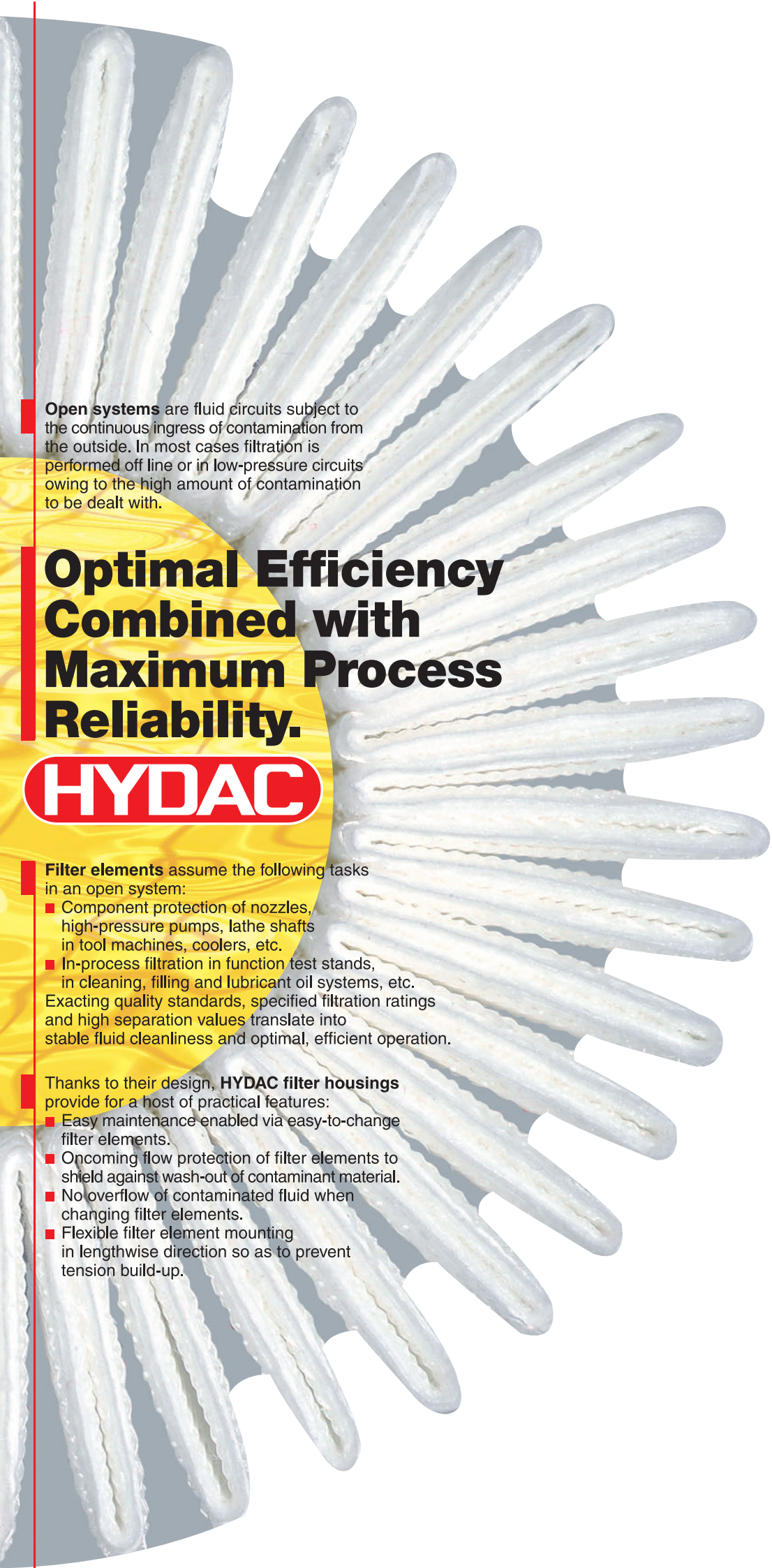
HYDAC INTERNATIONAL

Filter Elements for Open Systems.



Open systems are fluid circuits subject to the continuous ingress of contamination from the outside. In most cases filtration is performed off line or in low-pressure circuits owing to the high amount of contamination to be dealt with.

Optimal Efficiency Combined with Maximum Process Reliability.

HYDAC

Filter elements assume the following tasks in an open system:

- Component protection of nozzles, high-pressure pumps, lathe shafts in tool machines, coolers, etc.
- In-process filtration in function test stands, in cleaning, filling and lubricant oil systems, etc.

Exacting quality standards, specified filtration ratings and high separation values translate into stable fluid cleanliness and optimal, efficient operation.

Thanks to their design, **HYDAC filter housings** provide for a host of practical features:

- Easy maintenance enabled via easy-to-change filter elements.
- Oncoming flow protection of filter elements to shield against wash-out of contaminant material.
- No overflow of contaminated fluid when changing filter elements.
- Flexible filter element mounting in lengthwise direction so as to prevent tension build-up.

HYDAC Filtration Technology – The leading name in filtration technologies.

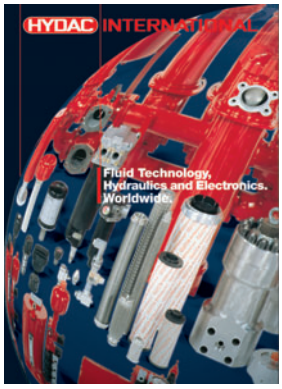
HYDAC's product development is founded on pioneering basic research and on-going dialogue with its customers and other users. This enables real-world solutions to be developed in accordance with international standards.

Innovative Filter Element Technology. For 40 Years Now.

HYDAC

HYDAC Filtration Technology offers a complete range of filters for solid-liquid separation. HYDAC fabricates world-class products catering to market requirements using state-of-the-art machinery and equipment and leveraging its own highly developed in-house manufacturing integration.

Customer service worldwide.



The local availability of replacement parts and customer service are guaranteed thanks to our international network of overseas companies, distributors and service partners.

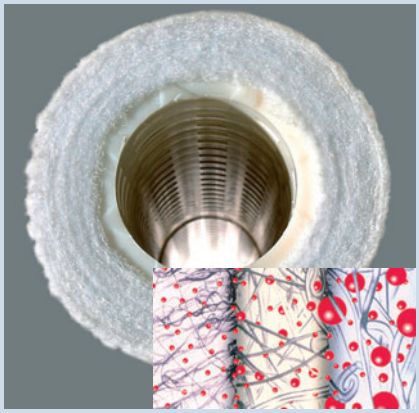
HYDAC Filter Elements.

MegaRheo

Features:
- Graduated depth filter layer combined with small layer thickness
  = extended service life also when dealing with difficult-to-filter fluids
- Low initial differential pressure
  = outstanding contamination retention capacity
- Stable non-woven support
  = to counteract material creep caused by pulsation action
- Compact housing yet able to accommodate high flow rates
- Standard dimensions ensure compatibility with other manufacturers

Applications:
- Fluids featuring a narrow particle size distribution
- Optimization of systems featuring bag and band filters
- Protective filtration upstream of sensitive components
  (high-pressure pumps, internally cooled spindles, etc.)
- Cleaning systems / lubrication systems / machining equipment
- In-process filtration in cleaning systems / lubrication systems /
  machining equipment

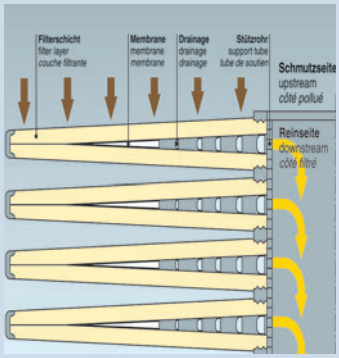
DekaRheo



Features:
- Graduated depth filter layer
  = high cleanliness provided by single pass
- Large layer thickness of the filter medium
  = high contamination absorption capacity
- Standard dimensions ensure compatibility
  with the candle elements of other manufacturers

Applications:
- Fluids featuring a broad particle size distribution
- Optimization of systems with surface filtration
- Filling stations
- In-process filtration in cleaning systems /
  lubrication systems / machining equipment

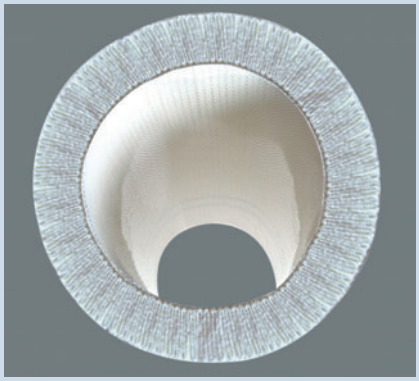
Dimicron®



Features:
- Combination of depth and surface filtration
  = high cleanliness provided by single pass
- Outstanding contamination retention capacity
  = formation of filter cake providing for stable support
  via membrane to counteract material creep

Applications:
- Maintenance filtration in connection with low flow rates
- In-process filtration to cater to high cleanliness requirements
- In-process filtration in filling systems

Wombat



Features:
- Bag filter with pleated filter surface
  = outstanding contamination retention capacity
- Flow from the inside to the outside
  = no transfer of contaminated material to the clean side
  when changing filter elements
- Standard dimensions ensure compatibility
  with the bag filter housings of other manufacturers

Applications:
- Prefiltration providing for high separation reliability
- In-process filtration to cater to moderate cleanliness requirements
- In-process filtration in filling systems
- In-process filtration in cleaning systems / lubrication systems /
  machining equipment

HYDAC Filter Housings.

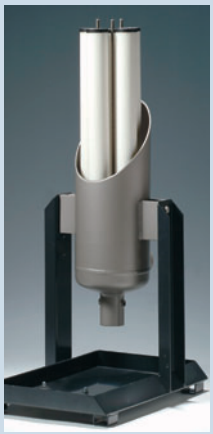
MultiRheo (P)MRF Filter housings

(P)MRF1

Features:
Max. pressure:
10, 40 bar
Max. volumetric
flow rate:
80 l/min
Inlet: 1“
Material: 1.4571
Number of
filter elements: 1
Filter element length:
10“, 20“, 30“, 40“

(P)MRF3

Features:
Max. pressure: 10 bar
Max. volumetric
flow rate:
350 l/min
Inlet: 1“, 1½“, 2“,
DN50 acc. to DIN 2633
Material: 1.4301
Number of
filter elements: 7, 11
Filter element length:
10“, 20“, 30“, 40“
Housing can be divided in height, thus enabling easy changing of filter elements when vertical space is limited



(P)MRF2

Features:
Max. pressure:
10 bar
Max. volumetric
flow rate:
300 l/min
Inlet: 1“, 1½“, 2“
Material: 1.4301
Number of
filter elements: 3, 5
Filter element length:
10“, 20“, 30“, 40“

(P)MRF4/5/6/7

Features:
Max. pressure: 10 bar
Max. volumetric flow rate:
900, 1400, 3100, 5600 l/min
Inlet: DN 80, DN 100,
DN 150, DN 200 acc. to
DIN 2632
Material: St37,
St37 PUR coating, 1.4301
Number of filter elements:
17, 23, 36, 52
Filter element length: 40“

General features:
- Complete emptying of the housing when changing the filter element
- High element spigot = no overflow of contaminated material to the clean side during filter element change
- Material of housing: normal steel, normal steel PUR coating, stainless steel
- Oncoming flow protection for filter elements = no wash-out of contaminant material = optimized housing instreaming
- Flexible element mounting in lengthwise direction = compensation of changes in length of the filter elements
- Option of sealed-in filter element retention = to accommodate aggressive operating media

OLF-15...60 OffLine Filters

Features:
- Max. pressure: 6 bar
- Max. volumetric flow rate: 80 l/min
- Inlet: 1“
- Material: 1.4301
- Number of filter elements: 1, 2, 3, 4

Options:
- Motor pump group (vane, gear, centrifugal pump)
- Thermal motor protection via on / off switch

Wombat WBF-200

Features:
- Max. pressure: 6 bar
- Max. volumetric flow rate: 200 l/min
- Inlet: 1½“, 2“
- Material: 1.43xx
- Number of filter elements: 1, 2

Rated Pressures and Flow Rates.

MegaRheo

Function test stands:
Volumetric flow rate: 3 - 5 times the mean flow rate of main pump
Initial differential pressure: between 0.06 and 0.2 bar

Cleaning systems:
Volumetric flow rate: main pump flow rate
Initial differential pressure: between 0.05 and 0.15 bar

Machining equipment:
Volumetric flow rate: 3 - 5 times the mean flow rate of main pump
Initial differential pressure: between 0.05 and 0.15 bar

Filling systems:
Volumetric flow rate: 5 times the mean flow rate of main pump
Initial differential pressure: between 0.1 and 0.4 bar

Lubrication systems:
Volumetric flow rate: 1 - 2 % of the system volume in l/min
Initial differential pressure: between 0.5 and 1.0 bar

DekaRheo

Function test stands:
Volumetric flow rate: 3 - 5 times the mean flow rate of main pump
Initial differential pressure: between 0.06 and 0.2 bar

Cleaning systems:
Volumetric flow rate: main pump flow rate
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Machining equipment:
Volumetric flow rate: 3 - 5 times the mean flow rate of main pump
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Filling systems:
Volumetric flow rate: 5 times the mean flow rate of main pump
Initial differential pressure: between 0.1 and 0.4 bar

Lubrication systems:
Volumetric flow rate: 1 - 2 % of the system volume in l/min
Initial differential pressure: between 0.5 and 1.0 bar

Dimicron®

Function test stands:
Volumetric flow rate: 10 % of the system volume in l/min

Cleaning systems:
Volumetric flow rate: 10 % of the system volume in l/min

Filling systems:
Volumetric flow rate: 3 - 5 times the average oil consumption + protective filter at the tap

Lubrication systems:
Volumetric flow rate: 0.5 - 1 % of the system volume in l/min
Initial differential pressure: max. 0.4 bar

Wombat

Cleaning systems:
Volumetric flow rate:
size 1 max. 200 l/min,
size 2 max. 400 l/min

Machining equipment:
Lubrication systems:
Volumetric flow rate:
size 1 max. 200 l/min,
size 2 max. 400 l/min

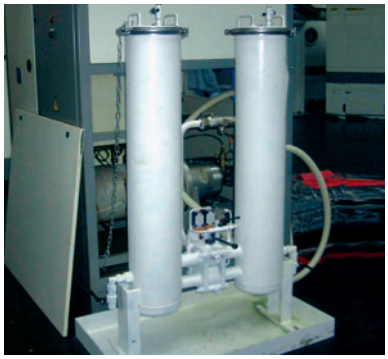
Reliably Used Everywhere.

Function test stands

In-process filtration at pump test stand subsequent to assembly
Filter element: Dimicron®
Tank volume:
Bypass flow rate: 60 l/min
Filtration rating: 2 µm
Number of filter elements:
4 x N15DM002

Cleaning systems

In-process filtration in cleaning and flushing baths
Tank volume: 2 x 200 l
Filter system:
Cleaning bath: 385 l/min
100 µm Wombat (2)
Flushing bath:
250 l/min, 50 µm MegaRheo (5)



Machining equipment

Protective filtration for high-pressure pumps
Medium: emulsion (7 %)
Main supply to machine from central system
Volumetric flow rate: 80 l/min
Filtration rating: 40 µm
Filter element: N40MR040PP1F
MegaRheo candle element (40")
Number of filter elements: 7
Filter housing: twin – change-over

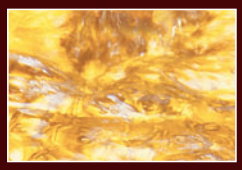
Filling stations, motor oil

In-process filtration in day tank
Filter element: MegaRheo
Tank volume: 3,500 l
Bypass flow rate: 120 l/min
Filtration rating: 10 µm
Number of filter elements: 7
Filter housing: change-over

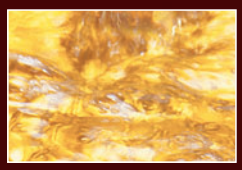
Lubricant oil systems

In-process filtration in a mechanical press
Filter element: DekaRheo (40")
Tank volume: 2,000 l, CLP150
Bypass flow rate: 80 l/min
Filtration rating: 20 µm
Number of filter elements: 7
Cleanliness class: ISO 19, 17, 14

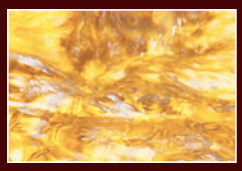
Any Media.



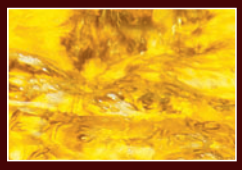
Hydraulic fluid



Lubrication oil

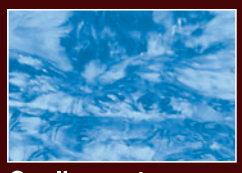


Gear lubrication fluid



Motor oils

Water



Cooling water

Cleaning fluids

Coolant lubricants