

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 oil beneath the surface thus preventing the entrainment of air.

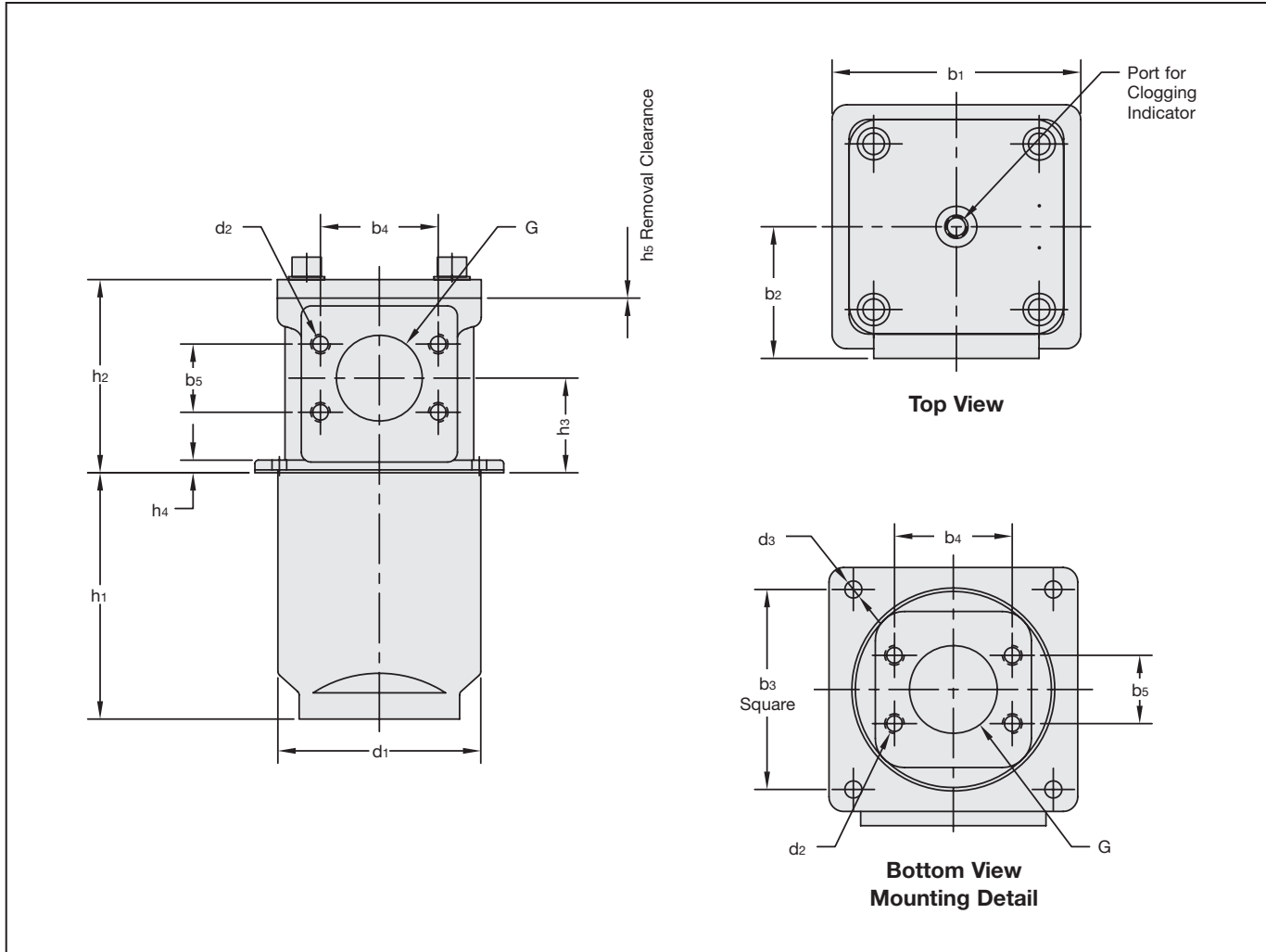


Technical Specification

Construction	Tank Top flange mounting or Inline mounting
Filter	Head/Bowl Carbon Steel
Seals	NBR (Buna-N®)
Connections	BSP and SAE-flange (3000 PSI)
Flow rating	up to 1135 l/min (300 GPM) for 32 cSt (150 SUS) fluids
Operating pressure	max 25 bar (365 PSI)
Proof pressure	37.5 bar (545 PSI)
Temperature range	10°C to 100°C (14°F to 212°F)

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
Clogging indicators	Refer to page F65 for details
Filter elements	Specification on page F67
Media	Mineral oils, other fluids on request

Dimensions



Dimensions Return Line Filter RFS250-RFS300

All dimensions in mm (inch)

Filter Size	Port Connection G	b_1	b_2	b_3	b_4	b_5	d_1	d_2	d_3	h_1	h_2	h_3	h_4	h_5
RFS250	3-1/2" SAE Flange	255 (10.0)	135 (5.31)	205 (8.07)	120.7 (4.75)	69.9 (2.75)	208 (8.19)	M16 5/8" UNC	17.5 (0.69)	251 (9.88)	198 (7.80)	94 (3.70)	13 (0.51)	350 (13.8)
RFS300	4" SAE Flange	255 (10.0)	145 (5.71)	205 (8.07)	130.2 (5.13)	77.7 (3.06)	208 (8.19)	M16 5/8" UNC	17.5 (0.69)	332 (13.1)	241 (9.49)	126 (4.96)	13 (0.51)	460 (18.1)

Options

1. Visual clogging indicator HI-M

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)	By-pass valve open, unfiltered oil passing to tank

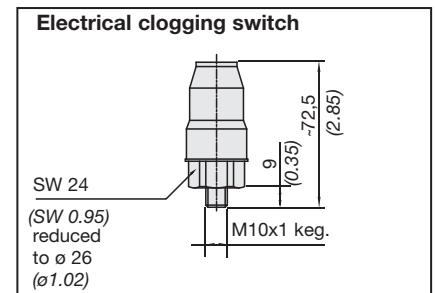
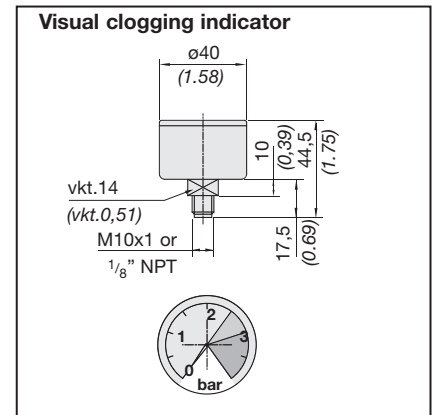
2. Electrical clogging switch HI-G

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 NO, G42 NC
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 optional bowl with a female thread allows an extension to be fitted quite simply (except RFS250 and RFS300 which is SAE flanged).



Ordering Code Filter Housings

RFS 250 G10 B / F / M / F / X

Filter Type	RFS	
Group		
Size	Flow	
	l/min	GPM
250	945	250
300	1135	300
Exact flow will depend on filter element selected, consult technical data on page F67		

For Complete Filters:
identification filter material + micron rating code
(see ordering code filter elements below)

Seal Material	
B	NBR (Buna®) standard
V	FPM (Viton)
E	EPDM

Design Code
only for information

Outlet Connection			
Style		Group	
Code	Connection Style	250	300
F	SAE-Flange (3000 PSI)	3 1/2"	4"
Note: SAE Flanges are not supplied			

Clogging Indicator (see page F65)	
M	Pressure gauge
G 42*	Electrical switch 42 V
G 110	Electrical switch 110 V
G 220	Electrical switch 220 V
*Available as Normally Open (G 42 NO) or Normally Closed (G 42 NC)	

Inlet Connection			
Style		Group	
Code	Connection Style	250	300
F	SAE-Flange (3000 PSI)	3 1/2"	4"
Note: SAE Flanges are not supplied			

FILTRATION

Ordering Code Filter Elements

RE-250 G 10 B / X

Series	RE
Group	
according to filter housing size	

Code	Material	max Δp*collapse	Micron ratings available
A	Stainless fiber	30 bar (435 PSI)	03, 05, 10, 20
N	Filter paper	10 bar (145 PSI)	
G	Inorganic glass fiber	25 bar (360 PSI)	10, 25, 50, 100, 200,500
S	Stainless mesh	30 bar (435 PSI)	

*collapse / burst resistance as per ISO 2941

Design Code
only for information

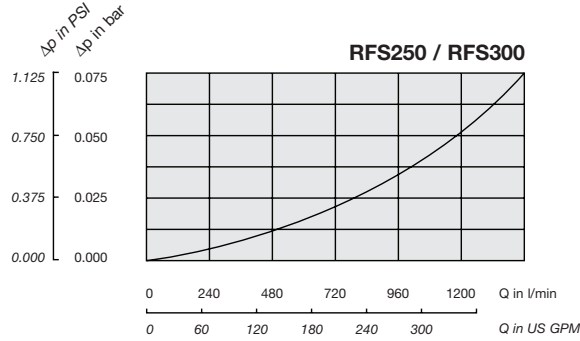
Seal Material	
B	NBR (Buna-N®) standard
V	FKM (Viton®)
other seal materials on request	

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

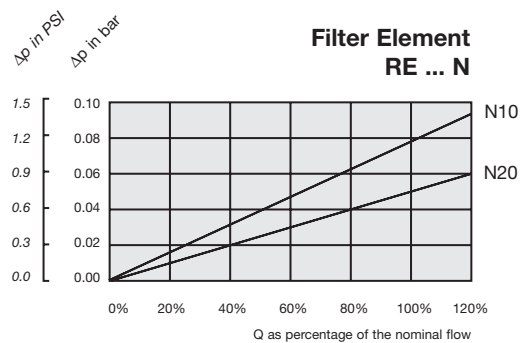
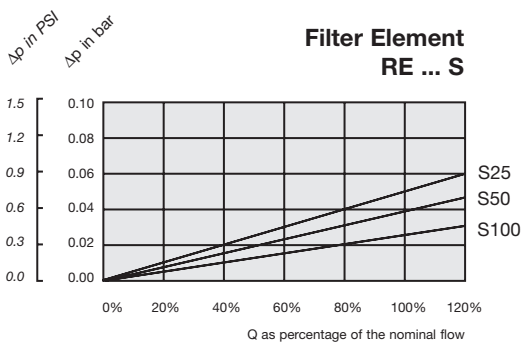
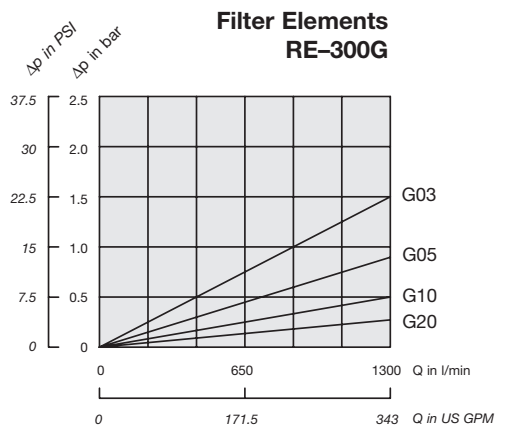
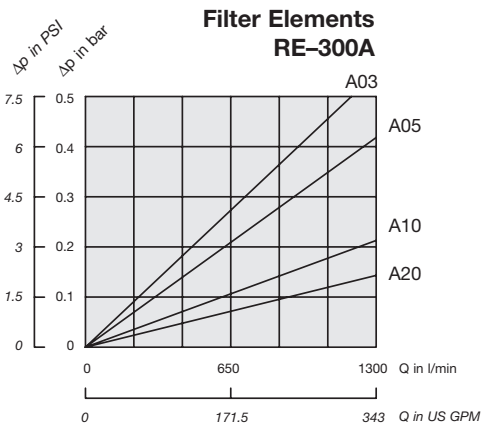
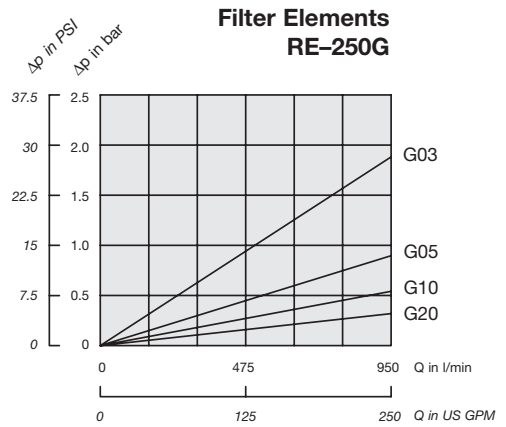
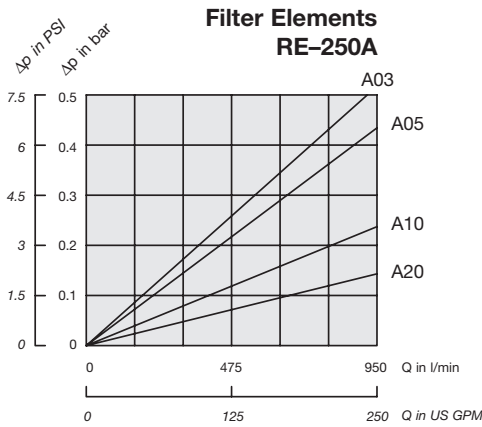
Flow Characteristics of Return Line Filters RFS

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

Filter Housing



Filter Elements



FILTRATION