

## 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

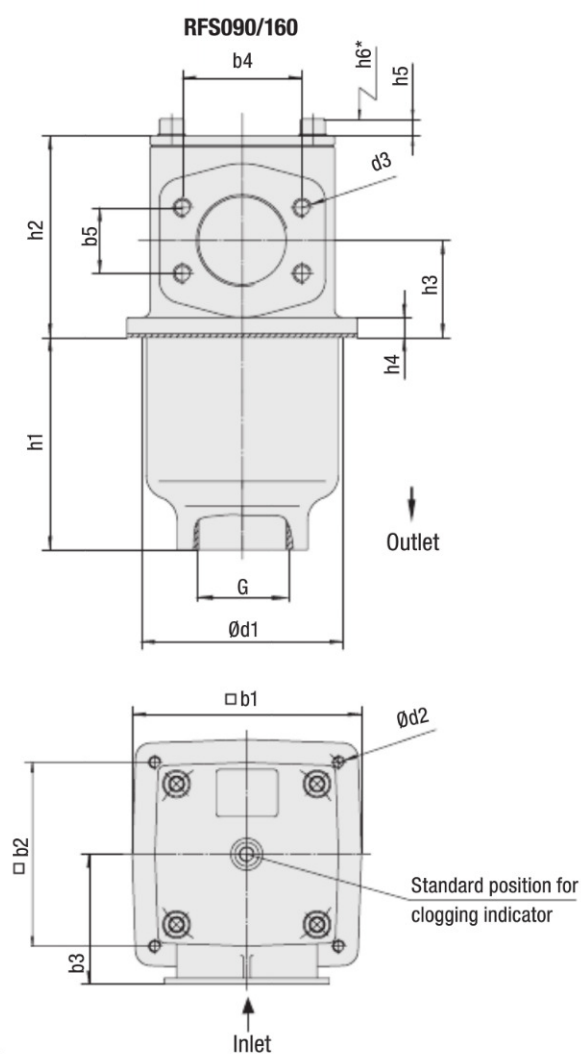
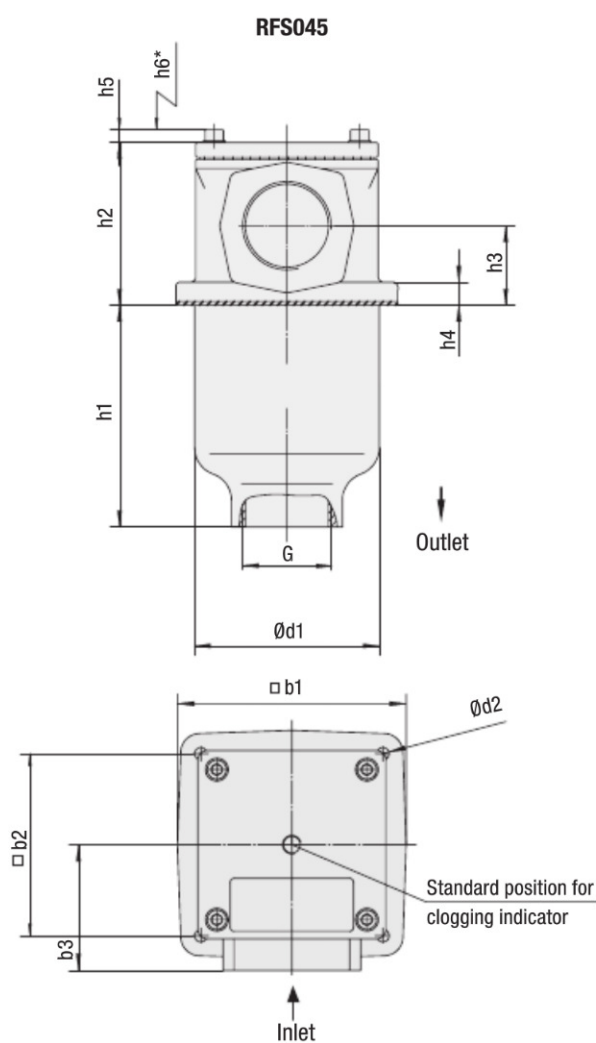
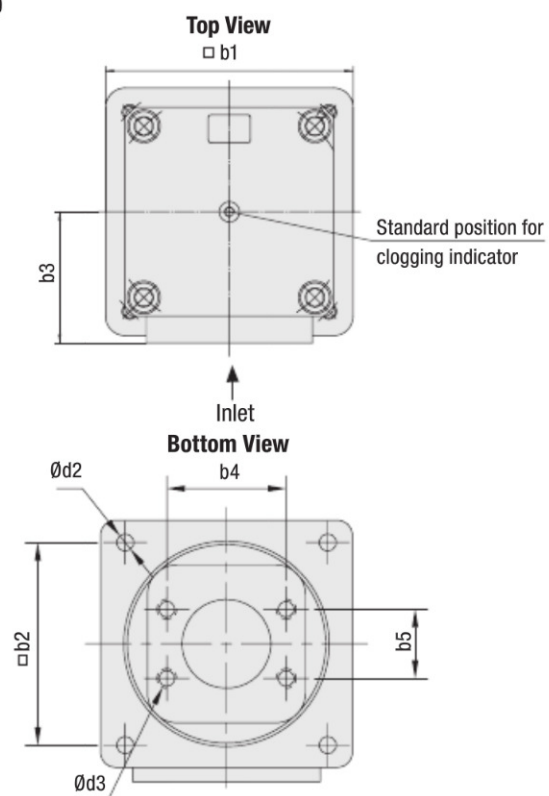
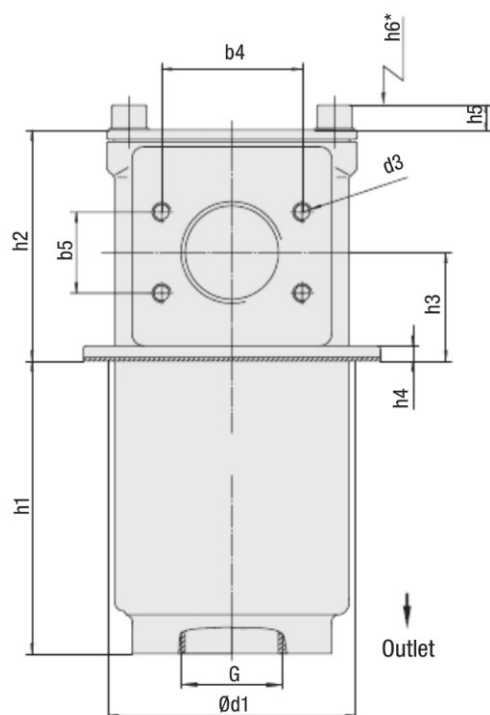
#### Valves

- Bypass valve 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

- 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

**RFS250/300**

\* recommended space for element change

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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** / **G42NC** / **D** / **F** / **X**

1 2 3 4 5 6 7 8 9 10

## 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 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 Connection Style

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

## 7 Clogging Indicator

	Position*	Code
Without Clogging Indicator	-	<b>0</b>
Visual Clogging Indicator	1 2	<b>M</b>
Electrical Clogging Switch 42 V, NO		<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 C92.  
Without any code: assembly in the middle of the filter cover.

## 8 Option Clogging Indicator G42NO and G42NC

Plug connector and rubber cap	<b>none</b>
Deutsch plug	<b>D</b>
AMP plug	<b>A</b>
M12 x 1,5	<b>M12</b>

## 9 Outlet Style

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

## 10 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 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 **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

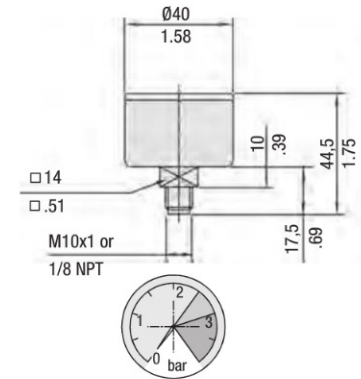
### Electrical Clogging Switch

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.

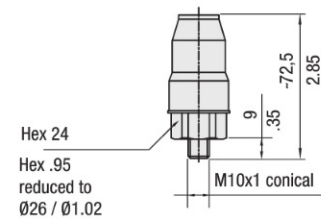
Standard type with plug connector and rubber cap. Available with DEUTSCH DT04-2P plug (industrial standard), AMP Junior Timer plug (industrial standard) and five-pin circular connector M12, A-coded, according to IEC 61076-2-101.

Maximum Voltage	Switch Type	Note: The customer / user carries the responsibility for the electrical connection.
42 V (normally open)	G42NO	
42 V (normally closed)	G42NC	
110 V (two-way contact)	G110	
230 V (two-way contact)	G230	

#### Visual Clogging Indicator



#### Electrical Clogging Switch



Dimensions in mm/in

## Replacement Filter Elements ■ Type RE

### 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.

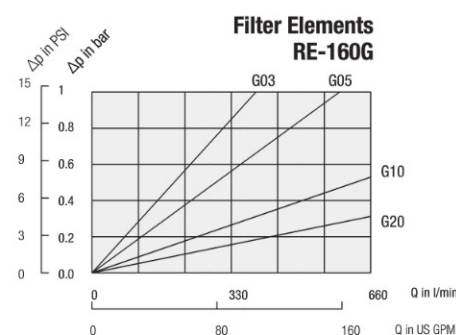
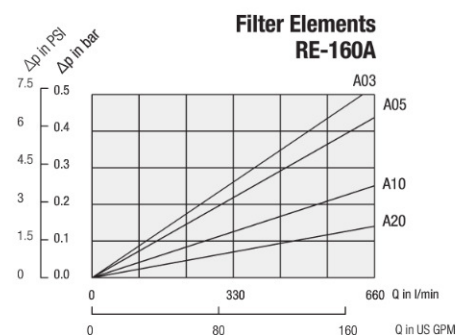
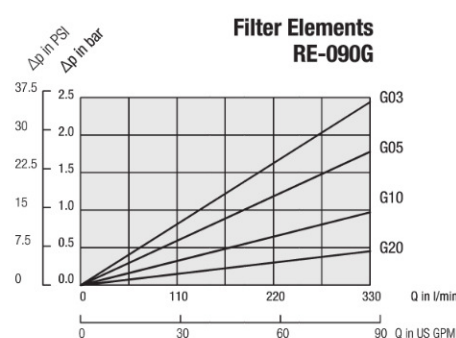
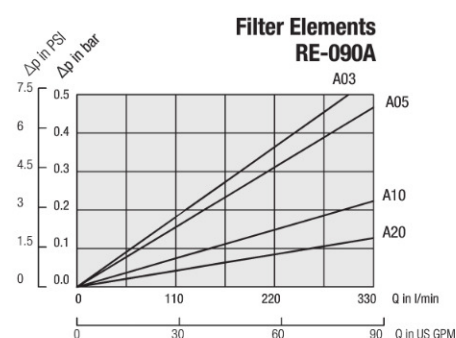
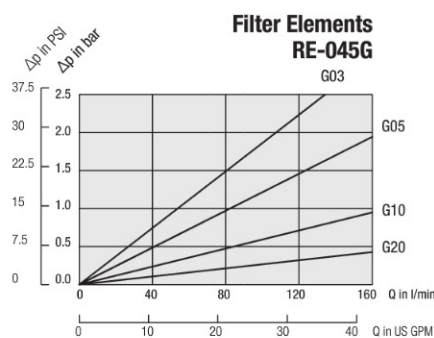
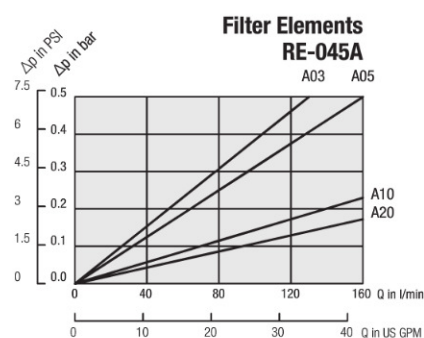
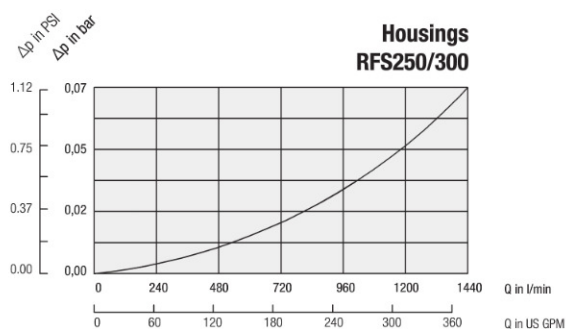
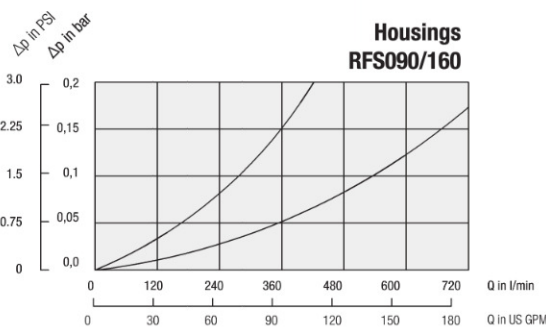
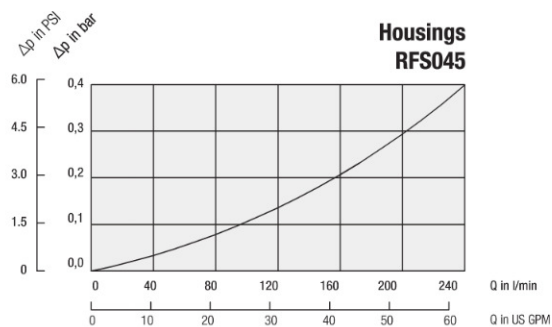
#### 6 Design Code

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  $0,85 \text{ kg/dm}^3$  and the kinematic viscosity of  $30 \text{ mm}^2/\text{s}$  (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

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.

