

MPH series

Maximum working pressure up to 1 MPa (10 bar) - Flow rate up to 3000 l/min



Return filter

Maximum working pressure up to 1 MPa (10 bar)

Flow rate up to 3000 l/min

MPH 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 use of the diffuser is recommended, to place the filter output always immersed into the fluid to avoid aeration or foam generation into the reservoir.

The filtration from inside to outside allows a cleaner filter element replacement, the dirty remains into the filter element.

Available features:

- Female threaded connections up to 1 1/2" and flanged connections up to 4", for a maximum flow rate of 3000 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, to relieve excessive pressure drop across the filter media
- Magnetic column, to hold the ferrous particles
- 2, 3, 4 or 8 fixing holes for installation, to meet any reservoir surface flatness and roughness
- Flat seal, to meet any reservoir surface flatness and roughness
- Oil dipstick, to easily check the level of the fluid into the reservoir (separate item)
- Diffuser, to reduce the risk of aeration, foaming and noise
- Filler plug, to fill cleaned fluid into the tank without an additional plug
- Integrated breather filter, to clean the air that moves into the reservoir as result of the oil level fluctuation (MPH110/114)
- 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 (MPH110/114)
- Visual, electrical and electronic clogging indicators

Common applications:

Heavy duty industrial equipment

Filter housing materials

- Head
 - Aluminium: MPH 110-114-116-120-250
 - Anodized Aluminium: MPH 630-850
 - Painted Aluminium: MPH 660
- Cover
 - Nylon: MPH 110-114-116-120
 - Aluminium: MPH 250
 - Anodized Aluminium: MPH 630
 - Painted Aluminium: MPH 660
 - Steel: MPH 850
- Insert assembly
 - Nylon: MPH 110-114-116-120
 - Aluminium: MPH 250-630-660-850
- Diffuser: Tinned Steel
- Valve: Phosphatized Steel

Bypass valve

- Opening pressure 175 kPa (1.75 bar) ±10%
- Opening pressure 250 kPa (2.5 bar) ±10%, except for MPH 850

Δp element type

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

Seals

- Standard NBR series A
- Optional FPM series V

Temperature

From -25 °C to +110 °C

Note

MPH filters are provided for vertical mounting



Weights [kg] and volumes [dm³]

| Filter series | Weights [kg] | | | | | Volumes [dm³] | | | | | | |
|----------------|--------------|-------|-------|-------|-------|---------------|--------|-------|-------|-------|---|---|
| | Length | 1 | 2 | 3 | 4 | 5 | Length | 1 | 2 | 3 | 4 | 5 |
| MPH 110 | 1.60 | 1.70 | 1.80 | 2.20 | 2.60 | 1.60 | 1.70 | 1.80 | 2.20 | 2.60 | | |
| MPH 114 | 1.60 | 1.70 | 1.80 | 2.20 | 2.60 | 1.60 | 1.70 | 1.80 | 2.20 | 2.60 | | |
| MPH 116 | 1.60 | 1.70 | 1.80 | 2.20 | 2.60 | 1.60 | 1.70 | 1.80 | 2.20 | 2.60 | | |
| MPH 120 | 1.60 | 1.70 | 1.80 | 2.20 | 2.60 | 1.60 | 1.70 | 1.80 | 2.20 | 2.60 | | |
| MPH 250 | 3.60 | 3.90 | 4.20 | 5.60 | - | 4.40 | 4.40 | 5.40 | 8.00 | - | | |
| MPH 630 | 6.50 | 7.00 | 7.40 | 8.50 | 10.50 | 7.30 | 9.00 | 11.00 | 13.00 | 19.20 | | |
| MPH 660 | - | - | - | 11.50 | 14.00 | - | - | - | 14.60 | 21.00 | | |
| MPH 850 | 32.00 | 35.00 | 38.00 | 42.00 | - | 13.00 | 16.50 | 21.00 | 25.00 | - | | |

| Filter series | Length | A03 | A06 | A10 | A16 | A25 | M25 M60 M90 | P10 | P25 |
|------------------------------------|--------|------|------|------|------|------|-------------------|------|------|
| MPH 110-114 116-120 | 1 | 26 | 29 | 72 | 79 | 107 | 282 | 164 | 190 |
| | 2 | 43 | 46 | 112 | 114 | 161 | 318 | 164 | 190 |
| | 3 | 64 | 72 | 132 | 156 | 178 | 324 | 219 | 251 |
| | 4 | 90 | 99 | 184 | 198 | 216 | 324 | 266 | 302 |
| | 5 | 117 | 128 | 201 | 219 | 244 | 324 | 282 | 318 |
| MPH 250 | 1 | 93 | 102 | 210 | 251 | 315 | 1093 | 339 | 383 |
| | 2 | 124 | 151 | 327 | 412 | 421 | 1122 | 460 | 514 |
| | 3 | 189 | 221 | 418 | 445 | 500 | 1137 | 544 | 616 |
| | 4 | 261 | 304 | 592 | 670 | 766 | 1166 | 832 | 923 |
| MPH 630 | 1 | 160 | 200 | 369 | 423 | 518 | 1894 | 565 | 632 |
| | 2 | 240 | 257 | 571 | 611 | 1045 | 1929 | 1137 | 1285 |
| | 3 | 330 | 374 | 745 | 788 | 1308 | 1938 | 1416 | 1577 |
| | 4 | 374 | 403 | 887 | 1010 | 1348 | 1956 | 1448 | 1612 |
| | 5 | 625 | 698 | 1210 | 1257 | 1723 | 2121 | 1839 | 1929 |
| MPH 660 | 4 | 370 | 399 | 903 | 1042 | 1460 | 2376 | 1596 | 1830 |
| | 5 | 624 | 699 | 1282 | 1343 | 1997 | 2663 | 2182 | 2331 |
| MPH 850 | 1 | 775 | 1041 | 1246 | 1568 | 2242 | 3311 | 2371 | 2625 |
| | 2 | 1176 | 1522 | 1682 | 1747 | 2449 | 3378 | 2684 | 2886 |
| | 3 | 1490 | 1914 | 1995 | 2014 | 3035 | 3405 | 3144 | 3220 |
| | 4 | 1668 | 2088 | 2305 | 2363 | 3169 | 3517 | 3272 | 3378 |

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

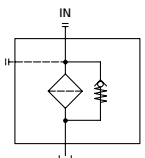
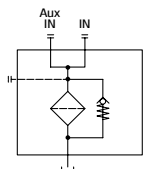
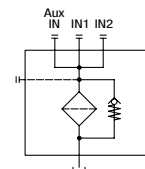
The reference fluid has a kinematic viscosity of 30 mm²/s (cSt) and a density of 0.86 kg/dm³.

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

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 symbols

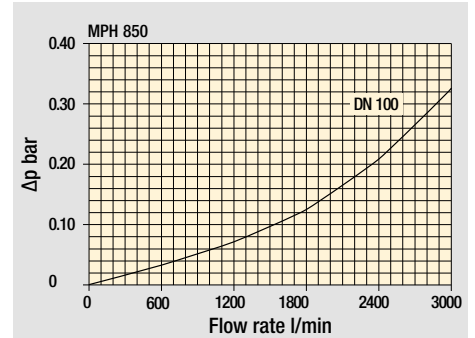
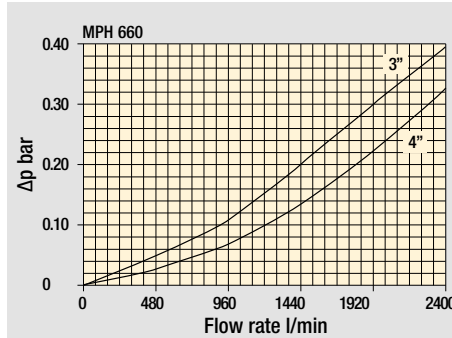
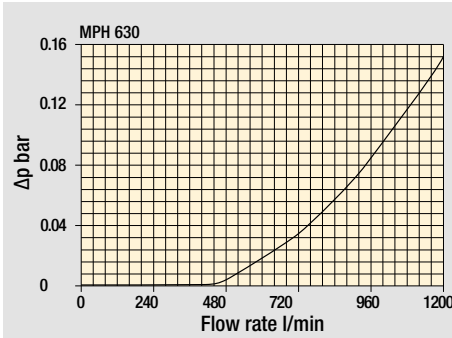
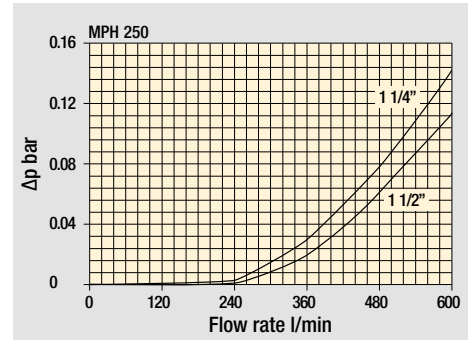
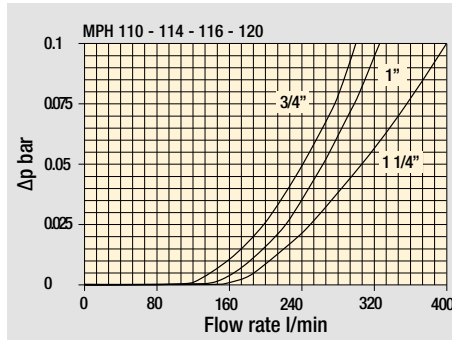
| Filter series | Style 1 connection | Style 2 connections | Style 3 connections |
|----------------|--------------------|---------------------|---------------------|
| MPH 110 | | • | |
| MPH 114 | • | | |
| MPH 116 | • | | |
| MPH 120 | | | • |
| MPH 250 | • | • | |
| MPH 630 | • | • | |
| MPH 660 | • | | |
| MPH 850 | | • | |

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

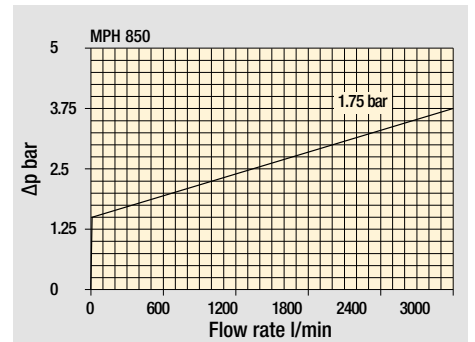
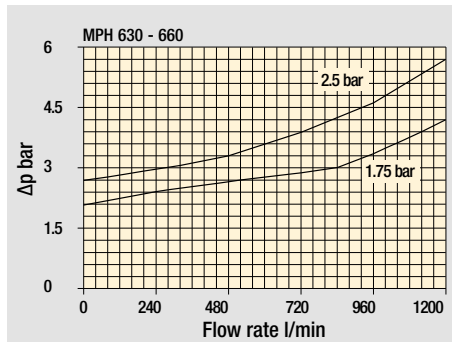
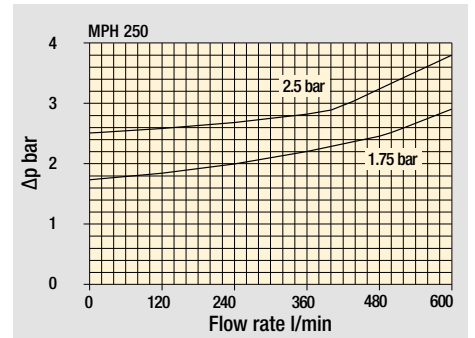
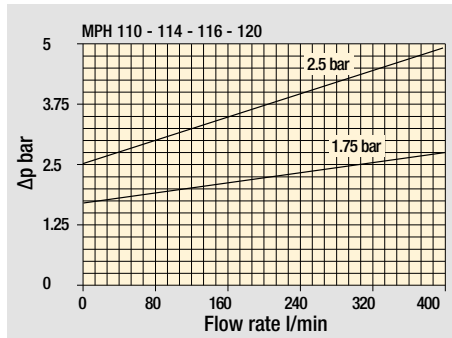
MPH GENERAL INFORMATION

Pressure drop

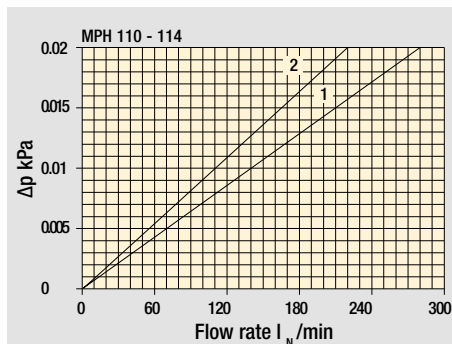
Filter housings Δp pressure drop



Bypass valve pressure drop



Air breather pressure drop



- 1 C With air breather 10 μ m
- 2 D With anti-splash and SAP50 10 μ m

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

Designation & Ordering code

COMPLETE FILTER

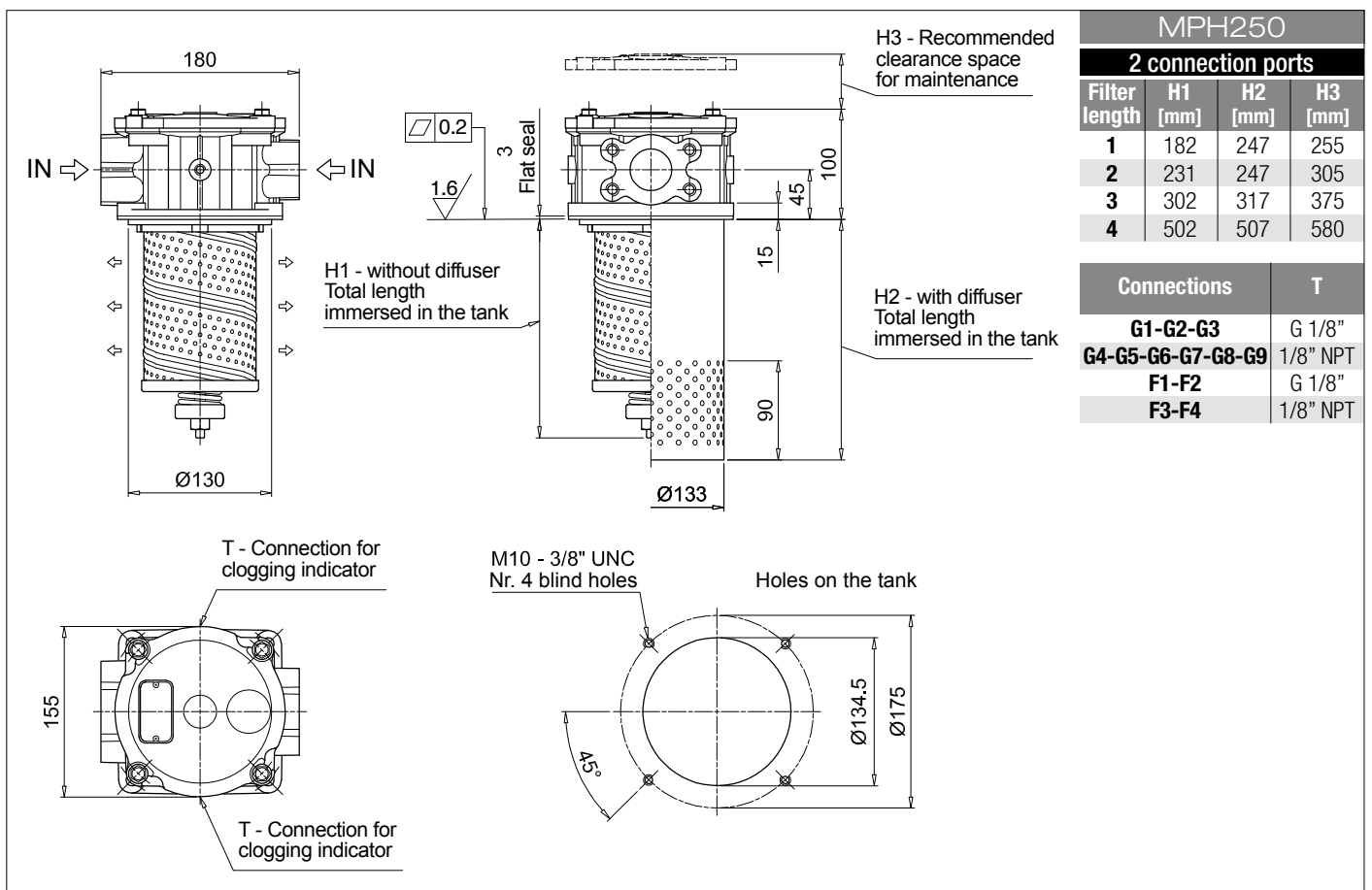
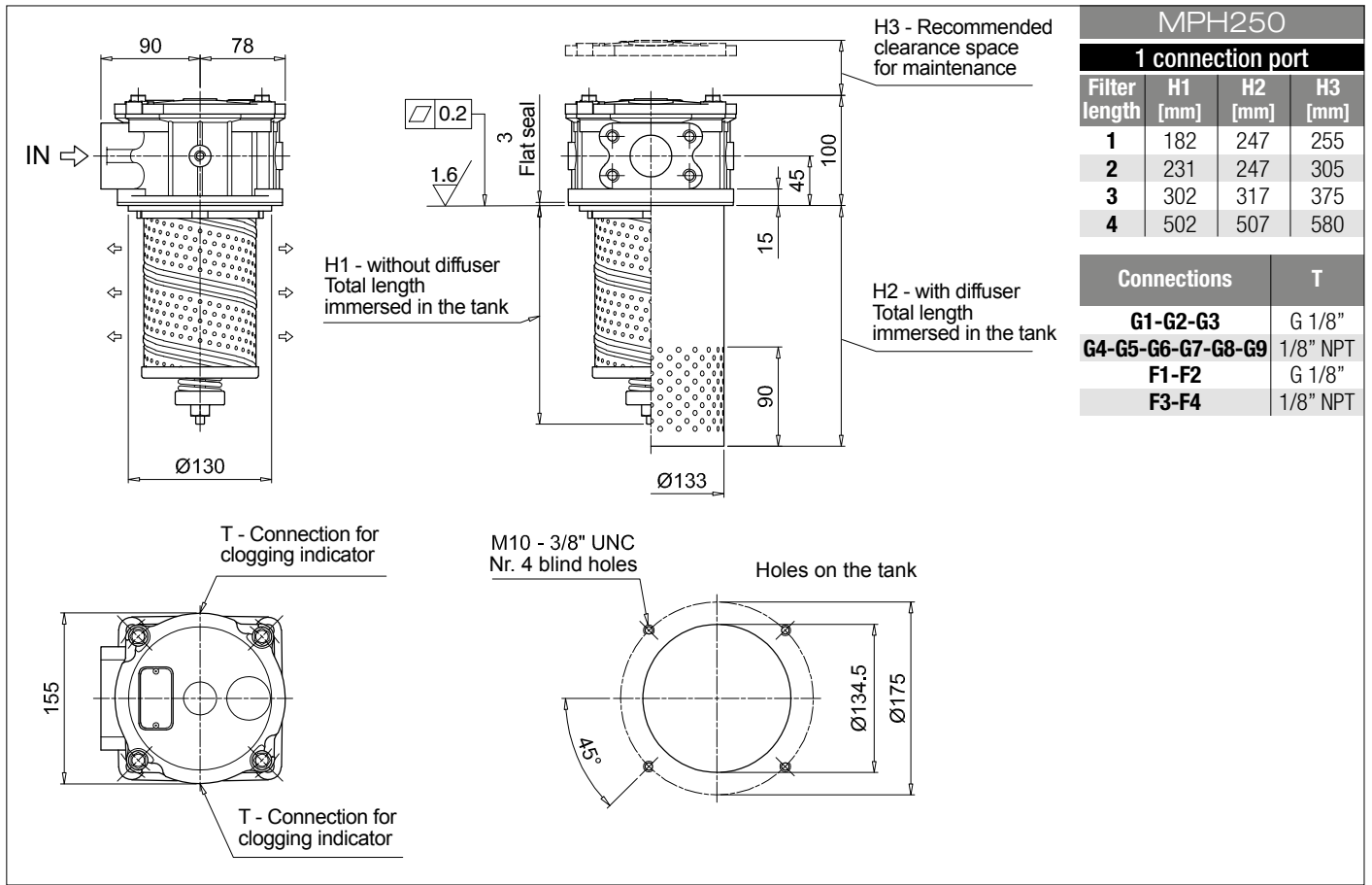
| | | | | | | | | | |
|---|---|-----------------------------------|-----|-----|---|---|------------------------|-----|-----|
| Series and size MPH250 | Configuration example: MPH250 | 1 | C | D | S | A | G1 | A10 | P01 |
| Length 1 2 3 4 | | | | | | | | | |
| Bypass valve S Without bypass C 1.75 bar E 2.5 bar | | | | | | | | | |
| Diffuser and magnetic column D With diffuser, with magnetic column F With diffuser, without magnetic column O Without diffuser, with magnetic column E Without diffuser, without magnetic column | | | | | | | | | |
| Air breather S Without air breather | | | | | | | | | |
| Seals and treatments | | Filtration rating | | | | | | | |
| A NBR | | Axx | Mxx | Pxx | | | | | |
| V FPM | | | | | | | | | |
| W NBR head anodized | filter element compatible with fluids HFA-HFB-HFC | | | | | | | | |
| Z FPM head anodized | | | | | | | | | |
| Main Connections | | Rear connections | | | | | | | |
| G1 G 1 1/2" | | - | | | | | | | |
| G2 G 1 1/2" | | G 1 1/4" | | | | | | | |
| G4 1 1/2" NPT | | - | | | | | | | |
| G5 1 1/2" NPT | | 1 1/4" NPT | | | | | | | |
| G7 SAE 24 - 1 7/8" - 12 UN | | - | | | | | | | |
| G8 SAE 24 - 1 7/8" - 12 UN | | SAE 20 - 1 5/8" - 12 UN | | | | | | | |
| F1 1 1/2" SAE 3000 psi/M | | - | | | | | | | |
| F2 1 1/2" SAE 3000 psi/M | | 1 1/4" SAE 3000 psi/M | | | | | | | |
| F3 1 1/2" SAE 3000 psi/UNC | | - | | | | | | | |
| F4 1 1/2" SAE 3000 psi/UNC | | 1 1/4" SAE 3000 psi/UNC | | | | | | | |
| 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 | | | | | | | |
| | | | | | | | Execution | | |
| | | | | | | | P01 MP Filtri standard | | |
| | | | | | | | Pxx Customized | | |

FILTER ELEMENT

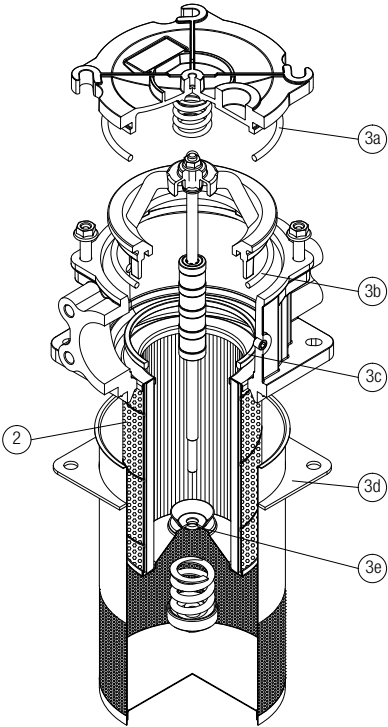
| | | | | | |
|--|------------------------------|-----------------------------------|------------------------|---|-----|
| Element series and size MR250 | Configuration example: MR250 | 1 | A10 | A | P01 |
| Element length 1 2 3 4 | | | | | |
| Filtration rating (filter media) | | | | | |
| A03 Inorganic 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 | | | |
| | | Seals | Execution | | |
| | | A NBR | P01 MP Filtri standard | | |
| | | V FPM | 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 | | |

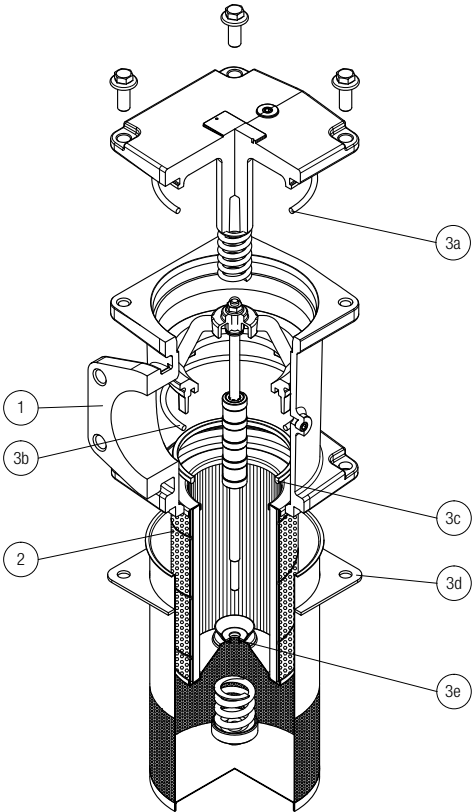


MPH 250 - 630



| Item: | Q.ty: 1 pc. | Q.ty: 1 pc. | |
|---------------|-----------------|----------------------|----------|
| Filter series | Filter element | Seal Kit code number | |
| MPH 250 | MPH 630 | NBR | FPM |
| | 2 | 3 (3a ÷ 3e) | |
| | See order table | 02050151 | 02050152 |
| | See order table | 02050153 | 02050154 |

MPH 660



| Item: | Q.ty: 1 pc. | Q.ty: 1 pc. | |
|---------------|-----------------|----------------------|----------|
| Filter series | Filter element | Seal Kit code number | |
| MPH 660 | MPH 850 | NBR | FPM |
| | 2 | 3 (3a ÷ 3e) | |
| | See order table | 02050153 | 02050154 |
| | See order table | 02050155 | 02050156 |

MPH 850

