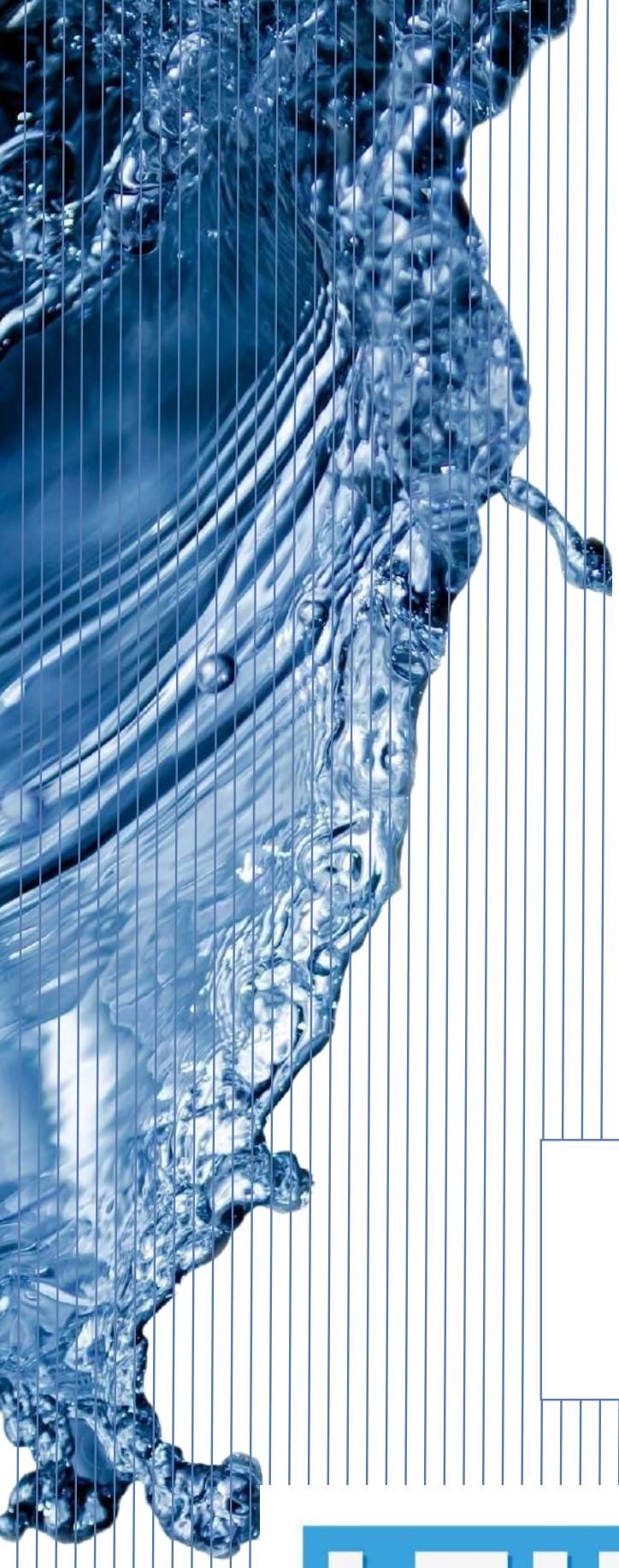


STAUFF
Return-line filters
RFB

LTH
HYDRAULIC
COMPONENTS
& FLUID CONTAMINATION
CONTROL

Return-Line Filters ▪ Type RFB

D

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 it's 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 (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

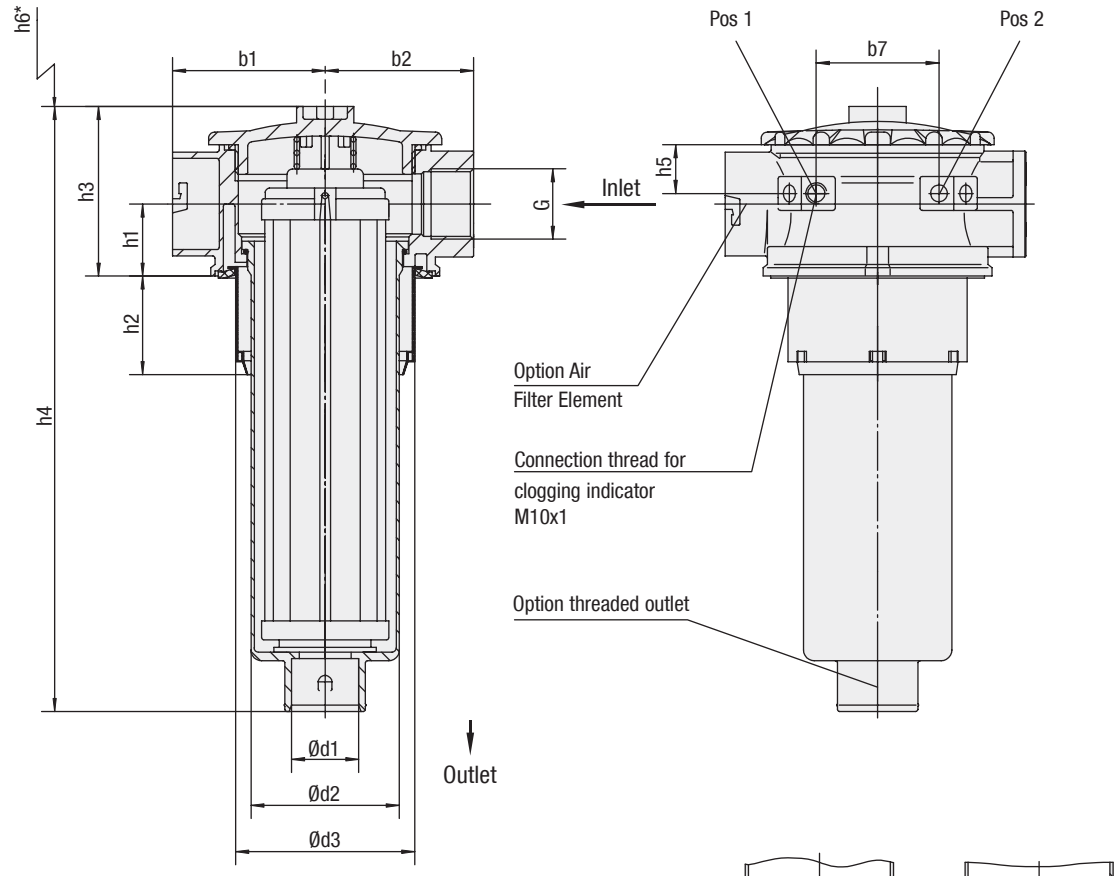
Options and Accessories

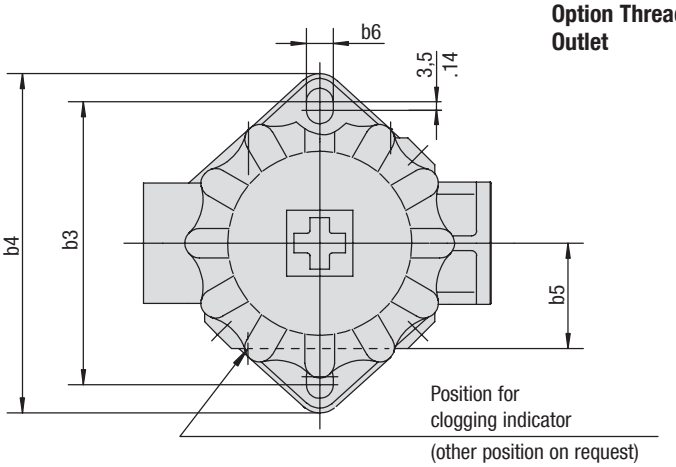
Valve
- Bypass valve (integrated in the filter element) — Opening pressure 3 bar ± 0,3 bar / 43.5 PSI ± 4.35 PSI
  Other settings available on request

Clogging Indicators
- For clogging indicator types please see page 89

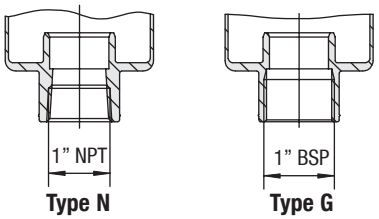
Return-Line Filters ▪ Type RFB

D

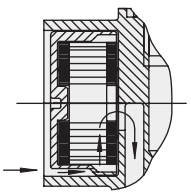




Option Threaded Outlet



Option Air Filter Element



* 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

D

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	**022**
165 l/min / 46 US GPM	**046**
185 l/min / 52 US GPM	**052**

Note: Exact flow will depend on the selected filter element. For technical data please see page 91.

③ Filter Material

Material	Max. Δp*collapse	Micron ratings available	Code
Without filter element	-	-	**0**
Inorg. glass fibre	25 bar / 363 PSI	3, 5, 10, 20	**G**
Stainless fibre	30 bar / 435 PSI		**M**
Filter paper	10 bar / 145 PSI	10, 20	**N**
Stainless mesh	30 bar / 435 PSI	10, 25, 50, 100, 200	**S**

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

④ Micron Rating

3 µm	**03**
5 µm	**05**
10 µm	**10**
20 µm	**20**
25 µm	**25**
50 µm	**50**
100 µm	**100**
200 µm	**200**

Note: Other micron ratings on request.

⑤ Sealing Material

NBR (Buna®)	**B**
FKM (Viton®)	**V**
EPDM	**E**

Note: Other sealing materials on request.

⑥ Connection Style

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

Note: Bold types identify preferred connection style.

⑦ Clogging Indicator

Without Clogging Indicator	**0**
Visual Clogging Indicator	**V**
Electrical Clogging Switch 42 V, NO	**G42NO**
Electrical Clogging Switch 42 V, NC	**G42NC**
Electrical Clogging Switch 110 V ... 230 V, two-way contact (only for Code W)	**G230**

⑧ Option Clogging Indicator G42NO, G42NC and G230

Plug connector	**0**
M12 x 1,5	**M12**
AMP plug	**A**
Deutsch plug	**D**
Rubber boot	**S**
90 degree Polyamide cap (only for Code G230)	**W**

⑨ Outlet Style

With 1" BSP thread	**G16**
With 1" NPT thread	**N16**

⑩ Air Filter Element

Without Air Filter Element	**none**
Filter paper 10 micron	**L10**

Note: Other materials and micron ratings on request.

⑪ Design Code

Only for information	**X**

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

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

④ Micron Rating

3 µm	**03**
5 µm	**05**
10 µm	**10**
20 µm	**20**
25 µm	**25**
50 µm	**50**
100 µm	**100**
200 µm	**200**

Note: Other micron ratings on request.

⑤ Sealing Material

NBR (Buna®)	**B**
FKM (Viton®)	**V**
EPDM	**E**

Note: Other sealing material on request.

⑥ Design Code

Only for information	**X**

Air Filter Element

KIT-RFB-AIR - L - 10 / X

① ② ③ ④

① Type

Air filter for RFB-022/046/052	**KIT-RFB-AIR**

② Filter Material

Filter Paper	**L**

Note: Other materials on request.

③ Micron Rating

10µm	**10**

Note: Other micron ratings on request.

④ Design Code

Only for information	**X**

Return-Line Filters ▪ Type RFB

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.

Technical Data

	Limit-Switch G42NO+NC	Limit-Switch G230
Switching Capacity	100 VA	1000 VA
Voltage	10…42 VAC	10…250 VAC
Current	10mA…4A	
Switching Accuracy	± 0,5 bar at room temp. and new state	
Switching Frequency	200/min	
max. Pressure Ramp Rate	≤ 1 bar/ms	
Degree of Protection	IP65 (plug type S and W), IP67 (plug type M12, A, D)	
Temperature Range	-30°C … +100°C	-40°C … +100°C

Order Code

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

① ② ③ ④ ⑤

① Type

Limit-Switch	

② Connector Type

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

③ Plug Type

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

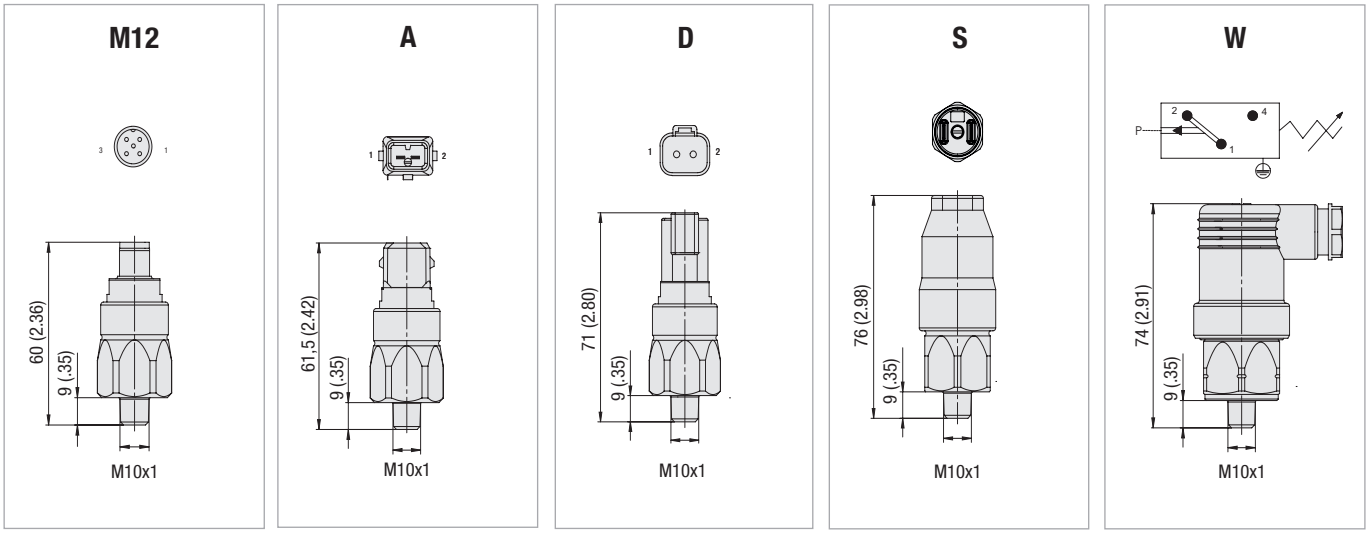
④ Thread Type

M10 x 1	**M10**

⑤ Pressure Setting

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

Dimensions Plug Type



Note: The customer / user carries the responsibility for the electrical connection.

Dimensional drawings: All dimensions in mm/in.

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

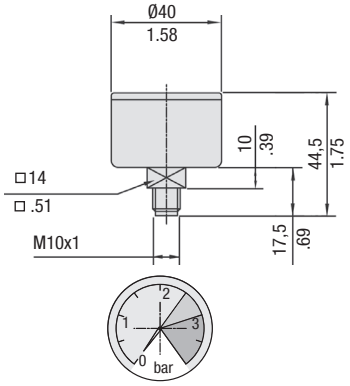
SPG-C-040-00004-02-P-M10-402922

①

① Type

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

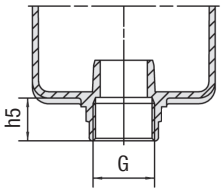
Visual Clogging Indicator



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.

Threaded Outlet

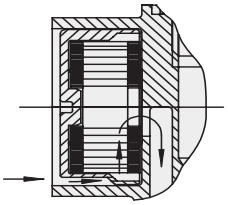


Dimensions see table page 87

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.

Air Filter



Order Code

REA-046-L-10-B

①

① Type

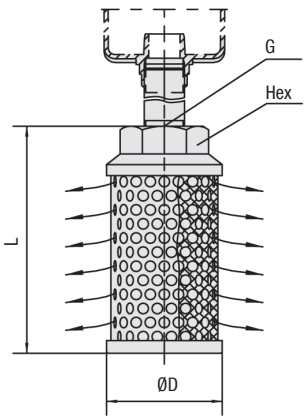
Air Filter Element	**REA-046-L-10-B**

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)			
		øD	L	Thread G	Hex
SRV-114-G16	RFB-022/046/052	60	139	G1	46
SRV-114-N16		2.36	5.47	1 NPT	1.81

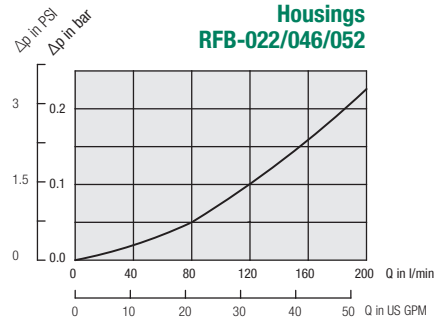
Threaded Outlet with SRV



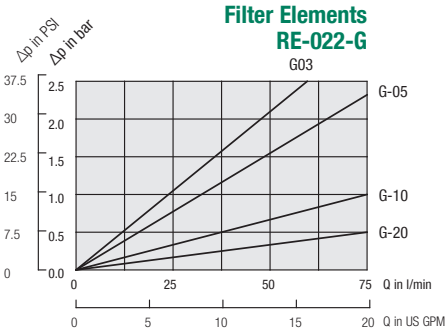
Return-Line Filters ▪ Type RFB Flow Characteristics

The following characteristics are valid for mineral oils with a density of 0,85 kg/dm³ and the kinematic viscosity of 30 mm²/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.

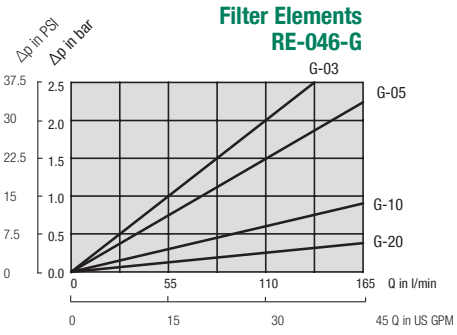
Housings RFB-022/046/052



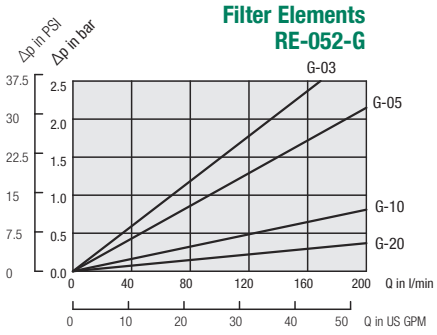
Filter Elements RE-022-G



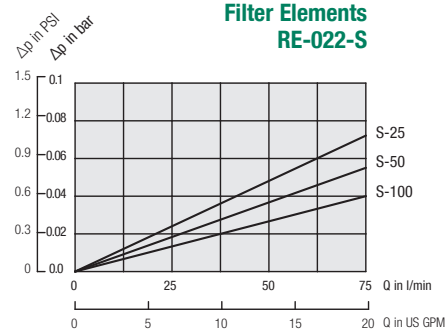
Filter Elements RE-046-G



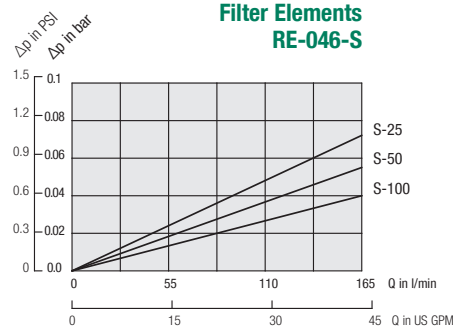
Filter Elements RE-052-G



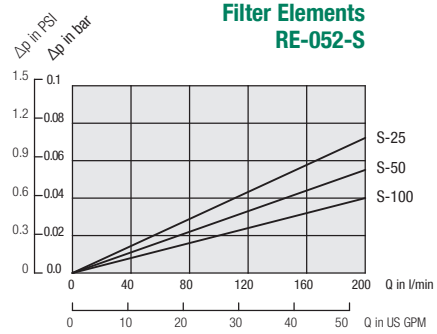
Filter Elements RE-022-S



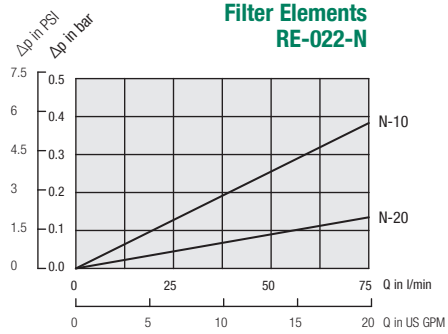
Filter Elements RE-046-S



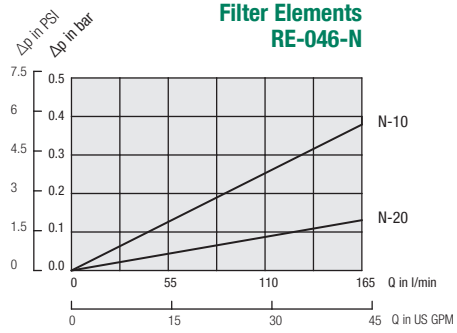
Filter Elements RE-052-S



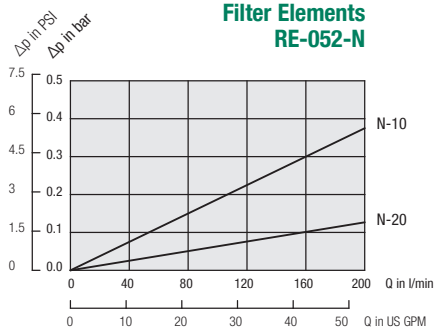
Filter Elements RE-022-N



Filter Elements RE-046-N



Filter Elements RE-052-N



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