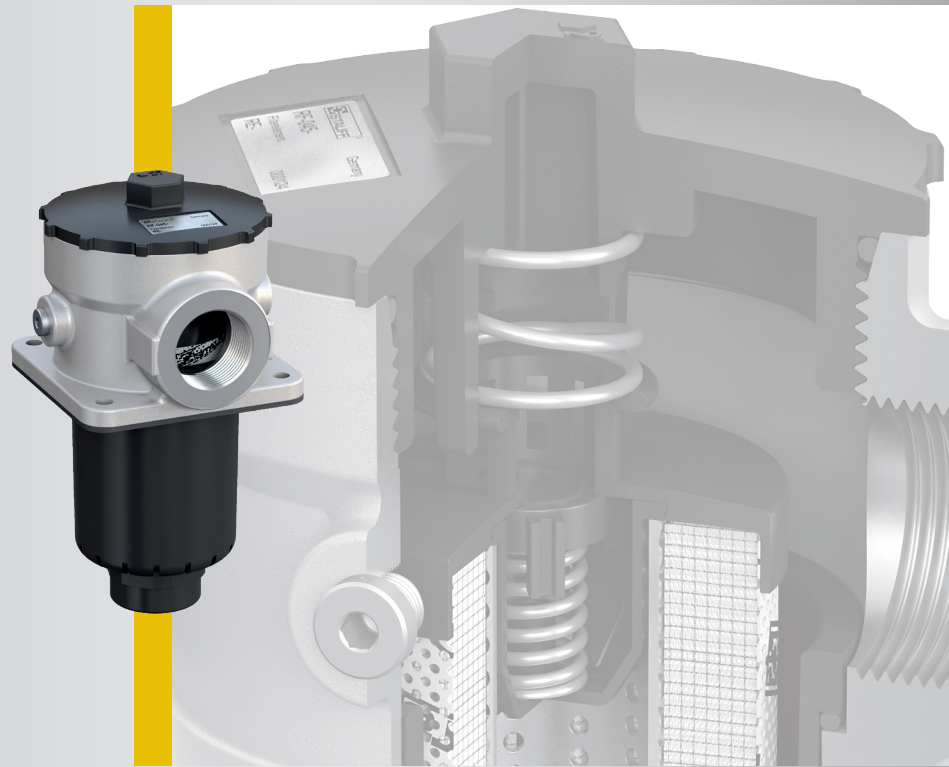
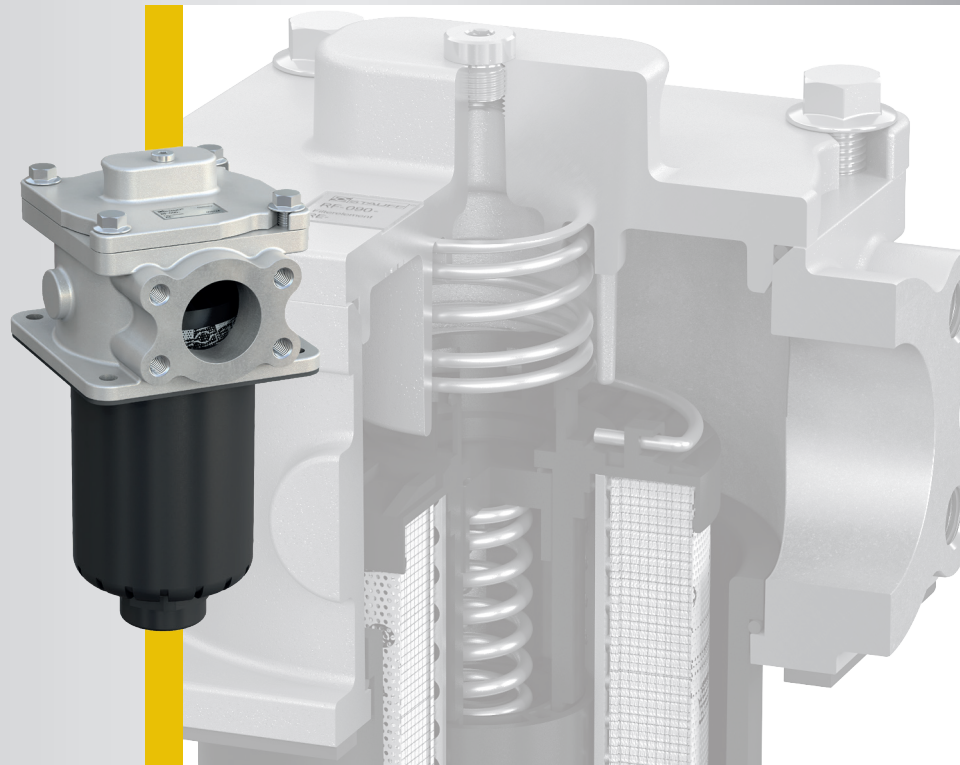


RF-014/030 and RF-045/070



RF-090/130



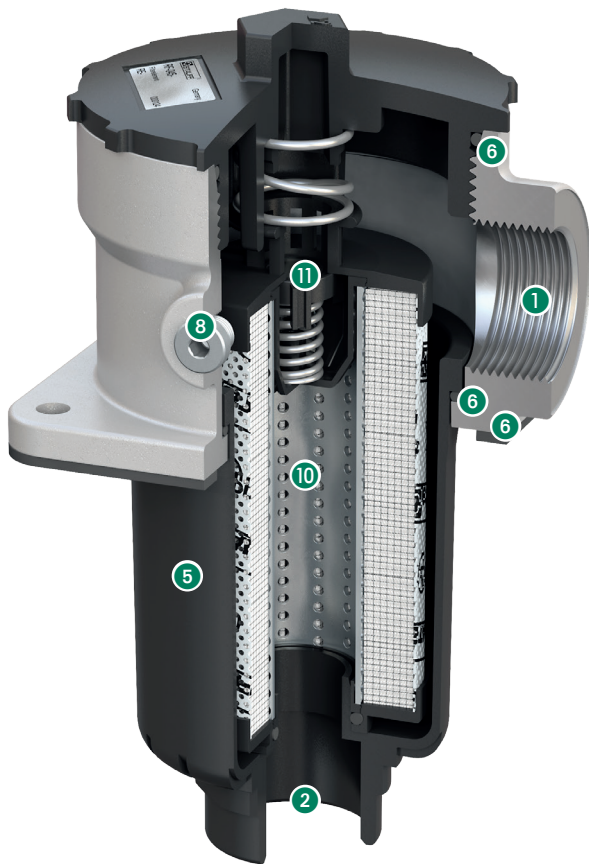
**NEU
NEW**

- Premium Quality and Performance
- Light-Weight Design
- Quick and Easy Installation
- Quick and Easy Filter Element Replacement
- Improved Cost-Efficiency

Return-Line Filters Series RF

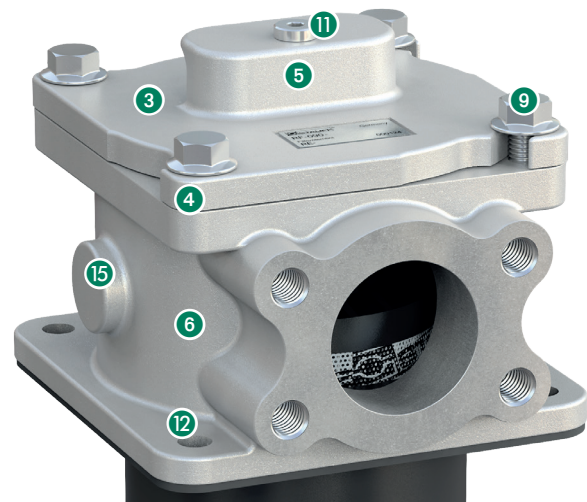
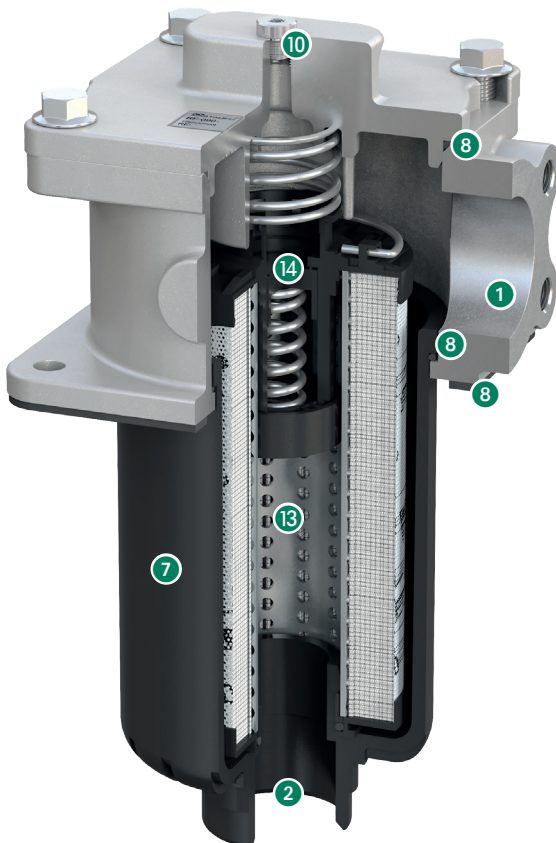
Return-Line Filters ■ Type RF

RF-014/030 and RF-045/070

**Design**

- ① Inlet
- ② Outlet
- ③ Screw Cover made from Glass-Fibre reinforced Polyamide
- ④ Filter Head made from Aluminium-Mould Casting
- ⑤ Filter Bowl made from Glass-Fibre reinforced Polyamide
- ⑥ Sealings
- ⑦ Standard position for Visual Clogging Indicator or Electrical Clogging Switch / Leakage Oil Connection (option)
- ⑧ Blanking Screw M10x1 (Delivery standard)
- ⑨ Mounting Holes
- ⑩ Replacement Filter Element Type RE with Integrated Bypass Valve ⑪ (3 bar / 43,5 PSI)
- ⑫ Threaded inlet connection with spanner flats to simplify the assembly of the return line

RF-090/130

**Design**

- ① Inlet
- ② Outlet
- ③ Cover made from Aluminium with Turn-to-lock mechanism ④ with integrated grab handle ⑤
- ⑥ Filter Head made from Aluminium-Mould Casting
- ⑦ Filter Bowl made from Glass-Fibre reinforced Polyamide
- ⑧ Sealings
- ⑨ Hexagon Head Bolts with Flange (DIN 6921)
- ⑩ Standard position for Visual Clogging Indicator or Electrical Clogging Switch (option)
- ⑪ Blanking Screw M10x1 (Delivery standard)
- ⑫ Mounting Holes
- ⑬ Replacement Filter Element Type RE with Integrated Bypass Valve ⑭ (3 bar / 43,5 PSI)
- ⑮ Leakage Oil Connection (option)

Return-Line Filters ■ Type RF



- Premium Quality and Performance
- Light-Weight Design
- Quick and Easy Installation
- Quick and Easy Filter Element Replacement
- Improved Cost-Efficiency



RF-014/030 and RF-045/070



RF-090/130

Product Description

STAUFF RF Return-Line Filters are designed as tank top filters. They are mounted directly on the tank top and when 100% of the system's 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. The filter bowl is designed to return the oil beneath the surface thus preventing the entrainment of air by the returning oil. 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 mounting

Materials

- Cover: RF-014/030 and RF-045/070: Glass Fibre reinforced Polyamide
RF-090/130: Aluminium
- Filter head: Aluminium
- Filter bowl: 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
- SAE flange 3000 PSI

Operating Pressure

- Max. 16 bar / 232 PSI

Temperature Range

- -20 °C ... +100 °C / -44 °F ... +212 °F
(Short term up to +110 °C / +230 °F)

Filter Elements

- Specifications see page 6

Media Compatibility

- Mineral oils, other fluids on request

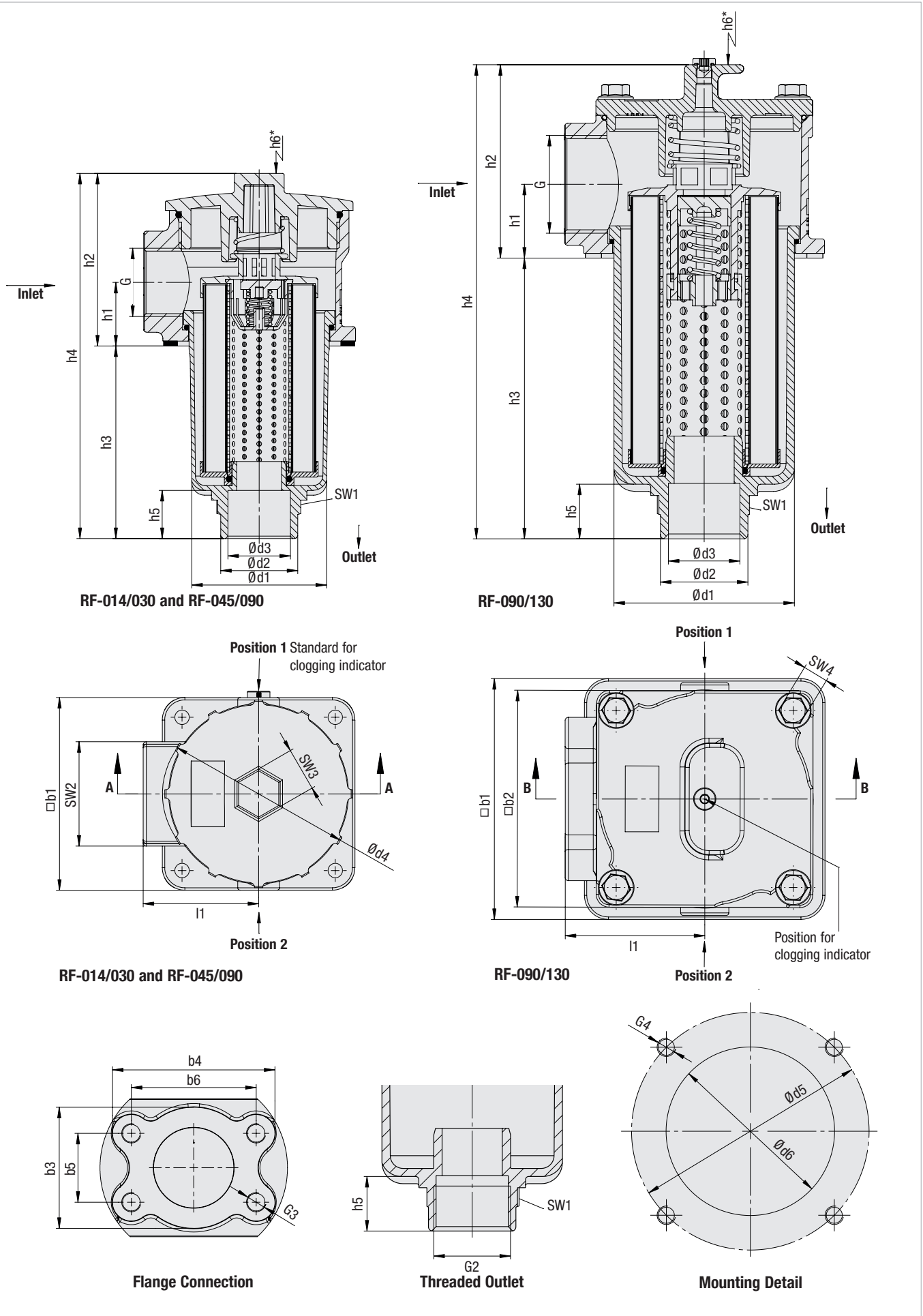
Options and Accessories
Valve

- 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 7+8

Return-Line Filters ■ Type RF



Return-Line Filters ■ Type RF

Connection Style G	Filter Size RF											
	014		030		045		070		090		130	
BSP	3/4	1	3/4	1	1-1/4	1-1/2	1-1/4	1-1/2	1-1/2	2	1-1/2	2
NPT	1		1		1-1/2		1-1/2		2		2	
SAE O-ring Thread	1-5/16-12		1-5/16-12		1-5/8-12		1-5/8-12		1-7/8-12		1-7/8-12	
SAE Flange 3000 PSI	-		-		-		-		2		2	

Dimensions (mm/in)	Filter Size RF											
	014		030		045		070		090		130	
b1	89		89		120		120		150		150	
	3.50		3.50		4.72		4.72		5.91		5.91	
b2	-		-		-		-		75,5		75,5	
	-		-		-		-		2.97		2.97	
b3	-		-		-		-		101		101	
	-		-		-		-		3.98		3.98	
b4	-		-		-		-		42,9		42,9	
	-		-		-		-		1.69		1.69	
b5	-		-		-		-		77,8		77,8	
	-		-		-		-		3.06		3.06	
d1	57,5		57,5		84		84		112,5		112,5	
	2.26		2.26		3.31		3.31		4.43		4.43	
d2	36		36		48		48		54,5		54,5	
	1.42		1.42		1.89		1.89		2.15		2.15	
d3	17		17		28		28		37,5		37,5	
	.67		.67		1.10		1.10		1.48		1.48	
d4	89		89		117		117		-		-	
	3.50		3.50		4.60		4.60		-		-	
d5	100		100		135		135		170		170	
	3.94		3.94		5.31		5.31		6.69		6.69	
d6	65		65		92		92		118		118	
	2.56		2.56		3.62		3.62		4.65		4.65	
h1	33		33		41		41		47		47	
	1.30		1.30		1.61		1.61		1.85		1.85	
h2	89,5		89,5		107,5		107,5		120,5		120,5	
	3.52		3.52		4.23		4.23		4.74		4.74	
h3	91,5		159,5		119		180		172,5		252,5	
	3.60		6.28		4.69		7.09		6.79		9.94	
h4	181,5		249,5		227,5		288,5		295,4		375,4	
	7.15		9.82		8.96		11.36		11.63		14.78	
h5	23,5		23,5		24		24		27		27	
	.93		.93		.95		.95		1.06		1.06	
h6	140		210		180		240		235		315	
	5.51		8.27		7.09		9.45		9.25		12.4	
l1	54		54		72		72		86		86	
	2.13		2.13		2.83		2.83		3.39		3.39	
G2	G1 or 1 NPT		G1 or 1 NPT		G1-1/4 or 1-1/4 NPT		G1-1/4 or 1-1/4 NPT		G1-1/2 or 1-1/2 NPT		G1-1/2 or 1-1/2 NPT	
G3	-		-		-		-		M12x20 or 1/2-13 UNC x 20		M12x20 or 1/2-13 UNC x 20	
G4	M6 or 1/4-20 UNC		M6 or 1/4-20 UNC		M8 or 5/16-18 UNC		M8 or 5/16-18 UNC		M10 or 3/8-16 UNC		M10 or 3/8-16 UNC	
SW1	36		36		50		50		55		55	
	1.42		1.42		1.97		1.97		2.16		2.16	
SW2	50		50		65		65		-		-	
	1.97		1.97		2.56		2.56		-		-	
SW3	22		27		27		27		-		-	
	0.87		.87		1.06		1.06		-		-	
SW4	-		-		-		-		15		15	
	-		-		-		-		.59		.59	

Return-Line Filter Housings / Complete Filters ■ Type RF

RF - 070 - G - 10 - B - G24 - G42NO - D - O / 2

① ② ③ ④ ⑤ ⑥ ⑦ ⑧ ⑨ ⑩

① Type

Return-Line Filter **RF**

② Group

Flow	Size
60 l/min / 14 US GPM	014
110 l/min / 30 US GPM	030
160 l/min / 45 US GPM	045
240 l/min / 70 US GPM	070
330 l/min / 90 US GPM	090
500 l/min / 130 US GPM	130

Note: Exact flow will depend on the selected filter element. For technical data please see pages 9+10.

③ Filter Material

Material	max. Δp*collapse	Micron ratings available	Code
Without filter element	-	-	O
Inorg. glass fibre	25 bar / 363 PSI	3, 5, 10, 20	G
Stainless fibre	30 bar / 435 PSI		A
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 Materials

NBR (Buna®)	B
FKM (Viton®)	V
EPDM	E

Note: Other sealing materials on request

⑥ Connection Style

Connection Style	Thread Style	Group 014/030	Code	Group 045/070	Code	Group 090/130	Code
BSP	-	3/4	G12	1-1/4	G20	1-1/2	G24
	-	1	G16	1-1/2	G24	2	G32
NPT	-	1	N16	1-1/2	N24	2	N32
SAE O-ring Thread	-	1-5/16	U16	1-5/8	U20	1-7/8	U24
SAE Flange 3000 PSI	metric	-	-	-	-	2	C332M
SAE Flange 3000 PSI	UNC	-	-	-	-	2	C332U

⑦ Clogging Indicator

Without Clogging Indicator	O
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

Blanking Screw M10x1 (Delivery standard)	O
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

Size	Connection thread	Code
all	Without thread (Standard outlet)	O
014 / 030	1" BSP / 1" NPT	G16 / N16
045 / 070	1 1/4 BSP / 1 1/4 NPT	G20 / N20
090 / 130	1 1/2 BSP / 1 1/2 NPT	G24 / N24

⑩ Design Code

Only for information **2**

Note: Leakage Oil Connection on request. Please see page 8.

Filter Elements ■ Type RE

RE - 014 - 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		A
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 Materials

NBR (Buna®)	B
FKM (Viton®)	V
EPDM	E

Note: Other sealing materials on request.

⑥ Design Code

Only for information **X**

Return-Line Filters ■ Type RF

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/DC	10...250 VAC/DC
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

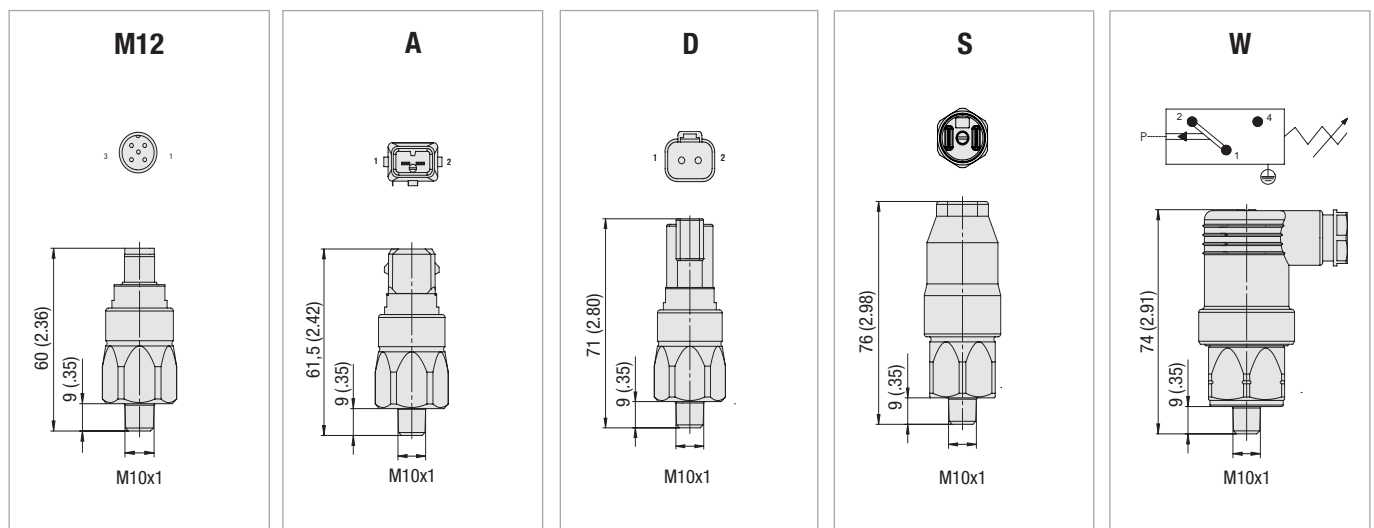
④ Thread Type

 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.

Return-Line Filters - Type RF

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

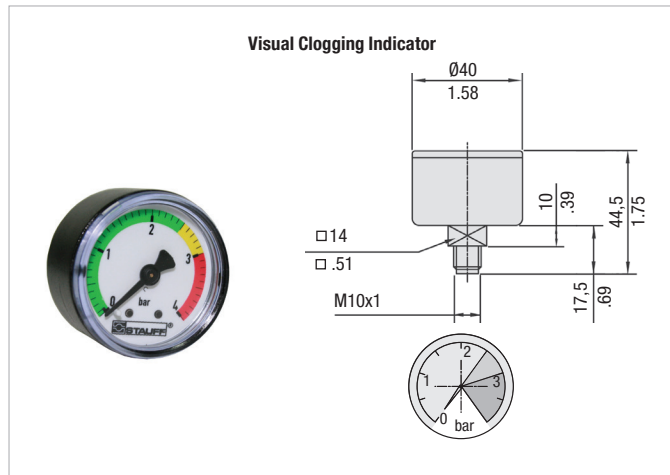
Order Codes

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

①

① Type

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



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

Leakage Oil Connection

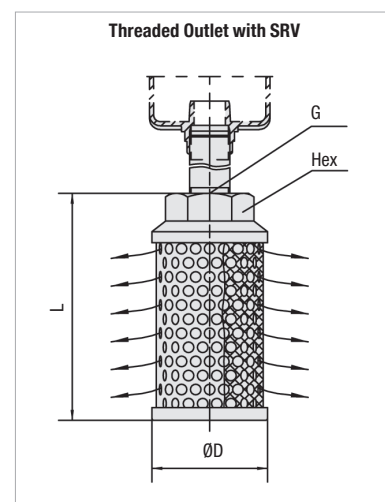
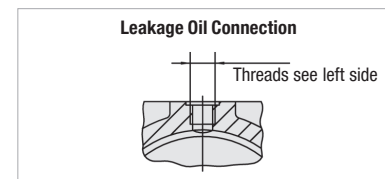
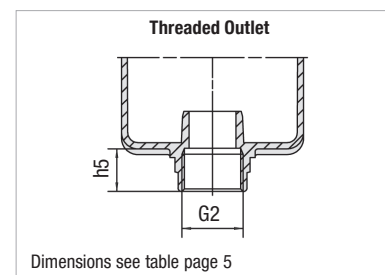
Leakage oil connections can be provided at positions 1 + 2 (see page 4). Time-consuming installation of the leakage oil lines through the reservoir lid is no longer necessary and it is ensured that no unfiltered liquid gets back into the reservoir.

RF-014 to 070:	G1/4 resp. 1/4 NPT
RF-090/130:	up to max. G1/2 resp. 1/2 NPT

Filter Bowl with Threaded Connection and Diffuser

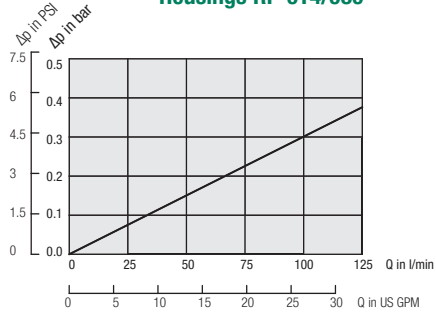
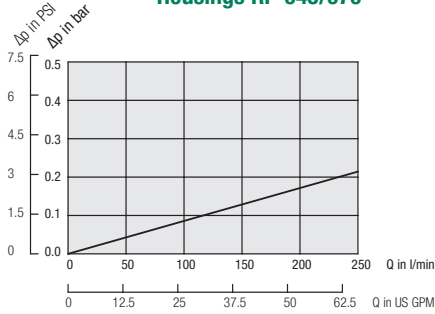
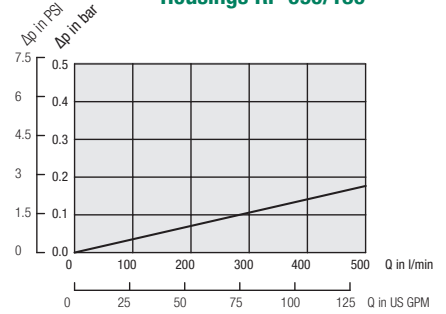
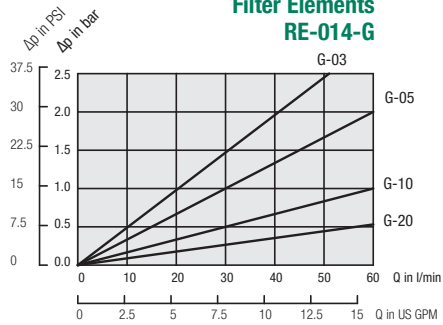
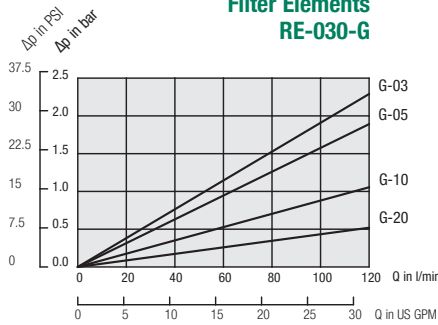
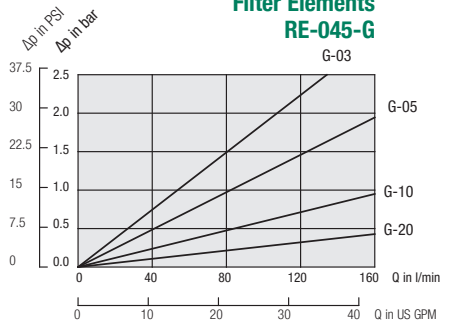
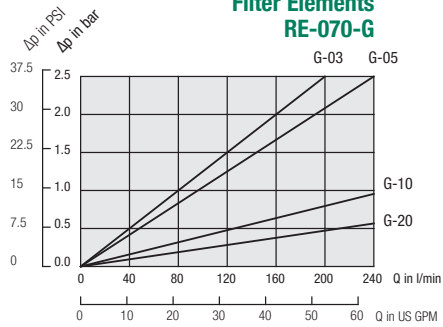
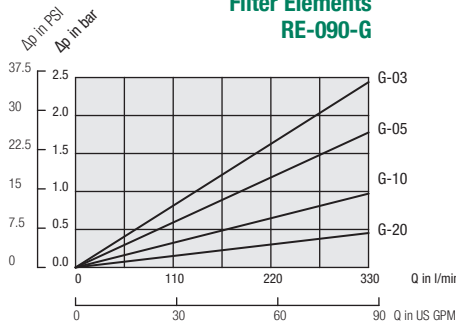
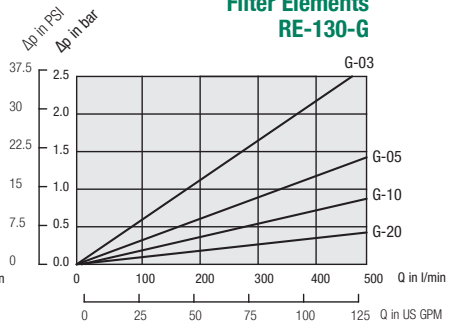
Diffusers mounted to the filter bowl minimise foaming and reduce noise of high Return-Line flows. For further details on STAUFF Diffusers please refer to the Catalogue No. 10 - Hydraulic Accessories.
Attention: Connection pipe not included in scope of delivery!

Size SRV	for Return-Line Filter Size	Dimensions (mm/in)		Thread G	Hex
		øD	L		
SRV-114-G16	RF-014/030	60	139	G1	46
SRV-114-N16		2.36	5.47	1 NPT	1.81
SRV-200-G20	RF-045/070	82	139	G1-1/4	60
SRV-200-N20		3.23	5.47	1-1/4 NPT	2.36
SRV-227-G24	RF-090/130	82	200	G1-1/2	60
SRV-227-N24		3.23	7.87	1-1/2 NPT	2.36



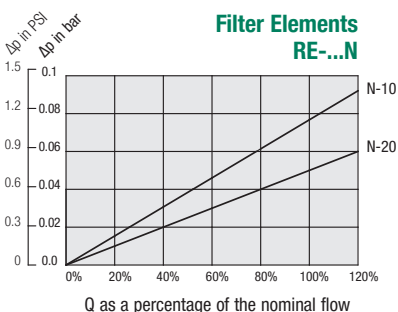
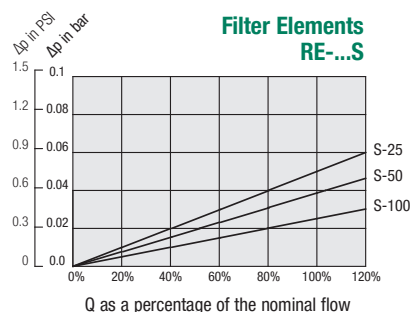
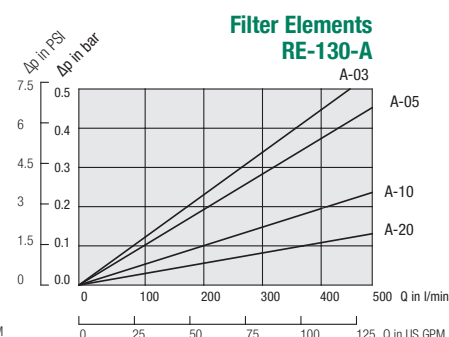
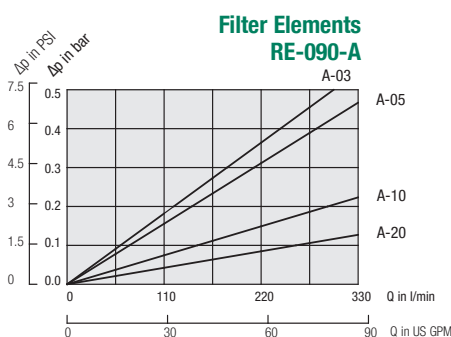
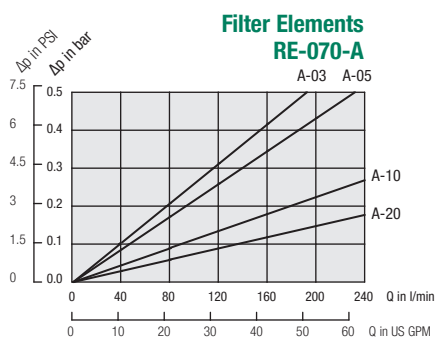
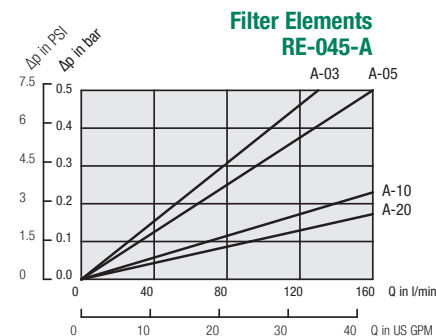
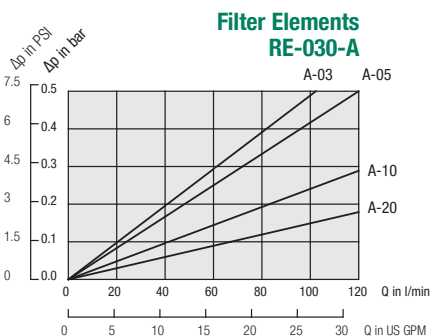
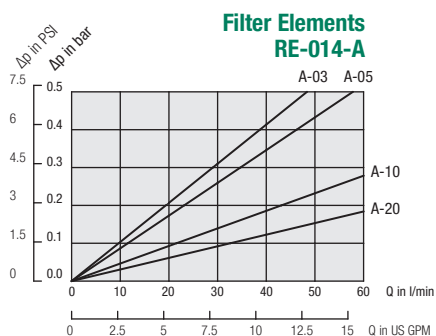
Return-Line Filters ■ Type RF Flow Characteristics

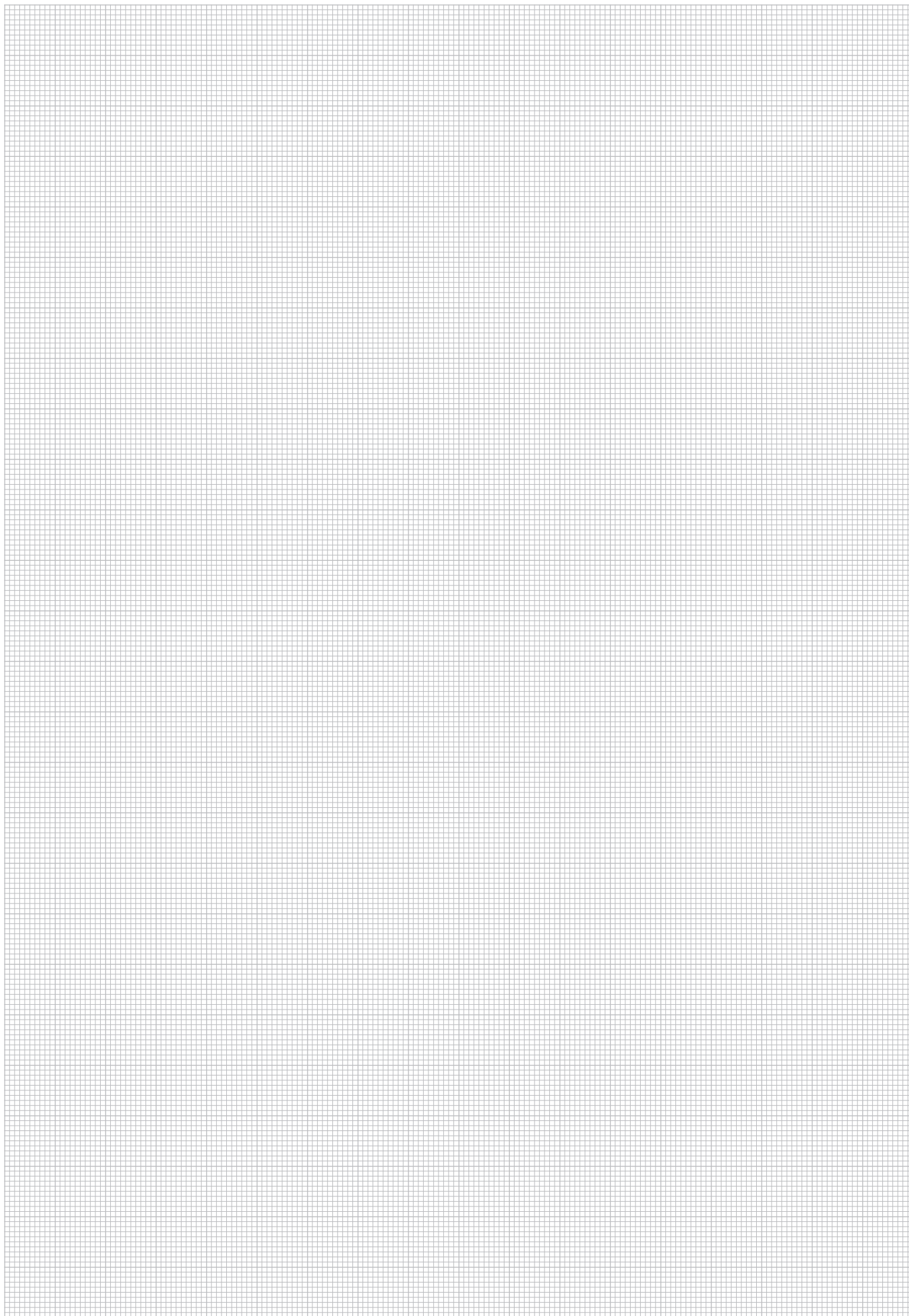
The following characteristics are valid for mineral oils with a density of 0,85 kg/dm³ and the kinematic viscosity of 30 mm²/s (30cSt). The characteristics have been determined in accordance to ISO 3968. Multipass filter ratings have been obtained in accordance to ISO 16889. The housing pressure drop is directly proportional to the oil density. Contact STAUFF for details.

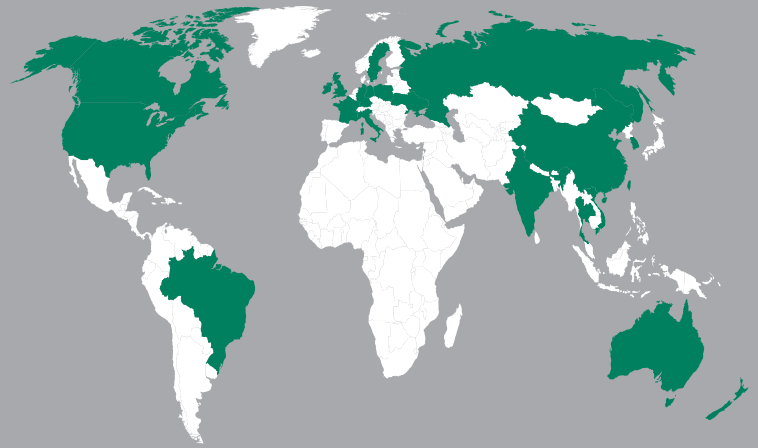
Housings RF-014/030

Housings RF-045/070

Housings RF-090/130

Filter Elements RE-014-G

Filter Elements RE-030-G

Filter Elements RE-045-G

Filter Elements RE-070-G

Filter Elements RE-090-G

Filter Elements RE-130-G


Return-Line Filters - Type RF 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.







Germany

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58791 Werdohl

STAUFF products and services are globally available through wholly-owned subsidiaries and a tight network of authorised distributors and representatives in all major industrial regions of the world.

Contact STAUFF:

www.stauff.com/contact