

## 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®)  
FKM/FPM (Viton®)  
EPDM (Ethylene Propylene Diene Monomer Rubber)  
Other sealing materials on request

**Port Connections**

- 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 88

**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

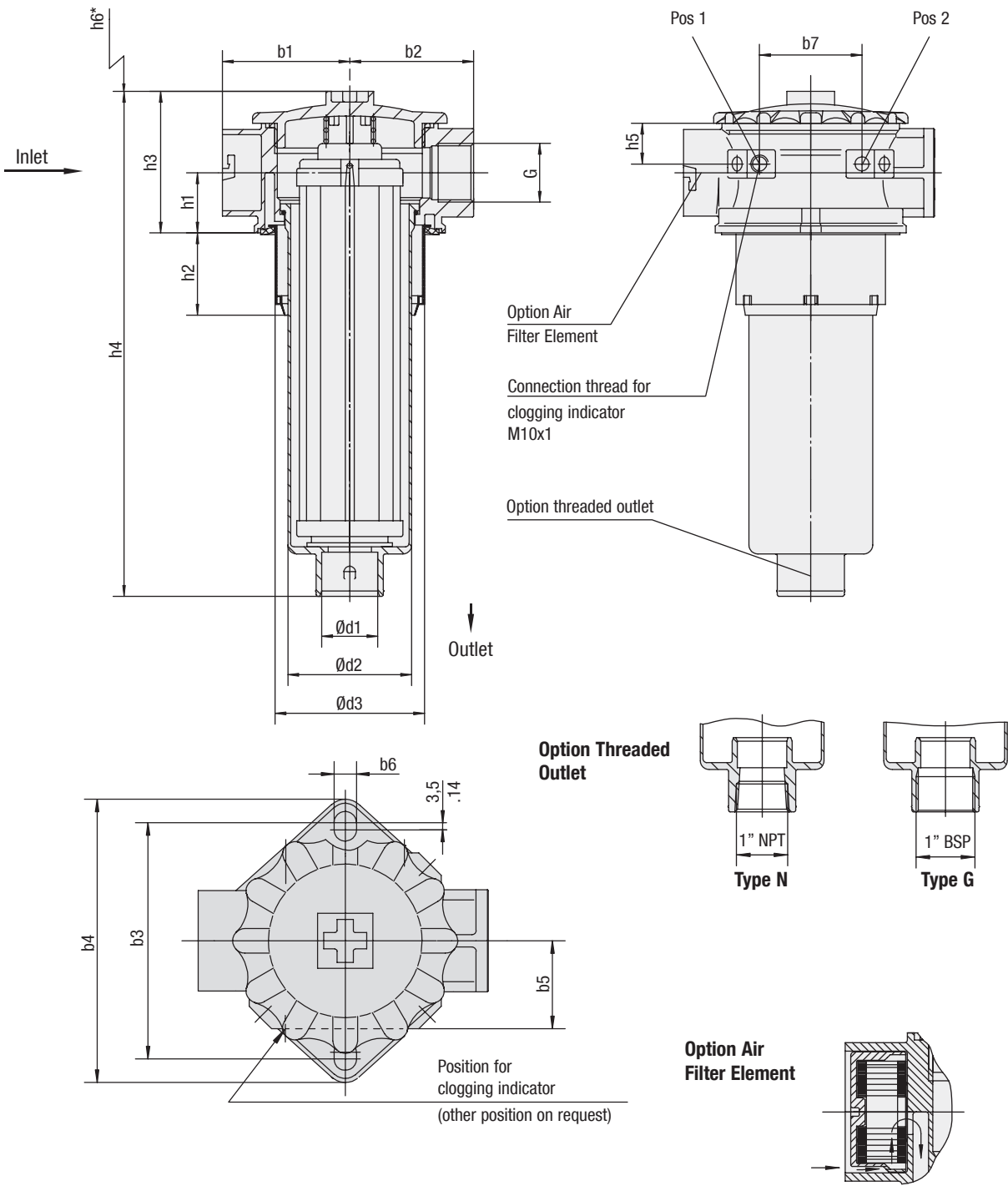
**Clogging Indicators**

- For clogging indicator types please see page 89



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\* recommended space for element change



## 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

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

**RFB** - **022** - **G** - **10** - **B** - **G16** - **G42NO** - **D** - **G** - **L10** / **X**

① ② ③ ④ ⑤ ⑥ ⑦ ⑧ ⑨ ⑩ ⑪

## 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 the selected filter element.  
For technical data please see page 91.

## ③ Filter Material

Material	Max. $\Delta p^*$ collapse	Micron ratings available	Code
Without filter element	-	-	<b>O</b>
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 $\mu$ 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>
FKM/FPM (Viton®)	<b>V</b>
EPDM	<b>E</b>

Note: Other sealing materials on request.

## ⑥ Connection Style

Connection Style		Code
BSP	1	<b>G16</b>
BSP	3/4	<b>G12</b>
NPT	1	<b>N16</b>
NPT	3/4	<b>N12</b>
SAE-O-ring Thread	1-5/16-12	<b>U16</b>

Note: Bold types identify preferred connection style.

## ⑦ Clogging Indicator

Without Clogging Indicator	<b>O</b>
Visual Clogging Indicator	<b>V</b>
Electrical Clogging Switch 42 V, NO	<b>G42NO</b>
Electrical Clogging Switch 42 V, NC	<b>G42NC</b>
Electrical Clogging Switch 110 V ... 230 V, two-way contact (only for Code W)	<b>G230</b>

## ⑧ Option Clogging Indicator G42NO, G42NC and G230

Plug connector	<b>O</b>
M12 x 1,5	<b>M12</b>
AMP plug	<b>A</b>
Deutsch plug	<b>D</b>
Rubber boot	<b>S</b>
90 degree Polyamide cap (only for Code G230)	<b>W</b>

## ⑨ Outlet Style

With 1" BSP thread	<b>G</b>
With 1" NPT thread	<b>N</b>

## ⑩ Air Filter Element

Without Air Filter Element	<b>none</b>
Filter paper 10 micron	<b>L10</b>

Note: Other materials and micron ratings on request.

## ⑪ Design Code

Only for information	<b>X</b>
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## 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 $\mu$ 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>
FKM/FPM (Viton®)	<b>V</b>
EPDM	<b>E</b>

Note: Other sealing material on request.

## ⑥ Design Code

Only for information	<b>X</b>
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## Air Filter Elements ■ Type REA

**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>
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Note: Other materials on request.

## ④ Micron Rating

10 $\mu$ m	<b>10</b>
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Note: Other micron ratings on request.

## ⑤ Sealing Material

NBR (Buna®)	<b>B</b>
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Note: Other sealing materials on request.

## ⑥ Design Code

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

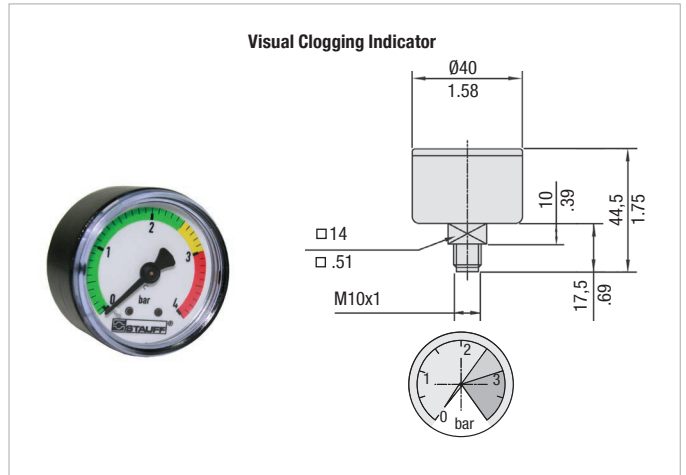
## Order Codes

**SPG-C-040-00004-02-P-M10-402922**

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## ① Type

Visual Clogging Indicator **SPG-C-040-00004-02-P-M10-402922**



## Electrical Clogging Switch

The switch is used where an electrical signal is needed to indicate when the element needs to be changed. 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.

## Order Code

**Limit-Switch - G42NO - S - M10 - B2.5**

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③

④

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## ① Type

Limit-Switch

## ② Connector Type

Electrical Clogging Switch 42 V, NO	<b>G42NO</b>
Electrical Clogging Switch 42 V, NC	<b>G42NC</b>
Electrical Clogging Switch 110 V ... 230 V, two-way contact (only for Plug Type W)	<b>G230</b>

## ③ Plug Type

M12 Five-Pin Connector according to IEC 61076-2-101	<b>M12</b>
AMP-Junior-Timer Plug	<b>A</b>
DEUTSCH Plug DT04-2P	<b>D</b>
Rubber boot	<b>S</b>
90 degree Polyamide cap (only for Connector Type G230)	<b>W</b>

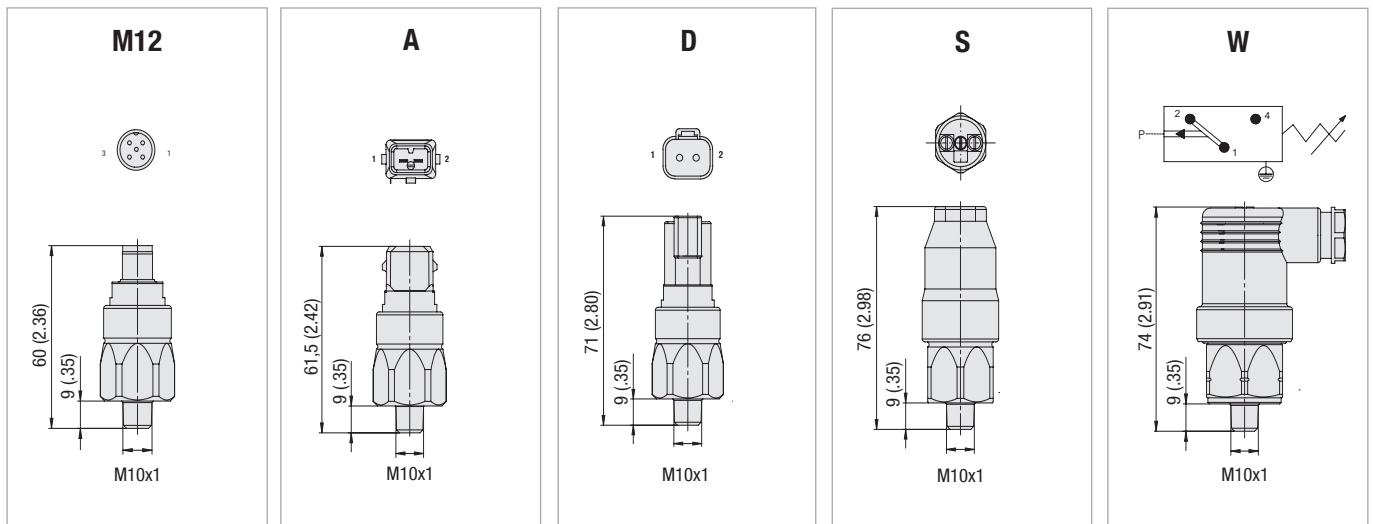
## ④ Thread Type

M10 x 1 **M10**

## ⑤ Pressure Setting

2,5 bar / 36.3 PSI **B2.5**

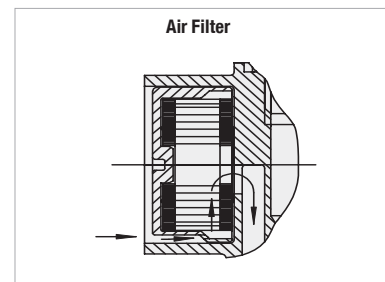
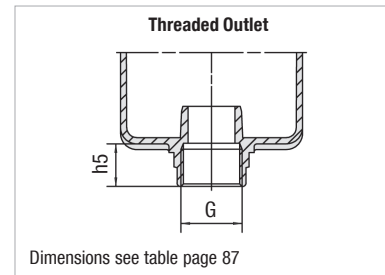
## Dimensions Plug Type



## Return-Line Filters - Type RFB

### 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 bowl with a female thread allows an extension to be fitted quite simply.



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### 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.

### Order Code

**REA-046-L-10-B**

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① **Type**

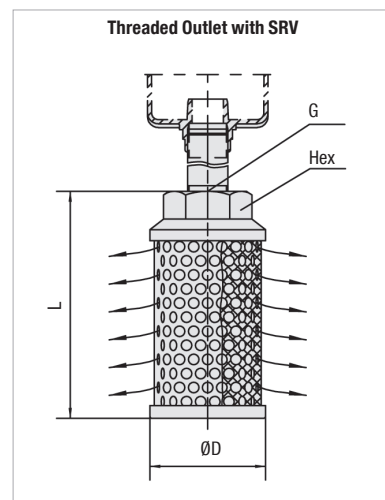
Air Filter Element

**REA-046-L-10-B**

### Filter Bowl with Threaded Connection and Diffuser

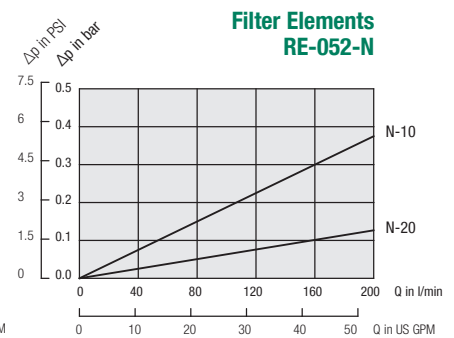
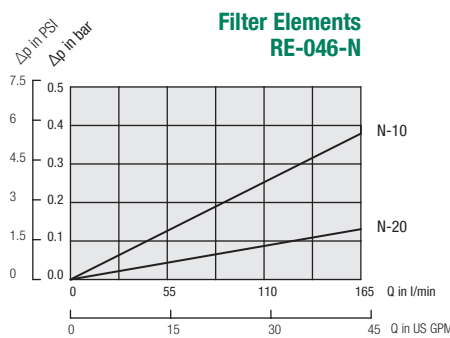
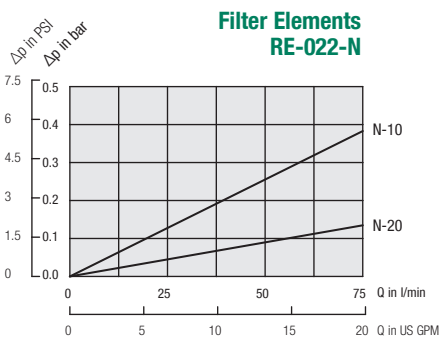
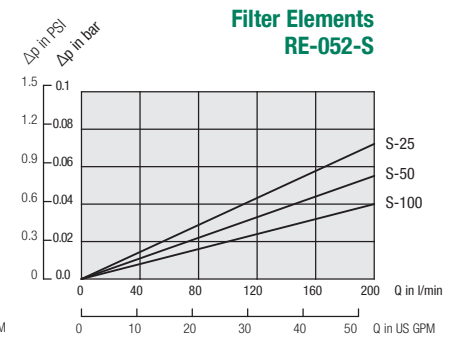
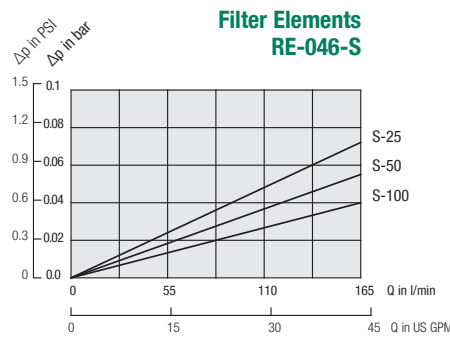
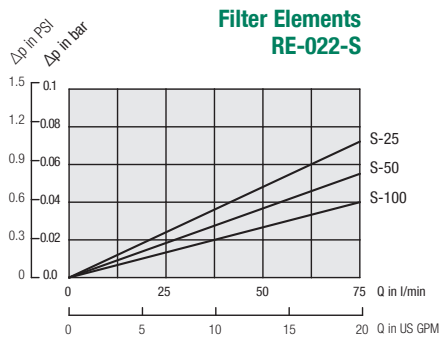
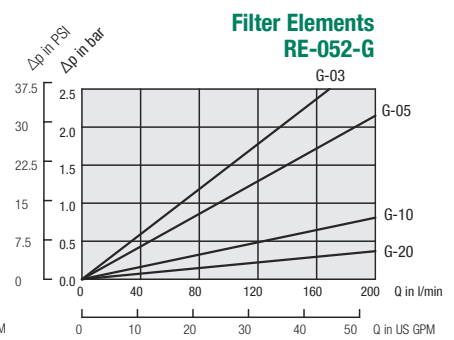
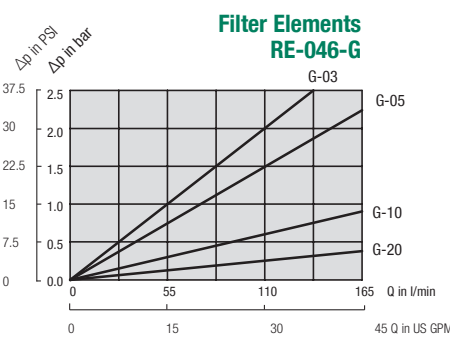
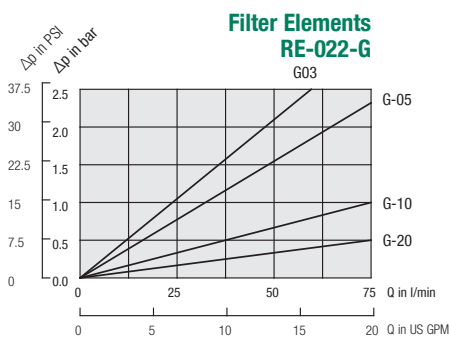
Diffusers mounted to the filter bowl minimise foaming and reduce noise of high Return-Line flows. For further details on STAUFF Diffusers please refer to the Catalogue No. 10 - Hydraulic Accessories. Attention: Connection pipe not included in scope of delivery!

Size SRV	for Return-Line Filter Size	Dimensions (mm/in)		Thread G	Hex
		øD	L		
SRV-114-G16	RFB-022/046/052	60	139	G1	46
SRV-114-N16		2.36	5.47	1 NPT	1.81



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. Contact STAUFF for details.



### Checklist for the selection of filter housings

Please use the following Checklist as a guideline when preparing an enquiry for the selection of filter housings. Scan or copy the page from the catalogue, print and com-

plete it with as much information as possible, before sending it by email or fax to the closest STAUFF branch office. If possible, please also let us know the quantities required,

and if the enquiry is for a one-time or recurring demand. We look forward to hearing from you, and are always available for consultation, when required.

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<b>Information on the fluid in use</b>					
<b>Type of fluid</b>	<input type="text"/>	Brand	<input type="text"/>	ISO designation	
<b>Fluid viscosity</b>	<input type="text"/>	<input type="checkbox"/>	mm <sup>2</sup> /sec	<input type="checkbox"/>	cSt
<b>Fluid temperature</b>	<input type="text"/>	°C	<input type="checkbox"/>	°F	<input type="text"/>
			<input type="checkbox"/>	In cold condition	<input type="text"/>
					<input type="checkbox"/>
					In warm condition
<b>Information on the filter housing</b>					
<b>Position in the hydraulic system</b>	<input type="checkbox"/>	Suction line	<input type="checkbox"/>	Pressure line	<input type="checkbox"/>
					Return line
<b>Operating pressure</b>	<input type="text"/>	<input type="checkbox"/>	bar	<input type="checkbox"/>	PSI
<b>Nominal flow</b>	<input type="text"/>	<input type="checkbox"/>	l/min	<input type="checkbox"/>	US GPM
<b>Valve</b>	<input type="checkbox"/>	No, not required			
	<input type="checkbox"/>	Yes, the following type:			
		<input type="checkbox"/>	Bypass valve	<input type="checkbox"/>	Non-return valve
				<input type="checkbox"/>	Reverse flow valve
				<input type="checkbox"/>	Multi-function valve
<b>Clogging indicator</b>	<input type="checkbox"/>	No, not required			
	<input type="checkbox"/>	Yes, the following type:			
		<input type="checkbox"/>	Visual	<input type="checkbox"/>	Electrical
				<input type="checkbox"/>	Visual-electrical
<b>Connection type and size</b>	<input type="text"/>				
<b>Sealing material</b>	<input type="checkbox"/>	NBR (Buna®)	<input type="checkbox"/>	FKM/FPM (Viton®)	<input type="text"/>
					Other
<b>Information on the filter element</b>					
<b>Filter media</b>	<input type="checkbox"/>	Inorganic Glass Fibre	<input type="checkbox"/>	Polyester Fibre	<input type="checkbox"/>
			<input type="checkbox"/>	Cellulose Fibre	<input type="checkbox"/>
				<input type="checkbox"/>	Stainless Fibre
				<input type="checkbox"/>	Stainless Mesh
<b>Micron rating</b>	<input type="text"/>	µm			
<b>Cleanliness level</b>	<input type="text"/>	(to ISO 4406)			
<b>Information on the application</b>	<input type="text"/>				
<b>Information on the ambient conditions</b>	<input type="text"/>				
<b>Additional information and requirements</b>	<input type="text"/>				

