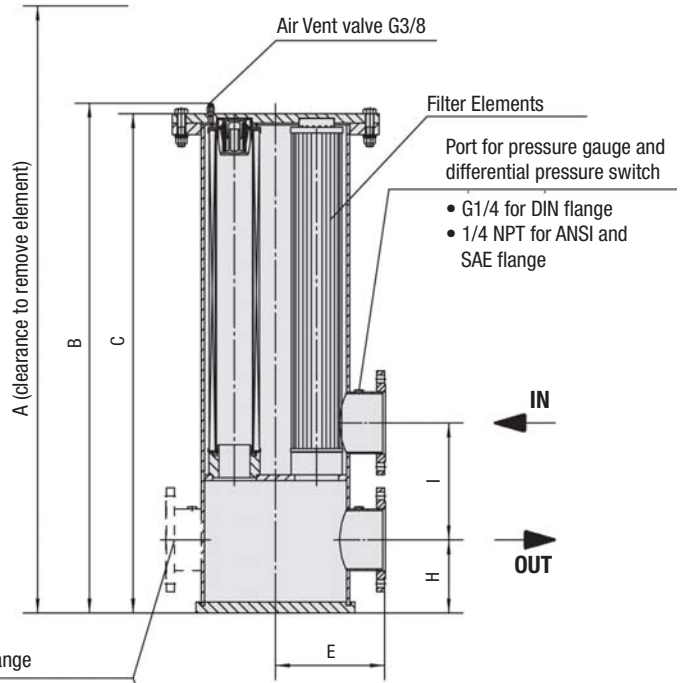
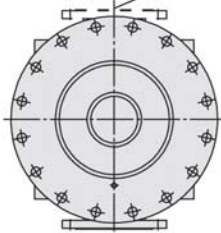
Return Line Filters - Type SRFL-S 1200 / 1800 / 2400 / 3600

Detail arrangement of filter elements



Drain Valve G1/2

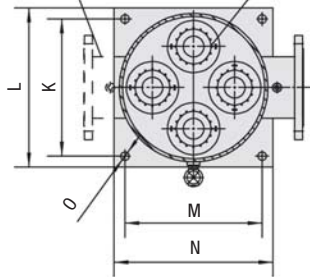
Option: Opposite side flange see detail



Port for pressure gauge and differential pressure switch

- G1/4 for DIN flange
- 1/4 NPT for ANSI and SAE flange

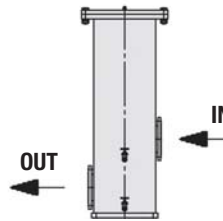
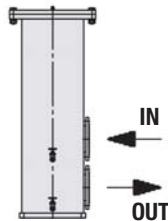
Arrangement of filter elements (see detail above)



Option: Connection location

S (same side)

O (opposite side)



## Return Line Filters - Type SRFL-S 1200 / 1800 / 2400 / 3600

Flange Connection	Filter Size SRFL-S			
	1200	1800	2400	3600
DIN	DN 100	DN 125	DN 150	DN 200
ANSI	4	5	6	8
SAE	4	5	6	8

Dimensions (mm/in)	Filter Size SRFL-S			
	1200	1800	2400	3600
A	2176,7	2176,7	2249,1	2249,1
	85.70	85.70	88.55	88.55
B	1319,6	1323,6	1394,8	1392,8
	51.96	52.11	54.92	54.84
C	1294,6	1294,9	1366,1	1368,1
	50.98	50.98	53.78	53.86
D	275	275	325	325
	10.83	10.83	12.80	12.80
E	273	273	298	398
	10.75	10.75	11.73	15.67
H	190	190	200	252
	7.48	7.48	7.87	9.92
I	250	280	320	425
	9.84	11.02	12.6	16.73
K	385	385	435	540
	15.16	15.16	17.13	21.26
L	325	325	375	480
	12.80	12.80	14.76	18.90
M	325	325	375	480
	12.80	12.80	14.76	18.90
N	385	385	435	540
	15.16	15.16	17.13	21.26
O	23	23	23	23
	.91	.91	.91	.91
R	60	60	60	60
	2.36	2.36	2.36	2.36
Total Oil Capacity (l/gal)	103	103	149	232
	27.21	27.21	39.37	61.30
Weight (kg/lbs)	86,2	90,7	105,2	154,2
	190	200	232	340
Filter Elements	Designation	RE-600 ...	RE-600 ...	RE-600 ...
	Quantity	1 x 2	1 x 3	1 x 6

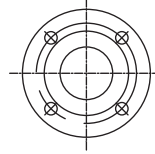
Return Line Filters - Type SRFL-D 160 / 200 / 300 / 600

Detail arrangement of filter elements

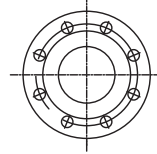


SRFL-D 160 / 200 / 300 / 600

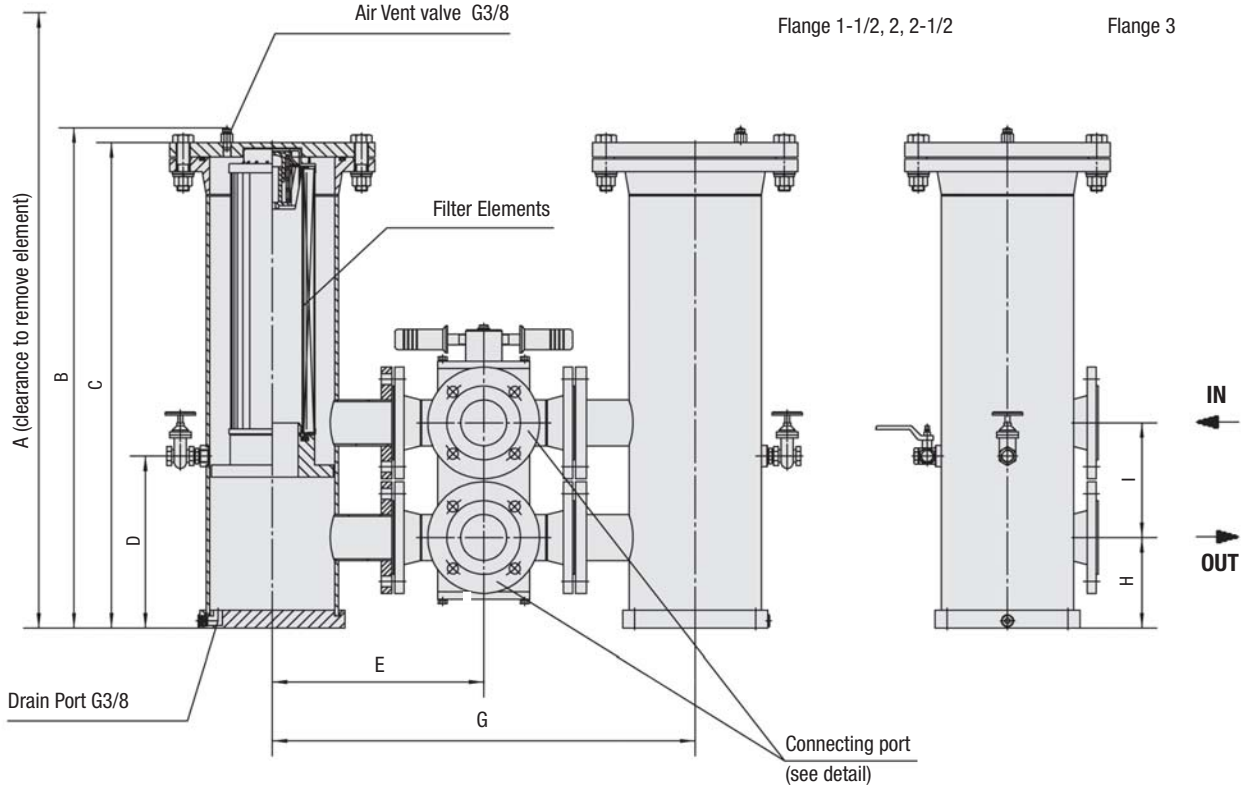
Detail connecting ports



Flange 1-1/2, 2, 2-1/2

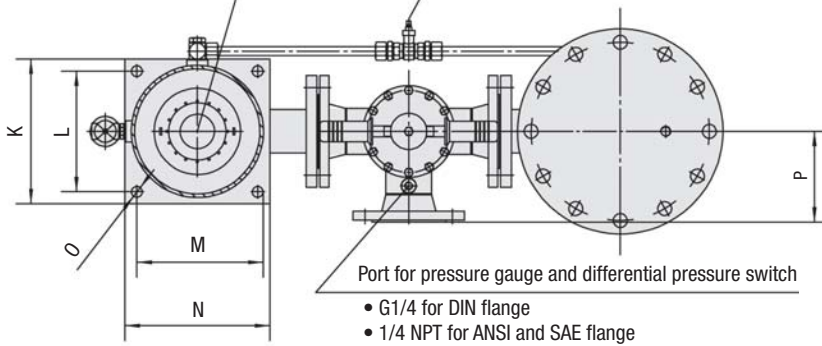


Flange 3



Arrangement of filter elements (see detail above)

Pressure tap  
Balance line 1/2"



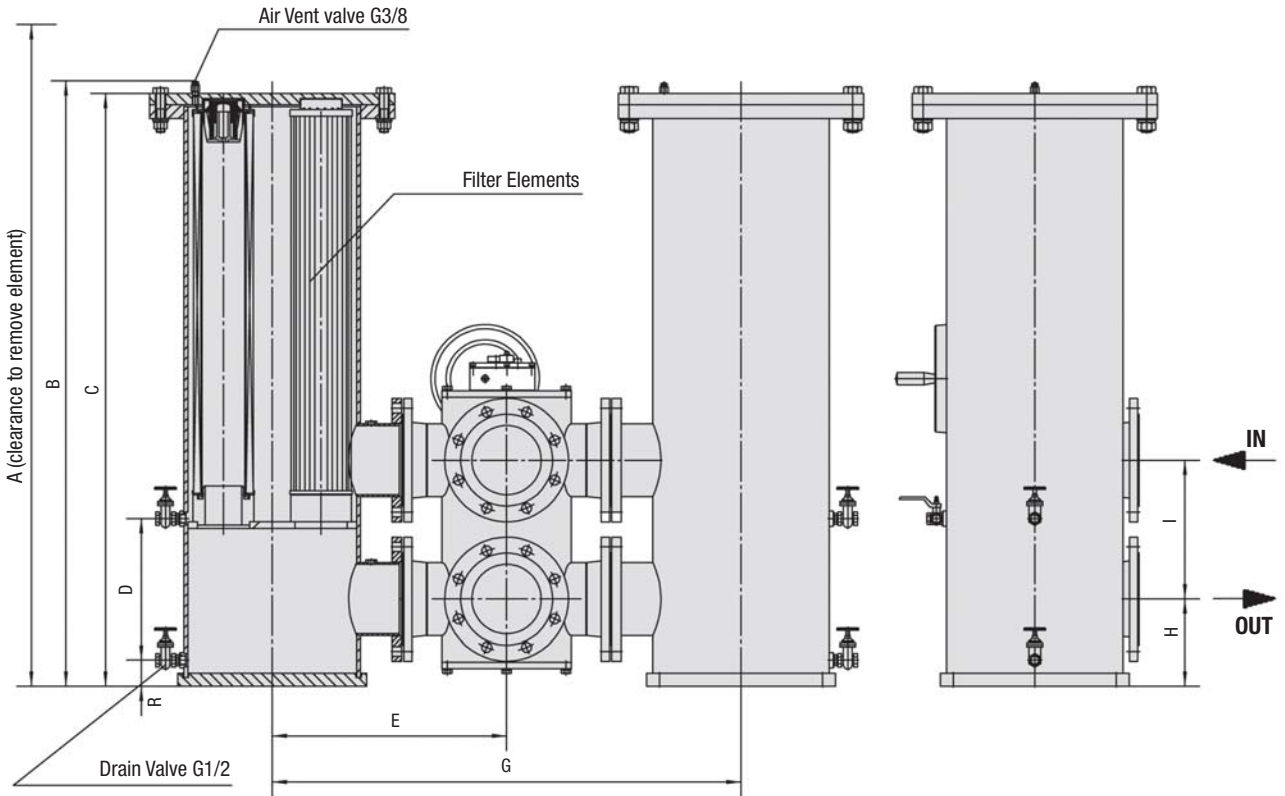
## Return Line Filters - Type SRFL-D 160 / 200 / 300 / 600

Flange Connection	Filter Size SRFL-D			
	160	200	300	600
DIN	DN 40	DN 50	DN 65	DN 80
ANSI	1-1/2	2	2-1/2	3

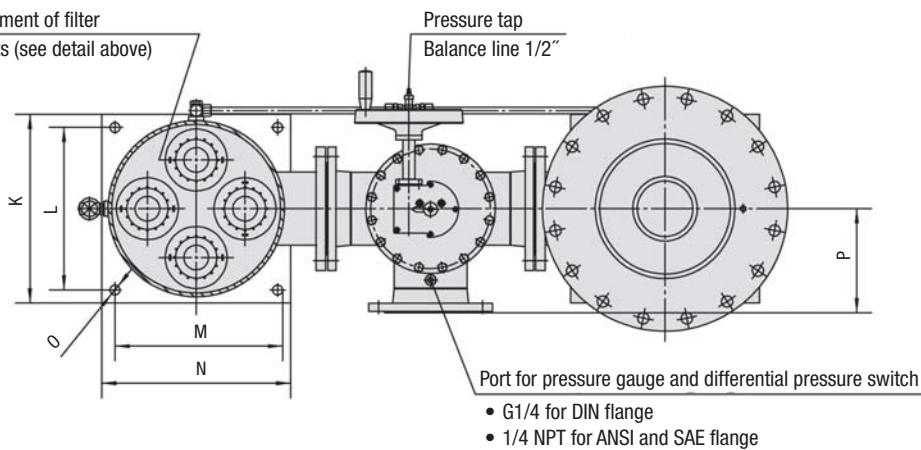
Dimensions (mm/in)	Filter Size SRFL-D				
	160	200	300	600	
A	885,8	1045,8	1248,7	2126,7	
	34.87	41.17	49.16	83.73	
B	607,6	688,7	828,6	1267,6	
	23.92	27.12	32.63	49.91	
C	584	642	803,9	1242,9	
	22.99	25.28	31.65	48.93	
D	214	214	285	285	
	8.43	8.43	11.22	11.22	
E	260	300	350	375	
	10.24	11.81	13.78	14.76	
G	520	600	700	750	
	20.47	23.62	27.56	29.53	
H	130	140	150	160	
	5.12	5.51	5.91	6.30	
I	155	190	190	220	
	6.10	7.48	7.48	8.66	
K	150	150	240	240	
	5.91	5.91	9.45	9.45	
L	125	125	200	200	
	4.92	4.92	7.87	7.87	
M	125	125	200	200	
	4.92	4.92	7.87	7.87	
N	150	150	240	240	
	5.91	5.91	9.45	9.45	
O	11	11	18	18	
	.43	.43	.71	.71	
P	110	150	150	175	
	4.33	5.91	5.91	6.89	
Total Oil Capacity (l/gal)	6	7,1	22,2	37,1	
	1.59	1.86	5.87	9.80	
Weight (kg/lbs)	43	56,7	84	104	
	95	125	185	230	
Filter Elements	Designation	RE-160 ...	RE-200 ...	RE-300 ...	RE-600 ...
	Quantity	2 x 1	2 x 1	2 x 1	2 x 1

Return Line Filters - Type SRFL-D 1200 / 1800 / 2400

Detail arrangement of filter elements



Arrangement of filter elements (see detail above)



## Return Line Filters ▪ Type SRFL-D 1200 / 1800 / 2400

Flange Connection	Filter Size SRFL-D		
	1200	1800	2400
DIN	DN 100	DN 125	DN 150
ANSI	4	5	6

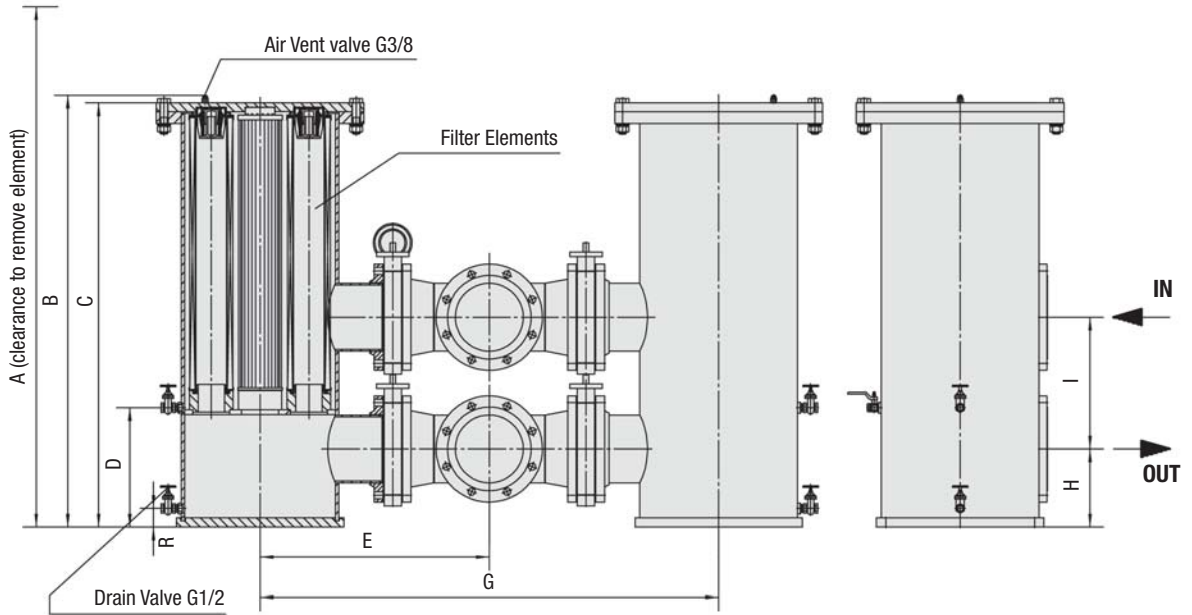
Dimensions (mm/in)	Filter Size SRFL-D		
	1200	1800	2400
A	2176,7	2176,7	2249,1
	85.70	85.70	88.55
B	1319,6	1323,6	1394,8
	51.96	52.11	54.92
C	1294,9	1294,9	1366,1
	50.98	50.98	53.78
D	275	275	325
	10.83	10.83	12.80
E	475	500	540
	18.70	19.69	21.26
G	950	1000	1080
	37.40	39.37	42.52
H	190	190	200
	7.48	7.48	7.87
I	250	280	320
	9.84	11.02	12.60
K	385	385	435
	15.16	15.16	17.13
L	325	325	375
	12.80	12.80	14.76
M	325	325	375
	12.80	12.80	14.76
N	385	385	435
	15.16	15.16	17.13
O	23	23	23
	.91	.91	.91
P	200	225	240
	7.87	8.86	9.45
R	60	60	60
	2.36	2.36	2.36
Total Oil Capacity (l/gal)	103	103	149
	27.20	27.20	39.30
Weight (kg/lbs)	215	233	263
	475	515	580
Filter Elements	Designation	RE-600 ...	RE-600 ...
	Quantity	2 x 2	2 x 3
			2 x 4

Return Line Filters - Type SRFL-D 3600

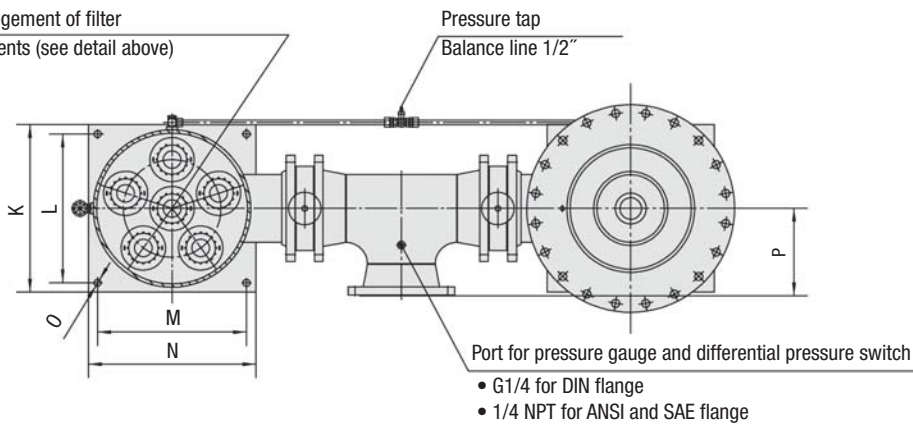
Detail arrangement of filter elements



SRFL-D 3600



Arrangement of filter elements (see detail above)



## Return Line Filters ▪ Type SRFL-D 3600

Flange Connection	Filter Size SRFL-D
	3600
DIN	DN 200
ANSI	8

Dimensions (mm/in)	Filter Size SRFL-D
	3600
A	2249,1
	88.55
B	1392,8
	54.84
C	1368,1
	53.86
D	325
	12.80
E	739
	29.11
G	1479
	58.22
H	252
	9.92
I	425
	16.73
K	540
	21.26
L	480
	18.90
M	480
	18.90
N	540
	21.26
O	23
	.91
P	281,4
	11.08
R	60
	2.36
Total Oil Capacity (l/gal)	233
	61.3
Weight (kg/lbs)	390
	860
Filter Elements	Designation RE-600 ...
	Quantity 2 x 6



## Return Line Filter Housings / Complete Filters - Type SRFL-S / D

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

1

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## 1 Type

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

## 2 Group

Flow	Size
900 l/min / 240 US GPM	<b>160</b>
900 l/min / 240 US GPM	<b>200</b>
1400 l/min / 370 US GPM	<b>300</b>
1400 l/min / 370 US GPM	<b>600</b>
4000 l/min / 1050 US GPM	<b>1200</b>
4000 l/min / 1050 US GPM	<b>1800</b>
6000 l/min / 1580 US GPM	<b>2400</b>
7000 l/min / 1850 US GPM	<b>3600</b>

## 3 Filter Material

Material	Max. $\Delta p^*$ collapse	Micron ratings available	Code
Without filter element	-	-	...
Inorg. glass fibre	25 bar / 363 PSI	3, 5, 10, 20	<b>G</b>
Stainless fibre	30 bar / 435 PSI		<b>A</b>
Filter paper	10 bar / 145 PSI	10, 20	<b>N</b>
Stainless mesh	30 bar / 435 PSI	25, 50, 100, 200	<b>S</b>

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

## 4 Micron Rating

3 $\mu$ m	<b>03</b>
5 $\mu$ m	<b>05</b>
10 $\mu$ m	<b>10</b>
20 $\mu$ m	<b>20</b>
25 $\mu$ m	<b>25</b>
50 $\mu$ m	<b>50</b>
100 $\mu$ m	<b>100</b>
200 $\mu$ m	<b>200</b>

Note: Other micron ratings on request.

## 5 Sealing Material

NBR (Buna®)	<b>B</b>
FPM (Viton®)	<b>V</b>

Note: Other sealing materials on request.

## 6 Connection Style

Connection Style	Group								Code
	160	200	300	600	1200	1800	2400	3600	
DIN Flange	DN 40	DN 50	DN 65	DN 80	DN 100	DN 125	DN 150	DN 200	<b>D</b>
ANSI Flange	1-1/2	2	2-1/2	3	4	5	6	8	<b>A</b>
SAE Flange	1-1/2	2	2-1/2	3	4	5	6	8	<b>S</b>

Note: SAE flange is not available for SRFL-D.

## 7 Connection Location

Opposite side*	<b>0</b>
Same side	<b>S</b>

\* Note: Omit for SRFL-D series

## 8 Housing Material

Carbon Steel	<b>CS</b>
Stainless Steel	<b>SS</b>

## 9 Clogging Indicator

Without Clogging Indicator	<b>0</b>
Differential Pressure Switch with Visual Gauge Indicator	<b>D</b>

Note: Other indicators on request. See page C69.

## 10 Design Code

Only for information	<b>X</b>
----------------------	----------

## Filter Elements - Type RE

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

1

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3

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## 1 Type

Filter Element Series	<b>RE</b>
-----------------------	-----------

## 2 Group

Designation	Filter Element Quantity		Size
	SRFL-S	SRFL-D	
RE-160	1x1	2x1	<b>160</b>
RE-200	1x1	2x1	<b>200</b>
RE-300	1x1	2x1	<b>300</b>
RE-600	1x1	2x1	<b>600</b>
RE-600	1x2	2x2	<b>1200</b>
RE-600	1x3	2x3	<b>1800</b>
RE-600	1x4	2x4	<b>2400</b>
RE-600	1x6	2x6	<b>3600</b>

## 3 Filter Material

Material	Max. $\Delta p^*$ collapse	Micron ratings available	Code
Inorg. glass fibre	25 bar / 363 PSI	3, 5, 10, 20	<b>G</b>
Stainless fibre	30 bar / 435 PSI		<b>A</b>
Filter paper	10 bar / 145 PSI	10, 20	<b>N</b>
Stainless mesh	30 bar / 435 PSI	25, 50, 100, 200	<b>S</b>

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

## 4 Micron Rating

3 $\mu$ m	<b>03</b>
5 $\mu$ m	<b>05</b>
10 $\mu$ m	<b>10</b>
20 $\mu$ m	<b>20</b>
25 $\mu$ m	<b>25</b>
50 $\mu$ m	<b>50</b>
100 $\mu$ m	<b>100</b>
200 $\mu$ m	<b>200</b>

Note: Other micron ratings on request.

## 5 Sealing Material

NBR (Buna®)	<b>B</b>
FPM (Viton®)	<b>V</b>

Note: Other sealing materials on request

## 6 Design Code

Only for information	<b>X</b>
----------------------	----------

## Return Line Filters - Type SRFL-S / D

Filter Elements and Clogging Indicator

## Product Description

STAUFF Replacement Filter Elements for SRFL-S and SRFL-D Series Filters are manufactured in the common filter materials such as Stainless Fibre, Stainless Mesh, Cellulose and Inorganic Glass Fibre. As standard all Replacement Elements series RE have tin plated steel parts for use with aggressive media such as water glycol, upon request you also can get other materials. All Replacement Elements made by STAUFF comply with quality specifications in accordance with international standards.



## Order Code

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

1      2      3      4      5      6

**1 Type**

 Filter Element Series **RE**
**2 Group**

According to filter housing

Note: See order code page C68

**3 Filter Material**

Material	Max. $\Delta p^*$ collapse	Micron ratings available	Code
Inorg. glass fibre	25 bar / 363 PSI	3, 5, 10, 20	<b>G</b>
Stainless fibre	30 bar / 435 PSI		<b>A</b>
Filter paper	10 bar / 145 PSI	10, 20	<b>N</b>
Stainless mesh	30 bar / 435 PSI	25, 50, 100, 200	<b>S</b>

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

**4 Micron Rating**

3 $\mu$ m	<b>03</b>
5 $\mu$ m	<b>05</b>
10 $\mu$ m	<b>10</b>
20 $\mu$ m	<b>20</b>
25 $\mu$ m	<b>25</b>
50 $\mu$ m	<b>50</b>
100 $\mu$ m	<b>100</b>
200 $\mu$ m	<b>200</b>

Note: Other micron ratings on request.

**5 Sealing Material**

NBR (Buna®)	<b>B</b>
FPM (Viton®)	<b>V</b>

Note: Other sealing materials on request.

**6 Design Code**

Only for information	<b>X</b>
----------------------	----------

## Differential Pressure Switch with Visual Gauge Indicator

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


**Diameter**

- 100 mm / 3.94 in

**Scale**

- 0 ... 1,6 kg/cm<sup>2</sup>

**Connection Thread**

- G1/4

**Operating Pressure**

- Max. 200 bar / 2900 PSI

**Temperature Range**

- 20 °C ... +80 °C / -4 °F ... +176 °F

**Materials**

- Body: Aluminium
- Lens: Glass
- Sealing Material: NBR (Buna-N®)  
FPM (Viton®)

**Protection Rating**

- IP 65: Dust tight and protected against water jets.

**Switch Voltage**

- Max. 28 V AC/DC

**Current On Contact**

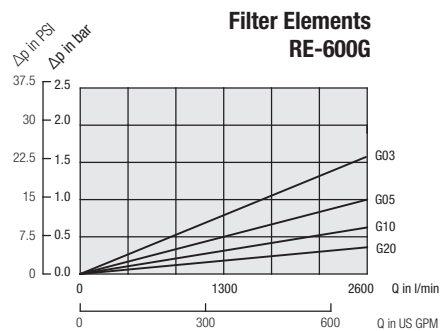
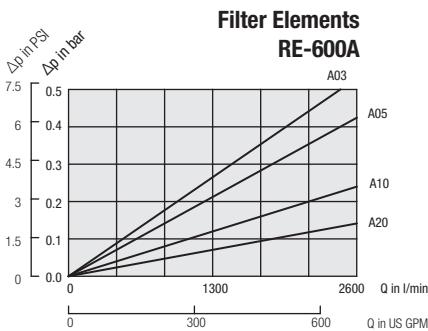
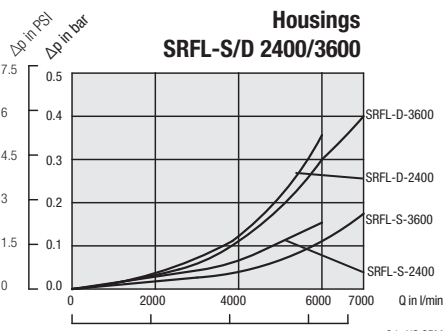
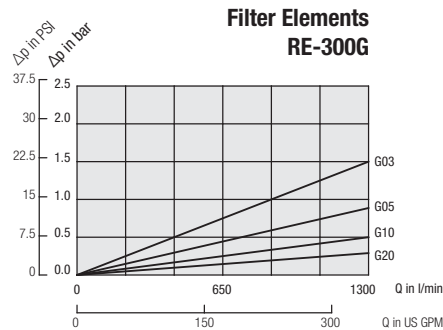
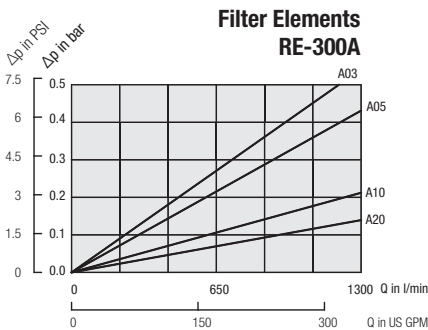
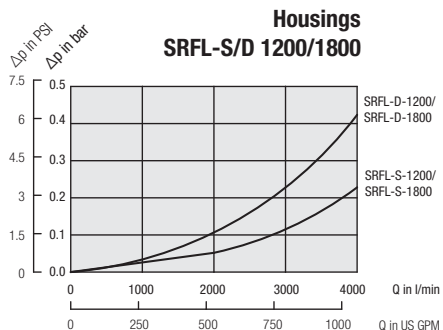
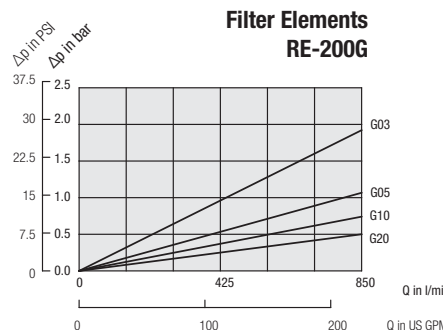
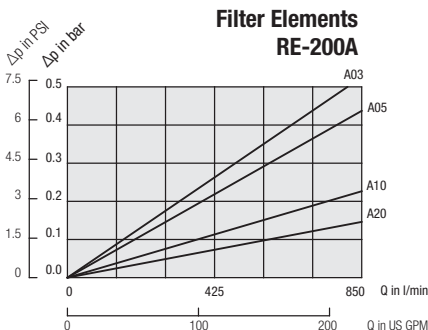
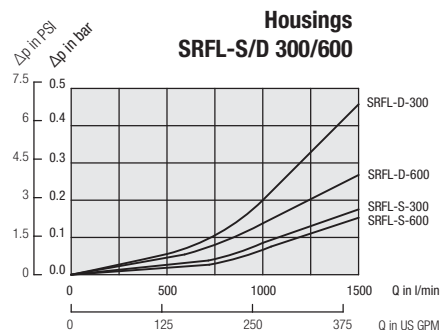
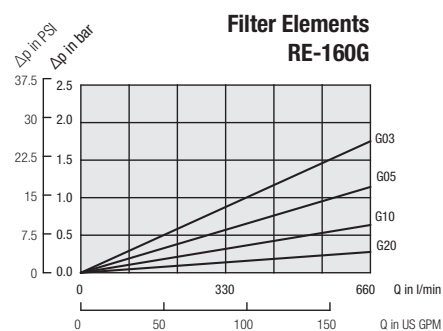
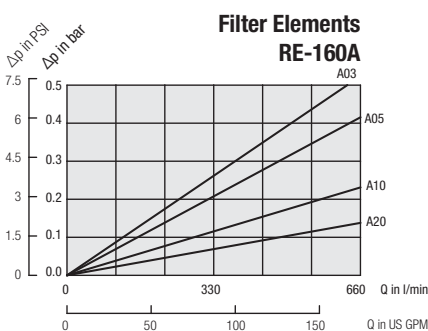
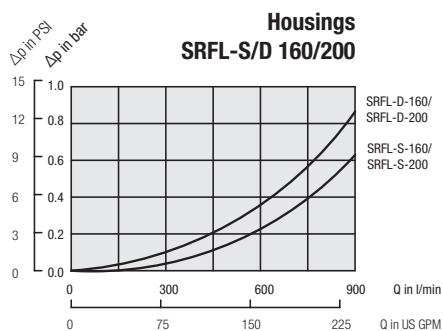
- Max. 0,25 A

**Contact Rating**

- 5 VA AC/DC

### Return Line Filters - Type SRFL-S / D Flow Characteristics

The following characteristics are valid for mineral oils with a density of 0,85 kg/dm<sup>3</sup> and the kinematic viscosity of 30 mm<sup>2</sup>/s (30cSt). The characteristics have been determined in accordance to ISO 3968. Multipass filter ratings have been obtained in accordance to ISO 16889. The housing pressure drop is directly proportional to the oil density. Consult STAUFF for details.



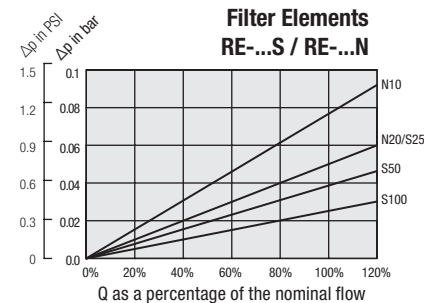
**Pressure drop of housing including filter elements**

General:  $\Delta p_{total} = \Delta p_{housing} + \Delta p_{Element} \times (\text{operating viscosity [mm}^2\text{/s]} / 30\text{mm}^2\text{/s})$   
 with  $\Delta p_{housing}$  = See diagrams above  
 $\Delta p_{Element}$  = 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 C58 and diagrams above.)

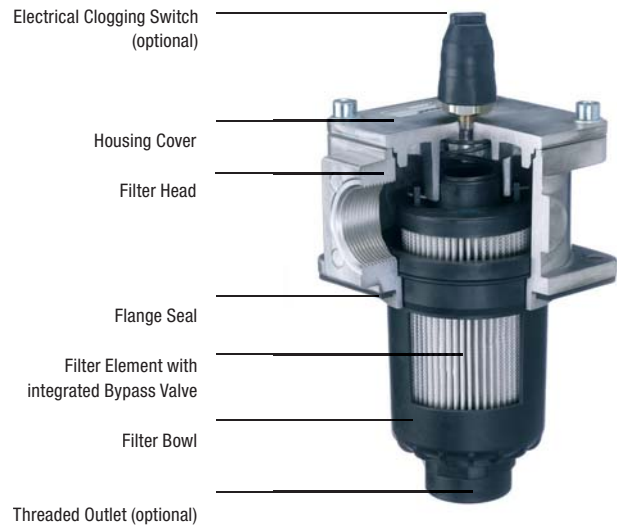
**Example**

Data given  $Q_{max} = 6000 \text{ l/min} / 1585 \text{ US GPM}$ , SRFL-D-2400 with filter elements RE-600S25B;  
 operating viscosity = 100 mm<sup>2</sup>/s  
 $Q_{max} = 6000 \text{ l/min}$ ; n=4 elements (SRFL-D-2400)  $Q/n=1500 \text{ l/min} / 396 \text{ gal}$   
 $\Delta p_{housing} = 0,35 \text{ bar} / 5.07 \text{ PSI}$ ,  $\Delta p_{Element} = 0,03 \text{ bar} / 0.44 \text{ PSI}$

Pressure drop:  $\Delta p_{total} = 0,35 \text{ bar} + 0,03 \text{ bar} \times (100 \text{ mm}^2\text{/s} / 30\text{mm}^2\text{/s})$   
 $= 0,45 \text{ bar} / 6.53 \text{ PSI}$



## Return Line Filters - Type RF


**Product Description**

STAUFF RF Return Line Filters are designed as tank top filters. They are mounted directly on the tank top and when 100% of the system's oil is filtered they provide the optimum removal of contaminant from the system. This provides the pump with clean oil thus reducing contaminant generated wear. The filter bowl is designed to return the oil beneath the surface thus preventing the entrainment of air by the returning oil. A high efficiency of contaminant removal is assured by using STAUFF RE Replacement Filter Elements. The high dirt-hold capacity of STAUFF Elements ensures a long service life and as a result reduced maintenance costs.

**Technical Data**
**Construction**

- Tank Top flange mounting

**Materials**

- Filter head: Aluminium
- Filter bowl: Glass Fibre reinforced Polyamide
- Sealings: NBR (Buna-N®)  
FPM (Viton®)  
EPDM (Ethylene-Propylene-Diene-Monomer-Rubber)  
Other sealing materials on request

**Port Connection**

- BSP
- NPT
- SAE O-ring thread
- SAE flange 3000 PSI

**Operating Pressure**

- Max. 16 bar / 232 PSI

**Temperature Range**

- -10°C ... +100°C / +14°F ... +212°F

**Filter Elements**

- Specifications see page C74

**Media Compatibility**

- Mineral oils, other fluids on request

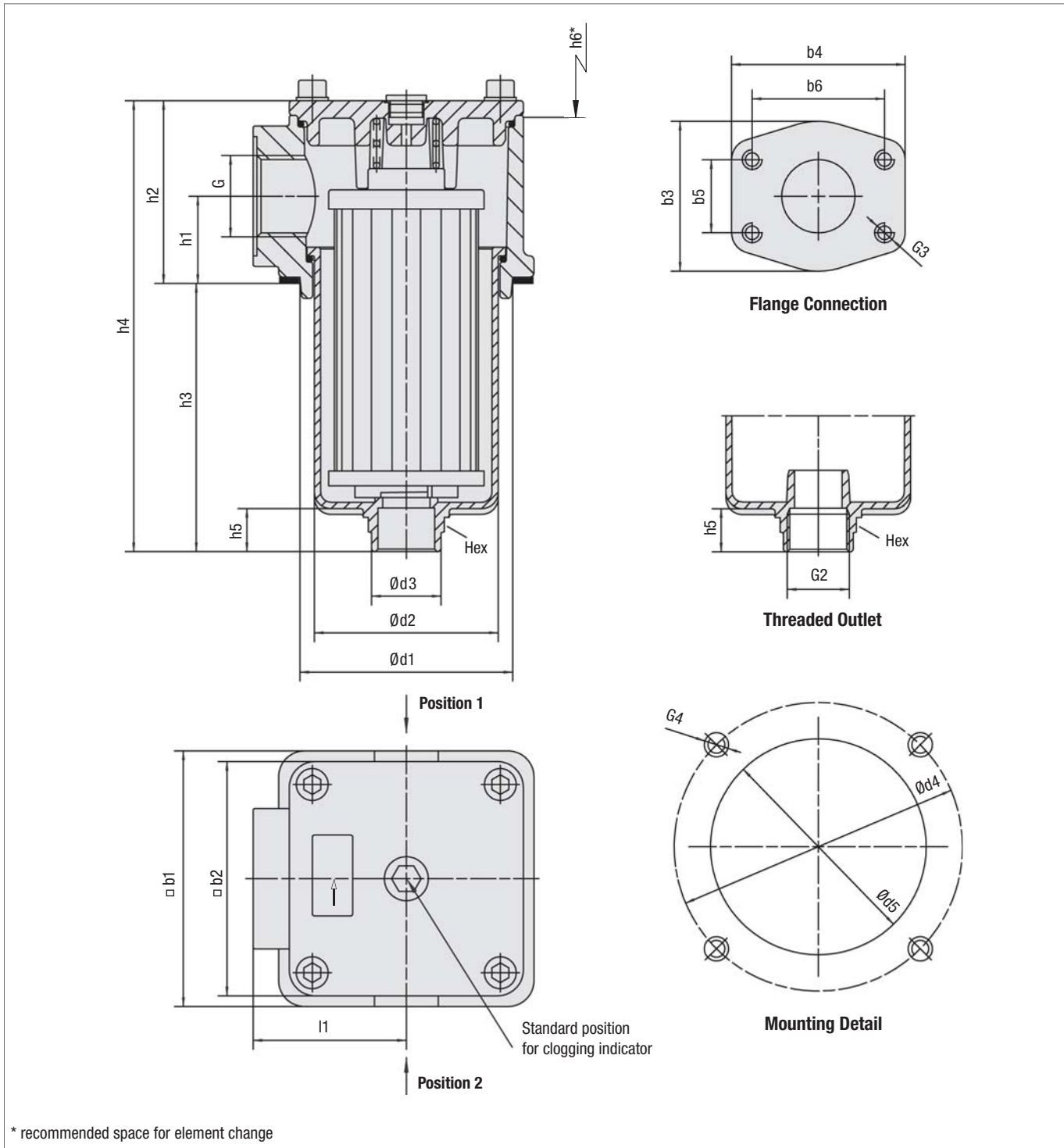
**Options and Accessories**
**Valve**

- Bypass valve (integrated in the filter element) Opening pressure 3 bar ± 0,3 bar / 43.5 PSI ± 4.35 PSI  
Other settings available on request

**Clogging Indicators**

- Visual clogging indicator 0 ... 4 bar / 0 ... 58 PSI coloured segments
- Electrical clogging switch, setting 2,5 bar / 36.25 PSI  
Other clogging indicators available on request

Return Line Filters - Type RF



## Return Line Filters - Type RF

Thread Connection G	Filter Size RF					
	014	030	045	070	090	130
BSP	3/4	1	1-1/4	1-1/2	2	2
NPT	3/4	1	1-1/4	1-1/2	2	2
SAE O-ring Thread	1-1/16-12	1-5/16-12	1-5/8-12	1-7/8-12	1-7/8-12	1-7/8-12
SAE Flange 3000 PSI	-	-	-	-	2	2

Dimensions (mm/in)	Filter Size RF					
	014	030	045	070	090	130
b1	89	89	120	120	150	150
	3.50	3.50	4.72	4.72	5.91	5.91
b2	80	80	110	110	135	135
	3.15	3.15	4.33	4.33	5.31	5.31
b3	-	-	-	-	88	88
					3.47	3.47
b4	-	-	-	-	102	102
					4.02	4.02
b5	-	-	-	-	42,9	42,9
					1.69	1.69
b6	-	-	-	-	77,8	77,8
					3.06	3.06
d1	73	73	100	100	126	126
	2.87	2.87	3.94	3.94	4.96	4.96
d2	57,5	57,5	84	84	112,5	112,5
	2.26	2.26	3.31	3.31	4.43	4.43
d3	36	36	48	48	54,5	54,5
	1.42	1.42	1.89	1.89	2.15	2.15
d4	100	100	135	135	170	170
	3.94	3.94	5.31	5.31	6.69	6.69
d5	78	78	105	105	131	131
	3.07	3.07	4.13	4.13	5.16	5.16
h1	33	33	41	41	47	47
	1.30	1.30	1.61	1.61	1.85	1.85
h2	66	66	86	86	98	98
	2.60	2.60	3.39	3.39	3.86	3.86
h3	91,5	159,5	119	180	172,5	252,5
	3.60	6.28	4.69	7.09	6.79	9.94
h4	157,5	225,5	206	267	273,5	353,5
	6.20	8.88	8.11	10.51	10.77	13.91
h5	23,5	23,5	24	24	27	27
	.93	.93	.95	.95	1.06	1.06
h6	140	210	180	240	235	315
	5.51	8.27	7.09	9.45	9.25	12.40
l1	48	48	66	66	85	85
	1.89	1.89	2.60	2.60	3.35	3.35
G2	G1 or 1 NPT	G1 or 1 NPT	G1-1/4 or 1-1/4 NPT	G1-1/4 or 1-1/4 NPT	G1-1/2 or 1-1/2 NPT	G1-1/2 or 1-1/2 NPT
G3	-	-	-	-	1/2 UNC x 15 1/2 UNC x .59	1/2 UNC x 15 1/2 UNC x .59
G4	M6 or 1/4-20 UNC	M6 or 1/4-20 UNC	M8 or 5/16-18 UNC	M8 or 5/16-18 UNC	M10 or 3/8-16 UNC	M10 or 3/8-16 UNC
Hex	36	36	50	50	55	55
	1.42	1.42	1.97	1.97	2.16	2.16

## Return Line Filter Housings / Complete Filters - Type RF

RF 070 ... B / B / M / G / L1 / X

1 2 3 4 5 6 7 8 9 10

## 1 Type

Return Line Filter **RF**

## 2 Group

Flow	Size
60 l/min / 14 US GPM	<b>014</b>
110 l/min / 30 US GPM	<b>030</b>
160 l/min / 45 US GPM	<b>045</b>
240 l/min / 70 US GPM	<b>070</b>
330 l/min / 90 US GPM	<b>090</b>
500 l/min / 130 US GPM	<b>130</b>

Note: Exact flow will depend on filter element selected.  
Consult technical data on pages C76 / C77.

## 3 Filter Material

Material	max. $\Delta p^*$ collapse	Micron ratings available	Code
Without filter element	-	-	...
Inorg. glass fibre	25 bar / 363 PSI	3, 5, 10, 20	<b>G</b>
Stainless fibre	30 bar / 435 PSI		<b>A</b>
Filter paper	10 bar / 145 PSI	10, 20	<b>N</b>
Stainless mesh	30 bar / 435 PSI	25, 50, 100, 200	<b>S</b>

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

## 4 Micron Rating

3 $\mu m$	<b>03</b>
5 $\mu m$	<b>05</b>
10 $\mu m$	<b>10</b>
20 $\mu m$	<b>20</b>
25 $\mu m$	<b>25</b>
50 $\mu m$	<b>50</b>
100 $\mu m$	<b>100</b>
200 $\mu m$	<b>200</b>

Note: Other micron ratings on request.

## 5 Sealing Materials

NBR (Buna®)	<b>B</b>
FPM (Viton®)	<b>V</b>
EPDM	<b>E</b>

Note: Other sealing materials on request

## 6 Connection Style

Connection Style	Group							Code
	014	030	045	070	090	130		
BSP	3/4	1	1-1/4	1-1/2	2	2	<b>B</b>	
BSP	1/2	1/2	1-1/2	1-1/4	1-1/4	1-1/4	B1	
BSP	1	3/4	-	-	1-1/2	1-1/2	B2	
NPT	3/4	1	1-1/4	1-1/2	2	2	<b>N</b>	
NPT	1	3/4	1-1/2	1-1/4	1-1/2	1-1/2	N1	
SAE O-ring Thread	1-1/16	1-5/16	1-5/8	1-7/8	1-7/8	1-7/8	<b>U</b>	
SAE O-ring Thread	1-5/16	1-1/16	1-7/8	1-5/8	1-5/8	1-5/8	U1	
SAE Flange 3000 PSI	-	-	-	-	2	2	<b>F</b>	

Note: Bold types identify preferred connection styles.

## 7 Clogging Indicator

	Position*		
Without Clogging Indicator	-		<b>0</b>
Visual Clogging Indicator			<b>M</b>
Electrical Clogging Switch 42 V, NO	1	2	<b>G42NO</b>
Electrical Clogging Switch 42 V, NC			<b>G42NC</b>
Electrical Clogging Switch 110 V, two-way contact			<b>G110</b>
Electrical Clogging Switch 230 V, two-way contact			<b>G230</b>

Note: \*Position of clogging indicator see page C75.

Without any code: assembly in the middle of the filter cover.

## 8 Outlet Style

Standard outlet (without thread)	<b>0</b>
Filter bowl with threaded outlet	<b>G</b>

## 9 Additional Features

	Position*		
Without leakage oil connection	-		<b>none</b>
Leakage oil connection	1	2	<b>L</b>

Note: \*Position of the leakage oil connection see page C75  
Without any code: assembly in the middle of the filter cover.

## 10 Design Code

Only for information	<b>X</b>
----------------------	----------

## Filter Elements - Type RE

RE - 014 G 10 B / X

1 2 3 4 5 6

## 1 Type

Filter Element Series **RE**

## 2 Group

According to filter housing

## 3 Filter Material

Material	Max. $\Delta p^*$ collapse	Micron ratings available	Code
Inorg. glass fibre	25 bar / 363 PSI	3, 5, 10, 20	<b>G</b>
Stainless fibre	30 bar / 435 PSI		<b>A</b>
Filter paper	10 bar / 145 PSI	10, 20	<b>N</b>
Stainless mesh	30 bar / 435 PSI	25, 50, 100, 200	<b>S</b>

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

## 4 Micron Rating

3 $\mu m$	<b>03</b>
5 $\mu m$	<b>05</b>
10 $\mu m$	<b>10</b>
20 $\mu m$	<b>20</b>
25 $\mu m$	<b>25</b>
50 $\mu m$	<b>50</b>
100 $\mu m$	<b>100</b>
200 $\mu m$	<b>200</b>

Note: Other micron ratings on request.

## 5 Sealing Materials

NBR (Buna®)	<b>B</b>
FPM (Viton®)	<b>V</b>
EPDM	<b>E</b>

Note: Other sealing materials on request.

## 6 Design Code

Only for information	<b>X</b>
----------------------	----------

## Return Line Filters - Type RF

**Visual Clogging Indicator**

The gauge visually displays the degree of contamination of the element.  
The colored segments allow quick visual checking.

green	0 ... 2,5 bar / 0 ... 36.25 PSI	Element has service life left
yellow	2,5 ... 3,0 bar / 36.25 ... 43.5 PSI	Element is contaminated and should be changed
red	>3,0 bar / >43.5 PSI	Bypass valve open, unfiltered oil passing to tank

**Electrical Clogging Switch**

The switch is used where an electrical signal is needed to indicate when the element needs changing. The switch can turn on a light, or shut the machine down, or any further function controlled by an electric signal. The switching pressure is 2,5 bar / 36.25 PSI and this allows the element to be changed before the bypass setting of 3 bar / 43.5 PSI is reached.

Maximum Voltage	Switch Type
42 V (normally open)	G42NO
42 V (normally closed)	G42NC
110 V (two-way contact)	G110
230 V (two-way contact)	G230

**Filter Bowl with Threaded Connection**

Under some circumstances such as a tall reservoir or one with oil levels which vary greatly during operation, it is necessary to extend the filter bowl so that the returning oil returns beneath the surface and does not entrain air in the process. The optional bowl with a female thread allows an extension to be fitted quite simply. The one piece design also allows for inline applications.

**Leakage Oil Connection**

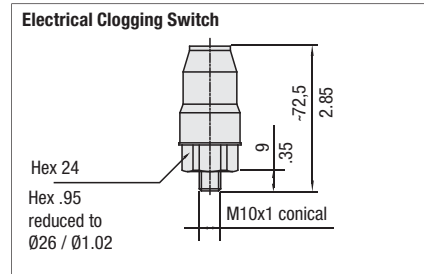
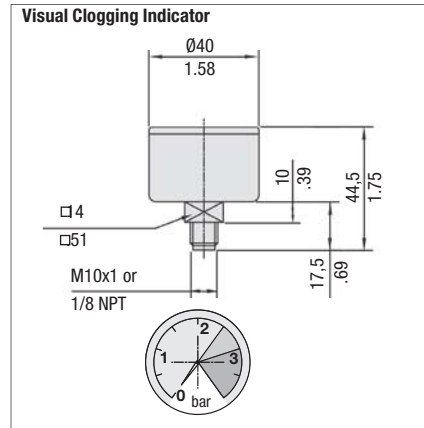
Seal or case drain lines can be connected to the filter through either of the clogging indicator ports providing that the leakage oil can accept a pressure of 3 bar / 43.5 PSI. It ensures that no unfiltered oil can return to the reservoir.

**Filter Bowl with Threaded Connection and Diffuser**

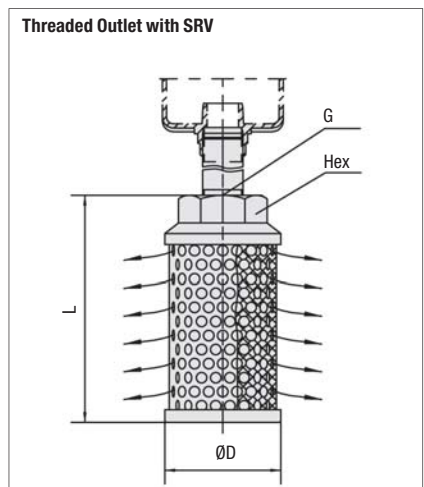
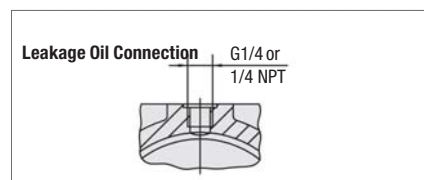
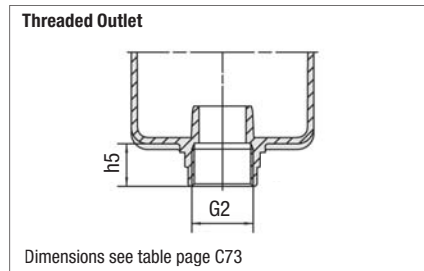
Diffusers mounted to the filter bowl minimise foaming and reduce noise of high return line flows. For further details on STAUFF Diffusers please refer to the "Hydraulic Accessories" section on page E46.

Attention: Connection pipe not included in scope of delivery!

Size SRV	for Return Line Filter Size	Dimensions (mm/in)			
		øD	L	Thread G	Hex
SRV-114-B16	RF 014/030	60	139	G1	46
SRV-114-N16		2.36	5.47	1 NPT	1.81
SRV-200-B20	RF 045/070	82	139	G1-1/4	60
SRV-200-N20		3.23	5.47	1-1/4 NPT	2.36
SRV-227-B24	RF 090/130	82	200	G1-1/2	60
SRV-227-N24		3.23	7.87	1-1/2 NPT	2.36



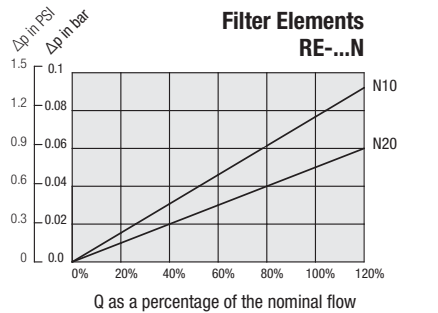
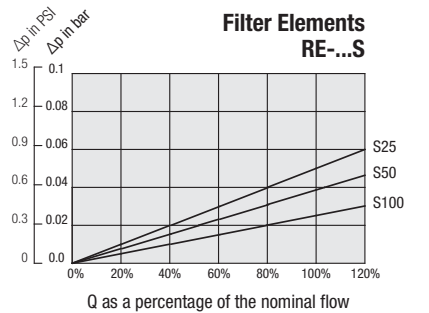
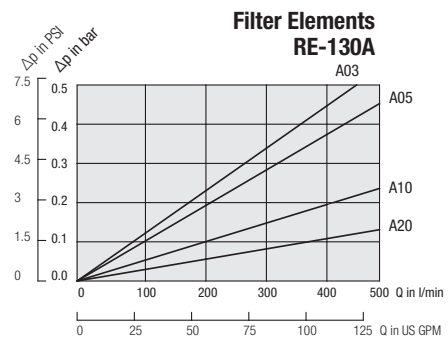
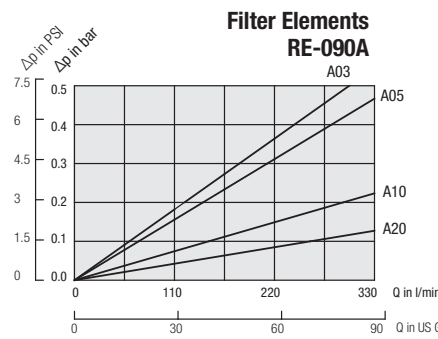
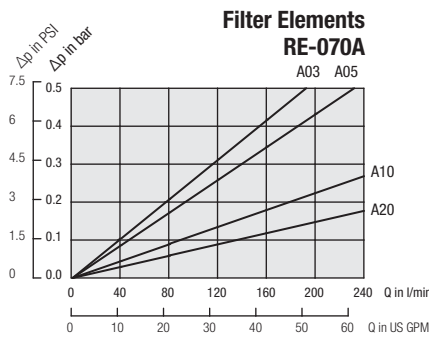
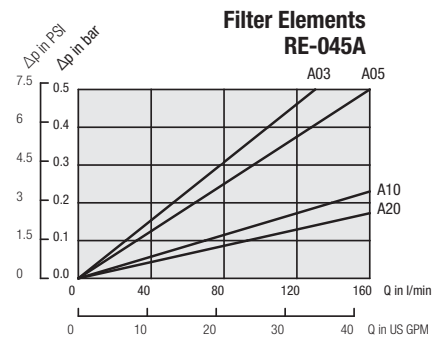
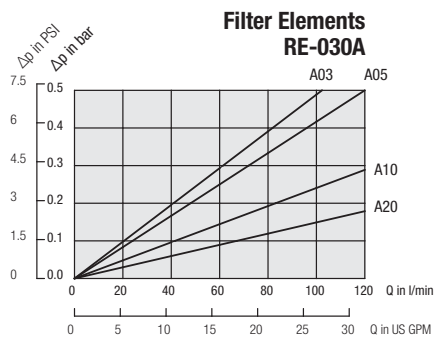
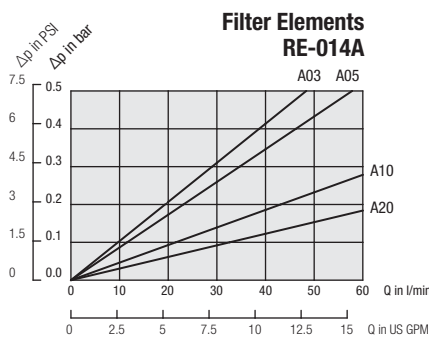
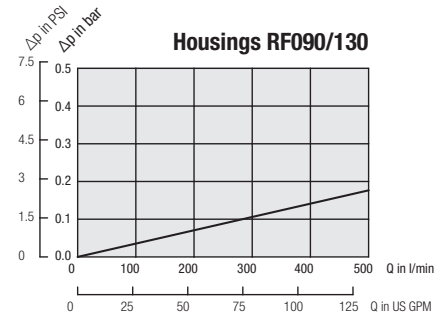
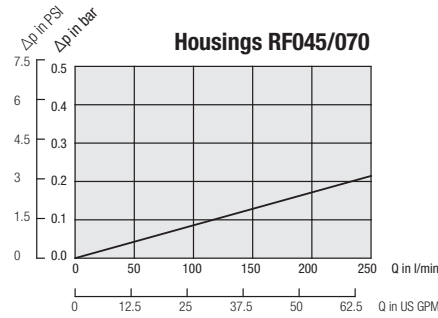
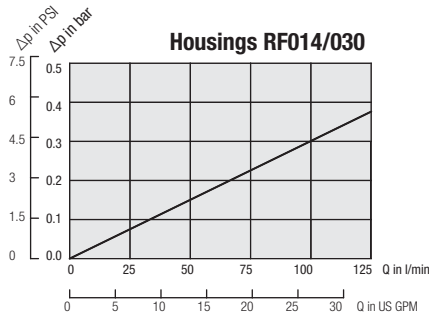
Dimensions in mm/in





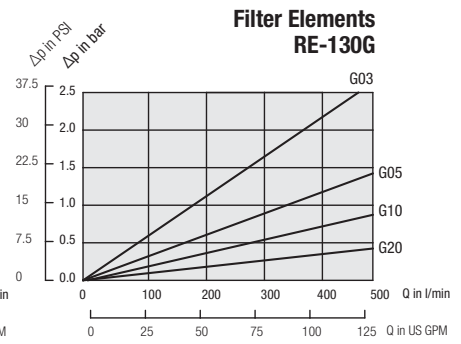
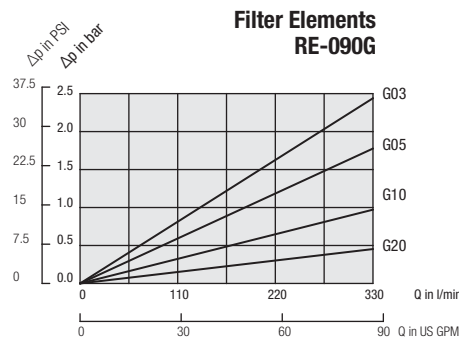
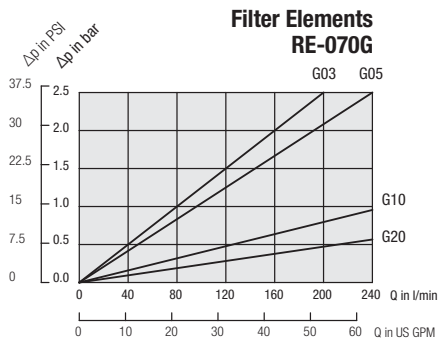
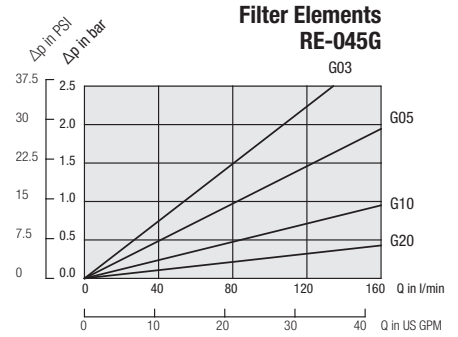
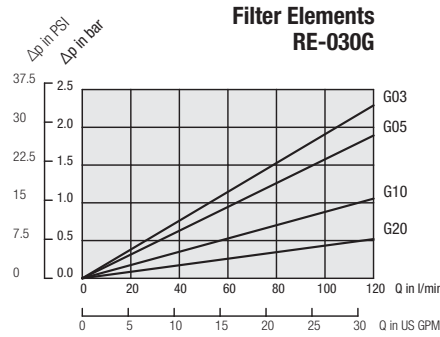
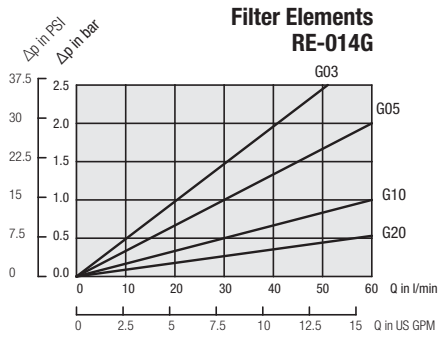
Return Line Filters - Type RF Flow Characteristics

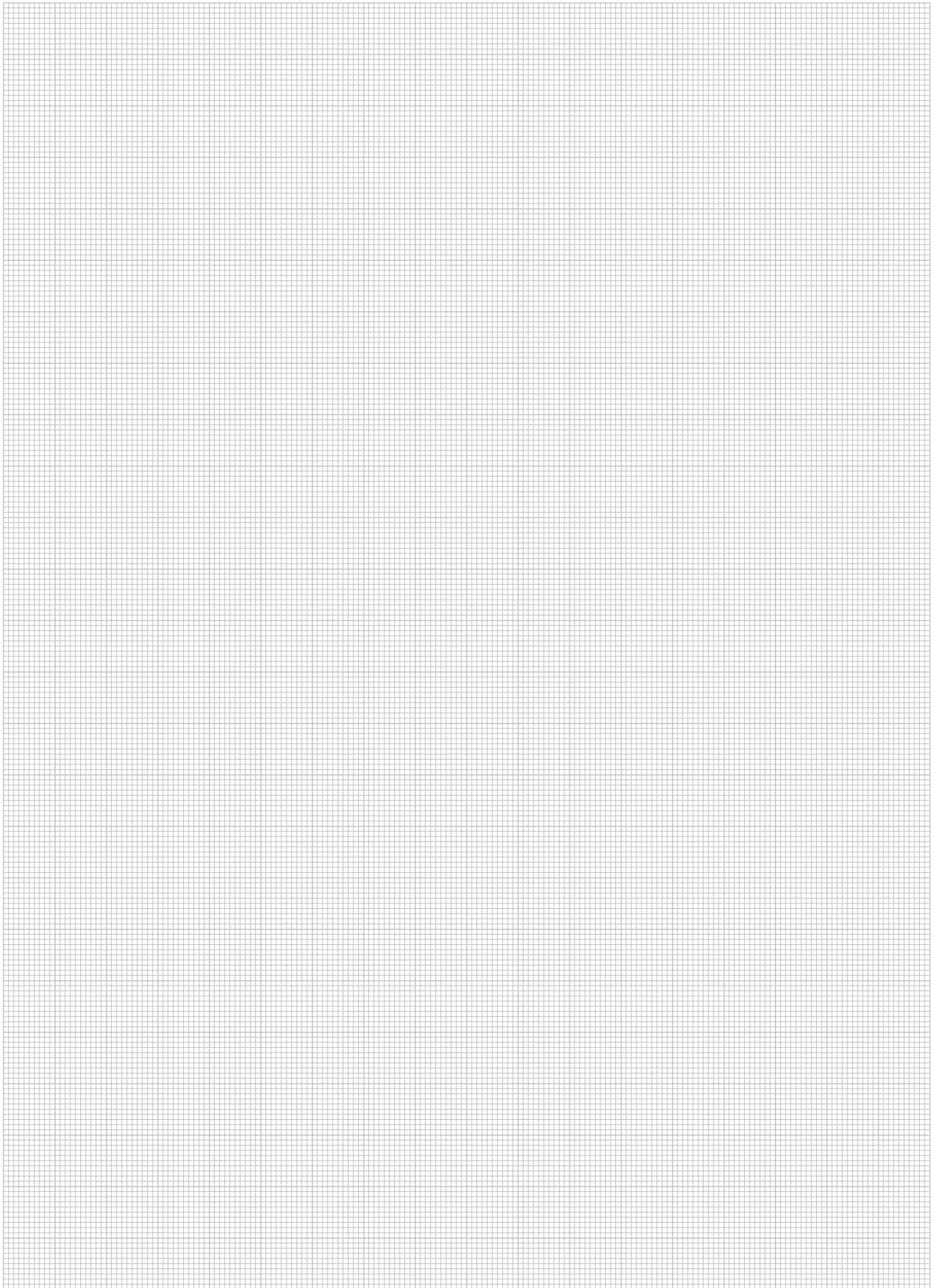
The following characteristics are valid for mineral oils with a density of 0,85 kg/dm<sup>3</sup> and the kinematic viscosity of 30 mm<sup>2</sup>/s (30cSt). The characteristics have been determined in accordance to ISO 3968. Multipass filter ratings have been obtained in accordance to ISO 16889. The housing pressure drop is directly proportional to the oil density. Consult STAUFF for details.



Return Line Filters - Type RF Flow Characteristics

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 (30cSt). The characteristics have been determined in accordance to ISO 3968. Multipass filter ratings have been obtained in accordance to ISO 16889. The housing pressure drop is directly proportional to the oil density. Consult STAUFF for details.





## Return Line Filters ▪ Type RFB


**Product Description**

STAUFF RFB Return Line Filters are designed as tank top filters. They are mounted directly on the tank top and if 100% of the system oil is filtered they provide the optimum removal of contaminant from the system. This provides the pump with clean oil thus reducing contaminant generated wear. Because of its low weight and compact design, the STAUFF RFB Filters are ideally suited for mobile hydraulic applications. A high efficiency of contaminant removal is assured by using STAUFF RE Replacement Filter Elements. The high dirt-hold capacity of STAUFF Elements ensures a long service life and as a result reduced maintenance costs.

**Technical Data**
**Construction**

- Tank Top flange mounting

**Materials**

- Filter head: Aluminium
- Filter bowl & cap: Glass Fibre Reinforced Polyamide
- Sealings: NBR (Buna-N®)  
FPM (Viton®)  
EPDM (Ethylene Propylene Diene Monomer Rubber)  
Other sealing materials on request

**Port Connection**

- BSP
- NPT
- SAE O-ring thread

**Operating Pressure**

- Max. 10 bar / 145 PSI

**Temperature Range**

- -10°C ... +100°C / +14°F ... +212°F

**Filter Elements**

- Specifications see page C88

**Media Compatibility**

- Mineral oils, other fluids on request

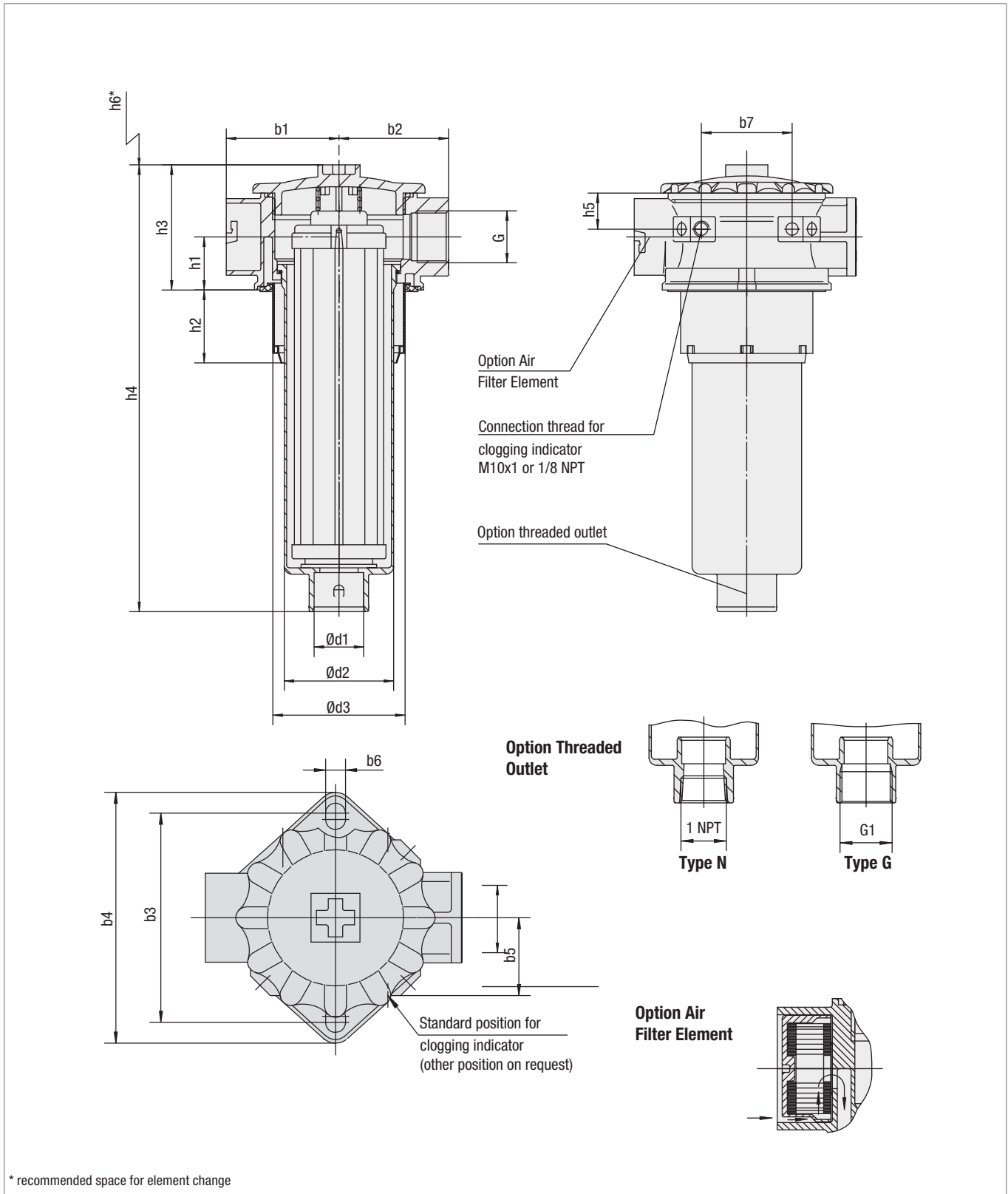
**Options and Accessories**
**Valve**

- Bypass valve (integrated in the filter element) Opening pressure 3 bar  $\pm$  0,3 bar / 43.5 PSI  $\pm$  4.35 PSI  
Other settings available on request

**Clogging Indicators**

- Visual clogging indicator 0 ... 4 bar / 0 ... 58 PSI coloured segments
- Electrical clogging switch, setting 2,5 bar / 36.25 PSI  
Other clogging indicators available on request

Return Line Filters - Type RFB



## Return Line Filters - Type RFB

Thread Connection G	Filter Size RFB					
	022		046		052	
BSP	3/4	1	3/4	1	3/4	1
NPT	3/4	1	3/4	1	3/4	1
SAE O-ring Thread	1-5/16-12					

Dimensions (mm/in)	Filter Size RFB					
	022		046		052	
h1	34		34		34	
	1.34		1.34		1.34	
h2	46,5		46,5		46,5	
	1.83		1.83		1.83	
h3	80		80		80	
	3.15		3.15		3.15	
h4	205,5		285,5		351,5	
	8.09		11.24		13.84	
h5	23		23		23	
	.91		.91		.91	
h6	154		239		305	
	6.26		9.41		12.01	
d1	32		32		32	
	1.26		1.26		1.26	
d2	70		70		70	
	2.76		2.76		2.76	
d3	84,5		84,5		84,5	
	3.33		3.33		3.33	
b1	72		72		72	
	2.84		2.84		2.84	
b2	70		70		70	
	2.76		2.76		2.76	
b3	115,5		115,5		115,5	
	4.55		4.55		4.55	
b4	138,5		138,5		138,5	
	5.45		5.45		5.45	
b5	43		43		43	
	1.69		1.69		1.69	
b6	11		11		11	
	.43		.43		.43	
b7	58		58		58	
	2.28		2.28		2.28	

## Return Line Filter Housings / Complete Filters - Type RFB

**RFB** **022** ... **B** / **B** / **M** / **G** / **L10** / **X**

1 2 3 4 5 6 7 8 9 10

## 1 Type

Return Line Filter **RFB**

## 2 Group

Flow	Size
75 l/min / 22 US GPM	<b>022</b>
165 l/min / 46 US GPM	<b>046</b>
185 l/min / 52 US GPM	<b>052</b>

Note: Exact flow will depend on filter element selected.  
Consult technical data on pages C90.

## 3 Filter Material

Material	Max. $\Delta p^*$ collapse	Micron ratings available	Code
Without filter element	-	-	...
Inorg. glass fibre	25 bar / 363 PSI	3, 5, 10, 20	<b>G</b>
Stainless fibre	30 bar / 435 PSI		<b>A</b>
Filter paper	10 bar / 145 PSI	10, 20	<b>N</b>
Stainless mesh	30 bar / 435 PSI	10, 25, 50, 100, 200	<b>S</b>

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

## 4 Micron Rating

3 $\mu\text{m}$	<b>03</b>
5 $\mu\text{m}$	<b>05</b>
10 $\mu\text{m}$	<b>10</b>
20 $\mu\text{m}$	<b>20</b>
25 $\mu\text{m}$	<b>25</b>
50 $\mu\text{m}$	<b>50</b>
100 $\mu\text{m}$	<b>100</b>
200 $\mu\text{m}$	<b>200</b>

Note: Other micron ratings on request.

## 5 Sealing Material

NBR (Buna®)	<b>B</b>
FPM (Viton®)	<b>V</b>
EPDM	<b>E</b>

Note: Other sealing materials on request.

## 6 Connection Style

Connection Style	Group			Code
	022	046	052	
BSP	1			<b>B</b>
BSP	3/4			B1
NPT	1			<b>N</b>
NPT	3/4			N1
SAE-O-ring Thread	1-5/16-12			<b>U</b>

Note: Bold types identify preferred connection style.

## 7 Clogging Indicator

	Position*	Code
Without Clogging Indicator	-	<b>0</b>
Visual Clogging Indicator		<b>M</b>
Electrical Clogging Switch 42 V, NO	1 2	<b>G42NO</b>
Electrical Clogging Switch 42 V, NC		<b>G42NC</b>
Electrical Clogging Switch 110 V, two-way contact		<b>G110</b>
Electrical Clogging Switch 230 V, two-way contact		<b>G230</b>

Note: \*Position of clogging indicator see page C89.

Without any code: assembly in the middle of the filter cover.

## 8 Outlet Style

Standard outlet (without thread)	<b>0</b>
With thread G1	<b>G</b>
With thread 1 NPT	<b>N</b>

## 9 Air Filter Element

Without Air Filter Element	<b>0</b>
Filter paper 10 micron	<b>L10</b>

Note: Other materials and micron ratings on request.

## 10 Design Code

Only for information	<b>X</b>
----------------------	----------

## Filter Elements - Type RE

**RE** - **022** **G** **10** **B** / **X**

1 2 3 4 5 6

## 1 Type

Filter Element Series **RE**

## 2 Group

According to filter housing

## 3 Filter Material

Material	Max. $\Delta p^*$ collapse	Micron ratings available	Code
Inorg. glass fibre	25 bar / 363 PSI	3, 5, 10, 20	<b>G</b>
Stainless fibre	30 bar / 435 PSI		<b>A</b>
Filter paper	10 bar / 145 PSI	10, 20	<b>N</b>
Stainless mesh	30 bar / 435 PSI	25, 50, 100, 200	<b>S</b>

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

## 4 Micron Rating

3 $\mu\text{m}$	<b>03</b>
5 $\mu\text{m}$	<b>05</b>
10 $\mu\text{m}$	<b>10</b>
20 $\mu\text{m}$	<b>20</b>
25 $\mu\text{m}$	<b>25</b>
50 $\mu\text{m}$	<b>50</b>
100 $\mu\text{m}$	<b>100</b>
200 $\mu\text{m}$	<b>200</b>

Note: Other micron ratings on request.

## 5 Sealing Material

NBR (Buna®)	<b>B</b>
FPM (Viton®)	<b>V</b>
EPDM	<b>E</b>

Note: Other sealing materials on request.

## 6 Design Code

Only for information	<b>X</b>
----------------------	----------

## Air Filter Elements

**REA** - **046** **L** **10** **B** / **X**

1 2 3 4 5 6

## 1 Type

Air Filter Element **REA**

## 2 Group

Air filter for RFB 022/046/052 **046**

## 3 Filter Material

Filter Paper	<b>L</b>
--------------	----------

Note: Other materials on request.

## 4 Micron Rating

10 $\mu\text{m}$	<b>10</b>
------------------	-----------

Note: Other micron ratings on request.

## 5 Design Code

Only for information	<b>X</b>
----------------------	----------

## Return Line Filters - Type RFB

**Visual Clogging Indicator**

The gauge visually displays the degree of contamination of the element.  
The colored segments allow quick visual checking.

green	0 ... 2,5 bar / 0 ... 36.25 PSI	Element has service life left
yellow	2,5 ... 3,0 bar / 36.25 ... 43.5 PSI	Element is contaminated and should be changed
red	>3,0 bar / >43.5 PSI	Bypass valve open, unfiltered oil passing to tank

**Electrical Clogging Switch**

The switch is used where an electrical signal is needed to indicate when the element needs changing. The switch can turn on a light, or shut the machine down, or any further function controlled by an electric signal. The switching pressure is 2,5 bar / 36.25 PSI and this allows the element to be changed before the bypass setting of 3 bar / 43.5 PSI is reached.

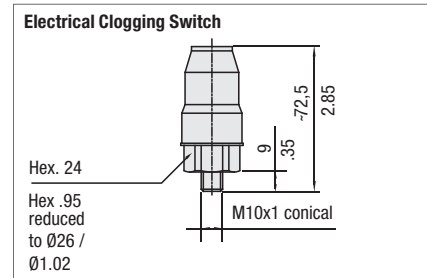
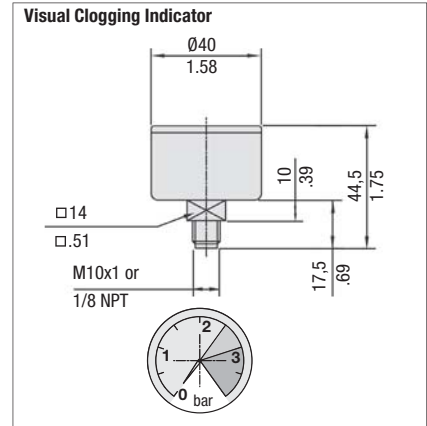
Maximum Voltage	Switch Type
42 V (normally open)	G42NO
42 V (normally closed)	G42NC
110 V (two-way contact)	G110
230 V (two-way contact)	G230

**Air Filter Element**

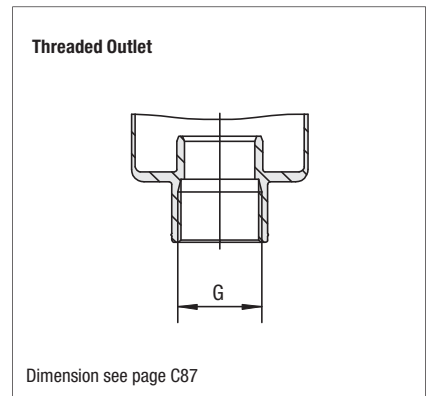
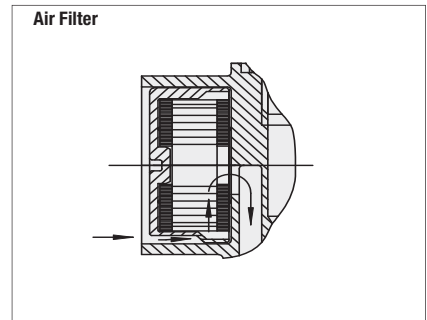
Allows an effective filtration of the incoming air which avoids the infiltration of dirt particles into the hydraulic system. The standard air filter element is a 10 micron cellulose; other materials and micron ratings on request.

**Filter Bowl with Threaded Connection**

Under some circumstances such as a tall reservoir or one with oil levels which vary greatly during operation, it is necessary to extend the filter bowl so that the returning oil returns beneath the surface and does not entrain air in the process. The optional bowl with a female thread allows an extension to be fitted quite simply.



Dimensions in mm / in

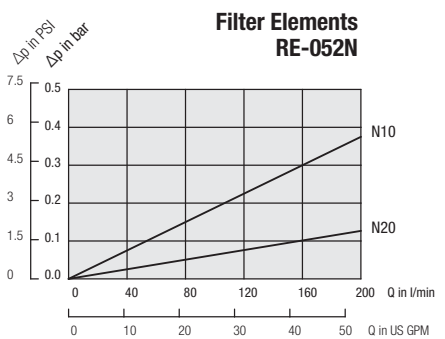
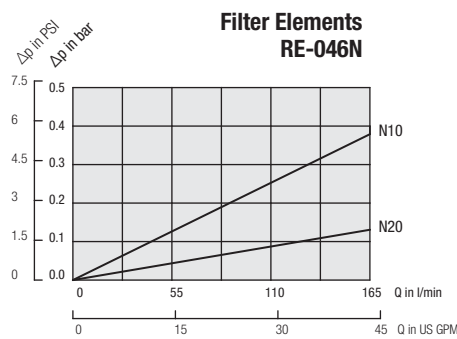
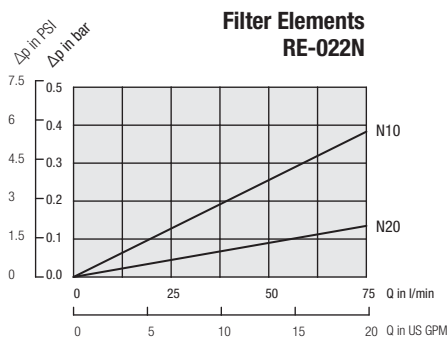
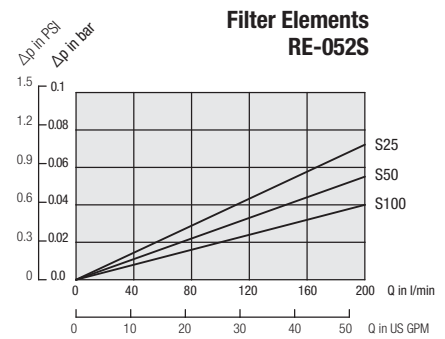
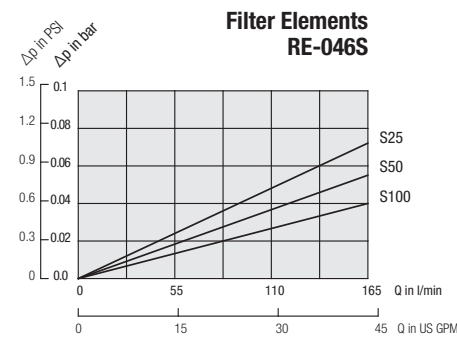
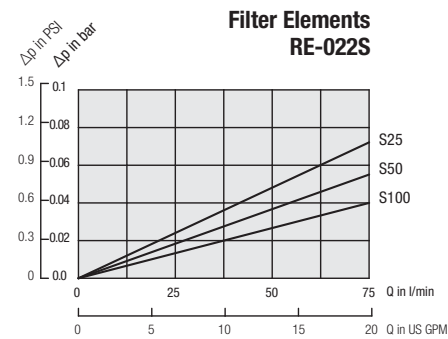
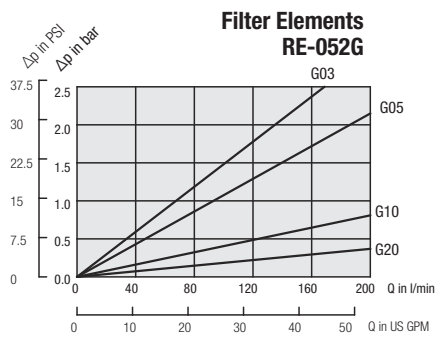
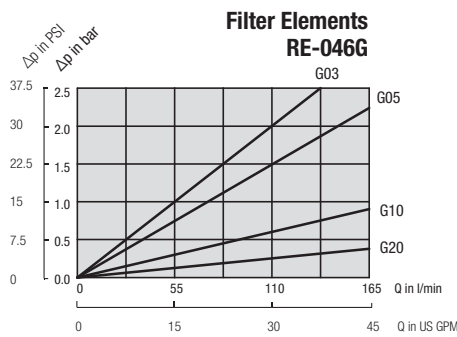
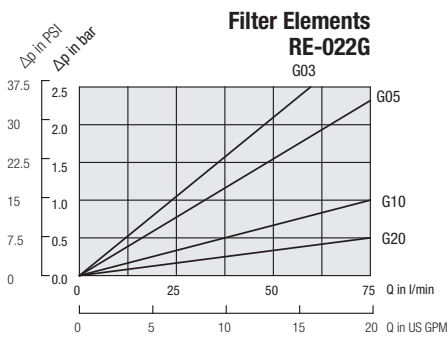
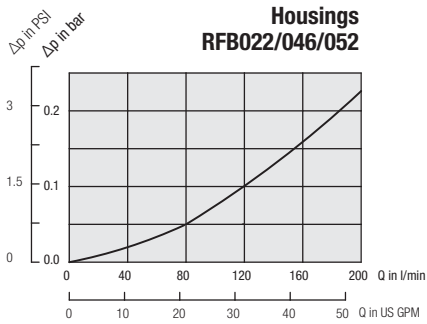


Dimension see page C87



Return Line Filters - Type RFB Flow Characteristics

The following characteristics are valid for mineral oils with a density of 0,85 kg/dm<sup>3</sup> and the kinematic viscosity of 30 mm<sup>2</sup>/s (30cSt). The characteristics have been determined in accordance to ISO 3968. Multipass filter ratings have been obtained in accordance to ISO 16889. The housing pressure drop is directly proportional to the oil density. Consult STAUFF for details.



## Return Line Filters ▪ Type RFS


**Product Description**

STAUFF RFS Carbon Steel Return Line Filters are designed as tank top or in-line filters. They are mounted directly on the tank top and if 100% of the system oil is filtered, they provide the optimum removal of contaminants from the system. This provides the pump with clean oil thus reducing contaminant generated wear. The filter bowl is designed with a connection, threaded or flanged, for extending the return oil beneath the surface thus preventing the entrainment of air. A high efficiency of contaminant removal is assured by using STAUFF RE Replacement Filter Elements. The high dirt-hold capacity of STAUFF Elements ensures a long service life and as a result reduced maintenance costs.

**Technical Data**
**Construction**

- Tank Top mounting or in-line mounting

**Materials**

- Filter Housing: Carbon Steel
- Sealings: NBR (Buna-N®)  
FPM (Viton®)  
EPDM (Ethylene Propylene Diene Monomer Rubber)  
Other sealing materials on request

**Port Connection**

- BSP
- SAE flange 3000 PSI

**Flow Rating**

- Up to 1135 l/min / 300 US GPM

**Operating Pressure**

- Max. 25 bar / 365 PSI

**Proof Pressure**

- Min. 37,5 bar / 545 PSI

**Temperature Range**

- -10°C ... +100°C / +14°F ... +212°F

**Filter Elements**

- Specifications see page C94

**Media Compatibility**

- Mineral oils, other fluids on request

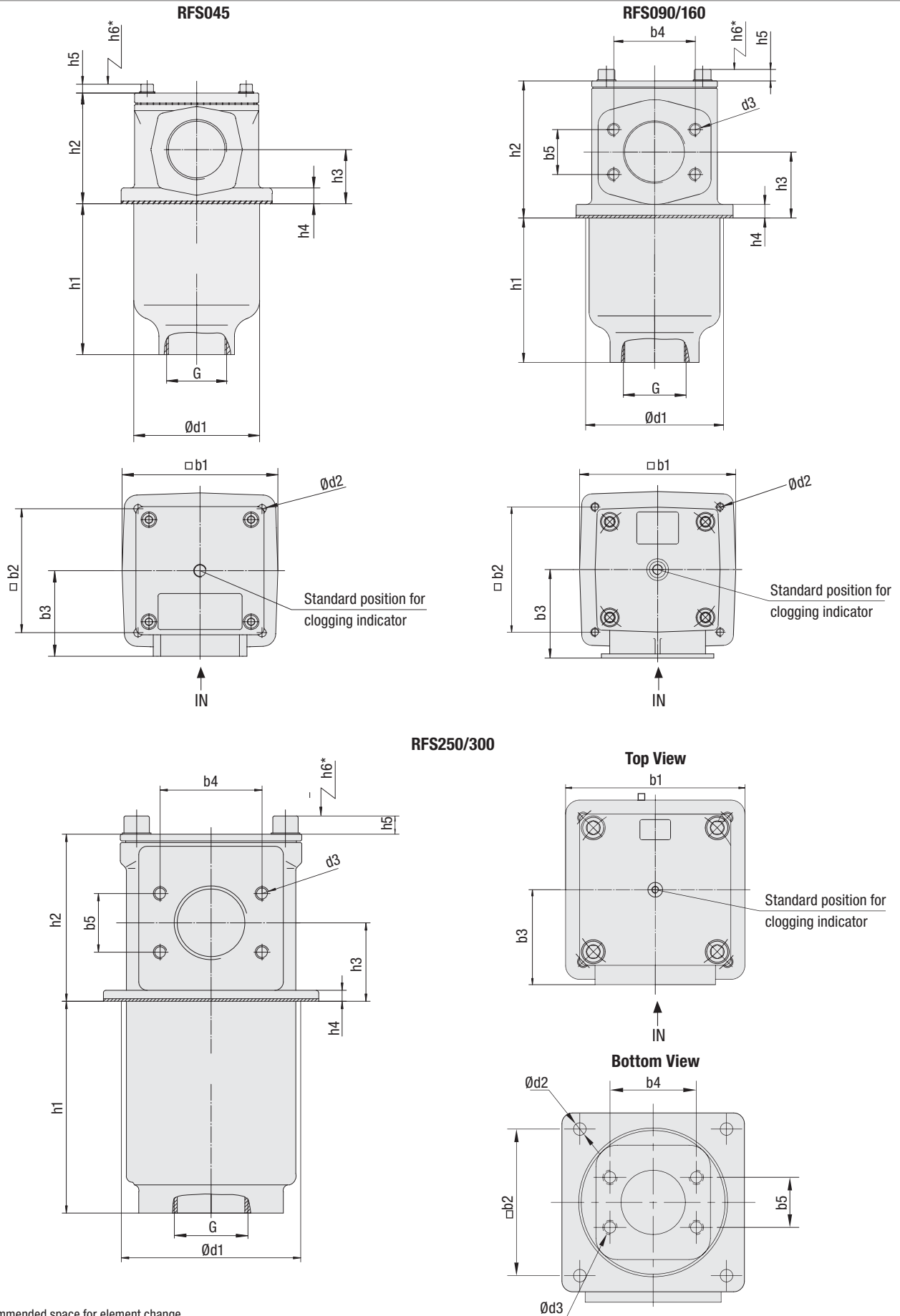
**Options and Accessories**
**Valves**

- Bypass valve  
(integrated in the filter element)
- Opening pressure 3 bar ± 0,3 bar / 43.5 PSI ± 4.35 PSI  
Other settings available on request

**Clogging Indicators**

- Visual clogging indicator 0...4 bar / 0...58 PSI coloured segments
- Electrical clogging switch, setting 2,5 bar / 36.25 PSI  
Other clogging indicators available on request

Return Line Filters - Type RFS



\* recommended space for element change

## Return Line Filters ▪ Type RFS

Thread Connection		Filter Size RFS				
		045	090	160	250	300
Inlet	BSP	1-1/2	2	-	-	-
	SAE Flange	-	2	3	3-1/2	4
Outlet G	BSP	1-1/2	2	3	-	-
	SAE Flange	-	-	-	3-1/2	4

Dimensions (mm/in)	Filter Size RFS				
	045	090	160	250	300
b1	120	150	196	255	255
	4.72	5.91	7.72	10.04	10.04
b2	95,5	120	155,5	205	205
	3.76	4.72	6.12	8.07	8.07
b3	66	85	110	135	145
	2.60	3.35	4.33	5.32	5.71
b4	-	77,8	106,4	120,7	130,2
	-	3.06	4.19	4.75	5.13
b5	-	42,9	61,9	69,5	77,8
	-	1.69	2.44	2.74	3.06
d1	100	135	180	208	208
	3.94	5.32	7.09	8.19	8.19
d2	6,5	9	13,5	17,5	17,5
	.26	.35	.53	.69	.69
d3	-	M12	M16	M16	M16
	-	1/2-UNC	5/8-UNC	5/8 UNC	5/8 UNC
h1	120	138	243	251	332
	4.72	5.43	9.57	9.88	13.07
h2	88	131	167	198	241
	3.47	5.16	6.57	7.80	9.49
h3	43	63	84	93	121
	1.69	2.48	3.31	3.66	4.76
h4	13	13	13	13	13
	.51	.51	.51	.51	.51
h5	7	12	12	12	12
	.28	.47	.47	.47	.47
h6	130	180	320	350	460
	5.11	7.09	12.60	13.78	18.11

## Return Line Filter Housings / Complete Filters - Type RFS

RFS 250 ... B / F / M / F / X

1 2 3 4 5 6 7 8 9

## 1 Type

Carbon Steel Return Line Filter **RFS**

## 2 Group

Flow	Size
170 l/min / 45 US GPM	<b>045</b>
340 l/min / 90 US GPM	<b>090</b>
600 l/min / 160 US GPM	<b>160</b>
945 l/min / 250 US GPM	<b>250</b>
1135 l/min / 300 US GPM	<b>300</b>

Note: Exact flow will depend on filter element selected.  
Consult technical data on pages C96 / C97.

## 3 Filter Material

Material	Max. $\Delta p^*$ collapse	Micron ratings available	Code
Without filter element	-	-	...
Inorg. glass fibre	25 bar / 363 PSI	3, 5, 10, 20	<b>G</b>
Stainless fibre	30 bar / 435 PSI		<b>A</b>
Filter paper	10 bar / 145 PSI	10, 20	<b>N</b>
Stainless mesh	30 bar / 435 PSI	25, 50, 100, 200	<b>S</b>

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

## 4 Micron Rating

3 $\mu\text{m}$	<b>03</b>
5 $\mu\text{m}$	<b>05</b>
10 $\mu\text{m}$	<b>10</b>
20 $\mu\text{m}$	<b>20</b>
25 $\mu\text{m}$	<b>25</b>
50 $\mu\text{m}$	<b>50</b>
100 $\mu\text{m}$	<b>100</b>
200 $\mu\text{m}$	<b>200</b>

Note: Other micron ratings on request.

## 5 Sealing Material

NBR (Buna®)	<b>B</b>
FPM (Viton®)	<b>V</b>
EPDM	<b>E</b>

Note: Other sealing materials on request.

## 6 Connection Style

Connection Style	Group					Code
	045	090	160	250	300	
BSP	1-1/2	2	-	-	-	<b>G</b>
SAE Flange 3000 PSI	-	2	3	3-1/2	4	<b>F</b>

## 7 Clogging Indicator

	Position*		Code
Without Clogging Indicator	-		<b>0</b>
Visual Clogging Indicator			<b>M</b>
Electrical Clogging Switch 42 V, NO	1	2	<b>G42NO</b>
Electrical Clogging Switch 42 V, NC			<b>G42NC</b>
Electrical Clogging Switch 110 V, two-way contact			<b>G110</b>
Electrical Clogging Switch 230 V, two-way contact			<b>G230</b>

Note: \*Position of clogging indicator see page C95.  
Without any code: assembly in the middle of the filter cover.

## 8 Outlet Style

Connection Style	Group					Thread Style	Code
	045	090	160	250	300		
BSP	1-1/2	2	3	-	-	-	<b>G</b>
SAE Flange 3000 PSI	-	-	-	3-1/2	4	metric	<b>FM</b>
SAE Flange 3000 PSI	-	-	-	3-1/2	4	UNC	<b>FU</b>

## 9 Design Code

Only for information **X**

## Filter Elements - Type RE

RE - 250 G 10 B / X

1 2 3 4 5 6

## 1 Type

Filter Element Series **RE**

## 2 Group

According to filter housing

## 3 Filter Material

Material	Max. $\Delta p^*$ collapse	Micron ratings available	Code
Inorg. glass fibre	25 bar / 363 PSI	3, 5, 10, 20	<b>G</b>
Stainless fibre	30 bar / 435 PSI		<b>A</b>
Filter paper	10 bar / 145 PSI	10, 20	<b>N</b>
Stainless mesh	30 bar / 435 PSI	25, 50, 100, 200	<b>S</b>

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

## 4 Micron Rating

3 $\mu\text{m}$	<b>03</b>
5 $\mu\text{m}$	<b>05</b>
10 $\mu\text{m}$	<b>10</b>
20 $\mu\text{m}$	<b>20</b>
25 $\mu\text{m}$	<b>25</b>
50 $\mu\text{m}$	<b>50</b>
100 $\mu\text{m}$	<b>100</b>
200 $\mu\text{m}$	<b>200</b>

Note: Other micron ratings on request.

## 5 Sealing Material

NBR (Buna®)	<b>B</b>
FPM (Viton®)	<b>V</b>
EPDM	<b>E</b>

Note: Other sealing materials on request.

## 6 Design Code

Only for information **X**

## Return Line Filters - Type RFS

**Visual Clogging Indicator**

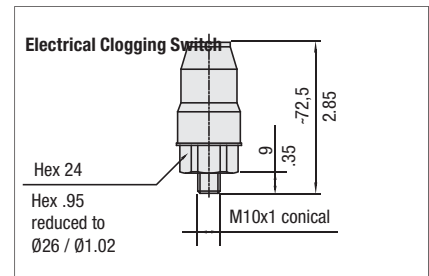
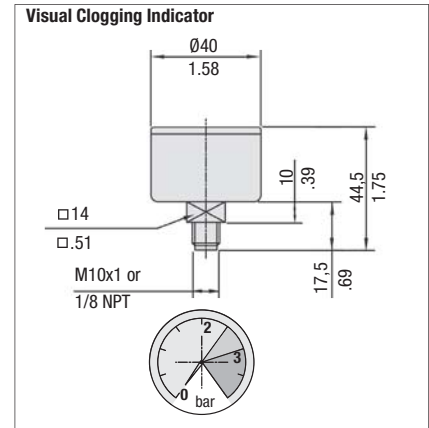
The gauge visually displays the degree of contamination of the element.  
The colored segments allow quick visual checking.

green	0 ... 2,5 bar / 0 ... 36.25 PSI	Element has service life left
yellow	2,5 ... 3,0 bar / 36.25 ... 43.5 PSI	Element is contaminated and should be changed
red	>3,0 bar / >43.5 PSI	Bypass valve open, unfiltered oil passing to tank

**Electrical Clogging Switch**

The switch is used where an electrical signal is needed to indicate when the element needs changing. The switch can turn on a light, or shut the machine down, or any further function controlled by an electric signal. The switching pressure is 2,5 bar / 36.25 PSI and this allows the element to be changed before the bypass setting of 3 bar / 43.5 PSI is reached.

Maximum Voltage	Switch Type
42 V (normally open)	G42NO
42 V (normally closed)	G42NC
110 V (two-way contact)	G110
230 V (two-way contact)	G230



Dimensions in mm / in

**Replacement Filter Elements RE Series**
**Product Description**

STAUFF RE Replacement Filter Elements are manufactured in the common filter materials such as Stainless Fibre, Stainless Mesh, Cellulose and Inorganic Glass Fibre. As standard all Replacement Elements RE have tin plated steel parts for use with aggressive media such as water glycol, upon request you also can get other materials. All Replacement Elements made by STAUFF comply with quality specifications in accordance with international standards.


**Order Code**
**RE - 250 G 10 B / X**

1      2      3      4      5      6

**1 Type**

 Filter Element Series **RE**
**2 Group**

 According to filter housing  
Note: See order code page C94.

**3 Filter Material**

Material	Max. Δp*collapse	Micron ratings available	Code
Inorg. glass fibre	25 bar / 363 PSI	3, 5, 10, 20	<b>G</b>
Stainless fibre	30 bar / 435 PSI		<b>A</b>
Filter paper	10 bar / 145 PSI	10, 20	<b>N</b>
Stainless mesh	30 bar / 435 PSI	25, 50, 100, 200	<b>S</b>

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

**4 Micron Rating**

3 µm	<b>03</b>
5 µm	<b>05</b>
10 µm	<b>10</b>
20 µm	<b>20</b>
25 µm	<b>25</b>
50 µm	<b>50</b>
100 µm	<b>100</b>
200 µm	<b>200</b>

Note: Other micron ratings on request.

**5 Sealing Material**

NBR (Buna®)	<b>B</b>
FPM (Viton®)	<b>V</b>
EPDM	<b>E</b>

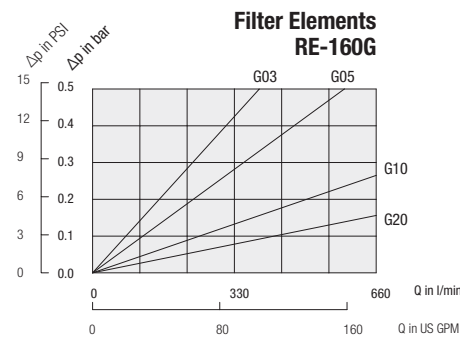
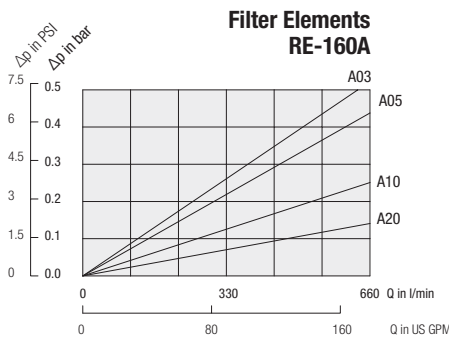
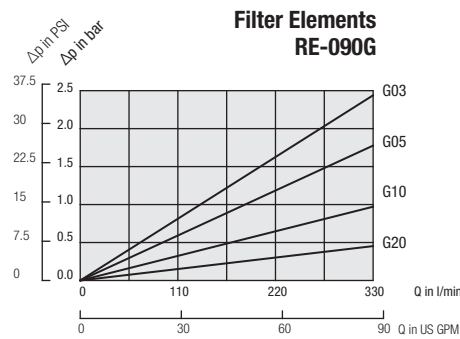
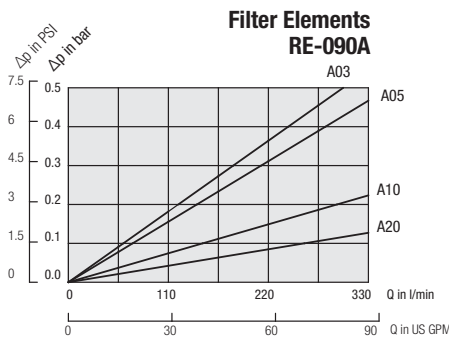
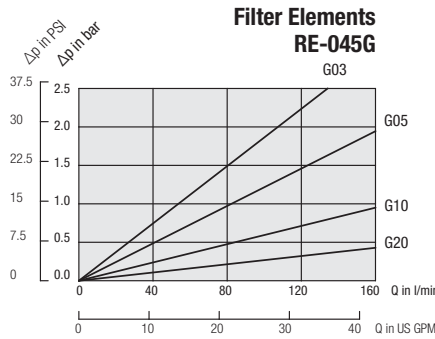
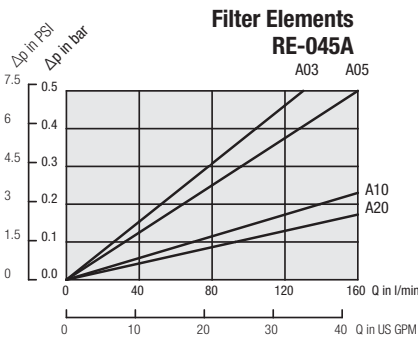
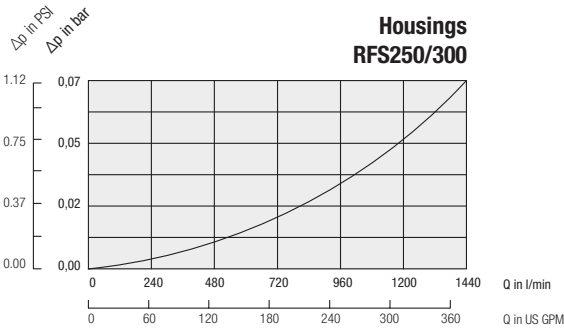
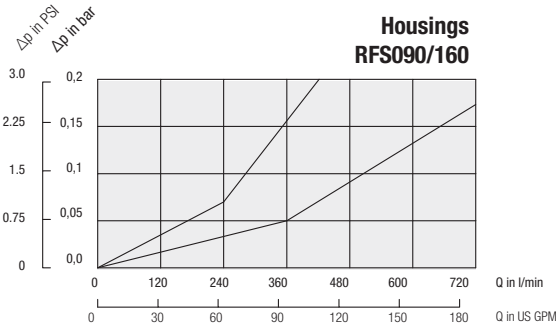
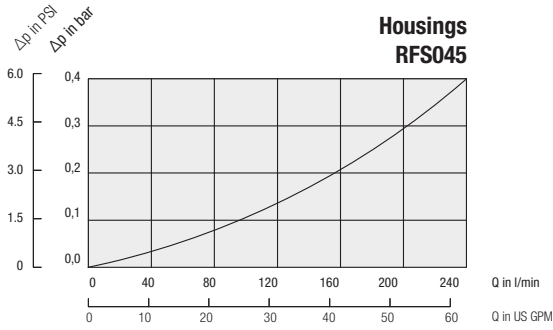
Note: Other sealing materials on request.

**6 Design Code**

Only for information	<b>X</b>
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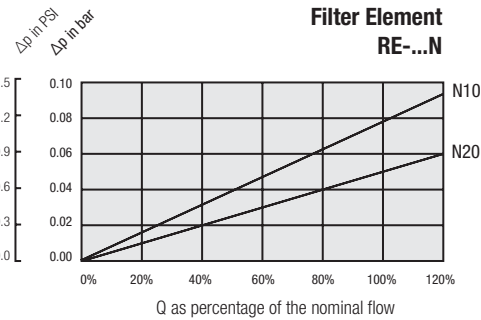
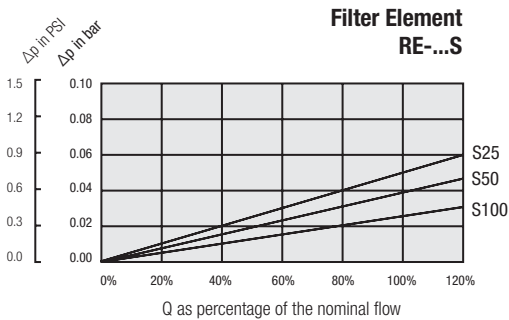
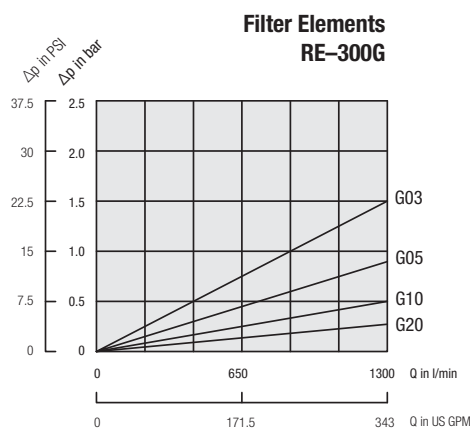
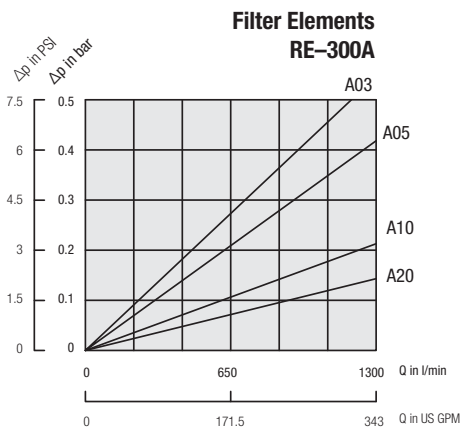
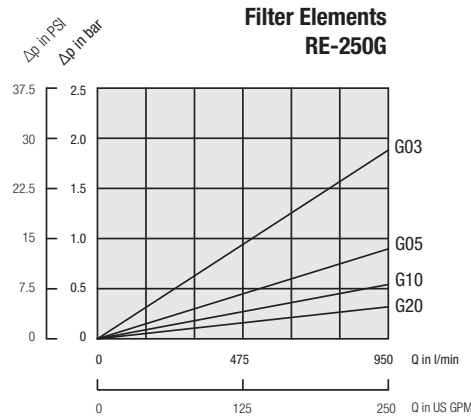
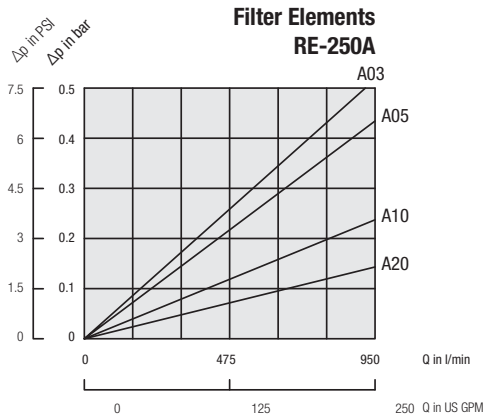
**Return Line Filters - Type RFS Flow Characteristics**

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 (30cSt). The characteristics have been determined in accordance to ISO 3968. Multipass filter ratings have been obtained in accordance to ISO 16889. The housing pressure drop is directly proportional to the oil density. Consult STAUFF for details.

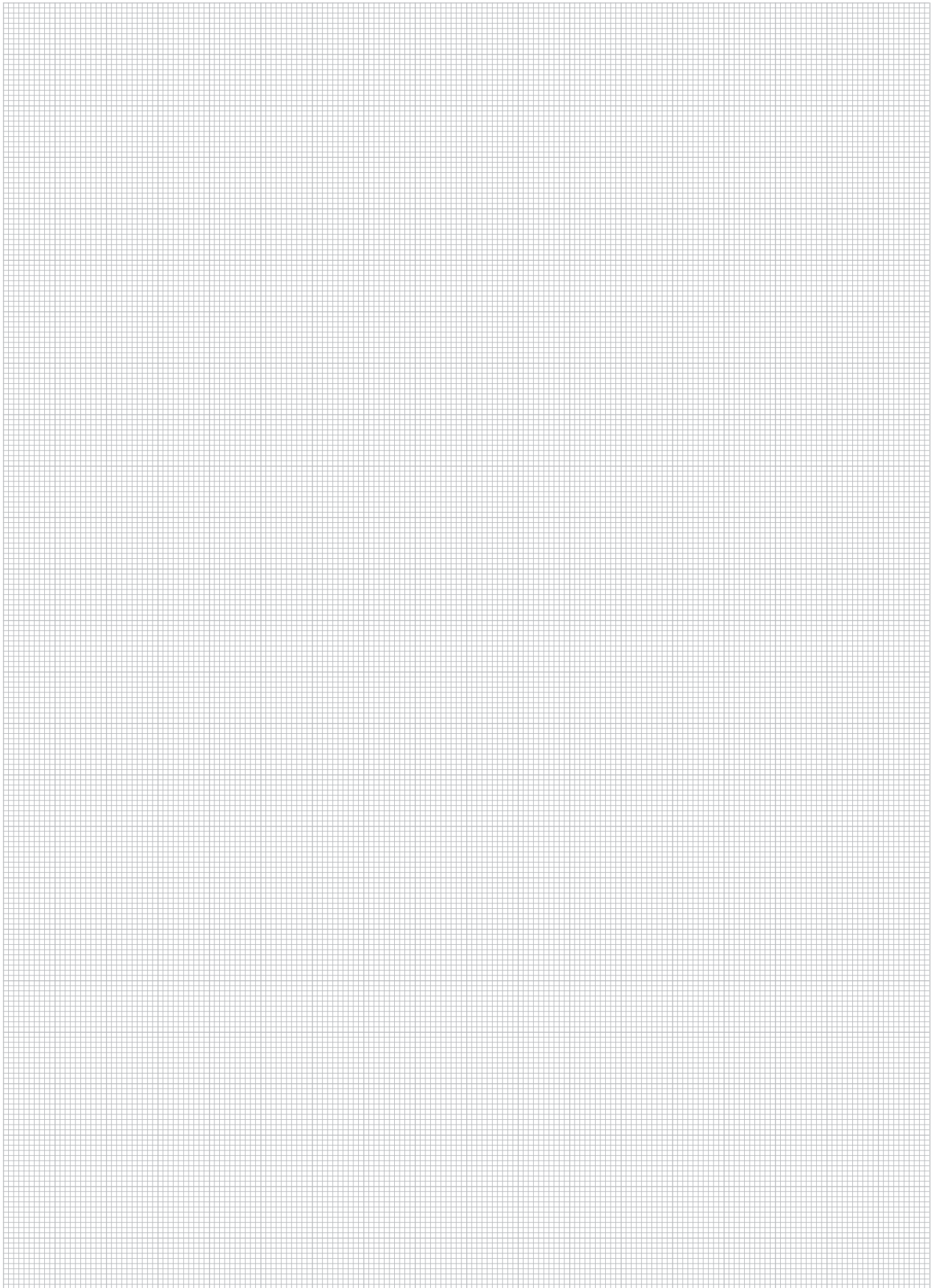


**Return Line Filters - Type RFS Flow Characteristics**

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## Return Line Filters ▪ Type RTF10/25


**Product Description**

STAUFF RTF10/25 Return Line Filters are designed as tank top filters with a maximum operating pressure of 3,4 bar / 49 PSI.

**Technical Data**
**Construction**

- Tank Top flange mounting

**Materials**

- Filter head: Aluminum
- Filter bowl: Polyamide
- Sealings: NBR (Buna-N®)  
FPM (Viton®)  
Other sealing materials on request

**Port Connection**

- BSP
- NPT
- SAE O-ring thread

**Flow Rating**

- Up to 95 l/min / 25 US GPM

**Operating Pressure**

- Max. 3,4 bar / 49 PSI

**Burst Pressure**

- Min. 10 bar / 145 PSI

**Temperature Range**

- -25°C ... +95°C / -13°F ... +203°F

**Filter Elements**

- Specifications see page C112

**Media Compatibility**

- Mineral oils, other fluids on request

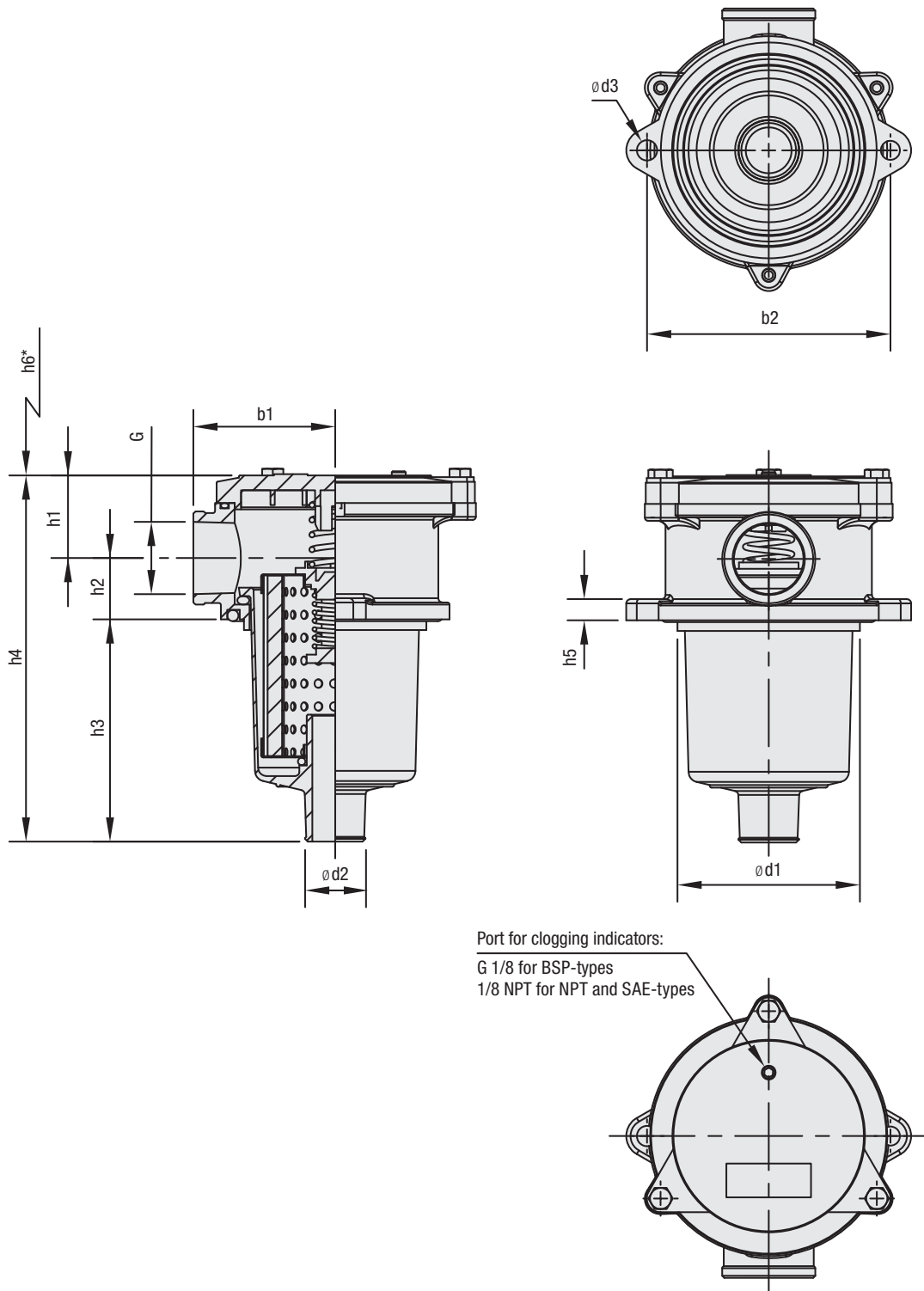
**Options and Accessories**
**Valve**

- Bypass valve: Opening pressure 1,7 bar / 25 PSI  
(integrated in the filter element) Other settings available on request

**Clogging Indicators**

- Visual clogging indicator, coloured segments
- Electrical clogging switch, adjustable  
Other clogging indicators available on request

## Return Line Filters - Type RTF10/25



\* recommended space for element change

## Return Line Filters ▪ Type RTF10/25

Thread Connection G	Filter Size RTF		
	10S1	25S1	25S2
BSP	1/2	1	1
NPT	1/2	1	1
SAE O-ring	-	1-5/16-12	1-5/16-12

Dimensions (mm/in)	Filter Size RTF		
	10S1	25S1	25S2
h1	26	34	34
	1.02	1.34	1.34
h2	21	29	29
	.83	1.14	1.14
h3	88	103	151
	3.46	4.05	5.95
h4	136	166	212
	5.35	6.53	8.35
h5	8	10	10
	.32	.39	.39
h6	110	130	175
	4.33	5.12	6.89
b1	50	67	67
	1.97	2.64	2.64
b2	90	115	115
	3.54	4.52	4.52
d1	66	86	86
	2.60	3.39	3.39
d2	24	28	28
	.94	1.10	1.10
d3	7	9	9
	.28	.35	.35
Weight (kg/lbs)	0,45	0,9	1
	1	2	2.2

## Return Line Filter Housings / Complete Filters ▪ Type RTF10/25

RTF 25 ... .. B / N / S2 / V / X

1 2 3 4 5 6 7 8 9

## 1 Type

Return Line Filter **RTF**

## 2 Group

Flow	Size
38 l/min /10 US GPM	<b>10</b>
90 l/min /25 US GPM	<b>25</b>

Note: Exact flow will depend on filter element selected.  
Consult technical data on pages C129

## 3 Filter Material

Material	Max. $\Delta p^*$ collapse	Micron ratings available	Code
Without filter element	-	-	...
Inorg. glass fibre	3 bar / 43.5 PSI	10, 25	<b>G</b>
Filter paper	3 bar / 43.5 PSI	10, 25	<b>D</b>

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

## 4 Micron Rating

10 $\mu$ m	<b>10</b>
25 $\mu$ m	<b>25</b>

Note: Other micron ratings on request

## 5 Sealing Material

NBR (Buna®) **B**  
FPM (Viton®) **V**

Note: Other sealing materials on request

## 6 Connection Style

Connection Style	Group		Code
	10	25	
BSP	1/2	1	<b>B</b>
NPT	1/2	1	<b>N</b>
SAE O-ring Thread	-	1-5/16-12	<b>S</b>

## 7 Length

Bowl Length 1 **S1**  
Bowl Length 2 **S2**

Note: RTF 10 size available in bowl length 1 only.

## 8 Clogging Indicator

Without clogging indicator **none**

Visual clogging indicator **V**

Electrical clogging indicator **E**

Note: See page C131 for more details on indicator ports and types

## 9 Design Code

Only for information **X**

## Filter Elements ▪ Type RTE

RTE - 25 D 10 B / S2 / X

1 2 3 4 5 6 7

## 1 Type

Filter Element Series **RTE**

## 2 Group

According to filter housing

## 3 Filter Material

Material	Max. $\Delta p^*$ collapse	Micron ratings available	Code
Inorg. glass fibre	3 bar / 43.5 PSI	10, 25	<b>G</b>
Filter paper	3 bar / 43.5 PSI	10, 25	<b>D</b>

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

## 4 Micron Rating

10  $\mu$ m **10**  
25  $\mu$ m **25**

Note: Other micron ratings on request

## 5 Sealing Material

NBR (Buna®) **B**  
FPM (Viton®) **V**

Note: Other sealing materials on request

## 6 Length

Bowl Length 1 **S1**  
Bowl Length 2 **S2**

Note: RTF 10 size available in bowl length 1 only.

## 7 Design Code

Only for information **X**

## Return Line Filters - Type RTF20


**Product Description**

STAUFF RTF20 Return Line Filters are designed as tank top filters with a maximum operating pressure of 10 bar / 145 PSI and flow rates up to 115 l/min / 30 US GPM. The filter bowl is designed to return the oil beneath the surface thus preventing entrainment of air. RTF20 series compact design and integral breather make them ideal for mobile hydraulic applications.

**Technical Data**
**Construction**

- Tank Top flange mounting

**Materials**

- Filter head: Aluminum
- Filter bowl & cap: Polyamide
- Sealings: NBR (Buna-N®)  
FPM (Viton®)  
Other sealing materials on request

**Port Connection**

- BSP
- NPT
- SAE O-ring thread

**Flow Rating**

- Up to 115 l/min / 30 US GPM

**Operating Pressure**

- Max. 10 bar / 145 PSI

**Burst Pressure**

- Min. 30 bar / 435 PSI

**Temperature Range**

- -25°C ...+95°C / -13°F ... +203°F

**Integrated Breather**

- Filter paper 10 µm
- Filter paper 40 µm

**Filter Elements**

- Specifications see page C116

**Media Compatibility**

- Mineral oils, other fluids on request

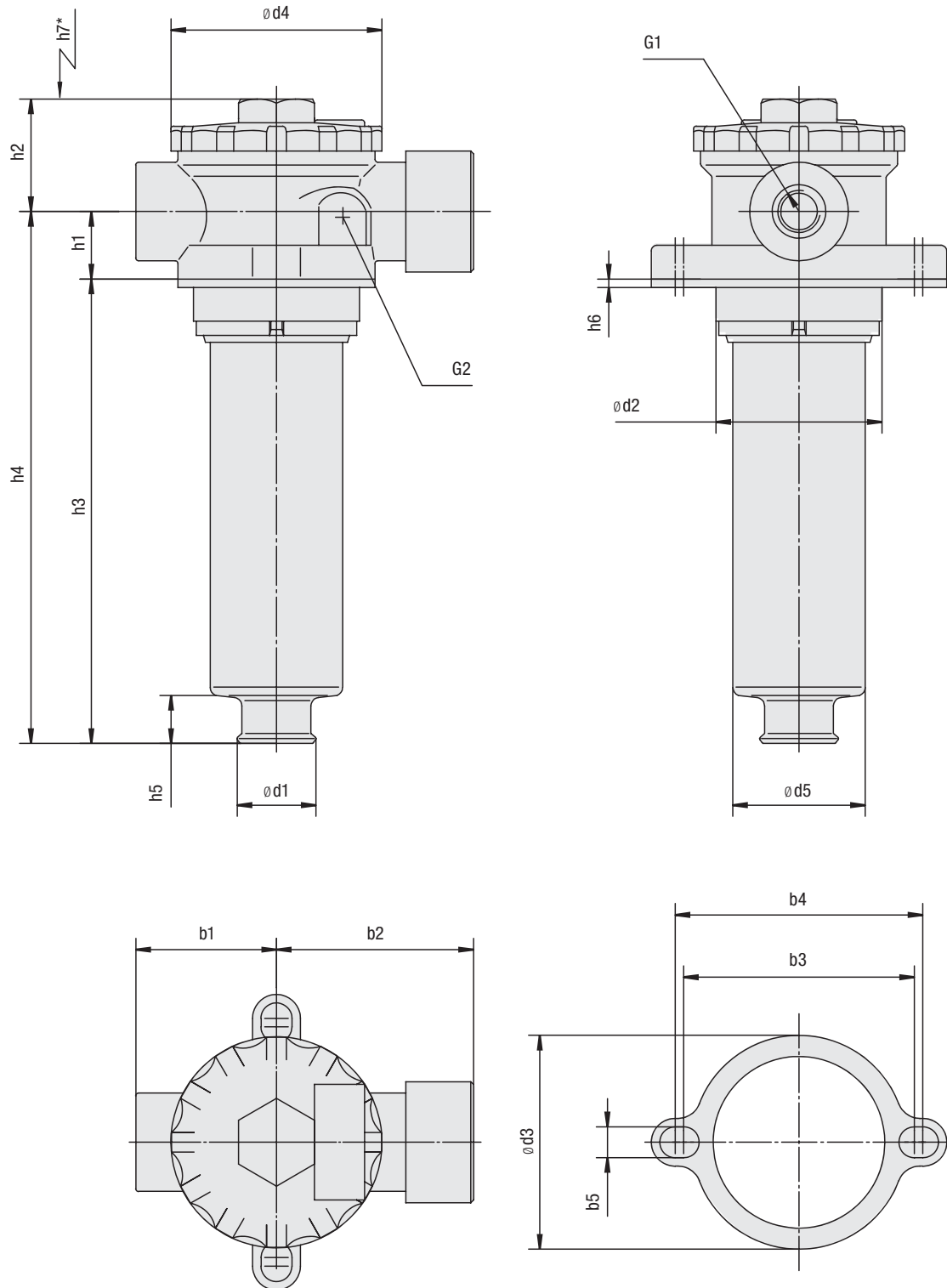
**Options and Accessories**
**Valve**

- Bypass valve: Opening pressure 1,7 bar / 25 PSI  
(integrated in the filter element) Other settings available on request

**Clogging Indicators**

- Visual clogging indicator, coloured segments
- Electrical clogging switch, adjustable  
Other clogging indicators available on request

## Return Line Filters - Type RTF20



\* recommended space for element change

## Return Line Filters ▪ Type RTF20

Thread Connection G1	Filter Size RTF	
	020	
BSP	1/2	3/4
NPT	1/2	3/4
SAE Thread	3/4-16	1-1/16

Dimensions (mm/in)	Filter Size RTF	
	020	
b1	50	
	1.97	
b2	70	
	2.76	
b3	82	
	3.23	
b4	88	
	3.46	
b5	11	
	.43	
d1	28	
	1.10	
d2*	Min. 60 / Max. 63	
	Min. 2.36 / Max. 2.48	
d3	77	
	3.03	
d4	75	
	2.95	
d5	48	
	1.89	
h1	24	
	.94	
h2	37,5	
	1.48	
h3	178	
	7.01	
h4	202	
	7.95	
h5	16	
	.63	
h6	2	
	.07	
h7	210	
	8.27	
G2	G1/8 or	
	1/8 NPT	

\* recommended diameter for mounting hole



## Return Line Filter Housings / Complete Filters - Type RTF20

RTF 20 D 10 B / N1 / V / L10 / D / X

1 2 3 4 5 6 7 8 9 10

## 1 Type

Return Line Filter **RTF20**

## 2 Group

Flow **Size**  
115 l/min / 30 US GPM **20**  
Note: Exact flow will depend on filter element selected.  
Consult technical data on page C129.

## 3 Filter Material

Material	Max. $\Delta p^*$ collapse	Micron ratings available	Code
Without filter element	-	-	...
Inorg. glass fibre	25 bar / 363 PSI	6, 10, 20	<b>G</b>
Filter paper	10 bar / 145 PSI	10	<b>D</b>

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

## 4 Micron Rating

6  $\mu\text{m}$  **06**  
10  $\mu\text{m}$  **10**  
20  $\mu\text{m}$  **20**  
Note: Other micron ratings on request

## 5 Sealing Material

NBR (Buna®) **B**  
FPM (Viton®) **V**  
Note: Other sealing materials on request

## 6 Connection Style

Connection Style	Thread	Code
BSP	1/2	<b>B1</b>
BSP	3/4	<b>B2</b>
NPT	1/2	<b>N1</b>
NPT	3/4	<b>N2</b>
SAE O-ring Thread	3/4-16	<b>S1</b>
SAE O-ring Thread	1-1/16-12	<b>S2</b>

## 7 Clogging Indicator

No clogging indicator **N**  
Visual clogging indicator **V**  
Electrical clogging indicator **E**

Note: See page C131 for more details on indicator ports and types

## 8 Breather

10  $\mu\text{m}$  Filter Paper **L10**  
40  $\mu\text{m}$  Filter Paper **L40**

## 9 Dipstick

Without dipstick **none**  
With dipstick **D**

## 10 Design Code

Only for information **X**

## Filter Elements - Type RTE

RTE - 20 D 10 B / X

1 2 3 4 5 6

## 1 Type

Filter Element Series **RTE**

## 2 Group

According to filter housing

## 3 Filter Material

Material	Max. $\Delta p^*$ collapse	Micron ratings available	Code
Inorg. glass fibre	25 bar / 363 PSI	6, 10, 20	<b>G</b>
Filter paper	10 bar / 145 PSI	10	<b>D</b>

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

## 4 Micron Rating

6  $\mu\text{m}$  **06**  
10  $\mu\text{m}$  **10**  
20  $\mu\text{m}$  **20**  
Note: Other micron ratings on request

## 5 Sealing Material

NBR (Buna®) **B**  
FPM (Viton®) **V**  
Note: Other sealing materials on request

## 6 Design Code

Only for information **X**

## Air Filter Elements - Type RTEA

RTEA - 020 L 10 B / X

1 2 3 4 5 6

## 1 Type

Air Filter Element Series **RTEA**

## 2 Group

Air filter for RTF20

## 3 Filter Material

Filter Paper **L**  
Note: Other materials on request

## 4 MicronRating

10  $\mu\text{m}$  **10**  
Note: Other micron ratings on request

## 5 Sealing Material

NBR (Buna®) **B**  
Note: Other sealing materials on request

## 6 Design Code

Only for information **X**

## Return Line Filters ▪ Type RTF40


**Product Description**

STAUFF RTF40 Return Line Filters are designed as tank top filters with a maximum operating pressure of 6,9 bar / 100 PSI. The filter bowl is designed to return the oil beneath the surface thus preventing entrainment of air.

**Technical Data**
**Construction**

- Tank Top flange mounting

**Materials**

- Filter head: Aluminum
- Filter bowl: Bowl length 1: Polyamide  
Bowl length 2: Steel
- Sealings: NBR (Buna-N®)  
Other sealing materials on request

**Port Connection**

- BSP
- NPT
- SAE O-ring thread
- SAE flange

**Flow Rating**

- Up to 378 l/min / 100 US GPM

**Operating Pressure**

- Max. 6,9 bar / 100 psi

**Temperature Range**

- -25°C ...+95°C / -13°F ... +203°F

**Filter Elements**

- RTE-47 with integrated bypass valve, single stack length
- RTE-48 bypass valve integrated in the filter head,  
equivalent to the HF-4 elements, single and double stack lengths
- RTE-49 bypass valve integrated in the filter head,  
single and double stack lengths
- Specifications see page C120

**Media Compatibility**

- Mineral oils, other fluids on request

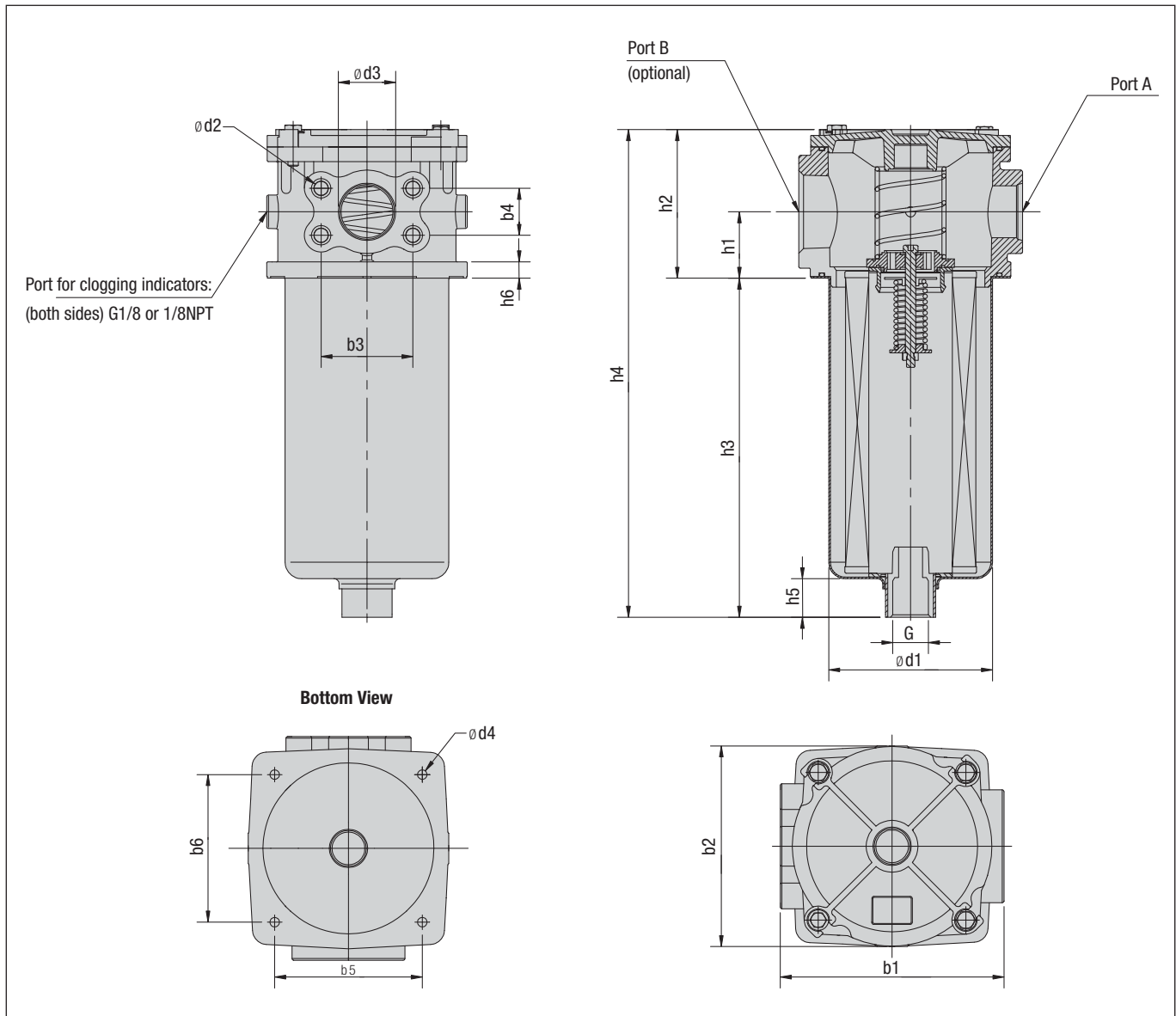
**Options and Accessories**
**Valve**

- Bypass valve: Opening pressures 1 bar / 14.5 PSI ±10 % or  
1,7 bar / 25 PSI ±10 %  
RTF47: Bypass integrated in the filter element  
RTF48/49: Bypass integrated in the filter head

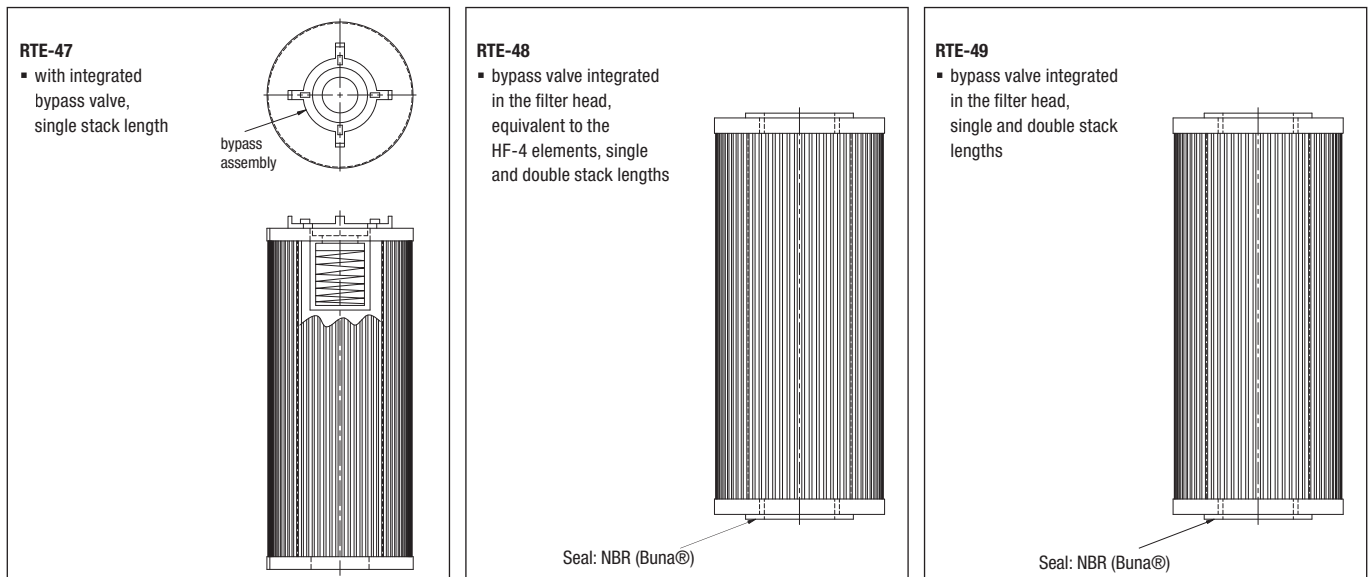
**Clogging Indicators**

- Visual clogging indicator, coloured segments
- Electrical clogging switch, adjustable  
Other clogging indicators available on request

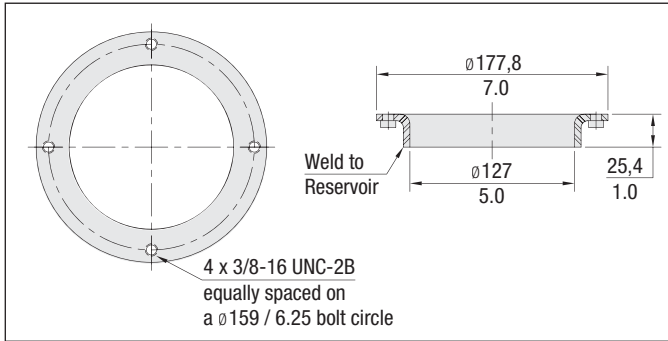
Return Line Filters - Type RTF40



Filter Elements - Types RTE47 / RTE48 / RTE49



## Return Line Filters - Type RTF40


**RTF40 Series Weld Ring WR-40**

The WR-40 weld ring is welded directly to the hydraulic reservoir, eliminating the need for drilling and tapping mounting holes in the reservoir.

Material: Carbon Steel

Thread Connection Combinations	Filter Size RTF			
	4...S1		4...S2	
	Port A	Port B	Port A	Port B
BSP (B)	1-1/4 and 1-1/2 SAE Flange	None	1-1/4 and 1-1/2 SAE Flange	None
BSP (BB)	1-1/4 and 1-1/2 SAE Flange	1-1/4	1-1/4 and 1-1/2 SAE Flange	1-1/4
NPT (N)	1-1/4 and 1-1/2 SAE Flange	None	1-1/4 and 1-1/2 SAE Flange	None
NPT (NN)	1-1/4 and 1-1/2 SAE Flange	1-1/4	1-1/4 and 1-1/2 SAE Flange	1-1/4
NPT (M)	1-1/2	None	1-1/2	None
NPT (MN)	1-1/2	1-1/4	1-1/2	1-1/4
NPT (MM)	1-1/2	1-1/2	1-1/2	1-1/2
SAE (S)	1-5/8-12	None	1-5/8-12	None
SAE (SS)	1-5/8-12	1-5/8-12	1-5/8-12	1-5/8-12
SAE (ST)	1-5/8-12	1-7/8-12	1-5/8-12	1-7/8-12
SAE (SU)	1-5/8-12	2-1/2-12	1-5/8-12	2-1/2-12
SAE (TT)	1-7/8-12	1-7/8-12	1-7/8-12	1-7/8-12
Combination SAE & NPT (S0)	1-5/8-12	2	1-5/8-12	2

Dimensions (mm/in)	Filter Size RTF	
	4...S1	4...S2
	h1	50 1.97
h2	112 4.41	112 4.41
h3	263 10.35	475 18.70
h4	385 15.16	587 23.11
h5	21 .83	38 1.50
h6	11 .43	11 .43
b1	170 6.70	170 6.70
b2	152 5.98	152 5.98
b3	69.9 2.75	69.9 2.75
b4	35.6 1.40	35.6 1.40
b5	112 4.41	112 4.41
d1	122 4.80	126 4.96
d2	M12 or 1/2-13 UN	M12 or 1/2-13 UN
d3	38,1 1.50	38,1 1.50
d4	11 .43	11 .43
G	G1-1/2 or 1-1/2 NPT	G1-1/2 or 1-1/2 NPT

## Return Line Filter Housings / Complete Filters - Type RTF40

RTF 48 ... B / N / 25 / S2 / V / X

1 2 3 4 5 6 7 8 9 10

## 1 Type

Return Line Filter **RTF**

## 2 Group

Flow	Size
190 l/min / 50 US GPM	<b>47</b>
190 l/min / 50 US GPM	<b>48</b>
190 l/min / 50 US GPM	<b>49</b>

Note: Exact flow will depend on filter element selected.  
Consult technical data on pages C129 / C130.  
For element length 2 (only RTF48 / RTF49) please double relating flow values.

## 3 Filter Material

Material	Max. $\Delta p^*$ collapse	Micron ratings available	Code
Without filter element	-	-	...
Inorg. glass fibre	10 bar / 145 PSI	3, 5, 10, 25	<b>G</b>
Filter paper	10 bar / 145 PSI	3,10,25,20	<b>D</b>

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

## 4 Micron Rating

3 $\mu\text{m}$	<b>03</b>
5 $\mu\text{m}$	<b>05</b>
10 $\mu\text{m}$	<b>10</b>
20 $\mu\text{m}$	<b>20</b>
25 $\mu\text{m}$	<b>25</b>

Note: Other micron ratings on request

## 5 Sealing Material

NBR (Buna®) **B**

Note: Other sealing materials on request

## 6 Connection Style

Connection Style	Group		Code
	Port A	Port B	
BSP	1-1/4 and 1-1/2 SAE Flange	None	<b>B</b>
	1-1/4 and 1-1/2 SAE Flange	1-1/4	<b>BB</b>
NPT	1-1/4 and 1-1/2 SAE Flange	None	<b>N</b>
	1-1/4 and 1-1/2 SAE Flange	1-1/4	<b>NN</b>
NPT	1-1/2	None	<b>M</b>
NPT	1-1/2	1-1/4	<b>MN</b>
NPT	1-1/2	1-1/2	<b>MM</b>
SAE	1-5/8-12	None	<b>S</b>
SAE	1-5/8-12	1-5/8-12	<b>SS</b>
SAE	1-5/8-12	1-7/8-12	<b>ST</b>
SAE	1-5/8-12	2-1/2-12	<b>SU</b>
SAE	1-7/8-12	1-7/8-12	<b>TT</b>
Combination NPT & SAE	1-5/8-12	2	<b>SO</b>

## 7 Valve

No bypass	<b>00</b>
1 bar / 15 PSI	<b>15</b>
1,7 bar / 24.6 PSI	<b>25</b>

## 8 Length

Bowl Length 1 (1 element)	<b>S1</b>
Bowl Length 2 (2 elements)	<b>S2</b>

Note: RTF 47 size available in S1 bowl length only.

## 9 Clogging Indicator

No clogging indicator	<b>N</b>
Visual clogging indicator	<b>V</b>
Electrical clogging indicator	<b>E</b>

Note: See page C131 for more details on indicator ports and options

## 10 Design Code

Only for information	<b>X</b>
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## Filter Elements - Type RTE

RTE - 48 D 10 B / X

1 2 3 4 5 6

## 1 Type

Filter Element Series **RTE**

## 2 Group

According to filter housing

## 3 Filter Material

Material	Max. $\Delta p^*$ collapse	Micron ratings available	Code
Inorg. glass fibre	10 bar / 145 PSI	3, 5, 10, 25	<b>G</b>
Filter paper	10 bar / 145 PSI	3,10,25,20	<b>D</b>

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

## 4 Micron Rating

3 $\mu\text{m}$	<b>03</b>
5 $\mu\text{m}$	<b>05</b>
10 $\mu\text{m}$	<b>10</b>
20 $\mu\text{m}$	<b>20</b>
25 $\mu\text{m}$	<b>25</b>

Note: Other micron ratings on request

## 5 Sealing Material

NBR (Buna®) **B**

Note: Other sealing materials on request

## 6 Design Code

Only for information	<b>X</b>
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## Return Line Filters ▪ Type RTF50


**Product Description**

STAUFF RTF50 Return Line Filters are designed for tank top applications with a maximum pressure of 6,9 bar / 100 PSI. The filter bowl is designed to return the oil beneath the surface thus preventing entrainment of air. The RTF58 elements interchange with the popular "K" series and RTF59 elements interchange with the "RE-409" series elements.

**Technical Data**
**Construction**

- Tank Top flange mounting

**Materials**

- Filter head: Aluminum
- Filter bowl: Bowl length 1: Polyamide  
Bowl length 2: Steel
- Sealings: NBR (Buna-N®)  
Other sealing materials on request

**Port Connection**

- BSP
- NPT
- SAE O-ring thread

**Flow Rating**

- Up to 379 l/min / 100 US GPM

**Operating Pressure**

- Max. 6,9 bar / 100 PSI

**Temperature Range**

- -25°C ...+95°C / -13°F ... +203°F

**Filter Elements**

- Specifications see page C124

**Media Compatibility**

- Mineral oils, other fluids on request

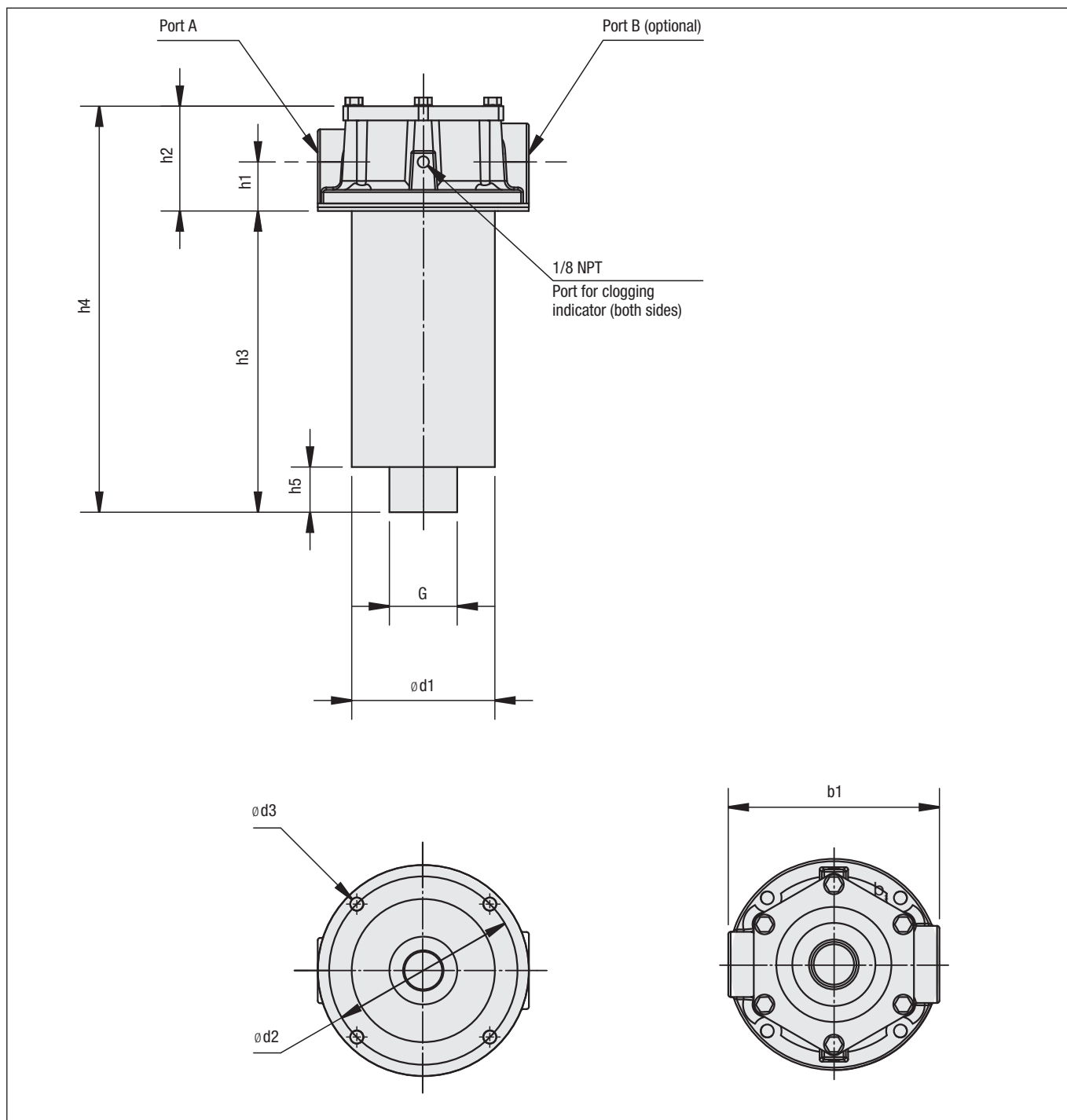
**Options and Accessories**
**Valve**

- Bypass valve: Opening pressures 1 bar / 14.5 PSI  $\pm$ 10 % or 1,7 bar / 25 PSI  $\pm$ 10 %  
Other settings available on request

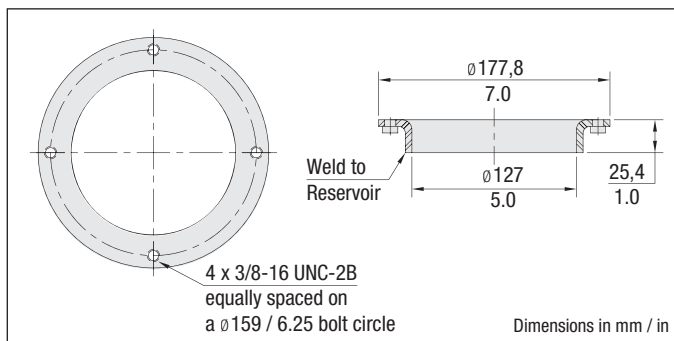
**Clogging Indicators**

- Visual clogging indicator, coloured segments
- Electrical clogging switch, adjustable  
Other clogging indicators available on request

## Return Line Filters - Type RTF50



## Return Line Filters - Type RTF Accessories



## RTF50 Series Weld Ring WR-40

The WR-40 weld ring is welded directly to the hydraulic reservoir, eliminating the need for drilling and tapping mounting holes in the reservoir.

Material: Carbon Steel

## Return Line Filters ▪ Type RTF50

Thread Connection Combinations	Filter Size RTF			
	5...S1		5...S2	
	Port A	Port B	Port A	Port B
NPT (N)	1-1/4	None	1-1/4	None
NPT (NM)	1-1/4	1-1/2	1-1/4	1-1/2
NPT (M)	None	1-1/2	None	1-1/2
Combination SAE & NPT (SM)	1-5/8-12	1-1/2	1-5/8-12	1-1/2
SAE (S)	1-5/8-12	None	1-5/8-12	None
SAE (T)	None	1-7/8-12	None	1-7/8-12
SAE (ST)	1-5/8-12	1-7/8-12	1-5/8-12	1-7/8-12
Combination NPT & SAE (NT)	1-1/4	1-7/8-12	1-1/4	1-7/8-12

Dimensions (mm/in)	Filter Size RTF	
	5...S1	5...S2
h1	49,3	42,3
	1.94	1.67
h2	95,5	88,5
	3.78	3.48
h3	241,3	485,9
	9.50	19.13
h4	336,8	574,9
	13.26	22.61
h5	29,5	38,1
	1.16	1.50
b1	177,8	177,8
	7.00	7.00
d1	124,8	126
	4.91	4.96
d2	158,7	158,7
	6.25	6.25
d3	11,2	11,2
	.44	.44
G	1-1/2 NPT	1-1/2 NPT



## Return Line Filter Housings / Complete Filters - Type RTF50

**RTF** **58** **...** **...** **B** / **N** / **25** / **S2** / **V** / **X**

1 2 3 4 5 6 7 8 9 10

**1** TypeReturn Line Filter **RTF****2** Group

Flow	Size
Group size 58	<b>58</b>
Group size 59	<b>59</b>

Note: Exact flow will depend on filter element selected.  
Consult technical data on page C143

**3** Filter Material

Material	Max. $\Delta p^*$ collapse	Micron ratings available	Code
Without filter element	-	-	...
Inorg. glass fibre	10 bar / 145 PSI	3, 5, 10, 25	<b>G</b>
Filter paper	5 bar / 72.5 PSI	3,10,25,20	<b>D</b>

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

**4** Micron Rating

3 $\mu\text{m}$	<b>03</b>
5 $\mu\text{m}$	<b>05</b>
10 $\mu\text{m}$	<b>10</b>
20 $\mu\text{m}$	<b>20</b>
25 $\mu\text{m}$	<b>25</b>

Note: Other micron ratings on request

**5** Sealing MaterialNBR (Buna®) **B**

Note: Other sealing materials on request

**6** Connection Style

Connection Style	Group		Code
	Port A	Port B	
NPT	1-1/4	None	<b>N</b>
NPT	1-1/4	1-1/2	<b>NM</b>
NPT	None	1-1/2	<b>M</b>
Combination SAE & NPT	1-5/8-12	1-1/2	<b>SM</b>
SAE	1-5/8-12	None	<b>S</b>
SAE	None	1-7/8-12	<b>T</b>
SAE	1-5/8-12	1-7/8-12	<b>ST</b>
Combination NPT & SAE	1-1/4	1-7/8-12	<b>NT</b>

**7** Valve

No bypass	<b>00</b>
1 bar / 15 PSI	<b>15</b>
1,7 bar / 24.6 PSI	<b>25</b>

**8** LengthBowl Length 1 (1 element) **S1**Bowl Length 2 (2 elements) **S2****9** Clogging IndicatorNo clogging indicator **N**Visual clogging indicator **V**Electrical clogging indicator **E**

Note: See page C145 for more details on indicator ports and types

**10** Design CodeOnly for information **X**

## Filter Elements - Type RTE

**RTE** - **58** **D** **10** **B** / **X**

1 2 3 4 5 6

**1** TypeFilter Element Series **RTE****2** Group

According to filter housing

**3** Filter Material

Material	Max. $\Delta p^*$ collapse	Micron ratings available	Code
Inorg. glass fibre	10 bar / 145 PSI	3, 5, 10, 25	<b>G</b>
Filter paper	5 bar / 72.5 PSI	3,10,25,20	<b>D</b>

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

**4** Micron Rating

3 $\mu\text{m}$	<b>03</b>
5 $\mu\text{m}$	<b>05</b>
10 $\mu\text{m}$	<b>10</b>
20 $\mu\text{m}$	<b>20</b>
25 $\mu\text{m}$	<b>25</b>

Note: Other micron ratings on request

**5** Sealing MaterialNBR (Buna®) **B**

Note: Other sealing materials on request

**6** Design CodeOnly for information **X**

## Return Line Filters ▪ Type RTF-N


**Product Description**

STAUFF RTF-N Return Line Insert Filters allow for a choice of installation configurations which permits custom reservoir design with an in tank filtering system. The filters are installed semi-immersed or totally immersed into a reservoir. The filtration flow is from inside to the outside of the element which ensures that all the contaminant is collected inside the element itself avoiding contact with the reservoir fluid during element change. The combination of magnetic pre-filtration and high filtration efficiency results in a cost effective and versatile filtration system.

**Technical Data**
**Construction**

- Insert filter

**Materials**

- Flange plate: Aluminum
- Magnet rod: Steel
- Bypass: Steel
- Diffuser: Steel
- Sealings: NBR (Buna-N®)  
FPM (Viton®)  
Other sealing materials on request

**Flow Rating**

- Up to 500 l/min / 132 GPM

**Operating Pressure**

- Max. 10 bar / 145 PSI

**Temperature Range**

- -29°C ...+107°C / -20°F ... +225°F

**Filter Elements**

- Specifications see page C128

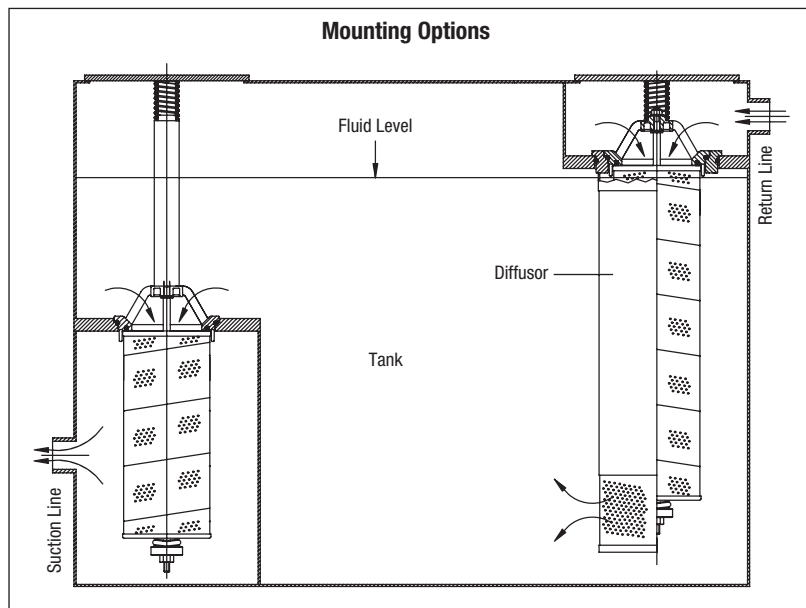
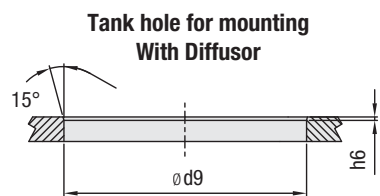
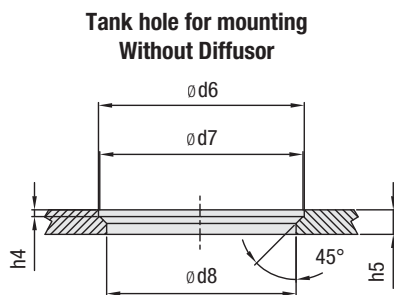
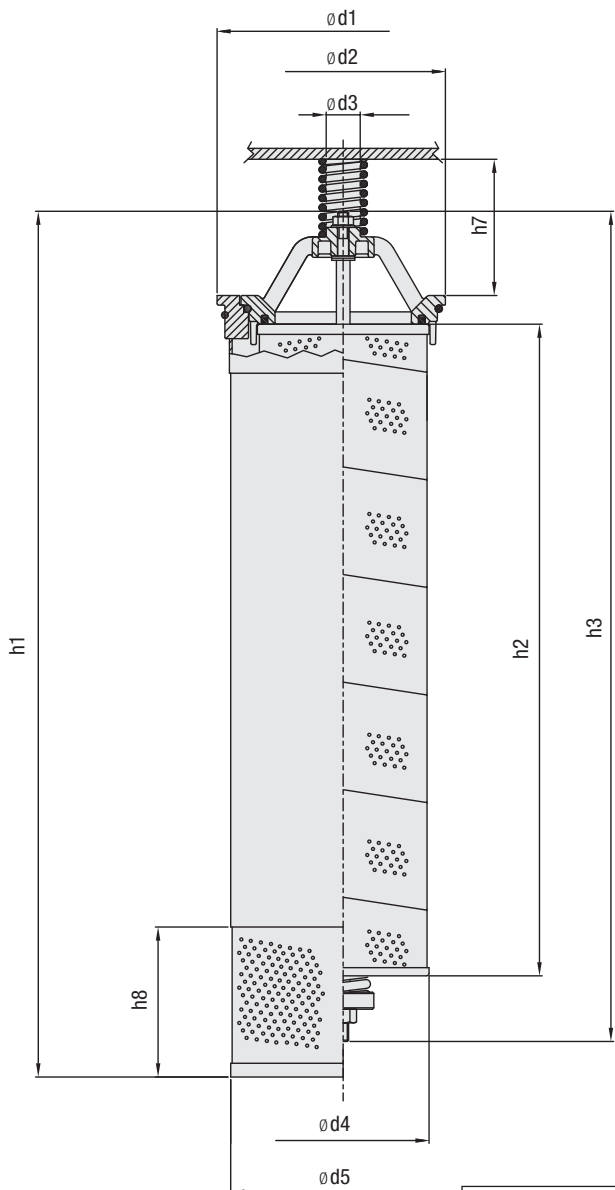
**Media Compatibility**

- Mineral oils, other fluids on request

**Options and Accessories**
**Valve**

- Bypass valve: Opening pressure 1,5 bar / 22 PSI  
(integrated in the filter element) Other settings available on request

Return Line Filters - Type RTF-N



## Return Line Filters - Type RTF-N

Dimensions (mm/in)	Filter Size RTF-N	
	390	500
h1	445	635
	17.52	25.00
h2	290	478
	11.42	18.82
h3	421	609
	16.57	23.98
h4	5	5
	.20	.20
h5	18	18
	.71	.71
h6	2,5	2,5
	.10	.10
h7	100	100
	3.94	3.94
h8	110	110
	4.33	4.33
d1	185	185
	7.28	7.28
d2	150	150
	5.91	5.91
d3	25	25
	.98	.98
d4	126	126
	4.95	4.95
d5	165	165
	6.50	6.50
d6	151	151
	5.94	5.94
d7	149	149
	5.87	5.87
d8	139	139
	5.47	5.47
d9	178	178
	7.01	7.01

## Return Line Filter Housings / Complete Filters - Type RTF-N

RTF-N 500 ... / B / 22 / D / X

1 2 3 4 5 6 7 8

## 1 Type

Return Line Insert Filter **RTF-N**

## 2 Group

Flow	Size
390 l/min / 103 US GPM	<b>390</b>
500 l/min / 132 US GPM	<b>500</b>

Note: Exact flow will depend on filter element selected.  
Consult technical data on page C130

## 3 Filter Material

Material	Max. $\Delta p^*$ collapse	Micron ratings available	Code
Without filter element	-	-	...
Inorg. glass fibre	10 bar / 145 PSI	3, 5, 10, 20	<b>E</b>
Filter paper	10 bar / 145 PSI	10	<b>L</b>

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

## 4 Micron Rating

3 $\mu\text{m}$	<b>03</b>
5 $\mu\text{m}$	<b>05</b>
10 $\mu\text{m}$	<b>10</b>
20 $\mu\text{m}$	<b>20</b>

Note: Other micron ratings on request

## 5 Sealing Material

NBR (Buna®) **B**  
 FPM (Viton®) **V**  
 Note: Other sealing materials on request

## 6 Bypass Setting

1,5 bar / 22 PSI **22**

## 7 Options

Without diffuser **none**  
 With diffuser **D**

## 8 Design Code

Only for information **X**

## Filter Elements - Type RA

RA - 500 E 10 / B / X

1 2 3 4 5 6

## 1 Type

Element for Insert Filter **RA**

## 2 Group

According to filter housing

## 3 Filter Material

Material	Max. $\Delta p^*$ collapse	Micron ratings available	Code
Inorg. glass fibre	10 bar / 145 PSI	3, 5, 10, 20	<b>E</b>
Filter paper	10 bar / 145 PSI	10	<b>L</b>

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

## 4 Micron Rating

3 $\mu\text{m}$	<b>03</b>
5 $\mu\text{m}$	<b>05</b>
10 $\mu\text{m}$	<b>10</b>
20 $\mu\text{m}$	<b>20</b>

Note: Other micron ratings on request

## 5 Sealing Material

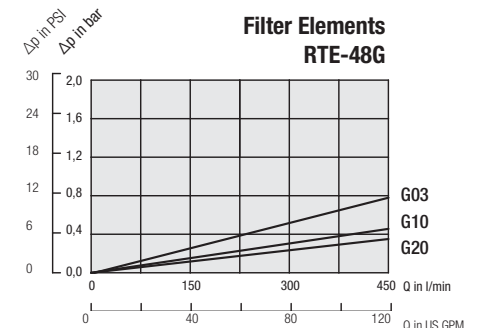
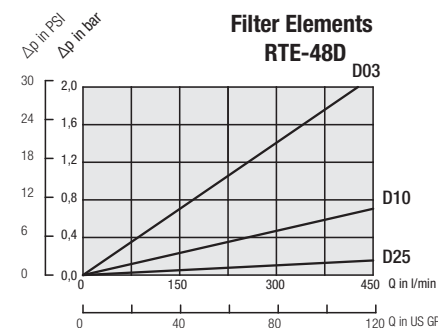
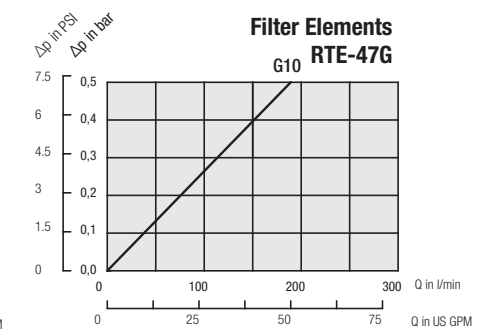
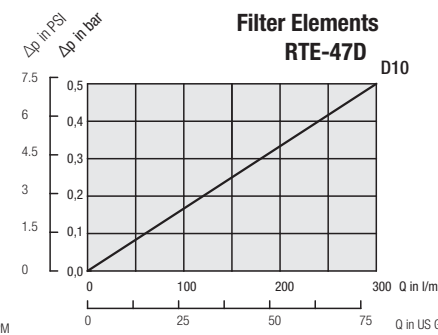
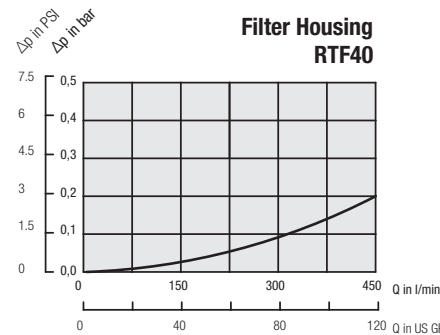
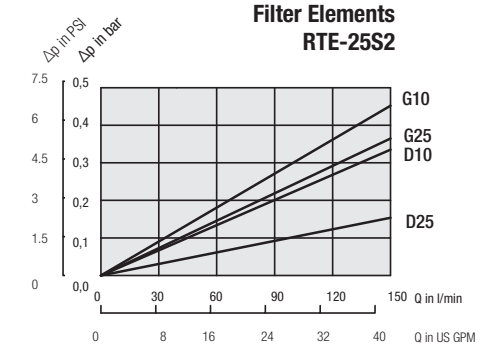
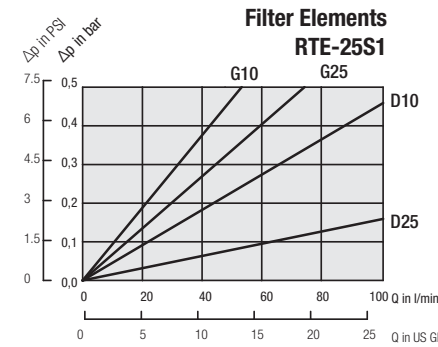
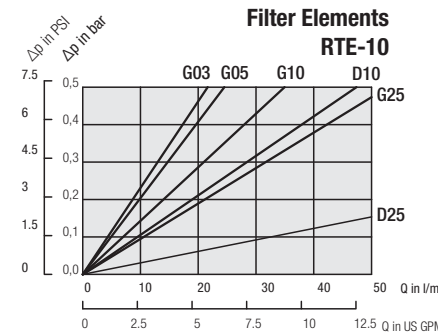
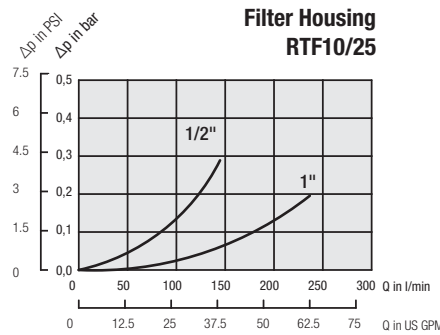
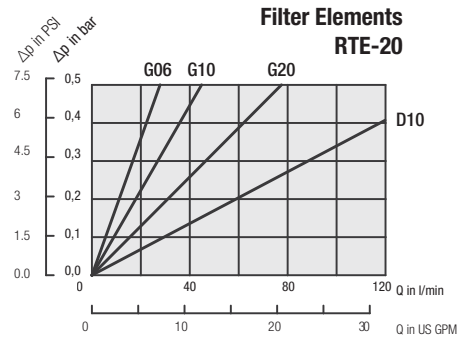
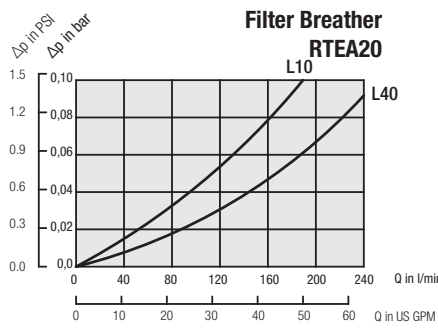
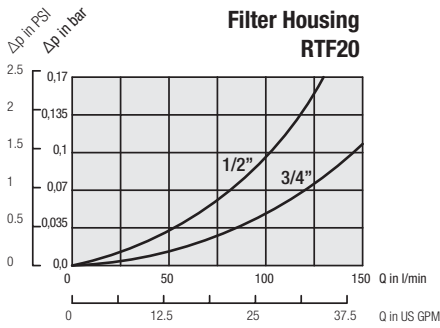
NBR (Buna®) **B**  
 FPM (Viton®) **V**  
 Note: Other sealing materials on request

## 6 Design Code

Only for information **X**

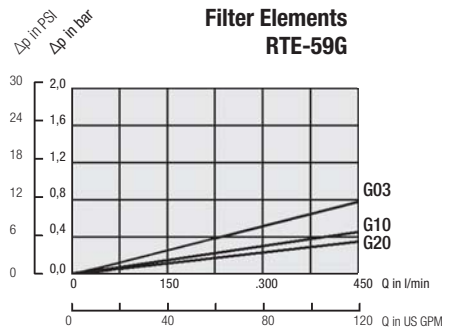
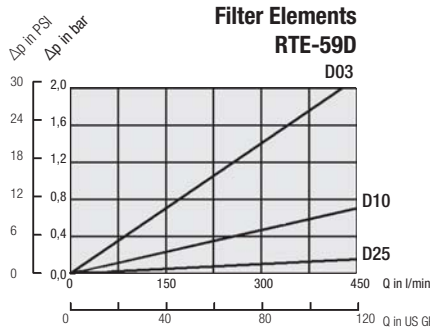
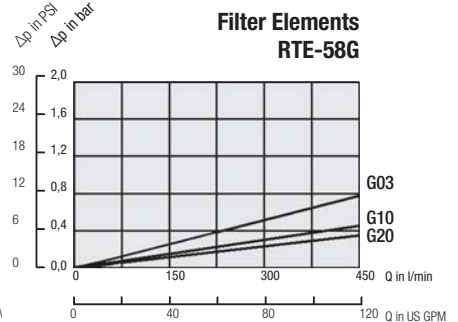
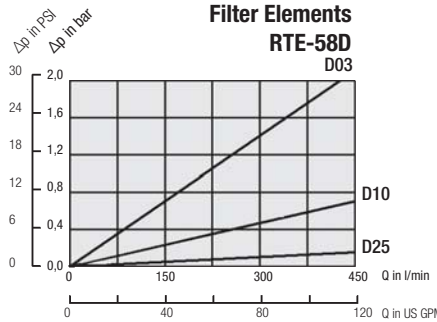
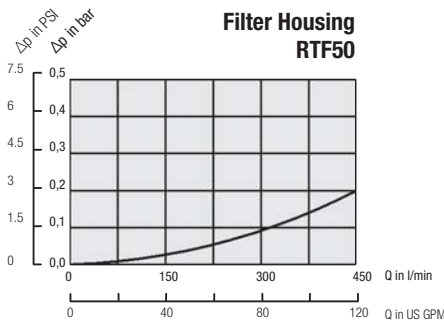
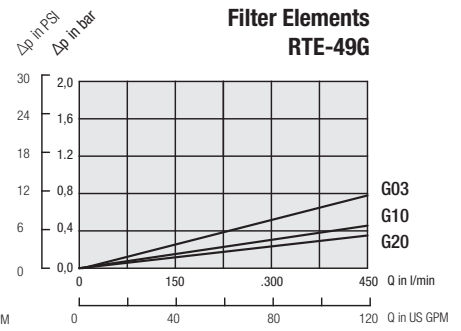
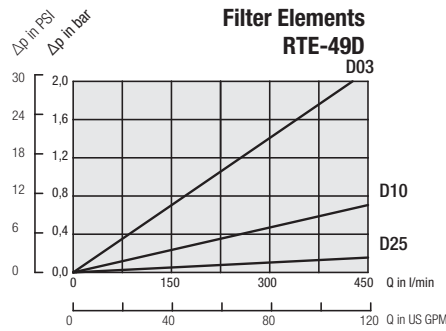
## Return Line Filters - Type RTF Flow Characteristics

The following characteristics are valid for mineral oils with a density of 0,85 kg/dm<sup>3</sup> and the kinematic viscosity of 30 mm<sup>2</sup>/s (30cSt). The characteristics have been determined in accordance to ISO 3968. Multipass filter ratings have been obtained in accordance to ISO 16889. The housing pressure drop is directly proportional to the oil density. Consult STAUFF for details.

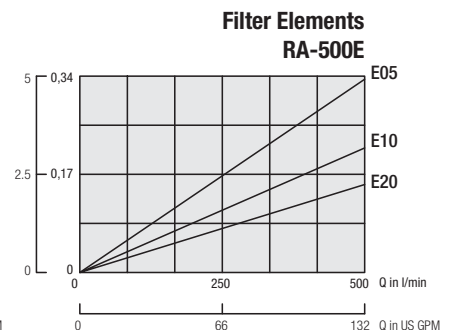
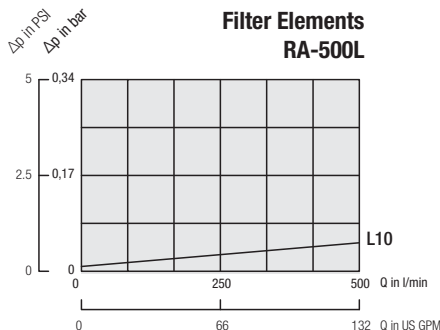
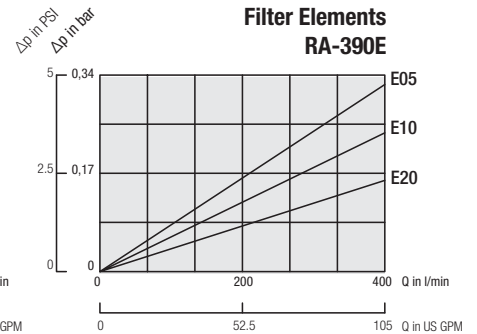
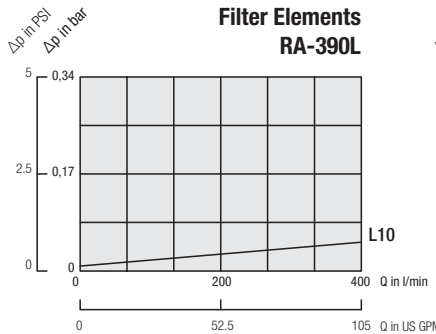
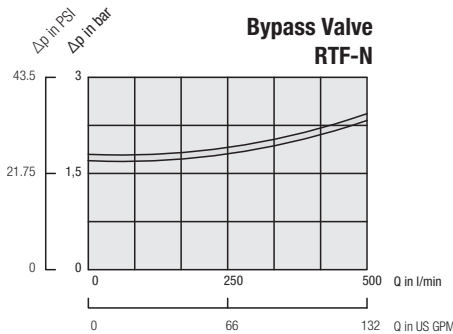


**Return Line Filters - Type RTF Flow Characteristics**

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Note: Element pressure drop curves are for "S1" single elements. For "S2" double elements use 50% of the "S1" Value.



## RTF Filter Indicators

## Visual Indicators



SIM-04



CI-12

## Visual Pressure Clogging Indicators

	Type	Thread Connection G	Unit of scale	Range of scale	Coloured Segments		
					Green	Yellow	Red
BSP	SIM-02	1/8	bar	0 ... 2,5	0 ... 1,2	1,2 ... 1,5	1,5 ... 2,5
	SIM-04	1/8	bar	0 ... 4	0 ... 2,5	2,5 ... 3	3 ... 4
	SIM-12	1/8	bar	0 ... 12	without coloured segments		
NPT	CI-12	1/8	PSI	0 ... 100	0 ... 13	13 ... 15	15 ... 100
	CI-20	1/8	PSI	0 ... 100	0 ... 21	21 ... 25	25 ... 100

## Electrical Indicators



SIE-NO/NC



EPS

## Electrical Clogging Indicators

	Type	Thread Connection G	Unit of scale	Adjustable range / Actuating pressure	Max. over pressure
BSP	SIE-NO	1/8	bar	1,3 (normally open)	80 bar / 1160 PSI
	SIE-NC	1/8	bar	1,3 (normally closed)	80 bar / 1160 PSI
	EPS-1B	1/8	bar	0,35 ... 2,5	25 bar / 362 PSI
NPT	EPS-1	1/8	PSI	5 ... 35	24 bar / 350 PSI

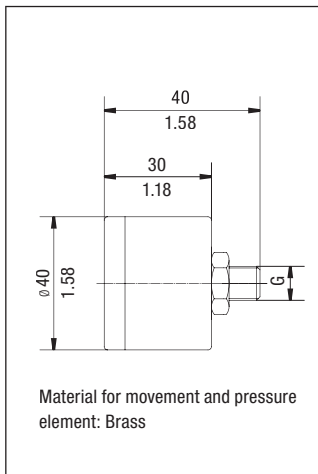
## Technical Data SIE / EPS

	Type EPS-1 / 1B
Electrical data	6 Amp 125/250 V AC
Protection	DIN 43650 IP65
Temperature Range	-5°C ... +90°C / +23°F ... +194°F (ambient and media)
Diaphragm Material	NBR
Housing Material	Brass
Adjustable Range	0,35 bar ... 2,0 bar / 5 ... 30 PSI
Dead Band	20% F.S.
Weight	0,1 kg / .22 lbs
Repeatability	± 2 %
Hirschmann Connector With Strain Relief	

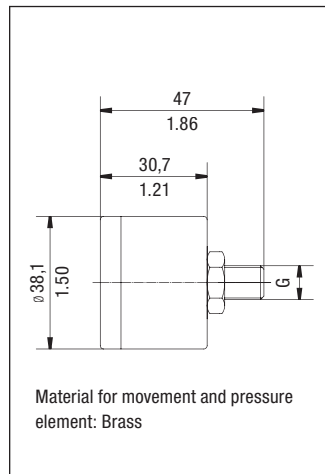
	Type SIE (electrical switch)
Electrical data	48V
Protection	DIN 43650 IP54
Temperature Range	-5°C ... +60°C / 23°F ... +140°F (ambient and media)
Diaphragm Material	NBR
Housing Material	Brass
Actuating Pressure	1,3 bar / 19 PSI
Max. current (res.)	0,5 A
Max. current (ind.)	0,2 A
Available as "normally open" (closes contact at actuating pressure) and as "normally closed" (opens contact at actuating pressure)	

## Dimensions

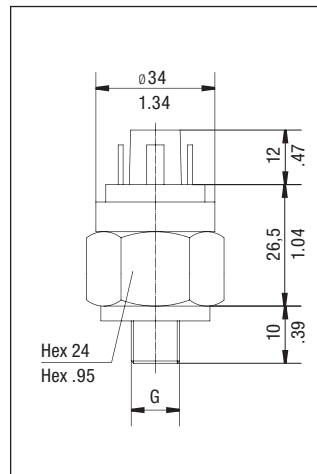
## Type SIM



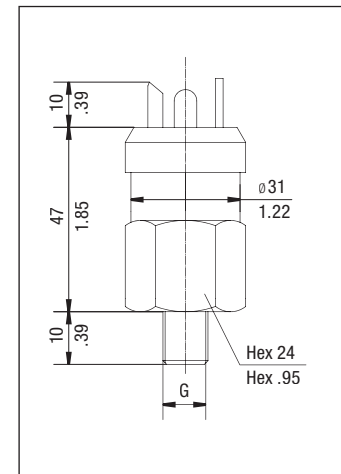
## Type CI



## Type SIE



## Type EPS



Dimensions in mm/in