

## Technical Data

STAUFF RTF30 series return filters are designed as tank top fillers with a maximum operating pressure of 10 bar (145 PSI) and flows up to 152 l/min (40 US GPM). The filter bowl is designed to return the oil beneath the surface thus preventing entrainment of air. The RTF30 series compact design and integral breather makes them ideal for mobile hydraulic applications.

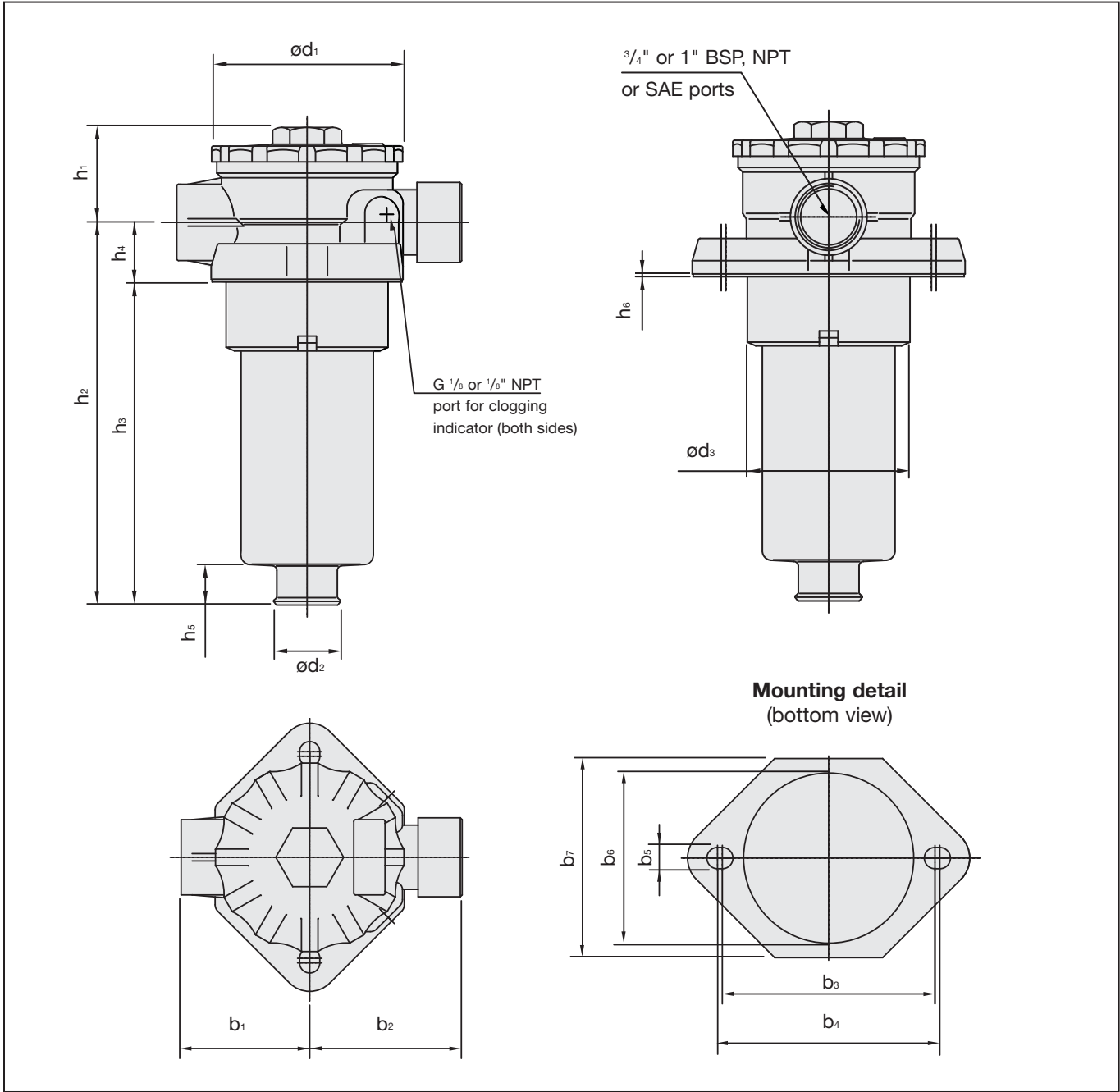


## Technical Specification

Construction	Tank top flange mounting
Filter head	Die cast aluminium
Element bowl and screw cap	Polyamide
Seals	“O”-Rings NBR (Buna-N®) FPM (Viton®)
Port connections	BSP, NPT, SAE “O”-Ring thread
Flow rating	up to 152 l/min (40 US GPM) for 32 cSt (150 SUS) fluids
Operating pressure	max 10 bar (145 PSI)
Test pressure	min 24 bar (350 PSI)
Temperature range	-25°C to +100°C (-13°F to 212°F)

Integrated Breather	Filter paper 10 or 40 µm
By-pass valve (integrated in the filter element)	Allows unfiltered oil to by-pass the contaminated element once the opening pressure has been reached Opening pressure 1.7 bar (25 PSI)
Clogging indicators	Gauge indicator 0-6.9 bar (0-100 PSI) with coloured segments; Electrical, 0.35 - 2.5 bar (5-35 PSI) adjustable
Filter elements	Flow characteristics see page F66
Media	Mineral oils, other fluids on request

## Dimensions



Dimensions in mm (inch)

Filter Size	Dimensions															
	$h_1$	$h_2$	$h_3$	$h_4$	$h_5$	$h_6$	$d_1$	$d_2$	$d_3$	$b_1$	$b_2$	$b_3$	$b_4$	$b_5$	$b_6$	$b_7$
RTF30		140 (5.51)	110 (4.33)													
RTF31	60 (2.36)	205 (8.07)	175 (6.89)	30 (1.18)	22 (0.87)	1.5 (0.06)	104 (4.09)	36 (1.42)	min 87 max 91 (min 3.43) (max 3.58)	70 (2.76)	83 (3.27)	110 (4.33)	115 (4.53)	11 (0.43)	min 87 max 91 (min 3.43) (max 3.58)	103 (4.06)
RTF32		305 (12.01)	275 (10.83)													

## Ordering Code Filter Housings

**RTF31 N1 ... B V B10 D /X**

Filter Type	
<b>RTF30</b>	110mm (4.33 in) bowl length
<b>RTF31</b>	175mm (6.89 in) bowl length
<b>RTF32</b>	275mm (10.83 in) bowl length

Connection Style		
Code	Connection Style	
<b>B1</b>	BSP	3/4"
<b>B2</b>	BSP	1"
<b>N1</b>	NPT	3/4"
<b>N2</b>	NPT	1"
<b>S1</b>	SAE O-Ring Thread	1-1/16 -12 UN
<b>S2</b>	SAE O-Ring Thread	1-5/16 -12 UN

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

Design Code	
only for information	

Dipstick	
-	Without dipstick
<b>D</b>	Dipstick

Breather	
<b>B10</b>	10 µm paper
<b>B40</b>	40 µm paper

Clogging Indicator	
<b>N</b>	without clogging indic.
<b>V</b>	visual
<b>E</b>	electrical
See page F67 for more details on the indicator options.	

Seal Material	
<b>B</b>	NBR (Buna-N®)
<b>V</b>	FPM (Viton®)

## Ordering Code Filter Elements

**RTE31 D 10 B /X**

Series	<b>RTE</b>
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Group	according to filter housing
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Filter Material		Micron ratings available
Code	Material	
<b>D</b>	Filter paper	10
<b>G</b>	Inorganic glass fiber	6,10,20

Design Code	
only for information	

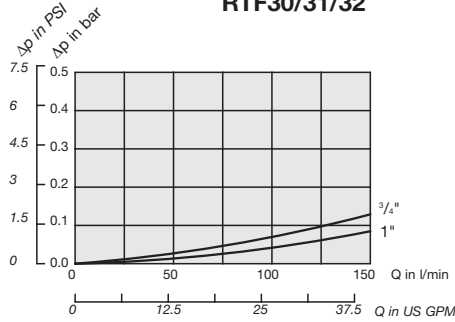
Seal Material	
<b>B</b>	NBR (Buna-N®)
<b>V</b>	FPM (Viton®)

Micron Rating	
<b>06</b>	6 µm
<b>10</b>	10 µm
<b>20</b>	20 µm

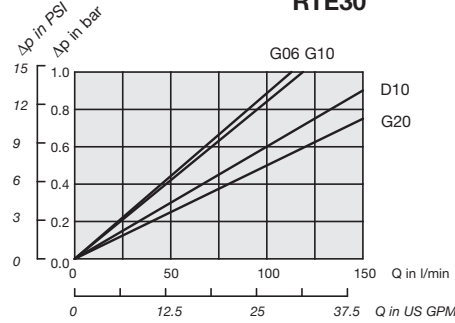
## Flow Characteristics

The following characteristics are valid for mineral based fluids with a density of 0,85 kg/dm<sup>3</sup> and the kinematic viscosity of 30 mm<sup>2</sup>/s. The characteristics have been determined in accordance to ISO 3968.

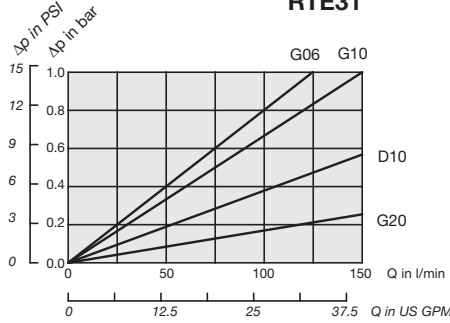
**Filter Housings  
RTF30/31/32**



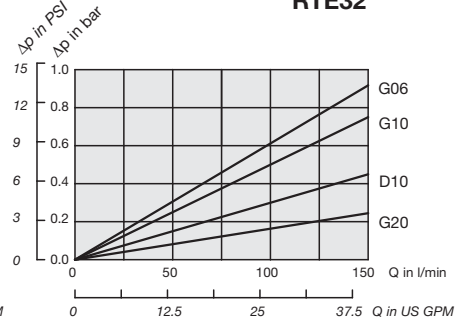
**Filter Elements  
RTE30**



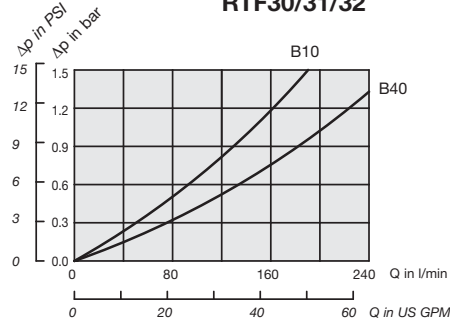
**Filter Elements  
RTE31**



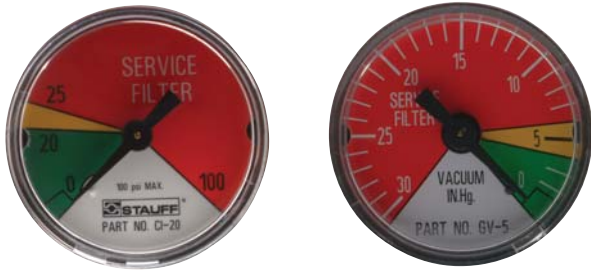
**Filter Elements  
RTE32**



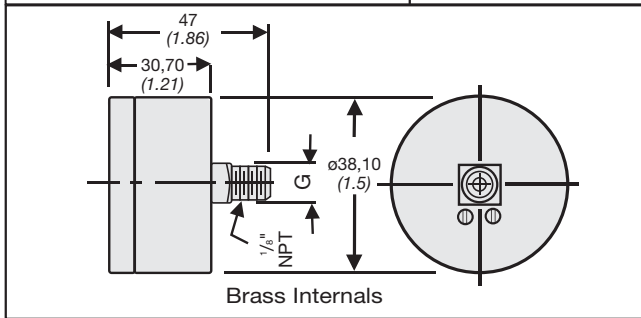
**Filter Breather  
RTF30/31/32**



## Visual Indicators

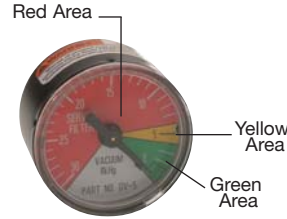


Type	Thread Type G
GV-5B / GV-10B / G-12B / CI-20B	G 1/8
GV-5 / GV-10 / CI-12 / CI-20	1/8 NPTF



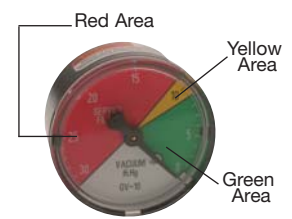
## Vacuum Gauges, Suction Line Applications

### GV-5



For use with 3PSI filter by-pass valve  
0.2 bar (3 PSI)

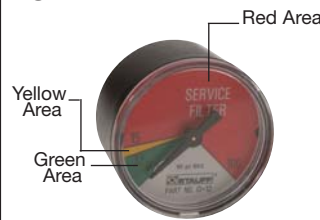
### GV-10



For use with 5PSI filter by-pass valve  
0.35 bar (5 PSI)

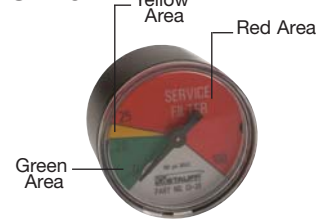
## Pressure Gauges, Return Line Applications

### CI-12



For use with 15PSI filter by-pass valve  
1.0 bar (15 PSI)

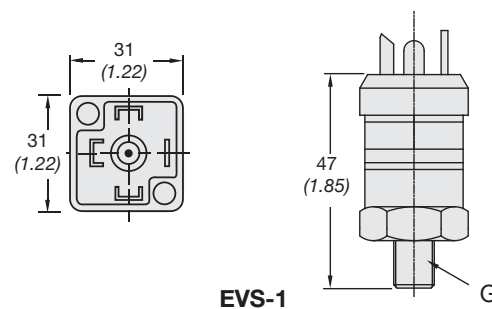
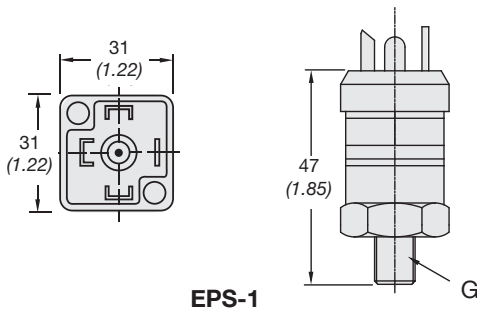
### CI-20



For use with 25PSI filter by-pass valve  
1.7 bar (25 PSI)

## Electrical Indicator

Type	Thread Type
EPS-1B / EVS 1B	G 1/8
EPS-1 / EVS 1	1/8 NPT



Can Be Field Installed

All dimensions in mm (inch)

	EPS-1 (Pressure)	EVS-1 (Vacuum)
Electrical	7Amp 125/250 VAC	7Amp 125/250 VAC
Protection	DIN 43650 IP65	DIN 43650 PIP65
Temperature Range	-40°C to +80°C (-40°F to 180°F) Ambient & Medium	-40°C to +80°C (-40°F to +180°F) Ambient & Medium
Diaphragm Material	Epichlorohydrin Standard	Epichlorohydrin Standard
Housing Material	Zinc Plated Steel Standard	Aluminum AL2024
MAXIMUM OVER Pressure	25 Bar (350 PSI) 6:1 Safety Factor	25 Bar (350 PSI)
ADJUSTMENT RANGES	0.35/2.5 Bar (5/35 PSI)	150/1000 mBar (5/30 in Hg)
Dead Band	20%	25%
Maximum Pressure	25 Bar (350 PSI)	25 Bar (350 PSI)
Wetted Area Material	Elastomer & Zinc Plated Steel Brass	Elastomer & Anodized Aluminum 316SS Optional
Weight	Steel Housing 0.11 Kg (0.23 lb)	0.25 Kg (0.50 lbs.)
Repeatability	±2% at 20°C (70°F) Ambient Temperature	±2% at 20°C (70°F) Ambient Temperature
Hirschmann Connector With Strain Relief		