

LMD 400-401 & 431 series

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



Description

Technical data

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

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) \pm 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

LMD 400 - 401 - 431 filters are provided for vertical mounting

Weights [kg] and volumes [dm³]

Filter series	Weights [kg]				Volumes [dm ³]			
	Length	4	5	6	Length	4	5	6
LMD 400 - 401	60	65	72		20	28	33	
LMD 431	-	68	78		-	28	33	

Filter series	Length	Filter element design - N Series							
		A03	A06	A10	A16	A25	M25 M60 M90	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

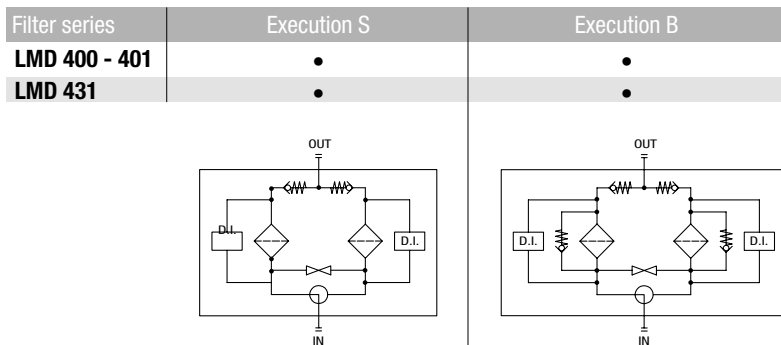
Maximum flow rate for a complete low and medium pressure filter with a pressure drop $\Delta p = 0.7$ bar.

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.

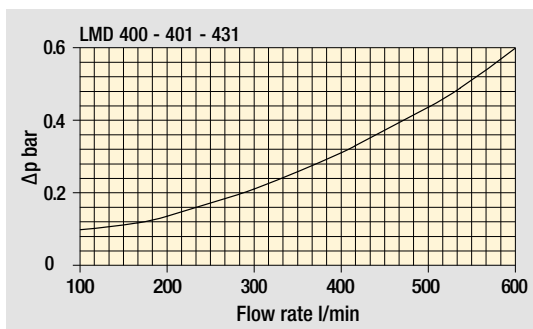
You can also calculate the right size using the formulas present on the FILTER SIZING paragraph at the beginning of the full catalogue or at the beginning of the filter family brochure. Please, contact our Sales Department for further additional information.

Hydraulic symbols

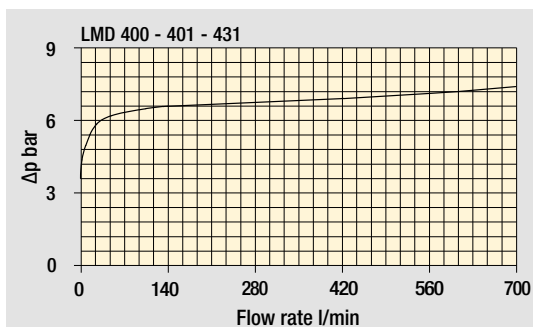


Pressure drop

Filter housings Δp pressure drop

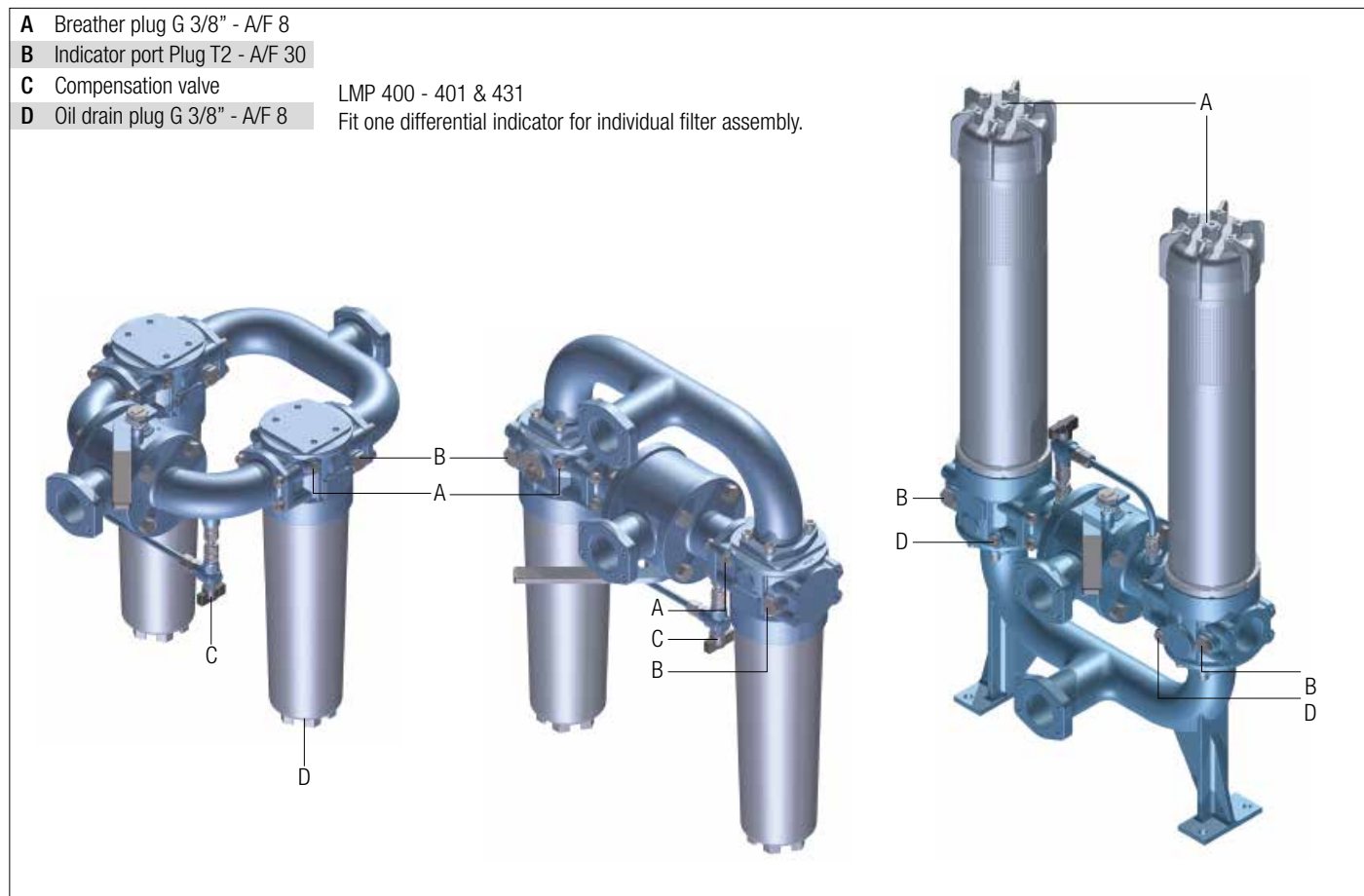


Bypass valve pressure drop

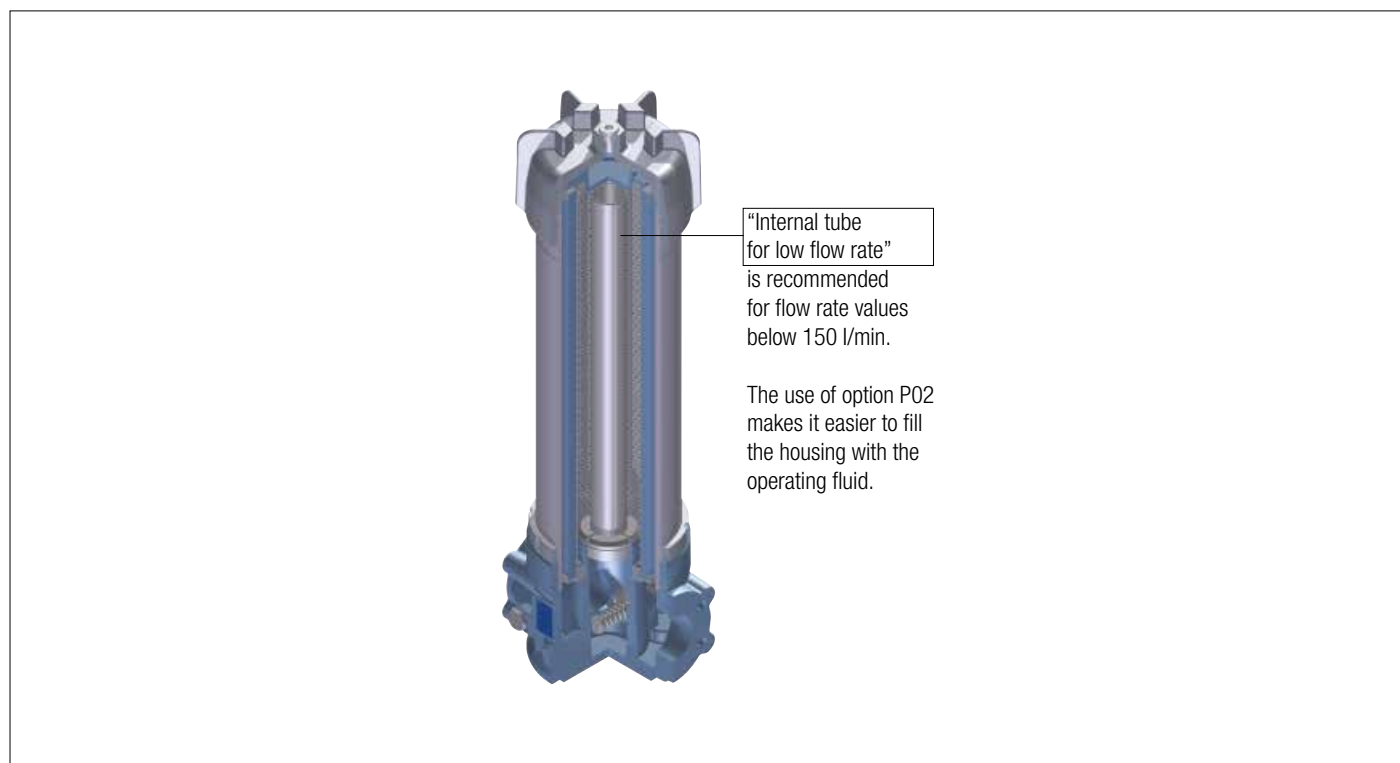


The curves are plotted using mineral oil with density of 0.86 kg/dm³ in compliance with ISO 3968. Δp varies proportionally with density.

Focus on



LMD 431: Execution P02



LMD 400-401

Designation & Ordering code

COMPLETE FILTER

Series and size		Configuration example: LMD401 4 B V F1 A10 N P01							
LMD400 LMD401									
Length									
4 5 6									
Bypass valve									
S Without bypass		B With bypass 3.5 bar							
Seals and treatments									
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		Execution						Filter length	
N 20 bar		P01 MP Filtri standard						• • •	
		P02 Maintenance from the bottom of the housing						- • •	
		Pxx Customized						- - -	

FILTER ELEMENT

Element series and size		Configuration example: CU400 4 A10 V N P01					
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		Element Δp				Execution	
V FPM		N 20 bar				P01 MP Filtri standard	
						Pxx Customized	

CLOGGING INDICATORS

See page 686

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

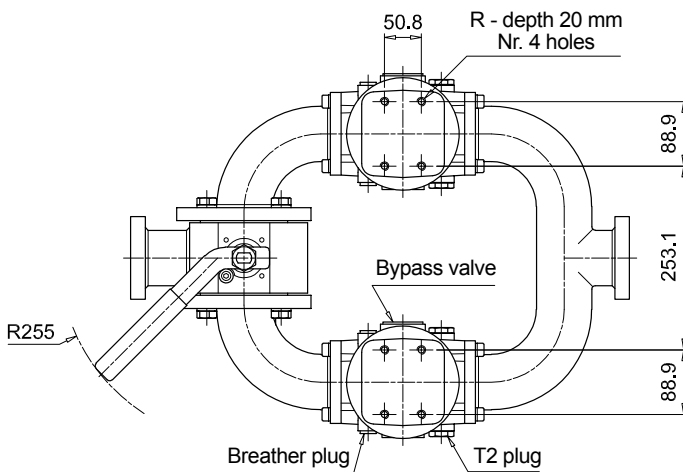
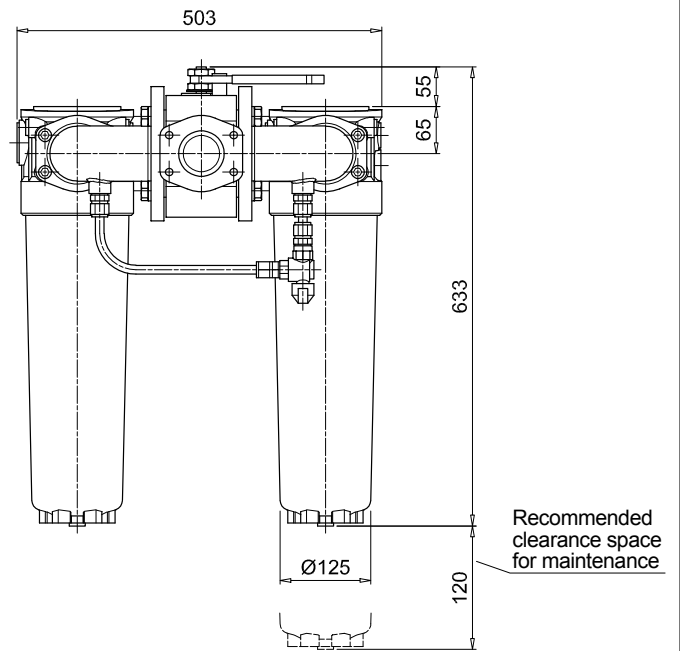
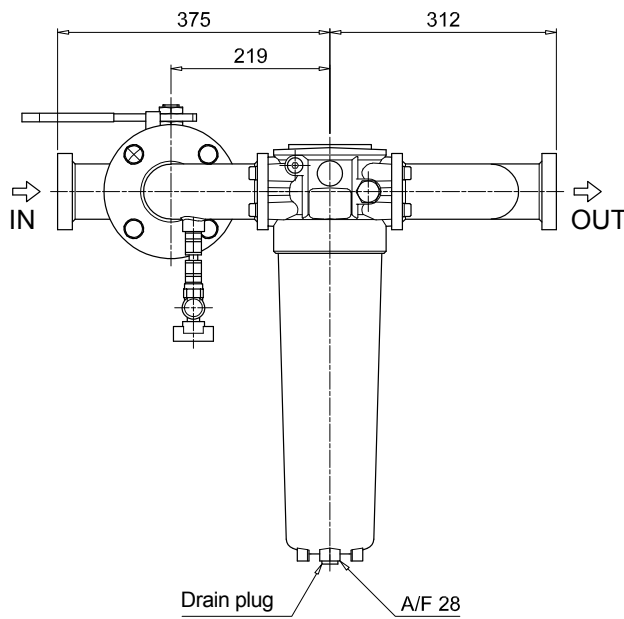
See page 706

T2 Differential indicator plug

LMD 400-401

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

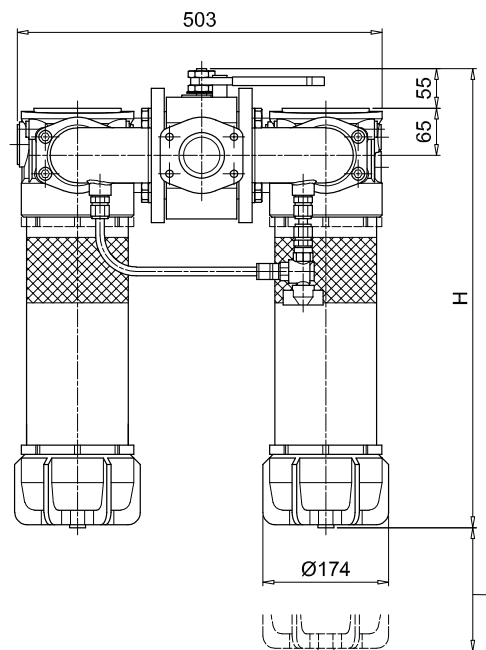
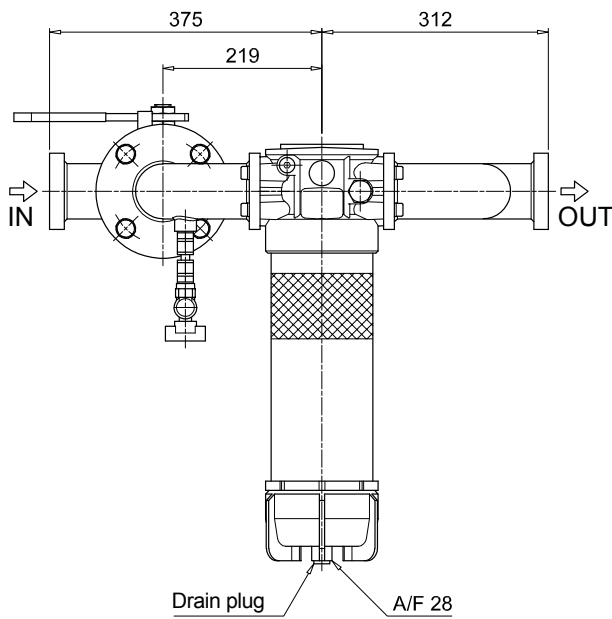
Dimensions

LMD400

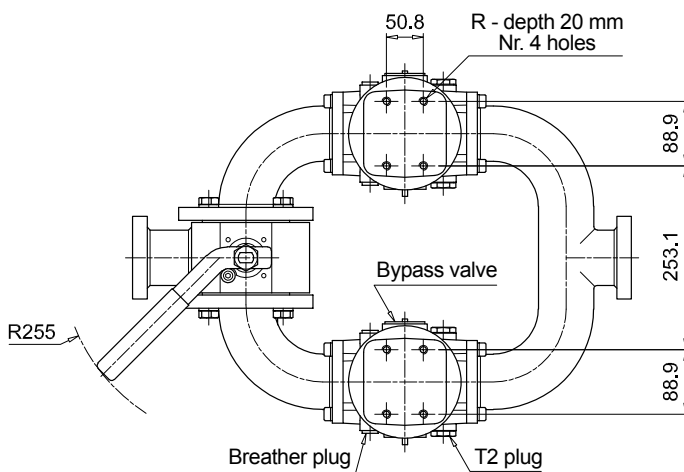
Length 5 - 6

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



H2 - Recommended clearance space for maintenance

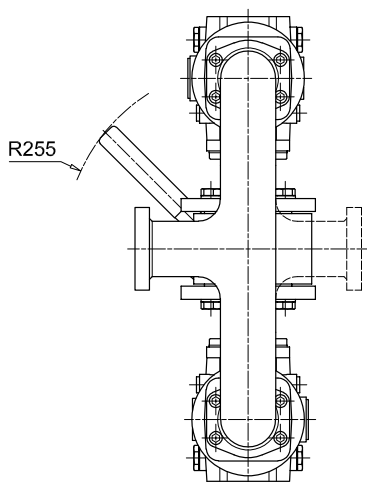
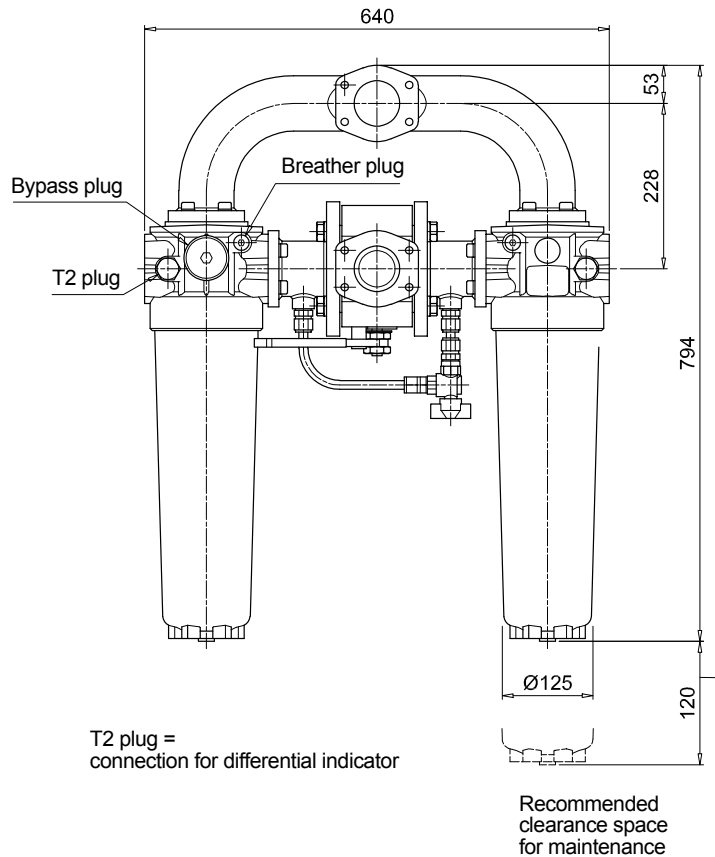
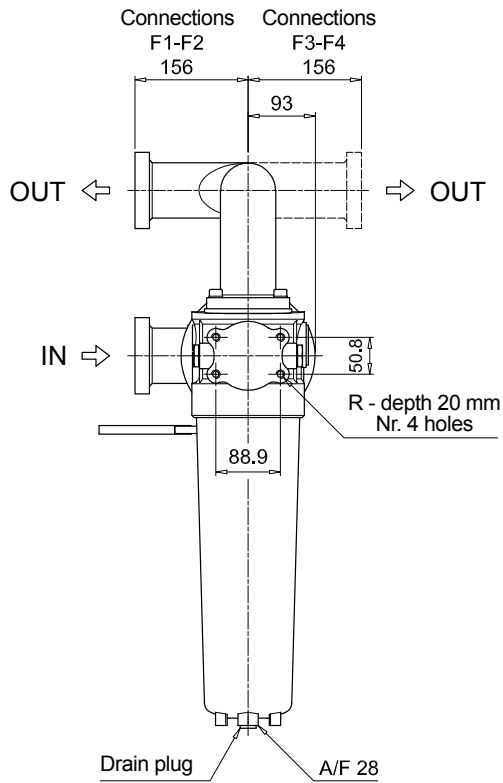


T2 plug =
Connection for differential indicator

LMD 400-401

Dimensions

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



LMD 400-401

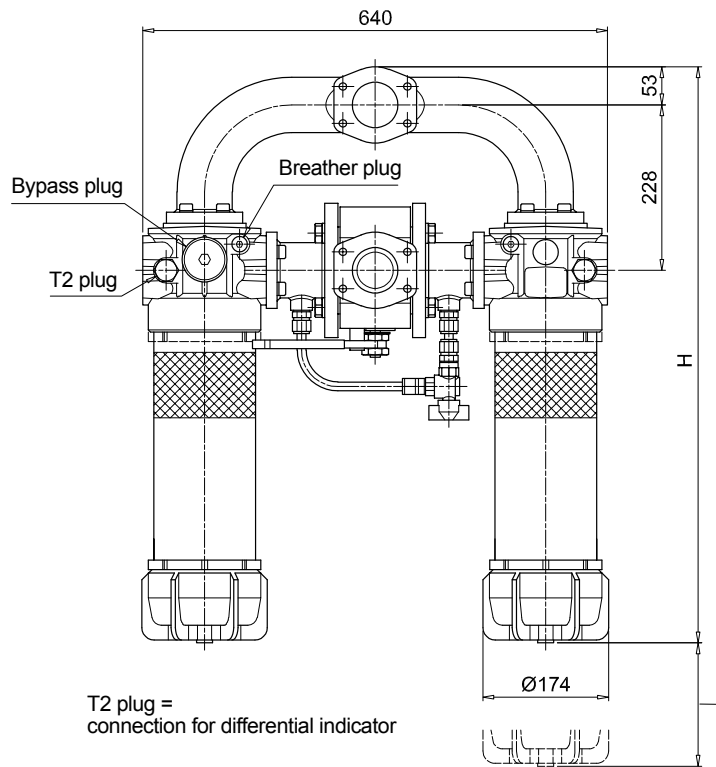
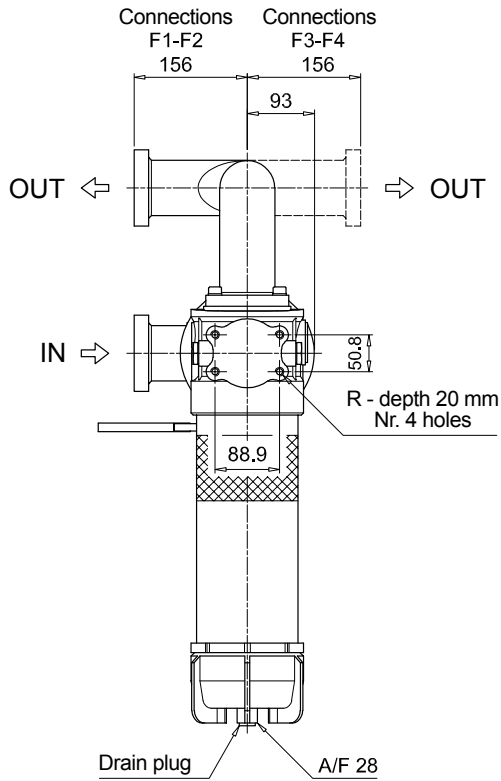
Dimensions

LMD401

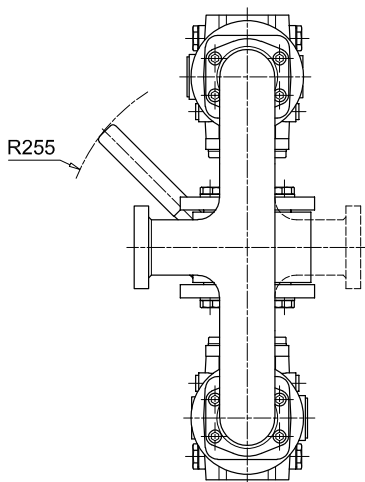
Length 5 - 6

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



H2 - Recommended clearance space for maintenance



LMD 431

Designation & Ordering code

COMPLETE FILTER

Series and size	Configuration example: LMD431 5 B V F1 A10 N P01									
LMD431										
Length	5 6									
Bypass valve	S Without bypass B With bypass 3.5 bar									
Seals and treatments	V FPM									
Connections	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	P01 MP Filtri standard P02 With internal tube for low flow rate Pxx Customized									

FILTER ELEMENT

Element series and size	Configuration example: CU400 5 A10 V N P01						
CU400							
Element length	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	V FPM						
Element Δp	N 20 bar						
Execution	P01 MP Filtri standard Pxx Customized						

CLOGGING INDICATORS

See page 686

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

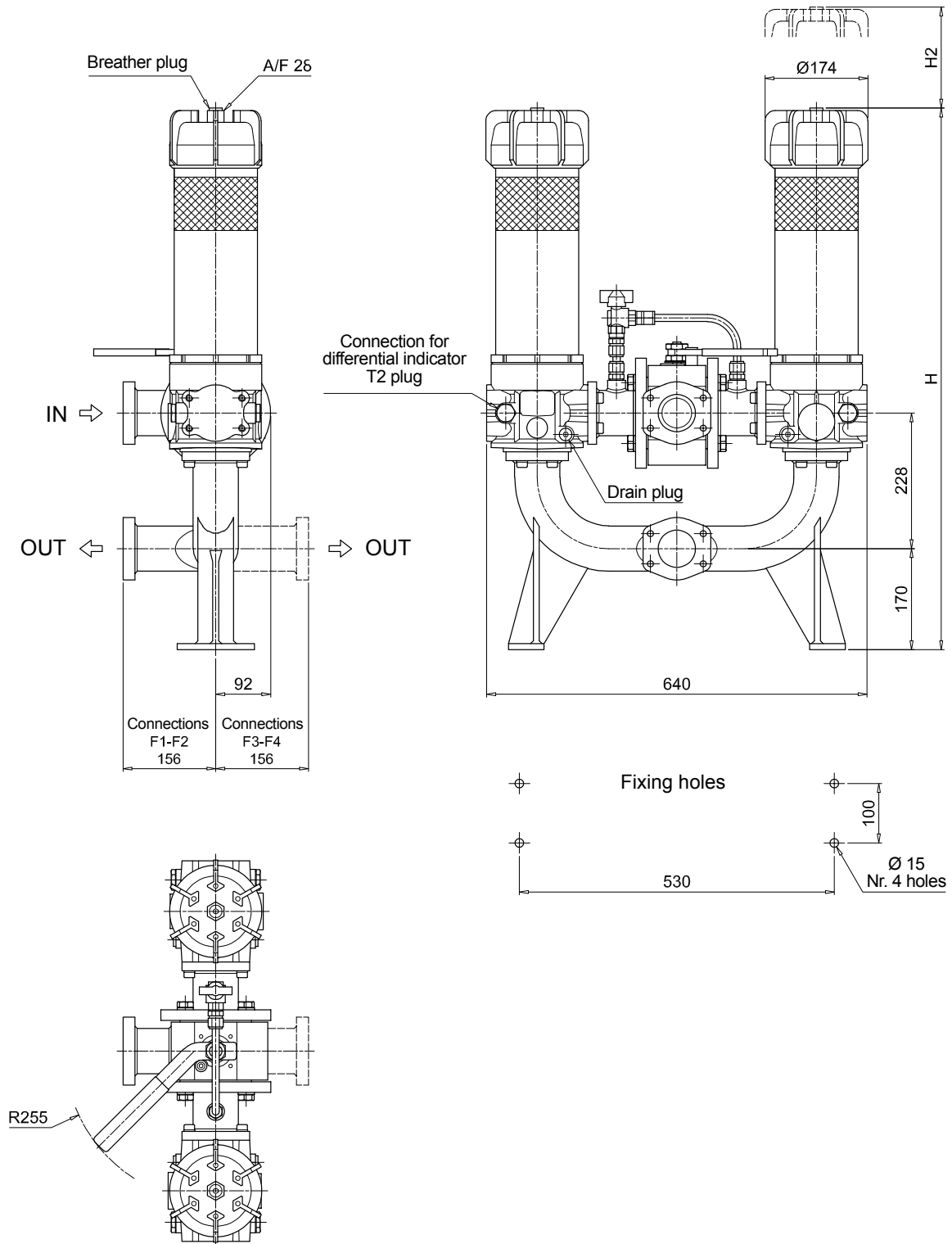
PLUGS

See page 706

T2 Differential indicator plug

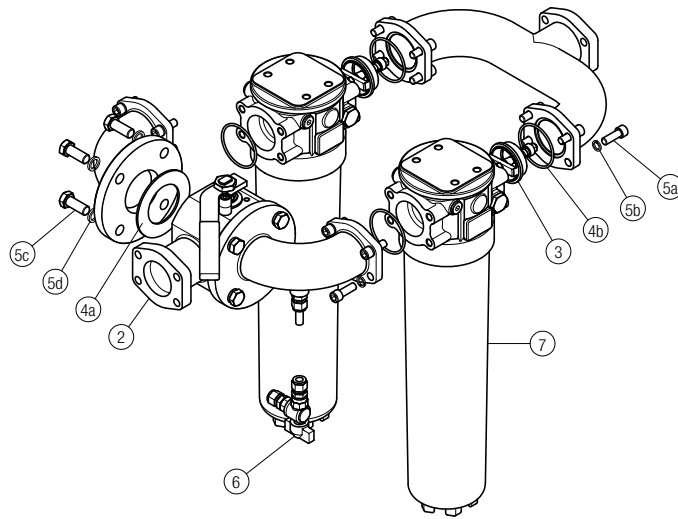
LMD431

Filter length	H [mm]	H2 [mm]
5	1161	660
6	1491	690



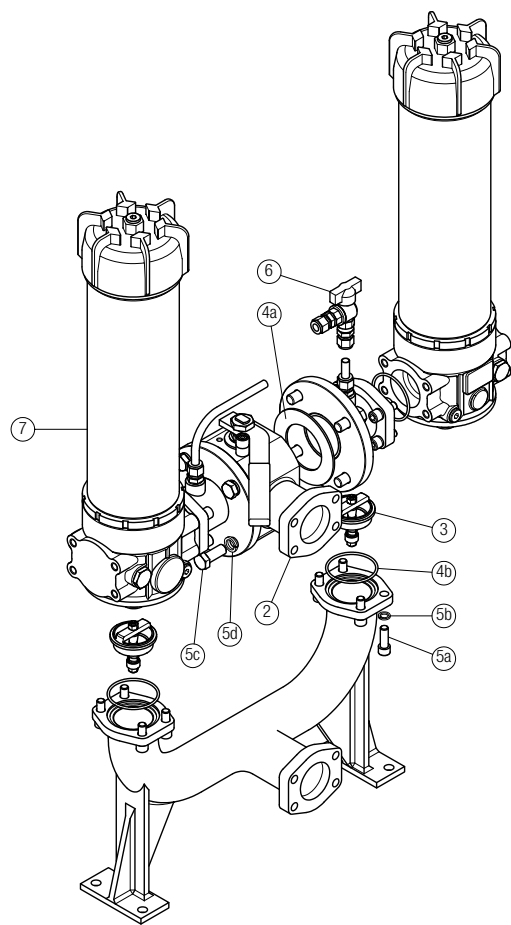
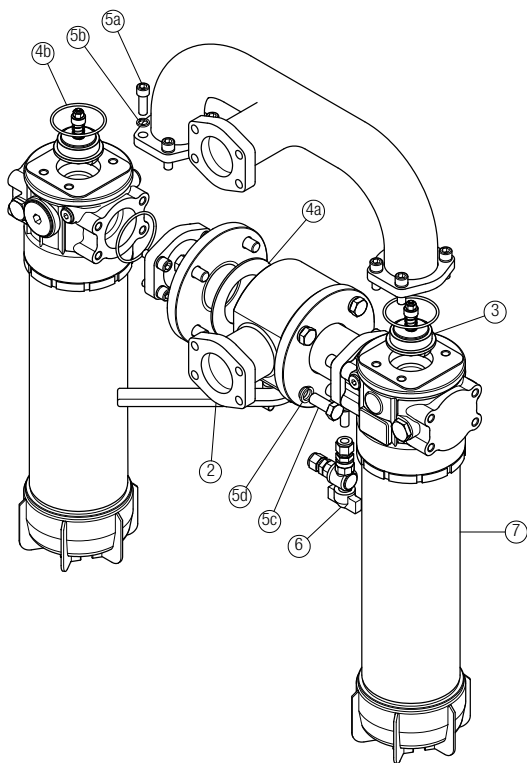
Order number for spare parts

LMD 400



LMD 401

LMD 431



Item:	Q.ty: 1 pc.		Q.ty: 2 pcs.	Q.ty: 1 pc.	Q.ty: 1 pc.	Q.ty: 1 pc.	Q.ty: 2 pcs.
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.....