LMD 400-401 & 431 series

Maximum working pressure up to 1.6 MPa (16 bar) - Flow rate up to 590 l/min



Description

Low & Medium Pressure filters

Duplex
Maximum working pressure up to 1.6 MPa (16 bar)
Flow rate up to 590 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 590 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

Technical data

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



Weights [kg] and volumes [dm³]

Filter series	Weights [kg]				Volumes [dm³]			
	Length	4	5	6	Length	4	5	6
LMD 400 - 401		60	65	72		20	28	33
LMD 431		-	68	78		-	28	33

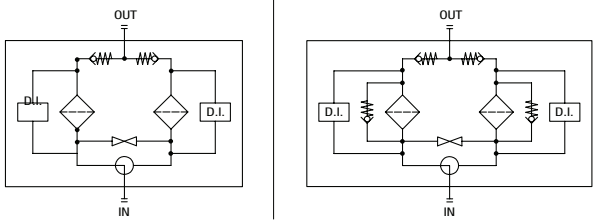
FILTER ASSEMBLY SIZING
Flow rates [l/min]

Filter series	Length	Filter element design - N Series							
		A03	A06	A10	A16	A25	M25 M60 M90 M250	P10	P25
LMD 400 - 401	4	308	349	453	474	530	628	547	567
	5	395	427	509	547	589	637	577	592
	6	429	483	558	568	597	639	583	597
LMD 431	5	395	427	509	547	589	637	577	592
	6	429	483	558	568	597	639	583	597

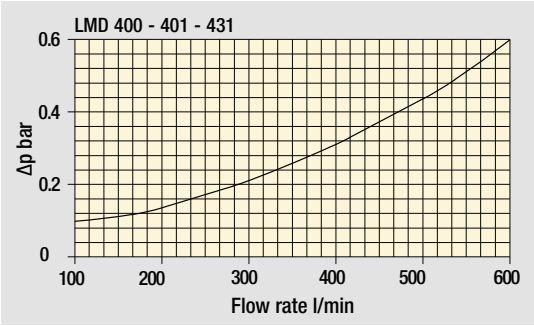
Maximum flow rate for a complete low and medium pressure filter with a pressure drop Δp = 0.7 bar.
The reference fluid has a kinematic viscosity of 30 mm^2/s (cSt) and a density of 0.86 kg/dm^3.
For different pressure drop or fluid viscosity we recommend to use our selection software available on www.mpfiltri.com.
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

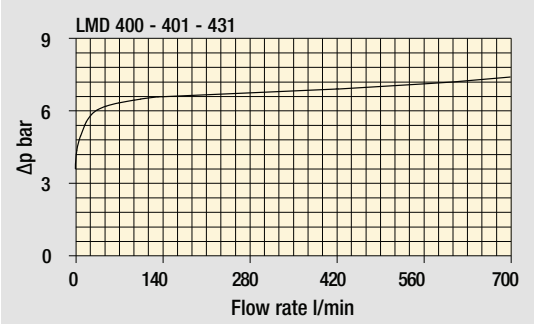
Filter series	Execution S	Execution B
LMD 400 - 401	•	•
LMD 431	•	•



Pressure drop
Filter housings Δp pressure drop



Bypass valve pressure drop

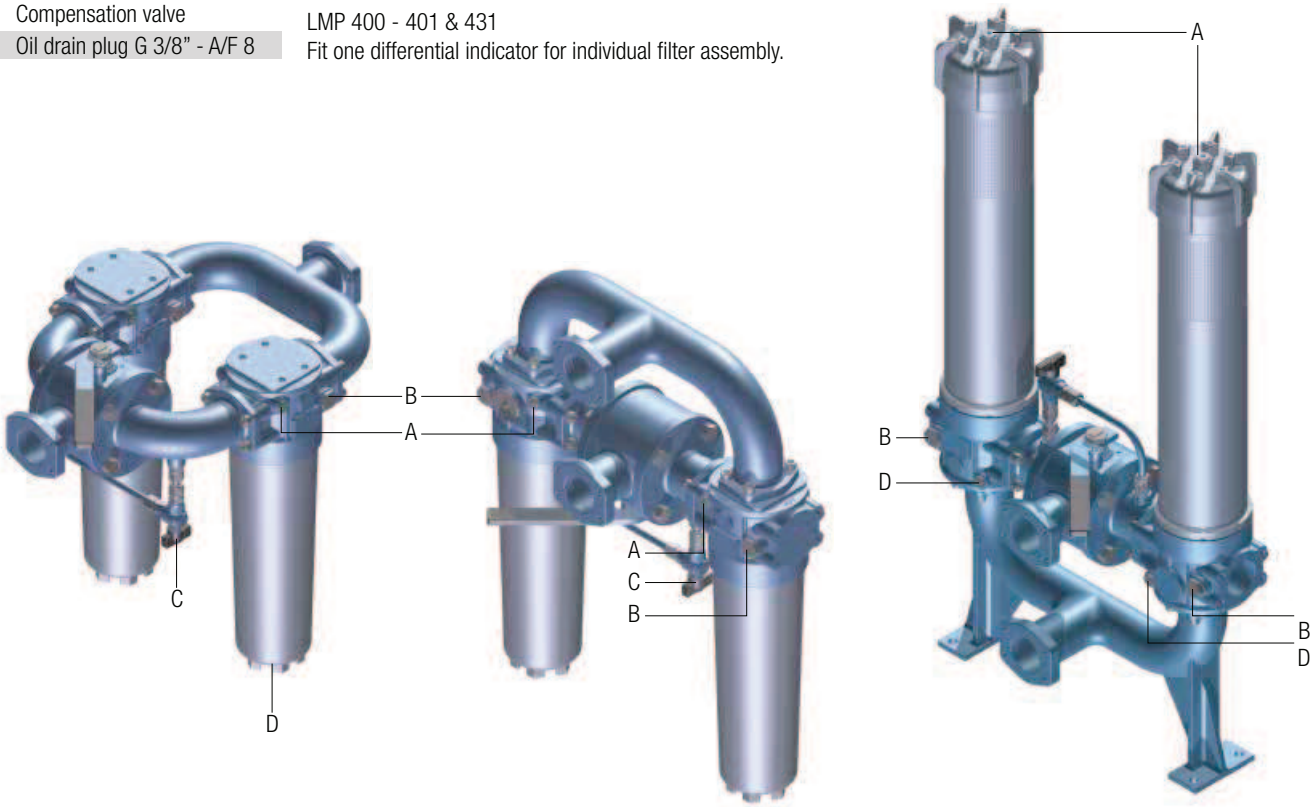


The curves are plotted using mineral oil with density of 0.86 kg/dm^3 in compliance with ISO 3968. Δp varies proportionally with density.

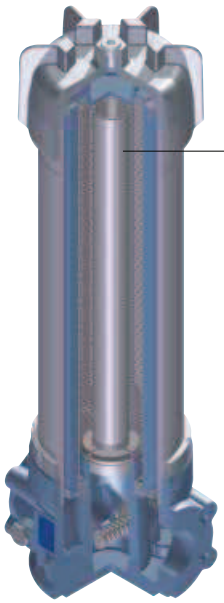
Focus on

A	Breather plug G 3/8" - A/F 8
B	Indicator port Plug T2 - A/F 30
C	Compensation valve
D	Oil drain plug G 3/8" - A/F 8

LMP 400 - 401 & 431
Fit one differential indicator for individual filter assembly.



LMD 431: Execution 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.

LMD 400-401

Designation & Ordering code

COMPLETE FILTER

Configuration example: LMD401 | 4 | B | V | F1 | A10 | N | P01

Series and size
LMD400 | **LMD401**

Length
4 | **5** | **6**

Bypass valve
S Without bypass
B 3.5 bar

Seals and treatments	Filtration rating Axx	Mxx	Pxx
V FPM	•	•	•

Connections	LMD400	LMD401
F1 2 1/2" SAE 3000 psi/M	•	•
F2 2 1/2" SAE 3000 psi/UNC	•	•
F3 2 1/2" SAE 3000 psi/M, In-line connections		•
F4 2 1/2" SAE 3000 psi/UNC, In-line connections		•

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

Element Δp
N 20 bar

Execution	Filter length 4	5	6
P01 MP Filtri standard	•	•	•
P02 Maintenance from the bottom of the housing		•	•
Pxx Customized			

FILTER ELEMENT

Configuration example: CU400 | 4 | A10 | V | N | P01

Element series and size
CU400

Element length
4 | **5** | **6**

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	Filtration rating Axx	Mxx	Pxx
V FPM	•	•	•

Element Δp
N 20 bar

Execution
P01 MP Filtri standard
Pxx Customized

ACCESSORIES

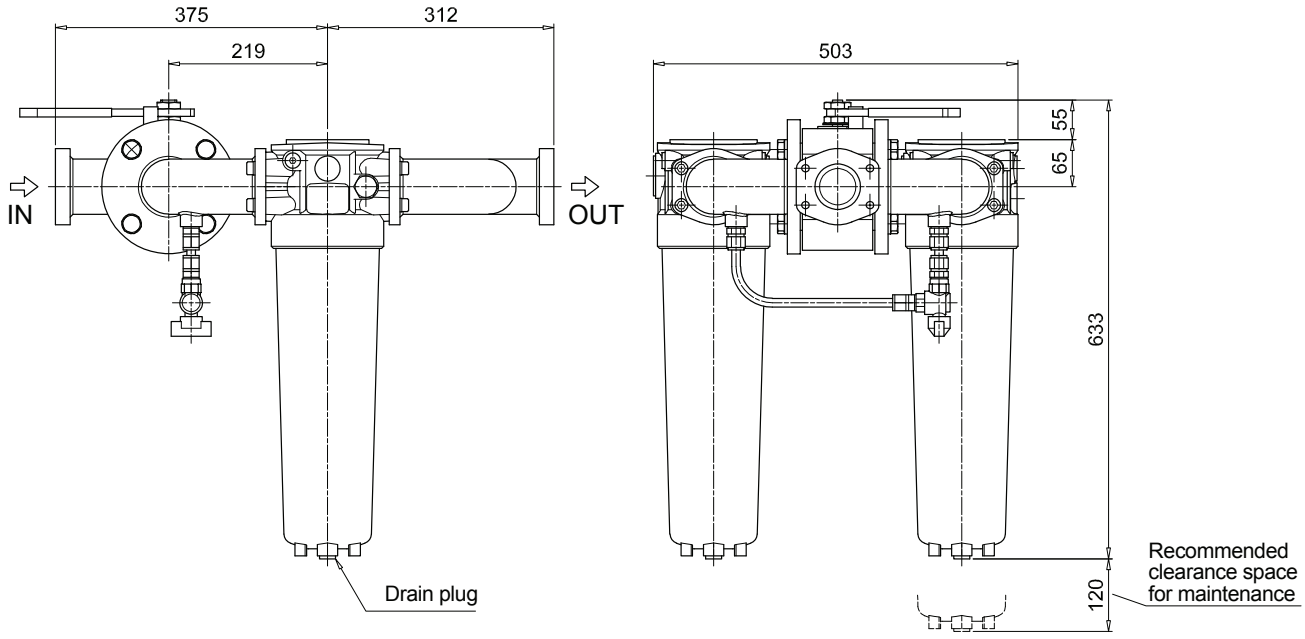
Differential indicators	page
DEA Electrical differential indicator	445
DEM Electrical differential indicator	445-446
DLA Electrical / visual differential indicator	446-447
DLE Electrical / visual differential indicator	447

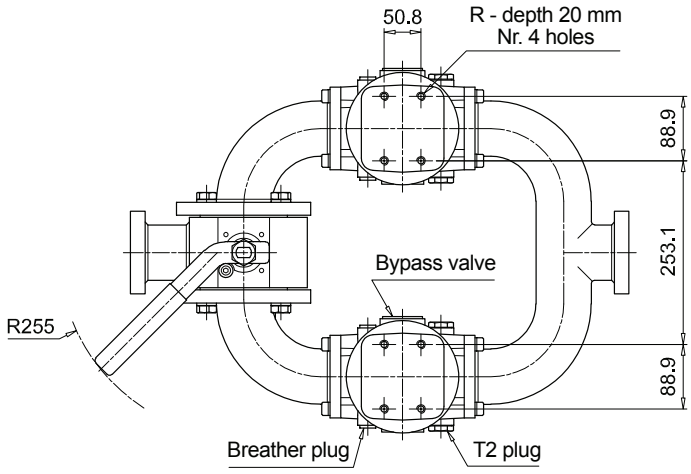
	page
DTA Electronic differential indicator	448
DVA Visual differential indicator	448
DVM Visual differential indicator	448

Additional features	page
T2 Plug	449

Dimensions

LMD400	
Length 4	
Connections	**R**
F1	M12
F2	1/2" UNC
F3	M12
F4	1/2" UNC





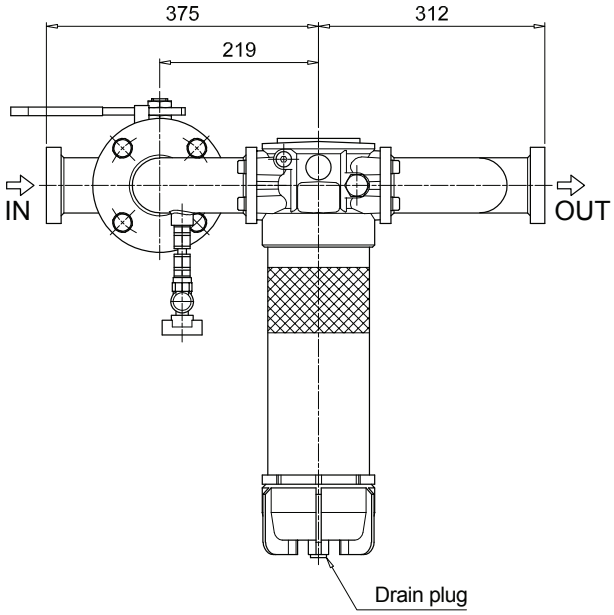
T2 plug =
Connection for differential indicator

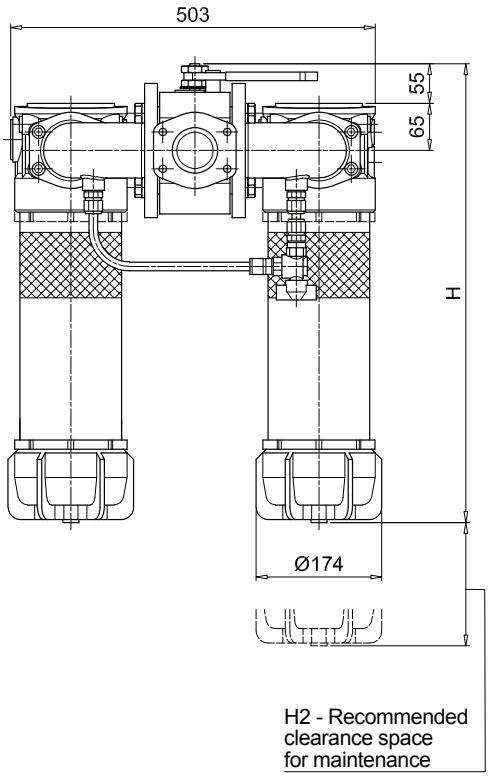
LMD 400-401

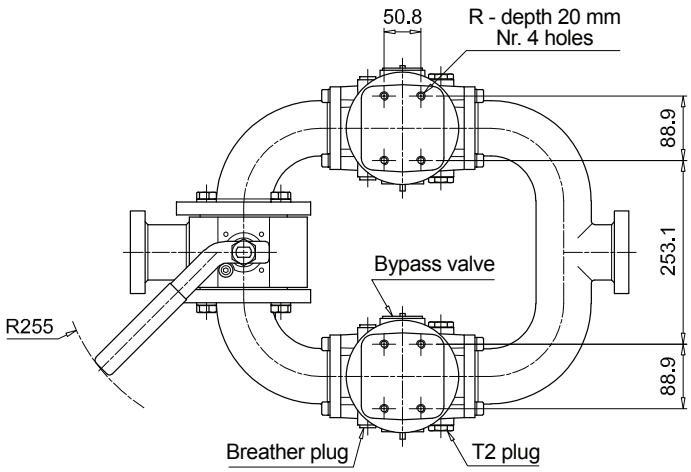
Dimensions

LMD400			
Length 5 - 6			
Filter length	**H [mm]**	**H2 [mm] Execution P01**	**P02**
5	883	120	660
6	1213	120	690

Connections	R
F1	M12
F2	1/2" UNC
F3	M12
F4	1/2" UNC

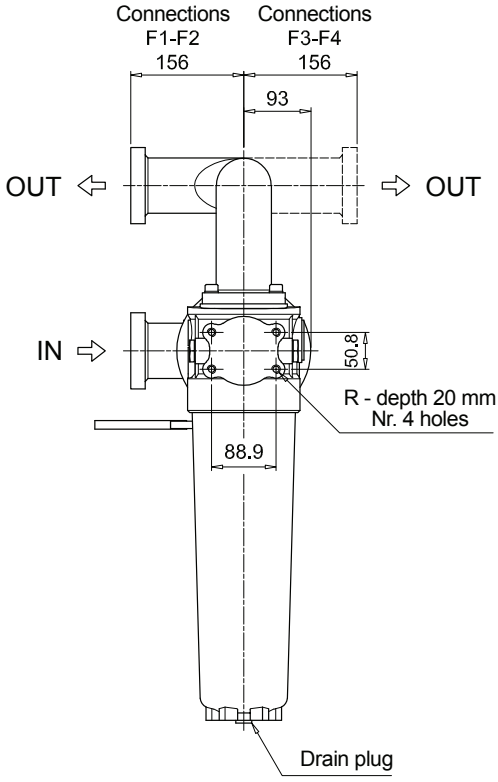


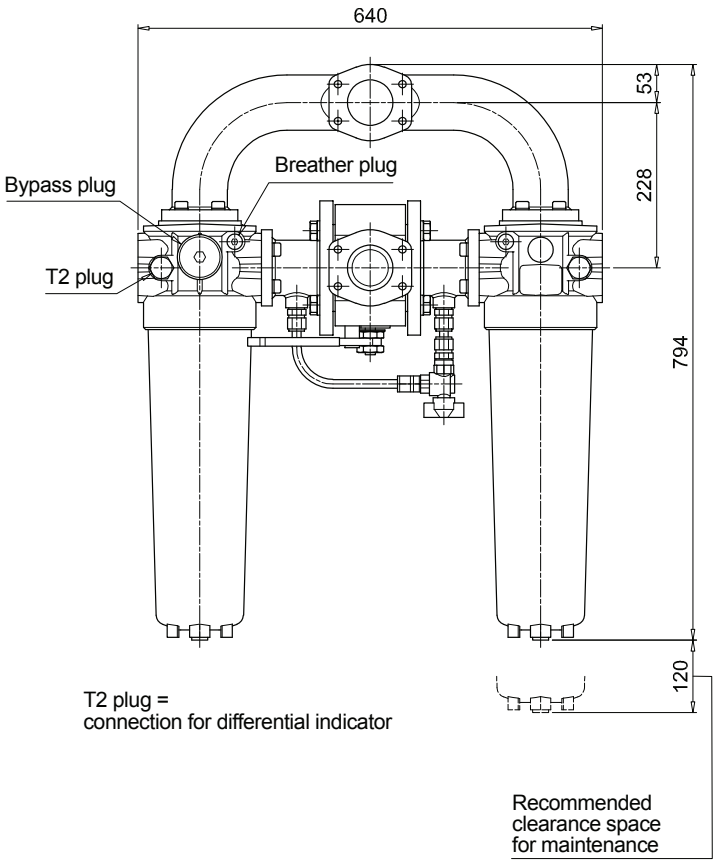


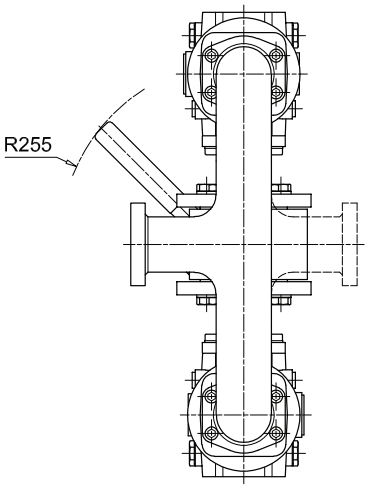


T2 plug =
Connection for differential indicator

LMD401	
Length 4	
Connections	**R**
F1	M12
F2	1/2" UNC
F3	M12
F4	1/2" UNC







LMD 400-401

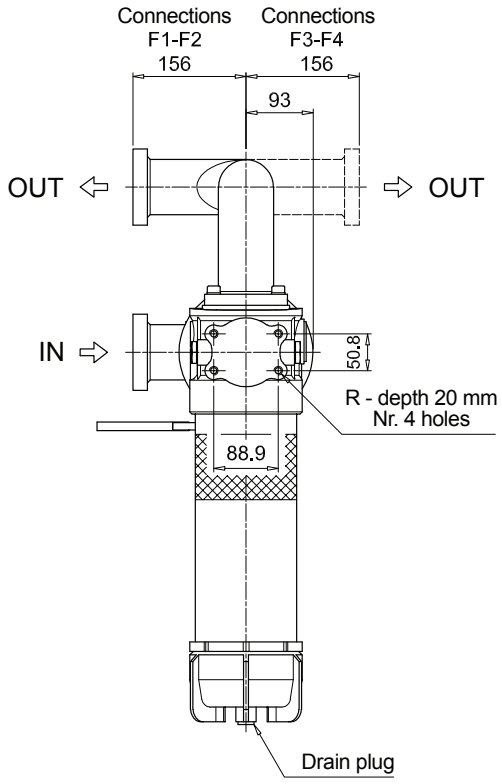
Dimensions

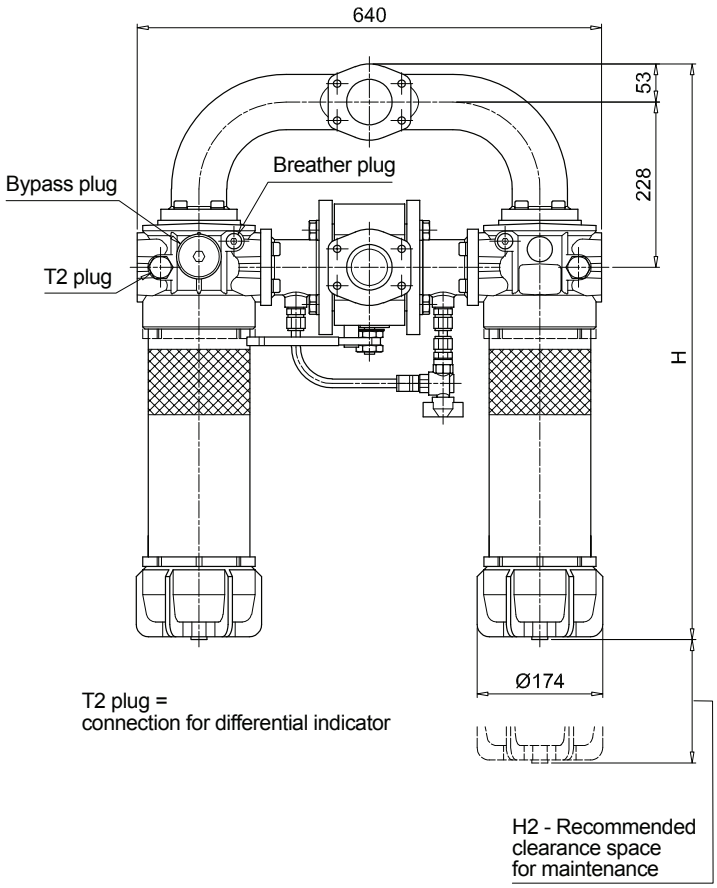
LMD401

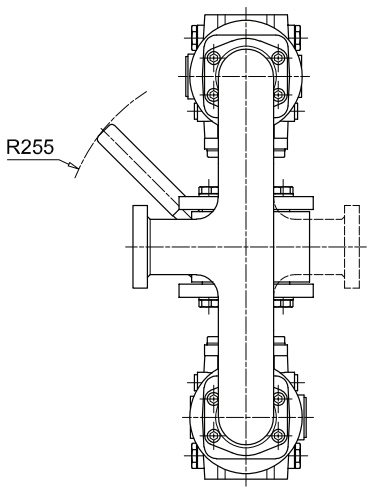
Length 5 - 6

Filter length	H [mm]	H2 [mm] Execution P01	P02
5	1044	120	660
6	1374	120	690

Connections	R
F1	M12
F2	1/2" UNC
F3	M12
F4	1/2" UNC

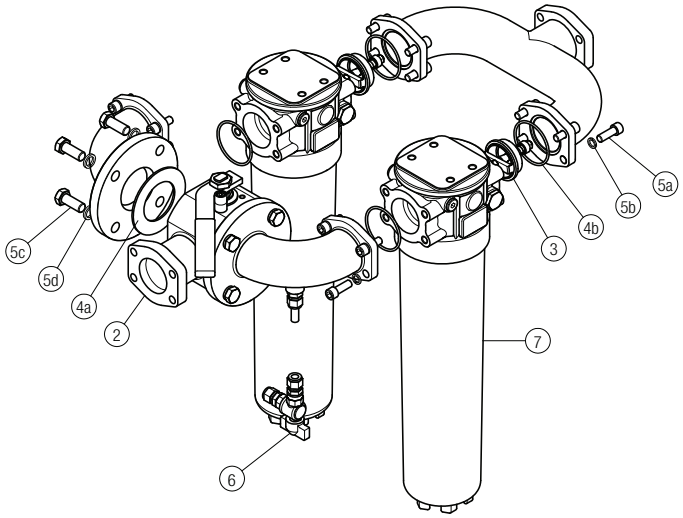




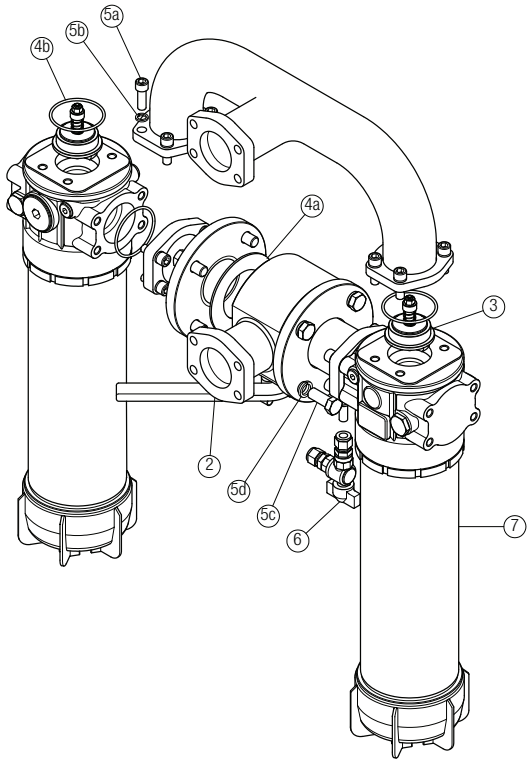


Order number for spare parts

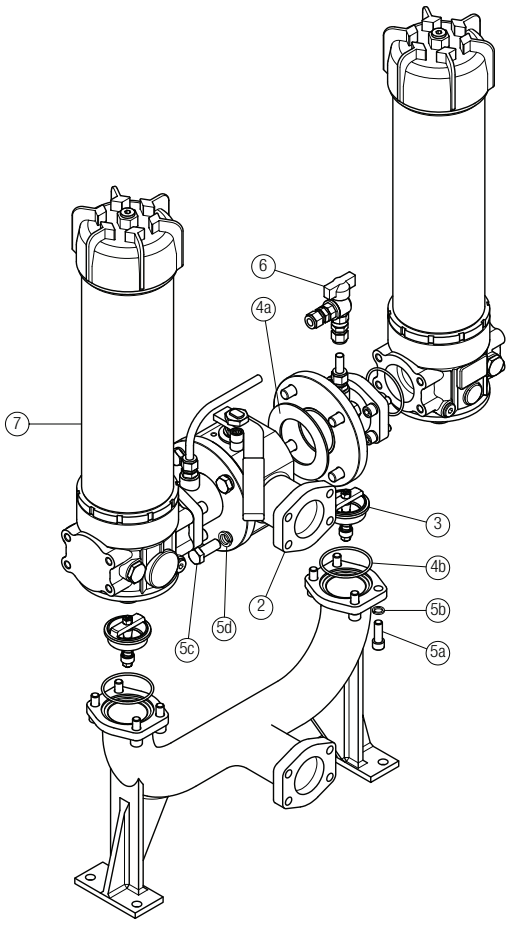
LMD 400



LMD 401



LMD 431



Item:	Q.ty: 1 pc. 2		Q.ty: 2 pcs. 3	Q.ty: 1 pc. 4 (4a ÷ 4b)	Q.ty: 1 pc. 5 (5a ÷ 5d)	Q.ty: 1 pc. 6	Q.ty: 2 pcs. 7
Filter series	**3-way ball valve PN 16** 2 1/2" SAE 3000 psi/M	2 1/2" SAE 3000 psi/UNC	**One-way valve**	**Seal Kit**	**Threaded fasteners kit**	**Kit ball valve with hose fitting**	**Filter** See order table
LMD 400-401-431	02001440	02001441	02001429	02050399	02049062	02025043	LMP400xF2.....