

# MPTX series

Maximum working pressure up to 800 kPa (8 bar) - Flow rate up to 300 l/min





THE NEW FILTER CONCEPT

MPFX  
MPTX  
MFBX  
MFX  
series

## NEW FILTER ELEMENT WITH EXCLUSIVE INTERFACE CONNECTION

- 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.



Filter element featuring our UNIQUE end cap with polygonal design.



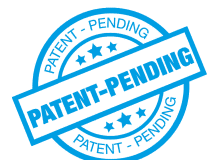
UNIQUE polygonal spigot fitting within the filter bowl.

The products identified as MPFX, MPTX, MFBX and MFX are protected by Italian Patent n° 102015000040473 and by one or more of the following patent applications:

European Patent Pending: n° 16181725.9

US Patent Pending: n° 15/224,337

Canadian Patent Pending: n° 2,937,258



## Description

## Technical data

### Return filter

**Maximum working pressure up to 800 kPa (8 bar)**

**Flow rate up to 300 l/min**

MPTX is a range of return filters with integrated breather filter, 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 1 1/4", for a maximum flow rate of 300 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, 4 or 6 fixing holes for installation, to meet any reservoir surface flatness and roughness
- O-ring or Flat seal, to meet any reservoir surface flatness and roughness
- Screw-in cover with a special shape, to allow the filter element replacement without the use of specific tools
- 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)
- Integrated breather filter, to clean the air that moves into the reservoir as result of the oil level fluctuation
- Integrated breather filter with pressurization valve, to clean the air that moves into the reservoir as result of the oil level fluctuation and to guarantee the pressurization into the reservoir
- 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

### Filter housing materials

- Head: Aluminium
- Cover: Nylon
- Bowl: Nylon

### Bypass valve

- Opening pressure 175 kPa (1.75 bar)  $\pm 10\%$
- Opening pressure 300 kPa (3 bar)  $\pm 10\%$

### $\Delta p$ element type

- Microfiber filter elements - series H: 10 bar
- Fluid flow through the filter element from OUT to IN

### Seals

- Standard NBR series A
- Optional FPM series V

### Temperature

From -25 °C to +110 °C

### Note

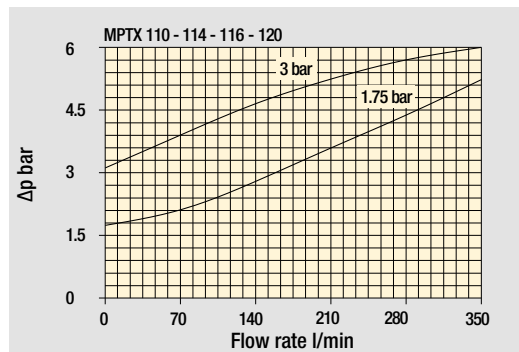
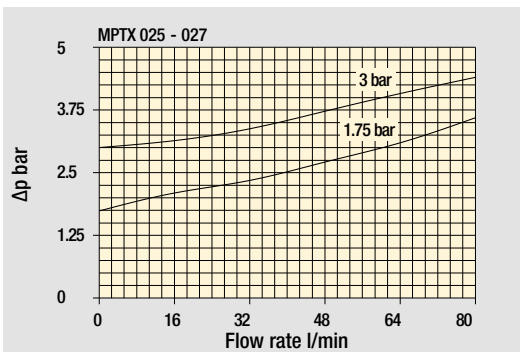
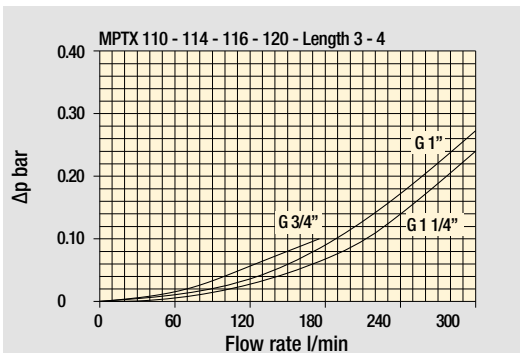
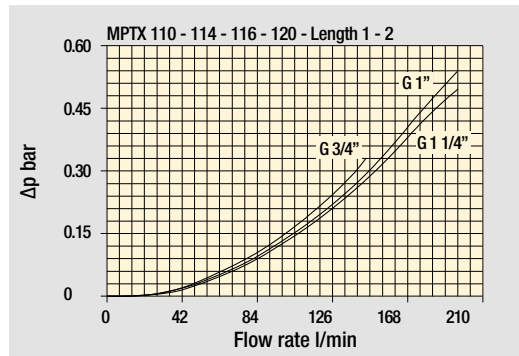
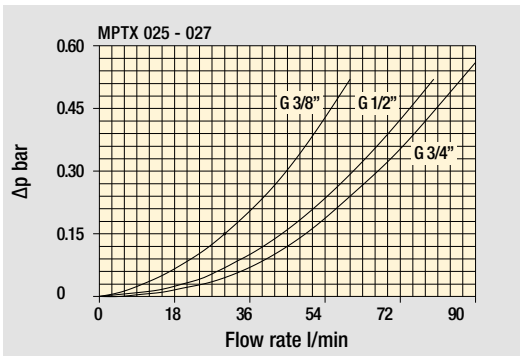
MPTX filters are provided for vertical mounting



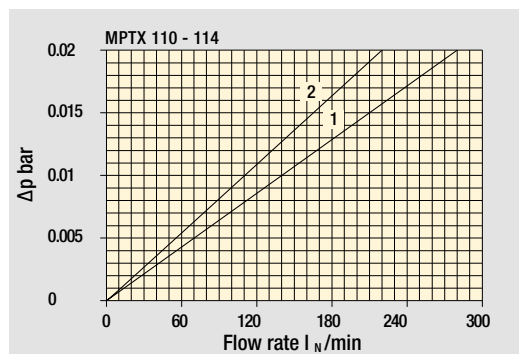
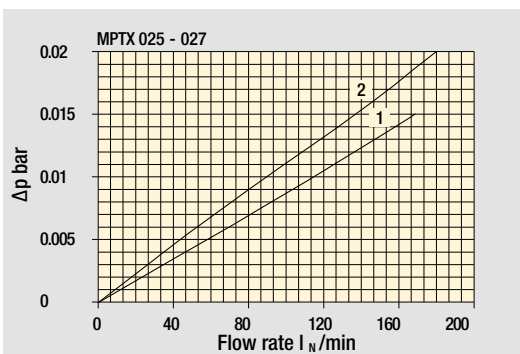
## Weights [kg] and volumes [dm<sup>3</sup>]

| Filter series   | Weights [kg] |      |      |      |      | Volumes [dm <sup>3</sup> ] |      |      |      |      |
|-----------------|--------------|------|------|------|------|----------------------------|------|------|------|------|
|                 | Length       | 1    | 2    | 3    | 4    | Length                     | 1    | 2    | 3    | 4    |
| <b>MPTX 025</b> |              | 0.41 | 0.45 | 0.50 | -    |                            | 0.24 | 0.35 | 0.42 | -    |
| <b>MPTX 027</b> |              | 0.44 | 0.48 | 0.55 | -    |                            | 0.24 | 0.35 | 0.42 | -    |
| <b>MPTX 110</b> |              | 1.00 | 1.05 | 1.15 | 1.40 |                            | 0.72 | 0.93 | 1.28 | 1.74 |
| <b>MPTX 114</b> |              | 1.10 | 1.15 | 1.25 | 1.50 |                            | 0.72 | 0.93 | 1.28 | 1.74 |
| <b>MPTX 116</b> |              | 1.10 | 1.15 | 1.25 | 1.50 |                            | 0.72 | 0.93 | 1.28 | 1.74 |
| <b>MPTX 120</b> |              | 1.00 | 1.05 | 1.15 | 1.40 |                            | 0.72 | 0.93 | 1.28 | 1.74 |

### Filter housings $\Delta p$ pressure drop



### Bypass valve pressure drop



### Air breather pressure drop

- 1  C With air breather 10  $\mu$ m
- 2  D With anti-splash and SAP50 10  $\mu$ m

The curves are plotted using mineral oil with density of 0.86 kg/dm<sup>3</sup> in compliance with ISO 3968.  
 $\Delta p$  varies proportionally with density.

# MPTX GENERAL INFORMATION

## Flow rates [l/min]

| Filter series                       | Length   | Filter element design - H series |     |     |     |     | Filter element design - N series |     |     |
|-------------------------------------|----------|----------------------------------|-----|-----|-----|-----|----------------------------------|-----|-----|
|                                     |          | A03                              | A06 | A10 | A16 | A25 | M25<br>M60<br>M90                | P10 | P25 |
| <b>MPTX<br/>025-027</b>             | <b>1</b> | 7                                | 10  | 23  | 28  | 42  | 59                               | 51  | 54  |
|                                     | <b>2</b> | 17                               | 20  | 45  | 48  | 56  | 72                               | 64  | 67  |
|                                     | <b>3</b> | 21                               | 24  | 50  | 55  | 59  | 76                               | 74  | 75  |
| <b>MPTX<br/>110-120<br/>114-116</b> | <b>1</b> | 18                               | 20  | 53  | 56  | 65  | 153                              | 87  | 96  |
|                                     | <b>2</b> | 28                               | 38  | 65  | 75  | 95  | 158                              | 111 | 123 |
|                                     | <b>3</b> | 48                               | 55  | 125 | 135 | 169 | 289                              | 224 | 251 |
|                                     | <b>4</b> | 79                               | 89  | 180 | 185 | 198 | 306                              | 264 | 289 |

### Maximum flow rate for a complete return filter with a pressure drop $\Delta p = 0.5$ bar.

The reference fluid has a kinematic viscosity of 30 mm<sup>2</sup>/s (cSt) and a density of 0.86 kg/dm<sup>3</sup>.

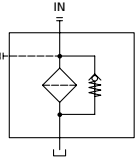
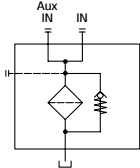
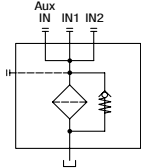
For different pressure drop or fluid viscosity we recommend to use our selection software available on [www.mpfiltri.com](http://www.mpfiltri.com).

Please, contact our Sales Department for further additional information.

## Hydraulic symbols

| Filter series   | Style 1 connection | Style 2 connections | Style 3 connections |
|-----------------|--------------------|---------------------|---------------------|
| <b>MPTX 025</b> | •                  |                     |                     |
| <b>MPTX 027</b> | •                  |                     |                     |
| <b>MPTX 110</b> |                    | •                   |                     |
| <b>MPTX 114</b> | •                  |                     |                     |
| <b>MPTX 116</b> | •                  |                     |                     |
| <b>MPTX 120</b> |                    |                     | •                   |

|   |   |   |
|---|---|---|
|  |  |  |
|---|---|---|

## Designation & Ordering code

### COMPLETE FILTER

|   |   |          |          |          |           |            |          |            |
|---|---|----------|----------|----------|-----------|------------|----------|------------|
| <b>Series and size</b>                            | Configuration example 1: <b>MPTX114</b> | <b>4</b> | <b>S</b> | <b>A</b> | <b>G3</b> | <b>A10</b> | <b>E</b> | <b>P01</b> |
| <b>MPTX114</b> Filter element with private spigot | Configuration example 2: <b>MPTX114</b> | <b>3</b> | <b>C</b> | <b>W</b> | <b>G6</b> | <b>A03</b> | <b>B</b> | <b>P01</b> |

|   |
|---|
| <b>Length</b>                             |
| <b>1</b>   <b>2</b>   <b>3</b>   <b>4</b> |

|  |
|--|
| <b>Air breather</b>  |
| <b>S</b> Without air breather  |
| <b>C</b> With air breather 10 µm   |
| <b>D</b> With anti-splash and air breather SAP050 10 µm                        |
| <b>P</b> With anti-splash and air breather SAP050 10 µm pressurization 0.5 bar |

| <b>Seals and treatments</b> | Filtration rating |     |     |
|-----------------------------|-------------------|-----|-----|
|                             | Axx               | Mxx | Pxx |
| <b>A</b> NBR                | •                 | •   | •   |
| <b>V</b> FPM                | •                 | •   | •   |
| <b>W</b> NBR head anodized  | •                 | •   |     |
| <b>Z</b> FPM head anodized  | •                 | •   |     |

|                    |                                    |
|--------------------|------------------------------------|
| <b>Connections</b> |                                    |
| <b>G1</b> G 3/4"   | <b>G6</b> 1 1/4" NPT               |
| <b>G2</b> G 1"     | <b>G7</b> SAE 12 - 1 1/16" - 12 UN |
| <b>G3</b> G 1 1/4" | <b>G8</b> SAE 16 - 1 5/16" - 12 UN |
| <b>G4</b> 3/4" NPT | <b>G9</b> SAE 20 - 1 5/8" - 12 UN  |
| <b>G5</b> 1" NPT   |                                    |

|   |  |
|---|--|
| <b>Filtration rating (filter media)</b> |  |
| <b>A03</b> Inorganic microfiber 3 µm    | <b>M25</b> Wire mesh 25 µm               |
| <b>A06</b> Inorganic microfiber 6 µm    | <b>M60</b> Wire mesh 60 µm               |
| <b>A10</b> Inorganic microfiber 10 µm   | <b>M90</b> Wire mesh 90 µm               |
| <b>A16</b> Inorganic microfiber 16 µm   | <b>P10</b> Resin impregnated paper 10 µm |
| <b>A25</b> Inorganic microfiber 25 µm   | <b>P25</b> Resin impregnated paper 25 µm |

|                     |                               |
|---------------------|-------------------------------|
| <b>Bypass valve</b> | <b>Execution</b>              |
| <b>E</b> 3 bar      | <b>P01</b> MP Filtri standard |
| <b>B</b> 1.75 bar   | <b>Pxx</b> Customized         |

### FILTER ELEMENT

|  |  |          |            |          |          |          |            |
|--|--|----------|------------|----------|----------|----------|------------|
| <b>Element series and size</b>                   | Configuration example 2: <b>MFX100</b> | <b>4</b> | <b>A10</b> | <b>H</b> | <b>B</b> | <b>E</b> | <b>P01</b> |
| <b>MFX100</b> Filter element with private spigot | Configuration example 1: <b>MFX100</b> | <b>3</b> | <b>A03</b> | <b>W</b> | <b>B</b> |          | <b>P01</b> |

|   |
|---|
| <b>Element length</b>                     |
| <b>1</b>   <b>2</b>   <b>3</b>   <b>4</b> |

|   |  |
|---|--|
| <b>Filtration rating (filter media)</b> |  |
| <b>A03</b> Inorganic microfiber 3 µm    | <b>M25</b> Wire mesh 25 µm               |
| <b>A06</b> Inorganic microfiber 6 µm    | <b>M60</b> Wire mesh 60 µm               |
| <b>A10</b> Inorganic microfiber 10 µm   | <b>M90</b> Wire mesh 90 µm               |
| <b>A16</b> Inorganic microfiber 16 µm   | <b>P10</b> Resin impregnated paper 10 µm |
| <b>A25</b> Inorganic microfiber 25 µm   | <b>P25</b> Resin impregnated paper 25 µm |

| <b>Element Δp</b>  | Filter media |     |     |
|--|--------------|-----|-----|
|  | Axx          | Mxx | Pxx |
| <b>N</b> 10 bar  |              | •   | •   |
| <b>H</b> 10 bar  | •            |     |     |
| <b>W</b> 10 bar, compatible with fluids HFA, HFB and HFC | •            | •   |     |

|              |                     |                               |
|--------------|---------------------|-------------------------------|
| <b>Seals</b> | <b>Bypass valve</b> | <b>Execution</b>              |
| <b>B</b> NBR | <b>E</b> 3 bar      | <b>P01</b> MP Filtri standard |
| <b>V</b> FPM | <b>B</b> 1.75 bar   | <b>Pxx</b> Customized         |

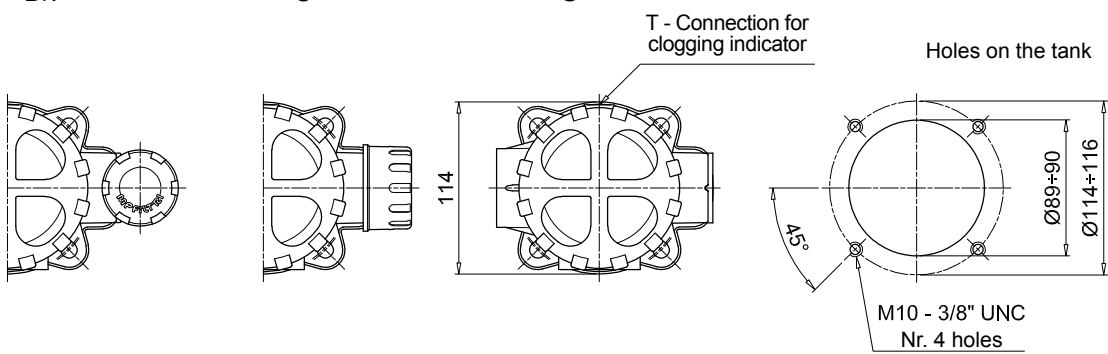
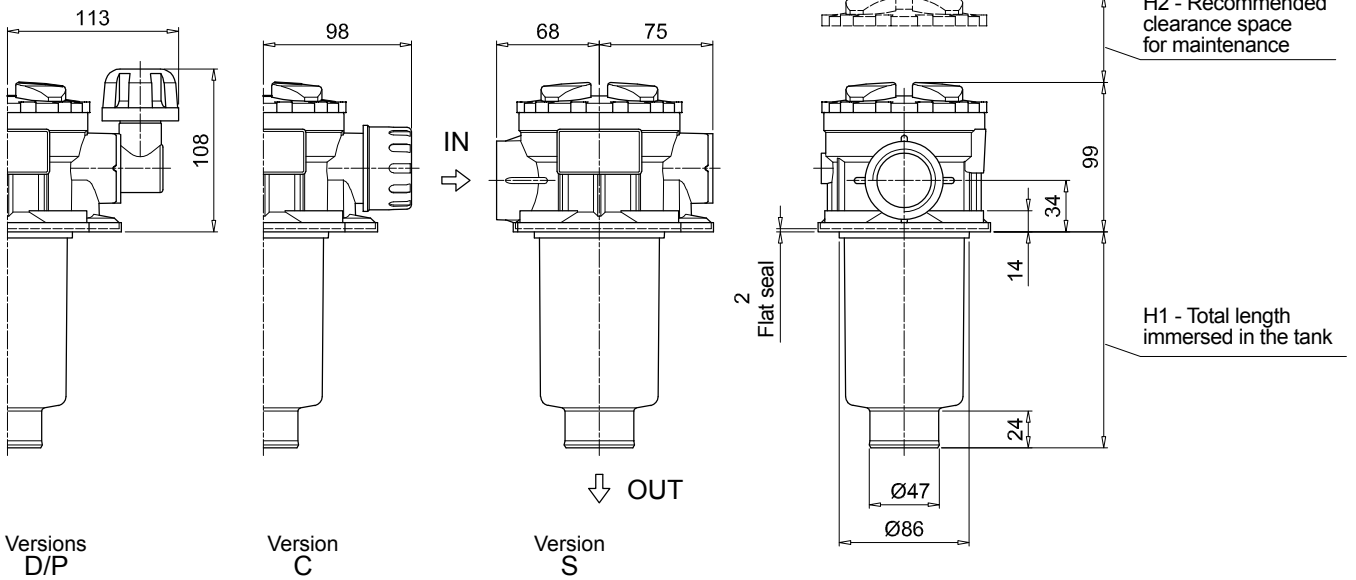
### ACCESSORIES

| <b>Indicators</b>   | page |   | page    |
|---|------|---|---------|
| <b>BVA</b> Axial pressure gauge                           | 240  | <b>BEA</b> Electrical pressure indicator          | 239     |
| <b>BVR</b> Radial pressure gauge                          | 240  | <b>BEM</b> Electrical pressure indicator          | 239     |
| <b>BVP</b> Visual pressure indicator with automatic reset | 241  | <b>BLA</b> Electrical / visual pressure indicator | 239-240 |
| <b>BVQ</b> Visual pressure indicator with manual reset    | 241  |   |         |
| <b>Additional features</b>                                | page |   | page    |
| <b>TE</b> Extension tube                                  | 248  | <b>DPT</b> Dipstick                               | 249     |
| <b>DFS</b> Diffuser with fast lock connection             | 249  |   |         |

| MPTX114       |         |         |
|---------------|---------|---------|
| Filter length | H1 [mm] | H2 [mm] |
| 1             | 99      | 120     |
| 2             | 144     | 170     |
| 3             | 222     | 250     |
| 4             | 324     | 350     |

| Connections       | T        |
|-------------------|----------|
| G1-G2-G3          | G 1/8"   |
| G4-G5-G6-G7-G8-G9 | 1/8" NPT |



## Designation & Ordering code

### COMPLETE FILTER

|   |   |     |                     |   |                               |  |  |  |  |
|---|---|-----|---------------------|---|-------------------------------|--|--|--|--|
| <b>Series and size</b>                            | Configuration example 1: <b>MPTX116</b>   <b>1</b>   <b>S</b>   <b>A</b>   <b>G1</b>   <b>M90</b>   <b>E</b>   <b>P01</b> |     |                     |   |                               |  |  |  |  |
| <b>MPTX116</b> Filter element with private spigot | Configuration example 2: <b>MPTX116</b>   <b>2</b>   <b>S</b>   <b>Z</b>   <b>G9</b>   <b>A03</b>   <b>B</b>   <b>P01</b> |     |                     |   |                               |  |  |  |  |
| <b>Length</b>                                     | 1   2   3   4   |     |                     |   |                               |  |  |  |  |
| <b>Air breather</b>                               | S Without air breather  |     |                     |   |                               |  |  |  |  |
| <b>Seals and treatments</b>                       | Filtration rating   |     |                     |   |                               |  |  |  |  |
|   | Axx   | Mxx | Pxx                 |   |                               |  |  |  |  |
| <b>A</b> NBR                                      | •   | •   | •                   |   |                               |  |  |  |  |
| <b>V</b> FPM                                      | •   | •   | •                   |   |                               |  |  |  |  |
| <b>W</b> NBR head anodized                        | •   | •   |                     | filter element compatible with fluids HFA-HFB-HFC |                               |  |  |  |  |
| <b>Z</b> FPM head anodized                        | •   | •   |                     |   |                               |  |  |  |  |
| Flat seal on the head on request                  |   |     |                     |   |                               |  |  |  |  |
| <b>Connections</b>                                |   |     |                     |   |                               |  |  |  |  |
| <b>G1</b> G 3/4"                                  | <b>G6</b> 1 1/4" NPT  |     |                     |   |                               |  |  |  |  |
| <b>G2</b> G 1"                                    | <b>G7</b> SAE 12 - 1 1/16" - 12 UN  |     |                     |   |                               |  |  |  |  |
| <b>G3</b> G 1 1/4"                                | <b>G8</b> SAE 16 - 1 5/16" - 12 UN  |     |                     |   |                               |  |  |  |  |
| <b>G4</b> 3/4" NPT                                | <b>G9</b> SAE 20 - 1 5/8" - 12 UN   |     |                     |   |                               |  |  |  |  |
| <b>G5</b> 1" NPT                                  |   |     |                     |   |                               |  |  |  |  |
| <b>Filtration rating (filter media)</b>           |   |     |                     |   |                               |  |  |  |  |
| <b>A03</b> Inorganic microfiber 3 µm              | <b>M25</b> Wire mesh 25 µm  |     |                     |   |                               |  |  |  |  |
| <b>A06</b> Inorganic microfiber 6 µm              | <b>M60</b> Wire mesh 60 µm  |     |                     |   |                               |  |  |  |  |
| <b>A10</b> Inorganic microfiber 10 µm             | <b>M90</b> Wire mesh 90 µm  |     |                     |   |                               |  |  |  |  |
| <b>A16</b> Inorganic microfiber 16 µm             | <b>P10</b> Resin impregnated paper 10 µm  |     |                     |   |                               |  |  |  |  |
| <b>A25</b> Inorganic microfiber 25 µm             | <b>P25</b> Resin impregnated paper 25 µm  |     |                     |   |                               |  |  |  |  |
|   |   |     | <b>Bypass valve</b> |   | <b>Execution</b>              |  |  |  |  |
|   |   |     | <b>E</b> 3 bar      |   | <b>P01</b> MP Filtri standard |  |  |  |  |
|   |   |     | <b>B</b> 1.75 bar   |   | <b>Pxx</b> Customized         |  |  |  |  |

### FILTER ELEMENT

|  |  |     |              |  |                     |  |                               |  |  |
|--|--|-----|--------------|--|---------------------|--|-------------------------------|--|--|
| <b>Element series and size</b>                           | Configuration example 2: <b>MFX100</b>   <b>1</b>   <b>M90</b>   <b>N</b>   <b>B</b>   <b>E</b>   <b>P01</b> |     |              |  |                     |  |                               |  |  |
| <b>MFX100</b> Filter element with private spigot         | Configuration example 1: <b>MFX100</b>   <b>2</b>   <b>A03</b>   <b>W</b>   <b>V</b>   <b>P01</b>            |     |              |  |                     |  |                               |  |  |
| <b>Element length</b>                                    | 1   2   3   4  |     |              |  |                     |  |                               |  |  |
| <b>Filtration rating (filter media)</b>                  |  |     |              |  |                     |  |                               |  |  |
| <b>A03</b> Inorganic microfiber 3 µm                     | <b>M25</b> Wire mesh 25 µm   |     |              |  |                     |  |                               |  |  |
| <b>A06</b> Inorganic microfiber 6 µm                     | <b>M60</b> Wire mesh 60 µm   |     |              |  |                     |  |                               |  |  |
| <b>A10</b> Inorganic microfiber 10 µm                    | <b>M90</b> Wire mesh 90 µm   |     |              |  |                     |  |                               |  |  |
| <b>A16</b> Inorganic microfiber 16 µm                    | <b>P10</b> Resin impregnated paper 10 µm   |     |              |  |                     |  |                               |  |  |
| <b>A25</b> Inorganic microfiber 25 µm                    | <b>P25</b> Resin impregnated paper 25 µm   |     |              |  |                     |  |                               |  |  |
| <b>Element Δp</b>  | Filter media   |     |              |  |                     |  |                               |  |  |
|  | Axx  | Mxx | Pxx          |  |                     |  |                               |  |  |
| <b>N</b> 10 bar  |  | •   | •            |  |                     |  |                               |  |  |
| <b>H</b> 10 bar  | •  |     |              |  |                     |  |                               |  |  |
| <b>W</b> 10 bar, compatible with fluids HFA, HFB and HFC | •  | •   |              |  |                     |  |                               |  |  |
|  |  |     | <b>Seals</b> |  | <b>Bypass valve</b> |  | <b>Execution</b>              |  |  |
|  |  |     | <b>B</b> NBR |  | <b>E</b> 3 bar      |  | <b>P01</b> MP Filtri standard |  |  |
|  |  |     | <b>V</b> FPM |  | <b>B</b> 1.75 bar   |  | <b>Pxx</b> Customized         |  |  |

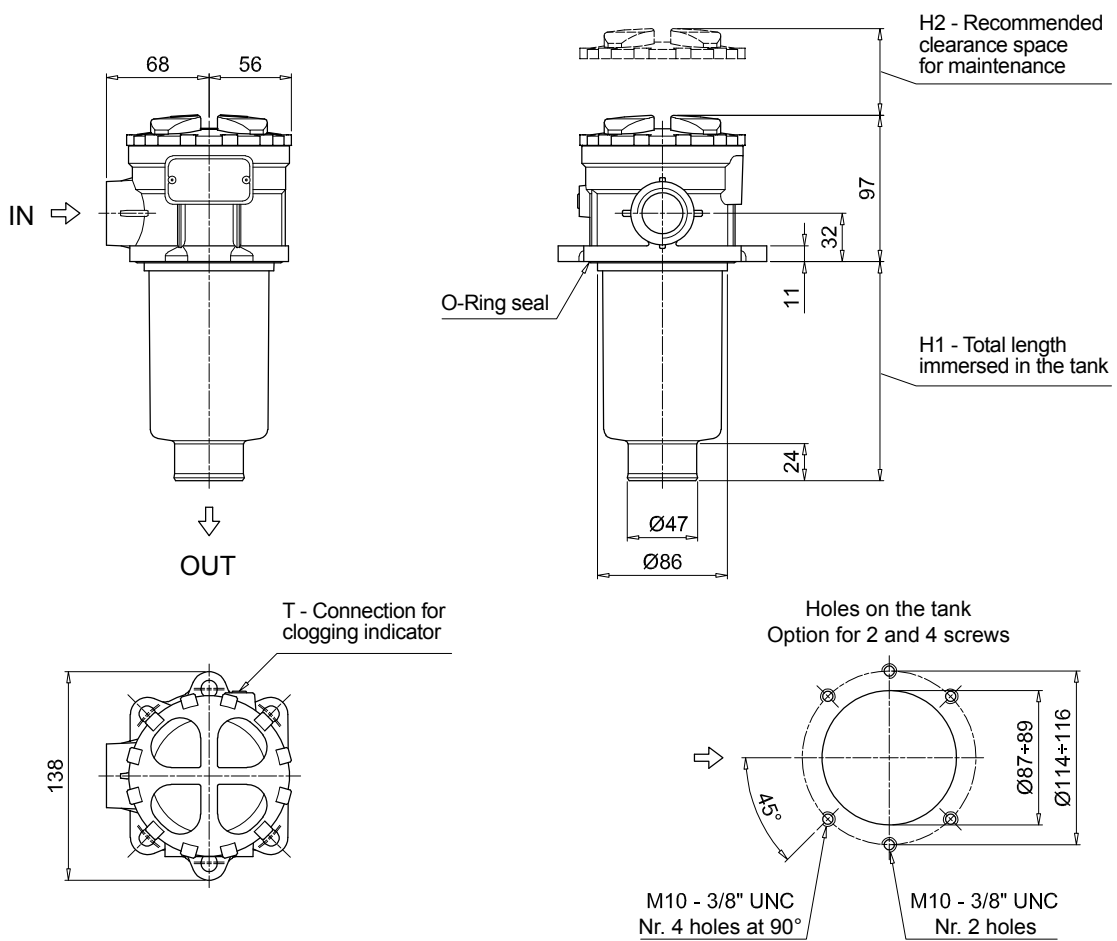
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| <b>Additional features</b>                                | page |   | page    |
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| <b>DFS</b> Diffuser with fast lock connection             | 249  |   |         |

| MPTX116       |         |         |
|---------------|---------|---------|
| Filter length | H1 [mm] | H2 [mm] |
| <b>1</b>      | 99      | 120     |
| <b>2</b>      | 146     | 170     |
| <b>3</b>      | 224     | 250     |
| <b>4</b>      | 326     | 350     |

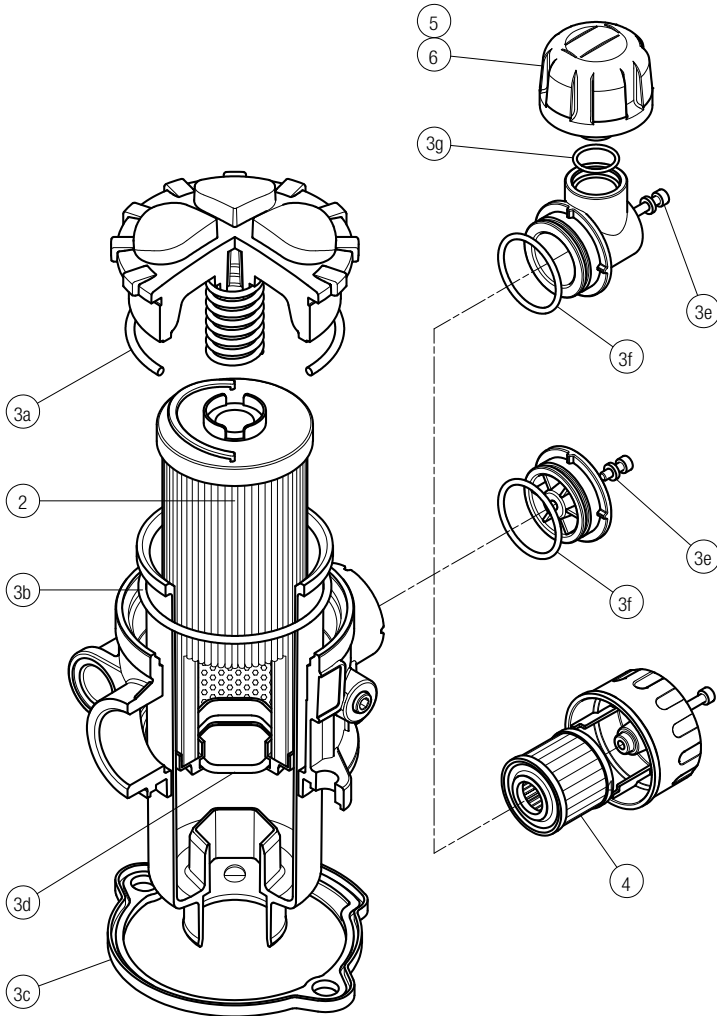
| Connections              | T        |
|--------------------------|----------|
| <b>G1-G2-G3</b>          | G 1/8"   |
| <b>G4-G5-G6-G7-G8-G9</b> | 1/8" NPT |



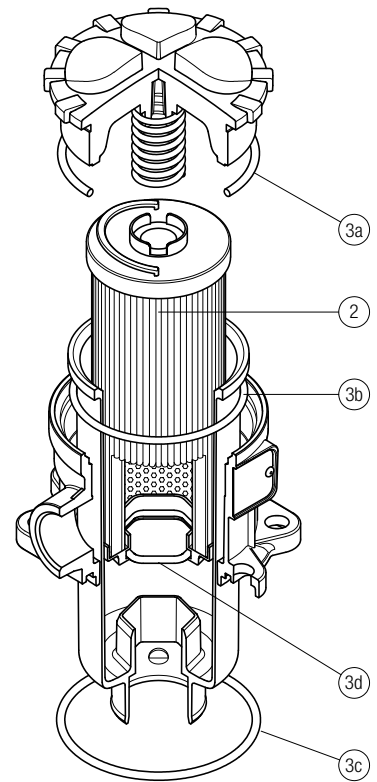
# MPTX SPARE PARTS

Order number for spare parts

MPTX 025 - 027 - 110



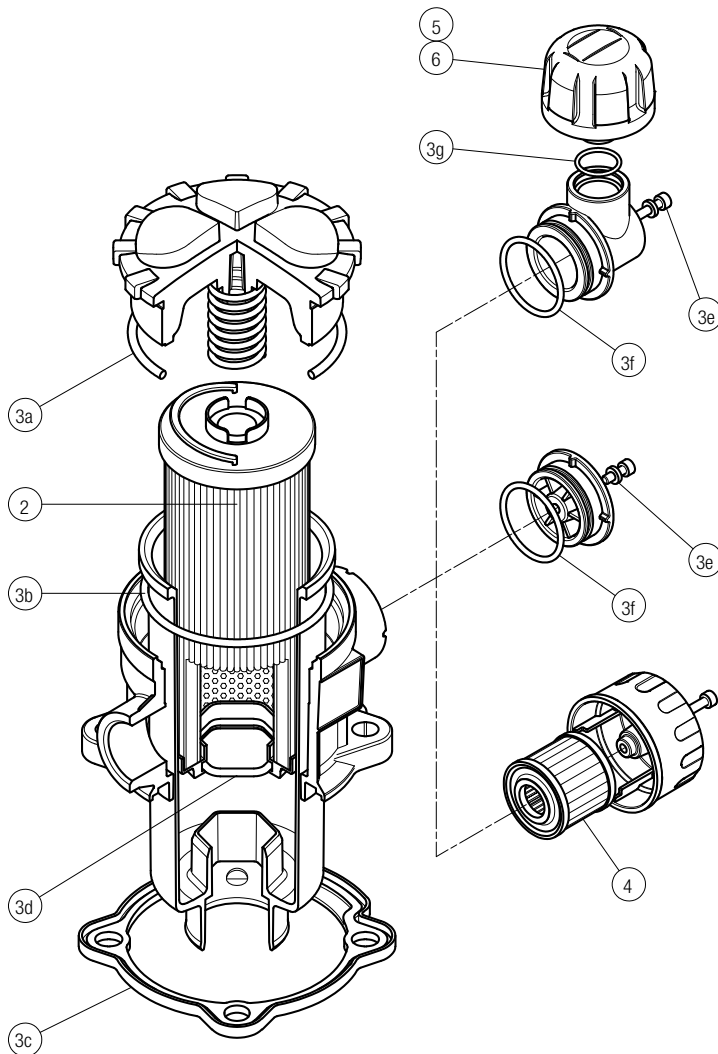
MPTX 116



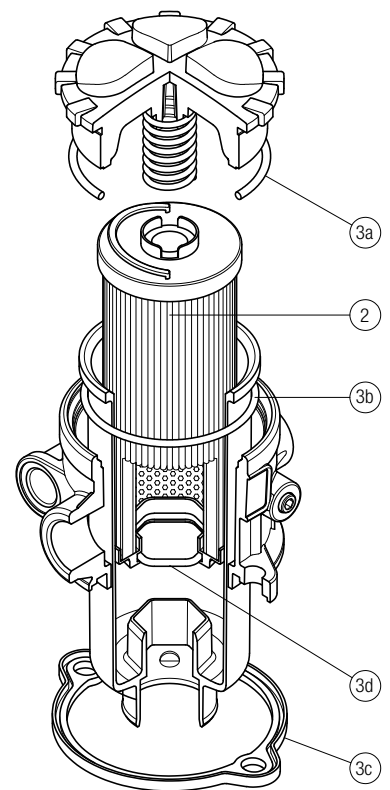
| Item:         | Q.ty: 1 pc.     | Q.ty: 1 pc.          | Q.ty: 1 pc. | Q.ty: 1 pc.                            | Q.ty: 1 pc.           |                       |
|---------------|-----------------|----------------------|-------------|--|-----------------------|-----------------------|
| Filter series | Filter element  | Seal Kit code number |             | Air breather filter element - version: |                       |                       |
|               |                 | NBR                  | FPM         | C                                      | D                     | P                     |
| MPTX 025      | See order table | 02050701             | 02050702    | 10 µm A3L03                            | 10 µm SAP50G3L03A0P01 | 10 µm SAP50G3L03A1P01 |
| MPTX 027      |                 | 02050703             | 02050704    | 10 µm A3L03                            | 10 µm SAP50G3L03A0P01 | 10 µm SAP50G3L03A1P01 |
| MPTX 110      |                 | 02050709             | 02050710    | 10 µm A5L03                            | 10 µm SAP50G3L03A0P01 | 10 µm SAP50G3L03A1P01 |

| Item:         | Q.ty: 1 pc.     | Q.ty: 1 pc.          |          |
|---------------|-----------------|----------------------|----------|
| Filter series | Filter element  | Seal Kit code number |          |
|               |                 | NBR                  | FPM      |
| MPTX 116      | See order table | 02050737             | 02050738 |

MPTX 114



MPTX 120



| Item:           | Q.ty: 1 pc.     | Q.ty: 1 pc.          | Q.ty: 1 pc. | Q.ty: 1 pc.                            | Q.ty: 1 pc.              |                           |
|-----------------|-----------------|----------------------|-------------|--|--------------------------|---------------------------|
|                 | 2               | 3 (3a ÷ 3g)          | 4           | 5                                      | 6                        |                           |
| Filter series   | Filter element  | Seal Kit code number |             | Air breather filter element - version: |                          |                           |
|                 |                 | NBR                  | FPM         | C                                      | D                        | P                         |
| <b>MPTX 114</b> | See order table | 02050707             | 02050708    | 10 µm<br>A5L03                         | 10 µm<br>SAP50G3L03A0P01 | 10 µmm<br>SAP50G3L03A1P01 |

| Item:           | Q.ty: 1 pc.     | Q.ty: 1 pc.          |          |
|-----------------|-----------------|----------------------|----------|
|                 | 2               | 3 (3a ÷ 3d)          |          |
| Filter series   | Filter element  | Seal Kit code number |          |
|                 |                 | NBR                  | FPM      |
| <b>MPTX 120</b> | See order table | 02050711             | 02050712 |