

# LMP 110-120-123 series

MULTI PORT

Maximum working pressure up to 8 MPa (80 bar) - Flow rate up to 200 l/min



## Description

### Low & Medium Pressure filters

**Maximum working pressure up to 8 MPa (80 bar)**  
**Flow rate up to 200 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
- 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: Cathaphoresis - 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 [dm³]					
	Length	1	2	3	4	Length	1	2	3	4
<b>LMP 110-112-116-118-119</b>		1.60	1.80	2.10	2.60		0.75	0.81	1.11	1.53
<b>LMP 120-122</b>		1.90	2.10	2.40	2.90		0.75	0.81	1.11	1.53
<b>LMP 123</b>		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 mm<sup>2</sup>/s (cSt) and a density of 0.86 kg/dm<sup>3</sup>.

For different pressure drop or fluid viscosity we recommend to use our selection software available on [www.mpfiltri.com](http://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.**

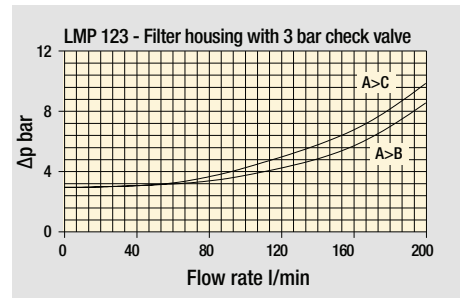
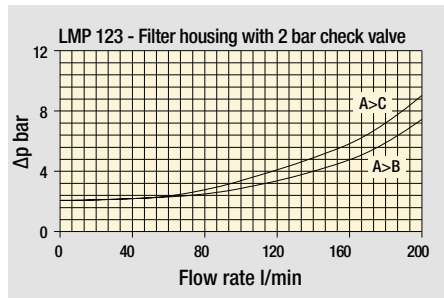
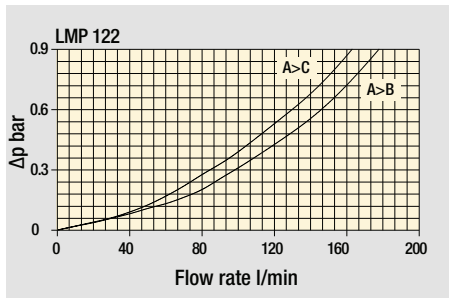
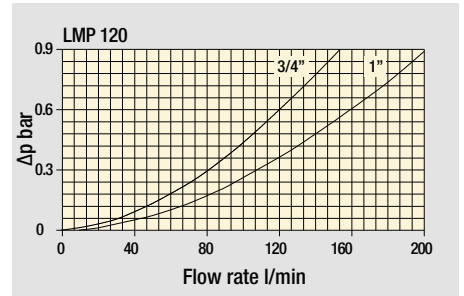
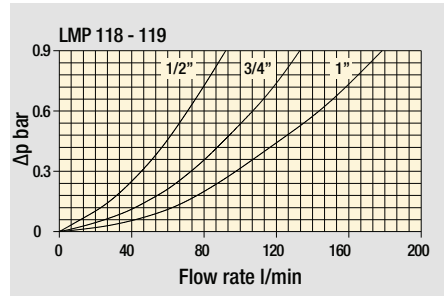
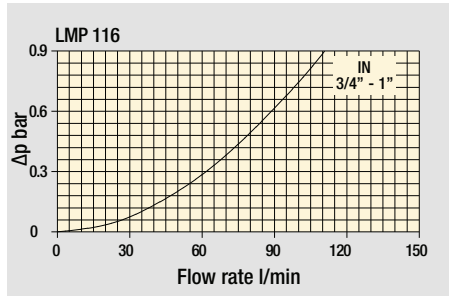
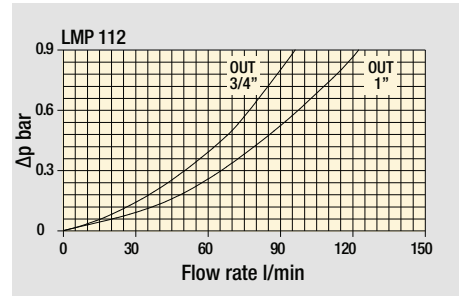
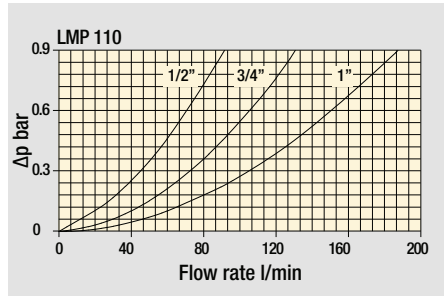
The reference fluid has a kinematic viscosity of 30 mm<sup>2</sup>/s (cSt) and a density of 0.86 kg/dm<sup>3</sup>.

For different pressure drop or fluid viscosity we recommend to use our selection software available on [www.mpfiltri.com](http://www.mpfiltri.com).

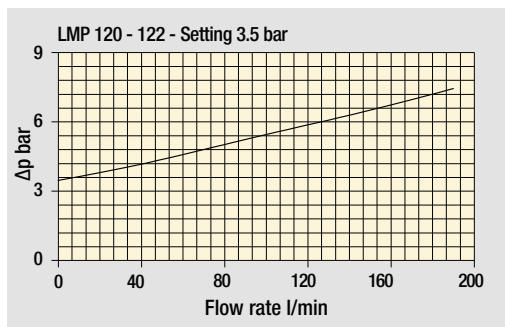
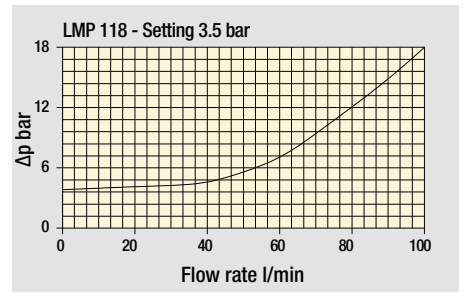
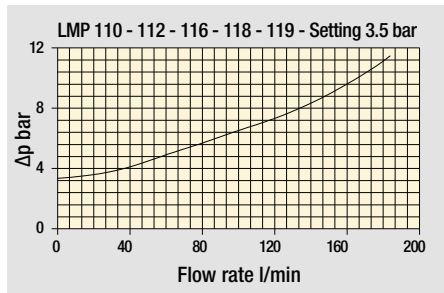
You can also calculate the right size using the formulas present on the FILTER SIZING paragraph at the beginning of the full catalogue or at the beginning of the filter family brochure. Please, contact our Sales Department for further additional information.

## Pressure drop

### Filter housings $\Delta p$ pressure drop


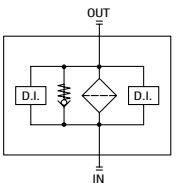


### Bypass valve pressure drop


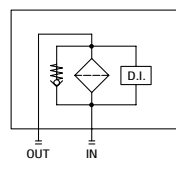


The curves are plotted using mineral oil with density of 0.86 kg/dm<sup>3</sup> in compliance with ISO 3968.  $\Delta p$  varies proportionally with density.


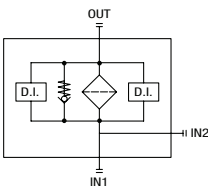
**LMP 110** In-Line filter


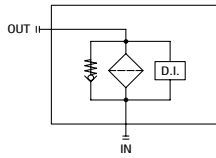
**LMP 120** Port IN-OUT on the same side


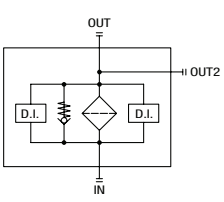
**LMP 112** Double IN port


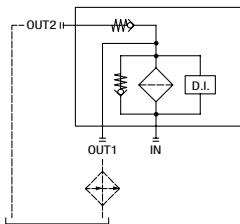
**LMP 122** Lateral OUT port high flow


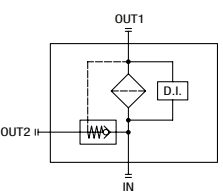
**LMP 116** Double OUT port


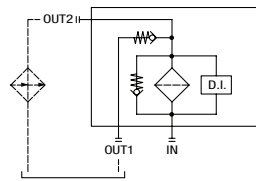
**LMP 123** Bypass valve for heat exchanger high flow  
Type 1


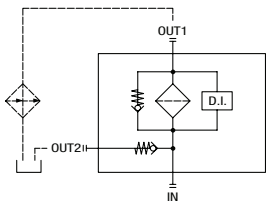
**LMP 118** Bypass lateral  
Always cleaning fluid in OUT port

**LMP 123** Bypass valve for heat exchanger high flow  
Type 2

**LMP 119** Safety valve 6 bar for heat exchanger

## Designation & Ordering code

### COMPLETE FILTER

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

**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
<b>A</b> NBR	•	•	•
<b>V</b> FPM	•	•	•
<b>W</b> NBR compatible with fluids HFA-HFB-HFC	•	•	

Connections	Aux (only LMP 112 - 116)	
	<b>A</b> G 3/4"	G 3/4"
<b>B</b> G 1"	G 3/4"	
<b>C</b> 3/4" NPT	3/4" NPT	
<b>D</b> 1" NPT	3/4" NPT	
<b>E</b> SAE 12 - 1 1/16" - 12 UN	SAE 12 - 1 1/16" - 12 UN	
<b>F</b> 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)	
<b>A03</b> Inorganic microfiber 3 µm	<b>M25</b> Wire mesh 25 µm
<b>A06</b> Inorganic microfiber 6 µm	<b>M60</b> Wire mesh 60 µm
<b>A10</b> Inorganic microfiber 10 µm	<b>M90</b> Wire mesh 90 µm
<b>A16</b> Inorganic microfiber 16 µm	<b>P10</b> Resin impregnated paper 10 µm
<b>A25</b> Inorganic microfiber 25 µm	<b>P25</b> Resin impregnated paper 25 µm

Element  $\Delta p$  **N** 20 bar

Execution **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)	
<b>A03</b> Inorganic microfiber 3 µm	<b>M25</b> Wire mesh 25 µm
<b>A06</b> Inorganic microfiber 6 µm	<b>M60</b> Wire mesh 60 µm
<b>A10</b> Inorganic microfiber 10 µm	<b>M90</b> Wire mesh 90 µm
<b>A16</b> Inorganic microfiber 16 µm	<b>P10</b> Resin impregnated paper 10 µm
<b>A25</b> Inorganic microfiber 25 µm	<b>P25</b> Resin impregnated paper 25 µm

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

Element  $\Delta p$  **N** 20 bar

Execution **P01** MP Filtri standard | **Pxx** Customized

### ACCESSORIES

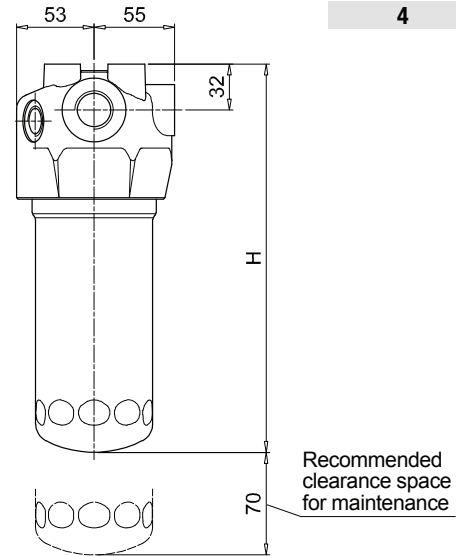
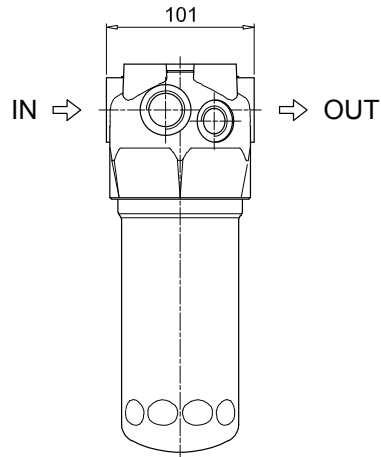
Differential indicators	page		page
<b>DEA</b> Electrical differential indicator	445	<b>DTA</b> Electronic differential indicator	448
<b>DEM</b> Electrical differential indicator	445-446	<b>DVA</b> Visual differential indicator	448
<b>DLA</b> Electrical / visual differential indicator	446-447	<b>DVM</b>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

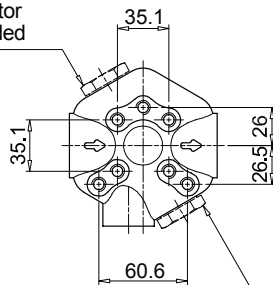
Additional features	page
<b>T2</b> Plug	449

LMP110 - LMP112  
LMP116

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

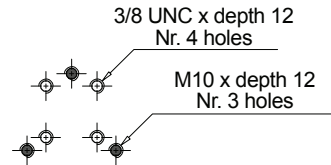


2 - Standard connection for differential indicator  
T2 plug not included

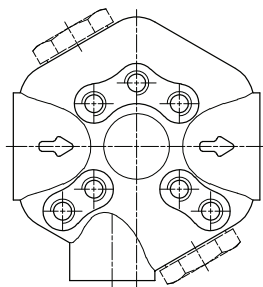


3 - Connection for differential indicator on the opposite side  
T2 plug not included

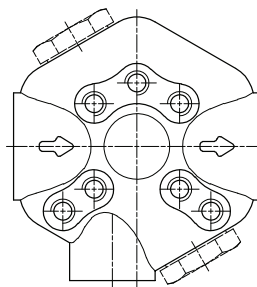
Fixing holes  
Option for Metric and UNC screws



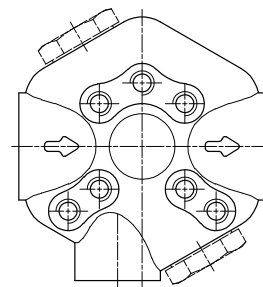
LMP 110



LMP 112



LMP 116



↑  
Aux  
IN

↓  
Aux  
OUT

## Designation & Ordering code

### COMPLETE FILTER

<b>Series and size</b>		Configuration example: <b>LMP118</b>   <b>4</b>   <b>B</b>   <b>A</b>   <b>D</b>   <b>1</b>   <b>A10</b>   <b>N</b>   <b>P01</b>									
<b>LMP118</b>   <b>LMP119</b>											
<b>Length</b>											
<b>1</b>   <b>2</b>   <b>3</b>   <b>4</b>											
<b>Bypass valve</b>											
<b>B</b> 3.5 bar											
<b>Seals and treatments</b>		<b>Filtration rating</b>									
		<b>Axx</b>	<b>Mxx</b>	<b>Pxx</b>							
<b>A</b> NBR		•	•	•							
<b>V</b> FPM		•	•	•							
<b>W</b> NBR compatible with fluids HFA-HFB-HFC		•	•								
<b>Connections</b>											
		<b>Aux OUT</b>									
<b>A</b>	G 3/4"	G 3/4"									
<b>B</b>	G 1"	G 3/4"									
<b>C</b>	3/4" NPT	3/4" NPT									
<b>D</b>	1" NPT	3/4" NPT									
<b>E</b>	SAE 12 - 1 1/16" - 12 UN	SAE 12 - 1 1/16" - 12 UN									
<b>F</b>	SAE 16 - 1 5/16" - 12 UN	SAE 12 - 1 1/16" - 12 UN									
<b>Connection for differential indicator</b>											
<b>1</b> Without											
<b>2</b> With standard connection											
<b>Filtration rating (filter media)</b>											
<b>A03</b>	Inorganic microfiber 3 µm	<b>M25</b> Wire mesh 25 µm									
<b>A06</b>	Inorganic microfiber 6 µm	<b>M60</b> Wire mesh 60 µm									
<b>A10</b>	Inorganic microfiber 10 µm	<b>M90</b> Wire mesh 90 µm									
<b>A16</b>	Inorganic microfiber 16 µm	<b>P10</b> Resin impregnated paper 10 µm									
<b>A25</b>	Inorganic microfiber 25 µm	<b>P25</b> Resin impregnated paper 25 µm									
		<b>Element Δp</b>		<b>Execution</b>							
		<b>N</b> 20 bar		<b>P01</b> MP Filtri standard							
				<b>Pxx</b> Customized							

### FILTER ELEMENT

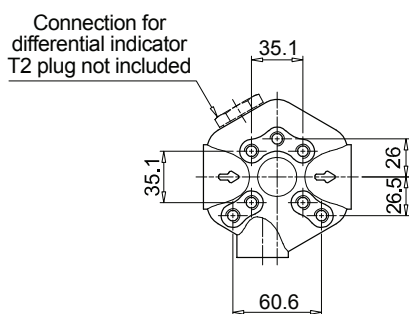
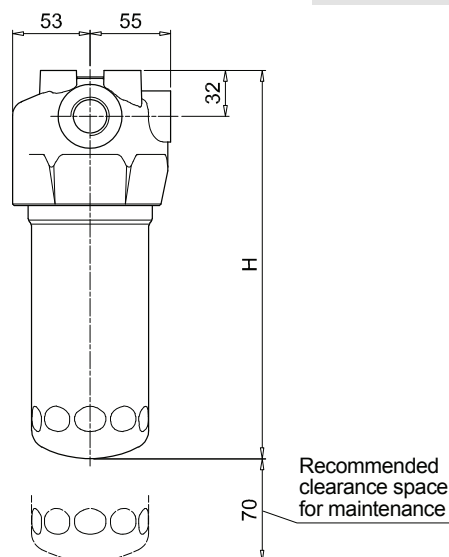
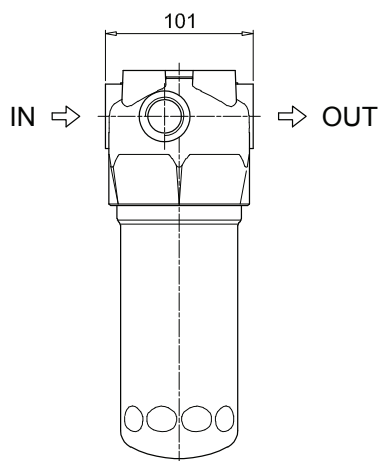
<b>Element series and size</b>		Configuration example: <b>CU110</b>   <b>4</b>   <b>A10</b>   <b>A</b>   <b>N</b>   <b>P01</b>									
<b>CU110</b>											
<b>Element length</b>											
<b>1</b>   <b>2</b>   <b>3</b>   <b>4</b>											
<b>Filtration rating (filter media)</b>											
<b>A03</b>	Inorganic microfiber 3 µm	<b>M25</b> Wire mesh 25 µm									
<b>A06</b>	Inorganic microfiber 6 µm	<b>M60</b> Wire mesh 60 µm									
<b>A10</b>	Inorganic microfiber 10 µm	<b>M90</b> Wire mesh 90 µm									
<b>A16</b>	Inorganic microfiber 16 µm	<b>P10</b> Resin impregnated paper 10 µm									
<b>A25</b>	Inorganic microfiber 25 µm	<b>P25</b> Resin impregnated paper 25 µm									
<b>Seals</b>		<b>Filtration rating</b>									
		<b>Axx</b>	<b>Mxx</b>	<b>Pxx</b>							
<b>A</b> NBR		•	•	•							
<b>V</b> FPM		•	•	•							
<b>W</b> NBR compatible with fluids HFA-HFB-HFC		•	•								
		<b>Element Δp</b>		<b>Execution</b>							
		<b>N</b> 20 bar		<b>P01</b> MP Filtri standard							
				<b>Pxx</b> Customized							

### ACCESSORIES

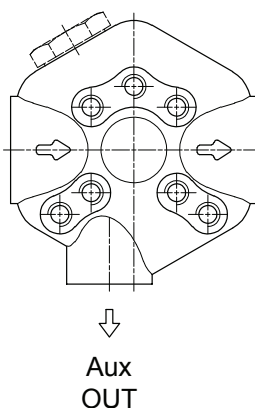
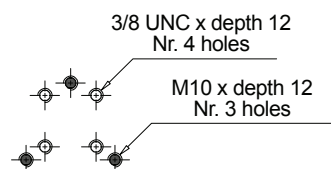
<b>Differential indicators</b>		page		page
<b>DEA</b>	Electrical differential indicator	445	<b>DTA</b>	Electronic differential indicator 448
<b>DEM</b>	Electrical differential indicator	445-446	<b>DVA</b>	Visual differential indicator 448
<b>DLA</b>	Electrical / visual differential indicator	446-447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

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

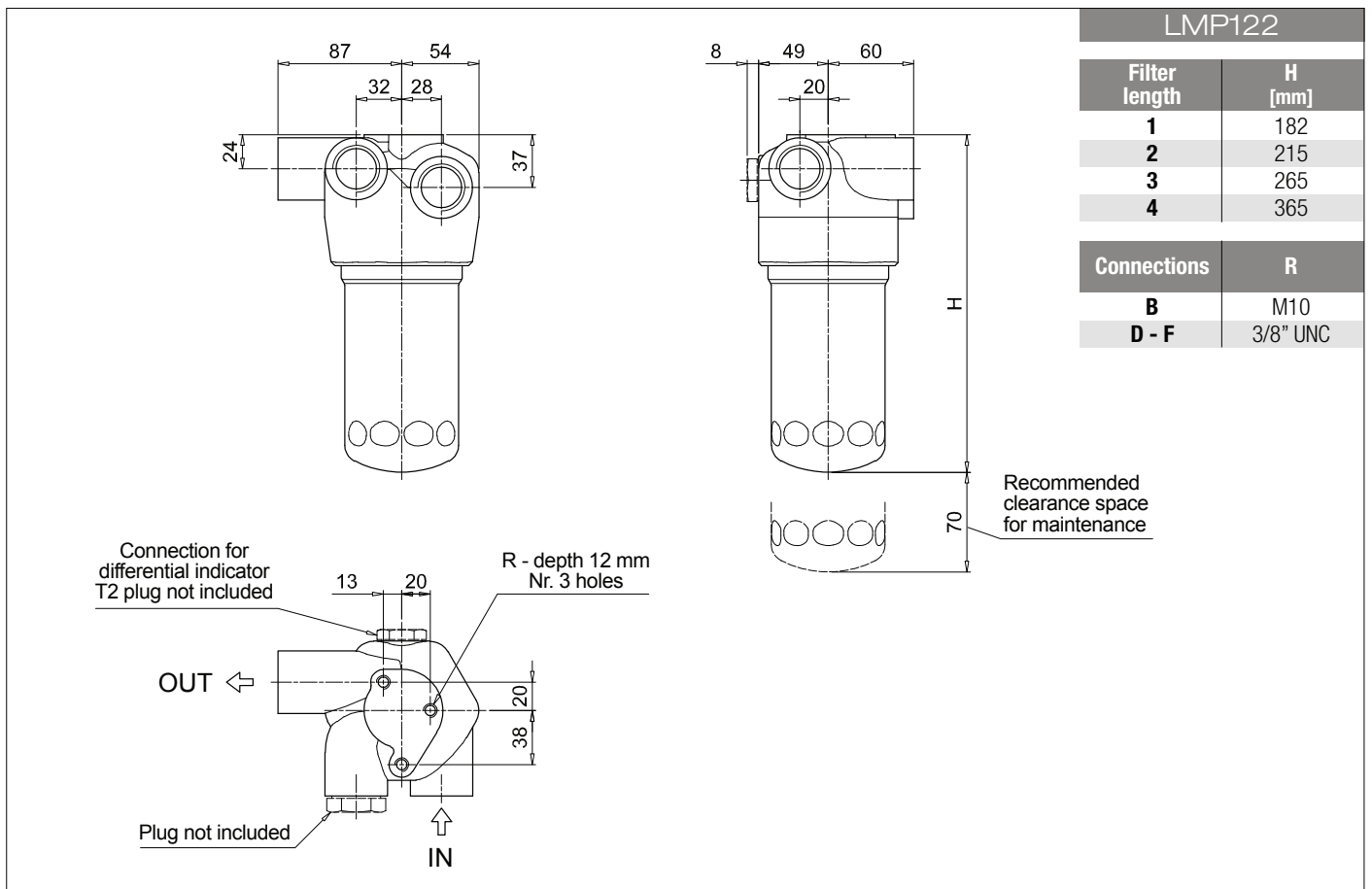
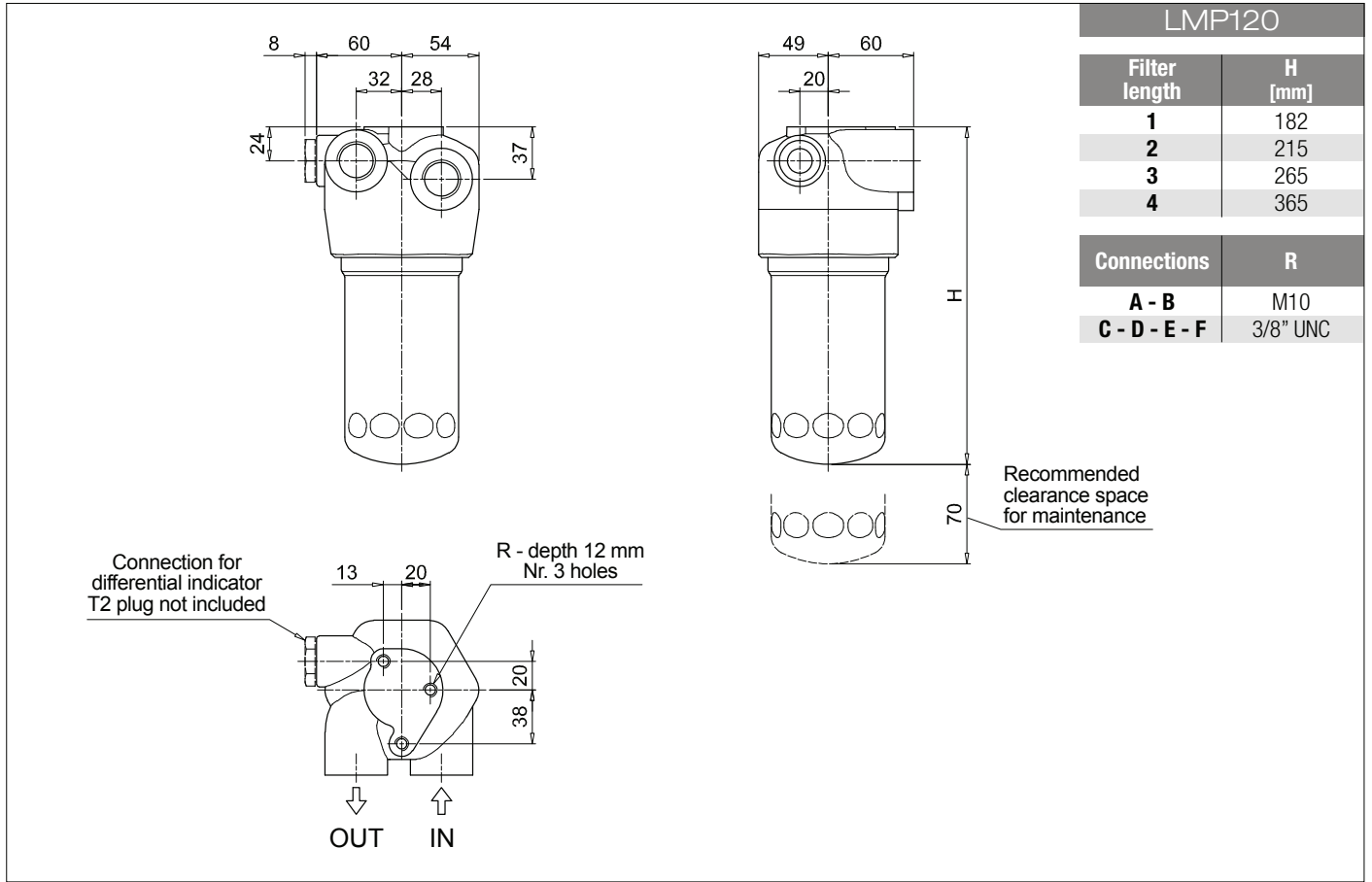
Series and size		Configuration example: <b>LMP120</b>   <b>4</b>   <b>B</b>   <b>A</b>   <b>D</b>   <b>1</b>   <b>A10</b>   <b>N</b>   <b>P01</b>									
<b>LMP120</b>   <b>LMP122</b>											
Length											
<b>1</b>   <b>2</b>   <b>3</b>   <b>4</b>											
Bypass valve											
<b>S</b> Without bypass		<b>B</b> 3.5 bar									
Seals and treatments		Filtration rating									
		Axx	Mxx	Pxx							
<b>A</b> NBR		•	•	•							
<b>V</b> FPM		•	•	•							
<b>W</b> NBR compatible with fluids HFA-HFB-HFC		•	•								
Connections		LMP120		LMP122							
<b>A</b> G 3/4"		•									
<b>B</b> G 1"		•		•							
<b>C</b> 3/4" NPT		•									
<b>D</b> 1" NPT		•		•							
<b>E</b> SAE 12 - 1 1/16" - 12 UN		•									
<b>F</b> SAE 16 - 1 5/16" - 12 UN		•		•							
Connection for differential indicator											
<b>1</b> Without											
<b>2</b> With standard connection											
Filtration rating (filter media)											
<b>A03</b> Inorganic microfiber 3 µm		<b>M25</b> Wire mesh 25 µm									
<b>A06</b> Inorganic microfiber 6 µm		<b>M60</b> Wire mesh 60 µm									
<b>A10</b> Inorganic microfiber 10 µm		<b>M90</b> Wire mesh 90 µm									
<b>A16</b> Inorganic microfiber 16 µm		<b>P10</b> Resin impregnated paper 10 µm									
<b>A25</b> Inorganic microfiber 25 µm		<b>P25</b> Resin impregnated paper 25 µm									
		Element Δp			Execution						
		<b>N</b> 20 bar			<b>P01</b> MP Filtri standard						
					<b>Pxx</b> Customized						

### FILTER ELEMENT

Element series and size		Configuration example: <b>CU110</b>   <b>4</b>   <b>A10</b>   <b>A</b>   <b>N</b>   <b>P01</b>									
<b>CU110</b>											
Element length											
<b>1</b>   <b>2</b>   <b>3</b>   <b>4</b>											
Filtration rating (filter media)											
<b>A03</b> Inorganic microfiber 3 µm		<b>M25</b> Wire mesh 25 µm									
<b>A06</b> Inorganic microfiber 6 µm		<b>M60</b> Wire mesh 60 µm									
<b>A10</b> Inorganic microfiber 10 µm		<b>M90</b> Wire mesh 90 µm									
<b>A16</b> Inorganic microfiber 16 µm		<b>P10</b> Resin impregnated paper 10 µm									
<b>A25</b> Inorganic microfiber 25 µm		<b>P25</b> Resin impregnated paper 25 µm									
Seals		Filtration rating									
		Axx	Mxx	Pxx							
<b>A</b> NBR		•	•	•							
<b>V</b> FPM		•	•	•							
<b>W</b> NBR compatible with fluids HFA-HFB-HFC		•	•								
		Element Δp			Execution						
		<b>N</b> 20 bar			<b>P01</b> MP Filtri standard						
					<b>Pxx</b> Customized						

### ACCESSORIES

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



Designation & Ordering code

**COMPLETE FILTER**

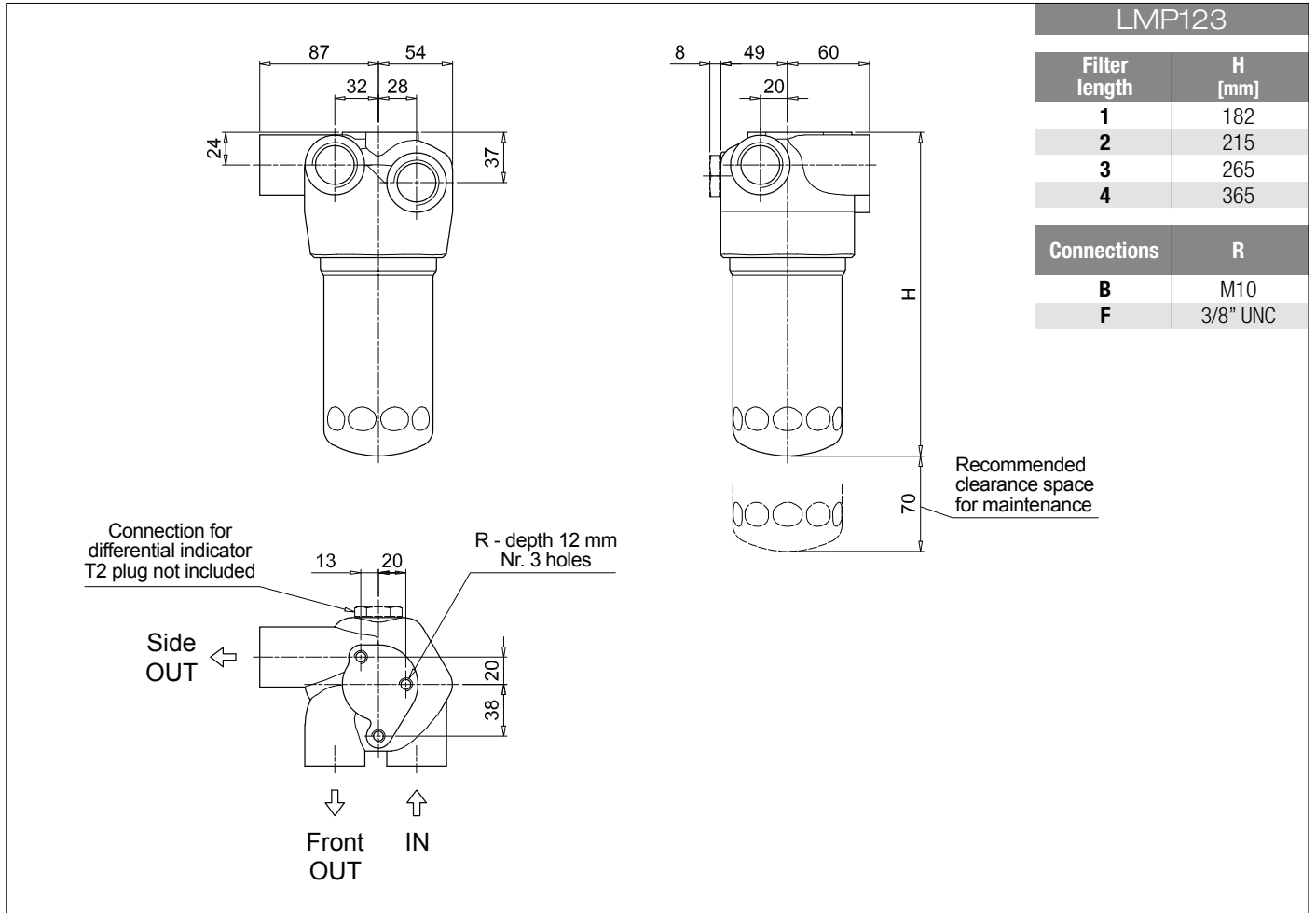
<b>Series and size</b>		Configuration example: <b>LMP123</b>   <b>4</b>   <b>R</b>   <b>A</b>   <b>F</b>   <b>1</b>   <b>A10</b>   <b>N</b>   <b>P01</b>									
<b>LMP123</b>											
<b>Length</b>		1   2   3   4									
<b>Valves</b>	<b>Bypass</b>	<b>OUT to cooler</b>	<b>Check valve</b>								
<b>C</b>	without	front	2 bar								
<b>D</b>			3 bar								
<b>G</b>		side	2 bar								
<b>H</b>			3 bar								
<b>M</b>	3.5 bar	front	2 bar								
<b>N</b>			3 bar								
<b>Q</b>		side	2 bar								
<b>R</b>			3 bar								
<b>Seals and treatments</b>		<b>Filtration rating</b>									
<b>A</b>	NBR	Axx	Mxx	Pxx							
<b>V</b>	FPM	•	•	•							
<b>W</b>	NBR compatible with fluids HFA-HFB-HFC	•	•								
<b>Connections</b>											
<b>B</b>	G 1"										
<b>F</b>	SAE 16 - 1 5/16" - 12 UN										
<b>Connection for differential indicator</b>											
<b>1</b>	Without										
<b>2</b>	With standard connection										
<b>Filtration rating (filter media)</b>											
<b>A03</b>	Inorganic microfiber 3 µm	<b>M25</b>	Wire mesh 25 µm								
<b>A06</b>	Inorganic microfiber 6 µm	<b>M60</b>	Wire mesh 60 µm								
<b>A10</b>	Inorganic microfiber 10 µm	<b>M90</b>	Wire mesh 90 µm								
<b>A16</b>	Inorganic microfiber 16 µm	<b>P10</b>	Resin impregnated paper 10 µm								
<b>A25</b>	Inorganic microfiber 25 µm	<b>P25</b>	Resin impregnated paper 25 µm								
		<b>Element Δp</b>		<b>Execution</b>							
		<b>N</b> 20 bar		<b>P01</b> MP Filtri standard <b>Pxx</b> Customized							

**FILTER ELEMENT**

<b>Element series and size</b>		Configuration example: <b>CU110</b>   <b>4</b>   <b>A10</b>   <b>A</b>   <b>N</b>   <b>P01</b>									
<b>CU110</b>											
<b>Element length</b>		1   2   3   4									
<b>Filtration rating (filter media)</b>											
<b>A03</b>	Inorganic microfiber 3 µm	<b>M25</b>	Wire mesh 25 µm								
<b>A06</b>	Inorganic microfiber 6 µm	<b>M60</b>	Wire mesh 60 µm								
<b>A10</b>	Inorganic microfiber 10 µm	<b>M90</b>	Wire mesh 90 µm								
<b>A16</b>	Inorganic microfiber 16 µm	<b>P10</b>	Resin impregnated paper 10 µm								
<b>A25</b>	Inorganic microfiber 25 µm	<b>P25</b>	Resin impregnated paper 25 µm								
<b>Seals</b>		<b>Filtration rating</b>									
<b>A</b>	NBR	Axx	Mxx	Pxx							
<b>V</b>	FPM	•	•	•							
<b>W</b>	NBR compatible with fluids HFA-HFB-HFC	•	•								
		<b>Element Δp</b>		<b>Execution</b>							
		<b>N</b> 20 bar		<b>P01</b> MP Filtri standard <b>Pxx</b> Customized							

**ACCESSORIES**

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

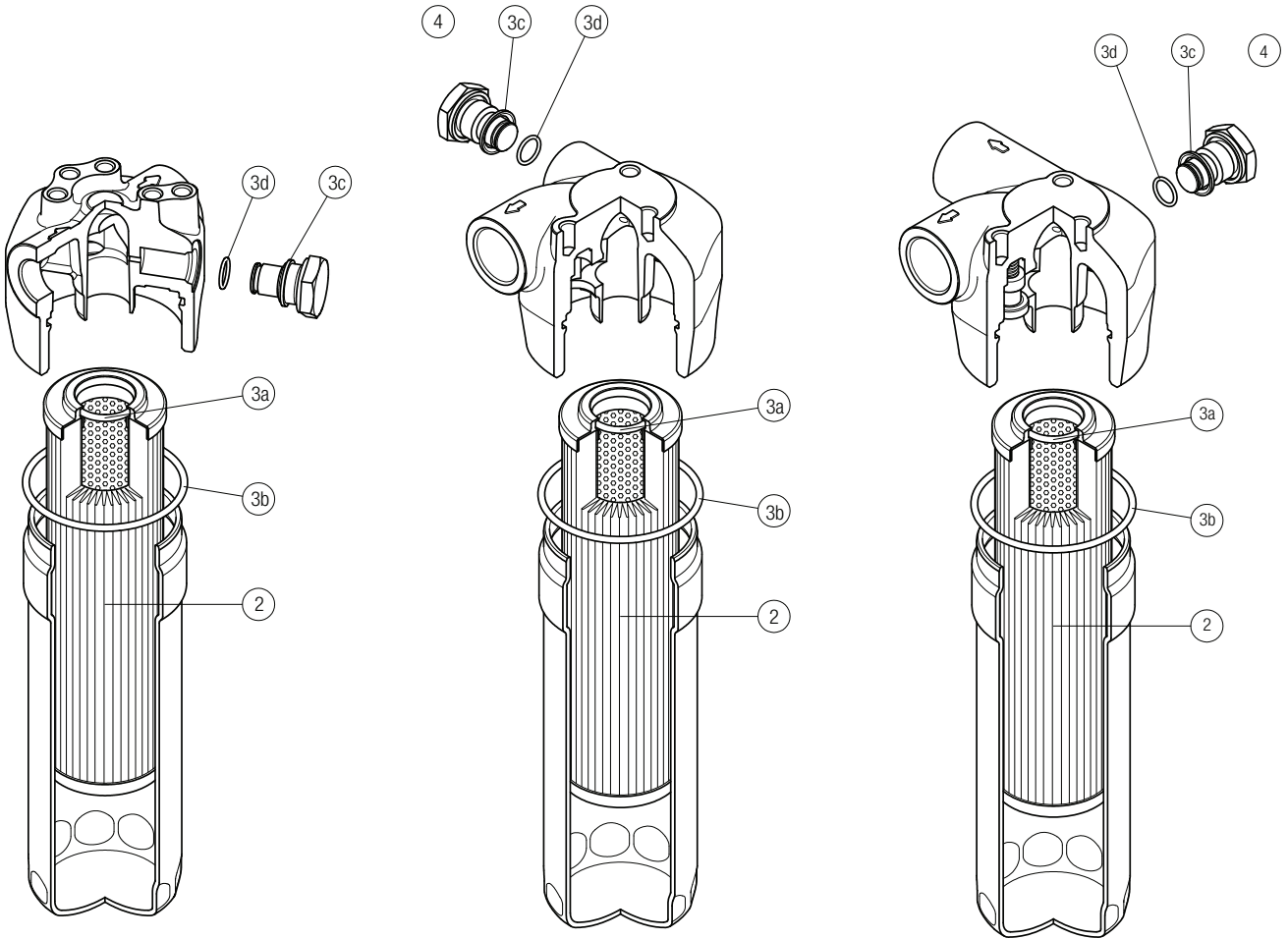


Order number for spare parts

**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 NBR	FPM	Indicator connection plug NBR	FPM		
<b>LMP 110-112-116 -118-119</b>	See order table	02050478	02050479	T2H	T2V	2	
<b>LMP 120</b>						3 (3a ÷ 3d)	4
<b>LMP 122-123</b>							