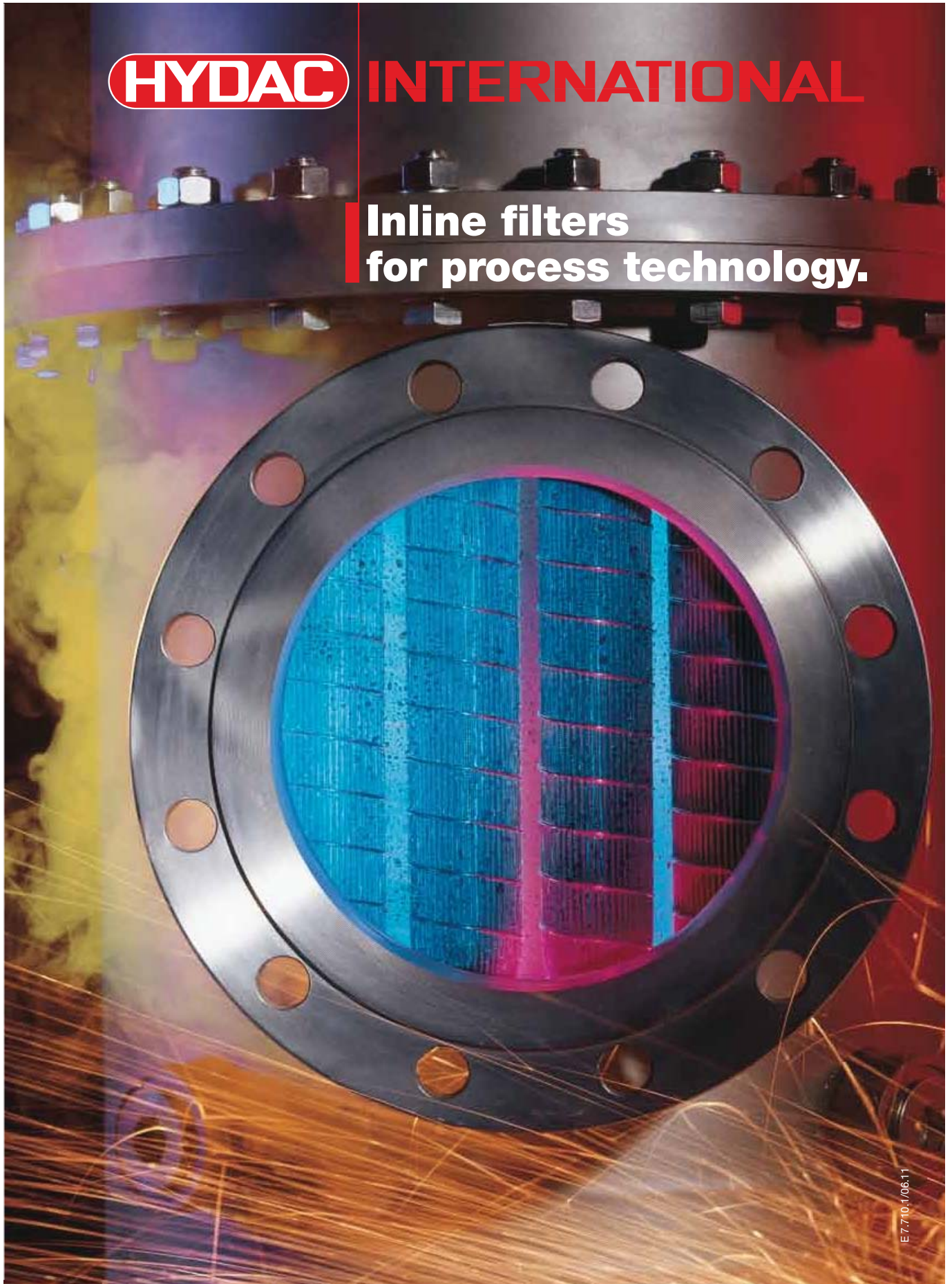


HYDAC INTERNATIONAL

**Inline filters
for process technology.**



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Inline filters. For process technology.

HYDAC inline filters are distinguished by high filtration performance and simple handling, thus contributing to safe and economically efficient plant operation.

- Long service lifetimes though large filter surfaces and filter materials with high contamination retention capacity
- Low pressure losses through flow-optimised constructions
- Compact, easy to operate filter housings
- High economic efficiency through mostly regenerative filter elements
- Consistently high quality to ISO 9001

Practically all tasks involving solid-fluid separation can be managed with a comprehensive filter programme.

Numerous international references from over 40 years prove our industry know-how and our expertise in filtration technology.

The right filter for every application.



Whether river water, condensation, paints and coatings, adhesives, organic solvents, acids, alkalis, industrial waste water, emulsions, sea water, well water, thermal oil, deionized water and many more; HYDAC inline filters can deal with almost all media.

A further area is covered with the operating parameters as well:

- Temperatures up to 400 °C
- Pressures up to 1,000 bar
- Filtration ratings of 1 µm (absolute) to 10 mm
- Flow rates up to 6,000 m³/h

HYDAC process filtration. At home in all industries – worldwide.



HYDAC Filter housing for individual

HYDAC inline filters are designed for the toughest applications in process technology. They facilitate effective separation of all kinds of solids.

A variety of designs and filter materials permit optimal adaptation to the filtration task and the existing process conditions.

We manufacture single and double filters of tested quality in stainless steel and corrosion-resistant steel.

On request, special materials and special coatings can be used. As an option, a design with stationary filter elements or suspended strainer baskets is possible.

Inline filters PFL / PFM / PFH.



Universal filter made of stainless steel for pressures up to 100 bar, temperatures up to 200 °C and flow rates up to 120 l/min. Connection size: Cylindrical pipe thread G 1". Great variety of applications thanks to numerous sizes. Filter materials: slotted tube, wire mesh, Chemicon® metal fibre, coiled plastic candles. Special feature: no tools are required for element dismantling.

Changeover inline filter PFLD / PFMD / PFHD.



For continuous operation up to 100 bar operating pressure, the reversible variant is suitable, which consists of two filter housings with ball-valve switching. Otherwise this version corresponds to the PFL / PFM / PFH series. If desired, both side parts can be monitored by a central clogging indicator.

Inline filter PRFL.



Comprehensive inline filter series for flow rates up to 25,000 l/min. Housing material: spheroidal graphite cast iron EN JS 1030 or carbon steel or made entirely of stainless steel. Flange connections from DN 50. Depending on the size, the pressure stage is PN 25 or PN 16 bar. The element technology corresponds to the series PRFLD.

Changeover inline filters PRFLD.



To avoid operation interruptions when elements are changed, change-over filters are suitable, in which one housing is in filtration and the other is in reserve. Switching is done by means of ball valves or flap switchover with a hand wheel. The special structure of the switchover organs prevents both filter housings from being blocked at the same time. The filter housings can be equipped with slotted tubes or filter candles made of wire mesh or glass fiber Betamicon®.

Tailor-made solutions.

If there is no standard product that fits your application, we also develop filter housings and element technology according to customer specifications.

ual requirements.

Screen basket filter PRFS / PRFSD – simple and reversible.



Screen basket filters are used mainly as coarse filters or pre-filters. Unlike the inline filters PRFL and PRFLD, the direction of flow is from the inside to the outside. The separated solids remain behind in the stainless steel strainer and can be removed easily and quickly. Nominal widths of DN 50 and larger are available. Materials: carbon steel or stainless steel 1.4571.

Stainless steel pressure filter EDFR.



Very sturdy pressure filter made of stainless for handling aggressive media and extreme working conditions up to

400 bar and 325 °C. Filtration materials: wire mesh, Chemicon® metal fibre, Betamicon® glass fibre. Connection options: cylindrical pipe thread G 3/4", 1 1/4", 1 1/2".

Stainless steel high-pressure filter MPSSF / HPSSF / ACSF.



This stainless steel high pressure filter is similar in design to the EDFR filter. There are three pressure levels 450, 700 and 1000 bar available.

The maximum operating temperature is 100 °C. Filter materials: wire mesh, Chemicon® metal fibre, Betamicon® glass fibre. Connection options: BSP or NPT thread 1/4", 3/8", 1/2", 3/4", 1", 1 1/4", 1 1/2"; SAE 4 to SAE 24.

Inline filter PMRF / PMRFD with FlexMicron filter candles – simple and reversible.



The use of FlexMicron filter elements with extremely high solid absorption capacity with a high filter area results in very long service lives.

The filter housings are available in seven different sizes. For continuous process, each size is also available as a changeover filter.

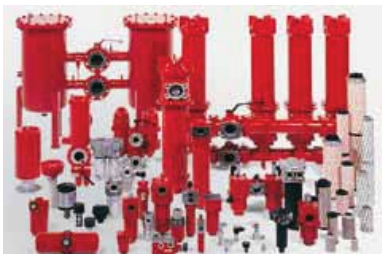
Process Bag Filter PBF.



Simple stainless steel inline filter DN 50 for flow rates up to 500 l/min. The polypropylene filter bags have a high solid absorption capacity, and thanks to an additional supporting cage, they also withstand high differential pressures. The quick-release connections make

it possible to change bags rapidly. Parallel switching of several filters to one station allows even larger flow rates to be managed.

Filters for hydraulics and lubrication technology.



HYDAC offers for all hydraulic and lubrication systems a filter program that is continuously coordinated in design, size and pressure stage and that has a specially coordinated element technology for a wide variety of operating fluids.

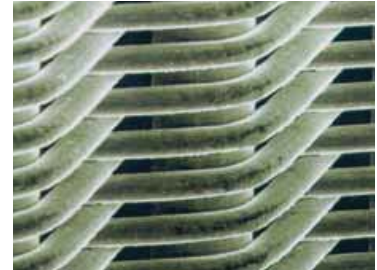




HYDAC Filter element

The core of each filter is the filter element. This product is the result of many years' research and development work. In order to provide solutions for the most varied filtration applications, a wide range of filter materials and element models is available. Most filter materials can be cleaned, thus avoiding the considerable costs of re-purchase, storage and disposal.

■ Wire mesh.



Multiply renewable filter material.
Material: stainless steel 1.4401

Available filtration ratings:
25; 40; 60; 100; 150; 200; 250; 500 µm

■ Slotted tube.



Slotted tubes consist of a profile wire that is helically coiled about a support profile and welded. The filtration rating is obtained from the distance of the coil loops. Thanks to their extremely rugged design, slotted tubes can be cleaned as often as desired. Material: 1.4435

Available filtration ratings:
50; 100; 150; 200; 300; 500; 1,000;
2,000; 3,000 µm

■ Stainless steel strainer baskets.



Thanks to their rugged construction, our strainer basket inserts are ideal for long-term operation. Once the dirt has been emptied and after a short treatment with the pressure washer, the strainer baskets are ready to be used again. The stainless steel inserts can be used in a slotted tube, wire mesh or perforated plate design.

Available filtration ratings:
Wire mesh: 25; 50; 60; 80; 100; 150; 200;
250; 500; 1000 µm
Slotted tube: 50; 100; 150; 200; 300; 500;
1,000; 2,000; 3,000 µm
Stainless steel perforated plate: 3 mm

■ Chemicon® metal fibre.



Chemicon® is a renewable metal fibre depth filter medium whose three-dimensional structure gives it a high contaminant-absorption capacity and excellent retention properties. Optimal media resistance and temperature resistance up to 400 °C thanks to austenitic material 1.4404.

Available filtration ratings:
1; 3; 5; 10; 20; 25; 30; 40; 60; 100 µm
(absolute)

■ Betamicron® glass fibre.



This disposable filter material is characterised by a very high contamination retention capacity with low purchase costs.

Available filtration ratings:
3; 5; 10; 20 µm (absolute)

nts. Elementary and individual.

FlexMicron candle filter elements.



Star-pleated or cylindrical disposable filter elements made of glass fibre or melt-blown polyester or polypropylene. The highly porous filter layer provides a filtration performance of up to 99.99 % with high solids absorption and low pressure loss.

FlexMicron filter elements are highly flexible. It is possible to choose between elements with high selectivity or high solids absorption.

A multitude of adapter systems and element lengths allows optimal adaptation in almost all applications.

Available filter units:
1 ... 90 µm (absolute)

Maximum operating temperature:
60 °C on polypropylene elements
100 °C on polyamide and polyester elements

Original HYDAC accessories for safe long-term operation.



For pollution control of the filter elements, we offer various optical and optical-electrical clogging indicators for all inline filters.

All displays work according to the principle of differential pressure measurement and are self-resetting.

Accessories that are specifically adapted to our filters, such as gasket sets, cover plate lifting devices and bleeding and drain ball valves facilitate operation and ensure a long service life.

Characterisation of the filtration performance.

In order to compare the different filter materials, the degree of separation β_x was defined in the filter technology. This value describes the quantitative proportion of particles above a certain grain size, before and after the filter element.

$$\beta_x = \frac{\text{Number of particles} > x \mu\text{m in the inflow}}{\text{Number of particles} > x \mu\text{m in the filtrate}}$$

X = Particle size in µm

Absolute filtration rating

– for Betamicron® glass fibre, coiled candles and Chemicon® metal fibre

A β_x value of 100 ($\beta_x = 100$) corresponds to a degree of separation of 99%.

A test filter must retain at least 99% of the particles above the specified filtration rating, up to the specified differential pressure. This is referred to as absolute filtration.

The values specified in the brochure are determined by the multi-pass test (for the determination and proof of the filtration performance, extended to finest filtration) carried out on the HYDAC test rig, based on ISO 4572.

Nominal filtration rating

– for wire mesh and slotted tubes

No β_x values are set for this. The mesh or gap width of the corresponding filter material are specified as the filtration rating.

High quality is standard.

Quality is our absolute priority, guaranteed by continuous monitoring in the manufacturing process and systematic laboratory tests.



Strict incoming goods controls mean only materials in perfect condition have a chance of further processing.



Standardised test procedures for our filter elements ensure consistently high filter performance. The filtration performance and contamination retention capacity are tested on our multi-pass test bench.



Final inspection on the bubble point test bench. Only filter candles in perfect condition leave our factory.



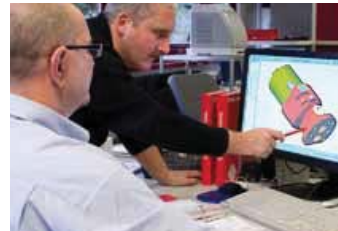
In addition to a number of international approvals and authorisations, HYDAC Quality Management is certified according to DIN EN ISO 9001, guaranteeing a consistently high quality of our products.

For every industry and application.



The right solution for every task.

Whether you want to protect sensitive units or fittings, extend the life cycle of your circulating fluids, or achieve higher product quality or a visually clear filtrate: our experienced staff will be happy to help you select the appropriate filter. In this way, open questions on the filtration rating, type of filter material or material selection can be cleared up. A modern filtration laboratory is also available for this purpose.



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