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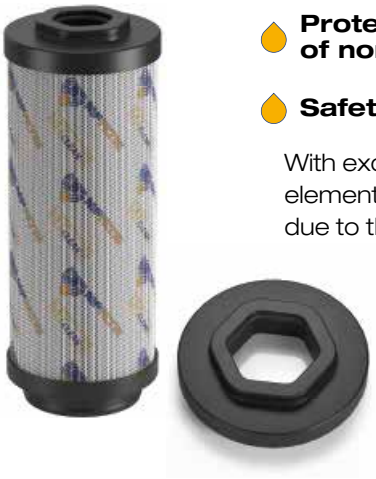
MYCLEAN

THE X CONCEPT FOR OUR FILTERS

Protect the performance of your system with MYclean.
Quality and efficiency are fundamental for MP Filtri:
this exclusive new filter element possesses polygon shape geometry and specific seal that ensures only original spare parts can be used - ensuring correct operation and higher system reliability.

LFEX series

with MYCLEAN FEX Filter Element



- **Protects the machine from improper use of non-original products.**
- **Safety of constant quality protection & reliability**

With exclusive filter element you are sure that only MP Filtri filter elements can be used, ensuring the best cleaning level of the oil due to the use of originals filter elements.

The products identified as LFEX are protected by:

- Italian Patent n° 102014902261205
- Canadian Patent n° 2,937,258
- European Patent n° 3 124 092 B1
- US Patent n° 20170030384 A1

LFEX060 LFEX080 LFEX110 LFEX160

For all the QR codes: Scan or click me!

LFEX series

Maximum working pressure up to 1.6 MPa (16 bar) - Flow rate up to 300 l/min

LFEX GENERAL INFORMATION

Description

Low & Medium Pressure filters

Maximum working pressure up to 1.6 MPa (16 bar)
Flow rate up to 300 l/min

LFEX is a range of low pressure filter for protection of sensitive components in low pressure hydraulic systems.
They are also suitable for the off-line filtration of small reservoirs.
They are directly connected to the lines of the system through the hydraulic fittings.

Available features:
- Female threaded connections up to 1 1/4" and SAE connections up to 1 5/8", for a maximum flow rate of 300 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
- Bypass valve, to relieve excessive pressure drop across the filter media
- NEW Visual and electrical differential clogging indicators, capable to hold the overall dimension
- MYclean interface connection for the filter element, to protect the product against non-original spare parts
- External protective wrap, to optimize the flow through the element and to save the element efficiency against non-proper handling

Common applications:
Delivery lines, in any low pressure industrial equipment or mobile machines

Technical data

Filter housing materials
- Head: Aluminium
- Bypass valve: Polyamide - Steel
- Bowl: Polyamide

Bypass valve
Opening pressure 350 kPa (3.5 bar) ±10%

Δp element type
- Microfibre filter elements - series N: 8 bar
- Fluid flow through the filter element from OUT to IN

Seals
Standard NBR series A

Temperature
From -25 °C to +110 °C

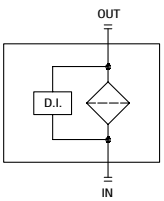
Note
LFEX filters are provided
for vertical mounting

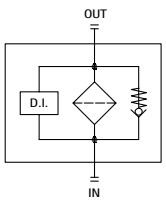
Weights [kg] and volumes [dm³]

Filter series	Weights [kg]	Volumes [dm³]
LFEX 060	1.00	0.60
LFEX 080	1.15	0.80
LFEX 110	1.90	1.60
LFEX 160	2.10	2.00

Hydraulic symbols

Filter series	Style S	Style B
LFEX 060	•	•
LFEX 080	•	•
LFEX 110	•	•
LFEX 160	•	•





Flow rates [l/min]

Filter element design - N Series

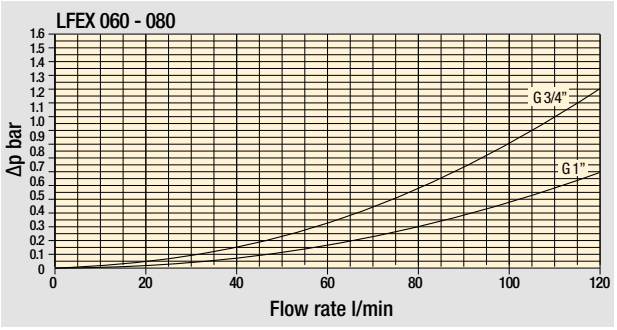
Filter series	A03	A06	A10	A16	A25	M25	M60	M90	P10	P25
LFEX 060	49	51	75	77	80	104	105	107	74	95
LFEX 080	67	67	86	87	92	107	108	110	96	112

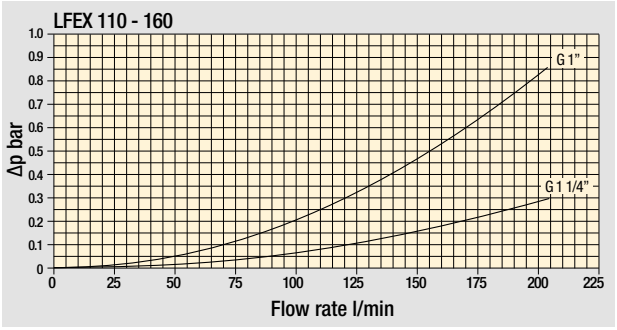
Filter series	A03	A06	A10	A16	A25	M25	M60	M90	P10	P25
LFEX 110	107	115	182	195	216	295	298	300	232	242
LFEX 160	146	150	210	212	237	300	303	304	254	262

Maximum flow rate for a complete delivery filter with a pressure drop Δp = 0.7 bar.

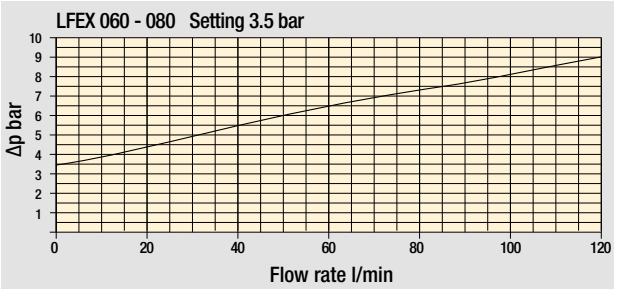
Pressure drop

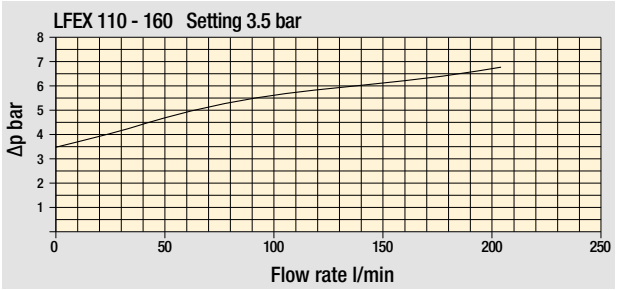
Filter housings
Δp pressure drop





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.

Designation & Ordering code

COMPLETE FILTER

Configuration example : LFEX060 | B | A | A | 6 | A10 | N | P01

Series and size

LFEX060 | **LFEX080** Filter featuring MYCLEAN Filter Element

Bypass valve

S	Without bypass
B	With bypass 3.5 bar

Seals and treatments

A	NBR

Connections

A	G 3/4”
B	G 1”
C	3/4” NPT
D	1” NPT
E	SAE 12 - 1 1/16” - 12 UN
F	SAE 16 - 1 5/16” - 12 UN

Connection for clogging indicator

1	Without
6	With plugged connections

Filtration rating

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	8 bar

Execution

P01	MP Filtri standard
Pxx	Customized

FILTER ELEMENT

Configuration example: FEX060 | A10 | A | N | P01

Element series and size

FEX060 | **FEX080** Filter Element with MYCLEAN feature

Filtration rating

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

Element Δp

N	8 bar

Execution

P01	MP Filtri standard
Pxx	Customized

CLOGGING INDICATORS

See page 726

DES	Electrical differential pressure indicator
DVS	Visual differential pressure indicator

PLUGS

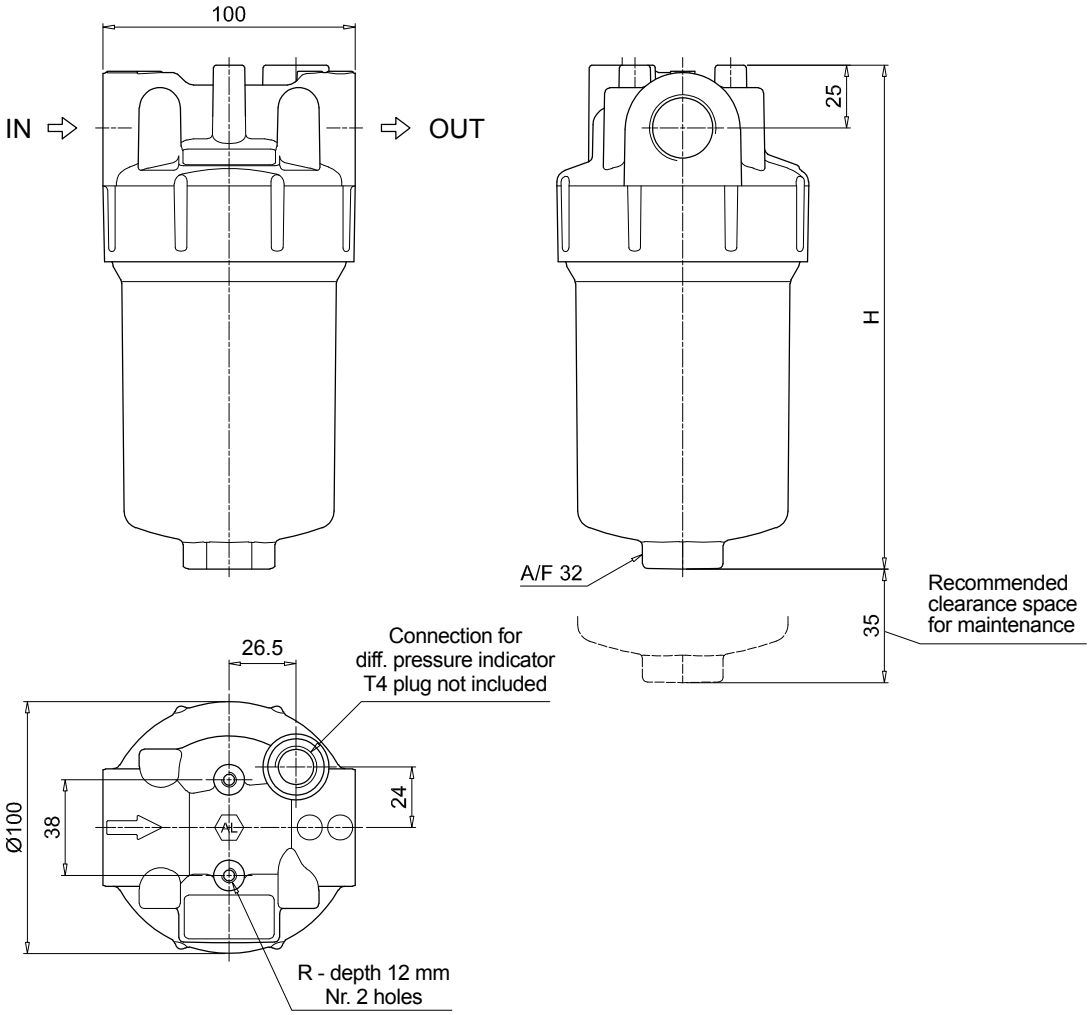
See page 747

T4	Plug

Dimensions

Filter size	H [mm]
060	202
080	265

Connections	R
A	M6
B	M6
C	1/4" UNC
D	1/4" UNC
E	1/4" UNC
F	1/4" UNC



Designation & Ordering code

COMPLETE FILTER

Configuration example : LFEX110 | B | A | A | 6 | A10 | N | P01

Series and size

LFEX110 | **LFEX160** Filter featuring MYCLEAN Filter Element

Bypass valve

S	Without bypass
B	With bypass 3.5 bar

Seals and treatments

A	NBR

Connections

A	G 1”
B	G 1 1/4”
C	1” NPT
D	1 1/4” NPT
E	SAE 16 - 1 5/16” - 12 UN
F	SAE 20 - 1 5/8” - 12 UN

Connection for clogging indicator

1	Without
6	With plugged connections

Filtration rating

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	8 bar

Execution

P01	MP Filtri standard
Pxx	Customized

FILTER ELEMENT

Configuration example: FEX110 | A10 | A | N | P01

Element series and size

FEX110 | **FEX160** Filter Element with MYCLEAN feature

Filtration rating

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

Element Δp

N	8 bar

Execution

P01	MP Filtri standard
Pxx	Customized

CLOGGING INDICATORS

See page 726

DES	Electrical differential pressure indicator
DVS	Visual differential pressure indicator

PLUGS

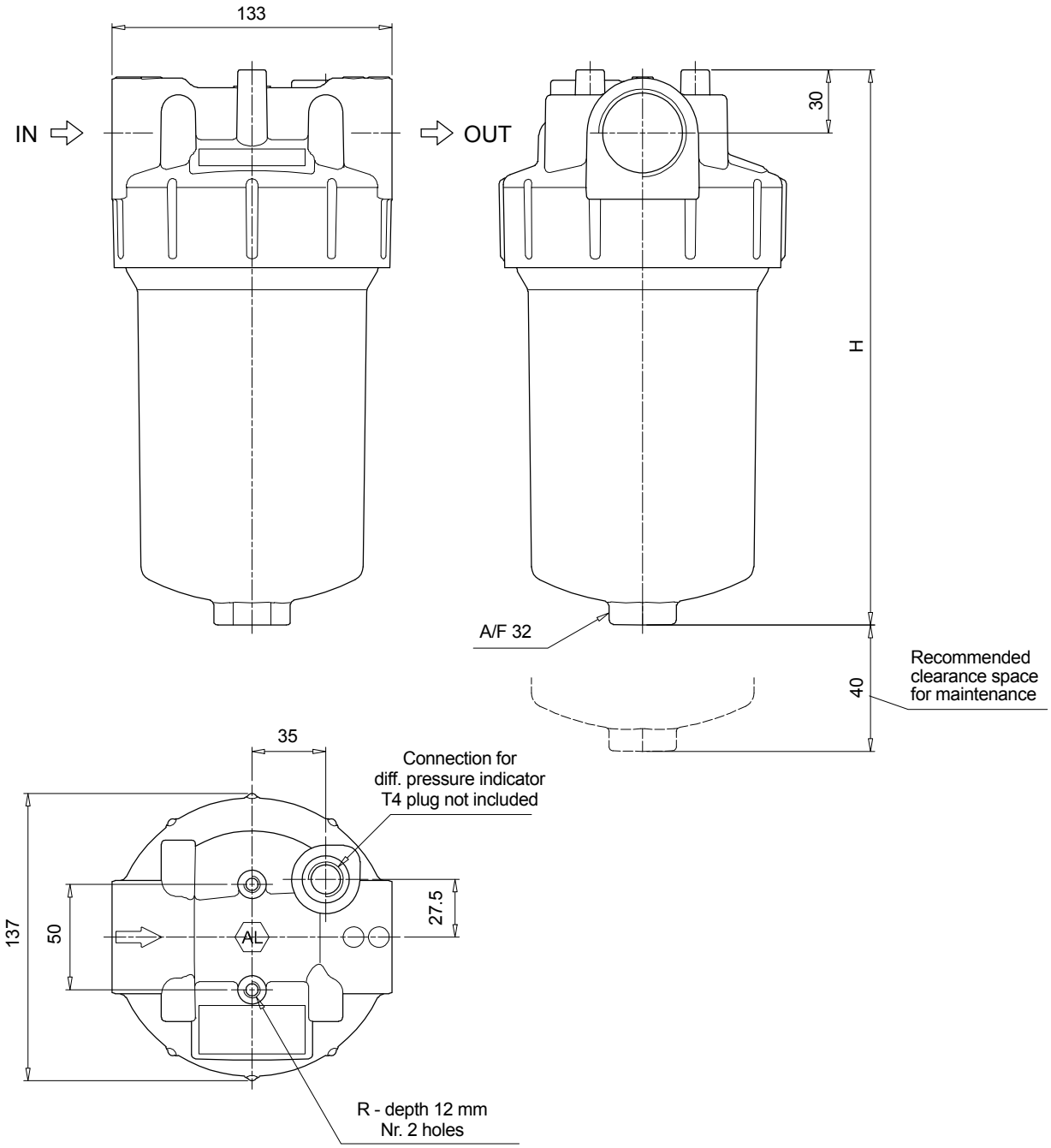
See page 747

T4	Plug

Dimensions

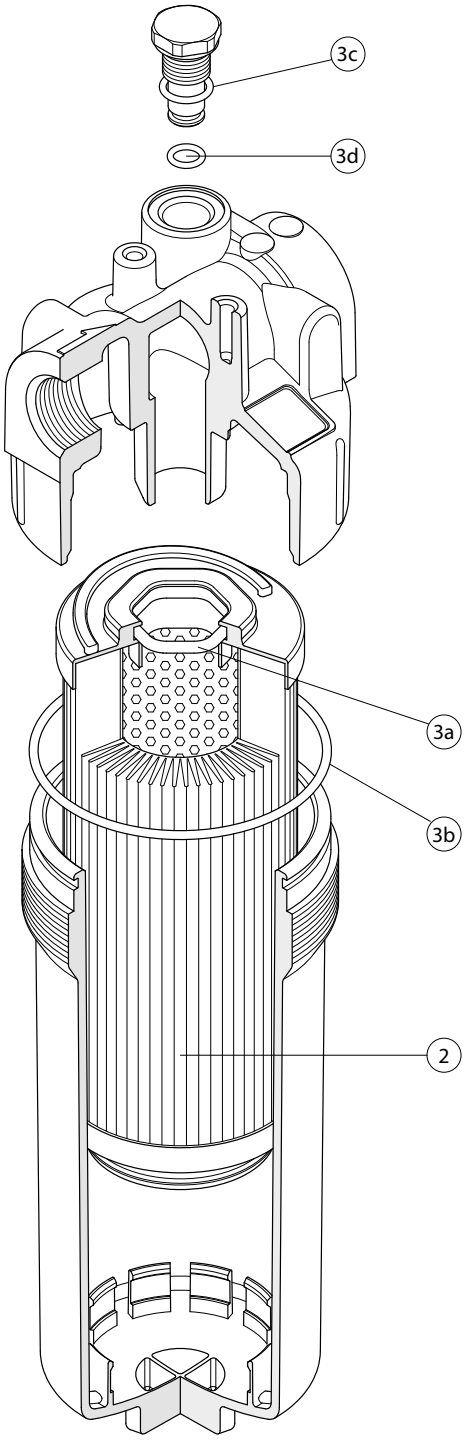
Filter size	H [mm]
110	266
160	315

Connections	R
A	M8
B	M8
C	5/16" UNC
D	5/16" UNC
E	5/16" UNC
F	5/16" UNC



LFEX SPARE PARTS

Order number for spare parts



Item:	Q.ty: 1 pc. (2)	Q.ty: 1 pc. (3) (3a ÷ 3d)	Q.ty: 1 pc. (4)
Filter series	**Filter element**	**Seal Kit code number NBR**	**Indicator connection plug NBR**
LFEX 060-080	See order table	02050771	T4A
LFEX 110-160		02050772	

Designation & Ordering code

DIFFERENTIAL PRESSURE INDICATORS

Configuration example 1:	DE	M	20	H	F	50	P01	
Configuration example 2:	DE	U	50	V	A	50	P01	UL
Configuration example 3:	DL	E	50	V	A	71	P01	
Configuration example 4:	DT	A	20	H	F	70	P01	
Configuration example 5:	DV	M	50	V			P01	

Series

DE	Electrical differential pressure indicator
DL	Electrical/Visual differential pressure indicator
DT	Electronic differential pressure indicator
DV	Visual differential pressure indicator

Type	DE	DL	DT	DV
A Standard type	•	•	•	**A** With automatic reset
M With wired electrical connection	•	-	-	**M** With manual reset
U Standard type 210 bar, UL certified	•	-	-	**S** With automatic reset
E For high power supply	-	•	-	
S Compact version	•	-	-	

Pressure setting	DEA	DEM	DEU	DES	DLA	DLE	DTA	DVA	DVM	DVS
12 1.2 bar	•	•	-	•	•	•	•	•	•	•
20 2.0 bar	•	•	•	-	•	•	•	•	•	-
25 2.5 bar	-	-	-	-	-	-	-	-	-	•
40 4.0 bar	-	-	-	•	-	-	-	-	-	•
50 5.0 bar	•	•	•	-	•	•	•	•	•	-

Seals	DEA	DEM	DEU	DES	DL	DT	DVA	DVM	DVS
H HNBR	•	•	-	•	•	•	•	•	•
V FPM	•	•	•	-	•	•	•	•	-

Thermostat	DEA	DEM	DEU	DES	DLA	DLE	DT
A Without thermostat	•	•	•	•	•	•	-
F With thermostat	-	•	-	-	-	•	•

Electrical connections	DEA	DEM	DEU	DES	DLA	DLE	DT
10 Connection AMP Superseal series 1.5	-	•	-	•	-	-	-
20 Connection AMP Timer Junior	-	•	-	-	-	-	-
30 Connection Deutsch DT-04-2-P	-	•	-	•	-	-	-
35 Connection Deutsch DT-04-3-P	-	•	-	-	-	-	-
50 Connection EN 175301-803	•	-	•	-	-	•	-
51 Connection EN 175301-803, transparent base with lamps 24 Vdc	-	-	-	-	•	-	-
52 Connection EN 175301-803, transparent base with lamps 110 Vdc	-	-	-	-	•	-	-
70 Connection IEC 61076-2-101 D (M12)	-	-	-	-	-	-	•
71 Connection IEC 61076-2-101 D (M12), black base with lamps 24 Vdc	-	-	-	-	•	-	-
80 Connection Stud #10-32 UNF	-	-	-	•	-	-	-

Option

P01	MP Filtri standard
Pxx	Customized

Certifications	DEU	OTHERS
Without	-	•
UL UL certification	•	-

PLUGS

Configuration example	T2	H

Series

T2	Plug
T4	Plug

Seals	T2	T4
A NBR	-	•
H HNBR	•	-
V FPM	•	-

LPH 630 series

Maximum working pressure up to 1 MPa (10 bar) Flow rate up to 1600 l/min

LPH 630 GENERAL INFORMATION

Description

Low & Medium Pressure filters

Maximum working pressure up to 1 MPa (10 bar)
Flow rate up to 1600 l/min

LPH630 is a high capacity low pressure filter with large filtration surface particularly suitable for industrial applications and off-line filtration of the lubrication system reservoirs.

Available features:
- 2 1/2" flanged connection connections, for a maximum flow rate of 1600 l/min
- Versatile orientation of the connections, to suite a variety of hydraulic systems
- Fine filtration rating, to get a good cleanliness level into the system
- Water removal elements, to remove the free water from the hydraulic fluid.
- Bypass valve, to relieve excessive pressure drop across the filter media
- Magnetic filter, to hold the ferrous particles
- Visual, electrical and electronic differential clogging indicators.

Common applications:
- Lubrication
- Off-line filtration of reservoirs
- Filtration systems

Technical data

Filter housing materials
- Head & Cover: Anodized Aluminium
- Bypass valve: Phosphatized steel
- Bowl: Phosphatized steel

Bypass valve
Opening pressure 175 kPa (1.75 bar) ±10%
Opening pressure 250 kPa (2.5 bar) ±10%

Δp element type
- Microfibre filter elements - series MR: 10 bar
- Fluid flow through the filter element from IN to OUT

Seals
Standard NBR series A
Optional FPM series V

Temperature
From -25 °C to +110 °C

Note
LPH filters are provided
for vertical mounting

Weights [kg] and volumes [dm^3]

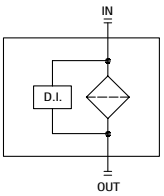
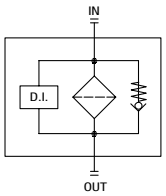
Filter series	Weights [kg]	Volumes [dm^3]
	Length 7	Length 7
LPH 630	1.50	0.60

Flow rates [l/min]

		Filter element design - N Series							
Filter series	Length	A03	A06	A10	A16	A25	M25 M60 M90	P10	P25
LPH 630	**7**	633	671	1091	1130	1217	1669	1518	1602

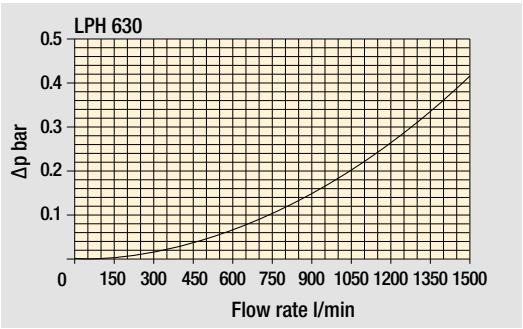
Maximum flow rate for a complete delivery filter with a pressure drop Δp = 0.7 bar.

Hydraulic symbols

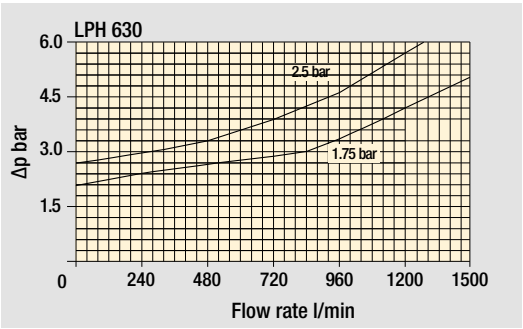
Filter series	Style S	Style C-E
LPH 630		

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.

LPH 630

Designation & Ordering code

COMPLETE FILTER

Configuration example: LPH630 | 7 | C | E | 1 | 1 | A | F1 | A10 | P01

Series and size
LPH630

Length
7

Bypass valve
S Without bypass
C With bypass 1.75 bar
E With bypass 2.5 bar

Diffuser and magnetic filter
O With magnetic filter
E Without magnetic filter

Port IN position
1 On the left of the bracket

Port OUT position
1 On the left of the bracket

Seals and treatments
A NBR
V FPM

Connection
F1 2 1/2" SAE 3000 psi/M
F3 2 1/2" SAE 3000 psi/UNC

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

Execution
P01 MP Filtri standard
Pxx Customized

FILTER ELEMENT

Configuration example: MR630 | 7 | M25 | A | P01

Element series and size
MR630

Element length
7

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

Execution
P01 MP Filtri standard
Pxx Customized

CLOGGING INDICATORS

See page 726

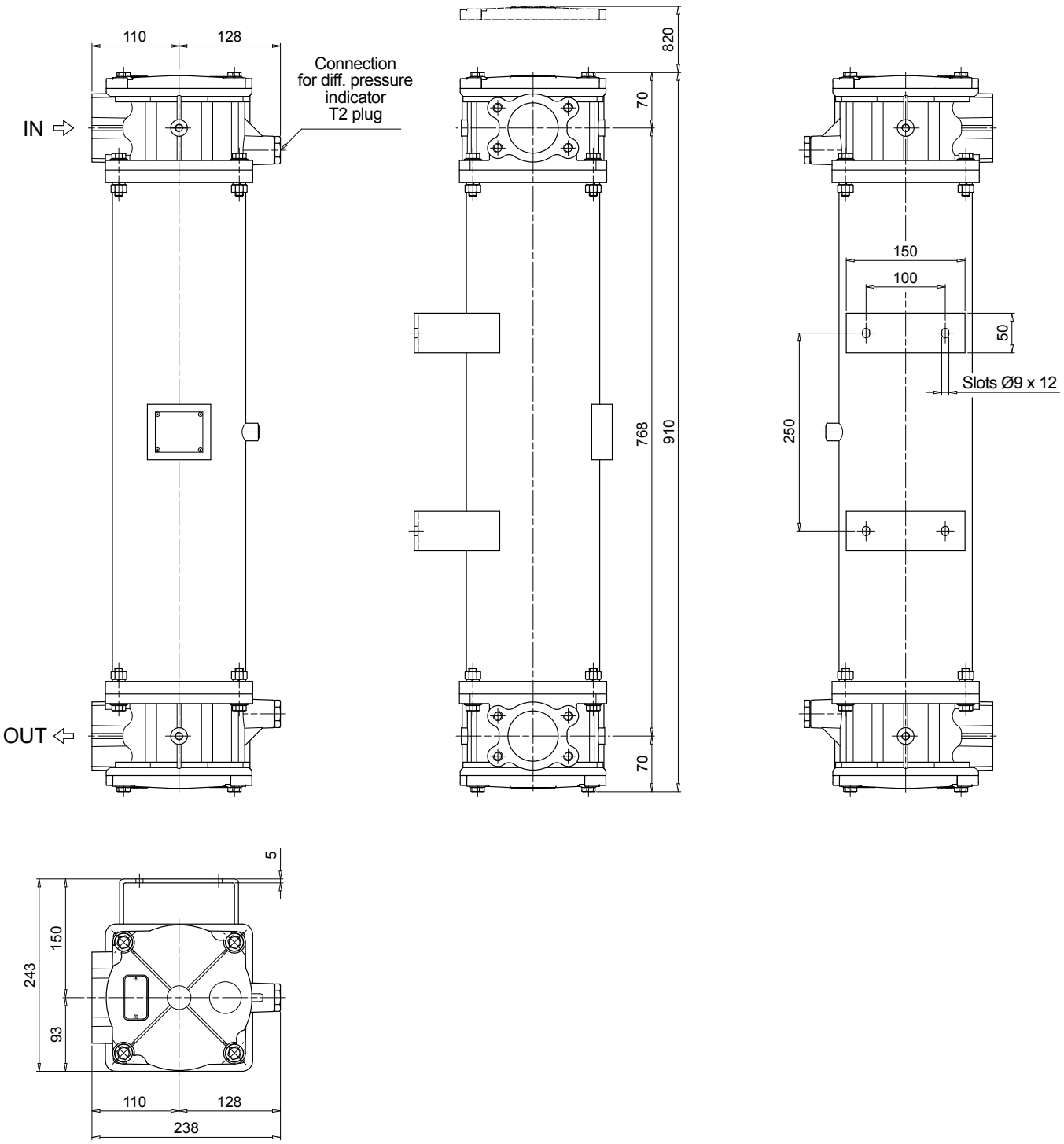
DEA Electrical differential pressure indicator
DEM Electrical differential pressure indicator
DEU Electrical differential pressure indicator
DLA Electrical / visual differential pressure indicator
DLE Electrical / visual differential pressure indicator
DTA Electronic differential pressure indicator
DVA Visual differential pressure indicator
DVM Visual differential pressure indicator

PLUGS

See page 747

T2 Plug

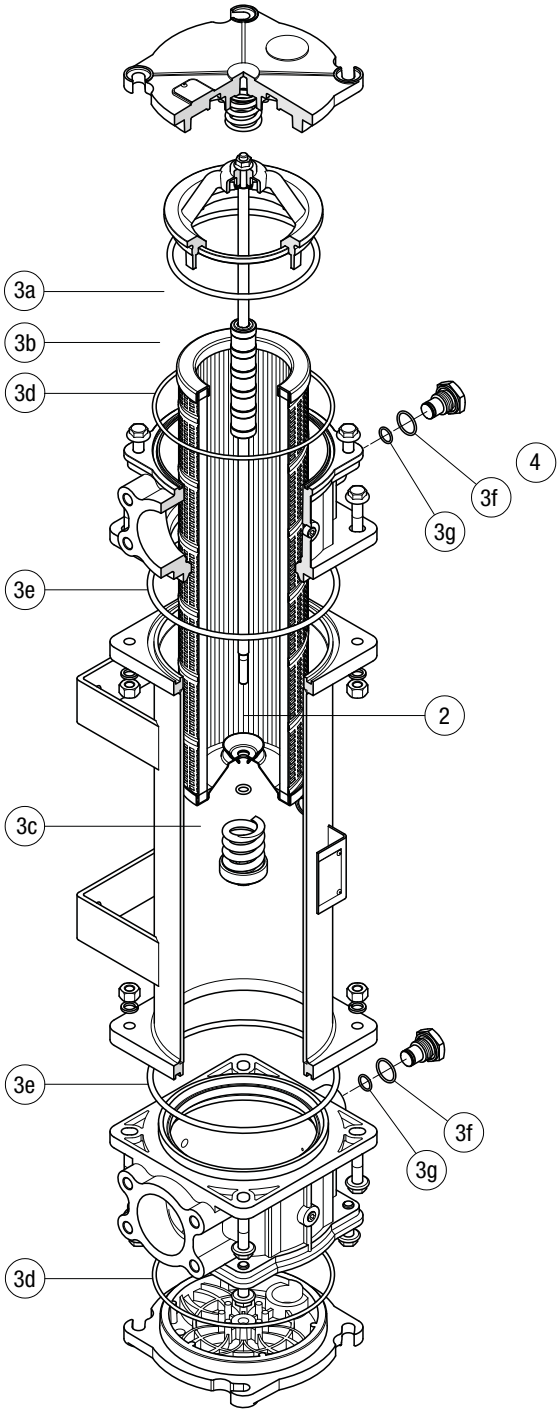
LPH630


110
128
Connection
for diff. pressure
indicator
T2 plug
IN
OUT
820
70
768
910
70
150
100
50
Slots Ø9 x 12
250
5
150
243
93
110
128
238

LPH 630

Order number for spare parts

LPH 630



Item:	Q.ty: 1 pc. (2)	Q.ty: 1 pc. (3) (3a ÷ 3g)		Q.ty: 2 pc. (4)	
Filter series	**Filter element**	**Seal Kit code number NBR**	**FPM**	**Indicator connection plug NBR**	**FPM**
LPH 630	See order table	02050640	02050641	T2H	T2V

Designation & Ordering code

DIFFERENTIAL PRESSURE INDICATORS

Configuration example 1:	DE	M	20	H	F	50	P01	
Configuration example 2:	DE	U	50	V	A	50	P01	UL
Configuration example 3:	DL	E	50	V	A	71	P01	
Configuration example 4:	DT	A	20	H	F	70	P01	
Configuration example 5:	DV	M	50	V			P01	

Series

DE	Electrical differential pressure indicator
DL	Electrical/Visual differential pressure indicator
DT	Electronic differential pressure indicator
DV	Visual differential pressure indicator

Type	DE	DL	DT	DV
A Standard type	•	•	•	**A** With automatic reset
M With wired electrical connection	•	-	-	**M** With manual reset
U Standard type 210 bar, UL certified	•	-	-	**S** With automatic reset
E For high power supply	-	•	-	
S Compact version	•	-	-	

Pressure setting	DEA	DEM	DEU	DES	DLA	DLE	DTA	DVA	DVM	DVS
12 1.2 bar	•	•	-	•	•	•	•	•	•	•
20 2.0 bar	•	•	•	-	•	•	•	•	•	-
25 2.5 bar	-	-	-	-	-	-	-	-	-	•
40 4.0 bar	-	-	-	•	-	-	-	-	-	•
50 5.0 bar	•	•	•	-	•	•	•	•	•	-

Seals	DEA	DEM	DEU	DES	DL	DT	DVA	DVM	DVS
H HNBR	•	•	-	•	•	•	•	•	•
V FPM	•	•	•	-	•	•	•	•	-

Thermostat	DEA	DEM	DEU	DES	DLA	DLE	DT
A Without thermostat	•	•	•	•	•	•	-
F With thermostat	-	•	-	-	-	•	•

Electrical connections	DEA	DEM	DEU	DES	DLA	DLE	DT
10 Connection AMP Superseal series 1.5	-	•	-	•	-	-	-
20 Connection AMP Timer Junior	-	•	-	-	-	-	-
30 Connection Deutsch DT-04-2-P	-	•	-	•	-	-	-
35 Connection Deutsch DT-04-3-P	-	•	-	-	-	-	-
50 Connection EN 175301-803	•	-	•	-	-	•	-
51 Connection EN 175301-803, transparent base with lamps 24 Vdc	-	-	-	-	•	-	-
52 Connection EN 175301-803, transparent base with lamps 110 Vdc	-	-	-	-	•	-	-
70 Connection IEC 61076-2-101 D (M12)	-	-	-	-	-	-	•
71 Connection IEC 61076-2-101 D (M12), black base with lamps 24 Vdc	-	-	-	-	•	-	-
80 Connection Stud #10-32 UNF	-	-	-	•	-	-	-

Option	
P01	MP Filtri standard
Pxx	Customized

Certifications	DEU	OTHERS
Without	-	•
UL UL certification	•	-

PLUGS

Configuration example	T2	H

Series

T2	Plug
T4	Plug

Seals	T2	T4
A NBR	-	•
H HNBR	•	-
V FPM	•	-

LMP 110 series

Maximum working pressure up to 8 MPa (80 bar) - Flow rate up to 165 l/min

LMP 110 GENERAL INFORMATION

Description

Low & Medium Pressure filters

Maximum working pressure up to 8 MPa (80 bar)
Flow rate up to 165 l/min

LMP110 is a range of versatile low pressure filter for transmission, protection of sensitive components in low pressure hydraulic systems and filtration of the coolant into the machine tools.
They are directly connected to the lines of the system through the hydraulic fittings.

Available features:
- Female threaded connections up to 1", for a maximum return flow rate of 165 l/min
- Fine filtration rating, to get a good cleanliness level into the system
- Bypass valve, to relieve excessive pressure drop across the filter media
- Visual, electrical and electronic differential clogging indicators.

Common applications:
Delivery lines, in any low pressure industrial equipment or mobile machines

Technical data

Filter housing materials
- Head: Aluminium
- Housing: Cataphoresis - Painted steel
- Bypass valve: Brass - Aluminium

Pressure
- Test pressure: 12 MPa (120 bar)
- Burst pressure: 29 MPa (290 bar)
- Pulse pressure fatigue test: 1 000 000 cycles with pressure from 0 to 8 MPa (80 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
- Wire mesh filter elements - series N: 20 bar
- Fluid flow through the filter element from OUT to IN

Seals
- Standard NBR series A
- Optional FPM series V

Temperature
From -25 °C to +110 °C

Note
LMP filters are provided for vertical mounting

Weights [kg] and volumes [dm³]

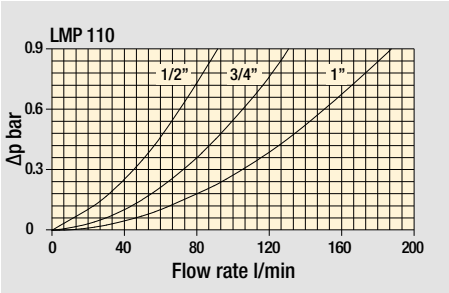
Filter series	Weights [kg]				Volumes [dm³]				
Length	1	2	3	4	Length	1	2	3	4
LMP 110	1.60	1.80	2.10	2.60		0.75	0.81	1.11	1.53

Flow rates [l/min]

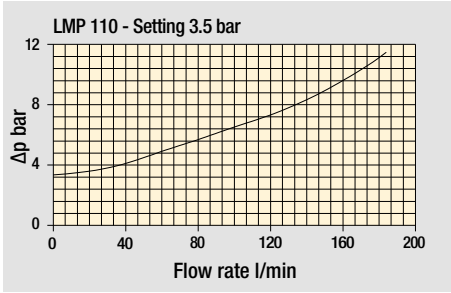
Filter series	Length	Filter element design - N Series							
		A03	A06	A10	A16	A25	M25 M60 M90	P10	P25
LMP 110	1	40	42	65	69	85	163	117	120
	2	49	57	83	83	101	163	136	138
	3	66	70	92	102	124	164	142	144
	4	86	102	118	124	144	165	148	149

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.

Pressure drop



Filter housings Δp pressure drop

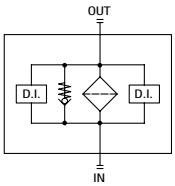


Bypass valve pressure drop

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.

Hydraulic symbols

Filter series	In-Line filter
LMP 110	



LMP 110

Designation & Ordering code

COMPLETE FILTER

Configuration example: LMP110 | 4 | B | A | D | 1 | A10 | N | P01

Series and size

LMP110

Length

1 | **2** | **3** | **4**

Bypass valve

S	Without bypass	**B**	With bypass 3.5 bar

Seals and treatments

A	NBR
V	FPM

Connections

		Aux (only LMP 112 - 116)
A	G 3/4”	G 3/4”
B	G 1”	G 3/4”
C	3/4” NPT	3/4” NPT
D	1” NPT	3/4” NPT
E	SAE 12 - 1 1/16” - 12 UN	SAE 12 - 1 1/16” - 12 UN
F	SAE 16 - 1 5/16” - 12 UN	SAE 12 - 1 1/16” - 12 UN

Connection for differential pressure indicator

1	Without
2	With standard connection
3	With connection on the opposite side
6	With two connections on both sides

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

Element Δp

N	20 bar

Execution

P01	MP Filtri standard
Pxx	Customized

FILTER ELEMENT

Configuration example: CU110 | 4 | A10 | A | N | P01

Element series and size

CU110

Element length

1 | **2** | **3** | **4**

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

Seals and treatments

A	NBR
V	FPM

Element Δp

N	20 bar

Execution

P01	MP Filtri standard
Pxx	Customized

CLOGGING INDICATORS

See page 726

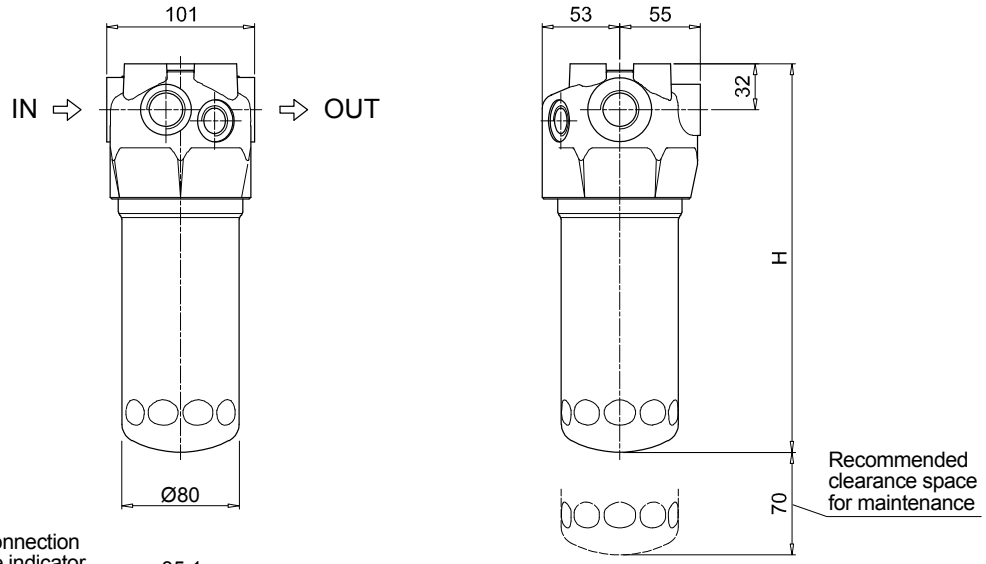
DEA	Electrical differential pressure indicator	**DLE**	Electrical / visual differential pressure indicator
DEM	Electrical differential pressure indicator	**DTA**	Electronic differential pressure indicator
DEU	Electrical differential pressure indicator	**DVA**	Visual differential pressure indicator
DLA	Electrical / visual differential pressure indicator	**DVM**	Visual differential pressure indicator

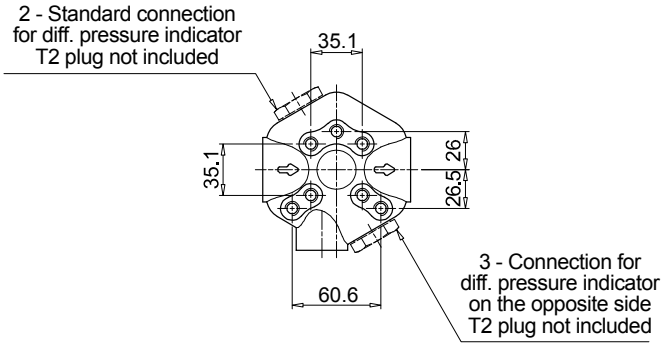
PLUGS

See page 747

T2	Plug (not included)

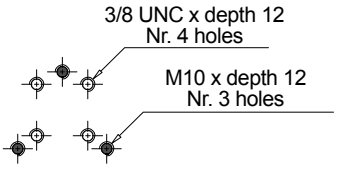
LMP110	
Filter length	**H [mm]**
1	182
2	215
3	265
4	365



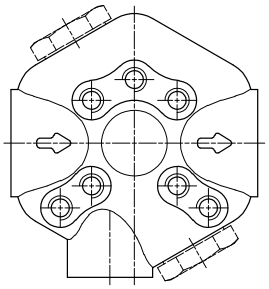


Fixing holes

Option for Metric and UNC screws

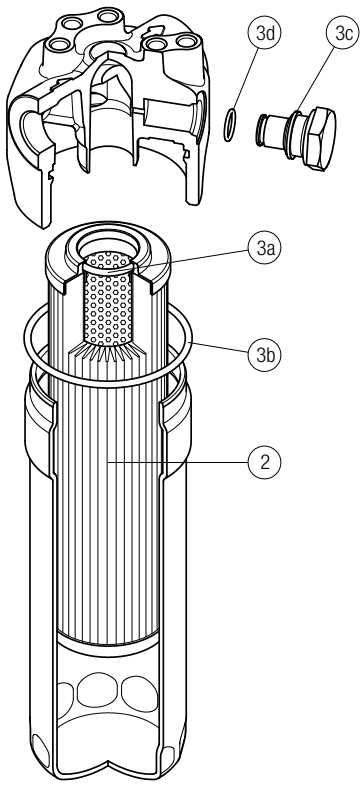


LMP 110



Order number for spare parts

LMP 110



	Q.ty: 1 pc.	Q.ty: 1 pc.		Q.ty: 1 pc.	
Item:	**2**	**3** (3a ÷ 3d)		**4**	
Filter series	**Filter element**	**Seal Kit code number NBR**	**FPM**	**Indicator connection plug NBR**	**FPM**
LMP 110	See order table	02050478	02050479	T2H	T2V

Designation & Ordering code

DIFFERENTIAL PRESSURE INDICATORS

Configuration example 1:	DE	M	20	H	F	50	P01	
Configuration example 2:	DE	U	50	V	A	50	P01	UL
Configuration example 3:	DL	E	50	V	A	71	P01	
Configuration example 4:	DT	A	20	H	F	70	P01	
Configuration example 5:	DV	M	50	V			P01	

Series

DE	Electrical differential pressure indicator
DL	Electrical/Visual differential pressure indicator
DT	Electronic differential pressure indicator
DV	Visual differential pressure indicator

Type	DE	DL	DT	DV
A Standard type	•	•	•	**A** With automatic reset
M With wired electrical connection	•	-	-	**M** With manual reset
U Standard type 210 bar, UL certified	•	-	-	**S** With automatic reset
E For high power supply	-	•	-	
S Compact version	•	-	-	

Pressure setting	DEA	DEM	DEU	DES	DLA	DLE	DTA	DVA	DVM	DVS
12 1.2 bar	•	•	-	•	•	•	•	•	•	•
20 2.0 bar	•	•	•	-	•	•	•	•	•	-
25 2.5 bar	-	-	-	-	-	-	-	-	-	•
40 4.0 bar	-	-	-	•	-	-	-	-	-	•
50 5.0 bar	•	•	•	-	•	•	•	•	•	-

Seals	DEA	DEM	DEU	DES	DL	DT	DVA	DVM	DVS
H HNBR	•	•	-	•	•	•	•	•	•
V FPM	•	•	•	-	•	•	•	•	-

Thermostat	DEA	DEM	DEU	DES	DLA	DLE	DT
A Without thermostat	•	•	•	•	•	•	-
F With thermostat	-	•	-	-	-	•	•

Electrical connections	DEA	DEM	DEU	DES	DLA	DLE	DT
10 Connection AMP Superseal series 1.5	-	•	-	•	-	-	-
20 Connection AMP Timer Junior	-	•	-	-	-	-	-
30 Connection Deutsch DT-04-2-P	-	•	-	•	-	-	-
35 Connection Deutsch DT-04-3-P	-	•	-	-	-	-	-
50 Connection EN 175301-803	•	-	•	-	-	•	-
51 Connection EN 175301-803, transparent base with lamps 24 Vdc	-	-	-	-	•	-	-
52 Connection EN 175301-803, transparent base with lamps 110 Vdc	-	-	-	-	•	-	-
70 Connection IEC 61076-2-101 D (M12)	-	-	-	-	-	-	•
71 Connection IEC 61076-2-101 D (M12), black base with lamps 24 Vdc	-	-	-	-	•	-	-
80 Connection Stud #10-32 UNF	-	-	-	•	-	-	-

Option

P01	MP Filtri standard
Pxx	Customized

Certifications	DEU	OTHERS
Without	-	•
UL UL certification	•	-

PLUGS

Configuration example	T2	H

Series

T2	Plug
T4	Plug

Seals	T2	T4
A NBR	-	•
H HNBR	•	-
V FPM	•	-

LMP 112 / 123 series
MULTIPORT

Maximum working pressure up to 8 MPa (80 bar) - Flow rate up to 175 l/min

Description

Low & Medium Pressure filters

Maximum working pressure up to 8 MPa (80 bar)
Flow rate up to 175 l/min

LMP MULTIPORT filters is a range of versatile low pressure filter for transmission, protection of sensitive components in low pressure hydraulic systems and filtration of the coolant into the machine tools. They are directly connected to the lines of the system through the hydraulic fittings.

Available features:

- Female threaded connections up to 1", for a maximum return flow rate of 175 l/min
- Fine filtration rating, to get a good cleanliness level into the system
- Bypass valve, to relieve excessive pressure drop across the filter media
- Visual, electrical and electronic differential clogging indicators
- Multiport and multifunction schemes, to meet any type of application.
- LMP112: 3/4" additional input port
- LMP116: 3/4" additional output port
- LMP118: 3/4" bypass port, to send the bypass flow to the reservoir instead of the system
- LMP119: 3/4" relief port, to relief the input pressure in the filter, protecting the components downstream the filter against back pressure caused by the pressure drop (cold starts)
- LMP120: connections placed in the same side
- LMP122: connections placed in the same side and 1" additional output port
- LMP123: 2 and 3 bar integrated relief valve

Common applications:

Delivery lines, in any low pressure industrial equipment or mobile machines

Technical data

Filter housing materials

- Head: Aluminium
- Housing: Cataphoresis - Painted steel
- Bypass valve: Brass - Aluminium

Pressure

- Test pressure: 12 MPa (120 bar)
- Burst pressure:
  LMP 112/119: 29 MPa (290 bar)
  LMP 120/123: 38 MPa (380 bar)
- Pulse pressure fatigue test: 1 000 000 cycles with pressure from 0 to 8 MPa (80 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
- Wire mesh filter elements - series N: 20 bar
- Fluid flow through the filter element from OUT to IN

Seals

- Standard NBR series A
- Optional FPM series V

Temperature

From -25 °C to +110 °C

Note

LMP MULTIPORT filters are provided for vertical mounting

Weights [kg] and volumes [dm^3]

Filter series	Weights [kg]				Volumes [dm^3]				
	Length 1	2	3	4	Length 1	2	3	4
LMP 112-116-118-119	1.60	1.80	2.10	2.60	0.75	0.81	1.11	1.53
LMP 120-122	1.90	2.10	2.40	2.90	0.75	0.81	1.11	1.53
LMP 123	1.70	1.90	2.20	2.70	0.75	0.81	1.11	1.53

Flow rates [l/min]

Filter series	Length	Filter element design - N Series							
		A03	A06	A10	A16	A25	M25 M60 M90	P10	P25
LMP 112	1	36	38	55	57	67	105	84	86
	2	44	49	66	66	76	105	93	94
	3	56	58	71	77	87	106	96	97
	4	67	77	85	88	97	106	99	99
LMP 116	1	36	38	54	56	64	96	79	80
	2	43	49	63	64	72	96	86	87
	3	54	57	68	73	82	96	88	89
	4	65	73	79	82	89	96	91	91
LMP 118 LMP 119	1	40	42	65	69	85	163	117	120
	2	49	57	83	83	101	163	136	138
	3	66	70	92	102	124	164	142	144
	4	86	102	118	124	144	165	148	149
LMP 120	1	40	43	66	70	87	172	121	125
	2	50	58	85	85	104	172	142	144
	3	67	71	94	105	129	173	149	151
	4	88	106	122	129	151	174	155	157
LMP 122	1	39	42	64	67	81	146	109	111
	2	49	56	80	80	96	146	124	126
	3	65	68	88	96	114	146	129	130
	4	82	97	110	115	131	147	134	135

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.

Filter series	Length	Filter element design - N Series							
		A03	A06	A10	A16	A25	M25 M60 M90	P10	P25
LMP 123	1	35	37	50	52	59	83	70	71
	2	41	46	58	58	65	83	76	76
	3	51	53	62	65	72	83	77	78
	4	59	65	70	72	78	83	79	79

Maximum flow rate for a complete low and medium pressure filter with a pressure drop Δp = 2.7 bar.
The reference fluid has a kinematic viscosity of 30 mm^2/s (cSt) and a density of 0.86 kg/dm^3.

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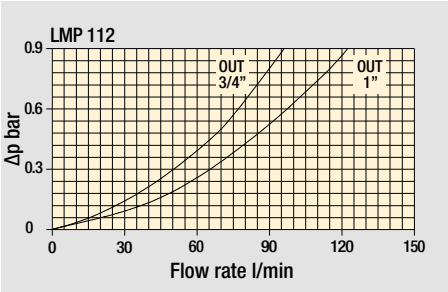
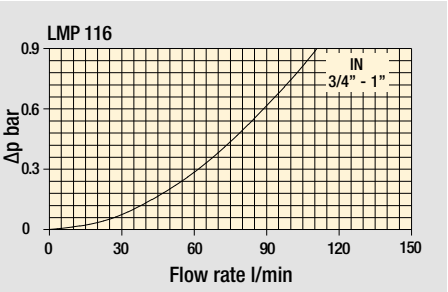
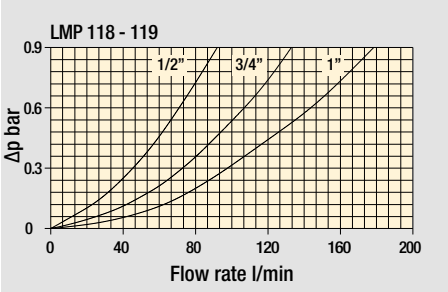
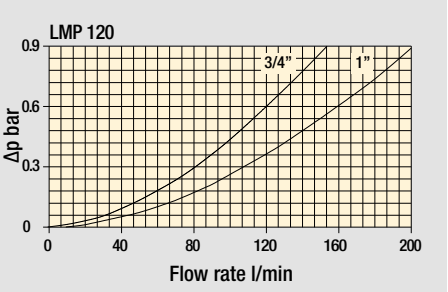
Pressure drop

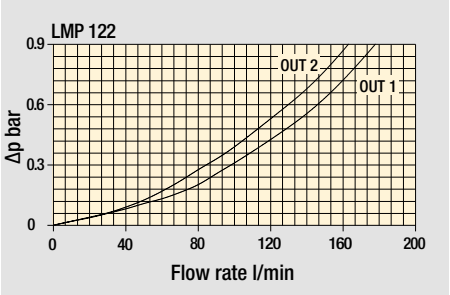
Filter housings Δp pressure drop

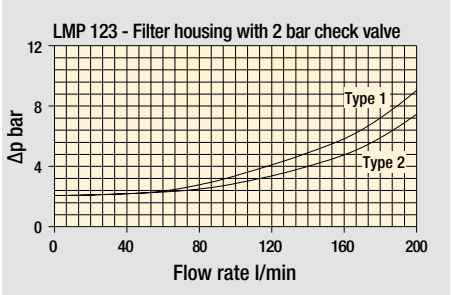


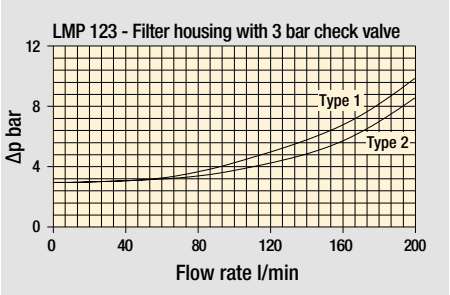




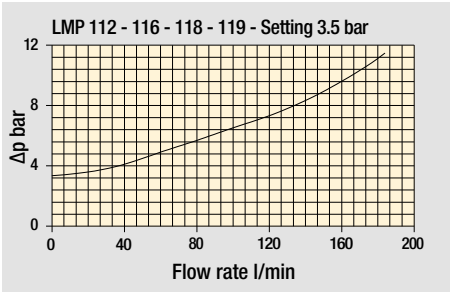


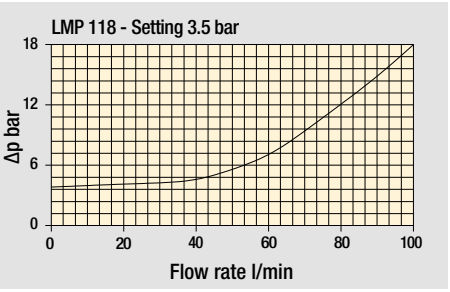


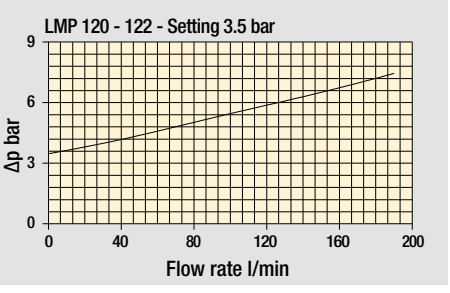




Bypass valve pressure drop



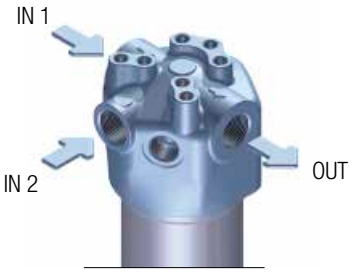


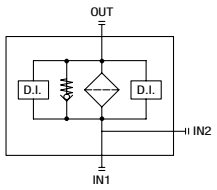


The curves are plotted using mineral oil with density of 0.86 kg/dm^3 in compliance with ISO 3968. Δp varies proportionally with density.

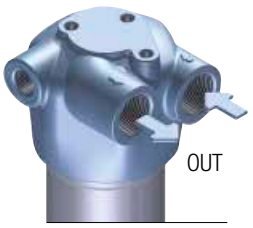
Hydraulic symbols - Multiport styles

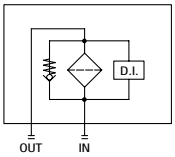
LMP 112 — Double IN port



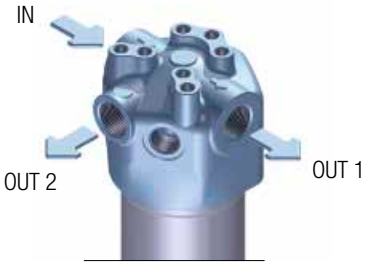


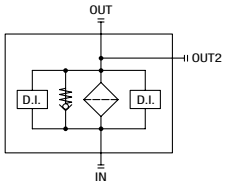
LMP 120 — Port IN-OUT on the same side



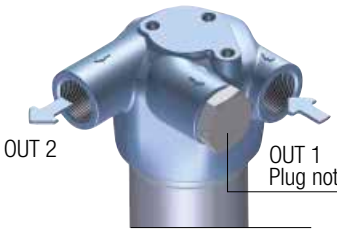


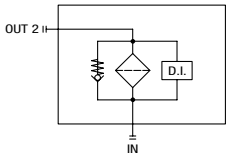
LMP 116 — Double OUT port





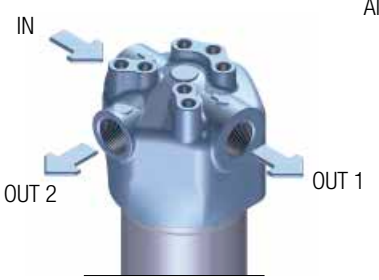
LMP 122 — Lateral OUT port high flow

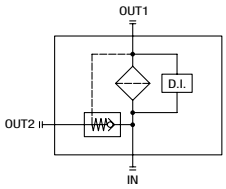




LMP 118 — Bypass lateral

Always cleaning fluid in OUT port

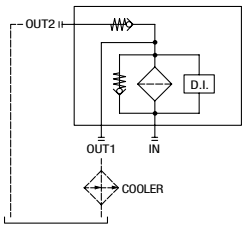




LMP 123 — Bypass valve

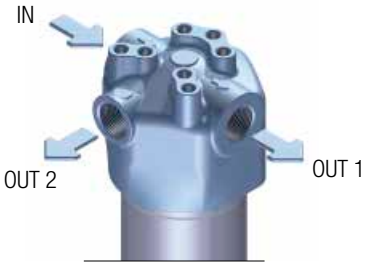
Type 1

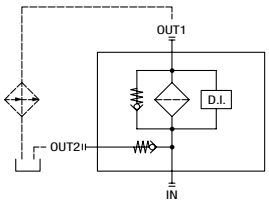
for heat exchanger high flow



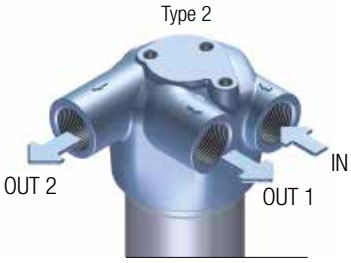
LMP 119 — Safety valve 6 bar

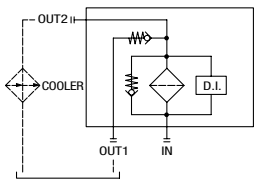
for heat exchanger





Type 2





Designation & Ordering code

COMPLETE FILTER

Configuration example: LMP112 | 4 | B | A | D | 1 | A10 | N | P01

Series and size
LMP112 | **LMP116**

Length
1 | **2** | **3** | **4**

Bypass valve
S Without bypass
B With bypass 3.5 bar

Seals and treatments
A NBR
V FPM

Connections

		Aux (only LMP 112 - 116)
A	G 3/4”	G 3/4”
B	G 1”	G 3/4”
C	3/4” NPT	3/4” NPT
D	1” NPT	3/4” NPT
E	SAE 12 - 1 1/16” - 12 UN	SAE 12 - 1 1/16” - 12 UN
F	SAE 16 - 1 5/16” - 12 UN	SAE 12 - 1 1/16” - 12 UN

Connection for differential pressure indicator
1 Without
2 With standard connection
3 With connection on the opposite side
6 With two connections on both sides

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

Element Δp
N 20 bar

Execution
P01 MP Filtri standard
Pxx Customized

FILTER ELEMENT

Configuration example: CU110 | 4 | A10 | A | N | P01

Element series and size
CU110

Element length
1 | **2** | **3** | **4**

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

Seals and treatments
A NBR
V FPM

Element Δp
N 20 bar

Execution
P01 MP Filtri standard
Pxx Customized

CLOGGING INDICATORS

See page 726

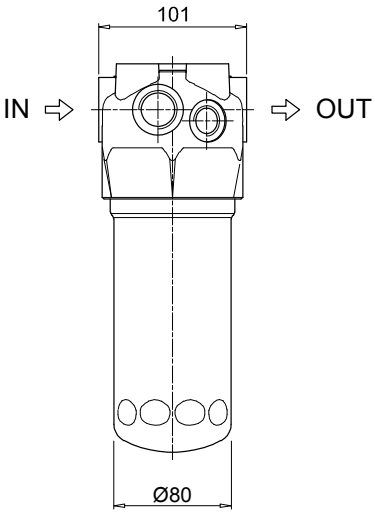
DEA Electrical differential pressure indicator
DEM Electrical differential pressure indicator
DEU Electrical differential pressure indicator
DLA Electrical / visual differential pressure indicator
DLE Electrical / visual differential pressure indicator
DTA Electronic differential pressure indicator
DVA Visual differential pressure indicator
DVM Visual differential pressure indicator

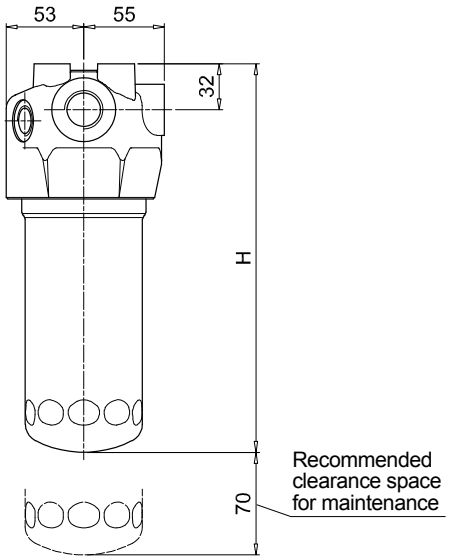
PLUGS

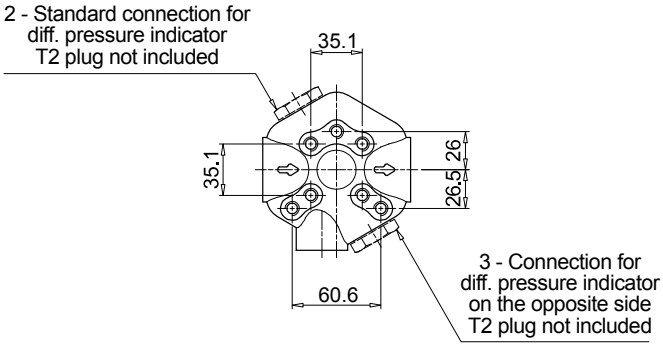
See page 747

T2 Plug (not included)

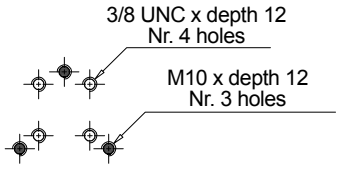
LMP112 - LMP116	
Filter length	**H [mm]**
1	182
2	215
3	265
4	365



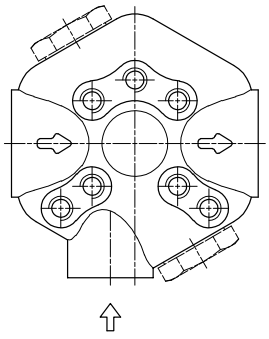




Fixing holes
Option for Metric and UNC screws

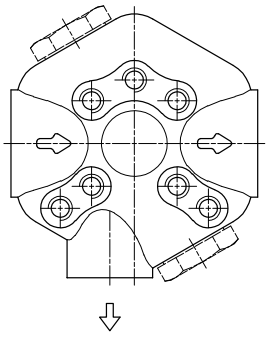


LMP 112



Aux
IN

LMP 116



Aux
OUT

Designation & Ordering code

COMPLETE FILTER

Configuration example: LMP118 | 4 | B | A | D | 1 | A10 | N | P01

Series and size
LMP118 | **LMP119**

Length
1 | **2** | **3** | **4**

Bypass valve
B With bypass 3.5 bar

Seals and treatments
A NBR
V FPM

Connections

		Aux OUT
A	G 3/4”	G 3/4”
B	G 1”	G 3/4”
C	3/4” NPT	3/4” NPT
D	1” NPT	3/4” NPT
E	SAE 12 - 1 1/16” - 12 UN	SAE 12 - 1 1/16” - 12 UN
F	SAE 16 - 1 5/16” - 12 UN	SAE 12 - 1 1/16” - 12 UN

Connection for differential pressure indicator
1 Without
2 With standard connection

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

Element Δp
N 20 bar

Execution
P01 MP Filtri standard
Pxx Customized

FILTER ELEMENT

Configuration example: CU110 | 4 | A10 | A | N | P01

Element series and size
CU110

Element length
1 | **2** | **3** | **4**

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

Seals and treatments
A NBR
V FPM

Element Δp
N 20 bar

Execution
P01 MP Filtri standard
Pxx Customized

CLOGGING INDICATORS

See page 726

DEA Electrical differential pressure indicator
DEM Electrical differential pressure indicator
DEU Electrical differential pressure indicator
DLA Electrical / visual differential pressure indicator
DLE Electrical / visual differential pressure indicator
DTA Electronic differential pressure indicator
DVA Visual differential pressure indicator
DVM Visual differential pressure indicator

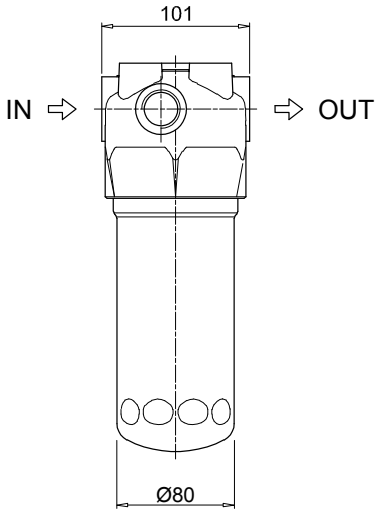
PLUGS

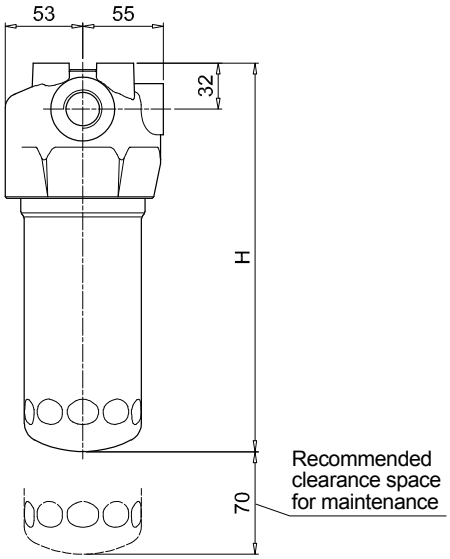
See page 747

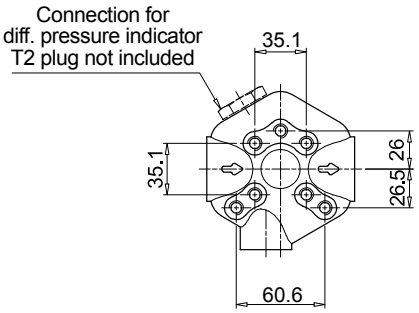
T2 Plug (not included)

LMP118 - LMP119

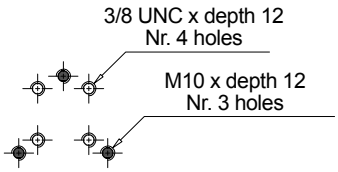
Filter length	H [mm]
1	182
2	215
3	265
4	365

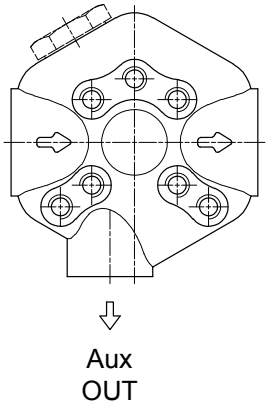






Fixing holes
Option for Metric and UNC screws





Designation & Ordering code

COMPLETE FILTER

Configuration example: LMP120 | 4 | B | A | D | 1 | A10 | N | P01

Series and size
LMP120 | **LMP122**

Length
1 | **2** | **3** | **4**

Bypass valve
S Without bypass
B With bypass 3.5 bar

Seals and treatments
A NBR
V FPM

Connections	LMP120	LMP122
A G 3/4”	•	-
B G 1”	•	•
C 3/4” NPT	•	-
D 1” NPT	•	•
E SAE 12 - 1 1/16” - 12 UN	•	-
F SAE 16 - 1 5/16” - 12 UN	•	•

Connection for differential pressure indicator
1 Without
2 With standard connection

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

Element Δp
N 20 bar

Execution
P01 MP Filtri standard
Pxx Customized

FILTER ELEMENT

Configuration example: CU110 | 4 | A10 | A | N | P01

Element series and size
CU110

Element length
1 | **2** | **3** | **4**

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

Seals and treatments
A NBR
V FPM

Element Δp
N 20 bar

Execution
P01 MP Filtri standard
Pxx Customized

CLOGGING INDICATORS

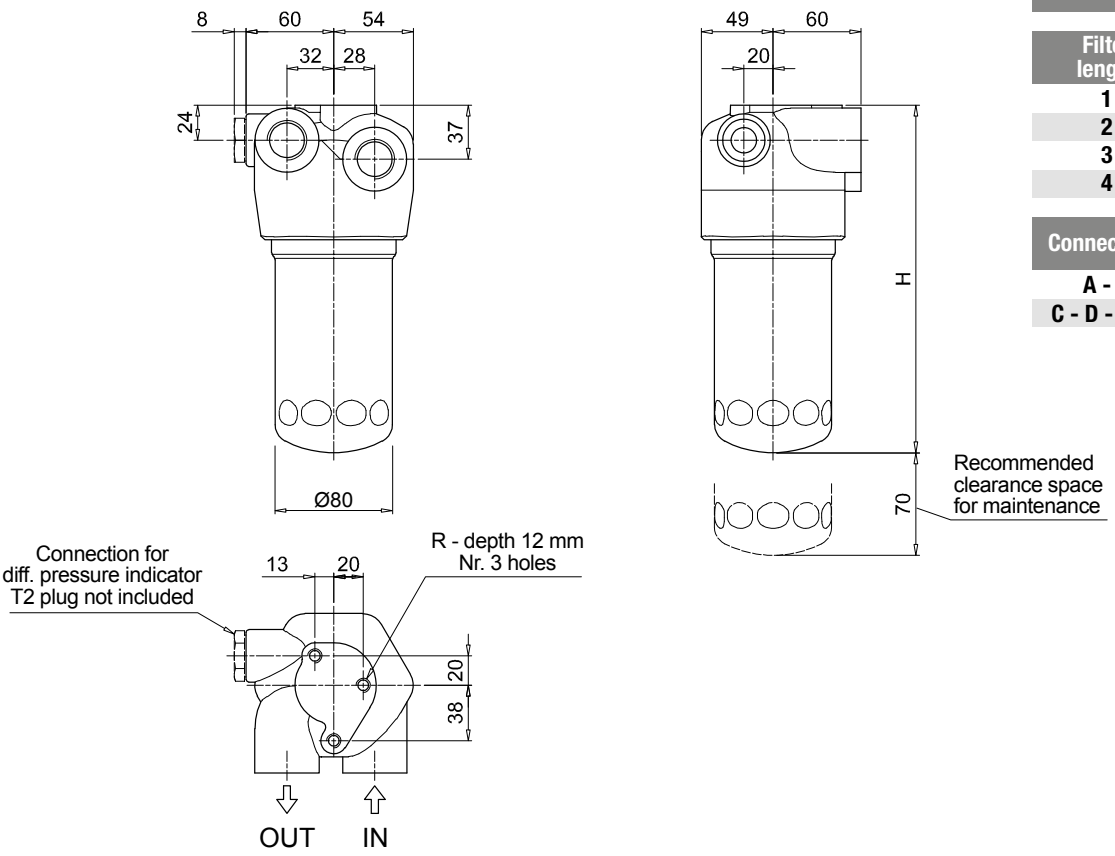
See page 726

DEA Electrical differential pressure indicator
DEM Electrical differential pressure indicator
DEU Electrical differential pressure indicator
DLA Electrical / visual differential pressure indicator
DLE Electrical / visual differential pressure indicator
DTA Electronic differential pressure indicator
DVA Visual differential pressure indicator
DVM Visual differential pressure indicator

PLUGS

See page 747

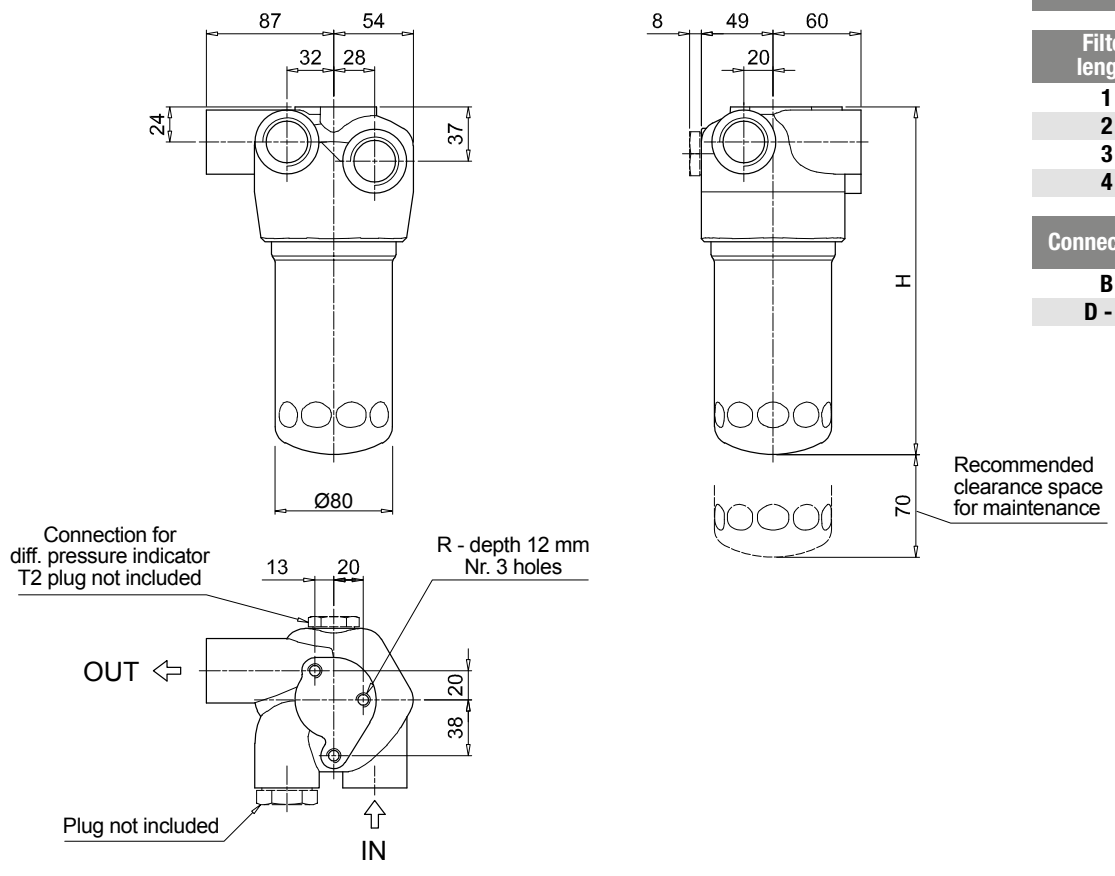
T2 Plug



LMP120

Filter length	H [mm]
1	182
2	215
3	265
4	365

Connections	R
A - B	M10
C - D - E - F	3/8" UNC



LMP122

Filter length	H [mm]
1	182
2	215
3	265
4	365

Connections	R
B	M10
D - F	3/8" UNC

Designation & Ordering code

COMPLETE FILTER

Configuration example: LMP123 | 4 | R | A | F | 1 | A10 | N | P01

Series and size
LMP123

Length
1 | **2** | **3** | **4**

Valves	Bypass	OUT to cooler	Check valve
C	without	front	2 bar
D			3 bar
G		side	2 bar
H			3 bar
M	With bypass 3.5 bar	front	2 bar
N			3 bar
Q		side	2 bar
R			3 bar

Seals and treatments
A NBR
V FPM

Connections
B G 1”
F SAE 16 - 1 5/16” - 12 UN

Connection for differential pressure indicator
1 Without
2 With standard connection

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

Element Δp
N 20 bar

Execution
P01 MP Filtri standard
Pxx Customized

FILTER ELEMENT

Configuration example: CU110 | 4 | A10 | A | N | P01

Element series and size
CU110

Element length
1 | **2** | **3** | **4**

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

Seals and treatments
A NBR
V FPM

Element Δp
N 20 bar

Execution
P01 MP Filtri standard
Pxx Customized

CLOGGING INDICATORS

See page 726

DEA Electrical differential pressure indicator
DEM Electrical differential pressure indicator
DEU Electrical differential pressure indicator
DLA Electrical / visual differential pressure indicator
DLE Electrical / visual differential pressure indicator
DTA Electronic differential pressure indicator
DVA Visual differential pressure indicator
DVM Visual differential pressure indicator

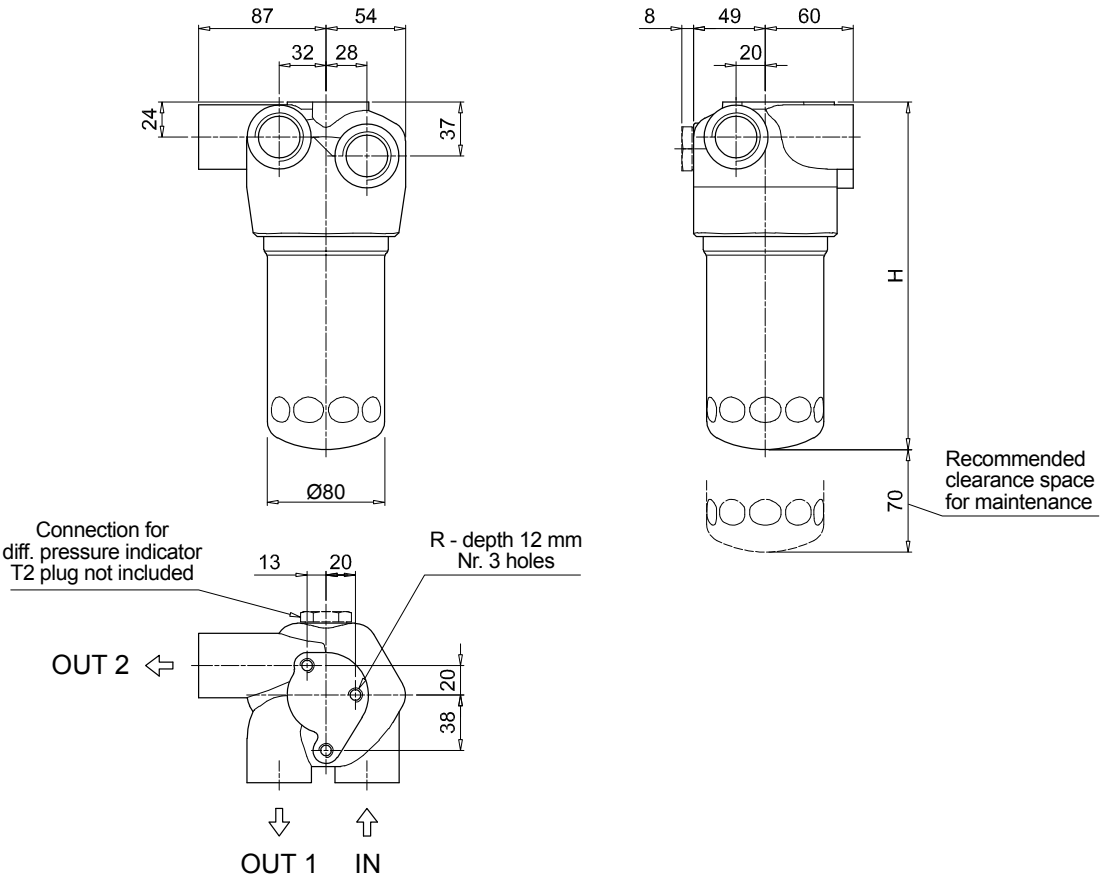
PLUGS

See page 747

T2 Plug

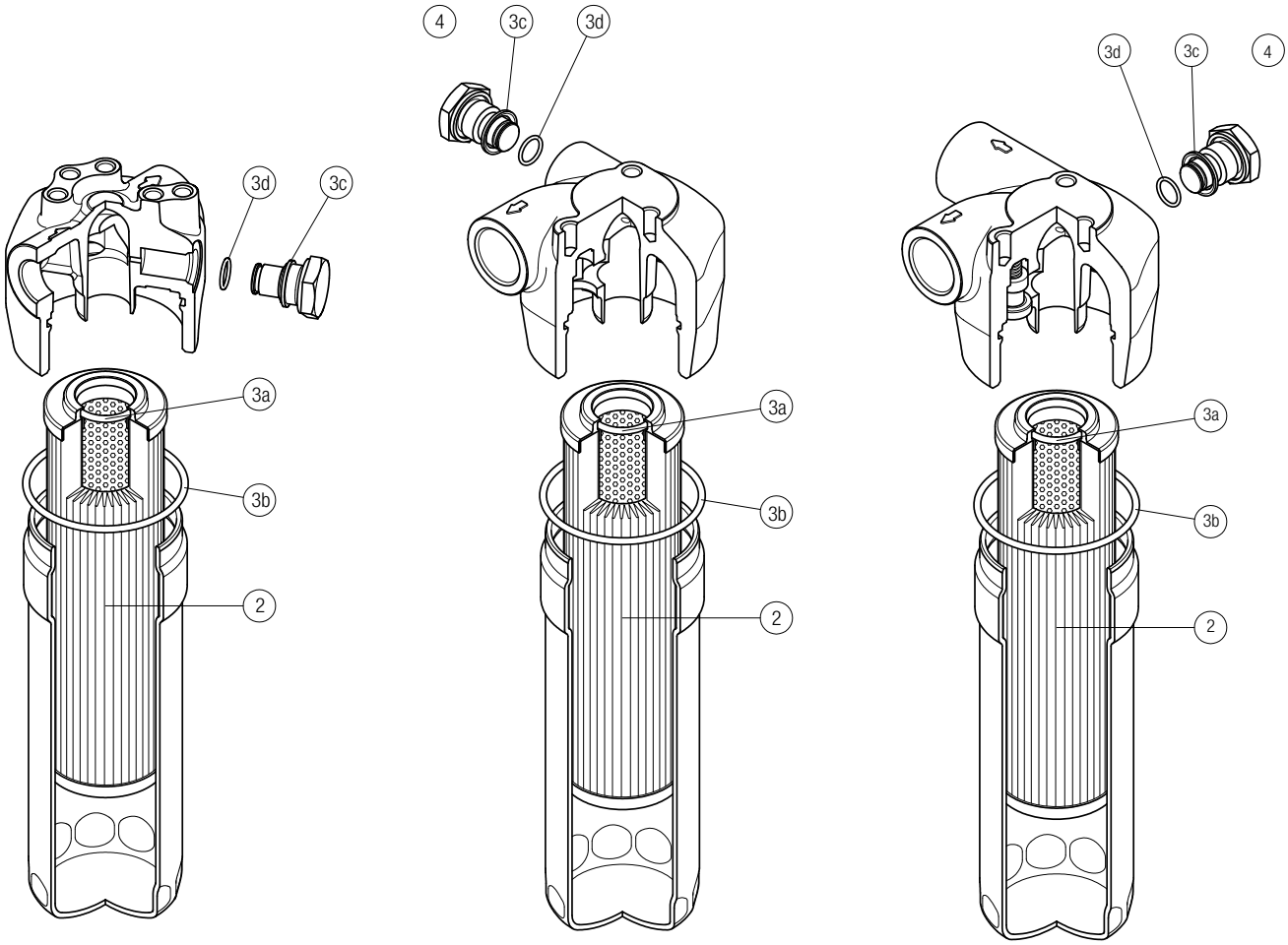
LMP123	
Filter length	**H [mm]**
1	182
2	215
3	265
4	365

Connections	**R**
B	M10
F	3/8" UNC



Order number for spare parts

LMP 112 - 116 - 118 - 119	LMP 120	LMP 122 - 123



Item:	Q.ty: 1 pc. (2)	Q.ty: 1 pc. (3) (3a ÷ 3d)		Q.ty: 1 pc. (4)	
Filter series	Filter element	Seal Kit code number NBR	Seal Kit code number FPM	Indicator connection plug NBR	Indicator connection plug FPM
LMP 112-116 -118-119 LMP 120 LMP 122-123	See order table	02050478	02050479	T2H	T2V

Designation & Ordering code

DIFFERENTIAL PRESSURE INDICATORS

Configuration example 1:	DE	M	20	H	F	50	P01	
Configuration example 2:	DE	U	50	V	A	50	P01	UL
Configuration example 3:	DL	E	50	V	A	71	P01	
Configuration example 4:	DT	A	20	H	F	70	P01	
Configuration example 5:	DV	M	50	V			P01	

Series

DE	Electrical differential pressure indicator
DL	Electrical/Visual differential pressure indicator
DT	Electronic differential pressure indicator
DV	Visual differential pressure indicator

Type	DE	DL	DT	DV
A Standard type	•	•	•	**A** With automatic reset
M With wired electrical connection	•	-	-	**M** With manual reset
U Standard type 210 bar, UL certified	•	-	-	**S** With automatic reset
E For high power supply	-	•	-	
S Compact version	•	-	-	

Pressure setting	DEA	DEM	DEU	DES	DLA	DLE	DTA	DVA	DVM	DVS
12 1.2 bar	•	•	-	•	•	•	•	•	•	•
20 2.0 bar	•	•	•	-	•	•	•	•	•	-
25 2.5 bar	-	-	-	-	-	-	-	-	-	•
40 4.0 bar	-	-	-	•	-	-	-	-	-	•
50 5.0 bar	•	•	•	-	•	•	•	•	•	-

Seals	DEA	DEM	DEU	DES	DL	DT	DVA	DVM	DVS
H HNBR	•	•	-	•	•	•	•	•	•
V FPM	•	•	•	-	•	•	•	•	-

Thermostat	DEA	DEM	DEU	DES	DLA	DLE	DT
A Without thermostat	•	•	•	•	•	•	-
F With thermostat	-	•	-	-	-	•	•

Electrical connections	DEA	DEM	DEU	DES	DLA	DLE	DT
10 Connection AMP Superseal series 1.5	-	•	-	•	-	-	-
20 Connection AMP Timer Junior	-	•	-	-	-	-	-
30 Connection Deutsch DT-04-2-P	-	•	-	•	-	-	-
35 Connection Deutsch DT-04-3-P	-	•	-	-	-	-	-
50 Connection EN 175301-803	•	-	•	-	-	•	-
51 Connection EN 175301-803, transparent base with lamps 24 Vdc	-	-	-	-	•	-	-
52 Connection EN 175301-803, transparent base with lamps 110 Vdc	-	-	-	-	•	-	-
70 Connection IEC 61076-2-101 D (M12)	-	-	-	-	-	-	•
71 Connection IEC 61076-2-101 D (M12), black base with lamps 24 Vdc	-	-	-	-	•	-	-
80 Connection Stud #10-32 UNF	-	-	-	•	-	-	-

Option	
P01	MP Filtri standard
Pxx	Customized

Certifications	DEU	OTHERS
Without	-	•
UL UL certification	•	-

PLUGS

Configuration example	T2	H

Series

T2	Plug
T4	Plug

Seals	T2	T4
A NBR	-	•
H HNBR	•	-
V FPM	•	-

LMP 210-211

Maximum working pressure up to 6 MPa (60 bar) - Flow rate up to 365 l/min

LMP 210-211 GENERAL INFORMATION

Description

Low & Medium Pressure filters

Maximum working pressure up to 6 MPa (60 bar)
Flow rate up to 365 l/min

LMP210 is a range of versatile low pressure filter for transmission, protection of sensitive components in low pressure hydraulic systems and filtration of the coolant into the machine tools.
They are also suitable for the off-line filtration of small reservoirs.
They are directly connected to the lines of the system through the hydraulic fittings.

Available features:
- Flanged connections up to 1 1/2", for a maximum flow rate of 365 l/min (LMP210)
- Female threaded connections up to 1 1/2", for a maximum return flow rate of 365 l/min (LMP211)
- 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.
- Bypass valve, to relieve excessive pressure drop across the filter media
- Visual, electrical and electronic differential clogging indicators

Common applications:
Delivery lines, in any low pressure industrial equipment or mobile machines

Technical data

Filter housing materials
- Head: Aluminium
- Bowl: Cataphoretic painted steel
- Bypass valve: AISI 304 - Polyamide

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
- Microfibre filter elements - series N: 20 bar
- Fluid flow through the filter 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
LMP 210 - 211 filters are provided for vertical mounting

Weights [kg] and volumes [dm³]

Filter series	Weights [kg]				Volumes [dm³]			
	Length	1	2	3	Length	1	2	3
LMP 210-211		3.10	4.80	6.40		1.60	2.10	2.80

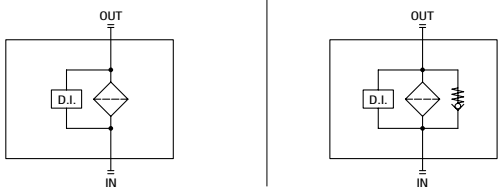
Flow rates [l/min]

		Filter element design - N Series									
Filter series	Length	A03	A06	A10	A16	A25	M25	M60	M90	P10	P25
	1	106	130	190	200	221	286	287	287	261	265
LMP 210	**2**	153	175	220	237	249	288	289	290	265	269
	3	204	214	248	260	265	289	290	291	277	281
	1	118	149	227	240	269	358	359	360	324	330
LMP 211	**2**	178	207	268	292	307	361	362	363	329	335
	3	247	260	306	323	329	362	363	364	345	351

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.

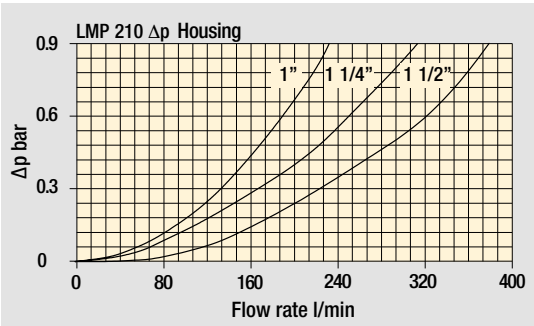
Hydraulic symbols

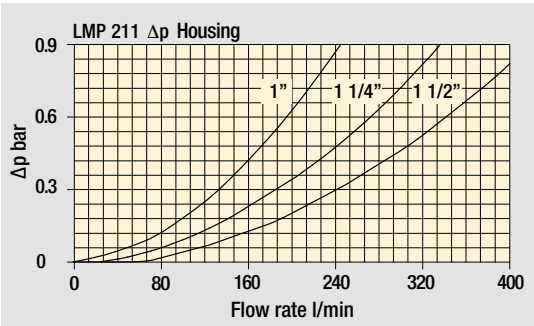
Filter series	Execution S	Execution B
LMP 210-211	•	•



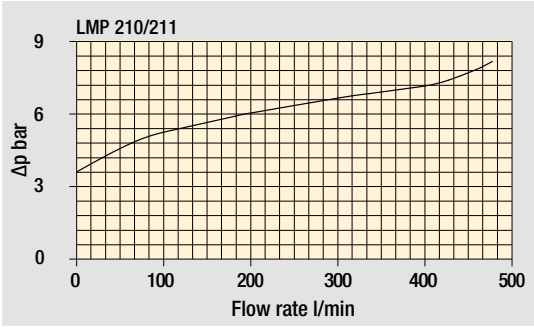
Pressure drop

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.

LMP 210

Designation & Ordering code

COMPLETE FILTER

Configuration example: LMP210 | 3 | B | A | F1 | A10 | N | P01

Series and size

LMP210

Length

1 | **2** | **3**

Bypass valve

S Without bypass

B With bypass 3.5 bar

Seals and treatments

A NBR

V FPM

Connections

F1 1" SAE 3000 psi/M

F2 1 1/4" SAE 3000 psi/M

F3 1 1/2" SAE 3000 psi/M

F4 1" SAE 3000 psi/UNC

F5 1 1/4" SAE 3000 psi/UNC

F6 1 1/2" SAE 3000 psi/UNC

Filtration rating (filter media)

A03 Inorganic microfiber 3 µm

A06 Inorganic microfiber 6 µm

A10 Inorganic microfiber 10 µm

A16 Inorganic microfiber 16 µm

A25 Inorganic microfiber 25 µm

M25 Wire mesh 25 µm

M60 Wire mesh 60 µm

M90 Wire mesh 90 µm

P10 Resin impregnated paper 10 µm

P25 Resin impregnated paper 25 µm

WA025 Water absorber inorganic microfiber 25 µm

Element Δp

N 20 bar

Execution

P01 MP Filtri standard

Pxx Customized

FILTER ELEMENT

Configuration example: CU210 | 3 | A10 | A | N | P01

Element series and size

CU210

Element length

1 | **2** | **3**

Filtration rating (filter media)

A03 Inorganic microfiber 3 µm

A06 Inorganic microfiber 6 µm

A10 Inorganic microfiber 10 µm

A16 Inorganic microfiber 16 µm

A25 Inorganic microfiber 25 µm

M25 Wire mesh 25 µm

M60 Wire mesh 60 µm

M90 Wire mesh 90 µm

P10 Resin impregnated paper 10 µm

P25 Resin impregnated paper 25 µm

WA025 Water absorber inorganic microfiber 25 µm

Seals and treatments

A NBR

V FPM

Element Δp

N 20 bar

Execution

P01 MP Filtri standard

Pxx Customized

CLOGGING INDICATORS

See page 726

DEA Electrical differential pressure indicator

DEM Electrical differential pressure indicator

DEU Electrical differential pressure indicator

DLA Electrical / visual differential pressure indicator

DLE Electrical / visual differential pressure indicator

DTA Electronic differential pressure indicator

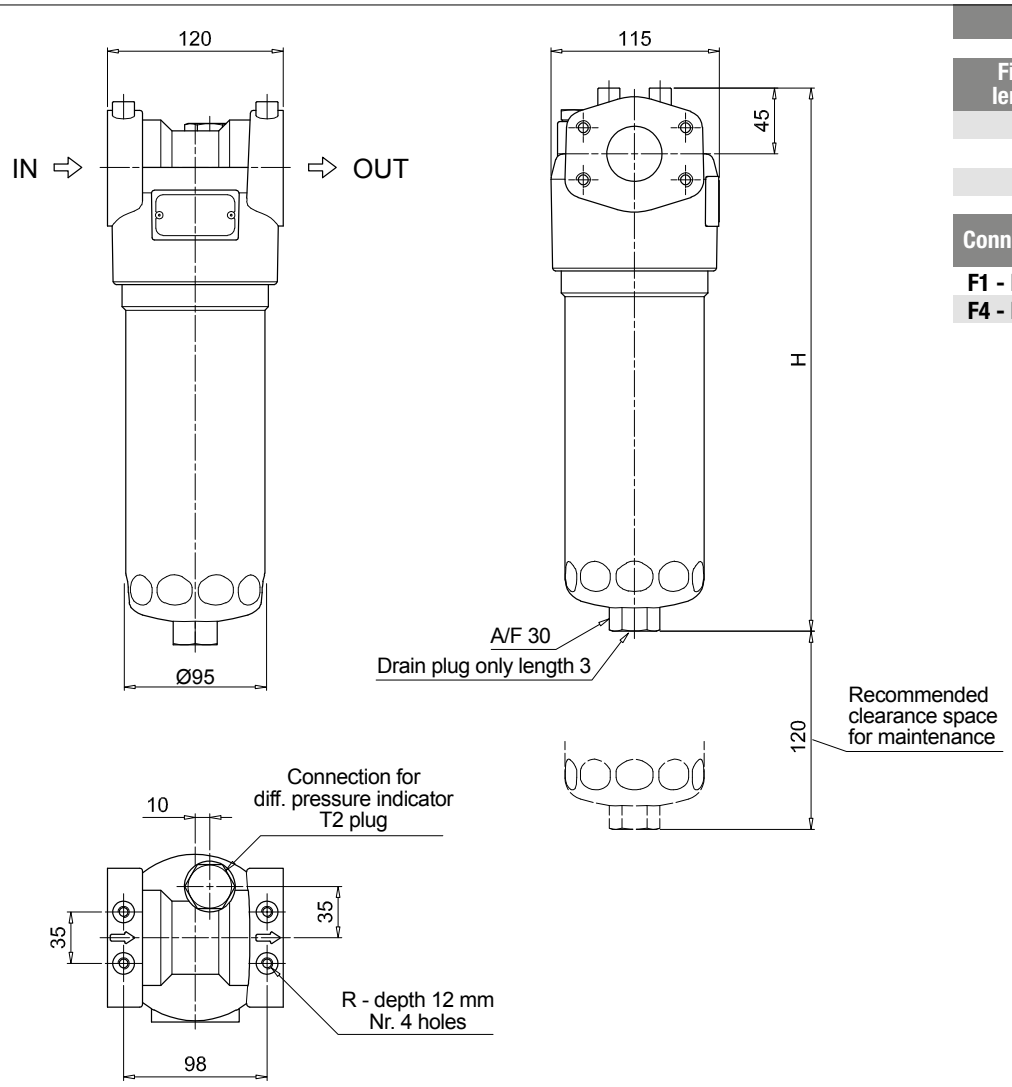
DVA Visual differential pressure indicator

DVM Visual differential pressure indicator

PLUGS

See page 747

T2 Plug



LMP210	
Filter length	**H [mm]**
1	362
2	492
3	633

Connections	**R**
F1 - F2 - F3	M8
F4 - F5 - F6	5/16" UNC

LMP 211

Designation & Ordering code

COMPLETE FILTER

Configuration example: LMP211 | 3 | B | A | D | 6 | A10 | N | P01

Series and size
LMP211

Length
1 | **2** | **3**

Bypass valve
S Without bypass
B With bypass 3.5 bar

Seals and treatments
A NBR
V FPM

Connections
A G 1”
B G 1 1/4”
C G 1 1/2”
D 1” NPT
E 1 1/4” NPT
F 1 1/2” NPT
G SAE 16 - 1 5/16” - 12 UN
H SAE 20 - 1 5/8” - 12 UN
I SAE 24 - 1 7/8” - 12 UN

Connection for differential pressure indicator
6 With plugged connection

Filtration rating (filter media)
A03 Inorganic microfiber 3 µm
A06 Inorganic microfiber 6 µm
A10 Inorganic microfiber 10 µm
A16 Inorganic microfiber 16 µm
A25 Inorganic microfiber 25 µm
M25 Wire mesh 25 µm
M60 Wire mesh 60 µm
M90 Wire mesh 90 µm
P10 Resin impregnated paper 10 µm
P25 Resin impregnated paper 25 µm

WA025 Water absorber inorganic microfiber 25 µm

Element Δp
N 20 bar

Execution
P01 MP Filtri standard
Pxx Customized

FILTER ELEMENT

Configuration example: CU210 | 3 | A10 | A | N | P01

Element series and size
CU210

Element length
1 | **2** | **3**

Filtration rating (filter media)
A03 Inorganic microfiber 3 µm
A06 Inorganic microfiber 6 µm
A10 Inorganic microfiber 10 µm
A16 Inorganic microfiber 16 µm
A25 Inorganic microfiber 25 µm
M25 Wire mesh 25 µm
M60 Wire mesh 60 µm
M90 Wire mesh 90 µm
P10 Resin impregnated paper 10 µm
P25 Resin impregnated paper 25 µm

WA025 Water absorber inorganic microfiber 25 µm

Seals and treatments
A NBR
V FPM

Element Δp
N 20 bar

Execution
P01 MP Filtri standard
Pxx Customized

CLOGGING INDICATORS

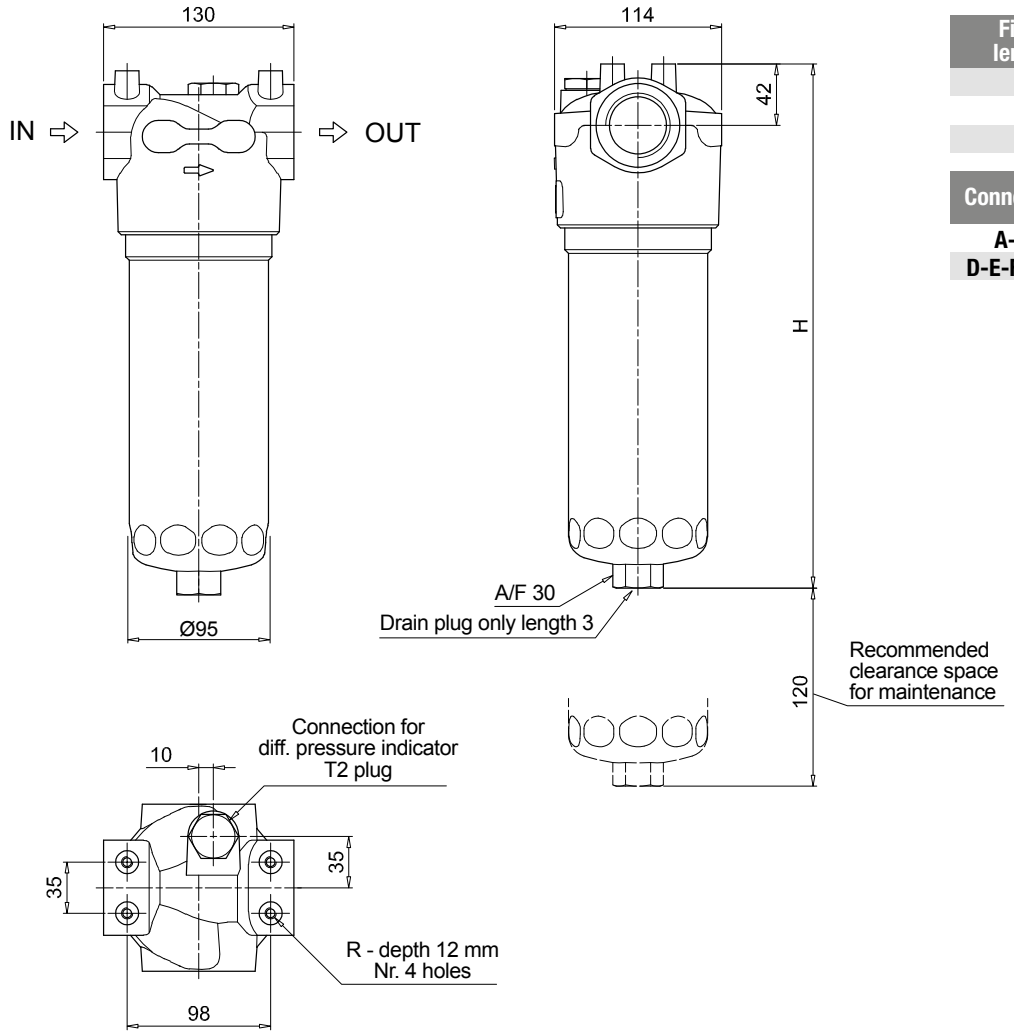
See page 726

DEA Electrical differential pressure indicator
DEM Electrical differential pressure indicator
DEU Electrical differential pressure indicator
DLA Electrical / visual differential pressure indicator
DLE Electrical / visual differential pressure indicator
DTA Electronic differential pressure indicator
DVA Visual differential pressure indicator
DVM Visual differential pressure indicator

PLUGS

See page 747

T2 Plug



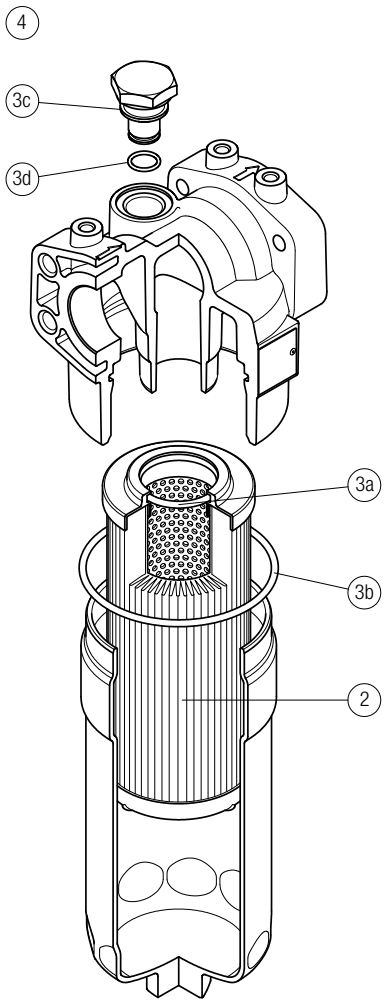
LMP211	
Filter length	**H [mm]**
1	358
2	488
3	629

Connections	**R**
A-B-C	M8
D-E-F-G-H-I	5/16" UNC

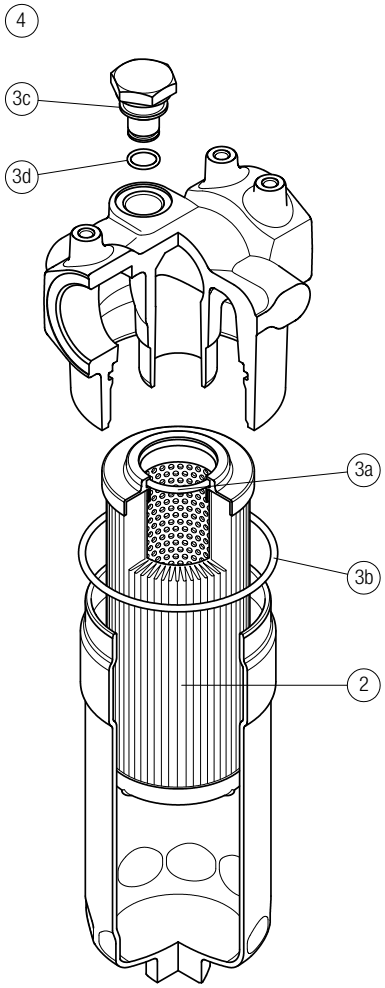
LMP 210-211 SPARE PARTS

Order number for spare parts

LMP 210



LMP 211



Item:	Q.ty: 1 pc. 2	Q.ty: 1 pc. 3 (3a ÷ 3d)		Q.ty: 1 pc. 4	
Filter series	**Filter element**	**Seal Kit code number NBR**	**FPM**	**Indicator connection plug NBR**	**FPM**
LMP 210-211	See order table	02050435	02050436	T2H	T2V

Designation & Ordering code

DIFFERENTIAL PRESSURE INDICATORS

Configuration example 1:	DE	M	20	H	F	50	P01	
Configuration example 2:	DE	U	50	V	A	50	P01	UL
Configuration example 3:	DL	E	50	V	A	71	P01	
Configuration example 4:	DT	A	20	H	F	70	P01	
Configuration example 5:	DV	M	50	V			P01	

Series

DE	Electrical differential pressure indicator
DL	Electrical/Visual differential pressure indicator
DT	Electronic differential pressure indicator
DV	Visual differential pressure indicator

Type	DE	DL	DT	DV
A Standard type	•	•	•	**A** With automatic reset
M With wired electrical connection	•	-	-	**M** With manual reset
U Standard type 210 bar, UL certified	•	-	-	**S** With automatic reset
E For high power supply	-	•	-	
S Compact version	•	-	-	

Pressure setting	DEA	DEM	DEU	DES	DLA	DLE	DTA	DVA	DVM	DVS
12 1.2 bar	•	•	-	•	•	•	•	•	•	•
20 2.0 bar	•	•	•	-	•	•	•	•	•	-
25 2.5 bar	-	-	-	-	-	-	-	-	-	•
40 4.0 bar	-	-	-	•	-	-	-	-	-	•
50 5.0 bar	•	•	•	-	•	•	•	•	•	-

Seals	DEA	DEM	DEU	DES	DL	DT	DVA	DVM	DVS
H HNBR	•	•	-	•	•	•	•	•	•
V FPM	•	•	•	-	•	•	•	•	-

Thermostat	DEA	DEM	DEU	DES	DLA	DLE	DT
A Without thermostat	•	•	•	•	•	•	-
F With thermostat	-	•	-	-	-	•	•

Electrical connections	DEA	DEM	DEU	DES	DLA	DLE	DT
10 Connection AMP Superseal series 1.5	-	•	-	•	-	-	-
20 Connection AMP Timer Junior	-	•	-	-	-	-	-
30 Connection Deutsch DT-04-2-P	-	•	-	•	-	-	-
35 Connection Deutsch DT-04-3-P	-	•	-	-	-	-	-
50 Connection EN 175301-803	•	-	•	-	-	•	-
51 Connection EN 175301-803, transparent base with lamps 24 Vdc	-	-	-	-	•	-	-
52 Connection EN 175301-803, transparent base with lamps 110 Vdc	-	-	-	-	•	-	-
70 Connection IEC 61076-2-101 D (M12)	-	-	-	-	-	-	•
71 Connection IEC 61076-2-101 D (M12), black base with lamps 24 Vdc	-	-	-	-	•	-	-
80 Connection Stud #10-32 UNF	-	-	-	•	-	-	-

Option

P01	MP Filtri standard
Pxx	Customized

Certifications	DEU	OTHERS
Without	-	•
UL UL certification	•	-

PLUGS

Configuration example	T2	H

Series

T2	Plug
T4	Plug

Seals	T2	T4
A NBR	-	•
H HNBR	•	-
V FPM	•	-

LMP 400-401 series

Maximum working pressure up to 6 MPa (60 bar) - Flow rate up to 780 l/min

LMP 400-401 GENERAL INFORMATION

Description

Low & Medium Pressure filters

Maximum working pressure up to 6 MPa (60 bar)
Flow rate up to 780 l/min

LMP400 is a range of low pressure filter with large filtration surface mainly suitable for lubrication, off-line filtration of the reservoirs and filtration equipment.
They are directly connected to the lines of the system through the hydraulic fittings.

Available features:
- Female threaded connections up to 2" and flanged connections up to 2 1/2", for a maximum flow rate of 780 l/min
- In line or 90° connections, to meet any type of application
- 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.
- 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:
- Off-line filtration of reservoirs
- Filtration systems

Technical data

Filter housing materials
- Head: Anodized Aluminium
- Housing: Anodized Aluminium
- Bypass valve: Steel

Pressure LMP 400-401 length 2 -3 - 4
- Working pressure: 6 MPa (60 bar)
- 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)

Pressure LMP 400-401 length 5 - 6
- Working pressure: 5 MPa (50 bar)
- Test pressure: 7.5 MPa (75 bar)
- Burst pressure: 15 MPa (150 bar)
- Pulse pressure fatigue test: 1 000 000 cycles with pressure from 0 to 5 MPa (50 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
- Standard NBR series A
- Optional FPM series V

Temperature
From -25 °C to +110 °C

Connections
LMP 400: In-line Inlet/Outlet
LMP 401: 90° Inlet/Outlet

Note
LMP 400 filters are provided for vertical mounting

Weights [kg] and volumes [dm³]

Filter series	Weights [kg]						Volumes [dm³]					
	Length	2	3	4	5	6	Length	2	3	4	5	6
LMP 400-401		7.20	8.10	8.80	11.90	14.40		3.50	5.00	6.50	9.50	13.50

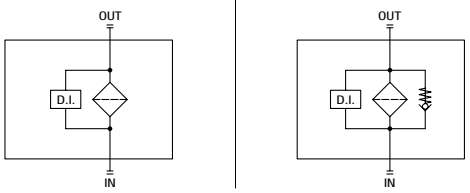
Flow rates [l/min]

Filter series	Length	Filter element design - N Series							
		A03	A06	A10	A16	A25	M25 M60 M90	P10	P25
LMP 400	2	205	244	370	411	515	720	524	556
	3	280	333	474	515	602	760	637	660
	4	347	400	535	564	637	769	660	688
	5	459	501	610	660	717	781	700	721
	6	504	575	676	689	728	783	708	727
LMP 401	2	200	236	347	382	468	628	475	501
	3	268	315	434	468	537	659	565	582
	4	328	373	484	507	565	665	582	603
	5	423	456	544	582	626	674	613	629
	6	459	516	594	604	634	676	619	633

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.

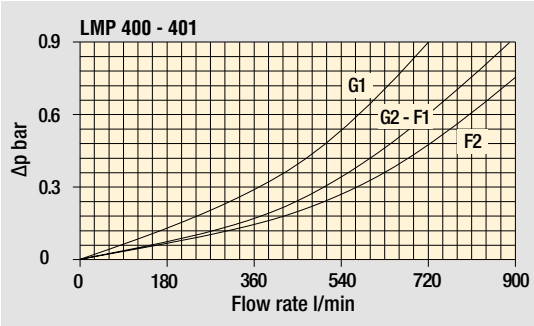
Hydraulic symbols

Filter series	Execution S	Execution B
LMP 400-401	•	•

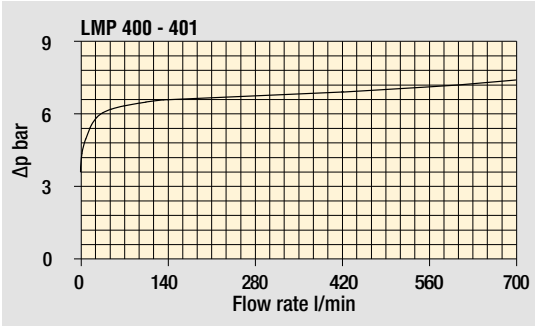


Pressure drop

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.

LMP 400-401

Designation & Ordering code

COMPLETE FILTER

Configuration example: LMP401 | 3 | B | A | G1 | A10 | N | P01

Series and size

LMP400 | **LMP401**

Length

2 | **3** | **4** | **5** | **6**

Bypass valve

S	Without bypass	**B**	With bypass 3.5 bar

Seals and treatments

		Filtration rating Axx	Mxx	Pxx
A	NBR	•	•	•
V	FPM	•	•	•
W	NBR with surface-treatment on filter element's tube	•	•	-

Connections

G1	G 1 1/2"	**F1**	2" SAE 3000 psi/M
G2	G 2"	**F2**	2 1/2" SAE 3000 psi/M
G3	1 1/2" NPT	**F3**	2" SAE 3000 psi/UNC
G4	2" NPT	**F4**	2 1/2" SAE 3000 psi/UNC
G5	SAE 24 - 1 7/8" - 12 UN		
G6	SAE 32 - 2 1/2" - 12 UN		

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 2	3	4	5	6
P01	MP Filtri standard	•	•	•	•	•
P02	Maintenance from the bottom of the housing				•	•
Pxx	Customized					

FILTER ELEMENT

Configuration example: CU400 | 3 | A10 | A | N | P01

Element series and size

CU400

Element length

2 | **3** | **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
A	NBR	•	•	•
V	FPM	•	•	•
W	NBR with surface-treatment on tube	•	•	-

Element Δp

N 20 bar

Execution

P01	MP Filtri standard
Pxx	Customized

CLOGGING INDICATORS

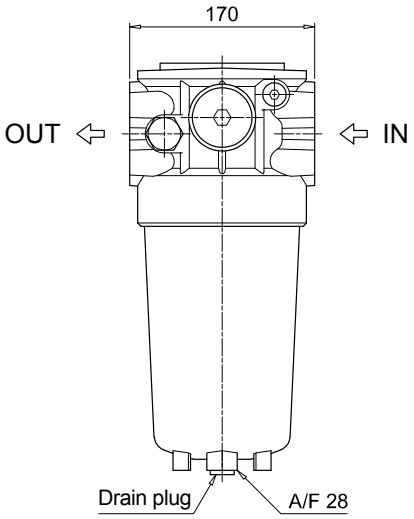
See page 726

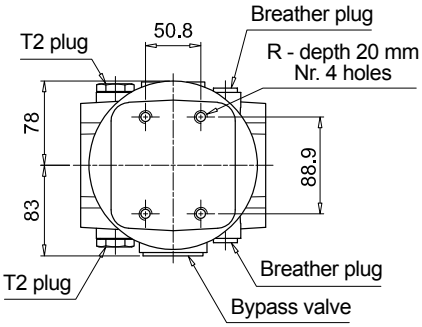
DEA	Electrical differential pressure indicator	**DLE**	Electrical / visual differential pressure indicator
DEM	Electrical differential pressure indicator	**DTA**	Electronic differential pressure indicator
DEU	Electrical differential pressure indicator	**DVA**	Visual differential pressure indicator
DLA	Electrical / visual differential pressure indicator	**DVM**	Visual differential pressure indicator

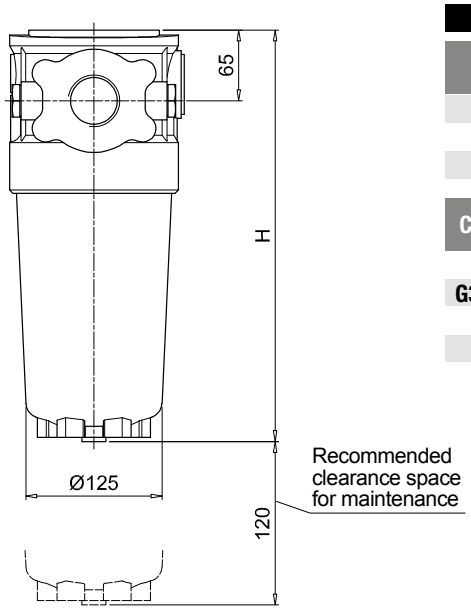
PLUGS

See page 747

T2 Plug







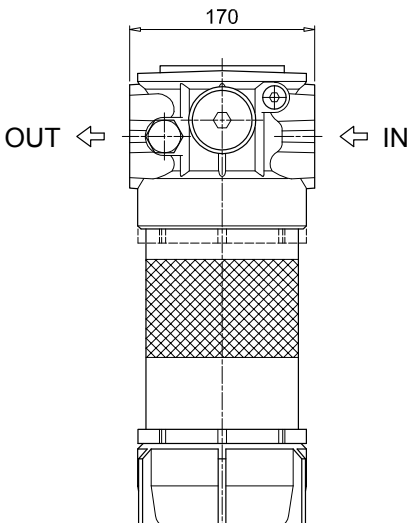
T2 plug =
connection for diff. pressure indicator

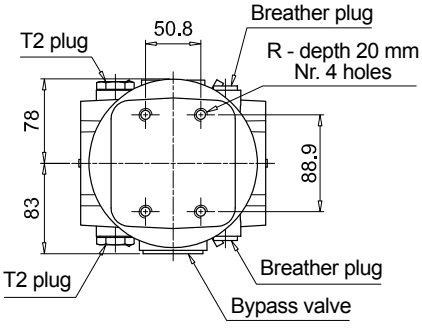
LMP400

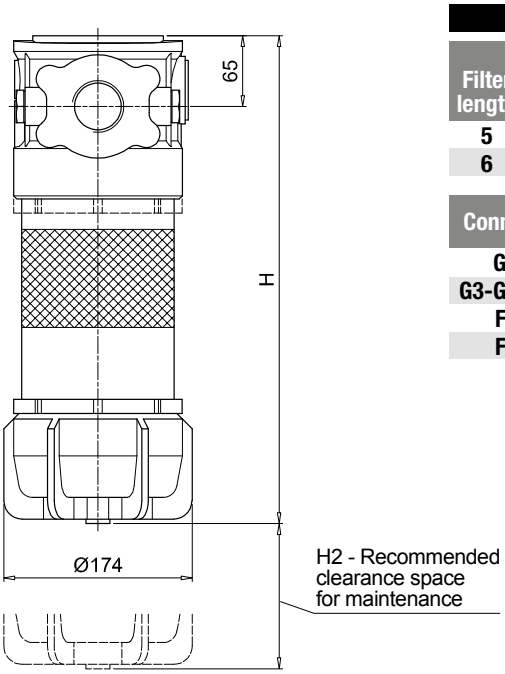
Length 2 - 3 - 4

Filter length	H [mm]
2	378
3	478
4	578

Connections	R
G1-G2	M12
G3-G4-G5-G6	1/2" UNC
F1-F2	M12
F3-F4	1/2" UNC







T2 plug =
connection for diff. pressure indicator

LMP400

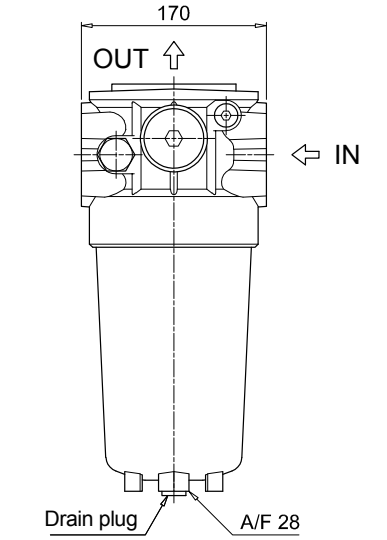
Length 5 - 6

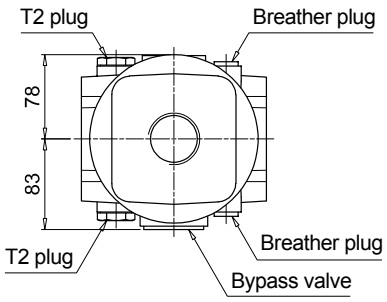
Filter length	H [mm]	H2 [mm] Execution P01	H2 [mm] Execution P02
5	828	120	660
6	1158	120	690

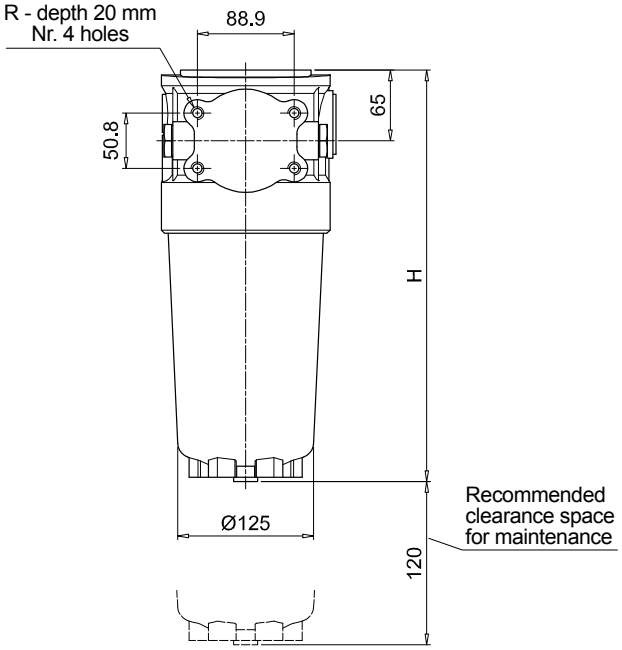
Connections	R
G1-G2	M12
G3-G4-G5-G6	1/2" UNC
F1-F2	M12
F3-F4	1/2" UNC

LMP 400-401

Dimensions







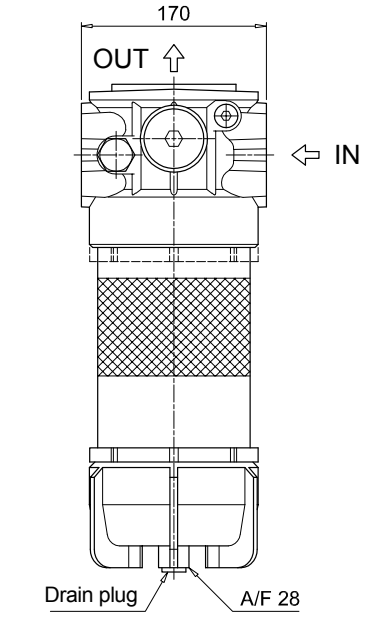
T2 plug =
connection for diff. pressure indicator

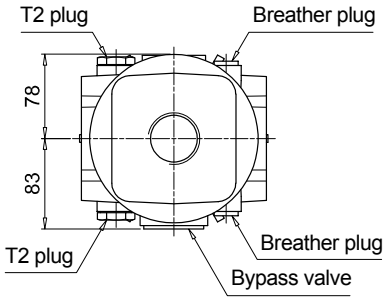
LMP401

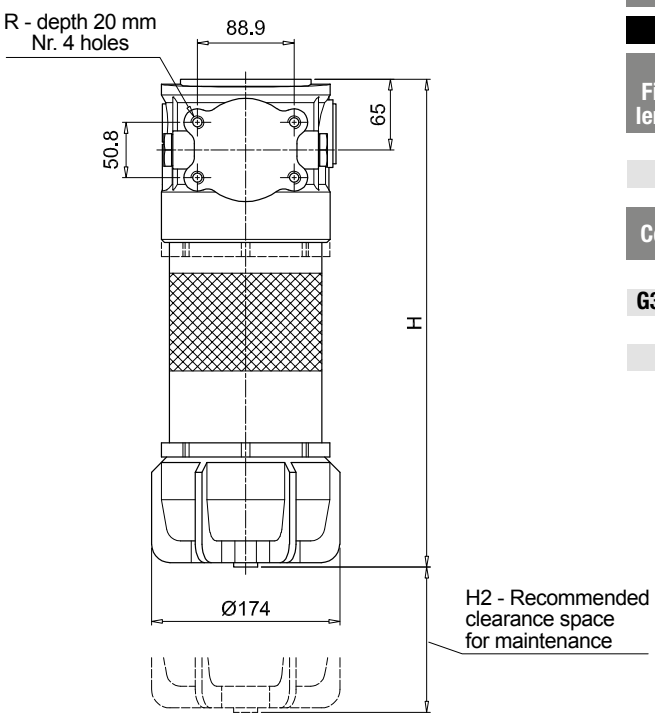
Length 2 - 3 - 4

Filter length	H [mm]
2	378
3	478
4	578

Connections	R
G1-G2	M12
G3-G4-G5-G6	1/2" UNC
F1-F2	M12
F3-F4	1/2" UNC







T2 plug =
connection for diff. pressure indicator

LMP401

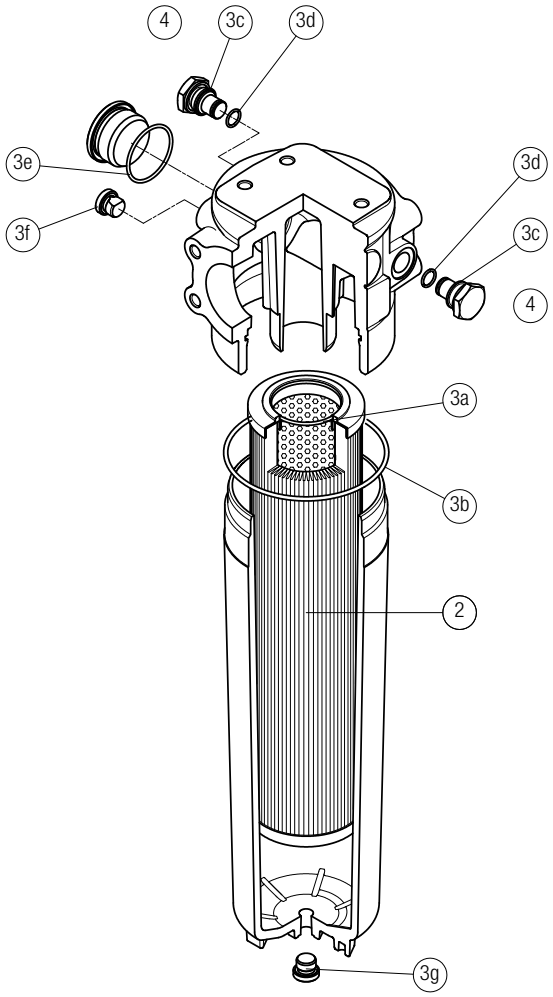
Length 5 - 6

Filter length	H [mm]	H2 [mm] Execution P01	H2 [mm] Execution P02
5	828	120	660
6	1158	120	690

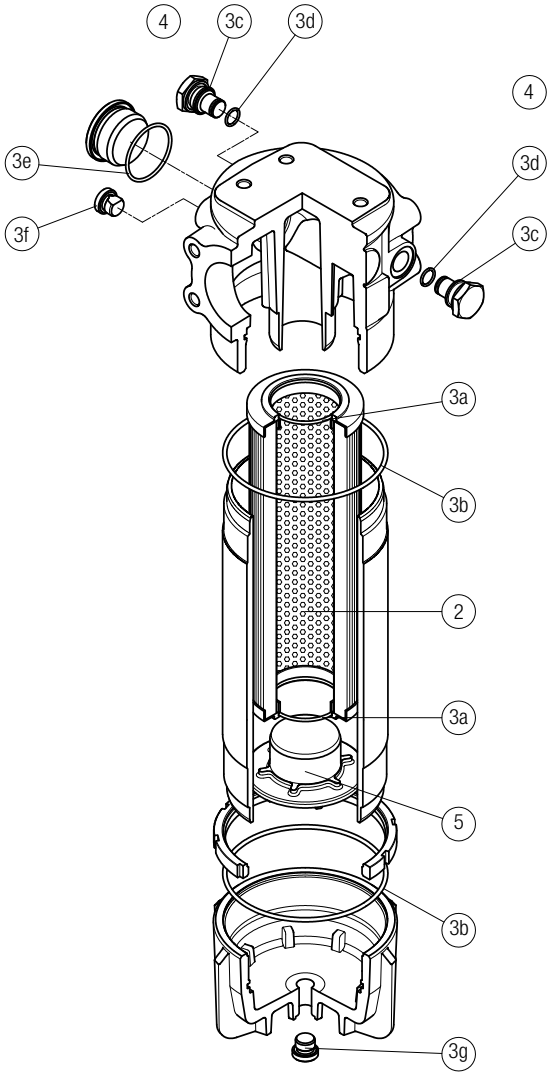
Connections	R
G1-G2	M12
G3-G4-G5-G6	1/2" UNC
F1-F2	M12
F3-F4	1/2" UNC

LMP 400 - 401

length 2 - 3 - 4



length 5 - 6



Item:	Q.ty: 1 pc. (2)	Q.ty: 1 pc. (3) (3a ÷ 3g)		Q.ty: 2 pcs. (4)		Q.ty: 2 pcs. (5)
Filter series	**Filter element**	**Seal Kit code number NBR**	**FPM**	**Indicator connection plug NBR**	**FPM**	**Housing spigot no bypass**
LMP 400-401 length 2-3-4	See order	02050391	02050392	T2H	T2V	-
LMP 400-401 length 5-6	table	02050393	02050394			01044108

Designation & Ordering code

DIFFERENTIAL PRESSURE INDICATORS

Configuration example 1:	DE	M	20	H	F	50	P01	
Configuration example 2:	DE	U	50	V	A	50	P01	UL
Configuration example 3:	DL	E	50	V	A	71	P01	
Configuration example 4:	DT	A	20	H	F	70	P01	
Configuration example 5:	DV	M	50	V			P01	

Series

DE	Electrical differential pressure indicator
DL	Electrical/Visual differential pressure indicator
DT	Electronic differential pressure indicator
DV	Visual differential pressure indicator

Type	DE	DL	DT	DV
A Standard type	•	•	•	**A** With automatic reset
M With wired electrical connection	•	-	-	**M** With manual reset
U Standard type 210 bar, UL certified	•	-	-	**S** With automatic reset
E For high power supply	-	•	-	
S Compact version	•	-	-	

Pressure setting	DEA	DEM	DEU	DES	DLA	DLE	DTA	DVA	DVM	DVS
12 1.2 bar	•	•	-	•	•	•	•	•	•	•
20 2.0 bar	•	•	•	-	•	•	•	•	•	-
25 2.5 bar	-	-	-	-	-	-	-	-	-	•
40 4.0 bar	-	-	-	•	-	-	-	-	-	•
50 5.0 bar	•	•	•	-	•	•	•	•	•	-

Seals	DEA	DEM	DEU	DES	DL	DT	DVA	DVM	DVS
H HNBR	•	•	-	•	•	•	•	•	•
V FPM	•	•	•	-	•	•	•	•	-

Thermostat	DEA	DEM	DEU	DES	DLA	DLE	DT
A Without thermostat	•	•	•	•	•	•	-
F With thermostat	-	•	-	-	-	•	•

Electrical connections	DEA	DEM	DEU	DES	DLA	DLE	DT
10 Connection AMP Superseal series 1.5	-	•	-	•	-	-	-
20 Connection AMP Timer Junior	-	•	-	-	-	-	-
30 Connection Deutsch DT-04-2-P	-	•	-	•	-	-	-
35 Connection Deutsch DT-04-3-P	-	•	-	-	-	-	-
50 Connection EN 175301-803	•	-	•	-	-	•	-
51 Connection EN 175301-803, transparent base with lamps 24 Vdc	-	-	-	-	•	-	-
52 Connection EN 175301-803, transparent base with lamps 110 Vdc	-	-	-	-	•	-	-
70 Connection IEC 61076-2-101 D (M12)	-	-	-	-	-	-	•
71 Connection IEC 61076-2-101 D (M12), black base with lamps 24 Vdc	-	-	-	-	•	-	-
80 Connection Stud #10-32 UNF	-	-	-	•	-	-	-

Option	
P01	MP Filtri standard
Pxx	Customized

Certifications	DEU	OTHERS
Without	-	•
UL UL certification	•	-

PLUGS

Configuration example	T2	H

Series

T2	Plug
T4	Plug

Seals	T2	T4
A NBR	-	•
H HNBR	•	-
V FPM	•	-

LMP 430-431 series

Maximum working pressure up to 6 MPa (60 bar) - Flow rate up to 780 l/min

LMP 430-431 GENERAL INFORMATION

Description

Low & Medium Pressure filters

Maximum working pressure up to 6 MPa (60 bar)
Flow rate up to 780 l/min

LMP431-431 is a range of low pressure filter with large filtration surface mainly suitable for lubrication, off-line filtration of the reservoirs and filtration equipment.
They are directly connected to the lines of the system through the hydraulic fittings.

Available features:
- Female threaded connections up to 2" and flanged connections up to 2 1/2", for a maximum flow rate of 780 l/min
- In line or 90° connections, to meet any type of application
- 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.
- 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:
- Off-line filtration of reservoirs
- Filtration systems

Technical data

Filter housing materials
- Head: Anodized Aluminium
- Housing: Anodized Aluminium
- Bypass valve: Steel

Pressure LMP 430-431 length 5 - 6
- Working pressure: 5 MPa (50 bar)
- Test pressure: 7.5 MPa (75 bar)
- Burst pressure: 15 MPa (150 bar)
- Pulse pressure fatigue test: 1 000 000 cycles with pressure from 0 to 5 MPa (50 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
- Standard NBR series A
- Optional FPM series V

Temperature
From -25 °C to +110 °C

Connections
LMP 400 - 430: In-line Inlet/Outlet
LMP 401 - 431: 90° Inlet/Outlet

Note
LMP 400 filters
are provided
for vertical mounting

Weights [kg] and volumes [dm^3]

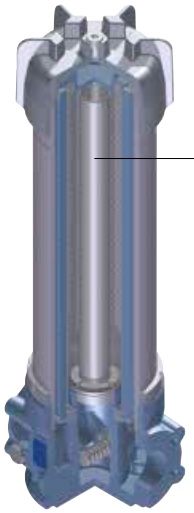
Filter series	Weights [kg]			Volumes [dm^3]		
	Length	5	6	Length	5	6
LMP 430 - 431		11.90	14.40		9.50	13.50

Flow rates [l/min]

Filter series	Length	Filter element design - N Series							
		A03	A06	A10	A16	A25	M25 M60 M90	P10	P25
LMP 430	**5**	459	501	610	660	717	781	700	721
	6	504	575	676	689	728	783	708	727
LMP 431	**5**	423	456	544	582	626	674	613	629
	6	459	516	594	604	634	676	619	633

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.

LMP 430-431: execution P02

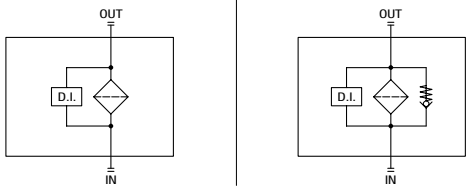


"Internal tube for low flow rate" is recommended for flow rate values below 100/150 l/min.

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

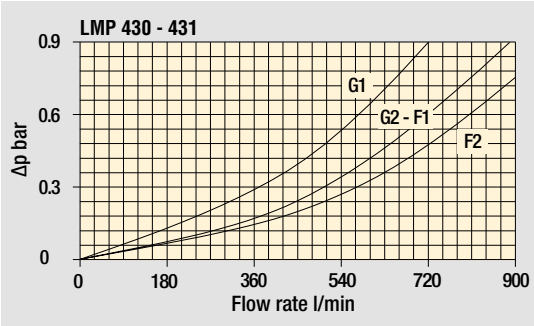
Hydraulic symbols

Filter series	Execution S	Execution B
LMP 430-431	•	•

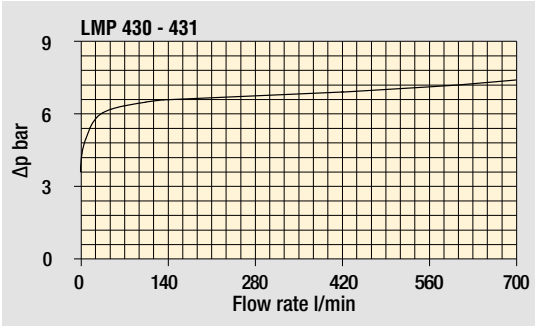


Pressure drop

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.

LMP 430-431

Designation & Ordering code

COMPLETE FILTER

Configuration example: LMP431 | 5 | B | A | G1 | A10 | N | P01

Series and size

LMP430 | **LMP431**

Length

5 | **6**

Bypass valve

S	Without bypass	**B**	With bypass 3.5 bar

Seals and treatments		Filtration rating Axx	Mxx	Pxx
A	NBR	•	•	•
V	FPM	•	•	•
W	NBR with surface-treatment on filter element's tube	•	•	-

Connections

G1	G 1 1/2"	**F1**	2" SAE 3000 psi/M
G2	G 2"	**F2**	2 1/2" SAE 3000 psi/M
G3	1 1/2" NPT	**F3**	2" SAE 3000 psi/UNC
G4	2" NPT	**F4**	2 1/2" SAE 3000 psi/UNC
G5	SAE 24 - 1 7/8" - 12 UN		
G6	SAE 32 - 2 1/2" - 12 UN		

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

Configuration example: CU400 | 5 | A10 | A | N | P01

Element series and size

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		Filtration rating Axx	Mxx	Pxx
A	NBR	•	•	•
V	FPM	•	•	•
W	NBR with surface-treatment on tube	•	•	-

Element Δp

N 20 bar

Execution

P01	MP Filtri standard
Pxx	Customized

CLOGGING INDICATORS

See page 726

DEA	Electrical differential pressure indicator	**DLE**	Electrical / visual differential pressure indicator
DEM	Electrical differential pressure indicator	**DTA**	Electronic differential pressure indicator
DEU	Electrical differential pressure indicator	**DVA**	Visual differential pressure indicator
DLA	Electrical / visual differential pressure indicator	**DVM**	Visual differential pressure indicator

PLUGS

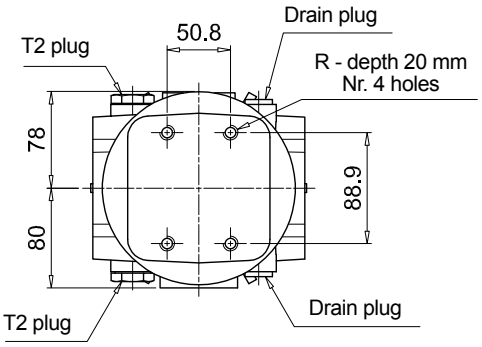
See page 747

T2 Plug

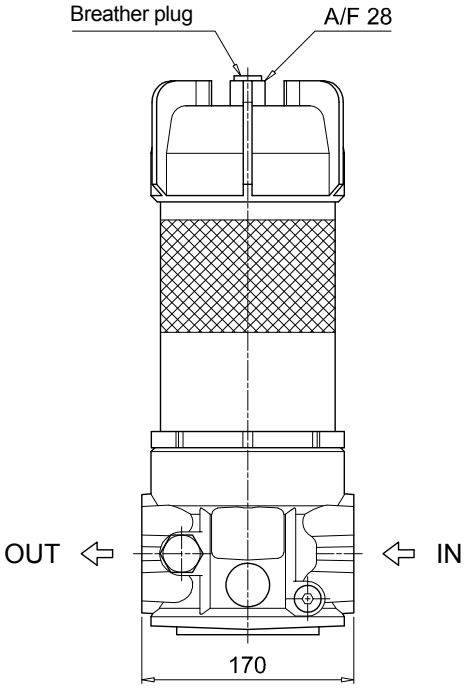
Dimensions

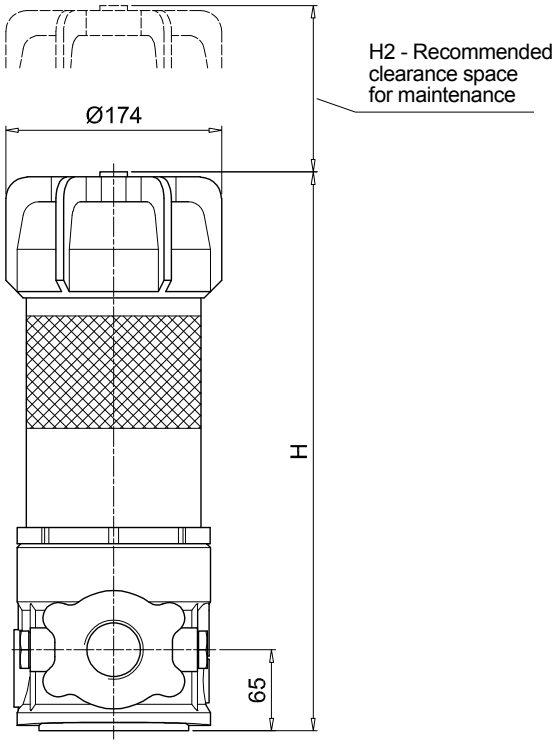
LMP430		
Filter length	**H [mm]**	**H2 [mm]**
5	828	660
6	1158	690

Connections	R
G1-G2	M12
G3-G4-G5-G6	1/2" UNC
F1-F2	M12
F3-F4	1/2" UNC



T2 plug =
connection for diff. pressure indicator



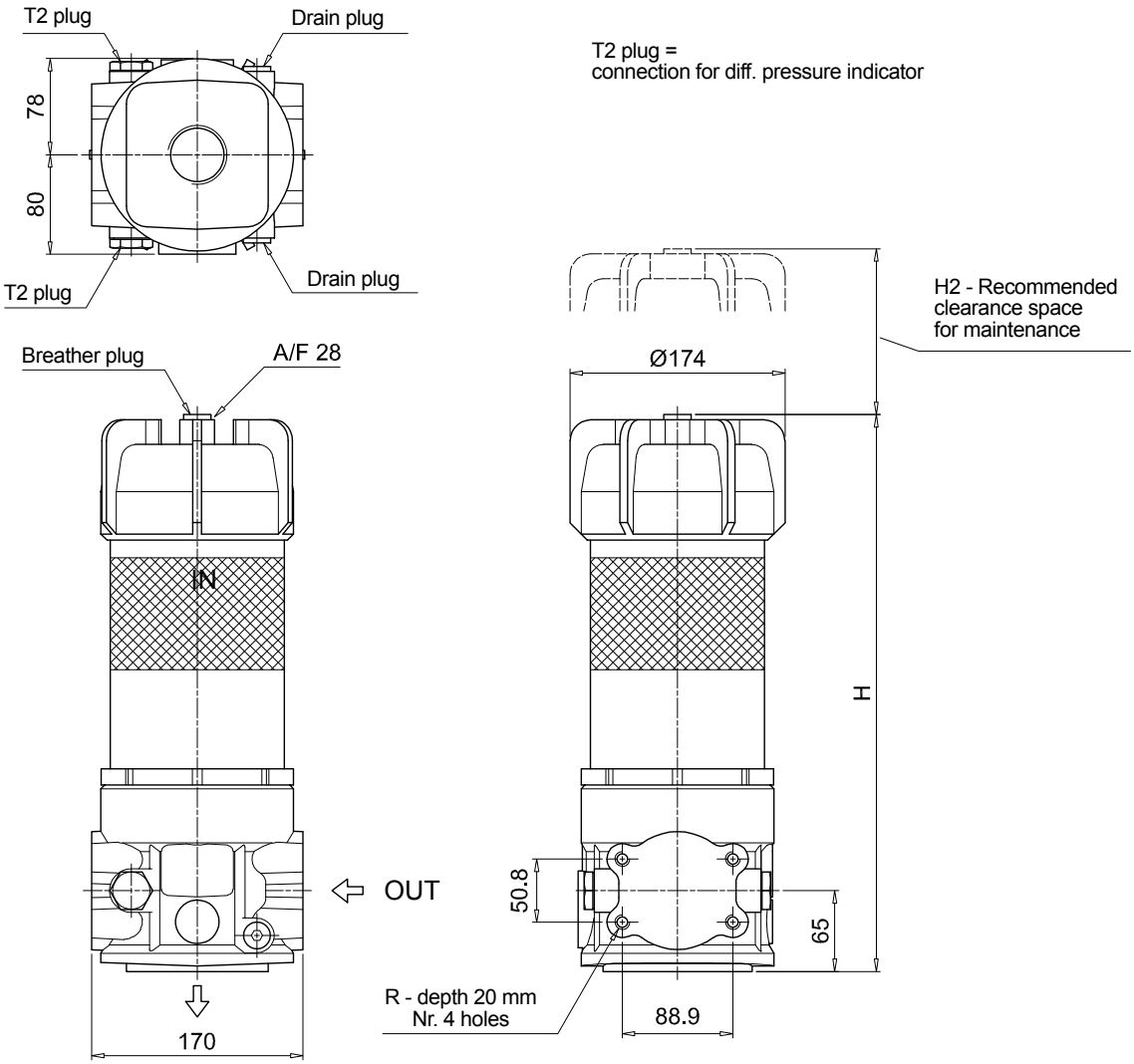


LMP 430-431

Dimensions

LMP431		
Filter length	**H [mm]**	**H2 [mm]**
5	828	660
6	1158	690

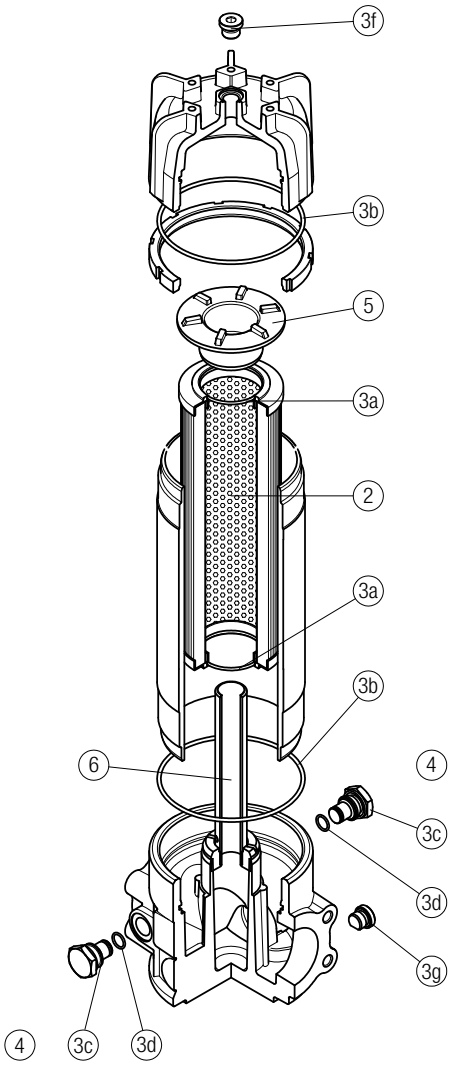
Connections	**R**
G1-G2	M12
G3-G4-G5-G6	1/2" UNC
F1-F2	M12
F3-F4	1/2" UNC



Order number for spare parts

LMP 430 - 431

length 5 - 6



	Q.ty: 1 pc.	Q.ty: 1 pc.		Q.ty: 2 pcs.		Q.ty: 2 pcs.		Q.ty: 1 pc.	
Item:	**2**	**3** (3a ÷ 3g)		**4**		**5**		**6**	
Filter series	**Filter element**	**Seal Kit code number NBR**	**FPM**	**Indicator connection plug NBR**	**FPM**	**Housing spigot no bypass**	**with bypass**	**Internal tube for low flow rate, execution P02**	
LMP 430-431 length 5-6	See order table	02050393	02050394	T2H	T2V	01044108	02001414	Length 5: 02025041	Length 6: 02025042

Designation & Ordering code

DIFFERENTIAL PRESSURE INDICATORS

Configuration example 1:	DE	M	20	H	F	50	P01	
Configuration example 2:	DE	U	50	V	A	50	P01	UL
Configuration example 3:	DL	E	50	V	A	71	P01	
Configuration example 4:	DT	A	20	H	F	70	P01	
Configuration example 5:	DV	M	50	V			P01	

Series

DE	Electrical differential pressure indicator
DL	Electrical/Visual differential pressure indicator
DT	Electronic differential pressure indicator
DV	Visual differential pressure indicator

Type	DE	DL	DT	DV
A Standard type	•	•	•	**A** With automatic reset
M With wired electrical connection	•	-	-	**M** With manual reset
U Standard type 210 bar, UL certified	•	-	-	**S** With automatic reset
E For high power supply	-	•	-	
S Compact version	•	-	-	

Pressure setting	DEA	DEM	DEU	DES	DLA	DLE	DTA	DVA	DVM	DVS
12 1.2 bar	•	•	-	•	•	•	•	•	•	•
20 2.0 bar	•	•	•	-	•	•	•	•	•	-
25 2.5 bar	-	-	-	-	-	-	-	-	-	•
40 4.0 bar	-	-	-	•	-	-	-	-	-	•
50 5.0 bar	•	•	•	-	•	•	•	•	•	-

Seals	DEA	DEM	DEU	DES	DL	DT	DVA	DVM	DVS
H HNBR	•	•	-	•	•	•	•	•	•
V FPM	•	•	•	-	•	•	•	•	-

Thermostat	DEA	DEM	DEU	DES	DLA	DLE	DT
A Without thermostat	•	•	•	•	•	•	-
F With thermostat	-	•	-	-	-	•	•

Electrical connections	DEA	DEM	DEU	DES	DLA	DLE	DT
10 Connection AMP Superseal series 1.5	-	•	-	•	-	-	-
20 Connection AMP Timer Junior	-	•	-	-	-	-	-
30 Connection Deutsch DT-04-2-P	-	•	-	•	-	-	-
35 Connection Deutsch DT-04-3-P	-	•	-	-	-	-	-
50 Connection EN 175301-803	•	-	•	-	-	•	-
51 Connection EN 175301-803, transparent base with lamps 24 Vdc	-	-	-	-	•	-	-
52 Connection EN 175301-803, transparent base with lamps 110 Vdc	-	-	-	-	•	-	-
70 Connection IEC 61076-2-101 D (M12)	-	-	-	-	-	-	•
71 Connection IEC 61076-2-101 D (M12), black base with lamps 24 Vdc	-	-	-	-	•	-	-
80 Connection Stud #10-32 UNF	-	-	-	•	-	-	-

Option	
P01	MP Filtri standard
Pxx	Customized

Certifications	DEU	OTHERS
Without	-	•
UL UL certification	•	-

PLUGS

Configuration example	T2	H

Series

T2	Plug
T4	Plug

Seals	T2	T4
A NBR	-	•
H HNBR	•	-
V FPM	•	-

LMP 950-951 series

Maximum working pressure up to 3 MPa (30 bar) - Flow rate up to 2400 l/min

LMP 950-951 GENERAL INFORMATION

Description

Low & Medium Pressure filters

Maximum working pressure up to 3 MPa (30 bar)
Flow rate up to 2400 l/min

LMP950 is a range of low pressure filter with large filtration surface mainly suitable for lubrication, off-line filtration of the reservoirs and filtration equipment.
They are directly connected to the lines of the system through the hydraulic fittings.

Available features:
- Flanged connections up to 4", for a maximum flow rate of 2400 l/min
- In line or 90° connections, to meet any type of application
- Base-mounting design, 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.
- 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:
- Off-line filtration of reservoirs
- Filtration systems
- Lubrication systems

Technical data

Filter housing materials
- Head: Anodized Aluminium
- Housing: Anodized Aluminium
- Bypass valve: Anodized Aluminium

Pressure
- Test pressure: 4,5 MPa (45 bar)
- Burst pressure: 12 MPa (120 bar)
- Pulse pressure fatigue test: 1 000 000 cycles with pressure from 0 to 3 MPa (30 bar)

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

Δp element type
- Microfibre filter elements - series N: 20 bar
- Fluid flow through the filter element from OUT to IN

Seals
- Standard NBR series A
- Optional FPM series V

Temperature
From -25 °C to +110 °C

Connections
LMP 950: In-line Inlet/Outlet
LMP 951: 90° Inlet/Outlet

Note
LMP 950 - 951 filters
are provided
for vertical mounting

Weights [kg] and volumes [dm³]

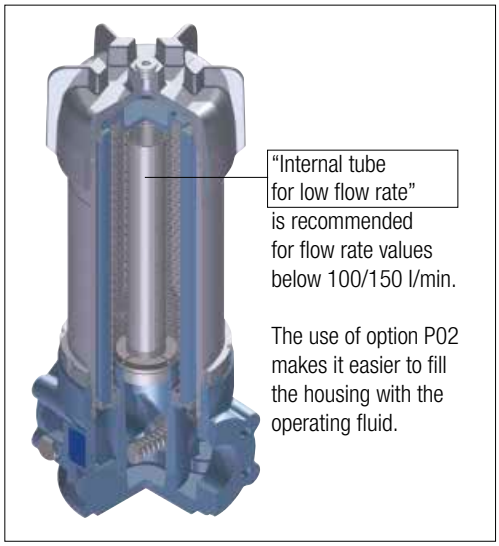
Filter series	Weights [kg]			Volumes [dm³]		
	Length	2	3	Length	2	3
LMP 950-951		25.1	33.5		15	28

Flow rates [l/min]

Filter series	Length	Filter element design - N Series					
		A03	A06	A10	A16	A25	M25 M60 M90
LMP 950	**2**	613	756	953	1219	1515	2170
	3	1148	1219	1502	1713	1808	2293
LMP 951	**2**	635	789	1007	1308	1649	2420
	3	1226	1308	1634	1881	1993	2566

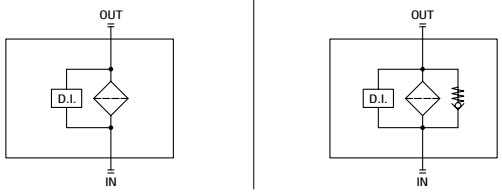
Maximum flow rate for a complete low and medium pressure filter with a pressure drop Δp = 0.7 bar.
The reference fluid has a kinematic viscosity of 30 mm^2/s (cSt) and a density of 0.86 kg/dm^3.

Execution P02



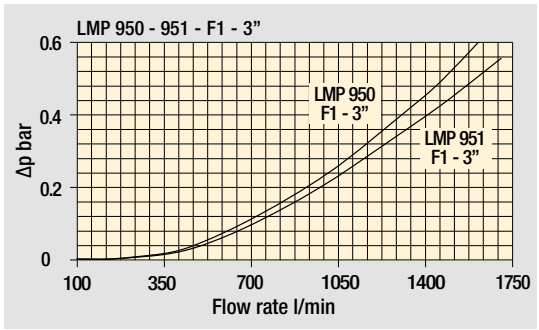
Hydraulic symbols

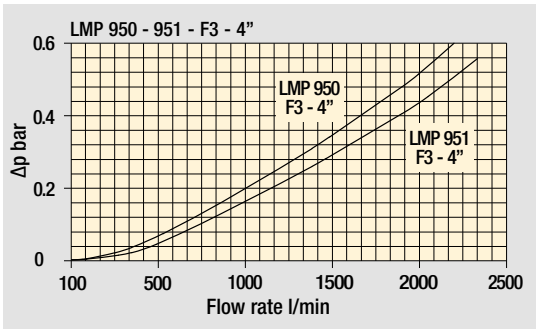
Filter series	Execution S	Execution B
LMP 950-951	•	•



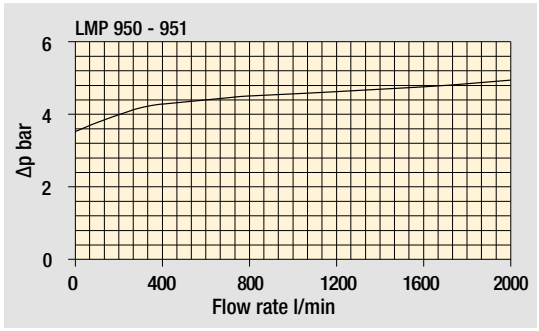
Pressure drop

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.

LMP 950-951

Designation & Ordering code

COMPLETE FILTER

Configuration example: LMP951 | 2 | B | A | F2 | A10 | N | P01

Series and size
LMP950 | **LMP951**

Length
2 | **3**

Bypass valve
S Without bypass
B With bypass 3.5 bar

Seals and treatments
A NBR
V FPM

Connections
F1 3" SAE 3000 psi/M
F2 3" SAE 3000 psi/UNC
F3 4" SAE 3000 psi/M
F4 4" SAE 3000 psi/UNC

Filtration rating (filter media)
A03 Inorganic microfiber 3 µm
A06 Inorganic microfiber 6 µm
A10 Inorganic microfiber 10 µm
A16 Inorganic microfiber 16 µm
A25 Inorganic microfiber 25 µm
M25 Wire mesh 25 µm
M60 Wire mesh 60 µm
M90 Wire mesh 90 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

Configuration example: CU950 | 2 | A10 | A | N | P01

Element series and size
CU950

Element length
2 | **3**

Filtration rating (filter media)
A03 Inorganic microfiber 3 µm
A06 Inorganic microfiber 6 µm
A10 Inorganic microfiber 10 µm
A16 Inorganic microfiber 16 µm
A25 Inorganic microfiber 25 µm
M25 Wire mesh 25 µm
M60 Wire mesh 60 µm
M90 Wire mesh 90 µm

WA025 Water absorber inorganic microfiber 25 µm

Seals
A NBR
V FPM

Element Δp
N 20 bar

Execution
P01 MP Filtri standard
Pxx Customized

CLOGGING INDICATORS

See page 726

DEA Electrical differential pressure indicator
DEM Electrical differential pressure indicator
DEU Electrical differential pressure indicator
DLA Electrical / visual differential pressure indicator
DLE Electrical / visual differential pressure indicator
DTA Electronic differential pressure indicator
DVA Visual differential pressure indicator
DVM Visual differential pressure indicator

PLUGS

See page 747

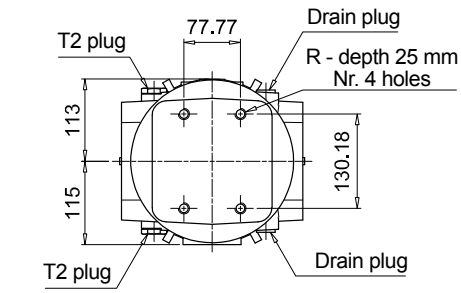
T2 Plug

ACCESSORIES

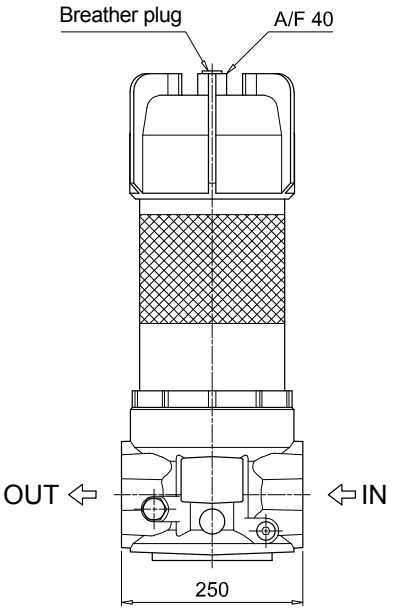
See page 472

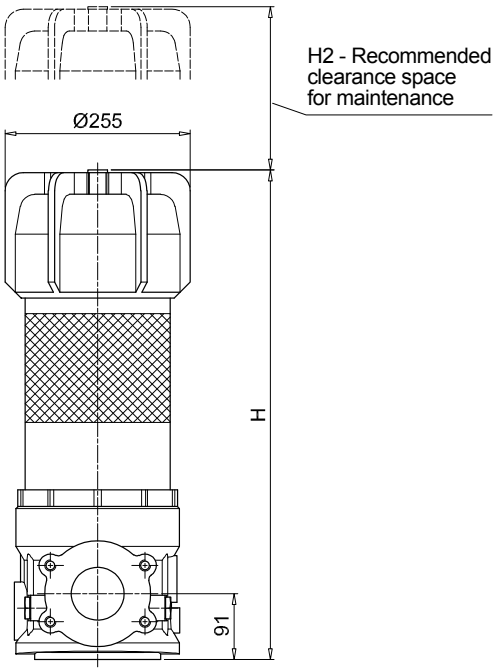
CFA Retaining clamp

Dimensions



T2 plug = connection for differential pressure indicator

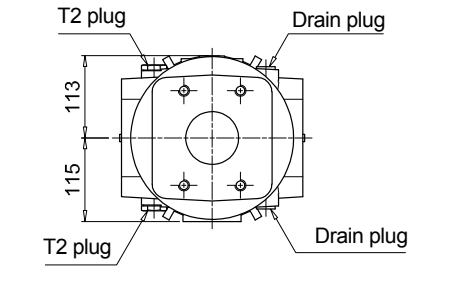




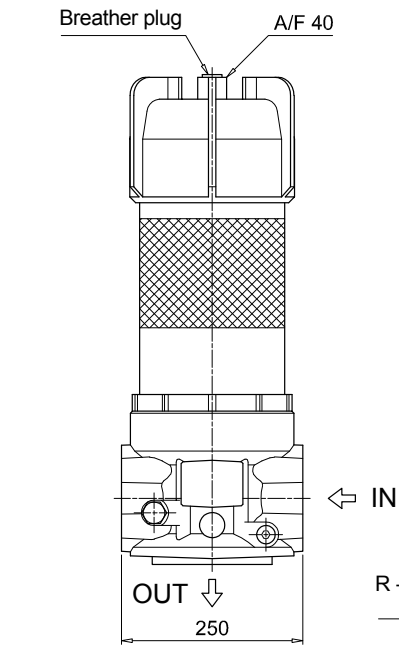
LMP950

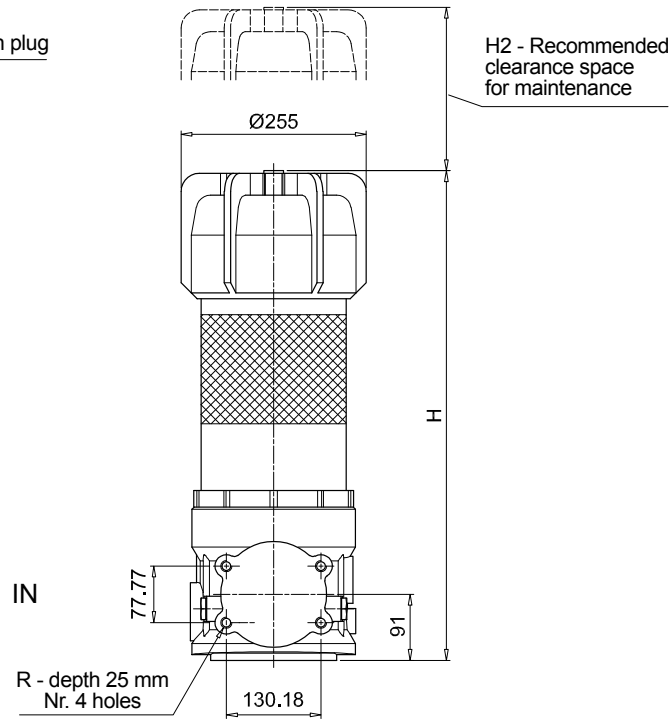
Filter length	H [mm]	H2 [mm]
2	680	350
3	1230	900

Connections	R
F1 - F3	M16
F2 - F4	5/8" UNC



T2 plug = connection for differential pressure indicator





LMP951

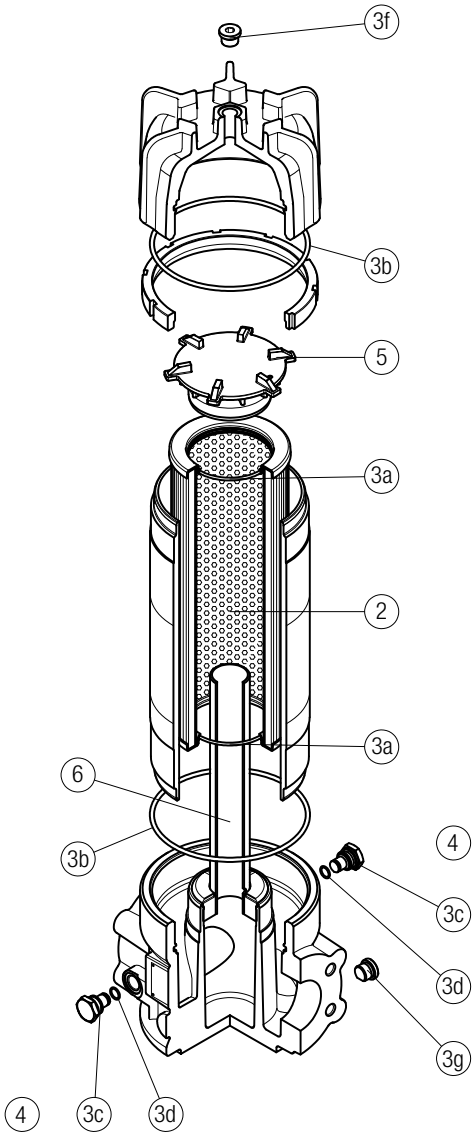
Filter length	H [mm]	H2 [mm]
2	680	350
3	1230	900

Connections	R
F1 - F3	M16
F2 - F4	5/8" UNC

LMP 950-951 SPARE PARTS

Order number for spare parts

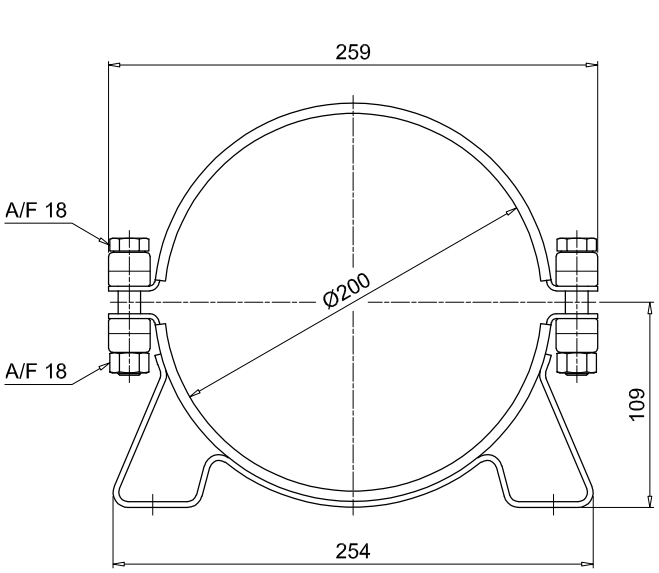
LMP 950 - 951

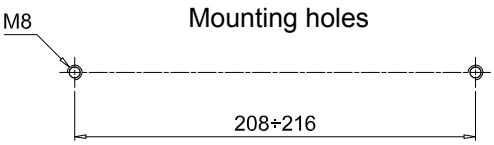


	Q.ty: 1 pc.	Q.ty: 1 pc.		Q.ty: 2 pcs.		Q.ty: 1 pc.		Q.ty: 1 pc.	
Item:	**2**	**3** (3a ÷ 3g)		**4**		**5**		**6**	
Filter series	**Filter element**	**Seal Kit code number NBR**	**FPM**	**Indicator connection plug NBR**	**FPM**	**Housing spigot no bypass**	**with bypass**	**Internal tube for low flow rate, exec. P02 length 2**	**length 3**
LMP 950-951 length 2-3	See order table	02050367	02050368	T2H	T2V	01044106	02001379	02025032	02025033

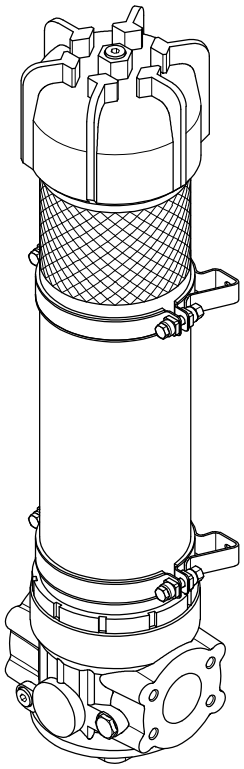
Accessories

RETAINING CLAMP





example
LMP950



Series		
CFA	Retaining clamp	
Size		
20		
Screw		
M	Metric	
Execution		
P01	MP Filtri standard	

Configuration example: CFA | 20 | M | P01

Designation & Ordering code

DIFFERENTIAL PRESSURE INDICATORS

Configuration example 1:	DE	M	20	H	F	50	P01	
Configuration example 2:	DE	U	50	V	A	50	P01	UL
Configuration example 3:	DL	E	50	V	A	71	P01	
Configuration example 4:	DT	A	20	H	F	70	P01	
Configuration example 5:	DV	M	50	V			P01	

Series

DE	Electrical differential pressure indicator
DL	Electrical/Visual differential pressure indicator
DT	Electronic differential pressure indicator
DV	Visual differential pressure indicator

Type	DE	DL	DT	DV
A Standard type	•	•	•	**A** With automatic reset
M With wired electrical connection	•	-	-	**M** With manual reset
U Standard type 210 bar, UL certified	•	-	-	**S** With automatic reset
E For high power supply	-	•	-	
S Compact version	•	-	-	

Pressure setting	DEA	DEM	DEU	DES	DLA	DLE	DTA	DVA	DVM	DVS
12 1.2 bar	•	•	-	•	•	•	•	•	•	•
20 2.0 bar	•	•	•	-	•	•	•	•	•	-
25 2.5 bar	-	-	-	-	-	-	-	-	-	•
40 4.0 bar	-	-	-	•	-	-	-	-	-	•
50 5.0 bar	•	•	•	-	•	•	•	•	•	-

Seals	DEA	DEM	DEU	DES	DL	DT	DVA	DVM	DVS
H HNBR	•	•	-	•	•	•	•	•	•
V FPM	•	•	•	-	•	•	•	•	-

Thermostat	DEA	DEM	DEU	DES	DLA	DLE	DT
A Without thermostat	•	•	•	•	•	•	-
F With thermostat	-	•	-	-	-	•	•

Electrical connections	DEA	DEM	DEU	DES	DLA	DLE	DT
10 Connection AMP Superseal series 1.5	-	•	-	•	-	-	-
20 Connection AMP Timer Junior	-	•	-	-	-	-	-
30 Connection Deutsch DT-04-2-P	-	•	-	•	-	-	-
35 Connection Deutsch DT-04-3-P	-	•	-	-	-	-	-
50 Connection EN 175301-803	•	-	•	-	-	•	-
51 Connection EN 175301-803, transparent base with lamps 24 Vdc	-	-	-	-	•	-	-
52 Connection EN 175301-803, transparent base with lamps 110 Vdc	-	-	-	-	•	-	-
70 Connection IEC 61076-2-101 D (M12)	-	-	-	-	-	-	•
71 Connection IEC 61076-2-101 D (M12), black base with lamps 24 Vdc	-	-	-	-	•	-	-
80 Connection Stud #10-32 UNF	-	-	-	•	-	-	-

Option	
P01	MP Filtri standard
Pxx	Customized

Certifications	DEU	OTHERS
Without	-	•
UL UL certification	•	-

PLUGS

Configuration example	T2	H

Series

T2	Plug
T4	Plug

Seals	T2	T4
A NBR	-	•
H HNBR	•	-
V FPM	•	-

LMP 952-953-954 series

Maximum working pressure up to 2.5 MPa (25 bar) - Flow rate up to 4500 l/min

LMP 952-953-954 GENERAL INFORMATION

Description

Low & Medium Pressure filters

Maximum working pressure up to 2.5 MPa (25 bar)
Flow rate up to 4500 l/min

LMP952, LMP953 and LMP954 are ranges of low pressure filter with large filtration surface mainly suitable for lubrication, off-line filtration of the reservoirs and filtration equipment.
Multiple LMP950 filters are connected to a manifold to reduce the pressure drop caused by the filter media and to increase the life time of the filter element.
They are directly connected to the lines of the system through the hydraulic fittings.

Available features:
- 4" flanged connections, for a maximum flow rate of 4500 l/min
- Base-mounting design, 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.
- 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:
- Off-line filtration of reservoirs
- Filtration systems

Technical data

Filter housing materials
- Head: Anodized Aluminium
- Housing: Anodized Aluminium
- Manifolds: Welded - Phosphatized Steel
- Bypass valve: Anodized Aluminium

Pressure
Test pressure: 3.5 MPa (35 bar)

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

Δp element type
- Microfibre filter elements - series N: 20 bar
- Fluid flow through the filter element from OUT to IN

Number of filter elements
- LMP 952: 2 filter elements CU950-3
- LMP 953: 3 filter elements CU950-3
- LMP 954: 4 filter elements CU950-3

Seals
- Standard NBR series A
- Optional FPM series V

Temperature
From -25 °C to +110 °C

Connections
LMP 952-953-954:
In-line Inlet/Outlet

Note
LMP 952 - 953 - 954 filters
are provided for vertical mounting

Weights [kg] and volumes [dm³]

Filter series	Weights [kg]	Volumes [dm³]
	Length 3	Length 3
LMP 952	96	66
LMP 953	138	99
LMP 954	192	132

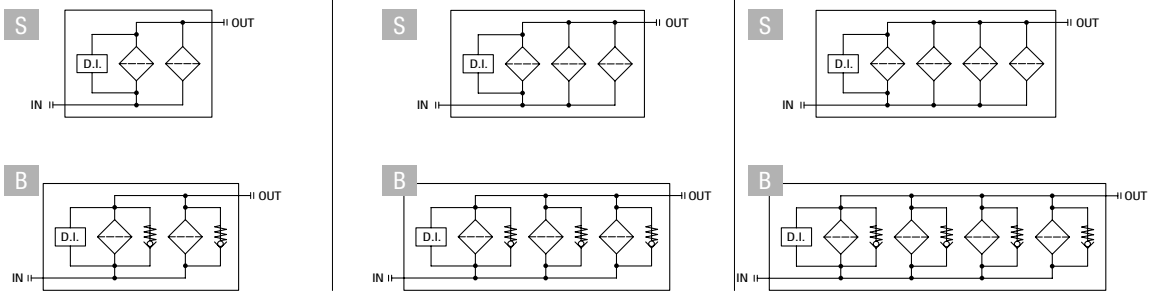
Flow rates [l/min]

		Filter element design - N Series					
Filter series	Length	A03	A06	A10	A16	A25	M25 M60 M90
LMP 952	**3**	2172	2294	2766	3106	3256	3998
LMP 953	**3**	2842	2964	3403	3696	3820	4395
LMP 954	**3**	3259	3372	3770	4026	4133	4618

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.

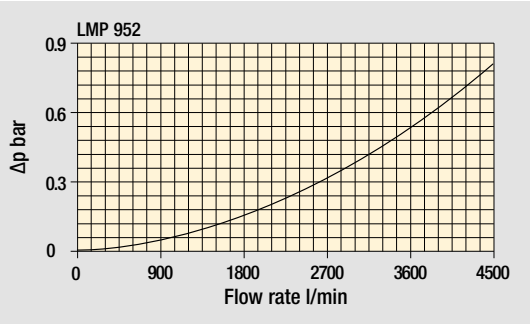
Hydraulic symbols

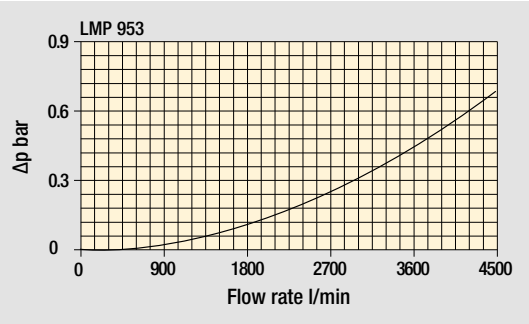
Filter series	Execution S - Execution B	Execution S - Execution B	Execution S - Execution B
LMP 952	•	-	-
LMP 953	-	•	-
LMP 954	-	-	•

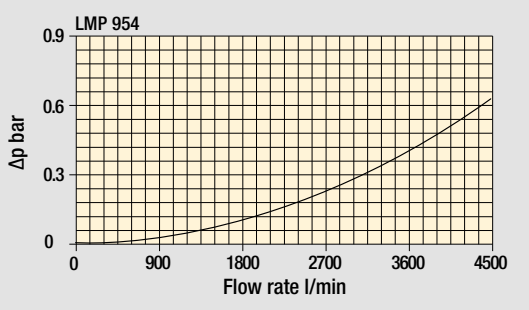


Pressure drop

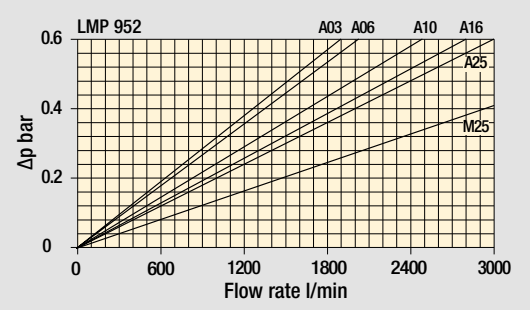
Filter housings Δp pressure drop

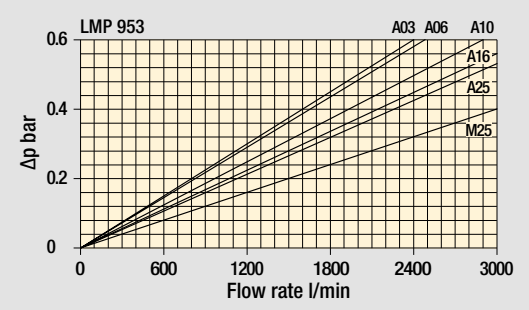


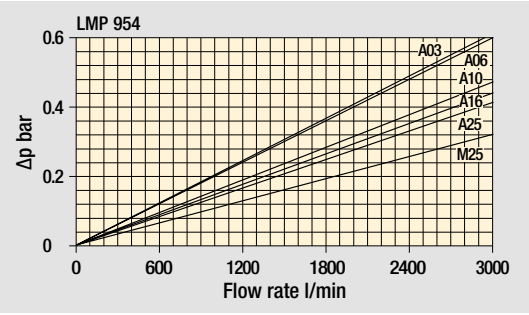




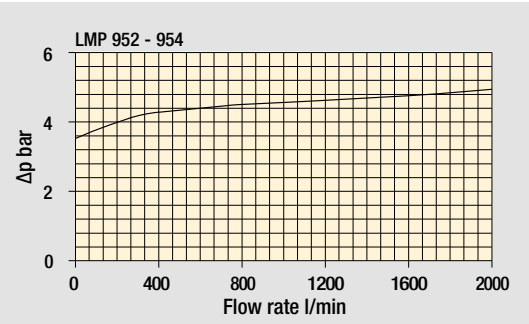
Pressure drop of filter complete with cartridge, oil viscosity 30 mm²/s (cSt)





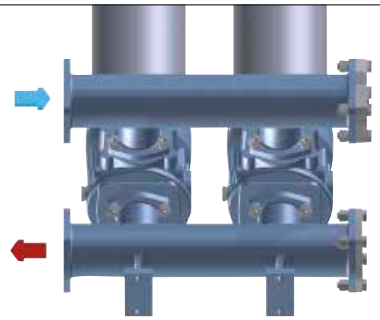


Bypass valve pressure drop



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

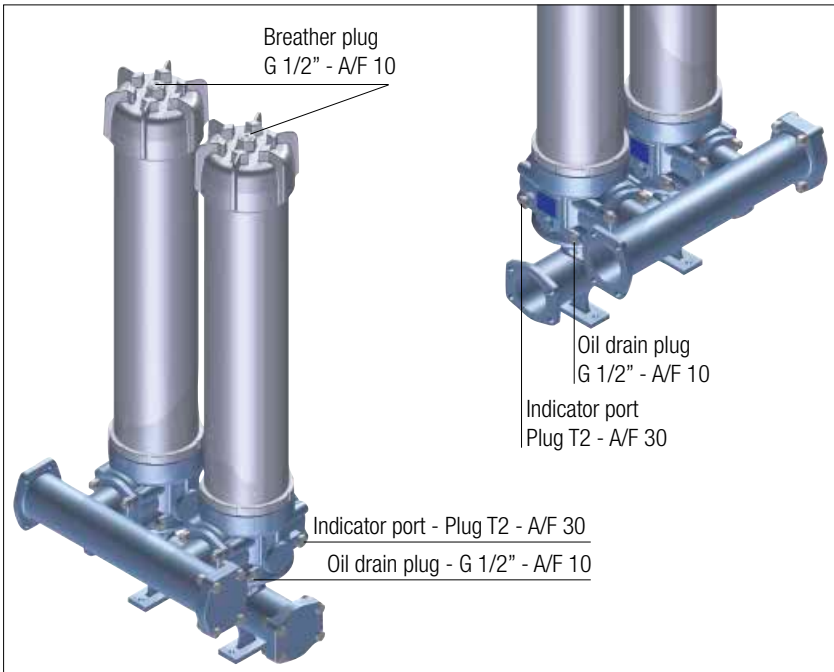
Manifolds



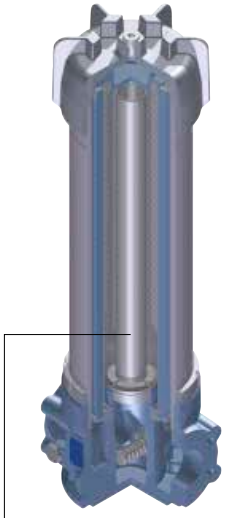
FA

Position of manifolds
IN - OUT connections

Focus on



Execution P02

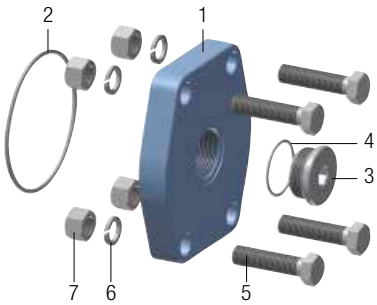


"Internal tube
for low flow rate"
is recommended for
flow rate values below:
LMP 952 - 300 l/min
LMP 953 - 450 l/min
LMP 954 - 600 l/min

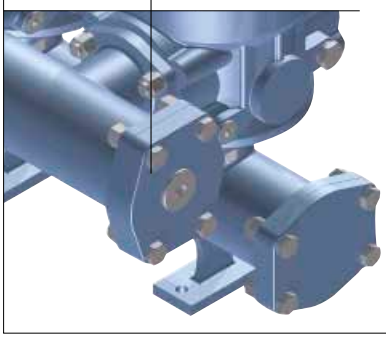
The use of option P02
makes it easier to fill the
housing with the operating fluid.

CMV4 & CUV4 Flange options

Code	Thread	Materials
CMV4	**G 1 1/4"**	1 - 4" SAE flange 2 - O-R 4437 (FPM) for flange 3 - Plug G 1-1/4" 4 - O-R 3168 for plug (FPM) 5 - No. 4 Hex bolt screws UNI-EN 24017 M16 x 65-10.9 6 - No. 4 Spring washers UNI 1751-B 16 7 - No. 4 Nuts UNI 5587 - M16
CUV4	**SAE 20**	1 - 4" SAE flange 2 - O-R 4437 (FPM) for flange 3 - Plug SAE 20 1 5/8" - 12 UN 4 - 1147 O-R for plug (FPM) 5 - No. 4 Hex bolt screws 5/8" UNC x 2 1/2" 6 - No. 4 Spring washers UNI 1751-B 16 7 - No. 4 Nuts 5/8" UNC



Oil drain plug
Flange with oil drain plug
for rapid discharge



LMP 952-953-954

Designation & Ordering code

COMPLETE FILTER

Configuration example: LMP952 | 3 | B | A | FA | A10 | N | P01

Series and size
LMP952 | **LMP953** | **LMP954**

Length
3

Bypass valve
S Without bypass
B With bypass 3.5 bar

Seals and treatments
A NBR
V FPM

Connections
FA 4" SAE 3000 psi

Filtration rating (filter media)
A03 Inorganic microfiber 3 µm
A06 Inorganic microfiber 6 µm
A10 Inorganic microfiber 10 µm
A16 Inorganic microfiber 16 µm
A25 Inorganic microfiber 25 µm
M25 Wire mesh 25 µm
M60 Wire mesh 60 µm
M90 Wire mesh 90 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

Configuration example: CU950 | 3 | A10 | A | N | P01

Element series and size
CU950

Element length
3

Filter series and size
LMP952 Nr. 2 filter elements
LMP953 Nr. 3 filter elements
LMP954 Nr. 4 filter elements

Filtration rating (filter media)
A03 Inorganic microfiber 3 µm
A06 Inorganic microfiber 6 µm
A10 Inorganic microfiber 10 µm
A16 Inorganic microfiber 16 µm
A25 Inorganic microfiber 25 µm
M25 Wire mesh 25 µm
M60 Wire mesh 60 µm
M90 Wire mesh 90 µm
WA025 Water absorber inorganic microfiber 25 µm

Seals
A NBR
V FPM

Element Δp
N 20 bar

Execution
P01 MP Filtri standard
Pxx Customized

CLOGGING INDICATORS

See page 726

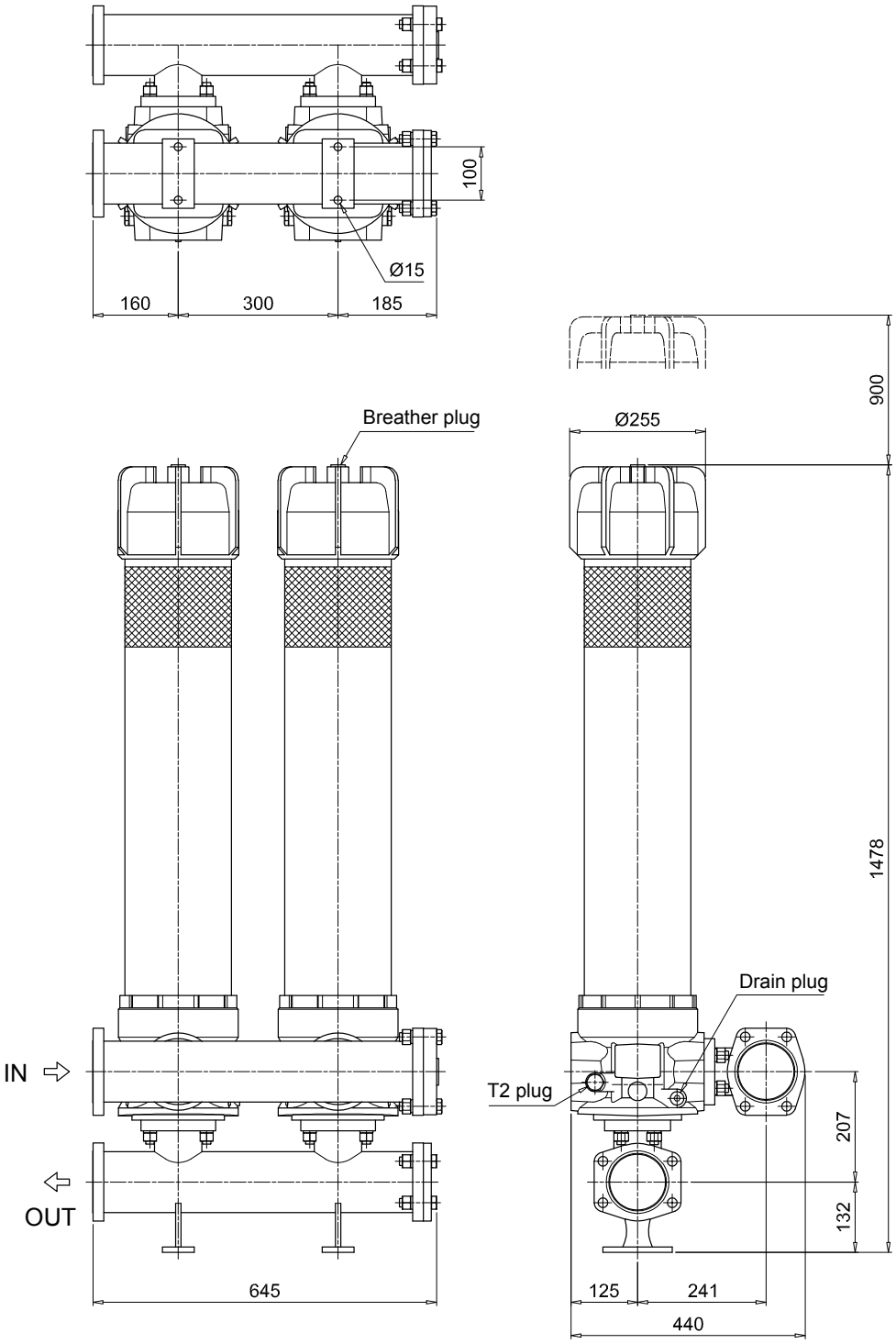
DEA Electrical differential pressure indicator
DEM Electrical differential pressure indicator
DEU Electrical differential pressure indicator
DLA Electrical / visual differential pressure indicator
DLE Electrical / visual differential pressure indicator
DTA Electronic differential pressure indicator
DVA Visual differential pressure indicator
DVM Visual differential pressure indicator

PLUGS

See page 747

T2 Plug

LMP952

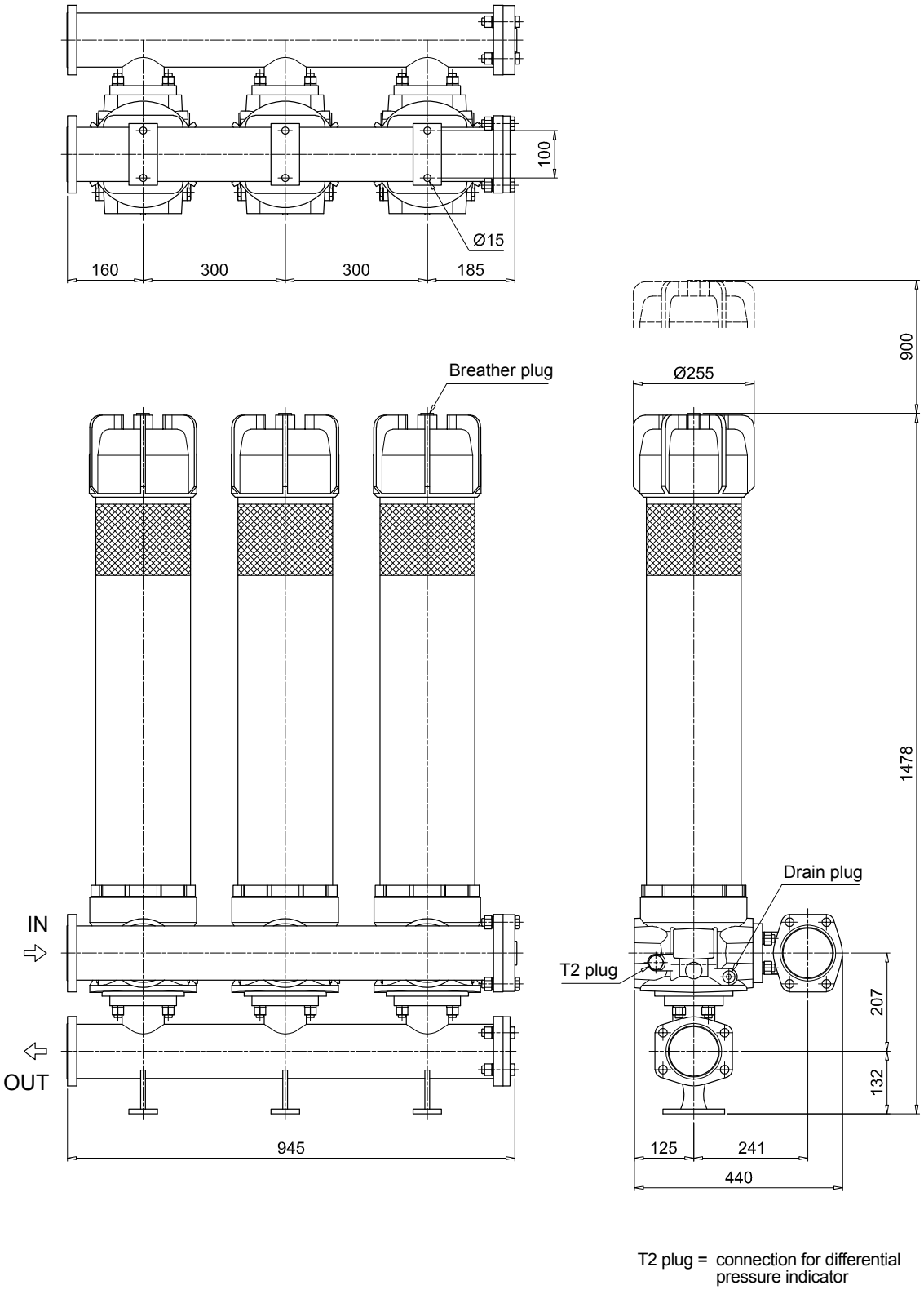


T2 plug = connection for differential pressure indicator

LMP 952-953-954

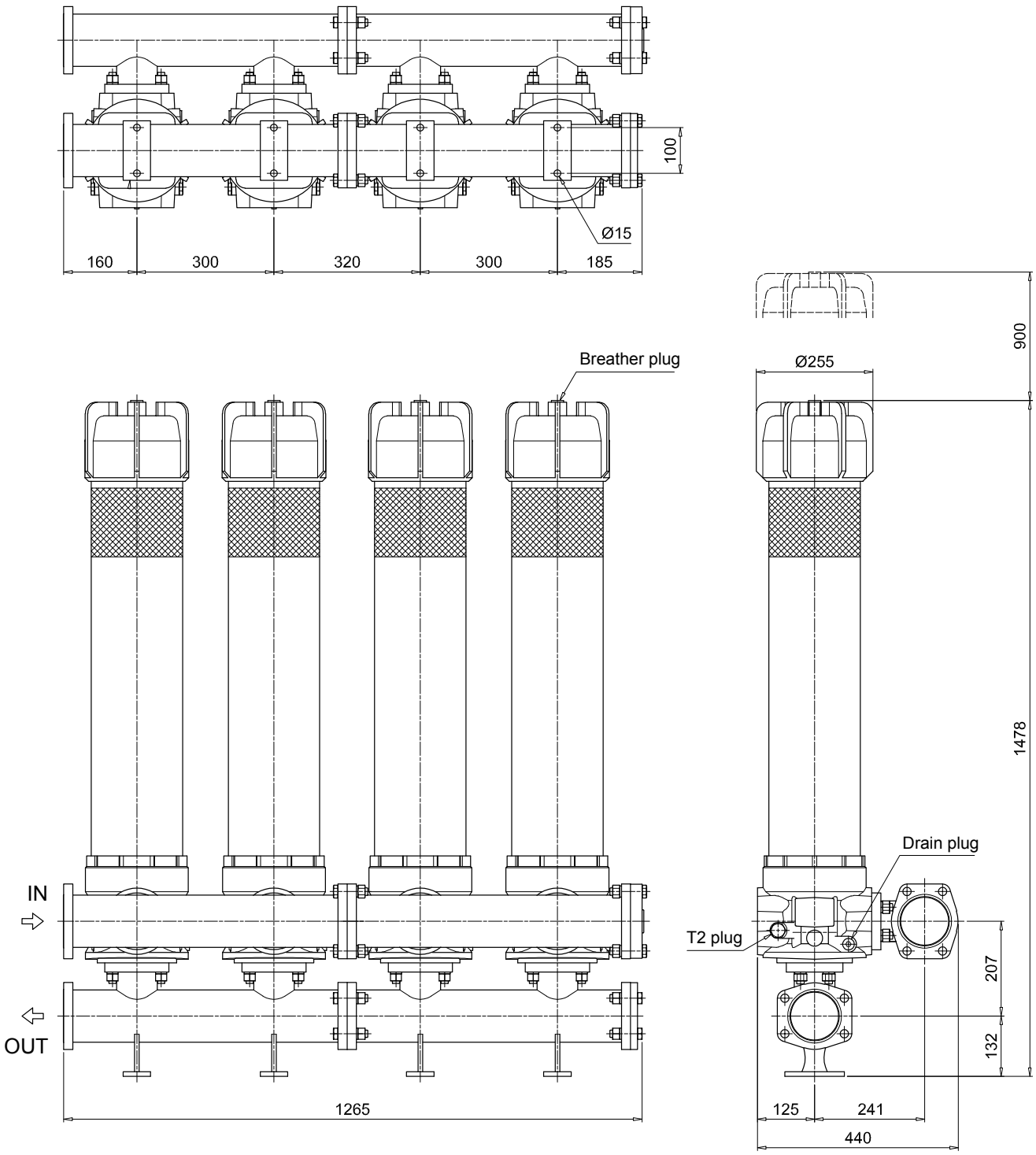
Dimensions

LMP953



T2 plug = connection for differential pressure indicator

LMP954

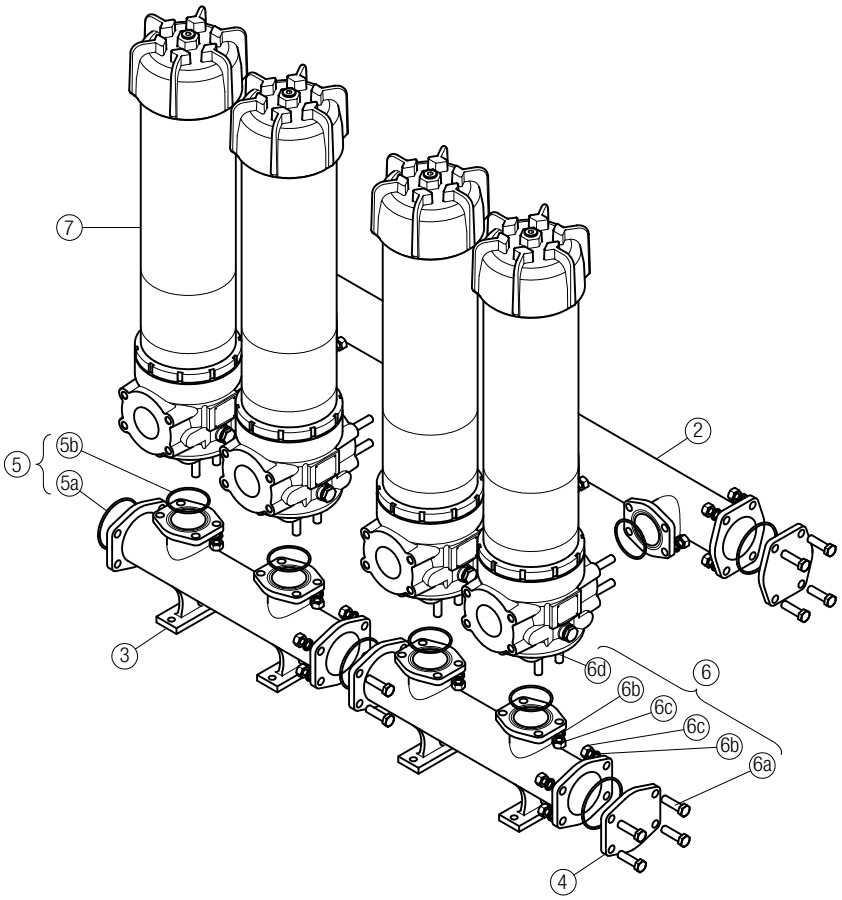


T2 plug = connection for differential pressure indicator

LMP 952-953-954 SPARE PARTS

Order number for spare parts

LMP 952 - 953 - 954



Item 7:
for complete filter code and spare parts, see
LMP 950 - 951 series chapter

Quantity:
- filter spare parts:
LMP 952 - 2 pcs.
LMP 953 - 3 pcs.
LMP 954 - 4 pcs.

- filter seal kit:
LMP 952 - 2 pcs.
LMP 953 - 3 pcs.
LMP 954 - 4 pcs.

Item:	2		3	4		5 (5a-5b)			6 (6a ÷ 6d)		7	
Filter series	Manifold Q.ty	IN	OUT	4" SAE 3000 psi plugged flange Q.ty		Manifolds seal kit Q.ty	NBR	FPM	Threaded fasteners kit Q.ty		Filter Q.ty	
LMP 952	1 pc.	01039270	01039271	2 pcs.	01042012	1 pc.	02050404	02050405	1 pc.	02049051	2 pcs.	LMP9513xxF1xxxNP0x
LMP 953	1 pc.	01039337	01039338	2 pcs.		1 pc.	02050404	02050405	1 pc.	02049052	3 pcs.	
LMP 954	2 pcs.	01039270	01039271	2 pcs.		1 pc.	02050406	02050407	1 pc.	02049053	4 pcs.	

Designation & Ordering code

DIFFERENTIAL PRESSURE INDICATORS

Configuration example 1:	DE	M	20	H	F	50	P01	
Configuration example 2:	DE	U	50	V	A	50	P01	UL
Configuration example 3:	DL	E	50	V	A	71	P01	
Configuration example 4:	DT	A	20	H	F	70	P01	
Configuration example 5:	DV	M	50	V			P01	

Series

DE	Electrical differential pressure indicator
DL	Electrical/Visual differential pressure indicator
DT	Electronic differential pressure indicator
DV	Visual differential pressure indicator

Type	DE	DL	DT	DV
A Standard type	•	•	•	**A** With automatic reset
M With wired electrical connection	•	-	-	**M** With manual reset
U Standard type 210 bar, UL certified	•	-	-	**S** With automatic reset
E For high power supply	-	•	-	
S Compact version	•	-	-	

Pressure setting	DEA	DEM	DEU	DES	DLA	DLE	DTA	DVA	DVM	DVS
12 1.2 bar	•	•	-	•	•	•	•	•	•	•
20 2.0 bar	•	•	•	-	•	•	•	•	•	-
25 2.5 bar	-	-	-	-	-	-	-	-	-	•
40 4.0 bar	-	-	-	•	-	-	-	-	-	•
50 5.0 bar	•	•	•	-	•	•	•	•	•	-

Seals	DEA	DEM	DEU	DES	DL	DT	DVA	DVM	DVS
H HNBR	•	•	-	•	•	•	•	•	•
V FPM	•	•	•	-	•	•	•	•	-

Thermostat	DEA	DEM	DEU	DES	DLA	DLE	DT
A Without thermostat	•	•	•	•	•	•	-
F With thermostat	-	•	-	-	-	•	•

Electrical connections	DEA	DEM	DEU	DES	DLA	DLE	DT
10 Connection AMP Superseal series 1.5	-	•	-	•	-	-	-
20 Connection AMP Timer Junior	-	•	-	-	-	-	-
30 Connection Deutsch DT-04-2-P	-	•	-	•	-	-	-
35 Connection Deutsch DT-04-3-P	-	•	-	-	-	-	-
50 Connection EN 175301-803	•	-	•	-	-	•	-
51 Connection EN 175301-803, transparent base with lamps 24 Vdc	-	-	-	-	•	-	-
52 Connection EN 175301-803, transparent base with lamps 110 Vdc	-	-	-	-	•	-	-
70 Connection IEC 61076-2-101 D (M12)	-	-	-	-	-	-	•
71 Connection IEC 61076-2-101 D (M12), black base with lamps 24 Vdc	-	-	-	-	•	-	-
80 Connection Stud #10-32 UNF	-	-	-	•	-	-	-

Option	
P01	MP Filtri standard
Pxx	Customized

Certifications	DEU	OTHERS
Without	-	•
UL UL certification	•	-

PLUGS

Configuration example	T2	H

Series

T2	Plug
T4	Plug

Seals	T2	T4
A NBR	-	•
H HNBR	•	-
V FPM	•	-

LMD 211 series

Maximum working pressure up to 6 MPa (60 bar) - Flow rate up to 200 l/min

LMD 211 GENERAL INFORMATION

Description

Low & Medium Pressure filters

Duplex
Maximum working pressure up to 6 MPa (60 bar)
Flow rate up to 200 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 200 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 - Polyamide

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
- Microfibre filter elements - series N: 20 bar
- Fluid flow through the filter 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]

Filter series	Weights [kg]				Volumes [dm³]			
	Length	1	2	3	Length	1	2	3
LMD 211		9.5	11.2	12.8		4.1	4.6	5.3

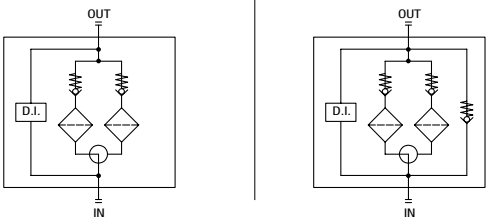
Flow rates [l/min]

		Filter element design - N Series									
Filter series	Length	A03	A06	A10	A16	A25	M25	M60	M90	P10	P25
	1	90	95	140	147	156	191	192	192	177	181
LMD 211	**2**	113	121	158	162	173	192	192	193	181	183
	3	131	146	166	169	177	193	194	194	184	187

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.

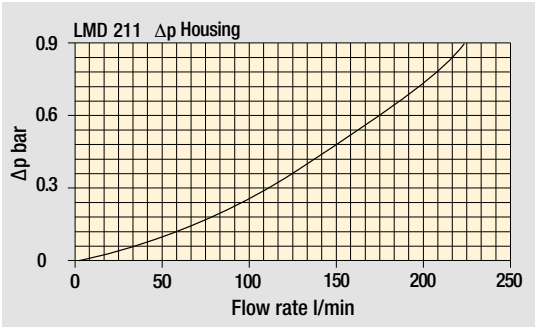
Hydraulic symbols

Filter series	Style S	Style B
LMD 211	•	•

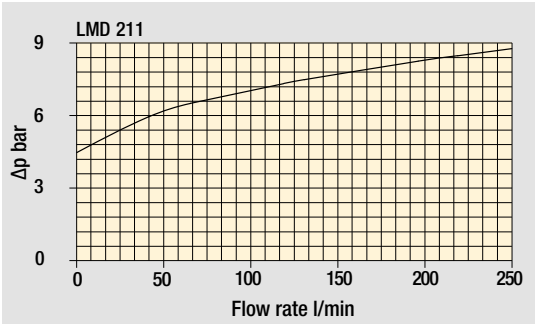


Pressure drop

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.

LMD 211

Designation & Ordering code

COMPLETE FILTER

Configuration example: LMD211 | 3 | B | A | C | 6 | A10 | N | P01

Series and size
LMD211

Length
1 | **2** | **3**

Bypass valve
S Without bypass
B With bypass 3.5 bar

Seals and treatments
A NBR
V FPM

Connections
C G 1 1/2”
F 1 1/2” NPT
I SAE 24 - 1 7/8” - 12 UN
L 1 1/2” SAE 3000 psi/M + G 1 1/4”
M 1 1/2” SAE 3000 psi/UNC + 1 1/4” NPT
N 1 1/2” SAE 3000 psi/UNC + SAE 20 - 1 5/8” UN

Connection for differential pressure indicator
6 With plugged connection

Filtration rating (filter media)
A03 Inorganic microfiber 3 µm
A06 Inorganic microfiber 6 µm
A10 Inorganic microfiber 10 µm
A16 Inorganic microfiber 16 µm
A25 Inorganic microfiber 25 µm
M25 Wire mesh 25 µm
M60 Wire mesh 60 µm
M90 Wire mesh 90 µm
P10 Resin impregnated paper 10 µm
P25 Resin impregnated paper 25 µm

WA025 Water absorber inorganic microfiber 25 µm

Element Δp
N 20 bar

Execution
P01 MP Filtri standard
Pxx Customized

FILTER ELEMENT

Configuration example: CU210 | 3 | A10 | A | N | P01

Element series and size
CU210

Element length
1 | **2** | **3**

Filtration rating (filter media)
A03 Inorganic microfiber 3 µm
A06 Inorganic microfiber 6 µm
A10 Inorganic microfiber 10 µm
A16 Inorganic microfiber 16 µm
A25 Inorganic microfiber 25 µm
M25 Wire mesh 25 µm
M60 Wire mesh 60 µm
M90 Wire mesh 90 µm
P10 Resin impregnated paper 10 µm
P25 Resin impregnated paper 25 µm

WA025 Water absorber inorganic microfiber 25 µm

Seals and treatments
A NBR
V FPM

Element Δp
N 20 bar

Execution
P01 MP Filtri standard
Pxx Customized

CLOGGING INDICATORS

See page 726

DEA Electrical differential pressure indicator
DEM Electrical differential pressure indicator
DEU Electrical differential pressure indicator
DLA Electrical / visual differential pressure indicator
DLE Electrical / visual differential pressure indicator
DTA Electronic differential pressure indicator
DVA Visual differential pressure indicator
DVM Visual differential pressure indicator

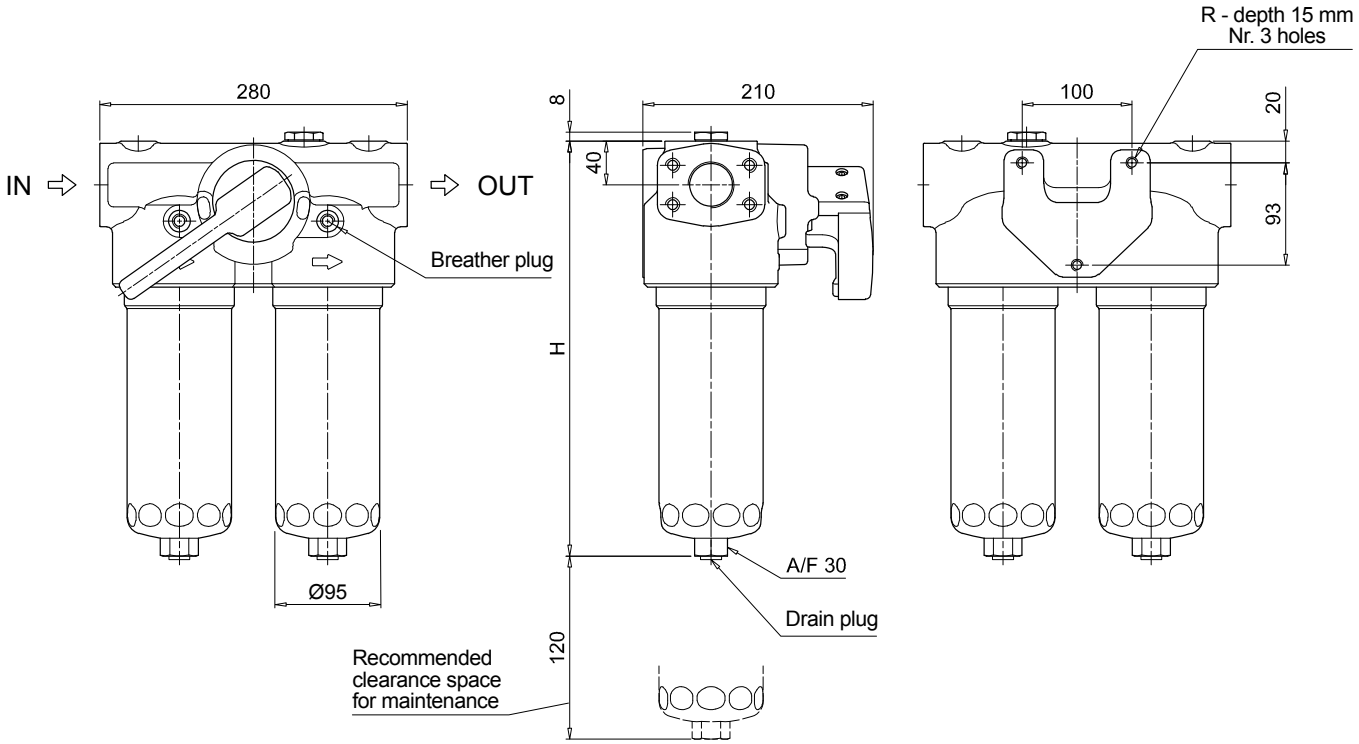
PLUGS

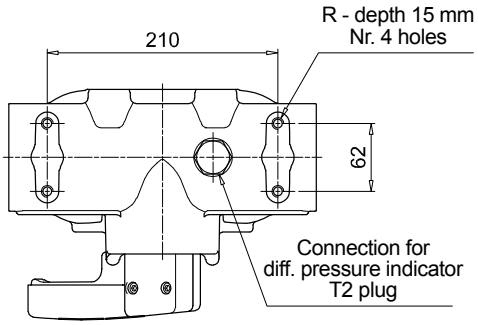
See page 747

T2 Plug

LMD211	
Filter length	**H [mm]**
1	383
2	513
3	651

Connections	**R**
C	M10
F - I	3/8" UNC
L	M10
M - N	3/8" UNC

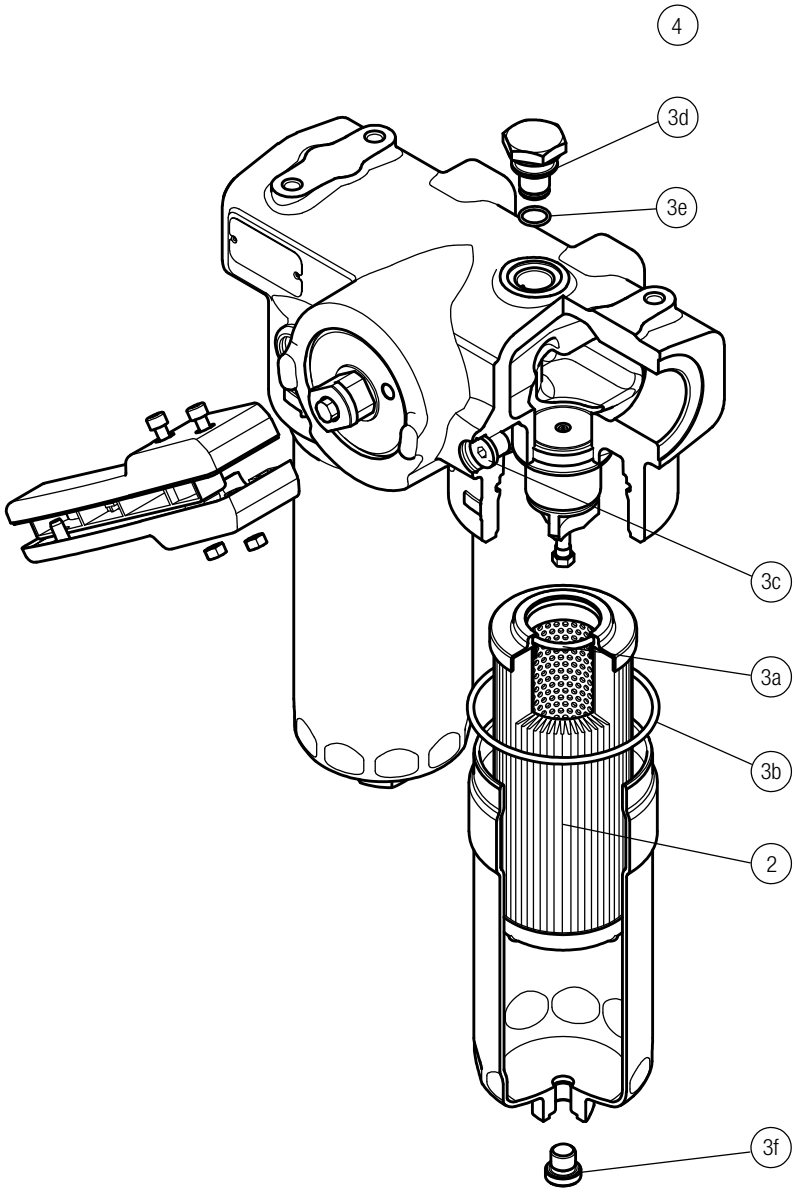




LMD 211 SPARE PARTS

Order number for spare parts

LMD 211



	Q.ty: 1 pc.	Q.ty: 1 pc.		Q.ty: 2 pcs.	
Item:	**2**	**3** (3a ÷ 3f)		**4**	
Filter series	**Filter element**	**Seal Kit code number NBR**	**FPM**	**Indicator connection plug NBR**	**FPM**
LDD	See order table	02050671	02050672	T2H	T2V

Designation & Ordering code

DIFFERENTIAL PRESSURE INDICATORS

Configuration example 1:	DE	M	20	H	F	50	P01	
Configuration example 2:	DE	U	50	V	A	50	P01	UL
Configuration example 3:	DL	E	50	V	A	71	P01	
Configuration example 4:	DT	A	20	H	F	70	P01	
Configuration example 5:	DV	M	50	V			P01	

Series

DE	Electrical differential pressure indicator
DL	Electrical/Visual differential pressure indicator
DT	Electronic differential pressure indicator
DV	Visual differential pressure indicator

Type	DE	DL	DT	DV
A Standard type	•	•	•	**A** With automatic reset
M With wired electrical connection	•	-	-	**M** With manual reset
U Standard type 210 bar, UL certified	•	-	-	**S** With automatic reset
E For high power supply	-	•	-	
S Compact version	•	-	-	

Pressure setting	DEA	DEM	DEU	DES	DLA	DLE	DTA	DVA	DVM	DVS
12 1.2 bar	•	•	-	•	•	•	•	•	•	•
20 2.0 bar	•	•	•	-	•	•	•	•	•	-
25 2.5 bar	-	-	-	-	-	-	-	-	-	•
40 4.0 bar	-	-	-	•	-	-	-	-	-	•
50 5.0 bar	•	•	•	-	•	•	•	•	•	-

Seals	DEA	DEM	DEU	DES	DL	DT	DVA	DVM	DVS
H HNBR	•	•	-	•	•	•	•	•	•
V FPM	•	•	•	-	•	•	•	•	-

Thermostat	DEA	DEM	DEU	DES	DLA	DLE	DT
A Without thermostat	•	•	•	•	•	•	-
F With thermostat	-	•	-	-	-	•	•

Electrical connections	DEA	DEM	DEU	DES	DLA	DLE	DT
10 Connection AMP Superseal series 1.5	-	•	-	•	-	-	-
20 Connection AMP Timer Junior	-	•	-	-	-	-	-
30 Connection Deutsch DT-04-2-P	-	•	-	•	-	-	-
35 Connection Deutsch DT-04-3-P	-	•	-	-	-	-	-
50 Connection EN 175301-803	•	-	•	-	-	•	-
51 Connection EN 175301-803, transparent base with lamps 24 Vdc	-	-	-	-	•	-	-
52 Connection EN 175301-803, transparent base with lamps 110 Vdc	-	-	-	-	•	-	-
70 Connection IEC 61076-2-101 D (M12)	-	-	-	-	-	-	•
71 Connection IEC 61076-2-101 D (M12), black base with lamps 24 Vdc	-	-	-	-	•	-	-
80 Connection Stud #10-32 UNF	-	-	-	•	-	-	-

Option	
P01	MP Filtri standard
Pxx	Customized

Certifications	DEU	OTHERS
Without	-	•
UL UL certification	•	-

PLUGS

Configuration example	T2	H

Series

T2	Plug
T4	Plug

Seals	T2	T4
A NBR	-	•
H HNBR	•	-
V FPM	•	-

LMD 400-401 & 431 series

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

Description

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

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

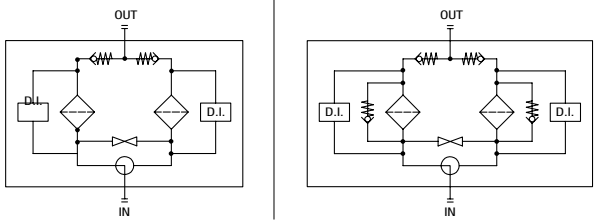
Flow rates [l/min]

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 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.

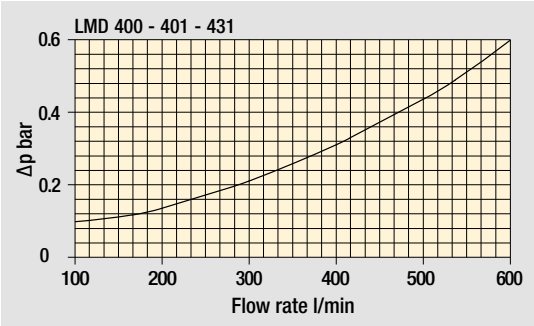
Hydraulic symbols

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

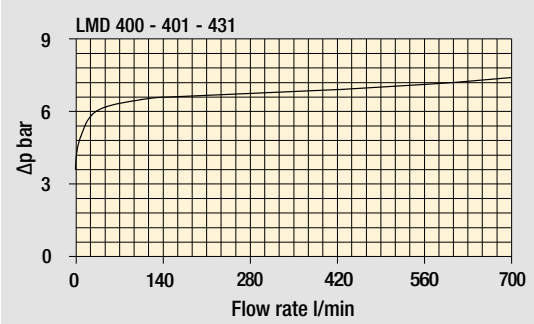


Pressure drop

Filter housings Δp pressure drop



Bypass valve pressure drop

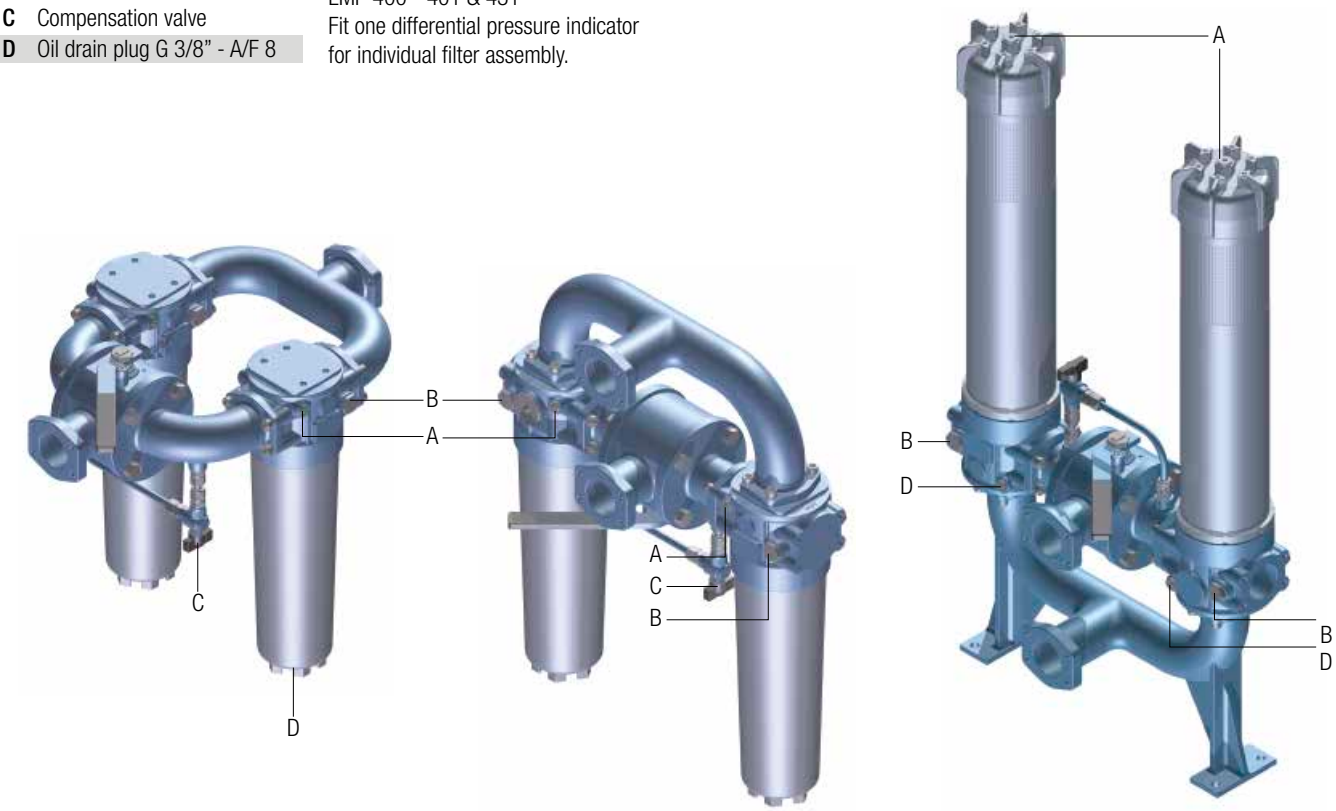


The curves are plotted using mineral oil with density of 0.86 kg/dm^3 in compliance with ISO 3968. Δp varies proportionally with density.

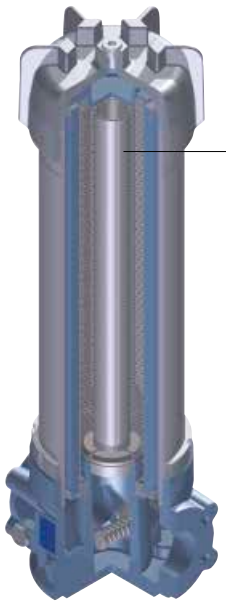
Focus on

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 pressure indicator for individual filter assembly.



LMD 431: Execution P02



"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.

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 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
A06 Inorganic microfiber 6 µm
A10 Inorganic microfiber 10 µm
A16 Inorganic microfiber 16 µm
A25 Inorganic microfiber 25 µm
M25 Wire mesh 25 µm
M60 Wire mesh 60 µm
M90 Wire mesh 90 µm
P10 Resin impregnated paper 10 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
A06 Inorganic microfiber 6 µm
A10 Inorganic microfiber 10 µm
A16 Inorganic microfiber 16 µm
A25 Inorganic microfiber 25 µm
M25 Wire mesh 25 µm
M60 Wire mesh 60 µm
M90 Wire mesh 90 µm
P10 Resin impregnated paper 10 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 726

DEA Electrical differential pressure indicator
DEM Electrical differential pressure indicator
DEU Electrical differential pressure indicator
DLA Electrical / visual differential pressure indicator
DLE Electrical / visual differential pressure indicator
DTA Electronic differential pressure indicator
DVA Visual differential pressure indicator
DVM Visual differential pressure indicator

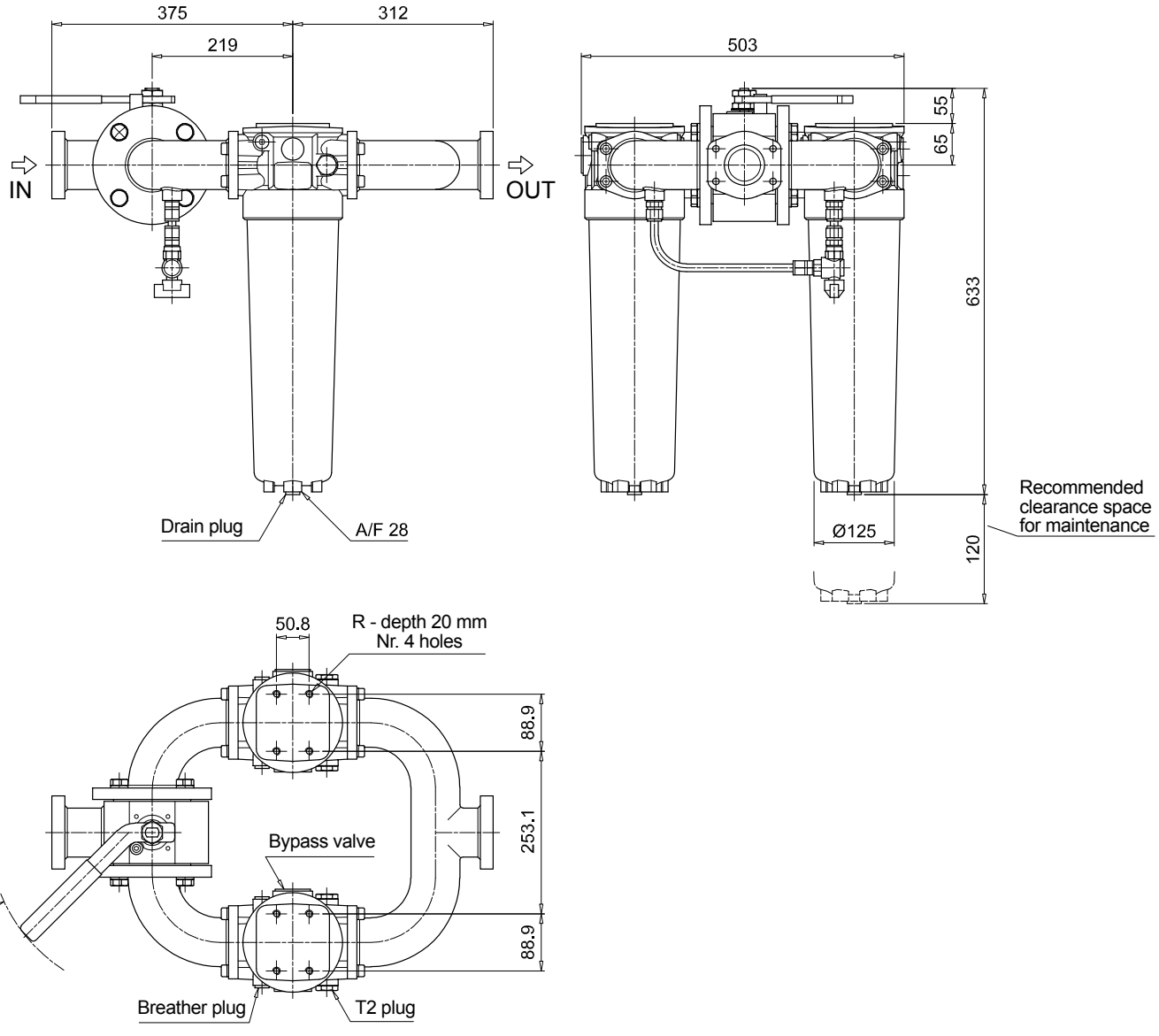
PLUGS

See page 747

T2 Plug

Dimensions

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



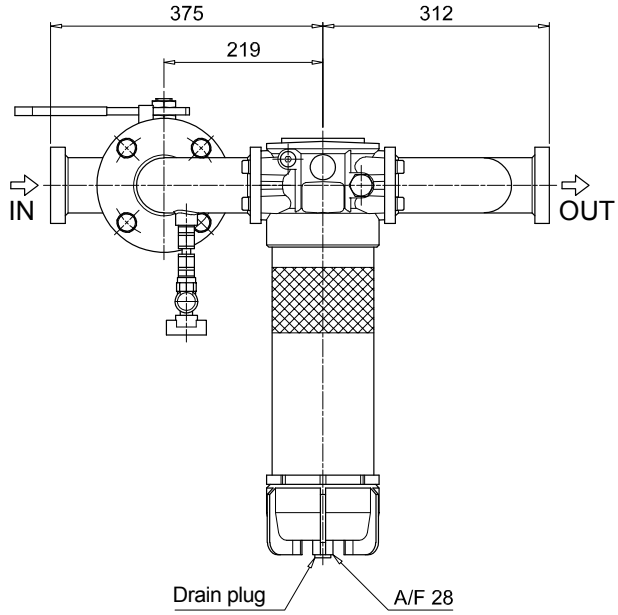
T2 plug = connection for differential pressure indicator

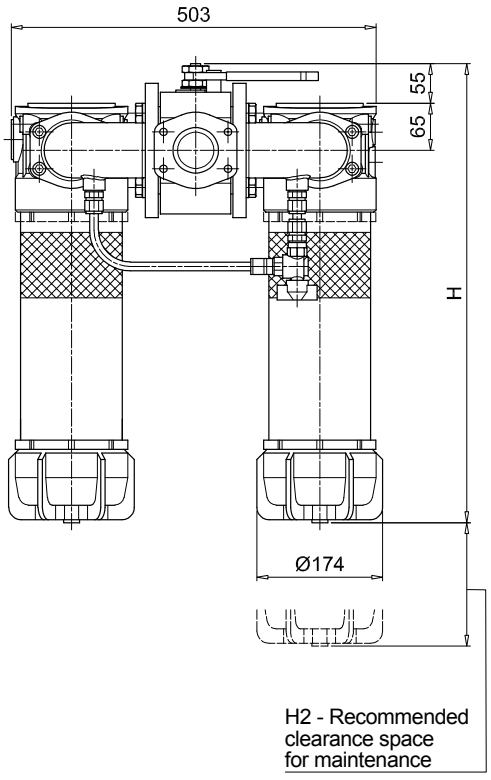
LMD 400-401

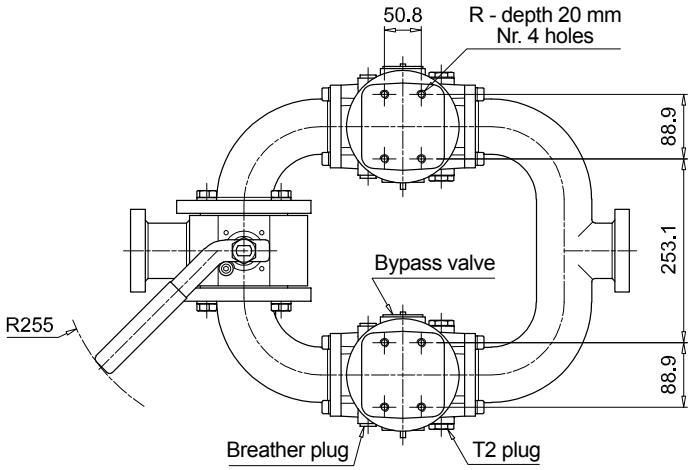
Dimensions

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

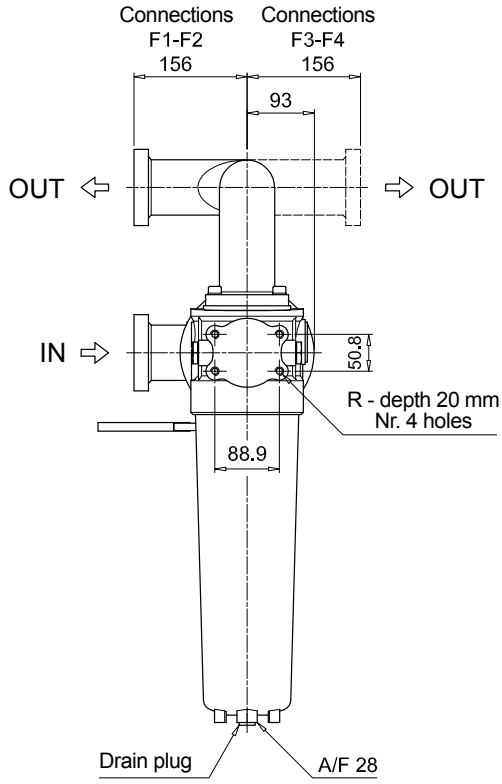


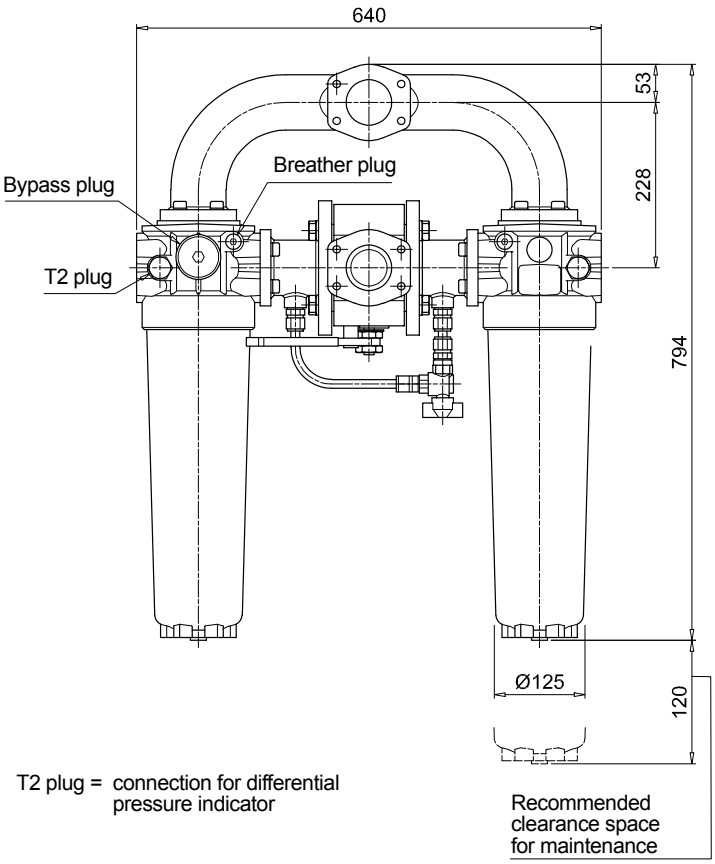




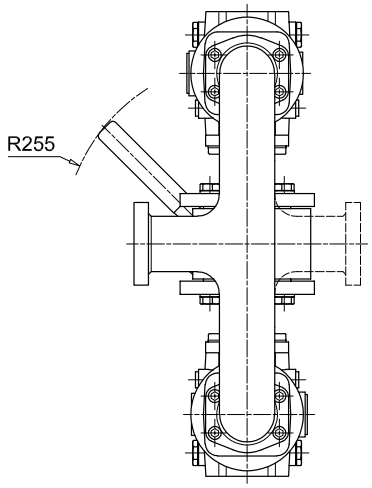
T2 plug = connection for differential pressure indicator

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





T2 plug = connection for differential pressure indicator



LMD 400-401

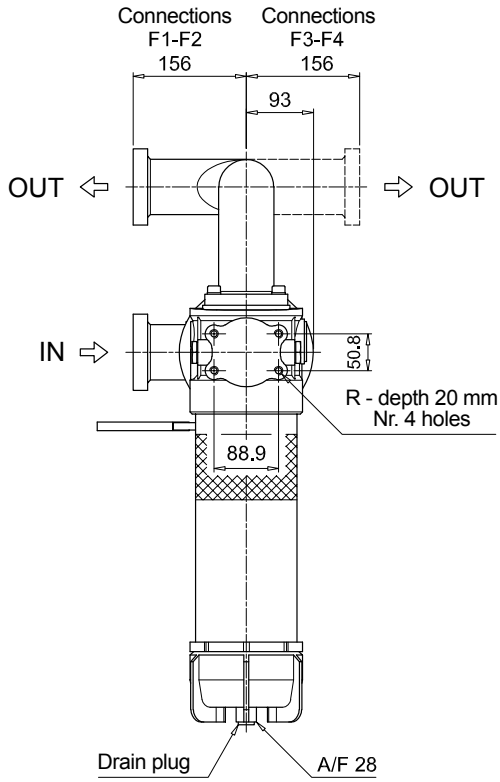
Dimensions

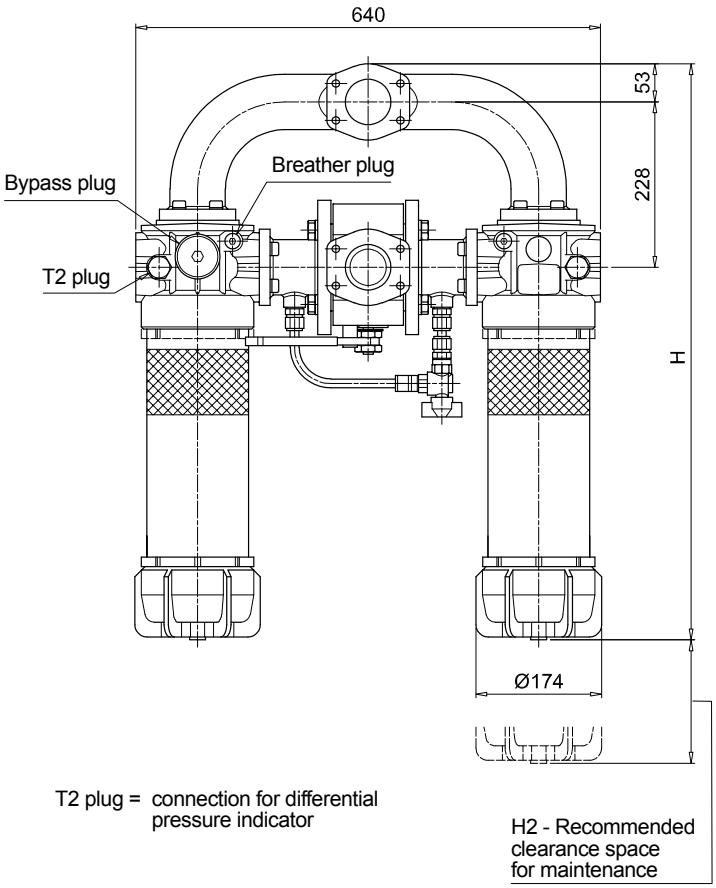
LMD401

Length 5 - 6

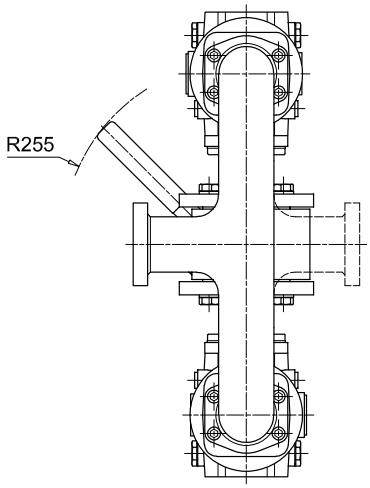
Filter length	H [mm]	H2 [mm] Execution P01	P02
5	1044	120	660
6	1374	120	690

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





T2 plug = connection for differential pressure indicator



LMD 431

Designation & Ordering code

COMPLETE FILTER

Configuration example: LMD431 | 5 | B | V | F1 | A10 | N | P01

Series and size
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
A06 Inorganic microfiber 6 µm
A10 Inorganic microfiber 10 µm
A16 Inorganic microfiber 16 µm
A25 Inorganic microfiber 25 µm
M25 Wire mesh 25 µm
M60 Wire mesh 60 µm
M90 Wire mesh 90 µm
P10 Resin impregnated paper 10 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

Configuration example: CU400 | 5 | A10 | V | N | P01

Element series and size
CU400

Element length
5 | **6**

Filtration rating (filter media)
A03 Inorganic microfiber 3 µm
A06 Inorganic microfiber 6 µm
A10 Inorganic microfiber 10 µm
A16 Inorganic microfiber 16 µm
A25 Inorganic microfiber 25 µm
M25 Wire mesh 25 µm
M60 Wire mesh 60 µm
M90 Wire mesh 90 µm
P10 Resin impregnated paper 10 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 726

DEA Electrical differential pressure indicator
DEM Electrical differential pressure indicator
DEU Electrical differential pressure indicator
DLA Electrical / visual differential pressure indicator
DLE Electrical / visual differential pressure indicator
DTA Electronic differential pressure indicator
DVA Visual differential pressure indicator
DVM Visual differential pressure indicator

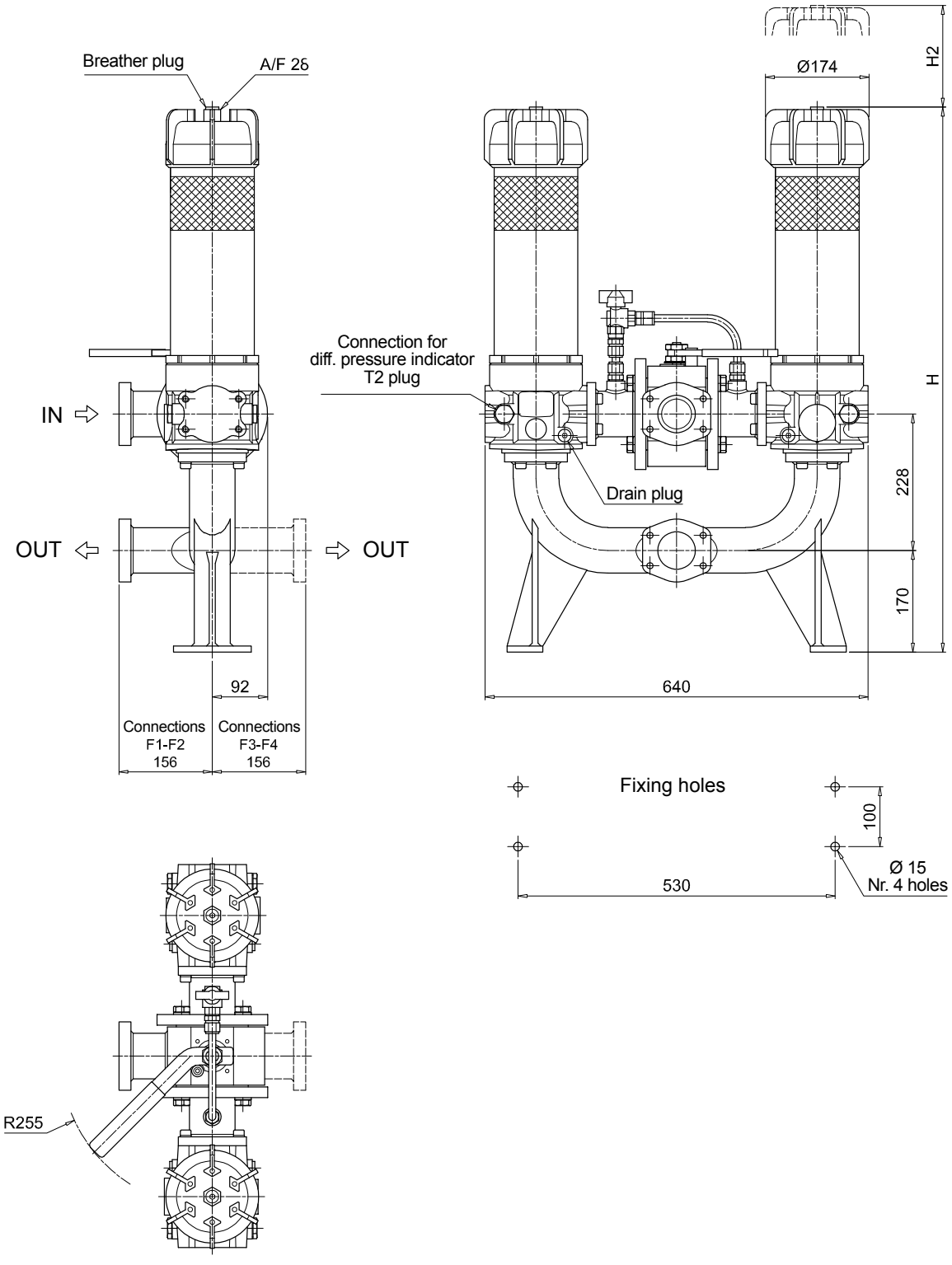
PLUGS

See page 747

T2 Plug

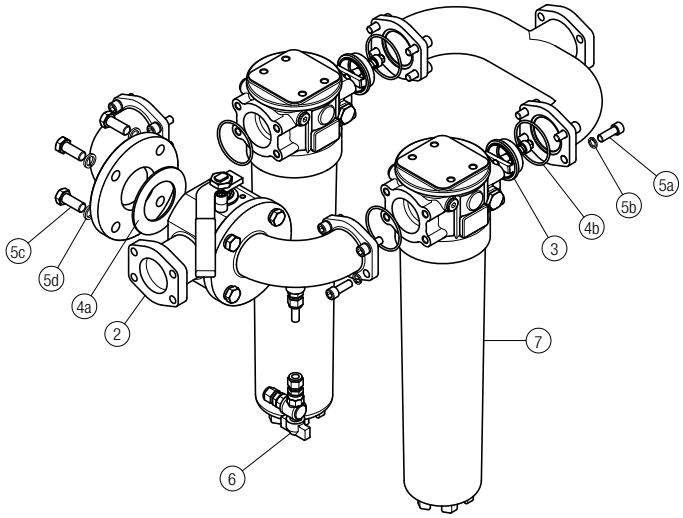
Dimensions

LMD431		
Filter length	**H [mm]**	**H2 [mm]**
5	1161	660
6	1491	690

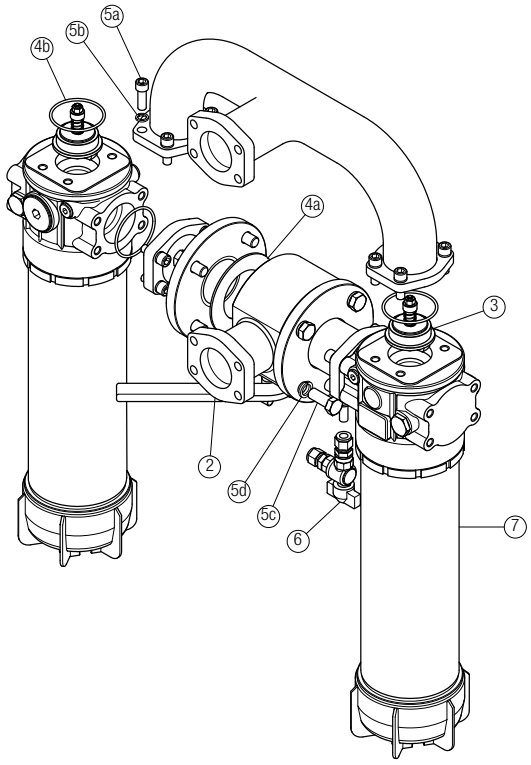


Order number for spare parts

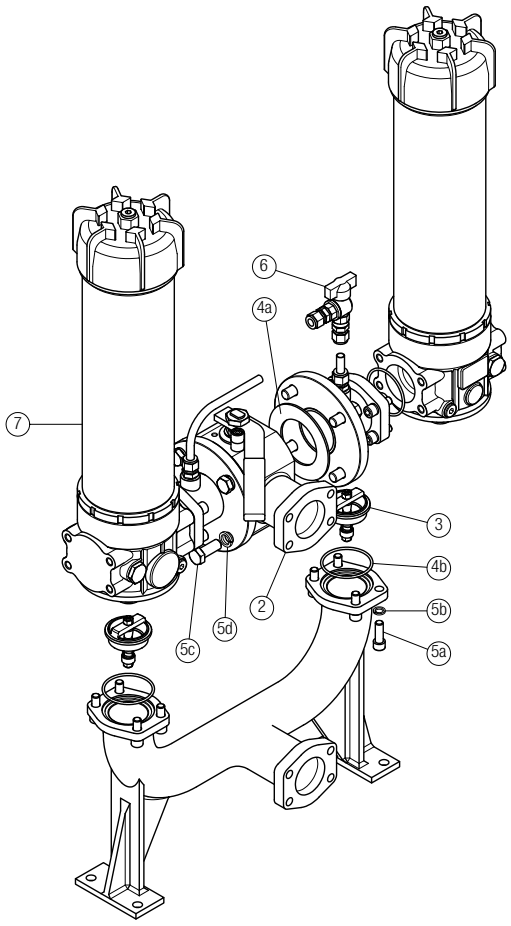
LMD 400



LMD 401



LMD 431



Item:	Q.ty: 1 pc. 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.....

Designation & Ordering code

DIFFERENTIAL PRESSURE INDICATORS

Configuration example 1:	DE	M	20	H	F	50	P01	
Configuration example 2:	DE	U	50	V	A	50	P01	UL
Configuration example 3:	DL	E	50	V	A	71	P01	
Configuration example 4:	DT	A	20	H	F	70	P01	
Configuration example 5:	DV	M	50	V			P01	

Series

DE	Electrical differential pressure indicator
DL	Electrical/Visual differential pressure indicator
DT	Electronic differential pressure indicator
DV	Visual differential pressure indicator

Type	DE	DL	DT	DV
A Standard type	•	•	•	**A** With automatic reset
M With wired electrical connection	•	-	-	**M** With manual reset
U Standard type 210 bar, UL certified	•	-	-	**S** With automatic reset
E For high power supply	-	•	-	
S Compact version	•	-	-	

Pressure setting	DEA	DEM	DEU	DES	DLA	DLE	DTA	DVA	DVM	DVS
12 1.2 bar	•	•	-	•	•	•	•	•	•	•
20 2.0 bar	•	•	•	-	•	•	•	•	•	-
25 2.5 bar	-	-	-	-	-	-	-	-	-	•
40 4.0 bar	-	-	-	•	-	-	-	-	-	•
50 5.0 bar	•	•	•	-	•	•	•	•	•	-

Seals	DEA	DEM	DEU	DES	DL	DT	DVA	DVM	DVS
H HNBR	•	•	-	•	•	•	•	•	•
V FPM	•	•	•	-	•	•	•	•	-

Thermostat	DEA	DEM	DEU	DES	DLA	DLE	DT
A Without thermostat	•	•	•	•	•	•	-
F With thermostat	-	•	-	-	-	•	•

Electrical connections	DEA	DEM	DEU	DES	DLA	DLE	DT
10 Connection AMP Superseal series 1.5	-	•	-	•	-	-	-
20 Connection AMP Timer Junior	-	•	-	-	-	-	-
30 Connection Deutsch DT-04-2-P	-	•	-	•	-	-	-
35 Connection Deutsch DT-04-3-P	-	•	-	-	-	-	-
50 Connection EN 175301-803	•	-	•	-	-	•	-
51 Connection EN 175301-803, transparent base with lamps 24 Vdc	-	-	-	-	•	-	-
52 Connection EN 175301-803, transparent base with lamps 110 Vdc	-	-	-	-	•	-	-
70 Connection IEC 61076-2-101 D (M12)	-	-	-	-	-	-	•
71 Connection IEC 61076-2-101 D (M12), black base with lamps 24 Vdc	-	-	-	-	•	-	-
80 Connection Stud #10-32 UNF	-	-	-	•	-	-	-

Option	
P01	MP Filtri standard
Pxx	Customized

Certifications	DEU	OTHERS
Without	-	•
UL UL certification	•	-

PLUGS

Configuration example	T2	H

Series

T2	Plug
T4	Plug

Seals	T2	T4
A NBR	-	•
H HNBR	•	-
V FPM	•	-

LMD 951 series

Maximum working pressure up to 1.6 MPa (16 bar) - Flow rate up to 1200 l/min

LMD 951 GENERAL INFORMATION

Description

Low & Medium Pressure filters

Duplex
Maximum working pressure up to 1.6 MPa (16 bar)
Flow rate up to 1200 l/min

LMD950 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:
- Flanged connections up to 4", for a maximum flow rate of 1200 l/min
- Base-mounting design, 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
- 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: Welded - Painted black
- Bypass valve: Steel
- 3-way ball valve: Steel body - Stainless steel ball
- Check valve: Cast Iron body - AISI 304 leaf

Pressure
- SAE + DIN Flange
- Test pressure: 2.5 MPa (25 bar)

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

Number of filter elements
LMD 951: 2 filter elements CU950-3

Δp element type
- Microfibre filter elements - series N: 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 951: In-line Inlet/Outlet
- Same side

Note
LMD 951 filters
are provided
for vertical mounting

Weights [kg] and volumes [dm³]

Filter series	Weights [kg]		Volumes [dm³]	
	DN 80	DN 100	DN 80	DN 100
LMD 951	102	130	62	66

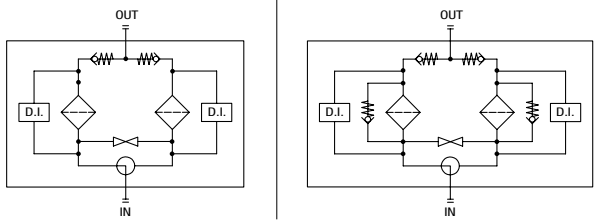
Flow rates [l/min]

		Filter element design - N Series					
Filter series	Length	A03	A06	A10	A16	A25	M25 M60 M90
LMD 951	**3**	853	884	995	1066	1096	1233

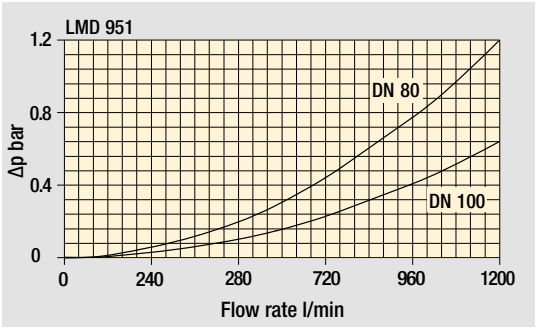
Maximum flow rate for a complete low and medium pressure filter with a pressure drop Δp = 0.7 bar.

Hydraulic symbols

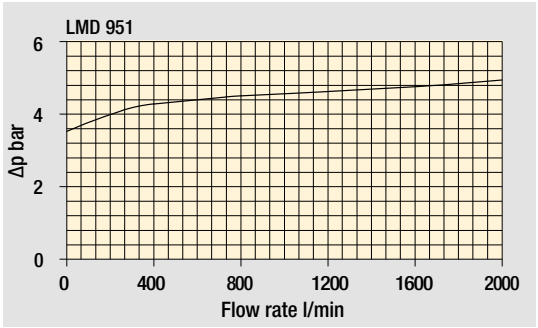
Filter series	Execution S	Execution B
LMD 951	•	•



Pressure drop



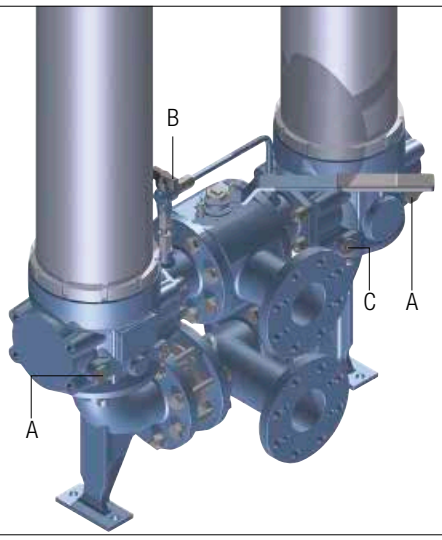
Filter housings
Δp pressure drop



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.

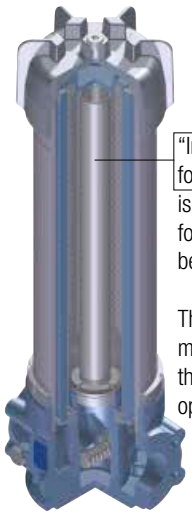
Focus on



LMD 951
Fit one differential pressure indicator for individual filter assembly.

A	Indicator port Plug T2 - A/F 30
B	Compensation valve
C	Oil drain plug G 1/2" - A/F 10

Execution P02



"Internal tube for low flow rate" is recommended for flow rate values below 100/150 l/min.

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

LMD 951

Designation & Ordering code

COMPLETE FILTER

Configuration example: LMD951 | 3 | B | V | F1 | A10 | N | P01

Series and size
LMD951

Length
3

Bypass valve
S Without bypass
B With bypass 3.5 bar

Seals and treatments
V FPM

Connections
F1 3" SAE 3000 psi/M
F2 3" SAE 3000 psi/UNC
F3 4" SAE 3000 psi/M
F4 4" SAE 3000 psi/UNC
F5 3" SAE 3000 psi/M, In-line connections
F6 3" SAE 3000 psi/UNC, In-line connections
F7 4" SAE 3000 psi/M, In-line connections
F8 4" SAE 3000 psi/UNC, In-line connections

Filtration rating (filter media)
A03 Inorganic microfiber 3 µm
A06 Inorganic microfiber 6 µm
A10 Inorganic microfiber 10 µm
A16 Inorganic microfiber 16 µm
A25 Inorganic microfiber 25 µm
M25 Wire mesh 25 µm
M60 Wire mesh 60 µm
M90 Wire mesh 90 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

Configuration example: CU950 | 3 | A10 | V | N | P01

Element series and size
CU950

Element length
3

Filtration rating (filter media)
A03 Inorganic microfiber 3 µm
A06 Inorganic microfiber 6 µm
A10 Inorganic microfiber 10 µm
A16 Inorganic microfiber 16 µm
A25 Inorganic microfiber 25 µm
M25 Wire mesh 25 µm
M60 Wire mesh 60 µm
M90 Wire mesh 90 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

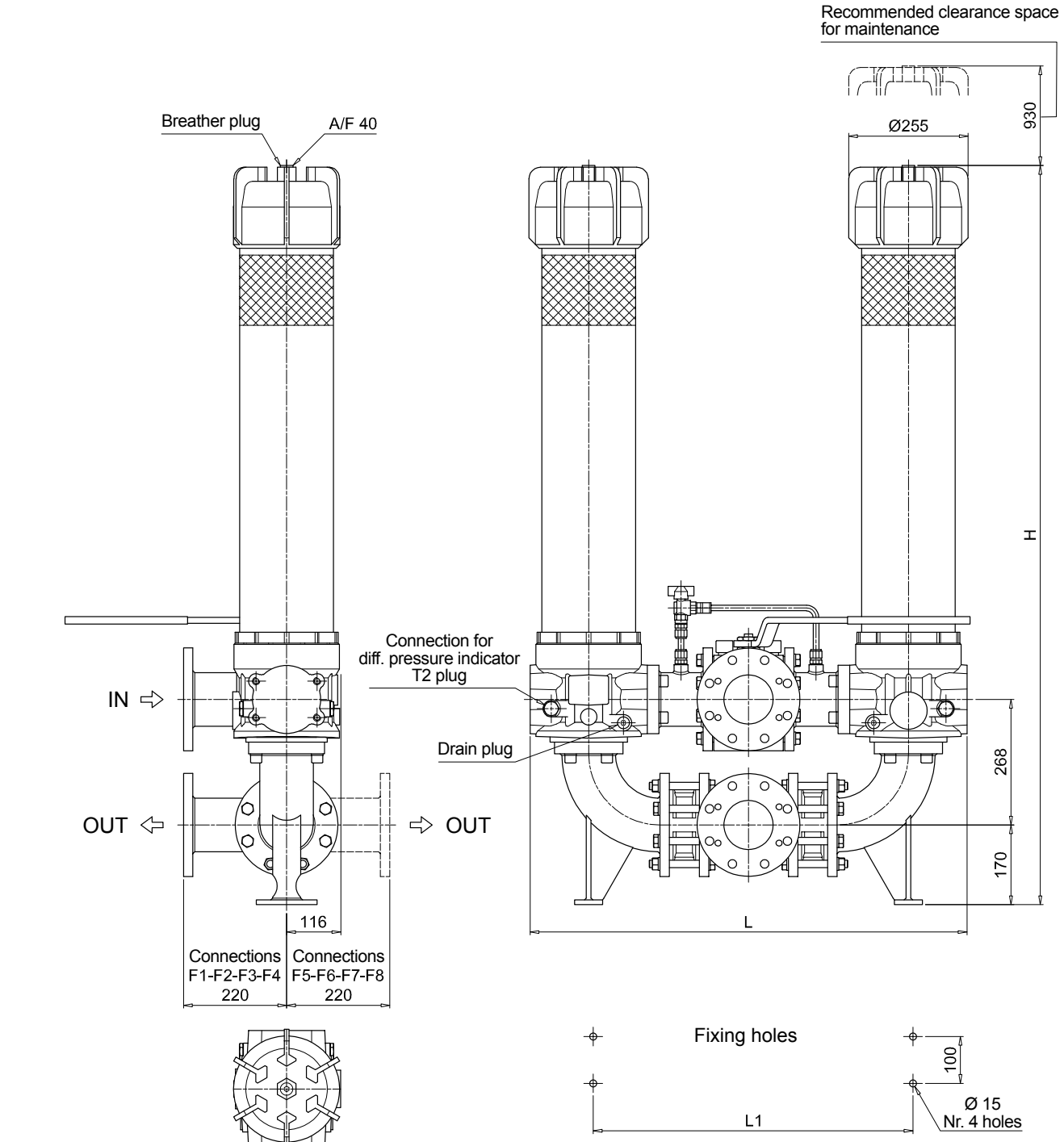
See page 726

DEA Electrical differential pressure indicator
DEM Electrical differential pressure indicator
DEU Electrical differential pressure indicator
DLA Electrical / visual differential pressure indicator
DLE Electrical / visual differential pressure indicator
DTA Electronic differential pressure indicator
DVA Visual differential pressure indicator
DVM Visual differential pressure indicator

PLUGS

See page 747

T2 Plug

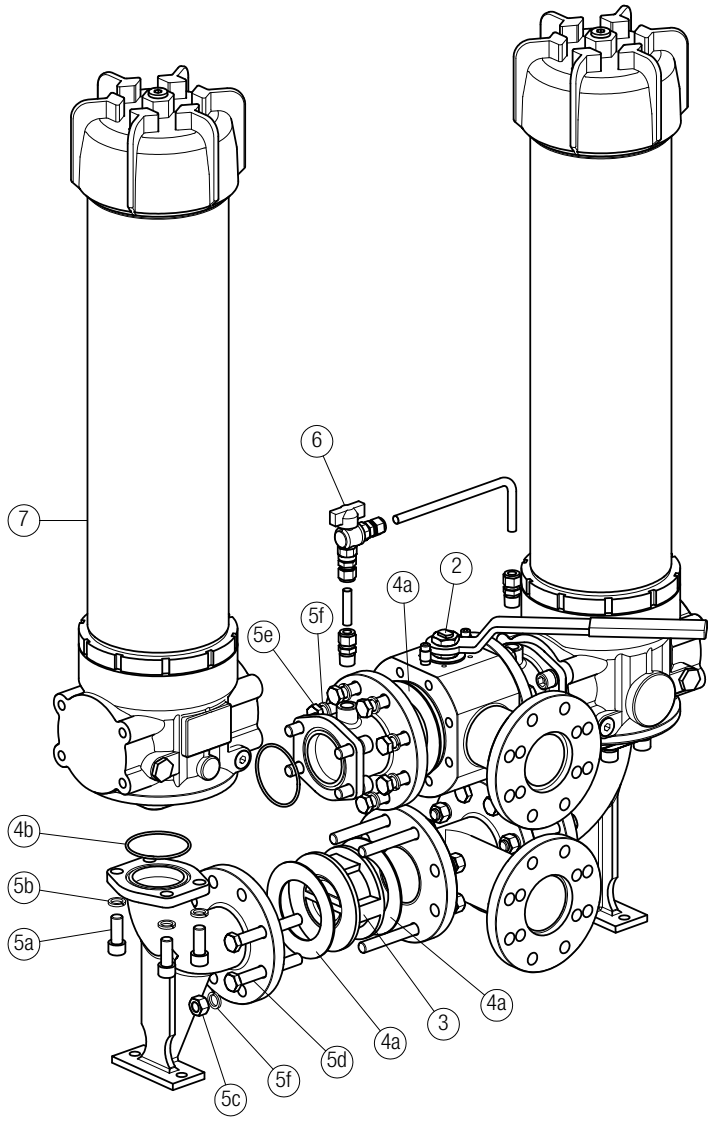


LMD951				
Connections	**H [mm]**	**L [mm]**	**L1 [mm]**	**M [mm]**
F1	1530	838	588	370
F2	1530	838	588	370
F3	1577	932	682	650
F4	1577	932	682	650
F5	1530	838	588	370
F6	1530	838	588	370
F7	1577	932	682	650
F8	1577	932	682	650

LMD 951 SPARE PARTS

Order number for spare parts

LMD 951



Item 7:
for complete filter code and spare parts, see LMP 950 - 951 series chapter

Quantity:
- filter spare parts: 2 pcs.
- filter seal kit: 2 pcs.

Item:	Q.ty: 1 pc. 2		Q.ty: 2 pcs. 3	Q.ty: 1 pc. 4	Q.ty: 1 pc. 5 (5a ÷ 5f)	Q.ty: 1 pc. 6	Q.ty: 2 pcs. 7
Filter series LMD 951	**3-way ball valve PN 16**		**One-way valve**	**Seal Kit**	**Threaded fasteners kit**	**G 1/2" Ball Valve Kit with straight fittings**	**Filter**
F1 - F2 - F5 - F6 / D1 - D3 (3" SAE / DIN PN16 DN 80)	3" SAE 3000 psi/M 02001135	3" SAE 3000 psi/UNC 02001438	02001418	02050388	02049056	02025043	LMP9513xVF1xxxNP01
F3 - F4 - F7 - F8 / D2 - D4 (4" SAE / DIN PN16 DN 100)	4" SAE 3000 psi/M 02001162	4" SAE 3000 psi/UNC 02001439	02001419	02050389	02049057		LMP9513xVF3xxxNP01

Designation & Ordering code

DIFFERENTIAL PRESSURE INDICATORS

Configuration example 1:	DE	M	20	H	F	50	P01	
Configuration example 2:	DE	U	50	V	A	50	P01	UL
Configuration example 3:	DL	E	50	V	A	71	P01	
Configuration example 4:	DT	A	20	H	F	70	P01	
Configuration example 5:	DV	M	50	V			P01	

Series

DE	Electrical differential pressure indicator
DL	Electrical/Visual differential pressure indicator
DT	Electronic differential pressure indicator
DV	Visual differential pressure indicator

Type	DE	DL	DT	DV
A Standard type	•	•	•	**A** With automatic reset
M With wired electrical connection	•	-	-	**M** With manual reset
U Standard type 210 bar, UL certified	•	-	-	**S** With automatic reset
E For high power supply	-	•	-	
S Compact version	•	-	-	

Pressure setting	DEA	DEM	DEU	DES	DLA	DLE	DTA	DVA	DVM	DVS
12 1.2 bar	•	•	-	•	•	•	•	•	•	•
20 2.0 bar	•	•	•	-	•	•	•	•	•	-
25 2.5 bar	-	-	-	-	-	-	-	-	-	•
40 4.0 bar	-	-	-	•	-	-	-	-	-	•
50 5.0 bar	•	•	•	-	•	•	•	•	•	-

Seals	DEA	DEM	DEU	DES	DL	DT	DVA	DVM	DVS
H HNBR	•	•	-	•	•	•	•	•	•
V FPM	•	•	•	-	•	•	•	•	-

Thermostat	DEA	DEM	DEU	DES	DLA	DLE	DT
A Without thermostat	•	•	•	•	•	•	-
F With thermostat	-	•	-	-	-	•	•

Electrical connections	DEA	DEM	DEU	DES	DLA	DLE	DT
10 Connection AMP Superseal series 1.5	-	•	-	•	-	-	-
20 Connection AMP Timer Junior	-	•	-	-	-	-	-
30 Connection Deutsch DT-04-2-P	-	•	-	•	-	-	-
35 Connection Deutsch DT-04-3-P	-	•	-	-	-	-	-
50 Connection EN 175301-803	•	-	•	-	-	•	-
51 Connection EN 175301-803, transparent base with lamps 24 Vdc	-	-	-	-	•	-	-
52 Connection EN 175301-803, transparent base with lamps 110 Vdc	-	-	-	-	•	-	-
70 Connection IEC 61076-2-101 D (M12)	-	-	-	-	-	-	•
71 Connection IEC 61076-2-101 D (M12), black base with lamps 24 Vdc	-	-	-	-	•	-	-
80 Connection Stud #10-32 UNF	-	-	-	•	-	-	-

Option	
P01	MP Filtri standard
Pxx	Customized

Certifications	DEU	OTHERS
Without	-	•
UL UL certification	•	-

PLUGS

Configuration example	T2	H

Series

T2	Plug
T4	Plug

Seals	T2	T4
A NBR	-	•
H HNBR	•	-
V FPM	•	-

LDP series

Filters featuring filter elements designed according to DIN 24550

Maximum working pressure up to 6 MPa (60 bar) - Flow rate up to 360 l/min

LDP & LDD GENERAL INFORMATION

Filters featuring filter elements designed according to DIN 24550

Descriptions

Low & Medium Pressure filters

Maximum working pressure up to 6 MPa (60 bar)
Flow rate up to 360 l/min

LDP is a range of versatile low pressure filter for transmission, protection of sensitive components in low pressure hydraulic systems and filtration of the coolant into the machine tools.
They are also suitable for the off-line filtration of small reservoirs.
They are directly connected to the lines of the system through the hydraulic fittings.

Available features:
- Female threaded connections up to 1 1/2", for a maximum return flow rate of 360 l/min
- Filter element designed in accordance with DIN 24550 regulation
- 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.
- Bypass valve, to relieve excessive pressure drop across the filter media
- Visual, electrical and electronic differential clogging indicators

Common applications:
Delivery lines, in low pressure industrial equipment or mobile machines

LDD 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 360 l/min
- Filter element designed in accordance with DIN 24550 regulation
- 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 - Polyamide

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
- Microfibre filter elements - series N: 20 bar
- Fluid flow through the filter 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
LDP - LDD filters are provided for vertical mounting

Weights [kg] and volumes [dm³]

Filter series	Weights [kg]	Volumes [dm³]
LDP 016	2.0	1.2
LDP 025	3.0	1.6
LDP 040	5.0	2.2
LDD 016	9.3	3.6
LDD 025	9.5	4.1
LDD 040	11.3	4.8

Filters featuring filter elements designed according to DIN 24550

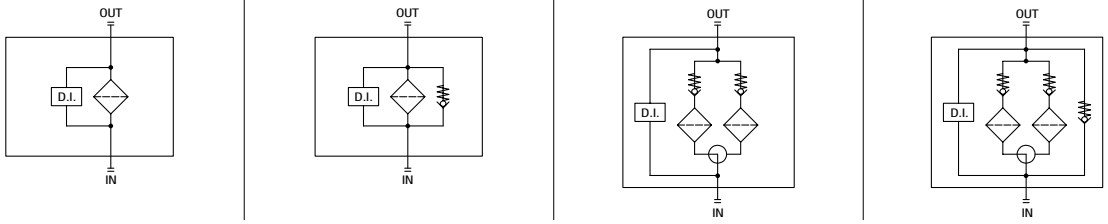
Flow rates [l/min]

	Filter element design - N Series									
Filter series	A03	A06	A10	A16	A25	M25	M60	M90	P10	P25
LDP 016	83	91	178	198	222	350	353	358	295	309
LDP 025	124	134	227	245	265	357	358	358	319	330
LDP 040	173	191	274	284	311	359	360	361	332	337
LDD 016	68	73	120	130	140	189	190	192	169	174
LDD 025	93	98	142	149	157	191	192	192	178	181
LDD 040	118	126	161	165	175	192	192	193	182	184

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.

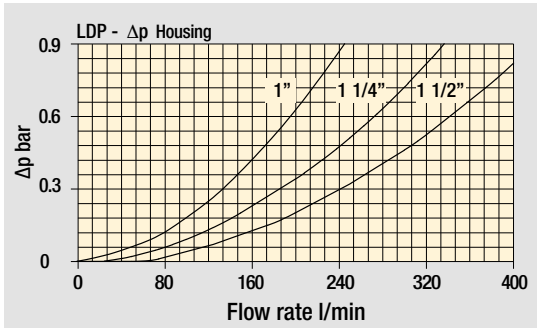
Hydraulic symbols

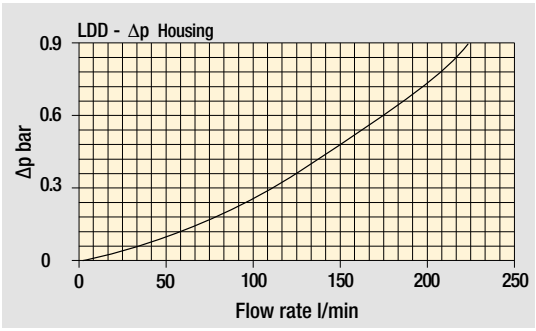
Filter series	Execution S	Execution B	Execution S	Execution B
LDP 016	•	•	-	-
LDP 025	•	•	-	-
LDP 040	•	•	-	-
LDD 016	-	-	•	•
LDD 025	-	-	•	•
LDD 040	-	-	•	•



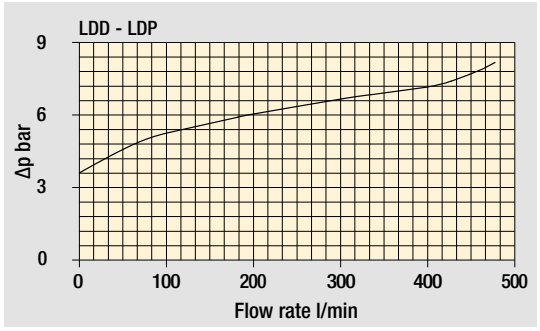
Pressure drop

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.

Designation & Ordering code

COMPLETE FILTER

Configuration example: LDP | 025 | B | A | D | 6 | A10 | N | P01

Series
LDP

Size
016 Element according to DIN 24550 - T3 DN160
025 Element according to DIN 24550 - T3 DN250
040 Element according to DIN 24550 - T3 DN400

Bypass valve
S Without bypass
B With bypass 3.5 bar

Seals and treatments
A NBR
V FPM

Connections
A G 1”
B G 1 1/4”
C G 1 1/2”
D 1” NPT
E 1 1/4” NPT
F 1 1/2” NPT
G SAE 16 - 1 5/16” - 12 UN
H SAE 20 - 1 5/8” - 12 UN
I SAE 24 - 1 7/8” - 12 UN

Connection for differential pressure indicator
6 With plugged connection

Filtration rating (filter media)
A03 Inorganic microfiber 3 µm
A06 Inorganic microfiber 6 µm
A10 Inorganic microfiber 10 µm
A16 Inorganic microfiber 16 µm
A25 Inorganic microfiber 25 µm
M25 Wire mesh 25 µm
M60 Wire mesh 60 µm
M90 Wire mesh 90 µm
P10 Resin impregnated paper 10 µm
P25 Resin impregnated paper 25 µm

WA025 Water absorber inorganic microfiber 25 µm

Element Δp
N 20 bar

Execution
P01 MP Filtri standard
Pxx Customized

FILTER ELEMENT

Configuration example: DN | 025 | A10 | A | N | P01

Element series
DN

Element size
016 Element according to DIN 24550 - T3 DN160
025 Element according to DIN 24550 - T3 DN250
040 Element according to DIN 24550 - T3 DN400

Filtration rating (filter media)
A03 Inorganic microfiber 3 µm
A06 Inorganic microfiber 6 µm
A10 Inorganic microfiber 10 µm
A16 Inorganic microfiber 16 µm
A25 Inorganic microfiber 25 µm
M25 Wire mesh 25 µm
M60 Wire mesh 60 µm
M90 Wire mesh 90 µm
P10 Resin impregnated paper 10 µm
P25 Resin impregnated paper 25 µm

WA025 Water absorber inorganic microfiber 25 µm

Seals and treatments
A NBR
V FPM

Element Δp
N 20 bar

Execution
P01 MP Filtri standard
Pxx Customized

CLOGGING INDICATORS

See page 726

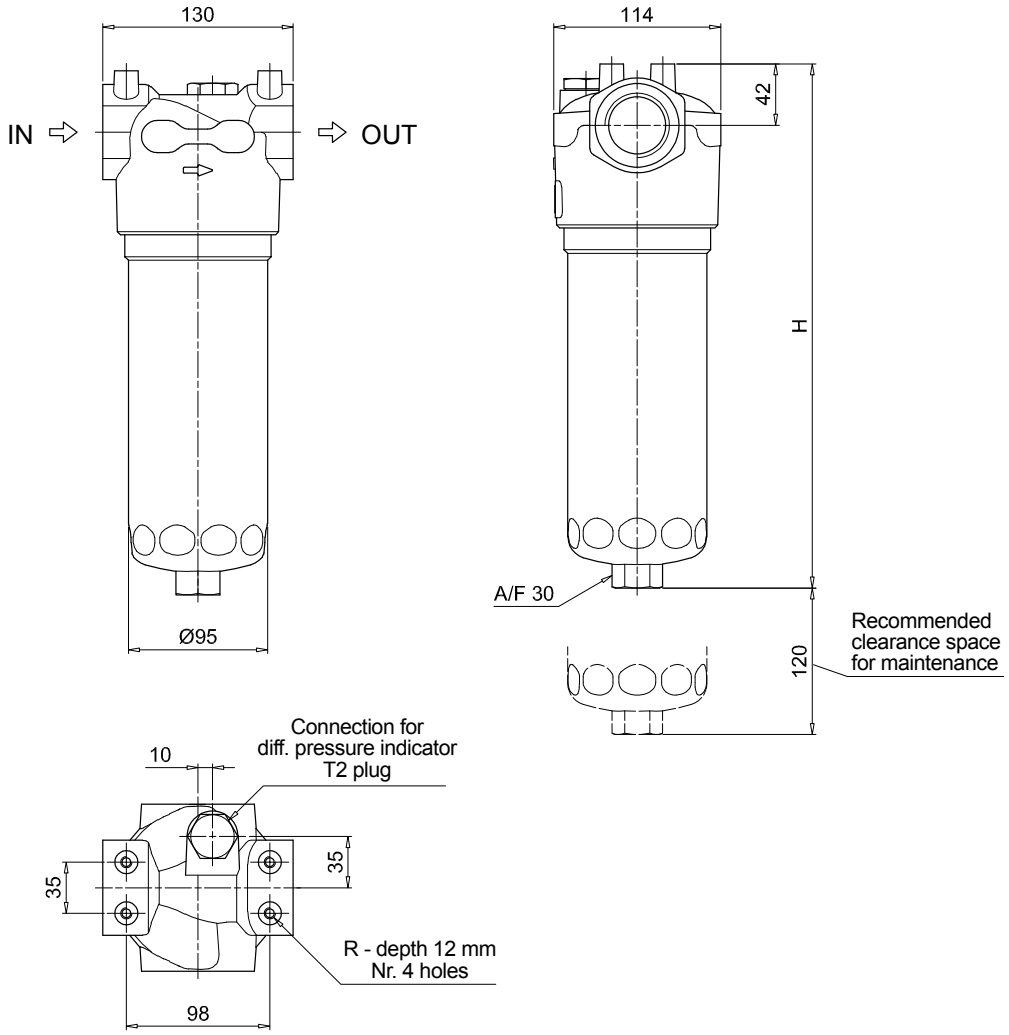
DEA Electrical differential pressure indicator
DEM Electrical differential pressure indicator
DEU Electrical differential pressure indicator
DLA Electrical / visual differential pressure indicator
DLE Electrical / visual differential pressure indicator
DTA Electronic differential pressure indicator
DVA Visual differential pressure indicator
DVM Visual differential pressure indicator

PLUGS

See page 747

T2 Plug

Dimensions



LDP

Filter size	H [mm]
016	268
025	358
040	508

Connections	R
A-B-C	M8
D-E-F-G-H-I	5/16" UNC

Designation & Ordering code

COMPLETE FILTER

Configuration example: LDD | 025 | B | A | C | 6 | A10 | N | P01

Series
LDD

Size
016 Element according to DIN 24550 - T3 DN160
025 Element according to DIN 24550 - T3 DN250
040 Element according to DIN 24550 - T3 DN400

Bypass valve
S Without bypass
B With bypass 3.5 bar

Seals and treatments
A NBR
V FPM

Connections
C G 1 1/2”
F 1 1/2” NPT
I SAE 24 - 1 7/8” - 12 UN
L 1 1/2” SAE 3000 psi/M + G 1 1/4”
M 1 1/2” SAE 3000 psi/UNC + 1 1/4” NPT
N 1 1/2” SAE 3000 psi/UNC + SAE 20 - 1 5/8” UN

Connection for differential pressure indicator
6 With plugged connection

Filtration rating (filter media)
A03 Inorganic microfiber 3 µm
A06 Inorganic microfiber 6 µm
A10 Inorganic microfiber 10 µm
A16 Inorganic microfiber 16 µm
A25 Inorganic microfiber 25 µm
M25 Wire mesh 25 µm
M60 Wire mesh 60 µm
M90 Wire mesh 90 µm
P10 Resin impregnated paper 10 µm
P25 Resin impregnated paper 25 µm

WA025 Water absorber inorganic microfiber 25 µm

Element Δp
N 20 bar

Execution
P01 MP Filtri standard
Pxx Customized

FILTER ELEMENT

Configuration example: DN | 025 | A10 | A | N | P01

Element series
DN

Element size
016 Element according to DIN 24550 - T3 DN160
025 Element according to DIN 24550 - T3 DN250
040 Element according to DIN 24550 - T3 DN400

Filtration rating (filter media)
A03 Inorganic microfiber 3 µm
A06 Inorganic microfiber 6 µm
A10 Inorganic microfiber 10 µm
A16 Inorganic microfiber 16 µm
A25 Inorganic microfiber 25 µm
M25 Wire mesh 25 µm
M60 Wire mesh 60 µm
M90 Wire mesh 90 µm
P10 Resin impregnated paper 10 µm
P25 Resin impregnated paper 25 µm

WA025 Water absorber inorganic microfiber 25 µm

Seals and treatments
A NBR
V FPM

Element Δp
N 20 bar

Execution
P01 MP Filtri standard
Pxx Customized

CLOGGING INDICATORS

See page 726

DEA Electrical differential pressure indicator
DEM Electrical differential pressure indicator
DEU Electrical differential pressure indicator
DLA Electrical / visual differential pressure indicator
DLE Electrical / visual differential pressure indicator
DTA Electronic differential pressure indicator
DVA Visual differential pressure indicator
DVM Visual differential pressure indicator

PLUGS

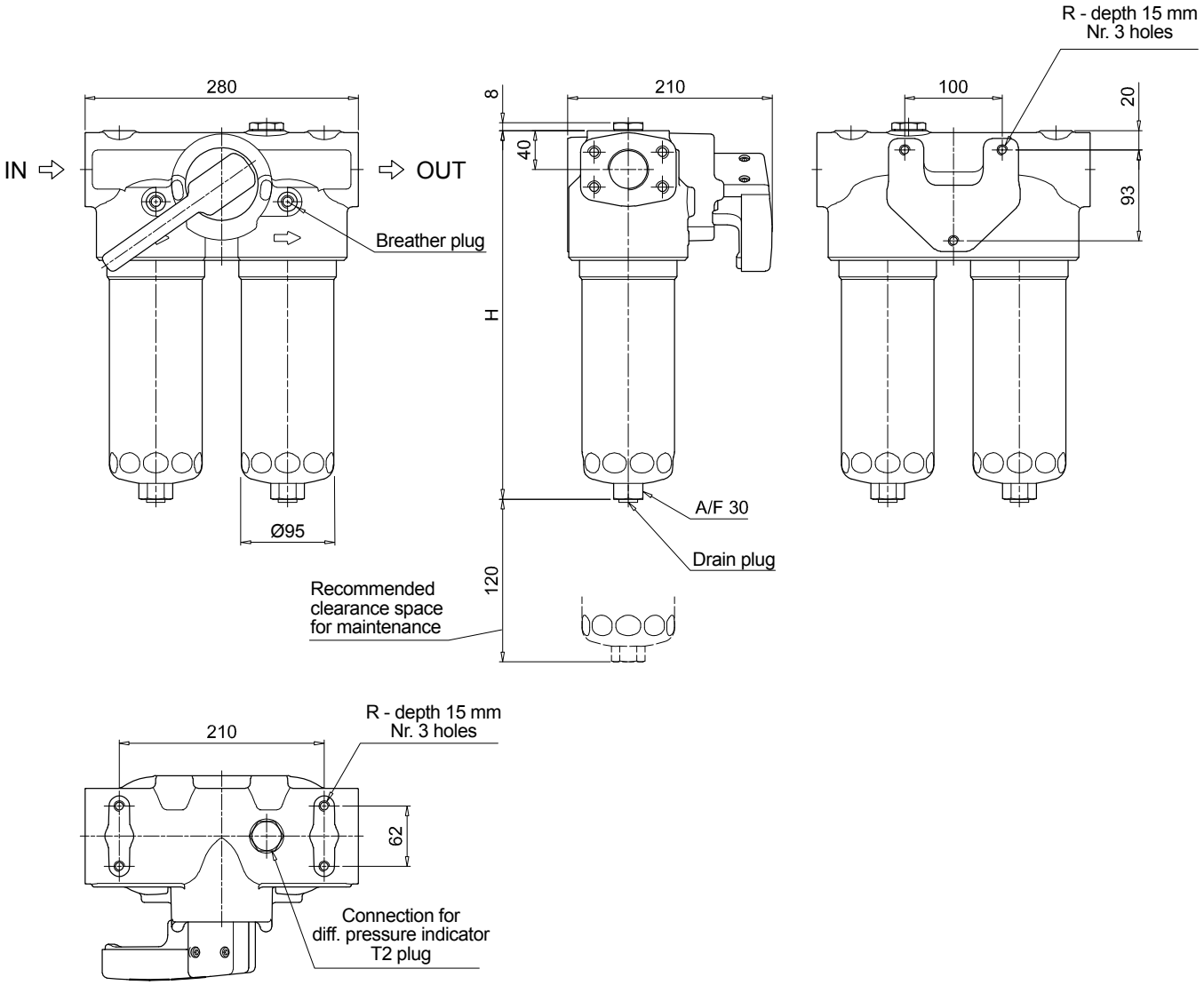
See page 747

T2 Plug

Dimensions

LDD	
Filter size	**H [mm]**
016	293
025	383
040	533

Connections	**R**
C	M10
F - I	3/8" UNC
L	M10
M - N	3/8" UNC

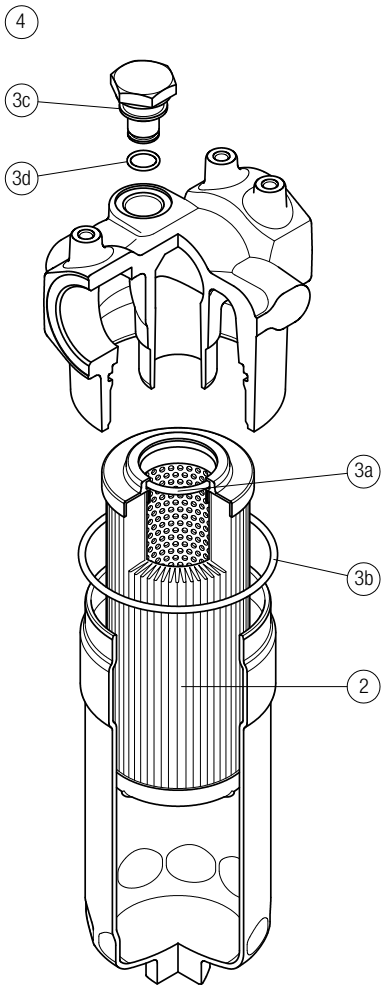


LDP SPARE PARTS

Filters featuring filter elements designed according to DIN 24550

Order number for spare parts

LDP

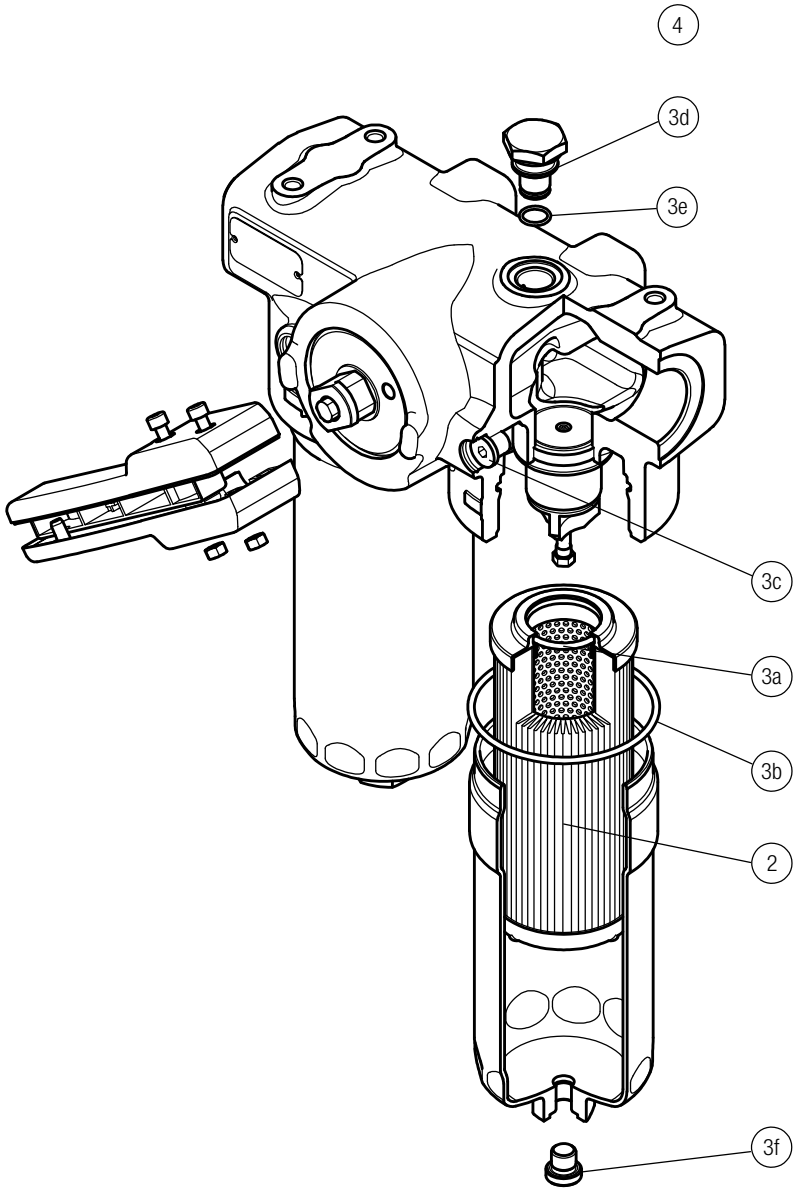


Item:	Q.ty: 1 pc. 2	Q.ty: 1 pc. 3 (3a ÷ 3d)		Q.ty: 1 pc. 4	
Filter series	**Filter element**	**Seal Kit code number NBR**	**FPM**	**Indicator connection plug NBR**	**FPM**
LDP	See order table	02050435	02050436	T2H	T2V

Filters featuring filter elements designed according to DIN 24550

Order number for spare parts

LDD



Item:	Q.ty: 1 pc. (2)	Q.ty: 1 pc. (3) (3a ÷ 3i)		Q.ty: 2 pc. (4)	
Filter series	**Filter element**	**Seal Kit code number NBR**	**Seal Kit code number FPM**	**Indicator connection plug NBR**	**Indicator connection plug FPM**
LDD	See order table	02050671	02050672	T2H	T2V

Designation & Ordering code

DIFFERENTIAL PRESSURE INDICATORS

Configuration example 1:	DE	M	20	H	F	50	P01	
Configuration example 2:	DE	U	50	V	A	50	P01	UL
Configuration example 3:	DL	E	50	V	A	71	P01	
Configuration example 4:	DT	A	20	H	F	70	P01	
Configuration example 5:	DV	M	50	V			P01	

Series

DE	Electrical differential pressure indicator
DL	Electrical/Visual differential pressure indicator
DT	Electronic differential pressure indicator
DV	Visual differential pressure indicator

Type	DE	DL	DT	DV
A Standard type	•	•	•	**A** With automatic reset
M With wired electrical connection	•	-	-	**M** With manual reset
U Standard type 210 bar, UL certified	•	-	-	**S** With automatic reset
E For high power supply	-	•	-	
S Compact version	•	-	-	

Pressure setting	DEA	DEM	DEU	DES	DLA	DLE	DTA	DVA	DVM	DVS
12 1.2 bar	•	•	-	•	•	•	•	•	•	•
20 2.0 bar	•	•	•	-	•	•	•	•	•	-
25 2.5 bar	-	-	-	-	-	-	-	-	-	•
40 4.0 bar	-	-	-	•	-	-	-	-	-	•
50 5.0 bar	•	•	•	-	•	•	•	•	•	-

Seals	DEA	DEM	DEU	DES	DL	DT	DVA	DVM	DVS
H HNBR	•	•	-	•	•	•	•	•	•
V FPM	•	•	•	-	•	•	•	•	-

Thermostat	DEA	DEM	DEU	DES	DLA	DLE	DT
A Without thermostat	•	•	•	•	•	•	-
F With thermostat	-	•	-	-	-	•	•

Electrical connections	DEA	DEM	DEU	DES	DLA	DLE	DT
10 Connection AMP Superseal series 1.5	-	•	-	•	-	-	-
20 Connection AMP Timer Junior	-	•	-	-	-	-	-
30 Connection Deutsch DT-04-2-P	-	•	-	•	-	-	-
35 Connection Deutsch DT-04-3-P	-	•	-	-	-	-	-
50 Connection EN 175301-803	•	-	•	-	-	•	-
51 Connection EN 175301-803, transparent base with lamps 24 Vdc	-	-	-	-	•	-	-
52 Connection EN 175301-803, transparent base with lamps 110 Vdc	-	-	-	-	•	-	-
70 Connection IEC 61076-2-101 D (M12)	-	-	-	-	-	-	•
71 Connection IEC 61076-2-101 D (M12), black base with lamps 24 Vdc	-	-	-	-	•	-	-
80 Connection Stud #10-32 UNF	-	-	-	•	-	-	-

Option	
P01	MP Filtri standard
Pxx	Customized

Certifications	DEU	OTHERS
Without	-	•
UL UL certification	•	-

PLUGS

Configuration example	T2	H

Series

T2	Plug
T4	Plug

Seals	T2	T4
A NBR	-	•
H HNBR	•	-
V FPM	•	-

LDD series

Filters featuring filter elements designed according to DIN 24550

Maximum working pressure up to 6 MPa (60 bar) - Flow rate up to 360 l/min

LDP & LDD GENERAL INFORMATION

Filters featuring filter elements designed according to DIN 24550

Descriptions

Low & Medium Pressure filters

Maximum working pressure up to 6 MPa (60 bar)
Flow rate up to 360 l/min

LDP is a range of versatile low pressure filter for transmission, protection of sensitive components in low pressure hydraulic systems and filtration of the coolant into the machine tools.
They are also suitable for the off-line filtration of small reservoirs.
They are directly connected to the lines of the system through the hydraulic fittings.

Available features:
- Female threaded connections up to 1 1/2", for a maximum return flow rate of 360 l/min
- Filter element designed in accordance with DIN 24550 regulation
- 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.
- Bypass valve, to relieve excessive pressure drop across the filter media
- Visual, electrical and electronic differential clogging indicators

Common applications:
Delivery lines, in low pressure industrial equipment or mobile machines

LDD 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 360 l/min
- Filter element designed in accordance with DIN 24550 regulation
- 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 - Polyamide

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
- Microfibre filter elements - series N: 20 bar
- Fluid flow through the filter 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
LDP - LDD filters are provided for vertical mounting

Weights [kg] and volumes [dm³]

Filter series	Weights [kg]	Volumes [dm³]
LDP 016	2.0	1.2
LDP 025	3.0	1.6
LDP 040	5.0	2.2
LDD 016	9.3	3.6
LDD 025	9.5	4.1
LDD 040	11.3	4.8

Filters featuring filter elements designed according to DIN 24550

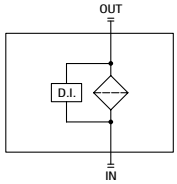
Flow rates [l/min]

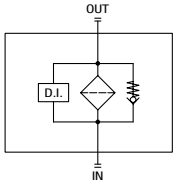
	Filter element design - N Series									
Filter series	A03	A06	A10	A16	A25	M25	M60	M90	P10	P25
LDP 016	83	91	178	198	222	350	353	358	295	309
LDP 025	124	134	227	245	265	357	358	358	319	330
LDP 040	173	191	274	284	311	359	360	361	332	337
LDD 016	68	73	120	130	140	189	190	192	169	174
LDD 025	93	98	142	149	157	191	192	192	178	181
LDD 040	118	126	161	165	175	192	192	193	182	184

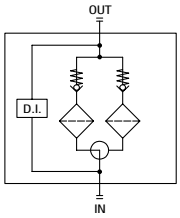
Maximum flow rate for a complete low and medium pressure filter with a pressure drop Δp = 0.7 bar.
The reference fluid has a kinematic viscosity of 30 mm^2/s (cSt) and a density of 0.86 kg/dm^3.

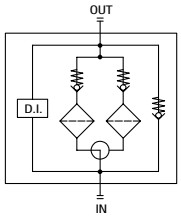
Hydraulic symbols

Filter series	Execution S	Execution B	Execution S	Execution B
LDP 016	•	•	-	-
LDP 025	•	•	-	-
LDP 040	•	•	-	-
LDD 016	-	-	•	•
LDD 025	-	-	•	•
LDD 040	-	-	•	•



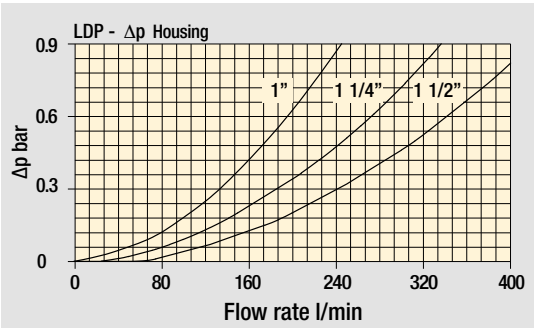


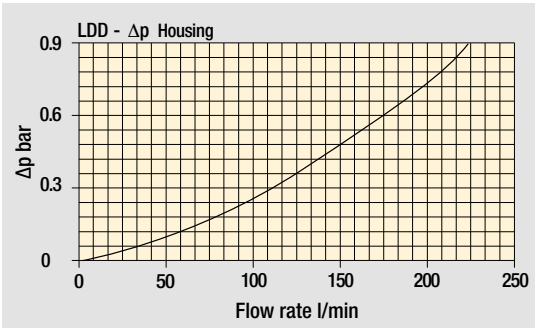




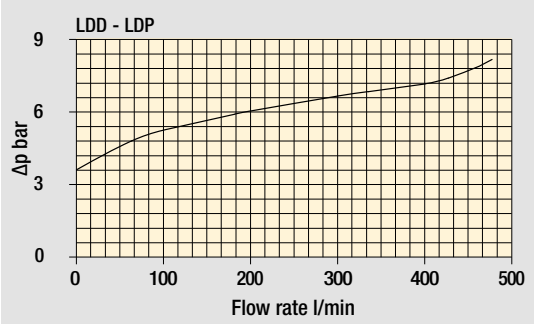
Pressure drop

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.

Designation & Ordering code

COMPLETE FILTER

Configuration example: LDP | 025 | B | A | D | 6 | A10 | N | P01

Series
LDP

Size
016 Element according to DIN 24550 - T3 DN160
025 Element according to DIN 24550 - T3 DN250
040 Element according to DIN 24550 - T3 DN400

Bypass valve
S Without bypass
B With bypass 3.5 bar

Seals and treatments
A NBR
V FPM

Connections
A G 1”
B G 1 1/4”
C G 1 1/2”
D 1” NPT
E 1 1/4” NPT
F 1 1/2” NPT
G SAE 16 - 1 5/16” - 12 UN
H SAE 20 - 1 5/8” - 12 UN
I SAE 24 - 1 7/8” - 12 UN

Connection for differential pressure indicator
6 With plugged connection

Filtration rating (filter media)
A03 Inorganic microfiber 3 µm
A06 Inorganic microfiber 6 µm
A10 Inorganic microfiber 10 µm
A16 Inorganic microfiber 16 µm
A25 Inorganic microfiber 25 µm
M25 Wire mesh 25 µm
M60 Wire mesh 60 µm
M90 Wire mesh 90 µm
P10 Resin impregnated paper 10 µm
P25 Resin impregnated paper 25 µm

WA025 Water absorber inorganic microfiber 25 µm

Element Δp
N 20 bar

Execution
P01 MP Filtri standard
Pxx Customized

FILTER ELEMENT

Configuration example: DN | 025 | A10 | A | N | P01

Element series
DN

Element size
016 Element according to DIN 24550 - T3 DN160
025 Element according to DIN 24550 - T3 DN250
040 Element according to DIN 24550 - T3 DN400

Filtration rating (filter media)
A03 Inorganic microfiber 3 µm
A06 Inorganic microfiber 6 µm
A10 Inorganic microfiber 10 µm
A16 Inorganic microfiber 16 µm
A25 Inorganic microfiber 25 µm
M25 Wire mesh 25 µm
M60 Wire mesh 60 µm
M90 Wire mesh 90 µm
P10 Resin impregnated paper 10 µm
P25 Resin impregnated paper 25 µm

WA025 Water absorber inorganic microfiber 25 µm

Seals and treatments
A NBR
V FPM

Element Δp
N 20 bar

Execution
P01 MP Filtri standard
Pxx Customized

CLOGGING INDICATORS

See page 726

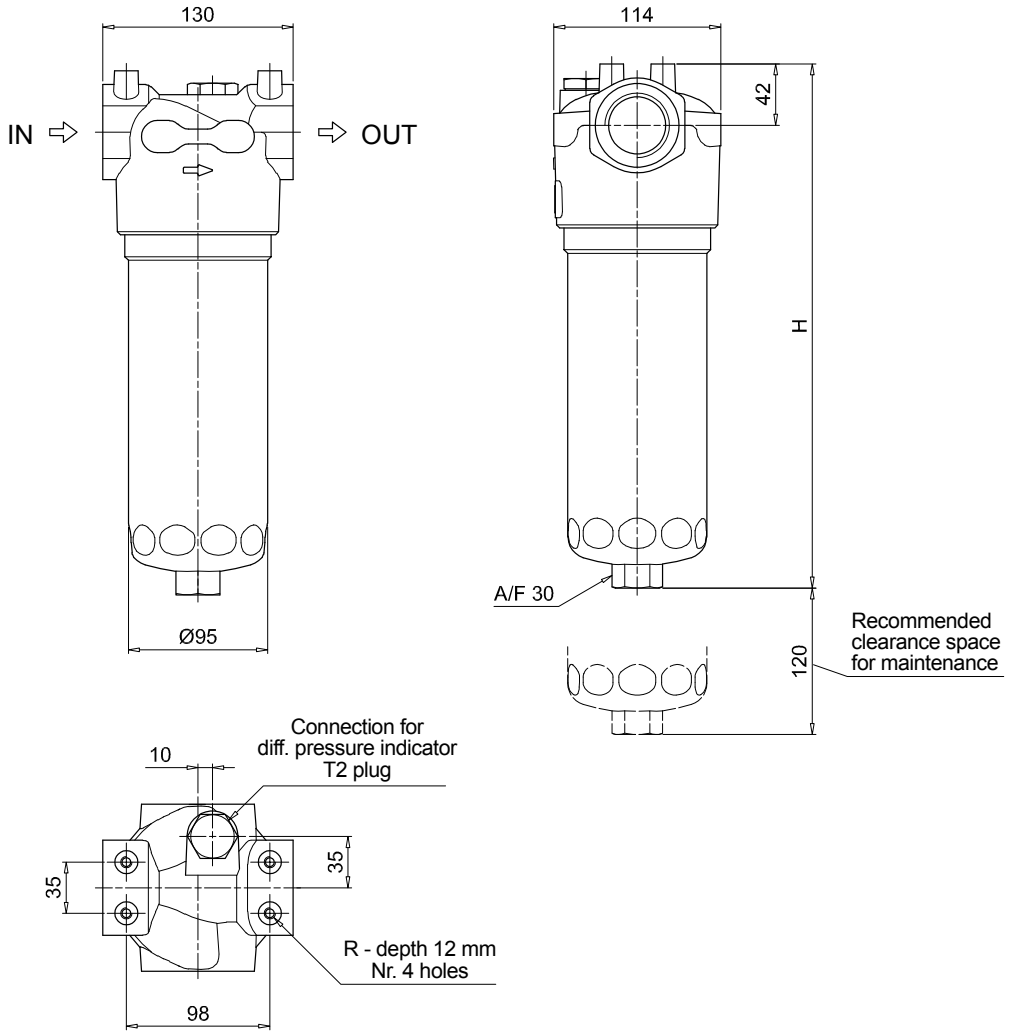
DEA Electrical differential pressure indicator
DEM Electrical differential pressure indicator
DEU Electrical differential pressure indicator
DLA Electrical / visual differential pressure indicator
DLE Electrical / visual differential pressure indicator
DTA Electronic differential pressure indicator
DVA Visual differential pressure indicator
DVM Visual differential pressure indicator

PLUGS

See page 747

T2 Plug

Dimensions



LDP

Filter size	H [mm]
016	268
025	358
040	508

Connections	R
A-B-C	M8
D-E-F-G-H-I	5/16" UNC

Designation & Ordering code

COMPLETE FILTER

Configuration example: LDD | 025 | B | A | C | 6 | A10 | N | P01

Series
LDD

Size
016 Element according to DIN 24550 - T3 DN160
025 Element according to DIN 24550 - T3 DN250
040 Element according to DIN 24550 - T3 DN400

Bypass valve
S Without bypass
B With bypass 3.5 bar

Seals and treatments
A NBR
V FPM

Connections
C G 1 1/2”
F 1 1/2” NPT
I SAE 24 - 1 7/8” - 12 UN
L 1 1/2” SAE 3000 psi/M + G 1 1/4”
M 1 1/2” SAE 3000 psi/UNC + 1 1/4” NPT
N 1 1/2” SAE 3000 psi/UNC + SAE 20 - 1 5/8” UN

Connection for differential pressure indicator
6 With plugged connection

Filtration rating (filter media)
A03 Inorganic microfiber 3 µm
A06 Inorganic microfiber 6 µm
A10 Inorganic microfiber 10 µm
A16 Inorganic microfiber 16 µm
A25 Inorganic microfiber 25 µm
M25 Wire mesh 25 µm
M60 Wire mesh 60 µm
M90 Wire mesh 90 µm
P10 Resin impregnated paper 10 µm
P25 Resin impregnated paper 25 µm

WA025 Water absorber inorganic microfiber 25 µm

Element Δp
N 20 bar

Execution
P01 MP Filtri standard
Pxx Customized

FILTER ELEMENT

Configuration example: DN | 025 | A10 | A | N | P01

Element series
DN

Element size
016 Element according to DIN 24550 - T3 DN160
025 Element according to DIN 24550 - T3 DN250
040 Element according to DIN 24550 - T3 DN400

Filtration rating (filter media)
A03 Inorganic microfiber 3 µm
A06 Inorganic microfiber 6 µm
A10 Inorganic microfiber 10 µm
A16 Inorganic microfiber 16 µm
A25 Inorganic microfiber 25 µm
M25 Wire mesh 25 µm
M60 Wire mesh 60 µm
M90 Wire mesh 90 µm
P10 Resin impregnated paper 10 µm
P25 Resin impregnated paper 25 µm

WA025 Water absorber inorganic microfiber 25 µm

Seals and treatments
A NBR
V FPM

Element Δp
N 20 bar

Execution
P01 MP Filtri standard
Pxx Customized

CLOGGING INDICATORS

See page 726

DEA Electrical differential pressure indicator
DEM Electrical differential pressure indicator
DEU Electrical differential pressure indicator
DLA Electrical / visual differential pressure indicator
DLE Electrical / visual differential pressure indicator
DTA Electronic differential pressure indicator
DVA Visual differential pressure indicator
DVM Visual differential pressure indicator

PLUGS

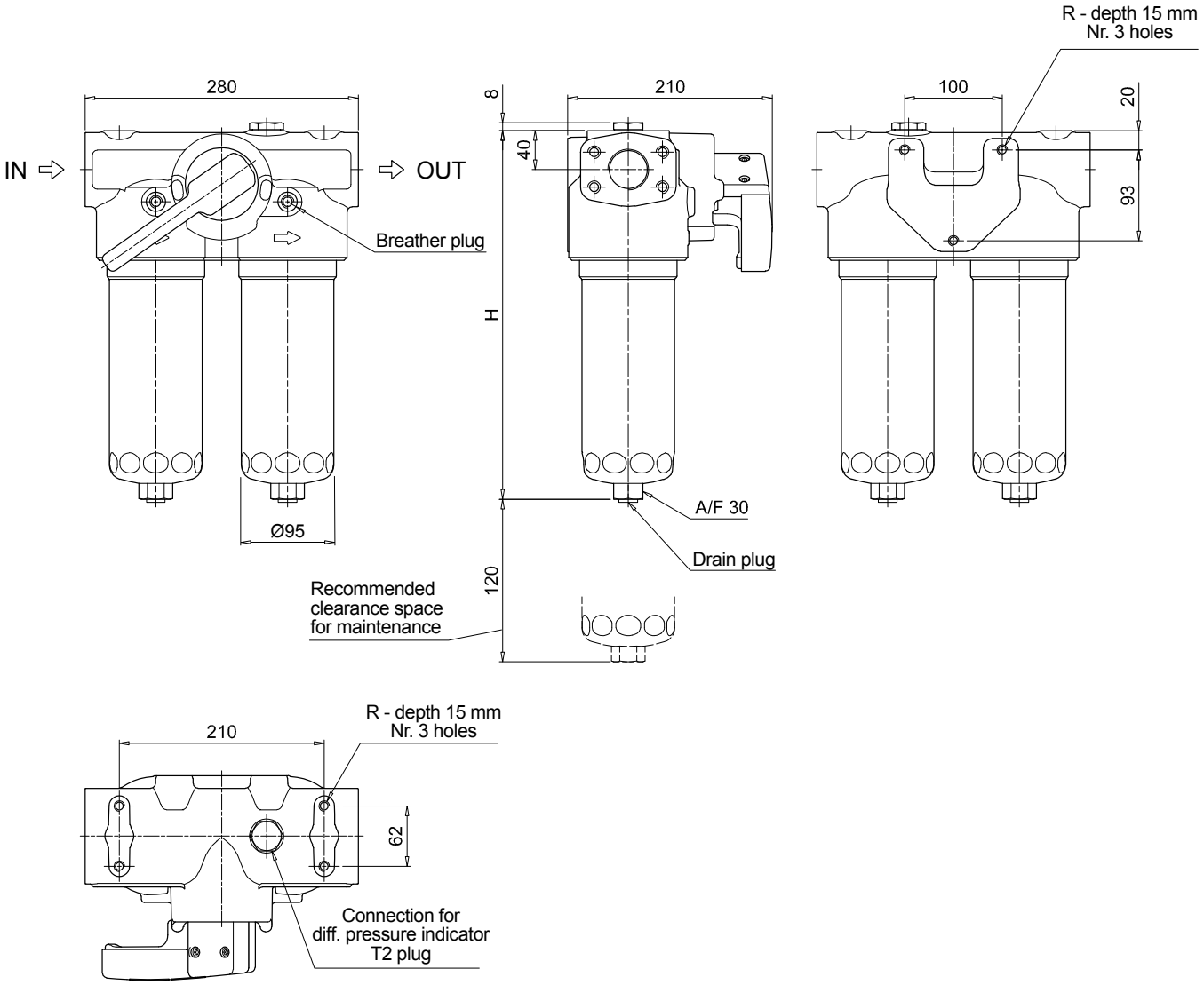
See page 747

T2 Plug

Dimensions

LDD	
Filter size	**H [mm]**
016	293
025	383
040	533

Connections	**R**
C	M10
F - I	3/8" UNC
L	M10
M - N	3/8" UNC

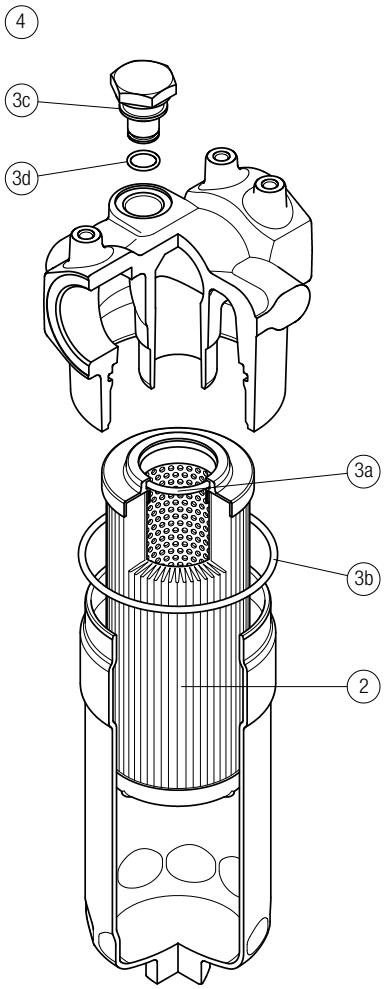


LDP SPARE PARTS

Filters featuring filter elements designed according to DIN 24550

Order number for spare parts

LDP

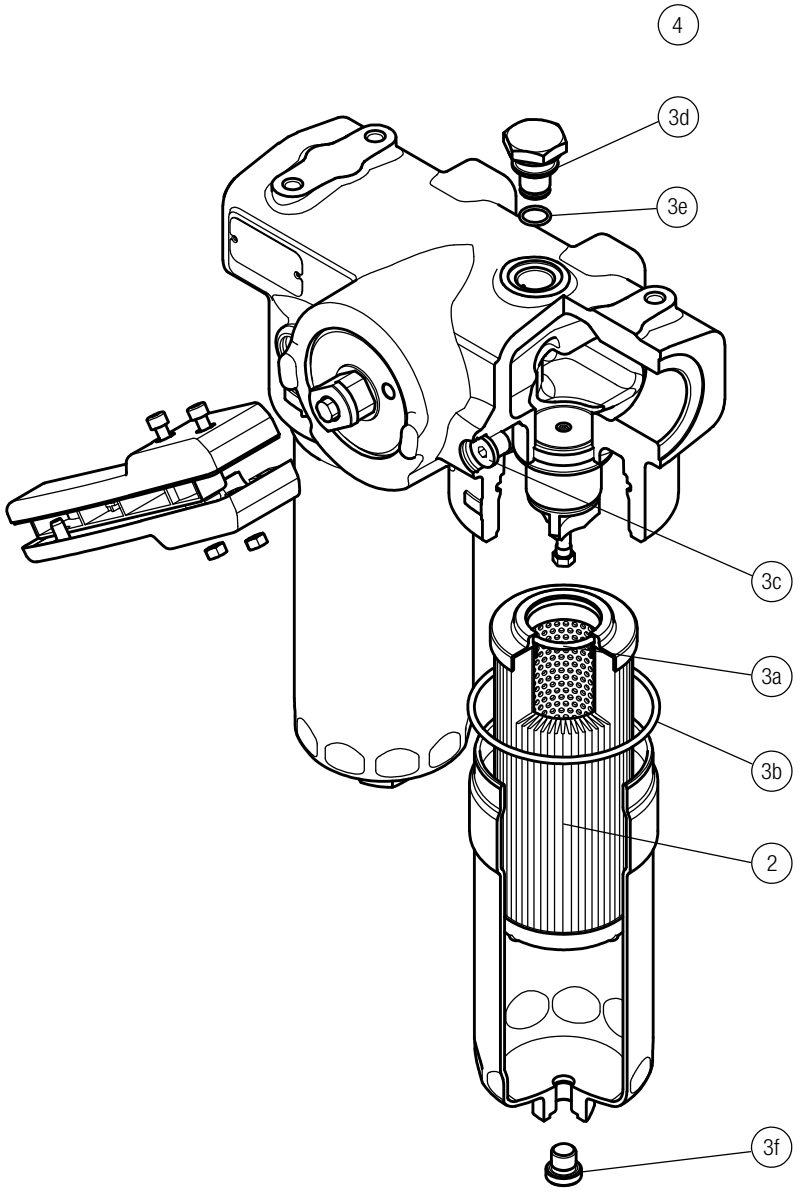


Item:	Q.ty: 1 pc. 2	Q.ty: 1 pc. 3 (3a ÷ 3d)		Q.ty: 1 pc. 4	
Filter series	**Filter element**	**Seal Kit code number NBR**	**FPM**	**Indicator connection plug NBR**	**FPM**
LDP	See order table	02050435	02050436	T2H	T2V

Filters featuring filter elements designed according to DIN 24550

Order number for spare parts

LDD



Item:	Q.ty: 1 pc. (2)	Q.ty: 1 pc. (3) (3a ÷ 3i)		Q.ty: 2 pc. (4)	
Filter series	**Filter element**	**Seal Kit code number NBR**	**Seal Kit code number FPM**	**Indicator connection plug NBR**	**Indicator connection plug FPM**
LDD	See order table	02050671	02050672	T2H	T2V

Designation & Ordering code

DIFFERENTIAL PRESSURE INDICATORS

Configuration example 1:	DE	M	20	H	F	50	P01	
Configuration example 2:	DE	U	50	V	A	50	P01	UL
Configuration example 3:	DL	E	50	V	A	71	P01	
Configuration example 4:	DT	A	20	H	F	70	P01	
Configuration example 5:	DV	M	50	V			P01	

Series

DE	Electrical differential pressure indicator
DL	Electrical/Visual differential pressure indicator
DT	Electronic differential pressure indicator
DV	Visual differential pressure indicator

Type	DE	DL	DT	DV
A Standard type	•	•	•	**A** With automatic reset
M With wired electrical connection	•	-	-	**M** With manual reset
U Standard type 210 bar, UL certified	•	-	-	**S** With automatic reset
E For high power supply	-	•	-	
S Compact version	•	-	-	

Pressure setting	DEA	DEM	DEU	DES	DLA	DLE	DTA	DVA	DVM	DVS
12 1.2 bar	•	•	-	•	•	•	•	•	•	•
20 2.0 bar	•	•	•	-	•	•	•	•	•	-
25 2.5 bar	-	-	-	-	-	-	-	-	-	•
40 4.0 bar	-	-	-	•	-	-	-	-	-	•
50 5.0 bar	•	•	•	-	•	•	•	•	•	-

Seals	DEA	DEM	DEU	DES	DL	DT	DVA	DVM	DVS
H HNBR	•	•	-	•	•	•	•	•	•
V FPM	•	•	•	-	•	•	•	•	-

Thermostat	DEA	DEM	DEU	DES	DLA	DLE	DT
A Without thermostat	•	•	•	•	•	•	-
F With thermostat	-	•	-	-	-	•	•

Electrical connections	DEA	DEM	DEU	DES	DLA	DLE	DT
10 Connection AMP Superseal series 1.5	-	•	-	•	-	-	-
20 Connection AMP Timer Junior	-	•	-	-	-	-	-
30 Connection Deutsch DT-04-2-P	-	•	-	•	-	-	-
35 Connection Deutsch DT-04-3-P	-	•	-	-	-	-	-
50 Connection EN 175301-803	•	-	•	-	-	•	-
51 Connection EN 175301-803, transparent base with lamps 24 Vdc	-	-	-	-	•	-	-
52 Connection EN 175301-803, transparent base with lamps 110 Vdc	-	-	-	-	•	-	-
70 Connection IEC 61076-2-101 D (M12)	-	-	-	-	-	-	•
71 Connection IEC 61076-2-101 D (M12), black base with lamps 24 Vdc	-	-	-	-	•	-	-
80 Connection Stud #10-32 UNF	-	-	-	•	-	-	-

Option	
P01	MP Filtri standard
Pxx	Customized

Certifications	DEU	OTHERS
Without	-	•
UL UL certification	•	-

PLUGS

Configuration example	T2	H

Series

T2	Plug
T4	Plug

Seals	T2	T4
A NBR	-	•
H HNBR	•	-
V FPM	•	-

LMP 900-901 series

Filters featuring filter elements designed according to DIN 24550

Maximum working pressure up to 3 MPa (30 bar) - Flow rate up to 2000 l/min

LMP 900-901 GENERAL INFORMATION

Filters featuring filter elements designed according to DIN 24550

Description

Low & Medium Pressure filters

Maximum working pressure up to 3 MPa (30 bar)
Flow rate up to 2000 l/min

LMP900 is a range of low pressure filter with large filtration surface mainly suitable for lubrication, off-line filtration of the reservoirs and filtration equipment.
They are directly connected to the lines of the system through the hydraulic fittings.

Available features:
- Flanged connections up to 4", for a maximum flow rate of 2000 l/min
- In line or 90° connections, to meet any type of application
- Filter element designed in accordance with DIN 24550 regulation
- 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.
- 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:
- Off-line filtration of reservoirs
- Filtration systems
- Lubrication systems

Technical data

Filter housing materials
- Head: Anodized aluminium
- Housing: Anodized aluminium
- Manifolds: Anodized aluminium
- Bypass valve: Steel

Pressure
- Test pressure: 4.5 MPa (45 bar)
- Burst pressure: 12 MPa (120 bar)
- Pulse pressure fatigue test: 1 000 000 cycles with pressure from 0 to 3 MPa (30 bar)

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

Number of filter elements
LMP 900-1: 1 filter element CU900
LMP 900-2: 2 filter elements CU900

Filter elements
Filter element designed in accordance with DIN 24550
Size: 1000

Δp element type
- Microfibre filter elements - series N: 20 bar
- Fluid flow through the filter element from OUT to IN

Connections
LMP 900: In-line Inlet/Outlet
LMP 901: 90° Inlet/Outlet

Seals
- Standard NBR series A
- Optional FPM series V

Temperature
From -25 °C to +110 °C

Note
LMP 900 - 901 filters are provided for vertical mounting

Weights [kg] and volumes [dm³]

Filter series	Weights [kg]			Volumes [dm³]		
	Length	1	2	Length	1	2
LMP 900-901		19.2	30.4		16	24

Filters featuring filter elements designed according to DIN 24550

Flow rates [l/min]

Filter series	Length	Filter element design - N Series					
		A03	A06	A10	A16	A25	M25 M60 M90
LMP 900	**1**	706	877	1264	1291	1444	1803
	2	1100	1264	1556	1573	1668	1867
LMP 901	**1**	715	899	1337	1369	1552	2000
	2	1147	1337	1689	1710	1828	2081

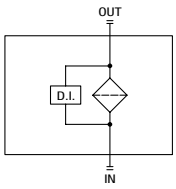
Maximum flow rate for a complete low and medium pressure filter with a pressure drop Δp = 0.7 bar.
The reference fluid has a kinematic viscosity of 30 mm^2/s (cSt) and a density of 0.86 kg/dm^3.

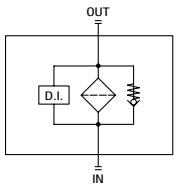
LMP 900-901 Length 2

LMP 900 - 901 length 2 filters are equipped with two 1000 size cartridges in compliance with DIN 24550 standard, connected by means of a removable coupling spigot.

Hydraulic symbols

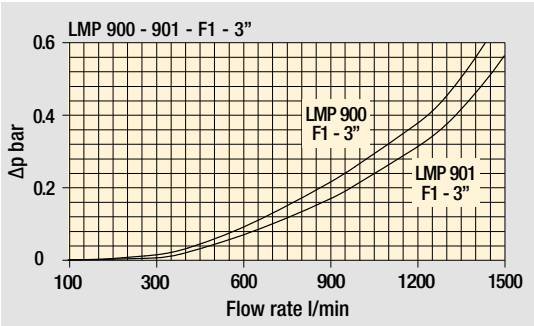
Filter series	Execution S	Execution B
LMP 900-901	•	•

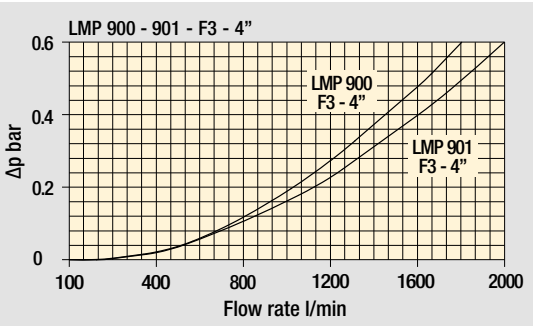




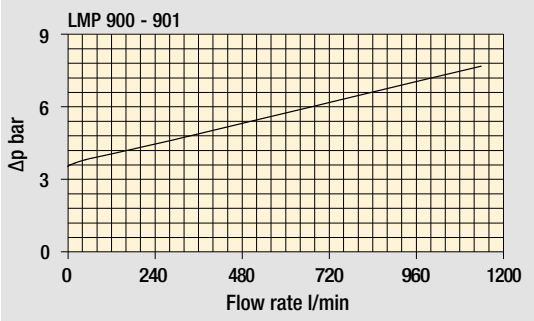
Pressure drop

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.

LMP 900-901 Filters featuring filter elements designed according to DIN 24550

Designation & Ordering code

COMPLETE FILTER

Configuration example: LMP901 | 2 | B | A | F2 | A10 | N | P01

Series and size
LMP900 | **LMP901**

Length
1 | **2**

Bypass valve
S Without bypass
B With bypass 3.5 bar

Seals and treatments
A NBR
V FPM

Connections
F1 3" SAE 3000 psi/M
F2 3" SAE 3000 psi/UNC
F3 4" SAE 3000 psi/M
F4 4" SAE 3000 psi/UNC

Filtration rating (filter media)
A03 Inorganic microfiber 3 µm
A06 Inorganic microfiber 6 µm
A10 Inorganic microfiber 10 µm
A16 Inorganic microfiber 16 µm
A25 Inorganic microfiber 25 µm
M25 Wire mesh 25 µm
M60 Wire mesh 60 µm
M90 Wire mesh 90 µm
WA025 Water absorber inorganic microfiber 25 µm

Element Δp
N 20 bar

Execution

	Filter length 1	Filter length 2
P01 MP Filtri standard	•	•
P02 Maintenance from the bottom of the housing	-	•
Pxx Customized		

FILTER ELEMENT

Configuration example: CU900 | A10 | A | N | P01

Element series and size
CU900

Length
1 Nr. 1 filter element
2 Nr. 2 filter elements

Filtration rating (filter media)
A03 Inorganic microfiber 3 µm
A06 Inorganic microfiber 6 µm
A10 Inorganic microfiber 10 µm
A16 Inorganic microfiber 16 µm
A25 Inorganic microfiber 25 µm
M25 Wire mesh 25 µm
M60 Wire mesh 60 µm
M90 Wire mesh 90 µm
WA025 Water absorber inorganic microfiber 25 µm

Seals
A NBR
V FPM

Element Δp
N 20 bar

Execution
P01 MP Filtri standard
Pxx Customized

CLOGGING INDICATORS

See page 726

DEA Electrical differential pressure indicator
DEM Electrical differential pressure indicator
DEU Electrical differential pressure indicator
DLA Electrical / visual differential pressure indicator
DLE Electrical / visual differential pressure indicator
DTA Electronic differential pressure indicator
DVA Visual differential pressure indicator
DVM Visual differential pressure indicator

PLUGS

See page 747

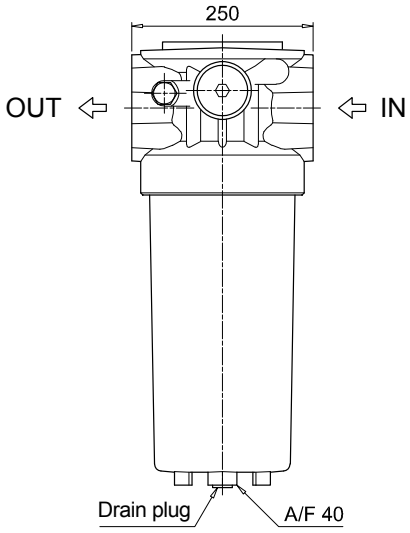
T2 Plug - Filter length 1 - 2

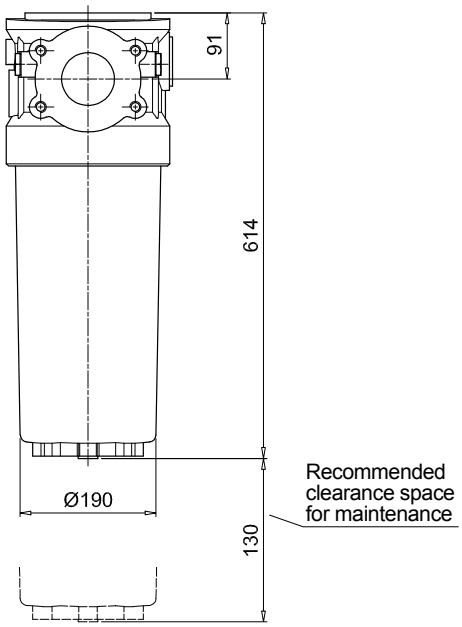
ACCESSORIES

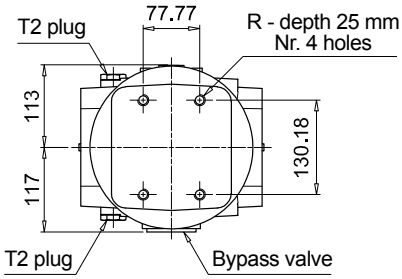
See page 472

CFA Retaining clamp - Filter length 2

Dimensions





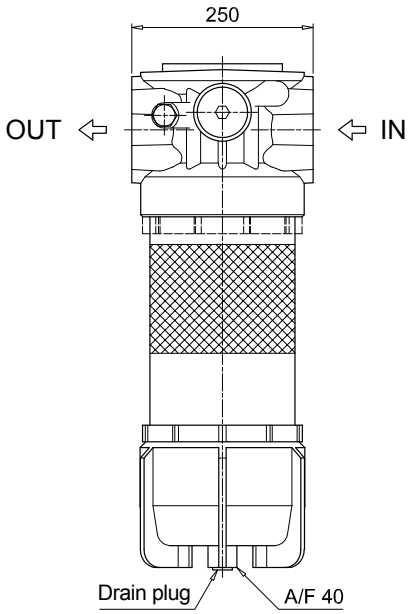


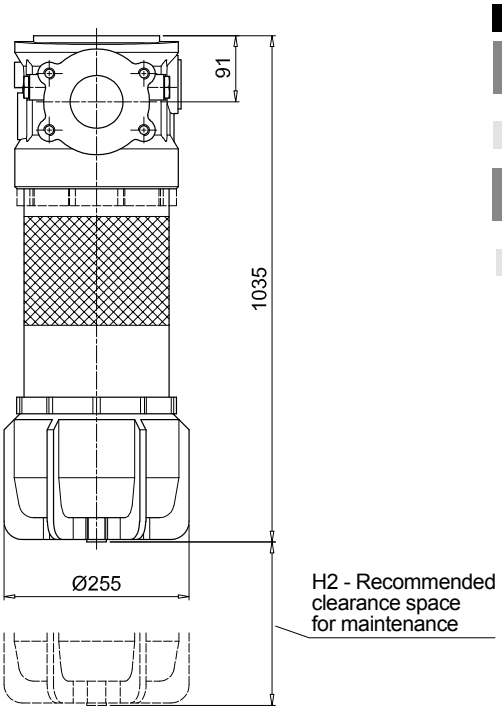
T2 plug = connection for differential pressure indicator

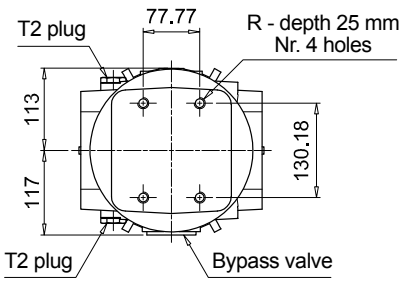
LMP900

Length 1

Connections	R
F1 - F3	M16
F2 - F4	5/8" UNC







T2 plug = connection for differential pressure indicator

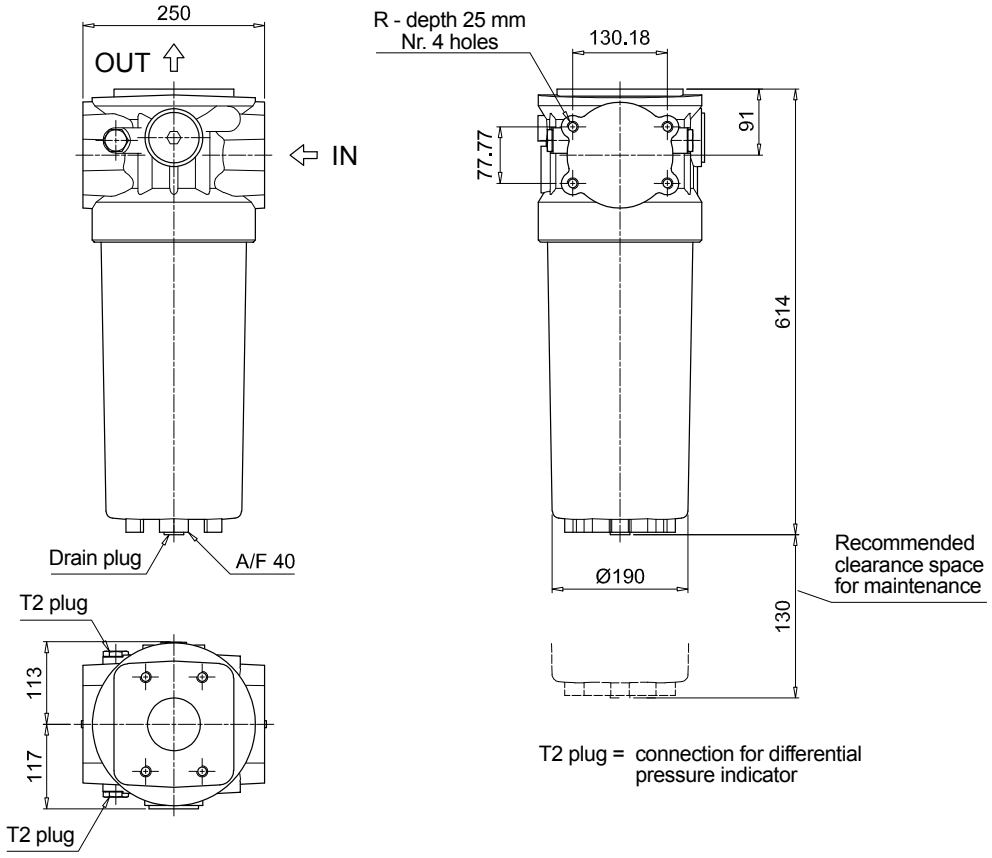
LMP900

Length 2

Execution	H2 [mm]
P01	130
P02	800

Connections	R
F1 - F3	M16
F2 - F4	5/8" UNC

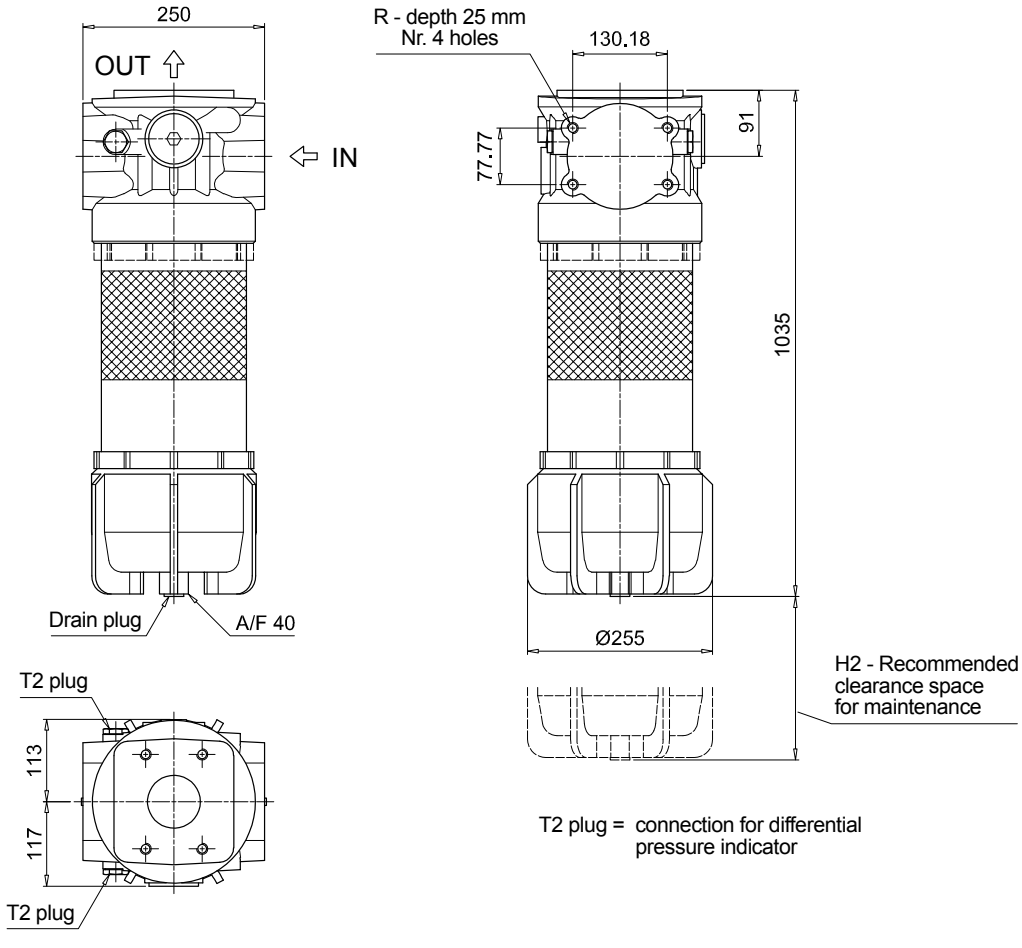
Dimensions



LMP901

Length 1

Connections	R
F1 - F3	M16
F2 - F4	5/8" UNC



LMP901

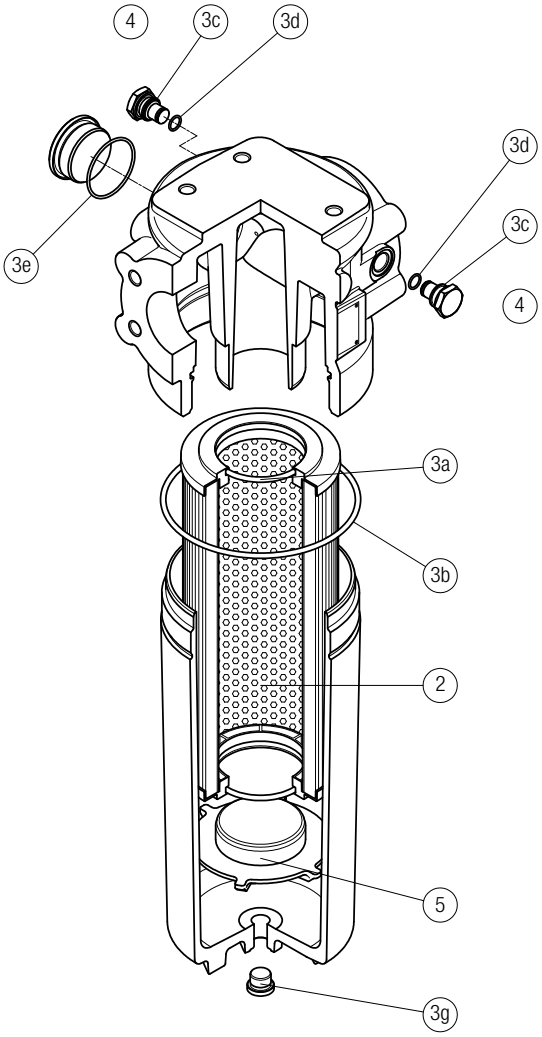
Length 2

Execution	H2 [mm]
P01	130
P02	800

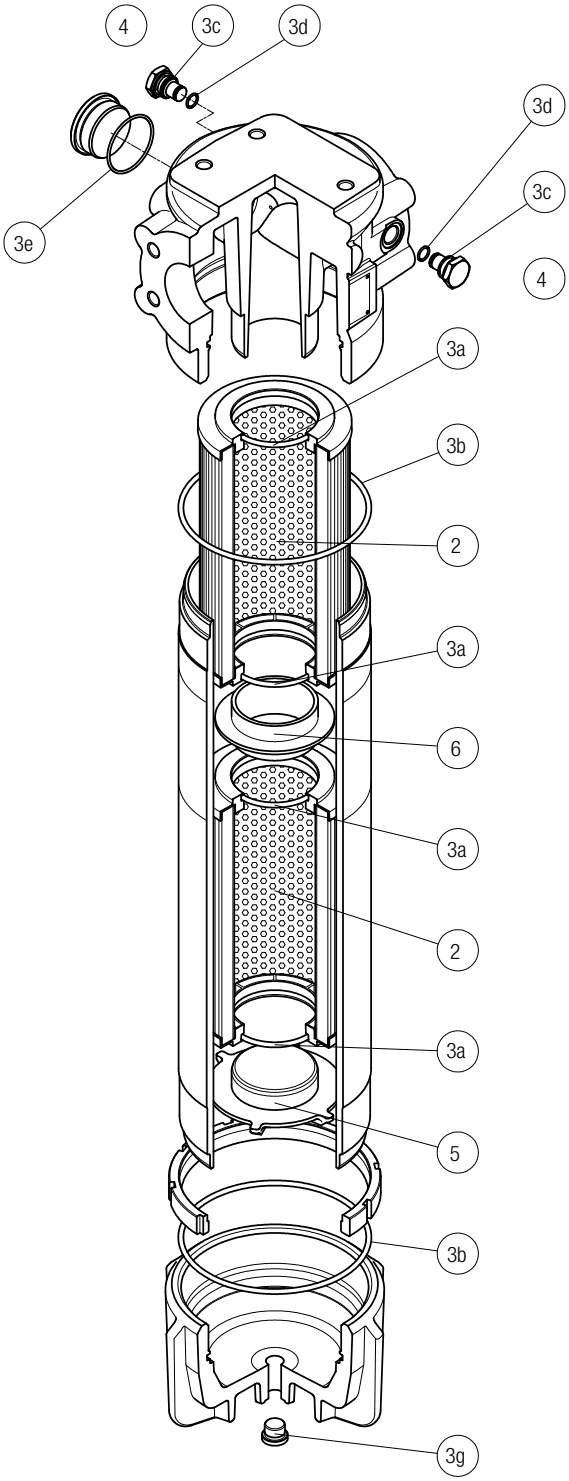
Connections	R
F1 - F3	M16
F2 - F4	5/8" UNC

Order number for spare parts

LMP 900 - 901
length 1



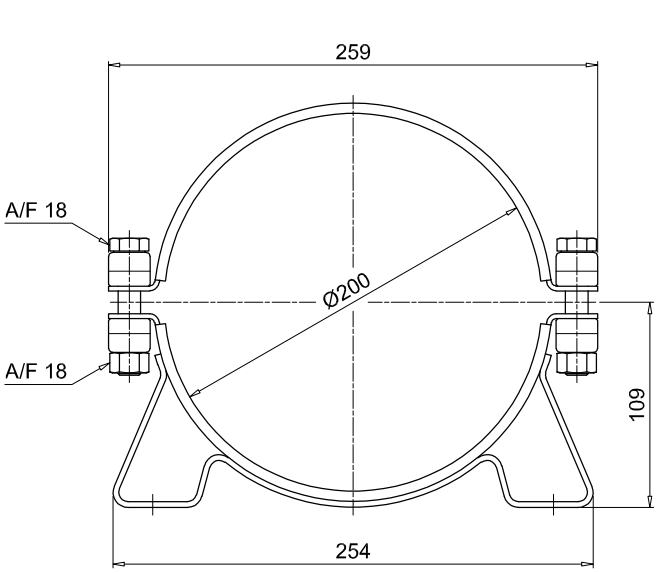
LMP 900 - 901
length 2

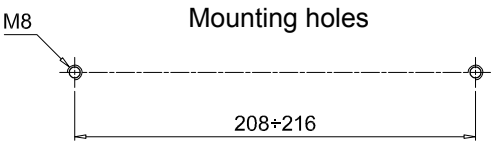


Item:	2		3 (3a ÷ 3g)			4			5		6	
Filter series	Filter element Q.ty		Seal Kit code number Q.ty	NBR	FPM	Indicator connection plug Q.ty	NBR	FPM	Housing spigot Q.ty		Coupling spigot Q.ty	
LMP 900-901 length 1	1 pc.	See order table	1 pc.	02050363	02050364	2 pcs.	T2H	T2V	1 pc.	01044104	-	01044099
LMP 900-901 length 2	2 pcs.		1 pc.	02050365	02050366	2 pcs.			1 pc.		1 pc.	

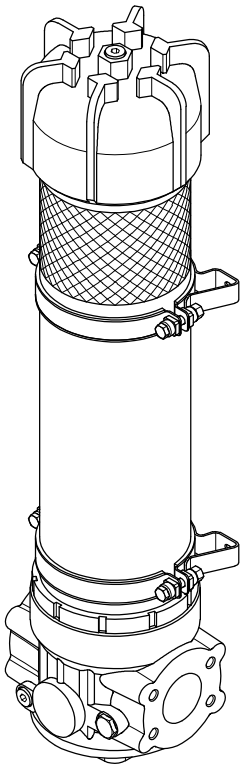
Accessories

RETAINING CLAMP





example
LMP950



Series		
CFA	Retaining clamp	
Size		
20		
Screw		
M	Metric	
Execution		
P01	MP Filtri standard	

Configuration example: CFA | 20 | M | P01

Designation & Ordering code

DIFFERENTIAL PRESSURE INDICATORS

Configuration example 1:	DE	M	20	H	F	50	P01	
Configuration example 2:	DE	U	50	V	A	50	P01	UL
Configuration example 3:	DL	E	50	V	A	71	P01	
Configuration example 4:	DT	A	20	H	F	70	P01	
Configuration example 5:	DV	M	50	V			P01	

Series

DE	Electrical differential pressure indicator
DL	Electrical/Visual differential pressure indicator
DT	Electronic differential pressure indicator
DV	Visual differential pressure indicator

Type	DE	DL	DT	DV
A Standard type	•	•	•	**A** With automatic reset
M With wired electrical connection	•	-	-	**M** With manual reset
U Standard type 210 bar, UL certified	•	-	-	**S** With automatic reset
E For high power supply	-	•	-	
S Compact version	•	-	-	

Pressure setting	DEA	DEM	DEU	DES	DLA	DLE	DTA	DVA	DVM	DVS
12 1.2 bar	•	•	-	•	•	•	•	•	•	•
20 2.0 bar	•	•	•	-	•	•	•	•	•	-
25 2.5 bar	-	-	-	-	-	-	-	-	-	•
40 4.0 bar	-	-	-	•	-	-	-	-	-	•
50 5.0 bar	•	•	•	-	•	•	•	•	•	-

Seals	DEA	DEM	DEU	DES	DL	DT	DVA	DVM	DVS
H HNBR	•	•	-	•	•	•	•	•	•
V FPM	•	•	•	-	•	•	•	•	-

Thermostat	DEA	DEM	DEU	DES	DLA	DLE	DT
A Without thermostat	•	•	•	•	•	•	-
F With thermostat	-	•	-	-	-	•	•

Electrical connections	DEA	DEM	DEU	DES	DLA	DLE	DT
10 Connection AMP Superseal series 1.5	-	•	-	•	-	-	-
20 Connection AMP Timer Junior	-	•	-	-	-	-	-
30 Connection Deutsch DT-04-2-P	-	•	-	•	-	-	-
35 Connection Deutsch DT-04-3-P	-	•	-	-	-	-	-
50 Connection EN 175301-803	•	-	•	-	-	•	-
51 Connection EN 175301-803, transparent base with lamps 24 Vdc	-	-	-	-	•	-	-
52 Connection EN 175301-803, transparent base with lamps 110 Vdc	-	-	-	-	•	-	-
70 Connection IEC 61076-2-101 D (M12)	-	-	-	-	-	-	•
71 Connection IEC 61076-2-101 D (M12), black base with lamps 24 Vdc	-	-	-	-	•	-	-
80 Connection Stud #10-32 UNF	-	-	-	•	-	-	-

Option	
P01	MP Filtri standard
Pxx	Customized

Certifications	DEU	OTHERS
Without	-	•
UL UL certification	•	-

PLUGS

Configuration example	T2	H

Series

T2	Plug
T4	Plug

Seals	T2	T4
A NBR	-	•
H HNBR	•	-
V FPM	•	-

LMP 902-903 series

Filters featuring filter elements designed according to DIN 24550

Maximum working pressure up to 2 MPa (20 bar) - Flow rate up to 3000 l/min

LMP 902-903 GENERAL INFORMATION

Filters featuring filter elements designed according to DIN 24550

Description

Low & Medium Pressure filters

Maximum working pressure up to 2 MPa (20 bar)
Flow rate up to 3000 l/min

LMP902 and LMP903 are ranges of low pressure filter with large filtration surface mainly suitable for lubrication, off-line filtration of the reservoirs and filtration equipment.
Multiple LMP950 filters are connected to a manifold to reduce the pressure drop caused by the filter media and to increase the life time of the filter element.
They are directly connected to the lines of the system through the hydraulic fittings.

Available features:
- 4" flanged connections, for a maximum flow rate of 3000 l/min
- Filter element designed in accordance with DIN 24550 regulation
- 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.
- 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:
- Off-line filtration of reservoirs
- Filtration systems

Technical data

Filter housing materials
- Head: Anodized aluminium
- Housing: Anodized aluminium
- Manifolds: Welded - Phosphatized steel
- Bypass valve: Steel
- Size 1000 filter elements complying with DIN 24550 standard

Pressure
- Test pressure: 3.5 MPa (35 bar)

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

Number of filter elements
LMP 902: 4 filter elements CU900
LMP 903: 6 filter elements CU900

Filter elements
Filter element designed in accordance with DIN 24550
Size: 1000

Δp element type
- Microfibre filter elements - series N: 20 bar
- Fluid flow through the filter element from OUT to IN

Connections
LMP 902-903: In-line Inlet/Outlet

Seals
- Standard NBR series A
- Optional FPM series V

Temperature
From -25 °C to +110 °C

Note
LMP 902 - 903 filters are provided for vertical mounting

Weights [kg] and volumes [dm³]

Filter series	Weights [kg]	Volumes [dm³]
	Length 2	Length 2
LMP 902	89.6	58
LMP 903	129.2	87

Filters featuring filter elements designed according to DIN 24550

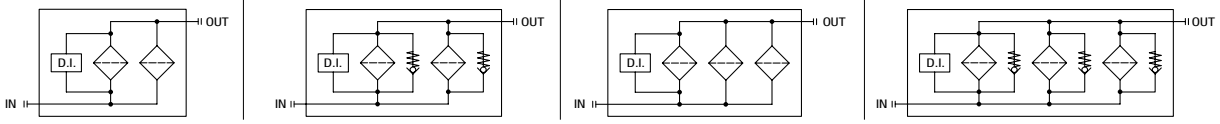
Flow rates [l/min]

		Filter element design - N Series					
Filter series	Length	A03	A06	A10	A16	A25	M25 M60 M90
LMP 902	**2**	2217	2576	3241	3282	3506	3987
LMP 903	**2**	2838	3170	3720	3755	3926	4278

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.

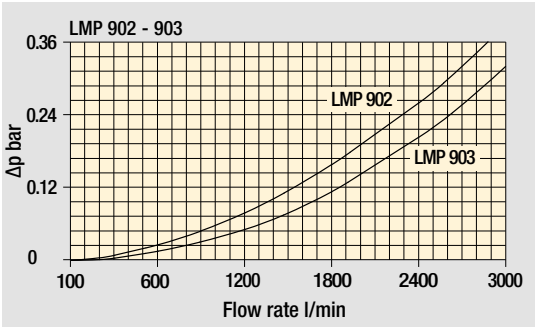
Hydraulic symbols

Filter series	Execution S	Execution B	Execution S	Execution B
LMP 902	•	•	-	-
LMP 903	-	-	•	•

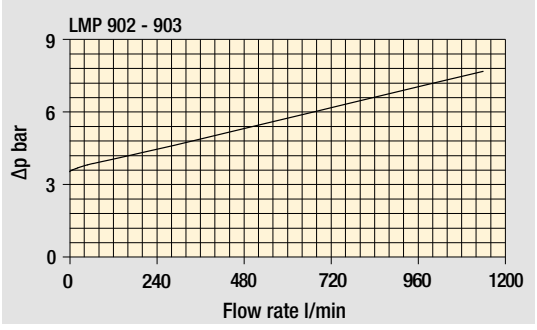


Pressure drop

Filter housings Δp pressure drop



Bypass valve pressure drop

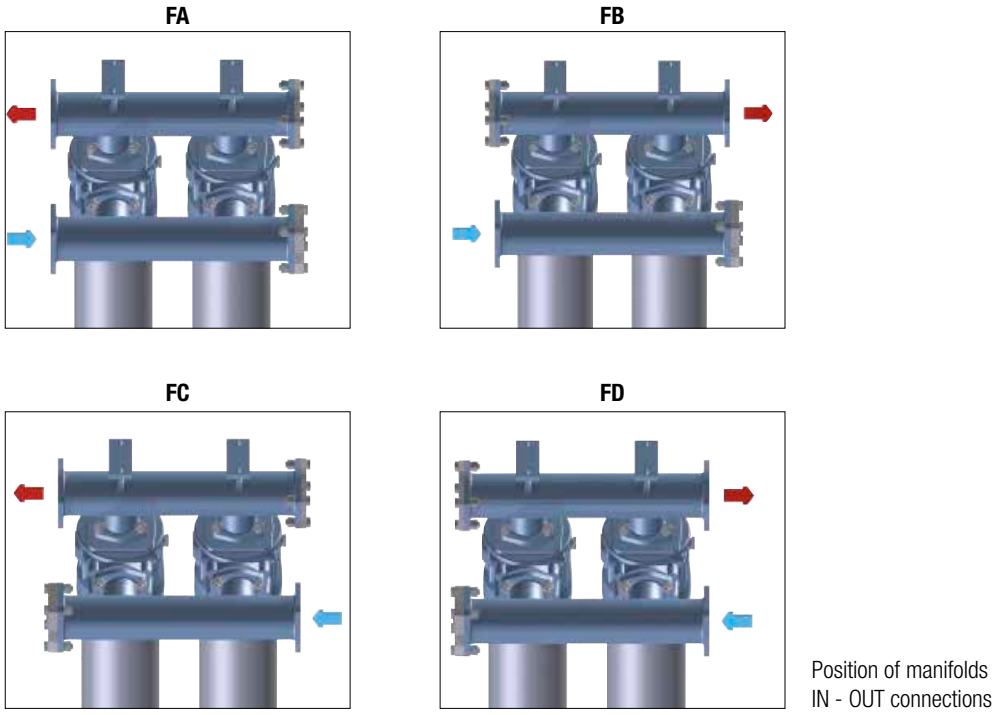


The curves are plotted using mineral oil with density of 0.86 kg/dm^3 in compliance with ISO 3968. Δp varies proportionally with density.

LMP 902-903 GENERAL INFORMATION

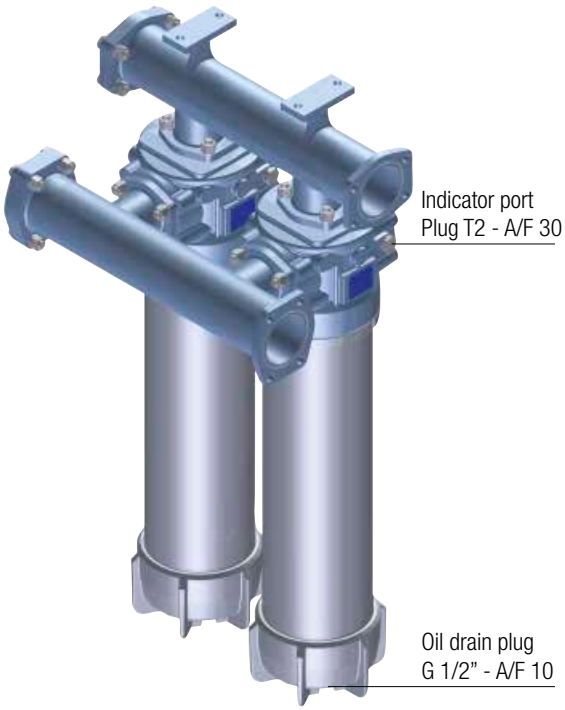
Filters featuring filter elements designed according to DIN 24550

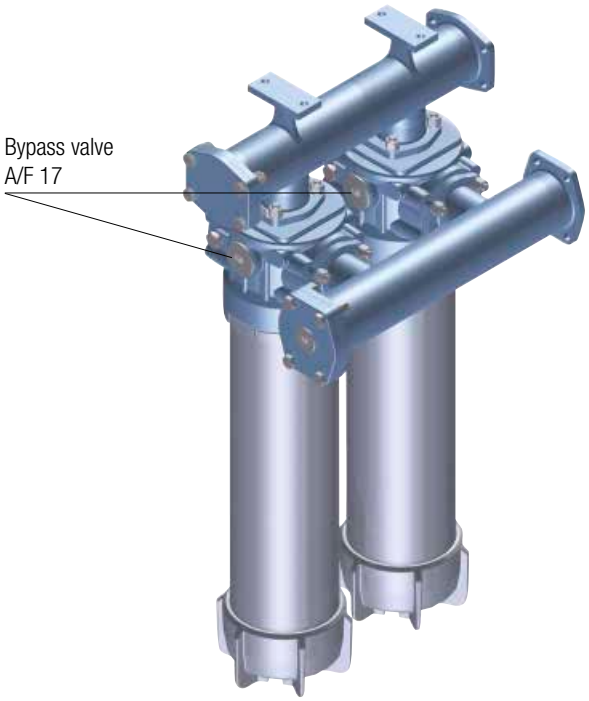
Manifolds



Position of manifolds
IN - OUT connections

Focus on





LMP 902-903 Filters featuring filter elements designed according to DIN 24550

Designation & Ordering code

COMPLETE FILTER

Configuration example: LMP902 | 2 | B | A | FA | A10 | N | P01

Series and size

LMP902 | **LMP903**

Length

2

Bypass valve

S Without bypass

B With bypass 3.5 bar

Seals and treatments

A NBR

V FPM

Connections	IN	OUT
FA 4" SAE 3000 psi	left	left
FB 4" SAE 3000 psi	left	right
FC 4" SAE 3000 psi	right	left
FD 4" SAE 3000 psi	right	right

Filtration rating (filter media)

A03 Inorganic microfiber 3 µm
A06 Inorganic microfiber 6 µm
A10 Inorganic microfiber 10 µm
A16 Inorganic microfiber 16 µm
A25 Inorganic microfiber 25 µm

M25 Wire mesh 25 µm
M60 Wire mesh 60 µm
M90 Wire mesh 90 µm

WA025 Water absorber inorganic microfiber 25 µm

Element Δp

N 20 bar

Execution

P01 MP Filtri standard
Pxx Customized

FILTER ELEMENT

Configuration example: CU900 | A10 | A | N | P01

Element series and size

CU900

Filter series and size

LMP902 Nr. 4 filter elements
LMP903 Nr. 6 filter elements

Filtration rating (filter media)

A03 Inorganic microfiber 3 µm
A06 Inorganic microfiber 6 µm
A10 Inorganic microfiber 10 µm
A16 Inorganic microfiber 16 µm
A25 Inorganic microfiber 25 µm

M25 Wire mesh 25 µm
M60 Wire mesh 60 µm
M90 Wire mesh 90 µm

WA025 Water absorber inorganic microfiber 25 µm

Seals

A NBR
V FPM

Element Δp

N 20 bar

Execution

P01 MP Filtri standard
Pxx Customized

CLOGGING INDICATORS

See page 726

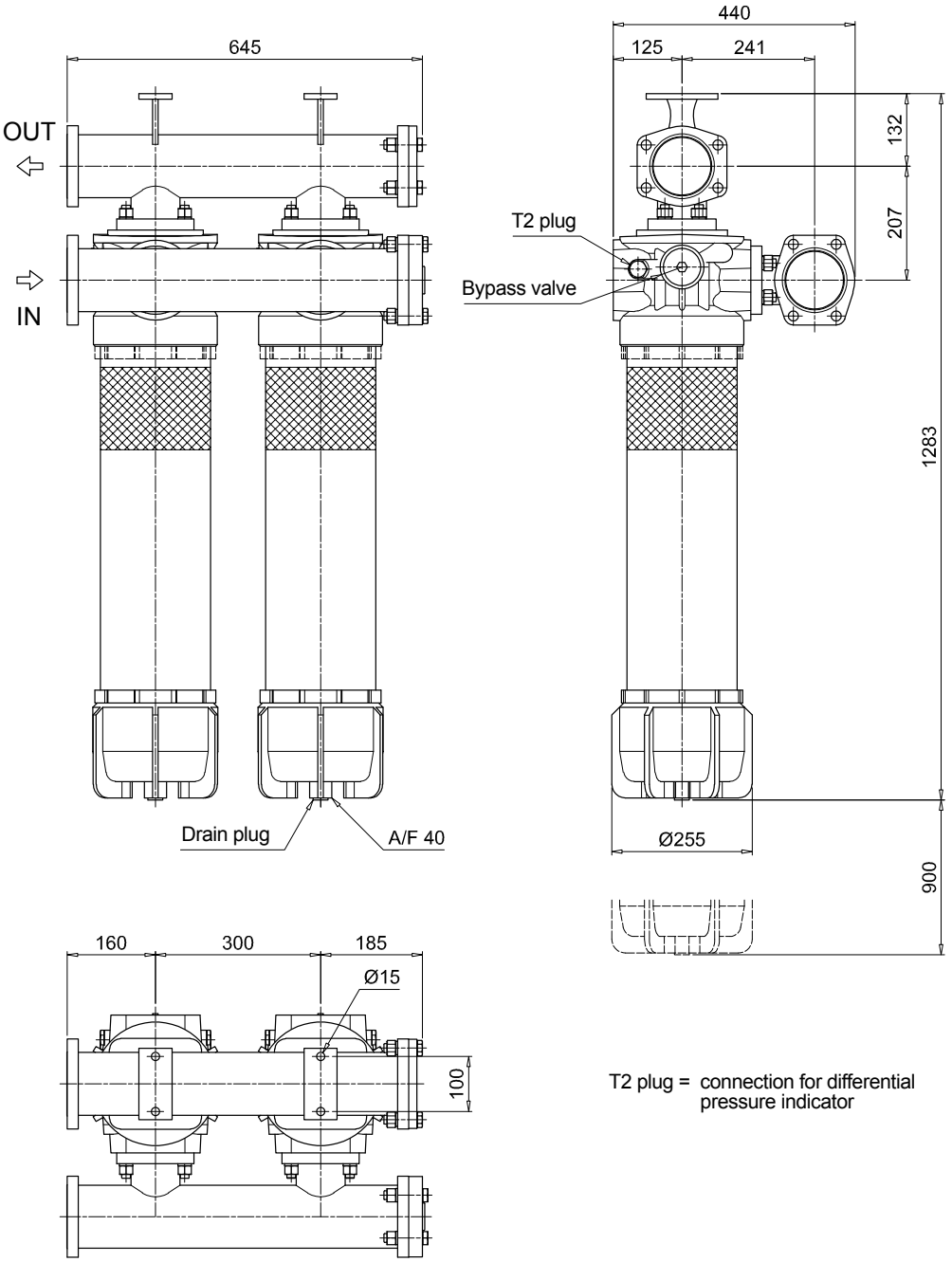
DEA Electrical differential pressure indicator
DEM Electrical differential pressure indicator
DEU Electrical differential pressure indicator
DLA Electrical / visual differential pressure indicator
DLE Electrical / visual differential pressure indicator
DTA Electronic differential pressure indicator
DVA Visual differential pressure indicator
DVM Visual differential pressure indicator

PLUGS

See page 747

T2 Plug

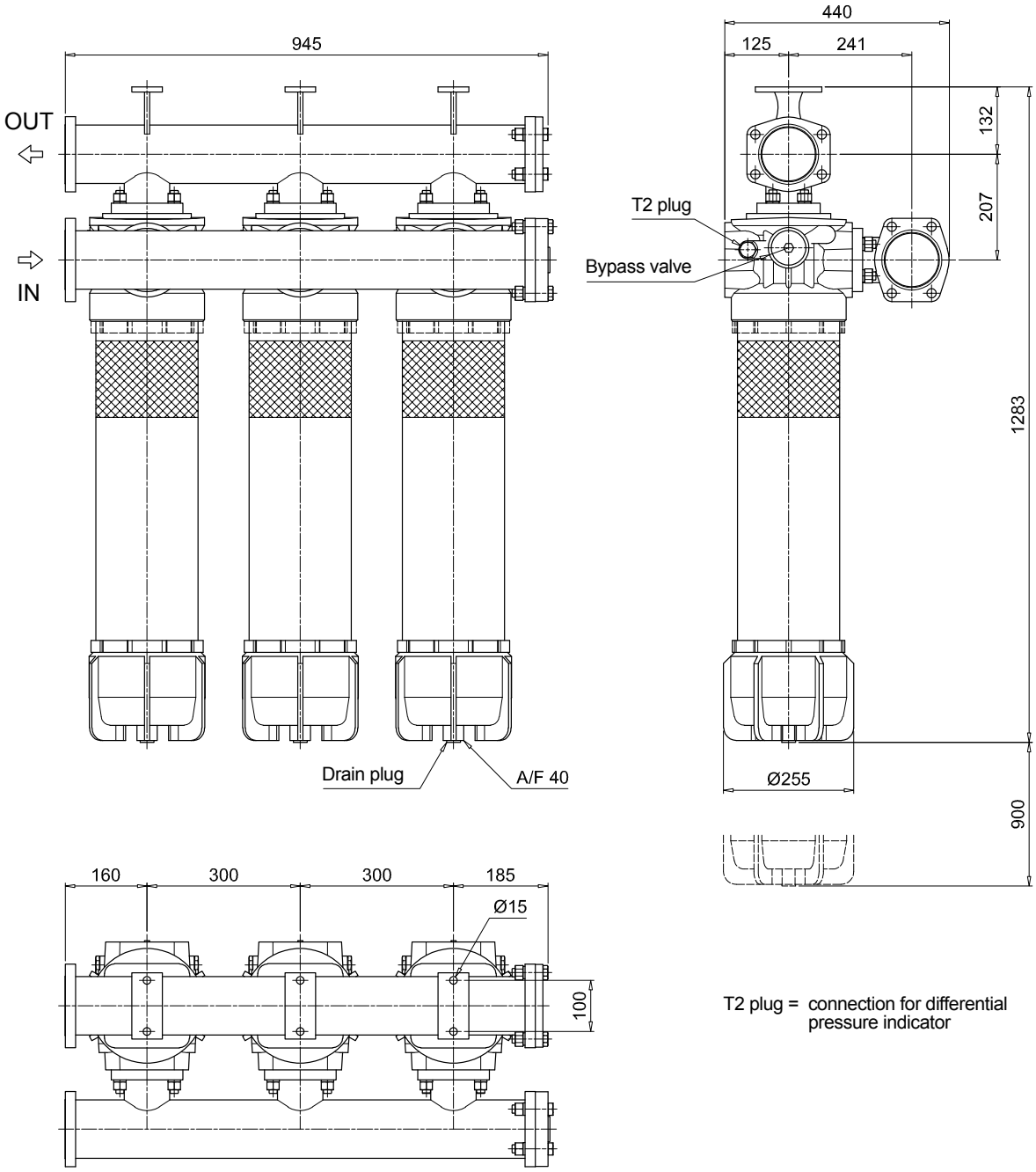
LMP902



T2 plug = connection for differential pressure indicator

Dimensions

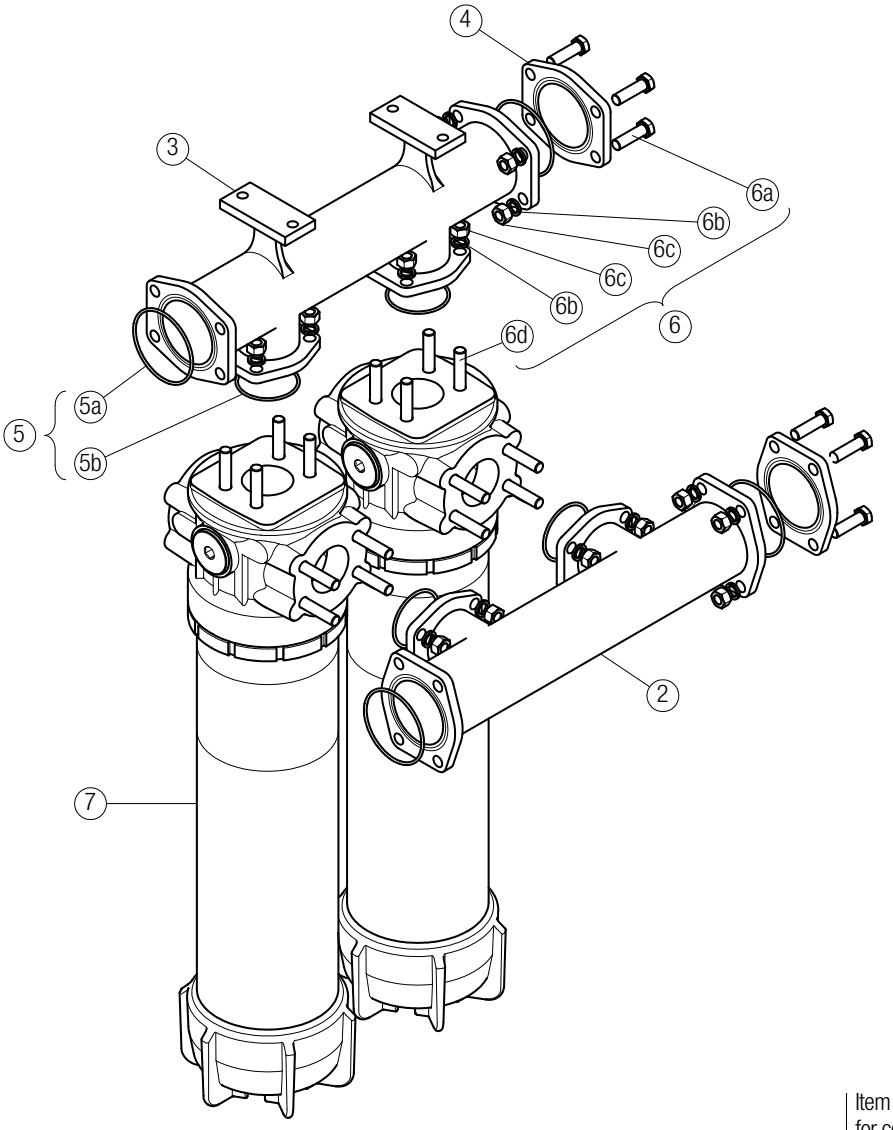
LMP903



T2 plug = connection for differential pressure indicator

Order number for spare parts

LMP 902 - 903



Item 7:
for complete filter code and spare parts, see LMP 900 - 901 series chapter

Quantity:
- filter spare parts:
LMP 902 - 2 pcs.
LMP 903 - 3 pcs.

- filter seal kit:
LMP 902 - 2 pcs.
LMP 903 - 3 pcs.

Item:	2	3		4		5 (5a-5b)			6 (6a ÷ 6d)		7	
Filter series	Manifold			4" SAE 3000 psi plugged flange		Manifolds seal kit			Threaded fasteners kit		Filter	
	Q.ty	IN	OUT	Q.ty		Q.ty	NBR	FPM	Q.ty		Q.ty	
LMP 902	1 pc.	01039270	01039271	2 pcs.	01042012	1 pc.	02050404	02050405	1 pc.	02049051	2 pcs.	LMP9012xxF1xxxNP02
LMP 903	1 pc.	01039337	01039338	2 pcs.		1 pc.	02050404	02050405	1 pc.	02049052	3 pcs.	

Designation & Ordering code

DIFFERENTIAL PRESSURE INDICATORS

Configuration example 1:	DE	M	20	H	F	50	P01	
Configuration example 2:	DE	U	50	V	A	50	P01	UL
Configuration example 3:	DL	E	50	V	A	71	P01	
Configuration example 4:	DT	A	20	H	F	70	P01	
Configuration example 5:	DV	M	50	V			P01	

Series

DE	Electrical differential pressure indicator
DL	Electrical/Visual differential pressure indicator
DT	Electronic differential pressure indicator
DV	Visual differential pressure indicator

Type	DE	DL	DT	DV
A Standard type	•	•	•	**A** With automatic reset
M With wired electrical connection	•	-	-	**M** With manual reset
U Standard type 210 bar, UL certified	•	-	-	**S** With automatic reset
E For high power supply	-	•	-	
S Compact version	•	-	-	

Pressure setting	DEA	DEM	DEU	DES	DLA	DLE	DTA	DVA	DVM	DVS
12 1.2 bar	•	•	-	•	•	•	•	•	•	•
20 2.0 bar	•	•	•	-	•	•	•	•	•	-
25 2.5 bar	-	-	-	-	-	-	-	-	-	•
40 4.0 bar	-	-	-	•	-	-	-	-	-	•
50 5.0 bar	•	•	•	-	•	•	•	•	•	-

Seals	DEA	DEM	DEU	DES	DL	DT	DVA	DVM	DVS
H HNBR	•	•	-	•	•	•	•	•	•
V FPM	•	•	•	-	•	•	•	•	-

Thermostat	DEA	DEM	DEU	DES	DLA	DLE	DT
A Without thermostat	•	•	•	•	•	•	-
F With thermostat	-	•	-	-	-	•	•

Electrical connections	DEA	DEM	DEU	DES	DLA	DLE	DT
10 Connection AMP Superseal series 1.5	-	•	-	•	-	-	-
20 Connection AMP Timer Junior	-	•	-	-	-	-	-
30 Connection Deutsch DT-04-2-P	-	•	-	•	-	-	-
35 Connection Deutsch DT-04-3-P	-	•	-	-	-	-	-
50 Connection EN 175301-803	•	-	•	-	-	•	-
51 Connection EN 175301-803, transparent base with lamps 24 Vdc	-	-	-	-	•	-	-
52 Connection EN 175301-803, transparent base with lamps 110 Vdc	-	-	-	-	•	-	-
70 Connection IEC 61076-2-101 D (M12)	-	-	-	-	-	-	•
71 Connection IEC 61076-2-101 D (M12), black base with lamps 24 Vdc	-	-	-	-	•	-	-
80 Connection Stud #10-32 UNF	-	-	-	•	-	-	-

Option

P01	MP Filtri standard
Pxx	Customized

Certifications	DEU	OTHERS
Without	-	•
UL UL certification	•	-

PLUGS

Configuration example	T2	H

Series

T2	Plug
T4	Plug

Seals	T2	T4
A NBR	-	•
H HNBR	•	-
V FPM	•	-

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