B

Replacement Filter Elements for Applications involving Hydraulic and Lubrication Oils

The STAUFF 4PRO Glass Fibre Elements

The PLUS for customers:
- **Longer operating times through higher dirt holding capacity**
- **Improved energy efficiency through lower differential pressure**
- **Excellent β values and outstanding β stability**

The 4Pro stands for 4 pros that characterise STAUFF glass fibre materials:

- ***pro*ACTIVE**
- ***pro*GRESSIVE**
- ***pro*FESSIONAL**
- ***pro*TECTION**

Or simply: **Fo(u)r Protection**
In terms of the β value, STAUFF elements have always exhibited excellent performance. For those who take filtration seriously, there's no other valid approach – the measured values must hold up under any inspection. The elements cannot afford any vulnerabilities. The new generation of elements also have excellent dirt holding capacities. Values that users have been looking for. Values that make it possible for the user to extend operating times thereby providing significant reductions to purchasing costs for elements as well maintenance costs.

Protecting Filter Elements Against Direct Flow Impact

The sensitive filter bellows on filter elements are frequently prone to damage during transportation, storage and filter replacement work. In addition, large particles in the flow of fluid may harm the filter material.

STAUFF offers a solution: SE and RE series filter elements with protective sheath (only available for glass fibre elements). This is a thin, perforated plastic sheet that completely encases the pleats of the filter from the outside as well as making the element more stable. A further positive effect is that the volume of flow is distributed more evenly by the protective sheath, thus ensuring an efficient flow rate.

In its standard version, the foil is printed with the STAUFF 4PRO logo, eliminating any mix-up with other brands. Larger quantities can also be produced with a customised imprint on the sheath.

β value

Key evaluation criteria for filter elements using glass fibre technology are the retention rate (micron rating) the β value, the β stability, the dirt holding capacity and the initial pressure differential. These values are determined using the multipass test established by ISO 16889.

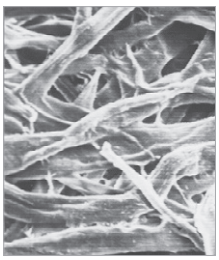
The designation for STAUFF elements typically includes a rating based on filter fineness.

Filter designation β value > 200 according to ISO 4406	$\beta_{(c)} > 200$ ISO 11171	$\beta_{(c)} > 1000$ ISO 11171
03	4,0 $\mu m_{(c)}$	4,5 $\mu m_{(c)}$
05	5,0 $\mu m_{(c)}$	6,0 $\mu m_{(c)}$
10	8,8 $\mu m_{(c)}$	11,0 $\mu m_{(c)}$
20	21,0 $\mu m_{(c)}$	23,0 $\mu m_{(c)}$

Filter Material – Quality And Properties

The choice of the right filter material is dependent on different criteria. Among others, this includes the type of application, the filter function, degree of contamination or alternatively the required dirt-hold capacity as well as requirements of chemical or physical resistance. Inorganic Glass Fibre, Polyester, Cellulose, Stainless Fibre Material and Stainless Steel Wire Mesh are used for hydraulic applications.

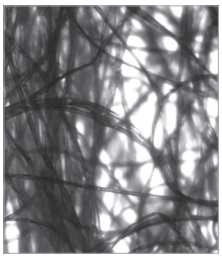
The following list gives you an overview of how these five filter materials differ with regard to specific properties:



Cellulose Fibre

- Filter material made of Cellulose Fibres with special impregnation
- Variants with lowest price with good dirt-hold capacity
- Not suitable for water based fluids

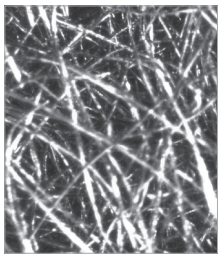
Micron rating
- 10 ... 50 µm (alternative micron ratings on request)



Inorganic Glass Fibre

- Inorganic Glass Fibre based on synthetic fibres with acrylic resin binding
- Large dirt-hold capacity
- Excellent separation efficiency of the finest particles due to the three-dimensional labyrinth structure with deep-bed filtration
- Outstanding price/performance ratio

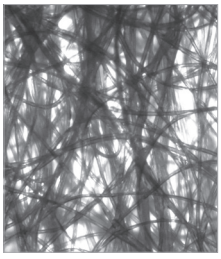
Micron rating
- 3 ... 25 µm (alternative micron ratings on request)



Stainless Fibre

- Sintered Stainless Fibres with three-dimensional labyrinth structure for depth filtration
- Low flow resistance with high dirt-hold capacity
- Excellent chemical and thermal resistance

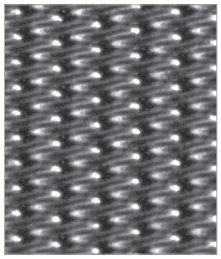
Micron rating
- 3 ... 25 µm (alternative micron ratings on request)



Polyester Fibre

- 100% Polyester Fibres with thermal bonding
- High pressure differential resistance
- Good chemical resistance
- High separation efficiency of the finest particle
- Tear-proof structure

Micron rating
- 3 ... 25 µm (alternative micron ratings on request)



Stainless Mesh

- Wire Mesh fabric made of material 1.4301 or 1.4305 for surface (other material on request)
- Type of weave: square weave or Dutch weave
- Low flow resistance due to large-pored screening surface
- Excellent chemical and thermal resistance

Micron rating
- 10 ... 1000 µm (alternative micron ratings on request)

Replacement Filter Elements for Applications involving Hydraulic and Lubrication Oils

Replacement Filter Element for Return-Line Filters

Filter media
- Inorganic Glass Fibre
- Polyester Fibre
- Cellulose Fibre
- Stainless Fibre
- Stainless Mesh

Micron rating
- see on page 26 Filter Materials

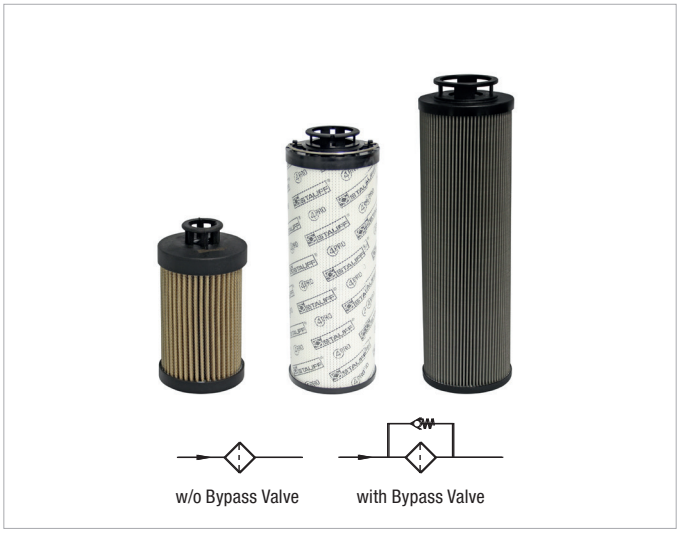
max. Δp*collapse
- 10 ... 25 bar / 145 ... 362 PSI

Sealing Material
- NBR (Buna-N®)
- FKM (Viton®)
- EPDM

Bypass
- 1 ... 7 bar / 0 ... 101 PSI

End cap
- Plastic / Steel / Stainless Steel (alternative End caps on request)

Note: * Collapse / burst resistance as per ISO 2941.



Replacement Filter Element for Pressure Filters

Filter media
- Inorganic Glass Fibre
- Polyester Fibre
- Cellulose Fibre
- Stainless Fibre
- Stainless Mesh

Micron rating
- see on page 26 Filter Materials

max. Δp*collapse
- 10 ... 210 bar / 145 ... 3045 PSI

Sealing Material
- NBR (Buna-N®)
- FKM (Viton®)
- EPDM

End cap
- Steel / Stainless Steel / Aluminium (alternative End caps on request)

Note: * Collapse / burst resistance as per ISO 2941.

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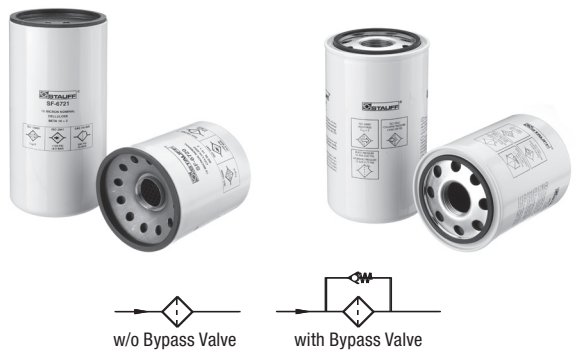
Replacement Filter Elements for Applications involving Hydraulic and Lubrication Oils

Replacement Filter Element for Spin-On-Filters (see on Page 168 - 173)



max. Δp*collapse
- 5 ... 10 bar / 72 ... 145 PSI

Sealing Material
- NBR (Buna-N®)

Connection Thread
- BSP / UNF / NPT

Note: * Collapse / burst resistance as per ISO 2941.

Replacement Filter Element for Suction Strainers

Filter media
- Stainless Mesh

Micron rating
- 60, 125, 250 µm

Flow Rate
- 12 - 400 l/min / 3.1 - 104 US GPM

Bypass
- 0,2 bar / 2.9 PSI

End cap
- Aluminium / Plastic

Connection Thread
- BSP / NPT

Note: * Collapse / burst resistance as per ISO 2941.

For details, please see Catalogue No. 10 - Hydraulic Accessories.

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Interchanging STAUFF Filter Elements

As well as original Filter Elements for our own filter housings, STAUFF also provides access to a comprehensive range of Replacement Filter Elements. They match the quality and can be installed in the products of for example:

- Argo-Hytos
- Donaldson
- Eppensteiner Bosch Rexroth
- Fairey Arlon
- Hydac
- Mahle
- Internormen
- Pall
- Parker
- Other types are available on request

STAUFF offers many options for filter conversion, design and calculation and supports interested parties and customers with the design of efficient solutions:

- Online filter search with more than 65000 data sets under www.filterinterchange.com
- Offline filter database with deposited measurements, filter surfaces and drawings
- Filter selection software for easy filter design and calculation

Thanks to their excellent dirt-hold capacity, all of the filter products supplied by STAUFF have an impressive long service life and high β value stability:

- Inorganic glass fibre, filter paper, stainless fibre (micron ratings between 3 µm and 25 µm respectively) as well as stainless mesh (micron ratings between 10 µm and 1000 µm)
- Maximum differential pressure depending on filter media and application for the options 16 bar / 232 PSI, 30 bar / 435 PSI or 210 bar / 3000 PSI.

Your local STAUFF Distributor will assist you interchanging to STAUFF elements.

Find the suitable STAUFF replacement filter element at

www.filterinterchange.com

It's this easy:

search — enquire — save

Your advantages:

- Over 65000 datasets from various manufacturers
- Conversion for all common filter brands and types
- Watch list function for storing search results
- Request price and delivery time with enquiry history

Order Codes

RE - 045 - G - 20 - B / X - 123456

① ② ③ ④ ⑤ ⑥ ⑦

① Type

Series	Filter Element
Argo-Hytos High Pressure Filter Element	SD
Argo-Hytos Medium Pressure Filter Element	MD
Argo-Hytos Return-Line Filter Element	RD
Argo-Hytos Suction-Line Filter Element	AD
Eppensteiner Bosch Rexroth High Pressure Filter Element	SS
Eppensteiner Bosch Rexroth Return-Line Filter Element	RS
Eppensteiner Bosch Rexroth Low Pressure Filter Element	LS
Fairey Arlon High Pressure Filter Element	SA
Fairey Arlon Return-Line Filter Element	RA
Hydac High Pressure Filter Element	SE
Hydac Return-Line Filter Element	RE
Mahle High Pressure Filter Element	SL
Mahle Low Pressure Filter Element	ML
Mahle Return-Line Filter Element	RL
Internormen High Pressure Filter Element	SN
Internormen Return-Line Filter Element	RN
Pall High Pressure Filter Element	SP
Pall Return-Line Filter Element	RP
Medium Pressure Filter Element according to standard	NL
Return-Line Filter Element according to standard	NR
Spin-On Filter Element	SFC
Special Element STAUFF	SXX

Note: Other series on request

② Nominal Size

Depending on the nominal flow or element length

③ Filter Material and Pressure Setting

Stainless Fibre, high collapse pressure	A, M
Stainless Mesh, low collapse pressure	B, S
Polyester Fibre, high collapse pressure	C
Filter Paper, low collapse pressure	D, K, L, N
Inorganic Glass Fibre, low collapse pressure	E, G, Q
Inorganic Glass Fibre, high collapse pressure	F, H
Stainless Mesh, high collapse pressure	R, T, W

④ Micron Rating

Stainless Mesh	
10 µm	10
20 µm	20
25 µm	25
40 µm	40
50 µm	50
60 µm	60
80 µm	80
100 µm	100
125 µm	125
150 µm	150
200 µm	200
500 µm	500
1000 µm	1000

Stainless Stainless Fibre	
3 µm	03
5 µm	05
10 µm	10
20 µm	20
25 µm	25

Filter paper	
10 µm	10
20 µm	20
50 µm	50

④ Micron Rating

Inorganic Glass Fibre	
3 µm	03
5 µm	05
10 µm	10
15 µm	15
20 µm	20
25 µm	25

Polyester Fibre	
3 µm	03
5 µm	05
10 µm	10
20 µm	20
25 µm	25

Note: Other micron ratings on request

⑤ Sealing Material

NBR (Buna-N®)	B
FKM (Viton®)	V
EPDM	E

Note: Other sealing materials on request.

⑥ Design Code

Only for information	X

⑦ STAUFF Special Number

If element varies from the standard type	X

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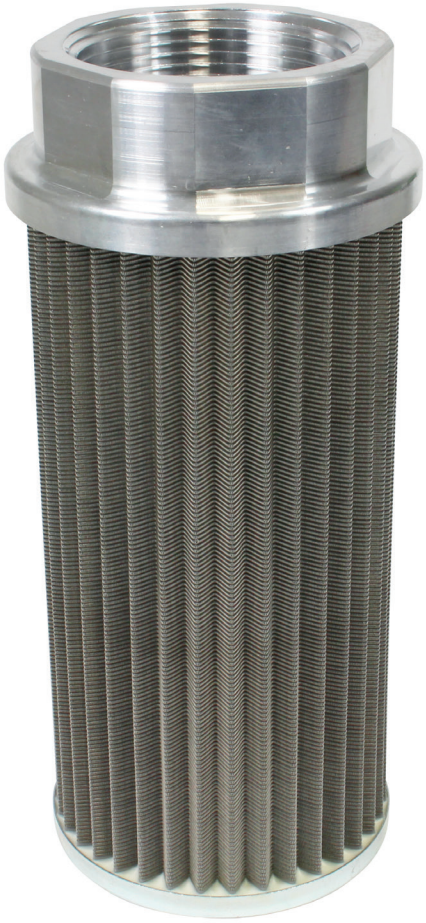
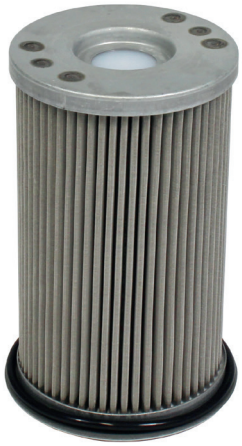
Special Filter Element Solutions

Special Ammonia Filter Element

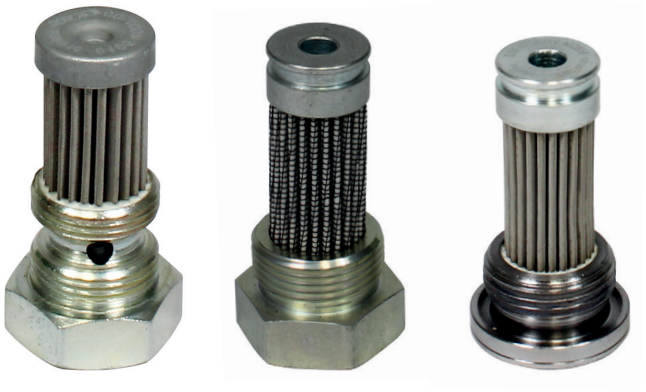
High Pressure Block with Threaded Filter Element



Special Suction Strainer



Filter Element with Bypass and Special Sealing



High Pressure Threaded Elements

Custom-designed Filter element solutions in addition to the Original-STAUFF-Filtartion Technology range according to customers specifications or based on STAUFF developments.

If you have similar requirements please contact STAUFF.

Checklist for the selection of filter housings

Please use the following Checklist as a guideline when preparing an enquiry for the selection of filter housings. Scan or copy the page from the catalogue, print and complete it with as much information as possible, before sending it by email or fax to the closest STAUFF branch office. If possible, please also let us know the quantities required, and if the enquiry is for a one-time or recurring demand. We look forward to hearing from you, and are always available for consultation, when required.

Information on the fluid in use

Type of fluid ☐ Brand ☐ ISO designation

Fluid viscosity ☐ mm²/sec ☐ cSt

Fluid temperature ☐ °C ☐ °F ☐ In cold condition ☐ In warm condition

Information on the filter housing

Position in the hydraulic system ☐ Suction line ☐ Pressure line ☐ Return line

Operating pressure ☐ bar ☐ PSI

Nominal flow ☐ l/min ☐ US GPM

Valve ☐ No, not required

☐ Yes, the following type: ☐ Bypass valve ☐ Non-return valve ☐ Reverse flow valve ☐ Multi-function valve

Clogging indicator ☐ No, not required

☐ Yes, the following type: ☐ Visual ☐ Electrical ☐ Visual-electrical

Connection type and size ☐

Sealing material ☐ NBR (Buna®) ☐ FKM (Viton®) ☐ Other

Information on the filter element

Filter media ☐ Inorganic Glass Fibre ☐ Polyester Fibre ☐ Cellulose Fibre ☐ Stainless Fibre ☐ Stainless Mesh

Micron rating ☐ µm

Cleanliness level ☐ (to ISO 4406)

Information on the application ☐

Information on the ambient conditions ☐

Additional information and requirements ☐

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Replacement Filter Elements for Single, Double and Automatic Filters

Screw-In and Plug-In Elements ▪ Type SFK

We produce high-quality Screw-In and Plug-In Elements in Stainless Steel design or in Plastic design. They fit into the most common single, double and automatic filters.

Length
- 220 mm … 750 mm / 8.66 in … 29.53 in

Diameter
- 30 mm / 1.18 in

Filter media
- Stainless Mesh

Micron rating
- 10 ... 200 µm (alternative micron ratings on request)

End cap
- Stainless Steel / Plastic

Application
- For lubricating oils, heavy fuels, water, chemicals and cooling lubricants

Star-Pleated Elements, Basket and Ring Sieves ▪ Types SBS and SBK

We deliver high-quality Star- Pleated Elements, Basket and Ring Sieves in Stainless Steel design with particularly pleated filter media which offer a very good filtrate quality and aw long durability.

Length
- 95 mm … 390 mm / 3.74 in … 15.35 in

Diameter
- 65 mm … 85 mm / 2.56 in … 3.35 in

Filter media
- Stainless Mesh

Micron rating
- 10 ... 200 µm (alternative micron ratings on request)

End cap
- Stainless Steel

Application
- For lubricating oils, heavy fuels, water, chemicals and cooling lubricants

Heavy Fuel Elements ▪ Type SFK-439

STAUFF Heavy Fuel Elements separate particles from the fluid flow as the last filtration step before direct injection to the engine room / combustor.

Length
439 mm / 17.28 in

Diameter
- 48 mm / 1.89 in

Filter media
- Stainless Mesh

Micron rating
- 6 µm or 10 µm

End cap
- Stainless Steel

Application
- Separation of particles from the fluid flow as the last filtration step before direct injection to the engine room / combustor.

Replacement Filter Elements for Single, Double and Automatic Filters

Paper, Fibreglass and Polyester Elements ▪ Type SBS-124

Due to the pleated design of STAUFF Paper Elements, they can offer a large filter area in a small place and with a long durability. The cover made of Polyester allows a safe treatment during the installation and the demounting without damaging the filter media.

Length
- 254 mm, 500 mm or 750 mm / 10.00 in , 19.69 in oder 29.53 in (alternative lengths on request)

Diameter
- 124 mm / 4.88 in

Filter media
- Paper, Fibreglass and Polyester (Stainless Mesh on request)

Micron rating
- 10 µm or 50 µm (alternative micron ratings on request)

End cap
- Steel, zinc plated or Stainless Steel

Application
- Bypass and flushing filter for automatic filters and double filters in the field of lubricating oil

Plastic Elements ▪ Types SFK-320 and SFK-445

STAUFF Plastic Elements have a special cloth and a special format which ensure the safety and the optimal protection of the motors. The molded end caps allow a quick installation and demounting as they can be easily connected.

Length
- 320 mm or 445 mm / 12.59 in oder 17.52 in

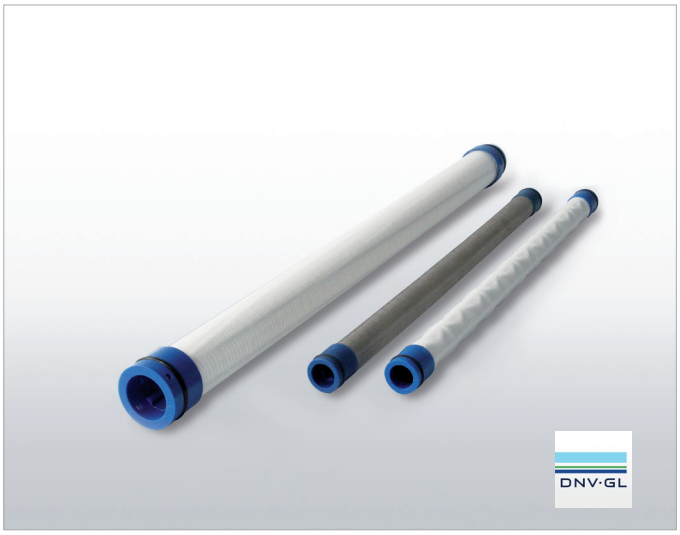
Diameter
- 19 mm … 33 mm / 0.75 in ... 1.29 in

Filter media
- Plastic (Stainless Mesh on request)

Micron rating
- 25 µm or 31 µm

End cap
- Plastic

Application
- Pre-filter of motors



Multimantle Elements ▪ Type SBM

Multimantle Elements in different types and sizes complete the STAUFF exchange program.

Length
- 128 mm … 723 mm / 5.03 in … 28.46 in

Diameter
- 86 mm … 230 mm / 3.39 in … 9.05 in

Filter media
- Stainless Mesh

Micron rating
- 10 µm … 2000 µm

End cap
- Aluminium

Application
- Multimantle filter elements are generally used in marine applications for filtering fuels and lubricants as well as water. The elements are also used in the processing industry for purifying water, oils, coolants and chemicals.