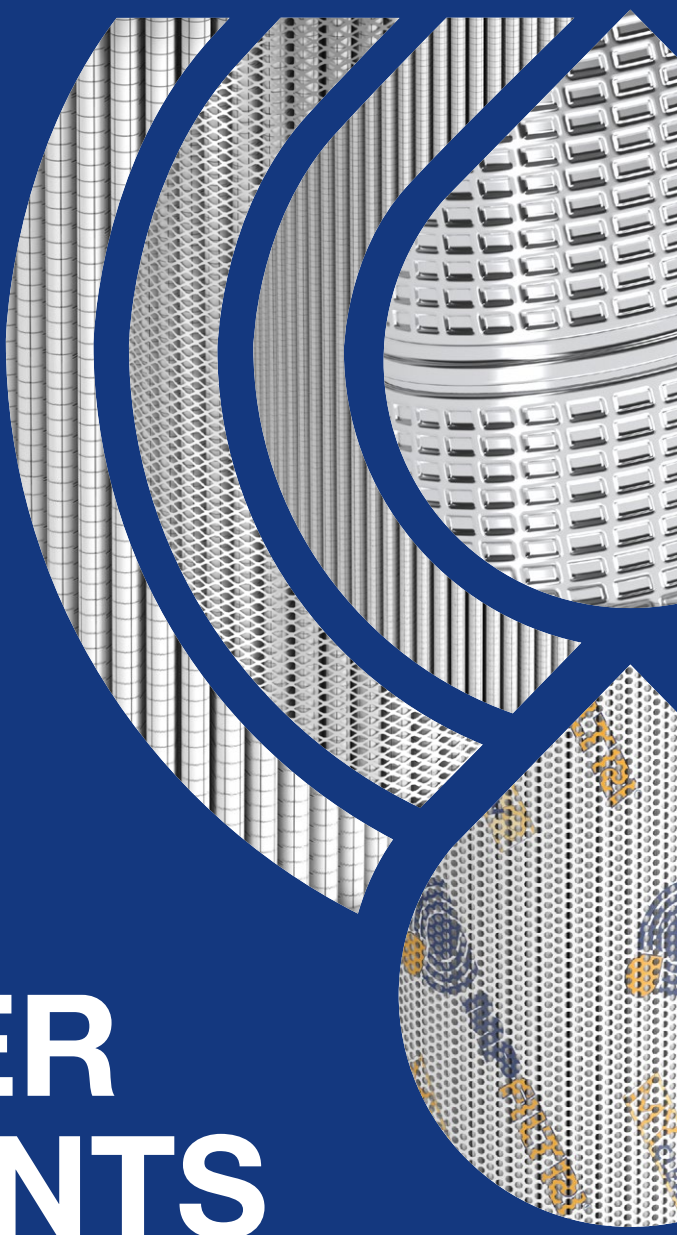
Our technologies make the world pure



FILTER ELEMENTS

MPFILTRI®

MAXIMUM PROTECTION FROM CONTAMINATION

MP Filtri's filter elements protect hydraulic and lubrication systems from contamination and solid particulates. Particulate contamination is the primary cause of failures and malfunctions in these systems.
One range of elements can also protect from water ingress which leads to degradation of the lubrication capability and the surface protection provided by the fluid.
The most effective method of controlling contamination within the systems is usually achieved by mechanical processes.

SURFACE FILTRATION

The surface filtration prevents any particles greater than the pore size entering the system by direct intervention. This filter media normally comprises metal mesh material.

DEPTH FILTRATION

Depth filters are composed of overlapping fiber mats, which form flow-paths in various shapes and dimensions. The particles are retained in the pores, which are smaller than the diameter of the particles. The filter materials are normally fabricated with phenol resin impregnated cellulose fibres, metal fibres or inorganic fibres. During filtering with inorganic fibres (commonly called microfibres) the filter layers are often placed on top of each other to increase the element's efficiency to retain contamination.

WATER ABSORBER

MP Filtri's water-absorbing filter element is available with a filtration ability of 25 µm (identified with the material designation WA025) and guarantees the absolute filtering of the solid particles at $\beta_{25(c)} = 1000$. The absorbing material is comprised of water absorbing fibres, which expand during absorption; the free water bound to the filter media is completely removed from the system and is no longer released.

Exclusive filter element

MYCLEAN

THE NEW FILTER CONCEPT

Quality and efficiency are fundamental for MP Filtri.
This exclusive new filter element possesses polygon shape geometry and specific seal that ensures only original spare parts can be used - ensuring correct operation and higher system reliability.

The products identified as MPFX, MPTX, MRSX, MPLX, MFBX, MFX, RSX and SFEX, RFEX, LFEX of the series ELIXIR® are protected by the following patents:

- Italian Patent: n° 102014902261205
- European Patent: n° 16181725.9
- Canadian Patent: n° 2,937,258

Furthermore, it is protected by the following patent application:

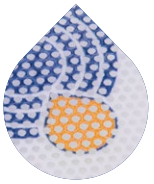
- US Patent Pending: n° 15/224,337

Protect the performance of your system with MYclean.

MAXIMUM TECHNOLOGY UNDER THE SURFACE

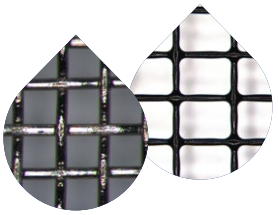
1

PET layer for external protection of the filter element assembly during installation and service. The design ensures an effective open area for maximum flow capacity. Customer-specific logo adaptations are possible.



2

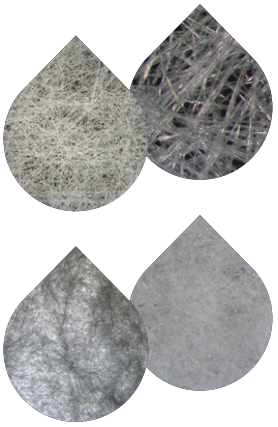
External metal mesh support for protection of the filtration medias from flow and pressure fluctuations and also to protect the integrity of the element's pleated structure.



3

External pre-filtration layer made of synthetic fibres available in two types:

- polyester material for protection of filter medias manufactured in microfibre (ultra-fine and fine);
- microfibre material (fibreglass) for elements retaining large size solid particulates.



4

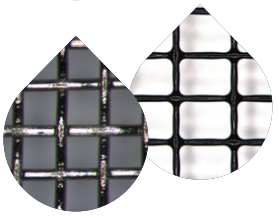
Primary microfibre filtration $\beta_{25(c)}$ = 1000 beta efficiency for ultra-fine and fine applications ensuring maximum dirt holding capacity combined with low pressure drop characteristics.

5

Polyester downstream layer support for protection of the filter media pleat structure.

6

Metal mesh for internal support of the filter medias to maintain the integrity of the overall element pleat pack. The mesh is available in stainless steel, or carbon steel with epoxy resin coating.



7

Enhanced protection of the element assembly from differential pressures is provided by the perforated inner support tube ensuring the integrity of the filter element pleat pack therefore preventing its collapse.

ALL OF OUR FILTERS COMPLY WITH ALL HYDRAULIC SECTOR REGULATIONS

ISO 10771-1	Fatigue pressure testing of metal pressure-containing envelopes
ISO 16860	Test method for differential pressure devices
ISO 16889	Multi-pass method for evaluating filtration performance of a filter element
ISO 18413	Cleanliness of components - Inspection document and principles related to contaminant extraction and analysis, and data reporting
ISO 23181	Determination of resistance to flow fatigue using high viscosity fluid
ISO 2941	Verification of collapse/burst pressure rating
ISO 2942	Verification of fabrication integrity and determination of the first bubble point
ISO 2943	Verification of material compatibility with fluids
ISO 3724	Determination of resistance to flow fatigue using particulate contaminant
ISO 3968	Evaluation of differential pressure versus flow characteristics
ISO 4405	Determination of particulate contamination by the gravimetric method
ISO 4406	Method for coding the level of contamination by solid particles
ISO 4407	Determination of particulate contamination by the counting method using an optical microscope
ISO 16232-7	Particle sizing and counting by microscopic analysis
DIN 51777	Determination of water content using titration according to Karl Fischer

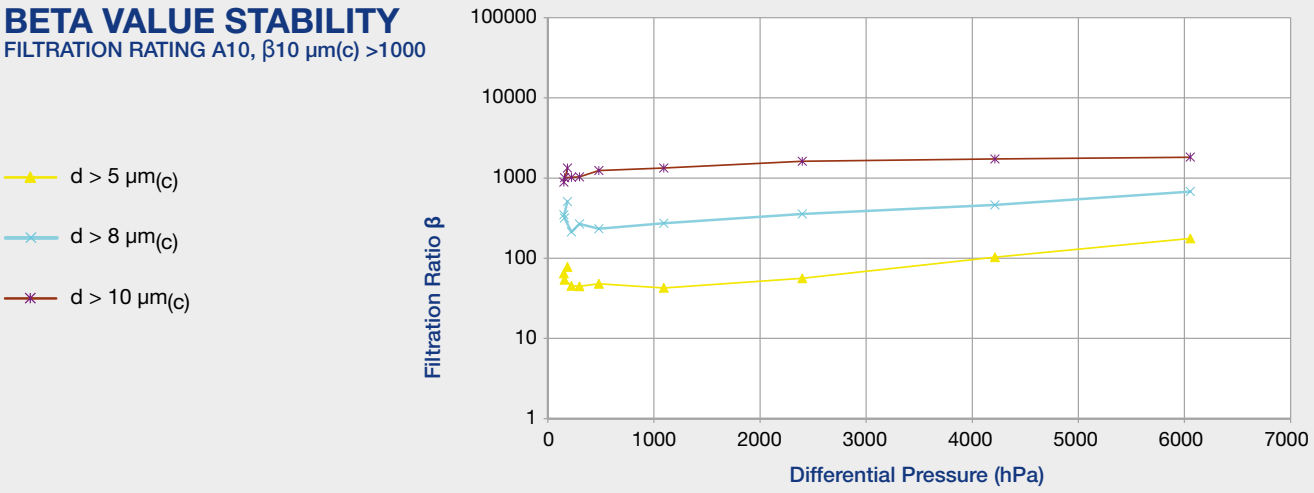
MULTI-PASS ISO 16889

The ISO Multipass test is to evaluate filtration performance of a filter element.
This standard provides reproducible test methods and data determining filtration efficiency, contamination holding capacity, and differential pressure characteristics.
The test can be used on filter media which have a filtration quotient (Beta value) of $\beta_{25(c)} \geq 75$ and a gravimetric end level in the tank of less than 200 mg/l.
The test is done using a constant supply of a contaminant ISO MTD (Medium Test Dust).

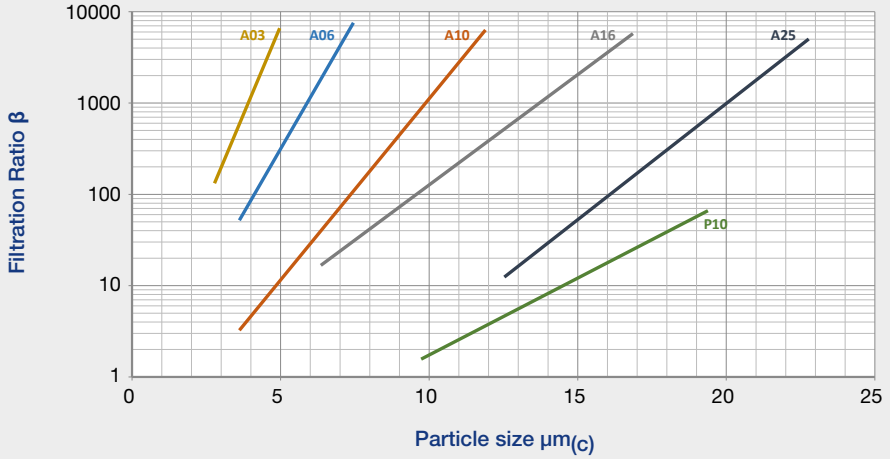
Filtration ISO standard Comparison		
$\beta_{x(c)} > 1000$ ISO 16889	$\beta_x > 200$ ISO 4572	MP Filtri Filter media code
5 $\mu m_{(c)}$	3 µm	A03
7 $\mu m_{(c)}$	6 µm	A06
10 $\mu m_{(c)}$	10 µm	A10
16 $\mu m_{(c)}$	18 µm	A16
21 $\mu m_{(c)}$	25 µm	A25

BETA VALUE STABILITY

FILTRATION RATING A10, β10 µm(c) >1000



FILTER FINENESS



MICROFIBER RETURN ELEMENT

SERIES: **N** TYPES: **A**

The standard series with filter medias made of at least 5 layers presents the best combination of separation performance and differential pressure resistance (ΔP = 10 bar, ΔP = 5 bar for spin-on only).
MFX use H series.

RETURN FILTERS:
MPFX | MPLX | MPTX | MFBX | MPF | MPT | MFB | MPH - MPI | FRI | RF2
RETURN/SUCTION FILTERS:
MRSX
SPIN-ON FILTERS:
MPS | MSH

MICROFIBER ELEMENT IN LINE

SERIES: **N** TYPES: **A**

The standard series filter media pleat pack, comprised with at least 5 layers and a reinforced inner support tube, provides high filtration efficiency performance and differential pressure collapse resistance (ΔP = 20 bar / 290 psi).
FEX use N series - 8 bar instead of N - 10 bar.

INLINE RETURN FILTERS:
RFEX
INLINE RETURN/SUCTION FILTERS:
LMP 124 MULTIPORT
LOW AND MEDIUM PRESSURE FILTERS:
LFEX | LMP MULTIPORT 110 - 120 - 123 | LMP 210 - 211 | LMP 400 - 401 - 430 - 431 | LMP 950 - 951 | LMP 952 - 953 - 954 | LMD 211 | LMD 400 - 401 - 431 | LMD 951 | LDP - LDD | LMP 900 - 901 | LMP 902 - 903

WATER REMOVAL

SERIES: **N** TYPES: **WA**

Featuring a special polymer layer for absorbing free water in the oils, and a unique composition of layers, the element filters solid particles with water retention.

SPIN-ON FILTERS:
MPS (CW filter element)
LOW AND MEDIUM PRESSURE FILTERS:
LFEX | LMP 210 - 211 | LMP 400 - 401 - 430 - 431 | LMP 900 - 901 | LMP 902 - 903 | LMP 950 - 951 | LMP 952 - 953 - 954 | LMD 211 | LMD 400 - 401 - 431 | LMD 951 | LDP - LDD

STAINLESS STEEL HIGH-PRESSURE ELEMENT

SERIES: **U** TYPES: **A**

Filter media pleat packs with high filtration efficiency performance and reinforced inner support tube provides differential pressure resistance (ΔP = 210 bar / 3000 psi); element metal components are made of stainless steel.

HIGH PRESSURE FILTERS MADE OF STAINLESS STEEL:
FZP | FZH | FZX | FZB | FZM | FZD

MICROFIBER ELEMENT HIGH-PRESSURE (N Series)

SERIES: **N** TYPES: **A**

Filter media pleat packs with high filtration efficiency performance and increased strength for the best operating performance for pressure lines (ΔP = 20 bar / 290 psi).

HIGH PRESSURE FILTERS:
FMP 039 | FMP | FHP | FMM | FHA 051 | FHM | FHB | FHF 325 | HPB
HIGH PRESSURE FILTERS MADE OF STAINLESS STEEL:
FZP | FZH | FZB | FZM

MICROFIBER ELEMENT HIGH-PRESSURE (H Series)

SERIES: **H** TYPES: **A**

High separation performance with high differential pressure resistance. The filter medias include a reinforced inner support tube with a fine mesh external layer for complete support of the element pleat pack (ΔP = 210 bar / 3000 psi).

HIGH PRESSURE FILTERS:
FMP | FHP | FHM | FHB | HPB | FHD
HIGH PRESSURE FILTERS MADE OF STAINLESS STEEL:
FZP | FZH | FZX | FZB | FZM | FZD

MICROFIBER ELEMENT HIGH-PRESSURE (R Series)

SERIES: **R** TYPES: **A**

Filter media pleat packs with high filtration efficiency performance and strengthened inner support tube provides differential pressure collapse resistance to (ΔP = 20 bar / 290 psi) are used with back flow prevention check valve and reverse flow circuits with bypass valve.

HIGH PRESSURE FILTERS:
FMP | FHP | FHA 051 | FHD | FMM
HIGH PRESSURE FILTERS MADE OF STAINLESS STEEL:
FZD | FZP

MICROFIBER ELEMENT HIGH-PRESSURE (S Series)

SERIES: **S** TYPES: **A**

Filter media pleat packs with high filtration efficiency performance and strengthened inner support tube provides differential pressure collapse resistance (ΔP = 210 bar / 3000 psi), used in filters without bypass, with back flow prevention check valve, and reverse flow circuits.

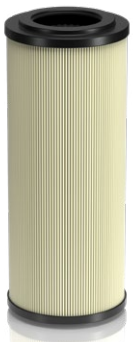
HIGH PRESSURE FILTERS:
FMP | FHP | FHA 051 | FHM | FHB | FHD | FMM
HIGH PRESSURE FILTERS MADE OF STAINLESS STEEL:
FZD | FZP

PAPER ELEMENT

SERIES: **N** TYPES: **P**

Single-layer of cellulose fiber reinforced with resins, filtration efficiency $ß_x = 2$ nominal rating.

SUCTION FILTERS:
SFEX | SF2 250 - 350
RETURN FILTERS:
RFEX | MPFX | MPLX | MPTX | MFBX | MPF | MPT | MFB | MPH - MPI | FRI | RF2
SPIN-ON FILTERS:
MPS | MSH
LOW AND MEDIUM PRESSURE FILTERS:
LFEX



REINFORCED PAPER ELEMENT

SERIES: **N** TYPES: **R**

Filter medias made of resin-reinforced cellulose fibre and supported with metal mesh element for increase of the differential pressure resistance.

LOW AND MEDIUM PRESSURE FILTERS:
LMP MULTIPORT 110 - 120 - 123 | LMP 210 - 211 | LMP 400 - 401 - 430 - 431 | LMD 211 | LMD 400 - 401 - 431 | LDP - LDD

METAL MESH

SERIES: **N** TYPES: **M**

Metal mesh with nominal filtration grade ranging from 25 µm to 250 µm for maximum mechanical strength against differential pressure or special fluids.

SUCTION FILTERS:
SFEX | STR - MPA - MPM | SF2 250 - 350 | SF2 500
RETURN FILTERS:
RFEX | MPFX | MPLX | MPTX | MFBX | MPF | MPT | MFB | MPH - MPI | FRI | RF2
SPIN-ON FILTERS:
MPS | MSH
LOW AND MEDIUM PRESSURE FILTERS:
LFEX | LMP MULTIPORT 110 - 120 - 123 | LMP 210 - 211 | LMP 400 - 401 - 430 - 431 | LMP 900 - 901 | LMP 902 - 903 | LMP 950 - 951 | LMP 952 - 953 - 954 | LMD 211 | LMD 400 - 401 - 431 | LMD 951 | LDP - LDD
HIGH PRESSURE FILTERS:
FMP 039 | FMP | FHP | FMM | FHA 051 | FHM | FHB | FHF 325 | FHD

WORLDWIDE NETWORK

HEADQUARTERS

8 BRANCHES

OVER 300 DISTRIBUTORS

Germany
France
USA
Russian Federation
China
United Kingdom
India
Canada

Since 1964

PASSION TO PERFORM

CMP4AEN005P
Rev. 6/2021