MPT series

Maximum working pressure up to 800 kPa (8 bar) - Flow rate up to 300 l/min

MPT GENERAL INFORMATION

Description

Return filter

Maximum working pressure up to 800 kPa (8 bar)
Flow rate up to 300 l/min

MPT is a range of return filters with integrated breather filter, for protection of the reservoir against the system contamination.
They are directly fixed to the reservoir, in immersed or semi-immersed position.
The filter output must be always immersed into the fluid to avoid aeration or foam generation into the reservoir.

Available features:
- Female threaded connections up to 1 1/4", for a maximum flow rate of 300 l/min
- Multiple connections, to connect several return lines or drains
- Fine filtration rating, to get a good cleanliness level into the reservoir
- Bypass valve integrated into the filter element, to relieve excessive pressure drop across the filter media
- 2, 4 or 6 fixing holes for installation, to meet any reservoir surface flatness and roughness
- O-ring or Flat seal, to meet any reservoir surface flatness and roughness
- Screw-in cover with a special shape, to allow the filter element replacement without the use of specific tools
- Oil dipstick, to easily check the level of the fluid into the reservoir (sold as separate item)
- Extension tube, to be used in deep reservoirs (sold as separate item)
- Diffuser, to reduce the risk of aeration, foaming and noise (sold as separate item)
- Integrated breather filter, to clean the air that moves into the reservoir as result of the oil level fluctuation
- Integrated breather filter with pressurization valve, to clean the air that moves into the reservoir as result of the oil level fluctuation and to guarantee the pressurization into the reservoir
- Visual, electrical and electronic clogging indicators

Common applications:
- Light industrial equipment
- Mobile application

Technical data

Filter housing materials
- Head: Aluminium
- Cover: Nylon
- Bowl: Nylon

Bypass valve
- Opening pressure 175 kPa (1.75 bar) ±10%
- Opening pressure 300 kPa (3 bar) ±10%

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

Seals
- Standard NBR series A
- Optional FPM series V

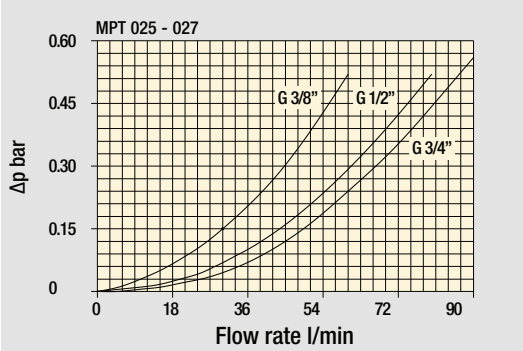
Temperature
From -25 °C to +110 °C

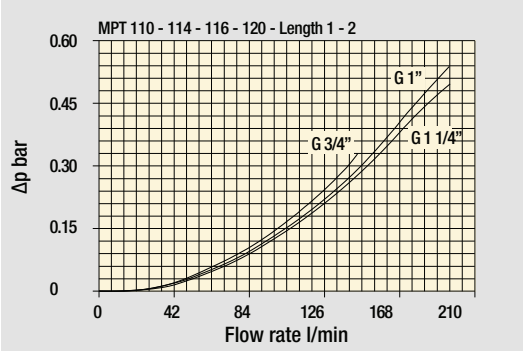
Note
MPT filters are provided for vertical mounting

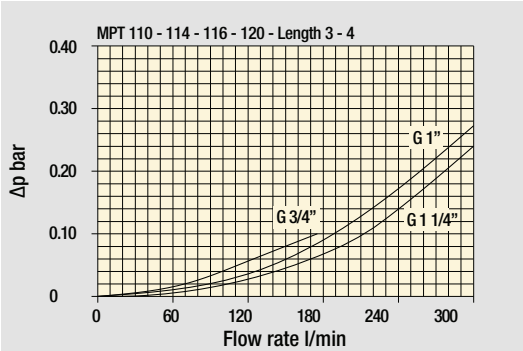
Weights [kg] and volumes [dm³]

Filter series	Weights [kg]					Volumes [dm³]				
	Length	1	2	3	4	Length	1	2	3	4
MPT 025		0.41	0.45	0.50	-		0.24	0.35	0.42	-
MPT 027		0.44	0.48	0.55	-		0.24	0.35	0.42	-
MPT 110		1.00	1.05	1.15	1.40		0.72	0.93	1.28	1.74
MPT 114		1.10	1.15	1.25	1.50		0.72	0.93	1.28	1.74
MPT 116		1.10	1.15	1.25	1.50		0.72	0.93	1.28	1.74
MPT 120		1.00	1.05	1.15	1.40		0.72	0.93	1.28	1.74

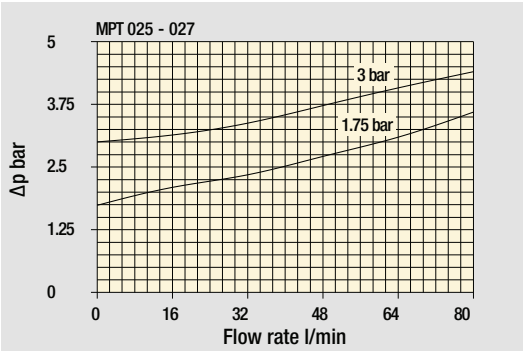
Filter housings Δp pressure drop

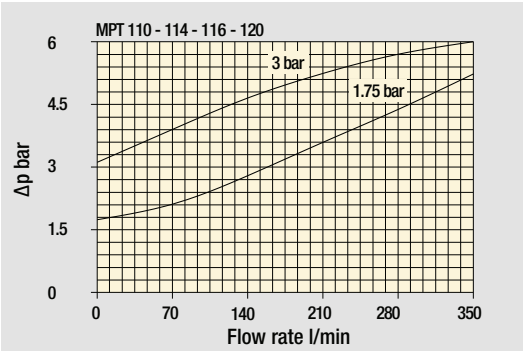




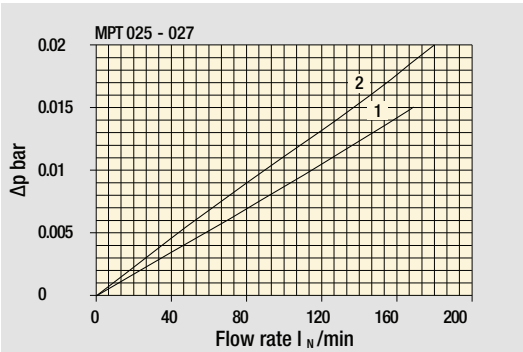


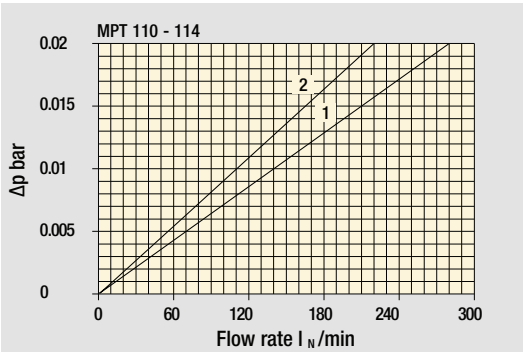
Bypass valve pressure drop





Air breather pressure drop





1 C With air breather 10 µm
2 D With anti-splash and SAP50 10 µm

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

MPT GENERAL INFORMATION

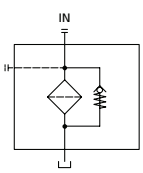
Flow rates [l/min]

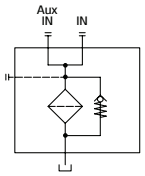
Filter series	Length	Filter element design - H series					Filter element design - N series		
		A03	A06	A10	A16	A25	M25 M60 M90	P10	P25
MPT 025-027	**1**	7	10	23	28	42	59	51	54
	2	17	20	45	48	56	72	64	67
	3	21	24	50	55	59	76	74	75
MPT 110-114 116-120	**1**	18	20	53	56	65	153	87	96
	2	28	38	65	75	95	158	111	123
	3	48	55	125	135	169	289	224	251
	4	79	89	180	185	198	306	264	289

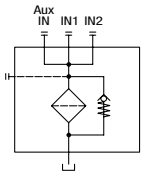
Maximum flow rate for a complete return filter with a pressure drop Δp = 0.5 bar.
The reference fluid has a kinematic viscosity of 30 mm^2/s (cSt) and a density of 0.86 kg/dm^3.
For different pressure drop or fluid viscosity we recommend to use our selection software available on www.mpfiltri.com.
Please, contact our Sales Department for further additional information.

Hydraulic symbols

Filter series	Style 1 connection	Style 2 connections	Style 3 connections
MPT 025	•		
MPT 027	•		
MPT 110		•	
MPT 114	•		
MPT 116	•		
MPT 120			•







Designation & Ordering code

COMPLETE FILTER

Configuration example 1:	MPT114	4	S	A	G3	A10	E	P01
Configuration example 2:	MPT114	3	C	W	G6	A03	B	P01

Series and size

MPT114 Filter element with standard spigot

Length

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

Air breather

S	Without air breather
C	With air breather 10 µm
D	With anti-splash and air breather SAP050 10 µm
P	With anti-splash and air breather SAP050 10 µm pressurization 0.5 bar

Seals and treatments		Filtration rating Axx	Mxx	Pxx
A	NBR	•	•	•
V	FPM	•	•	•
W	NBR head anodized	•	•	
Z	FPM head anodized	•	•	

filter element compatible with fluids HFA-HFB-HFC

Connections

G1	G 3/4”	**G6**	1 1/4” NPT
G2	G 1”	**G7**	SAE 12 - 1 1/16” - 12 UN
G3	G 1 1/4”	**G8**	SAE 16 - 1 5/16” - 12 UN
G4	3/4” NPT	**G9**	SAE 20 - 1 5/8” - 12 UN
G5	1” NPT		

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

Bypass valve

E	3 bar
B	1.75 bar

Execution

P01	MP Filtri standard
Pxx	Customized

FILTER ELEMENT

Configuration example 2:	MF100	4	A10	H	B	E	P01
Configuration example 1:	MF100	3	A03	W	B		P01

Element series and size

MF100 Filter element with standard spigot

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

Element Δp		Filter media Axx	Mxx	Pxx
N	10 bar		•	•
H	10 bar	•		
W	10 bar, compatible with fluids HFA, HFB and HFC	•	•	

Seals

B	NBR
V	FPM

Bypass valve

E	3 bar
	1.75 bar

Execution

P01	MP Filtri standard
Pxx	Customized

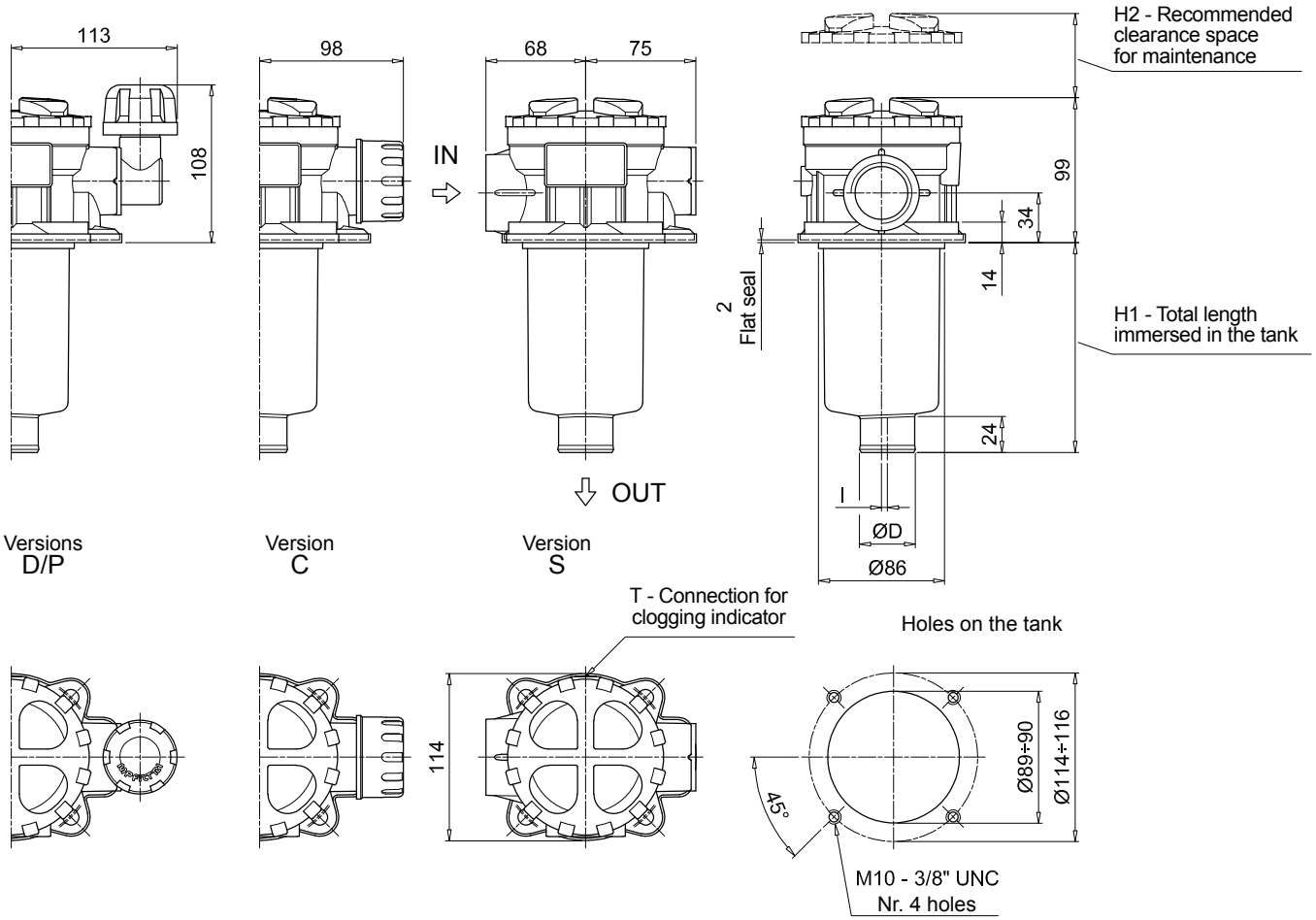
ACCESSORIES

Indicators		page
BVA	Axial pressure gauge	240
BVR	Radial pressure gauge	240
BVP	Visual pressure indicator with automatic reset	241
BVQ	Visual pressure indicator with manual reset	241
BEA	Electrical pressure indicator	239
BEM	Electrical pressure indicator	239
BLA	Electrical / visual pressure indicator	239-240

Additional features		page
TE	Extension tube	248
DFS	Diffuser with fast lock connection	249
DPT	Dipstick	249

MPT114				
Filter length	**H1 [mm]**	**H2 [mm]**	**D [mm]**	**I [mm]**
1	97	120	38	4
2	144	170	38	4
3	222	250	47	-
4	324	350	47	2.5

Connections	T
G1-G2-G3	G 1/8"
G4-G5-G6-G7-G8-G9	1/8" NPT



Designation & Ordering code

COMPLETE FILTER

Configuration example 1:	MPT116	1	S	A	G1	M90	E	P01
Configuration example 2:	MPT116	2	S	Z	G9	A03	B	P01

Series and size

MPT116 Filter element with standard spigot

Length

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

Air breather

S Without air breather

Seals and treatments

		Filtration rating Axx	Mxx	Pxx
A	NBR	•	•	•
V	FPM	•	•	•
W	NBR head anodized	•	•	
Z	FPM head anodized	•	•	

filter element compatible with fluids HFA-HFB-HFC

Flat seal on the head on request

Connections

G1	G 3/4”	**G6**	1 1/4” NPT
G2	G 1”	**G7**	SAE 12 - 1 1/16” - 12 UN
G3	G 1 1/4”	**G8**	SAE 16 - 1 5/16” - 12 UN
G4	3/4” NPT	**G9**	SAE 20 - 1 5/8” - 12 UN
G5	1” NPT		

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

Bypass valve

E	3 bar
B	1.75 bar

Execution

P01	MP Filtri standard
Pxx	Customized

FILTER ELEMENT

Configuration example 2:	MF100	1	M90	N	B	E	P01
Configuration example 1:	MF100	2	A03	W	V		P01

Element series and size

MF100 Filter element with standard spigot

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

Element Δp

		Filter media Axx	Mxx	Pxx
N	10 bar		•	•
H	10 bar	•		
W	10 bar, compatible with fluids HFA, HFB and HFC	•	•	

Seals

B	NBR
V	FPM

Bypass valve

E	3 bar
	1.75 bar

Execution

P01	MP Filtri standard
Pxx	Customized

ACCESSORIES

Indicators

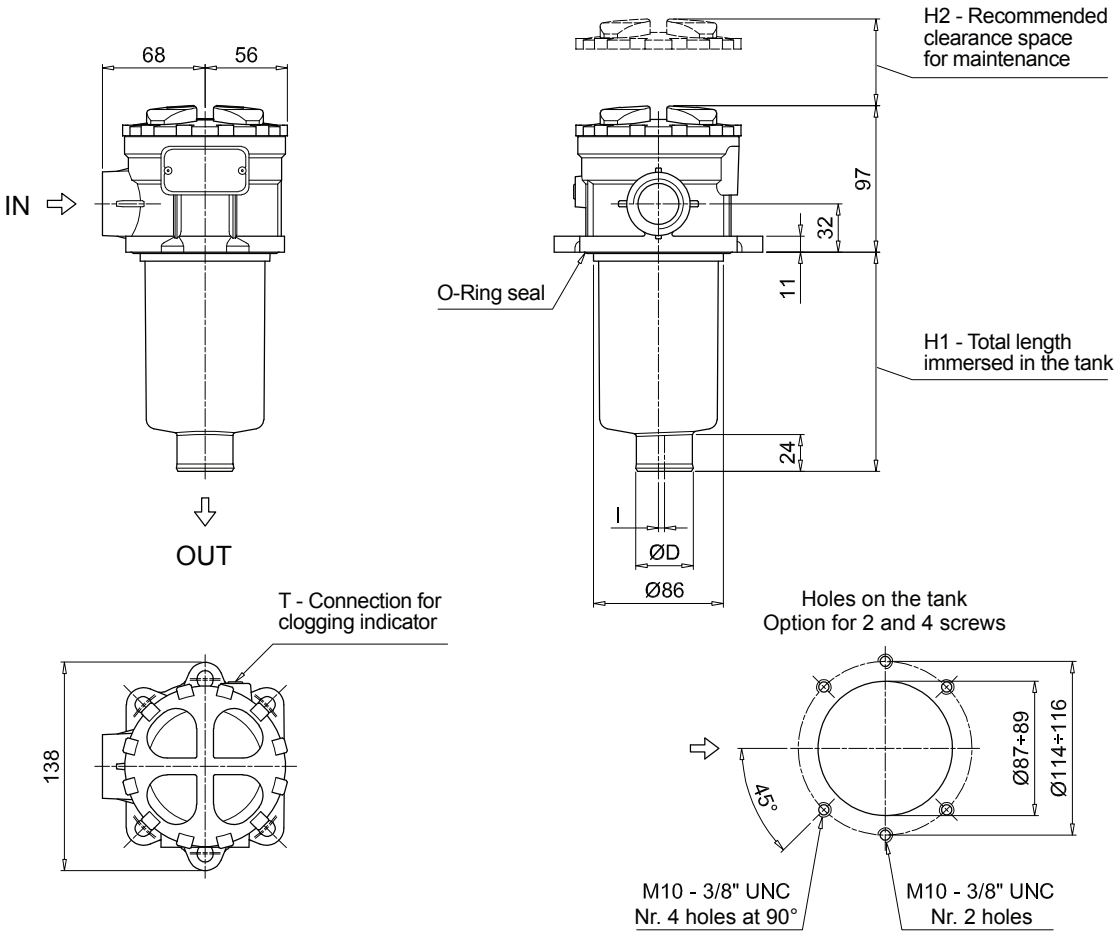
		page
BVA	Axial pressure gauge	240
BVR	Radial pressure gauge	240
BVP	Visual pressure indicator with automatic reset	241
BVQ	Visual pressure indicator with manual reset	241
BEA	Electrical pressure indicator	239
BEM	Electrical pressure indicator	239
BLA	Electrical / visual pressure indicator	239-240

Additional features

		page
TE	Extension tube	248
DFS	Diffuser with fast lock connection	249
DPT	Dipstick	249

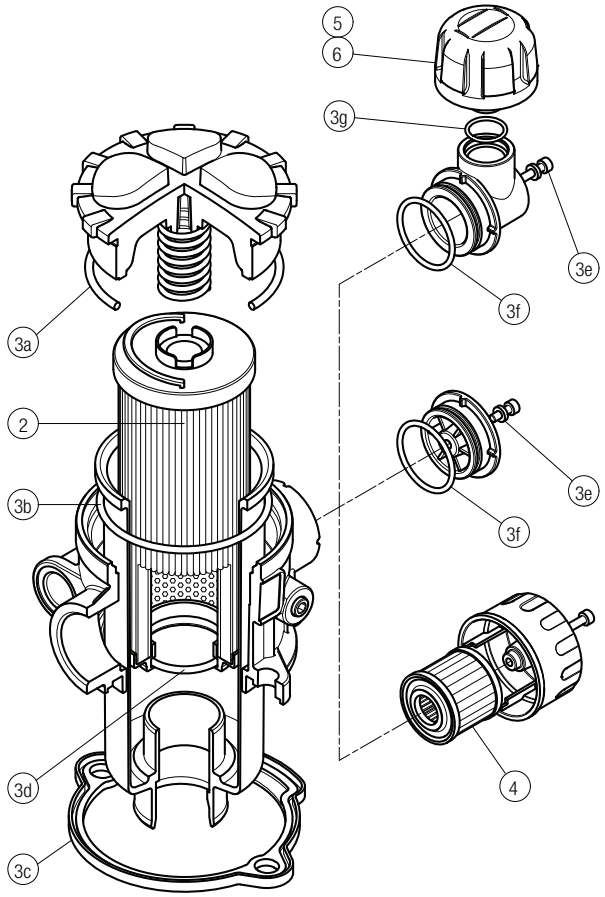
MPT116				
Filter length	**H1 [mm]**	**H2 [mm]**	**D [mm]**	**I [mm]**
1	99	120	38	4
2	146	170	38	4
3	224	250	47	-
4	326	350	47	2.5

Connections	T
G1-G2-G3	G 1/8"
G4-G5-G6-G7-G8-G9	1/8" NPT



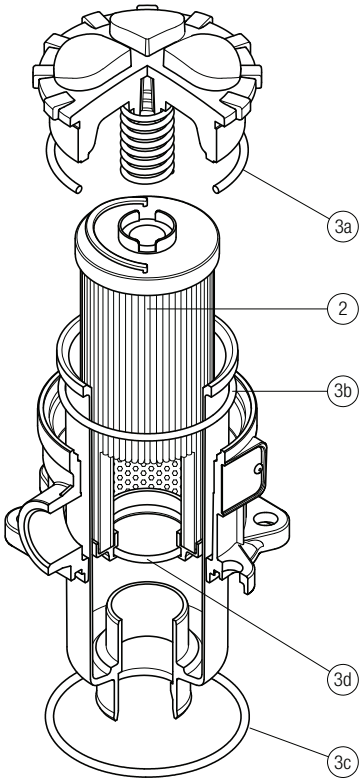
Order number for spare parts

MPT 025 - 027 - 110



Item:	Q.ty: 1 pc. 2	Q.ty: 1 pc. 3 (3a ÷ 3g)		Q.ty: 1 pc. 4	Q.ty: 1 pc. 5	Q.ty: 1 pc. 6
Filter series	Filter element	Seal Kit code number NBR	FPM	C	D	P
MPT 025	See order table	02050557	02050558	10 µm A3L03	10 µm SAP50G3L03A0P01	10 µm SAP50G3L03A1P01
MPT 027		02050559	02050560	10 µm A3L03	10 µm SAP50G3L03A0P01	10 µm SAP50G3L03A1P01
MPT 110		02050561	02050562	10 µm A5L03	10 µm SAP50G3L03A0P01	10 µm SAP50G3L03A1P01

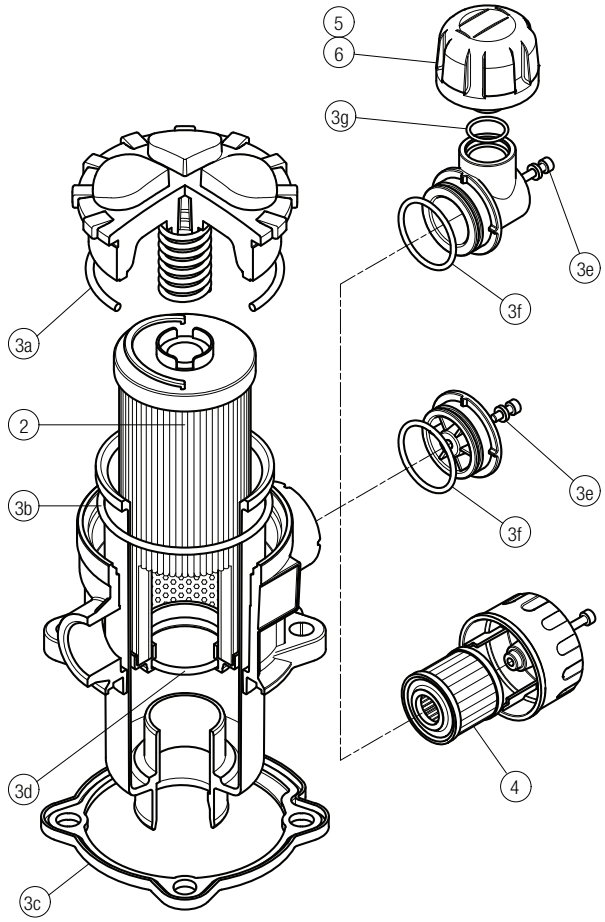
MPT 116



Item:	Q.ty: 1 pc. 2	Q.ty: 1 pc. 3 (3a ÷ 3d)	
Filter series	Filter element	Seal Kit code number NBR	FPM
MPT 116	See order table	02050466	02050467

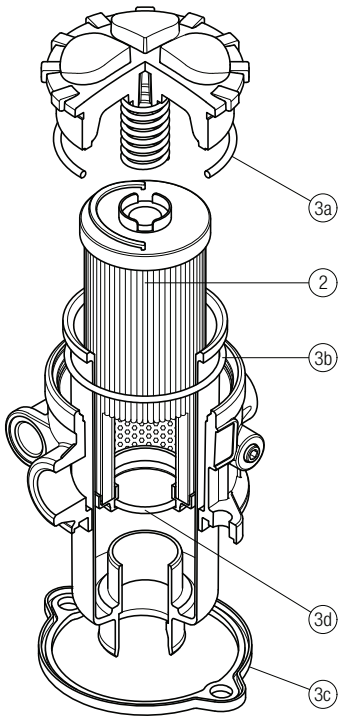
Order number for spare parts

MPT 114



Item:	Q.ty: 1 pc. 2	Q.ty: 1 pc. 3 (3a ÷ 3g)		Q.ty: 1 pc. 4	Q.ty: 1 pc. 5	Q.ty: 1 pc. 6
Filter series	Filter element	Seal Kit code number NBR	FPM	Air breather filter element - version: C	D	P
MPT 114	See order table	02050580	02050581	10 µm A5L03	10 µm SAP50G3L03A0P01	10 µm SAP50G3L03A1P01

MPT 120



Item:	Q.ty: 1 pc. 2	Q.ty: 1 pc. 3 (3a ÷ 3d)	
Filter series	Filter element	Seal Kit code number NBR	FPM
MPT 120	See order table	02050563	02050564