LMD 211 series

Maximum working pressure up to 6 MPa (60 bar) - Flow rate up to 330 l/min
Step 1 Select “FILTERS”

Step 2 Choose filter group (Return Filter, Pressure Filter, etc.)

Step 3 Choose filter type (MPF, MPT, etc.) in function of the max working pressure and the max flow rate

Step 4 Push “PROCEED”

Step 5 Insert all application data to calculate the filter size following the sequence:
- working pressure
- working flow rate
- working pressure drop
- working temperature
- fluid material and fluid type
- filtration media
- connection type

Step 6 Push “CALCULATE” to have result; in case of any mistake, the system will advice which parameter is out of range to allow to modify/adjust the selection

Step 7 Download PDF
Datasheet “Report.aspx” pushing the button “Drawing”
LMD 211 **GENERAL INFORMATION**

**Description**

**Low & Medium Pressure filters**

Duplex

Maximum working pressure up to 6 MPa (60 bar)

Flow rate up to 330 l/min

LMD211 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:

- Female threaded connections up to 1 1/2” and flanged connections up to 1 1/2”, for a maximum flow rate of 330 l/min
- 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 integrated in the changeover lever, 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
- Optional sampling ports, to get samples of fluid or to connect additional instrument to the system
- Visual, electrical and electronic differential clogging indicators

Common applications:

- Systems where shut-down causes high costs
- Systems where shut-down causes safety issues

**Technical data**

Filter housing materials

- Head: Aluminium
- Bowl: Cataphoretic Painted Steel
- Bypass valve: AISI 304 - Nylon

Pressure

- 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)

Bypass valve

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

Δp element type

- Microfi lter fi lter elements - series N: 20 bar
- Fluid fl ow through the fi lter element from OUT to IN

Seals

- Standard NBR series A
- Optional FPM series V

Temperature

From -25° C to +110° C

Connections

Inlet/Outlet In-Line

**Note**

LMD 211 filters are provided for vertical mounting

**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 1</td>
<td>2</td>
</tr>
<tr>
<td>LMD 211</td>
<td>9.5</td>
<td>11.2</td>
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</tbody>
</table>
Pressure drop

The curves are plotted using mineral oil with density of 0.86 kg/dm³ in compliance with ISO 3968. \( \Delta p \) 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>M250</th>
<th>P10</th>
<th>P25</th>
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<td>194</td>
<td>194</td>
<td>184</td>
<td>184</td>
<td>187</td>
</tr>
</tbody>
</table>

Maximum flow rate for a complete low and medium pressure filter with a pressure drop \( \Delta p = 1.5 \text{ bar} \).

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**

<table>
<thead>
<tr>
<th>Filter series</th>
<th>Style S</th>
<th>Style B</th>
</tr>
</thead>
<tbody>
<tr>
<td>LMD 211</td>
<td>•</td>
<td>•</td>
</tr>
</tbody>
</table>

**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/dm³ in compliance with ISO 3968. \( \Delta p \) varies proportionally with density.
### Complete Filter

<table>
<thead>
<tr>
<th>Series and size</th>
<th>Configuration example:</th>
<th>Execution</th>
<th>Element ΔP</th>
<th>Element ΔP</th>
</tr>
</thead>
<tbody>
<tr>
<td>LMD211</td>
<td></td>
<td></td>
<td>P01 MP Filtri standard</td>
<td>P01 MP Filtri standard</td>
</tr>
</tbody>
</table>

#### 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

WA025 Water absorber inorganic microfiber 25 µm

#### Seals and Treatments
- **A** NBR
- **V** FPM
- **W** NBR compatible with fluids HFA-HFB-HFC

#### Connections
- **C** 1/2" NPT
- **F** 1 1/2" NPT

#### Differential Pressure
- **N** 20 bar

#### Connections for Differential Indicator
- **6** With plugged connection

### Filter Element

<table>
<thead>
<tr>
<th>Element series and size</th>
<th>Configuration example:</th>
<th>Execution</th>
<th>Element ΔP</th>
<th>Element ΔP</th>
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<tbody>
<tr>
<td>CU210</td>
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<td>P01 MP Filtri standard</td>
<td>P01 MP Filtri standard</td>
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</tbody>
</table>

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#### Seals and Treatments
- **A** NBR
- **V** FPM

#### Differential Pressure
- **N** 20 bar

## Accessories

<table>
<thead>
<tr>
<th>Differential Indicators</th>
<th>page</th>
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<th>page</th>
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<tbody>
<tr>
<td>DEA Electrical differential indicator</td>
<td>445</td>
<td>DTA Electronic differential indicator</td>
<td>448</td>
</tr>
<tr>
<td>DEM Electrical differential indicator</td>
<td>446-447</td>
<td>DVA Visual differential indicator</td>
<td>446</td>
</tr>
<tr>
<td>DLA Electrical / visual differential indicator</td>
<td>446-447</td>
<td>DVM Visual differential indicator</td>
<td>446</td>
</tr>
<tr>
<td>DLE Electrical / visual differential indicator</td>
<td>447</td>
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</tbody>
</table>

Additional features page
- **T2** Plug 449
**Low & Medium Pressure filters**

### Dimensions

<table>
<thead>
<tr>
<th>Filter length</th>
<th>H [mm]</th>
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<tbody>
<tr>
<td>1</td>
<td>383</td>
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<tr>
<td>2</td>
<td>513</td>
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<td>3</td>
<td>651</td>
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</table>

<table>
<thead>
<tr>
<th>Connections</th>
<th>R</th>
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</thead>
<tbody>
<tr>
<td>C</td>
<td>M10</td>
</tr>
<tr>
<td>F - I</td>
<td>3/8” UNC</td>
</tr>
<tr>
<td>L</td>
<td>M10</td>
</tr>
<tr>
<td>M - N</td>
<td>3/8” UNC</td>
</tr>
</tbody>
</table>

- **Recommended clearance space for maintenance**
- **Breather plug**
- **Drain plug**
- **Connection for differential indicator T2 plug**
- **IN OUT**
- **R - depth 15 mm Nr. 3 holes**
- **R - depth 15 mm Nr. 4 holes**
<table>
<thead>
<tr>
<th>Item</th>
<th>Q.ty: 1 pc.</th>
<th>Q.ty: 1 pc.</th>
<th>Q.ty: 2 pcs.</th>
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</thead>
<tbody>
<tr>
<td></td>
<td>2</td>
<td>3a - 3f</td>
<td>4</td>
</tr>
<tr>
<td>Filter series</td>
<td>Filter element</td>
<td>Seal Kit code number</td>
<td>Indicator connection plug</td>
</tr>
<tr>
<td>LDD</td>
<td>See order table</td>
<td>02050671, 02050672</td>
<td>T2H, T2V</td>
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