LMD 400-401 & 431 series

Maximum working pressure up to 1.6 MPa (16 bar) - Flow rate up to 600 l/min
**Low & Medium Pressure filters**

**Duplex**
Maximum working pressure up to 1.6 MPa (16 bar)
Flow rate up to 600 l/min

LMD400 is a range of versatile low pressure duplex filter with integrated changeover function to allow the filter element replacement without the system shut-down.
They are directly connected to the lines of the system through the hydraulic fittings.

**Available features:**
- 2 1/2” flanged connections, for a maximum flow rate of 600 l/min
- LMD400: In-line connections
- LMD401: In-line connections with compact design
- LMD431: In-line connections with compact design and base mounting
- 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.
- Balancing valve, to equalize the housing pressure before the switch
- 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:**
- Systems where shut-down causes high costs
- Systems where shut-down causes safety issues

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**Filter housing materials**
- Head: Anodized Aluminium
- Housing: Anodized Aluminium
- Manifolds: Steel - Painted black
- Bypass valve: Steel
- 3-way ball valve: Steel housings - Stainless Steel ball
- Valve: Phosphatized Steel - Stainless Steel

**Pressure**
Test pressure: 2.5 MPa (25 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**
FPM series V

**Temperature**
From -25° C to +110° C

**Connections**
- LMD 400-401: In-line Inlet/Outlet
- LMD 401: Same side
- LMD 400-401-431: In-Line

**Note**
LMP 400 - 401 - 431 filters are provided for vertical mounting.

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**Weights [kg] and volumes [dm³]**

<table>
<thead>
<tr>
<th>Filter series</th>
<th>Weights [kg]</th>
<th>Volumes [dm³]</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Length 4</td>
<td>Length 4</td>
</tr>
<tr>
<td>LMD 400 - 401</td>
<td>60 65 72</td>
<td>20 28 33</td>
</tr>
<tr>
<td>LMD 431</td>
<td>- 68 78</td>
<td>- 28 33</td>
</tr>
</tbody>
</table>

---

*Low & Medium Pressure filters*
The curves are plotted using mineral oil with density of 0.86 kg/dm³ in compliance with ISO 3968. Δp varies proportionally with density.

<table>
<thead>
<tr>
<th>Filter series</th>
<th>Length</th>
<th>A03</th>
<th>A06</th>
<th>A10</th>
<th>A16</th>
<th>A25</th>
<th>M25</th>
<th>M60</th>
<th>M90</th>
<th>P10</th>
<th>P25</th>
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</thead>
<tbody>
<tr>
<td>LMD 400 - 401</td>
<td>4</td>
<td>308</td>
<td>349</td>
<td>453</td>
<td>474</td>
<td>530</td>
<td>628</td>
<td>547</td>
<td>567</td>
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<td></td>
</tr>
<tr>
<td></td>
<td>5</td>
<td>395</td>
<td>427</td>
<td>509</td>
<td>547</td>
<td>589</td>
<td>637</td>
<td>577</td>
<td>592</td>
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</tr>
<tr>
<td></td>
<td>6</td>
<td>429</td>
<td>483</td>
<td>558</td>
<td>568</td>
<td>597</td>
<td>639</td>
<td>583</td>
<td>597</td>
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</tr>
</tbody>
</table>

Maximum flow rate for a complete low and medium pressure filter with a pressure drop Δp = 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.
Fit one differential indicator for individual filter assembly.

LMP 400 - 401 & 431

“Internal tube for low flow rate” is recommended for flow rate values below 150 l/min.

The use of option P02 makes it easier to fill the housing with the operating fluid.
Dimensions

<table>
<thead>
<tr>
<th>Connections</th>
<th>R</th>
</tr>
</thead>
<tbody>
<tr>
<td>F1</td>
<td>M12</td>
</tr>
<tr>
<td>F2</td>
<td>1/2&quot; UNC</td>
</tr>
<tr>
<td>F3</td>
<td>M12</td>
</tr>
<tr>
<td>F4</td>
<td>1/2&quot; UNC</td>
</tr>
</tbody>
</table>

Recommended clearance space for maintenance

IN 375  OUT

Drain plug

A/F 28

IN 219  OUT 312

R - depth 20 mm
Nr. 4 holes 50.8

Low & Medium Pressure filters

Low & Medium Pressure filters 391

Bypass valve

R255

Breather plug

T2 plug

T2 plug =
Connection for differential indicator
LMD 400-401

Dimensions

<table>
<thead>
<tr>
<th>Length 5 - 6</th>
</tr>
</thead>
<tbody>
<tr>
<td>Filter length</td>
</tr>
<tr>
<td>5</td>
</tr>
<tr>
<td>6</td>
</tr>
</tbody>
</table>

Connections

<table>
<thead>
<tr>
<th>R</th>
<th>F1</th>
<th>F2</th>
<th>F3</th>
<th>F4</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>M12</td>
<td>1/2&quot; UNC</td>
<td>M12</td>
<td>1/2&quot; UNC</td>
</tr>
</tbody>
</table>

T2 plug = Connection for differential indicator

H2 - Recommended clearance space for maintenance
Recommended clearance space for maintenance

Connections

<table>
<thead>
<tr>
<th>Connections</th>
<th>R</th>
</tr>
</thead>
<tbody>
<tr>
<td>F1</td>
<td>M12</td>
</tr>
<tr>
<td>F2</td>
<td>1/2” UNC</td>
</tr>
<tr>
<td>F3</td>
<td>M12</td>
</tr>
<tr>
<td>F4</td>
<td>1/2” UNC</td>
</tr>
</tbody>
</table>

Drain plug

T2 plug = connection for differential indicator

Bypass plug

Breather plug

IN

OUT

R - depth 20 mm
Nr. 4 holes

Connections F1-F2
156

Connections F3-F4
156

A/F 28

93

86.9

R255

640

53

228

794

120

125

T2 plug

LMD 400-401

Low & Medium Pressure filters

Dimensions

Low & Medium Pressure filters

393
LMD 400-401

Dimensions

<table>
<thead>
<tr>
<th>Filter length</th>
<th>H [mm]</th>
<th>H2 (mm)</th>
<th>Execution P01</th>
<th>Execution P02</th>
</tr>
</thead>
<tbody>
<tr>
<td>5</td>
<td>1044</td>
<td>120</td>
<td>660</td>
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<td>6</td>
<td>1374</td>
<td>120</td>
<td>690</td>
<td></td>
</tr>
</tbody>
</table>

Connections

- F1: M12
- F2: 1/2" UNC
- F3: M12
- F4: 1/2" UNC

Drain plug

T2 plug = connection for differential indicator

Filler length

- Length 5 - 6

Connections

- F1-F2: 156
- F3-F4: 156
- R - depth 20 mm
- Nr. 4 holes

IN ➔ OUT

OUT ➔ OUT

Connections T2 plug

Bypass plug

Breather plug

H2 - Recommended clearance space for maintenance

IN ➔ OUT

Connections

- F1-F2: 156
- F3-F4: 156

Drain plug

A/F 28

R255

H - depth 20 mm

Nr. 4 holes

LMD401

Low & Medium Pressure filters
### Complete Filter

<table>
<thead>
<tr>
<th>Series and size</th>
<th>Configuration example:</th>
<th>LMD431</th>
<th>5</th>
<th>B</th>
<th>V</th>
<th>F1</th>
<th>A10</th>
<th>N</th>
<th>P01</th>
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<tbody>
<tr>
<td>LMD431</td>
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<td></td>
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<td></td>
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<td>Length</td>
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</tr>
<tr>
<td>Bypass valve</td>
<td></td>
<td>S</td>
<td>B</td>
<td></td>
<td></td>
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<td></td>
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<tr>
<td></td>
<td></td>
<td>Without bypass</td>
<td>With bypass 3.5 bar</td>
<td></td>
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<td></td>
<td></td>
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</tr>
<tr>
<td>Seals and treatments</td>
<td></td>
<td>V</td>
<td>FPM</td>
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<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Connections</td>
<td></td>
<td>F1</td>
<td>2 1/2&quot; SAE 3000 psi/M</td>
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<td></td>
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</tr>
<tr>
<td></td>
<td></td>
<td>F2</td>
<td>2 1/2&quot; SAE 3000 psi/UNC</td>
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<td></td>
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<tr>
<td></td>
<td></td>
<td>F3</td>
<td>2 1/2&quot; SAE 3000 psi/M, In-line connections</td>
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<td></td>
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<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>F4</td>
<td>2 1/2&quot; SAE 3000 psi/UNC, In-line connections</td>
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<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Filtration rating (filter media)</td>
<td></td>
<td>A03 Inorganic microfiber 3 µm</td>
<td>M25 Wire mesh 25 µm</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>A06 Inorganic microfiber 6 µm</td>
<td>M60 Wire mesh 60 µm</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>A10 Inorganic microfiber 10 µm</td>
<td>M90 Wire mesh 90 µm</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>A16 Inorganic microfiber 16 µm</td>
<td>P10 Resin impregnated paper 10 µm</td>
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<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>A25 Inorganic microfiber 25 µm</td>
<td>P25 Resin impregnated paper 25 µm</td>
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<td></td>
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<td></td>
<td></td>
</tr>
</tbody>
</table>

**WA025** Water absorber inorganic microfiber 25 µm

Element ∆p N 20 bar

Execution

P01 MP Filtri standard

P02 With internal tube for low flow rate

Pxx Customized

### Filter Element

<table>
<thead>
<tr>
<th>Element series and size</th>
<th>Configuration example:</th>
<th>CU400</th>
<th>5</th>
<th>A10</th>
<th>V</th>
<th>N</th>
<th>P01</th>
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</thead>
<tbody>
<tr>
<td>Element length</td>
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<td>5</td>
<td>6</td>
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</tr>
<tr>
<td>Filtration rating (filter media)</td>
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<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>A06 Inorganic microfiber 6 µm</td>
<td>M60 Wire mesh 60 µm</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>A10 Inorganic microfiber 10 µm</td>
<td>M90 Wire mesh 90 µm</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>A16 Inorganic microfiber 16 µm</td>
<td>P10 Resin impregnated paper 10 µm</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>A25 Inorganic microfiber 25 µm</td>
<td>P25 Resin impregnated paper 25 µm</td>
<td></td>
<td></td>
<td></td>
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</tr>
</tbody>
</table>

**WA025** Water absorber inorganic microfiber 25 µm

Element ∆p N 20 bar

Execution

P01 MP Filtri standard

P02 With internal tube for low flow rate

Pxx Customized

### Clogging Indicators

- **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

- **T2** Differential indicator plug

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**Low & Medium Pressure filters**

**LMD 431**

**Designation & Ordering code**
LMD 431

Dimensions

<table>
<thead>
<tr>
<th>Filter length</th>
<th>H [mm]</th>
<th>H2 [mm]</th>
</tr>
</thead>
<tbody>
<tr>
<td>5</td>
<td>1161</td>
<td>660</td>
</tr>
<tr>
<td>6</td>
<td>1491</td>
<td>690</td>
</tr>
</tbody>
</table>

**Connections**
- IN → OUT
- OUT ↔ OUT

**Fixing holes**
- Ø 15
- Nr. 4 holes
- 100
- 530

**Connections**
- F1-F2 156
- F3-F4 156

**Additional Features**
- Breather plug
- A/F 26
- Connection for differential indicator T2 plug
- Drain plug
- Connections
- Fixing holes
- R255
- Low & Medium Pressure filters

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MPFEINT

3D Low & Medium Pressure filters
## Order number for spare parts

### LMD 400

**Item:**
- Filter series One-way valve
- Seal Kit
- Threaded fasteners kit
- Ball valve with hose fitting

**Q.ty:**
- 1 pc.
- 2 pcs.
- 1 pc.
- 1 pc.
- 2 pcs.

### LMD 401

**Item:**
- 3-way ball valve PN 16
- One-way valve
- Seal Kit
- Kit ball valve with hose fitting

**Q.ty:**
- 1 pc.
- 1 pc.
- 1 pc.
- 2 pcs.
- 1 pc.
- 1 pc.

### LMD 431

**Item:**
- 3-way ball valve PN 16
- One-way valve
- Seal Kit
- Kit ball valve with hose fitting

**Q.ty:**
- 1 pc.
- 1 pc.
- 1 pc.
- 2 pcs.

### Filter series
- Low & Medium Pressure filters

<table>
<thead>
<tr>
<th></th>
<th></th>
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</tr>
</thead>
<tbody>
<tr>
<td>LMD 400-401-431</td>
<td>3-way ball valve PN 16</td>
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<td>02001441</td>
<td>02001429</td>
<td>02050399</td>
<td>02049062</td>
<td>02025043</td>
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<tr>
<td>LMD 400-401-431</td>
<td>One-way valve</td>
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<td></td>
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<td></td>
<td></td>
</tr>
<tr>
<td>LMD 400-401-431</td>
<td>Seal Kit</td>
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<tr>
<td>LMD 400-401-431</td>
<td>Threaded fasteners kit</td>
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<tr>
<td>LMD 400-401-431</td>
<td>Kit ball valve with hose fitting</td>
<td></td>
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</tr>
<tr>
<td>LMD 400-401-431</td>
<td>Filter</td>
<td></td>
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<td>LMP400xF2.....</td>
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</table>