

MPF series

Maximum working pressure up to 800 kPa (8 bar) - Flow rate up to 750 l/min



Description

Technical data

Return filter

Maximum working pressure up to 800 kPa (8 bar)

Flow rate up to 750 l/min

MPF 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 750 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 meet any reservoir surface flatness and roughness
- O-ring or Flat seal, to meet any reservoir surface flatness and roughness
- 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

Common applications:

- Light industrial equipment
- Mobile application

Filter housing materials

- Head: Aluminium
- Cover
Nylon: MPF 020-030-100-104-110
Aluminium: MPF 181-182-184-191-192-194-400-410-450-451-750
- Bowl: Nylon

Bypass valve

- Opening pressure 175 kPa (1.75 bar) ±10%
- Opening pressure 300 kPa (3 bar) ±10%

Δp element type

- Microfibre 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

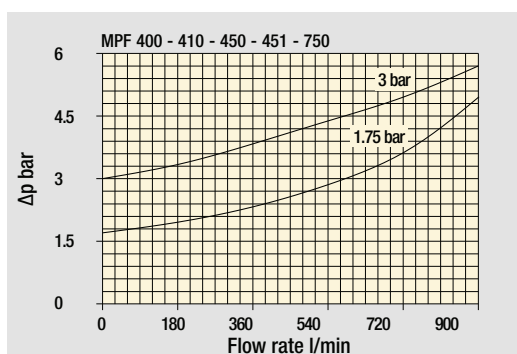
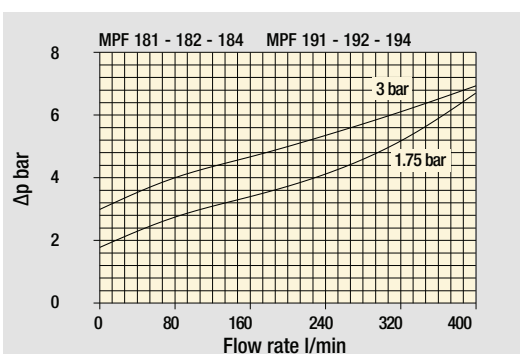
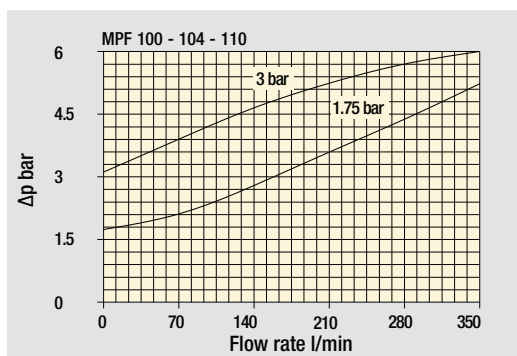
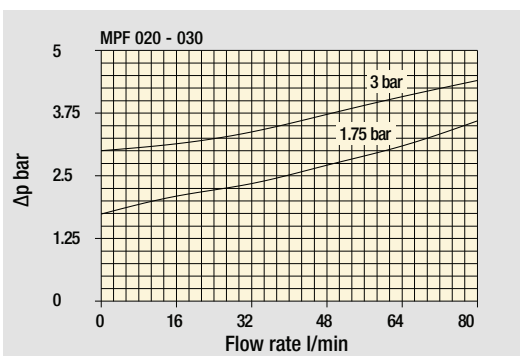
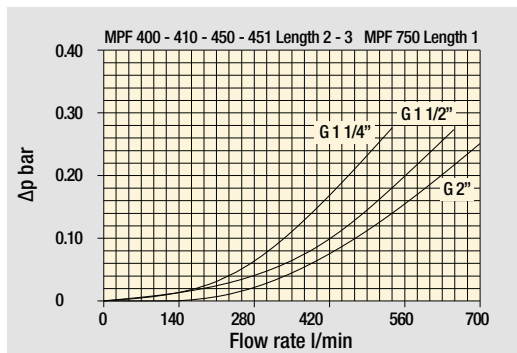
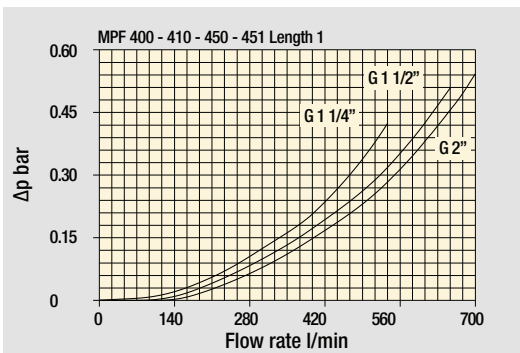
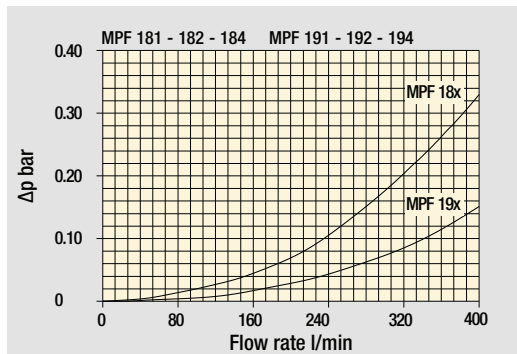
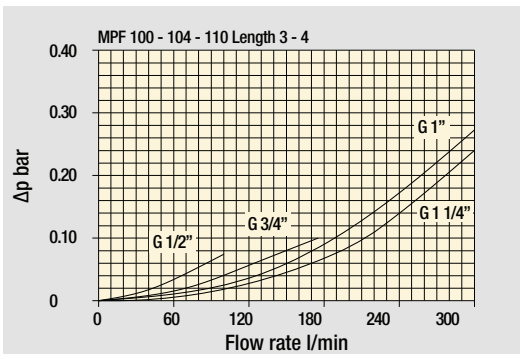
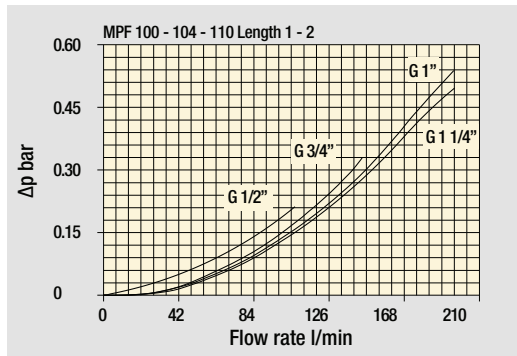
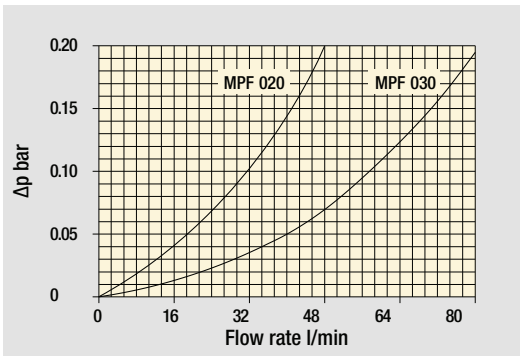
MPF filters are provided for vertical mounting



Weights [kg] and volumes [dm³]

| Filter series | Weights [kg] | | | | Volumes [dm ³] | | | | | |
|--------------------|--------------|------|------|------|----------------------------|--------|------|------|------|------|
| | Length | 1 | 2 | 3 | 4 | Length | 1 | 2 | 3 | 4 |
| MPF 020 | | 0.30 | - | - | - | | 0.26 | - | - | - |
| MPF 030 | | 0.40 | - | - | - | | 0.29 | - | - | - |
| MPF 100 | | 0.61 | 0.64 | 0.67 | 0.74 | | 0.64 | 0.85 | 1.20 | 1.65 |
| MPF 104 | | 0.82 | 0.96 | 1.02 | 1.25 | | 0.64 | 0.85 | 1.20 | 1.65 |
| MPF 110 | | 0.64 | 0.68 | 0.71 | 0.78 | | - | - | - | - |
| MPF 181 | | 2.20 | 3.00 | - | - | | 2.50 | 4.00 | - | - |
| MPF 182 | | 2.30 | 3.10 | - | - | | 2.50 | 4.00 | - | - |
| MPF 184 | | 2.55 | 3.45 | - | - | | 2.65 | 4.45 | - | - |
| MPF 191 | | - | 3.00 | - | - | | - | 4.25 | - | - |
| MPF 192 | | - | 3.10 | - | - | | - | 4.25 | - | - |
| MPF 194 | | - | 3.45 | - | - | | - | 4.45 | - | - |
| MPF 400 | | 3.35 | 3.65 | 3.90 | - | | 3.70 | 4.60 | 5.40 | - |
| MPF 410 | | 3.55 | 3.85 | 4.10 | - | | 3.70 | 4.60 | 5.40 | - |
| MPF 450-451 | | 3.95 | 4.25 | 4.50 | - | | 3.70 | 4.60 | 5.40 | - |
| MPF 750 | | 6.30 | - | - | - | | 8.45 | - | - | - |

Filter housings Δp pressure drop



Bypass valve pressure drop

The curves are plotted using mineral oil with density of 0.86 kg/dm³ in compliance with ISO 3968.
 Δp varies proportionally with density.

MPF 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 M60 M90 | P10 | P25 |
| MPF 020 | 1 | 7 | 10 | 23 | 28 | 42 | 59 | 51 | 54 |
| MPF 030 | 1 | 7 | 10 | 24 | 29 | 47 | 84 | 60 | 66 |
| MPF 100-104-110 | 1 | 18 | 20 | 53 | 56 | 65 | 153 | 87 | 96 |
| | 2 | 28 | 38 | 65 | 75 | 95 | 158 | 111 | 123 |
| | 3 | 48 | 55 | 125 | 135 | 169 | 289 | 224 | 251 |
| | 4 | 79 | 89 | 180 | 185 | 198 | 306 | 264 | 289 |
| MPF 181-182-184 | 1 | 127 | 148 | 235 | 243 | 278 | 441 | 285 | 299 |
| | 2 | 231 | 262 | 358 | 382 | 388 | 472 | 404 | 412 |
| MPF 191-192-194 | 2 | 261 | 305 | 489 | 528 | 546 | 696 | 583 | 598 |
| MPF 400 | 1 | 150 | 171 | 294 | 304 | 350 | 585 | 370 | 390 |
| | 2 | 237 | 252 | 454 | 462 | 589 | 868 | 619 | 645 |
| | 3 | 248 | 288 | 553 | 609 | 621 | 885 | 680 | 703 |
| MPF 410 | 1 | 146 | 167 | 277 | 285 | 325 | 512 | 341 | 357 |
| | 2 | 226 | 239 | 396 | 402 | 485 | 644 | 503 | 519 |
| | 3 | 236 | 269 | 462 | 497 | 505 | 653 | 539 | 553 |
| MPF 450-451 | 1 | 150 | 171 | 294 | 304 | 350 | 585 | 370 | 390 |
| | 2 | 237 | 252 | 454 | 462 | 589 | 868 | 619 | 645 |
| | 3 | 248 | 288 | 553 | 609 | 621 | 885 | 680 | 703 |
| MPF 750 | 1 | 392 | 465 | 623 | 700 | 769 | 929 | 804 | 819 |

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

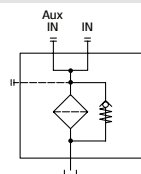
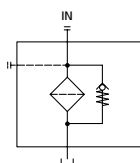
The reference fluid has a kinematic viscosity of 30 mm²/s (cSt) and a density of 0.86 kg/dm³.

For different pressure drop or fluid viscosity we recommend to use our selection software available on www.mpfiltri.com.

Please, contact our Sales Department for further additional information.

Hydraulic symbols

| Filter series | Style 1 connection | Style 2 connections |
|----------------|--------------------|---------------------|
| MPF 020 | • | |
| MPF 030 | • | |
| MPF 100 | • | |
| MPF 104 | • | |
| MPF 110 | | • |
| MPF 181 | • | |
| MPF 182 | | • |
| MPF 184 | • | • |
| MPF 191 | • | |
| MPF 192 | • | |
| MPF 194 | • | • |
| MPF 400 | • | |
| MPF 410 | | • |
| MPF 450 | • | |
| MPF 451 | | • |
| MPF 750 | • | |



MPF MPF450 - MPF451 - MPF750

Designation & Ordering code

COMPLETE FILTER

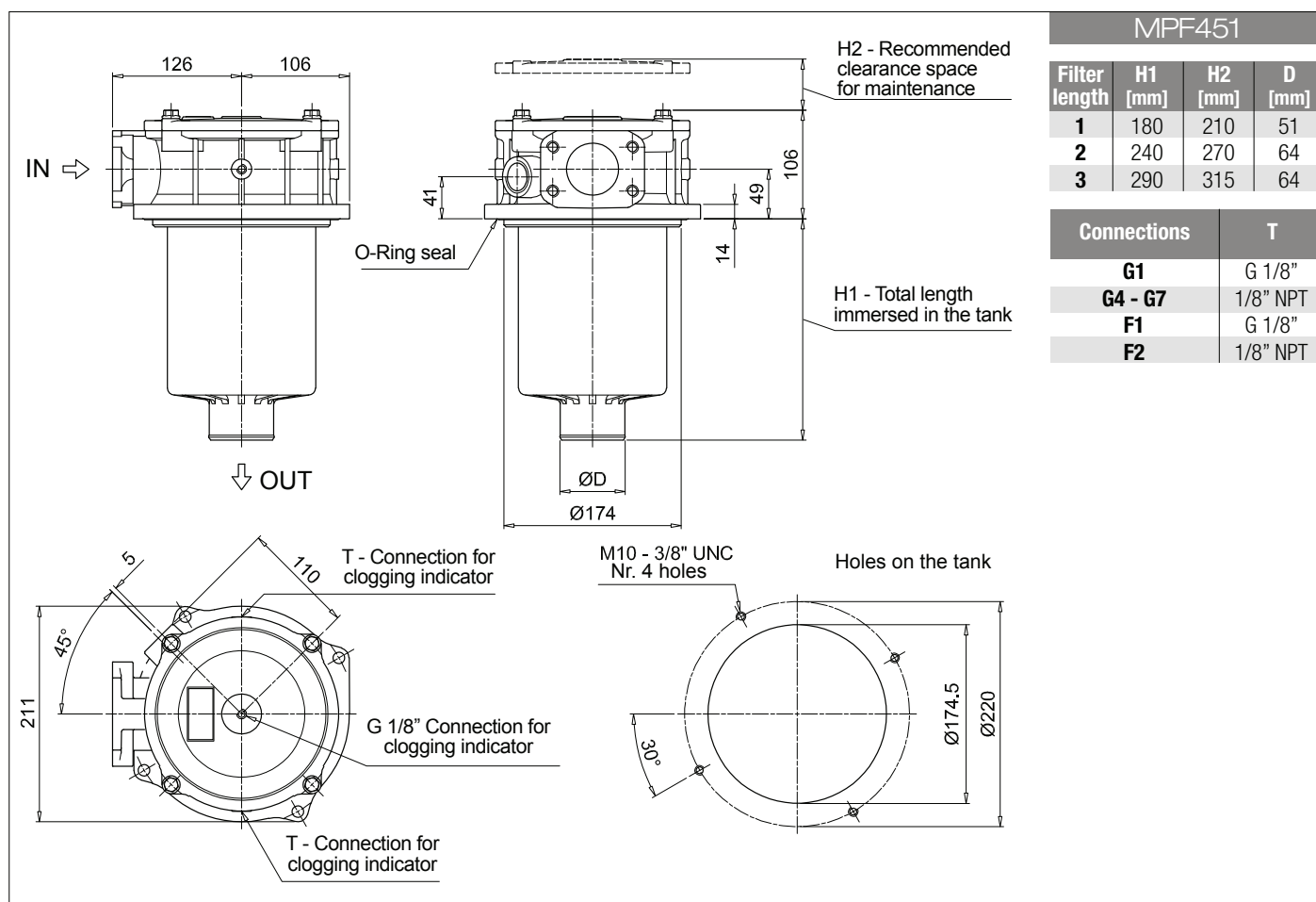
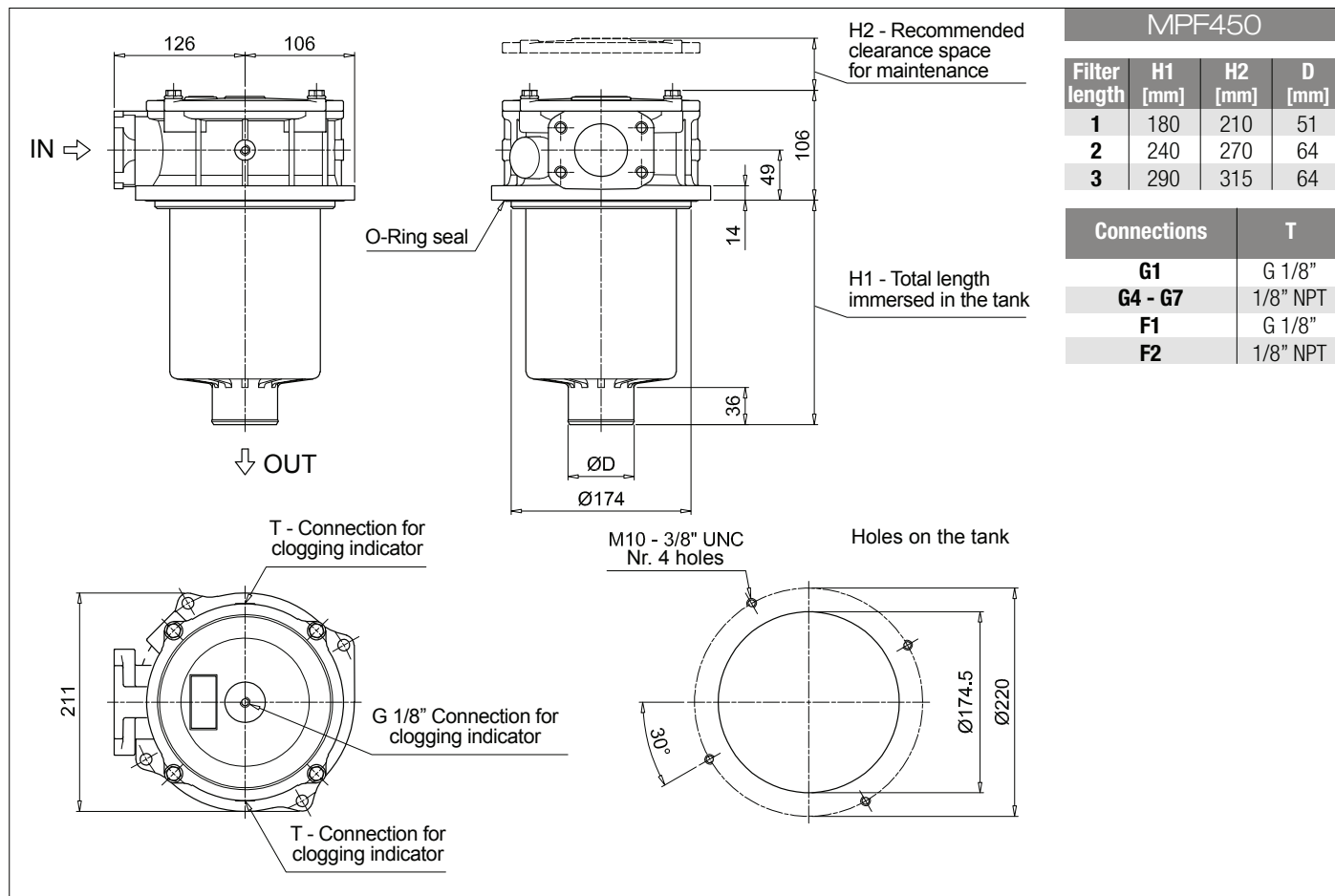
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|--|--|----------------------------|----------------|--|--|-------------------------------|--|--|--|--|--|--|
| Series and size | | | | Configuration example 1: MPF450 1 A G1 A25 H B P01 | | | | | | | | |
| MPF450 MPF451 MPF750 | Filter element with standard spigot | | | Configuration example 2: MPF750 1 V F2 P10 N E P01 | | | | | | | | |
| Length | | MPF 450 | MPF 451 | MPF 750 | | | | | | | | |
| 1 | | • | • | • | | | | | | | | |
| 2 | | • | • | | | | | | | | | |
| 3 | | • | • | | | | | | | | | |
| Seals and treatments | | | | | | | | | | | | |
| A NBR | W NBR | head anodized | | | | | | | | | | |
| V FPM | Z FPM | head anodized | | | | | | | | | | |
| Connections | | Aux (only size 451) | | | | | | | | | | |
| G1 G 2" | G 3/4" | | | | | | | | | | | |
| G4 2" NPT | 3/4" NPT | | | | | | | | | | | |
| G7 SAE 32 - 2 1/2" - 12 UN | SAE 12 - 1 1/16" - 12 UN | | | | | | | | | | | |
| F1 2" SAE 3000 psi/M | G 3/4" | | | | | | | | | | | |
| F2 2" SAE 3000 psi/UN | 3/4" NPT | | | | | | | | | | | |
| Filtration rating (filter media) | | | | | | | | | | | | |
| A03 Inorganic microfiber 3 µm | M25 Wire mesh 25 µm | | | | | | | | | | | |
| A06 Inorganic microfiber 6 µm | M60 Wire mesh 60 µm | | | | | | | | | | | |
| A10 Inorganic microfiber 10 µm | M90 Wire mesh 90 µm | | | | | | | | | | | |
| A16 Inorganic microfiber 16 µm | P10 Resin impregnated paper 10 µm | | | | | | | | | | | |
| A25 Inorganic microfiber 25 µm | P25 Resin impregnated paper 25 µm | | | | | | | | | | | |
| Element Δp | | Filter media | | | | | | | | | | |
| | | Axx | Mxx | Pxx | | | | | | | | |
| N 10 bar | | | • | • | | | | | | | | |
| H 10 bar | | | • | | | | | | | | | |
| W 10 bar, compatible with fluids HFA, HFB and HFC | | • | • | | | | | | | | | |
| | | | | Bypass valve | | Execution | | | | | | |
| | | | | E 3 bar | | P01 MP Filtri standard | | | | | | |
| | | | | B 1.75 bar | | Pxx Customized | | | | | | |

FILTER ELEMENT

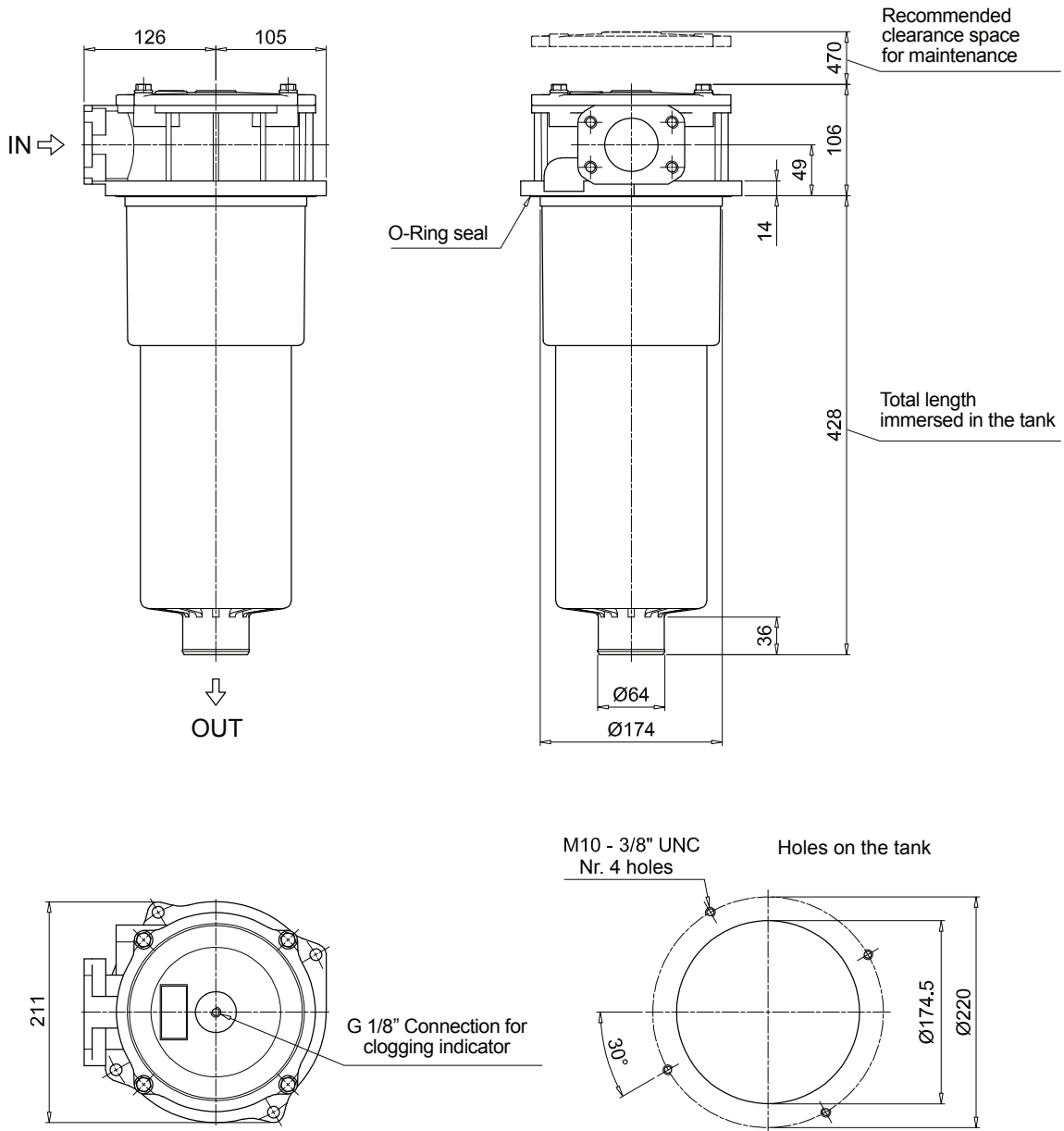
| | | | | | | | | | | | | |
|--|--|---------------------|----------------|--|--|---------------------|--|-------------------------------|--|--|--|--|
| Element series and size | | | | Configuration example 1: MF400 1 A25 H B P01 | | | | | | | | |
| MF400 MF750 | Filter element with standard spigot | | | Configuration example 2: MFX750 1 P10 N V E P01 | | | | | | | | |
| Element length | | MPF 450 | MPF 451 | MPF 750 | | | | | | | | |
| 1 | | • | • | • | | | | | | | | |
| 2 | | • | • | | | | | | | | | |
| 3 | | • | • | | | | | | | | | |
| Filtration rating (filter media) | | | | | | | | | | | | |
| A03 Inorganic microfiber 3 µm | M25 Wire mesh 25 µm | | | | | | | | | | | |
| A06 Inorganic microfiber 6 µm | M60 Wire mesh 60 µm | | | | | | | | | | | |
| A10 Inorganic microfiber 10 µm | M90 Wire mesh 90 µm | | | | | | | | | | | |
| A16 Inorganic microfiber 16 µm | P10 Resin impregnated paper 10 µm | | | | | | | | | | | |
| A25 Inorganic microfiber 25 µm | P25 Resin impregnated paper 25 µm | | | | | | | | | | | |
| Element Δp | | Filter media | | | | | | | | | | |
| | | Axx | Mxx | Pxx | | | | | | | | |
| N 10 bar | | | • | • | | | | | | | | |
| H 10 bar | | | • | | | | | | | | | |
| W 10 bar, compatible with fluids HFA, HFB and HFC | | • | • | | | | | | | | | |
| | | | | Seals | | Bypass valve | | Execution | | | | |
| | | | | B NBR | | E 3 bar | | P01 MP Filtri standard | | | | |
| | | | | V FPM | | B 1.75 bar | | Pxx Customized | | | | |

ACCESSORIES

| | | | |
|---|------|---|---------|
| Indicators | page | | page |
| BVA Axial pressure gauge | 240 | BEA Electrical pressure indicator | 239 |
| BVR Radial pressure gauge | 240 | BEM Electrical pressure indicator | 239 |
| BVP Visual pressure indicator with automatic reset | 241 | BLA Electrical / visual pressure indicator | 239-240 |
| BVQ Visual pressure indicator with manual reset | 241 | | |
| Additional features | page | | |
| Sxx Extension tube | 248 | | |
| T5 Filler plug M30x1.5 | 249 | | |



MPF750



MPF 100

MPF 181

O-RING SEAL

| Item: | Q.ty: 1 pc. | Q.ty: 1 pc. | |
|--------------------|-----------------------|--------------------------|----------|
| | 2 | 3 (3a ÷ 3d) | |
| Filter series | Filter element | Seal Kit code number NBR | FPM |
| MPF 030 | See order table | 02050055 | 02050056 |
| MPF 100-110 | | 02050057 | 02050058 |
| MPF 181-182 | | 02050059 | 02050060 |
| MPF 184 | | 02050455 | 02050456 |
| MPF 191-192 | | 02050457 | 02050458 |
| MPF 194 | | 02050459 | 02050460 |
| MPF 400-410 | | 02050061 | 02050062 |
| MPF 450-451 | | 02050461 | 02050462 |
| MPF 750 | | 02050106 | 02050107 |

MPF 104

MPF 181

FLAT SEAL

| Item: | Q.ty: 1 pc. | Q.ty: 1 pc. | |
|--------------------|-----------------------|--------------------------|----------|
| | 2 | 3 (3a ÷ 3d) | |
| Filter series | Filter element | Seal Kit code number NBR | FPM |
| MPF 020 | See order table | 02050438 | 02050439 |
| MPF 104 | | 02050350 | 02050408 |
| MPF 181-182 | | 02050659 | 02050660 |
| MPF 191-192 | | 02050661 | 02050662 |