

LMP 110-120-123 series

MULTIPOINT

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



FILTER SIZING

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THE CORRECT FILTER SIZING HAVE TO BE BASED ON THE TOTAL PRESSURE DROP DEPENDING BY THE APPLICATION.

FOR EXAMPLE, THE MAXIMUM TOTAL PRESSURE DROP ALLOWED BY A NEW AND CLEAN RETURN FILTER HAVE TO BE IN THE RANGE 0.4 ÷ 0.6 bar.

The pressure drop calculation is performed by adding together the value of the housing with the value of the filter element. The pressure drop Δpc of the housing is proportional to the fluid density (kg/dm³); all the graphs in the catalogue are referred to mineral oil with density of 0.86 kg/dm³.

The filter element pressure drop Δpe is proportional to its viscosity (mm²/s), the corrective factor Y have to be used in case of an oil viscosity different than 30 mm²/s (cSt).

Sizing data for single filter element, head at top

Δpc = Filter housing pressure drop [bar]

Δpe = Filter element pressure drop [bar]

Y = Corrective factor Y (see correspondent table), depending on the filter type, on the filter element size, on the filter element length and on the filter media

Q = flow rate (l/min)

V1 reference oil viscosity = 30 mm²/s (cSt)

V2 = operating oil viscosity in mm²/s (cSt)

Filter element pressure drop calculation with an oil viscosity different than 30 mm²/s (cSt)

$\Delta pe = Y : 1000 \times Q \times (V2:V1)$

$\Delta p Tot. = \Delta pc + \Delta pe$

Verification formula

$\Delta p Tot. \leq \Delta p max allowed$

Maximum total pressure drop (Δp max) allowed by a new and clean filter

Application	Range (bar)
Suction filters	0.08 ÷ 0.10
Return filters	0.4 ÷ 0.6
	0.4 ÷ 0.6 return lines
	0.3 ÷ 0.5 lubrication lines
Low & Medium Pressure filters	0.3 ÷ 0.4 off-line in power systems
	0.1 ÷ 0.3 off-line in test benches
	0.4 ÷ 0.6 over-boost
High Pressure filters	0.8 ÷ 1.5
Stainless Steel filters	0.8 ÷ 1.5

Generic filter calculation example

Application data:

Tank top return filter

Pressure Pmax = 10 bar

Flow rate Q = 120 l/min

Viscosity V2 = 46 mm²/s (cSt)

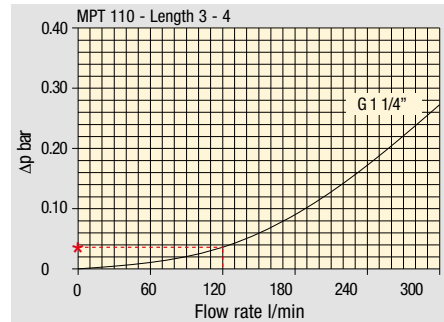
Oil density = 0.86 kg/dm³

Required filtration efficiency = 25 μm with absolute filtration

With bypass valve and G 1 1/4" inlet connection

Calculation:

Δpc = 0.03 bar (see graphic below)



Filter housings Δp 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.

$\Delta pe = (2.00 : 1000) \times 120 \times (46 : 30) = 0.37 bar$

Filter element	Absolute filtration H Series					Nominal filtration N Series		
	A03	A06	A10	A16	A25	P10	P25	M25 M60 M90
Type								
Return filters								
MF 020	74.00	50.08	20.00	16.00	9.00	6.43	5.51	4.40
	2	29.20	24.12	8.00	7.22	5.00	3.33	2.85
	3	22.00	19.00	6.56	5.33	4.33	1.68	1.44
MF 030 MFX 030	74.00	50.08	20.00	16.00	9.00	6.43	5.51	3.40
	1	28.20	24.40	8.67	8.17	6.88	4.62	3.96
	2	17.33	12.50	6.86	5.70	4.00	3.05	2.47
MF 100 MFX 100	10.25	9.00	3.65	3.33	2.50	1.63	1.32	0.96
	3	6.10	5.40	2.30	2.20	2.00	1.19	0.96
	4							0.82

$\Delta p Tot. = 0.03 + 0.37 = 0.4 bar$

The selection is correct because the total pressure drop value is inside the admissible range for top tank return filters.

In case the allowed max total pressure drop is not verified, it is necessary to repeat the calculation changing the filter length/size.

FILTER SIZING Corrective factor

Corrective factor Y to be used for the filter element pressure drop calculation. The values depend to the filter size and length and to the filter media.
Reference oil viscosity 30 mm²/s

Return filters

Filter element	Absolute filtration H Series					Nominal filtration N Series			
	Type	A03	A06	A10	A16	A25	P10	P25	M25 M60 M90
MF 020	1	74.00	50.08	20.00	16.00	9.00	6.43	5.51	4.40
	2	29.20	24.12	8.00	7.22	5.00	3.33	2.85	2.00
	3	22.00	19.00	6.56	5.33	4.33	1.68	1.44	1.30
MF 030 MFX 030	1	74.00	50.08	20.00	16.00	9.00	6.43	5.51	3.40
MF 100 MFX 100	1	28.20	24.40	8.67	8.17	6.88	4.62	3.96	1.25
	2	17.33	12.50	6.86	5.70	4.00	3.05	2.47	1.10
	3	10.25	9.00	3.65	3.33	2.50	1.63	1.32	0.96
	4	6.10	5.40	2.30	2.20	2.00	1.19	0.96	0.82
MF 180 MFX 180	1	3.67	3.05	1.64	1.56	1.24	1.18	1.06	0.26
	2	1.69	1.37	0.68	0.54	0.51	0.43	0.39	0.12
MF 190 MFX 190	2	1.69	1.37	0.60	0.49	0.44	0.35	0.31	0.11
MF 400 MFX 400	1	3.20	2.75	1.39	1.33	1.06	0.96	0.87	0.22
	2	2.00	1.87	0.88	0.85	0.55	0.49	0.45	0.13
	3	1.90	1.60	0.63	0.51	0.49	0.39	0.35	0.11
MF 750 MFX 750	1	1.08	0.84	0.49	0.36	0.26	0.21	0.19	0.06
MLX 250	2	3.00	3.04	1.46	1.25	1.17	-	-	M25 0.20
MLX 660	2	1.29	1.26	0.52	0.44	0.38	-	-	M25 0.10
CU 025		78.00	48.00	28.00	24.00	9.33	9.33	8.51	1.25
CU 040		25.88	20.88	10.44	10.00	3.78	3.78	3.30	1.25
CU 100		15.20	14.53	5.14	4.95	2.00	2.00	0.17	1.10
CU 250		3.25	2.55	1.55	1.35	0.71	0.71	0.59	0.25
CU 630		1.96	1.68	0.85	0.72	0.42	0.42	0.36	0.09
CU 850		1.06	0.84	0.42	0.33	0.17	0.17	0.13	0.04
MR 100	1	19.00	17.00	6.90	6.30	4.60	2.94	2.52	1.60
	2	11.70	10.80	4.40	4.30	3.00	2.94	2.52	1.37
	3	7.80	6.87	3.70	3.10	2.70	2.14	1.84	1.34
	4	5.50	4.97	2.60	2.40	2.18	1.72	1.47	1.34
	5	4.20	3.84	2.36	2.15	1.90	1.60	1.37	1.34
MR 250	1	5.35	4.85	2.32	1.92	1.50	1.38	1.20	0.15
	2	4.00	3.28	1.44	1.10	1.07	0.96	0.83	0.13
	3	2.60	2.20	1.08	1.00	0.86	0.77	0.64	0.12
	4	1.84	1.56	0.68	0.56	0.44	0.37	0.23	0.11
MR 630	1	3.10	2.48	1.32	1.14	0.92	0.83	0.73	0.09
	2	2.06	1.92	0.82	0.76	0.38	0.33	0.27	0.08
	3	1.48	1.30	0.60	0.56	0.26	0.22	0.17	0.08
	4	1.30	1.20	0.48	0.40	0.25	0.21	0.16	0.08
	5	0.74	0.65	0.30	0.28	0.13	0.10	0.08	0.04
MR 850	1	0.60	0.43	0.34	0.25	0.13	0.12	0.09	0.03
	2	0.37	0.26	0.23	0.21	0.11	0.08	0.07	0.03
	3	0.27	0.18	0.17	0.17	0.05	0.04	0.04	0.02
	4	0.23	0.16	0.13	0.12	0.04	0.03	0.03	0.02

Return / Suction filters

Filter element	Absolute filtration			
	Type	A10	A16	A25
RSX 116	1	5.12	4.33	3.85
	2	2.22	1.87	1.22
RSX 165	1	2.06	1.75	1.46
	2	1.24	1.05	0.96
	3	0.94	0.86	0.61

Filter element	Absolute filtration N Series								
	Type	A03	A06	A10	A16	A25	P10	P25	M25 M60 M90
CU 110	1	16.25	15.16	8.75	8.14	5.87	2.86	2.65	0.14
	2	12.62	10.44	6.11	6.02	4.16	1.60	1.49	0.12
	3	8.57	7.95	5.07	4.07	2.40	1.24	1.15	0.11
	4	5.76	4.05	2.80	2.36	1.14	0.91	0.85	0.05

Low & Medium pressure filters

Filter element	Absolute filtration N-W Series					Nominal filtration N Series			
	Type	A03	A06	A10	A16	A25	P10	P25	M25
CU 110	1	16.25	15.16	8.75	8.14	5.87	2.86	2.65	0.14
	2	12.62	10.44	6.11	6.02	4.15	1.60	1.49	0.12
	3	8.57	7.95	5.07	4.07	2.40	1.24	1.15	0.11
	4	5.76	4.05	2.80	2.36	1.14	0.91	0.85	0.05
CU 210	1	5.30	4.80	2.00	1.66	1.32	0.56	0.43	0.12
	2	3.44	2.95	1.24	1.09	0.70	0.42	0.35	0.09
	3	2.40	1.70	0.94	0.84	0.54	0.33	0.23	0.05
DN	016	7.95	7.20	3.00	2.49	1.98	0.84	0.65	0.18
	025	5.00	4.53	1.89	1.57	1.25	0.53	0.41	0.11
	040	3.13	2.66	1.12	0.98	0.63	0.38	0.32	0.08
CU 400	2	3.13	2.55	1.46	1.22	0.78	0.75	0.64	0.19
	3	2.15	1.70	0.94	0.78	0.50	0.40	0.34	0.10
	4	1.60	1.28	0.71	0.61	0.40	0.34	0.27	0.08
	5	1.00	0.83	0.47	0.34	0.20	0.24	0.19	0.06
	6	0.82	0.58	0.30	0.27	0.17	0.22	0.18	0.05
	CU 900	1	0.86	0.63	0.32	0.30	0.21	-	-
CU 950	2	1.03	0.80	0.59	0.40	0.26	-	-	0.05
	3	0.44	0.40	0.27	0.18	0.15	-	-	0.02
MR 630	7	0.88	0.78	0.36	0.34	0.16	0.12	0.96	0.47

Corrective factor Y to be used for the filter element pressure drop calculation. The values depend to the filter size and length and to the filter media.
Reference oil viscosity 30 mm²/s

High pressure filters

Filter element		Absolute filtration N - R Series					Nominal filtration N Series
Type		A03	A06	A10	A16	A25	M25
HP 011	1	332.71	250.07	184.32	152.36	128.36	-
	2	220.28	165.56	74.08	59.13	37.05	-
	3	123.24	92.68	41.48	33.08	20.72	-
	4	77.76	58.52	28.37	22.67	16.17	-
HP 039	2	70.66	53.20	25.77	20.57	14.67	4.90
	3	36.57	32.28	18.00	13.38	8.00	2.90
	4	26.57	23.27	12.46	8.80	5.58	2.20
HP 050	1	31.75	30.30	13.16	12.3	7.29	1.60
	2	24.25	21.26	11.70	9.09	4.90	1.40
	3	17.37	16.25	8.90	7.18	3.63	1.25
	4	12.12	10.75	6.10	5.75	3.08	1.07
	5	7.00	6.56	3.60	3.10	2.25	0.80
HP 065	1	58.50	43.46	23.16	19.66	10.71	1.28
	2	42.60	25.64	16.22	13.88	7.32	1.11
	3	20.50	15.88	8.18	6.81	3.91	0.58
HP 135	1	20.33	18.80	9.71	8.66	4.78	2.78
	2	11.14	10.16	6.60	6.38	2.22	1.11
	3	6.48	6.33	3.38	3.16	2.14	1.01
HP 150	1	17.53	15.91	7.48	6.96	5.94	1.07
	2	8.60	8.37	3.54	3.38	3.15	0.58
	3	6.53	5.90	2.93	2.79	2.12	0.49
HP 320	1	10.88	9.73	5.02	3.73	2.54	1.04
	2	4.40	3.83	1.75	1.48	0.88	0.71
	3	2.75	2.11	1.05	0.87	0.77	0.61
	4	2.12	1.77	0.98	0.78	0.55	0.47
HP 500	1	4.44	3.67	2.30	2.10	1.65	0.15
	2	3.37	2.77	1.78	1.68	1.24	0.10
	3	2.22	1.98	1.11	1.09	0.75	0.08
	4	1.81	1.33	0.93	0.86	0.68	0.05
	5	1.33	1.15	0.77	0.68	0.48	0.04

Filter element		Absolute filtration N Series					Nominal filtration N Series
Type		A03	A06	A10	A16	A25	M25
HF 320	1	3.65	2.95	2.80	1.80	0.90	0.38
	2	2.03	1.73	1.61	1.35	0.85	0.36
	3	1.84	1.42	1.32	1.22	0.80	0.35

Suction filters

Filter element	Nominal filtration N Series	
Type	P10	P25
SF 250	65	21

Stainless steel high pressure filters

Filter element		Absolute filtration N Series				
Type		A03	A06	A10	A16	A25
HP 011	1	332.71	250.07	184.32	152.36	128.36
	2	220.28	165.56	74.08	59.13	37.05
	3	123.24	92.68	41.48	33.08	20.72
	4	77.76	58.52	28.37	22.67	16.17
HP 039	2	70.66	53.20	25.77	20.57	14.67
	3	36.57	32.28	18.00	13.38	8.00
	4	26.57	23.27	12.46	8.80	5.58
HP 050	1	31.75	30.30	13.16	12.3	7.29
	2	24.25	21.26	11.70	9.09	4.90
	3	17.37	16.25	8.90	7.18	3.63
	4	12.12	10.75	6.10	5.75	3.08
	5	7.00	6.56	3.60	3.10	2.25
HP 135	1	20.33	18.80	9.71	8.66	4.78
	2	11.14	10.16	6.60	6.38	2.22
	3	6.48	6.33	3.38	3.16	2.14

Filter element		Absolute filtration H - U Series				
Type		A03	A06	A10	A16	A25
HP 011	1	424.58	319.74	235.17	194.44	163.78
	2	281.06	211.25	94.53	75.45	47.26
	3	130.14	97.50	43.63	34.82	21.81
	4	109.39	82.25	36.79	29.37	18.40
HP 039	2	70.66	53.20	25.77	20.57	14.67
	3	36.57	32.28	18.00	13.38	8.00
	4	26.57	23.27	12.46	8.80	5.58
HP 050	1	47.33	34.25	21.50	20.50	14.71
	2	29.10	25.95	14.04	10.90	5.88
	3	20.85	19.50	10.68	8.61	4.36
	4	14.55	12.90	7.32	6.90	3.69
	5	9.86	9.34	6.40	4.80	2.50
HP 135	1	29.16	25.33	13.00	12.47	5.92
	2	14.28	11.04	7.86	7.60	4.44
	3	8.96	7.46	4.89	4.16	3.07

FILTER SIZING Selection Software

Step 1 Select "FILTERS"



Step 2 Choose filter group (Return Filter, Pressure Filter, etc.)



Step 3 Choose filter type (MPF, MPT, etc.) in function of the max working pressure and the max flow rate



Step 4 Push "PROCEED"



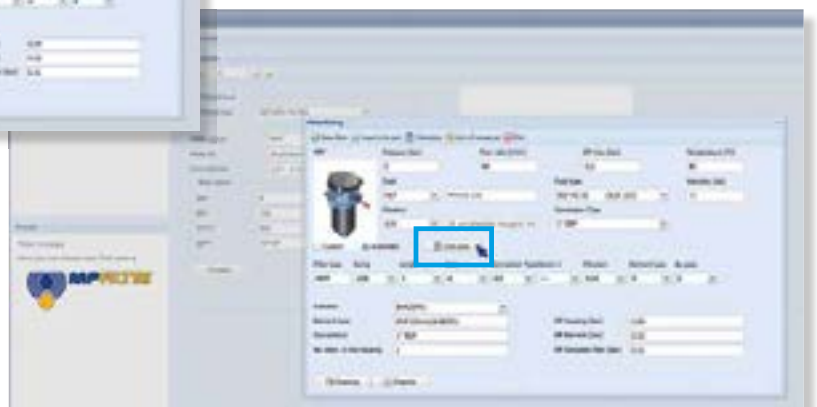
Step 5

Insert all application data to calculate the filter size following the sequence:

- working pressure
- working flow rate
- working pressure drop
- working temperature
- fluid material and fluid type
- filtration media
- connection type

Step 6

Push "CALCULATE" to have result; in case of any mistake, the system will advice which parameter is out of range to allow to modify/adjust the selection



Step 7

Download PDF Datasheet "Report.aspx" pushing the button "Drawing"

LMP 110-120-123 series

MULTIPOINT

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



Description

Technical data

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

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

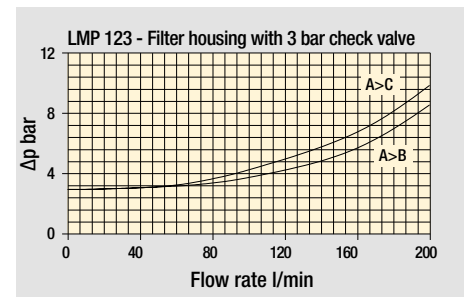
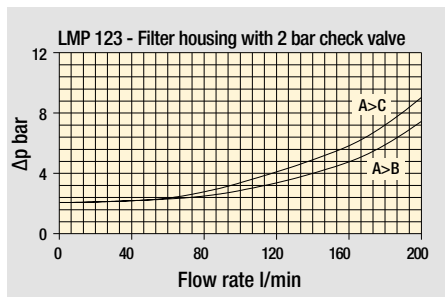
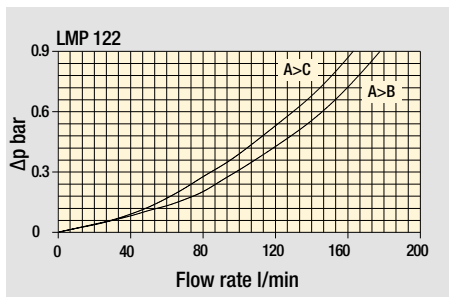
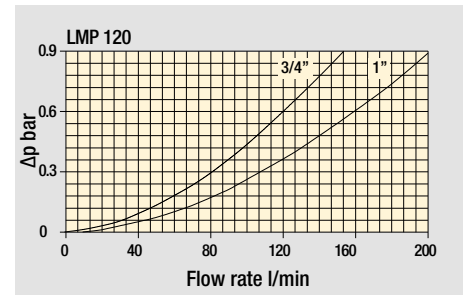
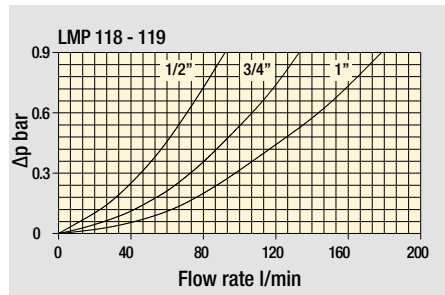
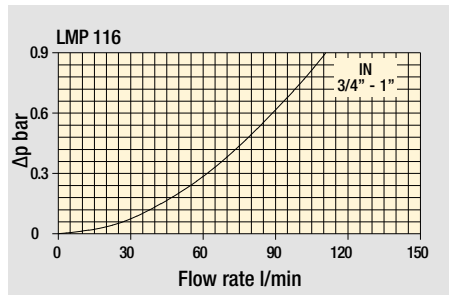
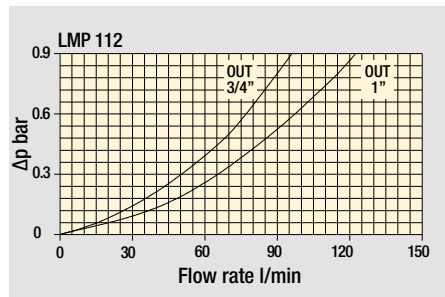
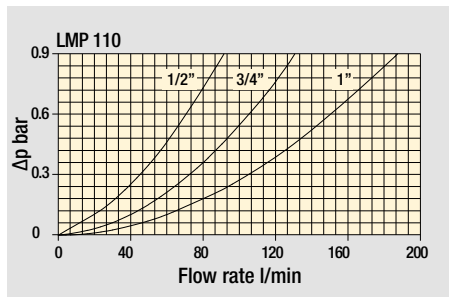
LMP MULTIPOINT filters are provided for vertical mounting



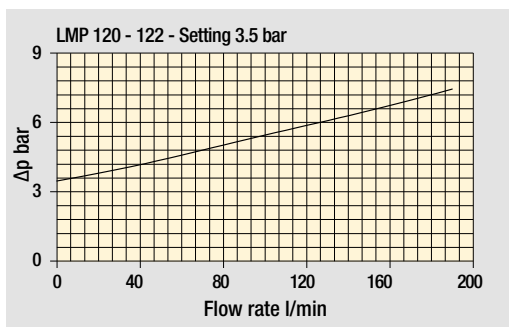
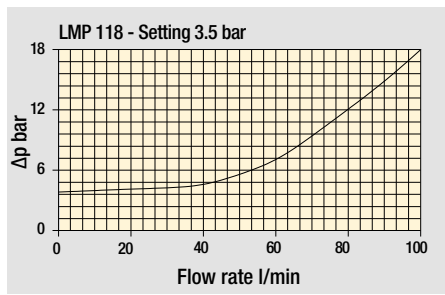
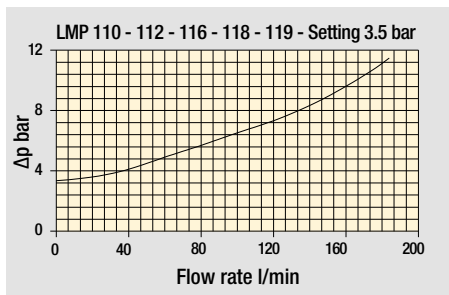
Weights [kg] and volumes [dm³]

Filter series	Weights [kg]				Volumes [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 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.

Flow rates [l/min]

		Filter element design - N Series							
Filter series	Length	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.

Please, contact our Sales Department for further additional information.

		Filter element design - N Series							
Filter series	Length	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


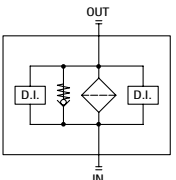
Maximum flow rate for a complete low and medium pressure filter with a pressure drop $\Delta p = 2.7$ bar.

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


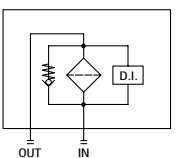
For different pressure drop or fluid viscosity we recommend to use our selection software available on www.mpfiltri.com.

Please, contact our Sales Department for further additional information.


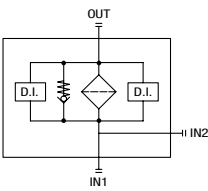
LMP 110 In-Line filter


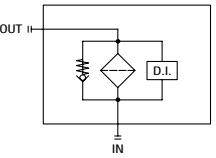
LMP 120 Port IN-OUT on the same side


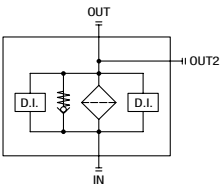
LMP 112 Double IN port


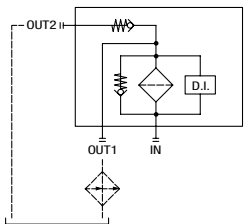
LMP 122 Lateral OUT port high flow


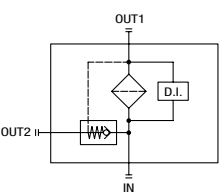
LMP 116 Double OUT port


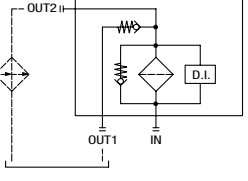
LMP 123 Bypass valve for heat exchanger high flow
Type 1


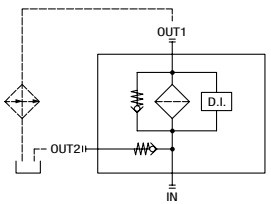
LMP 118 Bypass lateral
Always cleaning fluid in OUT port

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
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

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 **N** 20 bar | Execution **P01** MP Filtri standard | **Pxx** Customized

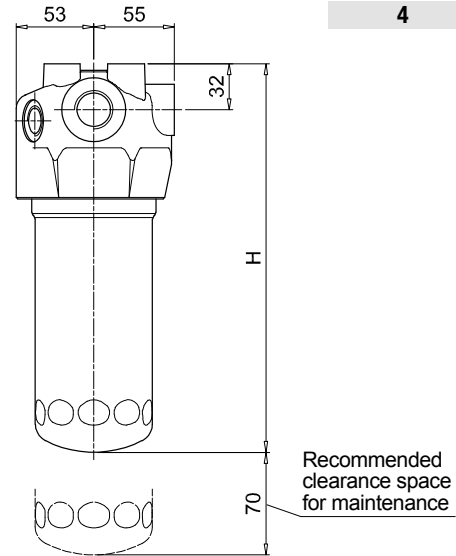
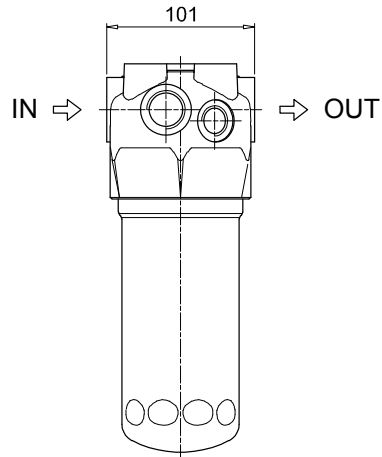
ACCESSORIES

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		

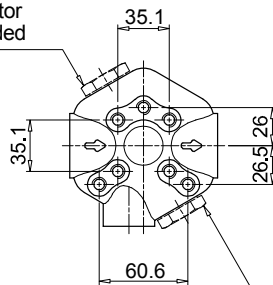
Additional features	page
T2 Plug	449

LMP110 - LMP112
LMP116

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

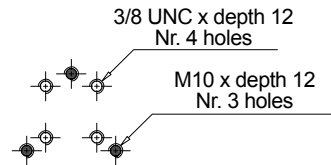


2 - Standard connection for differential indicator
T2 plug not included

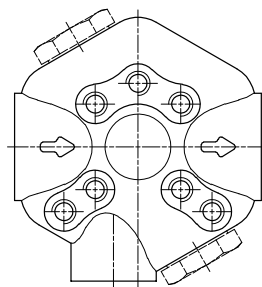


3 - Connection for differential indicator
on the opposite side
T2 plug not included

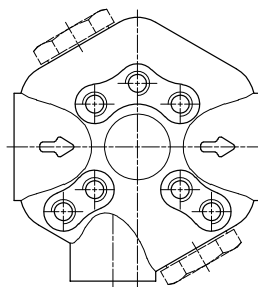
Fixing holes
Option for Metric and UNC screws



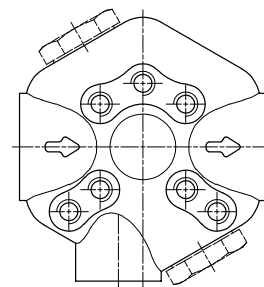
LMP 110



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

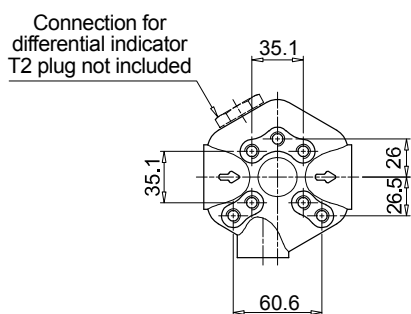
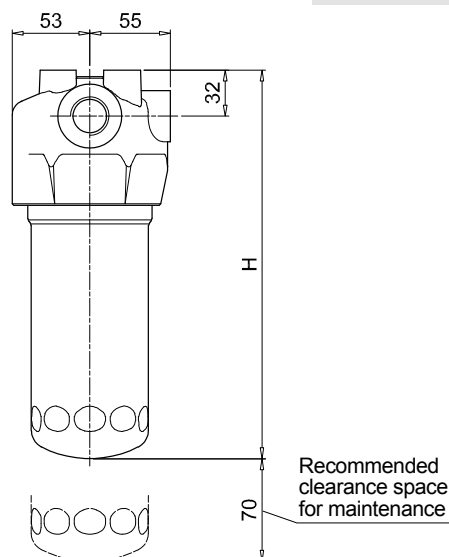
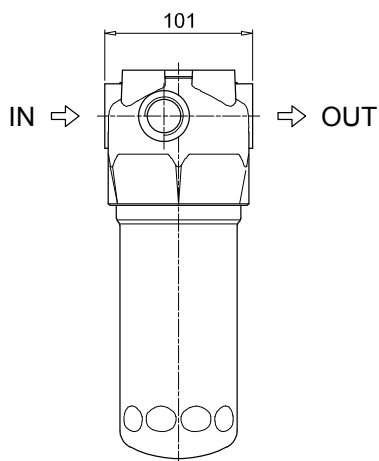
Element series and size		Configuration example: CU110 4 A10 A N P01								
CU110										
Element length										
1 2 3 4										
Filtration rating (filter media)										
A03	Inorganic microfiber 3 µm	M25 Wire mesh 25 µm								
A06	Inorganic microfiber 6 µm	M60 Wire mesh 60 µm								
A10	Inorganic 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

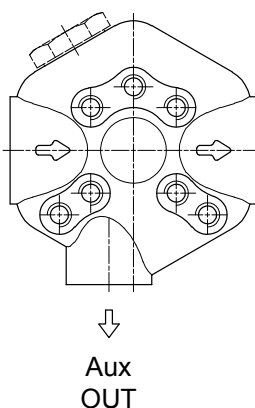
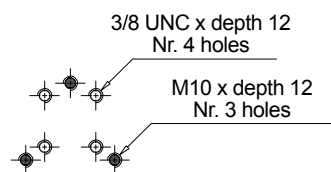
Differential indicators		page			page
DEA	Electrical differential indicator	445	DTA	Electronic differential indicator	448
DEM	Electrical differential indicator	445-446	DVA	Visual differential indicator	448
DLA	Electrical / visual differential indicator	446-447	DVM	Visual differential indicator	448
DLE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



Fixing holes
Option for Metric and UNC screws



Designation & Ordering code

COMPLETE FILTER

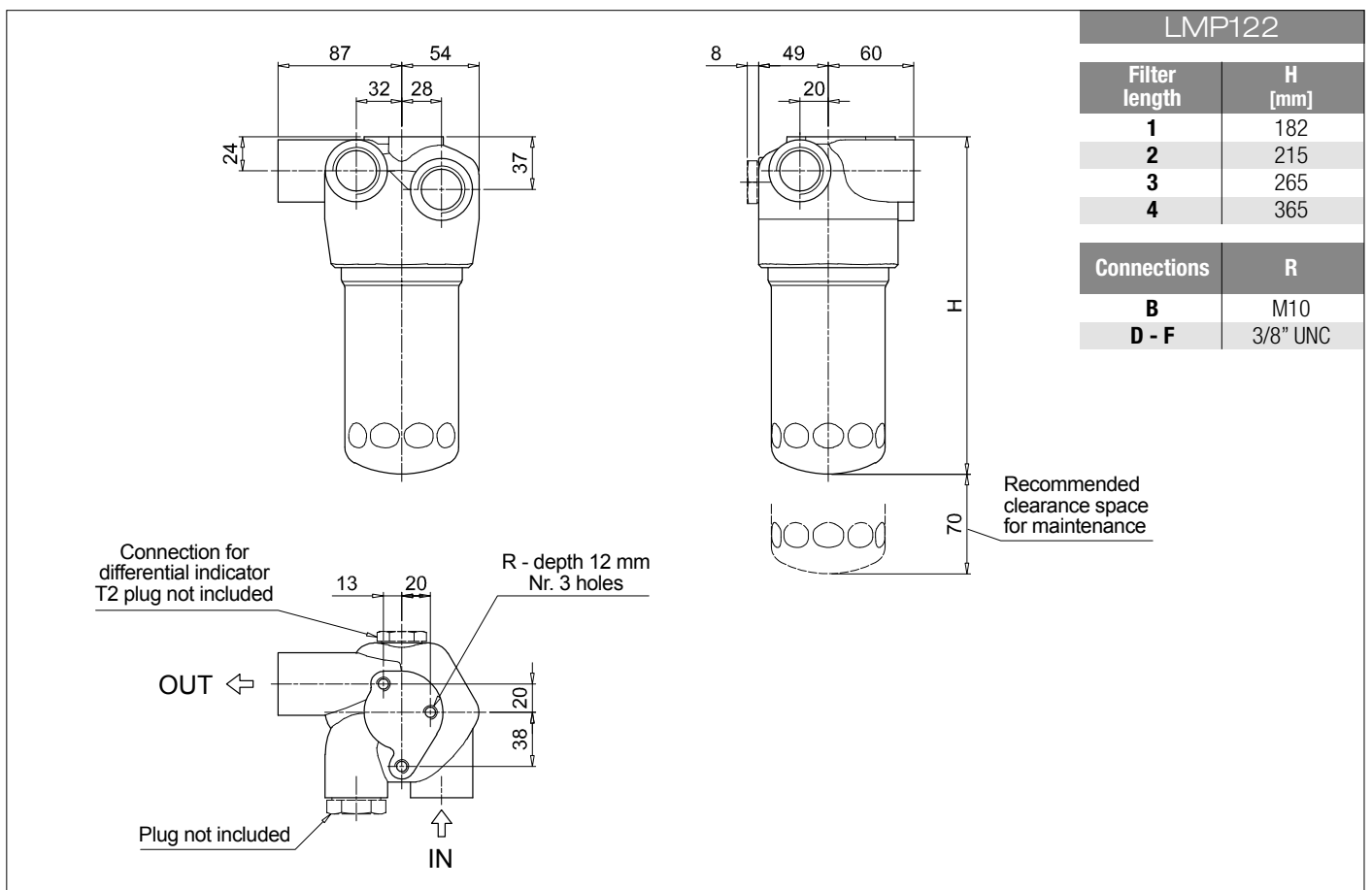
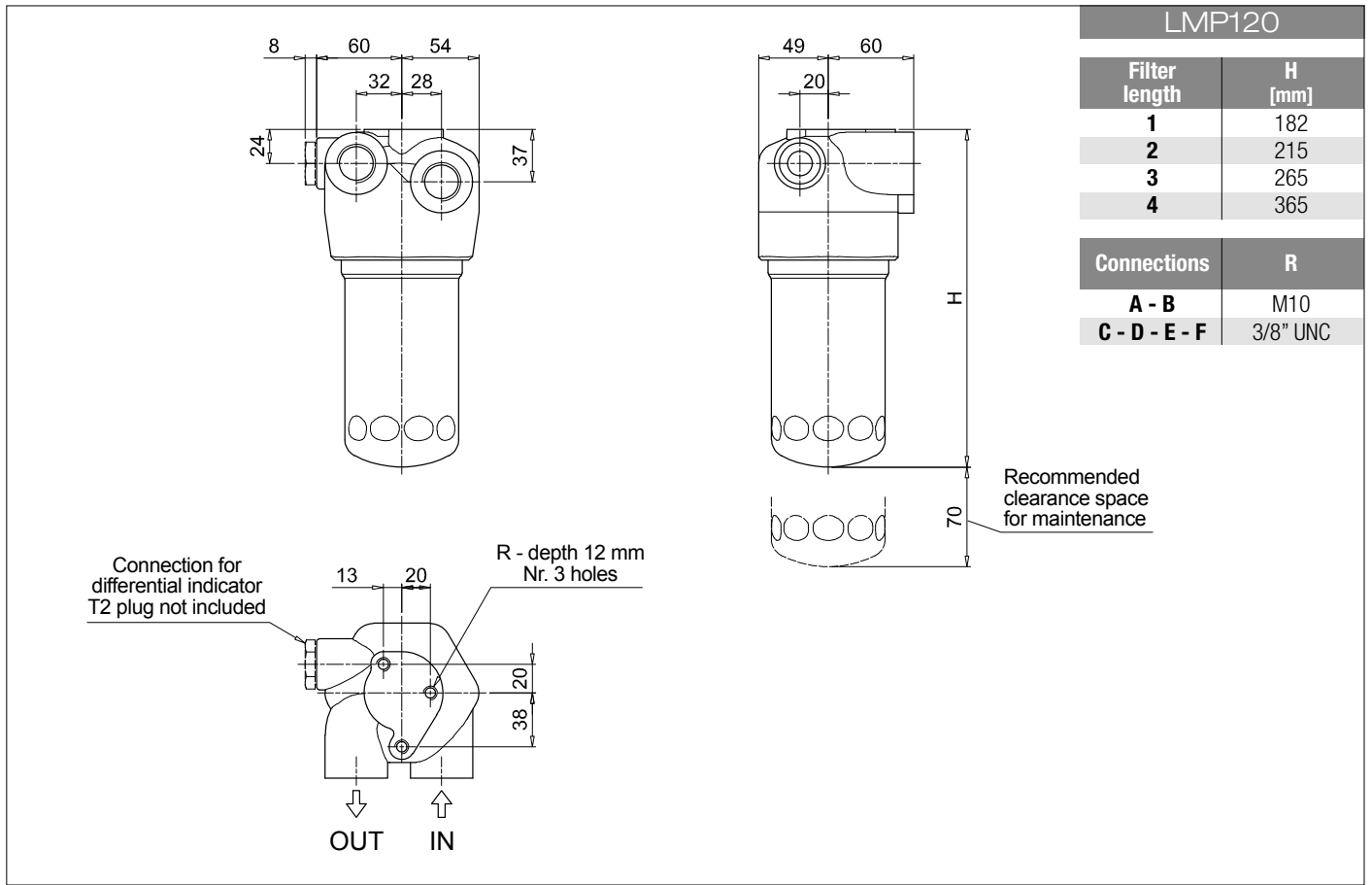
Series and size		Configuration example: LMP120 4 B A D 1 A10 N P01									
LMP120 LMP122											
Length											
1 2 3 4											
Bypass valve											
S Without bypass		B 3.5 bar									
Seals and treatments		Filtration rating									
		Axx	Mxx	Pxx							
A NBR		•	•	•							
V FPM		•	•	•							
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

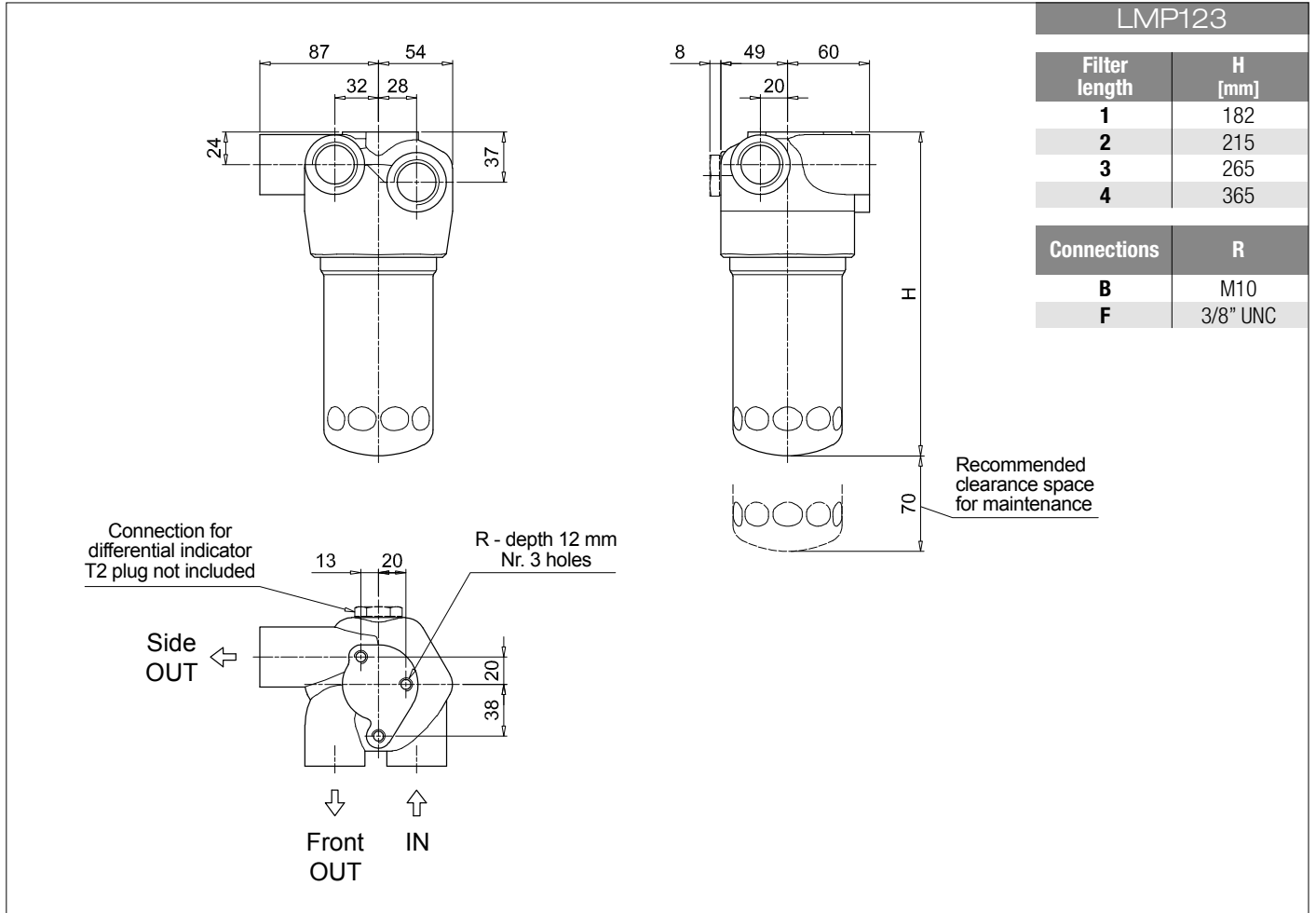
Series and size		Configuration example: LMP123 4 R A F 1 A10 N P01											
LMP123													
Length		1 2 3 4											
Valves	Bypass	OUT to cooler	Check valve										
C	without	front	2 bar										
D			3 bar										
G		side	2 bar										
H			3 bar										
M	3.5 bar	front	2 bar										
N			3 bar										
Q		side	2 bar										
R			3 bar										
Seals and treatments		Filtration rating											
A	NBR	Axx	Mxx	Pxx									
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		N 20 bar							Execution		
											P01 MP Filtri standard		
											Pxx Customized		

FILTER ELEMENT

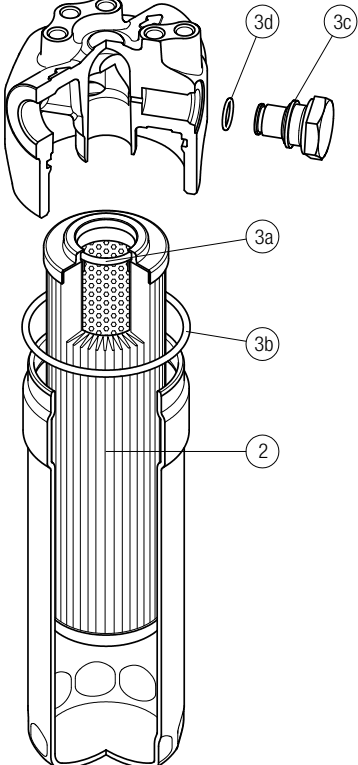
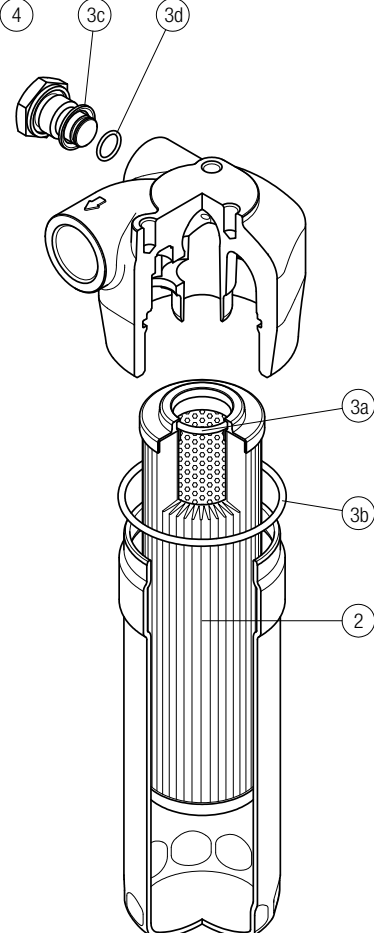
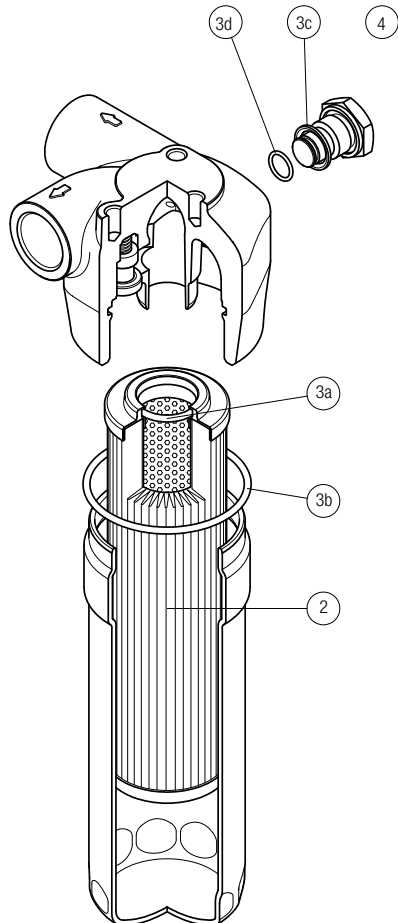
Element series and size		Configuration example: CU110 4 A10 A N P01											
CU110													
Element length		1 2 3 4											
Filtration rating (filter media)													
A03	Inorganic microfiber	3 µm	M25	Wire mesh 25 µm									
A06	Inorganic microfiber	6 µm	M60	Wire mesh 60 µm									
A10	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											
A	NBR	Axx	Mxx	Pxx									
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			



Order number for spare parts

	LMP 110 - 112 - 116 - 118 - 119	LMP 120	LMP 122 - 123
			
	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	Indicator connection plug
LMP 110-112-116-118-119	See order table	NBR	NBR
LMP 120		FPM	FPM
LMP 122-123			
		02050478	02050479
			T2H
			T2V