

LMP 110-120-123 series

MULTIPOINT

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

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 200 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
- Multipoint 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 110: 29 MPa (290 bar)
 - LMP 120/130: 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 MULTIPOINT filters are provided for vertical mounting



Weights [kg] and volumes [dm³]

Filter series	Weights [kg]				Volumes [dm ³]					
	Length	1	2	3	4	Length	1	2	3	4
LMP 110-112-116-118-119		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

FILTER ASSEMBLY SIZING
Flow rates [l/min]

Filter series	Length	Filter element design - N Series							
		A03	A06	A10	A16	A25	M25 M60 M90 M250	P10	P25
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
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	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 $\Delta p = 0.7$ bar.

The reference fluid has a kinematic viscosity of 30 mm²/s (cSt) and a density of 0.86 kg/dm³.

For different pressure drop or fluid viscosity we recommend to use our selection software available on www.mpfiltri.com.

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

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 $\Delta p = 2.7$ bar.

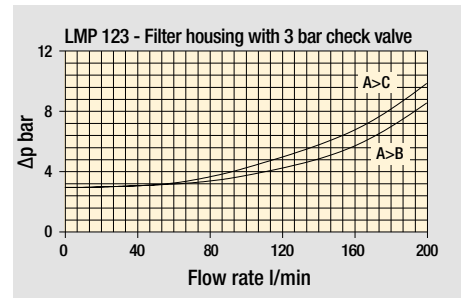
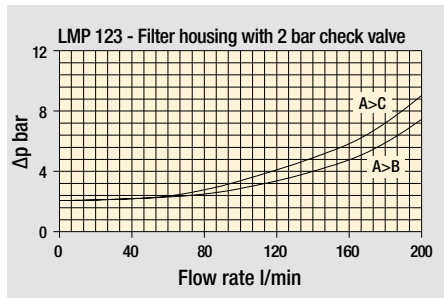
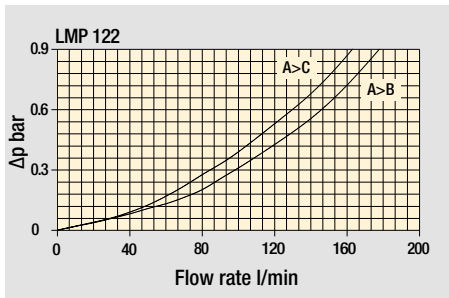
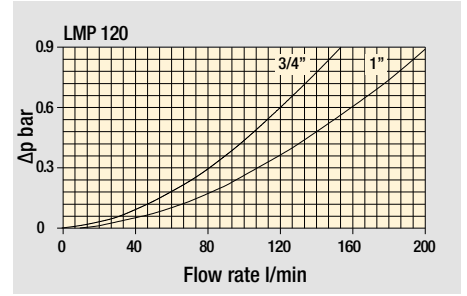
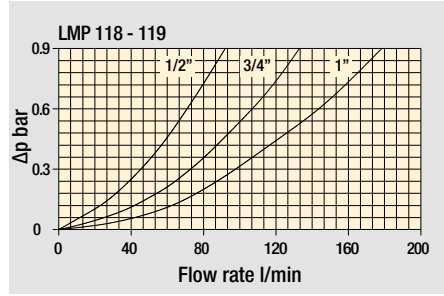
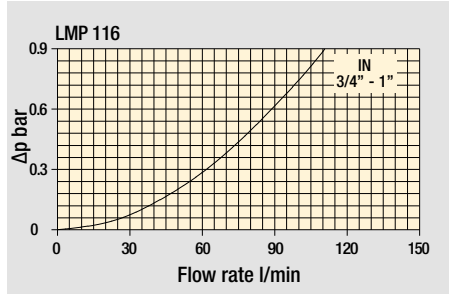
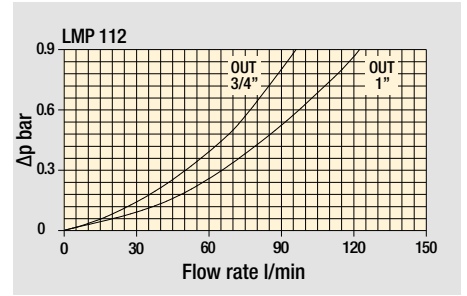
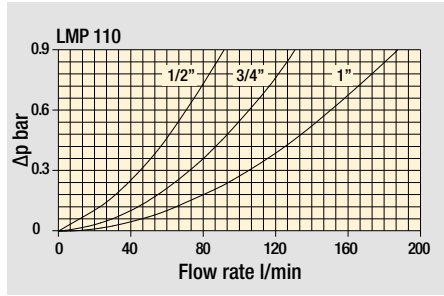
The reference fluid has a kinematic viscosity of 30 mm²/s (cSt) and a density of 0.86 kg/dm³.

For different pressure drop or fluid viscosity we recommend to use our selection software available on www.mpfiltri.com.

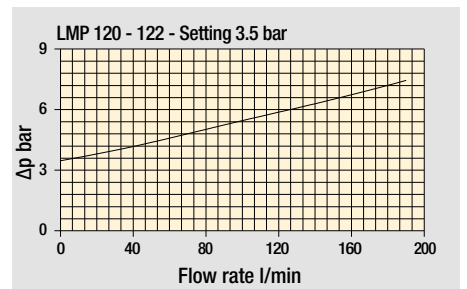
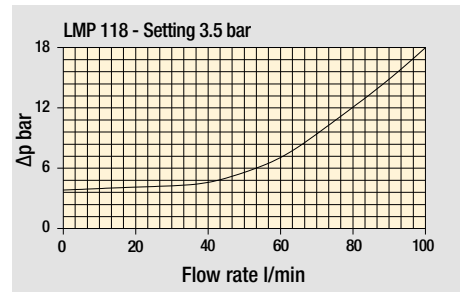
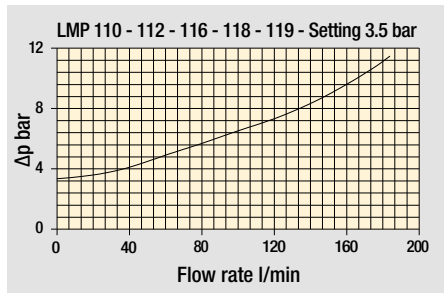
You can also calculate the right size using the formulas present on the FILTER SIZING paragraph at the beginning of the full catalogue or at the beginning of the filter family brochure. Please, contact our Sales Department for further additional information.

Pressure drop

Filter housings Δp pressure drop


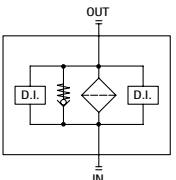


Bypass valve pressure drop




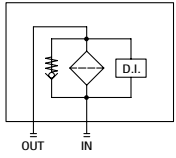
The curves are plotted using mineral oil with density of 0.86 kg/dm³ in compliance with ISO 3968. Δp varies proportionally with density.

LMP 110 In-Line filter


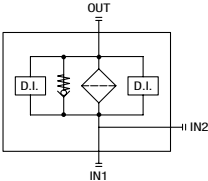
The hydraulic symbol shows a central diamond-shaped filter element with a bypass valve. It is connected to an IN port at the bottom and an OUT port at the top. Two D.I. (Direct Inlet) ports are shown on the left and right sides.

LMP 120 Port IN-OUT on the same side


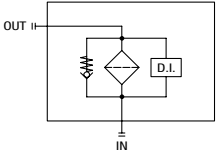
The hydraulic symbol shows a diamond-shaped filter element with a bypass valve. It is connected to an IN port at the bottom and an OUT port at the top. A D.I. port is shown on the right side.

LMP 112 Double IN port


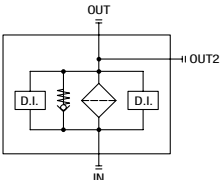
The hydraulic symbol shows a diamond-shaped filter element with a bypass valve. It is connected to two IN ports at the bottom (IN1 and IN2) and an OUT port at the top. Two D.I. ports are shown on the left and right sides.

LMP 122 Lateral OUT port high flow


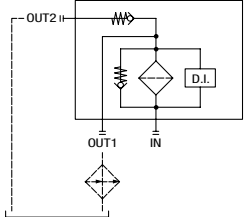
The hydraulic symbol shows a diamond-shaped filter element with a bypass valve. It is connected to an IN port at the bottom and an OUT port at the top. A D.I. port is shown on the right side. A lateral OUT port is also indicated.

LMP 116 Double OUT port


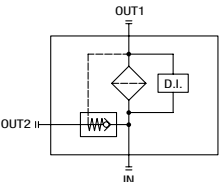
The hydraulic symbol shows a diamond-shaped filter element with a bypass valve. It is connected to an IN port at the bottom and two OUT ports at the top (OUT and OUT2). Two D.I. ports are shown on the left and right sides.

LMP 123 Bypass valve for heat exchanger high flow
Type 1


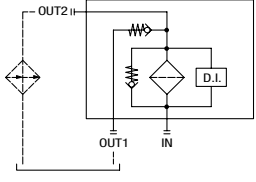
The hydraulic symbol shows a diamond-shaped filter element with a bypass valve. It is connected to an IN port at the bottom and two OUT ports at the top (OUT1 and OUT2). A D.I. port is shown on the right side. A bypass valve is shown between OUT1 and OUT2.

LMP 118 Bypass lateral
Always cleaning fluid in OUT port


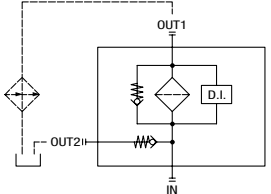
The hydraulic symbol shows a diamond-shaped filter element with a bypass valve. It is connected to an IN port at the bottom and two OUT ports at the top (OUT1 and OUT2). A D.I. port is shown on the right side. A bypass valve is shown between OUT1 and OUT2.

LMP 123 Bypass valve for heat exchanger high flow
Type 2

The hydraulic symbol shows a diamond-shaped filter element with a bypass valve. It is connected to an IN port at the bottom and two OUT ports at the top (OUT1 and OUT2). A D.I. port is shown on the right side. A bypass valve is shown between OUT1 and OUT2.

LMP 119 Safety valve 6 bar for heat exchanger

The hydraulic symbol shows a diamond-shaped filter element with a bypass valve. It is connected to an IN port at the bottom and two OUT ports at the top (OUT1 and OUT2). A D.I. port is shown on the right side. A safety valve is shown between OUT1 and OUT2.

Designation & Ordering code

COMPLETE FILTER

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

Series and size
LMP110 | **LMP112** | **LMP116**

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

Bypass valve
S Without bypass | **B** 3.5 bar

Seals and treatments	Filtration rating		
	Axx	Mxx	Pxx
A NBR	•	•	•
V FPM	•	•	•
W NBR compatible with fluids HFA-HFB-HFC	•	•	

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 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)	Filtration rating		
	Axx	Mxx	Pxx
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	•	•	

Seals

Seals	Filtration rating		
	Axx	Mxx	Pxx
A NBR	•	•	•
V FPM	•	•	•
W NBR compatible with fluids HFA-HFB-HFC	•	•	

Element Δp
N 20 bar

Execution
P01 MP Filtri standard
Pxx Customized

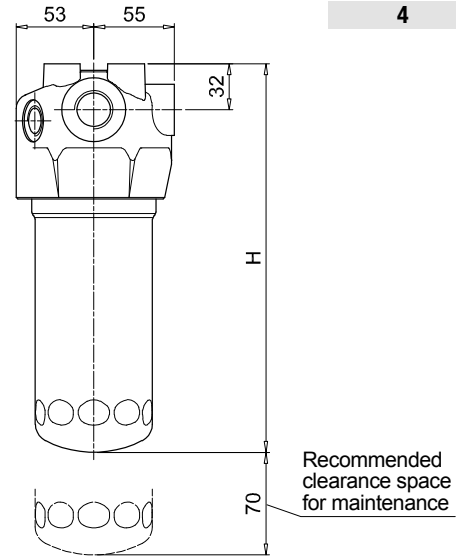
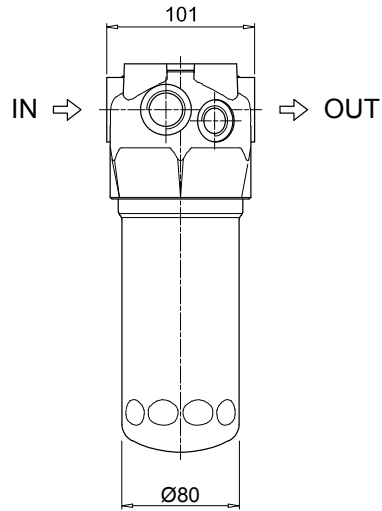
ACCESSORIES

Differential indicators	page		page
DEA Electrical differential indicator	445	DTA Electronic differential indicator	448
DEM Electrical differential indicator	445-446	DVA Visual differential indicator	448
DLA Electrical / visual differential indicator	446-447	DVM Visual differential indicator	448
DLE Electrical / visual differential indicator	447		

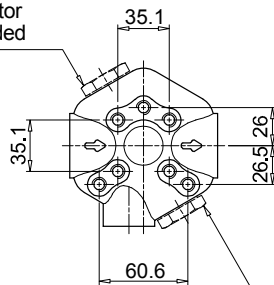
Additional features	page
T2 Plug	449

LMP110 - LMP112
LMP116

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

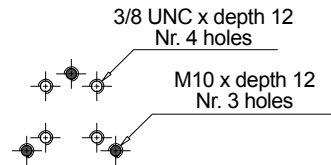


2 - Standard connection for differential indicator
T2 plug not included

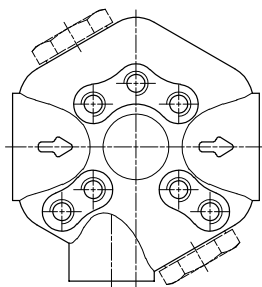


3 - Connection for differential indicator on the opposite side
T2 plug not included

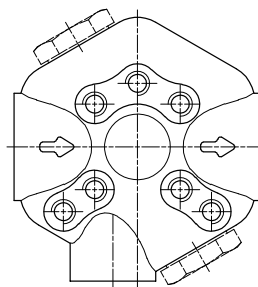
Fixing holes
Option for Metric and UNC screws



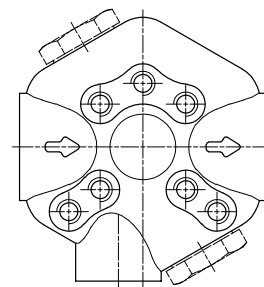
LMP 110



LMP 112



LMP 116



↑
Aux
IN

↓
Aux
OUT

Designation & Ordering code

COMPLETE FILTER

Series and size		Configuration example: LMP118 4 B A D 1 A10 N P01									
LMP118 LMP119											
Length											
1 2 3 4											
Bypass valve											
B 3.5 bar											
Seals and treatments		Filtration rating									
		Axx	Mxx	Pxx							
A NBR		•	•	•							
V FPM		•	•	•							
W NBR compatible with fluids HFA-HFB-HFC		•	•								
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 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			Execution						
		N 20 bar			P01 MP Filtri standard						
					Pxx Customized						

FILTER ELEMENT

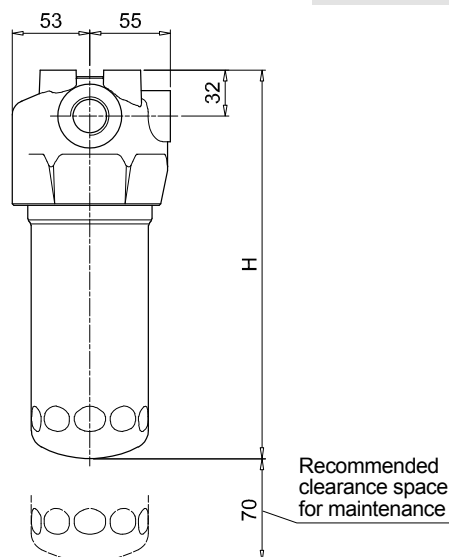
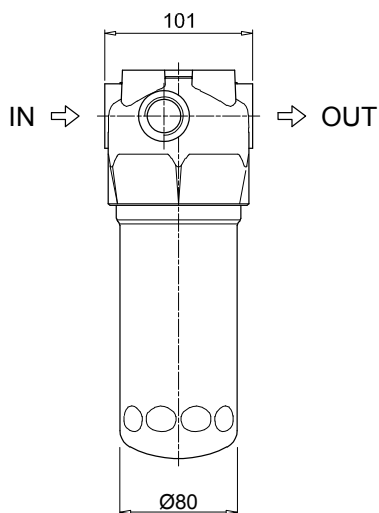
Element series and size		Configuration example: CU110 4 A10 A N P01								
CU110										
Element length										
1 2 3 4										
Filtration rating (filter media)										
A03	Inorganic microfiber 3 µm	M25 Wire mesh 25 µm								
A06	Inorganic microfiber 6 µm	M60 Wire mesh 60 µm								
A10	Inorganic 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		Filtration rating								
		Axx	Mxx	Pxx						
A NBR		•	•	•						
V FPM		•	•	•						
W NBR compatible with fluids HFA-HFB-HFC		•	•							
		Element Δp			Execution					
		N 20 bar			P01 MP Filtri standard					
					Pxx Customized					

ACCESSORIES

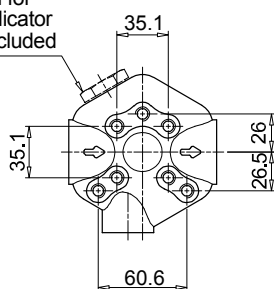
Differential indicators		page			page
DEA	Electrical differential indicator	445	DTA	Electronic differential indicator	448
DEM	Electrical differential indicator	445-446	DVA	Visual differential indicator	448
DLA	Electrical / visual differential indicator	446-447	DVM	Visual differential indicator	448
DLE	Electrical / visual differential indicator	447			
Additional features		page			
T2	Plug	449			

LMP118 - LMP119

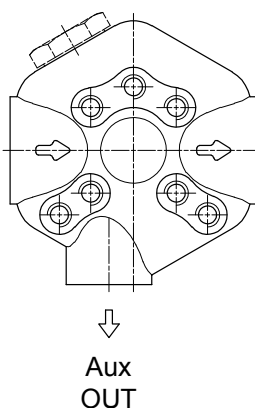
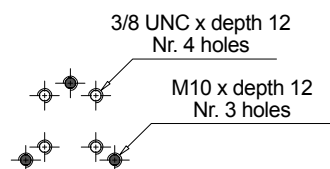
Filter length	H [mm]
1	182
2	215
3	265
4	365



Connection for differential indicator
T2 plug not included



Fixing holes
Option for Metric and UNC screws



Designation & Ordering code

COMPLETE FILTER

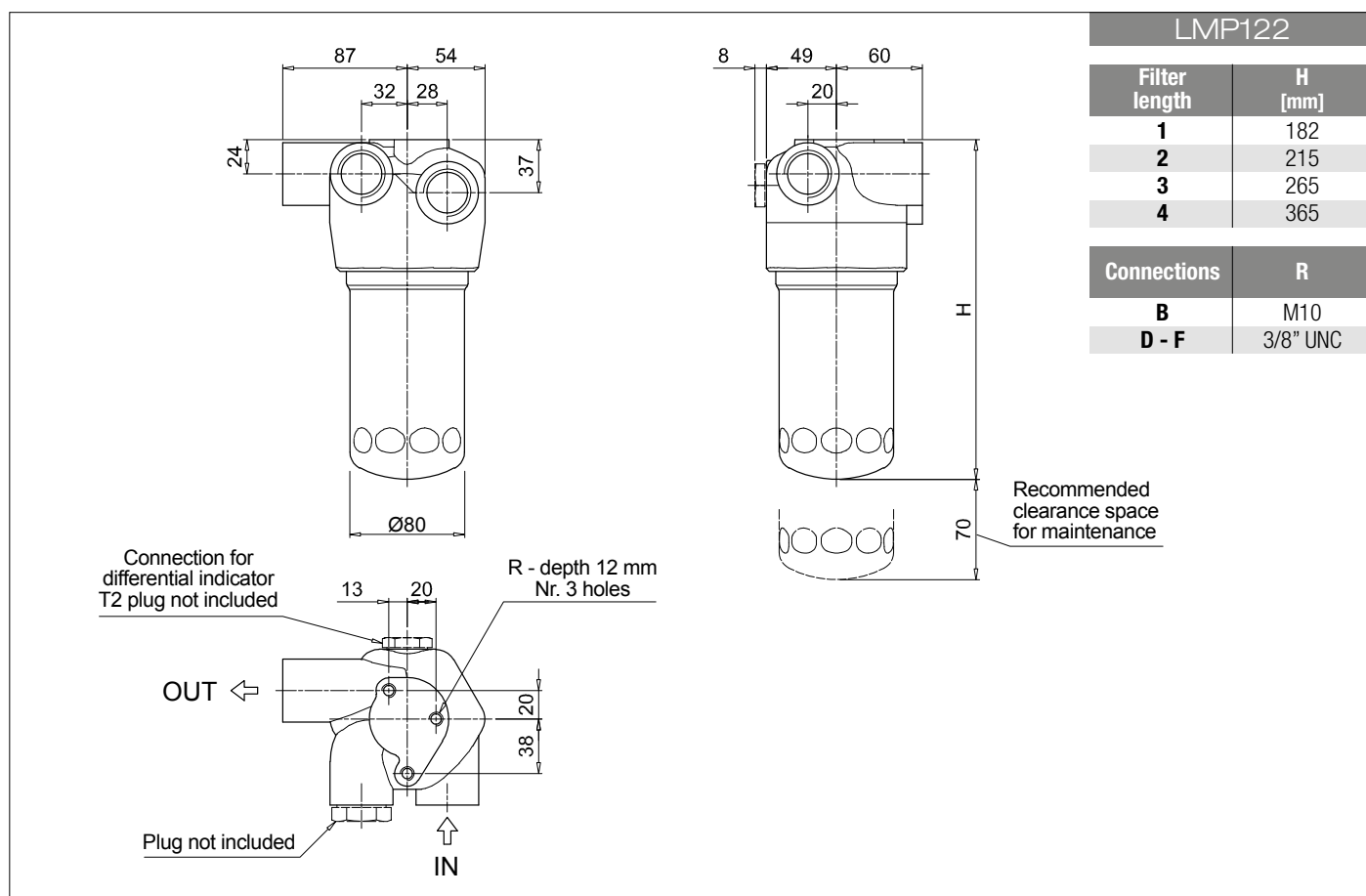
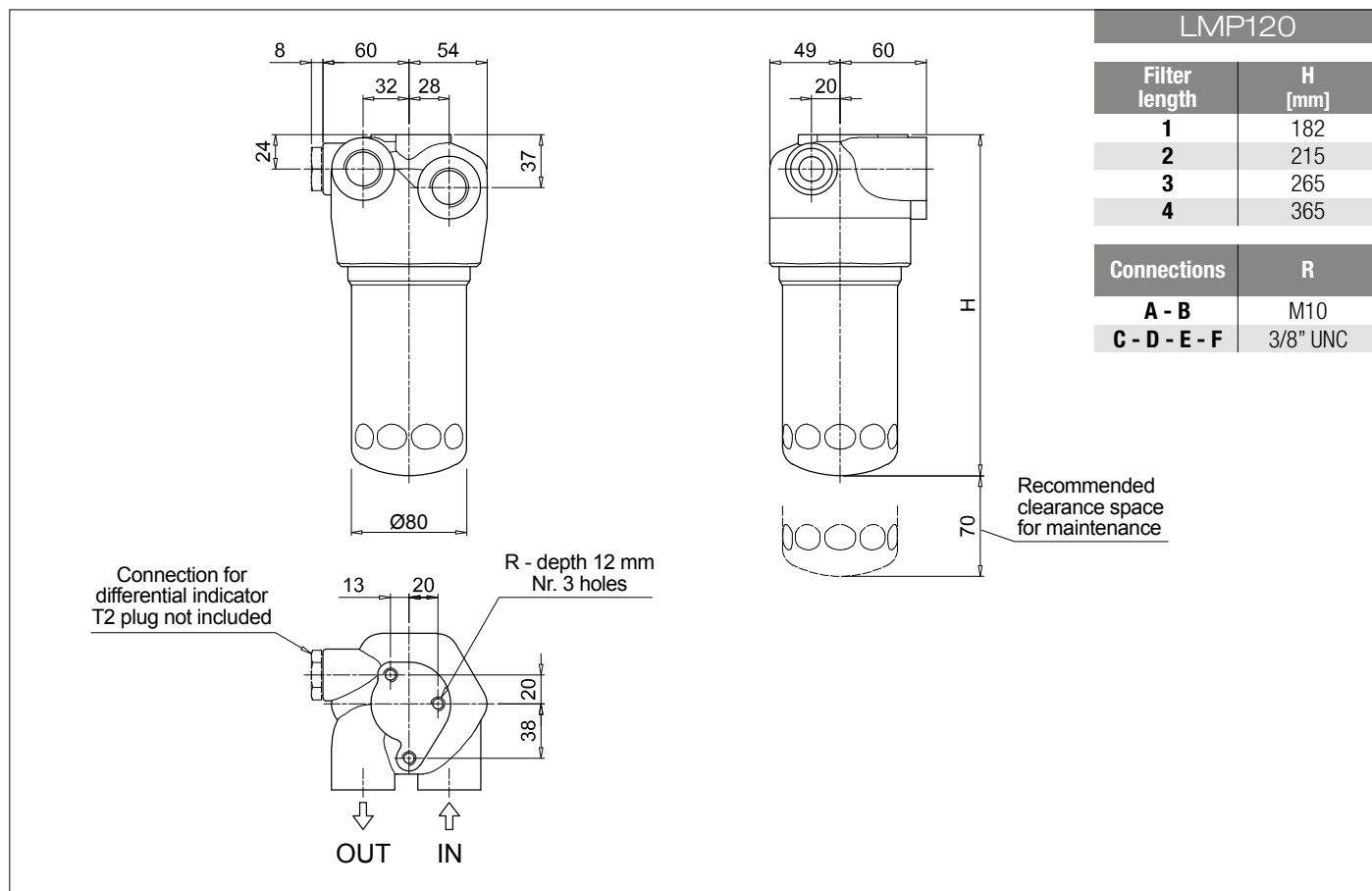
Series and size		Configuration example: LMP120 4 B A D 1 A10 N P01									
LMP120 LMP122											
Length											
1 2 3 4											
Bypass valve											
S Without bypass		B 3.5 bar									
Seals and treatments		Filtration rating									
		Axx	Mxx	Pxx							
A NBR		•	•	•							
V FPM		•	•	•							
W NBR compatible with fluids HFA-HFB-HFC		•	•								
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 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		Execution					
				N 20 bar		P01 MP Filtri standard					
						Pxx Customized					

FILTER ELEMENT

Element series and size		Configuration example: CU110 4 A10 A N P01									
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		Filtration rating									
		Axx	Mxx	Pxx							
A NBR		•	•	•							
V FPM		•	•	•							
W NBR compatible with fluids HFA-HFB-HFC		•	•								
				Element Δp		Execution					
				N 20 bar		P01 MP Filtri standard					
						Pxx Customized					

ACCESSORIES

Differential indicators		page		page
DEA Electrical differential indicator		445	DTA Electronic differential indicator	448
DEM Electrical differential indicator	445-446		DVA Visual differential indicator	448
DLA Electrical / visual differential indicator	446-447		DVM Visual differential indicator	448
DLE Electrical / visual differential indicator	447			
Additional features		page		
T2 Plug		449		



Designation & Ordering code

COMPLETE FILTER

Series and size **LMP123** Configuration example: **LMP123** **4** **R** **A** **F** **1** **A10** **N** **P01**

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	3.5 bar	front	2 bar
N			3 bar
Q		side	2 bar
R			3 bar

Seals and treatments	Filtration rating		
	Axx	Mxx	Pxx
A NBR	•	•	•
V FPM	•	•	•
W NBR compatible with fluids HFA-HFB-HFC	•	•	

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

Connection for differential 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	Execution
N 20 bar	P01 MP Filtri standard
	Pxx Customized

FILTER ELEMENT

Element series and size **CU110** Configuration example: **CU110** **4** **A10** **A** **N** **P01**

Element length
1 | 2 | 3 | 4

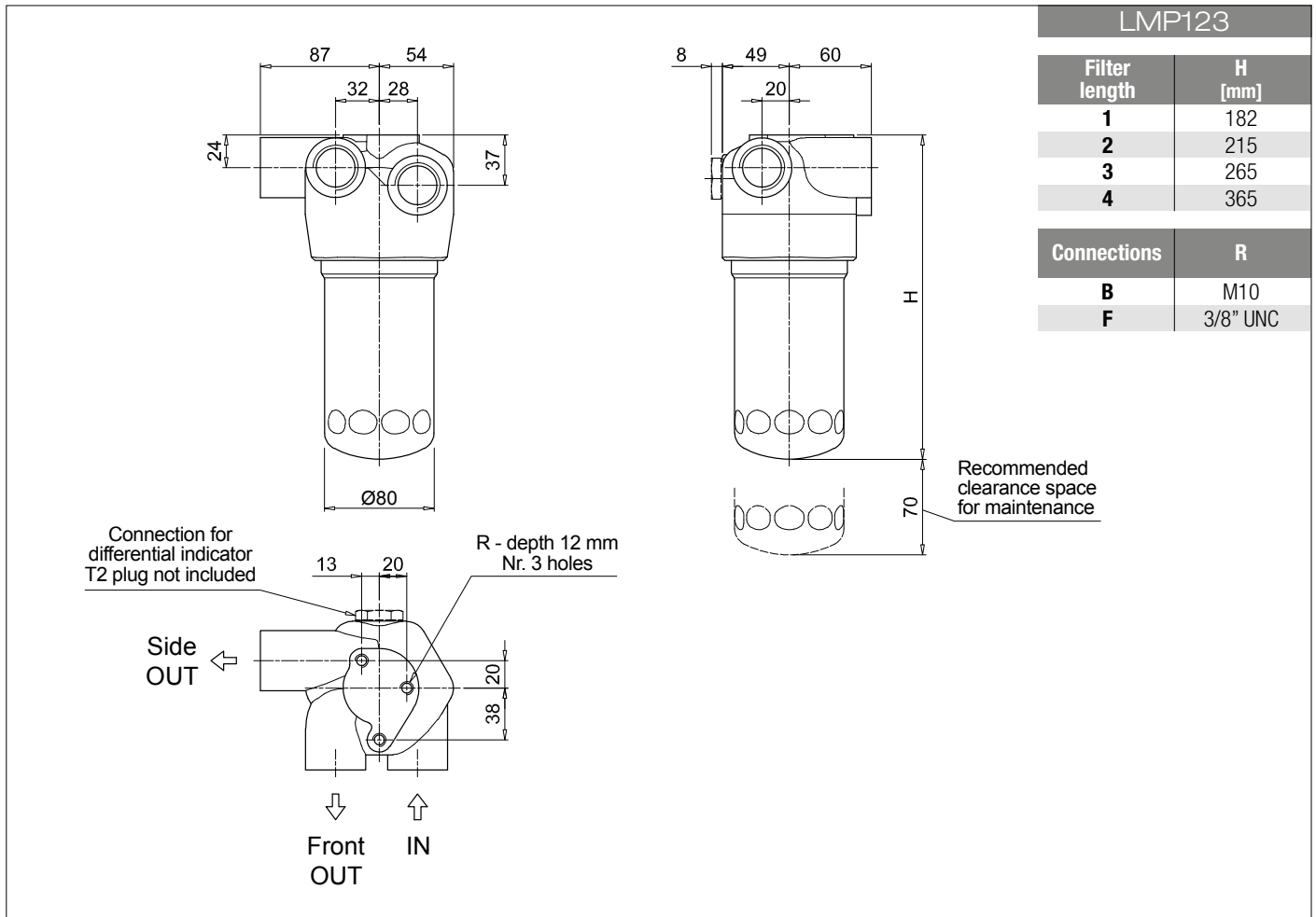
Filtration rating (filter media)	
A03 Inorganic microfiber 3 µm	M25 Wire mesh 25 µm
A06 Inorganic microfiber 6 µm	M60 Wire mesh 60 µm
A10 Inorganic microfiber 10 µm	M90 Wire mesh 90 µm
A16 Inorganic microfiber 16 µm	P10 Resin impregnated paper 10 µm
A25 Inorganic microfiber 25 µm	P25 Resin impregnated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

Seals	Filtration rating		
	Axx	Mxx	Pxx
A NBR	•	•	•
V FPM	•	•	•
W NBR compatible with fluids HFA-HFB-HFC	•	•	

Element Δp	Execution
N 20 bar	P01 MP Filtri standard
	Pxx Customized

ACCESSORIES

Differential indicators	page		page
DEA Electrical differential indicator	445	DTA Electronic differential indicator	448
DEM Electrical differential indicator	445-446	DVA Visual differential indicator	448
DLA Electrical / visual differential indicator	446-447	DVM Visual differential indicator	448
DLE Electrical / visual differential indicator	447		
Additional features	page		
T2 Plug	449		

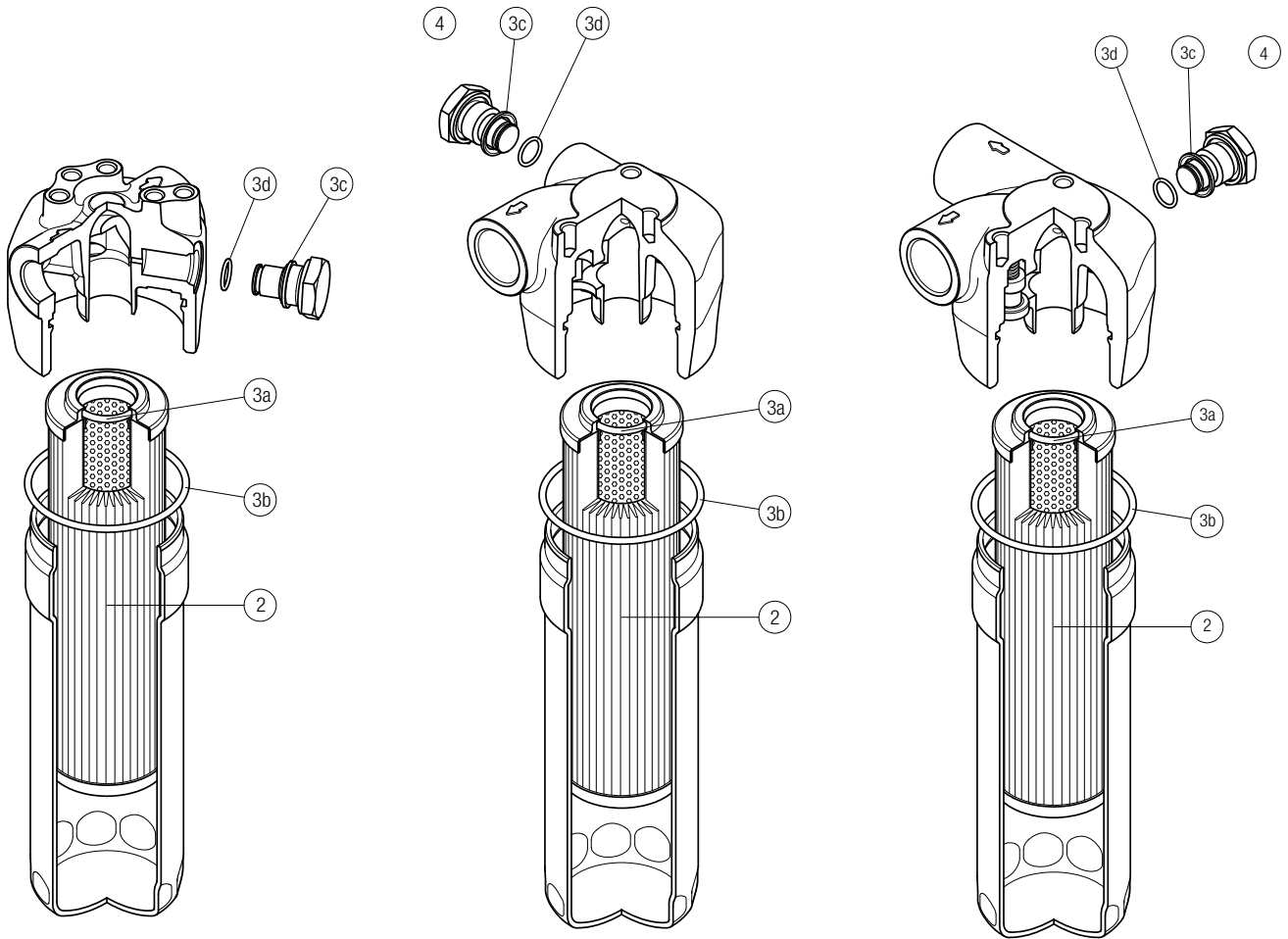


Order number for spare parts

LMP 110 - 112 - 116 - 118 - 119

LMP 120

LMP 122 - 123



Item:	Q.ty: 1 pc.		Q.ty: 1 pc.		Q.ty: 1 pc.	
Filter series	Filter element	Seal Kit code number		Indicator connection plug		
LMP 110-112-116-118-119	See order table	NBR	FPM	NBR	FPM	
LMP 120		02050478	02050479	T2H	T2V	
LMP 122-123						