

# LMP 400-401 series

Maximum working pressure up to 6 MPa (60 bar) - Flow rate up to 780 l/min



## Description

## Technical data

### Low & Medium Pressure filters

**Maximum working pressure up to 6 MPa (60 bar)**  
**Flow rate up to 780 l/min**

LMP400 is a range of low pressure filter with large filtration surface mainly suitable for lubrication, off-line filtration of the reservoirs and filtration equipment.

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

#### Available features:

- Female threaded connections up to 2" and flanged connections up to 2 1/2", for a maximum flow rate of 780 l/min
- In line or 90° connections, to meet any type of application
- Base-mounting design also available, for ease of the replacement of the filter element
- Fine filtration rating, to get a good cleanliness level into the system
- Water removal elements, to remove the free water from the hydraulic fluid. For further information, see the Contamination Management document and the dedicate leaflet.
- Bypass valve, to relieve excessive pressure drop across the filter media
- Vent ports, to avoid air trapped into the filter going into the system
- Drain ports, to remove the fluid from the housing prior the maintenance work
- Visual, electrical and electronic differential clogging indicators

#### Common applications:

- Off-line filtration of reservoirs
- Filtration systems

### Filter housing materials

- Head: Anodized Aluminium
- Housing: Anodized Aluminium
- Bypass valve: Steel

### Pressure LMP 400-401 length 2 - 3 - 4

- Working pressure: 6 MPa (60 bar)
- Test pressure: 9 MPa (90 bar)
- Burst pressure: 21 MPa (210 bar)
- Pulse pressure fatigue test: 1 000 000 cycles with pressure from 0 to 6 MPa (60 bar)

### Pressure LMP 400-401 length 5 - 6

- Working pressure: 5 MPa (50 bar)
- Test pressure: 7.5 MPa (75 bar)
- Burst pressure: 15 MPa (150 bar)
- Pulse pressure fatigue test: 1 000 000 cycles with pressure from 0 to 5 MPa (50 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
- 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

### Connections

LMP 400: In-line Inlet/Outlet  
 LMP 401: 90° Inlet/Outlet

### Note

LMP 400 filters are provided for vertical mounting

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

| Filter series      | Weights [kg] |      |      |      |       |       | Volumes [dm <sup>3</sup> ] |      |      |      |      |       |
|--------------------|--------------|------|------|------|-------|-------|----------------------------|------|------|------|------|-------|
|                    | Length       | 2    | 3    | 4    | 5     | 6     | Length                     | 2    | 3    | 4    | 5    | 6     |
| <b>LMP 400-401</b> |              | 7.20 | 8.10 | 8.80 | 11.90 | 14.40 |                            | 3.50 | 5.00 | 6.50 | 9.50 | 13.50 |

Flow rates [l/min]

| Filter series  | Length   | Filter element design - N Series |     |     |     |     |                   |     |     |
|----------------|----------|----------------------------------|-----|-----|-----|-----|-------------------|-----|-----|
|                |          | A03                              | A06 | A10 | A16 | A25 | M25<br>M60<br>M90 | P10 | P25 |
| <b>LMP 400</b> | <b>2</b> | 205                              | 244 | 370 | 411 | 515 | 720               | 524 | 556 |
|                | <b>3</b> | 280                              | 333 | 474 | 515 | 602 | 760               | 637 | 660 |
|                | <b>4</b> | 347                              | 400 | 535 | 564 | 637 | 769               | 660 | 688 |
|                | <b>5</b> | 459                              | 501 | 610 | 660 | 717 | 781               | 700 | 721 |
|                | <b>6</b> | 504                              | 575 | 676 | 689 | 728 | 783               | 708 | 727 |
| <b>LMP 401</b> | <b>2</b> | 200                              | 236 | 347 | 382 | 468 | 628               | 475 | 501 |
|                | <b>3</b> | 268                              | 315 | 434 | 468 | 537 | 659               | 565 | 582 |
|                | <b>4</b> | 328                              | 373 | 484 | 507 | 565 | 665               | 582 | 603 |
|                | <b>5</b> | 423                              | 456 | 544 | 582 | 626 | 674               | 613 | 629 |
|                | <b>6</b> | 459                              | 516 | 594 | 604 | 634 | 676               | 619 | 633 |

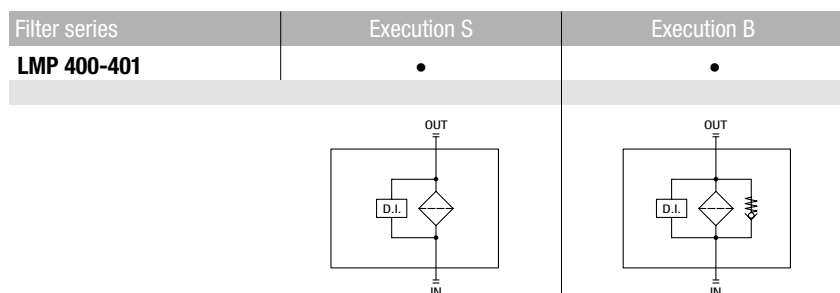
**Maximum flow rate for a complete low and medium pressure filter with a pressure drop  $\Delta p = 0.7$  bar.**

The reference fluid has a kinematic viscosity of 30 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).

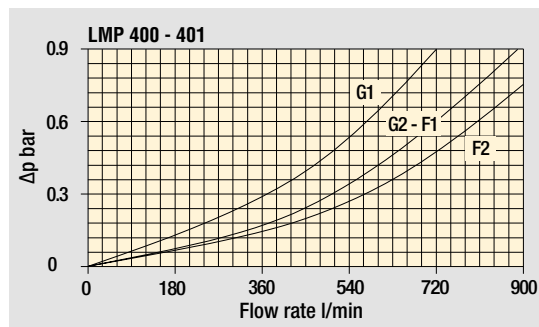
You can also calculate the right size using the formulas present on the FILTER SIZING paragraph at the beginning of the full catalogue or at the beginning of the filter family brochure. Please, contact our Sales Department for further additional information.

Hydraulic symbols

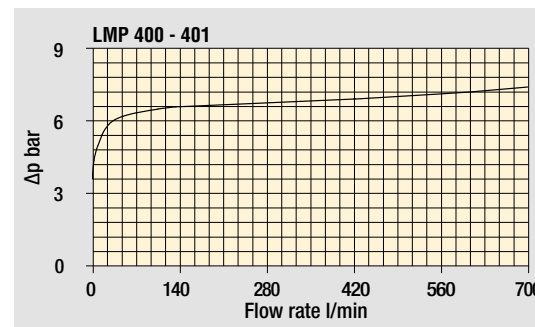


Pressure drop

Filter housings  $\Delta p$  pressure drop



Bypass valve pressure drop



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.

# LMP 400-401

## Designation & Ordering code

### COMPLETE FILTER

Series and size **LMP400 | LMP401** Configuration example: **LMP401** **3** **B** **A** **G1** **A10** **N** **P01**

Length **2** | **3** | **4** | **5** | **6** |

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

| Seals and treatments   | Filtration rating |     |     |
|--|-------------------|-----|-----|
|  | Axx               | Mxx | Pxx |
| <b>A</b> NBR   | •                 | •   | •   |
| <b>V</b> FPM   | •                 | •   | •   |
| <b>W</b> NBR with surface-treatment on filter element's tube | •                 | •   | -   |

Connections

|                                   |                                   |
|-----------------------------------|-----------------------------------|
| <b>G1</b> G 1 1/2"                | <b>F1</b> 2" SAE 3000 psi/M       |
| <b>G2</b> G 2"                    | <b>F2</b> 2 1/2" SAE 3000 psi/M   |
| <b>G3</b> 1 1/2" NPT              | <b>F3</b> 2" SAE 3000 psi/UNC     |
| <b>G4</b> 2" NPT                  | <b>F4</b> 2 1/2" SAE 3000 psi/UNC |
| <b>G5</b> SAE 24 - 1 7/8" - 12 UN |                                   |
| <b>G6</b> SAE 32 - 2 1/2" - 12 UN |                                   |

Filtration rating (filter media)

|  |  |
|--|--|
| <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>WA025</b> Water absorber inorganic microfiber 25 µm |  |

| Element Δp  | Filter length |   |   |   |   |     |
|---|---------------|---|---|---|---|-----|
|   | 2             | 3 | 4 | 5 | 6 |     |
| <b>N</b> 20 bar                                       |               |   |   |   |   |     |
| <b>P01</b> MP Filtri standard                         | •             | • | • | • | • |     |
| <b>P02</b> Maintenance from the bottom of the housing |               |   |   |   |   | • • |
| <b>Pxx</b> Customized                                 |               |   |   |   |   |     |

### FILTER ELEMENT

Element series and size **CU400** Configuration example: **CU400** **3** **A10** **A** **N** **P01**

Element length **2** | **3** | **4** | **5** | **6** |

Filtration rating (filter media)

|  |  |
|--|--|
| <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>WA025</b> Water absorber inorganic microfiber 25 µm |  |

| Seals                                       | Filtration rating |     |     |
|---|-------------------|-----|-----|
|   | Axx               | Mxx | Pxx |
| <b>A</b> NBR                                | •                 | •   | •   |
| <b>V</b> FPM                                | •                 | •   | •   |
| <b>W</b> NBR with surface-treatment on tube | •                 | •   | -   |

| Element Δp                    | Execution |   |   |   |   |  |
|-------------------------------|-----------|---|---|---|---|--|
|                               | 2         | 3 | 4 | 5 | 6 |  |
| <b>N</b> 20 bar               |           |   |   |   |   |  |
| <b>P01</b> MP Filtri standard | •         | • | • | • | • |  |
| <b>Pxx</b> Customized         |           |   |   |   |   |  |

### CLOGGING INDICATORS

See page 726

**DEA** Electrical differential pressure indicator

**DEM** Electrical differential pressure indicator

**DEU** Electrical differential pressure indicator

**DLA** Electrical / visual differential pressure indicator

**DLE** Electrical / visual differential pressure indicator

**DTA** Electronic differential pressure indicator

**DVA** Visual differential pressure indicator

**DVM** Visual differential pressure indicator

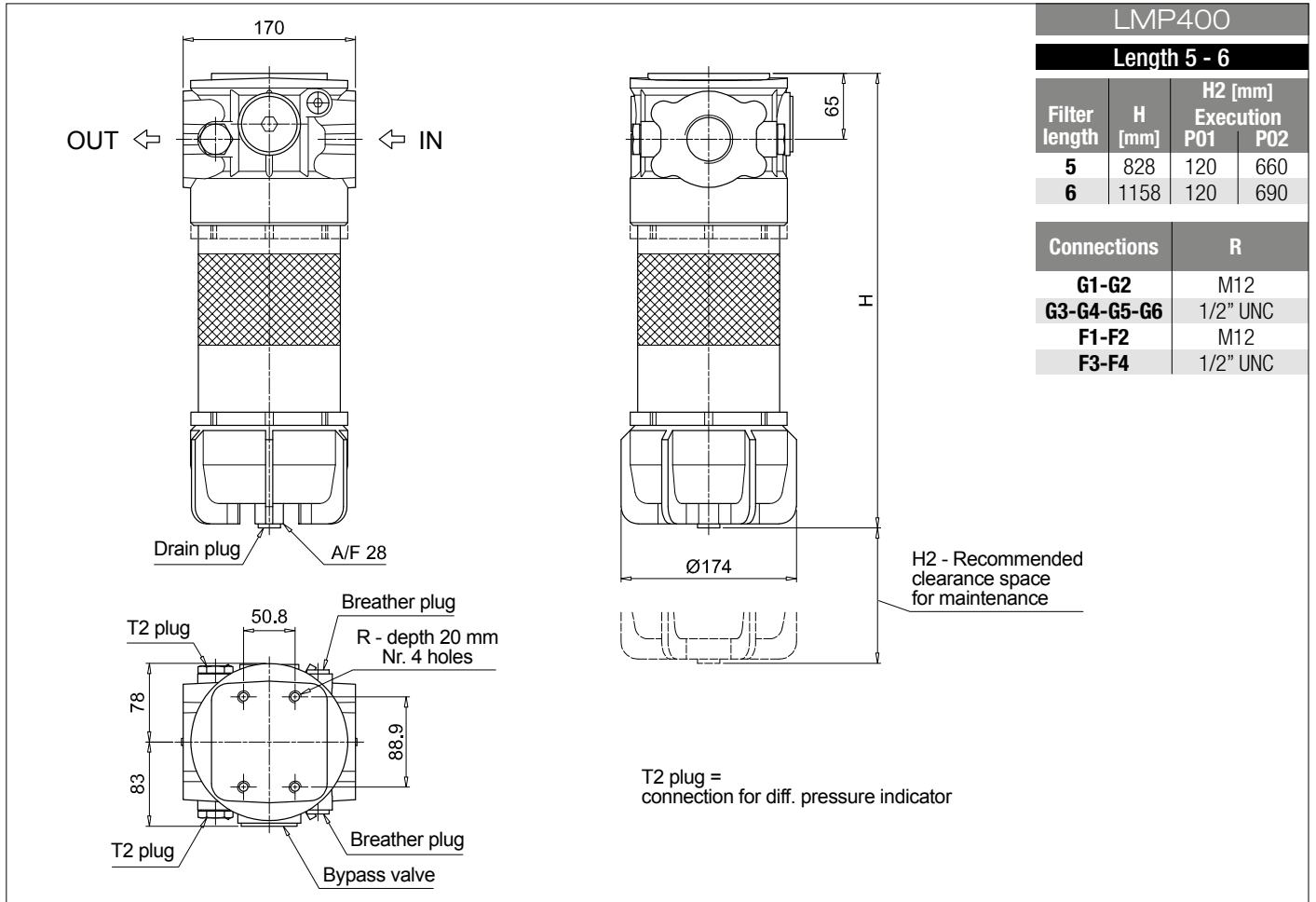
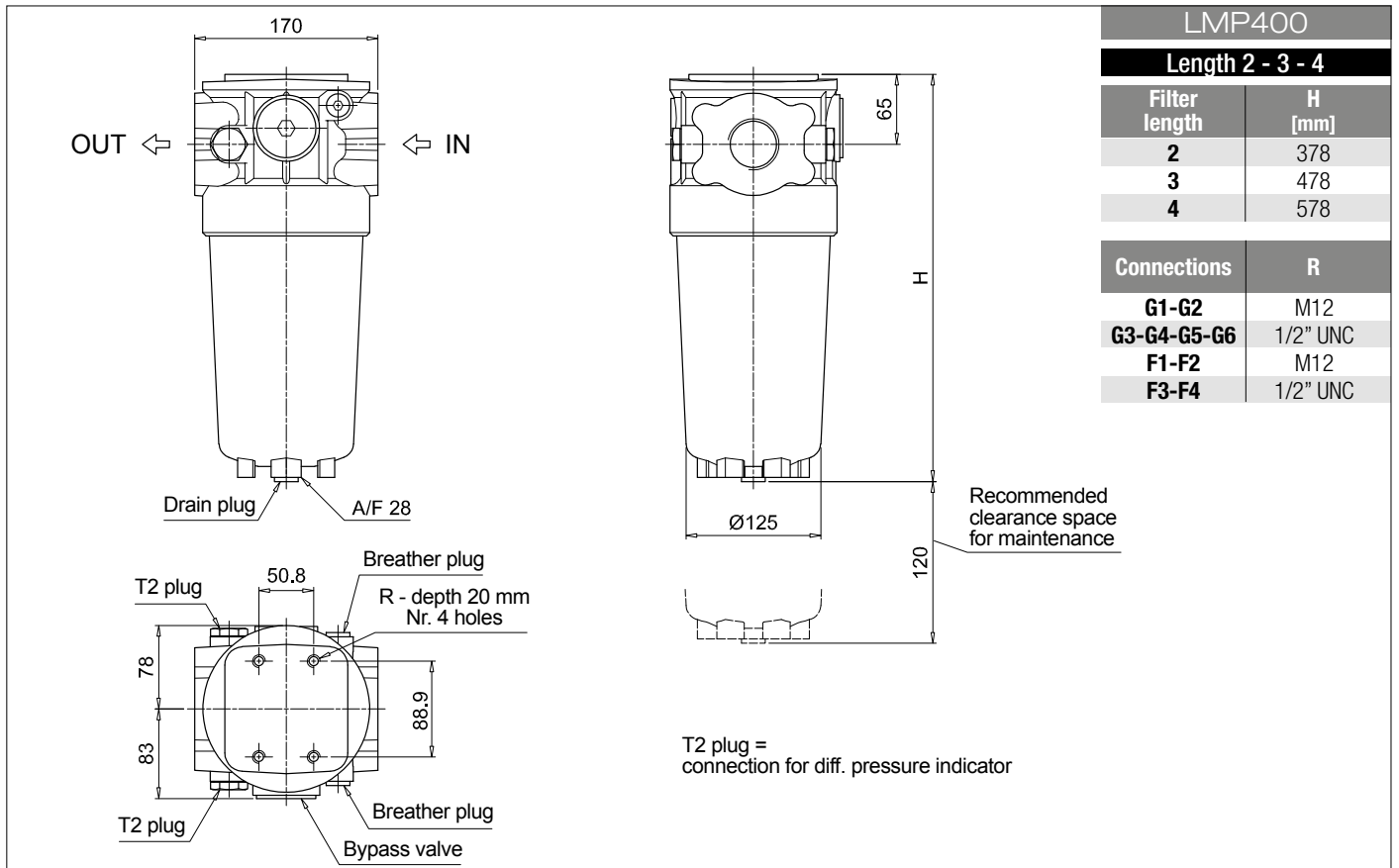
### PLUGS

See page 747

**T2** Plug

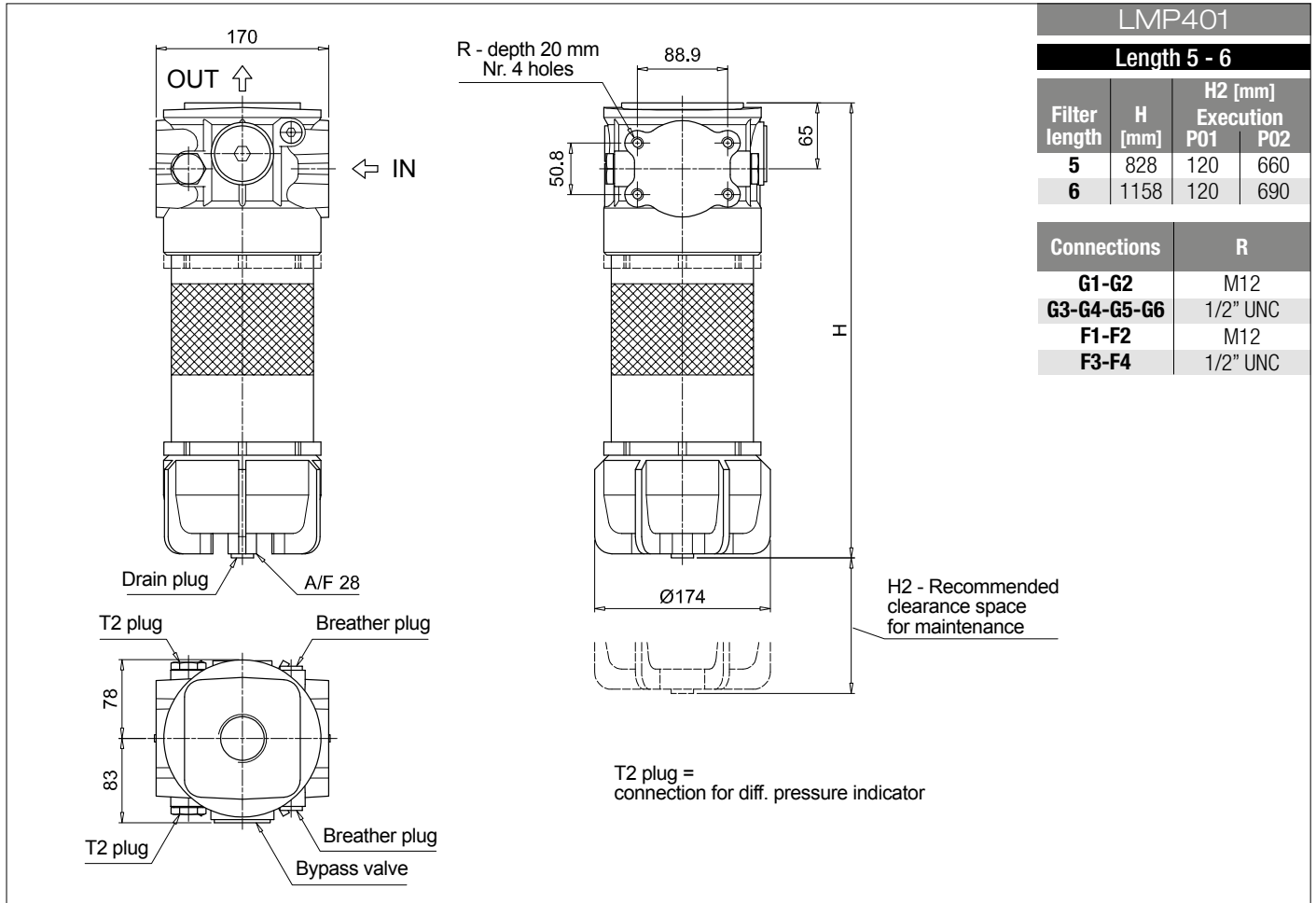
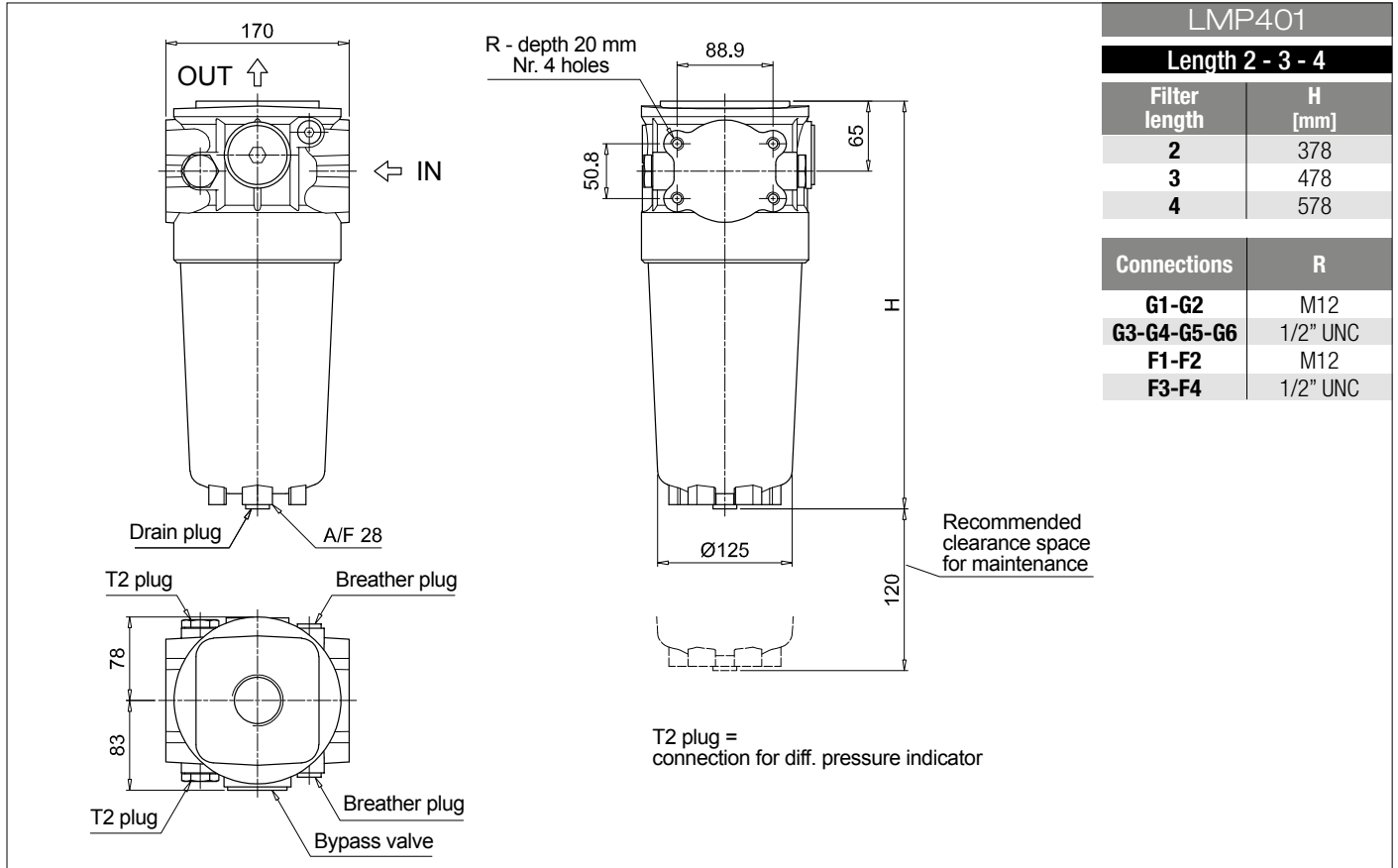
# LMP 400-401

## Dimensions



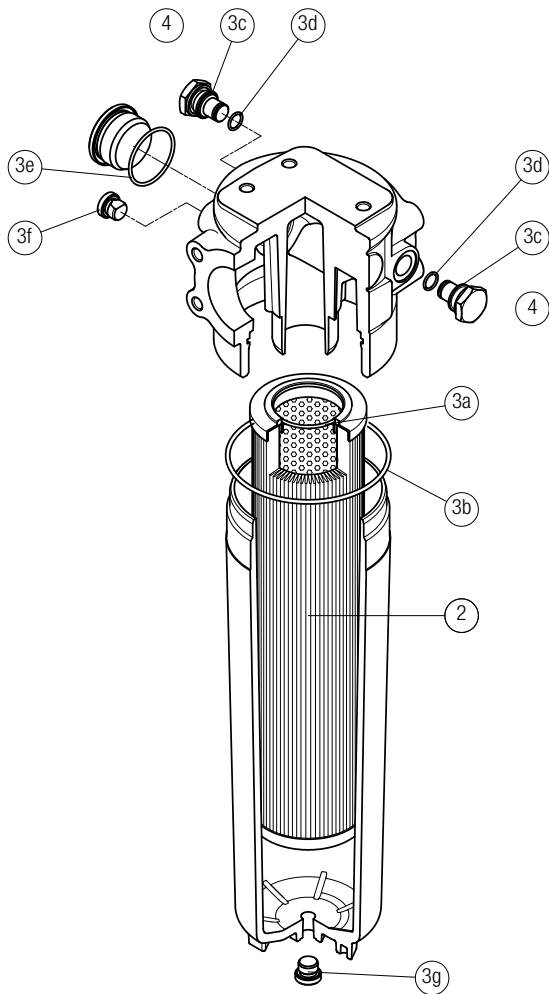
# LMP 400-401

## Dimensions

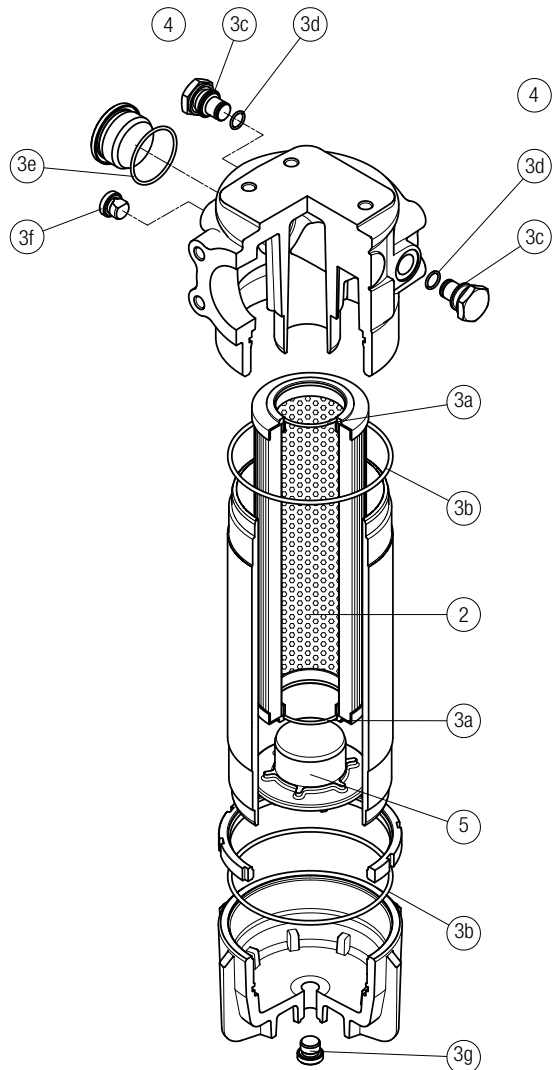


LMP 400 - 401

length 2 - 3 - 4



length 5 - 6



| Item:                    | Q.ty: 1 pc.<br>2 | Q.ty: 1 pc.<br>3 (3a ÷ 3g)      | Q.ty: 2 pcs.<br>4                    | Q.ty: 2 pcs.<br>5           |
|--------------------------|------------------|---------------------------------|--------------------------------------|-----------------------------|
| Filter series            | Filter element   | Seal Kit code number<br>NBR FPM | Indicator connection plug<br>NBR FPM | Housing spigot<br>no bypass |
| LMP 400-401 length 2-3-4 | See order table  | 02050391 02050392               | T2H T2V                              | -                           |
| LMP 400-401 length 5-6   |                  | 02050393 02050394               |                                      | 01044108                    |

# CLOGGING INDICATORS LOW & MEDIUM PRESS. FILTERS

## Designation & Ordering code

### DIFFERENTIAL PRESSURE INDICATORS

| Series  | Configuration example 1: | DE | M | 20 | H | F | 50 | P01 |    |
|---|--------------------------|----|---|----|---|---|----|-----|----|
| <b>DE</b> Electrical differential pressure indicator        | Configuration example 2: | DE | U | 50 | V | A | 50 | P01 | UL |
| <b>DL</b> Electrical/Visual differential pressure indicator | Configuration example 3: | DL | E | 50 | V | A | 71 | P01 |    |
| <b>DT</b> Electronic differential pressure indicator        | Configuration example 4: | DT | A | 20 | H | F | 70 | P01 |    |
| <b>DV</b> Visual differential pressure indicator            | Configuration example 5: | DV | M | 50 | V |   |    | P01 |    |

| Type   | DE | DL | DT | DV                            |
|--|----|----|----|-------------------------------|
| <b>A</b> Standard type                       | •  | •  | •  | <b>A</b> With automatic reset |
| <b>M</b> With wired electrical connection    | •  | -  | -  | <b>M</b> With manual reset    |
| <b>U</b> Standard type 210 bar, UL certified | •  | -  | -  | <b>S</b> With automatic reset |
| <b>E</b> For high power supply               | -  | •  | -  |                               |
| <b>S</b> Compact version                     | •  | -  | -  |                               |

| Pressure setting  | DEA | DEM | DEU | DES | DLA | DLE | DTA | DVA | DVM | DVS |
|-------------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| <b>12</b> 1.2 bar | •   | •   | -   | •   | •   | •   | •   | •   | •   | •   |
| <b>20</b> 2.0 bar | •   | •   | •   | -   | •   | •   | •   | •   | •   | -   |
| <b>25</b> 2.5 bar | -   | -   | -   | -   | -   | -   | -   | -   | -   | •   |
| <b>40</b> 4.0 bar | -   | -   | -   | •   | -   | -   | -   | -   | -   | •   |
| <b>50</b> 5.0 bar | •   | •   | •   | -   | •   | •   | •   | •   | •   | -   |

| Seals         | DEA | DEM | DEU | DES | DL | DT | DVA | DVM | DVS |
|---------------|-----|-----|-----|-----|----|----|-----|-----|-----|
| <b>H</b> HNBR | •   | •   | -   | •   | •  | •  | •   | •   | •   |
| <b>V</b> FPM  | •   | •   | •   | -   | •  | •  | •   | •   | -   |

| Thermostat                  | DEA | DEM | DEU | DES | DLA | DLE | DT |
|-----------------------------|-----|-----|-----|-----|-----|-----|----|
| <b>A</b> Without thermostat | •   | •   | •   | •   | •   | •   | -  |
| <b>F</b> With thermostat    | -   | •   | -   | -   | -   | •   | •  |

| Electrical connections   | DEA | DEM | DEU | DES | DLA | DLE | DT |
|--|-----|-----|-----|-----|-----|-----|----|
| <b>10</b> Connection AMP Superseal series 1.5                              | -   | •   | -   | •   | -   | -   | -  |
| <b>20</b> Connection AMP Timer Junior                                      | -   | •   | -   | -   | -   | -   | -  |
| <b>30</b> Connection Deutsch DT-04-2-P                                     | -   | •   | -   | •   | -   | -   | -  |
| <b>35</b> Connection Deutsch DT-04-3-P                                     | -   | •   | -   | -   | -   | -   | -  |
| <b>50</b> Connection EN 175301-803   | •   | -   | •   | -   | -   | •   | -  |
| <b>51</b> Connection EN 175301-803, transparent base with lamps 24 Vdc     | -   | -   | -   | -   | •   | -   | -  |
| <b>52</b> Connection EN 175301-803, transparent base with lamps 110 Vdc    | -   | -   | -   | -   | •   | -   | -  |
| <b>70</b> Connection IEC 61076-2-101 D (M12)                               | -   | -   | -   | -   | -   | -   | •  |
| <b>71</b> Connection IEC 61076-2-101 D (M12), black base with lamps 24 Vdc | -   | -   | -   | -   | •   | -   | -  |
| <b>80</b> Connection Stud #10-32 UNF                                       | -   | -   | -   | •   | -   | -   | -  |

| Option                        |
|-------------------------------|
| <b>P01</b> MP Filtri standard |
| <b>Pxx</b> Customized         |

| Certifications             | DEU | OTHERS |
|----------------------------|-----|--------|
| Without                    | -   | •      |
| <b>UL</b> UL certification | •   | -      |

### PLUGS

| Series         | Configuration example | T2 | H |
|----------------|-----------------------|----|---|
| <b>T2</b> Plug |                       |    |   |
| <b>T4</b> Plug |                       |    |   |

| Seals         | T2 | T4 |
|---------------|----|----|
| <b>A</b> NBR  | -  | •  |
| <b>H</b> HNBR | •  | -  |
| <b>V</b> FPM  | •  | -  |