

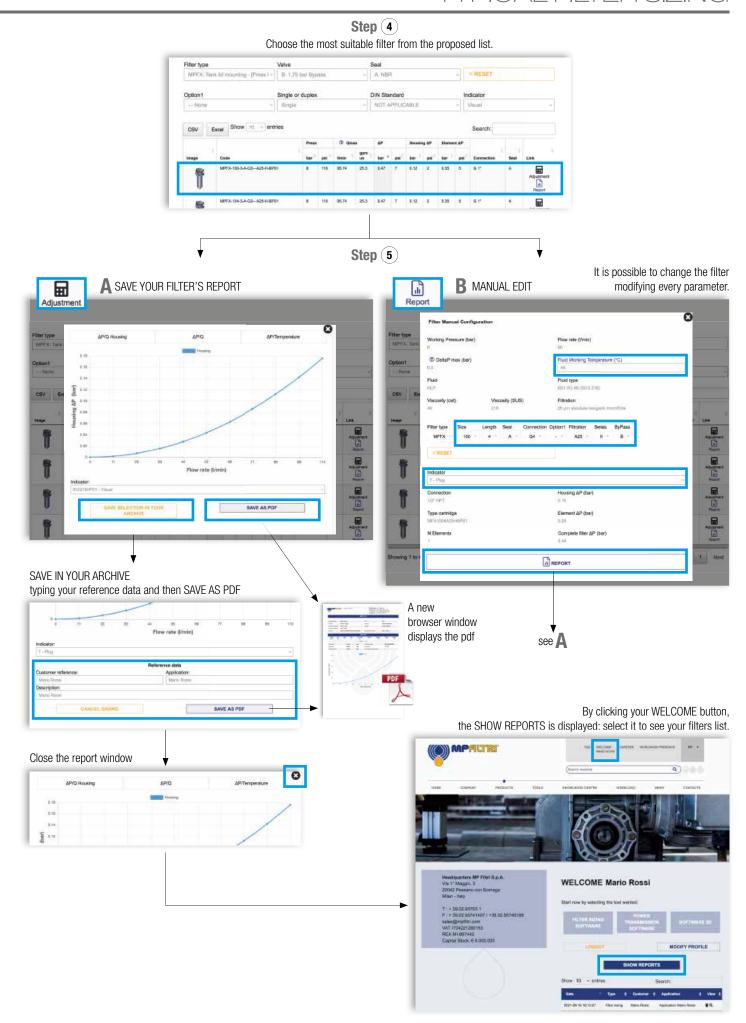
# MPF series

Maximum working pressure up to 800 kPa (8 bar) - Flow rate up to 900 l/min



# TYPICAL FILTER SIZING Selection Software





#### Description

# Return filter

# Maximum working pressure up to 800 kPa (8 bar) Flow rate up to 900 l/min

MPF is a range of return filters 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 2" and flanged connections up to 2", for a maximum flow rate of 750 I/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, 3 or 4 fixing holes for installation, to suit a variety of reservoir surfaces
- O-ring or Flat Seal to suit a variety of reservoir surfaces
- 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)
- Filler plug, to fill cleaned fluid into the tank without an additional connection
- Visual, electrical and electronic clogging indicators

#### **Common applications:**

- Light industrial equipment
- Mobile application

#### Technical data

#### Filter housing materials

- Head: Aluminium
- Cover

Nylon: MPF 020-030-100-104-110

Aluminium: MPF 181-182-184-191-192-194-400-410-450-451-750

- Bowl: Nylon

#### Bypass valve

- Opening pressure 175 kPa (1.75 bar)  $\pm 10\%$
- 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

MPF filters are provided for vertical mounting



# Weights [kg] and volumes [dm3]

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Filter series			Weigh <sup>6</sup>	ts [kg]				Volume	s [dm³]		
	Length					Length					
MPF 020		0.30	-	-	-		0.26	-	-	-	
MPF 030		0.40	-	-	-		0.29	-	-	-	
MPF 100		0.61	0.64	0.67	0.74		0.64	0.85	1.20	1.65	
MPF 104		0.82	0.96	1.02	1.25		0.64	0.85	1.20	1.65	
MPF 110		0.64	0.68	0.71	0.78		-	-	-	-	
MPF 181		2.20	3.00	-	-		2.50	4.00	-	-	
MPF 182		2.30	3.10	-	-		2.50	4.00	-	-	
MPF 184		2.55	3.45	-	-		2.65	4.45	-	-	
MPF 191		-	3.00	-	-		-	4.25	-	-	
MPF 192		-	3.10	-	-		-	4.25	-	-	
MPF 194		-	3.45	-	-		-	4.45	-	-	
MPF 400		3.35	3.65	3.90	-		3.70	4.60	5.40	-	
MPF 410		3.55	3.85	4.10	-		3.70	4.60	5.40	-	
MPF 450-451		3.95	4.25	4.50	-		3.70	4.60	5.40	-	
MPF 750		6.30	-	-	-		8.45	-	-	-	

# FILTER ASSEMBLY SIZING Flow rates [I/min]

			Filter ele	ment design -	H series			ment design -	- N series
Filter series	Length	A03	A06	A10	A16	A25	M25 M60 M90	P10	P25
MPF 020	1	7	10	23	28	42	59	51	54
MPF 030	1	7	10	24	29	47	84	60	66
		40	00	50	50	05	450	0.7	00
	1	18	20	53	56	65	153	87	96
MPF	2	28	38	65	75	95	158	111	123
100-104-110	3	48	55	125	135	169	289	224	251
	4	79	89	180	185	198	306	264	289
MPF	1	127	148	235	243	278	441	285	299
181-182-184	2	231	262	358	382	388	472	404	412
MPF	2	261	305	489	528	546	696	583	598
191-192-194									
	1	150	171	294	304	350	585	370	390
MPF 400	2	237	252	454	462	589	868	619	645
	3	248	288	553	609	621	885	680	703
	1	146	167	277	285	325	512	341	357
MPF 410	2	226	239	396	402	485	644	503	519
	3	236	269	462	497	505	653	539	553
	1	150	171	294	304	350	585	370	390
MPF	2	237	252	454	462	589	868	619	645
450-451	3	248	288	553	609	621	885	680	703
MPF 750	1	392	465	623	700	769	929	804	819
WII 1 130		332	400	UZJ	700	100	323	004	019

Maximum flow rate for a complete return filter with a pressure drop  $\Delta p = 0.5$  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.

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.

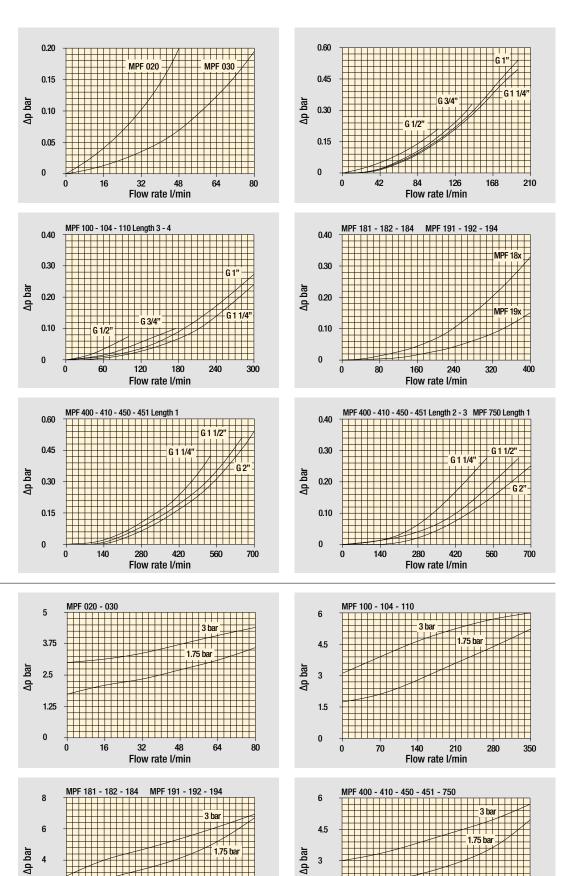
Hydraulic symbols

Filter series	Style 1 connection	Style 2 connections
MPF 020	•	
MPF 030	•	
MPF 100	•	
MPF 104	•	
MPF 110		•
MPF 181	•	
MPF 182		•
MPF 184	•	•
MPF 191	•	
MPF 192	•	
MPF 194	•	•
MPF 400	•	
MPF 410		•
MPF 450	•	
MPF 451		•
MPF 750	•	
	IN THE STATE OF TH	AUX IN

# MPF GENERAL INFORMATION

# Pressure drop

Filter housings  $\Delta p$  pressure drop



Flow rate I/min Flow rate I/min

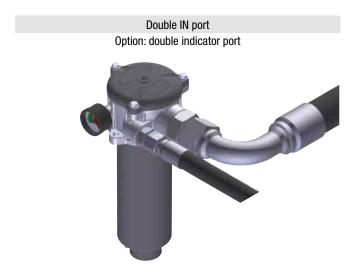
The curves are plotted using mineral oil with density of 0.86 kg/dm³ in compliance with ISO 3968. Δp varies proportionally with density.

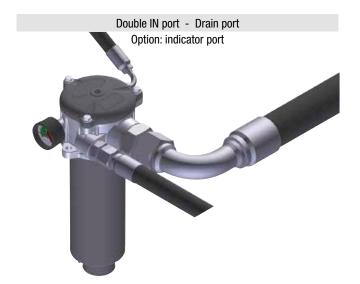
Bypass valve pressure drop

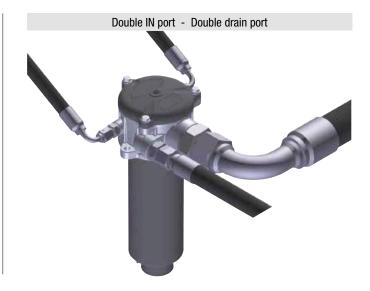
Multiport

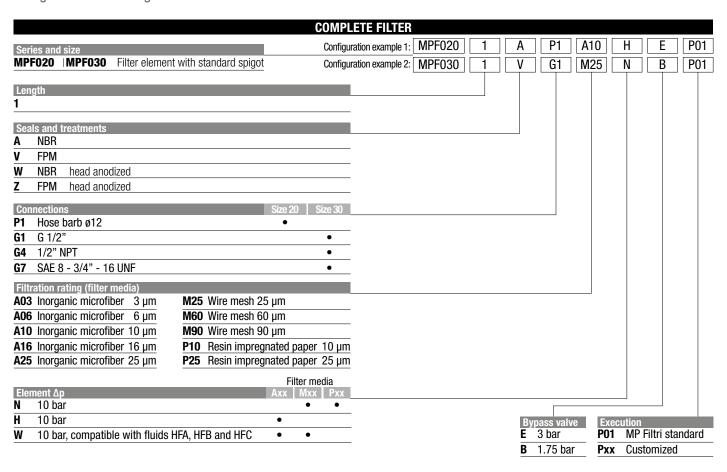
Standard - Single IN port

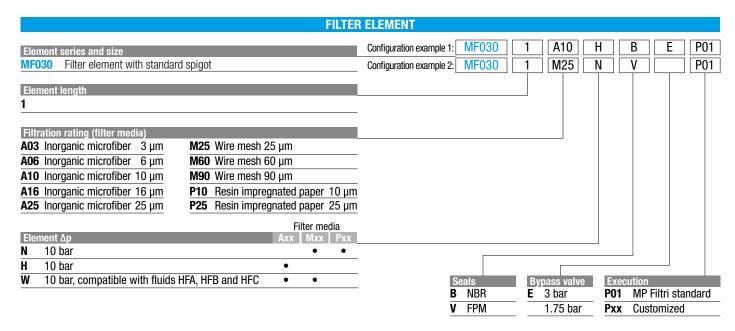






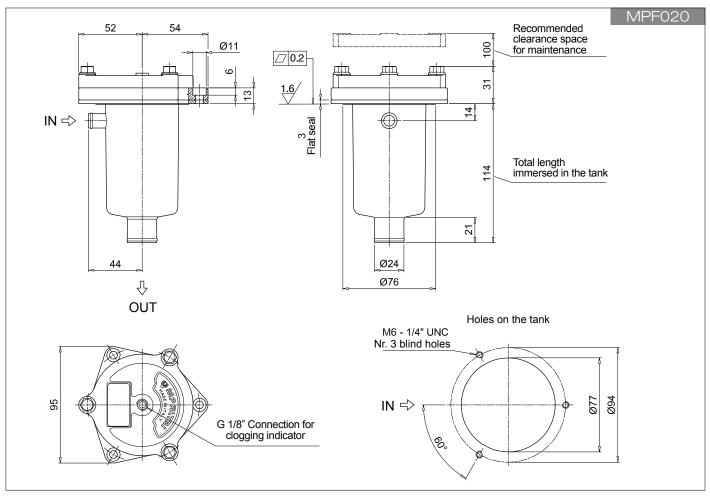


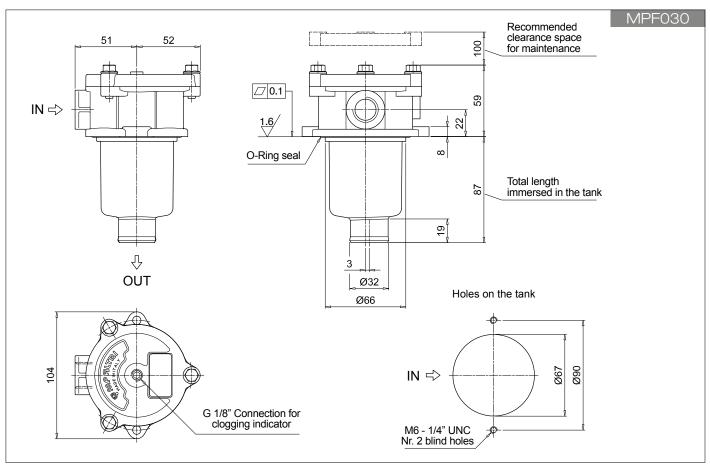


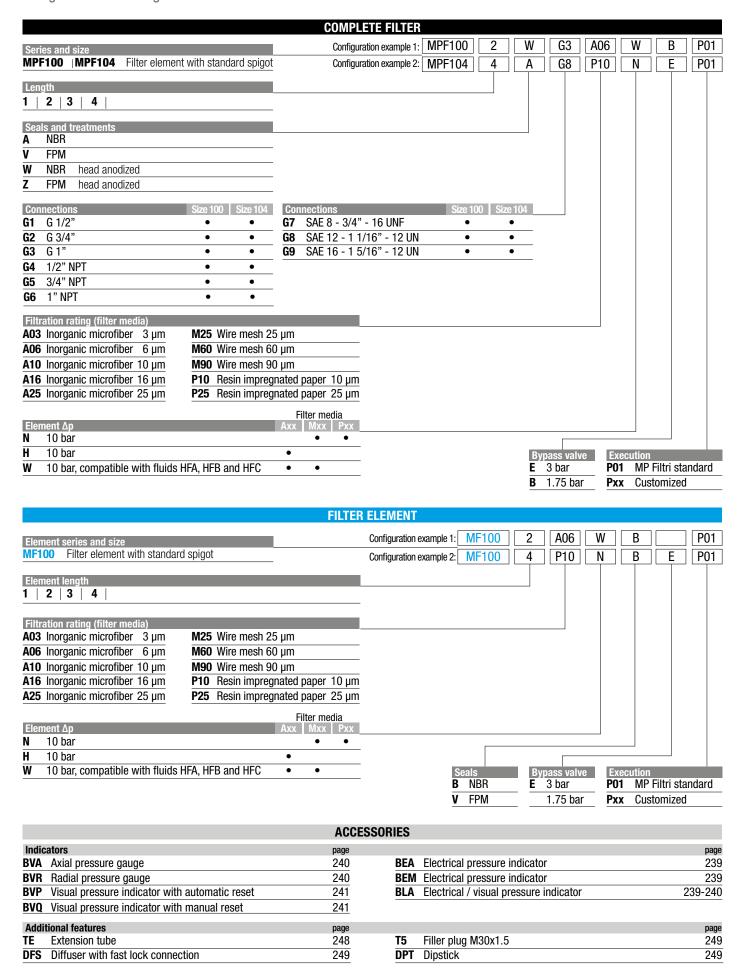


	ACCES	SORIES	
Indicators	page		page
BVA Axial pressure gauge	240	BEA Electrical pressure indicator	239
BVR Radial pressure gauge	240	BEM Electrical pressure indicator	239
<b>BVP</b> Visual pressure indicator with automatic reset	241	BLA Electrical / visual pressure indicator	239-240
BVQ Visual pressure indicator with manual reset	241		
Additional features	page		
<b>TE</b> Extension tube	248		
T5 Filler plug M30x1.5	249		

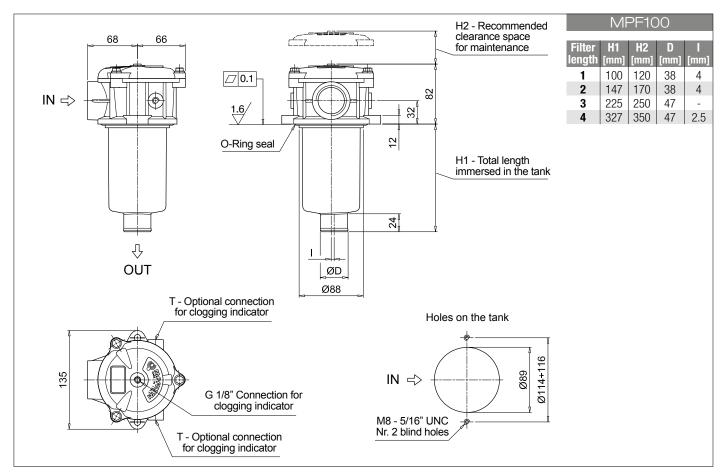
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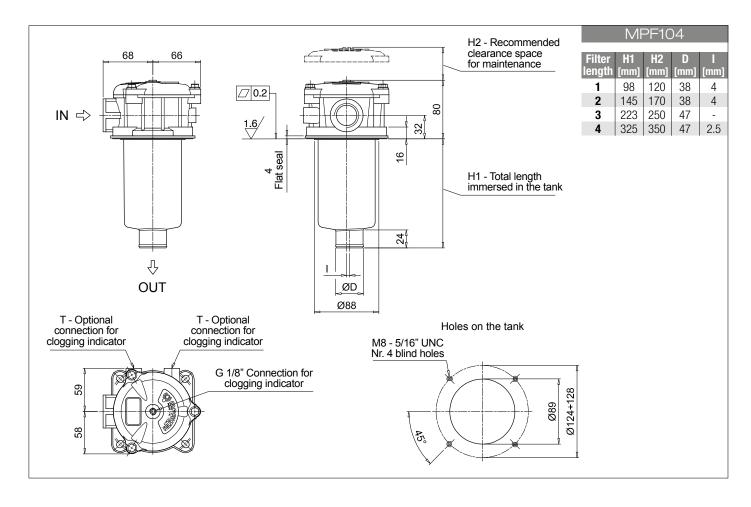


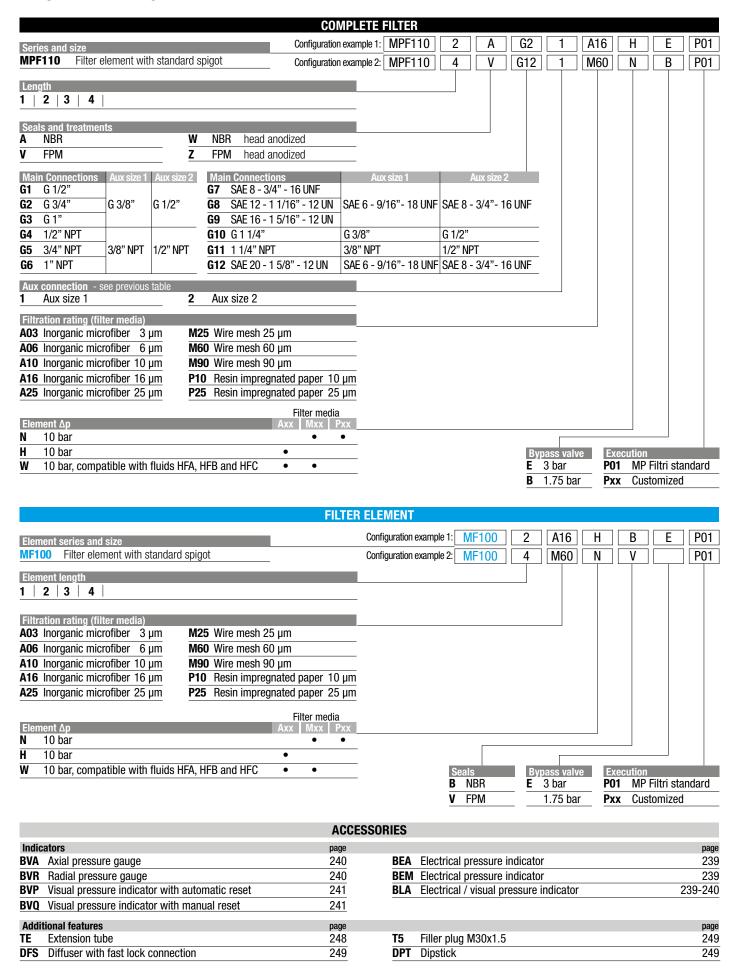




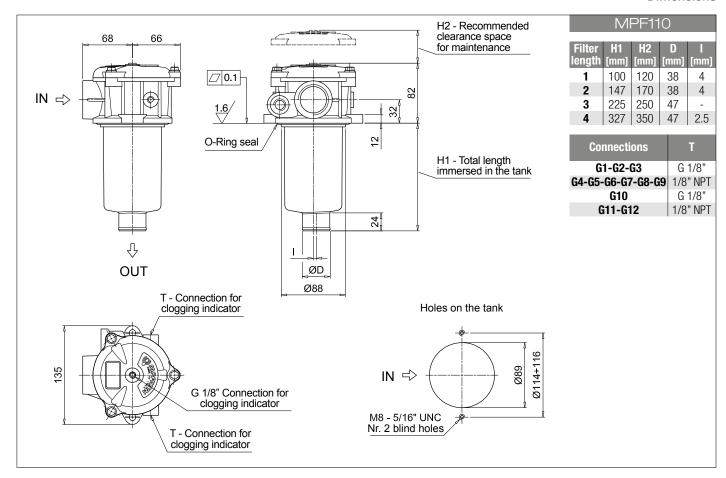
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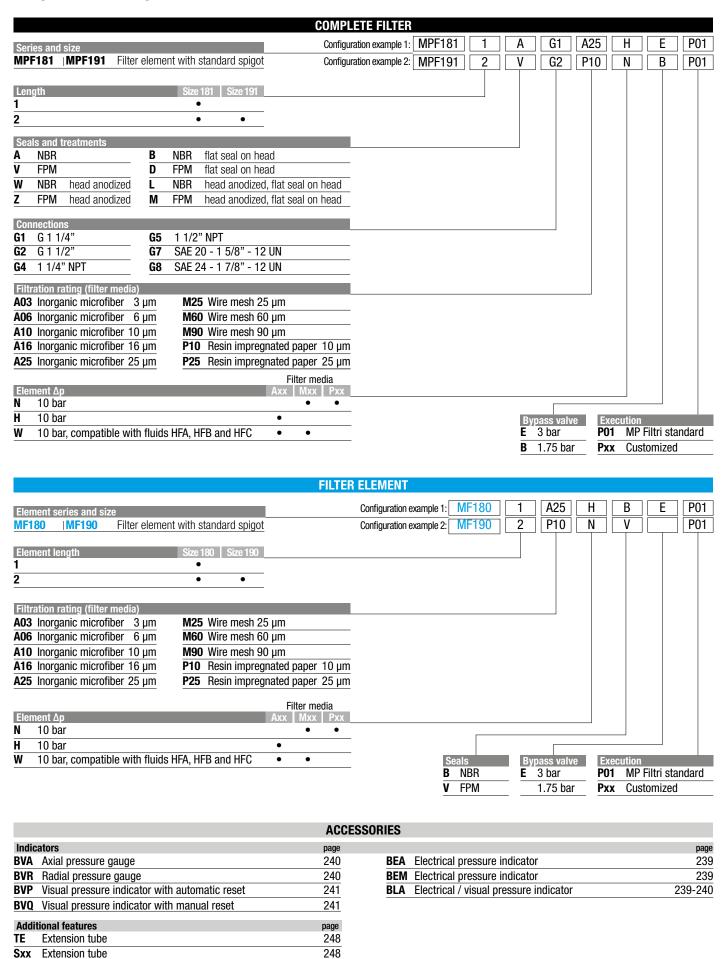






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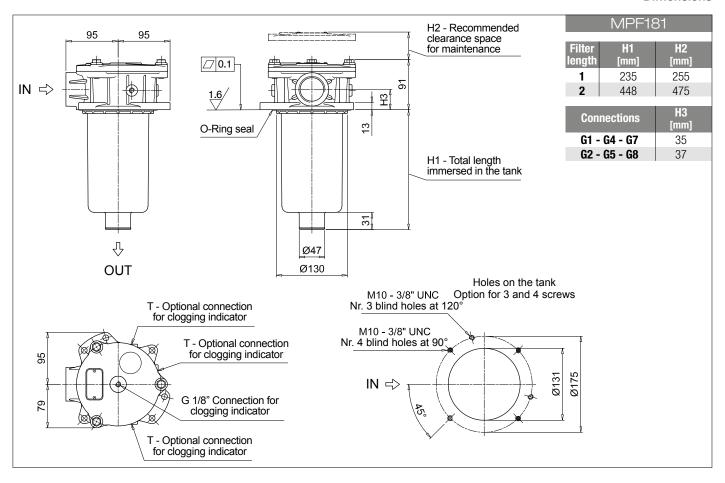


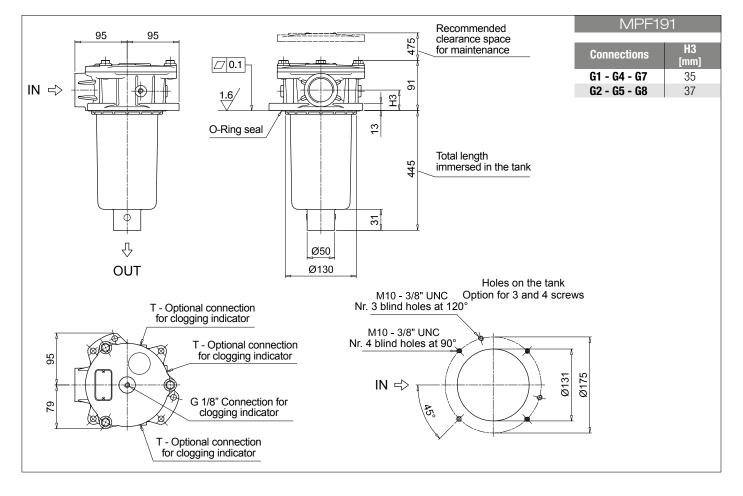
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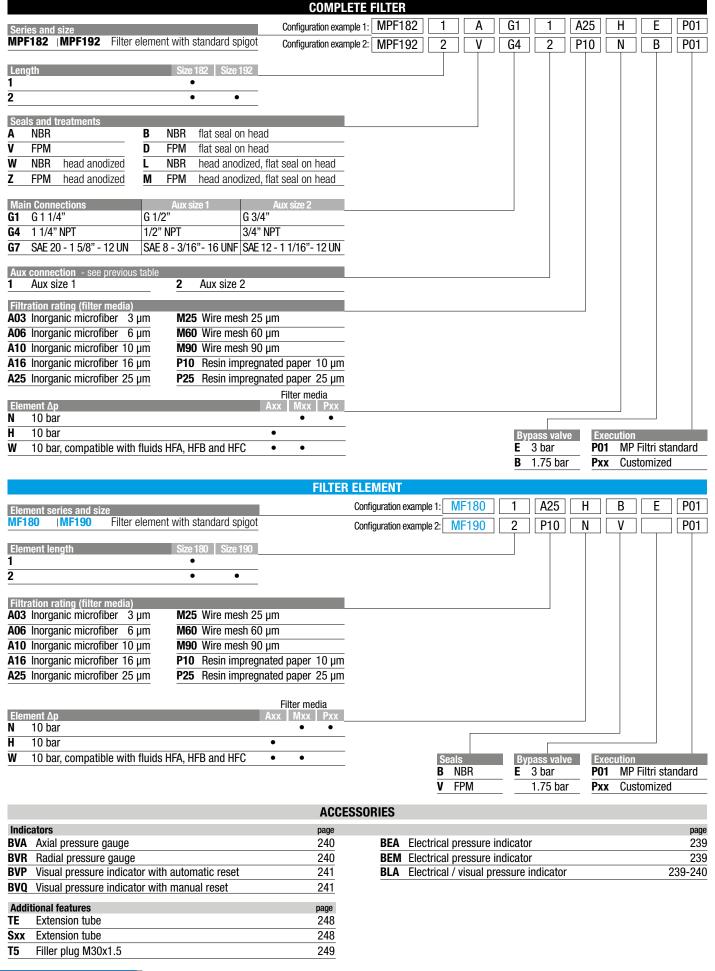
MPALTRI

**T5** 

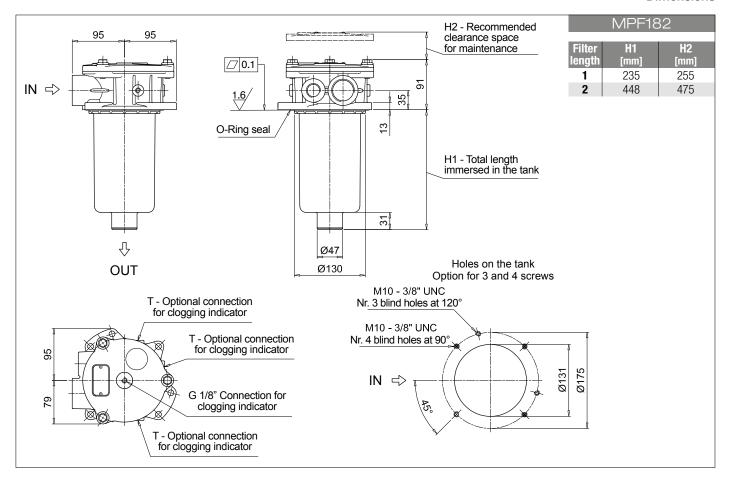
Filler plug M30x1.5

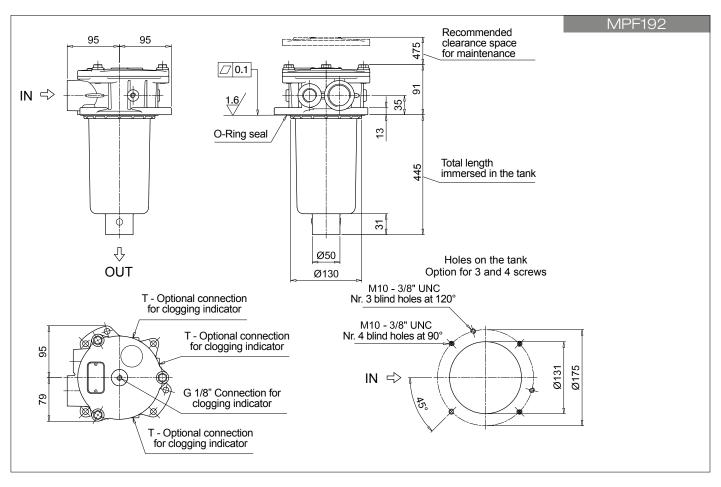


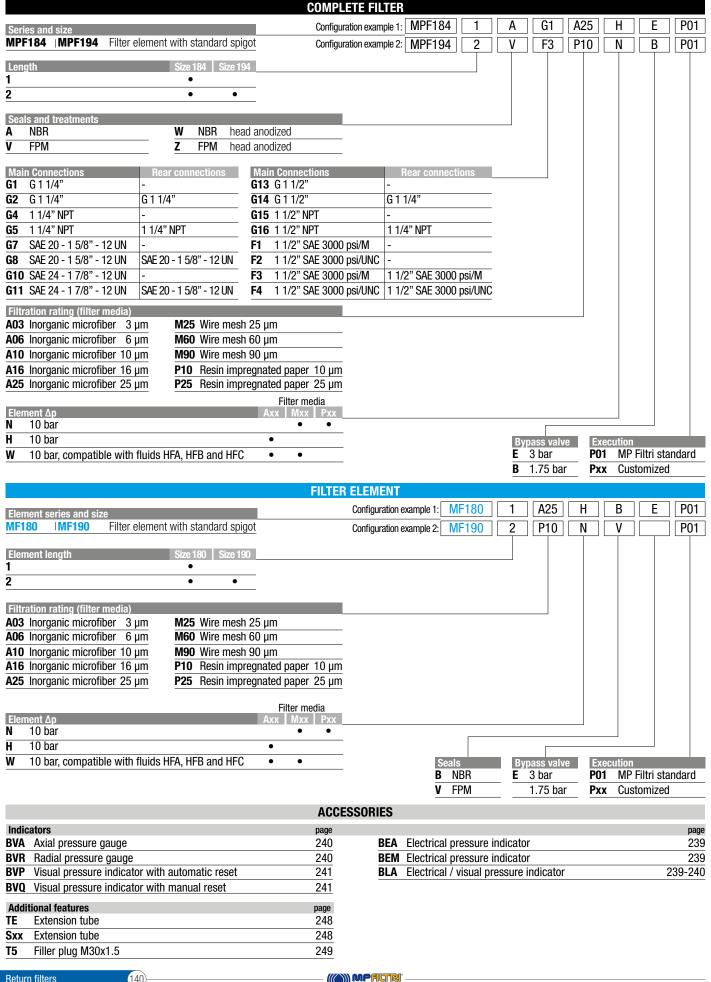


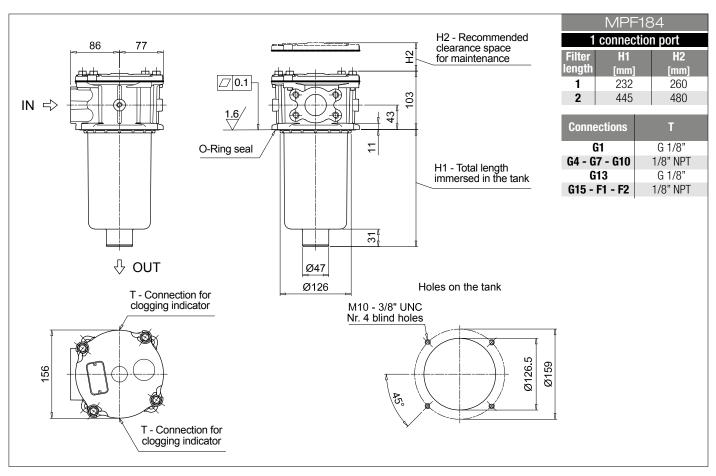


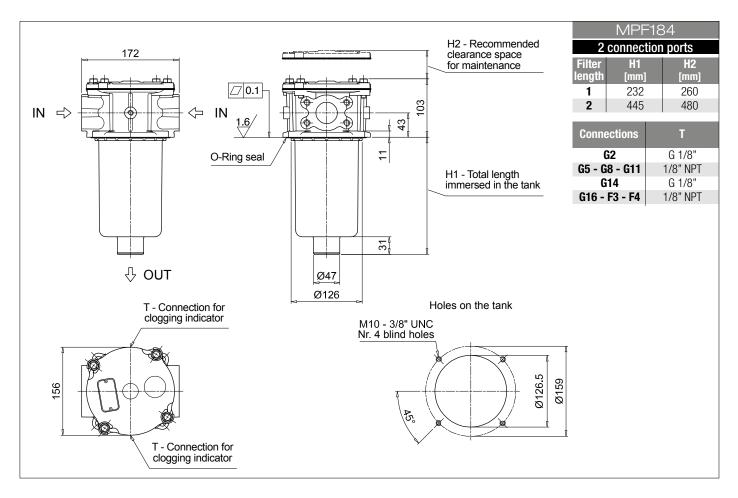
MPALTRI

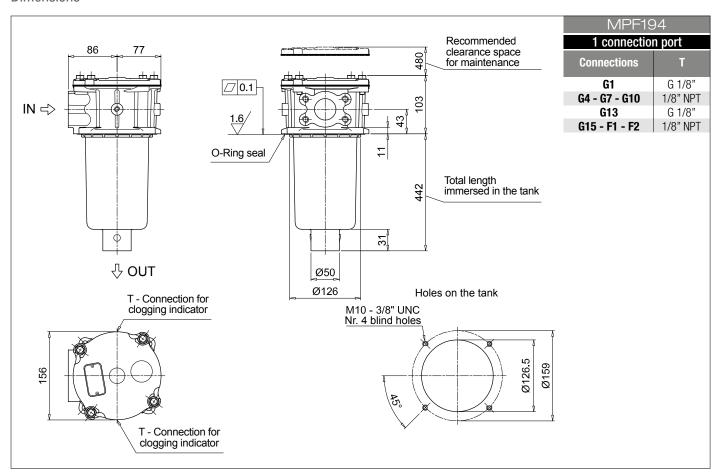


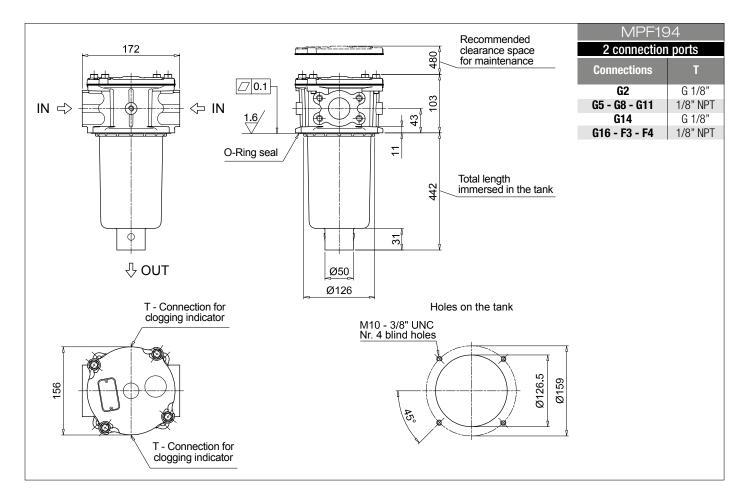




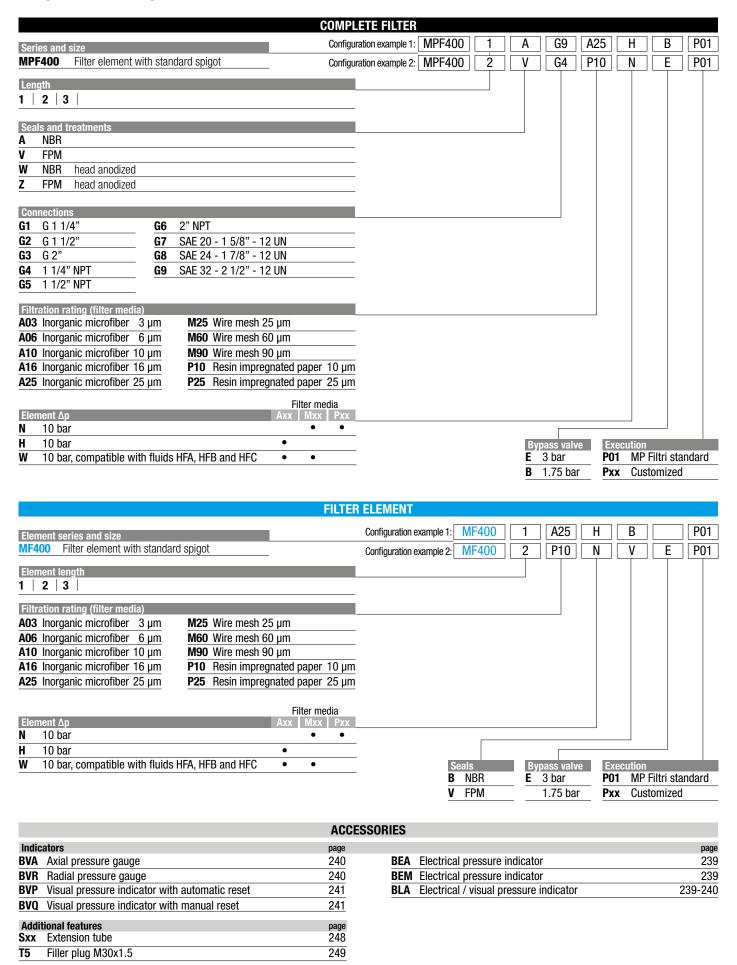


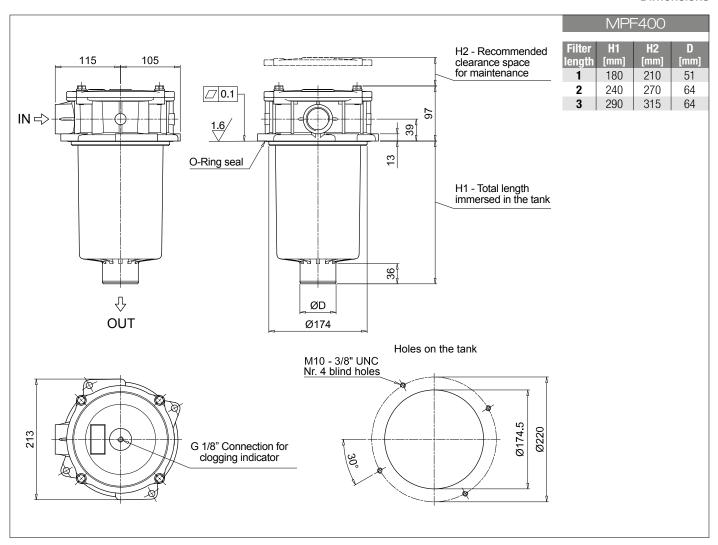


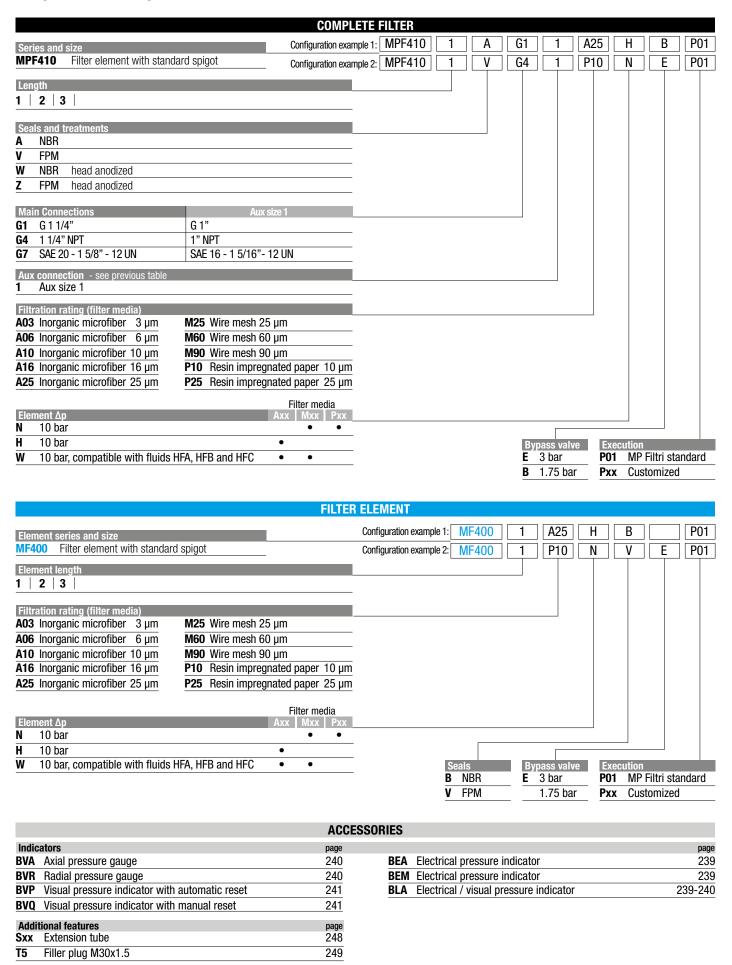


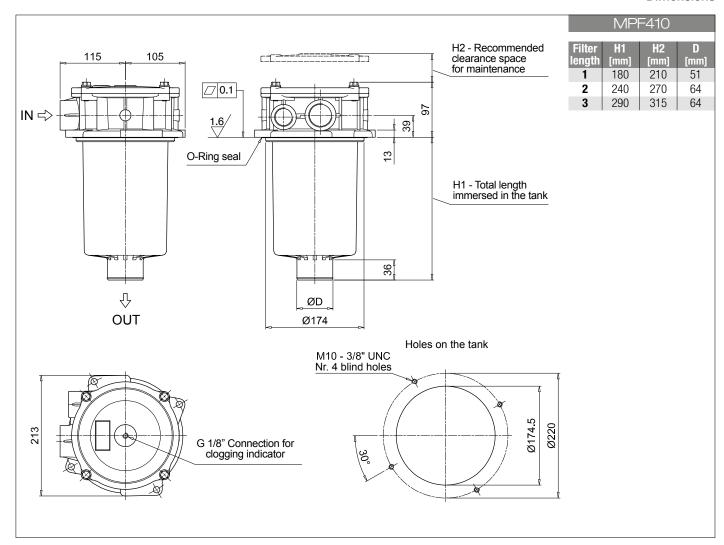




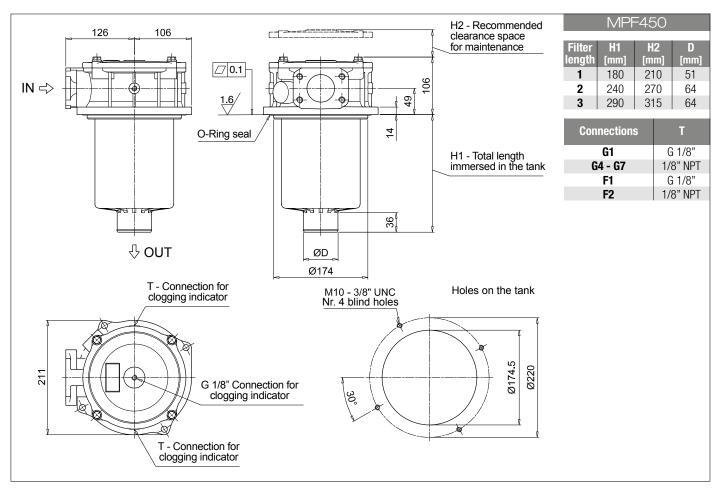


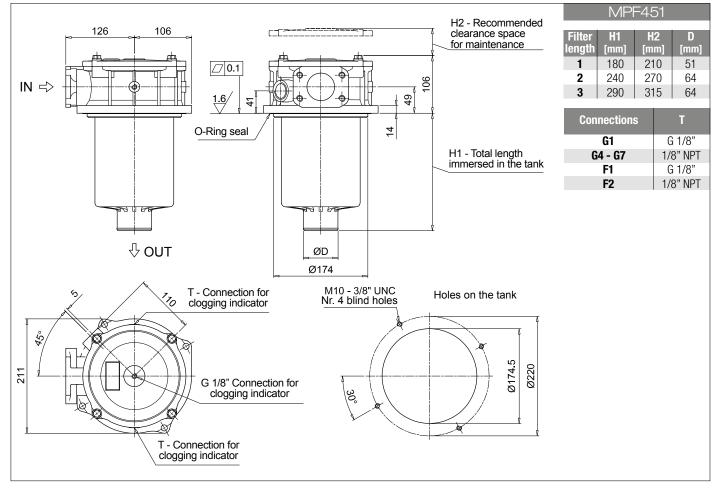


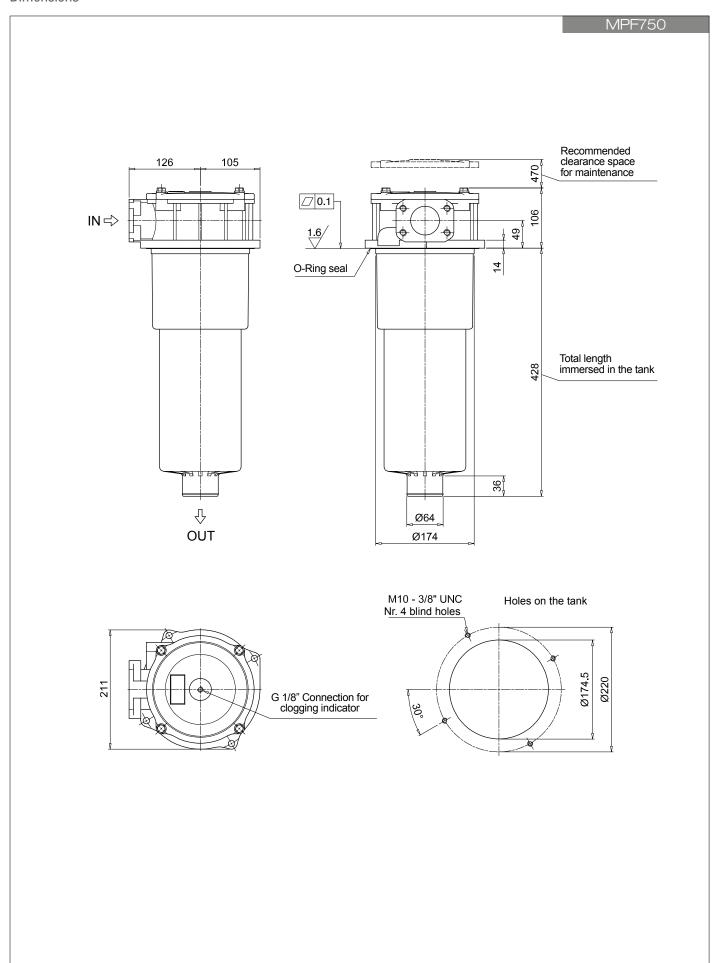




		COMPLETE FILTER								
Series and size		Configuration example 1:		1	Α	G1	A25		В	P01
MPF450   MPF451   MPF750	Filter element with standard spigot	Configuration example 2:	MPF750	1	V	F2	P10	N	] <u>E</u>	P0
Length	MPF 450 MPF 451 MPF 750									
	• • •									
2	• •									
}	• •									
Seals and treatments										
A NBR	W NBR head anodized									
FPM	<b>Z</b> FPM head anodized									
Connections	Aux (only size 451)									
i1 G 2"	G 3/4"									
<b>14</b> 2" NPT	3/4" NPT									
67 SAE 32 - 2 1/2" - 12 UN	SAE 12 - 1 1/16" - 12 UN									
2" SAE 3000 psi/M	G 3/4"									
2" SAE 3000 psi/UN	3/4" NPT									
Filtration rating (filter media)										
103 Inorganic microfiber 3 μm	M25 Wire mesh 25 μm M60 Wire mesh 60 μm									
10 Inorganic microfiber 6 μm	M90 Wire mesh 90 μm									
116 Inorganic microfiber 16 μm	P10 Resin impregnated pape	er 10 um								
<b>125</b> Inorganic microfiber 25 µm	P25 Resin impregnated paper									
<u> </u>	Filter n	<u> </u>								
Element Δp		x Pxx								
1 10 bar	•	<u>•</u>								
<ul><li>10 bar</li><li>10 bar, compatible with fluids</li></ul>	s HFA HFR and HFC • •				By E	pass valv 3 bar		Executio PO1 M	n P Filtri sta	andard
v 10 bai, compatible with hulus	5 III A, III D aliu III G					1.75 ba			ıstomized	
		EUTED ELEMENT								-
		FILTER ELEMENT				105	1		7 -	1
Element series and size										
	and the standard and and		example 1: M		1	A25	<u>H</u>	B	<u> </u>	P0
	ent with standard spigot		example 1: M example 2: MF		1	P10	N	\ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \	E	P0
MF400 IMF750 Filter eleme					1		J L			
MF400 IMF750 Filter element Element length MPF 45					1		J L		<u>E</u>	
MF400 IMF750 Filter element length MPF 45	60   MPF 451   MPF 750				1		J L		E	
MF400 IMF750 Filter element length MPF 45	50   MPF 451   MPF 750				1		J L		E	
MF400   MF750 Filter element Element length MPF 45  2 • • • • • • • • • • • • • • • • • •	60   MPF 451   MPF 750				1		J L		E	
AF400 IMF750 Filter element length MPF 45  Element length	60 MPF 451 MPF 750 • • • • • • • • • • • • • • • • • • •				1		J L		E	
Filtration rating (filter media)	60 MPF 451 MPF 750				1		J L		E	
Filtration rating (filter media)  103 Inorganic microfiber 3 µm  106 Inorganic microfiber 6 µm	M25 Wire mesh 25 μm M60 Wire mesh 60 μm				1		J L		E	
Filtration rating (filter media)  A03 Inorganic microfiber 6 µm  A06 Inorganic microfiber 10 µm	60 MPF 451 MPF 750	Configuration e			1		J L		E	
Element length  MPF 45  Element length  Element length  MPF 45  Element length  Elemen	M25 Wire mesh 25 μm M60 Wire mesh 60 μm M90 Wire mesh 90 μm	Configuration e			1		J L		E	
Element length  MPF 45  Element length  Element length  MPF 45  Element length  Elemen	M25 Wire mesh 25 μm M60 Wire mesh 60 μm M90 Wire mesh 90 μm P10 Resin impregnated pape P25 Resin impregnated pape	Configuration e			1		J L		E	
MF400 IMF750 Filter element length MPF 45	M25 Wire mesh 25 µm M60 Wire mesh 60 µm M90 Wire mesh 90 µm P10 Resin impregnated pape	Configuration e			1		J L		E	
Filter element length  Filter element length  Provided HTM 19750  F	M25 Wire mesh 25 μm M60 Wire mesh 60 μm M90 Wire mesh 90 μm P10 Resin impregnated pape P25 Resin impregnated pape	Configuration e			1		J L		E	
Filter element length  Element length  Printer element	M25 Wire mesh 25 µm M60 Wire mesh 60 µm M90 Wire mesh 90 µm P10 Resin impregnated pape P25 Resin impregnated pape Filter r Axx Mx	configuration e	example 2: MF	FX750	1	P10	N	V		
Filter element length  Element length  Printer element	M25 Wire mesh 25 µm M60 Wire mesh 60 µm M90 Wire mesh 90 µm P10 Resin impregnated pape P25 Resin impregnated pape Filter r Axx Mx	configuration e	xample 2: MF	FX750		P10	N	V	ın	PO
Filter element length  Element length  Printer element	M25 Wire mesh 25 µm M60 Wire mesh 60 µm M90 Wire mesh 90 µm P10 Resin impregnated pape P25 Resin impregnated pape Filter r Axx Mx	configuration e	seals B N	FX750		P10  pass valv 3 bar	N	V Executio	n P Filtri sta	PO
Filter element length  Element length  Printer element	M25 Wire mesh 25 µm M60 Wire mesh 60 µm M90 Wire mesh 90 µm P10 Resin impregnated pape P25 Resin impregnated pape Filter r Axx Mx	configuration e	seals B N	FX750		P10	N	V Executio	ın	PO
Filter element length  Element length  P  B  Filtration rating (filter media)  A03 Inorganic microfiber 3 µm  A06 Inorganic microfiber 6 µm  A10 Inorganic microfiber 10 µm  A16 Inorganic microfiber 16 µm  A25 Inorganic microfiber 25 µm  Element Δp  I 10 bar  I 10 bar  I 10 bar, compatible with fluids	M25 Wire mesh 25 µm M60 Wire mesh 60 µm M90 Wire mesh 90 µm P10 Resin impregnated pape P25 Resin impregnated pape Filter r Axx Mx	configuration e	seals B N	FX750		P10  pass valv 3 bar	N	V Executio	n P Filtri sta	PO
Element length  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  Element Δp  N 10 bar H 10 bar N 10 bar, compatible with fluids	M25 Wire mesh 25 µm M60 Wire mesh 60 µm M90 Wire mesh 90 µm P10 Resin impregnated pape P25 Resin impregnated pape Filter r Axx Mx	configuration e	Seals B N V FI	EX750 BR PM	<u>E</u>	pass valu 3 bar 1.75 ba	N	V Executio	n P Filtri sta	PO
Filter element length  Element length  P  B  B  Filtration rating (filter media)  A03 Inorganic microfiber 3 µm  A06 Inorganic microfiber 6 µm  A10 Inorganic microfiber 10 µm  A16 Inorganic microfiber 16 µm  A25 Inorganic microfiber 25 µm  Element Δp  I 10 bar  I 10 bar  I 10 bar  Axial pressure gauge	M25 Wire mesh 25 µm M60 Wire mesh 60 µm M90 Wire mesh 90 µm P10 Resin impregnated pape P25 Resin impregnated pape Filter r Axx Mx	Configuration e  er 10 µm er 25 µm media x Pxx  •  ACCESSORIES page 240 BEA	Seals B N V FI	EX750  BBR PM	E	pass valv 3 bar 1.75 ba	N	V Executio	n P Filtri sta	PO P
Filtration rating (filter media)  103 Inorganic microfiber 3 µm  104 Inorganic microfiber 10 µm  105 Inorganic microfiber 16 µm  106 Inorganic microfiber 16 µm  107 Inorganic microfiber 25 µm  10 bar  10 bar  10 bar  10 bar  10 bar  10 bar  Radial pressure gauge  10 Radial pressure gauge  10 Radial pressure gauge  10 Radial pressure gauge	M25 Wire mesh 25 µm M60 Wire mesh 60 µm M90 Wire mesh 90 µm P10 Resin impregnated pape P25 Resin impregnated pape Filter r Axx Mx  • • • • • • • • • • • • • • • • • •	Configuration e  Pr 10 µm Pr 25 µm  media  x Pxx   ACCESSORIES  page 240 240 BEA BEM	Seals B N V FI	EX750  BR PM  essure i	ndicato	pass valv 3 bar 1.75 ba	ve F	V Executio	n P Filtri sta ustomized	PO P
Filtration rating (filter media)  103 Inorganic microfiber 3 µm  106 Inorganic microfiber 6 µm  10 Inorganic microfiber 10 µm  10 Inorganic microfiber 16 µm  10 Inorganic microfiber 25 µm  10 bar  1 10 bar	M25 Wire mesh 25 µm M60 Wire mesh 60 µm M90 Wire mesh 90 µm P10 Resin impregnated pape P25 Resin impregnated pape Filter r Axx Mx  •  s HFA, HFB and HFC •  th automatic reset	Configuration e  Pr 10 µm Pr 25 µm  media  x Pxx   ACCESSORIES  page 240 240 BEA BEM	Seals B N V FI	EX750  BR PM  essure i	ndicato	pass valv 3 bar 1.75 ba	ve F	V Executio	n P Filtri sta ustomized	PO P
Filtration rating (filter media)  103 Inorganic microfiber 3 µm  106 Inorganic microfiber 10 µm  10 Inorganic microfiber 16 µm  10 Inorganic microfiber 25 µm  10 Inorganic microfiber 25 µm  10 bar  1 10 bar	M25 Wire mesh 25 µm M60 Wire mesh 60 µm M90 Wire mesh 90 µm P10 Resin impregnated pape P25 Resin impregnated pape Filter r Axx Mx  •  s HFA, HFB and HFC •  th automatic reset	Configuration e  er 10 µm er 25 µm media x Pxx  •  ACCESSORIES page 240 240 BEA 241 BLA 241	Seals B N V FI	EX750  BR PM  essure i	ndicato	pass valv 3 bar 1.75 ba	ve F	V Executio	n P Filtri sta ustomized	PO P
Element length  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  Element Δp  N 10 bar H 10 bar N 10 bar N 10 bar RAMA Axial pressure gauge  BVA Axial pressure gauge  BVR Radial pressure gauge	M25 Wire mesh 25 µm M60 Wire mesh 60 µm M90 Wire mesh 90 µm P10 Resin impregnated pape P25 Resin impregnated pape Filter r Axx Mx  •  s HFA, HFB and HFC •  th automatic reset	Configuration e  er 10 µm er 25 µm media x   Pxx  •  ACCESSORIES page 240 BEA 240 BEM BLA	Seals B N V FI	EX750  BR PM  essure i	ndicato	pass valv 3 bar 1.75 ba	ve F	V Executio	n P Filtri sta ustomized	PO







Order number for spare parts

