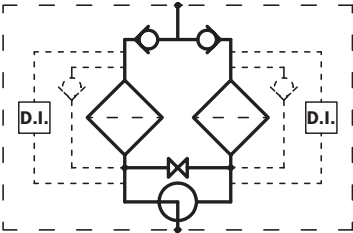


# LMD 400 - 401 - 431



LMD 400 - 401 - 431  
Double filter



**Maximum pressure 16 bar**  
**Flow rates to 590 l/min**

## Filter housing (Materials)

- Head: Anodised Aluminium
- Housing: Anodised Aluminium
- Manifolds: Steel - Painted black
- Bypass valve: Steel
- 3-way ball valve: Steel housings - Stainless Steel ball
- Valve: Phosphated Steel - Stainless Steel

## Pressure

- Working pressure: 16 bar (1.6 MPa)
- Test pressure: 25 bar (2.5 MPa)

## Temperature

- From -25 °C to +110 °C

## Bypass valve

- Opening pressure 3.5 bar ±10%
- Other opening pressures on request.

## Δp Elements type

- Series N and W elements: 20 bar
- Oil flow from exterior to interior.

## Seals

- Standard FPM series V

## Weights (kg)

### Length

- LMD400 - 401 4 60
- LMD400 - 401 5 65
- LMD400 - 401 6 72
- LMD431 5 68
- LMD431 6 75

## Volumes (dm<sup>3</sup>)

### Length

- LMD400 - 401 - 431 4 18
- LMD400 - 401 - 431 5 24
- LMD400 - 401 - 431 6 32

## Connections

### Inlet-Outlet

- Twin vertically mounted (excluded version LMD 400)
- In-Line

## Compatibility (to ISO 2943)

- Housings compatible with:  
Mineral oils, synthetic fluids,  
aqueous emulsions, water and glycol
- The filter elements are compatible with:  
Mineral oils, synthetic fluids.  
Aqueous emulsions, water and glycol  
(series W required).
- NBR seals series A, compatible with:  
Mineral oils, synthetic fluids, aqueous emulsions and  
water and glycol.
- FPM seals series V, compatible with:  
Synthetic fluids type HS-HFDR-HFDS-HFDU

## Filter Element Area

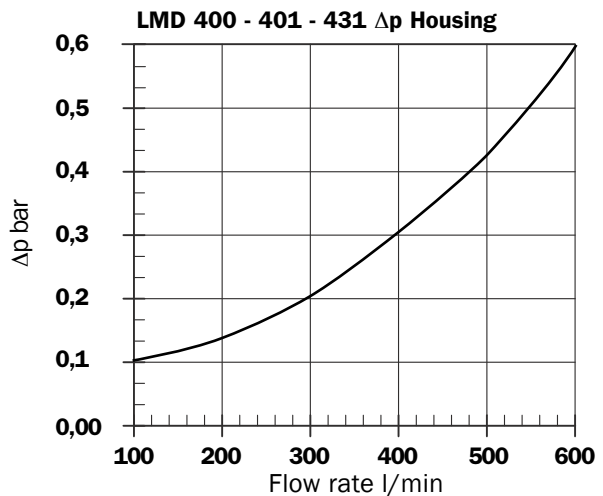
### Filter element in stainless steel mesh

Type	Length		
	4	5	6
CU 400	6550	10200	15300
Values expressed in cm <sup>2</sup>			

## Filter housing Δp pressure drop

The curves are plotted utilising mineral oil with density of 0.86 kg/dm<sup>3</sup> to ISO 3968.

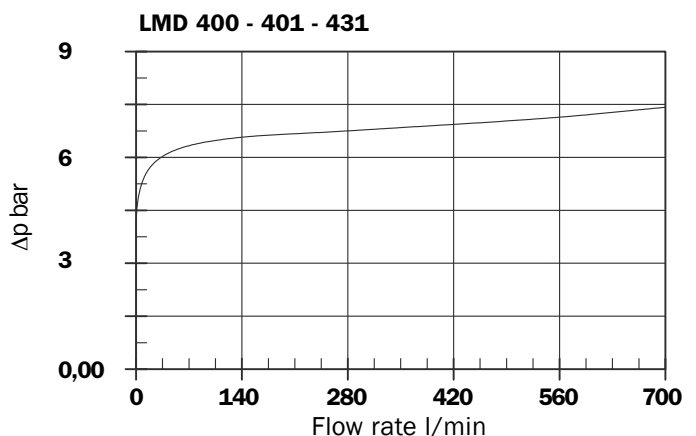
Δp varies proportionally with density.



## Valves

### Bypass valve pressure drop

For individual filter body



## Option P02 for LMD 431



Option P02 “Internal tube for reduced 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.

**P02 “Internal tube for reduced flow rates”**

### Recommended maximum flow rate

Recommended maximum flow rate for filters installed on lubrication lines, return or in-line filters is defined by the maximum oil velocity in the connections. For filters mounted on Off-Line lines the maximum recommended flow rate is defined by the pressure drop of the filter element.

Filter for pressurised lubrication, max. oil velocity 2.5 m/sec.  
Return or in-line filter, max oil velocity 5 m/sec.

	Connections
<b>Oil velocity</b>	<b>2 1/2"</b>
<b>2,5 m/sec.</b>	<b>500</b>
<b>5 m/sec.</b>	<b>1000</b>
	<b>Flow rate l/min</b>

Off-Line filter, filter element recommended maximum pressure drop must be equal to  $\Delta p$  0.2 ÷ 0.3 bar.

### Recommended maximum flow rate

- Pressure drop of filter assembly equal to  $\Delta p$  0.6 bar.
- Oil kinematic viscosity 30 mm<sup>2</sup>/s (cSt).
- Density 0.86 kg/dm<sup>3</sup>.

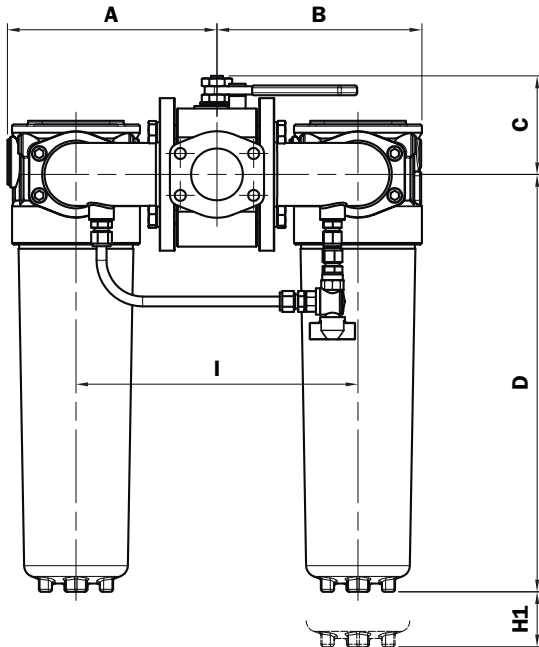
### Filtration

	Length	A03	A06	A10	A16	A25	P10	P25	M25
<b>LMD 400 - 401</b>	4	265	310	410	430	485	500	520	570
<b>431</b>	5	355	385	465	500	540	530	540	580
	6	390	440	510	520	560	540	555	590

**Flow rate l/min**

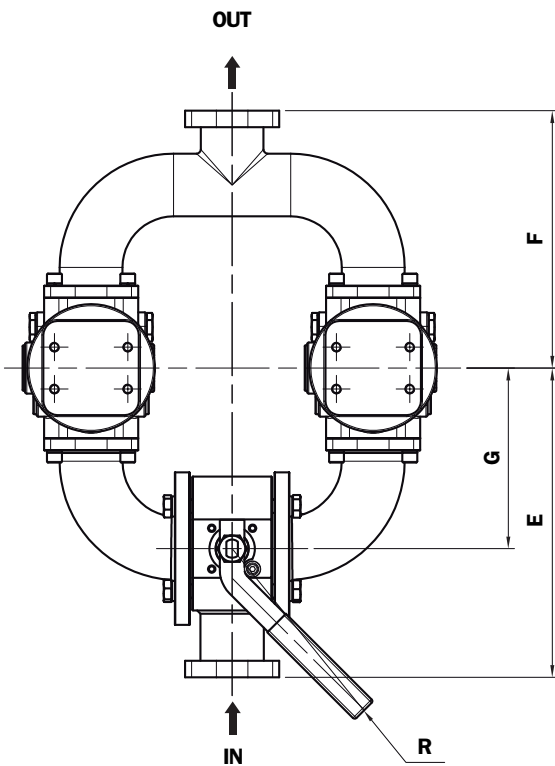
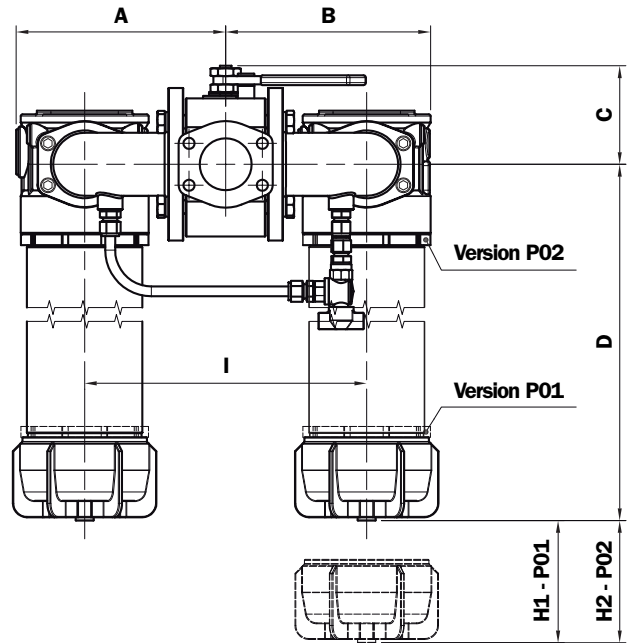
## LMD 400

Length 4

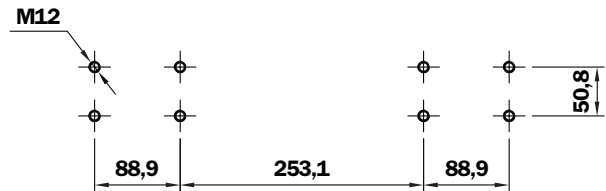


## LMD 400

Length 5 - 6



Filter fixing holes LMD 400

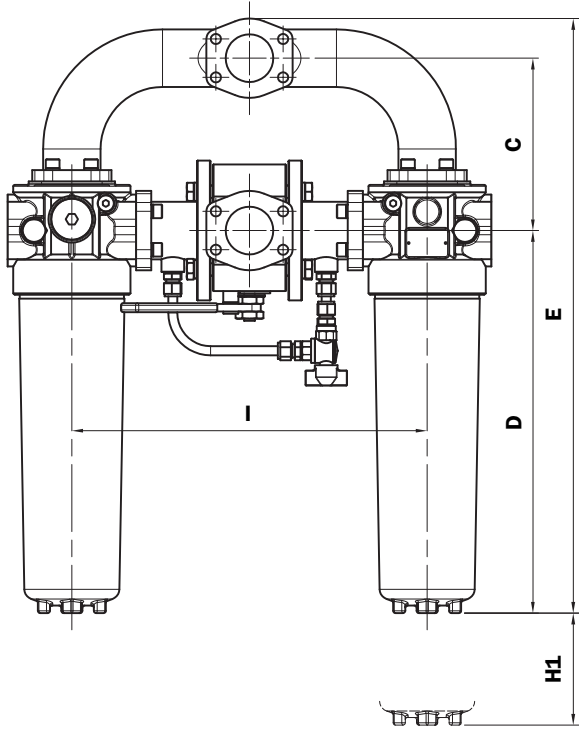


### LMD 400

Length Filter	A mm	B mm	C mm	D mm	E mm	F mm	G mm	H1 mm	H2 mm	I mm	R mm
4	255	255	120	513	351	285	195	120	-	342	255
5	255	255	120	765	351	285	195	120	660	342	255
6	255	255	120	1095	351	285	195	120	990	342	255

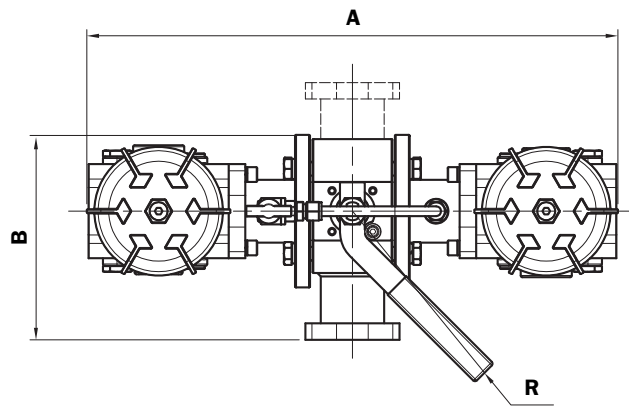
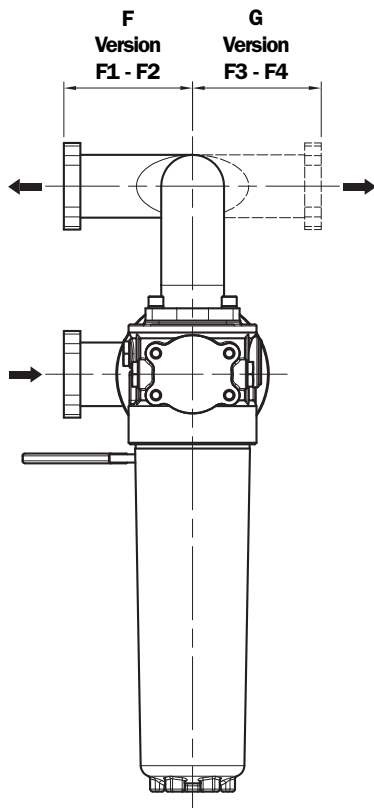
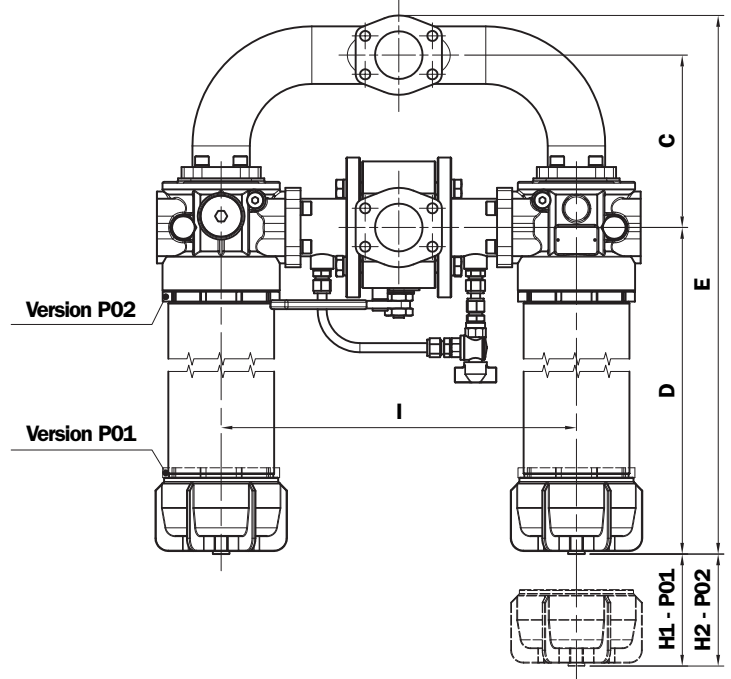
# LMD 401

Length 4



# LMD 401

Length 5 - 6

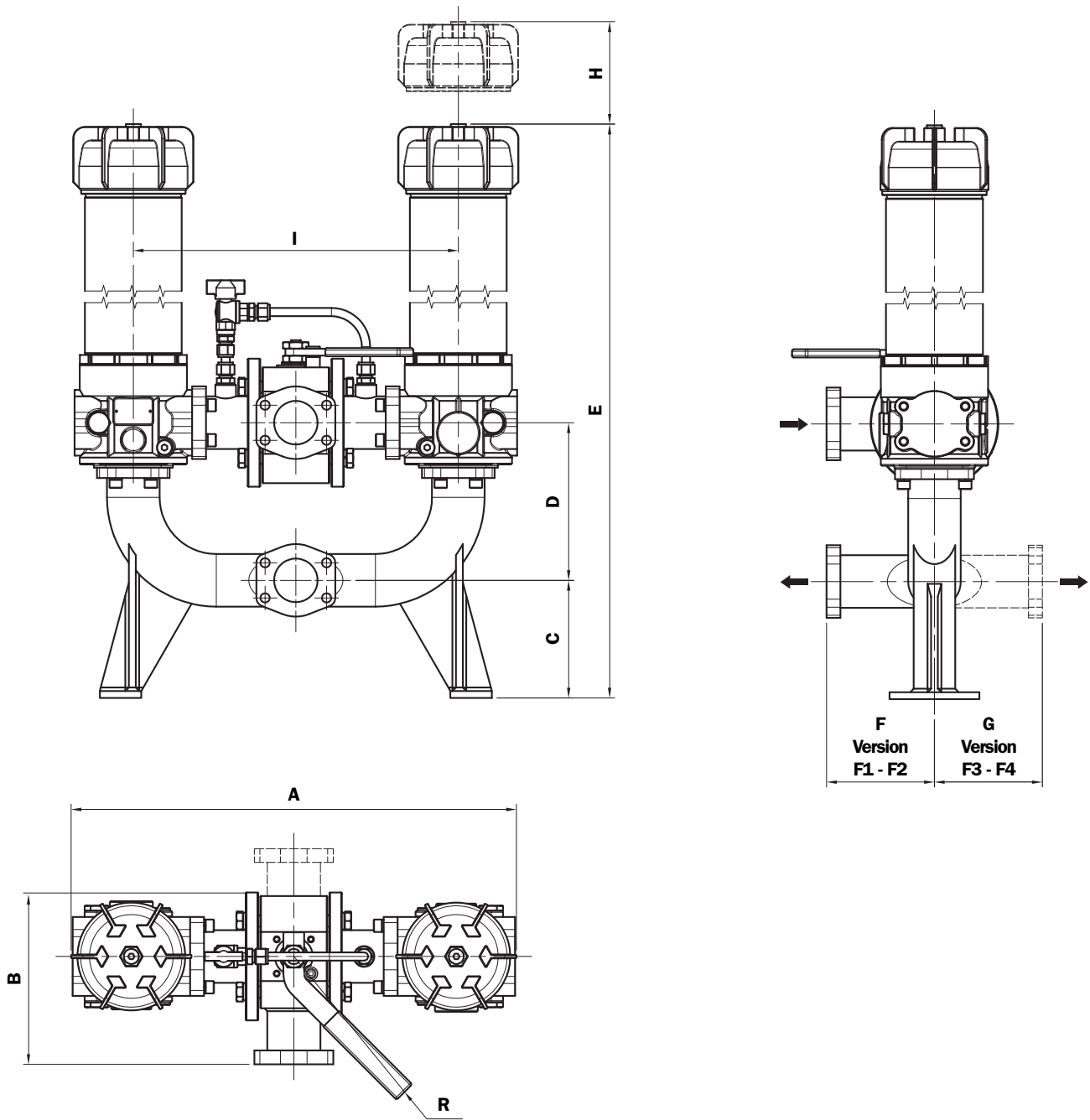


## LMD 401

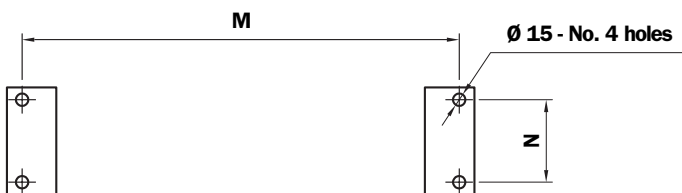
Length Filter	A mm	B mm	C mm	D mm	E mm	F mm	G mm	H1 mm	H2 mm	I mm	R mm
4	640	250	228	513	796	156	156	120	-	470	255
5	640	250	228	765	1048	156	156	120	660	470	255
6	640	250	228	1095	1378	156	156	120	990	470	255

# LMD 431

Length 5 - 6



Filter fixing holes LMD 431

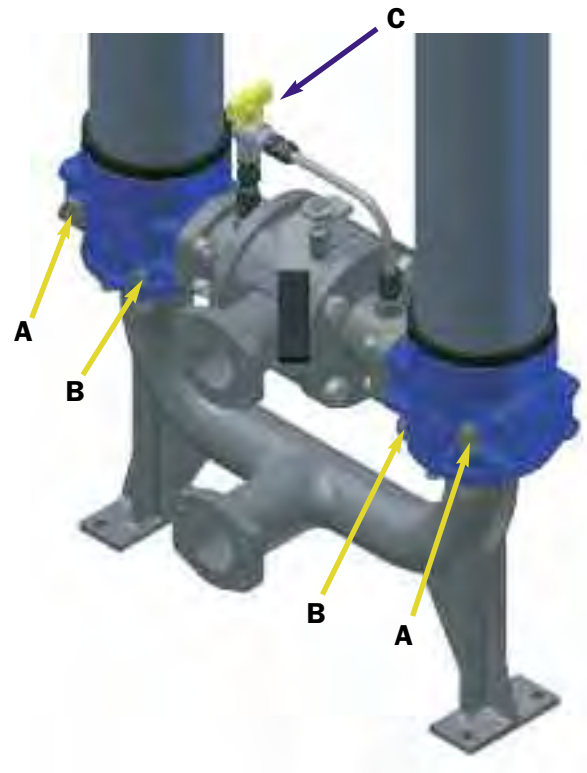
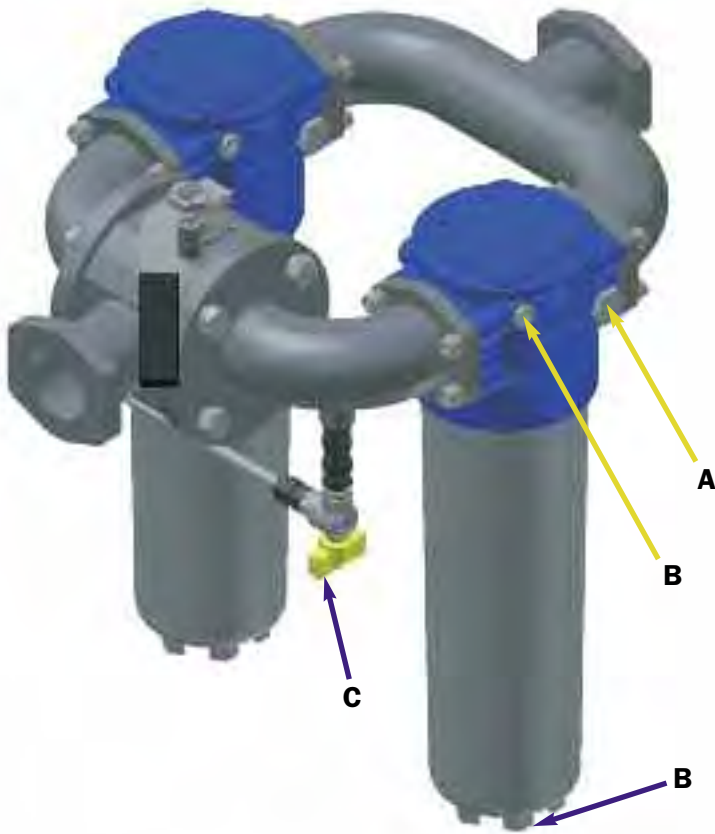


## LMD 431

Length Filter	A mm	B mm	C mm	D mm	E mm	F mm	G mm	H mm	I mm	M mm	N mm	R mm
5	640	250	170	228	1165	156	156	660	470	530	100	255
6	640	250	170	228	1495	156	156	990	470	530	100	255

# LMD 400

# LMD 431



**A** - Indicator port - Plug T2 - A/F 30

**B** - Oil drain plug - G 1/2" - A/F 10

**C** - Compensation valve

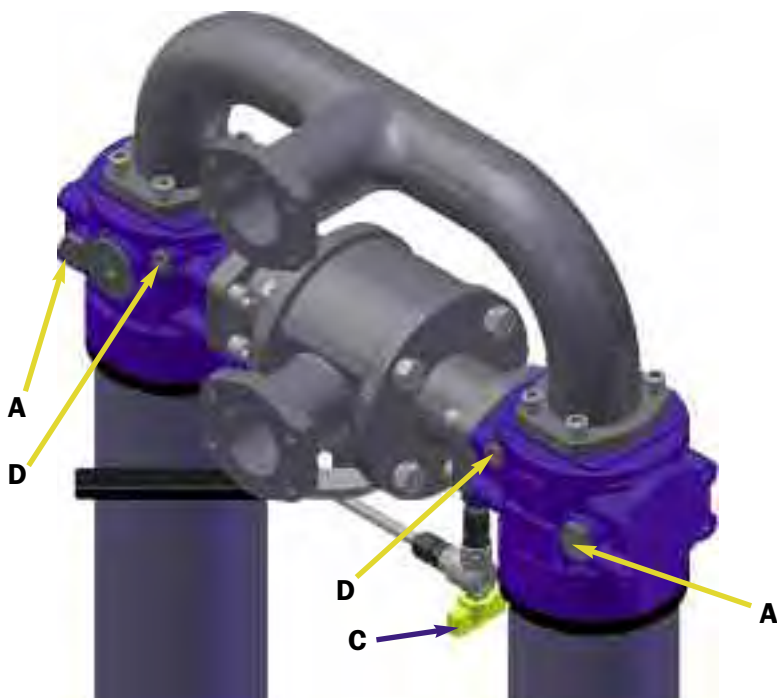
**D** - Breather plug - G 1/2" - A/F 10

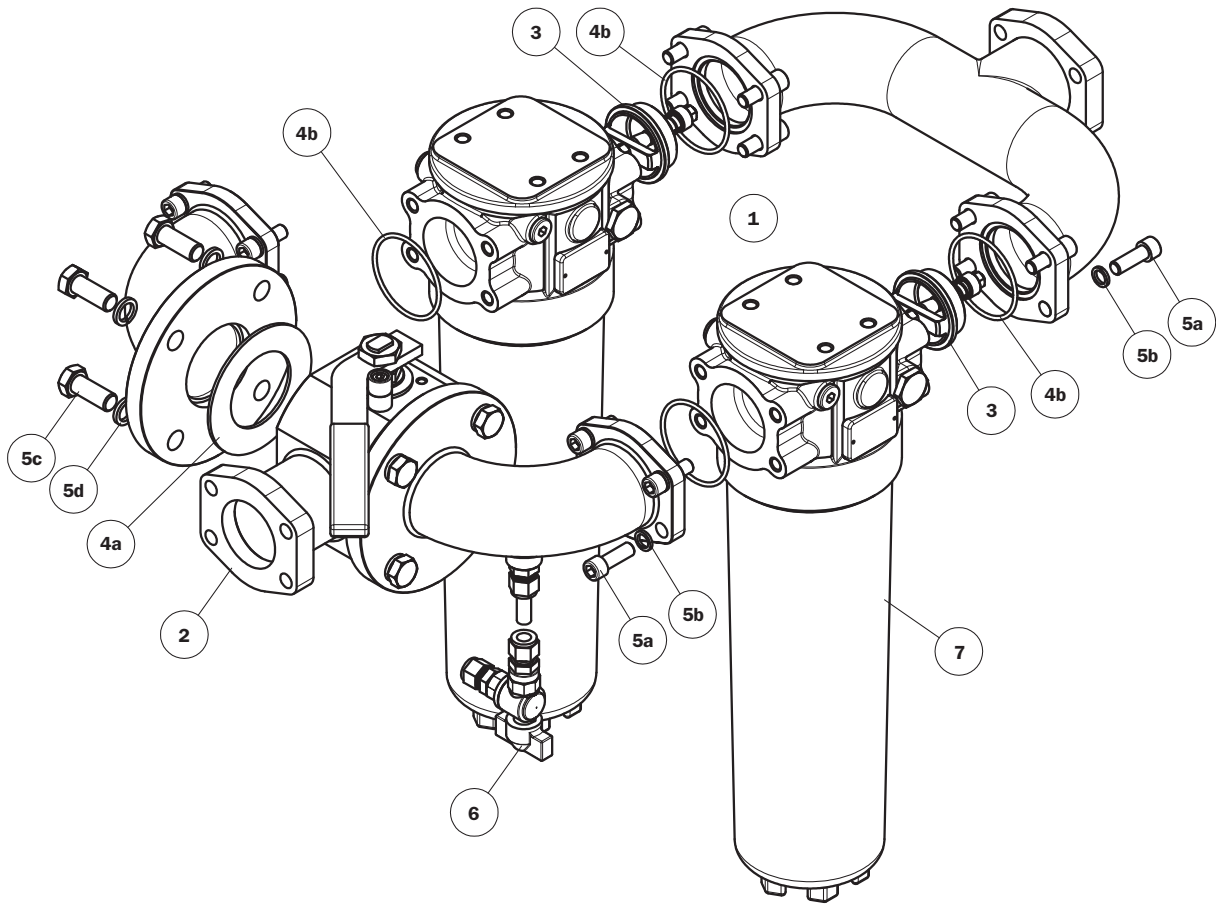
Differential indicator:

**LMD 400 - 401 - 431** - Fit one indicator for individual filter assembly



# LMD 401

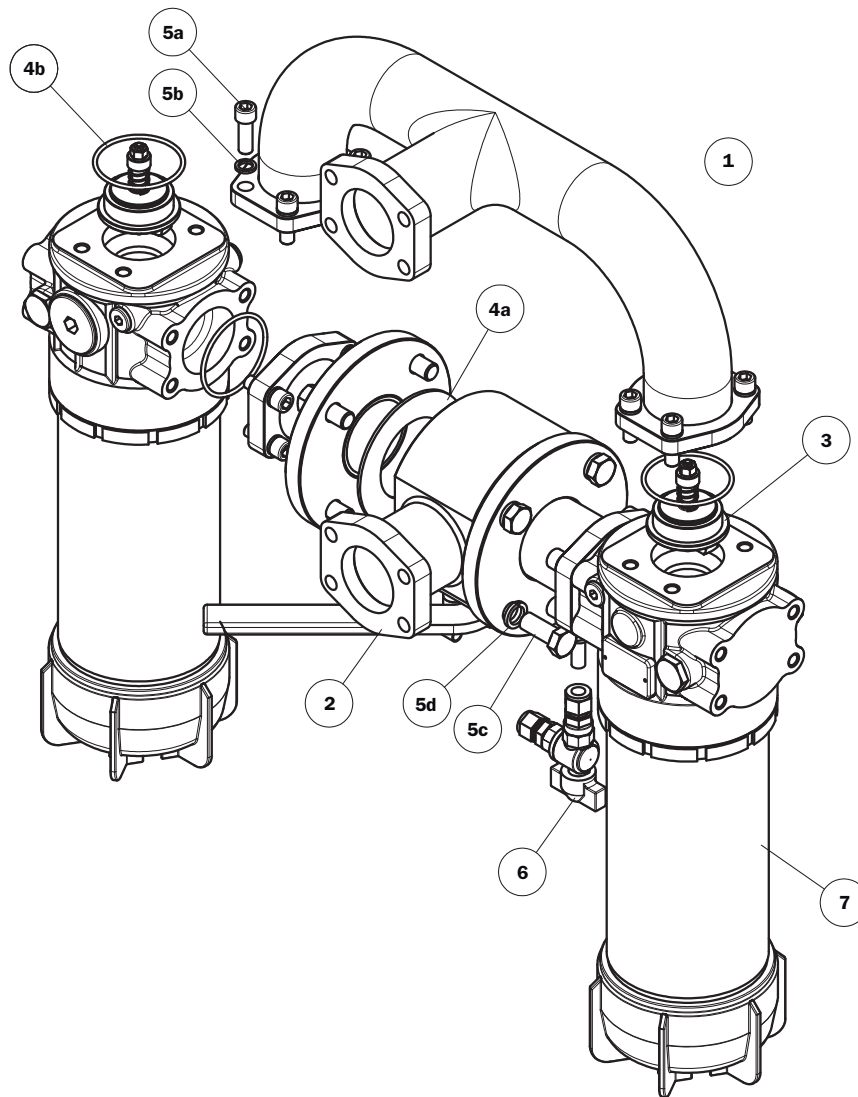




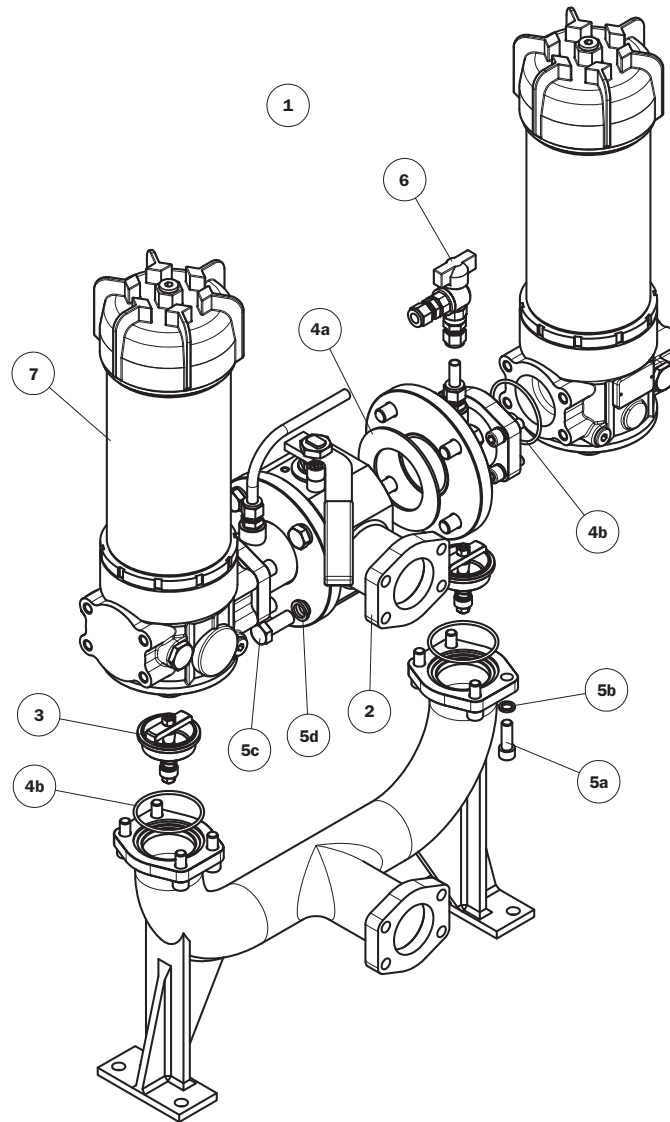
Item	Description	Q.ty	FILTER Series LMD 400
<b>1</b>	Filter assembly	1	See order table
<b>2</b>	3-way ball valve PN 16	1	2 1/2" SAE 3000 psi/M 02001440 2 1/2" SAE 3000 psi/UNC 02001441
<b>3</b>	One-way valve	2	02001429
<b>4</b>	Seal kit	1	02050399
<b>4a</b>	Flat seal	2	In according to DN65
<b>4b</b>	IN-OUT O-Ring	4	O-R 4287 Ø 72,62 x 3,53
<b>5</b>	Threaded fasteners kit	1	02049062
<b>5a</b>	Hexagon socket screws	16	UNI 5931 - M12 x 35 - 10.9
<b>5b</b>	Spring washers	16	UNI 1751-B 12
<b>5c</b>	Exagon bolt screws	8	UNI EN 24017 - M16 x 40 - 10.9
<b>5d</b>	Spring washers	8	UNI 1751-B 16
<b>6</b>	Kit ball valve with hose fitting	1	02025043
<b>7</b>	Filter	2	See order table LMP400xF2..... page 51
-	Indicators	2	See order table



# Spare parts



Item	Description	Q.ty	<b>FILTER Series LMD 401</b>
<b>1</b>	Filter assembly	1	See order table
<b>2</b>	3-way ball valve PN 16	1	2 1/2" SAE 3000 psi/M 02001440 2 1/2" SAE 3000 psi/UNC 02001441
<b>3</b>	One-way valve	2	02001429
<b>4</b>	Seal kit	1	02050399
<b>4a</b>	Flat seal	2	In according to DN65
<b>4b</b>	IN-OUT O-Ring	4	O-R 4287 Ø 72,62 x 3,53
<b>5</b>	Threaded fasteners kit	1	02049062
<b>5a</b>	Hexagon socket screws	16	UNI 5931 - M12 x 35 - 10.9
<b>5b</b>	Spring washers	16	UNI 1751-B 12
<b>5c</b>	Exagon bolt screws	8	UNI EN 24017 - M16 x 40 - 10.9
<b>5d</b>	Spring washers	8	UNI 1751-B 16
<b>6</b>	Kit ball valve with hose fitting	1	02025043
<b>7</b>	Filter	2	See order table LMP401xF2..... page 51
-	Indicators	2	See order table



Item	Description	Q.ty	FILTER Series LMD 431
<b>1</b>	Filter assembly	1	See order table
<b>2</b>	3-way ball valve PN 16	1	2 1/2" SAE 3000 psi/M 02001440 2 1/2" SAE 3000 psi/UNC 02001441
<b>3</b>	One-way valve	2	02001429
<b>4</b>	Seal kit	1	02050399
<b>4a</b>	Flat seal	2	In according to DN65
<b>4b</b>	IN-OUT O-Ring	4	O-R 4287 Ø 72,62 x 3,53
<b>5</b>	Threaded fasteners kit	1	02049062
<b>5a</b>	Hexagon socket screws	16	UNI 5931 - M12 x 35 - 10.9
<b>5b</b>	Spring washers	16	UNI 1751-B 12
<b>5c</b>	Exagon bolt screws	8	UNI EN 24017 - M16 x 40 - 10.9
<b>5d</b>	Spring washers	8	UNI 1751-B 16
<b>6</b>	Kit ball valve with hose fitting	1	02025043
<b>7</b>	Filter	2	See order table LMP431xF2..... page 51
-	Indicators	2	See order table

# Ordering information LMD 400 - 401 - 431

## Filter assembly

### LMD

Example: LMD

<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>	<b>6</b>	<b>7</b>	<b>8a</b>
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<b>400</b>	<b>5</b>	<b>B</b>	<b>V</b>	<b>F1</b>	<b>A10</b>	<b>N</b>	<b>P01</b>

## Filter element

### CU400

Example: CU400

<b>2</b>	<b>6</b>	<b>4</b>	<b>7</b>	<b>8b</b>
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<b>5</b>	<b>A10</b>	<b>A</b>	<b>N</b>	<b>P01</b>

### 1 - Style

#### Filter

<b>400</b>
<b>401</b>
<b>431</b>

#### Filter element

<b>400</b>
<b>400</b>
<b>400</b>

### 2 - Filter length

<b>4</b>	LMD 431 excluded
<b>5</b>	
<b>6</b>	

### 3 - Valve

<b>S</b>	Without by-pass
<b>B</b>	With bypass
<input type="checkbox"/>	With by-pass Opening pressure: on request

### 4 - Filter seals

#### a - Filter

<b>V</b>	FPM
<b>W</b>	FPM (Compatible with fluid HFA, HFB, HFC)

#### b - Filter element

<b>A</b>	NBR
<b>W</b>	NBR (Compatible with fluid HFA, HFB, HFC)
<input type="checkbox"/>	On request

### 5 - Connections

#### Flanged

Type	LMD 400 - 401 - 431
<b>F1</b>	2 1/2" SAE 3000 psi/M
<b>F2</b>	2 1/2" SAE 3000 psi/UNC
<b>F3</b>	= F1 In-Line connections (only LMD 401 - 431)
<b>F4</b>	= F2 In-Line connections (only LMD 401 - 431)

### 6 - Filter element

<b>A01</b>	Inorganic microfibre* 1 µ	Absolute filtration βx (c) ≥ 1000
<b>A03</b>	Inorganic microfibre 3 µ	
<b>A06</b>	Inorganic microfibre 6 µ	
<b>A10</b>	Inorganic microfibre 10 µ	
<b>A16</b>	Inorganic microfibre 16 µ	
<b>A25</b>	Inorganic microfibre 25 µ	

\* On request

<b>M25</b>	Wire mesh	Nominal Filtration
<b>M60</b>	Wire mesh	
<b>M90</b>	Wire mesh	

<b>P10</b>	Resin impregnated paper	Nominal Filtration
<b>P25</b>	Resin impregnated paper	

### 7 - Max filter element differential pressure

<b>N</b>	Δp 20 bar
<b>W</b>	FPM (Compatible with fluid HFA, HFB, HFC)

### 8 - Option

#### a - Filter

<b>P01</b>	MP Filtri standard
<b>P02</b>	LMD 400 - 401 Maintenance from base housing (only length 5 and 6)
<b>P02</b>	LMD 431 With internal tube for reduced flow rate
<b>Pxx</b>	Customer request

#### b - Filter element

<b>P01</b>	MP Filtri standard
<b>Pxx</b>	Customer request

DIFFERENTIAL INDICATORS (see page 120)

**MP Filtri** - The filter functions as described in this bulletin are valid exclusively for original MP Filtri filter elements and replacement parts. All rights reserved

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