

MPF series

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



Description

Technical data

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 900 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, 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

Filter housing materials

- Head: Aluminium
- Cover
Polyamide: MPF 020-030-100-104-110
Aluminium: MPF 181-182-184-191-192-194-400-410-450-451-750
- Bowl: Polyamide

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

MPF 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
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 series	Length	Filter element design - H series					Filter element design - N series		
		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
MPF 100-104-110	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
MPF 181-182-184	1	127	148	235	243	278	441	285	299
	2	231	262	358	382	388	472	404	412
MPF 191-192-194	2	261	305	489	528	546	696	583	598
MPF 400	1	150	171	294	304	350	585	370	390
	2	237	252	454	462	589	868	619	645
	3	248	288	553	609	621	885	680	703
MPF 410	1	146	167	277	285	325	512	341	357
	2	226	239	396	402	485	644	503	519
	3	236	269	462	497	505	653	539	553
MPF 450-451	1	150	171	294	304	350	585	370	390
	2	237	252	454	462	589	868	619	645
	3	248	288	553	609	621	885	680	703
MPF 750	1	392	465	623	700	769	929	804	819

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

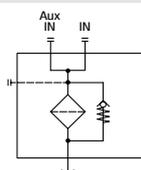
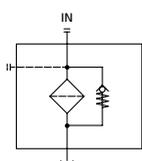
The reference fluid has a kinematic viscosity of 30 mm²/s (cSt) and a density of 0.86 kg/dm³.

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

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

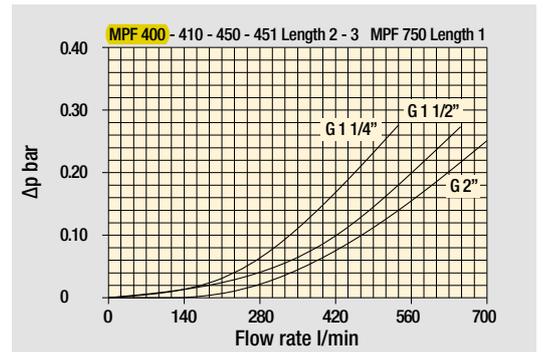
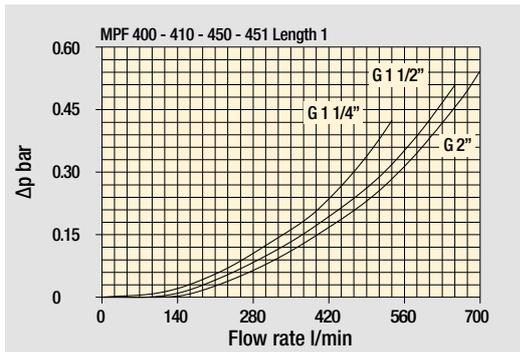
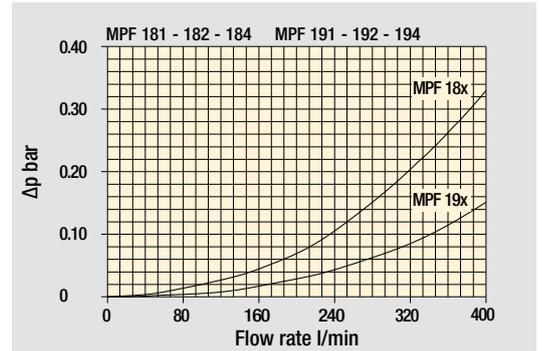
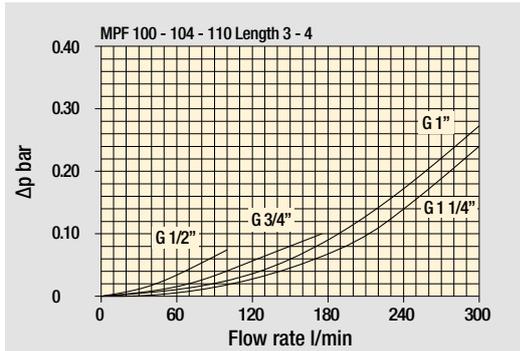
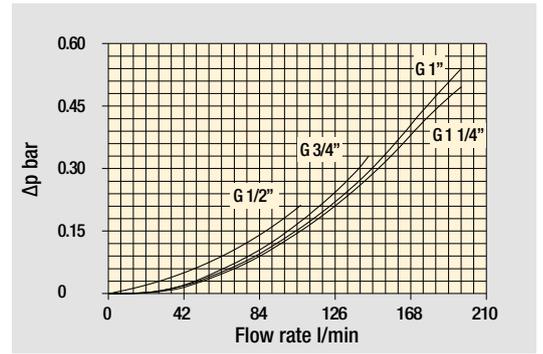
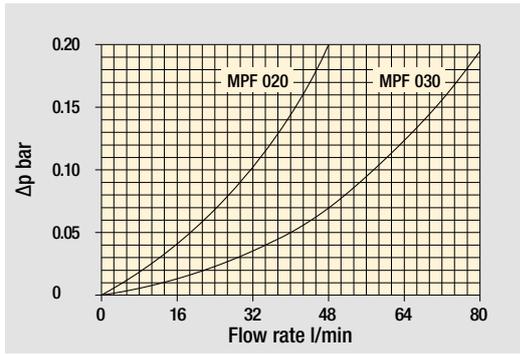
Hydraulic symbols

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	•	-

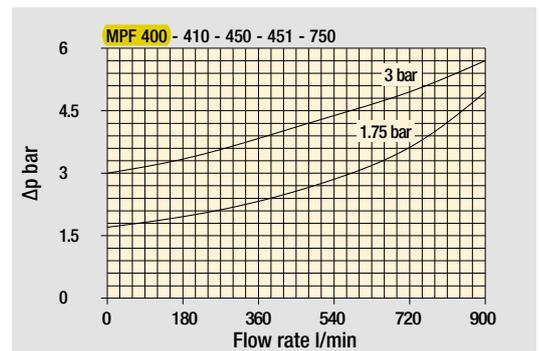
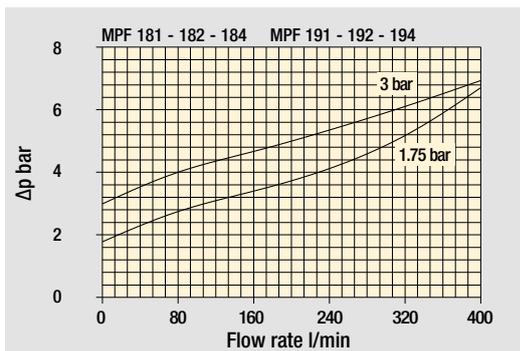
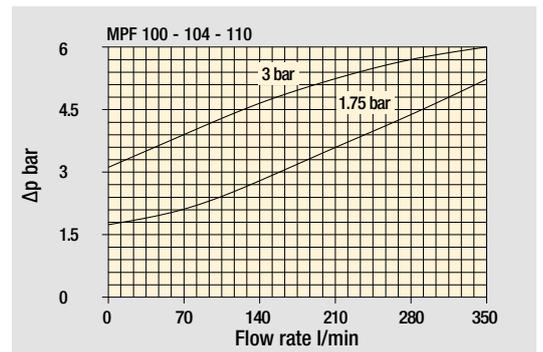
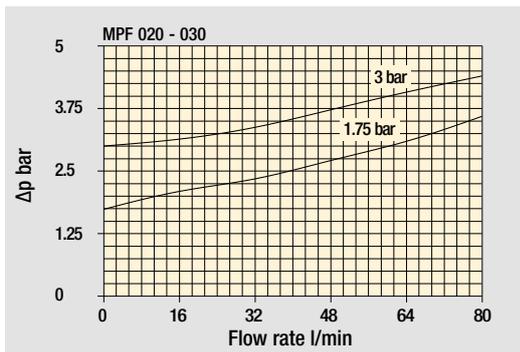


Pressure drop

Filter housings Δp pressure drop



Bypass valve pressure drop



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

Designation & Ordering code

COMPLETE FILTER

Series and size	Configuration example 1:	MPF400	1	A	G9	A25	H	B	P01
MPF400 Filter element with standard spigot	Configuration example 2:	MPF400	2	V	G4	P10	N	E	P01

Length	1 2 3
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Seals and treatments	
A NBR	
V FPM	
W NBR head anodized	
Z FPM head anodized	

Connections	
G1 G 1 1/4"	G6 2" NPT
G2 G 1 1/2"	G7 SAE 20 - 1 5/8" - 12 UN
G3 G 2"	G8 SAE 24 - 1 7/8" - 12 UN
G4 1 1/4" NPT	G9 SAE 32 - 2 1/2" - 12 UN
G5 1 1/2" 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

All filter media except M60, P10 and P25 are compatible with fluids HFA, HFB and HFC

Element Δp	Filter media	Bypass valve	Execution
N 10 bar	Axx Mxx Pxx	E 3 bar	P01 MP Filtri standard
H 10 bar	• - -	B 1.75 bar	Pxx Customized

FILTER ELEMENT

Element series and size	Configuration example 1:	MF400	1	A25	H	B	P01	
MF400 Filter element with standard spigot	Configuration example 2:	MF400	2	P10	N	V	E	P01

Element length	1 2 3
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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	Seals	Bypass valve	Execution
N 10 bar	Axx Mxx Pxx	B NBR	E 3 bar	P01 MP Filtri standard
H 10 bar	• - -	V FPM	- 1.75 bar	Pxx Customized

CLOGGING INDICATORS

See page 266

BVA Axial pressure gauge	
BVR Radial pressure gauge	
BVP Visual pressure indicator with automatic reset	
BVQ Visual pressure indicator with manual reset	

BEA Electrical pressure indicator	
BEM Electrical pressure indicator	
BLA Electrical / visual pressure indicator	

Additional features	See page 278
Sxx Extension tube	
T5 Filler plug M30x1.5	

MPF400			
Filter length	H1 [mm]	H2 [mm]	D [mm]
1	180	210	51
2	240	270	64
3	290	315	64

