

# Filter Elements



Quality and Service  
worldwide



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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.

## Replacement Filter Elements for SF and RF series

STAUFF replacement filter elements for SF and RF series filters are manufactured in the common filter materials such as stainless fibre, stainless mesh, polyester fibre, paper, and inorganic glass fibre. All replacement elements made by STAUFF comply with quality specifications in accordance with international standards.



## Ordering Code Filter Elements

**SE 014 G 10 V**

Series	
<b>SE</b>	for pressure filters SF
<b>RE</b>	for return line filters RF

Group	
according to filter housing	

Filter material		SE	RE	Micron ratings available
Code	Material	max Δp*	max Δp*	
<b>A</b>	Stainless fiber	210 bar	30 bar	03, 05, 10, 20
<b>C</b>	Polyester fiber	210 bar	-	
<b>N, D</b>	Paper	30 bar	16 bar	
<b>G, E</b>	Inorganic glass fiber	30 bar	30 bar	
<b>H, F</b>	Inorganic glass fiber	210 bar	-	
<b>B, S</b>	Stainless mesh	30 bar	30 bar	25, 40, 60, 100
<b>T, W</b>	Stainless mesh	210 bar	-	

\*collapse / burst resistance as per ISO 2941

Seal material	
<b>B</b>	NBR
<b>V</b>	FPM
<b>E</b>	EPDM
other seal materials on request	

Micron rating	
<b>03</b>	3 μm
<b>05</b>	5 μm
<b>10</b>	10 μm
<b>20</b>	20 μm
<b>25</b>	25 μm
<b>40</b>	40 μm
<b>60</b>	60 μm
<b>100</b>	100 μm
other micron rating on request	

Bold type identifies preferred material

## Replacement Filter Elements for existing installations

STAUFF also **manufacture** filter elements for existing installations. They meet the technical requirements with regard to quality and dimensions and consequently can be used with confidence in the installations.



Continuing research and development of filter materials used by STAUFF, and observance of strict Quality Assurance procedures together with the relevant international standards, ensures consistently high performance of our filter elements.

STAUFF manufacturing and stocking policies are designed to give our customers ready access to a wide range of filter elements from the one source.

Please refer to our filter element Interchange Guide to see a precise listing of the elements. Filter elements are available **to suit housings** of the following manufacturers:

- Argo
- Internormen
- Mahle
- Eppensteiner
- Hydac
- Pall

Other types are available on request.

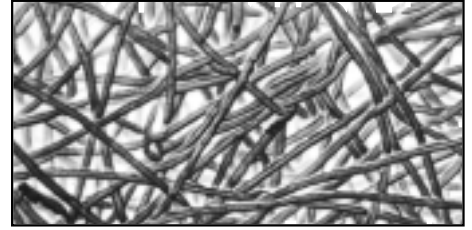


## Filter Materials

### Metal Fibre

Material specification A collapse / burst resistance as per ISO 2941: 210 bar (Pressure filters)  
30 bar (Return line filters)

- Sintered stainless metal fibre with a three dimensional labyrinth structure for depth filtration.
- Low flow resistance with a high dirt holding capacity.
- Excellent chemical and thermal resistance.



Metal fibre

### Stainless wire mesh

Material specification B, S collapse / burst resistance as per ISO 2941: 30 bar  
Material specification W, T collapse / burst resistance as per ISO 2941: 210 bar

- Woven stainless steel wire in 1.4301/1.4404 grade with a square mesh or double milled twill lace weave.
- Low flow resistance.
- Surface filtration. Excellent chemical and thermal resistance.



Stainless wire mesh

### Polyester fibre

Material specification C collapse / burst resistance as per ISO 2941: 210 bar

- 100% polyester fibre with fibres thermally bonded creating a tearproof material with no electrostatic charging.
- Exceptional shear strength.
- Depth filtration gives large dirt holding capacity with low flow resistance.
- Good chemical resistance.
- High filtration efficiency even on small particle sizes.



Polyester fibre

### Paper

Material specification D, N collapse / burst resistance as per ISO 2941: 30 bar (Pressure filters)  
16 bar (Return line filters)

- Filter material made from impregnated cellulose paper.
- Low cost design with good dirt holding capacity.
- Not suitable for use with any water based fluids.

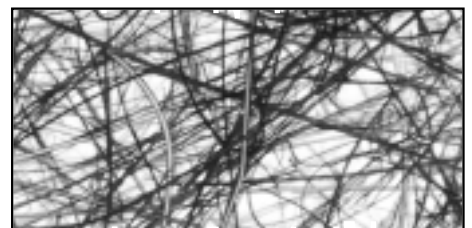


Paper

### Inorganic glass fibre

Material specification G, E collapse / burst resistance as per ISO 2941: 30 bar  
Material specification H, F collapse / burst resistance as per ISO 2941: 210 bar

- Non-woven glass fibre material with acrylic resin bond.
- High dirt holding capacity.
- High filtration efficiency, even on small particle sizes, achieved by the depth filtration produced by the three dimensional labyrinth structure of the material.
- Excellent cost effectiveness.



Inorganic glass fibre

## STAUFF filter elements are tested according to

- ISO 2943  
Compatibility with hydraulic fluids
- ISO 3968  
Flow characteristics
- ISO/DIS 3724  
Flow fatigue characteristics

- ISO/DIS 4572  
Filter performance test (Multi-pass test)
- ISO 2942  
Proof of integrity and quality (Bubble point test)
- ISO 3723  
Verification of the end cap stress
- ISO 2941  
Collapse / burst pressure verification



Multi-pass-test stand

## Filter Element Assessment

The Beta Ratio ( $\beta_x$ ) is considered one of the most important criteria in assessing the capability of a filter to remove contaminant particles. This value is determined by means of the multi-pass test, according to ISO/DIS 4572.

**Definition:** The Beta Ratio is the ratio of the number of particles, greater than a given size, upstream of the filter to the number of particles, greater than the same size, downstream of the filter in the same size fluid sample.

$$\beta_x = \frac{\text{Number of particles } > x\mu\text{m upstream}}{\text{Number of particles } > x\mu\text{m downstream}} \quad (x = \text{particle size})$$

The Beta Ratio can be used to calculate the Filter Efficiency Rating by the following formula.

$$E_x = \frac{\beta_x - 1}{\beta_x} \times 100 \quad E_x = \% \text{ efficiency}$$

Example for a given particle size of 10  $\mu\text{m}$

$$\beta_{10} = \frac{9360}{45} = 208 \quad E_{10} = \frac{208 - 1}{208} \times 100 = 99,52 \%$$

**All STAUFF inorganic glass fibre filter elements have a Beta Ratio > 200 at their rated micron rating.**

$\beta$ Ratio vs Efficiency	
$\beta$ Ratio	Efficiency
1	0,00%
2	50,00%
20	95,00%
50	98,00%
75	98,67%
100	99,00%
200	99,50%
1.000	99,90%
10.000	99,99%

# Product range



### STAUFF CLAMPS:

Clamping systems for tubes, hoses, pipes, cables and components

#### Original STAUFF Clamps:

The tube fastening system in accordance with DIN 3015

Dimensional range from 6 to 800 mm

Different materials available

#### U-Bolt and DIN clamps

#### Angle Adjustment Clamps

#### Special clamps and supports:

Custom built solutions



### STAUFF TEST:

Pressure test systems

Venting and sampling of liquid and gas pressure systems

nominal working pressure: 630 bar maximum

100% closeness control

components tested in accordance with DIN 40.080

#### Test couplings and accessories:

Adaption threads M16x2 - M16x1,5 -

S12,65x1,5- Plug-in system

#### Test hoses:

DN 2 and DN 4; hose length and fittings on request

### MINITESTER PPC-04:

Digital measuring device

for:

Working pressure

Differential pressure

Temperature

Flow

RPH

Data output via

PC or printer



### STAUFF FILTERS:

Hydraulic filtration systems

#### High pressure filters for in-line mounting:

maximum working pressure: 630 bar

#### Return line tank top filters:

maximum working pressure: 16 bar

#### Replacement filter elements:

Compatible quality and dimensional interchange to suit most filter makes produced in own facilities

Filter materials: Glass fibre, Metal fibre, Polyester fibre, Wire mesh, Paper



### STAUFF HYDRAULIC ACCESSORIES:

Components for the construction of tanks and power units and mobile hydraulics

Level gauges

Filler breathers

Check valves

Diffusers

Spin-On - Filters

Return line bushes

Gauge isolator valves

Level temperature switches

Throttle and shut-off valves

Desiccant air breathers

Suction strainers

Stainless steel pressure gauges

Flow indicators

Air filters



### STAUFF BALL VALVES:

Ball valves for flow control in steel, stainless steel,

alloy and other materials.