

## Description

## Technical data

### Return filter

**Maximum working pressure up to 800 kPa (8 bar)**  
**Flow rate up to 750 l/min**

MPFX 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 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
- MYclean interface connection, to protect the product against non-original spare parts
- External protective wrap, to optimize the flow through the element and to save the element efficiency against non-proper handling

### Common applications:

- Light Industrial equipment
- Mobile application

### Filter housing materials

- Head: Aluminium
- Cover  
Nylon: MPFX 030-100-104-110  
Aluminium: MPFX 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)  $\pm 10\%$

### $\Delta p$ element type

- Microfiber 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

MPFX filters are provided for vertical mounting



## Weights [kg] and volumes [dm<sup>3</sup>]

Filter series	Weights [kg]				Volumes [dm <sup>3</sup> ]					
	Length	1	2	3	4	Length	1	2	3	4
<b>MPFX 030</b>		0.40	-	-	-		0.29	-	-	-
<b>MPFX 100</b>		0.61	0.64	0.67	0.74		0.64	0.85	1.20	1.65
<b>MPFX 104</b>		0.82	0.96	1.02	1.25		0.64	0.85	1.20	1.65
<b>MPFX 110</b>		0.64	0.68	0.71	0.78		-	-	-	-
<b>MPFX 181</b>		2.20	3.00	-	-		2.50	4.00	-	-
<b>MPFX 182</b>		2.30	3.10	-	-		2.50	4.00	-	-
<b>MPFX 184</b>		2.55	3.45	-	-		2.65	4.45	-	-
<b>MPFX 191</b>		-	3.00	-	-		-	4.25	-	-
<b>MPFX 192</b>		-	3.10	-	-		-	4.25	-	-
<b>MPFX 194</b>		-	3.45	-	-		-	4.45	-	-
<b>MPFX 400</b>		3.35	3.65	3.90	-		3.70	4.60	5.40	-
<b>MPFX 410</b>		3.55	3.85	4.10	-		3.70	4.60	5.40	-
<b>MPFX 450-451</b>		3.95	4.25	4.50	-		3.70	4.60	5.40	-
<b>MPFX 750</b>		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
<b>MPFX 030</b>	<b>1</b>	7	10	24	29	47	84	60	66
<b>MPFX 100-104-110</b>	<b>1</b>	18	20	53	56	65	153	87	96
	<b>2</b>	28	38	65	75	95	158	111	123
	<b>3</b>	48	55	125	135	169	289	224	251
	<b>4</b>	79	89	180	185	198	306	264	289
<b>MPFX 181-182-184</b>	<b>1</b>	127	148	235	243	278	441	285	299
	<b>2</b>	231	262	358	382	388	472	404	412
<b>MPFX 191-192-194</b>	<b>2</b>	261	305	489	528	546	696	583	598
<b>MPFX 400</b>	<b>1</b>	150	171	294	304	350	585	370	390
	<b>2</b>	237	252	454	462	589	868	619	645
	<b>3</b>	248	288	553	609	621	885	680	703
<b>MPFX 410</b>	<b>1</b>	146	167	277	285	325	512	341	357
	<b>2</b>	226	239	396	402	485	644	503	519
	<b>3</b>	236	269	462	497	505	653	539	553
<b>MPFX 450-451</b>	<b>1</b>	150	171	294	304	350	585	370	390
	<b>2</b>	237	252	454	462	589	868	619	645
	<b>3</b>	248	288	553	609	621	885	680	703
<b>MPFX 750</b>	<b>1</b>	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.

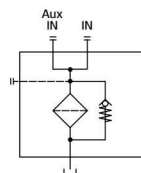
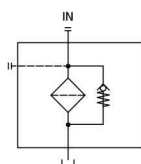
The reference fluid has a kinematic viscosity of 30 mm<sup>2</sup>/s (cSt) and a density of 0.86 kg/dm<sup>3</sup>.

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.

## Hydraulic symbols

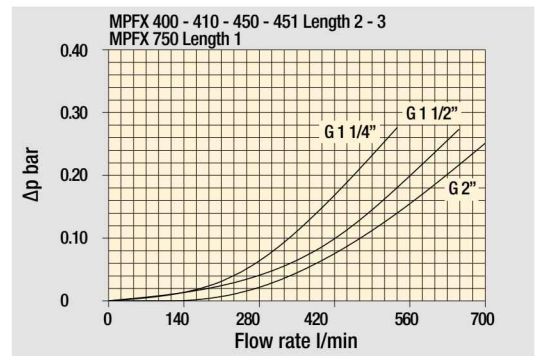
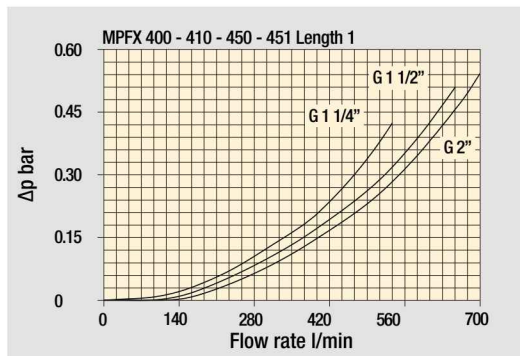
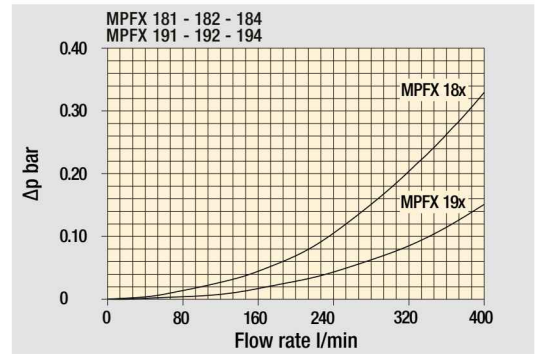
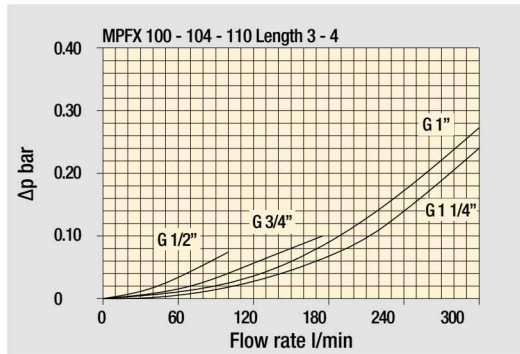
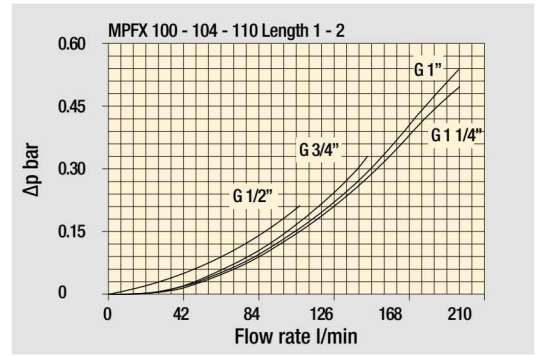
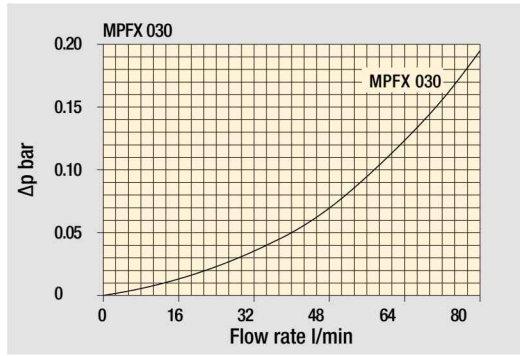
Filter series	Style 1 connection	Style 2 connections
<b>MPFX 030</b>	•	
<b>MPFX 100</b>	•	
<b>MPFX 104</b>	•	
<b>MPFX 110</b>		•
<b>MPFX 181</b>	•	
<b>MPFX 182</b>		•
<b>MPFX 184</b>	•	•
<b>MPFX 191</b>	•	
<b>MPFX 192</b>	•	
<b>MPFX 194</b>	•	•
<b>MPFX 400</b>	•	
<b>MPFX 410</b>		•
<b>MPFX 450</b>	•	
<b>MPFX 451</b>		•
<b>MPFX 750</b>	•	



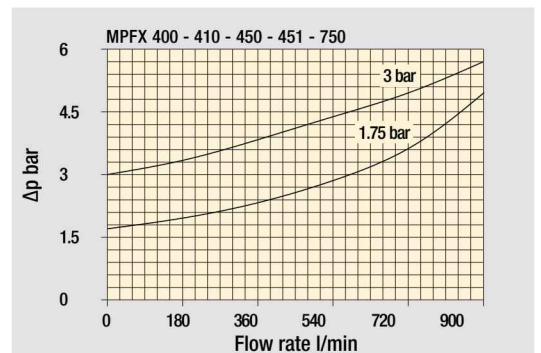
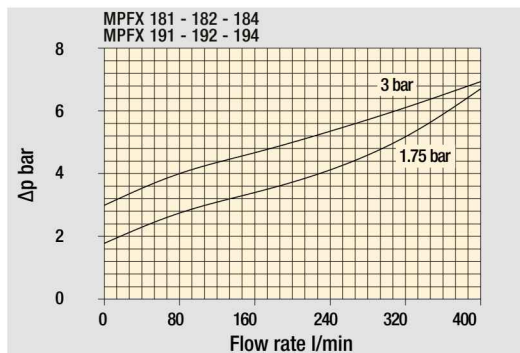
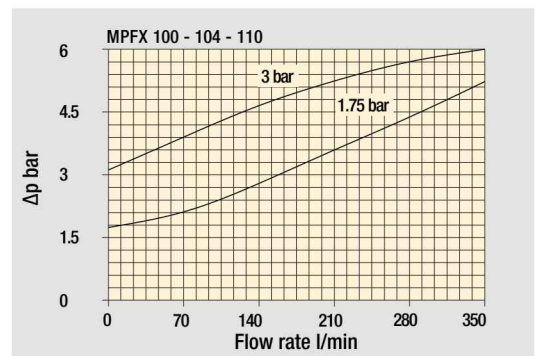
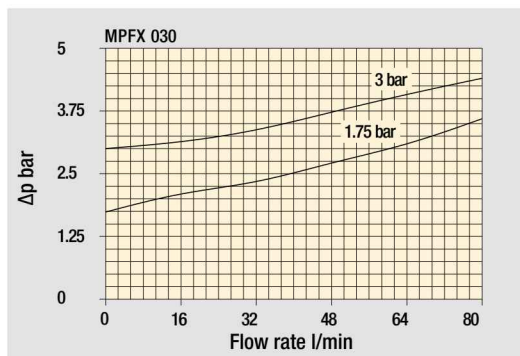
# MPFX GENERAL INFORMATION

## Pressure drop

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



### Bypass valve pressure drop

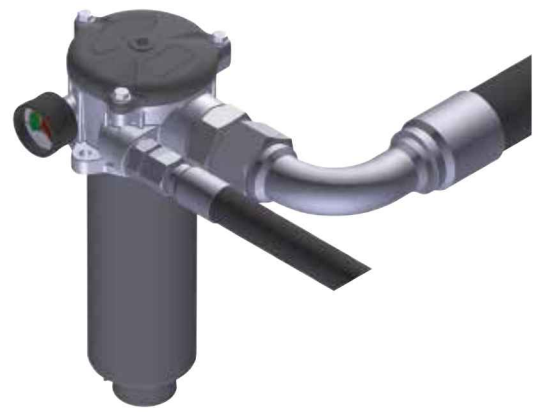


The curves are plotted using mineral oil with density of 0.86 kg/dm<sup>3</sup> in compliance with ISO 3968.  $\Delta p$  varies proportionally with density.

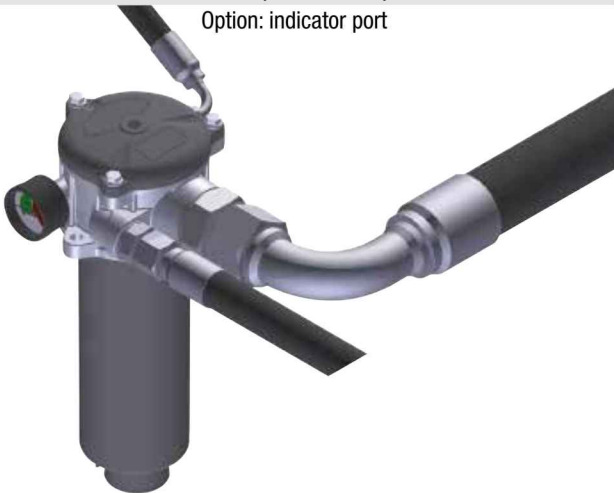
Standard - Single IN port



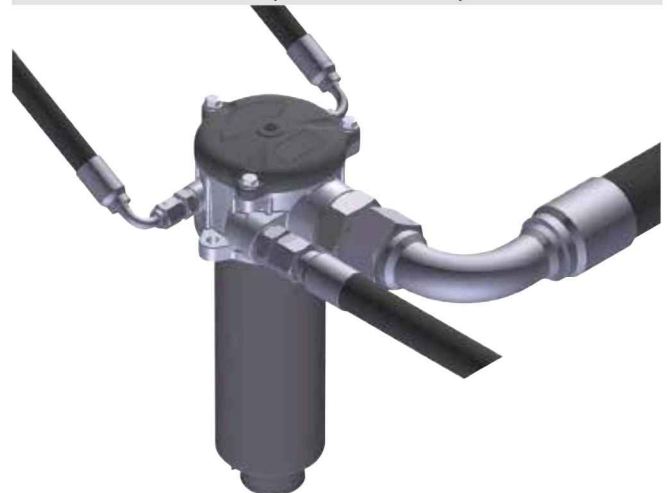
Double IN port  
Option: double indicator port



Double IN port - Drain port  
Option: indicator port



Double IN port - Double drain port





# MPFX MPFX181 - MPFX191

## Designation & Ordering code

### COMPLETE FILTER

<b>Series and size</b>		Configuration example 1: <b>MPFX181</b>		<b>1</b>	<b>A</b>	<b>G1</b>	<b>A25</b>	<b>H</b>	<b>E</b>	<b>P01</b>
<b>MPFX181 MPFX191</b> Filter element with private spigot		Configuration example 2: <b>MPFX191</b>		<b>2</b>	<b>V</b>	<b>G2</b>	<b>P10</b>	<b>N</b>	<b>B</b>	<b>P01</b>
<b>Length</b>		<b>Size 181</b>	<b>Size 191</b>							
<b>1</b>		•								
<b>2</b>		•	•							
<b>Seals and treatments</b>										
<b>A</b> NBR	<b>B</b> NBR flat seal on head									
<b>V</b> FPM	<b>D</b> FPM flat seal on head									
<b>W</b> NBR head anodized	<b>L</b> NBR head anodized, flat seal on head									
<b>Z</b> FPM head anodized	<b>M</b> FPM head anodized, flat seal on head									
<b>Connections</b>										
<b>G1</b> G 1 1/4"	<b>G5</b> 1 1/2" NPT									
<b>G2</b> G 1 1/2"	<b>G7</b> SAE 20 - 1 5/8" - 12 UN									
<b>G4</b> 1 1/4" NPT	<b>G8</b> SAE 24 - 1 7/8" - 12 UN									
<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>Filter media</b>								
<b>N</b> 10 bar		<b>Axx</b>	<b>Mxx</b>	<b>Pxx</b>						
<b>H</b> 10 bar			•	•						
<b>W</b> 10 bar, compatible with fluids HFA, HFB and HFC		•	•							
		<b>Bypass valve</b>		<b>Execution</b>						
		<b>E</b> 3 bar		<b>P01</b> MP Filtri standard						
		<b>B</b> 1.75 bar		<b>Pxx</b> Customized						

### FILTER ELEMENT

<b>Element series and size</b>		Configuration example 1: <b>MFX180</b>		<b>1</b>	<b>A25</b>	<b>H</b>	<b>B</b>	<b>E</b>	<b>P01</b>
<b>MFX180</b> Filter element with private spigot		Configuration example 2: <b>MFX180</b>		<b>2</b>	<b>P10</b>	<b>N</b>	<b>V</b>		<b>P01</b>
<b>Element length</b>									
<b>1</b>									
<b>2</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>Element Δp</b>		<b>Filter media</b>							
<b>N</b> 10 bar		<b>Axx</b>	<b>Mxx</b>	<b>Pxx</b>					
<b>H</b> 10 bar			•	•					
<b>W</b> 10 bar, compatible with fluids HFA, HFB and HFC		•	•						
		<b>Seals</b>		<b>Bypass valve</b>		<b>Execution</b>			
		<b>B</b> NBR		<b>E</b> 3 bar		<b>P01</b> MP Filtri standard			
		<b>V</b> FPM		<b>B</b> 1.75 bar		<b>Pxx</b> Customized			

### ACCESSORIES

<b>Indicators</b>		page			page
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<b>BVR</b> Radial pressure gauge	240	<b>BEM</b> Electrical pressure indicator	239		
<b>BVP</b> Visual pressure indicator with automatic reset	241	<b>BLA</b> Electrical / visual pressure indicator	239-240		
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<b>Additional features</b>		page			
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<b>T5</b> Filler plug M30x1.5	249				

