

LMP 110-120-123 series

MULTIPOINT

Maximum working pressure up to 8 MPa (80 bar) - Flow rate up to 175 l/min



Description

Technical data

Low & Medium Pressure filters

Maximum working pressure up to 8 MPa (80 bar)
Flow rate up to 175 l/min

LMP110 is a range of versatile low pressure filter for transmission, protection of sensitive components in low pressure hydraulic systems and filtration of the coolant into the machine tools.

They are directly connected to the lines of the system through the hydraulic fittings.

Available features:

- Female threaded connections up to 1", for a maximum return flow rate of 175 l/min
- Fine filtration rating, to get a good cleanliness level into the system
- Bypass valve, to relieve excessive pressure drop across the filter media
- Visual, electrical and electronic differential clogging indicators
- Multiport and multifunction schemes, to meet any type of application.
- LMP112: 3/4" additional input port
- LMP116: 3/4" additional output port
- LMP118: 3/4" bypass port, to send the bypass flow to the reservoir instead of the system
- LMP119: 3/4" relief port, to relief the input pressure in the filter, protecting the components downstream the filter against back pressure caused by the pressure drop (cold starts)
- LMP120: connections placed in the same side
- LMP122: connections placed in the same side and 1" additional output port
- LMP123: 2 and 3 bar integrated relief valve

Common applications:

Delivery lines, in any low pressure industrial equipment or mobile machines

Filter housing materials

- Head: Aluminium
- Housing: Cataphoresis - Painted steel
- Bypass valve: Brass - Aluminium

Pressure

- Test pressure: 12 MPa (120 bar)
- Burst pressure:
 - LMP 110: 29 MPa (290 bar)
 - LMP 120/130: 38 MPa (380 bar)
- Pulse pressure fatigue test: 1 000 000 cycles with pressure from 0 to 8 MPa (80 bar)

Bypass valve

- Opening pressure 350 kPa (3.5 bar) ±10%
- Other opening pressures on request.

Δp element type

- Microfibre filter elements - series N - W: 20 bar
- Wire mesh filter elements - series N: 20 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

LMP MULTIPOINT 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 |
| LMP 110-112-116-118-119 | | 1.60 | 1.80 | 2.10 | 2.60 | | 0.75 | 0.81 | 1.11 | 1.53 |
| LMP 120-122 | | 1.90 | 2.10 | 2.40 | 2.90 | | 0.75 | 0.81 | 1.11 | 1.53 |
| LMP 123 | | 1.70 | 1.90 | 2.20 | 2.70 | | 0.75 | 0.81 | 1.11 | 1.53 |

| Filter series | Length | Filter element design - N Series | | | | | | | |
|----------------|----------|----------------------------------|-----|-----|-----|-----|-------------------|-----|-----|
| | | A03 | A06 | A10 | A16 | A25 | M25 M60 M90 | P10 | P25 |
| LMP 110 | 1 | 40 | 42 | 65 | 69 | 85 | 163 | 117 | 120 |
| | 2 | 49 | 57 | 83 | 83 | 101 | 163 | 136 | 138 |
| | 3 | 66 | 70 | 92 | 102 | 124 | 164 | 142 | 144 |
| | 4 | 86 | 102 | 118 | 124 | 144 | 165 | 148 | 149 |
| LMP 112 | 1 | 36 | 38 | 55 | 57 | 67 | 105 | 84 | 86 |
| | 2 | 44 | 49 | 66 | 66 | 76 | 105 | 93 | 94 |
| | 3 | 56 | 58 | 71 | 77 | 87 | 106 | 96 | 97 |
| | 4 | 67 | 77 | 85 | 88 | 97 | 106 | 99 | 99 |
| LMP 116 | 1 | 36 | 38 | 54 | 56 | 64 | 96 | 79 | 80 |
| | 2 | 43 | 49 | 63 | 64 | 72 | 96 | 86 | 87 |
| | 3 | 54 | 57 | 68 | 73 | 82 | 96 | 88 | 89 |
| | 4 | 65 | 73 | 79 | 82 | 89 | 96 | 91 | 91 |
| LMP 118 | 1 | 40 | 42 | 65 | 69 | 85 | 163 | 117 | 120 |
| | 2 | 49 | 57 | 83 | 83 | 101 | 163 | 136 | 138 |
| | 3 | 66 | 70 | 92 | 102 | 124 | 164 | 142 | 144 |
| | 4 | 86 | 102 | 118 | 124 | 144 | 165 | 148 | 149 |
| LMP 120 | 1 | 40 | 43 | 66 | 70 | 87 | 172 | 121 | 125 |
| | 2 | 50 | 58 | 85 | 85 | 104 | 172 | 142 | 144 |
| | 3 | 67 | 71 | 94 | 105 | 129 | 173 | 149 | 151 |
| | 4 | 88 | 106 | 122 | 129 | 151 | 174 | 155 | 157 |
| LMP 122 | 1 | 39 | 42 | 64 | 67 | 81 | 146 | 109 | 111 |
| | 2 | 49 | 56 | 80 | 80 | 96 | 146 | 124 | 126 |
| | 3 | 65 | 68 | 88 | 96 | 114 | 146 | 129 | 130 |
| | 4 | 82 | 97 | 110 | 115 | 131 | 147 | 134 | 135 |

Maximum flow rate for a complete low and medium pressure filter with a pressure drop $\Delta p = 0.7$ 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.

| Filter series | Length | Filter element design - N Series | | | | | | | |
|----------------|----------|----------------------------------|-----|-----|-----|-----|-------------------|-----|-----|
| | | A03 | A06 | A10 | A16 | A25 | M25 M60 M90 | P10 | P25 |
| LMP 123 | 1 | 35 | 37 | 50 | 52 | 59 | 83 | 70 | 71 |
| | 2 | 41 | 46 | 58 | 58 | 65 | 83 | 76 | 76 |
| | 3 | 51 | 53 | 62 | 65 | 72 | 83 | 77 | 78 |
| | 4 | 59 | 65 | 70 | 72 | 78 | 83 | 79 | 79 |

Maximum flow rate for a complete low and medium pressure filter with a pressure drop $\Delta p = 2.7$ bar.

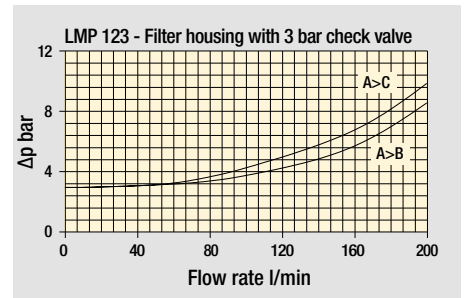
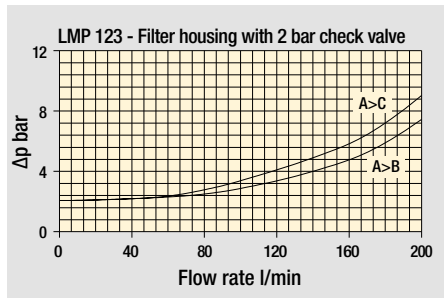
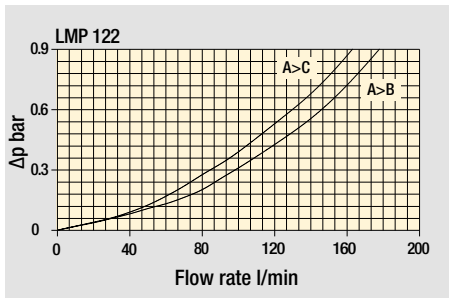
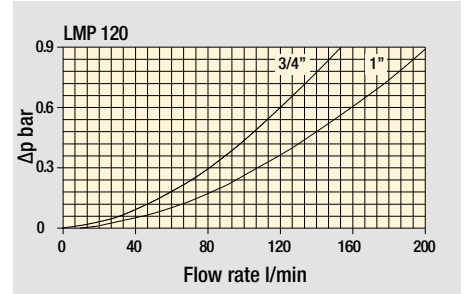
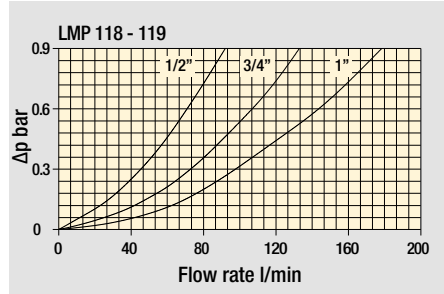
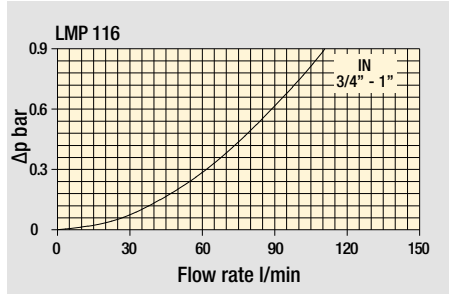
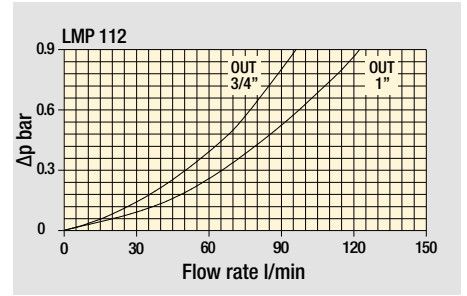
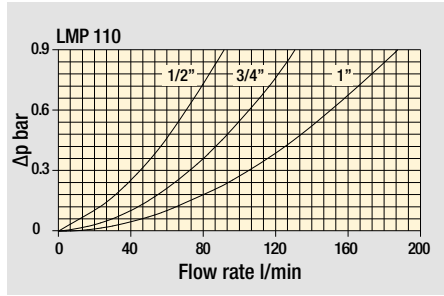
The reference fluid has a kinematic viscosity of 30 mm²/s (cSt) and a density of 0.86 kg/dm³.

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

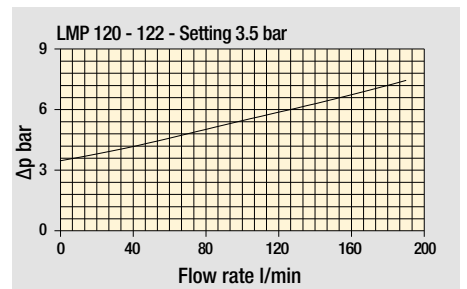
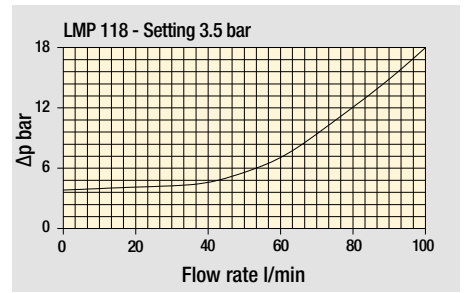
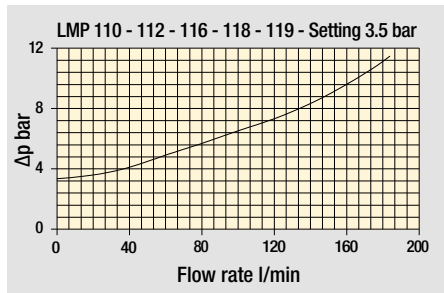
You can also calculate the right size using the formulas present on the FILTER SIZING paragraph at the beginning of the full catalogue or at the beginning of the filter family brochure. Please, contact our Sales Department for further additional information.

Pressure drop

Filter housings Δp pressure drop


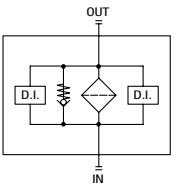


Bypass valve pressure drop




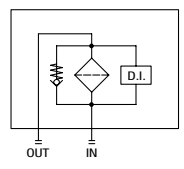
The curves are plotted using mineral oil with density of 0.86 kg/dm³ in compliance with ISO 3968. Δp varies proportionally with density.

LMP 110 In-Line filter


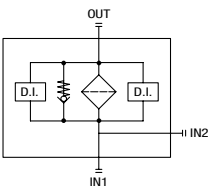
The hydraulic symbol shows a central diamond-shaped valve with a filter element (represented by a zigzag line) in the main flow path. Two side ports are labeled 'D.I.' (Direct Inlet). The main flow is labeled 'IN' at the bottom and 'OUT' at the top.

LMP 120 Port IN-OUT on the same side


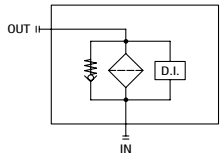
The hydraulic symbol shows a diamond-shaped valve with a filter element. The main flow is labeled 'IN' at the bottom and 'OUT' at the top. A side port is labeled 'D.I.' (Direct Inlet).

LMP 112 Double IN port


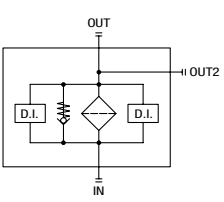
The hydraulic symbol shows a diamond-shaped valve with a filter element. The main flow is labeled 'IN1' at the bottom and 'OUT' at the top. A side port is labeled 'IN2' (Inlet 2). Two side ports are labeled 'D.I.' (Direct Inlet).

LMP 122 Lateral OUT port high flow

The hydraulic symbol shows a diamond-shaped valve with a filter element. The main flow is labeled 'IN' at the bottom and 'OUT II' at the top. A side port is labeled 'OUT I' (Lateral outlet). A side port is labeled 'D.I.' (Direct Inlet).


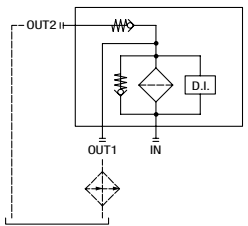
LMP 116 Double OUT port

The hydraulic symbol shows a diamond-shaped valve with a filter element. The main flow is labeled 'IN' at the bottom and 'OUT' at the top. A side port is labeled 'OUT2' (Lateral outlet). Two side ports are labeled 'D.I.' (Direct Inlet).

LMP 123 Bypass valve for heat exchanger high flow


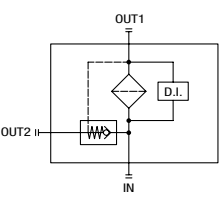
Type 1

The hydraulic symbol shows a diamond-shaped valve with a filter element. The main flow is labeled 'IN' at the bottom and 'OUT1' at the top. A side port is labeled 'OUT2 II' (Lateral outlet). A side port is labeled 'D.I.' (Direct Inlet). A bypass line with a valve symbol connects 'OUT1' back to 'IN'.

LMP 118 Bypass lateral


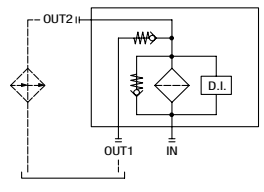
Always cleaning fluid in OUT port

The hydraulic symbol shows a diamond-shaped valve with a filter element. The main flow is labeled 'IN' at the bottom and 'OUT1' at the top. A side port is labeled 'OUT2 II' (Lateral outlet). A side port is labeled 'D.I.' (Direct Inlet). A bypass line with a valve symbol connects 'OUT2 II' back to 'IN'.


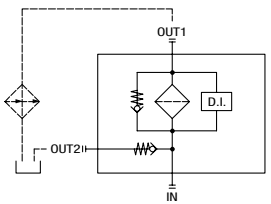
LMP 123 Bypass valve for heat exchanger high flow

Type 2

The hydraulic symbol shows a diamond-shaped valve with a filter element. The main flow is labeled 'IN' at the bottom and 'OUT1' at the top. A side port is labeled 'OUT2 II' (Lateral outlet). A side port is labeled 'D.I.' (Direct Inlet). A bypass line with a valve symbol connects 'OUT2 II' back to 'IN'.

LMP 119 Safety valve 6 bar for heat exchanger

The hydraulic symbol shows a diamond-shaped valve with a filter element. The main flow is labeled 'IN' at the bottom and 'OUT1' at the top. A side port is labeled 'OUT2 II' (Lateral outlet). A side port is labeled 'D.I.' (Direct Inlet). A bypass line with a valve symbol connects 'OUT2 II' back to 'IN'.

Designation & Ordering code

COMPLETE FILTER

Series and size Configuration example: **LMP112** | **4** | **B** | **A** | **D** | **1** | **A10** | **N** | **P01**
LMP110 | **LMP112** | **LMP116**

Length **1** | **2** | **3** | **4**

Bypass valve **S** Without bypass | **B** With bypass 3.5 bar

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

| Connections | | Aux (only LMP 112 - 116) |
|-------------|--------------------------|--------------------------|
| A | G 3/4" | G 3/4" |
| B | G 1" | G 3/4" |
| C | 3/4" NPT | 3/4" NPT |
| D | 1" NPT | 3/4" NPT |
| E | SAE 12 - 1 1/16" - 12 UN | SAE 12 - 1 1/16" - 12 UN |
| F | SAE 16 - 1 5/16" - 12 UN | SAE 12 - 1 1/16" - 12 UN |

Connection for differential indicator **1** Without | **2** With standard connection | **3** With connection on the opposite side | **6** With two connections on both sides

| 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 **N** 20 bar | Execution **P01** MP Filtri standard | **Pxx** Customized

FILTER ELEMENT

Element series and size Configuration example: **CU110** | **4** | **A10** | **A** | **N** | **P01**
CU110

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 and treatments **A** NBR | **V** FPM | Element Δp **N** 20 bar | Execution **P01** MP Filtri standard | **Pxx** Customized

CLOGGING INDICATORS

See page 686

- DEA** Electrical differential indicator
- DEM** Electrical differential indicator
- DLA** Electrical / visual differential indicator
- DLE** Electrical / visual differential indicator

- DTA** Electronic differential indicator
- DVA** Visual differential indicator
- DVM** Visual differential indicator

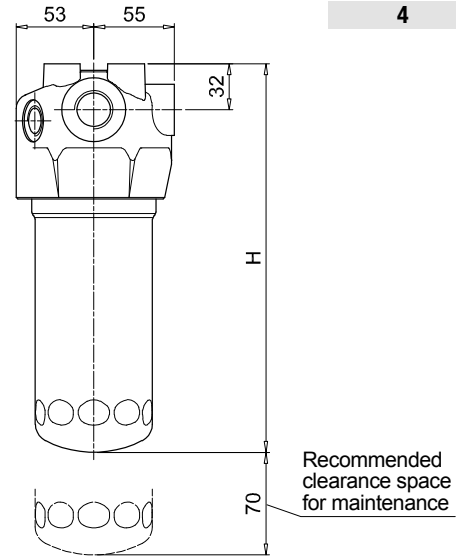
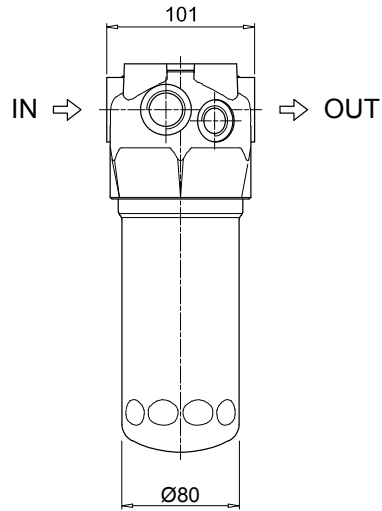
PLUGS

See page 706

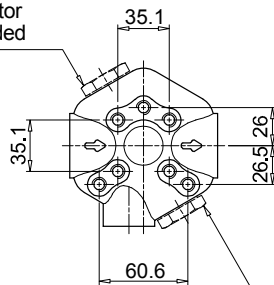
- T2** Differential indicator plug (not included)

LMP110 - LMP112
LMP116

| Filter length | H [mm] |
|---------------|--------|
| 1 | 182 |
| 2 | 215 |
| 3 | 265 |
| 4 | 365 |

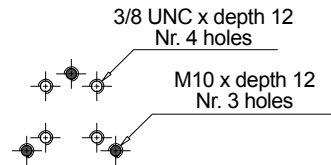


2 - Standard connection for differential indicator
T2 plug not included

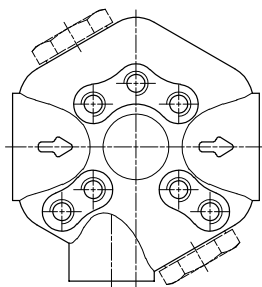


3 - Connection for differential indicator on the opposite side
T2 plug not included

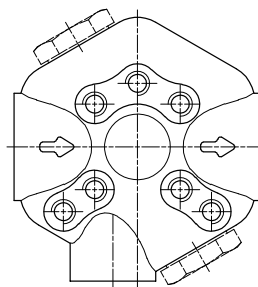
Fixing holes
Option for Metric and UNC screws



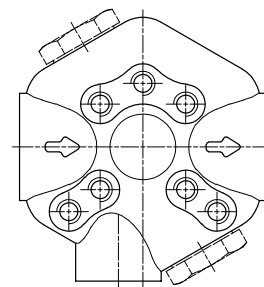
LMP 110



LMP 112



LMP 116



↑
Aux
IN

↓
Aux
OUT

Designation & Ordering code

COMPLETE FILTER

Series and size **LMP118 | LMP119** Configuration example: **LMP118** **4** **B** **A** **D** **1** **A10** **N** **P01**

Length
1 | **2** | **3** | **4** |

Bypass valve
B With bypass 3.5 bar

Seals and treatments
A NBR
V FPM

| Connections | | Aux OUT |
|-----------------------------------|--------------------------|---------|
| A G 3/4" | G 3/4" | |
| B G 1" | G 3/4" | |
| C 3/4" NPT | 3/4" NPT | |
| D 1" NPT | 3/4" NPT | |
| E SAE 12 - 1 1/16" - 12 UN | SAE 12 - 1 1/16" - 12 UN | |
| F SAE 16 - 1 5/16" - 12 UN | SAE 12 - 1 1/16" - 12 UN | |

Connection for differential indicator
1 Without
2 With standard connection

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
N 20 bar

Execution
P01 MP Filtri standard
Pxx Customized

FILTER ELEMENT

Element series and size **CU110** Configuration example: **CU110** **4** **A10** **A** **N** **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 and treatments
A NBR
V FPM

Element Δp
N 20 bar

Execution
P01 MP Filtri standard
Pxx Customized

CLOGGING INDICATORS

See page 686

- DEA** Electrical differential indicator
- DEM** Electrical differential indicator
- DLA** Electrical / visual differential indicator
- DLE** Electrical / visual differential indicator

- DTA** Electronic differential indicator
- DVA** Visual differential indicator
- DVM** Visual differential indicator

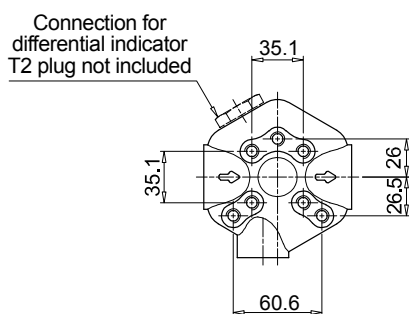
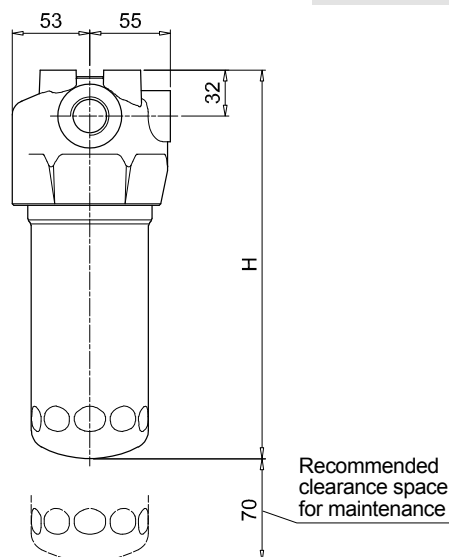
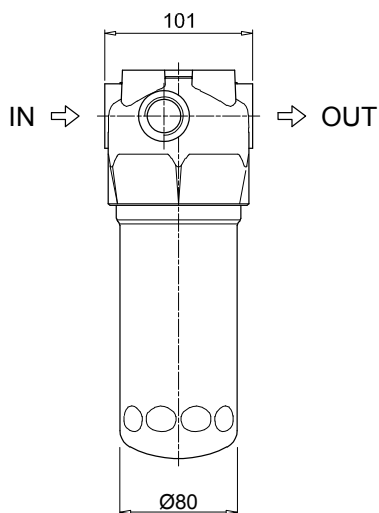
PLUGS

See page 706

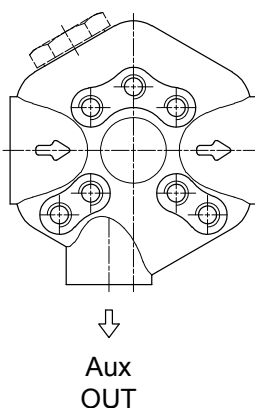
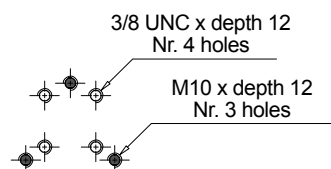
- T2** Differential indicator plug (not included)

LMP118 - LMP119

| Filter length | H [mm] |
|---------------|--------|
| 1 | 182 |
| 2 | 215 |
| 3 | 265 |
| 4 | 365 |



Fixing holes
Option for Metric and UNC screws



Designation & Ordering code

COMPLETE FILTER

Series and size Configuration example: **LMP120** | **4** | **B** | **A** | **D** | **1** | **A10** | **N** | **P01**
LMP120 | **LMP122**

Length
1 | **2** | **3** | **4**

Bypass valve
S Without bypass | **B** With bypass 3.5 bar

Seals and treatments
A NBR
V FPM

| Connections | LMP120 | LMP122 |
|-----------------------------------|--------|--------|
| A G 3/4" | • | - |
| B G 1" | • | • |
| C 3/4" NPT | • | - |
| D 1" NPT | • | • |
| E SAE 12 - 1 1/16" - 12 UN | • | - |
| F SAE 16 - 1 5/16" - 12 UN | • | • |

Connection for differential indicator
1 Without
2 With standard connection

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
N 20 bar

Execution
P01 MP Filtri standard
Pxx Customized

FILTER ELEMENT

Element series and size Configuration example: **CU110** | **4** | **A10** | **A** | **N** | **P01**
CU110

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 and treatments
A NBR
V FPM

Element Δp
N 20 bar

Execution
P01 MP Filtri standard
Pxx Customized

CLOGGING INDICATORS

See page 686

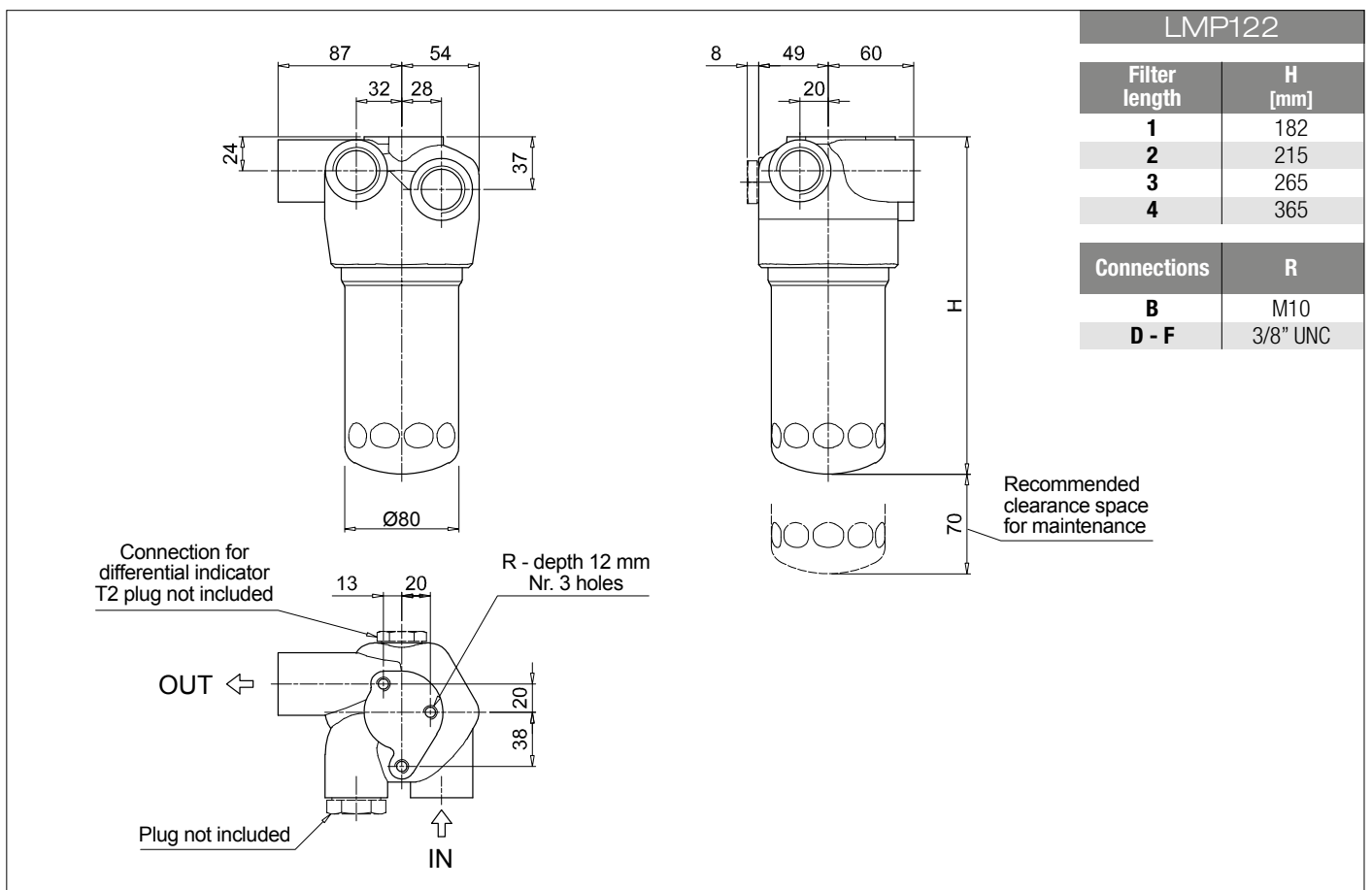
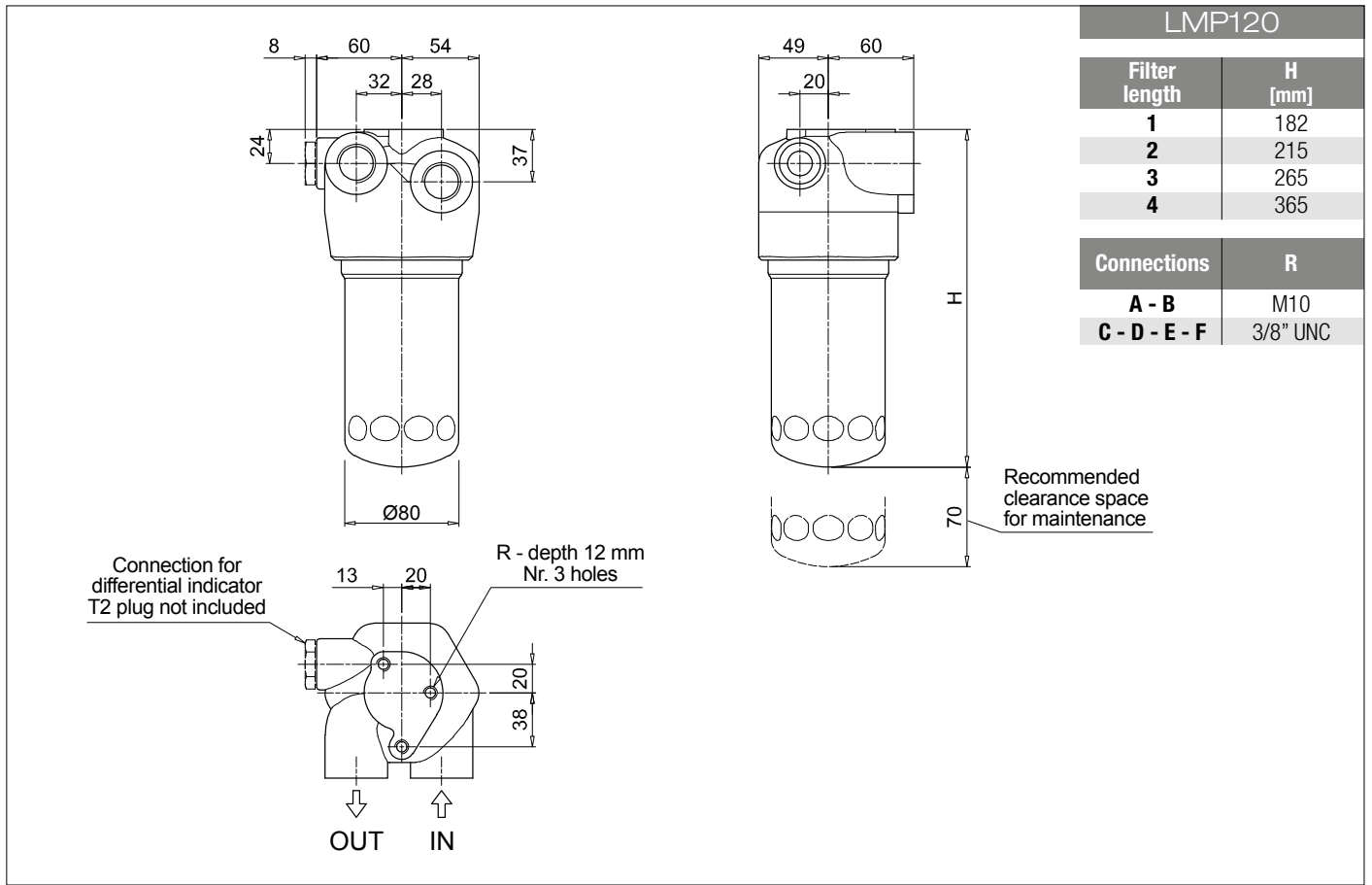
- DEA** Electrical differential indicator
- DEM** Electrical differential indicator
- DLA** Electrical / visual differential indicator
- DLE** Electrical / visual differential indicator

- DTA** Electronic differential indicator
- DVA** Visual differential indicator
- DVM** Visual differential indicator

PLUGS

See page 706

- T2** Differential indicator plug (not included)



Designation & Ordering code

COMPLETE FILTER

Series and size **LMP123** Configuration example: **LMP123** **4** **R** **A** **F** **1** **A10** **N** **P01**

Length
1 | 2 | 3 | 4

| Valves | Bypass | OUT to cooler | Check valve |
|----------|------------------------|---------------|-------------|
| C | without | front | 2 bar |
| D | | | 3 bar |
| G | | side | 2 bar |
| H | | | 3 bar |
| M | With bypass 3.5 bar | front | 2 bar |
| N | | | 3 bar |
| Q | | side | 2 bar |
| R | | | 3 bar |

Seals and treatments
A NBR
V FPM

Connections
B G 1"
F SAE 16 - 1 5/16" - 12 UN

Connection for differential indicator
1 Without
2 With standard connection

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
N 20 bar

Execution
P01 MP Filtri standard
Pxx Customized

FILTER ELEMENT

Element series and size **CU110** Configuration example: **CU110** **4** **A10** **A** **N** **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 and treatments
A NBR
V FPM

Element Δp
N 20 bar

Execution
P01 MP Filtri standard
Pxx Customized

CLOGGING INDICATORS

See page 686

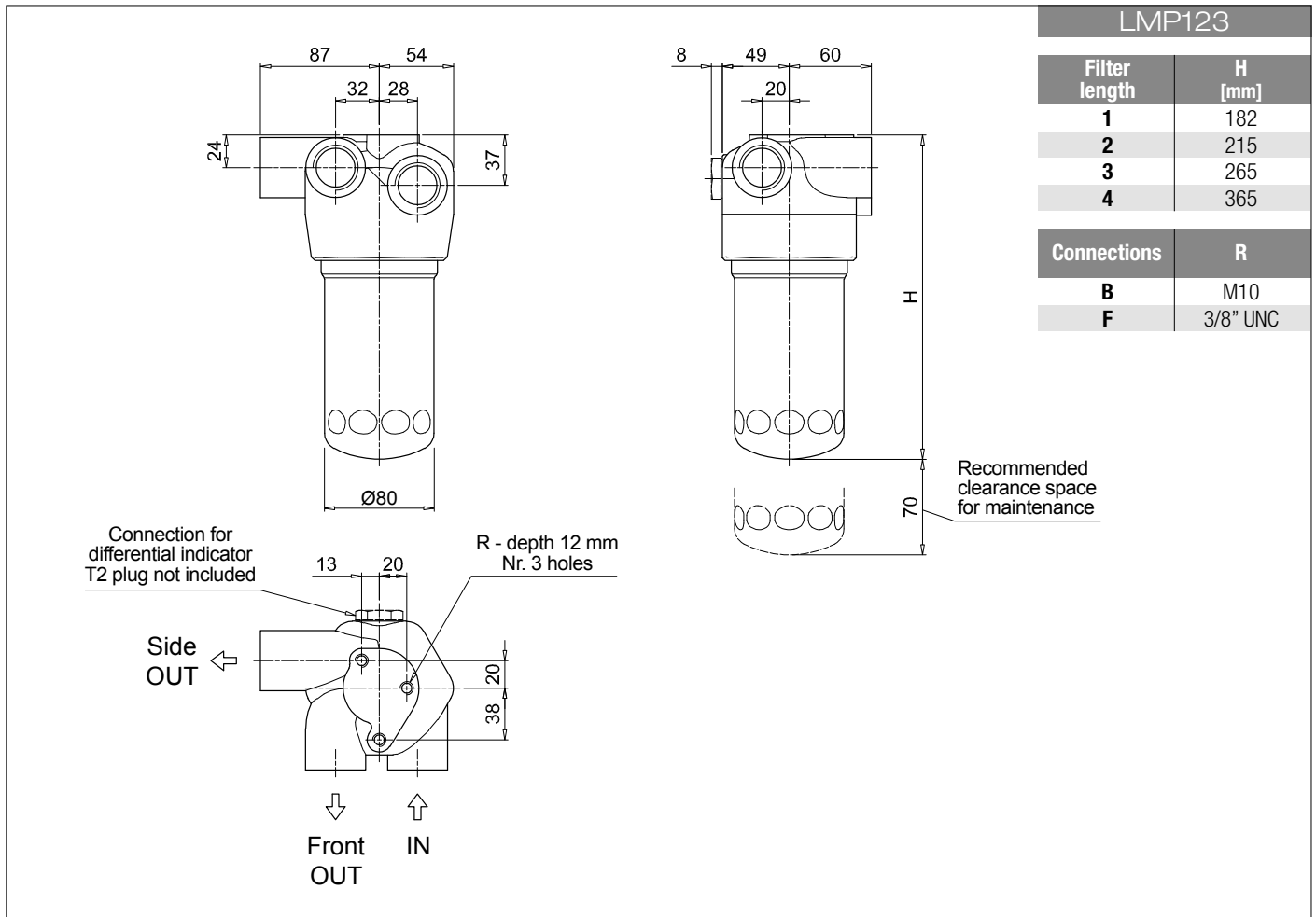
- DEA** Electrical differential indicator
- DEM** Electrical differential indicator
- DLA** Electrical / visual differential indicator
- DLE** Electrical / visual differential indicator

- DTA** Electronic differential indicator
- DVA** Visual differential indicator
- DVM** Visual differential indicator

PLUGS

See page 706

- T2** Differential indicator plug (not included)

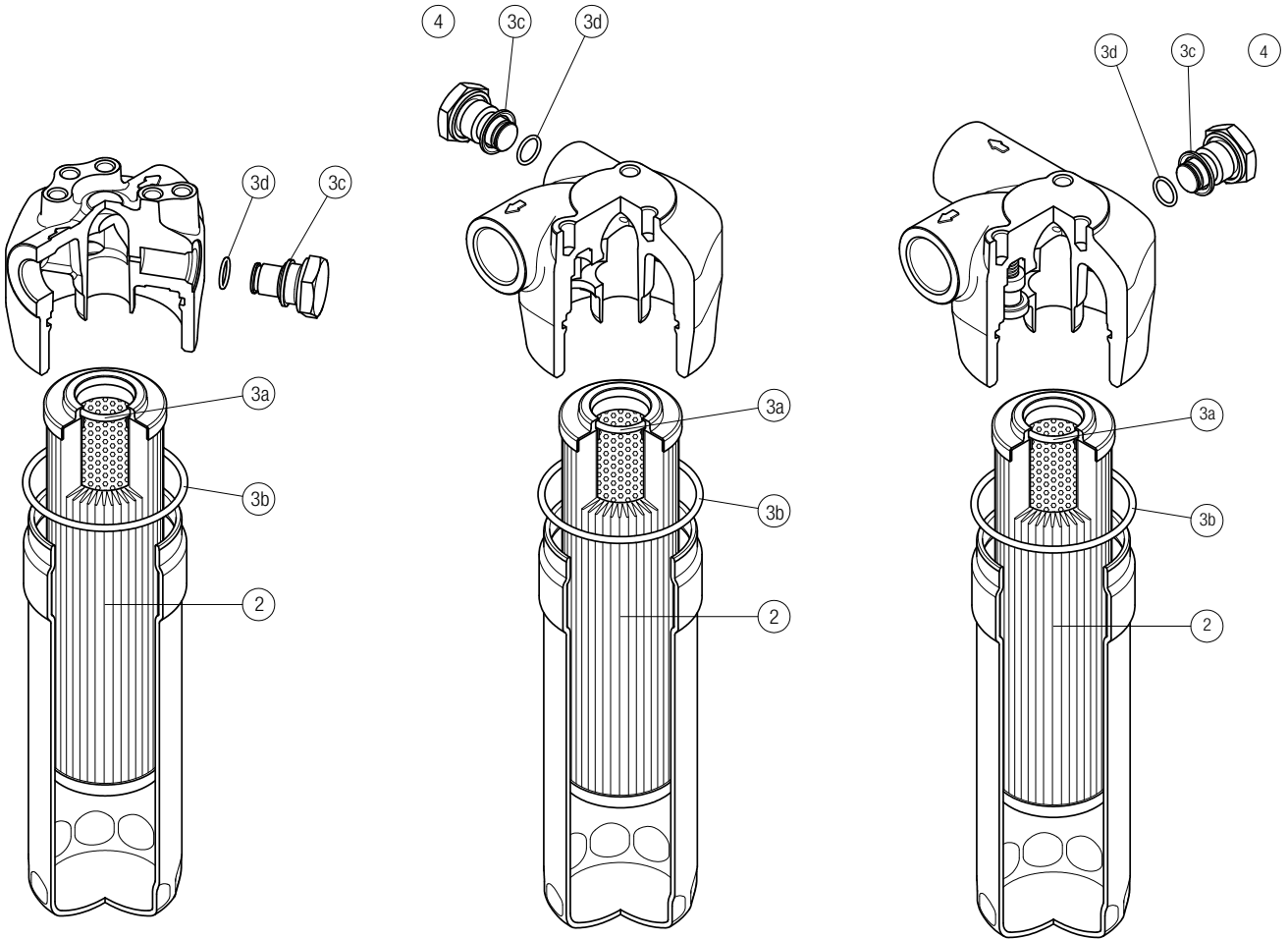


Order number for spare parts

LMP 110 - 112 - 116 - 118 - 119

LMP 120

LMP 122 - 123



| Item: | Q.ty: 1 pc. | | Q.ty: 1 pc. | | Q.ty: 1 pc. | |
|--------------------------|-----------------|----------------------|-------------|---------------------------|-------------|--|
| Filter series | Filter element | Seal Kit code number | | Indicator connection plug | | |
| LMP 110-112-116 -118-119 | See order table | NBR | FPM | NBR | FPM | |
| LMP 120 | | 02050478 | 02050479 | T2H | T2V | |
| LMP 122-123 | | | | | | |