



Steel Return Line Filters RFS

**Local solutions for
individual customers
worldwide**

STAUFF



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Stauff Filtration Technology

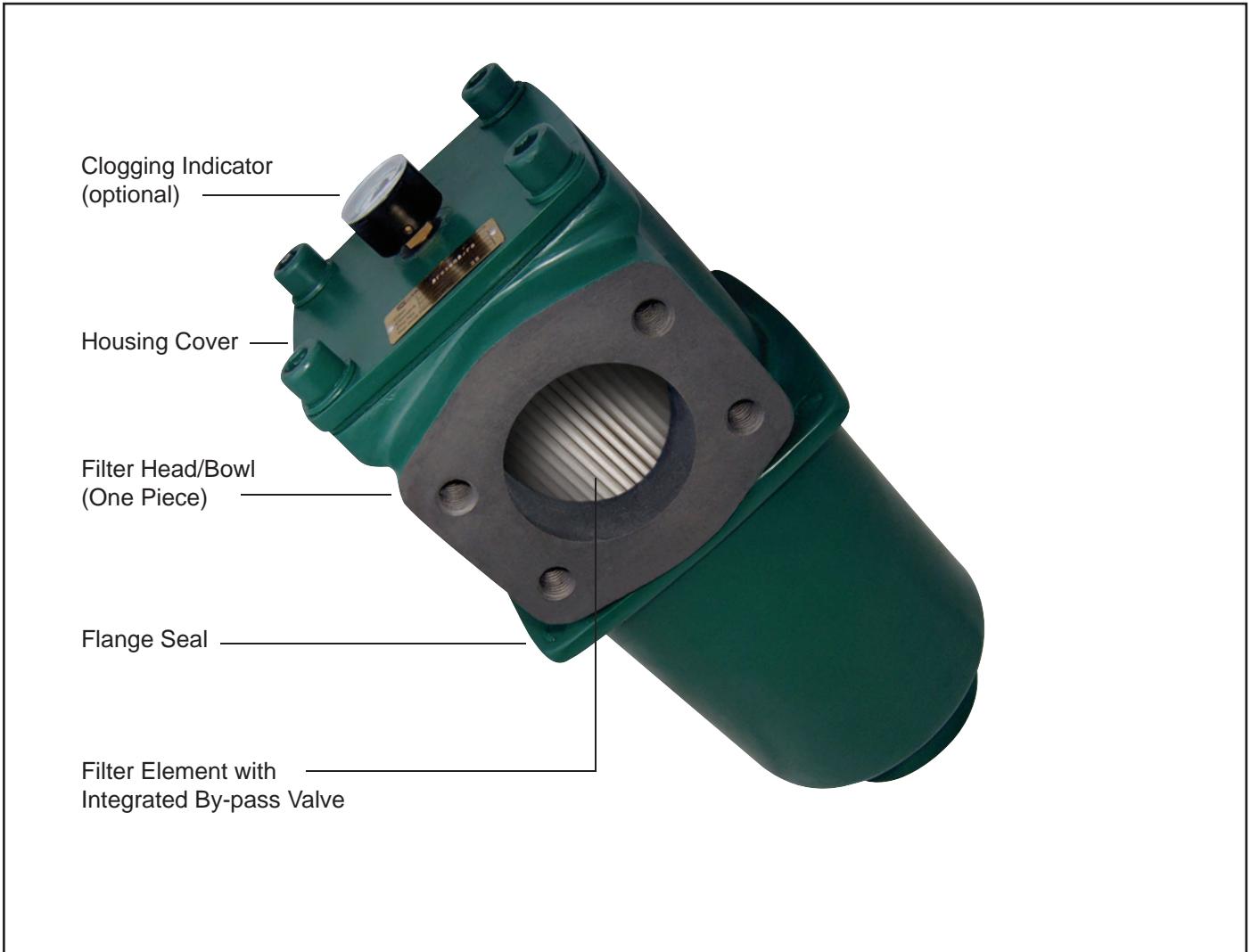
Stauff Filtration Technology offers a complete range of filtration products and services that will provide the system designer or user with the highest level of contamination control demanded by today's most sophisticated applications. Products include pressure filters, return line filter elements, spin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

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

The "Stauff Contamination Control Program" includes the diagnostic services including fluid sampling and laser particle counting products needed to monitor the system contamination level. Stauff, through its global network of wholly owned companies and technically qualified distributors, is ideally placed to assist its customers in the total contamination process providing a well balanced filtration solution.

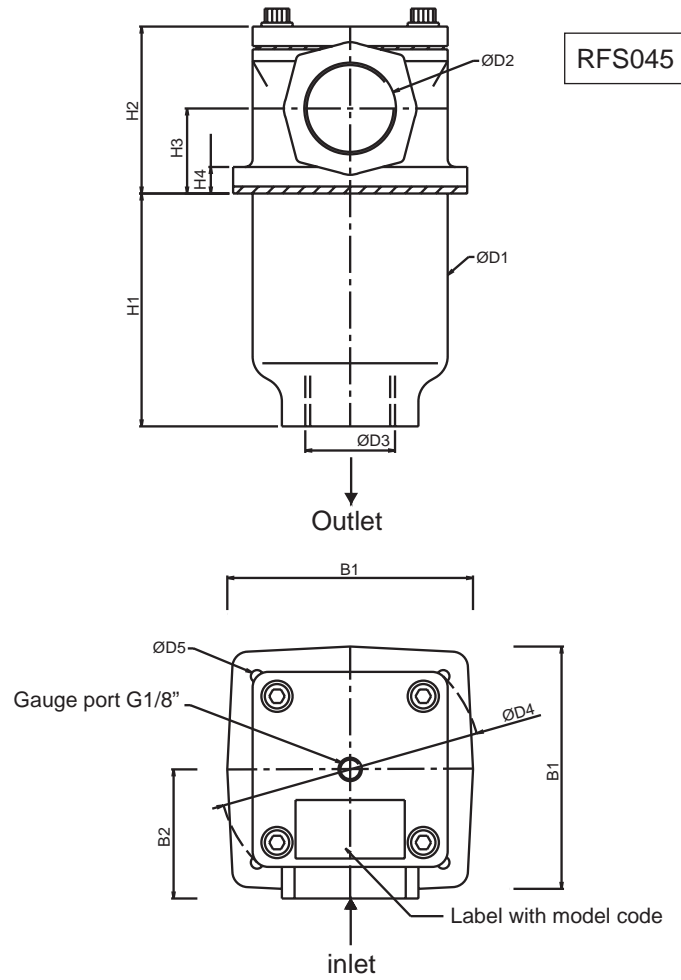
Technical Data

STAUFF RFS, carbon steel 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 contaminants from the system. This provides the pump with clean oil thus reducing contaminant generated wear. The filter bowl or funnel is designed with a connection threaded or flanged for extending the return the oil beneath the surface thus preventing the entrainment of air.

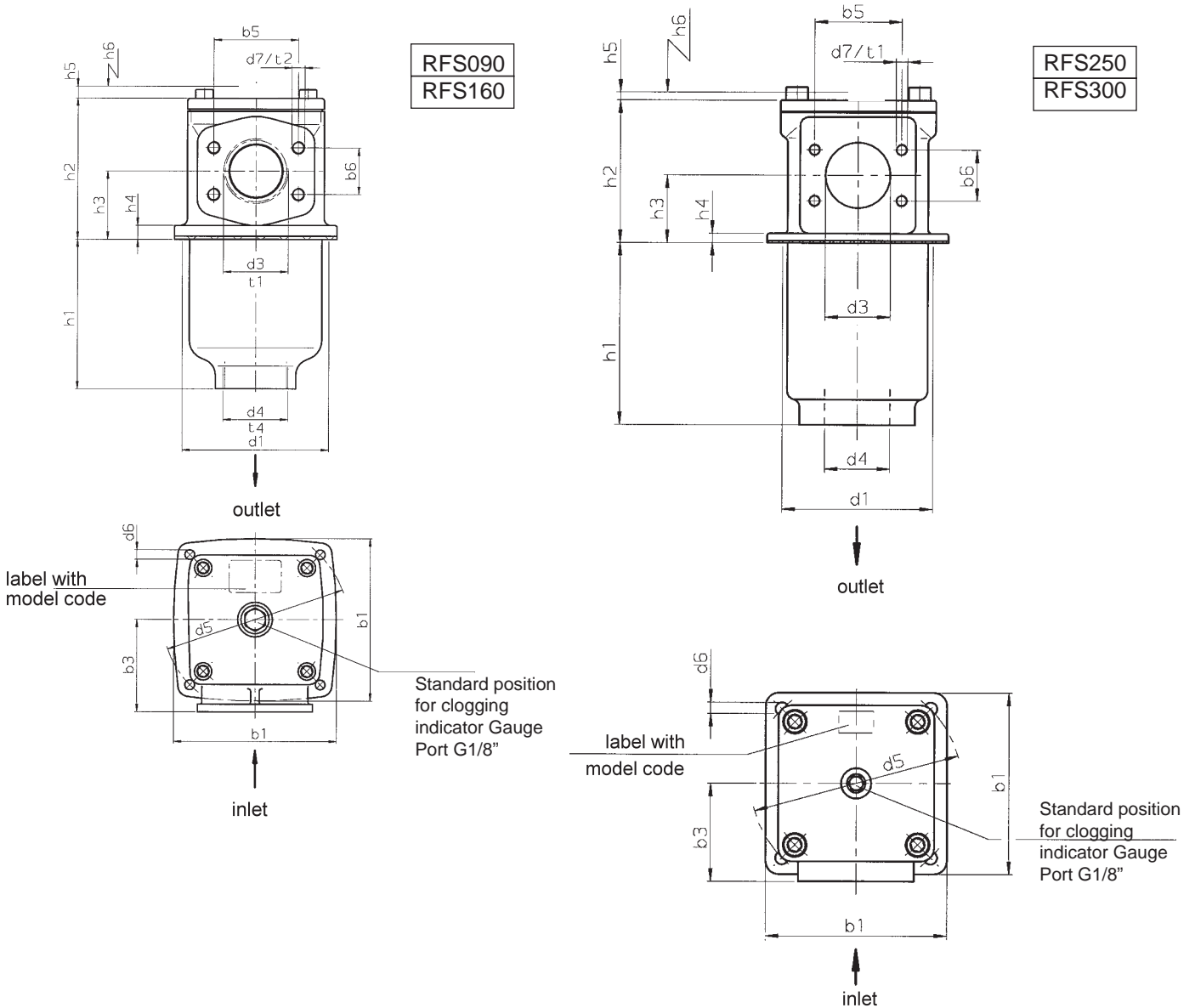


Technical Specification

Construction	Tank Top flange mounting	By-pass valve (integrated in the filter element)	Opening pressure 3 bar ± 0.3 bar (43.5 PSI ±4.35 PSI) other pressures on request)
Filter Head/Bowl	Carbon Steel	Clogging indicator	Refer page 6 for details
Seals	NBR (Buna-N®)	Filter elements	Specification see page 10
Connections	BSP and SAE-flange (3000 PSI)	Media	Mineral oils, other fluids on request
Operating pressure	max 25 bar (365 PSI)		
Proof pressure	37.5 bar (545 PSI)		
Temperature Range	-10° to 100°C (14° to 284°F)		



Type	H1	H2	H3	H4	B1	B2	øD1	øD2	øD3	øD4	øD5
RFS045	120	88	43	12.5	120	66	100	G1 1/2"	G1 1/2"	135	6.5



Type	b1	b3	b5	b6	d1	d3	d4	d5	d6	d7
RFS090	150	85	77.8	42.9	135	G2 SAE DN 50 (2")	G2"	170	M8	M12
RFS160	196	110	106.4	61.9	180	SAE DN 80 (3")	G3"	220	M12	M16
RFS250	255	135	120.7	69.5	208	SAE DN 90 (3 1/2")	SAE DN 90 (3 1/2")	290	M16	M16
RFS300	255	145	130.2	77.8	208	SAE DN 100 (4")	SAE DN 100 (4")	290	M16	M16

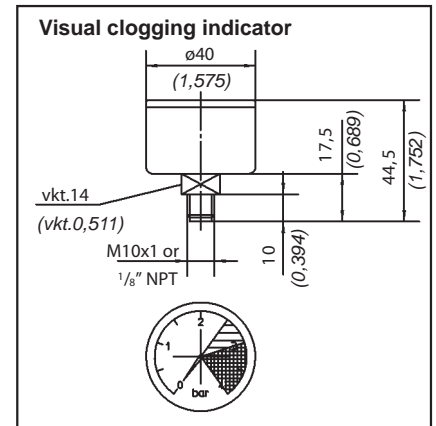
Type	h1	h2	h3	h4	h5	Element Clearance Height h6	Thread Depth t1	t2	Thread Depth t4
RFS090	138	131	63	13	12	180	27	- 23	27
RFS160	243	167	84	13	12	320	-	28	32
RFS250	251	198	93	13	12	350	-	22	-
RFS300	332	241	121	13	12	460	-	22	-

Options RFS

1. Visual clogging indicator

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

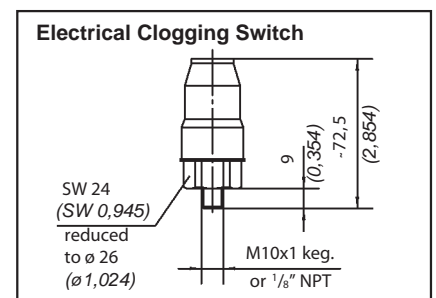
green	0..2.5	bar (0..36.25 PSI)	Element has service life left
yellow	2.5..3.0	bar (36.25..43.5 PSI)	Element is contaminated and should be changed
red	>3.0	bar (>43.5 PSI)	By-pass valve open, unfiltered oil passing to tank



2. Electrical clogging switch

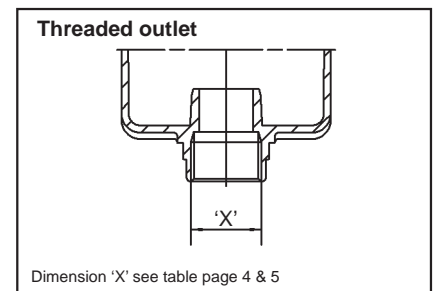
The switch is used where an electrical signal is needed to indicate when the element needs changing. The switch can turn on a light, or shut the machine down, or any further function controlled by an electric signal. The switching pressure is 2,5 bar (36,25 PSI) and this allows the element to be changed before the by-pass setting of 3 bar (43,5 PSI) is reached.

Maximum Voltage	Switch Type
42 V	G 42
110 V	G 110
220 V	G 220



3. Filter bowl with return 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 RFS bowl has a female thread (except RFS250 and RFS300 which is flanged) which allows an extension to be fitted quite simply.



Ordering Code RFS Filter Housings

RFS 045 G10 B / G / M / G / X

Filter type	RFS
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Group		
Size	Flow	
	l/min*	GPM(US)
045	170	45
090	340	90
160	605	160
250	945	250
300	1135	300

* Note Exact flow will depend on filter element selected. Consult technical data on page 8 & 9

For complete filters:
identification filter material + micron rating code (see ordering code filter elements page 10)

Seal material	
B	NBR (Buna) standard
-	Other Seal Materials on request

Design Code
only for information

Outlet Connection Style		Group				
Code	Connect Style	045	090	160	250	300
G	BSP	1½"	2"	3"	N/A	N/A
F	SAE-Flange (3000 PSI)	N/A	N/A	N/A	3½"	4"

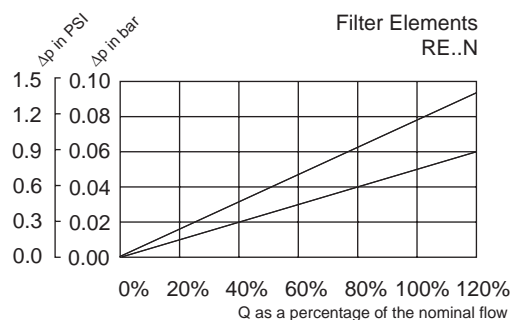
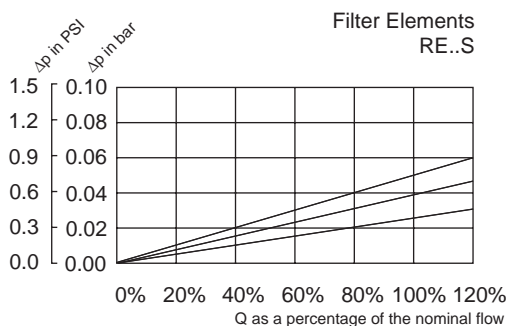
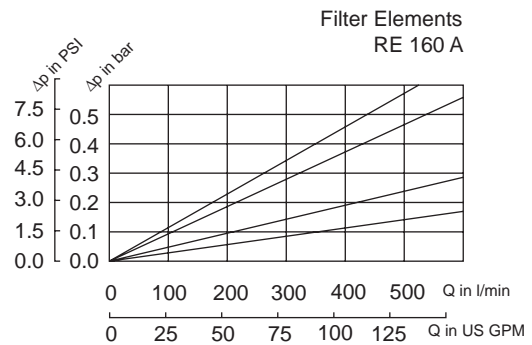
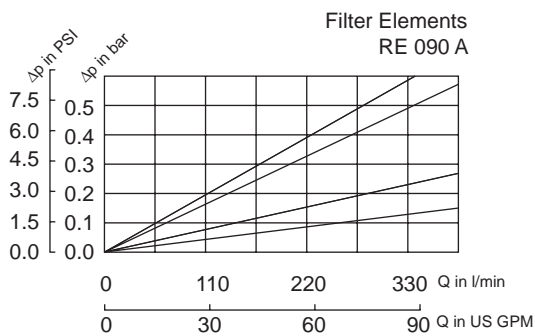
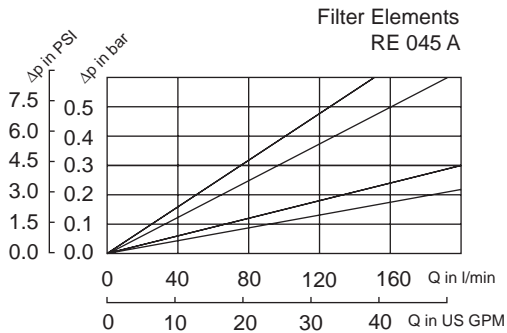
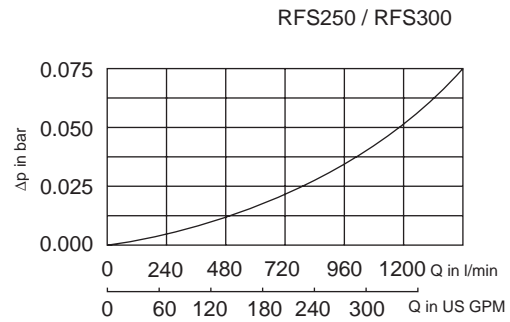
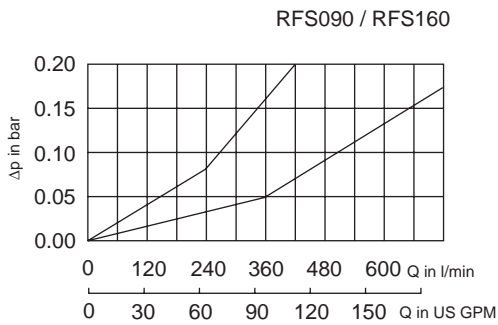
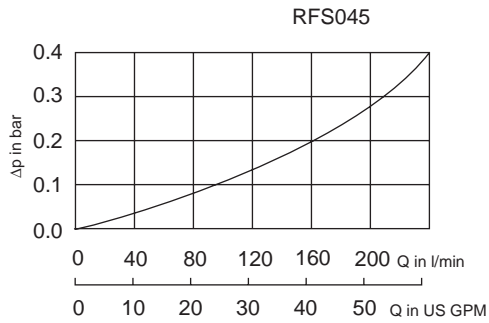
Clogging Indicator (see page 6)	
M	Pressure gauge
G42	Electrical switch 42V
G110	Electrical switch 110V
G220	Electrical switch 220V

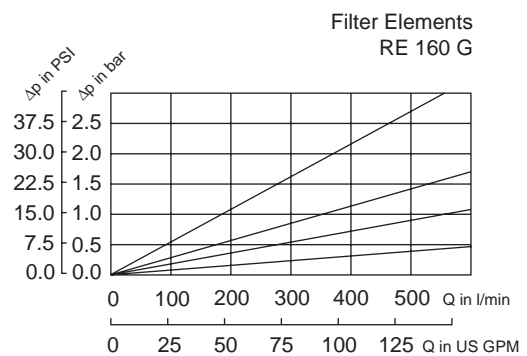
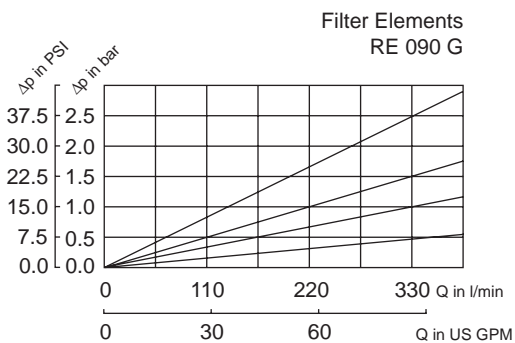
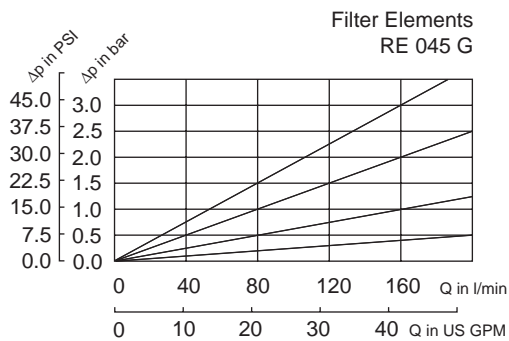
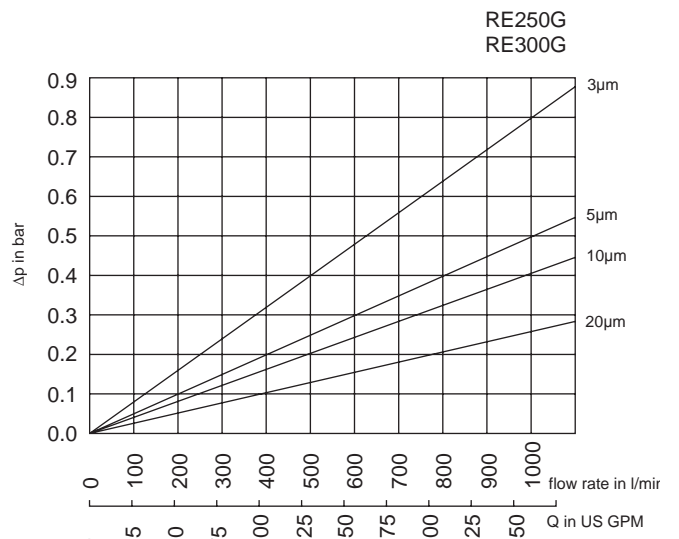
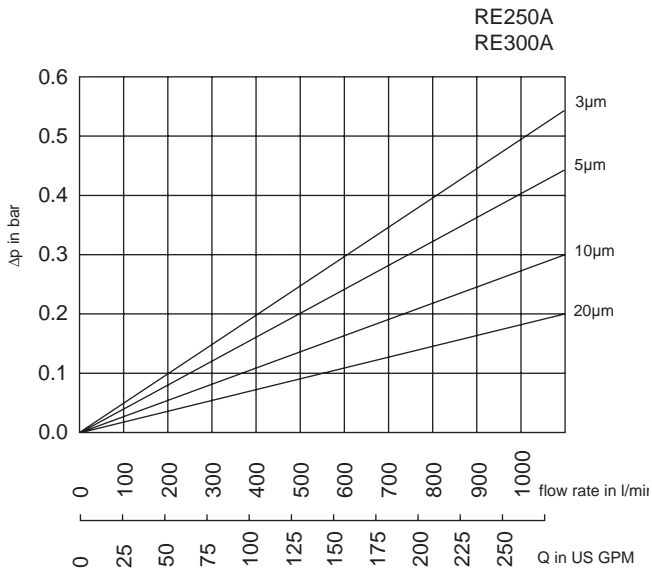
Inlet Connection style		Group				
Code	Connection style	070	090	160	250	300
G	BSP	1½"	2"	N/A	N/A	N/A
F	SAE-flange (3000 PSI)	N/A	2"	3"	3½"	4"

Note : SAE Flanges are not supplied

Flow Characteristics of Return Line Filters RFS

The following characteristics are valid for mineral oils with a density of 0,85 kg/dm³ and the kinematic viscosity of 30 mm²/s. The characteristics have been determined in accordance to ISO 3968.





Replacement Filter Elements for RFS

Stauff replacement filter elements for RFS series filters are manufactured in the common filter materials such as stainless fiber, stainless mesh, paper and inorganic glass fiber. As standard all replacement elements series RFS have tin plated steel parts for use with aggressive media such as water glycol, other materials available upon request. All Stauff replacement elements comply with quality specifications in accordance with international standards.



RE-045 G 10 B /X

Series RE

Group
according to filter housing size

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

*collapse / burst resistance as per ISO 2941

Design Code
only for information

Seal material	
B	NBR (Buna) standard
V	V (Viton) optional
other seal materials on request	

Micron rating	
03	3 μm
05	5 μm
10	10 μm
20	20 μm
10	10 μm
25	25 μm
50	50 μm
100	100 μm
200	200 μm
500	500 μm
other micron ratings on request	



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