# MPFX series

**Maximum working pressure up to 0.8 MPa (8 bar) - Flow rate up to 900 l/min**



## Description

Return filter

**Maximum working pressure up to 0.8 MPa (8 bar)**
**Flow rate up to 900 l/min**

MPFX is a range of return filters for protection of the reservoir against the system contamination.
They are directly fixed to the reservoir, in immersed or semi-immersed position.
The filter output must be always immersed into the fluid to avoid aeration or foam generation into the reservoir.

### Available features:

- Female threaded connections up to 2" and flanged connections up to 2", for a maximum flow rate of 900 l/min
- Multiple connections, to connect several return lines or drains
- Fine filtration rating, to get a good cleanliness level into the reservoir
- Bypass valve integrated into the filter element, to relieve excessive pressure drop across the filter media
- 2, 3 or 4 fixing holes for installation, to suit a variety of reservoir surfaces
- O-ring or Flat Seal to suit a variety of reservoir surfaces
- Oil dipstick, to easily check the level of the fluid into the reservoir (sold as separate item)
- Extension tube, to be used in deep reservoirs (sold as separate item)
- Diffuser, to reduce the risk of aeration, foaming and noise (sold as separate item)
- Filler plug, to fill cleaned fluid into the tank without an additional connection
- Visual, electrical and electronic clogging indicators
- MYclean interface connection, to protect the product against non-original spare parts
- External protective wrap, to optimize the flow through the element and to save the element efficiency against non-proper handling

### Common applications:

- Light Industrial equipment
- Mobile application

## Technical data

### Filter housing materials

- Head: Aluminium
- Cover: Polyamide: MPFX 030-100-104-110
  Aluminium: MPFX 181-182-184-191-192-194 400-410-450-750
- Bowl: Polyamide

### Pressure

- Test pressure: 1.2 MPa (12 bar)
- Min. Burst pressure: 2.4 MPa (24 bar)
- Pulse pressure fatigue test: 1 000 000 cycles with pressure from 0 to 0.8 MPa (8 bar)

### Bypass valve

- Opening pressure 0.175 MPa (1.75 bar) ±10%
- Opening pressure 0.3 MPa (3 bar) ±10%

### Filter element features

| Filter | | Filter element | |
|---|---|---|---|
| MPFX | | MFX | |
| Δp Element type | | | |
| **Element media** | **Construction** | **Δp Series** | **Δp** |
| A - Microfiber | Standard | D | 10 bar |
| M - Wire mesh | Standard | D | 10 bar |
| P - Paper | Standard | D | 10 bar |
| *Please see ordering code tables to check element Δp series availability based on filter features.* | | | |
| **Flow direction through the filter element:** From OUT to IN | | | |

### Seals

- Standard NBR series A or W
- Optional FPM series V or Z

### Temperature

From -25 °C to +110 °C

### Note

MPFX filters are provided for vertical mounting

## Weights [kg] and volumes [dm³]

| Filter series | Weights [kg] | | | | | Volumes [dm³] | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | Length | 10 | 20 | 30 | 40 | Length | 10 | 20 | 30 | 40 |
| **MPFX 030** | | 0.40 | - | - | - | | 0.29 | - | - | - |
| **MPFX 100** | | 0.61 | 0.64 | 0.67 | 0.74 | | 0.64 | 0.85 | 1.20 | 1.65 |
| **MPFX 104** | | 0.82 | 0.96 | 1.02 | 1.25 | | 0.64 | 0.85 | 1.20 | 1.65 |
| **MPFX 110** | | 0.64 | 0.68 | 0.71 | 0.78 | | - | - | - | - |
| **MPFX 181** | | 2.20 | 3.00 | - | - | | 2.50 | 4.00 | - | - |
| **MPFX 182** | | 2.30 | 3.10 | - | - | | 2.50 | 4.00 | - | - |
| **MPFX 184** | | 2.55 | 3.45 | - | - | | 2.65 | 4.45 | - | - |
| **MPFX 191** | | - | 3.00 | - | - | | - | 4.25 | - | - |
| **MPFX 192** | | - | 3.10 | - | - | | - | 4.25 | - | - |
| **MPFX 194** | | - | 3.45 | - | - | | - | 4.45 | - | - |
| **MPFX 400** | | 3.35 | 3.65 | 3.90 | - | | 3.70 | 4.60 | 5.40 | - |
| **MPFX 410** | | 3.55 | 3.85 | 4.10 | - | | 3.70 | 4.60 | 5.40 | - |
| **MPFX 450** | | 3.95 | 4.25 | 4.50 | - | | 3.70 | 4.60 | 5.40 | - |
| **MPFX 750** | | 6.30 | - | - | - | | 8.45 | - | - | - |

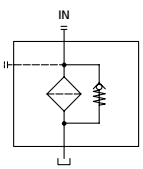
Flow rates [l/min]

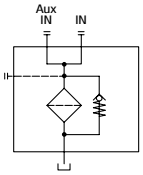
| Filter series | Length | Filter element design - D series | | | | | Filter element design - D series | | |
|---|---|---|---|---|---|---|---|---|---|
| | | A0003 | A0006 | A0010 | A0016 | A0025 | M0025 M0060 M0090 | P0010 | P0025 |
| **MPFX 030** | **10** | 7 | 10 | 24 | 29 | 47 | 84 | 60 | 66 |
| **MPFX 100-104-110** | **10** | 18 | 20 | 53 | 56 | 65 | 153 | 87 | 96 |
| | **20** | 28 | 38 | 65 | 75 | 95 | 158 | 111 | 123 |
| | **300** | 48 | 55 | 125 | 135 | 169 | 289 | 224 | 251 |
| | **4** | 79 | 89 | 180 | 185 | 198 | 306 | 264 | 289 |
| **MPFX 181-182-184** | **10** | 127 | 148 | 235 | 243 | 278 | 441 | 285 | 299 |
| | **20** | 231 | 262 | 358 | 382 | 388 | 472 | 404 | 412 |
| **MPFX 191-192-194** | **20** | 261 | 305 | 489 | 528 | 546 | 696 | 583 | 598 |
| **MPFX 400** | **10** | 150 | 171 | 294 | 304 | 350 | 585 | 370 | 390 |
| | **20** | 237 | 252 | 454 | 462 | 589 | 868 | 619 | 645 |
| | **30** | 248 | 288 | 553 | 609 | 621 | 885 | 680 | 703 |
| **MPFX 410** | **10** | 146 | 167 | 277 | 285 | 325 | 512 | 341 | 357 |
| | **20** | 226 | 239 | 396 | 402 | 485 | 644 | 503 | 519 |
| | **30** | 236 | 269 | 462 | 497 | 505 | 653 | 539 | 553 |
| **MPFX 450** | **10** | 150 | 171 | 294 | 304 | 350 | 585 | 370 | 390 |
| | **20** | 237 | 252 | 454 | 462 | 589 | 868 | 619 | 645 |
| | **30** | 248 | 288 | 553 | 609 | 621 | 885 | 680 | 703 |
| **MPFX 750** | **10** | 392 | 465 | 623 | 700 | 769 | 929 | 804 | 819 |

**Maximum flow rate for a complete return filter with a pressure drop Δp = 0.5 bar.**
The reference fluid has a kinematic viscosity of 30 $mm^2/s$ (cSt) and a density of 0.86 $kg/dm^3$.
For different pressure drop or fluid viscosity we recommend to use our selection software available on www.mpfiltri.com.
You can also calculate the right size using the formulas present on the FILTER SIZING paragraph at the beginning of the full catalogue or at the beginning of the filter family brochure.
Please, contact our Sales Department for further additional information.

Hydraulic diagram

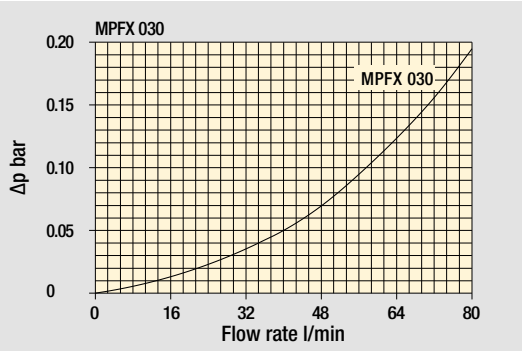
| Filter series | 17/30 - with bypass 1.75 bar/ 3 bar | |
|---|---|---|
| | Style 1 connection | Style 2 connections |
| **MPFX 030** | • | - |
| **MPFX 100** | • | - |
| **MPFX 104** | • | - |
| **MPFX 110** | - | • |
| **MPFX 181** | • | - |
| **MPFX 182** | - | • |
| **MPFX 184** | • | • |
| **MPFX 191** | • | - |
| **MPFX 192** | • | - |
| **MPFX 194** | • | • |
| **MPFX 400** | • | - |
| **MPFX 410** | - | • |
| **MPFX 450** | • | - |
| **MPFX 750** | • | - |

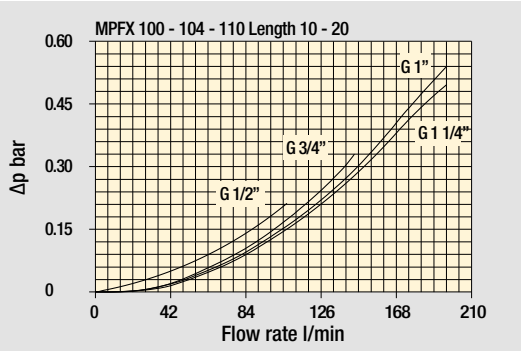


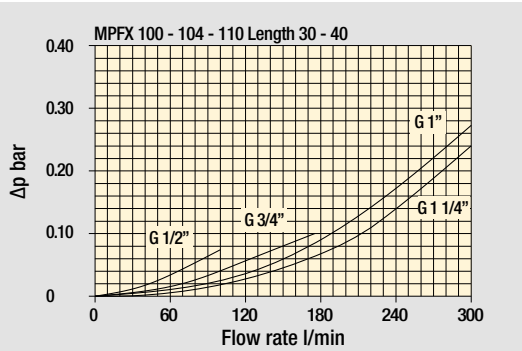



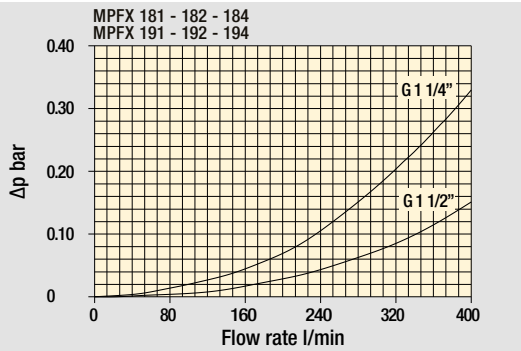
## Pressure drop

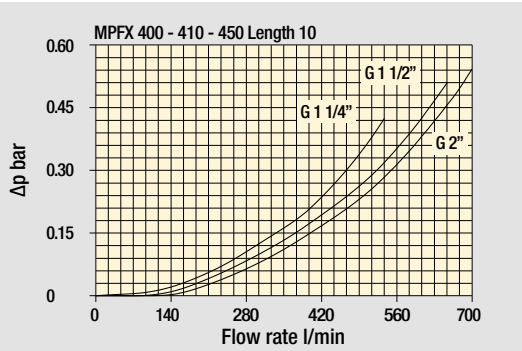
### Filter housings Δp pressure drop

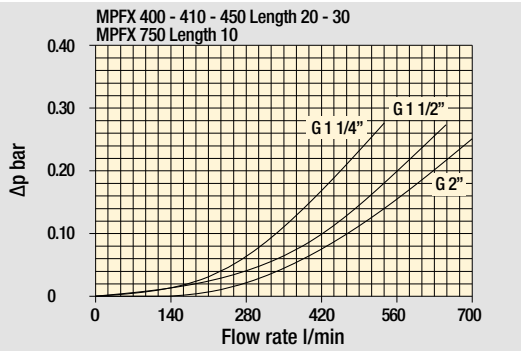


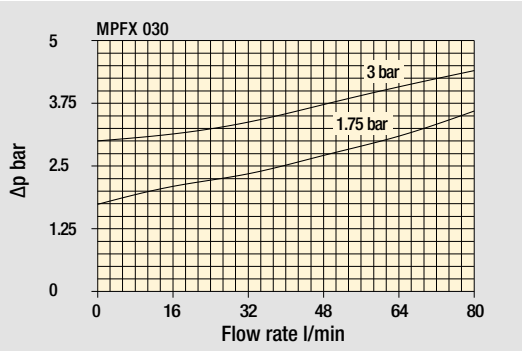



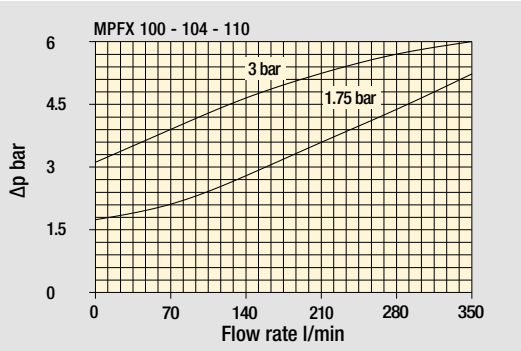



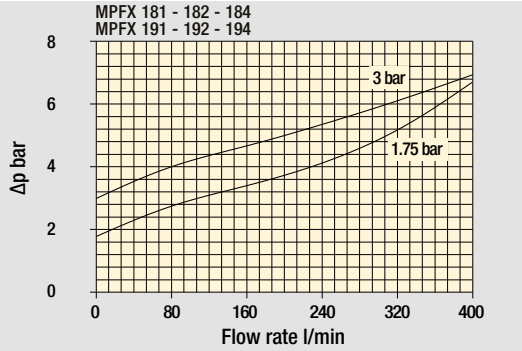



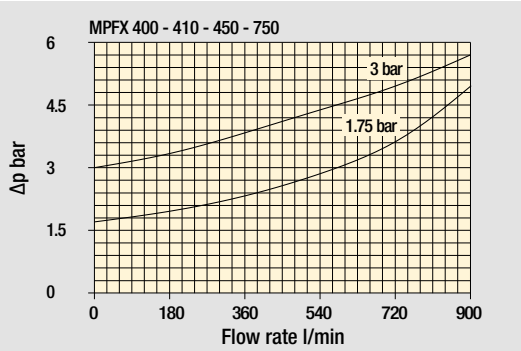




### Bypass valve pressure drop



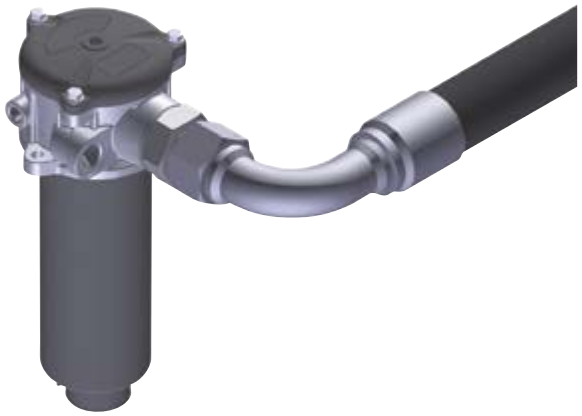



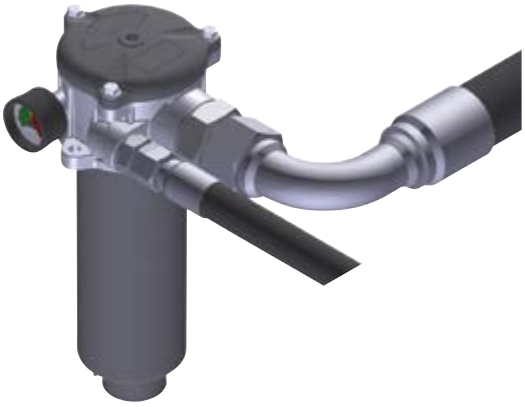




The curves are plotted using mineral oil with density of 0.86 kg/dm$^3$ in compliance with ISO 3968. Δp varies proportionally with density.

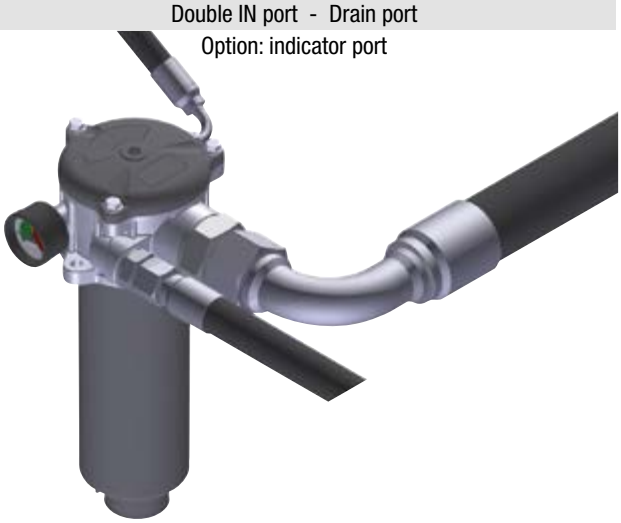
Standard - Single IN port



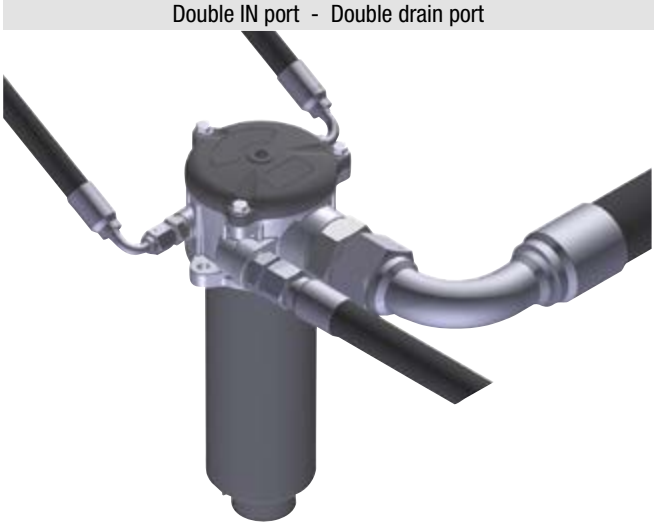
Double IN port
Option: double indicator port



Double IN port - Drain port
Option: indicator port



Double IN port - Double drain port



## FILTER ELEMENT

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Example 1: | MFX | 180 | 10 | A0025 | D | A | 30 | NN | P01 | NN |
| Example 2: | MFX | 180 | 20 | P0010 | D | V | 17 | NN | P01 | NN |

### Series
**MFX** Filter element with MYCLEAN feature

### Size
**180**

### Length
**10**
**20**

### Filtration rating (filter media)

MYCLEAN

| | | |
|---|---|---|
| **A0003** | Inorganic microfiber | 3 µm |
| **A0006** | Inorganic microfiber | 6 µm |
| **A0010** | Inorganic microfiber | 10 µm |
| **A0016** | Inorganic microfiber | 16 µm |
| **A0025** | Inorganic microfiber | 25 µm |
| **M0025** | Wire mesh | 25 µm |
| **M0060** | Wire mesh | 60 µm |
| **M0090** | Wire mesh | 90 µm |
| **P0010** | Resin impregnated paper | 10 µm |
| **P0025** | Resin impregnated paper | 25 µm |

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| | | |
|---|---|---|
| **Z0003** | Antistatic in. microf. | 3 µm |
| **Z0006** | Antistatic in. microf. | 6 µm |
| **Z0010** | Antistatic in. microf. | 10 µm |
| **Z0016** | Antistatic in. microf. | 16 µm |
| **Z0025** | Antistatic in. microf. | 25 µm |

### Element Δp
**D** 10 bar

### Seals and treatments
**A** NBR
**V** FPM

### Bypass
**17** With bypass 1.75 bar
**30** With bypass 3.0 bar

### Additional features
**NN** Without additional features

### Execution
**P01** Standard catalogue item

### Certificates
**NN** None

## FILTER ELEMENT

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Example 1: | MFX | 180 | 10 | A0025 | D | A | 30 | NN | P01 | NN |
| Example 2: | MFX | 180 | 20 | P0010 | D | V | 17 | NN | P01 | NN |

### Series
**MFX** Filter element with MYCLEAN feature

### Size
**180**

### Length
**10**
**20**

### Filtration rating (filter media)

MYCLEAN

| | | |
|---|---|---|
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| **A0006** | Inorganic microfiber | 6 µm |
| **A0010** | Inorganic microfiber | 10 µm |
| **A0016** | Inorganic microfiber | 16 µm |
| **A0025** | Inorganic microfiber | 25 µm |
| **M0025** | Wire mesh | 25 µm |
| **M0060** | Wire mesh | 60 µm |
| **M0090** | Wire mesh | 90 µm |
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| **P0025** | Resin impregnated paper | 25 µm |

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| | | |
|---|---|---|
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**D** 10 bar

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### Execution
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### Certificates
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# Designation & Ordering code

## FILTER ELEMENT

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Example 1: | MFX | 180 | 10 | A0025 | D | A | 30 | NN | P01 | NN |
| Example 2: | MFX | 180 | 20 | P0010 | D | V | 17 | NN | P01 | NN |

### Series
**MFX** Filter element with MYCLEAN feature

### Size
**180**

### Length
**10**

**20**

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MYCLEAN

| | | |
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| | | |
|---|---|---|
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**D** 10 bar

### Seals and treatments
**A** NBR

**V** FPM

### Bypass
**17** With bypass 1.75 bar

**30** With bypass 3.0 bar

### Additional features
**NN** Without additional features

### Execution
**P01** Standard catalogue item

### Certificates
**NN** None

MYCLEAN

**THE X CONCEPT FOR OUR FILTERS**

**Protect the performance of your system with MYclean.
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.**

# MPLX series

## with MYCLEAN MLX Filter Element



- **Protects the machine from improper use of non-original products.**
- **Safety of constant quality protection & reliability**

With exclusive filter element you are sure that only MP Filtri filter elements can be used, ensuring the best cleaning level of the oil due to the use of originals filter elements.

The products identified as MPLX are protected by:

- Italian Patent n° 102014902261205
- Canadian Patent n° 2,937,258
- European Patent n° 3 124 092 B1
- US Patent n° 20170030384 A1