

# HYDRAULIC FILTRATION PRODUCTS

RETURN FILTERS



PASSION TO PERFORM







## A WORLDWIDE LEADER IN THE FIELD OF HYDRAULIC FILTRATION EQUIPMENT.

Our company started life in 1964, when Bruno Pasotto decided to attempt to cater for the requests of a market still to be fully explored, with the study, design, development, production and marketing of a vast range of filters for hydraulic equipment, capable of satisfying the needs of manufacturers in all sectors. The quality of our products, our extreme competitiveness compared with major international producers and our constant activities of research, design and development has made us a worldwide leader in the field of hydraulic circuit filtering. Present for over 50 years in the market, we have played a truly decisive role in defining our sector, and by now we are a group capable of controlling our entire chain of production, monitoring all manufacturing processes to guarantee superior quality standards and to provide concrete solutions for the rapidly evolving needs of customers and the market.

## MARKET LEADER



Our work is based on a skillful interaction between advanced technology and fine workmanship, **customizing products according to specific market requests**, focusing strongly on innovation and quality, and following every step in the manufacturing of both standard and special products, fully respecting customer expectations.



Our customer-oriented philosophy, which enables us to satisfy all customer requests **rapidly and with personalized products**, makes us a **dynamic and flexible enterprise**. The possibility of constantly controlling and monitoring the entire production process is essential to allow us to guarantee the quality of our products.

## WORLDWIDE PRESENCE

Our foreign Branches enable us to offer a diversified range of products that allow us to successfully face the aggressive challenge of international competition, and also to maintain a stable presence at a local level.

The Group boasts **8 business branches**



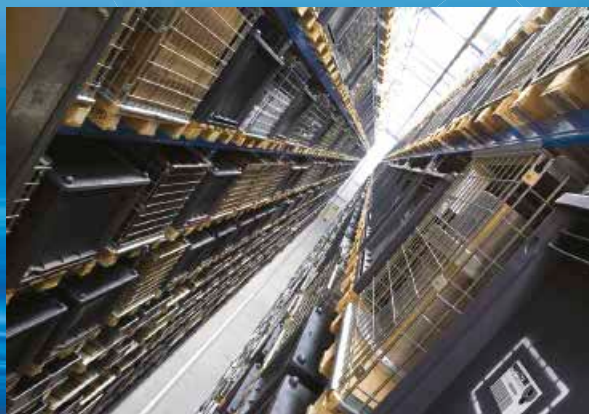
## TECHNOLOGY

Our constant **quest for excellence in quality and technological innovation** allows us to offer only the best solutions and services for applications in many fields, including general industry, test rigs, lubrication, heavy engineering, renewable energies, naval engineering, offshore engineering, aviation systems, emerging technologies and mobile plant (i.e. tractors, excavators, concrete pumps, platforms).



## AND PRODUCTION

Our high level of technological expertise means **we can rely entirely on our own resources, without resorting to external providers.** This in turn enables us to satisfy a growing number of customer requests, also exploiting our constantly updated range of machines and equipment, featuring **fully-automated workstations** capable of **24-hour production.**





### SUCTION FILTERS

Flow rates  
up to 875 l/min

Mounting:  
- Tank immersed  
- In-Line  
- In tank with  
shut off valve  
- In tank  
with flooded suction

### RETURN FILTERS

Flow rates  
up to 3000 l/min

Pressure  
up to 20 bar

Mounting:  
- In-Line  
- Tank top  
- In single  
and duplex designs

### RETURN / SUCTION FILTERS

Flow rates  
up to 300 l/min

Pressure  
up to 80 bar

Mounting:  
- In-Line  
- Tank top

### SPIN-ON FILTERS

Flow rates  
up to 365 l/min

Pressure  
up to 35 bar

Mounting:  
- In-Line  
- Tank top

### LOW & MEDIUM PRESSURE FILTERS

Flow rates  
up to 3000 l/min

Pressure  
up to 80 bar

Mounting:  
- In-Line  
- Parallel manifold version  
- In single  
and duplex designs

### HIGH PRESSURE FILTERS

Flow rates  
up to 750 l/min

Pressure from 110 bar  
up to 560 bar

Mounting:  
- In-Line  
- Manifold  
- In single  
and duplex designs



## PRODUCT RANGE

MP Filtri can offer a vast and articulated range of products for the global market, suitable for all industrial sectors using hydraulic equipment.

This includes filters (suction, return, return/suction, spin-on, pressure, stainless steel pressure) and structural components (motor/pump bell-housings, transmission couplings, damping rings, foot brackets, aluminium tanks, cleaning covers).

We can provide all the skills and solutions required by the modern hydraulics industry to monitor contamination levels and other fluid conditions.

Mobile filtration units and a full range of accessories allow us to supply everything necessary for a complete service in the hydraulic circuits.



### STAINLESS STEEL HIGH PRESSURE FILTERS

Flow rates  
up to 125 l/min

Pressure from 320 bar  
up to 1000 bar

Mounting:

- In-Line
- Manifold
- In single  
and duplex designs

### CONTAMINATION MONITORING PRODUCTS

- Online, in-line particle counters
- Off-line bottle sampling  
products
- Fully calibrated using relevant  
ISO standards
- A wide range of variants to  
support fluid types and  
communication protocols

### MOBILE FILTRATION UNITS

Flow rates from 15 l/min  
up to 200 l/min

### POWER TRANSMISSION PRODUCTS

- Aluminium bell-housings  
for motors  
from 0.12 kW to 400 kW
- Couplings in Aluminium  
Cast Iron - Steel
- Damping rings
- Foot bracket
- Aluminium tanks
- Cleaning covers

### TANK ACCESSORIES

- Oil filler and  
air breather plugs
- Optical and electrical  
level gauges
- Pressure gauge valve  
selectors
- Pipe fixing brackets
- Pressure gauges

# HYDRAULIC FILTRATION PRODUCTS

<b>1</b>	<b>page</b>	<b>INTRODUCTION</b>
1		COMPANY
6		PRODUCT RANGE
11		CONTAMINATION MANAGEMENT
22		FILTER SIZING
24		CORRECTIVE FACTOR

<b>28</b>	<b>page</b>	<b>SUCTION FILTERS</b>			<b>up to <math>Q_{max}</math></b>
					<b>l/min</b>   <b>gpm</b>
31	STR & MPA - MPM	Submerged suction filter, with bypass or magnetic filter			1000   264
39	SF2 250 - 350	Semi-submerged positive head suction filter, low flow rate			160   42
47	SF2 500	Semi-submerged positive head suction filter, high flow rate			700   185
57		CLOGGING INDICATORS			

<b>60</b>	<b>page</b>	<b>RETURN FILTERS</b>		<b>up to <math>P_{max}</math></b>	<b>up to <math>Q_{max}</math></b>
			<b>bar</b>   <b>psi</b>	<b>l/min</b>   <b>gpm</b>	
63	MPFX	Tank top semi-immersed filter, standard filter element disassembly	8   116	900   238	
91	MPLX	Tank top semi-immersed filter, standard filter element disassembly	10   145	1800   476	
99	MPTX	Tank top semi-immersed filter, easy filter element disassembly	8   116	300   79	
117	MFBX	Bowl assembly	8   116	700   185	
125	MPF	Tank top semi-immersed filter, standard filter element disassembly	8   116	900   238	
153	MPT	Tank top semi-immersed filter, easy filter element disassembly	8   116	300   79	
171	MFB	Bowl assembly	8   116	700   185	
179	MPH	Tank top semi-immersed filter, standard filter element disassembly	10   145	3500   925	
203	MPI	Tank top semi-immersed filter, standard filter element disassembly	10   145	3500   925	
215	FRI	Tank top semi-immersed filter, easy filter element disassembly, it can be used also as in-line filter	20   290	2500   660	
231	RF2	Semi-immersed under-head filter, easy filter element disassembly	20   290	615   162	
238		CLOGGING INDICATORS			
248		ACCESSORIES			

<b>250</b>	<b>page</b>	<b>RETURN / SUCTION FILTERS</b>		<b>up to <math>P_{max}</math></b>	<b>up to <math>Q_{max}</math></b>
			<b>bar</b>   <b>psi</b>	<b>l/min</b>   <b>gpm</b>	
253	MRSX	Unique TANK TOP filter for mobile machinery, with combined filtration on return and suction to the inlet at the hydrostatic transmissions in closed circuit	10   145	250   66	
265	LMP 124 MULTIPORT	Unique IN-LINE filter for mobile machinery, with combined filtration on return and suction to the inlet at the hydrostatic transmissions in closed circuit	80   1160	120   32	
273		CLOGGING INDICATORS			

<b>286</b>	<b>page</b>	<b>SPIN-ON FILTERS</b>		<b>up to <math>P_{max}</math></b>	<b>up to <math>Q_{max}</math></b>
			<b>bar</b>   <b>psi</b>	<b>l/min</b>   <b>gpm</b>	
289	MPS	Low pressure filter, available with single cartridge (CS) for in-line or flange mounting or with two cartridge on the same axis on the opposite sides	12   174	365   96	
305	MSH	In-line low and medium pressure filter available with single cartridge (CH)	35   508	195   52	
311		CLOGGING INDICATORS			

322 page <b>LOW &amp; MEDIUM PRESSURE FILTERS</b>			up to P <sub>max</sub>		up to Q <sub>max</sub>	
			bar	psi	l/min	gpm
325	LMP 110 - 120 - 123 MULTIPORT	In-line filter with Multiport design for multiple choice connection	80	1160	175	46
341	LMP 210 - 211	In-line low & medium pressure filter, low flow rate	60	870	365	96
351	LMP 400 - 401 & 430 - 431	In-line low & medium pressure filter, high flow rate	60	870	780	206
363	LMP 950 - 951	In-line filter, available with 2 and up to 6 different heads	30	435	2400	634
371	LMP 952 - 953 - 954	In-line low pressure filter specifically designed to be mounted in series	25	363	4500	1189
383	LMD 211	In-line duplex medium pressure filter	60	870	200	53
391	LMD 400 - 401 & 431	In-line duplex low pressure filter	16	232	600	159
407	LMD 951	In-line duplex filter, available with 2 up to 6 different heads	16	232	1200	317
415	<b>Filter elements designed according to DIN 24550</b>					
417	LDP - LDD	In-line and duplex medium pressure filter	60	870	360	95
427	LMP 900 - 901	In-line low pressure filter	30	435	2000	528
435	LMP 902 - 903	In-line filter specifically designed to be mounted in series	20	290	3000	793
444	<b>CLOGGING INDICATORS</b>					
450	<b>ACCESSORIES</b>					

452 page <b>HIGH PRESSURE FILTERS</b>			up to P <sub>max</sub>		up to Q <sub>max</sub>	
			bar	psi	l/min	gpm
455	FMP 039	Filter high pressure, low flow rate applications	110	1595	80	21
463	FMP	Filter high pressure, high flow rate applications	320	4641	500	132
475	FHP	Typical high pressure filter for mobile applications, high flow rate	420	6092	630	166
493	FMM	Typical high pressure filter for mobile applications, low flow rate	420	6092	300	79
503	HPB	Pressure filter kits for integration in control manifolds	420	6092	300	79
513	FHA 051	Filter optimized for use in high pressure operating systems, low flow rate	560	8122	150	40
521	FHM	High pressure filter with intermediate manifold construction	320	4641	400	106
539	FHB	High pressure for block mounting	320	4641	485	128
553	FHF 325	In-line manifold top mounting	350	5076	550	145
563	FHD	In-line duplex high pressure filter	350	5076	250	66
576	<b>CLOGGING INDICATORS</b>					

584 page <b>STAINLESS STEEL HIGH PRESSURE FILTERS</b>			up to P <sub>max</sub>		up to Q <sub>max</sub>	
			bar	psi	l/min	gpm
587	FZP	In-line pressure filter with threaded mount	420	6092	160	42
597	FZH	In-line pressure filter with threaded mount for higher pressure	700	10153	80	21
607	FZX	In-line pressure filter with threaded mount up to 1000 bar	1000	14504	10	3
615	FZM	Manifold top mounting	320	4641	70	18
623	FZB	Manifold side mounting	320	4641	70	18
631	FZD	Duplex pressure filter for continuous operation requirements	350	5076	60	16
641	<b>CLOGGING INDICATORS</b>					

646 page <b>CLOGGING INDICATORS</b>		
649	<b>QUICK REFERENCE GUIDE</b>	

## 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 / 5.80 - 8.70 psi.

The pressure drop calculation is performed by adding together the value of the housing with the value of the filter element. The pressure drop  $\Delta pc$  of the housing is proportional to the fluid density ( $\text{kg}/\text{dm}^3$  /  $\text{lb}/\text{ft}^3$ ). The filter element pressure drop  $\Delta pe$  is proportional to its viscosity ( $\text{mm}^2/\text{s}$  / SUS), the corrective factor Y have to be used in case of an oil viscosity different than  $30 \text{ mm}^2/\text{s}$  (cSt) / 150 SUS.

### Sizing data for single filter element, head at top

$\Delta pc$  = Filter housing pressure drop [bar / psi]

$\Delta pe$  = Filter element pressure drop [bar / psi]

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 - gpm)

V1 reference oil viscosity =  $30 \text{ mm}^2/\text{s}$  (cSt) / 150 SUS

V2 = operating oil viscosity in  $\text{mm}^2/\text{s}$  (cSt) / SUS

### Filter element pressure drop calculation with an oil viscosity different than $30 \text{ mm}^2/\text{s}$ (cSt) / 150 SUS

International system:

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

Imperial system:

$$\Delta pe = Y : 17.2 \times Q \times (V2:V1)$$

$$\Delta p \text{ Tot.} = \Delta pc + \Delta pe$$

### Verification formula

$$\Delta p \text{ Tot.} \leq \Delta p \text{ max allowed}$$

### Maximum total pressure drop ( $\Delta p \text{ max}$ ) allowed by a new and clean filter

Application	Range: [ bar ]	[ psi ]	
Suction filters	0.08 - 0.10 bar	1.16 - 1.45 psi	
Return filters	0.4 - 0.6 bar	5.80 - 8.70 psi	
Return - Suction filters (*)	0.8 - 1.0 bar	11.60 - 14.50 psi	
Low & Medium Pressure filters	0.4 - 0.6 bar	5.80 - 8.70 psi	return lines
	0.3 - 0.5 bar	4.35 - 7.25 psi	lubrication lines
	0.3 - 0.4 bar	4.35 - 5.80 psi	off-line in power systems
	0.1 - 0.3 bar	1.45 - 4.35 psi	off-line in test benches
High Pressure filters	0.4 - 0.6 bar	5.80 - 8.7 psi	over-boost
	0.8 - 1.5 bar	11.60 - 21.75 psi	
Stainless Steel filters	0.8 - 1.5 bar	11.60 - 21.75 psi	

(\*)The suction flow rate should not exceed 30% of the return flow rate

### Generic filter calculation example

Application data:

Tank top return filter

Pressure Pmax = 10 bar

Flow rate Q = 120 l/min

Viscosity V2 =  $46 \text{ mm}^2/\text{s}$  (cSt)

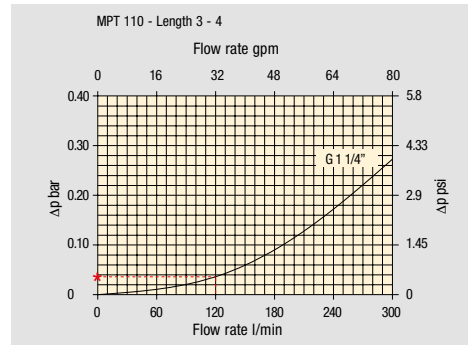
Oil density =  $0.86 \text{ kg}/\text{dm}^3$

Required filtration efficiency =  $25 \mu\text{m}$  with absolute filtration

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

Calculation:

$$\Delta pc = 0.03 \text{ bar} / 0.43 \text{ psi} \text{ (see graphic below)}$$



Filter housings  $\Delta p$  pressure drop. The curves are plotted using mineral oil with density of  $0.86 \text{ kg}/\text{dm}^3$  in compliance with ISO 3968.  $\Delta p$  varies proportionally with density.

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

$$\Delta pe = (2.00 : 17.2) \times 32 \times (216 : 150) = 5.36 \text{ psi}$$

Filter element	Absolute filtration H Series					Nominal filtration N Series			
	A03	A06	A10	A16	A25	P10	P25	M25 M60 M90	
Return filters	74.00	50.08	20.00	16.00	9.00	6.43	5.51	4.40	
MF 020	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
	1	28.20	24.40	8.67	8.17	6.88	4.62	3.96	1.25
MF 100 MFX 100	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

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

$$\Delta p \text{ Tot.} = 0.43 + 5.36 = 5.79 \text{ psi}$$

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.

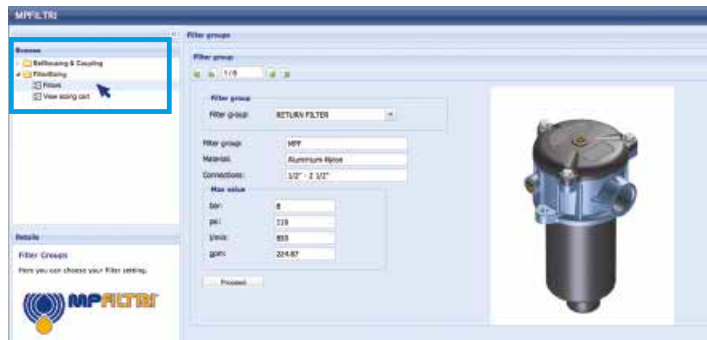
**Corrective factor Y to be used for the filter element pressure drop calculation. The values depend to the filter size and length and to the filter media.**  
Reference oil viscosity 30 mm<sup>2</sup>/s

## Return filters

Filter element		Absolute filtration H Series					Nominal filtration N Series		
Type		A03	A06	A10	A16	A25	P10	P25	M25 M60 M90
<b>MF 020</b>	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
<b>MF 030</b> <b>MFX 030</b>	1	74.00	50.08	20.00	16.00	9.00	6.43	5.51	3.40
<b>MF 100</b> <b>MFX 100</b>	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
<b>MF 180</b> <b>MFX 180</b>	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
<b>MF 190</b> <b>MFX 190</b>	2	1.69	1.37	0.60	0.49	0.44	0.35	0.31	0.11
<b>MF 400</b> <b>MFX 400</b>	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
<b>MF 750</b> <b>MFX 750</b>	1	1.08	0.84	0.49	0.36	0.26	0.21	0.19	0.06
<b>MLX 250</b>	2	3.00	3.04	1.46	1.25	1.17	-	-	M25 0.20
<b>MLX 660</b>	2	1.29	1.26	0.52	0.44	0.38	-	-	M25 0.10
<b>CU 025</b>		78.00	48.00	28.00	24.00	9.33	9.33	8.51	1.25
<b>CU 040</b>		25.88	20.88	10.44	10.00	3.78	3.78	3.30	1.25
<b>CU 100</b>		15.20	14.53	5.14	4.95	2.00	2.00	0.17	1.10
<b>CU 250</b>		3.25	2.55	1.55	1.35	0.71	0.71	0.59	0.25
<b>CU 630</b>		1.96	1.68	0.85	0.72	0.42	0.42	0.36	0.09
<b>CU 850</b>		1.06	0.84	0.42	0.33	0.17	0.17	0.13	0.04
<b>MR 100</b>	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
<b>MR 250</b>	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
<b>MR 630</b>	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
<b>MR 850</b>	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

# TYPICAL FILTER SIZING Selection Software

**Step 1** Select "FILTERS"



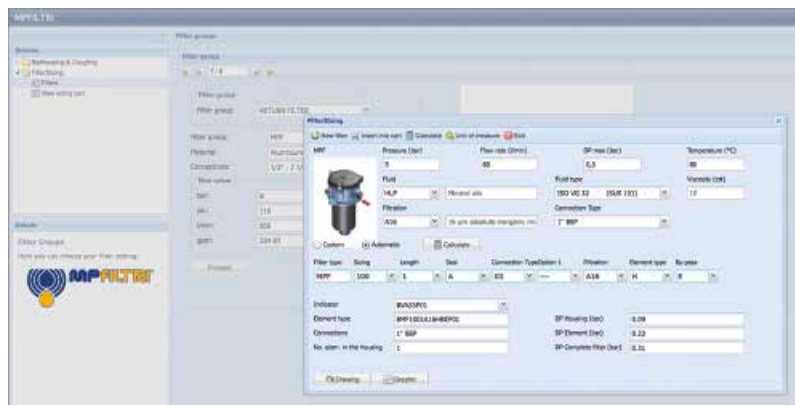
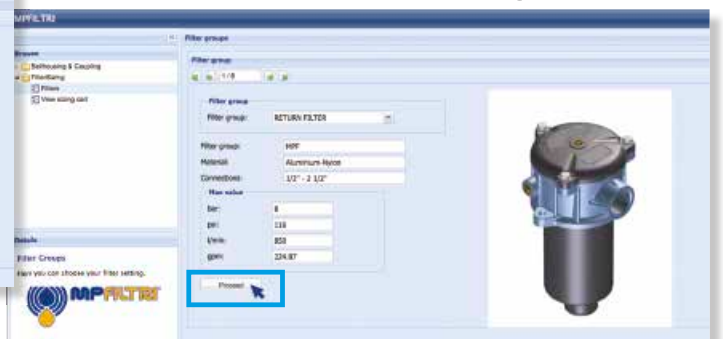
**Step 2** Choose filter group (Return Filter, Pressure Filter, etc.)



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



**Step 4** Push "PROCEED"



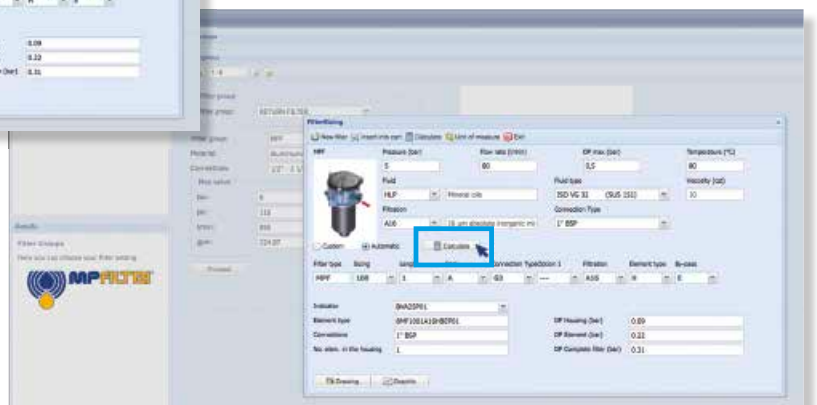
**Step 5**

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"



**Return filters are used as process and safety filters to protect pumps and hydraulic circuits from contamination as per ISO 4406.**

**They are available in 8 styles:**

- **MPFX-MPF tank top semi-immersed filter with external / internal oil flow; standard filter element disassembly**
- **MPLX tank top semi-immersed filter completely interchangeable with Pall 8420 & 8520, with external / internal oil flow; easy filter element disassembly**
- **MPTX-MPT tank top semi-immersed filter with external / internal oil flow; easy filter element disassembly without any specific tool**
- **MFBX-MFB element and bowl assembly with optional cover and hold-down spring for dirtbox or molded tank applications**
- **MPH tank top semi-immersed filter with internal / external oil flow, therefore keeping the dirt inside the bowl and not on the filter element; standard filter element disassembly, magnetic filter as option**
- **MPI semi-immersed filter element specifically designed to be mounted directly on the oil tank; magnetic filter as option**
- **FRI, the oldest tank top semi-immersed return filter manufactured by MP FILTRI, with external / internal oil flow; available in the single or duplex versions with outlet connection, it can be used also as in-line filter**
- **RF2 semi-immersed filter with shut-off valve for side tank mounting, with external / internal oil flow; easy filter element disassembly without any specific tool.**

## FILTER SIZING

For the proper corrective factor Y see chapter at page 24



# Return filters



MPFX	page 63
MPLX	91
MPTX	99
MFBX	117
MPF	125
MPT	153
MFB	171

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THE NEW FILTER CONCEPT

MPFX  
MPLX  
MPTX  
MFBX  
MFX  
series

## NEW FILTER ELEMENT WITH EXCLUSIVE INTERFACE CONNECTION

- **Protects the machine from improper use of non-original products.**
- **Safety of constant quality protection & reliability**

With exclusive filter element you are sure that only MP Filtri filter elements can be used, ensuring the best cleaning level of the oil due to the use of originals filter elements.



Filter element featuring our UNIQUE end cap with polygonal design.



UNIQUE polygonal spigot fitting within the filter bowl.

The products identified as MPFX, MPLX, MPTX, MFBX and MFX are protected by:

Italian Patent n° 102014902261205

Canadian Patent n° 2,937,258

and by the following patent applications:

European Patent n° 16181725.9

US Patent Pending n° 15/224,337

# MPFX 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**

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) ±10%

- Opening pressure 300 kPa (3 bar) ±10%

### Δp 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.

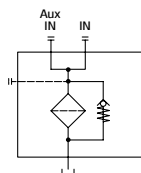
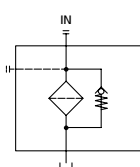
The reference fluid has a kinematic viscosity of 30 mm<sup>2</sup>/s (cSt) and a density of 0.86 kg/dm<sup>3</sup>.

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

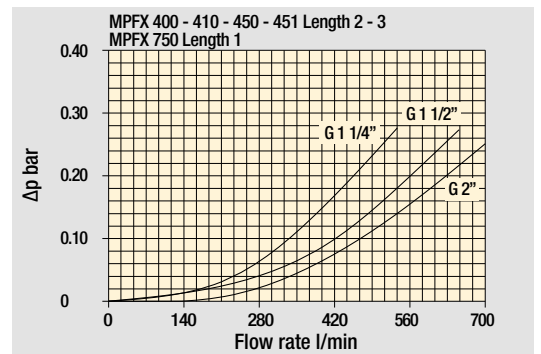
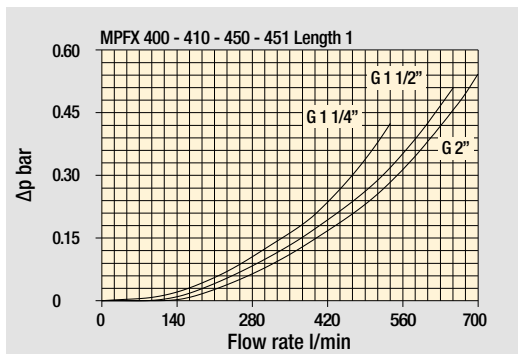
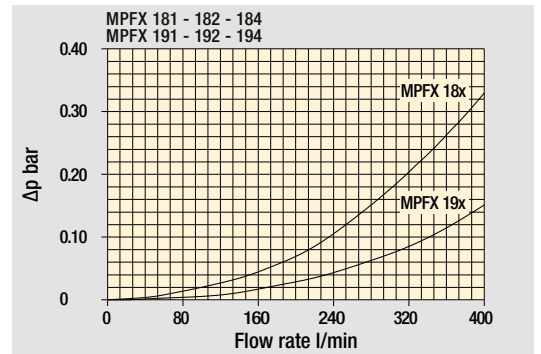
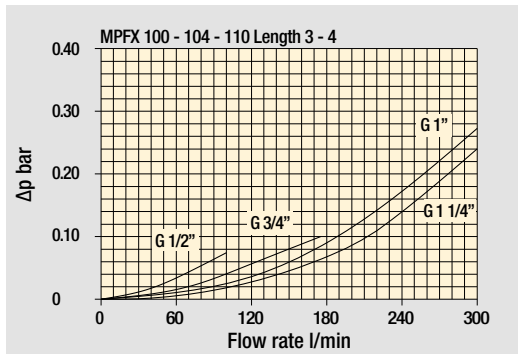
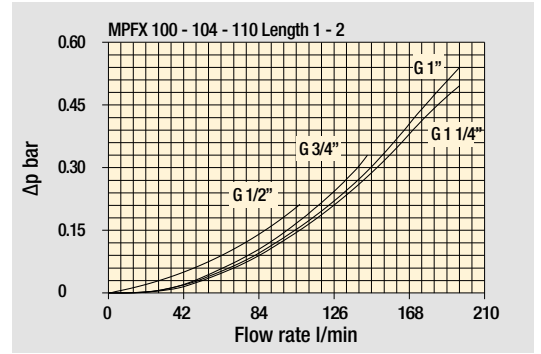
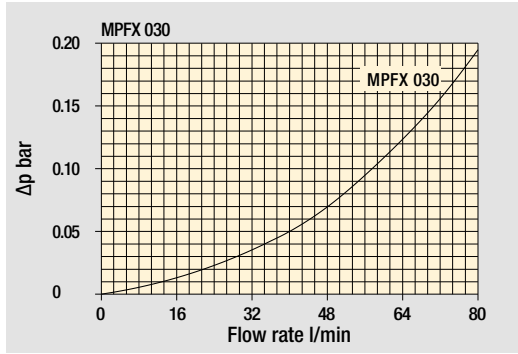
Filter series	Style 1 connection	Style 2 connections
<b>MPFX 030</b>	•	
<b>MPFX 100</b>	•	
<b>MPFX 104</b>	•	
<b>MPFX 110</b>		•
<b>MPFX 181</b>	•	
<b>MPFX 182</b>		•
<b>MPFX 184</b>	•	•
<b>MPFX 191</b>	•	
<b>MPFX 192</b>	•	
<b>MPFX 194</b>	•	•
<b>MPFX 400</b>	•	
<b>MPFX 410</b>		•
<b>MPFX 450</b>	•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



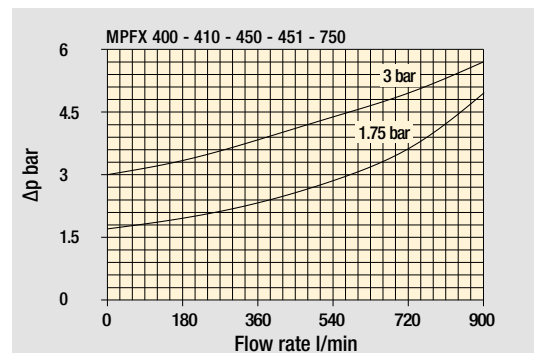
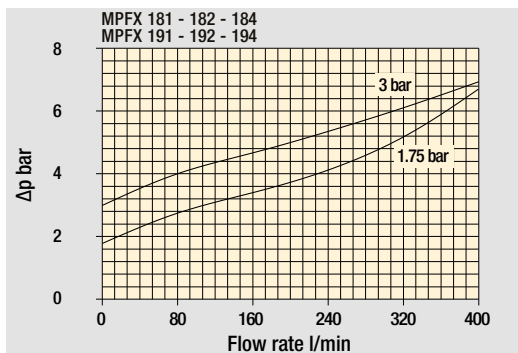
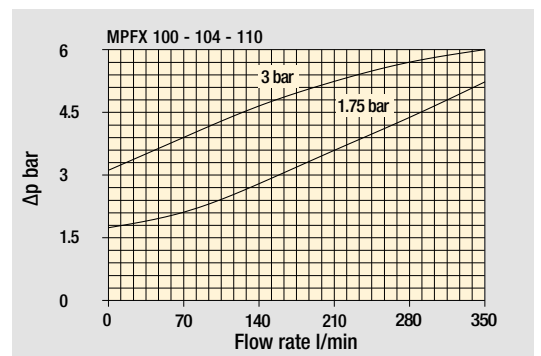
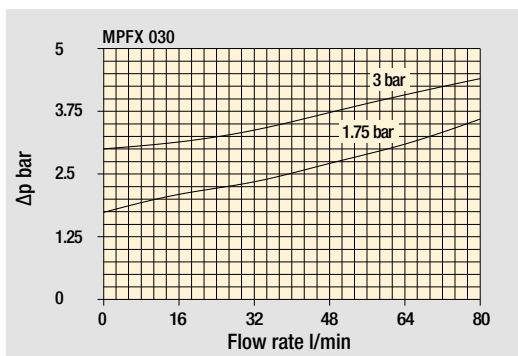
# MPFX GENERAL INFORMATION

## Pressure drop

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



### Bypass valve pressure drop

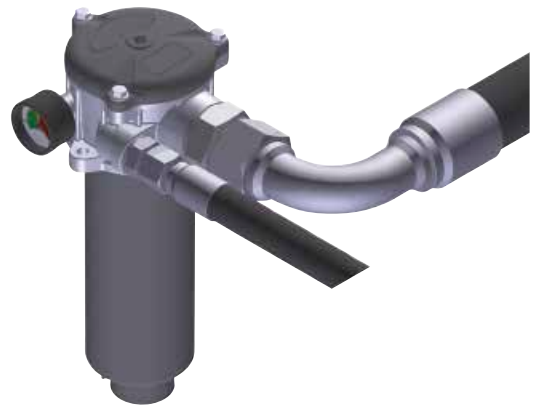


The curves are plotted using mineral oil with density of 0.86 kg/dm<sup>3</sup> in compliance with ISO 3968.  $\Delta p$  varies proportionally with density.

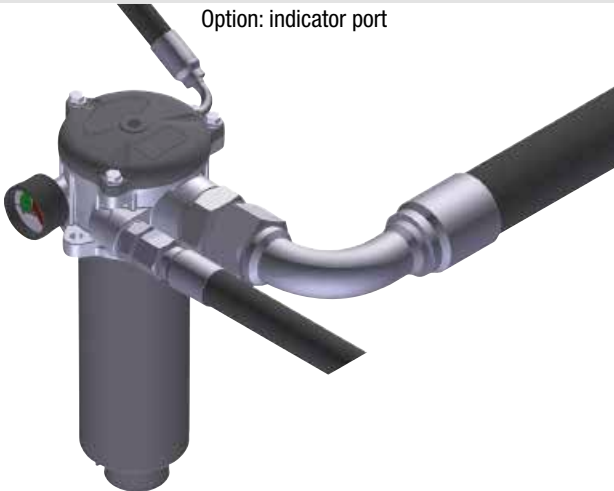
Standard - Single IN port



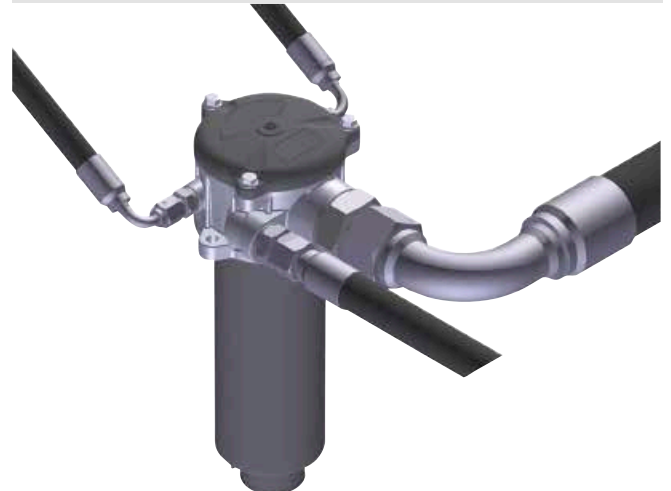
Double IN port  
Option: double indicator port



Double IN port - Drain port  
Option: indicator port



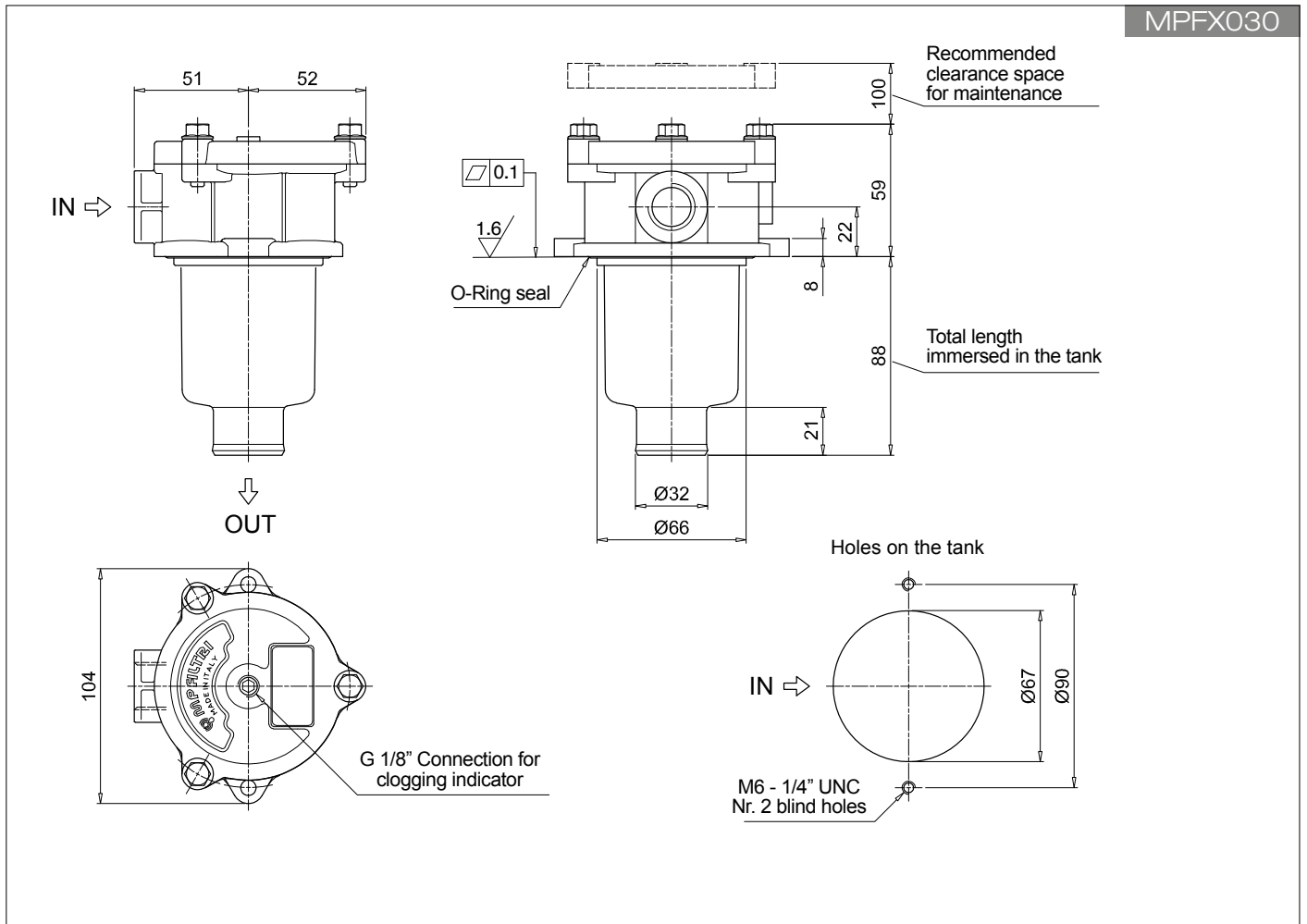
Double IN port - Double drain port







MPFX030



# MPFX MPFX100 - MPFX104

## Designation & Ordering code

### COMPLETE FILTER

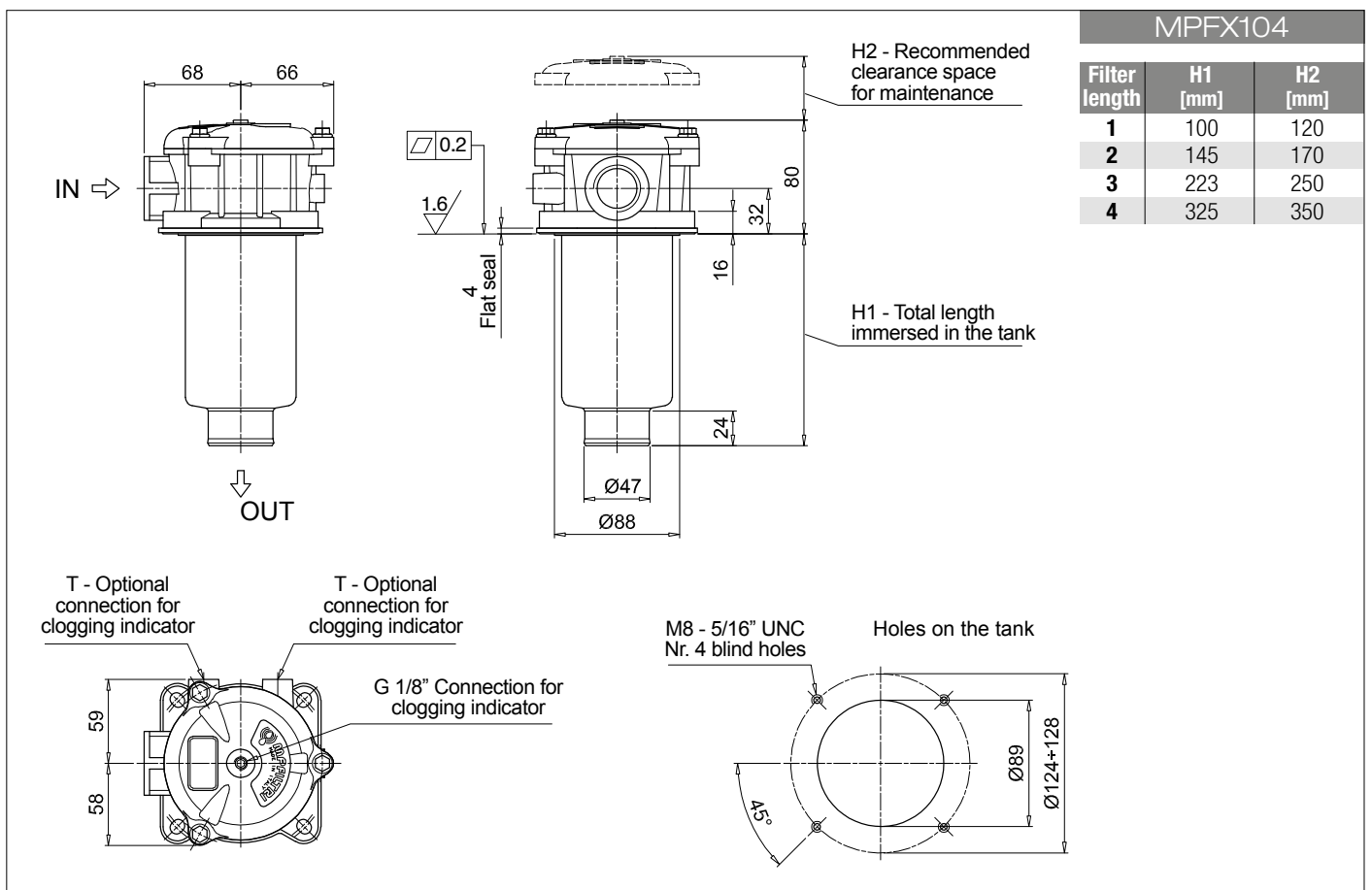
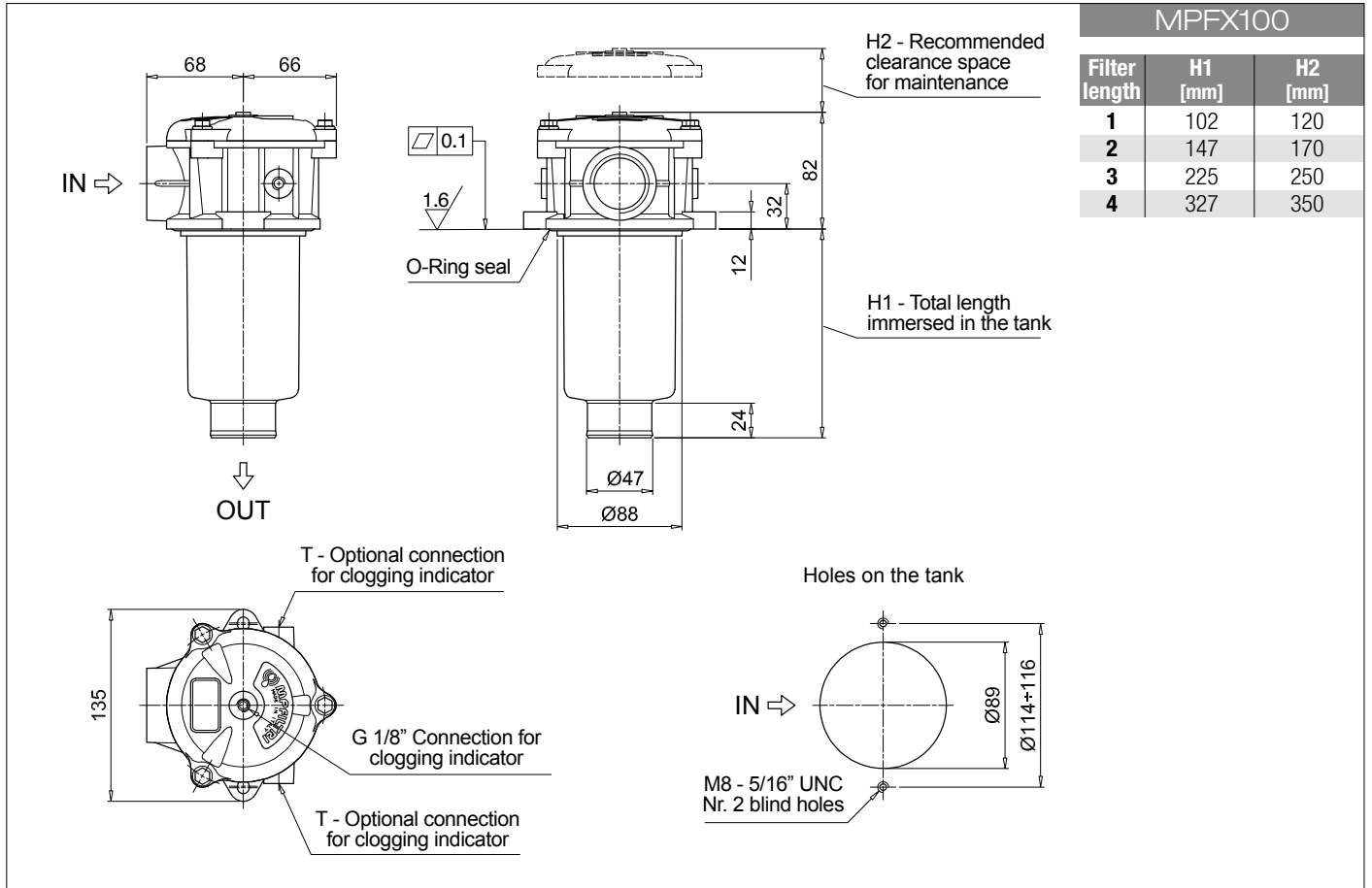
<b>Series and size</b>		Configuration example 1: <b>MPFX100</b>   <b>2</b>   <b>W</b>   <b>G3</b>   <b>A06</b>   <b>W</b>   <b>B</b>   <b>P01</b>									
<b>MPFX100</b>   <b>MPFX104</b> Filter element with private spigot		Configuration example 2: <b>MPFX104</b>   <b>4</b>   <b>A</b>   <b>G8</b>   <b>P10</b>   <b>N</b>   <b>E</b>   <b>P01</b>									
<b>Length</b>											
<b>1</b>   <b>2</b>   <b>3</b>   <b>4</b>											
<b>Seals and treatments</b>											
<b>A</b> NBR											
<b>V</b> FPM											
<b>W</b> NBR head anodized											
<b>Z</b> FPM head anodized											
<b>Connections</b>		<b>Size 100</b>		<b>Size 104</b>		<b>Connections</b>		<b>Size 100</b>		<b>Size 104</b>	
<b>G1</b> G 1/2"		•		•		<b>G7</b> SAE 8 - 3/4" - 16 UNF		•		•	
<b>G2</b> G 3/4"		•		•		<b>G8</b> SAE 12 - 1 1/16" - 12 UN		•		•	
<b>G3</b> G 1"		•		•		<b>G9</b> SAE 16 - 1 5/16" - 12 UN		•		•	
<b>G4</b> 1/2" NPT		•		•							
<b>G5</b> 3/4" NPT		•		•							
<b>G6</b> 1" NPT		•		•							
<b>Filtration rating (filter media)</b>											
<b>A03</b> Inorganic microfiber 3 µm											
<b>A06</b> Inorganic microfiber 6 µm											
<b>A10</b> Inorganic microfiber 10 µm											
<b>A16</b> Inorganic microfiber 16 µm											
<b>A25</b> Inorganic microfiber 25 µm											
<b>M25</b> Wire mesh 25 µm											
<b>M60</b> Wire mesh 60 µm											
<b>M90</b> Wire mesh 90 µm											
<b>P10</b> Resin impregnated paper 10 µm											
<b>P25</b> Resin impregnated paper 25 µm											
<b>Element Δp</b>				<b>Filter media</b>							
<b>N</b> 10 bar		Axx   Mxx   Pxx		•		•					
<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>MFX100</b>   <b>2</b>   <b>A06</b>   <b>W</b>   <b>B</b>   <b></b>   <b>P01</b>									
<b>MFX100</b> Filter element with private spigot		Configuration example 2: <b>MFX100</b>   <b>4</b>   <b>P10</b>   <b>N</b>   <b>B</b>   <b>E</b>   <b>P01</b>									
<b>Element length</b>											
<b>1</b>   <b>2</b>   <b>3</b>   <b>4</b>											
<b>Filtration rating (filter media)</b>											
<b>A03</b> Inorganic microfiber 3 µm											
<b>A06</b> Inorganic microfiber 6 µm											
<b>A10</b> Inorganic microfiber 10 µm											
<b>A16</b> Inorganic microfiber 16 µm											
<b>A25</b> Inorganic microfiber 25 µm											
<b>M25</b> Wire mesh 25 µm											
<b>M60</b> Wire mesh 60 µm											
<b>M90</b> Wire mesh 90 µm											
<b>P10</b> Resin impregnated paper 10 µm											
<b>P25</b> Resin impregnated paper 25 µm											
<b>Element Δp</b>				<b>Filter media</b>							
<b>N</b> 10 bar		Axx   Mxx   Pxx		•		•					
<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>B</b> NBR		<b>E</b> 3 bar	
								<b>V</b> FPM		1.75 bar	
										<b>Execution</b>	
										<b>P01</b> MP Filtri standard	
										<b>Pxx</b> Customized	

### ACCESSORIES

<b>Indicators</b>		page		page	
<b>BVA</b> Axial pressure gauge	240	<b>BEA</b> Electrical pressure indicator	239		
<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		
<b>BVQ</b> Visual pressure indicator with manual reset	241				
<b>Additional features</b>		page		page	
<b>TE</b> Extension tube	248	<b>T5</b> Filler plug M30x1.5	249		
<b>DFS</b> Diffuser with fast lock connection	249	<b>DPT</b> Dipstick	249		



## Designation & Ordering code

### COMPLETE FILTER

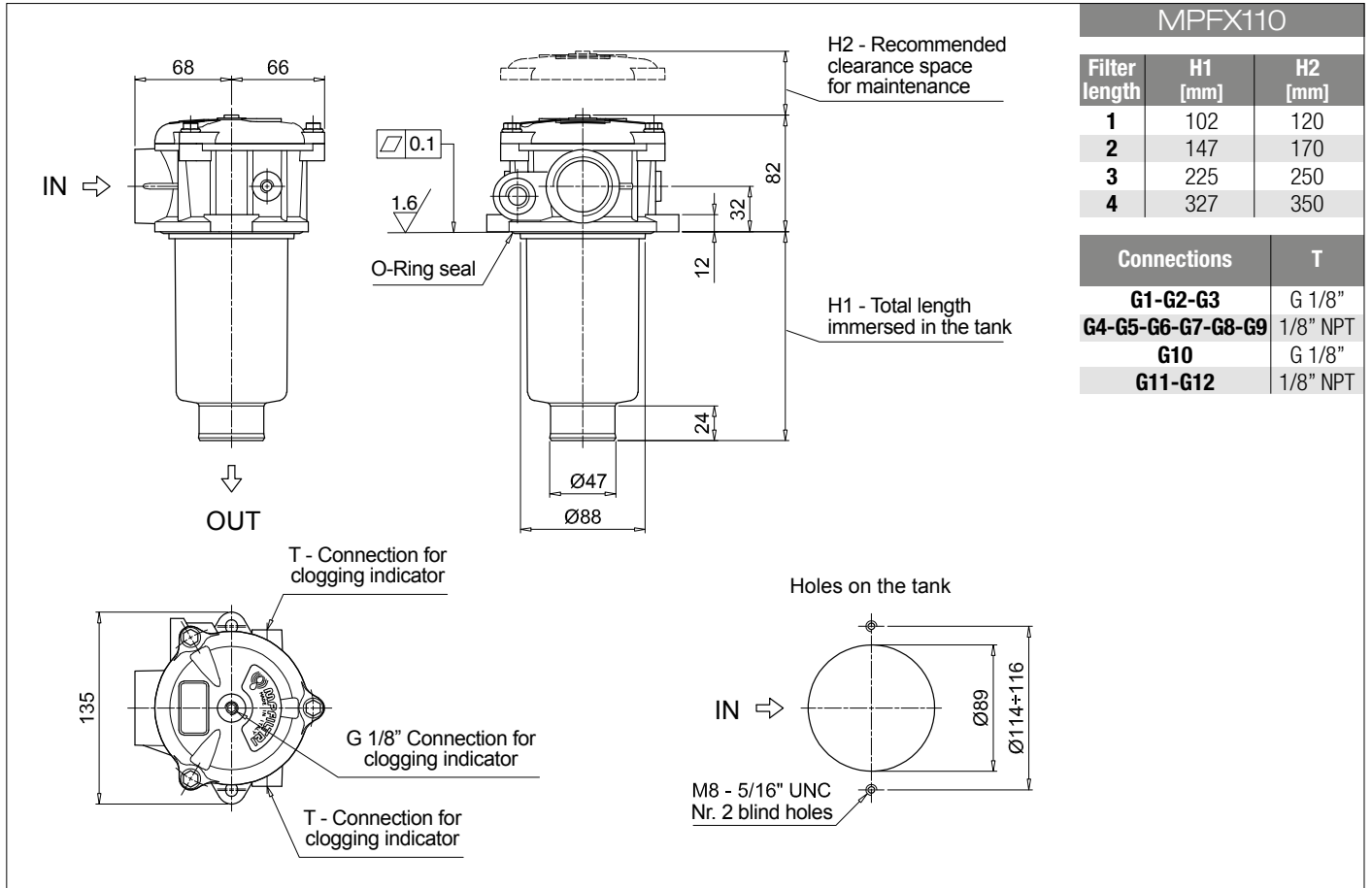
<b>Series and size</b>		Configuration example 1: <b>MPFX110</b>   <b>3</b>   <b>Z</b>   <b>G4</b>   <b>2</b>   <b>M25</b>   <b>W</b>   <b>B</b>   <b>P01</b>													
<b>MPFX110</b> Filter element with private spigot		Configuration example 2: <b>MPFX110</b>   <b>4</b>   <b>A</b>   <b>G8</b>   <b>1</b>   <b>P10</b>   <b>N</b>   <b>E</b>   <b>P01</b>													
<b>Length</b>		<b>1</b>   <b>2</b>   <b>3</b>   <b>4</b>													
<b>Seals and treatments</b>		<table border="0"> <tr> <td><b>A</b> NBR</td> <td><b>W</b> NBR head anodized</td> </tr> <tr> <td><b>V</b> FPM</td> <td><b>Z</b> FPM head anodized</td> </tr> </table>										<b>A</b> NBR	<b>W</b> NBR head anodized	<b>V</b> FPM	<b>Z</b> FPM head anodized
<b>A</b> NBR	<b>W</b> NBR head anodized														
<b>V</b> FPM	<b>Z</b> FPM head anodized														
<b>Main Connections</b>	<b>Aux size 1</b>	<b>Aux size 2</b>	<b>Main Connections</b>	<b>Aux size 1</b>	<b>Aux size 2</b>										
<b>G1</b> G 1/2"	G 3/8"	G 1/2"	<b>G7</b> SAE 8 - 3/4" - 16 UNF	SAE 6 - 9/16" - 18 UNF	SAE 8 - 3/4" - 16 UNF										
<b>G2</b> G 3/4"			<b>G8</b> SAE 12 - 1 1/16" - 12 UN												
<b>G3</b> G 1"	3/8" NPT	1/2" NPT	<b>G9</b> SAE 16 - 1 5/16" - 12 UN	G 3/8"	G 1/2"										
<b>G4</b> 1/2" NPT			<b>G10</b> G 1 1/4"												
<b>G5</b> 3/4" NPT			<b>G11</b> 1 1/4" NPT												
<b>G6</b> 1" NPT			<b>G12</b> SAE 20 - 1 5/8" - 12 UN	SAE 6 - 9/16" - 18 UNF	SAE 8 - 3/4" - 16 UNF										
<b>Aux connection - see previous table</b>															
<b>1</b> Aux size 1			<b>2</b> Aux size 2												
<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>MPFX100</b>   <b>3</b>   <b>M25</b>   <b>W</b>   <b>V</b>   <b></b>   <b>P01</b>										
<b>MPFX100</b> Filter element with private spigot		Configuration example 2: <b>MPFX100</b>   <b>4</b>   <b>P10</b>   <b>N</b>   <b>B</b>   <b>E</b>   <b>P01</b>										
<b>Element length</b>		<b>1</b>   <b>2</b>   <b>3</b>   <b>4</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> 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
<b>BVQ</b> Visual pressure indicator with manual reset	241			
<b>Additional features</b>	page			page
<b>TE</b> Extension tube	248	<b>T5</b> Filler plug M30x1.5		249
<b>DFS</b> Diffuser with fast lock connection	249	<b>DPT</b> Dipstick		249



MPFX110		
Filter length	H1 [mm]	H2 [mm]
1	102	120
2	147	170
3	225	250
4	327	350

Connections	T
<b>G1-G2-G3</b>	G 1/8"
<b>G4-G5-G6-G7-G8-G9</b>	1/8" NPT
<b>G10</b>	G 1/8"
<b>G11-G12</b>	1/8" NPT

# MPFX MPFX181 - MPFX191

## Designation & Ordering code

### COMPLETE FILTER

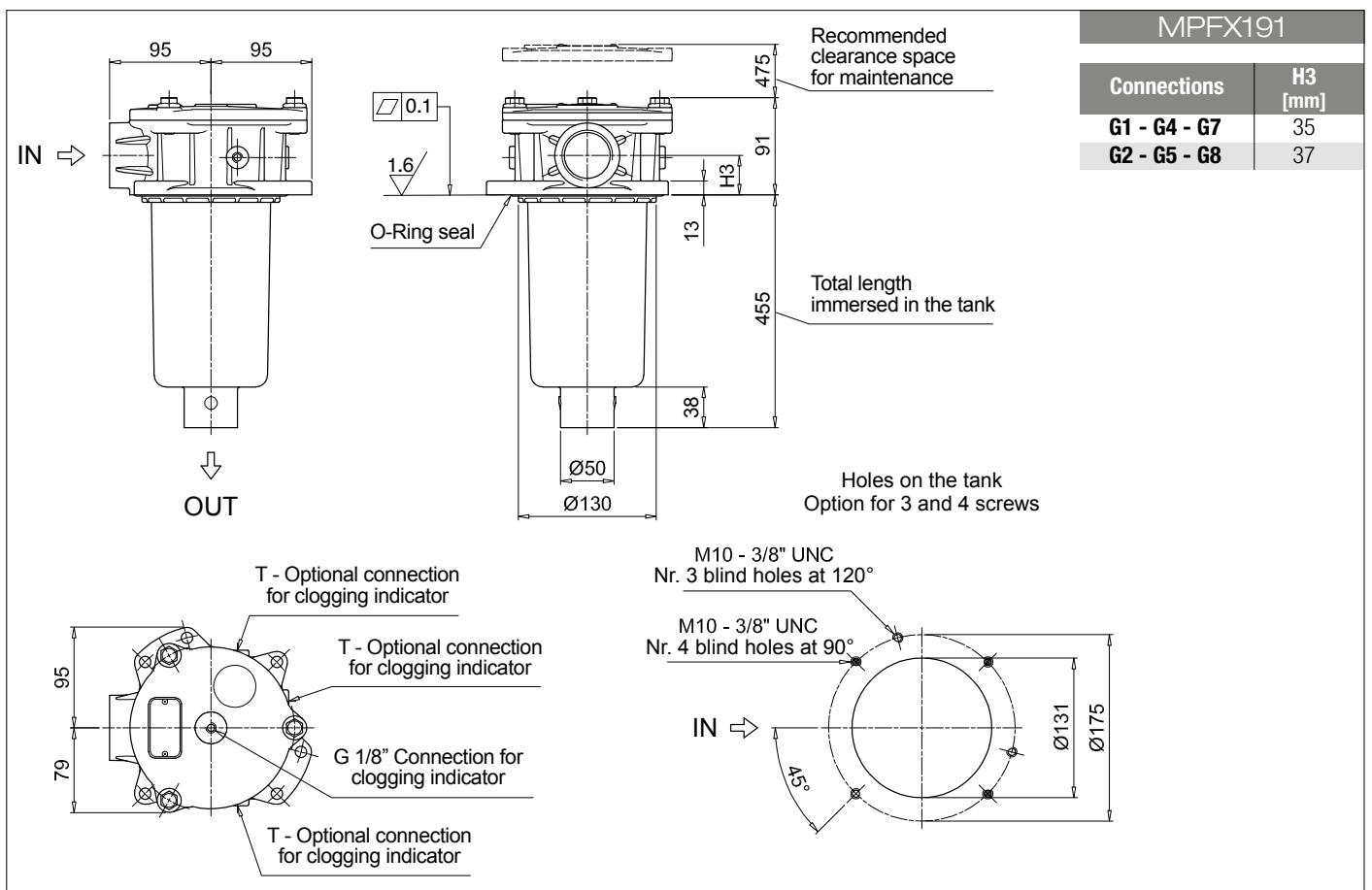
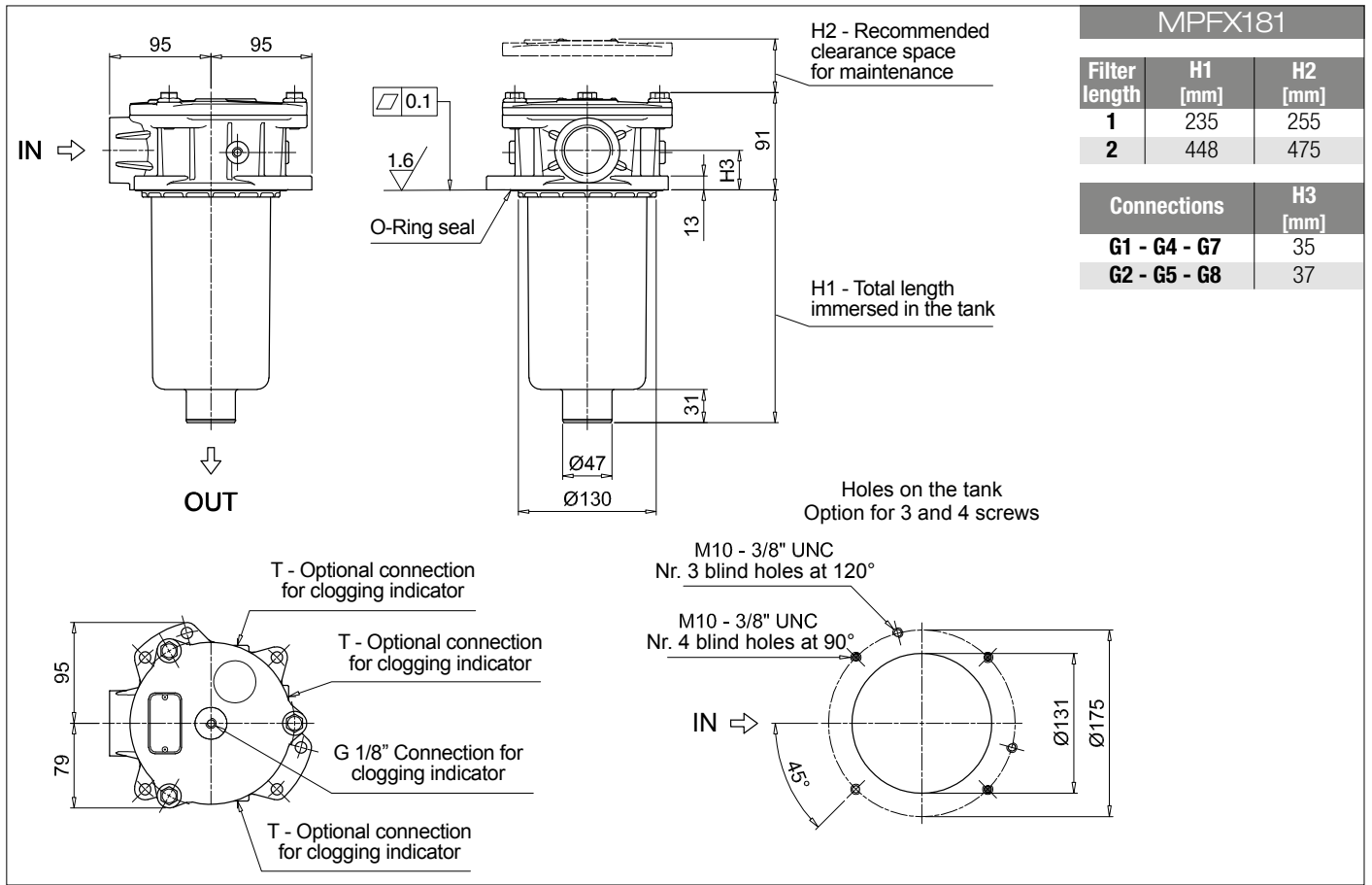
<b>Series and size</b>			Configuration example 1: <b>MPFX181</b>   1   A   G1   A25   H   E   P01								
<b>MPFX181</b>   <b>MPFX191</b> Filter element with private spigot			Configuration example 2: <b>MPFX191</b>   2   V   G2   P10   N   B   P01								
<b>Length</b>											
	Size 181	Size 191									
1	•										
2	•	•									
<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	<b>L</b>	NBR	head anodized, flat seal on head							
<b>Z</b>	FPM	<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>			Filter media								
			Axx	Mxx	Pxx						
<b>N</b>	10 bar			•	•						
<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>MPFX180</b>   1   A25   H   B   E   P01								
<b>MPFX180</b> Filter element with private spigot			Configuration example 2: <b>MPFX180</b>   2   P10   N   V     P01								
<b>Element length</b>											
1											
2											
<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>			Filter media								
			Axx	Mxx	Pxx						
<b>N</b>	10 bar			•	•						
<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
<b>BVA</b>	Axial pressure gauge	240	<b>BEA</b>	Electrical pressure indicator	239
<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
<b>BVQ</b>	Visual pressure indicator with manual reset	241			
<b>Additional features</b>		page			
<b>TE</b>	Extension tube	248			
<b>T5</b>	Filler plug M30x1.5	249			



# MPFX MPFX182 - MPFX192

## Designation & Ordering code

### COMPLETE FILTER

<b>Series and size</b>		Configuration example 1: <b>MPFX182</b>   1   A   G1   1   A25   H   E   P01										
<b>MPFX182   MPFX192</b> Filter element with private spigot		Configuration example 2: <b>MPFX192</b>   2   V   G4   2   P10   N   B   P01										
<b>Length</b>	<b>Size 182</b>	<b>Size 192</b>										
1	•											
2	•	•										
<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>Main Connections</b>			<b>Aux size 1</b>	<b>Aux size 2</b>								
<b>G1</b> G 1 1/4"	<b>G 1/2"</b>		<b>G 3/4"</b>									
<b>G4</b> 1 1/4" NPT	<b>1/2" NPT</b>		<b>3/4" NPT</b>									
<b>G7</b> SAE 20 - 1 5/8" - 12 UN	<b>SAE 8 - 3/16" - 16 UNF</b>		<b>SAE 12 - 1 1/16" - 12 UN</b>									
<b>Aux connection</b> - see previous table												
<b>1</b> Aux size 1	<b>2</b> Aux size 2											
<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				

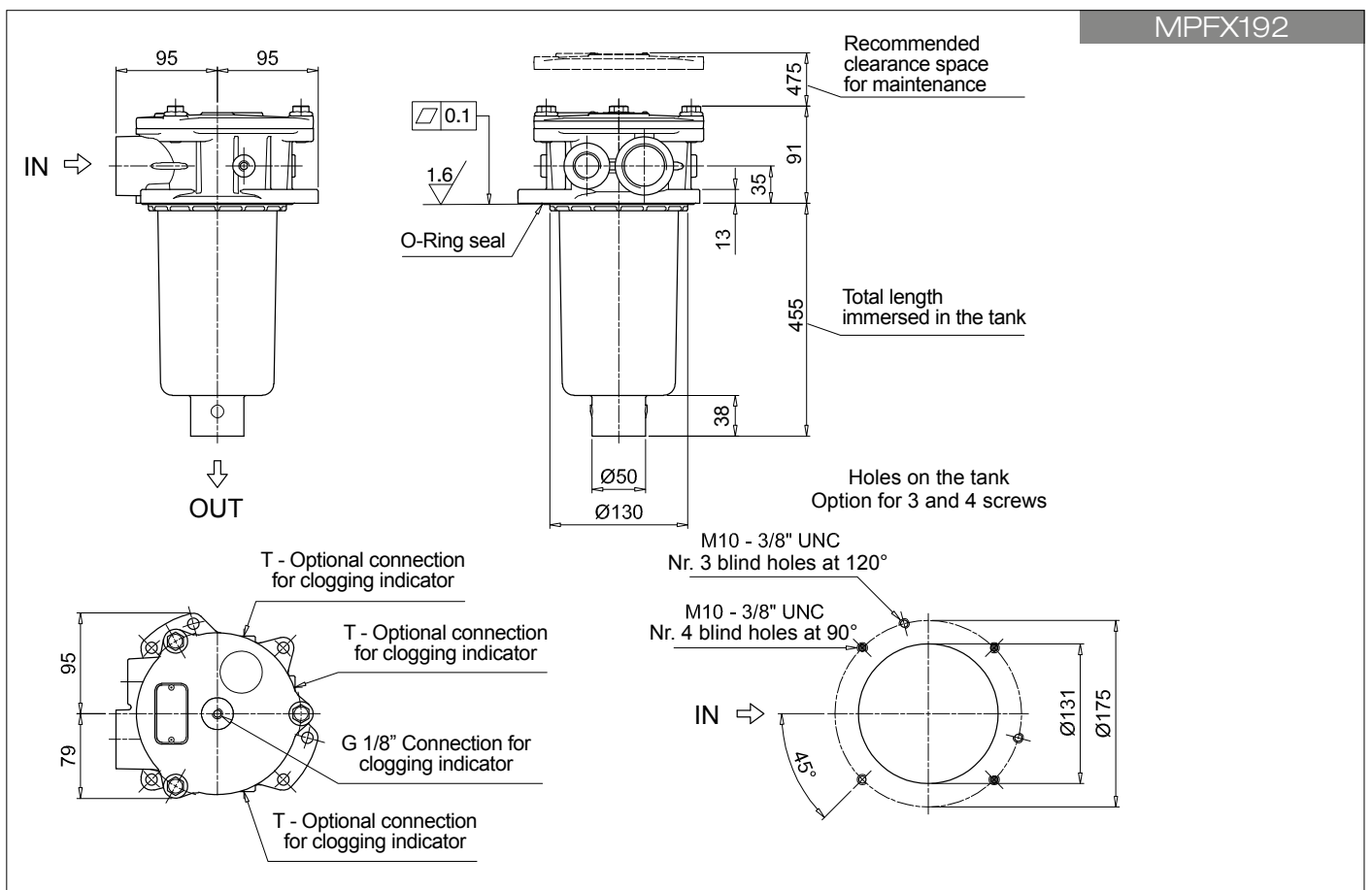
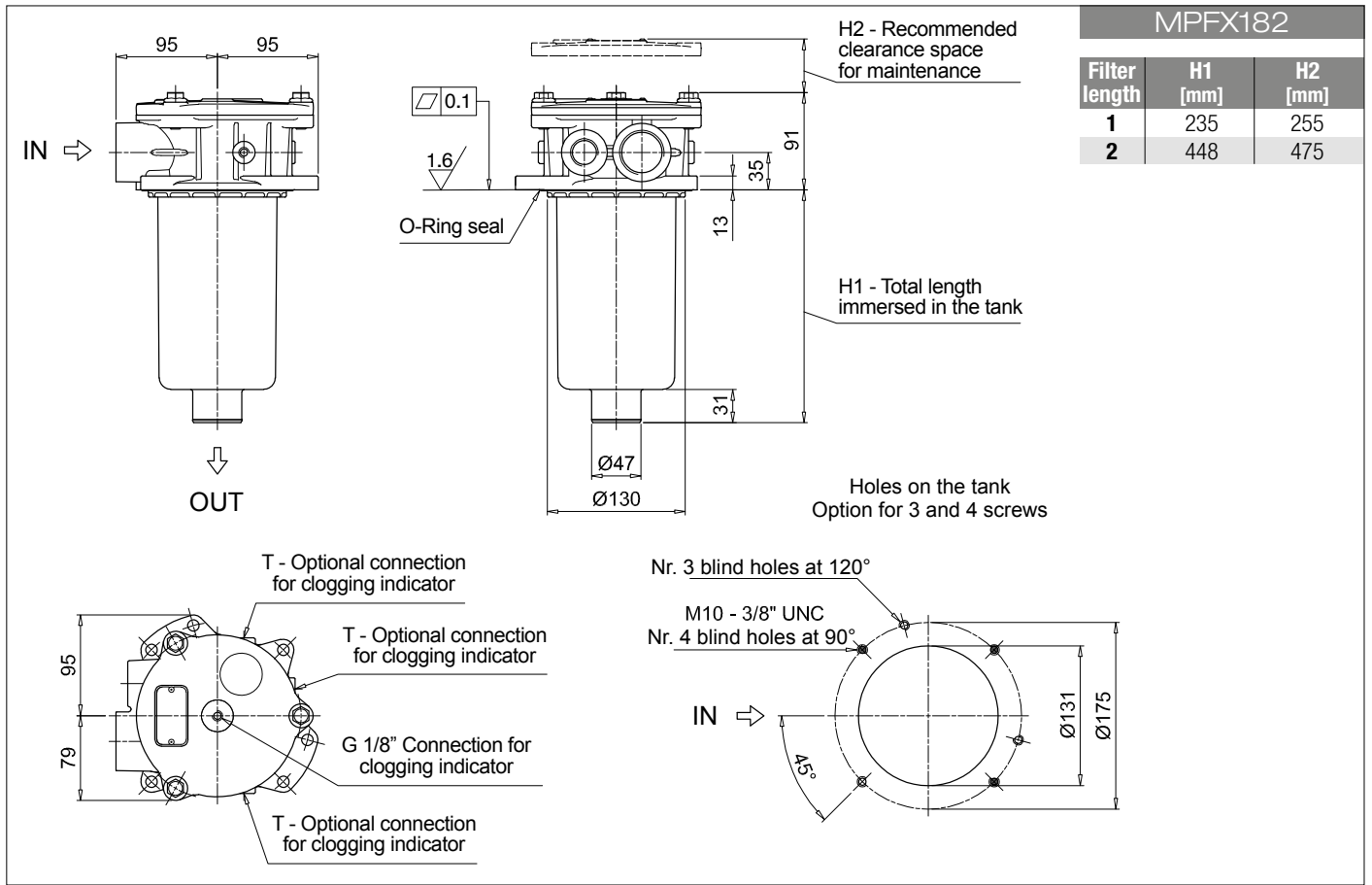
### FILTER ELEMENT

<b>Element series and size</b>		Configuration example 1: <b>MFX180</b>   1   A25   H   B   E   P01										
<b>MFX180</b> Filter element with private spigot		Configuration example 2: <b>MFX180</b>   2   P10   N   V     P01										
<b>Element length</b>												
1												
2												
<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>1.75 bar</b>		<b>Pxx</b> Customized						

### ACCESSORIES

<b>Indicators</b>	page			page
<b>BVA</b> Axial pressure gauge	240	<b>BEA</b> Electrical pressure indicator		239
<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
<b>BVQ</b> Visual pressure indicator with manual reset	241			
<b>Additional features</b>	page			
<b>TE</b> Extension tube	248			
<b>T5</b> Filler plug M30x1.5	249			





# MPFX MPFX184 - MPFX194

## Designation & Ordering code

### COMPLETE FILTER

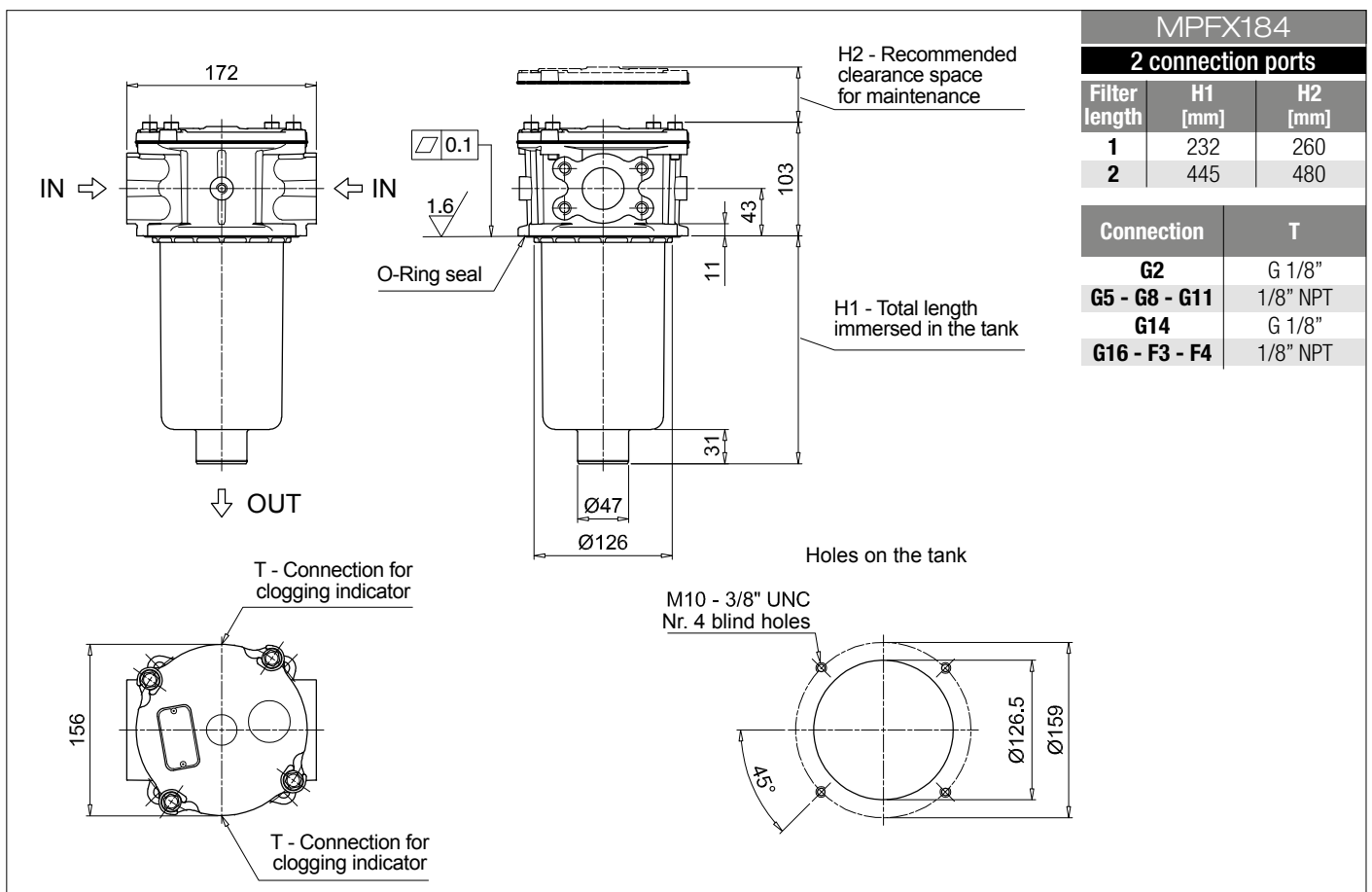
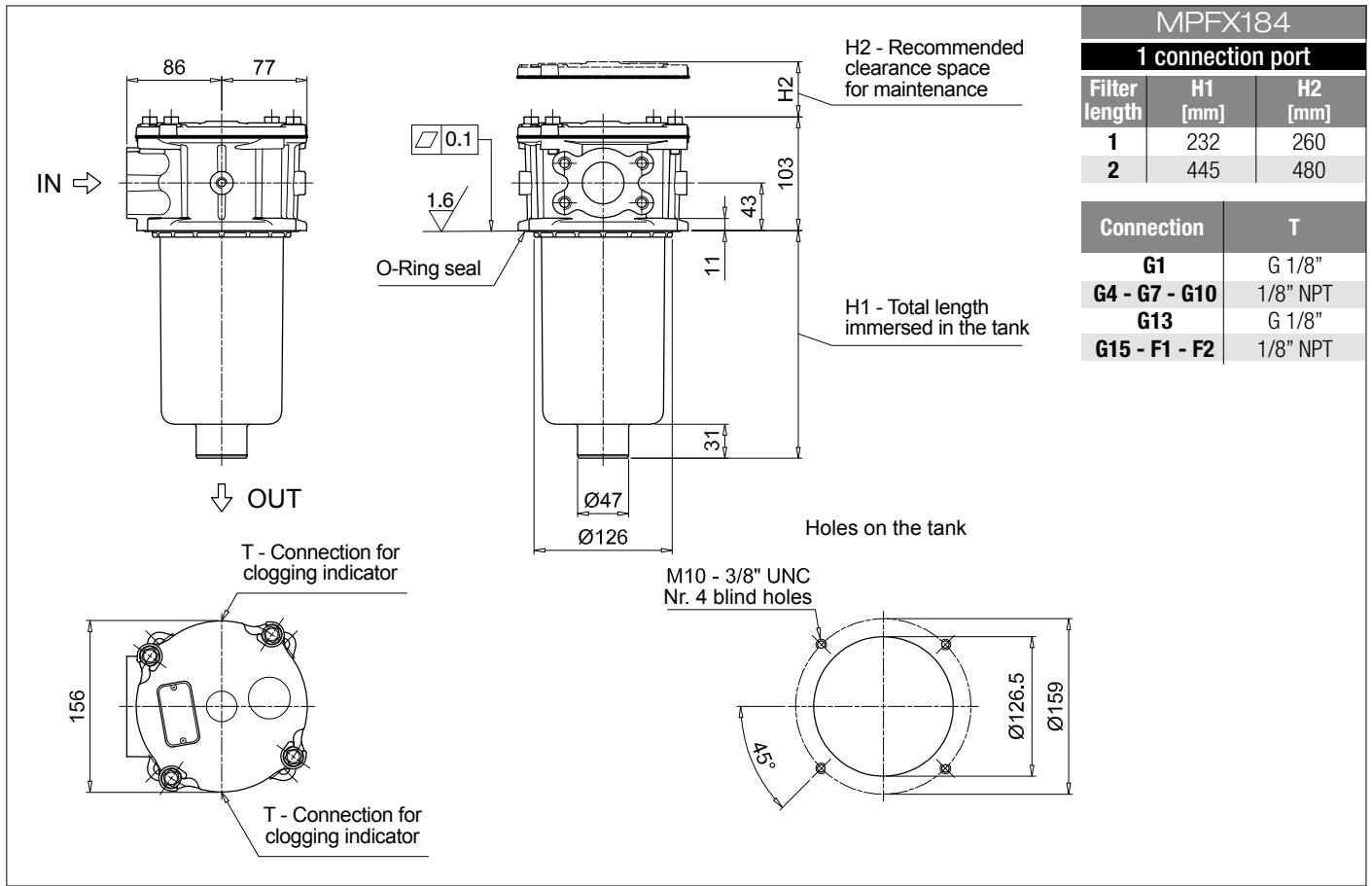
<b>Series and size</b>		Configuration example 1: <b>MPFX184</b>   1   A   G1   A25   H   E   P01									
<b>MPFX184   MPFX194</b> Filter element with private spigot		Configuration example 2: <b>MPFX194</b>   2   V   F3   P10   N   B   P01									
<b>Length</b>	<b>Size 184</b>	<b>Size 194</b>									
1	•										
2	•	•									
<b>Seals and treatments</b>											
<b>A</b> NBR	<b>W</b> NBR	head anodized									
<b>V</b> FPM	<b>Z</b> FPM	head anodized									
<b>Main Connections</b>		<b>Rear connections</b>		<b>Main Connections</b>		<b>Rear connections</b>					
<b>G1</b> G 1 1/4"	-		<b>G13</b> G 1 1/2"	-							
<b>G2</b> G 1 1/4"	G 1 1/4"		<b>G14</b> G 1 1/2"	G 1 1/4"							
<b>G4</b> 1 1/4" NPT	-		<b>G15</b> 1 1/2" NPT	-							
<b>G5</b> 1 1/4" NPT	1 1/4" NPT		<b>G16</b> 1 1/2" NPT	1 1/4" NPT							
<b>G7</b> SAE 20 - 1 5/8" - 12 UN	-		<b>F1</b> 1 1/2" SAE 3000 psi/M	-							
<b>G8</b> SAE 20 - 1 5/8" - 12 UN	SAE 20 - 1 5/8" - 12 UN		<b>F2</b> 1 1/2" SAE 3000 psi/UNC	-							
<b>G10</b> SAE 24 - 1 7/8" - 12 UN	-		<b>F3</b> 1 1/2" SAE 3000 psi/M	1 1/2" SAE 3000 psi/M							
<b>G11</b> SAE 24 - 1 7/8" - 12 UN	SAE 20 - 1 5/8" - 12 UN		<b>F4</b> 1 1/2" SAE 3000 psi/UNC	1 1/2" SAE 3000 psi/UNC							
<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>MPFX180</b>   1   A25   H   B   E   P01								
<b>MPFX180</b> Filter element with private spigot		Configuration example 2: <b>MPFX180</b>   2   P10   N   V     P01								
<b>Element length</b>										
1										
2										
<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		1.75 bar		<b>Pxx</b> Customized		

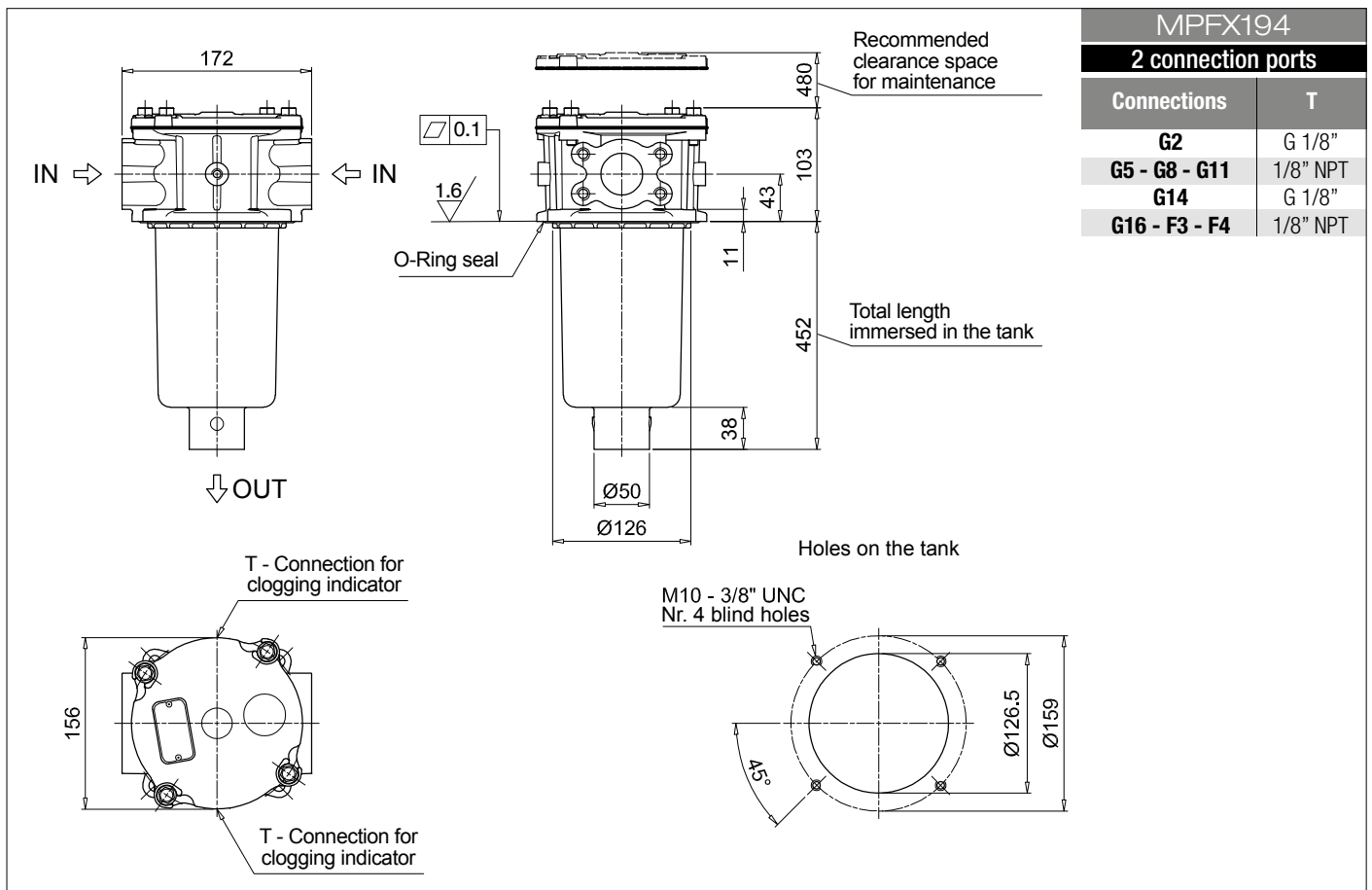
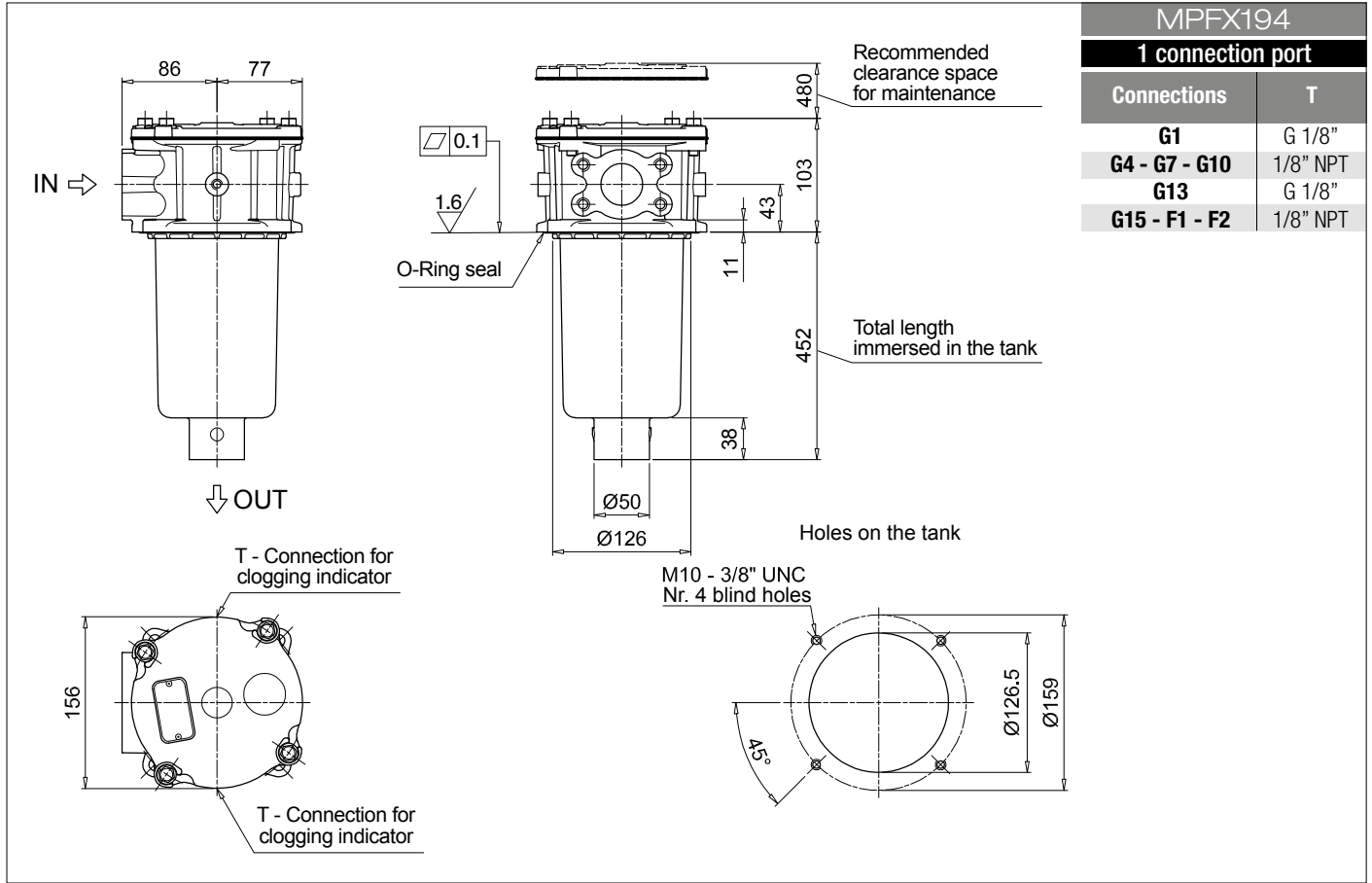
### ACCESSORIES

<b>Indicators</b>		<b>page</b>			<b>page</b>
<b>BVA</b> Axial pressure gauge		240	<b>BEA</b> Electrical pressure indicator		239
<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
<b>BVQ</b> Visual pressure indicator with manual reset		241			
<b>Additional features</b>		<b>page</b>			
<b>TE</b> Extension tube		248			
<b>T5</b> Filler plug M30x1.5		249			



# MPFX MPFX184 - MPFX194

## Dimensions





# MPFX MPFX400

## Designation & Ordering code

### COMPLETE FILTER

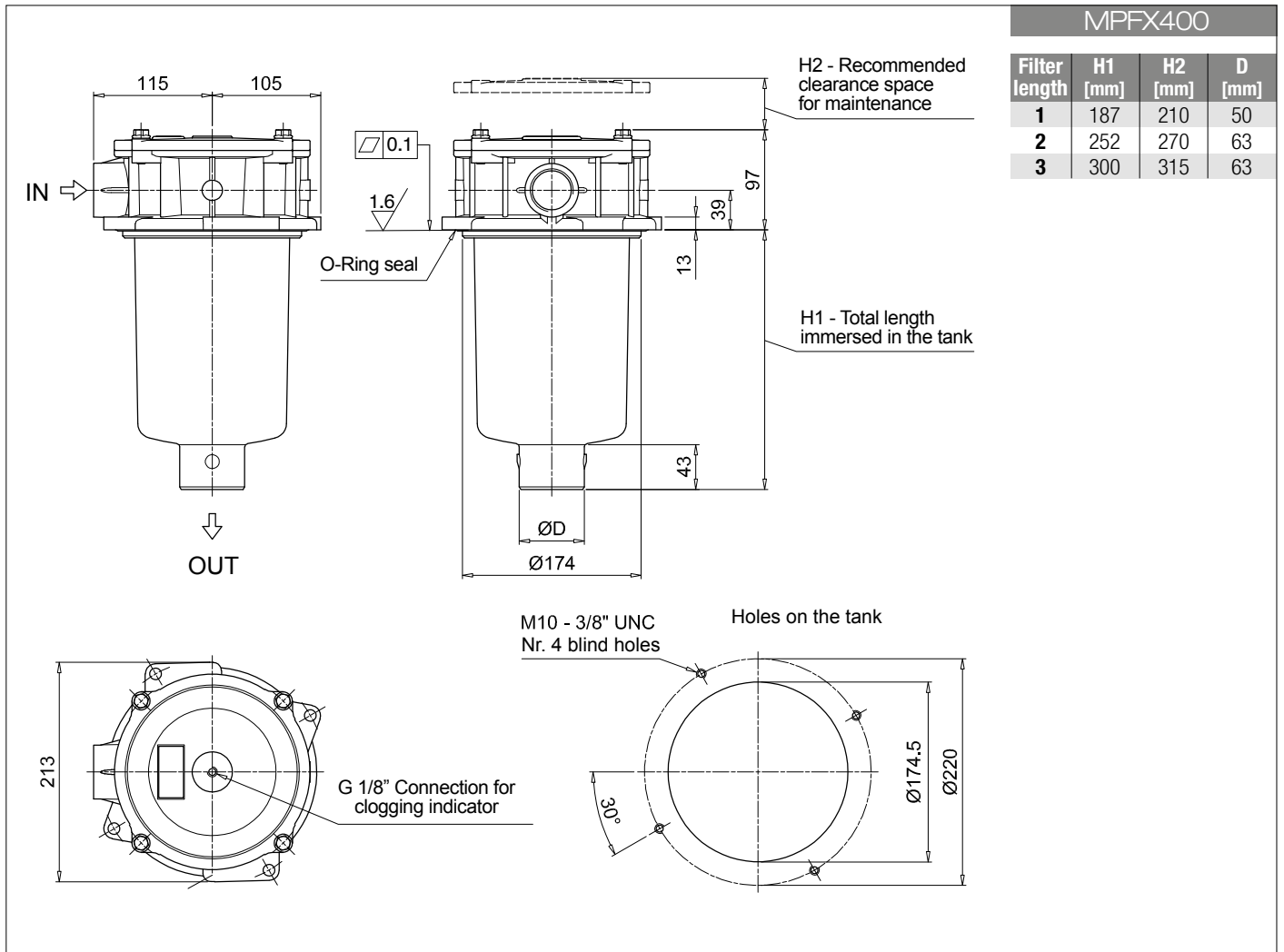
<b>Series and size</b> <b>MPFX400</b> Filter element with private spigot	Configuration example 1: <b>MPFX400</b> <b>1</b> <b>A</b> <b>G9</b> <b>A25</b> <b>H</b> <b>B</b> <b>P01</b>
	Configuration example 2: <b>MPFX400</b> <b>2</b> <b>V</b> <b>G4</b> <b>P10</b> <b>N</b> <b>E</b> <b>P01</b>
<b>Length</b> <b>1</b>   <b>2</b>   <b>3</b>	
<b>Seals and treatments</b> <b>A</b> NBR <b>V</b> FPM <b>W</b> NBR head anodized <b>Z</b> FPM head anodized	
<b>Connections</b> <b>G1</b> G 1 1/4" <b>G6</b> 2" NPT <b>G2</b> G 1 1/2" <b>G7</b> SAE 20 - 1 5/8" - 12 UN <b>G3</b> G 2" <b>G8</b> SAE 24 - 1 7/8" - 12 UN <b>G4</b> 1 1/4" NPT <b>G9</b> SAE 32 - 2 1/2" - 12 UN <b>G5</b> 1 1/2" NPT	
<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>E</b> 3 bar <b>B</b> 1.75 bar
	<b>Execution</b> <b>P01</b> MP Filtri standard <b>Pxx</b> Customized

### FILTER ELEMENT

<b>Element series and size</b> <b>MPFX400</b> Filter element with private spigot	Configuration example 1: <b>MPFX400</b> <b>1</b> <b>A25</b> <b>H</b> <b>B</b> <b>P01</b>
	Configuration example 2: <b>MPFX400</b> <b>2</b> <b>P10</b> <b>N</b> <b>V</b> <b>E</b> <b>P01</b>
<b>Element length</b> <b>1</b>   <b>2</b>   <b>3</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>B</b> NBR <b>V</b> FPM
	<b>Bypass valve</b> <b>E</b> 3 bar <b>B</b> 1.75 bar
	<b>Execution</b> <b>P01</b> MP Filtri standard <b>Pxx</b> Customized

### ACCESSORIES

<b>Indicators</b>	page		page
<b>BVA</b> Axial pressure gauge	240	<b>BEA</b> Electrical pressure indicator	239
<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
<b>BVQ</b> Visual pressure indicator with manual reset	241		
<b>Additional features</b>	page		
<b>T5</b> Filler plug M30x1.5	249		



# MPFX MPFX410

## Designation & Ordering code

### COMPLETE FILTER

<b>Series and size</b>	Configuration example 1: <b>MPFX410</b>   1   V   G4   1   P10   N   E   P01																												
<b>MPFX410</b> Filter element with private spigot	Configuration example 2: <b>MPFX410</b>   1   A   G1   1   A25   H   B   P01																												
<b>Length</b>	1   2   3																												
<b>Seals and treatments</b>	<table border="1"> <tr><td><b>A</b></td><td>NBR</td></tr> <tr><td><b>V</b></td><td>FPM</td></tr> <tr><td><b>W</b></td><td>NBR head anodized</td></tr> <tr><td><b>Z</b></td><td>FPM head anodized</td></tr> </table>									<b>A</b>	NBR	<b>V</b>	FPM	<b>W</b>	NBR head anodized	<b>Z</b>	FPM head anodized												
<b>A</b>	NBR																												
<b>V</b>	FPM																												
<b>W</b>	NBR head anodized																												
<b>Z</b>	FPM head anodized																												
<b>Main Connections</b>	<table border="1"> <thead> <tr><th></th><th>Aux size 1</th></tr> </thead> <tbody> <tr><td><b>G1</b></td><td>G 1 1/4"</td></tr> <tr><td><b>G4</b></td><td>1 1/4" NPT</td></tr> <tr><td><b>G7</b></td><td>SAE 20 - 1 5/8" - 12 UN</td></tr> <tr><td></td><td>SAE 16 - 1 5/16" - 12 UN</td></tr> </tbody> </table>										Aux size 1	<b>G1</b>	G 1 1/4"	<b>G4</b>	1 1/4" NPT	<b>G7</b>	SAE 20 - 1 5/8" - 12 UN		SAE 16 - 1 5/16" - 12 UN										
	Aux size 1																												
<b>G1</b>	G 1 1/4"																												
<b>G4</b>	1 1/4" NPT																												
<b>G7</b>	SAE 20 - 1 5/8" - 12 UN																												
	SAE 16 - 1 5/16" - 12 UN																												
<b>Aux connection</b> - see previous table	1 Aux size 1																												
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				<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																							

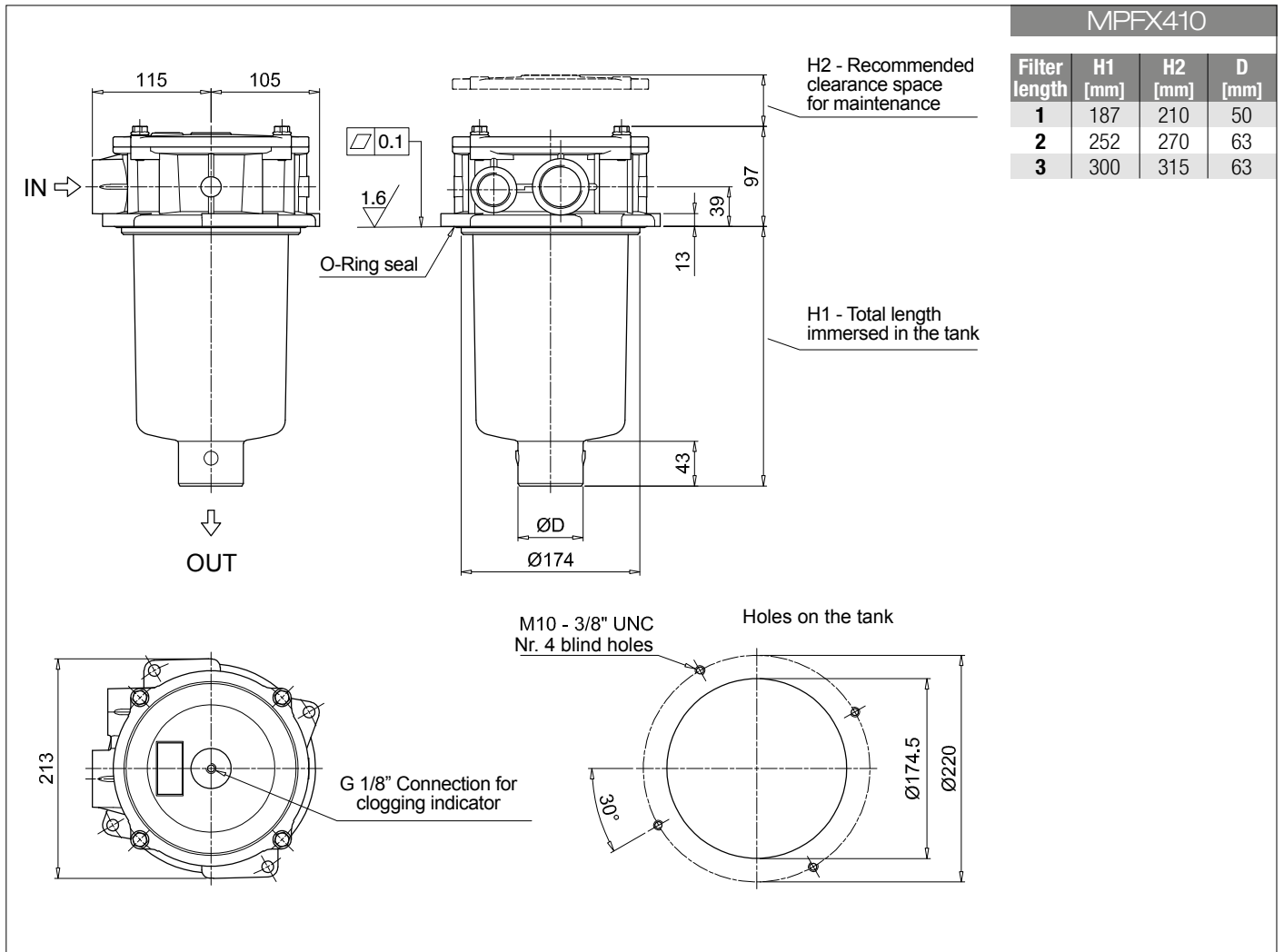
### FILTER ELEMENT

<b>Element series and size</b>	Configuration example 1: <b>MFX400</b>   1   P10   N   V   E   P01																												
<b>MFX400</b> Filter element with private spigot	Configuration example 2: <b>MFX400</b>   1   A25   H   B     P01																												
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	<b>V</b> FPM		<b>B</b> 1.75 bar		<b>Pxx</b> Customized																								

### ACCESSORIES

Indicators	page		page
<b>BVA</b> Axial pressure gauge	240	<b>BEA</b> Electrical pressure indicator	239
<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
<b>BVQ</b> Visual pressure indicator with manual reset	241		
<b>Additional features</b>	page		
<b>T5</b> Filler plug M30x1.5	249		





# MPFX MPFX450 - MPFX451 - MPFX750

## Designation & Ordering code

### COMPLETE FILTER

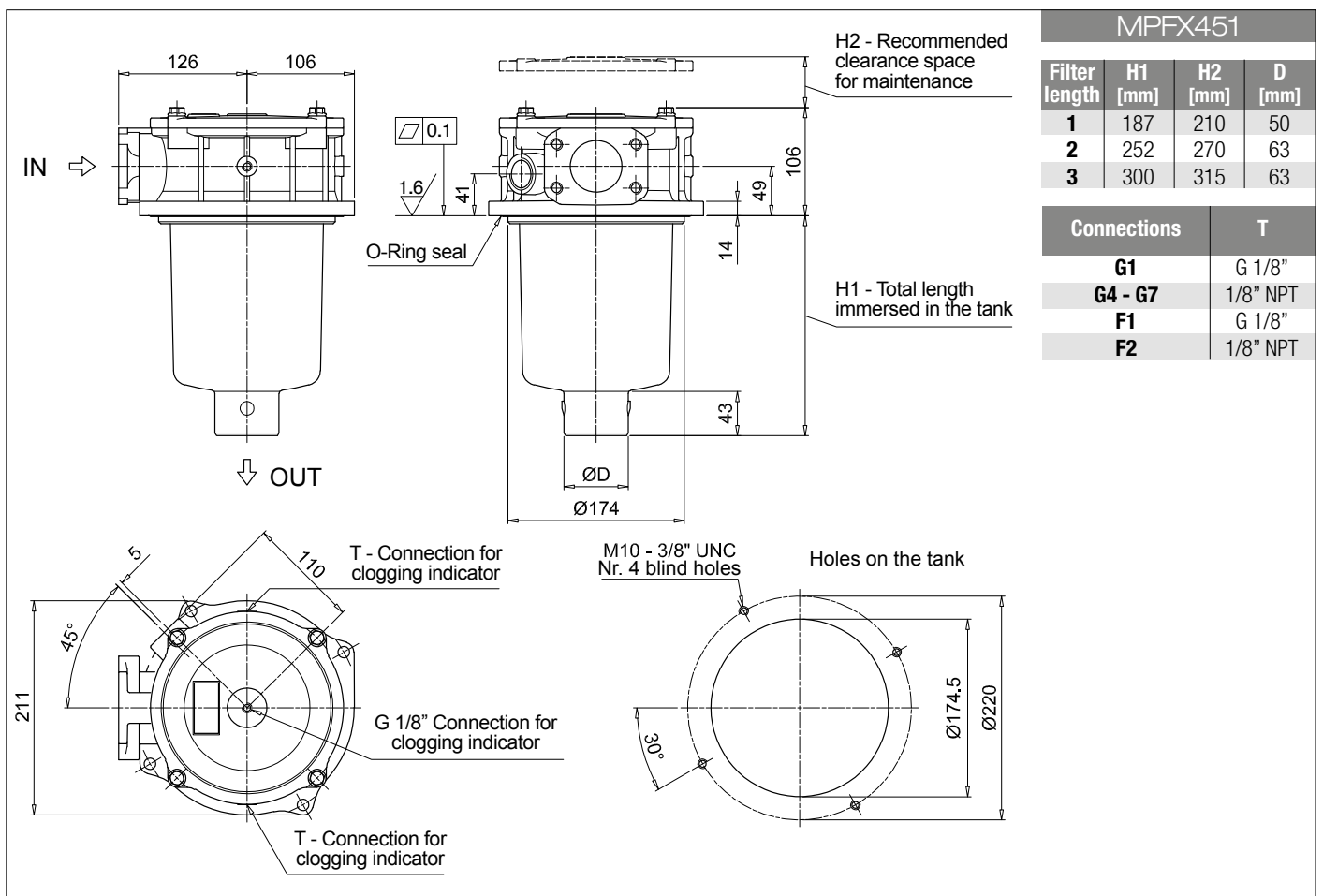
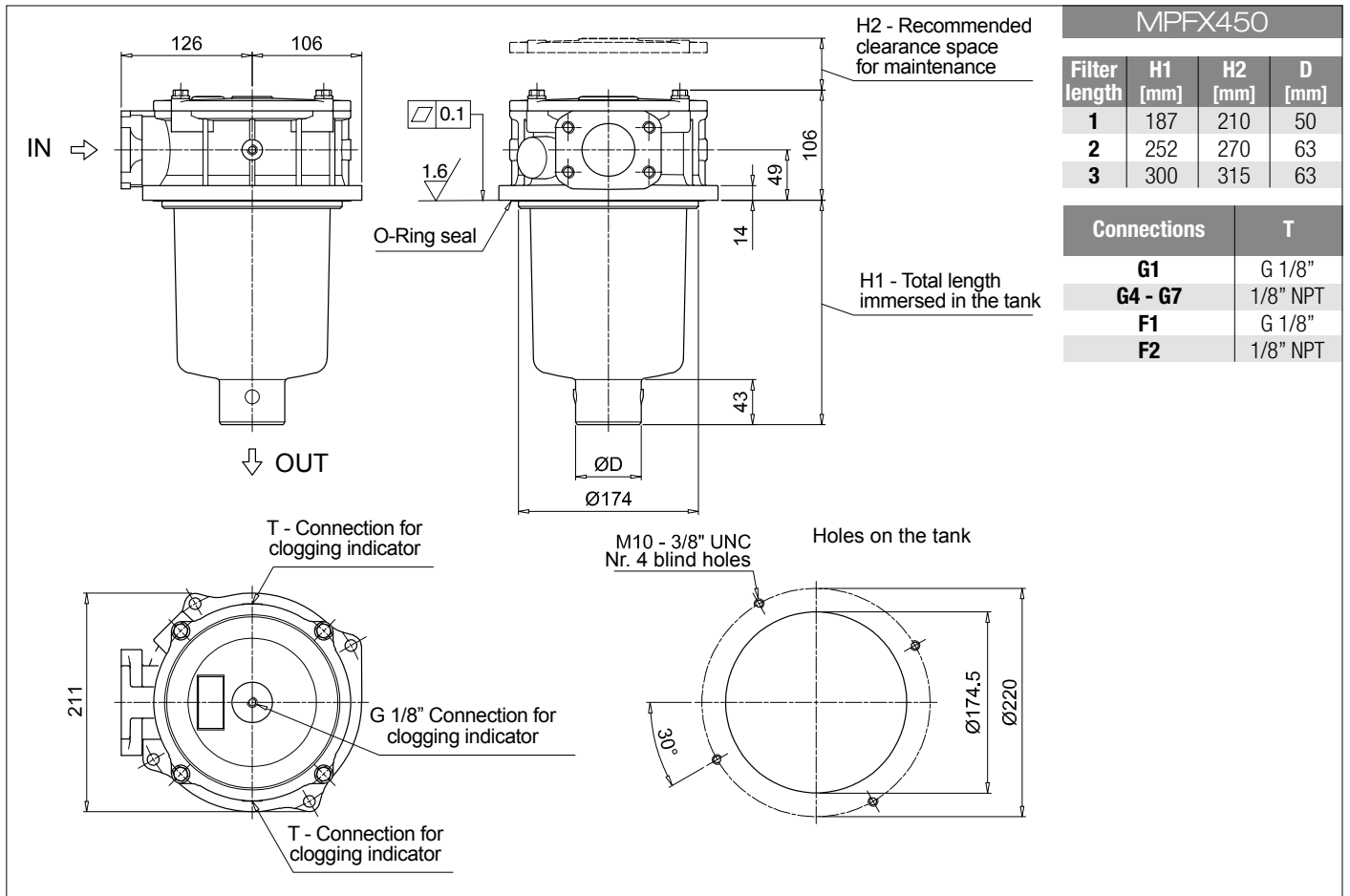
<b>Series and size</b>				Configuration example 1: <b>MPFX450</b>   <b>1</b>   <b>A</b>   <b>G1</b>   <b>A25</b>   <b>H</b>   <b>B</b>   <b>P01</b>							
<b>MPFX450</b>   <b>MPFX451</b>   <b>MPFX750</b> Filter element with private spigot				Configuration example 2: <b>MPFX750</b>   <b>1</b>   <b>V</b>   <b>F2</b>   <b>P10</b>   <b>N</b>   <b>E</b>   <b>P01</b>							
<b>Length</b>				<b>MPFX 450</b>	<b>MPFX 451</b>	<b>MPFX 750</b>					
<b>1</b>		•	•	•							
<b>2</b>		•	•								
<b>3</b>		•	•								
<b>Seals and treatments</b>											
<b>A</b> NBR		<b>W</b> NBR	head anodized								
<b>V</b> FPM		<b>Z</b> FPM	head anodized								
<b>Connections</b>				<b>Aux (only size 451)</b>							
<b>G1</b> G 2"		<b>G 3/4"</b>									
<b>G4</b> 2" NPT		<b>3/4" NPT</b>									
<b>G7</b> SAE 32 - 2 1/2" - 12 UN		<b>SAE 12 - 1 1/16" - 12 UN</b>									
<b>F1</b> 2" SAE 3000 psi/M		<b>G 3/4"</b>									
<b>F2</b> 2" SAE 3000 psi/UN		<b>3/4" NPT</b>									
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<b>A25</b> Inorganic microfiber 25 µm		<b>P25</b> Resin impregnated paper 25 µm									
<b>Element Δp</b>				<b>Filter media</b>							
		<b>Axx</b>	<b>Mxx</b>	<b>Pxx</b>							
<b>N</b> 10 bar			•	•							
<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>MFx400</b>   <b>1</b>   <b>A25</b>   <b>H</b>   <b>B</b>   <b>P01</b>							
<b>MFx400</b>   <b>MFx750</b> Filter element with private spigot				Configuration example 2: <b>MFx750</b>   <b>1</b>   <b>P10</b>   <b>N</b>   <b>V</b>   <b>E</b>   <b>P01</b>							
<b>Element length</b>				<b>MPFX 450</b>	<b>MPFX 451</b>	<b>MPFX 750</b>					
<b>1</b>		•	•	•							
<b>2</b>		•	•								
<b>3</b>		•	•								
<b>Filtration rating (filter media)</b>											
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<b>A25</b> Inorganic microfiber 25 µm		<b>P25</b> Resin impregnated paper 25 µm									
<b>Element Δp</b>				<b>Filter media</b>							
		<b>Axx</b>	<b>Mxx</b>	<b>Pxx</b>							
<b>N</b> 10 bar			•	•							
<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

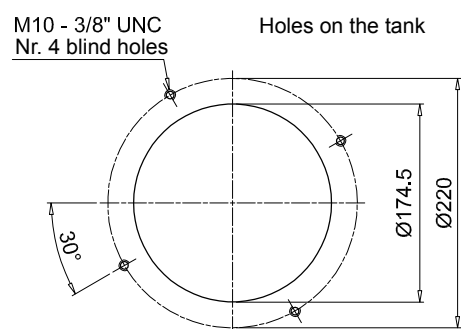
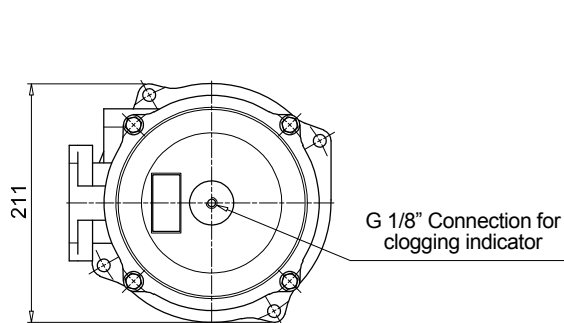
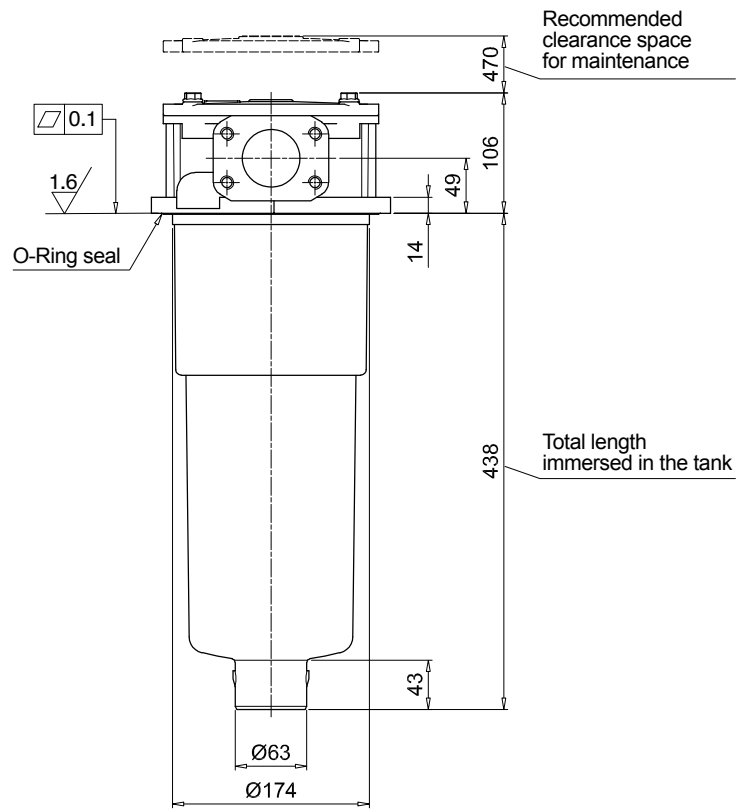
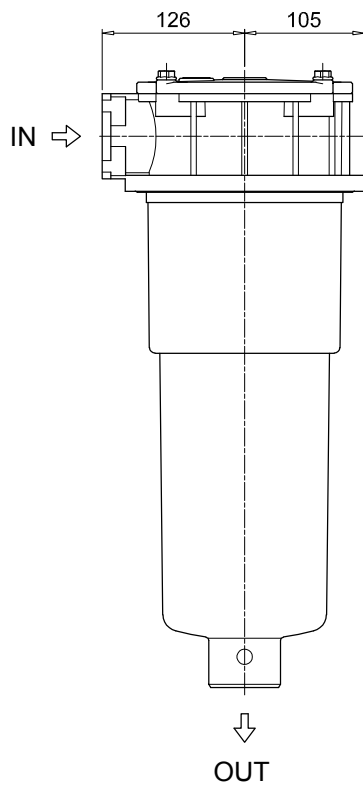
<b>Indicators</b>		page			page
<b>BVA</b> Axial pressure gauge		240	<b>BEA</b> Electrical pressure indicator		239
<b>BVR</b> Radial pressure gauge		240	<b>BEM</b> Electrical pressure indicator		239
<b>BVP</b> Visual pressure indicator with automatic reset		241	<b>BLA</b> Electrical / visual pressure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



# MPFX MPFX450 - MPFX451 - MPFX750

## Dimensions

MPFX750



**MPFX 100**

**MPFX 181**

**O-RING SEAL**

	Q.ty: 1 pc.	Q.ty: 1 pc.	
Item:	<b>2</b>	<b>3</b> (3a ÷ 3d)	
Filter series	Filter element	Seal Kit code number	
		NBR	FPM
<b>MPFX 030</b>	See order table	02050675	02050676
<b>MPFX 100-110</b>		02050677	02050678
<b>MPFX 181-182</b>		02050681	02050682
<b>MPFX 184</b>		02050685	02050686
<b>MPFX 191-192</b>		02050683	02050684
<b>MPFX 194</b>		02050687	02050688
<b>MPFX 400-410</b>		02050695	02050696
<b>MPFX 450-451</b>		02050697	02050698
<b>MPFX 750</b>		02050699	02050700

**MPFX 104**

**MPFX 181**

**FLAT SEAL**

	Q.ty: 1 pc.	Q.ty: 1 pc.	
Item:	<b>2</b>	<b>3</b> (3a ÷ 3d)	
Filter series	Filter element	Seal Kit code number	
		NBR	FPM
<b>MPFX 104</b>	See order table	02050679	02050680
<b>MPFX 181-182</b>		02050691	02050692
<b>MPFX 191-192</b>		02050691	02050692



# MPLX series

Maximum working pressure up to 1 MPa (10 bar) - Flow rate up to 1800 l/min



## Description

## Technical data

### Return filter

**Maximum working pressure up to 1 MPa (10 bar)**  
**Flow rate up to 1800 l/min**

MPLX is a range of return filters for protection of the reservoir against the system contamination.

Completely interchangeable with Pall 8420 & 8520, they are directly fixed to the reservoir, in immersed or semi-immersed position.

The use of the diffuser is recommended, to place the filter output always immersed into the fluid to avoid aeration or foam generation into the reservoir.

The filter output must be always immersed into the fluid to avoid aeration or foam generation into the reservoir.

#### Available features:

- Flanged connections up to 3", for a maximum flow rate of 1800 l/min
- Fine filtration rating, to get a good cleanliness level into the reservoir
- Bypass valve, to relieve excessive pressure drop across the filter media
- 6 fixing holes for installation, to suit a variety of reservoir surfaces
- Diffuser, to reduce the risk of aeration, foaming and noise
- Filler plug, to fill cleaned fluid into the tank without an additional connection
- Visual, electrical and electronic differential clogging indicators

#### Common applications:

- Heavy duty industrial equipment
- Heavy duty mobile equipment

### Filter housing materials

- Head: Anodized aluminium
- Cover: Anodized aluminium
- Bowl: Phosphatized steel
- Bypass valve: Steel

### Bypass valve

- Opening pressure 450 kPa (4.5 bar)  $\pm 10\%$

### $\Delta p$ element type

- Microfiber filter elements: 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

MPLX filters are provided for vertical mounting



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

Filter series	Weights [kg]		Volumes [dm <sup>3</sup> ]	
	Length	2	Length	2
<b>MPLX 250</b>		8.95		2.90
<b>MPLX 660</b>		20.20		11.00



Filter series	Length	Filter element design - N Series						
		A03	A06	A10	A16	A25	M25 M60 M90	P10 P25
<b>MPLX 250</b>	<b>2</b>	157	155	281	312	325	583	392
<b>MPLX 660</b>	<b>2</b>	376	384	820	925	1018	1732	1332

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

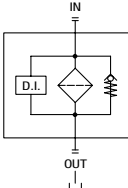
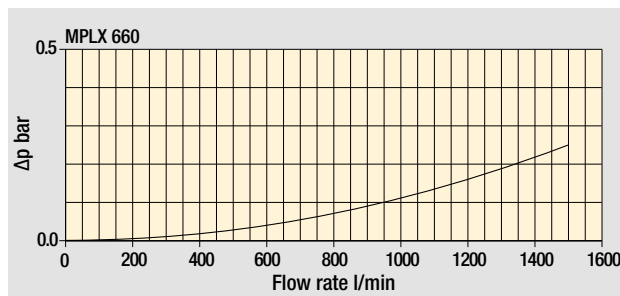
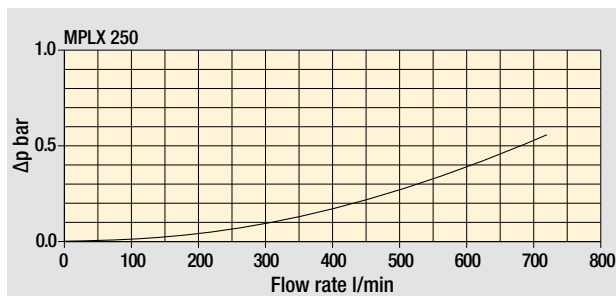
The reference fluid has a kinematic viscosity of 30 mm<sup>2</sup>/s (cSt) and a density of 0.86 kg/dm<sup>3</sup>.

For different pressure drop or fluid viscosity we recommend to use our selection software available on [www.mpfiltri.com](http://www.mpfiltri.com).

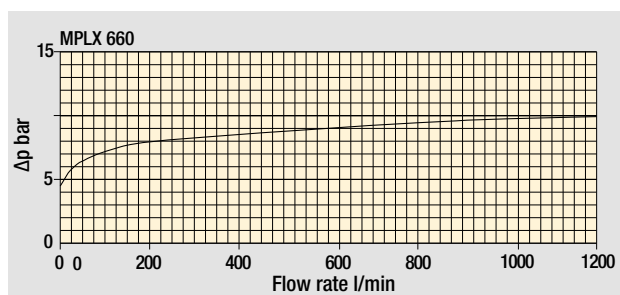
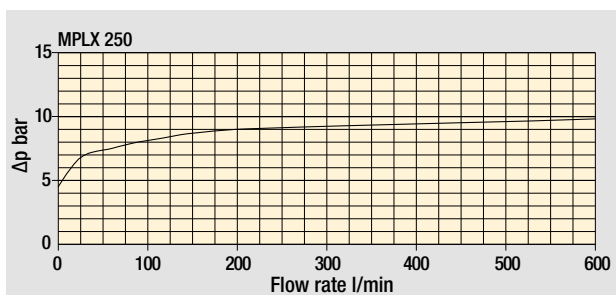
You can also calculate the right size using the formulas present on the FILTER SIZING paragraph at the beginning of the full catalogue or at the beginning of the filter family brochure. Please, contact our Sales Department for further additional information.

### Hydraulic symbols

Filter series	Style 1 connection + Diff. indic.
<b>MPLX 250</b>	•
<b>MPLX 660</b>	•

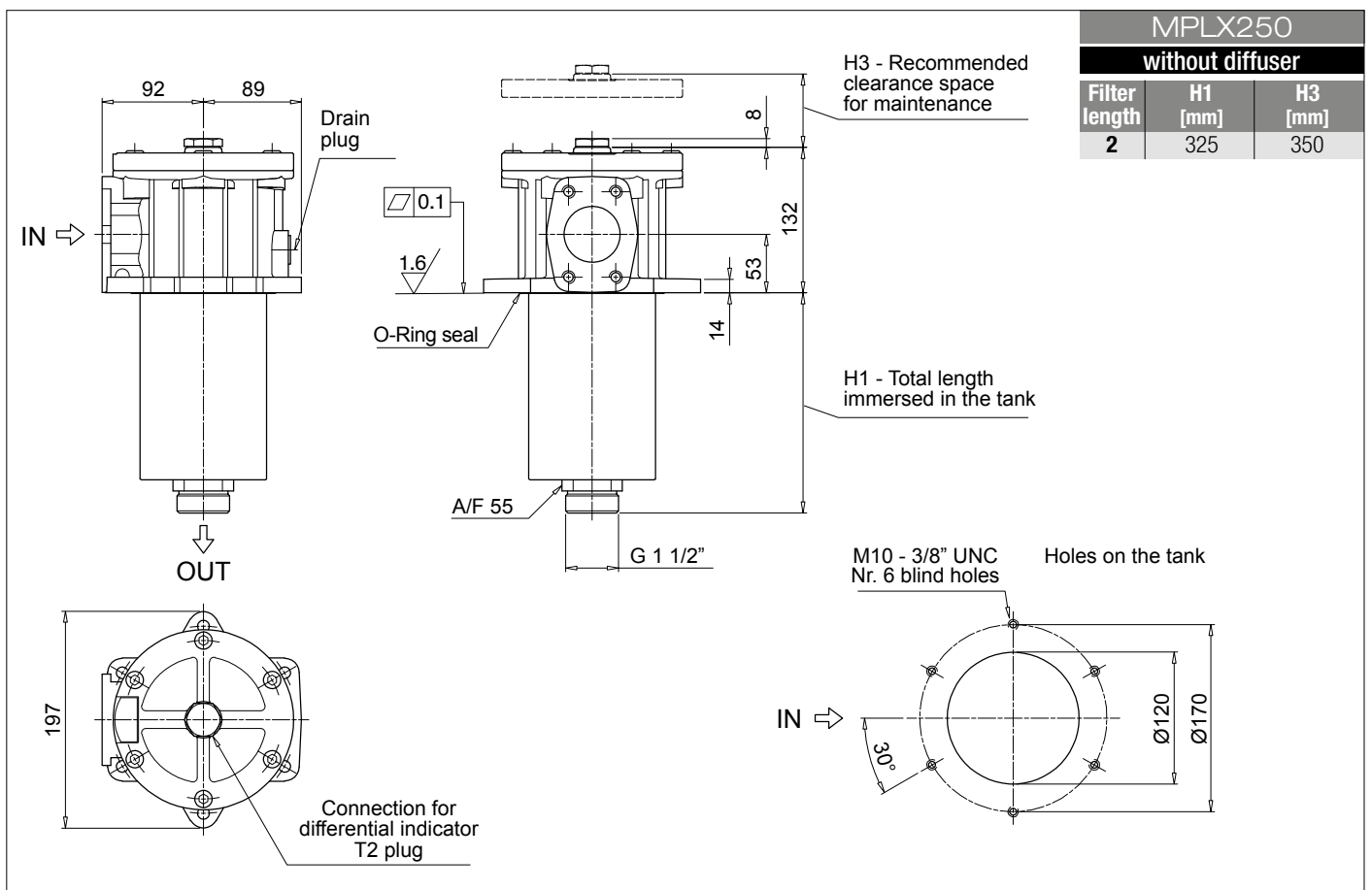
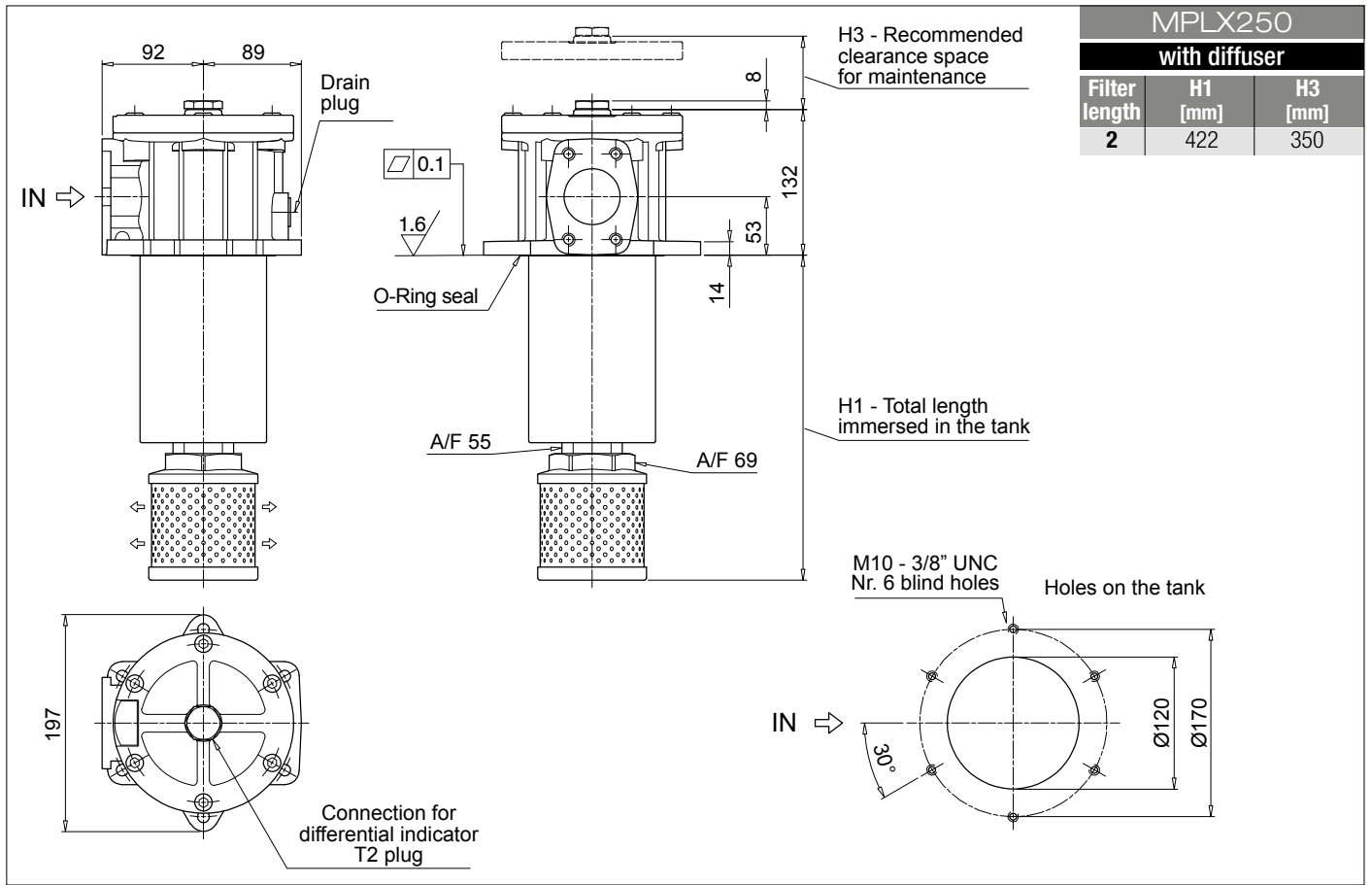
Pressure drop  
Filter housings  
 $\Delta p$  pressure drop



Bypass valve  
pressure drop

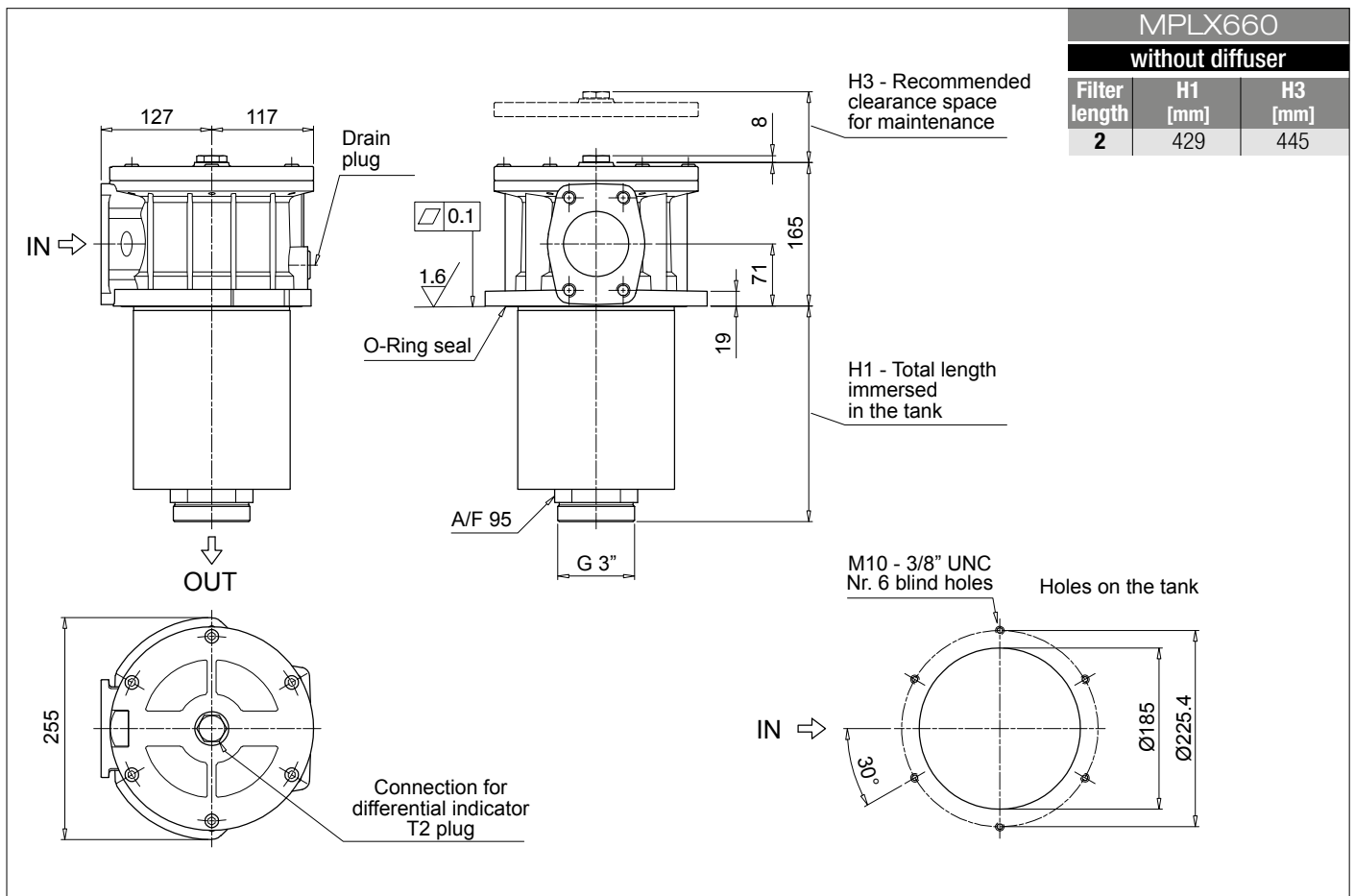
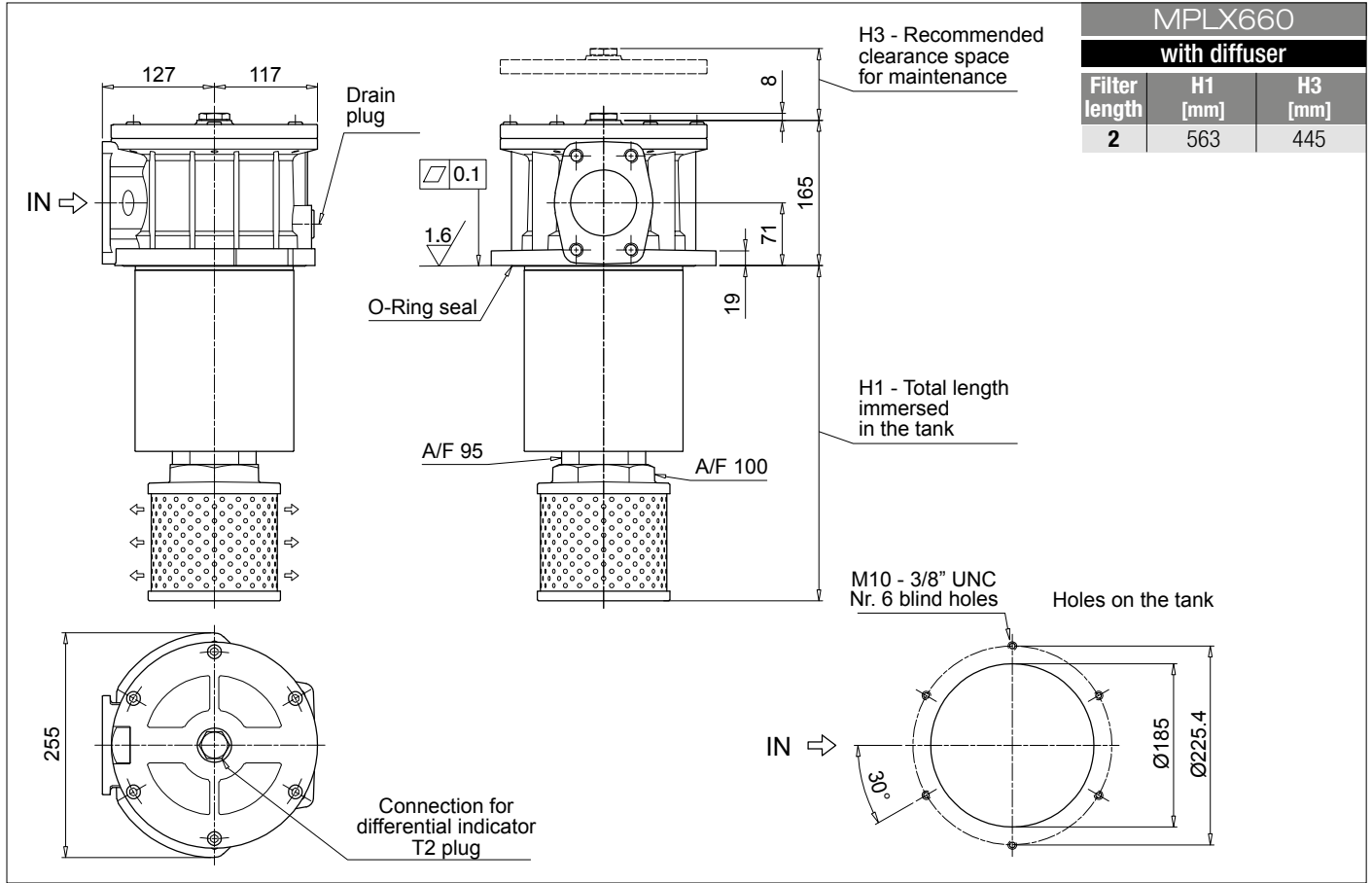
The curves are plotted using mineral oil with density of 0.86 kg/dm<sup>3</sup> in compliance with ISO 3968.  $\Delta p$  varies proportionally with density.

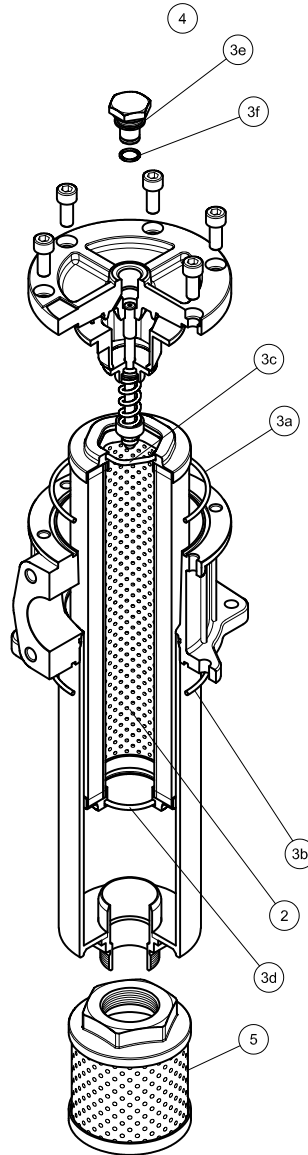




# MPLX MPLX660

## Dimensions





Item:	Q.ty: 1 pc.	Q.ty: 1 pc.		Q.ty: 1 pc.		Q.ty: 1 pc.
Filter series	Filter element	Seal Kit code number		Indicator connection plug		Diffuser
		NBR	FPM	NBR	FPM	
<b>MPLX 250</b>	See order table	02050745	02050746	T2H	T2V	STD 100 C 115 P01
<b>MPLX 660</b>	See order table	02050747	02050748			STD 150 E 155 P01



# MPTX series

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



## Description

## Technical data

### Return filter

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

MPTX 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, 3 or 6 fixing holes for installation, to suit a variety of reservoir surfaces
- O-ring or Flat Seal to suit a variety of reservoir surfaces
- 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
- 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
- Bowl: Nylon

### Bypass valve

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

### Δp 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

MPTX 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>MPTX 025</b>		0.41	0.45	0.50	-		0.24	0.35	0.42	-
<b>MPTX 027</b>		0.44	0.48	0.55	-		0.24	0.35	0.42	-
<b>MPTX 110</b>		1.00	1.05	1.15	1.40		0.72	0.93	1.28	1.74
<b>MPTX 114</b>		1.10	1.15	1.25	1.50		0.72	0.93	1.28	1.74
<b>MPTX 116</b>		1.10	1.15	1.25	1.50		0.72	0.93	1.28	1.74
<b>MPTX 120</b>		1.00	1.05	1.15	1.40		0.72	0.93	1.28	1.74



Filter series	Length	Filter element design - H series					Filter element design - N series		
		A03	A06	A10	A16	A25	M25 M60 M90	P10	P25
<b>MPTX 025-027</b>	<b>1</b>	7	10	23	28	42	59	51	54
	<b>2</b>	17	20	45	48	56	72	64	67
	<b>3</b>	21	24	50	55	59	76	74	75
<b>MPTX 110-120 114-116</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

### 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>.

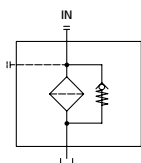
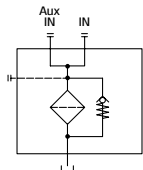
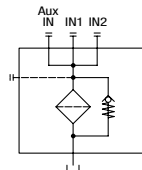
For different pressure drop or fluid viscosity we recommend to use our selection software available on [www.mpfiltri.com](http://www.mpfiltri.com).

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	Style 3 connections
<b>MPTX 025</b>	•		
<b>MPTX 027</b>	•		
<b>MPTX 110</b>		•	
<b>MPTX 114</b>	•		
<b>MPTX 116</b>	•		
<b>MPTX 120</b>			•

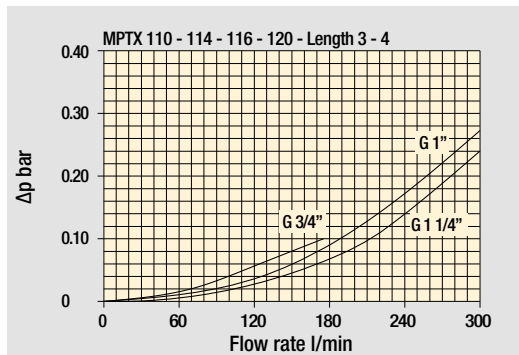
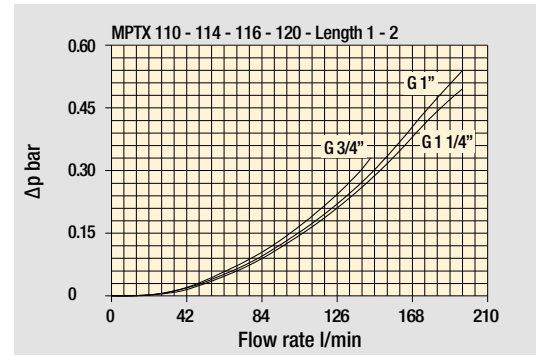
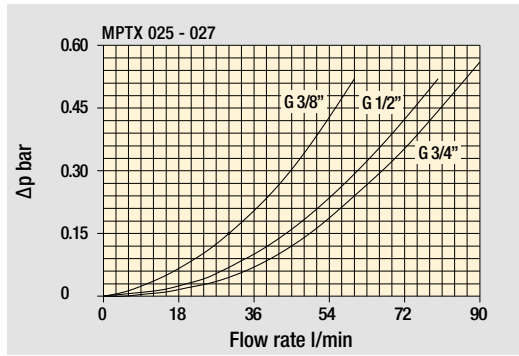
  

		
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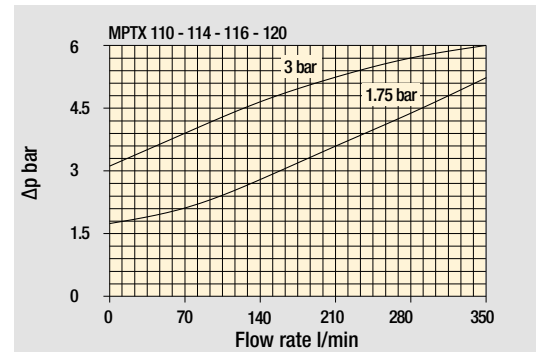
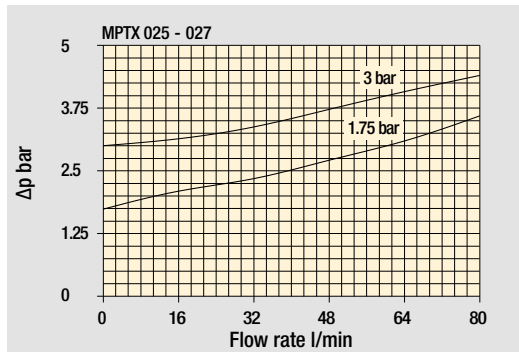
# MPTX GENERAL INFORMATION

## Pressure drop

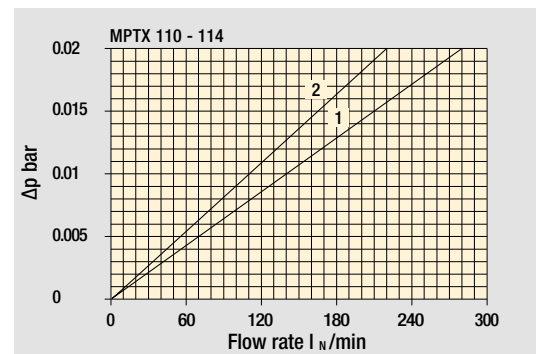
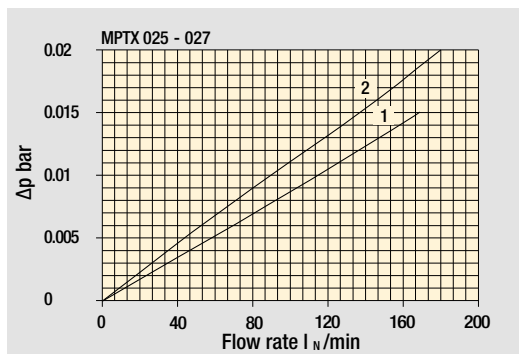
### Filter housings $\Delta p$ pressure drop



### Bypass valve pressure drop



### Air breather pressure drop







- 1  C With air breather 10  $\mu\text{m}$
- 2  D With anti-splash and SAP50 10  $\mu\text{m}$

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.

MPTX 025 -027		
Air breather port plugged Indicator port	Air breather standard Indicator port	Anti-splash air breather & pressurized Double indicator port
		

Multiport - Multifunction

MPTX 110	
Standard - Single IN Port	Double IN Port - Double indicator port
	
Double IN Port Option: double drain port	Double IN Port - Indicator port Option: drain port
	

**MPTX 120**  
Triple IN port

Option: double drain port



# MPTX MPTX025 - MPTX027

## Designation & Ordering code

### COMPLETE FILTER

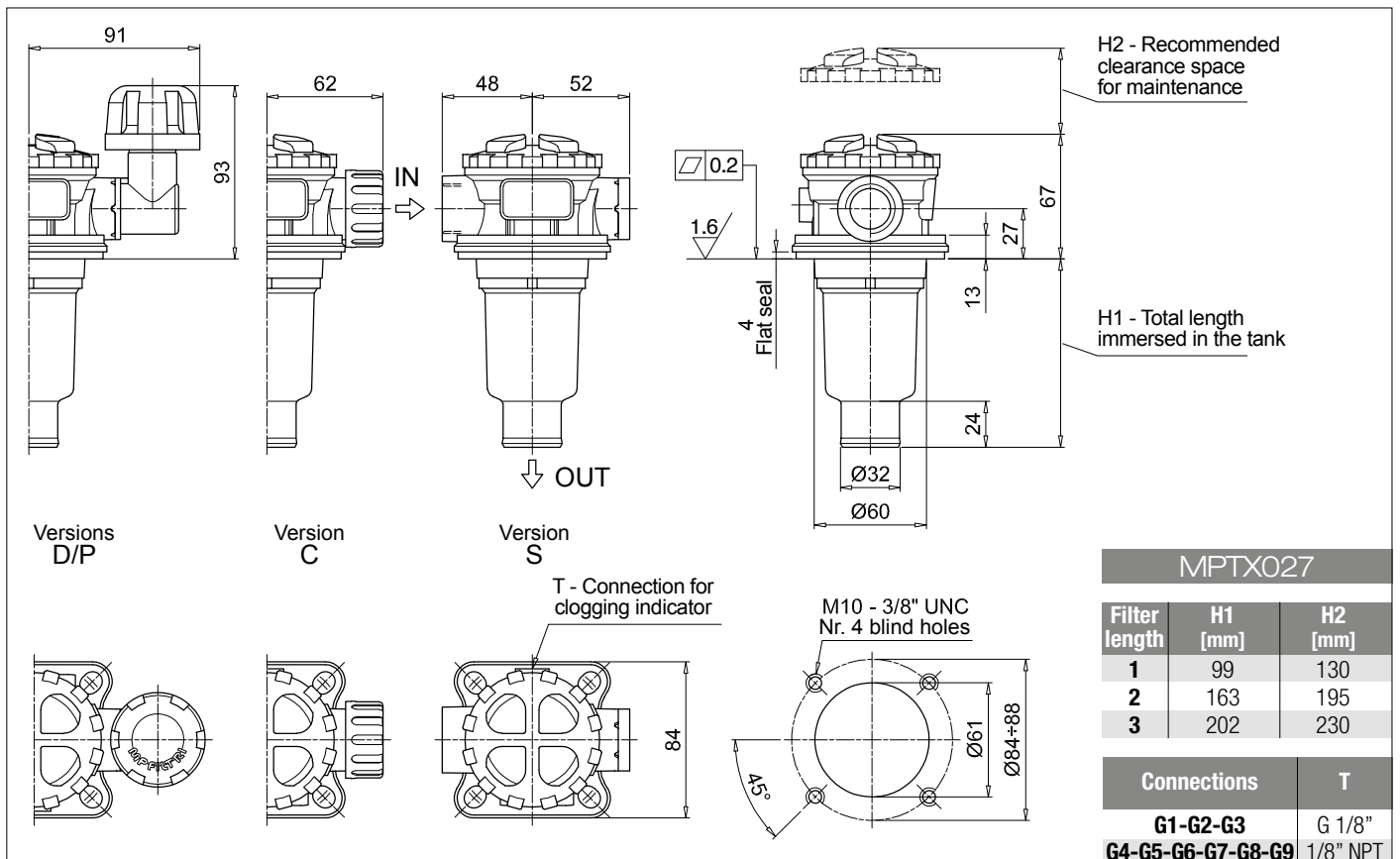
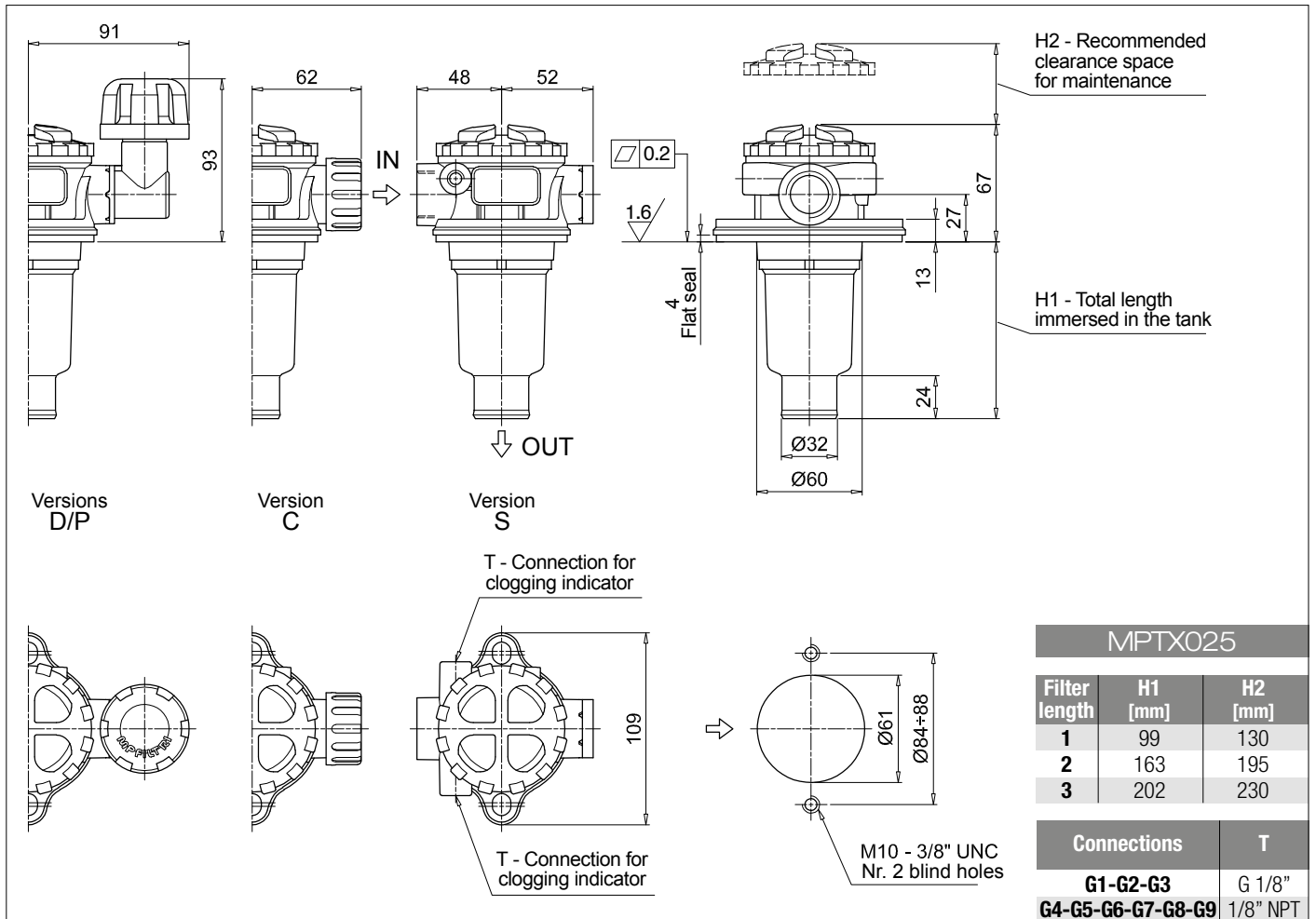
<b>Series and size</b> <b>MPTX025   MPTX027</b> Filter element with private spigot	Configuration example 1: <b>MPTX025</b>   <b>1</b>   <b>S</b>   <b>A</b>   <b>G3</b>   <b>A10</b>   <b>E</b>   <b>P01</b>
	Configuration example 2: <b>MPTX027</b>   <b>3</b>   <b>C</b>   <b>W</b>   <b>G6</b>   <b>A03</b>   <b>B</b>   <b>P01</b>
<b>Length</b> <b>1</b>   <b>2</b>   <b>3</b>	
<b>Air breather</b> <b>S</b> Without air breather <b>C</b> With air breather 10 µm <b>D</b> With anti-splash and air breather SAP050 10 µm <b>P</b> With anti-splash and air breather SAP050 10 µm, pressurization 0.5 bar	
<b>Seals and treatments</b>	<b>Filtration rating</b>
<b>A</b> NBR	<b>Axx</b>   <b>Mxx</b>   <b>Pxx</b>
<b>V</b> FPM	•   •   •
<b>W</b> NBR head anodized filter element compatible with fluids HFA-HFB-HFC	•   •   •
<b>Z</b> FPM head anodized	•   •   •
<b>Connections</b>	
<b>G1</b> G 3/8"   <b>G6</b> 3/4" NPT	
<b>G2</b> G 1/2"   <b>G7</b> SAE 6 - 9/16" - 18 UNF	
<b>G3</b> G 3/4"   <b>G8</b> SAE 8 - 3/4" - 16 UNF	
<b>G4</b> 3/8" NPT   <b>G9</b> SAE 12 - 1 1/16" - 12 UN	
<b>G5</b> 1/2" NPT	
<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>Bypass valve</b> <b>E</b> 3 bar <b>B</b> 1.75 bar
	<b>Execution</b> <b>P01</b> MP Filtri standard <b>Pxx</b> Customized

### FILTER ELEMENT

<b>Element series and size</b> <b>MFXX020</b> Filter element with private spigot	Configuration example 2: <b>MFXX020</b>   <b>1</b>   <b>A10</b>   <b>H</b>   <b>B</b>   <b>E</b>   <b>P01</b>
	Configuration example 1: <b>MFXX020</b>   <b>3</b>   <b>A03</b>   <b>W</b>   <b>B</b>   <b>P01</b>
<b>Element length</b> <b>1</b>   <b>2</b>   <b>3</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>B</b> NBR <b>V</b> FPM
	<b>Bypass valve</b> <b>E</b> 3 bar <b>B</b> 1.75 bar
	<b>Execution</b> <b>P01</b> MP Filtri standard <b>Pxx</b> Customized

### ACCESSORIES

<b>Indicators</b>	page		page
<b>BVA</b> Axial pressure gauge	240	<b>BEA</b> Electrical pressure indicator	239
<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
<b>BVQ</b> Visual pressure indicator with manual reset	241		
<b>Additional features</b>	page		
<b>TE</b> Extension tube	248		
<b>DPT</b> Dipstick	249		



## Designation & Ordering code

### COMPLETE FILTER

<b>Series and size</b>			Configuration example 1: <b>MPTX110</b>   1   S   A   G1   0   A06   E   P01								
<b>MPTX110</b> Filter element with private spigot			Configuration example 2: <b>MPTX110</b>   3   P   V   G4   1   M25   B   P01								
<b>Length</b>											
1   2   3   4											
<b>Air breather</b>											
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											
<b>Seals and treatments</b>			Filtration rating								
			Axx	Mxx	Pxx						
A NBR			•	•	•						
V FPM			•	•	•						
W NBR head anodized			•	•		filter element compatible with fluids HFA-HFB-HFC					
Z FPM head anodized			•	•							
<b>Main Connections</b>		<b>Aux size 1</b>	<b>Aux size 2</b>	<b>Main Connections</b>		<b>Aux size 1</b>	<b>Aux size 2</b>				
G1 G 3/4"		G 3/8"	G 1/2"	G6 1 1/4" NPT		3/8" NPT	1/2" NPT				
G2 G 1"				G7 SAE 12 - 1 1/16" - 12 UN		SAE 6 - 9/16" - 18 UNF	SAE 8 - 3/4" - 16 UNF				
G3 G 1 1/4"		3/8" NPT	1/2" NPT	G8 SAE 16 - 1 5/16" - 12 UN							
G4 3/4" NPT				G9 SAE 20 - 1 5/8" - 12 UN							
G5 1" NPT											
<b>Aux connection - see previous table</b>											
0 Not machined   1 Aux size 1   2 Aux size 2											
<b>Filtration rating (filter media)</b>											
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								
						<b>Bypass valve</b>		<b>Execution</b>			
						E 3 bar		P01 MP Filtri standard			
						B 1.75 bar		Pxx Customized			

### FILTER ELEMENT

<b>Element series and size</b>			Configuration example 1: <b>MFx100</b>   1   A06   H   B   E   P01								
<b>MFx100</b> Filter element with private spigot			Configuration example 2: <b>MFx100</b>   3   M25   N   V     P01								
<b>Element length</b>											
1   2   3   4											
<b>Filtration rating (filter media)</b>											
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								
<b>Element Δp</b>			Filter media								
			Axx	Mxx	Pxx						
N 10 bar			•	•	•						
H 10 bar			•								
W 10 bar, compatible with fluids HFA, HFB and HFC			•	•							
			<b>Seals</b>		<b>Bypass valve</b>		<b>Execution</b>				
			B NBR		E 3 bar		P01 MP Filtri standard				
			V FPM		1.75 bar		Pxx Customized				

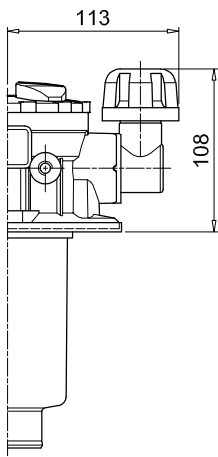
### ACCESSORIES

<b>Indicators</b>		page			page
BVA	Axial pressure gauge	240	BEA	Electrical pressure indicator	239
BVR	Radial pressure gauge	240	BEM	Electrical pressure indicator	239
BVP	Visual pressure indicator with automatic reset	241	BLA	Electrical / visual pressure indicator	239-240
BVQ	Visual pressure indicator with manual reset	241			
<b>Additional features</b>		page			page
TE	Extension tube	248	DPT	Dipstick	249
DFS	Diffuser with fast lock connection	249			

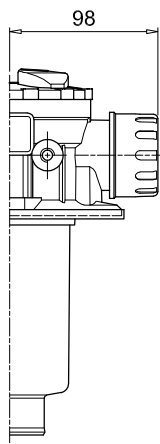
MPTX110		
Filter length	H1 [mm]	H2 [mm]
1	99	120
2	144	170
3	222	250
4	324	350

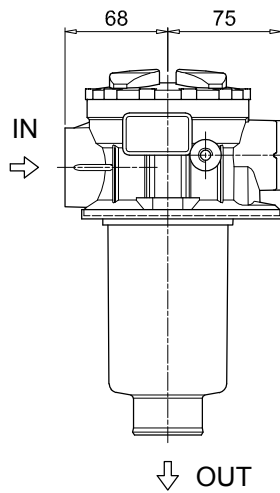
Connections	T
G1-G2-G3	G 1/8"
G4-G5-G6-G7-G8-G9	1/8" NPT



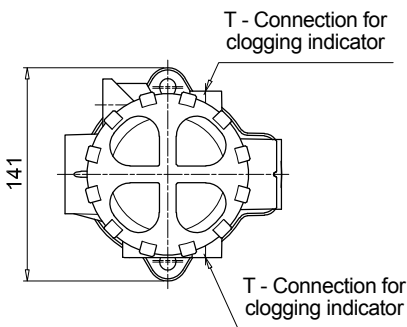
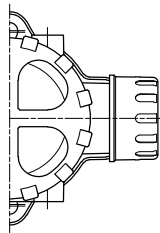
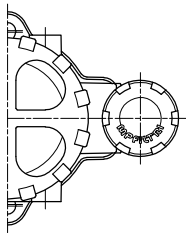
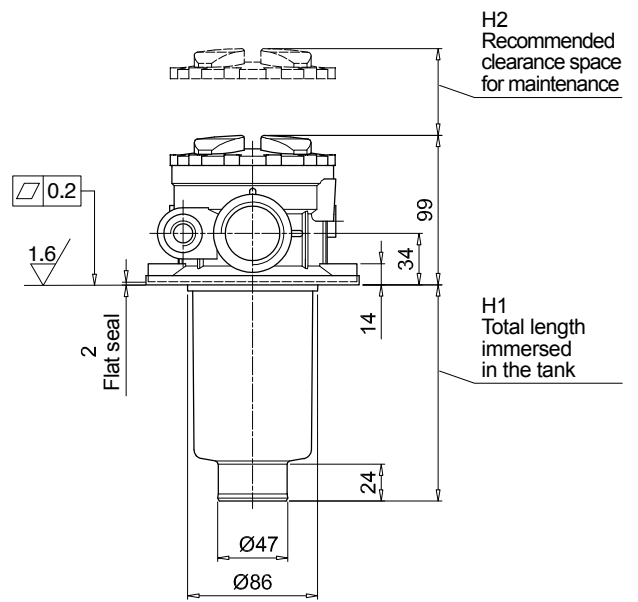
Versions D/P



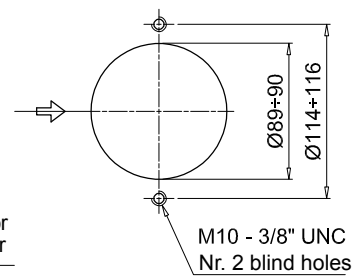
Version C



Version S



Holes on the tank



## Designation & Ordering code

### COMPLETE FILTER

<b>Series and size</b>	Configuration example 1:	MPTX114	4	S	A	G3	A10	E	P01
<b>MPTX114</b> Filter element with private spigot	Configuration example 2:	MPTX114	3	C	W	G6	A03	B	P01

<b>Length</b>	
1   2   3   4	

<b>Air breather</b>	
<b>S</b> Without air breather	
<b>C</b> With air breather 10 µm	
<b>D</b> With anti-splash and air breather SAP050 10 µm	
<b>P</b> With anti-splash and air breather SAP050 10 µm pressurization 0.5 bar	

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

filter element compatible with fluids HFA-HFB-HFC

<b>Connections</b>	
<b>G1</b> G 3/4"	<b>G6</b> 1 1/4" NPT
<b>G2</b> G 1"	<b>G7</b> SAE 12 - 1 1/16" - 12 UN
<b>G3</b> G 1 1/4"	<b>G8</b> SAE 16 - 1 5/16" - 12 UN
<b>G4</b> 3/4" NPT	<b>G9</b> SAE 20 - 1 5/8" - 12 UN
<b>G5</b> 1" NPT	

<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>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 2:	MFx100	4	A10	H	B	E	P01
<b>MFx100</b> Filter element with private spigot	Configuration example 1:	MFx100	3	A03	W	B		P01

<b>Element length</b>	
1   2   3   4	

<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

Element Δp	Filter media		
	Axx	Mxx	Pxx
<b>N</b> 10 bar		•	•
<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	1.75 bar	<b>Pxx</b> Customized

### ACCESSORIES

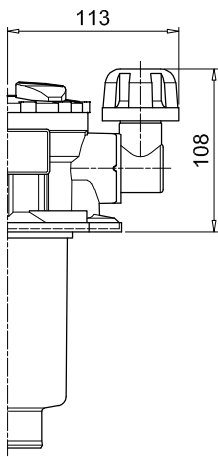
<b>Indicators</b>	page		page
<b>BVA</b> Axial pressure gauge	240	<b>BEA</b> Electrical pressure indicator	239
<b>BVR</b> Radial pressure gauge	240	<b>BEM</b> Electrical pressure indicator	239
<b>BVP</b> Visual pressure indicator with automatic reset	241	<b>BLA</b> Electrical / visual pressure indicator	239-240
<b>BVQ</b> Visual pressure indicator with manual reset	241		
<b>Additional features</b>	page		page
<b>TE</b> Extension tube	248	<b>DPT</b> Dipstick	249
<b>DFS</b> Diffuser with fast lock connection	249		



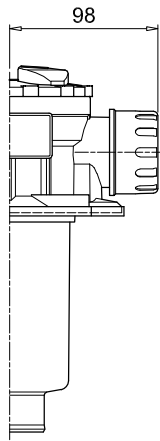
MPTX114		
Filter length	H1 [mm]	H2 [mm]
1	99	120
2	144	170
3	222	250
4	324	350

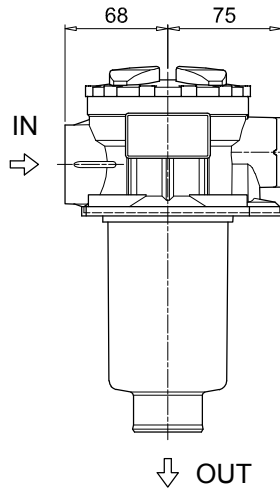
Connections	T
G1-G2-G3	G 1/8"
G4-G5-G6-G7-G8-G9	1/8" NPT



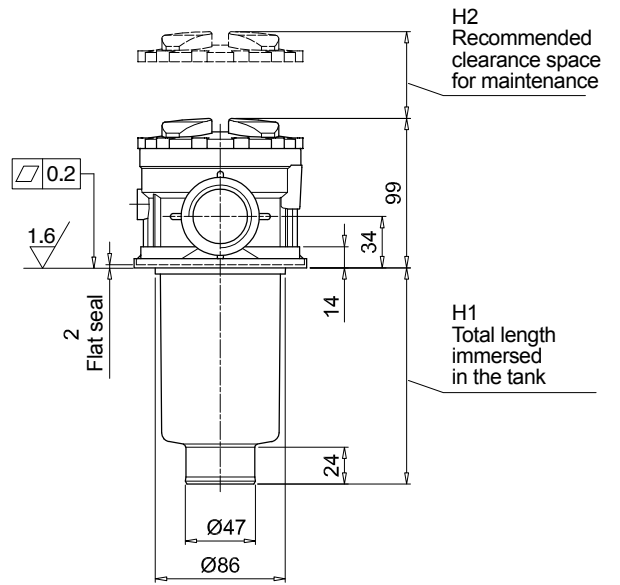
Versions D/P



Version C

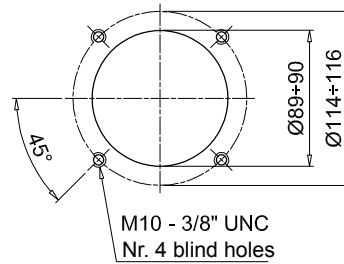
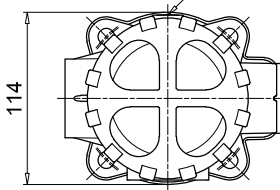
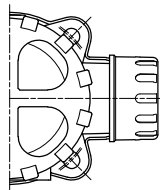
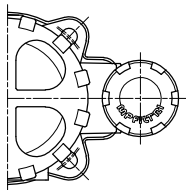


Version S



T - Connection for clogging indicator

Holes on the tank



## Designation & Ordering code

### COMPLETE FILTER

<b>Series and size</b>	Configuration example 1: <b>MPTX116</b>   1   S   A   G1   M90   E   P01								
<b>MPTX116</b> Filter element with private spigot	Configuration example 2: <b>MPTX116</b>   2   S   Z   G9   A03   B   P01								
<b>Length</b>	1   2   3   4								
<b>Air breather</b>	S Without air breather								
<b>Seals and treatments</b>	Filtration rating								
	Axx	Mxx	Pxx						
<b>A</b> NBR	•	•	•						
<b>V</b> FPM	•	•	•						
<b>W</b> NBR head anodized	•	•		filter element compatible with fluids HFA-HFB-HFC					
<b>Z</b> FPM head anodized	•	•							
Flat seal on the head on request									
<b>Connections</b>									
<b>G1</b> G 3/4"	<b>G6</b> 1 1/4" NPT								
<b>G2</b> G 1"	<b>G7</b> SAE 12 - 1 1/16" - 12 UN								
<b>G3</b> G 1 1/4"	<b>G8</b> SAE 16 - 1 5/16" - 12 UN								
<b>G4</b> 3/4" NPT	<b>G9</b> SAE 20 - 1 5/8" - 12 UN								
<b>G5</b> 1" NPT									
<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>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 2: <b>MFx100</b>   1   M90   N   B   E   P01							
<b>MFx100</b> Filter element with private spigot	Configuration example 1: <b>MFx100</b>   2   A03   W   V     P01							
<b>Element length</b>	1   2   3   4							
<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>	Filter media							
	Axx	Mxx	Pxx					
<b>N</b> 10 bar		•	•					
<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			

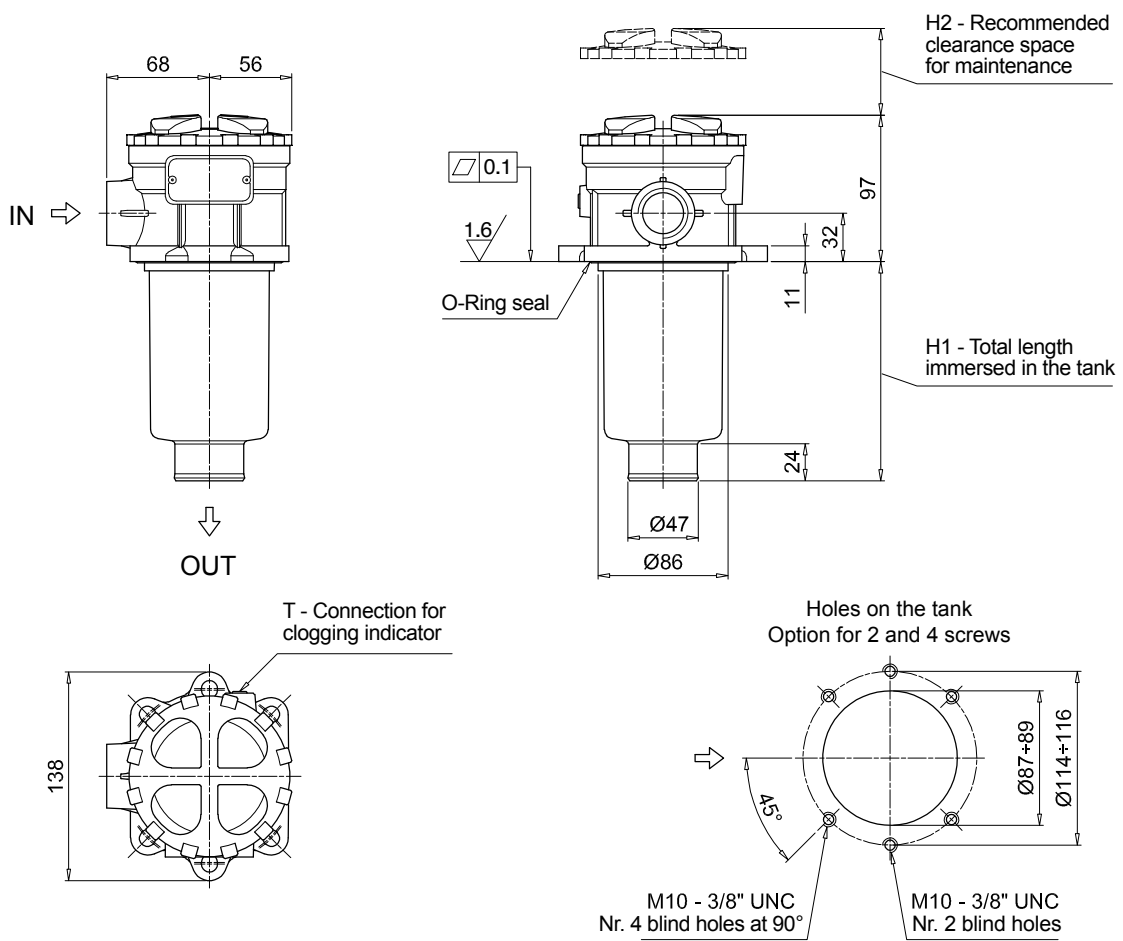
### ACCESSORIES

<b>Indicators</b>	page		page
<b>BVA</b> Axial pressure gauge	240	<b>BEA</b> Electrical pressure indicator	239
<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
<b>BVQ</b> Visual pressure indicator with manual reset	241		
<b>Additional features</b>	page		page
<b>TE</b> Extension tube	248	<b>DPT</b> Dipstick	249
<b>DFS</b> Diffuser with fast lock connection	249		

MPTX116		
Filter length	H1 [mm]	H2 [mm]
<b>1</b>	99	120
<b>2</b>	146	170
<b>3</b>	224	250
<b>4</b>	326	350

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



## Designation & Ordering code

### COMPLETE FILTER

<b>Series and size</b>	Configuration example 1:	MPTX120	1	A	G1	0	A06	E	P01
<b>MPTX120</b> Filter element with private spigot	Configuration example 2:	MPTX120	3	V	G4	1	M25	B	P01

<b>Length</b>	
1   2   3   4	

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

Main Connections	Rear connections	Aux size 1	Aux size 2
<b>G1</b> G 3/4"	G 3/4"	G 3/8"	G 1/2"
<b>G2</b> G 1"	G 1"		
<b>G3</b> G 1 1/4"	G 3/4"		
<b>G4</b> 3/4" NPT	3/4" NPT	3/8" NPT	1/2" NPT
<b>G5</b> 1" NPT	1" NPT		
<b>G6</b> 1 1/4" NPT	3/4" NPT	SAE 6 - 9/16" - 18 UNF	SAE 8 - 3/4" - 16 UNF
<b>G7</b> SAE 12 - 1 1/16" - 12 UN	SAE 12 - 1 1/16" - 12 UN		
<b>G8</b> SAE 16 - 1 5/16" - 12 UN	SAE 16 - 1 5/16" - 12 UN		
<b>G9</b> SAE 20 - 1 5/8" - 12 UN	SAE 12 - 1 1/16" - 12 UN		

<b>Aux connection</b> - see previous table
0 Not machined   1 Aux size 1   2 Aux size 2

Filtration rating (filter media)	
<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

Bypass valve	Execution
<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:	MFX100	1	A06	H	B	E	P01
<b>MFX100</b> Filter element with private spigot	Configuration example 2:	MFX100	3	M25	N	V		P01

<b>Element length</b>	
1   2   3   4	

Filtration rating (filter media)	
<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

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

Seals	Bypass valve	Execution
<b>B</b> NBR	<b>E</b> 3 bar	<b>P01</b> MP Filtri standard
<b>V</b> FPM	1.75 bar	<b>Pxx</b> Customized

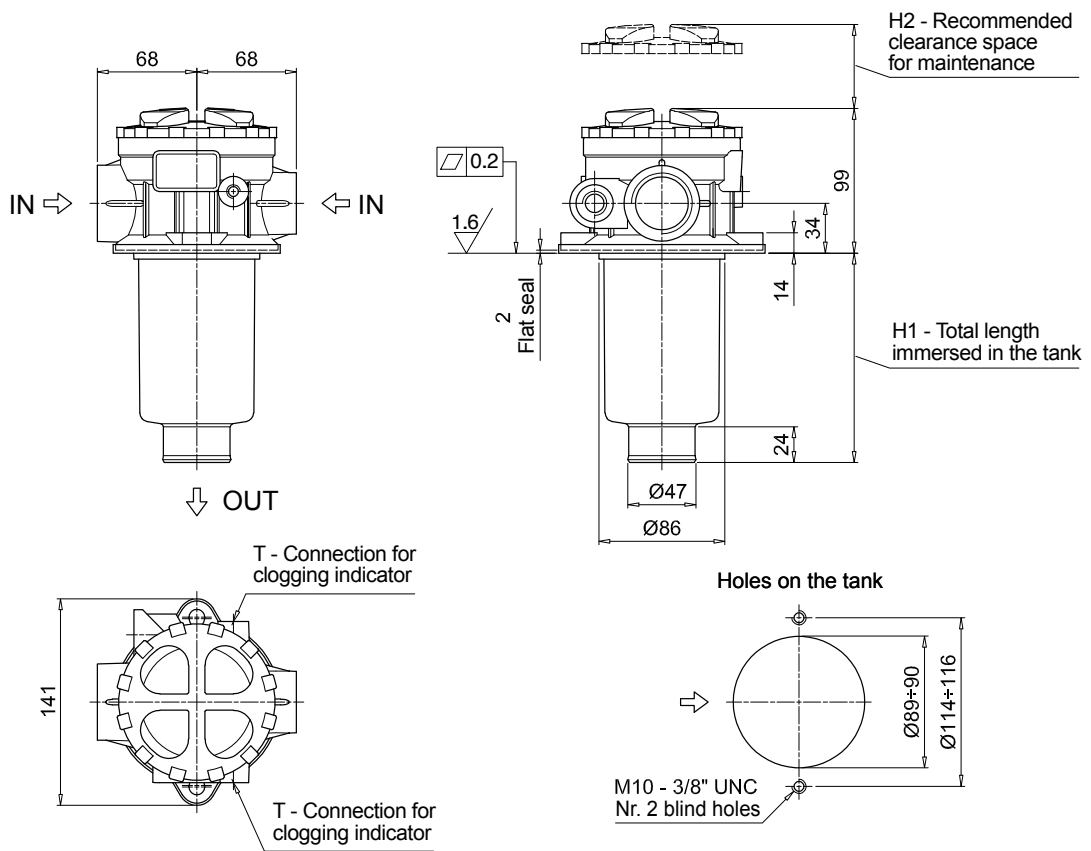
### ACCESSORIES

Indicators	page		page
<b>BVA</b> Axial pressure gauge	240	<b>BEA</b> Electrical pressure indicator	239
<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
<b>BVQ</b> Visual pressure indicator with manual reset	241		
Additional features	page		page
<b>TE</b> Extension tube	248	<b>DPT</b> Dipstick	249
<b>DFS</b> Diffuser with fast lock connection	249		

MPTX120		
Filter length	H1 [mm]	H2 [mm]
<b>1</b>	99	120
<b>2</b>	144	170
<b>3</b>	222	250
<b>4</b>	324	350

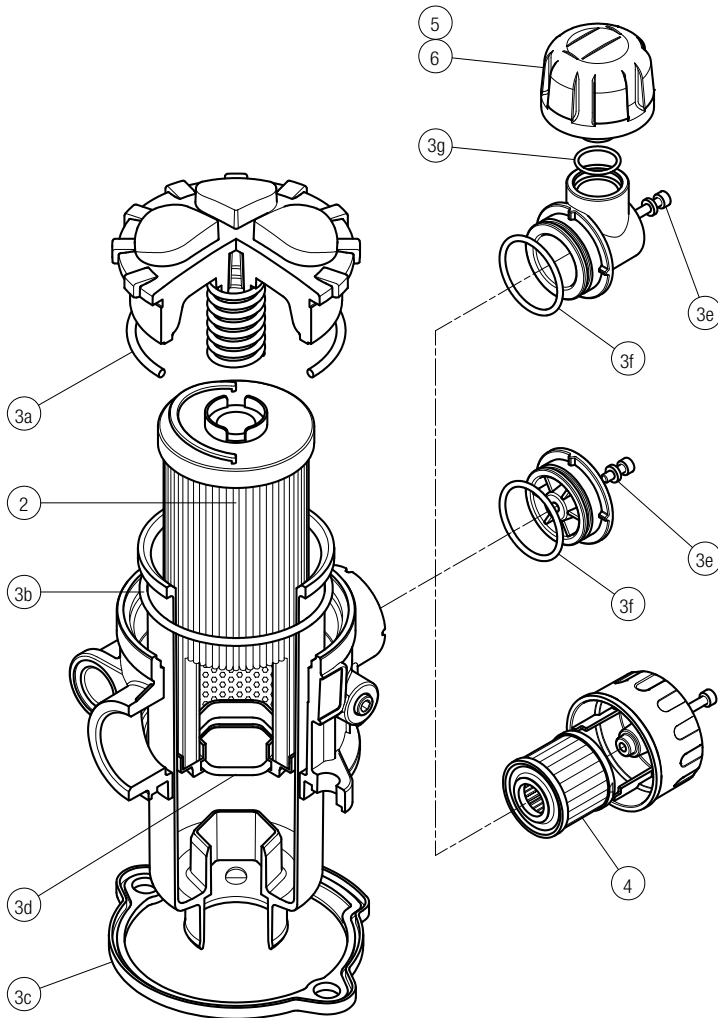
Connections	T
<b>G1-G2-G3</b>	G 1/8"
<b>G4-G5-G6-G7-G8-G9</b>	1/8" NPT



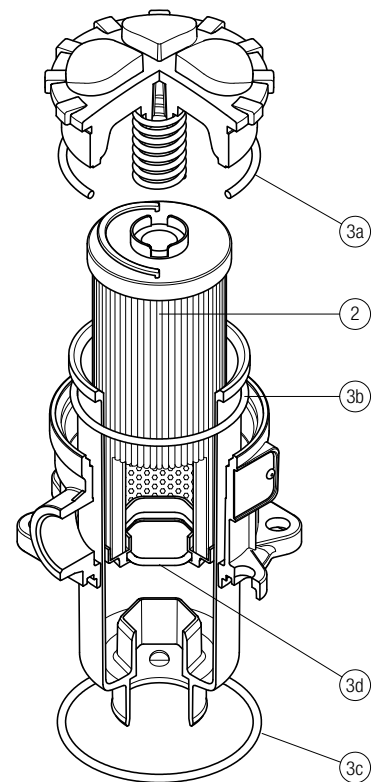
# MPTX SPARE PARTS

Order number for spare parts

**MPTX 025 - 027 - 110**



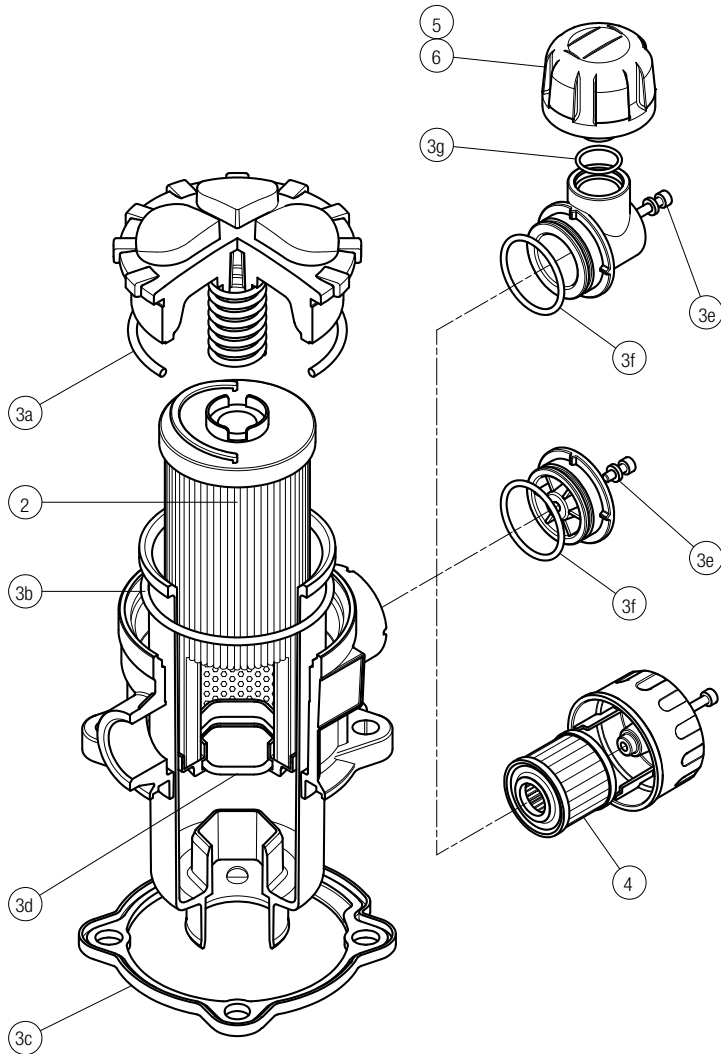
**MPTX 116**



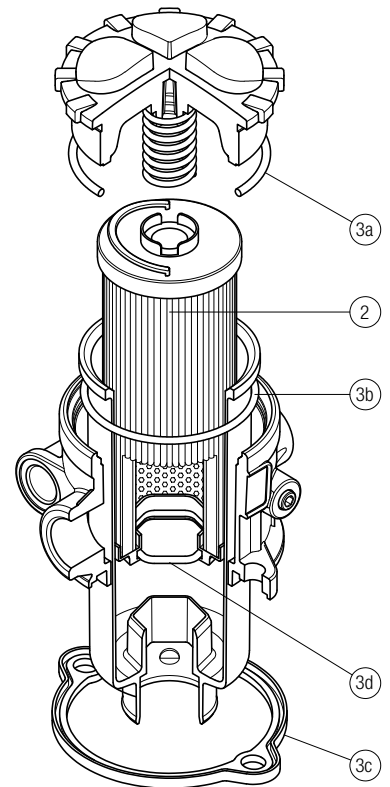
Item:	Q.ty: 1 pc.	Q.ty: 1 pc.	Q.ty: 1 pc.	Q.ty: 1 pc.	Q.ty: 1 pc.	
Filter series	Filter element	Seal Kit code number NBR	FPM	Air breather filter element - version:		
				C	D	P
<b>MPTX 025</b>	See order table	02050701	02050702	10 µm A3L03	10 µm SAP50G3L03A0P01	10 µm SAP50G3L03A1P01
<b>MPTX 027</b>		02050703	02050704	10 µm A3L03	10 µm SAP50G3L03A0P01	10 µm SAP50G3L03A1P01
<b>MPTX 110</b>		02050709	02050710	10 µm A5L03	10 µm SAP50G3L03A0P01	10 µm SAP50G3L03A1P01

Item:	Q.ty: 1 pc.	Q.ty: 1 pc.	
Filter series	Filter element	Seal Kit code number NBR	FPM
<b>MPTX 116</b>	See order table	02050737	02050738

**MPTX 114**



**MPTX 120**



Item:	Q.ty: 1 pc.	Q.ty: 1 pc.	Q.ty: 1 pc.	Q.ty: 1 pc.	Q.ty: 1 pc.	
Filter series	Filter element	Seal Kit code number		Air breather filter element - version:		
		NBR	FPM	C	D	P
<b>MPTX 114</b>	See order table	02050707	02050708	10 µm A5L03	10 µm SAP50G3L03A0P01	10 µm SAP50G3L03A1P01

Item:	Q.ty: 1 pc.	Q.ty: 1 pc.	
Filter series	Filter element	Seal Kit code number	
		NBR	FPM
<b>MPTX 120</b>	See order table	02050711	02050712





# MFBX series

BOWL ASSEMBLY

Maximum working pressure up to 800 kPa (8 bar) - Flow rate up to 700 l/min



### Return filter Bowl assembly

**Maximum working pressure up to 800 kPa (8 bar)**

**Flow rate up to 700 l/min**

MFBX is a range of return filter kits for protection of the reservoir against the system contamination.

They are directly integrated in the moulded reservoir in immersed or semi-immersed position to save space into the tank.

Treaded or flanged covers can be provided.

The filter output must be always immersed into the fluid to avoid aeration or foam generation into the reservoir.

#### Available features:

- 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
- 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)
- 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:

Mobile machines

#### Bowl assembly materials

- Cover  
Nylon: MFBX 020-030-100  
Aluminium: MFBX 180-190

- Bowl: Nylon

#### Filter element materials

- Caps: Nylon
- Spring: Spring steel

#### Bypass valve

- Opening pressure 175 kPa (1.75 bar)  $\pm 10\%$
- Opening pressure 300 kPa (3 bar)  $\pm 10\%$

#### $\Delta p$ 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

MFBX 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>MFBX 020</b>		0.25	0.35	0.40	-		0.10	0.15	0.20	-
<b>MFBX 030</b>		0.25	-	-	-		0.15	-	-	-
<b>MFBX 100</b>		0.50	0.60	0.75	0.95		0.35	0.50	0.80	1.10
<b>MFBX 180</b>		1.60	2.40	-	-		1.50	2.90	-	-
<b>MFBX 190</b>		-	2.40	-	-		-	3.00	-	-

Filter series	Length	Filter element design - H series					Filter element design - N series		
		A03	A06	A10	A16	A25	M25 M60 M90	P10	P25
<b>MFBX 020</b>	<b>1</b>	7	10	23	28	42	59	51	54
	<b>2</b>	17	20	45	48	56	72	64	67
	<b>3</b>	21	24	50	55	59	76	74	75
<b>MFBX 030</b>	<b>1</b>	7	10	24	29	47	84	60	66
<b>MFBX 100</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>MFBX 180</b>	<b>1</b>	127	148	235	243	278	441	285	299
	<b>2</b>	231	262	358	382	388	472	404	412
<b>MFBX 190</b>	<b>2</b>	261	305	489	528	546	696	583	598

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

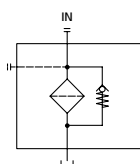
The reference fluid has a kinematic viscosity of 30 mm<sup>2</sup>/s (cSt) and a density of 0.86 kg/dm<sup>3</sup>.

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
<b>MFBX 020</b>	•
<b>MFBX 030</b>	•
<b>MFBX 100</b>	•
<b>MFBX 180</b>	•
<b>MFBX 190</b>	•



## Designation & Ordering code

### COMPLETE FILTER

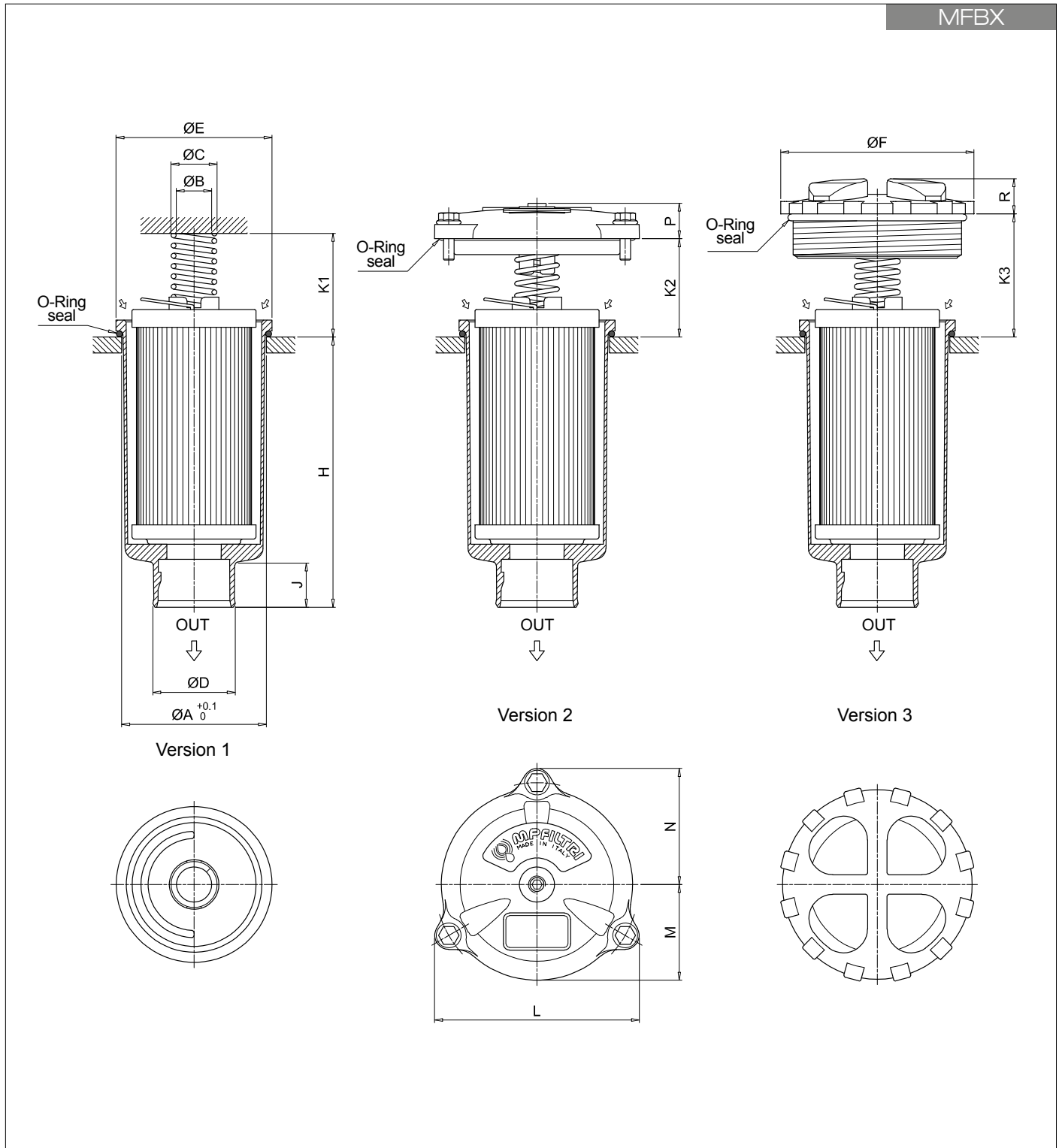
<b>Series and size</b>						Configuration example 1: <b>MFBX100</b>   <b>1</b>   <b>A</b>   <b>2</b>   <b>A10</b>   <b>H</b>   <b>E</b>   <b>P01</b>											
<b>MFBX020</b>   <b>MFBX030</b>   <b>MFBX100</b>   <b>MFBX180</b>   <b>MFBX190</b>						Configuration example 2: <b>MFBX180</b>   <b>2</b>   <b>V</b>   <b>1</b>   <b>M25</b>   <b>N</b>   <b>B</b>   <b>P01</b>											
Filter element with private spigot																	
<b>Length</b>		MFBX020	MFBX030	MFBX100	MFBX180	MFBX190											
<b>1</b>		•	•	•	•												
<b>2</b>		•		•	•	•											
<b>3</b>		•		•													
<b>4</b>				•													
<b>Seals</b>																	
<b>A</b> NBR																	
<b>V</b> FPM																	
<b>Version</b>		MFBX020	MFBX030	MFBX100	MFBX180	MFBX190											
<b>1</b> Without cover		•	•	•	•	•											
<b>2</b> With flanged cover type MPF			•	•	•	•											
<b>3</b> With threaded cover type MPT		•		•													
<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>						Filter media											
						Axx	Mxx	Pxx									
<b>N</b> 10 bar							•	•									
<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>2</b>   <b>M25</b>   <b>H</b>   <b>V</b>   <b></b>   <b>P01</b>											
<b>MFX020</b>   <b>MFX030</b>   <b>MFX100</b>   <b>MFX180</b>						Configuration example 2: <b>MFX100</b>   <b>1</b>   <b>A10</b>   <b>N</b>   <b>B</b>   <b>E</b>   <b>P01</b>											
Filter element with private spigot																	
<b>Element length</b>		MFX020	MFX030	MFX100	MFX180	MFX190											
<b>1</b>		•	•	•	•												
<b>2</b>		•		•	•	•											
<b>3</b>		•		•													
<b>4</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>						Filter media											
						Axx	Mxx	Pxx									
<b>N</b> 10 bar							•	•									
<b>H</b> 10 bar							•										
										<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		1.75 bar		<b>Pxx</b> Customized			

### ACCESSORIES

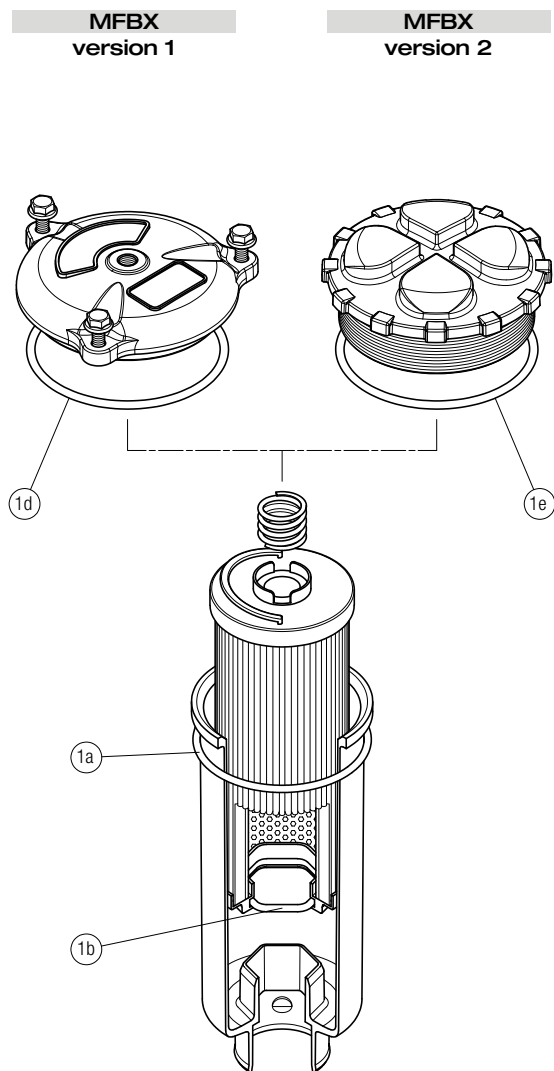
<b>Additional features</b>											page	
		MFBX020	MFBX030	MFBX100	MFBX180	MFBX190						
<b>TE</b>	Extension tube	•	•	•	•	•						248
<b>DFS</b>	Diffuser with fast lock connection			•								249



Filter size	Filter Length	ø A [mm]	ø B [mm]	ø C [mm]	ø D [mm]	ø E [mm]	ø F [mm]	H [mm]	J [mm]	K1 [mm]	K2 [mm]	K3 [mm]	L [mm]	M [mm]	N [mm]	P [mm]	R [mm]
<b>020</b>	1	52	20.5	26	32	56	75	111	24	42	-	36	-	-	-	-	18
	2	52	20.5	26	32	56	75	175	24	42	-	36	-	-	-	-	18
	3	52	20.5	26	32	56	75	214	24	42	-	36	-	-	-	-	18
<b>030</b>	1	60.5	20	25.5	32	68	-	93	21	33	35	-	92	42	52	18	-
	2	80.5	20	26	47	88	111	109	24	58	55	69	116	54	66	20	20
<b>100</b>	1	80.5	20	26	47	88	111	154	24	58	55	69	116	54	66	20	20
	2	80.5	20	26	47	88	111	232	24	58	55	69	116	54	66	20	20
	3	80.5	20	26	47	88	111	334	24	58	55	69	116	54	66	20	20
<b>180</b>	1	112.5	26	33.5	47	121	-	234	31	58	69	-	159	76	95	21	-
	2	112.5	26	33.5	47	121	-	447	31	58	69	-	159	76	95	21	-
<b>190</b>	2	112.5	26	33.5	50	121	-	454	38	58	69	-	159	76	95	21	-

# MFBX SPARE PARTS

Order number for spare parts



Item: <span style="float: right;">Q.ty: 1 pc.</span>		
1 (1a ÷ 1d)		
Filter series	Seal Kit code number	
	NBR	FPM
<b>MFBX 020</b>	02050713	02050714
<b>MFBX 030</b>	02050715	02050716
<b>MFBX 100</b>	02050717	02050718
<b>MFBX 180-190</b>	02050719	02050720







# 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 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

### Common applications:

- Light industrial equipment
- Mobile application

### 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)  $\pm 10\%$

### $\Delta p$ 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 [dm<sup>3</sup>]

Filter series	Weights [kg]				Volumes [dm <sup>3</sup> ]					
	Length	1	2	3	4	Length	1	2	3	4
<b>MPF 020</b>		0.30	-	-	-		0.26	-	-	-
<b>MPF 030</b>		0.40	-	-	-		0.29	-	-	-
<b>MPF 100</b>		0.61	0.64	0.67	0.74		0.64	0.85	1.20	1.65
<b>MPF 104</b>		0.82	0.96	1.02	1.25		0.64	0.85	1.20	1.65
<b>MPF 110</b>		0.64	0.68	0.71	0.78		-	-	-	-
<b>MPF 181</b>		2.20	3.00	-	-		2.50	4.00	-	-
<b>MPF 182</b>		2.30	3.10	-	-		2.50	4.00	-	-
<b>MPF 184</b>		2.55	3.45	-	-		2.65	4.45	-	-
<b>MPF 191</b>		-	3.00	-	-		-	4.25	-	-
<b>MPF 192</b>		-	3.10	-	-		-	4.25	-	-
<b>MPF 194</b>		-	3.45	-	-		-	4.45	-	-
<b>MPF 400</b>		3.35	3.65	3.90	-		3.70	4.60	5.40	-
<b>MPF 410</b>		3.55	3.85	4.10	-		3.70	4.60	5.40	-
<b>MPF 450-451</b>		3.95	4.25	4.50	-		3.70	4.60	5.40	-
<b>MPF 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>MPF 020</b>	<b>1</b>	7	10	23	28	42	59	51	54
<b>MPF 030</b>	<b>1</b>	7	10	24	29	47	84	60	66
<b>MPF 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>MPF 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>MPF 191-192-194</b>	<b>2</b>	261	305	489	528	546	696	583	598
<b>MPF 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>MPF 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>MPF 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>MPF 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.

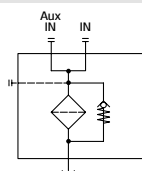
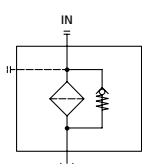
The reference fluid has a kinematic viscosity of 30 mm<sup>2</sup>/s (cSt) and a density of 0.86 kg/dm<sup>3</sup>.

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.

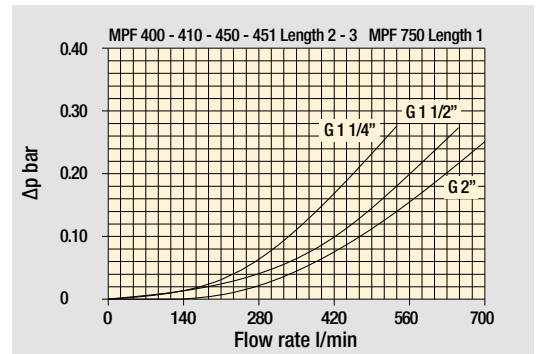
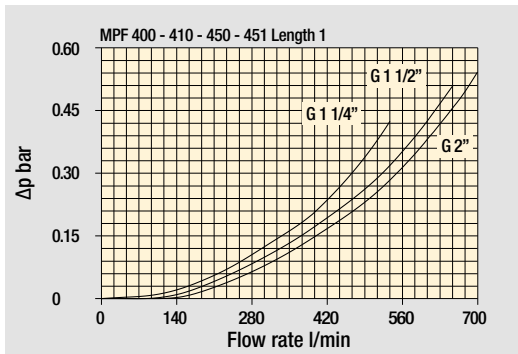
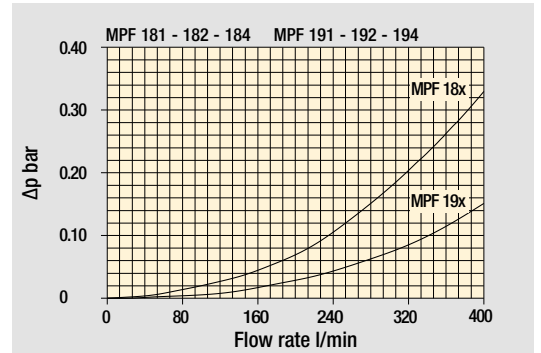
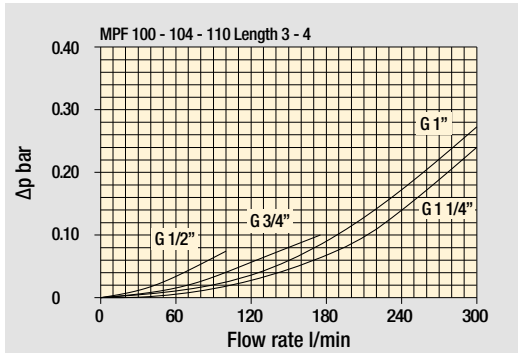
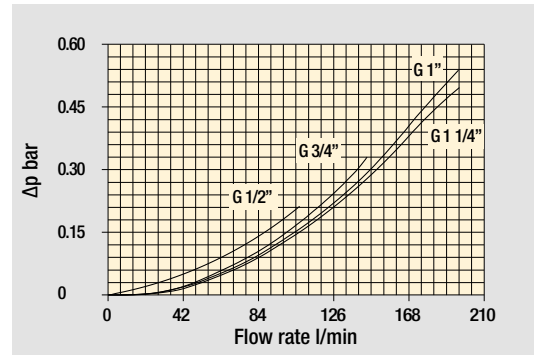
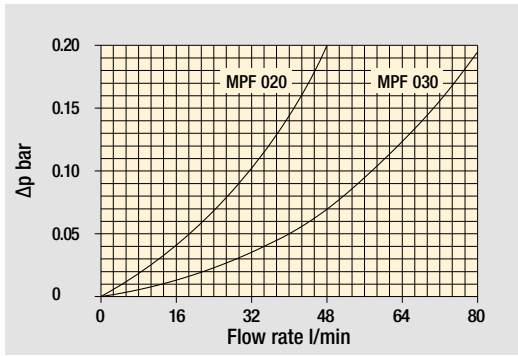
## Hydraulic symbols

Filter series	Style 1 connection	Style 2 connections
<b>MPF 020</b>	•	
<b>MPF 030</b>	•	
<b>MPF 100</b>	•	
<b>MPF 104</b>	•	
<b>MPF 110</b>		•
<b>MPF 181</b>	•	
<b>MPF 182</b>		•
<b>MPF 184</b>	•	•
<b>MPF 191</b>	•	
<b>MPF 192</b>	•	
<b>MPF 194</b>	•	•
<b>MPF 400</b>	•	
<b>MPF 410</b>		•
<b>MPF 450</b>	•	
<b>MPF 451</b>		•
<b>MPF 750</b>	•	

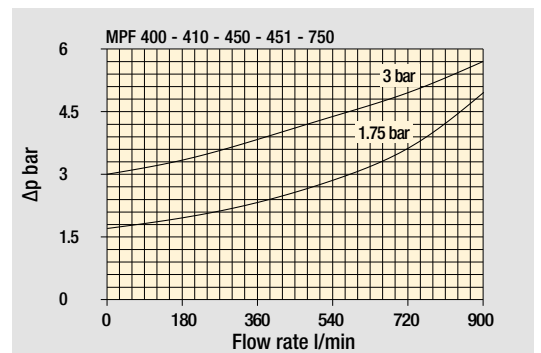
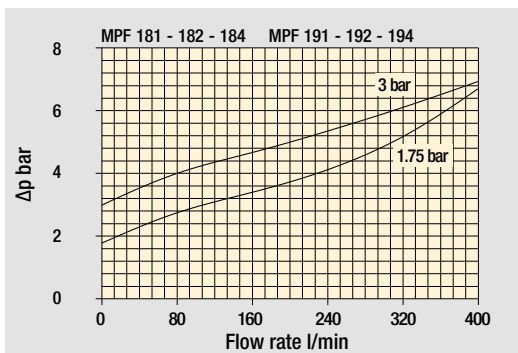
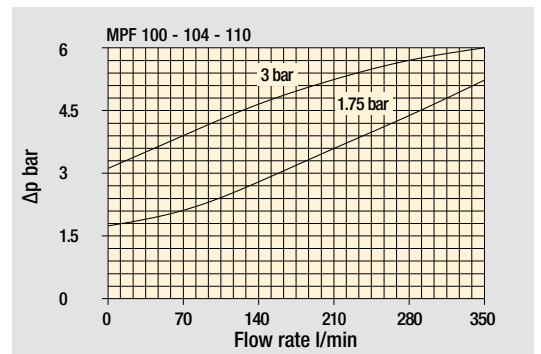
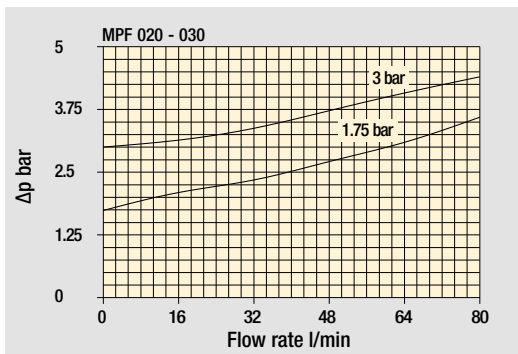


## Pressure drop

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



### Bypass valve pressure drop

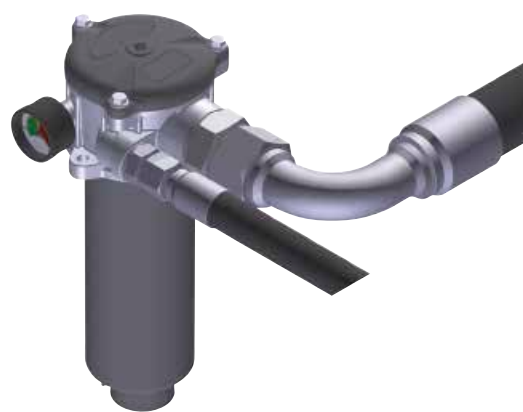


The curves are plotted using mineral oil with density of 0.86 kg/dm<sup>3</sup> in compliance with ISO 3968.  $\Delta p$  varies proportionally with density.

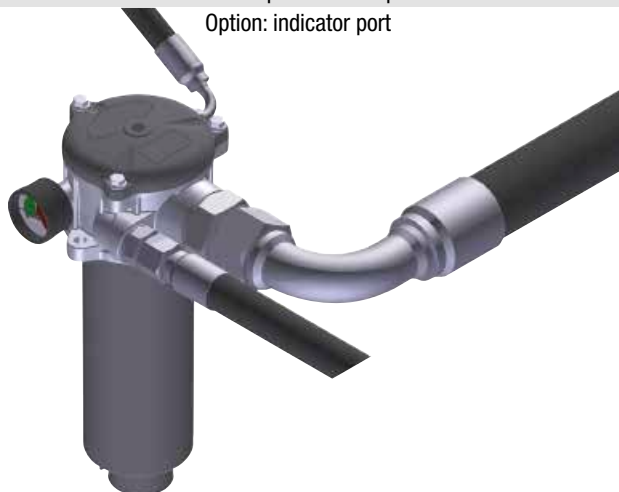
Standard - Single IN port



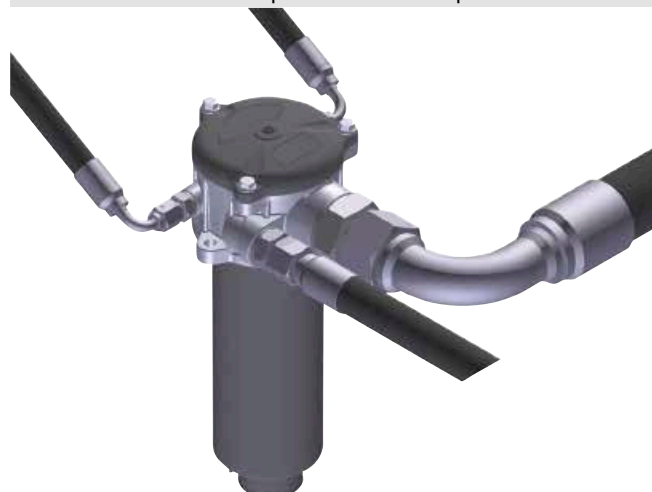
Double IN port  
Option: double indicator port



Double IN port - Drain port  
Option: indicator port



Double IN port - Double drain port



# MPF MPF020 - MPF030

## Designation & Ordering code

### COMPLETE FILTER

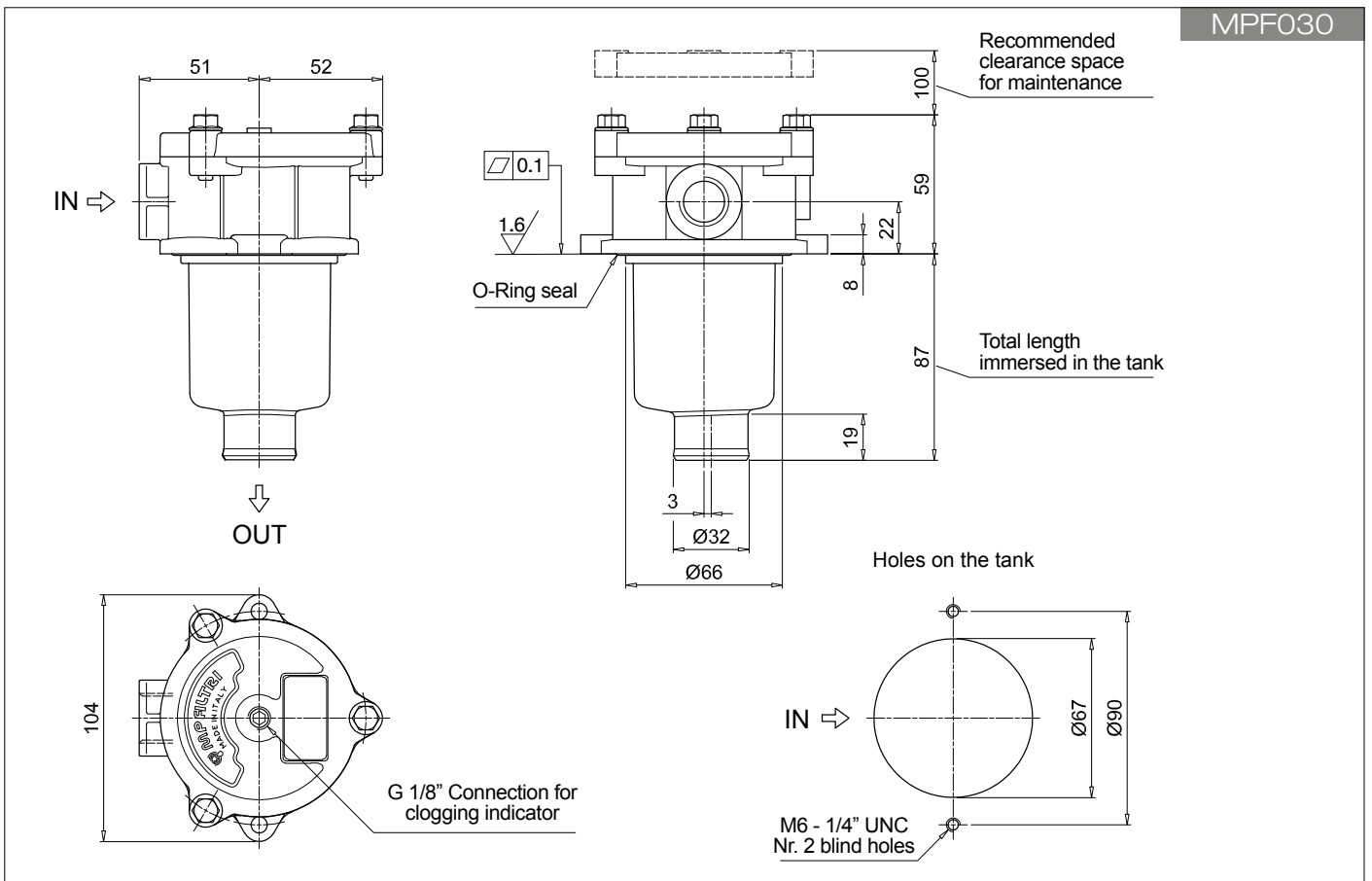
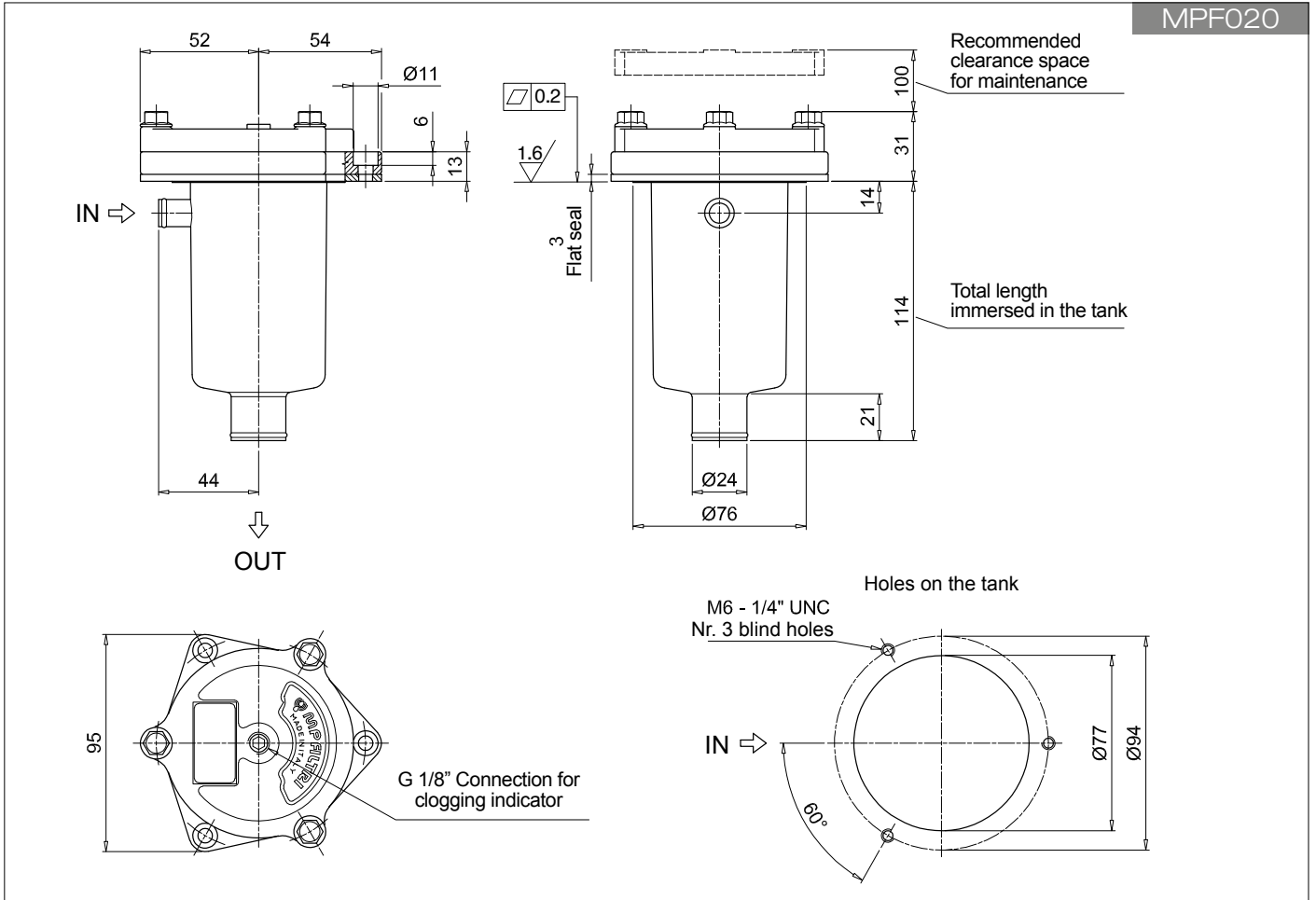
<b>Series and size</b>	Configuration example 1:	<b>MPF020</b>	<b>1</b>	<b>A</b>	<b>P1</b>	<b>A10</b>	<b>H</b>	<b>E</b>	<b>P01</b>
<b>MPF020 MPF030</b> Filter element with standard spigot	Configuration example 2:	<b>MPF030</b>	<b>1</b>	<b>V</b>	<b>G1</b>	<b>M25</b>	<b>N</b>	<b>B</b>	<b>P01</b>
<b>Length</b>									
<b>1</b>									
<b>Seals and treatments</b>									
<b>A</b> NBR									
<b>V</b> FPM									
<b>W</b> NBR head anodized									
<b>Z</b> FPM head anodized									
<b>Connections</b>	<b>Size 20</b>	<b>Size 30</b>							
<b>P1</b> Hose barb ø12	•								
<b>G1</b> G 1/2"		•							
<b>G4</b> 1/2" NPT		•							
<b>G7</b> SAE 8 - 3/4" - 16 UNF		•							
<b>Filtration rating (filter media)</b>									
<b>A03</b> Inorganic microfiber 3 µm									
<b>A06</b> Inorganic microfiber 6 µm									
<b>A10</b> Inorganic microfiber 10 µm									
<b>A16</b> Inorganic microfiber 16 µm									
<b>A25</b> Inorganic microfiber 25 µm									
<b>M25</b> Wire mesh 25 µm									
<b>M60</b> Wire mesh 60 µm									
<b>M90</b> Wire mesh 90 µm									
<b>P10</b> Resin impregnated paper 10 µm									
<b>P25</b> Resin impregnated paper 25 µm									
<b>Element Δp</b>	Filter media								
	<b>Axx</b>	<b>Mxx</b>	<b>Pxx</b>						
<b>N</b> 10 bar		•	•						
<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>MF030</b>	<b>1</b>	<b>A10</b>	<b>H</b>	<b>B</b>	<b>E</b>	<b>P01</b>
<b>MF030</b> Filter element with standard spigot	Configuration example 2:	<b>MF030</b>	<b>1</b>	<b>M25</b>	<b>N</b>	<b>V</b>		<b>P01</b>
<b>Element length</b>								
<b>1</b>								
<b>Filtration rating (filter media)</b>								
<b>A03</b> Inorganic microfiber 3 µm								
<b>A06</b> Inorganic microfiber 6 µm								
<b>A10</b> Inorganic microfiber 10 µm								
<b>A16</b> Inorganic microfiber 16 µm								
<b>A25</b> Inorganic microfiber 25 µm								
<b>M25</b> Wire mesh 25 µm								
<b>M60</b> Wire mesh 60 µm								
<b>M90</b> Wire mesh 90 µm								
<b>P10</b> Resin impregnated paper 10 µm								
<b>P25</b> Resin impregnated paper 25 µm								
<b>Element Δp</b>	Filter media							
	<b>Axx</b>	<b>Mxx</b>	<b>Pxx</b>					
<b>N</b> 10 bar		•	•					
<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	1.75 bar	<b>Pxx</b> Customized		

### ACCESSORIES

<b>Indicators</b>	page		page
<b>BVA</b> Axial pressure gauge	240	<b>BEA</b> Electrical pressure indicator	239
<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
<b>BVQ</b> Visual pressure indicator with manual reset	241		
<b>Additional features</b>	page		
<b>TE</b> Extension tube	248		
<b>T5</b> Filler plug M30x1.5	249		



# MPF MPF100 - MPF104

## Designation & Ordering code

### COMPLETE FILTER

<b>Series and size</b>		Configuration example 1: <b>MPF100</b>   <b>2</b>   <b>W</b>   <b>G3</b>   <b>A06</b>   <b>W</b>   <b>B</b>   <b>P01</b>									
<b>MPF100</b>   <b>MPF104</b> Filter element with standard spigot		Configuration example 2: <b>MPF104</b>   <b>4</b>   <b>A</b>   <b>G8</b>   <b>P10</b>   <b>N</b>   <b>E</b>   <b>P01</b>									
<b>Length</b>											
1   2   3   4											
<b>Seals and treatments</b>											
<b>A</b> NBR											
<b>V</b> FPM											
<b>W</b> NBR head anodized											
<b>Z</b> FPM head anodized											
<b>Connections</b>		<b>Size 100</b>		<b>Size 104</b>		<b>Connections</b>		<b>Size 100</b>		<b>Size 104</b>	
<b>G1</b> G 1/2"		•		•		<b>G7</b> SAE 8 - 3/4" - 16 UNF		•		•	
<b>G2</b> G 3/4"		•		•		<b>G8</b> SAE 12 - 1 1/16" - 12 UN		•		•	
<b>G3</b> G 1"		•		•		<b>G9</b> SAE 16 - 1 5/16" - 12 UN		•		•	
<b>G4</b> 1/2" NPT		•		•							
<b>G5</b> 3/4" NPT		•		•							
<b>G6</b> 1" NPT		•		•							
<b>Filtration rating (filter media)</b>											
<b>A03</b> Inorganic microfiber 3 µm											
<b>A06</b> Inorganic microfiber 6 µm											
<b>A10</b> Inorganic microfiber 10 µm											
<b>A16</b> Inorganic microfiber 16 µm											
<b>A25</b> Inorganic microfiber 25 µm											
<b>M25</b> Wire mesh 25 µm											
<b>M60</b> Wire mesh 60 µm											
<b>M90</b> Wire mesh 90 µm											
<b>P10</b> Resin impregnated paper 10 µm											
<b>P25</b> Resin impregnated paper 25 µm											
<b>Element Δp</b>				<b>Filter media</b>							
		<b>Axx</b>   <b>Mxx</b>   <b>Pxx</b>									
<b>N</b> 10 bar				•		•					
<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	

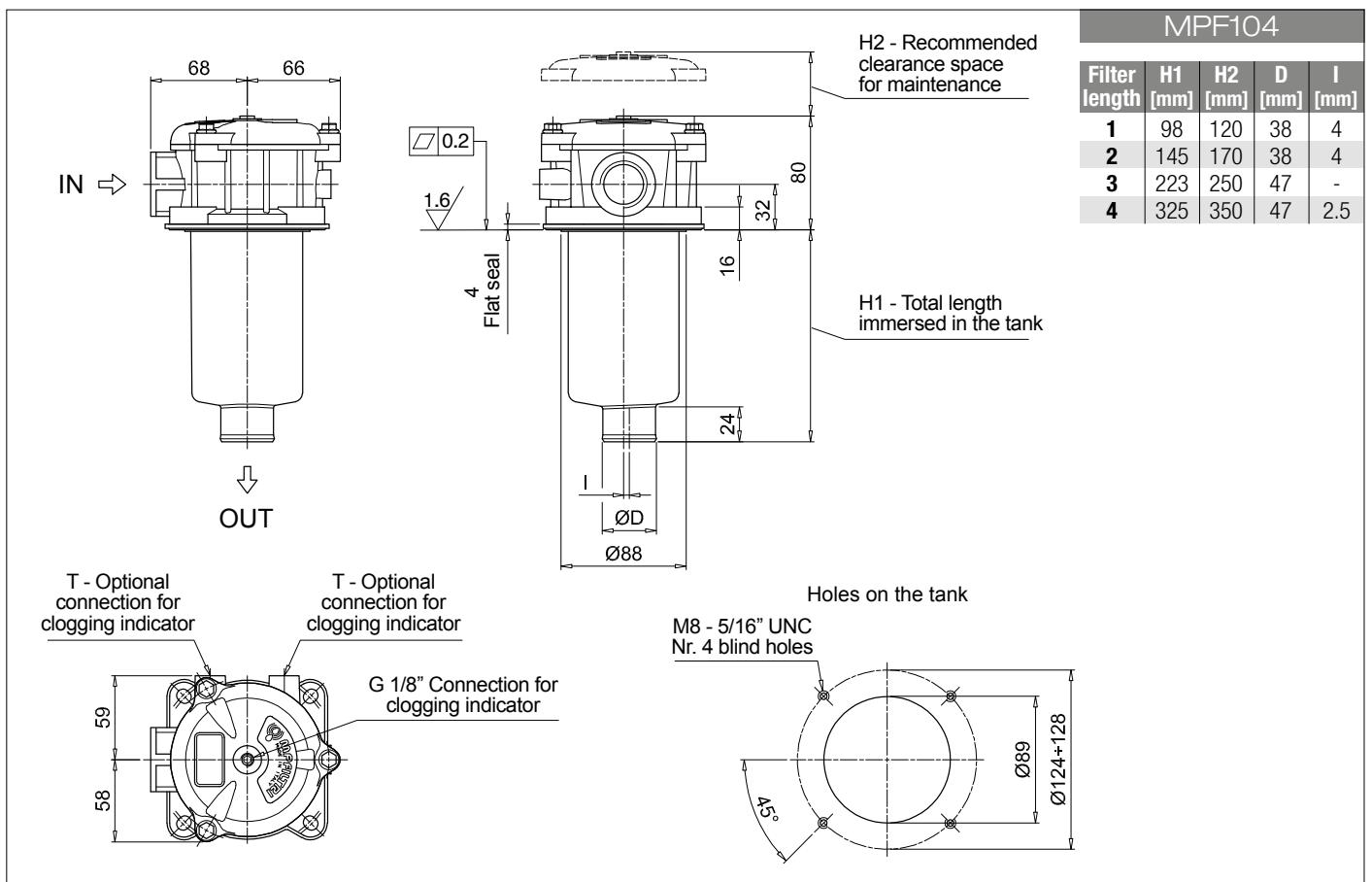
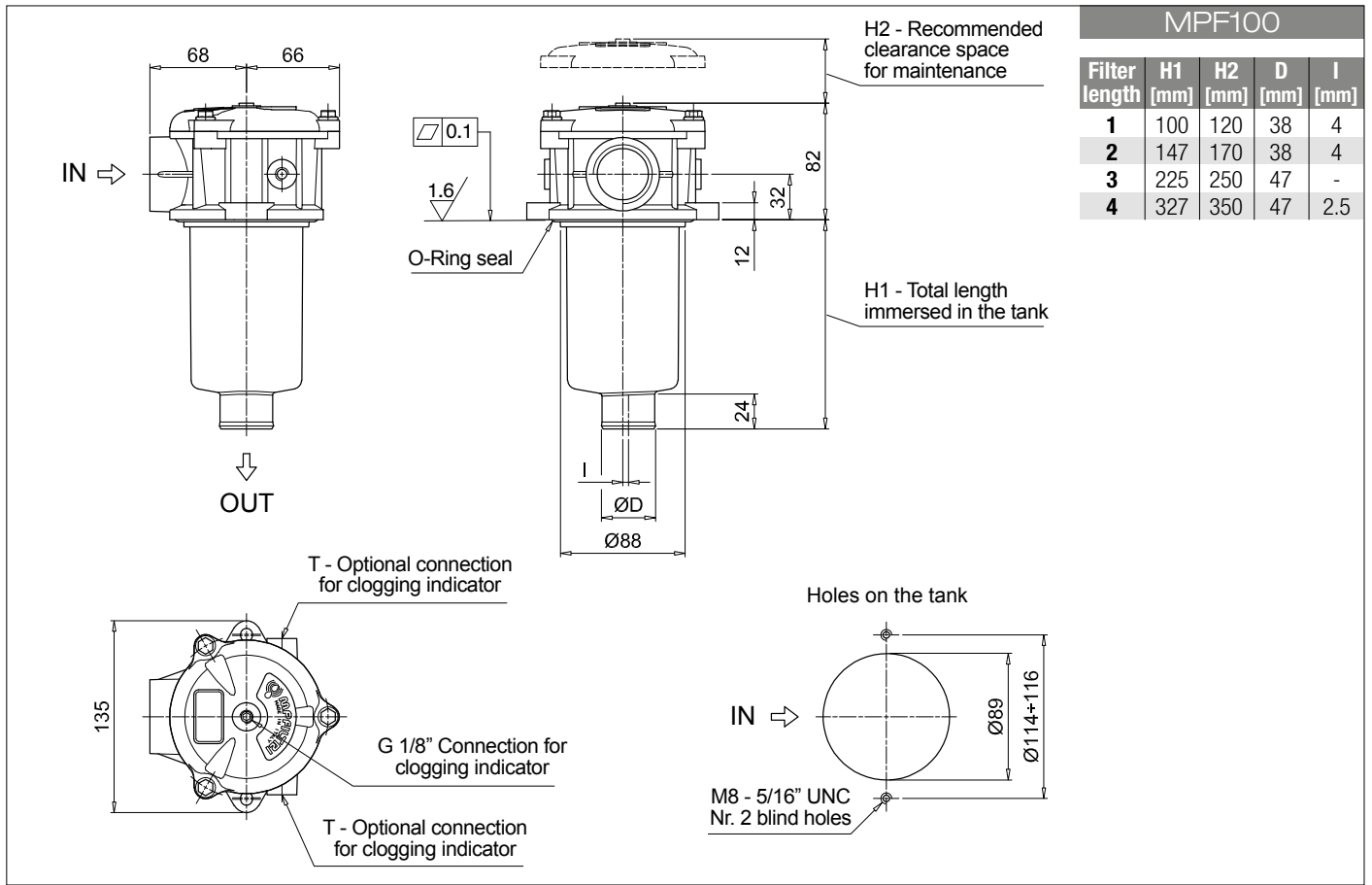
### FILTER ELEMENT

<b>Element series and size</b>		Configuration example 1: <b>MF100</b>   <b>2</b>   <b>A06</b>   <b>W</b>   <b>B</b>   <b></b>   <b>P01</b>									
<b>MF100</b> Filter element with standard spigot		Configuration example 2: <b>MF100</b>   <b>4</b>   <b>P10</b>   <b>N</b>   <b>B</b>   <b>E</b>   <b>P01</b>									
<b>Element length</b>											
1   2   3   4											
<b>Filtration rating (filter media)</b>											
<b>A03</b> Inorganic microfiber 3 µm											
<b>A06</b> Inorganic microfiber 6 µm											
<b>A10</b> Inorganic microfiber 10 µm											
<b>A16</b> Inorganic microfiber 16 µm											
<b>A25</b> Inorganic microfiber 25 µm											
<b>M25</b> Wire mesh 25 µm											
<b>M60</b> Wire mesh 60 µm											
<b>M90</b> Wire mesh 90 µm											
<b>P10</b> Resin impregnated paper 10 µm											
<b>P25</b> Resin impregnated paper 25 µm											
<b>Element Δp</b>				<b>Filter media</b>							
		<b>Axx</b>   <b>Mxx</b>   <b>Pxx</b>									
<b>N</b> 10 bar				•		•					
<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>B</b> NBR		<b>E</b> 3 bar	
								<b>V</b> FPM		1.75 bar	
										<b>Execution</b>	
										<b>P01</b> MP Filtri standard	
										<b>Pxx</b> Customized	

### ACCESSORIES

<b>Indicators</b>		<b>page</b>		<b>page</b>	
<b>BVA</b> Axial pressure gauge	240	<b>BEA</b> Electrical pressure indicator	239		
<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		
<b>BVQ</b> Visual pressure indicator with manual reset	241				
<b>Additional features</b>		<b>page</b>		<b>page</b>	
<b>TE</b> Extension tube	248	<b>T5</b> Filler plug M30x1.5	249		
<b>DFS</b> Diffuser with fast lock connection	249	<b>DPT</b> Dipstick	249		





## Designation & Ordering code

### COMPLETE FILTER

<b>Series and size</b>	Configuration example 1:	MPF110	2	A	G2	1	A16	H	E	P01
<b>MPF110</b> Filter element with standard spigot	Configuration example 2:	MPF110	4	V	G12	1	M60	N	B	P01

<b>Length</b>	1	2	3	4
---------------	---	---	---	---

<b>Seals and treatments</b>	<b>A</b> NBR	<b>W</b> NBR head anodized
	<b>V</b> FPM	<b>Z</b> FPM head anodized

Main Connections	Aux size 1	Aux size 2	Main Connections	Aux size 1	Aux size 2
<b>G1</b> G 1/2"	G 3/8"	G 1/2"	<b>G7</b> SAE 8 - 3/4" - 16 UNF	SAE 6 - 9/16" - 18 UNF	SAE 8 - 3/4" - 16 UNF
<b>G2</b> G 3/4"			<b>G8</b> SAE 12 - 1 1/16" - 12 UN		
<b>G3</b> G 1"			<b>G9</b> SAE 16 - 1 5/16" - 12 UN		
<b>G4</b> 1/2" NPT	3/8" NPT	1/2" NPT	<b>G10</b> G 1 1/4"	G 3/8"	G 1/2"
<b>G5</b> 3/4" NPT			<b>G11</b> 1 1/4" NPT	3/8" NPT	1/2" NPT
<b>G6</b> 1" NPT			<b>G12</b> SAE 20 - 1 5/8" - 12 UN	SAE 6 - 9/16" - 18 UNF	SAE 8 - 3/4" - 16 UNF

<b>Aux connection</b> - see previous table	<b>1</b> Aux size 1	<b>2</b> Aux size 2
--	---------------------	---------------------

<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

Element Δp	Filter media		
	Axx	Mxx	Pxx
<b>N</b> 10 bar		•	•
<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:	MF100	2	A16	H	B	E	P01
<b>MF100</b> Filter element with standard spigot	Configuration example 2:	MF100	4	M60	N	V		P01

<b>Element length</b>	1	2	3	4
-----------------------	---	---	---	---

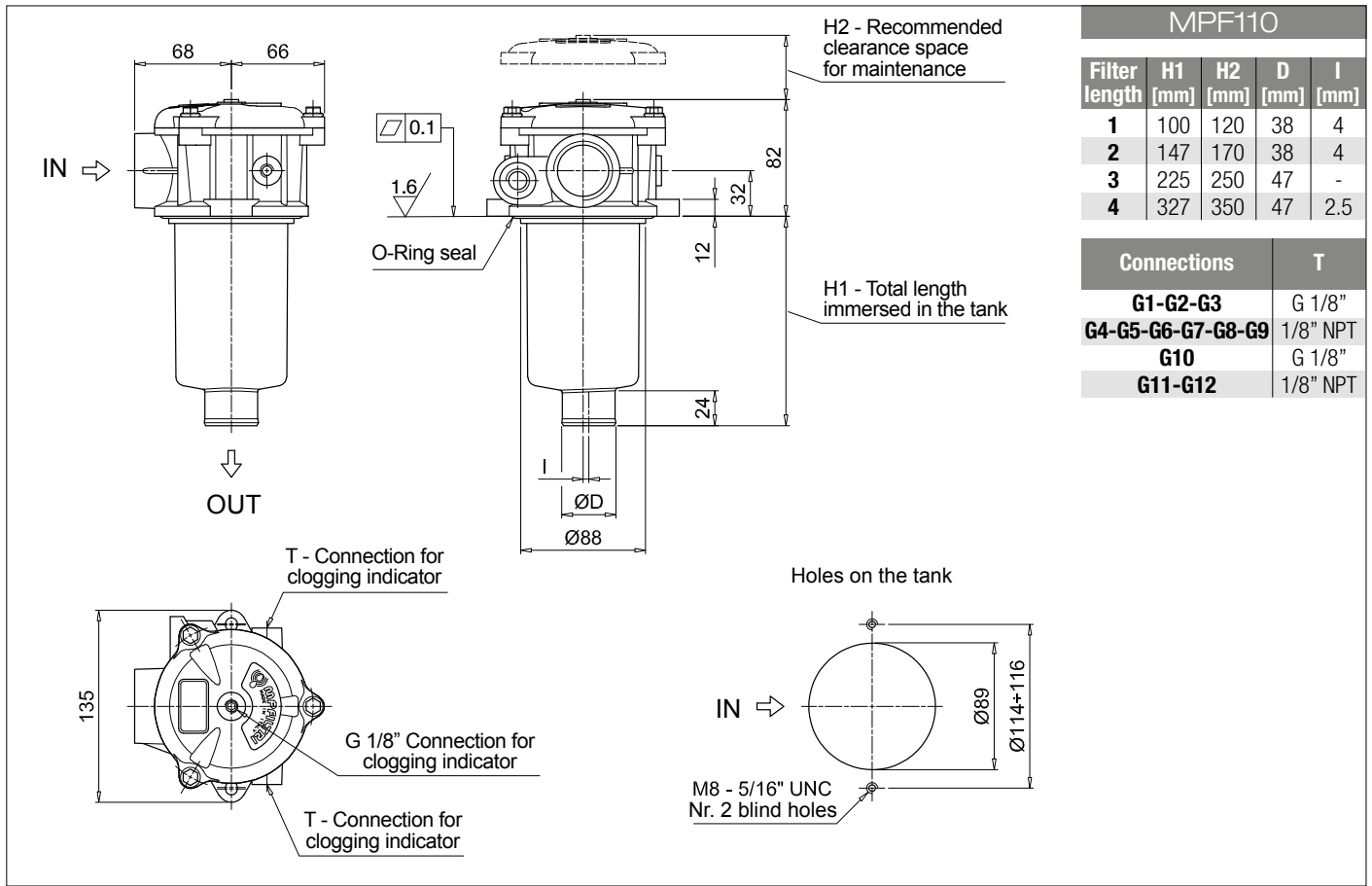
<b>Filtration rating (filter media)</b>	<b>A03</b> Inorganic microfiber 3 µm	<b>M25</b> Wire mesh 25 µm
	<b>A06</b> Inorganic microfiber 6 µm	<b>M60</b> Wire mesh 60 µm
	<b>A10</b> Inorganic microfiber 10 µm	<b>M90</b> Wire mesh 90 µm
	<b>A16</b> Inorganic microfiber 16 µm	<b>P10</b> Resin impregnated paper 10 µm
	<b>A25</b> Inorganic microfiber 25 µm	<b>P25</b> Resin impregnated paper 25 µm

Element Δp	Filter media		
	Axx	Mxx	Pxx
<b>N</b> 10 bar		•	•
<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

Indicators	page		page
<b>BVA</b> Axial pressure gauge	240	<b>BEA</b> Electrical pressure indicator	239
<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
<b>BVQ</b> Visual pressure indicator with manual reset	241		
Additional features	page		page
<b>TE</b> Extension tube	248	<b>T5</b> Filler plug M30x1.5	249
<b>DFS</b> Diffuser with fast lock connection	249	<b>DPT</b> Dipstick	249



MPF110				
Filter length	H1 [mm]	H2 [mm]	D [mm]	I [mm]
1	100	120	38	4
2	147	170	38	4
3	225	250	47	-
4	327	350	47	2.5

Connections	T
<b>G1-G2-G3</b>	G 1/8"
<b>G4-G5-G6-G7-G8-G9</b>	1/8" NPT
<b>G10</b>	G 1/8"
<b>G11-G12</b>	1/8" NPT

# MPF MPF181 - MPF191

## Designation & Ordering code

### COMPLETE FILTER

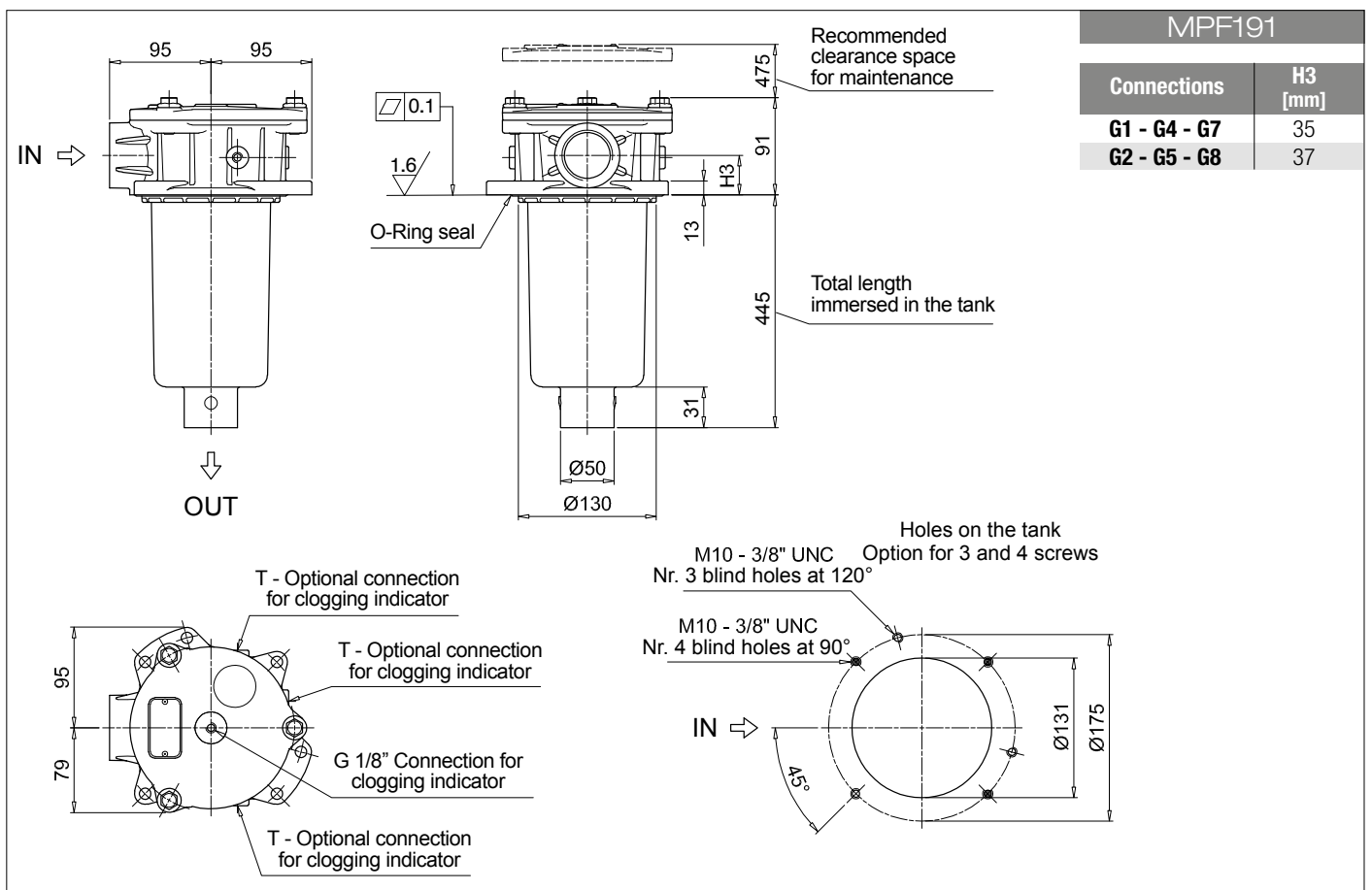
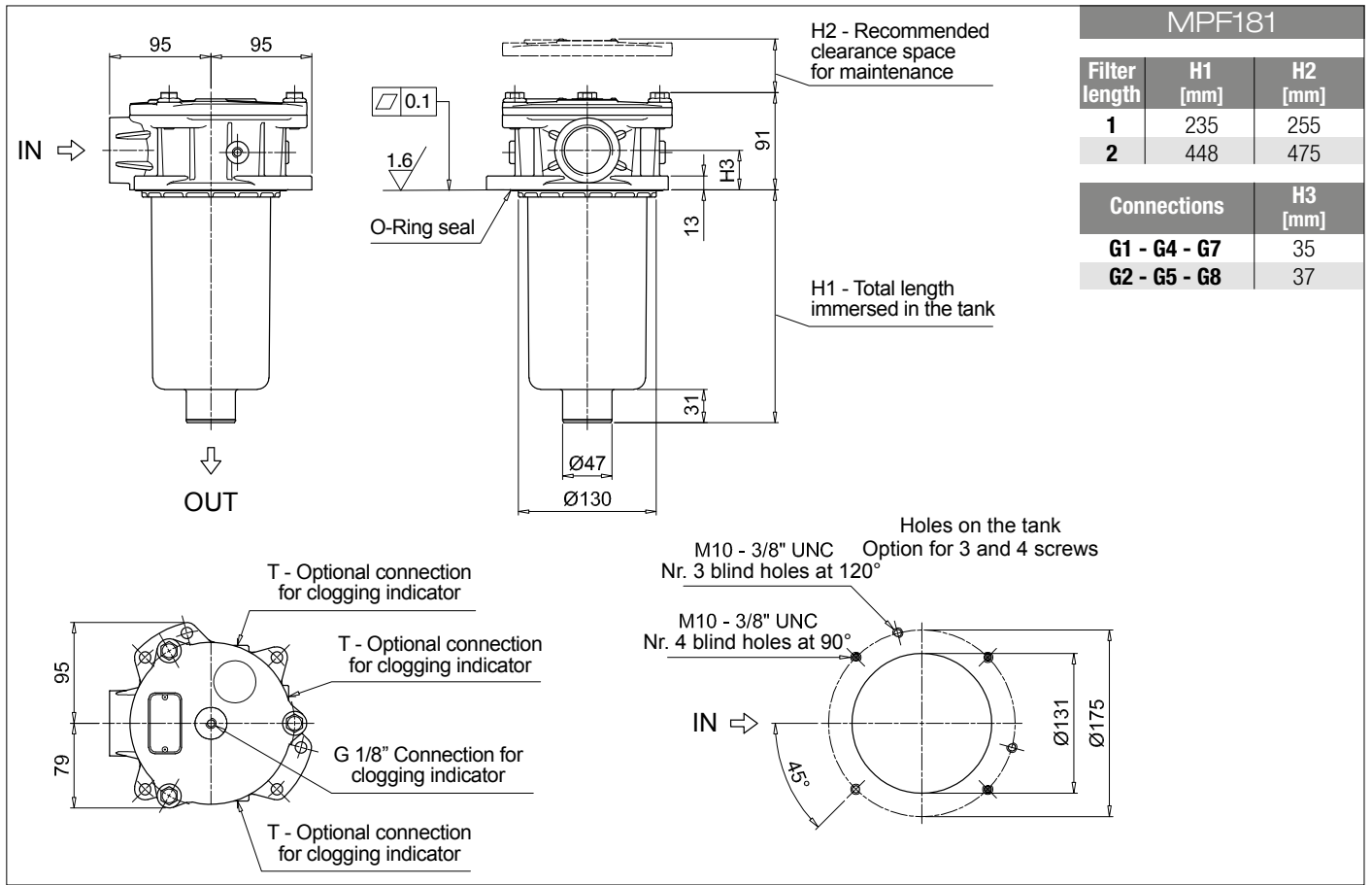
<b>Series and size</b>			Configuration example 1: <b>MPF181</b>   <b>1</b>   <b>A</b>   <b>G1</b>   <b>A25</b>   <b>H</b>   <b>E</b>   <b>P01</b>								
<b>MPF181</b>   <b>MPF191</b> Filter element with standard spigot			Configuration example 2: <b>MPF191</b>   <b>2</b>   <b>V</b>   <b>G2</b>   <b>P10</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										
			Filter media								
<b>Element Δp</b>	<b>Axx</b>	<b>Mxx</b>	<b>Pxx</b>								
<b>N</b> 10 bar		•	•								
<b>H</b> 10 bar		•									
<b>W</b> 10 bar, compatible with fluids HFA, HFB and HFC	•	•									
			Bypass valve		Execution						
			<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>MF180</b>   <b>1</b>   <b>A25</b>   <b>H</b>   <b>B</b>   <b>E</b>   <b>P01</b>								
<b>MF180</b>   <b>MF190</b> Filter element with standard spigot			Configuration example 2: <b>MF190</b>   <b>2</b>   <b>P10</b>   <b>N</b>   <b>V</b>   <b></b>   <b>P01</b>								
<b>Element length</b>		<b>Size 180</b>	<b>Size 190</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										
			Filter media								
<b>Element Δp</b>	<b>Axx</b>	<b>Mxx</b>	<b>Pxx</b>								
<b>N</b> 10 bar		•	•								
<b>H</b> 10 bar		•									
<b>W</b> 10 bar, compatible with fluids HFA, HFB and HFC	•	•									
			Seals		Bypass valve		Execution				
			<b>B</b> NBR		<b>E</b> 3 bar		<b>P01</b> MP Filtri standard				
			<b>V</b> FPM		<b></b> 1.75 bar		<b>Pxx</b> Customized				

### ACCESSORIES

<b>Indicators</b>		page			page
<b>BVA</b> Axial pressure gauge	240		<b>BEA</b> Electrical pressure indicator	239	
<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	
<b>BVQ</b> Visual pressure indicator with manual reset	241				
<b>Additional features</b>		page			
<b>TE</b> Extension tube	248				
<b>Sxx</b> Extension tube	248				
<b>T5</b> Filler plug M30x1.5	249				



# MPF MPF182 - MPF192

## Designation & Ordering code

### COMPLETE FILTER

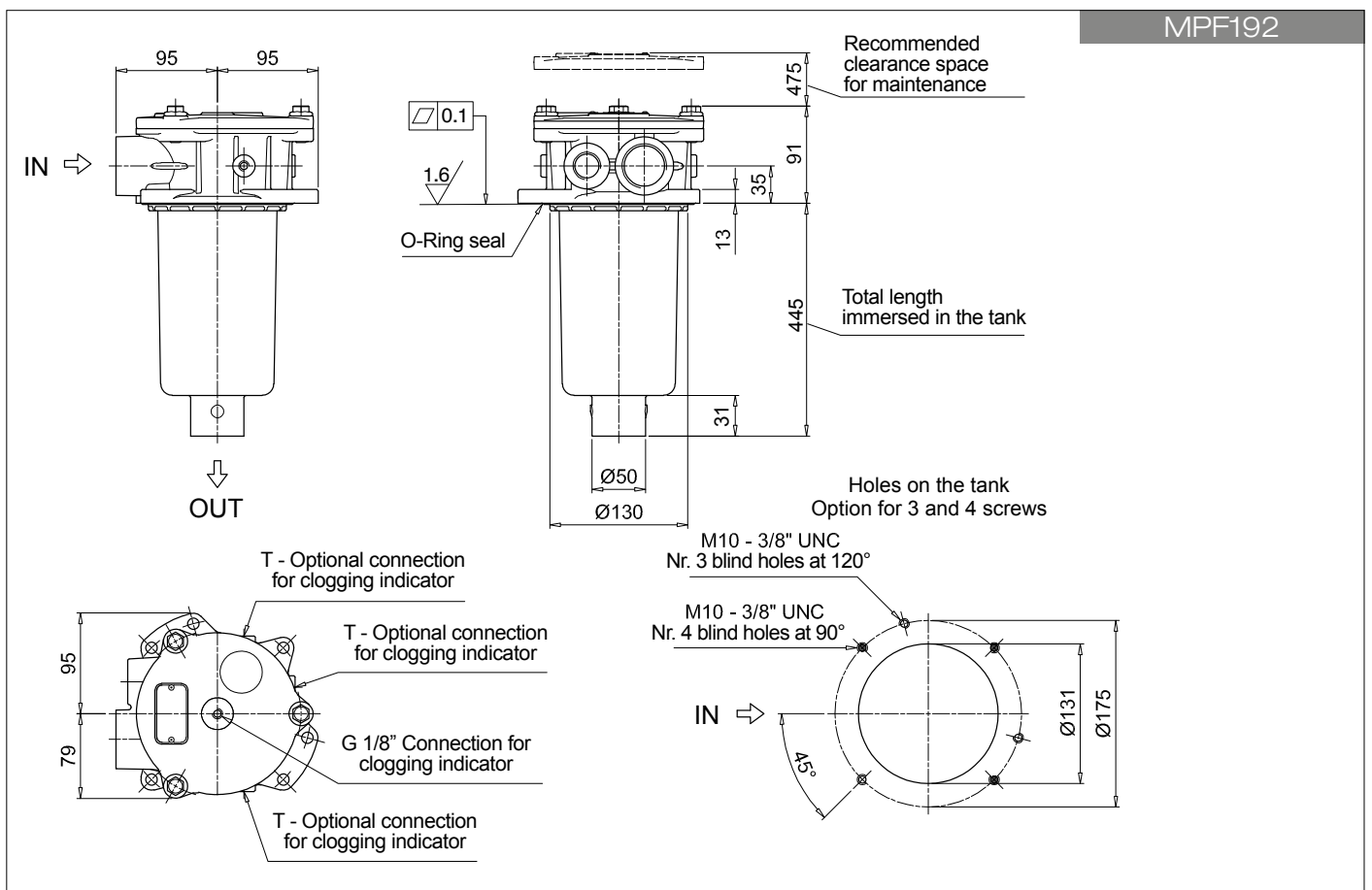
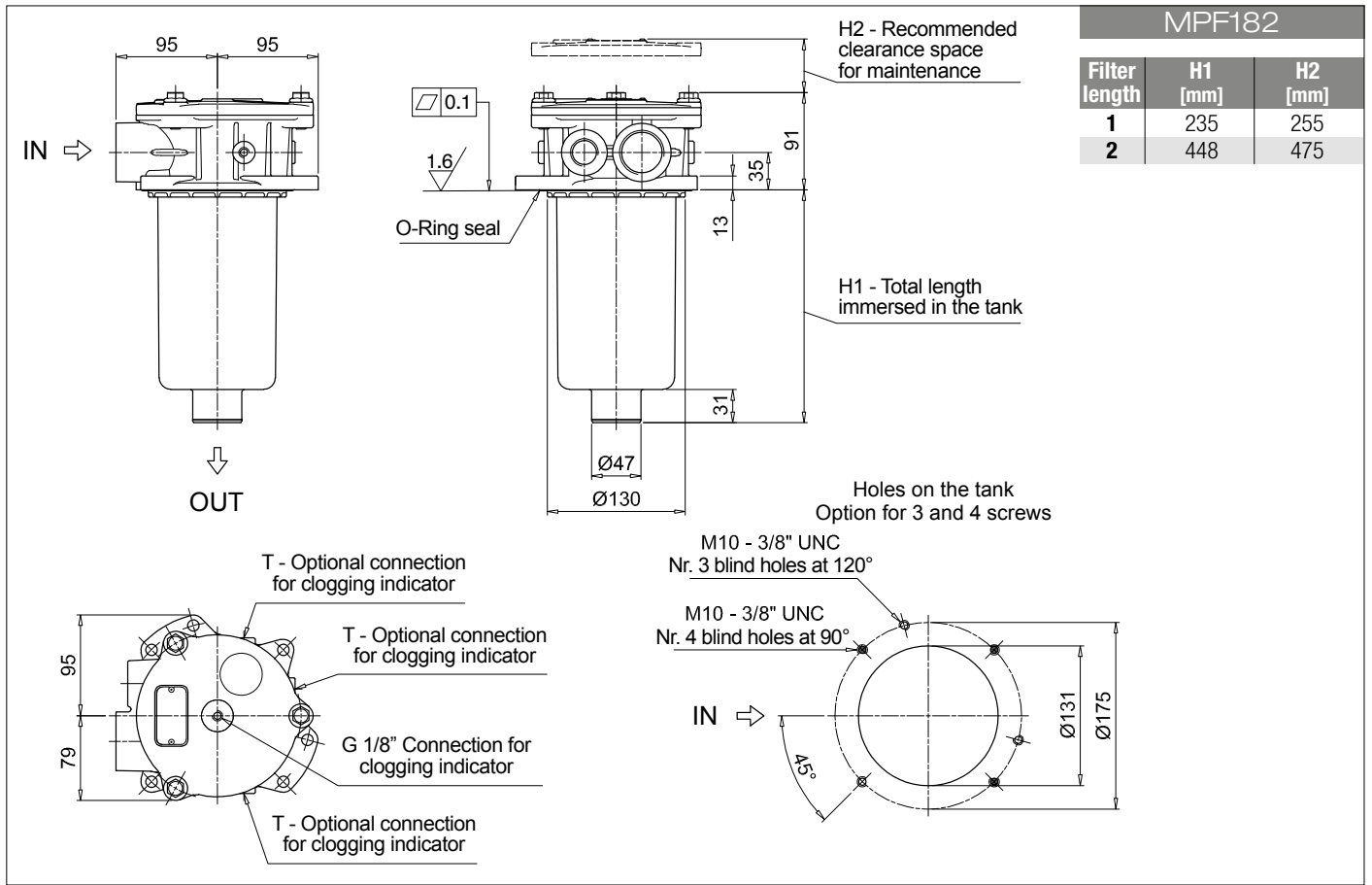
<b>Series and size</b>		Configuration example 1: <b>MPF182</b>   1   A   G1   1   A25   H   E   P01									
<b>MPF182</b>   <b>MPF192</b>	Filter element with standard spigot	Configuration example 2: <b>MPF192</b>   2   V   G4   2   P10   N   B   P01									
<b>Length</b>		Size 182	Size 192								
1		•									
2		•	•								
<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>Main Connections</b>		Aux size 1	Aux size 2								
<b>G1</b>	G 1 1/4"	G 1/2"	G 3/4"								
<b>G4</b>	1 1/4" NPT	1/2" NPT	3/4" NPT								
<b>G7</b>	SAE 20 - 1 5/8" - 12 UN	SAE 8 - 3/16" - 16 UNF	SAE 12 - 1 1/16" - 12 UN								
<b>Aux connection</b> - see previous table											
1	Aux size 1	2	Aux size 2								
<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>		Filter media									
		Axx	Mxx	Pxx							
<b>N</b>	10 bar		•	•							
<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>MF180</b>   1   A25   H   B   E   P01									
<b>MF180</b>   <b>MF190</b>	Filter element with standard spigot	Configuration example 2: <b>MF190</b>   2   P10   N   V     P01									
<b>Element length</b>		Size 180	Size 190								
1		•									
2		•	•								
<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>		Filter media									
		Axx	Mxx	Pxx							
<b>N</b>	10 bar		•	•							
<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
<b>BVA</b>	Axial pressure gauge	240	<b>BEA</b>	Electrical pressure indicator	239
<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
<b>BVQ</b>	Visual pressure indicator with manual reset	241			
<b>Additional features</b>		page			
<b>TE</b>	Extension tube	248			
<b>Sxx</b>	Extension tube	248			
<b>T5</b>	Filler plug M30x1.5	249			



# MPF MPF184 - MPF194

## Designation & Ordering code

### COMPLETE FILTER

<b>Series and size</b>			Configuration example 1: <b>MPF184</b>   <b>1</b>   <b>A</b>   <b>G1</b>   <b>A25</b>   <b>H</b>   <b>E</b>   <b>P01</b>								
<b>MPF184</b>   <b>MPF194</b> Filter element with standard spigot			Configuration example 2: <b>MPF194</b>   <b>2</b>   <b>V</b>   <b>F3</b>   <b>P10</b>   <b>N</b>   <b>B</b>   <b>P01</b>								
<b>Length</b>		<b>Size 184</b>	<b>Size 194</b>								
<b>1</b>		•									
<b>2</b>		•	•								
<b>Seals and treatments</b>											
<b>A</b> NBR		<b>W</b> NBR head anodized									
<b>V</b> FPM		<b>Z</b> FPM head anodized									
<b>Main Connections</b>		<b>Rear connections</b>		<b>Main Connections</b>		<b>Rear connections</b>					
<b>G1</b> G 1 1/4"		-		<b>G13</b> G 1 1/2"		-					
<b>G2</b> G 1 1/4"		G 1 1/4"		<b>G14</b> G 1 1/2"		G 1 1/4"					
<b>G4</b> 1 1/4" NPT		-		<b>G15</b> 1 1/2" NPT		-					
<b>G5</b> 1 1/4" NPT		1 1/4" NPT		<b>G16</b> 1 1/2" NPT		1 1/4" NPT					
<b>G7</b> SAE 20 - 1 5/8" - 12 UN		-		<b>F1</b> 1 1/2" SAE 3000 psi/M		-					
<b>G8</b> SAE 20 - 1 5/8" - 12 UN		SAE 20 - 1 5/8" - 12 UN		<b>F2</b> 1 1/2" SAE 3000 psi/UNC		-					
<b>G10</b> SAE 24 - 1 7/8" - 12 UN		-		<b>F3</b> 1 1/2" SAE 3000 psi/M		1 1/2" SAE 3000 psi/M					
<b>G11</b> SAE 24 - 1 7/8" - 12 UN		SAE 20 - 1 5/8" - 12 UN		<b>F4</b> 1 1/2" SAE 3000 psi/UNC		1 1/2" SAE 3000 psi/UNC					
<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>Axx</b>	<b>Mxx</b>	<b>Pxx</b>						
<b>N</b> 10 bar				•	•						
<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			

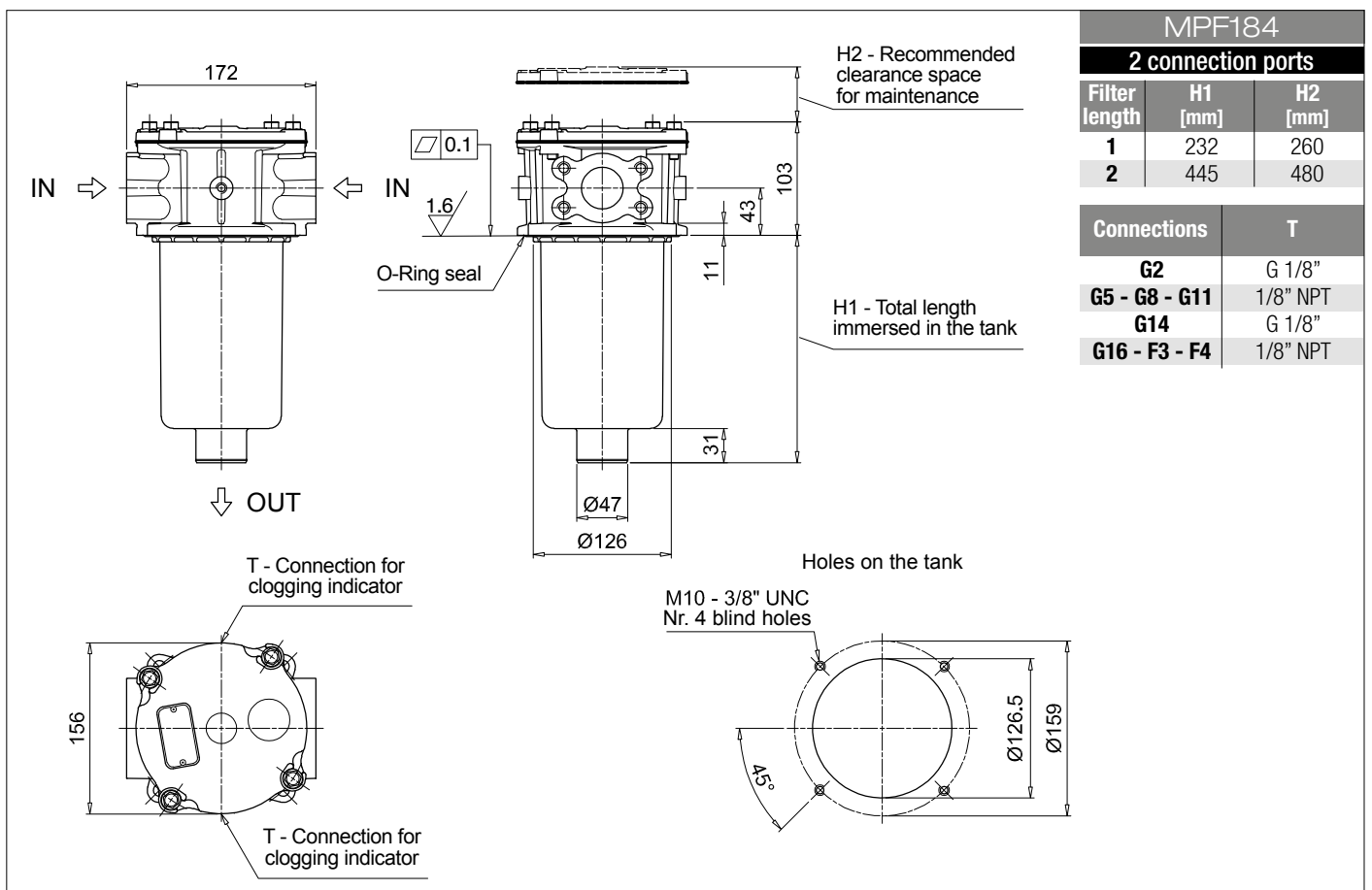
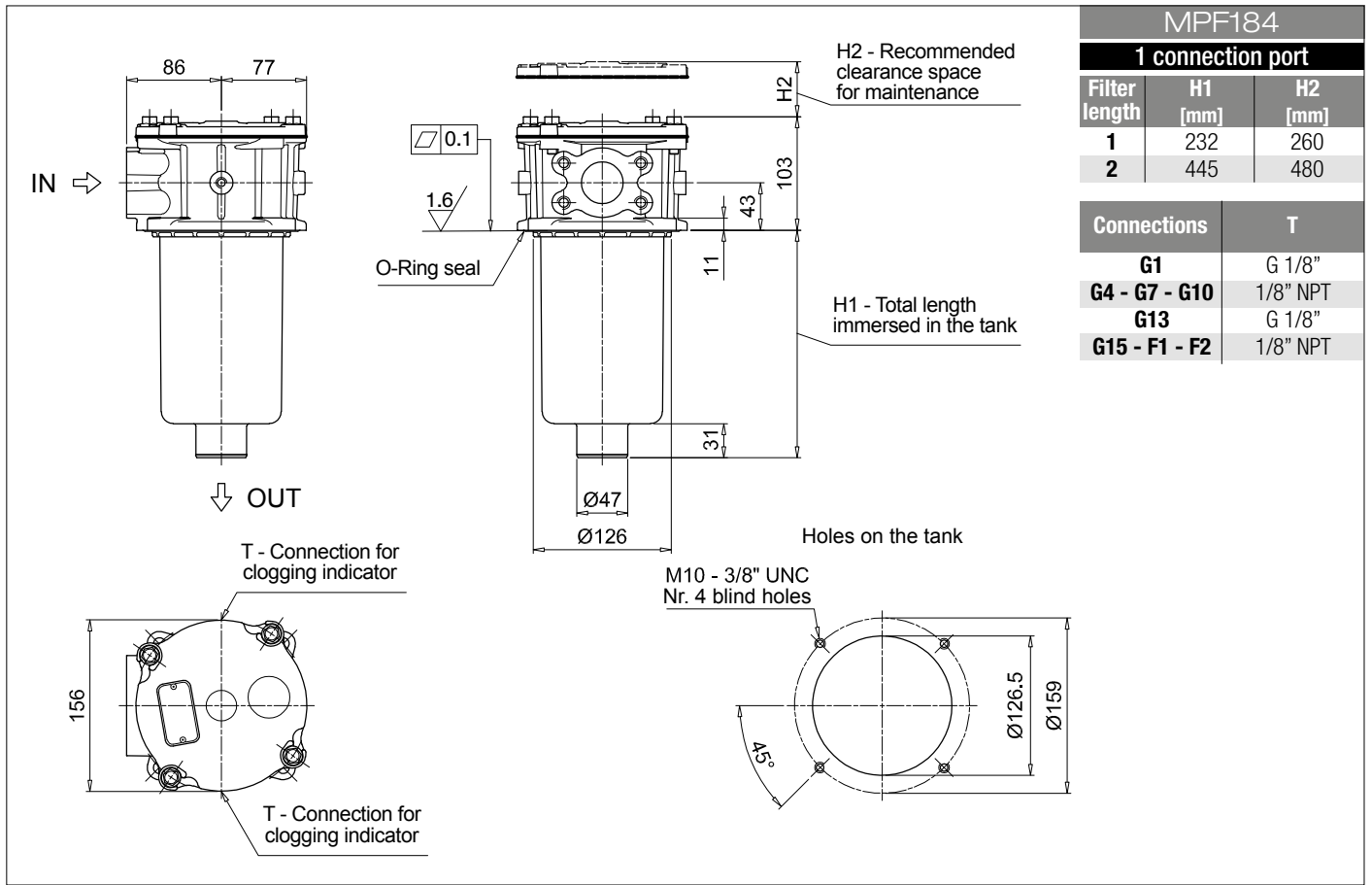
### FILTER ELEMENT

<b>Element series and size</b>			Configuration example 1: <b>MF180</b>   <b>1</b>   <b>A25</b>   <b>H</b>   <b>B</b>   <b>E</b>   <b>P01</b>								
<b>MF180</b>   <b>MF190</b> Filter element with standard spigot			Configuration example 2: <b>MF190</b>   <b>2</b>   <b>P10</b>   <b>N</b>   <b>V</b>   <b></b>   <b>P01</b>								
<b>Element length</b>		<b>Size 180</b>	<b>Size 190</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>Axx</b>	<b>Mxx</b>	<b>Pxx</b>						
<b>N</b> 10 bar				•	•						
<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		1.75 bar	<b>Pxx</b> Customized		

### ACCESSORIES

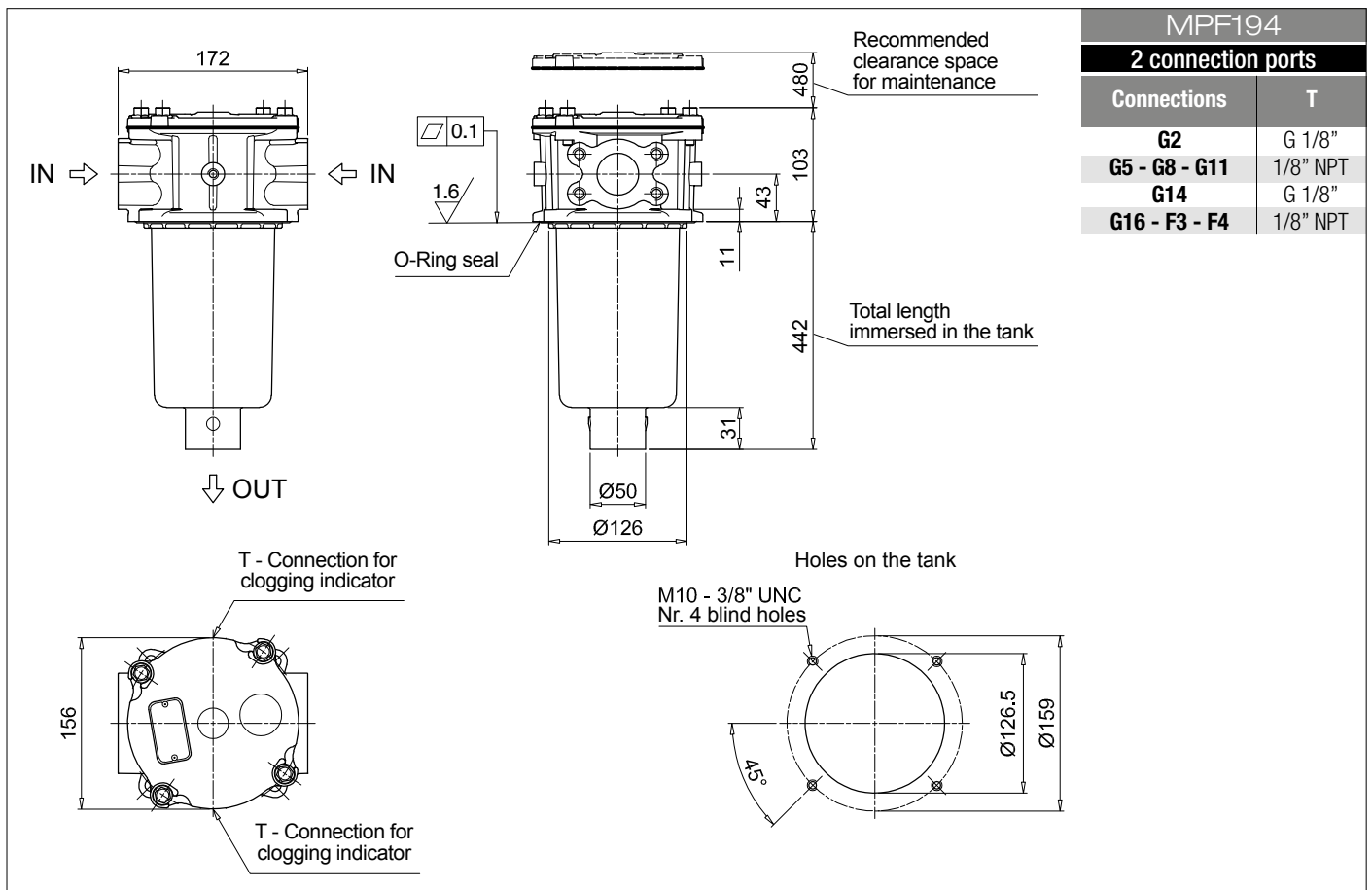
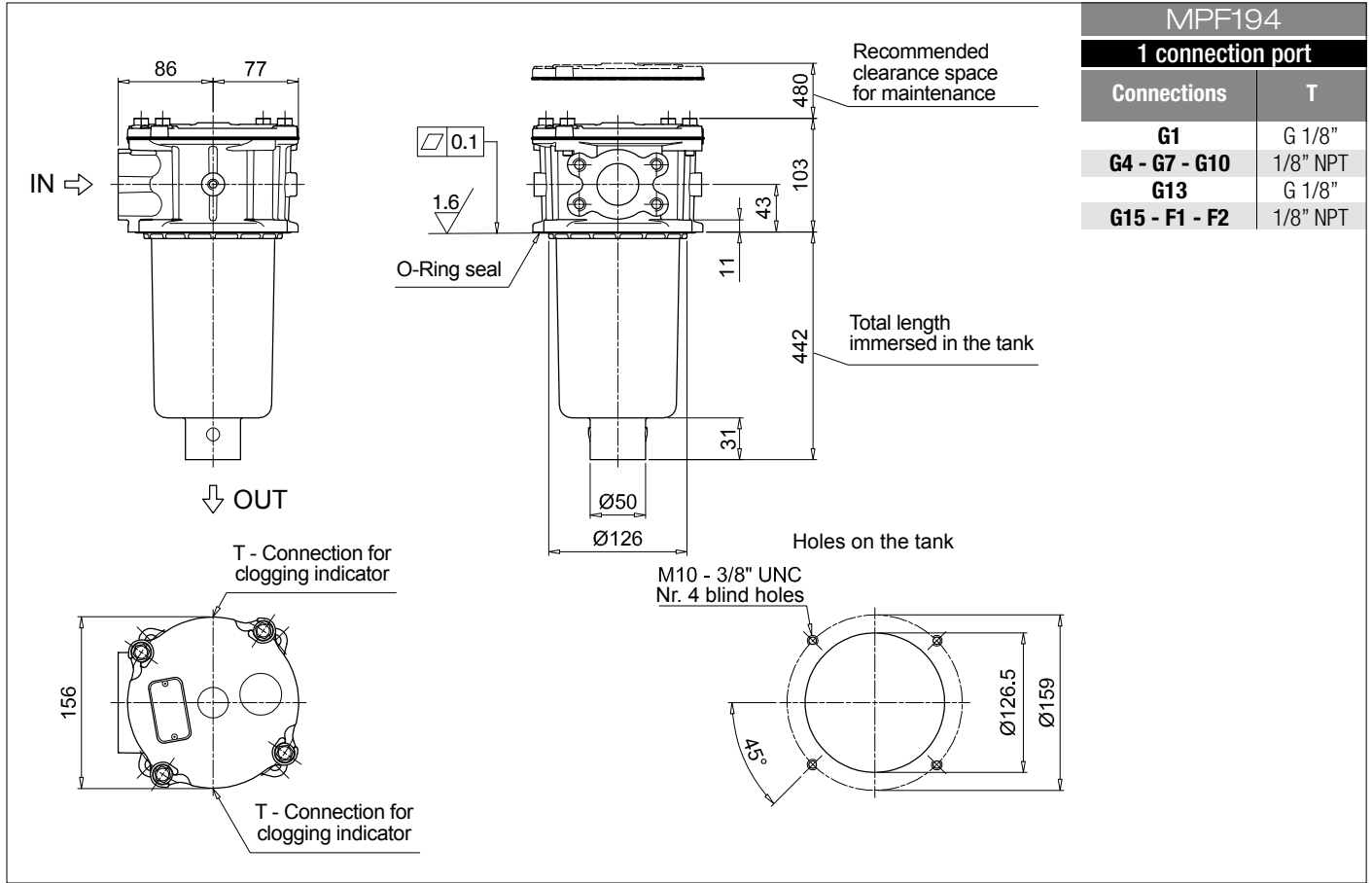
<b>Indicators</b>		page			page
<b>BVA</b> Axial pressure gauge		240	<b>BEA</b> Electrical pressure indicator		239
<b>BVR</b> Radial pressure gauge		240	<b>BEM</b> Electrical pressure indicator		239
<b>BVP</b> Visual pressure indicator with automatic reset		241	<b>BLA</b> Electrical / visual pressure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





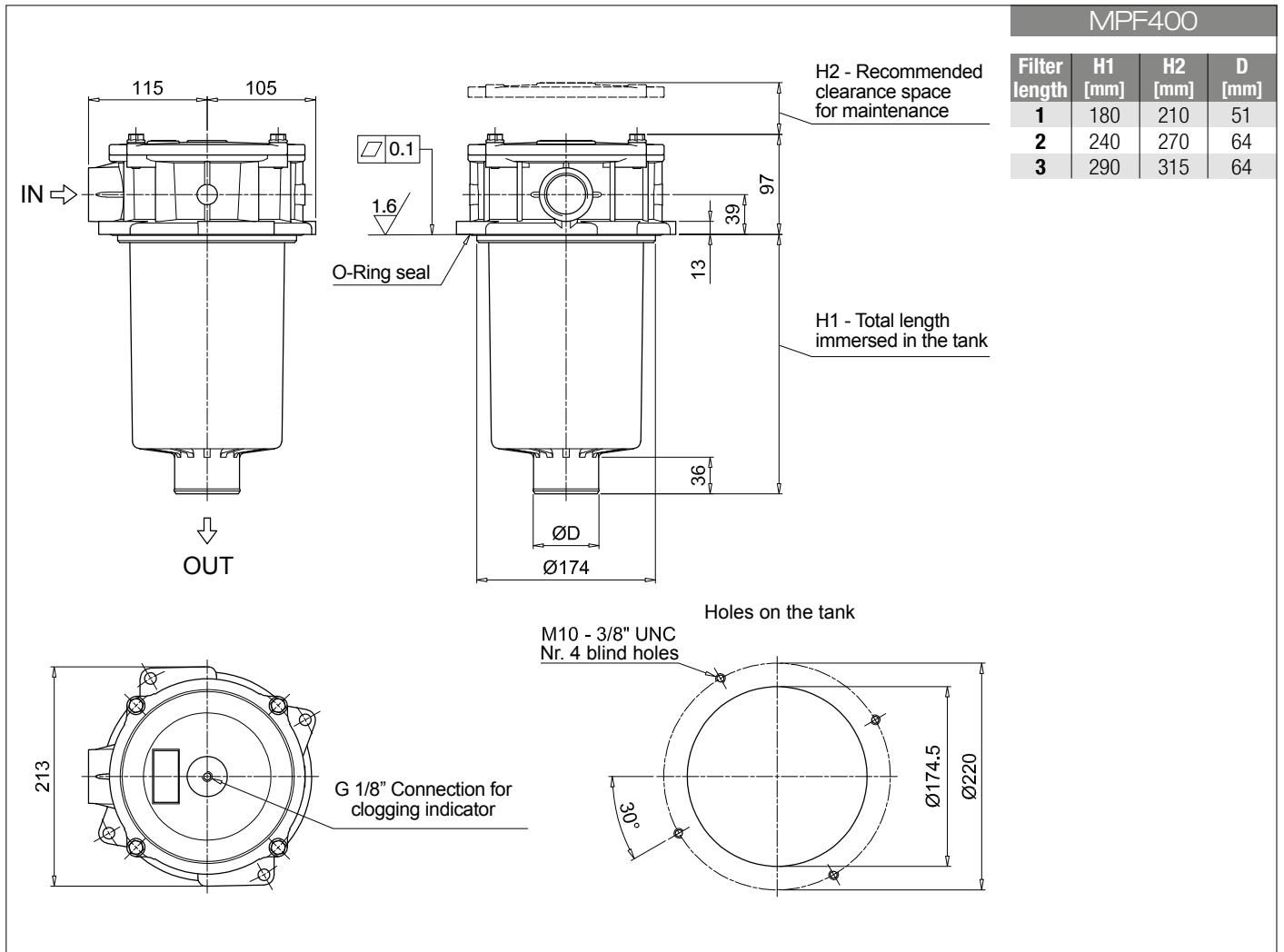
# MPF MPF184 - MPF194

## Dimensions









# MPF MPF410

## Designation & Ordering code

### COMPLETE FILTER

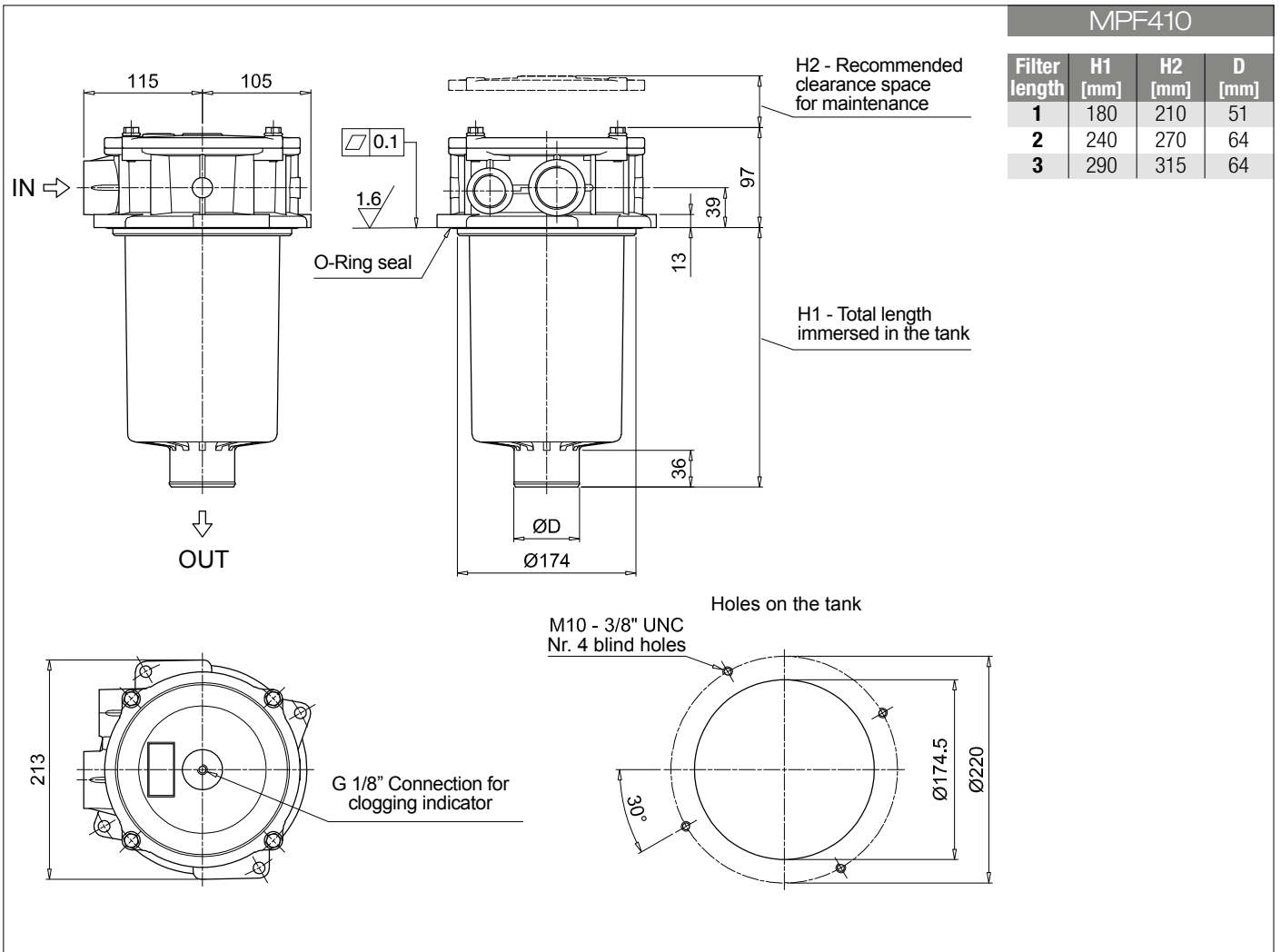
<b>Series and size</b>	Configuration example 1:	MPF410	1	A	G1	1	A25	H	B	P01
<b>MPF410</b> Filter element with standard spigot	Configuration example 2:	MPF410	1	V	G4	1	P10	N	E	P01
<b>Length</b>										
1   2   3										
<b>Seals and treatments</b>										
A NBR										
V FPM										
W NBR head anodized										
Z FPM head anodized										
<b>Main Connections</b>										
<b>G1</b> G 1 1/4"	Aux size 1									
<b>G4</b> 1 1/4" NPT	G 1"									
<b>G7</b> SAE 20 - 1 5/8" - 12 UN	1" NPT									
	SAE 16 - 1 5/16" - 12 UN									
<b>Aux connection</b> - see previous table										
1 Aux size 1										
<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>	Filter media									
	Axx	Mxx	Pxx							
N 10 bar		•	•							
H 10 bar		•								
W 10 bar, compatible with fluids HFA, HFB and HFC	•	•								
	<b>Bypass valve</b>		<b>Execution</b>							
	E 3 bar		P01 MP Filtri standard							
	B 1.75 bar		Pxx Customized							

### FILTER ELEMENT

<b>Element series and size</b>	Configuration example 1:	MF400	1	A25	H	B		P01
<b>MF400</b> Filter element with standard spigot	Configuration example 2:	MF400	1	P10	N	V	E	P01
<b>Element length</b>								
1   2   3								
<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>	Filter media							
	Axx	Mxx	Pxx					
N 10 bar		•	•					
H 10 bar		•						
W 10 bar, compatible with fluids HFA, HFB and HFC	•	•						
	<b>Seals</b>		<b>Bypass valve</b>		<b>Execution</b>			
	B NBR		E 3 bar		P01 MP Filtri standard			
	V FPM		1.75 bar		Pxx Customized			

### ACCESSORIES

<b>Indicators</b>	page		page
<b>BVA</b> Axial pressure gauge	240	<b>BEA</b> Electrical pressure indicator	239
<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
<b>BVQ</b> Visual pressure indicator with manual reset	241		
<b>Additional features</b>	page		
<b>Sxx</b> Extension tube	248		
<b>T5</b> Filler plug M30x1.5	249		



# MPF MPF450 - MPF451 - MPF750

## Designation & Ordering code

### COMPLETE FILTER

<b>Series and size</b>			Configuration example 1: <b>MPF450</b>   <b>1</b>   <b>A</b>   <b>G1</b>   <b>A25</b>   <b>H</b>   <b>B</b>   <b>P01</b>								
<b>MPF450</b>   <b>MPF451</b>   <b>MPF750</b>	Filter element with standard spigot		Configuration example 2: <b>MPF750</b>   <b>1</b>   <b>V</b>   <b>F2</b>   <b>P10</b>   <b>N</b>   <b>E</b>   <b>P01</b>								
<b>Length</b>			<b>MPF 450</b>	<b>MPF 451</b>	<b>MPF 750</b>						
<b>1</b>			•	•	•						
<b>2</b>			•	•							
<b>3</b>			•	•							
<b>Seals and treatments</b>											
<b>A</b> NBR	<b>W</b> NBR	head anodized									
<b>V</b> FPM	<b>Z</b> FPM	head anodized									
<b>Connections</b>			<b>Aux (only size 451)</b>								
<b>G1</b> G 2"			G 3/4"								
<b>G4</b> 2" NPT			3/4" NPT								
<b>G7</b> SAE 32 - 2 1/2" - 12 UN			SAE 12 - 1 1/16" - 12 UN								
<b>F1</b> 2" SAE 3000 psi/M			G 3/4"								
<b>F2</b> 2" SAE 3000 psi/UN			3/4" NPT								
<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>Axx</b>	<b>Mxx</b>	<b>Pxx</b>						
<b>N</b> 10 bar				•	•						
<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			

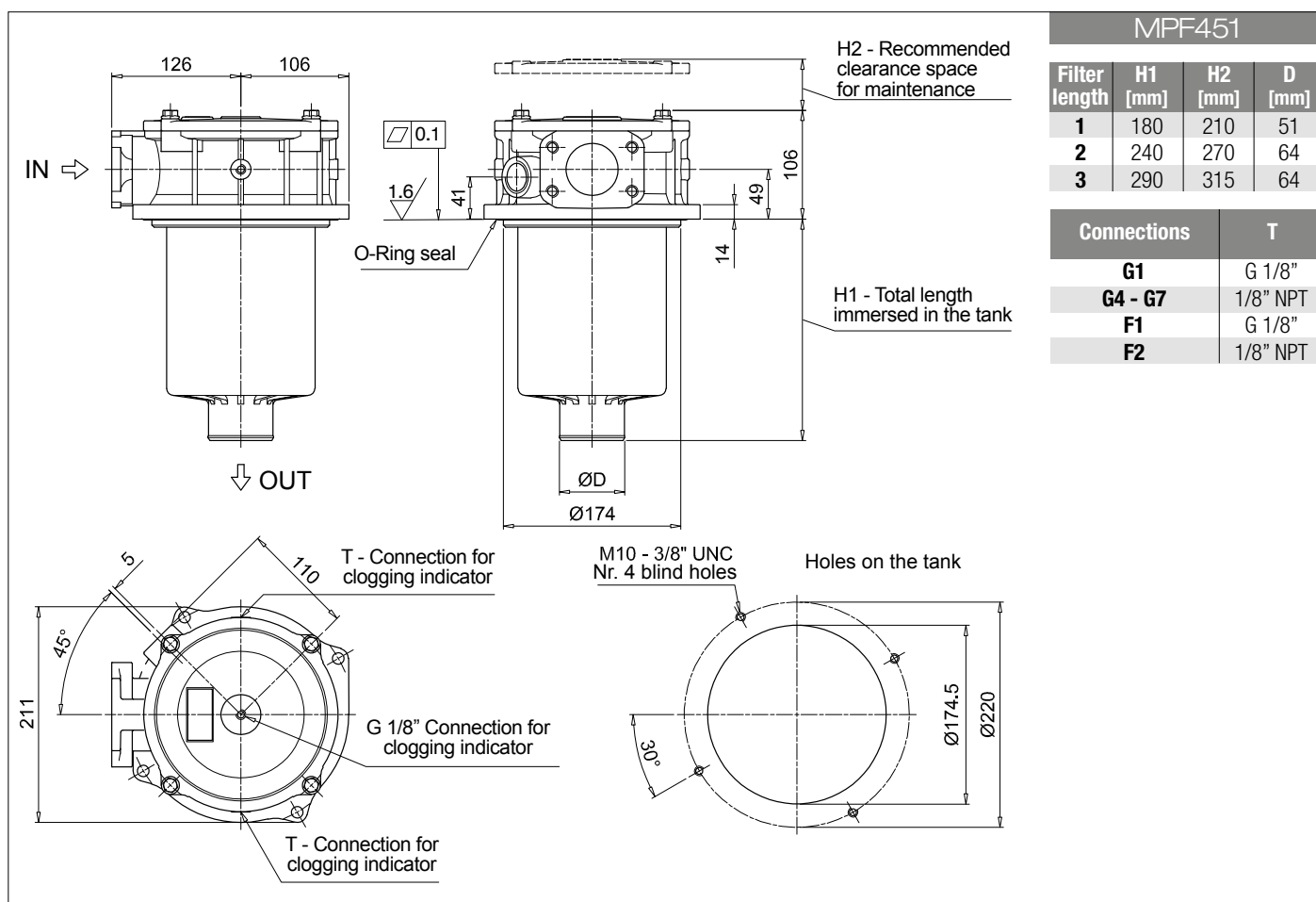
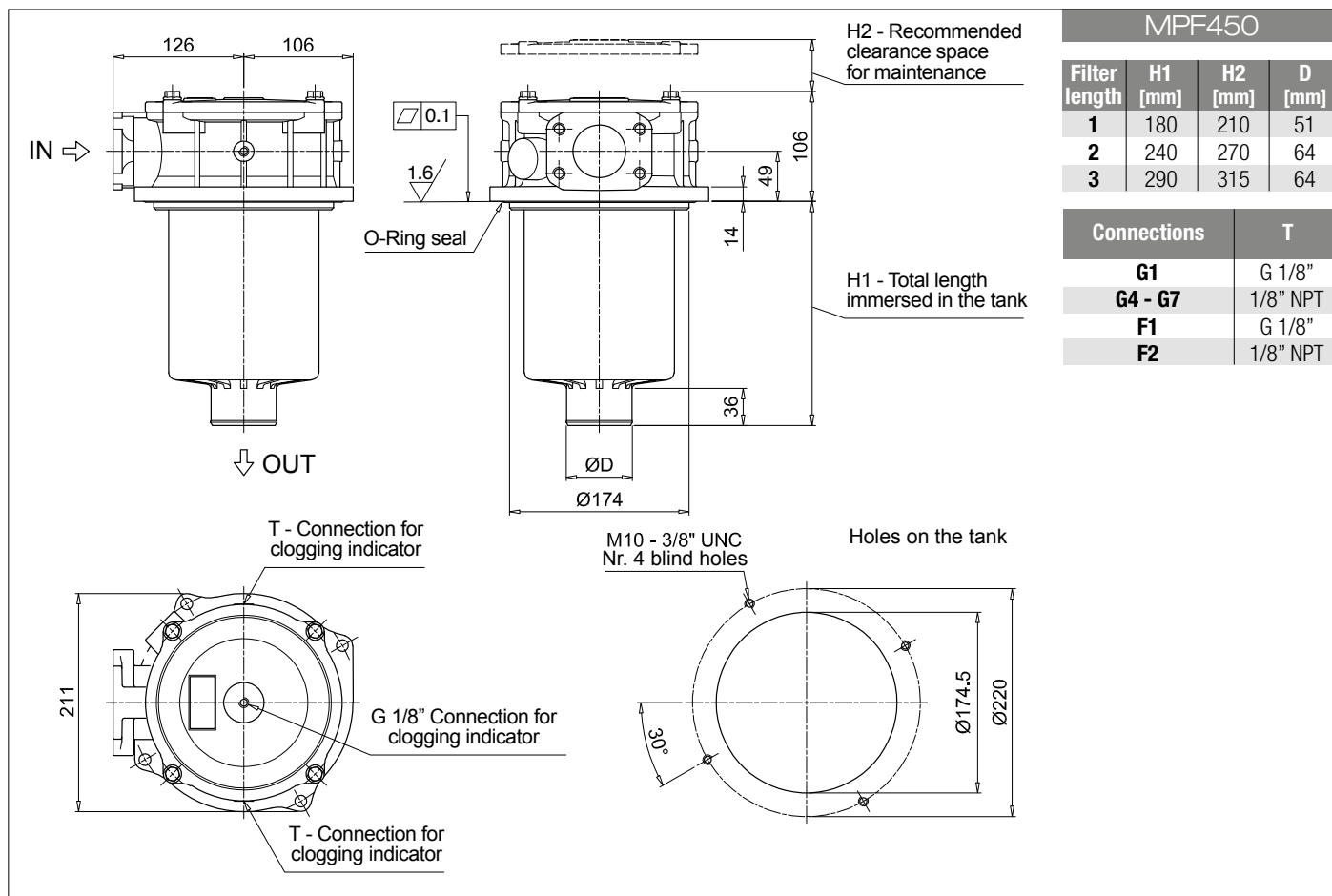
### FILTER ELEMENT

<b>Element series and size</b>			Configuration example 1: <b>MF400</b>   <b>1</b>   <b>A25</b>   <b>H</b>   <b>B</b>   <b>P01</b>								
<b>MF400</b>   <b>MF750</b>	Filter element with standard spigot		Configuration example 2: <b>MFX750</b>   <b>1</b>   <b>P10</b>   <b>N</b>   <b>V</b>   <b>E</b>   <b>P01</b>								
<b>Element length</b>			<b>MPF 450</b>	<b>MPF 451</b>	<b>MPF 750</b>						
<b>1</b>			•	•	•						
<b>2</b>			•	•							
<b>3</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>Axx</b>	<b>Mxx</b>	<b>Pxx</b>						
<b>N</b> 10 bar				•	•						
<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	

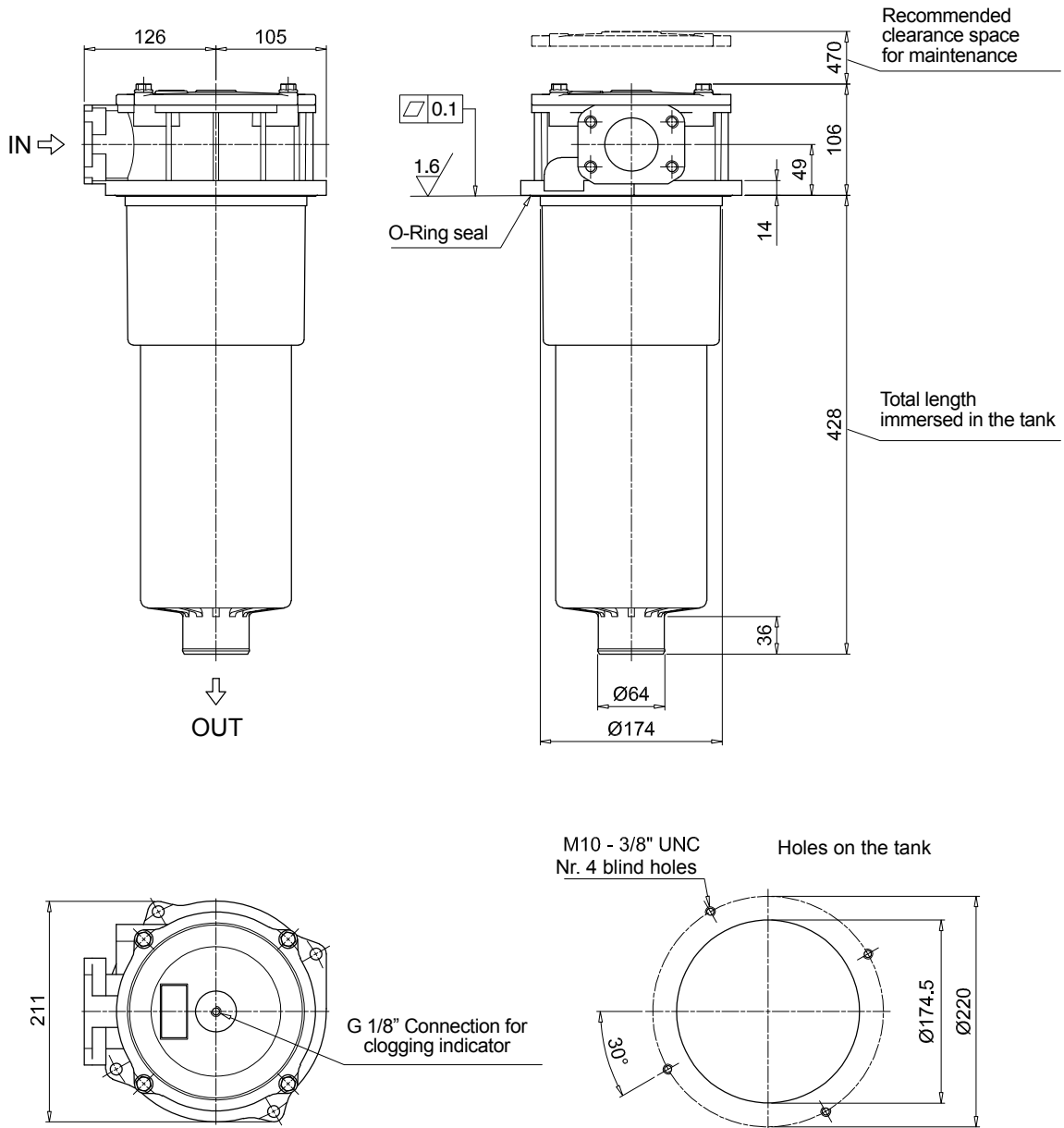
### ACCESSORIES

<b>Indicators</b>		page			page
<b>BVA</b> Axial pressure gauge		240	<b>BEA</b> Electrical pressure indicator		239
<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
<b>BVQ</b> Visual pressure indicator with manual reset		241			
<b>Additional features</b>		page			
<b>Sxx</b> Extension tube		248			
<b>T5</b> Filler plug M30x1.5		249			





MPF750



**MPF 100**

**MPF 181**

**O-RING SEAL**

Item:	Q.ty: 1 pc. <b>2</b>	Q.ty: 1 pc. <b>3</b> (3a ÷ 3d)		
	Filter series	Filter element	Seal Kit code number NBR      FPM	
<b>MPF 030</b>	See order table		02050055	02050056
<b>MPF 100-110</b>			02050057	02050058
<b>MPF 181-182</b>			02050059	02050060
<b>MPF 184</b>			02050455	02050456
<b>MPF 191-192</b>			02050457	02050458
<b>MPF 194</b>			02050459	02050460
<b>MPF 400-410</b>			02050061	02050062
<b>MPF 450-451</b>			02050461	02050462
<b>MPF 750</b>			02050106	02050107

**MPF 104**

**MPF 181**

**FLAT SEAL**

Item:	Q.ty: 1 pc. <b>2</b>	Q.ty: 1 pc. <b>3</b> (3a ÷ 3d)		
	Filter series	Filter element	Seal Kit code number NBR      FPM	
<b>MPF 020</b>	See order table		02050438	02050439
<b>MPF 104</b>			02050350	02050408
<b>MPF 181-182</b>			02050659	02050660
<b>MPF 191-192</b>			02050661	02050662



# MPT series

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



## Description

## Technical data

### 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, 3 or 6 fixing holes for installation, to suit a variety of reservoir surfaces
- O-ring or Flat Seal to suit a variety of reservoir surfaces
- 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

### Filter housing materials

- Head: Aluminium
- Cover: Nylon
- 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

- 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 [dm<sup>3</sup>]

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

Filter series	Length	Filter element design - H series					Filter element design - N series		
		A03	A06	A10	A16	A25	M25 M60 M90	P10	P25
<b>MPT 025-027</b>	<b>1</b>	7	10	23	28	42	59	51	54
	<b>2</b>	17	20	45	48	56	72	64	67
	<b>3</b>	21	24	50	55	59	76	74	75
<b>MPT 110-114 116-120</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

**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>.

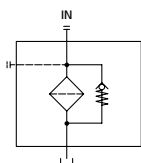
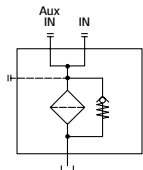
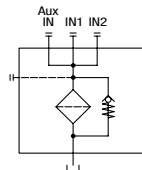
For different pressure drop or fluid viscosity we recommend to use our selection software available on [www.mpfiltri.com](http://www.mpfiltri.com).

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

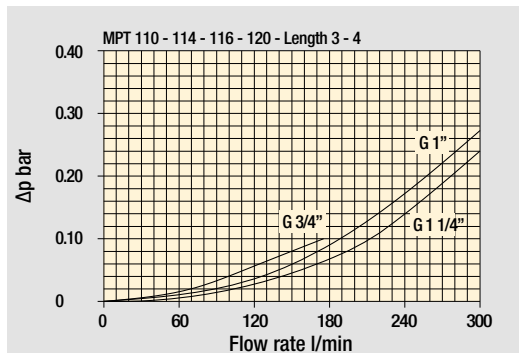
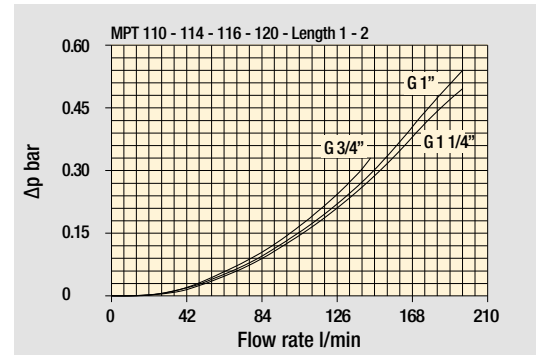
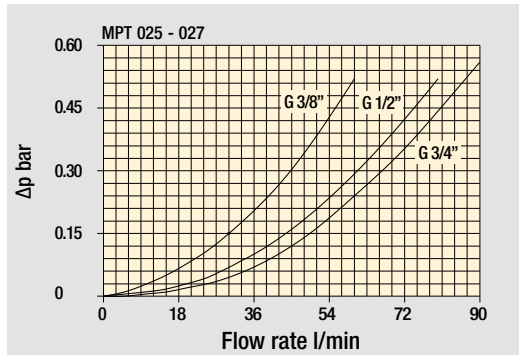
Filter series	Style 1 connection	Style 2 connections	Style 3 connections
<b>MPT 025</b>	•		
<b>MPT 027</b>	•		
<b>MPT 110</b>		•	
<b>MPT 114</b>	•		
<b>MPT 116</b>	•		
<b>MPT 120</b>			•

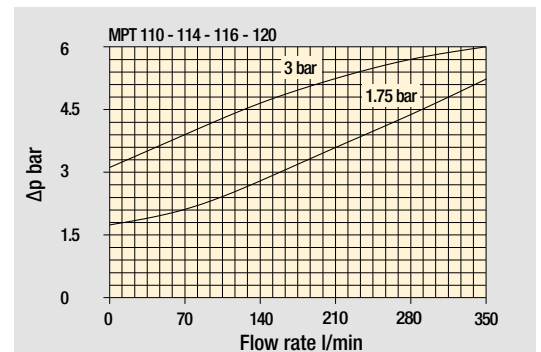
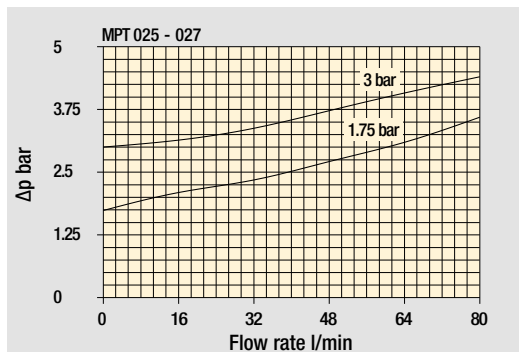
		
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## Pressure drop

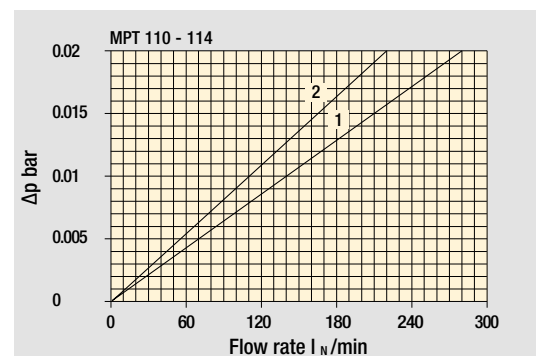
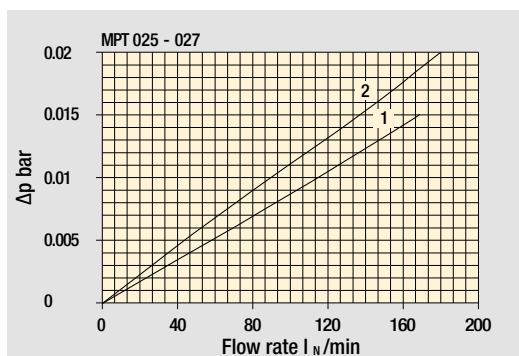
### Filter housings $\Delta p$ pressure drop



### Bypass valve pressure drop



### Air breather pressure drop







- 1  C With air breather 10  $\mu$ m
- 2  D With anti-splash and SAP50 10  $\mu$ m

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.



MPT 025 -027		
Air breather port plugged Indicator port	Air breather standard Indicator port	Anti-splash air breather & pressurized Double indicator port
		

## Multiport - Multifunction

MPT 110	
Standard - Single IN Port	Double IN Port - Double indicator port
	
Double IN Port Option: double drain port	Double IN Port - Indicator port Option: drain port
	

## MPT 120

Triple IN port  
Option: double drain port



# MPT MPT025 - MPT027

## Designation & Ordering code

### COMPLETE FILTER

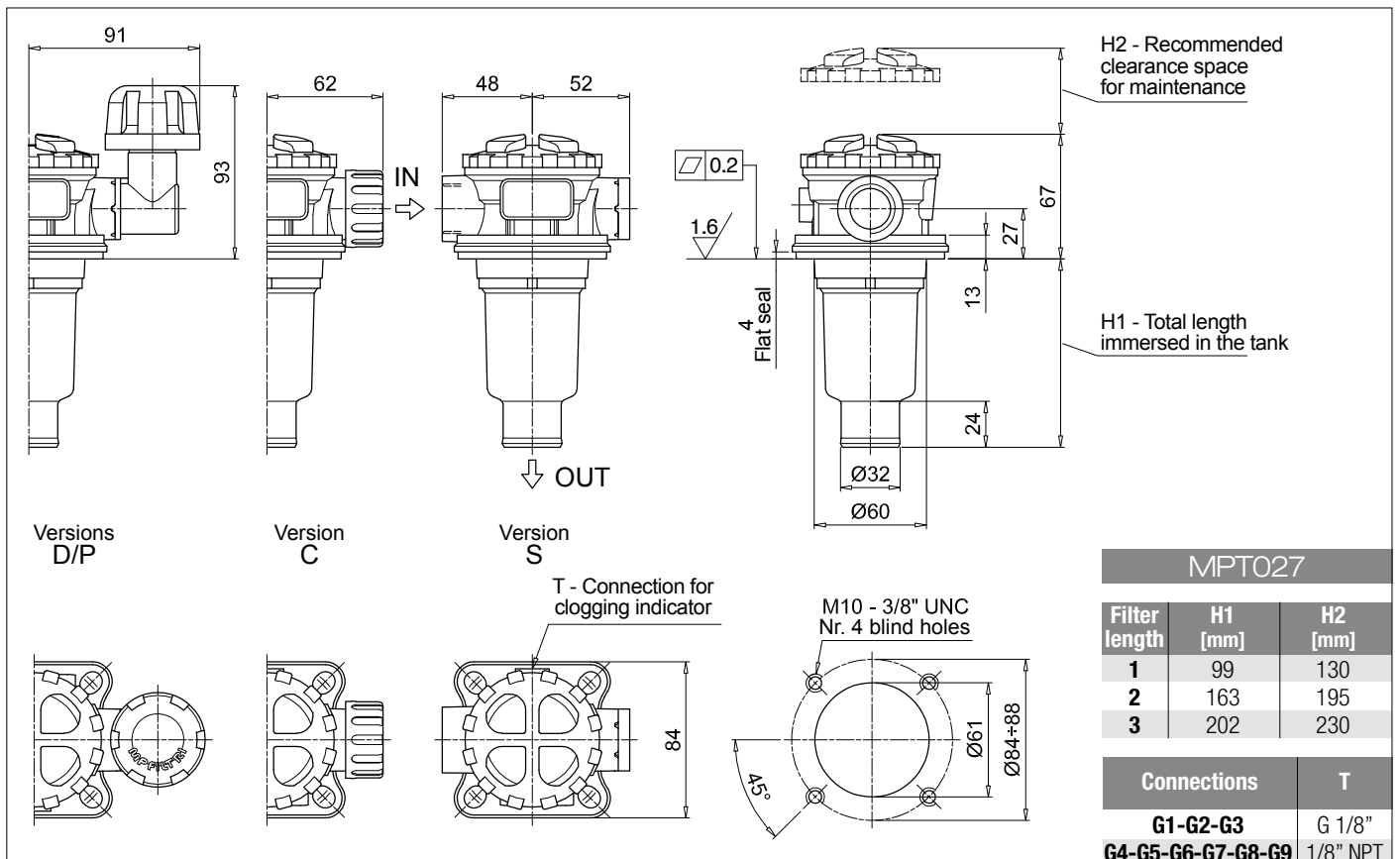
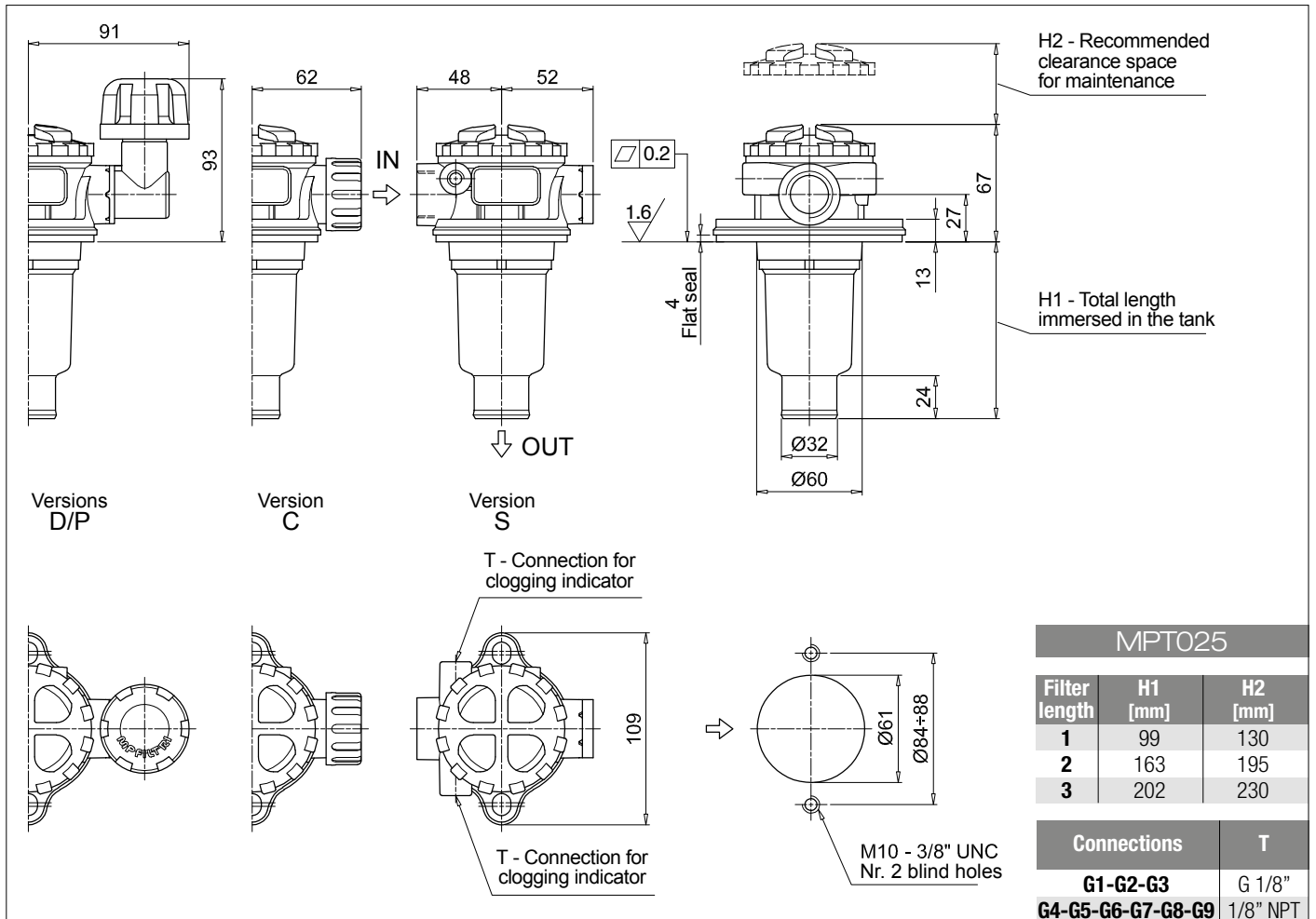
<b>Series and size</b> <b>MPT025</b>   <b>MPT027</b> Filter element with standard spigot	Configuration example 1: <b>MPT025</b>   <b>1</b>   <b>S</b>   <b>A</b>   <b>G3</b>   <b>A10</b>   <b>E</b>   <b>P01</b>
	Configuration example 2: <b>MPT027</b>   <b>3</b>   <b>C</b>   <b>W</b>   <b>G6</b>   <b>A03</b>   <b>B</b>   <b>P01</b>
<b>Length</b> <b>1</b>   <b>2</b>   <b>3</b>	
<b>Air breather</b> <b>S</b> Without air breather <b>C</b> With air breather 10 µm <b>D</b> With anti-splash and air breather SAP050 10 µm <b>P</b> With anti-splash and air breather SAP050 10 µm, pressurization 0.5 bar	
<b>Seals and treatments</b>	<b>Filtration rating</b>
<b>A</b> NBR	<b>Axx</b>   <b>Mxx</b>   <b>Pxx</b>
<b>V</b> FPM	•   •   •
<b>W</b> NBR head anodized filter element compatible with fluids HFA-HFB-HFC	•   •   •
<b>Z</b> FPM head anodized	•   •   •
<b>Connections</b>	
<b>G1</b> G 3/8"	<b>G6</b> 3/4" NPT
<b>G2</b> G 1/2"	<b>G7</b> SAE 6 - 9/16" - 18 UNF
<b>G3</b> G 3/4"	<b>G8</b> SAE 8 - 3/4" - 16 UNF
<b>G4</b> 3/8" NPT	<b>G9</b> SAE 12 - 1 1/16" - 12 UN
<b>G5</b> 1/2" NPT	
<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>Bypass valve</b> <b>E</b> 3 bar <b>B</b> 1.75 bar
	<b>Execution</b> <b>P01</b> MP Filtri standard <b>Pxx</b> Customized

### FILTER ELEMENT

<b>Element series and size</b> <b>MF020</b> Filter element with standard spigot	Configuration example 1: <b>MF020</b>   <b>1</b>   <b>A10</b>   <b>H</b>   <b>B</b>   <b>E</b>   <b>P01</b>
	Configuration example 2: <b>MF020</b>   <b>3</b>   <b>A03</b>   <b>W</b>   <b>B</b>   <b></b>   <b>P01</b>
<b>Element length</b> <b>1</b>   <b>2</b>   <b>3</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>B</b> NBR <b>V</b> FPM
	<b>Bypass valve</b> <b>E</b> 3 bar <b>B</b> 1.75 bar
	<b>Execution</b> <b>P01</b> MP Filtri standard <b>Pxx</b> Customized

### ACCESSORIES

<b>Indicators</b>	page		page
<b>BVA</b> Axial pressure gauge	240	<b>BEA</b> Electrical pressure indicator	239
<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
<b>BVQ</b> Visual pressure indicator with manual reset	241		
<b>Additional features</b>	page		
<b>TE</b> Extension tube	248		
<b>DPT</b> Dipstick	249		



## Designation & Ordering code

### COMPLETE FILTER

<b>Series and size</b>			Configuration example 1: <b>MPT110</b>   <b>1</b>   <b>S</b>   <b>A</b>   <b>G1</b>   <b>0</b>   <b>A06</b>   <b>E</b>   <b>P01</b>								
<b>MPT110</b> Filter element with standard spigot			Configuration example 2: <b>MPT110</b>   <b>3</b>   <b>P</b>   <b>V</b>   <b>G4</b>   <b>1</b>   <b>M25</b>   <b>B</b>   <b>P01</b>								
<b>Length</b>											
1   2   <b>3</b>   4											
<b>Air breather</b>											
<b>S</b> Without air breather											
<b>C</b> With air breather 10 µm											
<b>D</b> With anti-splash and air breather SAP050 10 µm											
<b>P</b> With anti-splash and air breather SAP050 10 µm, pressurization 0.5 bar											
<b>Seals and treatments</b>			Filtration rating								
			Axx	Mxx	Pxx						
<b>A</b> NBR			•	•	•						
<b>V</b> FPM			•	•	•						
<b>W</b> NBR head anodized			•	•		filter element compatible with fluids HFA-HFB-HFC					
<b>Z</b> FPM head anodized			•	•							
<b>Main Connections</b>		<b>Aux size 1</b>	<b>Aux size 2</b>	<b>Main Connections</b>		<b>Aux size 2</b>	<b>Aux size 2</b>				
<b>G1</b> G 3/4"		G 3/8"	G 1/2"	<b>G6</b> 1 1/4" NPT		3/8" NPT	1/2" NPT				
<b>G2</b> G 1"				<b>G7</b> SAE 12 - 1 1/16" - 12 UN		SAE 6 - 9/16" - 18 UNF	SAE 8 - 3/4" - 16 UNF				
<b>G3</b> G 1 1/4"				<b>G8</b> SAE 16 - 1 5/16" - 12 UN							
<b>G4</b> 3/4" NPT		3/8" NPT	1/2" NPT	<b>G9</b> SAE 20 - 1 5/8" - 12 UN							
<b>G5</b> 1" NPT											
<b>Aux connection - see previous table</b>											
<b>0</b> Not machined			<b>1</b> Aux size 1	<b>2</b> Aux size 2							
<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>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>MF100</b>   <b>1</b>   <b>A06</b>   <b>H</b>   <b>B</b>   <b>E</b>   <b>P01</b>									
<b>MF100</b> Filter element with standard spigot			Configuration example 2: <b>MF100</b>   <b>3</b>   <b>M25</b>   <b>N</b>   <b>V</b>   <b>P01</b>									
<b>Element length</b>												
1   2   <b>3</b>   4												
<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>			Filter media									
			Axx	Mxx	Pxx							
<b>N</b> 10 bar			•	•	•							
<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		

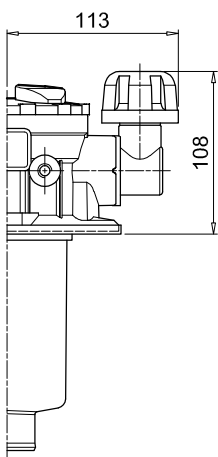
### ACCESSORIES

<b>Indicators</b>		page			page
<b>BVA</b> Axial pressure gauge	240		<b>BEA</b> Electrical pressure indicator	239	
<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	
<b>BVQ</b> Visual pressure indicator with manual reset	241				
<b>Additional features</b>		page			page
<b>TE</b> Extension tube	248		<b>DPT</b> Dipstick	249	
<b>DFS</b> Diffuser with fast lock connection	249				

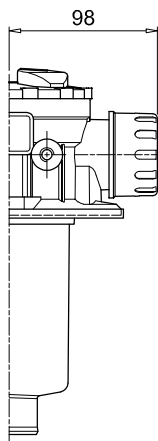
MPT110				
Filter length	H1 [mm]	H2 [mm]	D [mm]	I [mm]
1	97	120	38	4
2	144	170	38	4
3	222	250	47	-
4	324	350	47	2.5

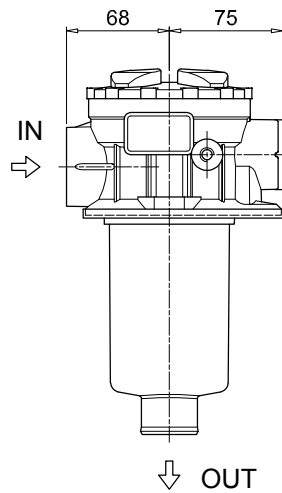
Connections	T
G1-G2-G3	G 1/8"
G4-G5-G6-G7-G8-G9	1/8" NPT



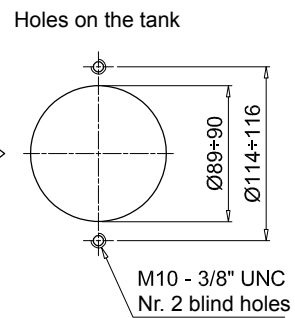
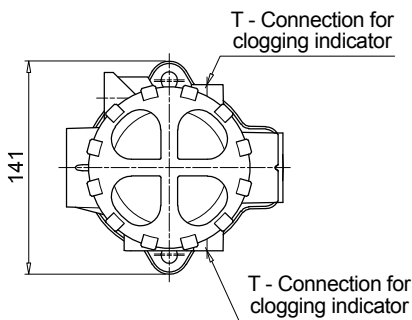
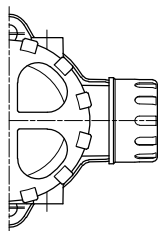
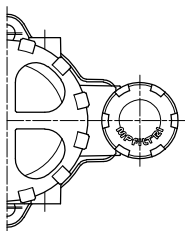
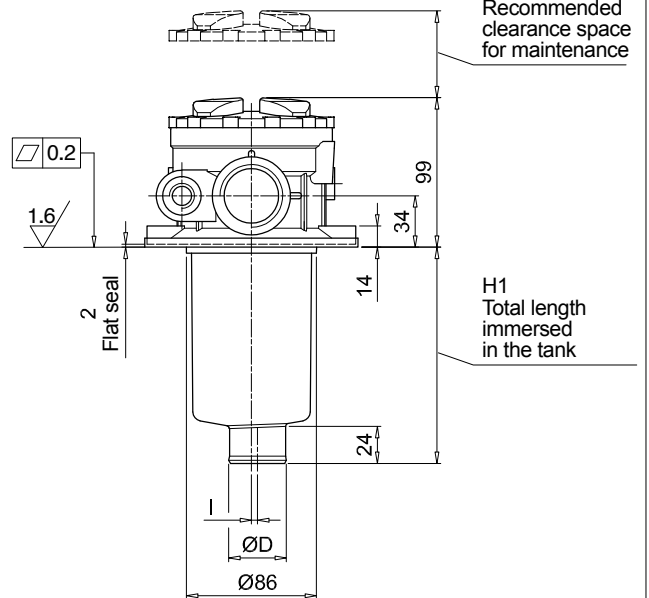
Versions D/P



Version C



Version S



## Designation & Ordering code

### COMPLETE FILTER

<b>Series and size</b>	Configuration example 1:	MPT114	4	S	A	G3	A10	E	P01
<b>MPT114</b> Filter element with standard spigot	Configuration example 2:	MPT114	3	C	W	G6	A03	B	P01

<b>Length</b>	
1   2   3   4	

<b>Air breather</b>	
<b>S</b> Without air breather	
<b>C</b> With air breather 10 µm	
<b>D</b> With anti-splash and air breather SAP050 10 µm	
<b>P</b> With anti-splash and air breather SAP050 10 µm pressurization 0.5 bar	

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

filter element compatible with fluids HFA-HFB-HFC

<b>Connections</b>	
<b>G1</b> G 3/4"	<b>G6</b> 1 1/4" NPT
<b>G2</b> G 1"	<b>G7</b> SAE 12 - 1 1/16" - 12 UN
<b>G3</b> G 1 1/4"	<b>G8</b> SAE 16 - 1 5/16" - 12 UN
<b>G4</b> 3/4" NPT	<b>G9</b> SAE 20 - 1 5/8" - 12 UN
<b>G5</b> 1" NPT	

<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>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 2:	MF100	4	A10	H	B	E	P01
<b>MF100</b> Filter element with standard spigot	Configuration example 1:	MF100	3	A03	W	B		P01

<b>Element length</b>	
1   2   3   4	

<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

Element Δp	Filter media		
	Axx	Mxx	Pxx
<b>N</b> 10 bar		•	•
<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	1.75 bar	<b>Pxx</b> Customized

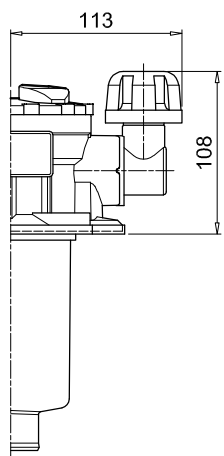
### ACCESSORIES

Indicators	page		page
<b>BVA</b> Axial pressure gauge	240	<b>BEA</b> Electrical pressure indicator	239
<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
<b>BVQ</b> Visual pressure indicator with manual reset	241		
Additional features	page		page
<b>TE</b> Extension tube	248	<b>DPT</b> Dipstick	249
<b>DFS</b> Diffuser with fast lock connection	249		

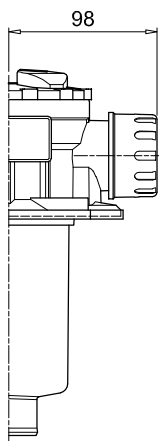
MPT114				
Filter length	H1 [mm]	H2 [mm]	D [mm]	I [mm]
1	97	120	38	4
2	144	170	38	4
3	222	250	47	-
4	324	350	47	2.5

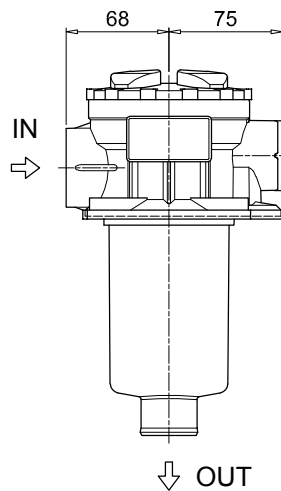
Connections	T
G1-G2-G3	G 1/8"
G4-G5-G6-G7-G8-G9	1/8" NPT



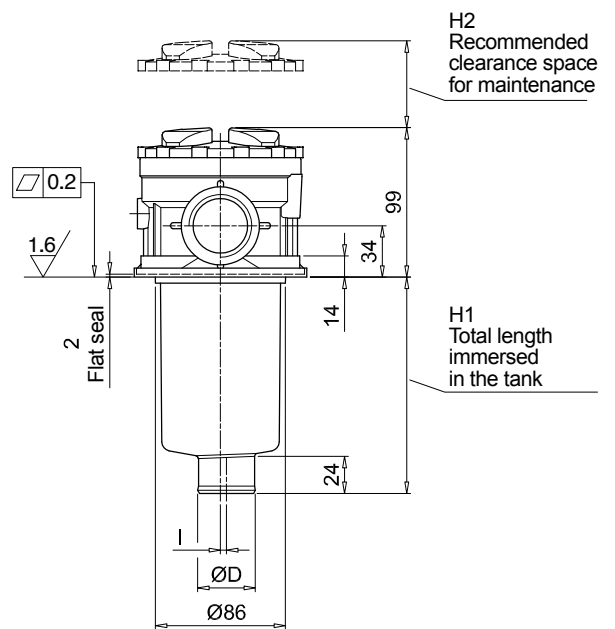
Versions D/P



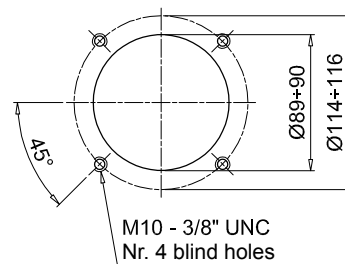
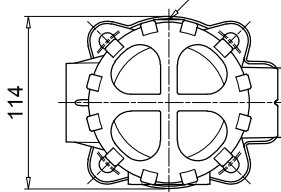
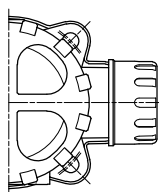
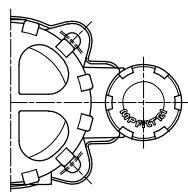
Version C



Version S



Holes on the tank



## Designation & Ordering code

### COMPLETE FILTER

<b>Series and size</b>	Configuration example 1:	MPT116	1	S	A	G1	M90	E	P01
<b>MPT116</b> Filter element with standard spigot	Configuration example 2:	MPT116	2	S	Z	G9	A03	B	P01

<b>Length</b>	
1   2   3   4	

<b>Air breather</b>	
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

<b>Connections</b>	
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	

<b>Filtration rating (filter media)</b>	
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

<b>Bypass valve</b>	<b>Execution</b>
E 3 bar	P01 MP Filtri standard
B 1.75 bar	Pxx Customized

### FILTER ELEMENT

<b>Element series and size</b>	Configuration example 2:	MF100	1	M90	N	B	E	P01
<b>MF100</b> Filter element with standard spigot	Configuration example 1:	MF100	2	A03	W	V		P01

<b>Element length</b>	
1   2   3   4	

<b>Filtration rating (filter media)</b>	
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	•	•	

<b>Seals</b>	<b>Bypass valve</b>	<b>Execution</b>
B NBR	E 3 bar	P01 MP Filtri standard
V FPM	1.75 bar	Pxx Customized

### ACCESSORIES

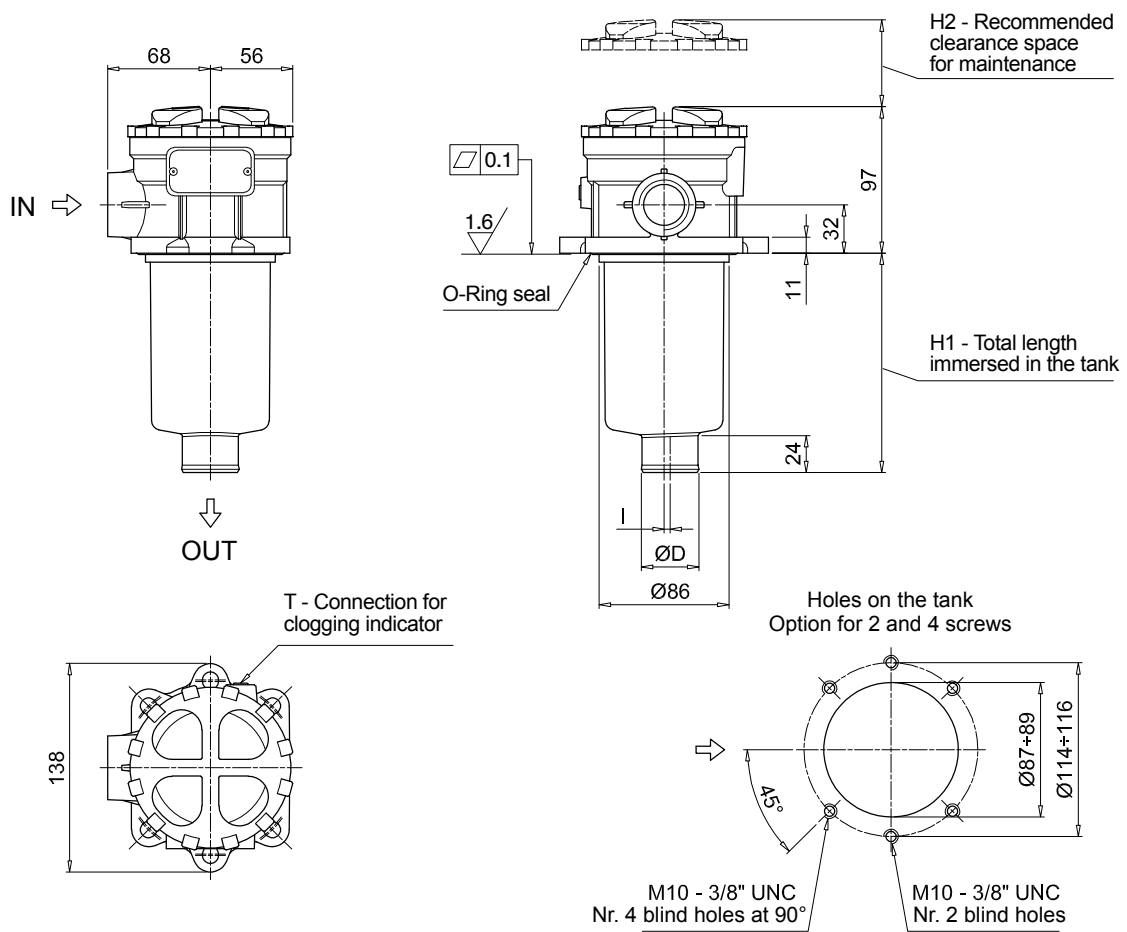
Indicators	page		page
BVA Axial pressure gauge	240	BEA Electrical pressure indicator	239
BVR Radial pressure gauge	240	BEM Electrical pressure indicator	239
BVP Visual pressure indicator with automatic reset	241	BLA Electrical / visual pressure indicator	239-240
BVQ Visual pressure indicator with manual reset	241		
Additional features	page		page
TE Extension tube	248	DPT Dipstick	249
DFS Diffuser with fast lock connection	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



## Designation & Ordering code

### COMPLETE FILTER

<b>Series and size</b>	Configuration example 1:	MPT120	1	A	G1	0	A06	E	P01
<b>MPT120</b> Filter element with standard spigot	Configuration example 2:	MPT120	3	V	G4	1	M25	B	P01

<b>Length</b>	
1   2   3   4	

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

Main Connections	Rear connections	Aux size 1	Aux size 2
<b>G1</b> G 3/4"	G 3/4"	G 3/8"	G 1/2"
<b>G2</b> G 1"	G 1"		
<b>G3</b> G 1 1/4"	G 3/4"		
<b>G4</b> 3/4" NPT	3/4" NPT	3/8" NPT	1/2" NPT
<b>G5</b> 1" NPT	1" NPT		
<b>G6</b> 1 1/4" NPT	3/4" NPT	SAE 6 - 9/16" - 18 UNF	SAE 8 - 3/4" - 16 UNF
<b>G7</b> SAE 12 - 1 1/16" - 12 UN	SAE 12 - 1 1/16" - 12 UN		
<b>G8</b> SAE 16 - 1 5/16" - 12 UN	SAE 16 - 1 5/16" - 12 UN		
<b>G9</b> SAE 20 - 1 5/8" - 12 UN	SAE 12 - 1 1/16" - 12 UN		

<b>Aux connection</b> - see previous table
0 Not machined   1 Aux size 1   2 Aux size 2

Filtration rating (filter media)	
<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

Bypass valve	Execution
<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:	MF100	1	A06	H	B	E	P01
<b>MF100</b> Filter element with standard spigot	Configuration example 2:	MF100	3	M25	N	V		P01

<b>Element length</b>	
1   2   3   4	

Filtration rating (filter media)	
<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

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

Seals	Bypass valve	Execution
<b>B</b> NBR	<b>E</b> 3 bar	<b>P01</b> MP Filtri standard
<b>V</b> FPM	1.75 bar	<b>Pxx</b> Customized

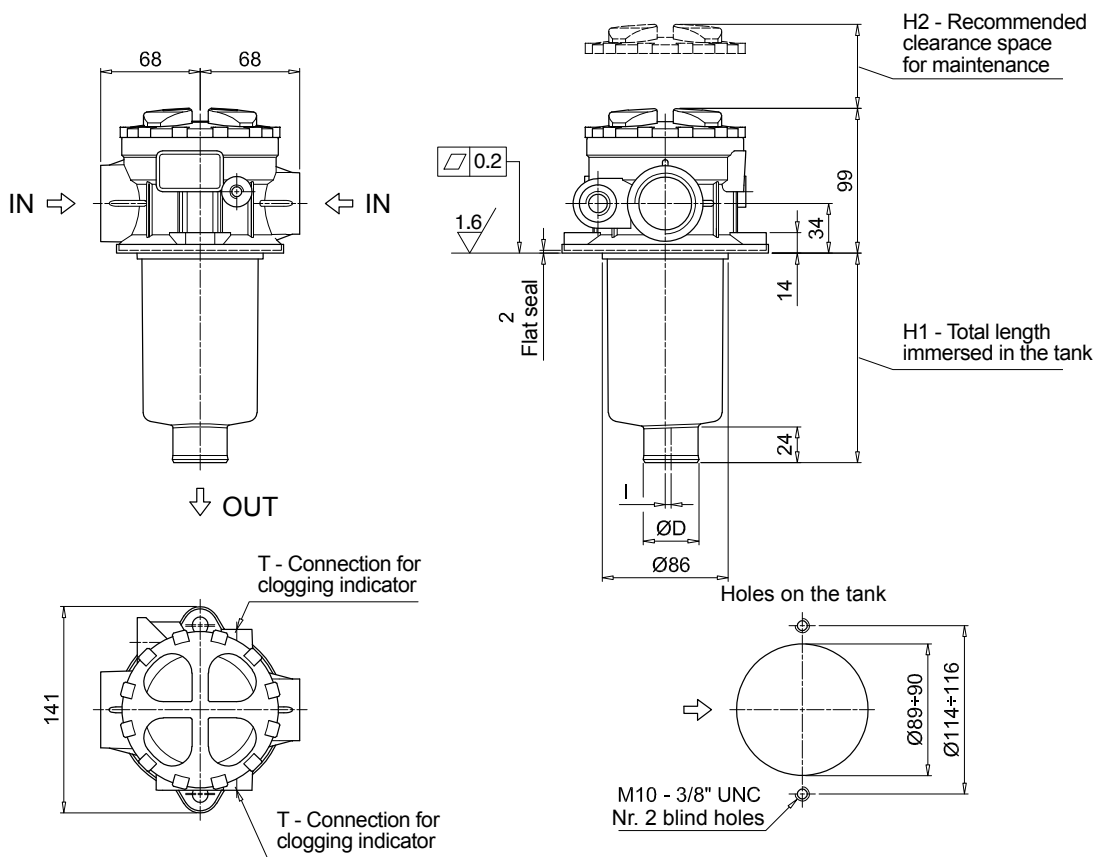
### ACCESSORIES

Indicators	page		page
<b>BVA</b> Axial pressure gauge	240	<b>BEA</b> Electrical pressure indicator	239
<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
<b>BVQ</b> Visual pressure indicator with manual reset	241		
Additional features	page		page
<b>TE</b> Extension tube	248	<b>DPT</b> Dipstick	249
<b>DFS</b> Diffuser with fast lock connection	249		

MPT120				
Filter length	H1 [mm]	H2 [mm]	D [mm]	I [mm]
<b>1</b>	97	120	38	4
<b>2</b>	147	170	38	4
<b>3</b>	222	250	47	-
<b>4</b>	324	350	47	2.5

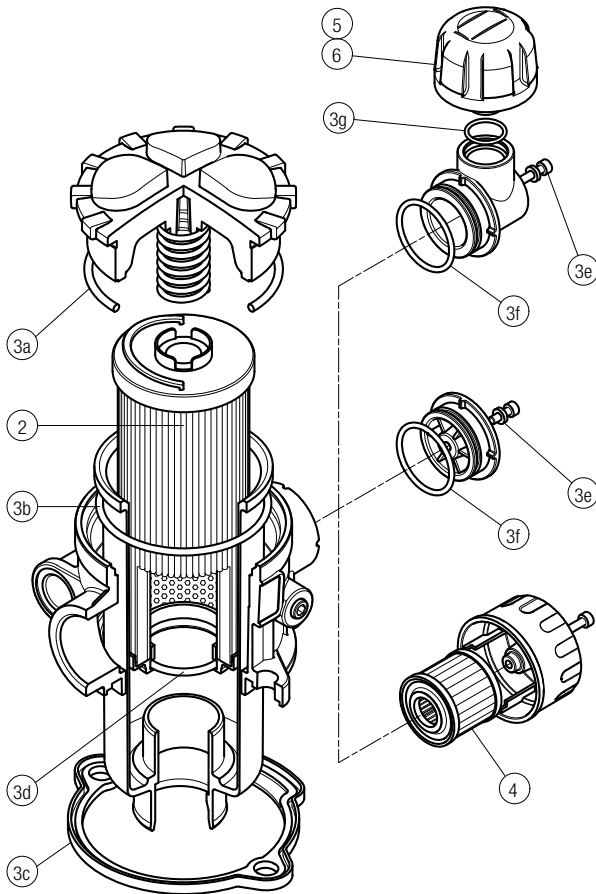
Connections	T
<b>G1-G2-G3</b>	G 1/8"
<b>G4-G5-G6-G7-G8-G9</b>	1/8" NPT



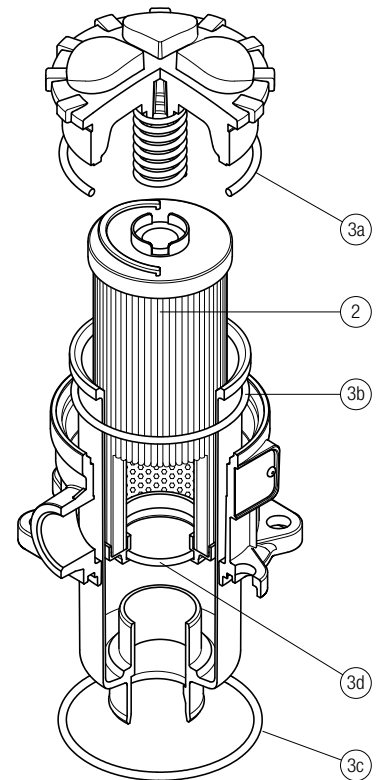
# MPT SPARE PARTS

Order number for spare parts

MPT 025 - 027 - 110



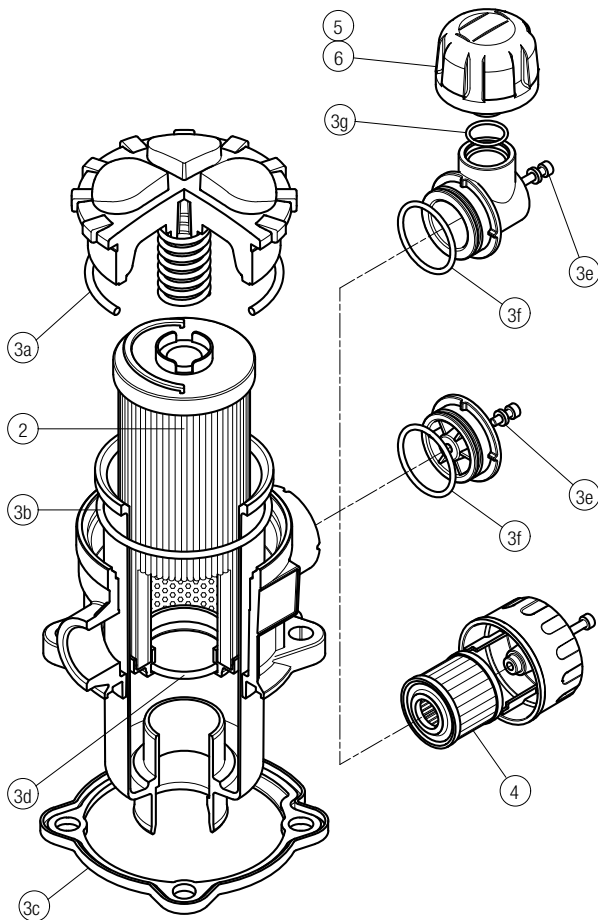
MPT 116



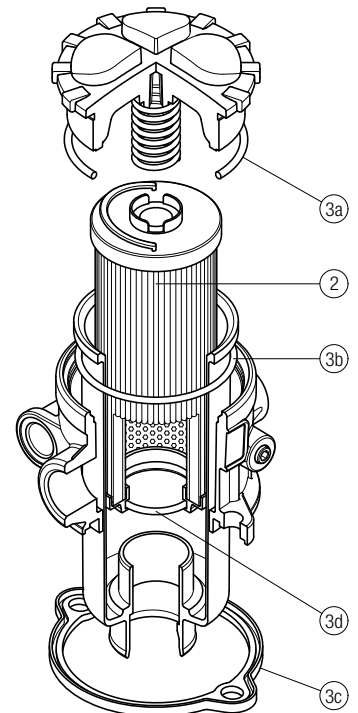
Item:	Q.ty: 1 pc.	Q.ty: 1 pc.	Q.ty: 1 pc.	Q.ty: 1 pc.	Q.ty: 1 pc.	
Filter series	Filter element	Seal Kit code number		C	D	P
		NBR	FPM			
MPT 025	See order table	02050557	02050558	10 µm A3L03	10 µm SAP50G3L03A0P01	10 µm SAP50G3L03A1P01
MPT 027		02050559	02050560	10 µm A3L03	10 µm SAP50G3L03A0P01	10 µm SAP50G3L03A1P01
MPT 110		02050561	02050562	10 µm A5L03	10 µm SAP50G3L03A0P01	10 µm SAP50G3L03A1P01

Item:	Q.ty: 1 pc.	Q.ty: 1 pc.	
Filter series	Filter element	Seal Kit code number	
		NBR	FPM
MPT 116	See order table	02050466	02050467

**MPT 114**



**MPT 120**



Item:	Q.ty: 1 pc.	Q.ty: 1 pc.	Q.ty: 1 pc.	Q.ty: 1 pc.	Q.ty: 1 pc.	
Filter series	Filter element	Seal Kit code number	Air breather filter element - version:			
		NBR	FPM	C	D	P
<b>MPT 114</b>	See order table	02050580	02050581	10 µm A5L03	10 µm SAP50G3L03A0P01	10 µm SAP50G3L03A1P01

Item:	Q.ty: 1 pc.	Q.ty: 1 pc.	
Filter series	Filter element	Seal Kit code number	
		NBR	FPM
<b>MPT 120</b>	See order table	02050563	02050564



# MFB series

BOWL ASSEMBLY

Maximum working pressure up to 800 kPa (8 bar) - Flow rate up to 700 l/min



### Return filter Bowl assembly

**Maximum working pressure up to 800 kPa (8 bar)**

**Flow rate up to 700 l/min**

MFB is a range of return filter kits for protection of the reservoir against the system contamination.

They are directly integrated in the moulded reservoir in immersed or semi-immersed position to save space into the tank.

Treaded or flanged covers can be provided.

The filter output must be always immersed into the fluid to avoid aeration or foam generation into the reservoir.

#### Available features:

- 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
- 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)

#### Common applications:

Mobile machines

#### Bowl assembly materials

- Cover  
Nylon: MFB 020-030-100  
Aluminium: MFB 180-190

- Bowl: Nylon

#### Filter element materials

- Caps: Nylon
- Spring: Spring steel

#### Bypass valve

- Opening pressure 175 kPa (1.75 bar)  $\pm 10\%$
- Opening pressure 300 kPa (3 bar)  $\pm 10\%$

#### $\Delta p$ 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

MFB 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>MFB 020</b>		0.25	0.35	0.40	-		0.10	0.15	0.20	-
<b>MFB 030</b>		0.25	-	-	-		0.15	-	-	-
<b>MFB 100</b>		0.50	0.60	0.75	0.95		0.35	0.50	0.80	1.10
<b>MFB 180</b>		1.60	2.40	-	-		1.50	2.90	-	-
<b>MFB 190</b>		-	2.40	-	-		-	3.00	-	-



Filter series	Length	Filter element design - H series					Filter element design - N series		
		A03	A06	A10	A16	A25	M25 M60 M90	P10	P25
<b>MFB 020</b>	<b>1</b>	7	10	23	28	42	59	51	54
	<b>2</b>	17	20	45	48	56	72	64	67
	<b>3</b>	21	24	50	55	59	76	74	75
<b>MFB 030</b>	<b>1</b>	7	10	24	29	47	84	60	66
<b>MFB 100</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>MFB 180</b>	<b>1</b>	127	148	235	243	278	441	285	299
	<b>2</b>	231	262	358	382	388	472	404	412
<b>MFB 190</b>	<b>2</b>	261	305	489	528	546	696	583	598

### 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>.

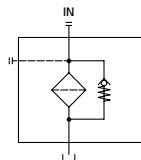
For different pressure drop or fluid viscosity we recommend to use our selection software available on [www.mpfiltri.com](http://www.mpfiltri.com).

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
<b>MFB 020</b>	•
<b>MFB 030</b>	•
<b>MFB 100</b>	•
<b>MFB 180</b>	•
<b>MFB 190</b>	•



# MFB MFB020 - MFB030 - MFB100 - MFB180 - MFB190

## Designation & Ordering code

### COMPLETE FILTER

<b>Series and size</b>						Configuration example 1: <b>MFB100</b>   <b>1</b>   <b>A</b>   <b>2</b>   <b>A10</b>   <b>H</b>   <b>E</b>   <b>P01</b>						
<b>MFB020</b>   <b>MFB030</b>   <b>MFB100</b>   <b>MFB180</b>   <b>MFB190</b>						Configuration example 2: <b>MFB180</b>   <b>2</b>   <b>V</b>   <b>1</b>   <b>M25</b>   <b>N</b>   <b>B</b>   <b>P01</b>						
Filter element with private spigot												
<b>Length</b>		MFB020	MFB030	MFB100	MFB180	MFB190						
1		•	•	•	•							
2		•		•	•	•						
3		•		•								
4				•								
<b>Seals</b>												
<b>A</b> NBR												
<b>V</b> FPM												
<b>Version</b>		MFB020	MFB030	MFB100	MFB180	MFB190						
1	Without cover	•	•	•	•	•						
2	With flanged cover type MPF		•	•	•	•						
3	With threaded cover type MPT	•		•								
<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>					Filter media							
					Axx	Mxx	Pxx					
<b>N</b>	10 bar					•	•					
<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				

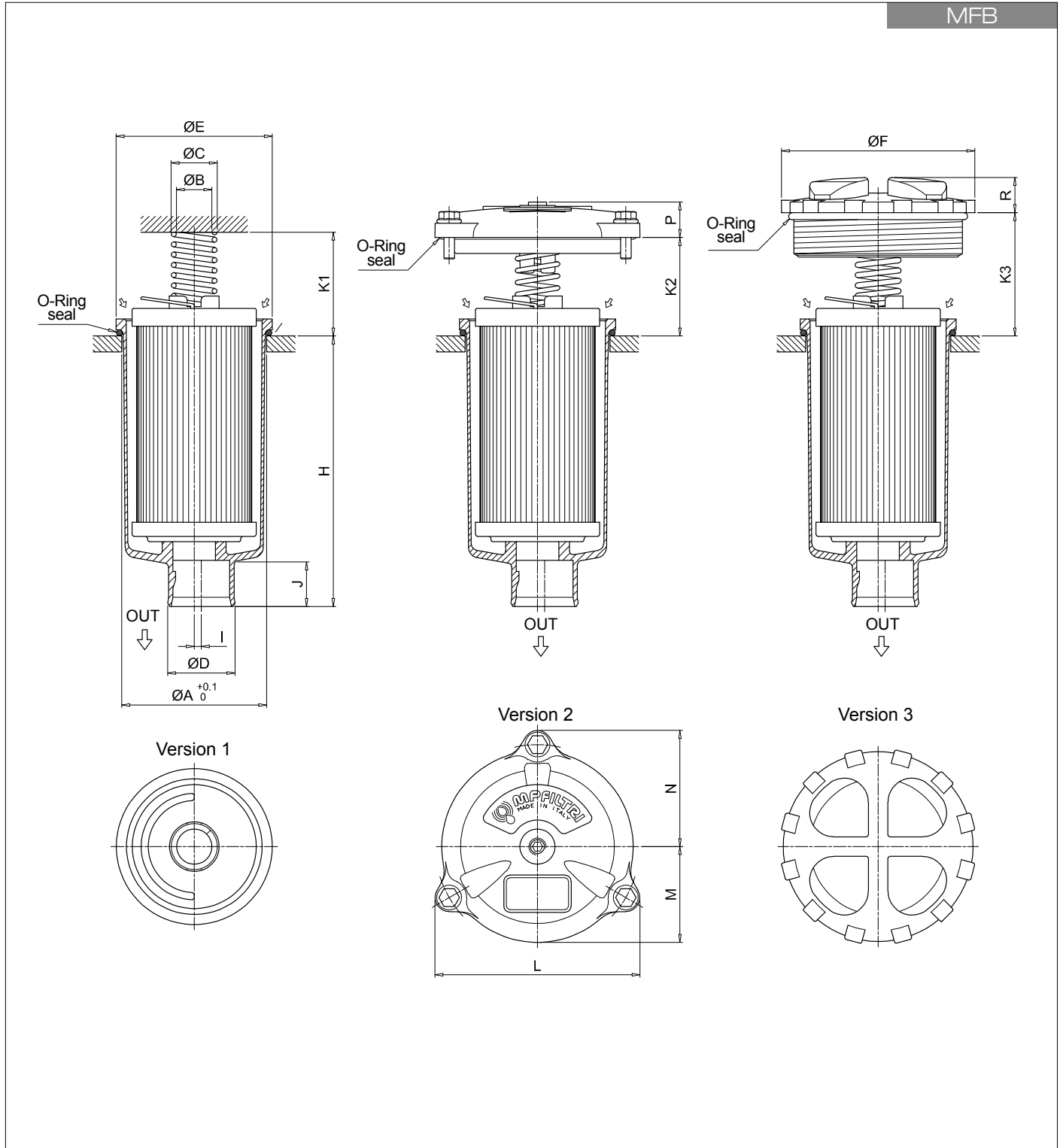
### FILTER ELEMENT

<b>Element series and size</b>						Configuration example 1: <b>MF100</b>   <b>1</b>   <b>A10</b>   <b>H</b>   <b>B</b>   <b>E</b>   <b>P01</b>						
<b>MF020</b>   <b>MF030</b>   <b>MF100</b>   <b>MF180</b>   <b>MF190</b>						Configuration example 2: <b>MF180</b>   <b>2</b>   <b>M25</b>   <b>N</b>   <b>V</b>   <b></b>   <b>P01</b>						
Filter element with private spigot												
<b>Element length</b>		MF020	MF030	MF100	MF180	MF190						
1		•	•	•	•							
2		•		•	•	•						
3		•		•								
4				•								
<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>					Filter media							
					Axx	Mxx	Pxx					
<b>N</b>	10 bar					•	•					
<b>H</b>	10 bar					•						
						<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> 1.75 bar		<b>Pxx</b> Customized		

### ACCESSORIES

<b>Additional features</b>											page	
		MFB020	MFB030	MFB100	MFB180	MFB190						
<b>TE</b>	Extension tube	•	•	•	•	•						248
<b>DFS</b>	Diffuser with fast lock connection			•								249

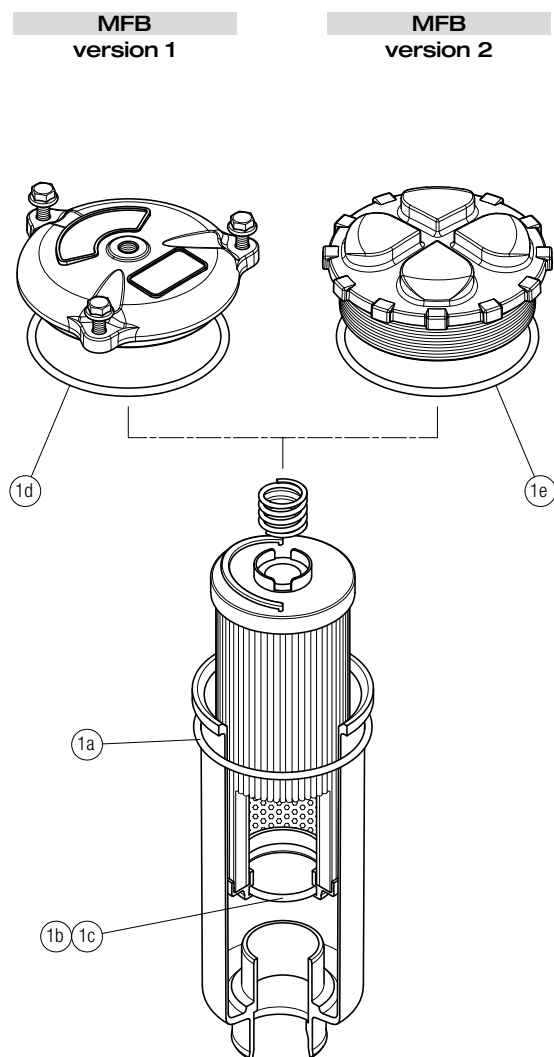
MFB



Filter size	Filter Length	ø A [mm]	ø B [mm]	ø C [mm]	ø D [mm]	ø E [mm]	ø F [mm]	H [mm]	I [mm]	J [mm]	K1 [mm]	K2 [mm]	K3 [mm]	L [mm]	M [mm]	N [mm]	P [mm]	R [mm]
<b>020</b>	1	52	20.5	26	32	56	75	111	0	24	42	-	36	-	-	-	-	18
	2	52	20.5	26	32	56	75	175	0	24	42	-	36	-	-	-	-	18
	3	52	20.5	26	32	56	75	214	0	24	42	-	36	-	-	-	-	18
<b>030</b>	1	60.5	20	25.5	32	68	-	92	3	21	33	35	-	92	42	52	18	-
	1	80.5	20	26	38	88	111	107	4	24	58	55	69	116	54	66	20	20
	2	80.5	20	26	38	88	111	154	4	24	58	55	69	116	54	66	20	20
	3	80.5	20	26	47	88	111	232	0	24	58	55	69	116	54	66	20	20
<b>100</b>	4	80.5	20	26	47	88	111	334	2.5	24	58	55	69	116	54	66	20	20
	1	112.5	26	33.5	47	121	-	234	0	31	58	58	69	159	76	95	21	-
	2	112.5	26	33.5	47	121	-	447	0	31	58	58	69	159	76	95	21	-
	2	112.5	26	33.5	50	121	-	454	0	38	58	58	69	159	76	95	21	-

# MFB SPARE PARTS

Order number for spare parts



Q.ty: 1 pc.		
1 (1a ÷ 1e)		
Item:	Seal Kit code number	
Filter series	NBR	FPM
<b>MFB 020</b>	02050572	02050573
<b>MFB 030</b>	02050574	02050575
<b>MFB 100</b>	02050555	02050556
<b>MFB 180</b>	02050576	02050577
<b>MFB 190</b>	02050578	02050579





# MPH series

Maximum working pressure up to 1 MPa (10 bar) - Flow rate up to 3500 l/min



### Return filter

**Maximum working pressure up to 1 MPa (10 bar)**

**Flow rate up to 3500 l/min**

MPH 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 use of the diffuser is recommended, to place the filter output always immersed into the fluid to avoid aeration or foam generation into the reservoir.

The filtration from inside to outside allows a cleaner filter element replacement, the dirty remains into the filter element.

### Available features:

- Female threaded connections up to 1 1/2" and flanged connections up to 4", for a maximum flow rate of 3000 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, to relieve excessive pressure drop across the filter media
- Magnetic filter, to hold the ferrous particles
- 2, 3, 4 or 8 fixing holes for installation, to suit a variety of reservoir surfaces
- Flat Seal to suit a variety of reservoir surfaces
- Oil dipstick, to easily check the level of the fluid into the reservoir (separate item)
- Diffuser, to reduce the risk of aeration, foaming and noise
- Filler plug, to fill cleaned fluid into the tank without an additional plug
- Integrated breather filter, to clean the air that moves into the reservoir as result of the oil level fluctuation (MPH110/114)
- 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 (MPH110/114)
- Visual, electrical and electronic clogging indicators

### Common applications:

Heavy duty industrial equipment

### Filter housing materials

- Head
  - Aluminium: MPH 110-114-116-120-250
  - Anodized Aluminium: MPH 630-850
  - Painted Aluminium: MPH 660

- Cover
  - Nylon: MPH 110-114-116-120
  - Aluminium: MPH 250
  - Anodized Aluminium: MPH 630
  - Painted Aluminium: MPH 660
  - Steel: MPH 850

- Insert assembly
  - Nylon: MPH 110-114-116-120
  - Aluminium: MPH 250-630-660-850

- Diffuser: Tinned Steel

- Valve: Phosphatized Steel

### Bypass valve

- Opening pressure 175 kPa (1.75 bar) ±10%
- Opening pressure 250 kPa (2.5 bar) ±10%, except for MPH 850

### Δp element type

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

### Seals

- Standard NBR series A
- Optional FPM series V

### Temperature

From -25 °C to +110 °C

### Note

MPH 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	5	Length	1	2	3	4	5
<b>MPH 110</b>	1.60	1.70	1.80	2.20	2.60	1.60	1.70	1.80	2.20	2.60		
<b>MPH 114</b>	1.60	1.70	1.80	2.20	2.60	1.60	1.70	1.80	2.20	2.60		
<b>MPH 116</b>	1.60	1.70	1.80	2.20	2.60	1.60	1.70	1.80	2.20	2.60		
<b>MPH 120</b>	1.60	1.70	1.80	2.20	2.60	1.60	1.70	1.80	2.20	2.60		
<b>MPH 250</b>	3.60	3.90	4.20	5.60	-	4.40	4.40	5.40	8.00	-		
<b>MPH 630</b>	6.50	7.00	7.40	8.50	10.50	7.30	9.00	11.00	13.00	19.20		
<b>MPH 660</b>	-	-	-	11.50	14.00	-	-	-	14.60	21.00		
<b>MPH 850</b>	32.00	35.00	38.00	42.00	-	13.00	16.50	21.00	25.00	-		



Filter series	Length	A03	A06	A10	A16	A25	M25 M60 M90	P10	P25
<b>MPH 110-114 116-120</b>	1	26	29	72	79	107	282	164	190
	2	43	46	112	114	161	318	164	190
	3	64	72	132	156	178	324	219	251
	4	90	99	184	198	216	324	266	302
	5	117	128	201	219	244	324	282	318
<b>MPH 250</b>	1	93	102	210	251	315	1093	339	383
	2	124	151	327	412	421	1122	460	514
	3	189	221	418	445	500	1137	544	616
	4	261	304	592	670	766	1166	832	923
<b>MPH 630</b>	1	160	200	369	423	518	1894	565	632
	2	240	257	571	611	1045	1929	1137	1285
	3	330	374	745	788	1308	1938	1416	1577
	4	374	403	887	1010	1348	1956	1448	1612
	5	625	698	1210	1257	1723	2121	1839	1929
<b>MPH 660</b>	4	370	399	903	1042	1460	2376	1596	1830
	5	624	699	1282	1343	1997	2663	2182	2331
<b>MPH 850</b>	1	775	1041	1246	1568	2242	3311	2371	2625
	2	1176	1522	1682	1747	2449	3378	2684	2886
	3	1490	1914	1995	2014	3035	3405	3144	3220
	4	1668	2088	2305	2363	3169	3517	3272	3378

### 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.

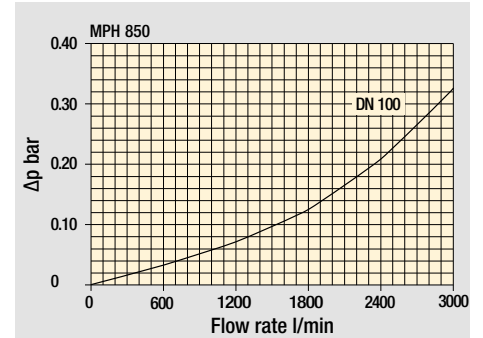
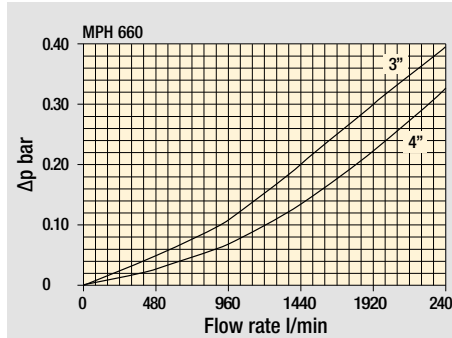
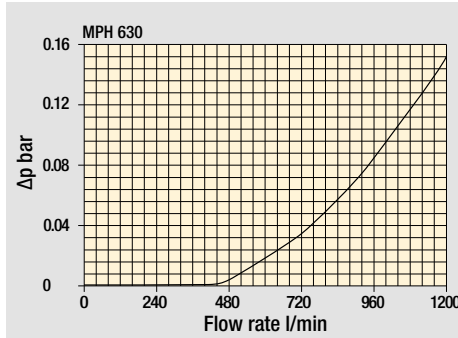
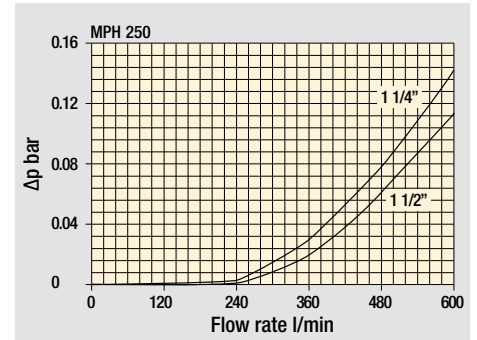
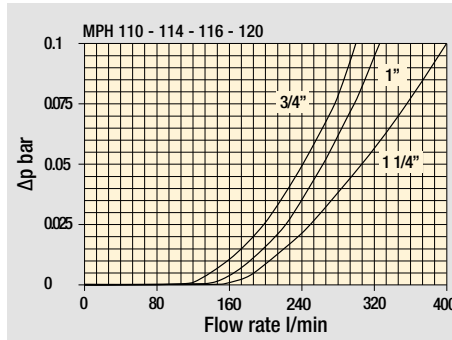
## Hydraulic symbols

Filter series	Style 1 connection	Style 2 connections	Style 3 connections
<b>MPH 110</b>		•	
<b>MPH 114</b>	•		
<b>MPH 116</b>	•		
<b>MPH 120</b>			•
<b>MPH 250</b>	•	•	
<b>MPH 630</b>	•	•	
<b>MPH 660</b>	•		
<b>MPH 850</b>		•	

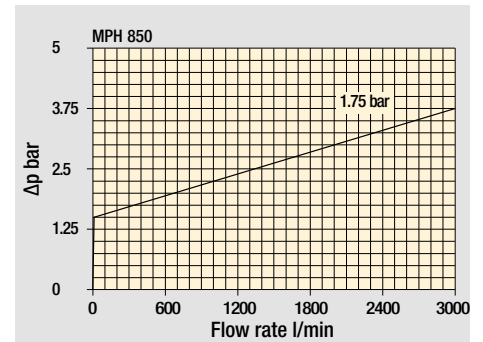
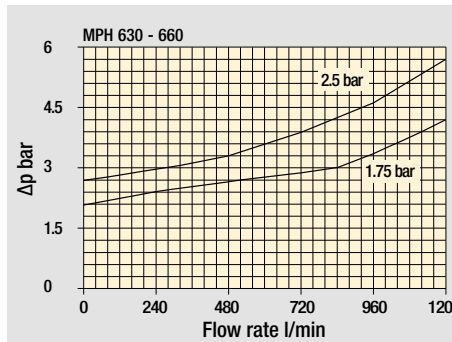
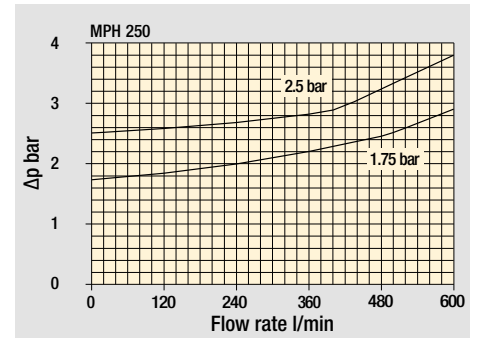
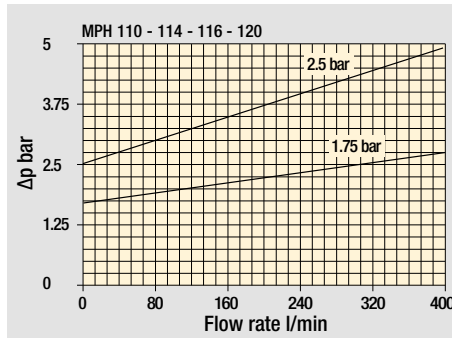
# MPH GENERAL INFORMATION

## Pressure drop

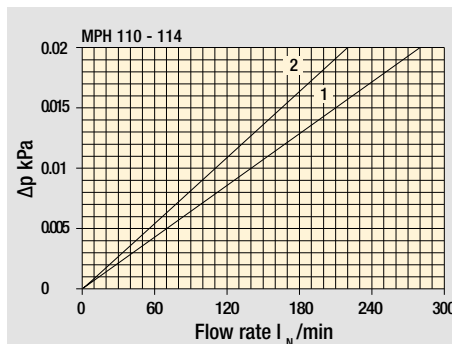
### Filter housings $\Delta p$ pressure drop



### Bypass valve pressure drop



### Air breather pressure drop



- 1  C With air breather 10  $\mu$ m
- 2  D With anti-splash and SAP50 10  $\mu$ m

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.



## Designation & Ordering code

### COMPLETE FILTER

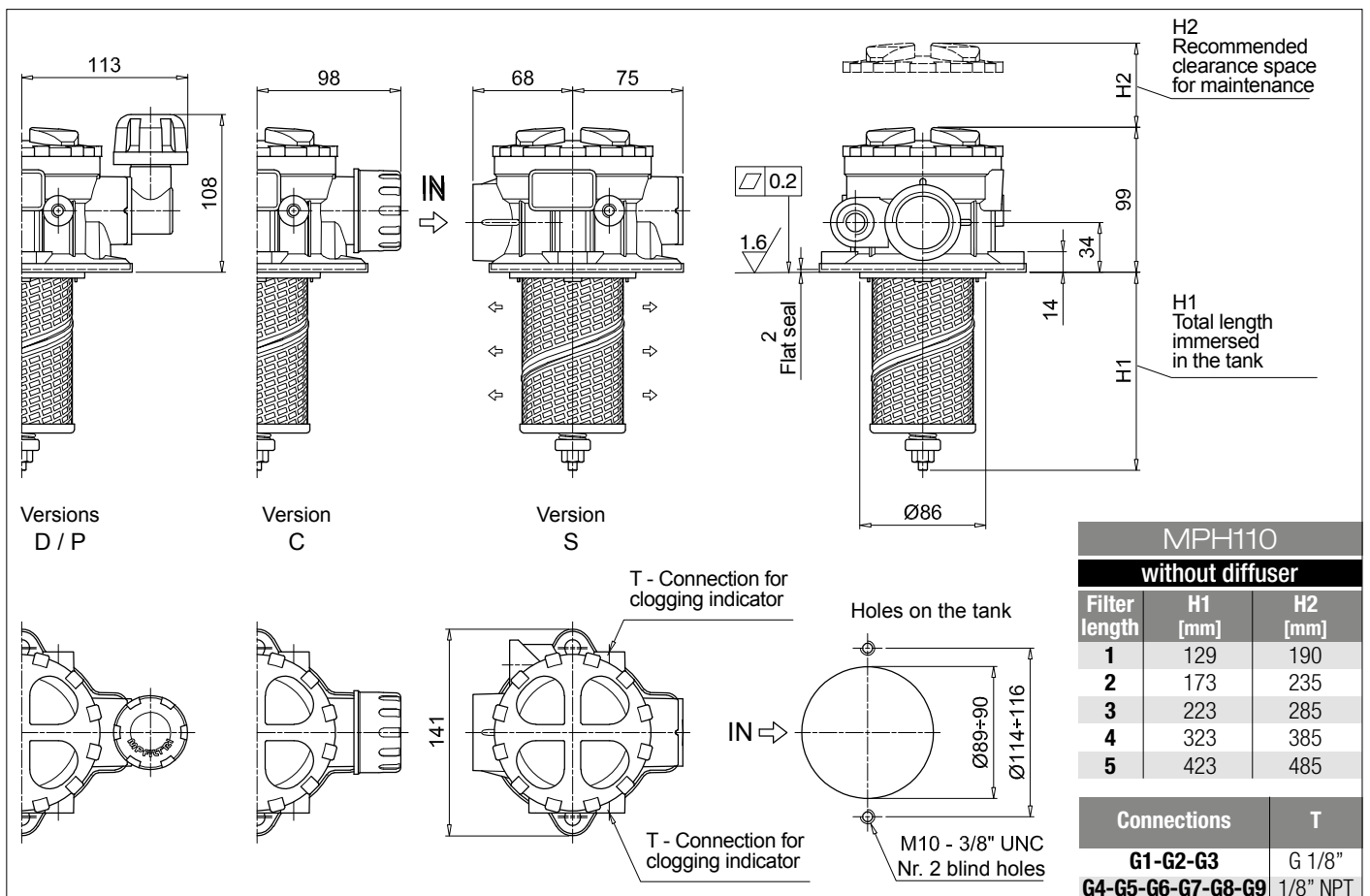
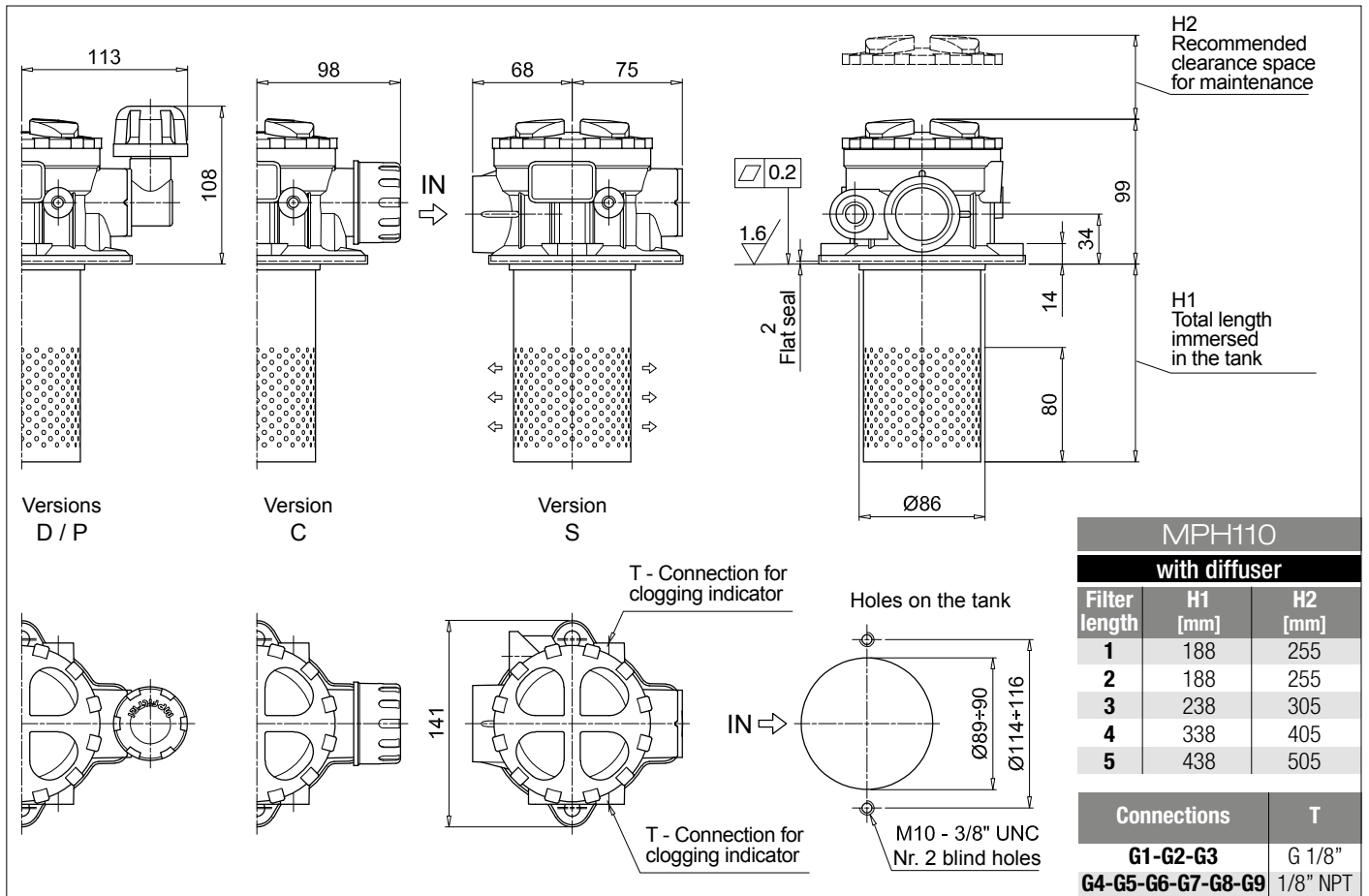
<b>Series and size</b>		Configuration example: MPH110 1 S D S A G1 1 A10 P01									
<b>MPH110</b>											
<b>Length</b>											
1   2   3   4   5											
<b>Bypass valve</b>											
S Without bypass		C 1.75 bar		E 2.5 bar							
<b>Diffuser and magnetic filter</b>											
D With diffuser, with magnetic filter											
F With diffuser, without magnetic filter											
O Without diffuser, with magnetic filter											
E Without diffuser, without magnetic filter											
<b>Air breather</b>											
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											
<b>Seals and treatments</b>		Filtration rating									
		Axx	Mxx	Pxx							
A NBR		•	•	•							
V FPM		•	•	•							
W NBR head anodized		•	•		filter element compatible with fluids HFA-HFB-HFC						
Z FPM head anodized		•	•								
<b>Main Connections</b>		<b>Aux size 1</b>		<b>Aux size 2</b>		<b>Main Connections</b>		<b>Aux size 1</b>		<b>Aux size 2</b>	
G1 G 3/4"		G 3/8"		G 1/2"		G7 SAE 12 - 1 1/16" - 12 UN		SAE 6 - 9/16" - 18 UNF		SAE 8 - 3/4" - 16 UNF	
G2 G 1"						G8 SAE 16 - 1 5/16" - 12 UN					
G3 G 1 1/4"						G9 SAE 20 - 1 5/8" - 12 UN					
G4 3/4" NPT						3/8" NPT		1/2" NPT			
G5 1" NPT											
G6 1 1/4" NPT											
<b>Aux connection</b> - see previous table											
0 Not machined		1 Aux size 1		2 Aux size 2							
<b>Filtration rating (filter media)</b>											
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									
										<b>Execution</b>	
										P01 MP Filtri standard	
										Pxx Customized	

### FILTER ELEMENT

<b>Element series and size</b>		Configuration example: MR100 1 A10 A P01				
<b>MR100</b>						
<b>Element length</b>						
1   2   3   4   5						
<b>Filtration rating (filter media)</b>						
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				
				<b>Seals</b>		<b>Execution</b>
				A NBR		P01 MP Filtri standard
				V FPM		Pxx Customized

### ACCESSORIES

<b>Indicators</b>		page			page
BVA	Axial pressure gauge	240	BEA	Electrical pressure indicator	239
BVR	Radial pressure gauge	240	BEM	Electrical pressure indicator	239
BVP	Visual pressure indicator with automatic reset	241	BLA	Electrical / visual pressure indicator	239-240
BVQ	Visual pressure indicator with manual reset	241			
<b>Additional features</b>		page			
DPT	Dipstick	249			



## Designation & Ordering code

### COMPLETE FILTER

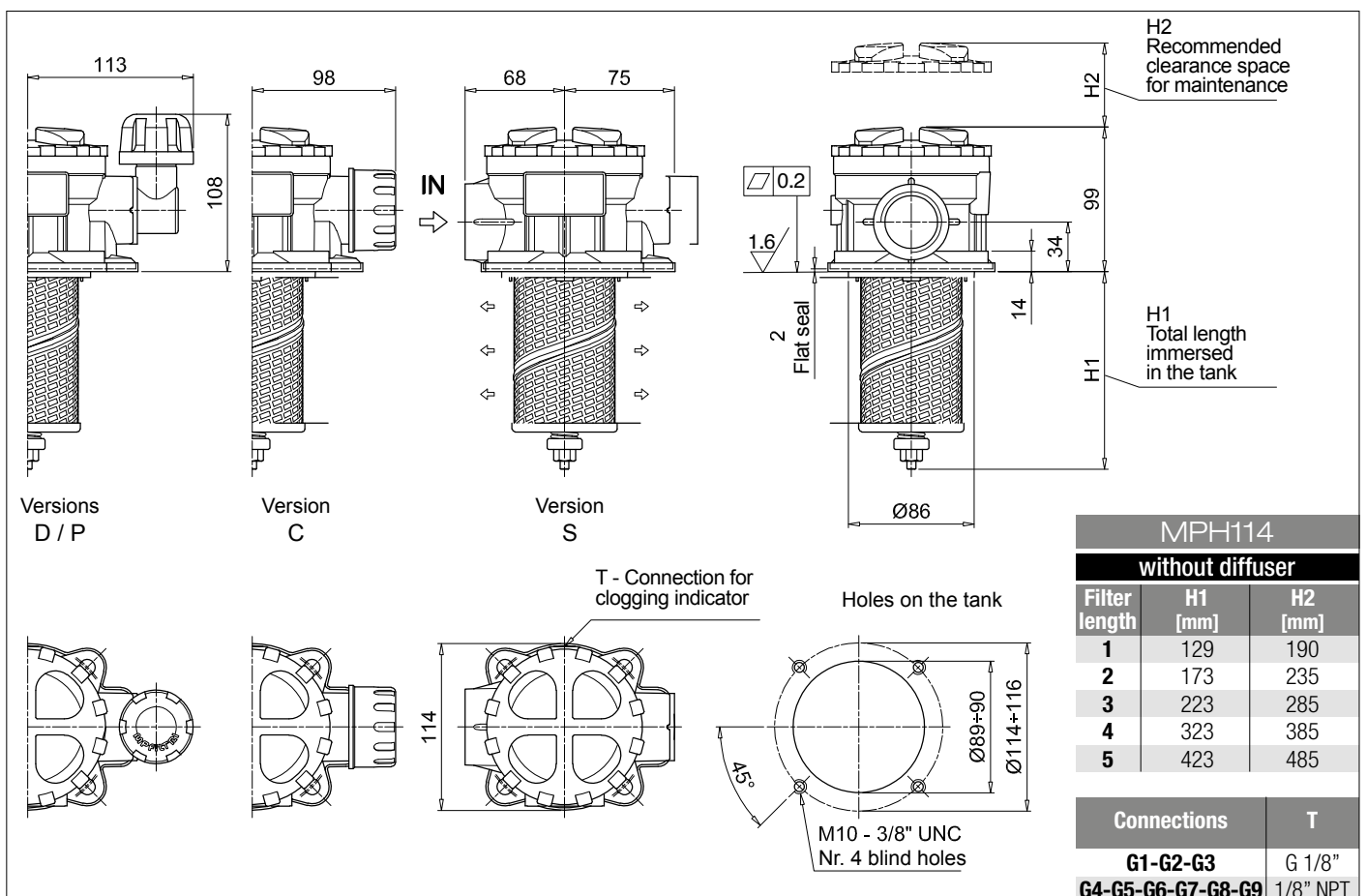
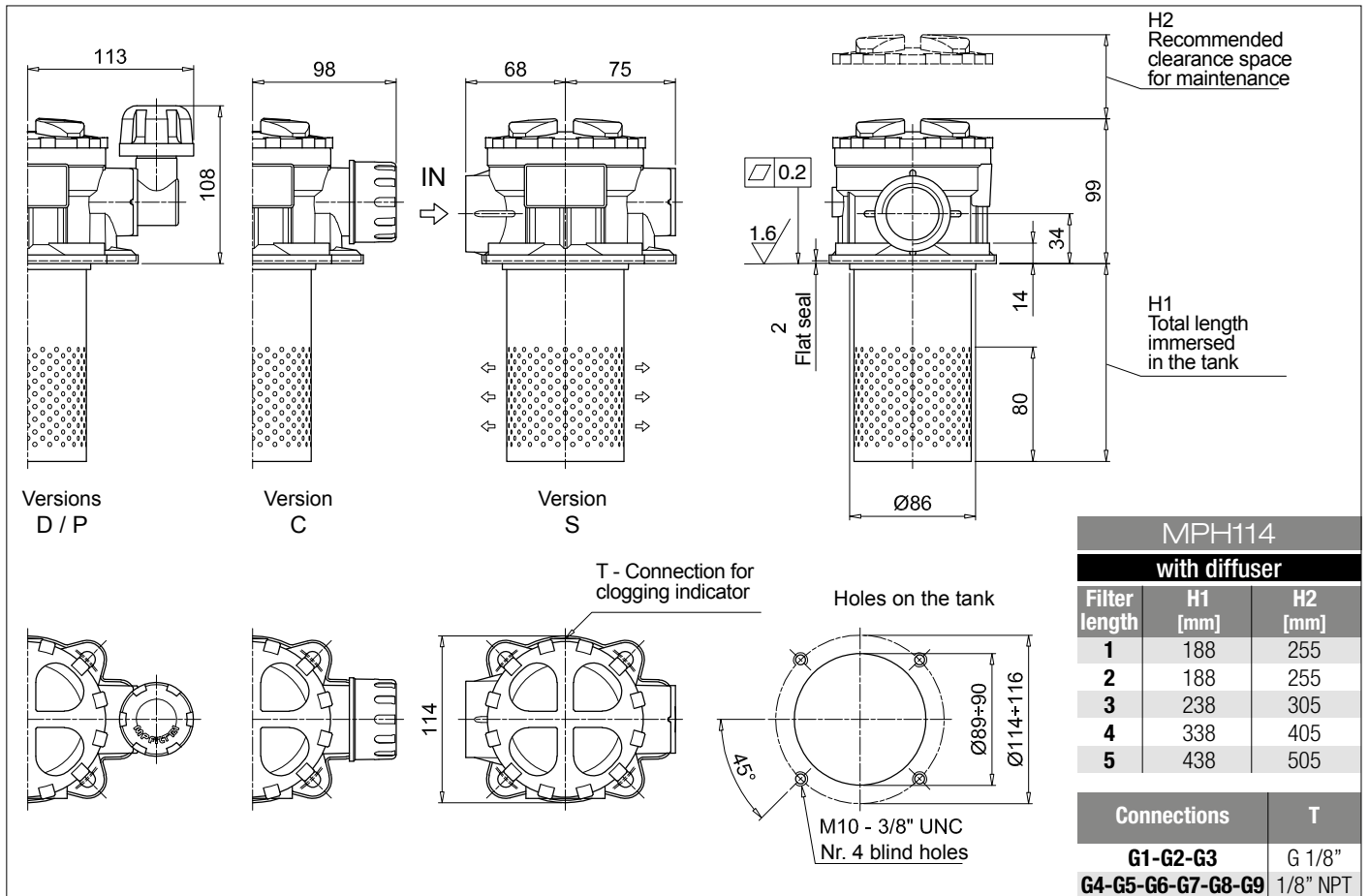
<b>Series and size</b> <b>MPH114</b>	Configuration example: <b>MPH114</b>   <b>3</b>   <b>C</b>   <b>E</b>   <b>C</b>   <b>Z</b>   <b>G6</b>   <b>M60</b>   <b>P01</b>									
<b>Length</b> 1   2   <b>3</b>   4   5										
<b>Bypass valve</b> <b>S</b> Without bypass   <b>C</b> 1.75 bar   <b>E</b> 2.5 bar										
<b>Diffuser and magnetic filter</b> <b>D</b> With diffuser, with magnetic filter <b>F</b> With diffuser, without magnetic filter <b>O</b> Without diffuser, with magnetic filter <b>E</b> Without diffuser, without magnetic filter										
<b>Air breather</b> <b>S</b> Without air breather <b>C</b> With air breather 10 µm <b>D</b> With anti-splash and air breather SAP050 10 µm <b>P</b> With anti-splash and air breather SAP050 10 µm pressurization 0.5 bar										
<b>Seals and treatments</b>	Filtration rating									
<b>A</b> NBR	<b>Axx</b>	<b>Mxx</b>	<b>Pxx</b>							
<b>V</b> FPM	•	•	•							
<b>W</b> NBR head anodized	•	•		filter element compatible with fluids HFA-HFB-HFC						
<b>Z</b> FPM head anodized	•	•								
<b>Connections</b>										
<b>G1</b> G 3/4"	<b>G6</b> 1 1/4" NPT									
<b>G2</b> G 1"	<b>G7</b> SAE 12 - 1 1/16" - 12 UN									
<b>G3</b> G 1 1/4"	<b>G8</b> SAE 16 - 1 5/16" - 12 UN									
<b>G4</b> 3/4" NPT	<b>G9</b> SAE 20 - 1 5/8" - 12 UN									
<b>G5</b> 1" NPT										
<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>Execution</b>
										<b>P01</b> MP Filtri standard
										<b>Pxx</b> Customized

### FILTER ELEMENT

<b>Element series and size</b> <b>MR100</b>	Configuration example: <b>MR100</b>   <b>3</b>   <b>M60</b>   <b>V</b>   <b>P01</b>			
<b>Element length</b> 1   2   <b>3</b>   4   5				
<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>Seals</b>	<b>Execution</b>	
		<b>A</b> NBR	<b>P01</b> MP Filtri standard	
		<b>V</b> FPM	<b>Pxx</b> Customized	

### ACCESSORIES

Indicators	page		page
<b>BVA</b> Axial pressure gauge	240	<b>BEA</b> Electrical pressure indicator	239
<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
<b>BVQ</b> Visual pressure indicator with manual reset	241		
Additional features	page		
<b>DPT</b> Dipstick	249		



## Designation & Ordering code

### COMPLETE FILTER

<b>Series and size</b> <b>MPH116</b>	Configuration example: <b>MPH116</b>   <b>5</b>   <b>S</b>   <b>D</b>   <b>S</b>   <b>A</b>   <b>G1</b>   <b>A10</b>   <b>P01</b>									
<b>Length</b> <b>1</b>   <b>2</b>   <b>3</b>   <b>4</b>   <b>5</b>										
<b>Bypass valve</b> <b>S</b> Without bypass   <b>C</b> 1.75 bar   <b>E</b> 2.5 bar										
<b>Diffuser and magnetic filter</b> <b>D</b> With diffuser, with magnetic filter <b>F</b> With diffuser, without magnetic filter <b>O</b> Without diffuser, with magnetic filter <b>E</b> Without diffuser, without magnetic filter										
<b>Air breather</b> <b>S</b> Without air breather										
<b>Seals and treatments</b>	Filtration rating									
<b>A</b> NBR	<b>Axx</b>	<b>Mxx</b>	<b>Pxx</b>							
<b>V</b> FPM										
<b>W</b> NBR head anodized				filter element compatible with fluids HFA-HFB-HFC						
<b>Z</b> FPM head anodized										
Flat seal on the head on request										
<b>Connections</b>										
<b>G1</b> G 3/4"	<b>G6</b> 1 1/4" NPT									
<b>G2</b> G 1"	<b>G7</b> SAE 12 - 1 1/16" - 12 UN									
<b>G3</b> G 1 1/4"	<b>G8</b> SAE 16 - 1 5/16" - 12 UN									
<b>G4</b> 3/4" NPT	<b>G9</b> SAE 20 - 1 5/8" - 12 UN									
<b>G5</b> 1" NPT										
<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>Execution</b>
										<b>P01</b> MP Filtri standard
										<b>Pxx</b> Customized

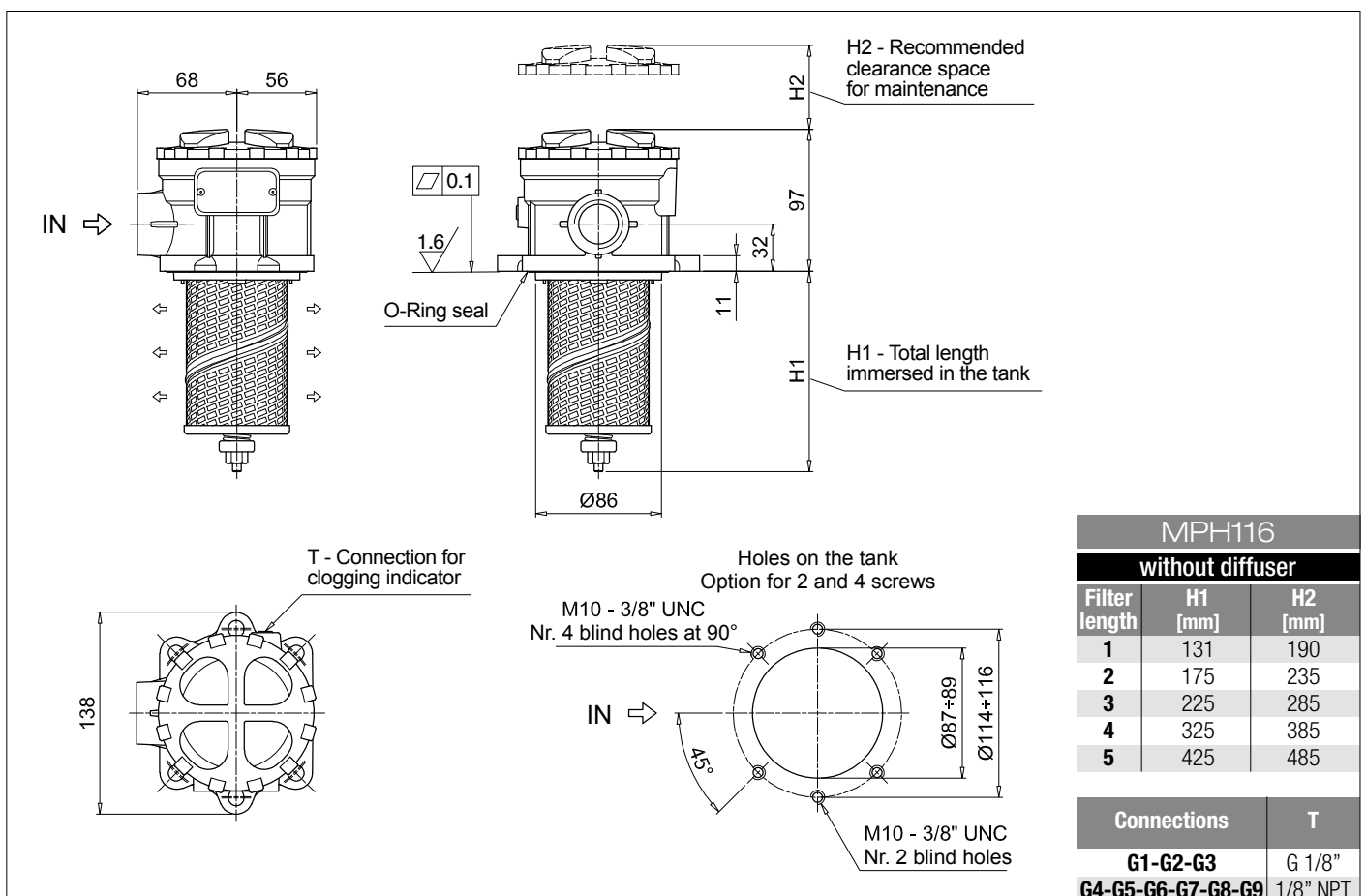
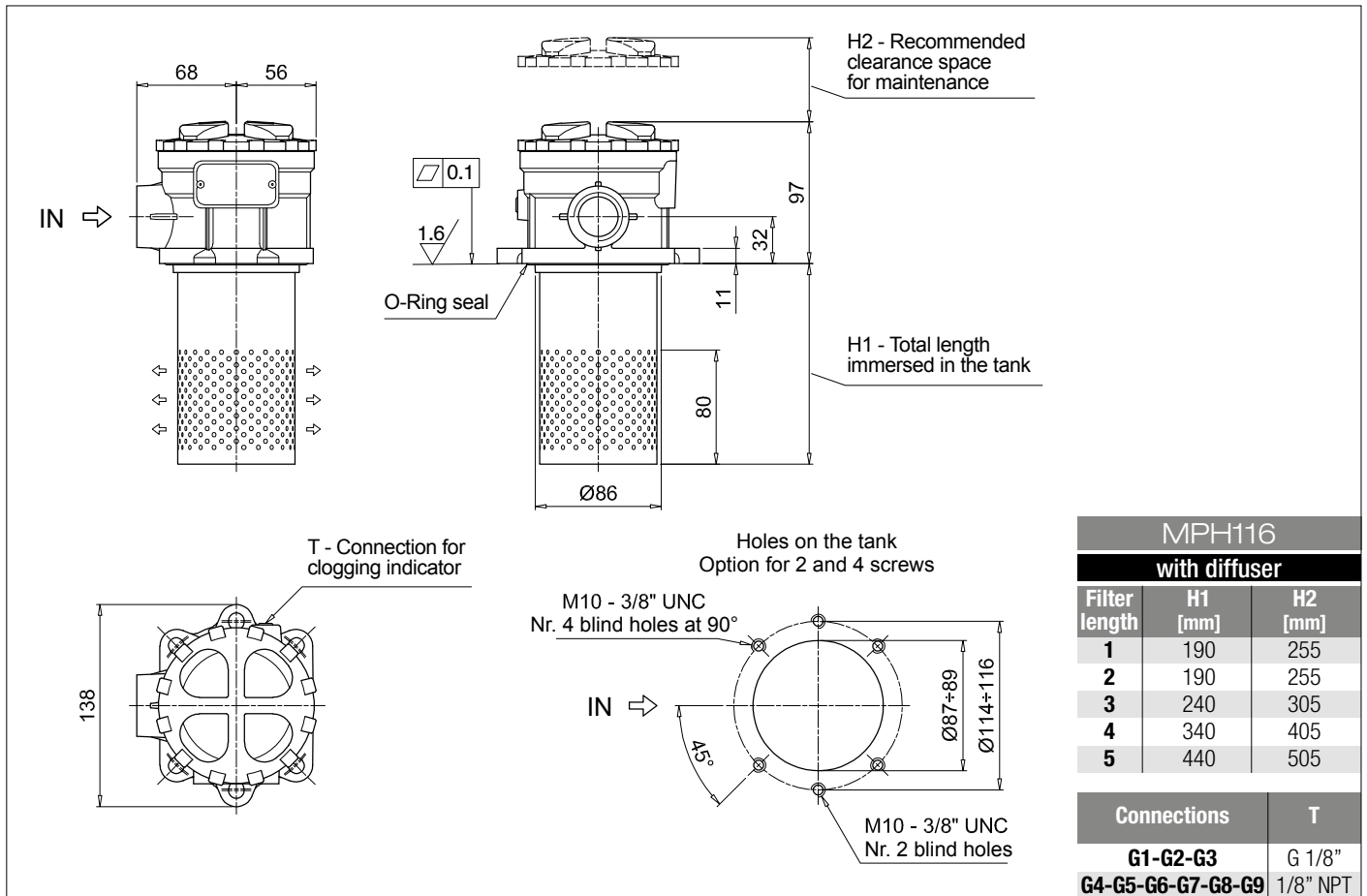
### FILTER ELEMENT

<b>Element series and size</b> <b>MR100</b>	Configuration example: <b>MR100</b>   <b>5</b>   <b>A10</b>   <b>A</b>   <b>P01</b>			
<b>Element length</b> <b>1</b>   <b>2</b>   <b>3</b>   <b>4</b>   <b>5</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>Seals</b>	<b>Execution</b>	
		<b>A</b> NBR	<b>P01</b> MP Filtri standard	
		<b>V</b> FPM	<b>Pxx</b> Customized	

### ACCESSORIES

Indicators	page		page
<b>BVA</b> Axial pressure gauge	240	<b>BEA</b> Electrical pressure indicator	239
<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
<b>BVQ</b> Visual pressure indicator with manual reset	241		
Additional features	page		
<b>DPT</b> Dipstick	249		





## Designation & Ordering code

### COMPLETE FILTER

Series and size **MPH120** Configuration example: **MPH120** | **1** | **S** | **D** | **A** | **G1** | **1** | **A10** | **P01**

#### Length

1 | 2 | 3 | 4 | 5 |

#### Bypass valve

**S** Without bypass | **C** 1.75 bar | **E** 2.5 bar

#### Diffuser and magnetic filter

**D** With diffuser, with magnetic filter  
**F** With diffuser, without magnetic filter  
**O** Without diffuser, with magnetic filter  
**E** Without diffuser, without magnetic filter

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

Main Connections	Rear connections	Aux size 1	Aux size 2
<b>G1</b> G 3/4"	G 3/4"	G 3/8"	G 1/2"
<b>G2</b> G 1"	G 1"		
<b>G3</b> G 1 1/4"	G 3/4"		
<b>G4</b> 3/4" NPT	3/4" NPT	3/8" NPT	1/2" NPT
<b>G5</b> 1" NPT	1" NPT		
<b>G6</b> 1 1/4" NPT	3/4" NPT		
<b>G7</b> SAE 12 - 1 1/16" - 12 UN	SAE 12 - 1 1/16" - 12 UN	SAE 6 - 9/16" - 18 UNF	SAE 8 - 3/4" - 16 UNF
<b>G8</b> SAE 16 - 1 5/16" - 12 UN	SAE 16 - 1 5/16" - 12 UN		
<b>G9</b> SAE 20 - 1 5/8" - 12 UN	SAE 12 - 1 1/16" - 12 UN		

#### Aux connection - see previous table

**0** Not machined | **1** Aux size 1 | **2** Aux size 2

#### 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

#### Execution

**P01** MP Filtri standard  
**Pxx** Customized

### FILTER ELEMENT

#### Element series and size

**MR100** Configuration example: **MR100** | **1** | **A10** | **A** | **P01**

#### Element length

1 | 2 | 3 | 4 | 5 |

#### 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

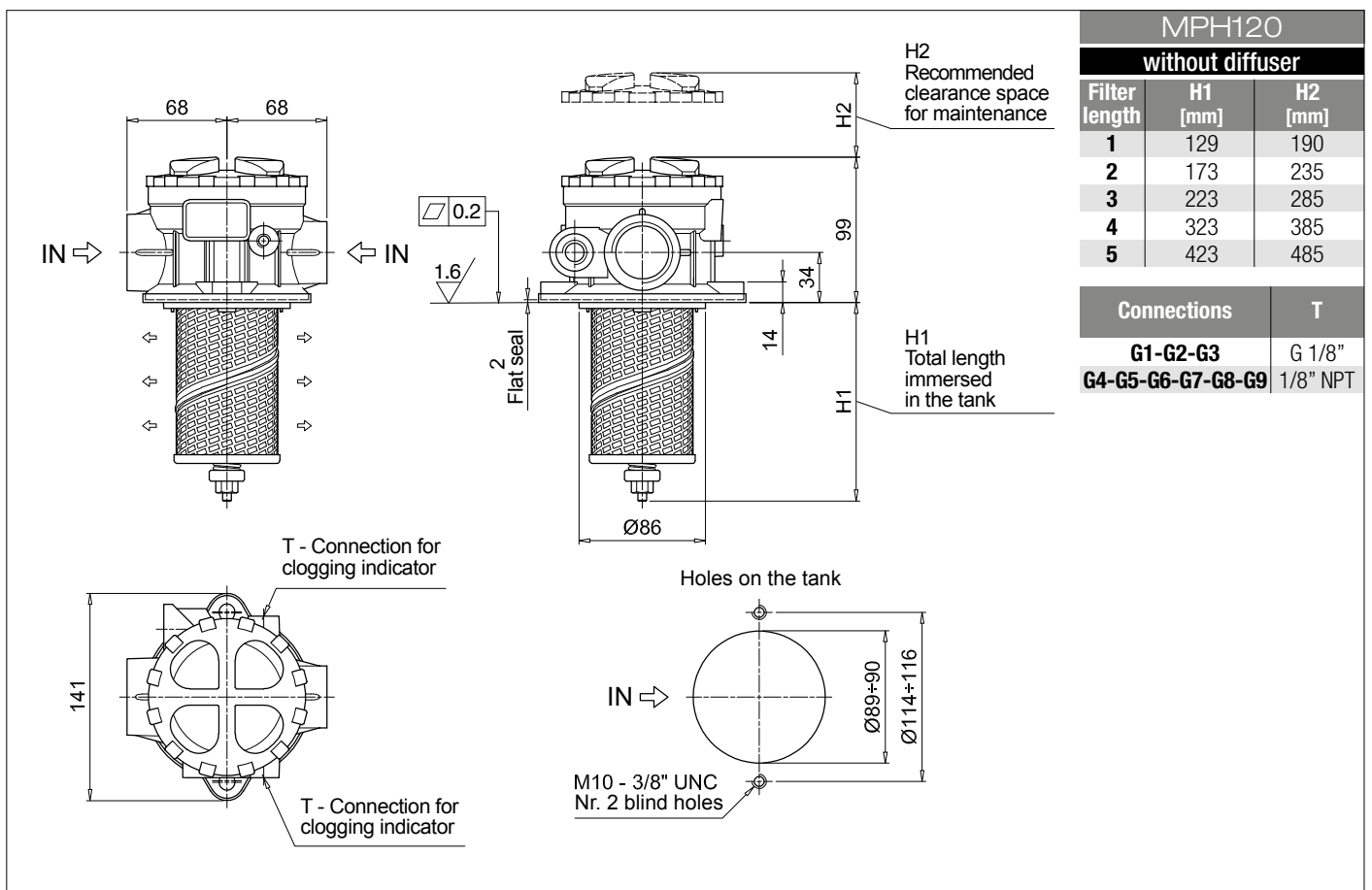
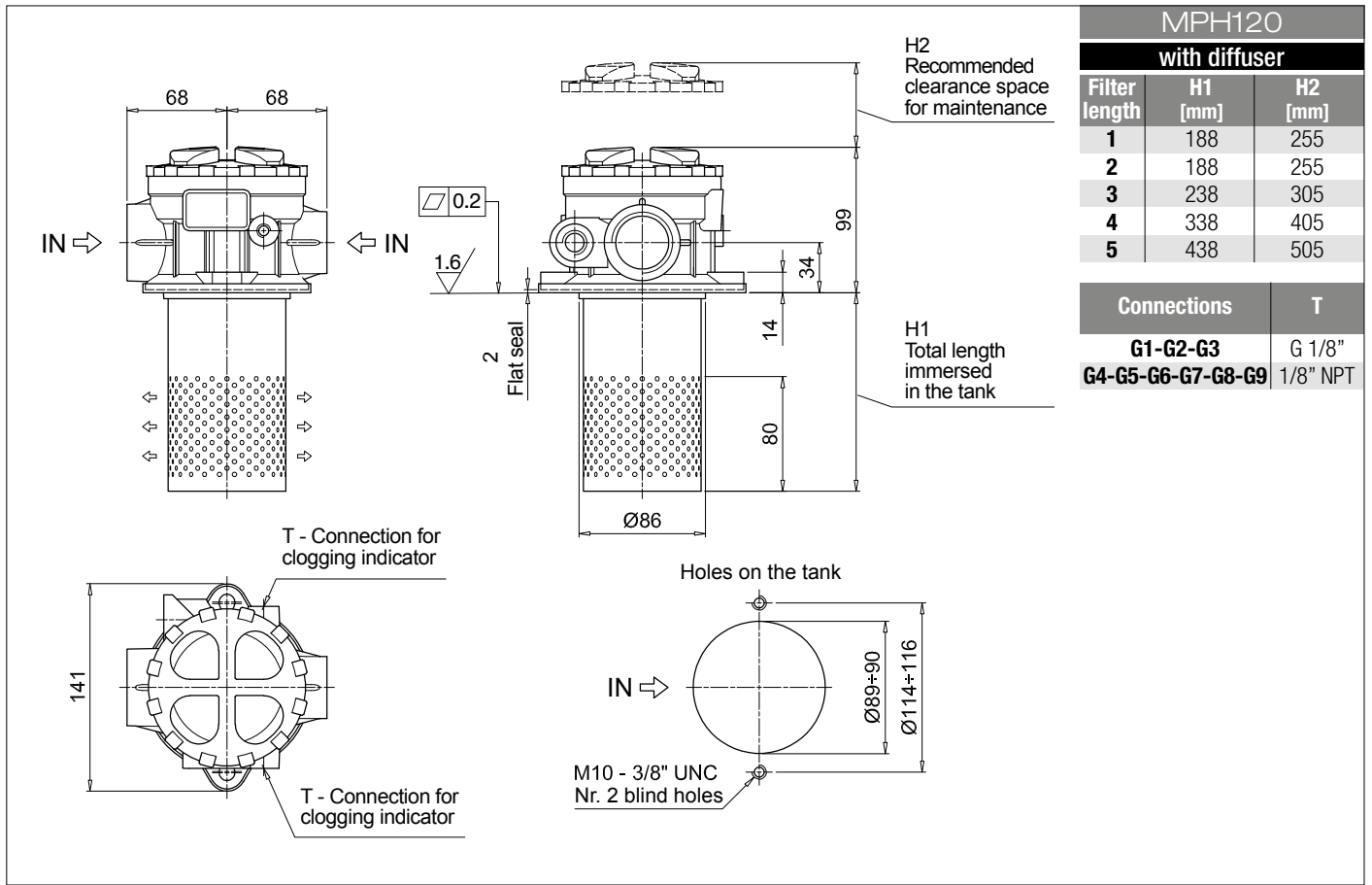
**A** NBR  
**V** FPM

#### Execution

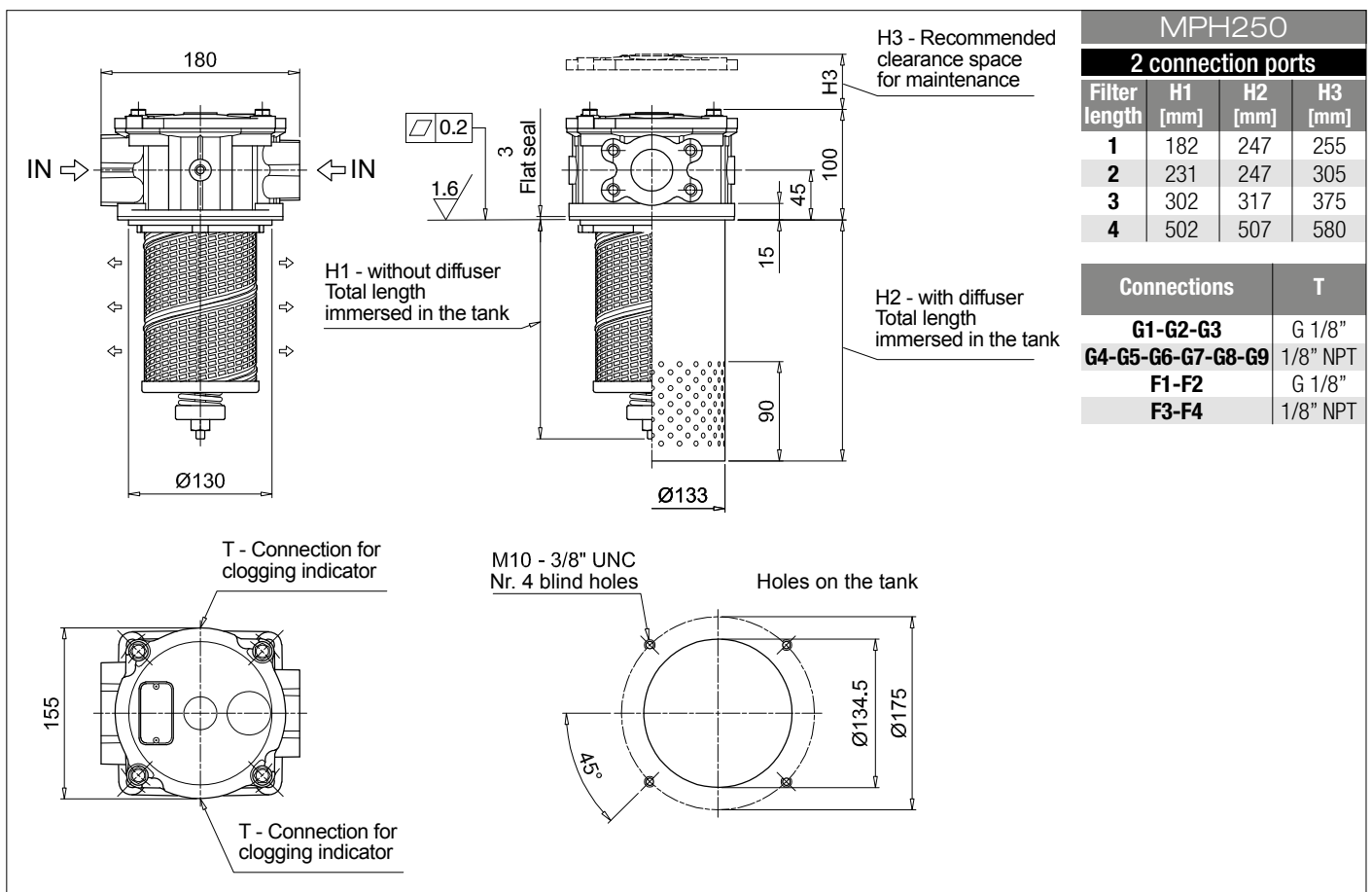
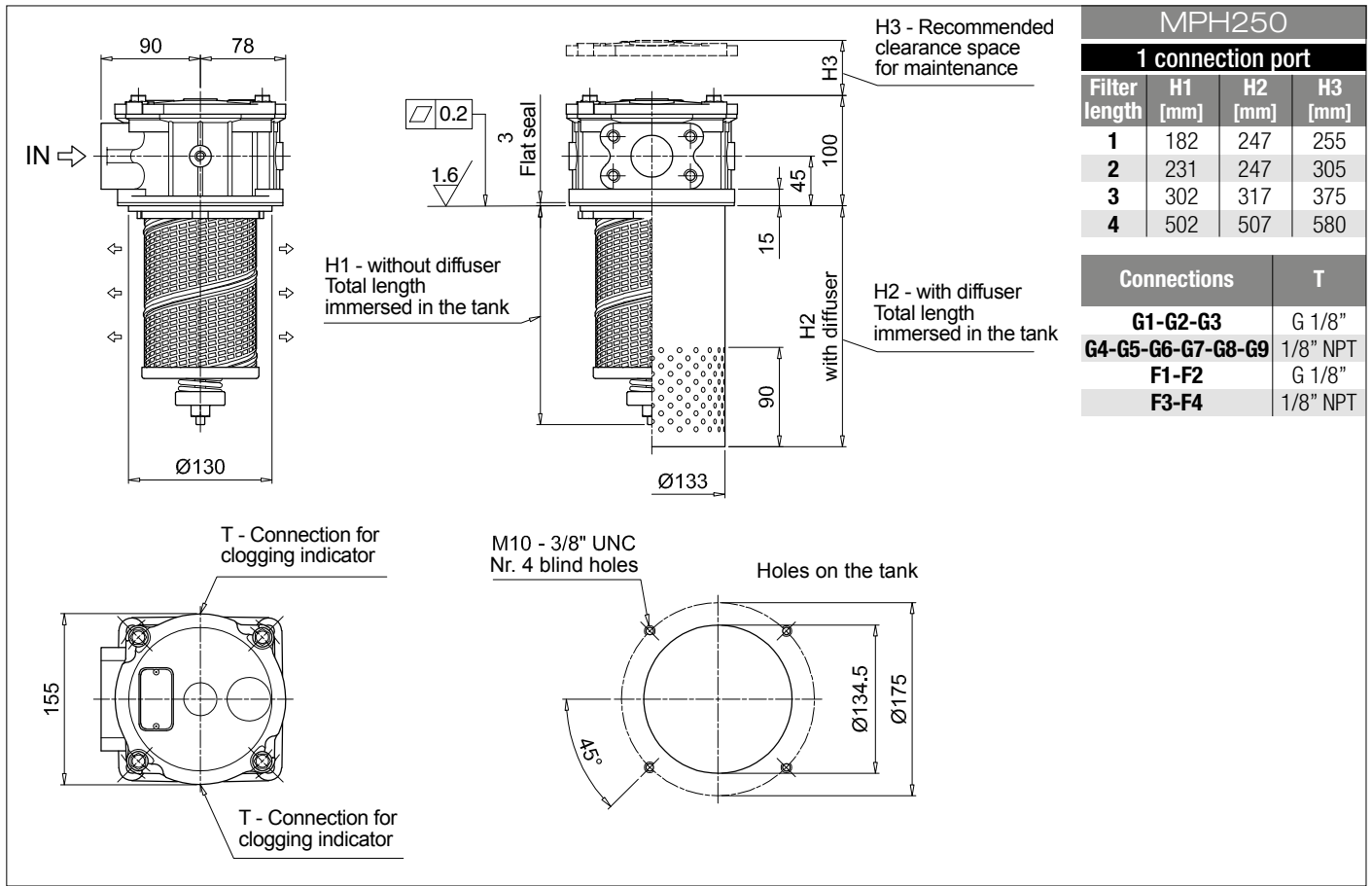
**P01** MP Filtri standard  
**Pxx** Customized

### ACCESSORIES

Indicators	page		page
<b>BVA</b> Axial pressure gauge	240	<b>BEA</b> Electrical pressure indicator	239
<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
<b>BVQ</b> Visual pressure indicator with manual reset	241		
Additional features	page		
<b>DPT</b> Dipstick	249		







## Designation & Ordering code

### COMPLETE FILTER

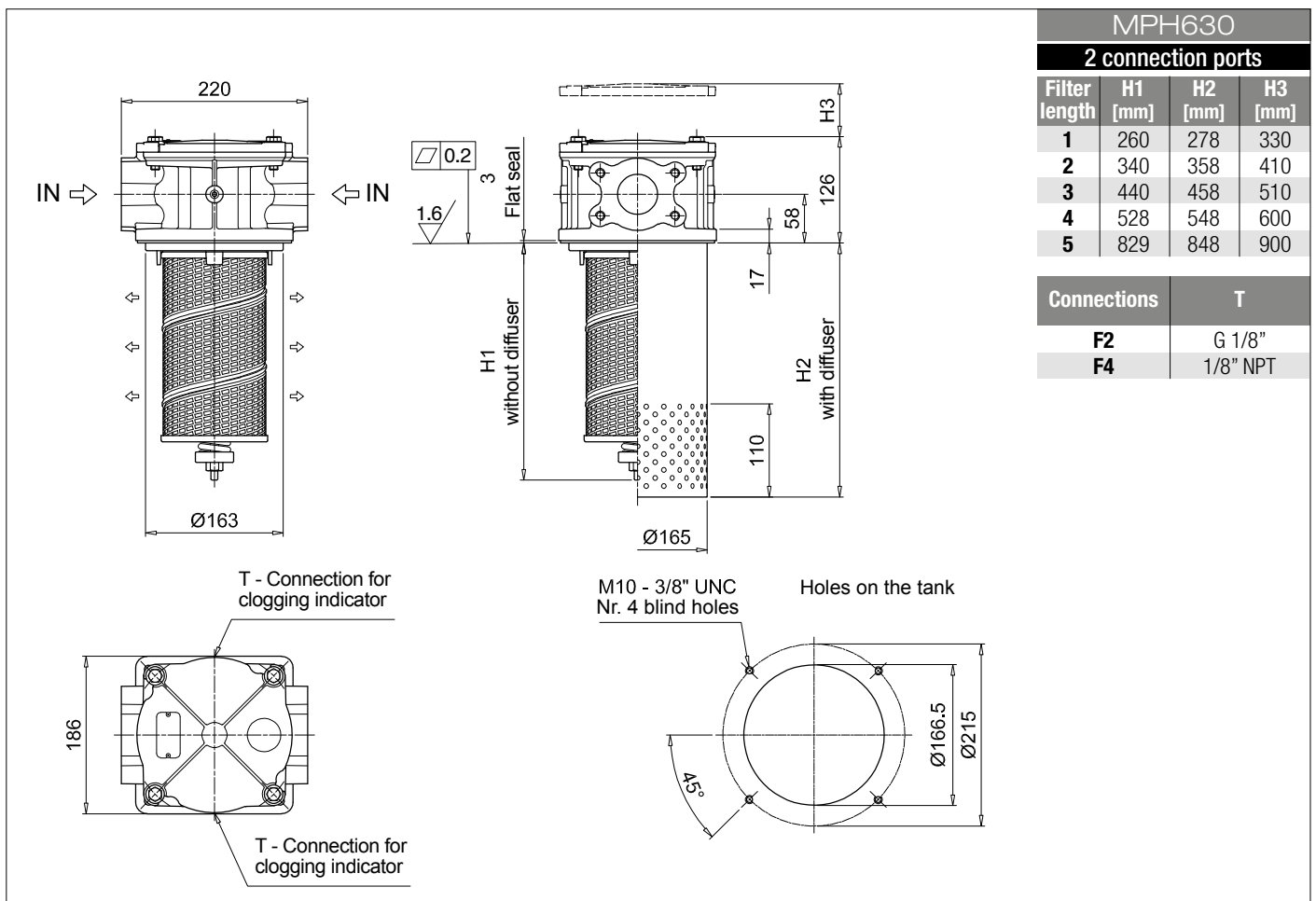
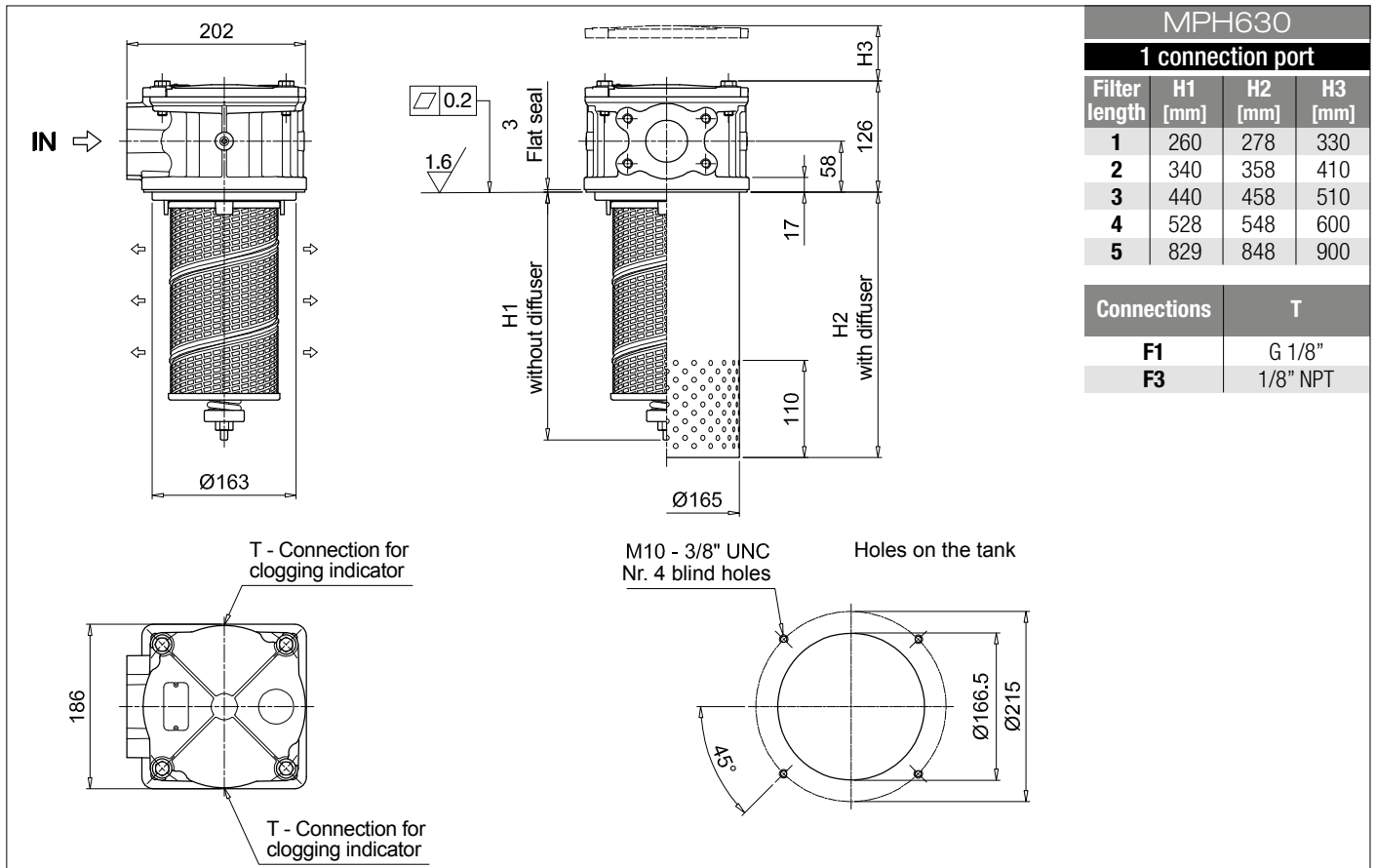
<b>Series and size</b> <b>MPH630</b>	Configuration example: <b>MPH630</b>   <b>1</b>   <b>S</b>   <b>E</b>   <b>S</b>   <b>W</b>   <b>F1</b>   <b>M25</b>   <b>P01</b>									
<b>Length</b>	1   2   3   4   5									
<b>Bypass valve</b>	S Without bypass   C 1.75 bar   E 2.5 bar									
<b>Diffuser and magnetic filter</b>	D With diffuser, with magnetic filter F With diffuser, without magnetic filter O Without diffuser, with magnetic filter E Without diffuser, without magnetic filter									
<b>Air breather</b>	S Without air breather									
<b>Seals and treatments</b>	Filtration rating									
	Axx	Mxx	Pxx							
A NBR	•	•	•							
V FPM	•	•	•							
W NBR head anodized	•	•		filter element compatible with fluids HFA-HFB-HFC						
Z FPM head anodized	•	•								
<b>Main Connections</b>	<b>Rear connections</b>									
F1 2 1/2" SAE 3000 psi/M	-									
F2 2 1/2" SAE 3000 psi/M	2" SAE 3000 psi/M									
F3 2 1/2" SAE 3000 psi/UNC	-									
F4 2 1/2" SAE 3000 psi/UNC	2" SAE 3000 psi/UNC									
<b>Filtration rating (filter media)</b>										
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									
	<b>Execution</b>									
	P01 MP Filtri standard									
	Pxx Customized									

### FILTER ELEMENT

<b>Element series and size</b> <b>MR630</b>	Configuration example: <b>MR630</b>   <b>1</b>   <b>M25</b>   <b>A</b>   <b>P01</b>				
<b>Element length</b>	1   2   3   4   5				
<b>Filtration rating (filter media)</b>					
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				
	<b>Seals</b>		<b>Execution</b>		
	A NBR		P01 MP Filtri standard		
	V FPM		Pxx Customized		

### ACCESSORIES

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



## Designation & Ordering code

### COMPLETE FILTER

<b>Series and size</b>	Configuration example: <b>MPH660</b>   <b>4</b>   <b>C</b>   <b>D</b>   <b>S</b>   <b>A</b>   <b>F2</b>   <b>A10</b>   <b>P01</b>																			
<b>MPH660</b>																				
<b>Length</b>	4   5																			
<b>Bypass valve</b>	S Without bypass   C 1.75 bar   E 2.5 bar																			
<b>Diffuser and magnetic filter</b>	D With diffuser, with magnetic filter F With diffuser, without magnetic filter O Without diffuser, with magnetic filter E Without diffuser, without magnetic filter																			
<b>Air breather</b>	S Without air breather																			
<b>Seals and treatments</b>	Filtration rating																			
	Axx	Mxx	Pxx																	
A NBR	•	•	•																	
V FPM	•	•	•																	
W NBR head anodized	•	•		filter element compatible with fluids HFA-HFB-HFC																
Z FPM head anodized	•	•																		
<b>Main Connections</b>	F1 3" SAE 3000 psi/M F2 4" SAE 3000 psi/M																			
<b>Filtration rating (filter media)</b>	<table border="0"> <tr> <td><b>A03</b> Inorganic microfiber 3 µm</td> <td><b>M25</b> Wire mesh 25 µm</td> </tr> <tr> <td><b>A06</b> Inorganic microfiber 6 µm</td> <td><b>M60</b> Wire mesh 60 µm</td> </tr> <tr> <td><b>A10</b> Inorganic microfiber 10 µm</td> <td><b>M90</b> Wire mesh 90 µm</td> </tr> <tr> <td><b>A16</b> Inorganic microfiber 16 µm</td> <td><b>P10</b> Resin impregnated paper 10 µm</td> </tr> <tr> <td><b>A25</b> Inorganic microfiber 25 µm</td> <td><b>P25</b> Resin impregnated paper 25 µm</td> </tr> </table>										<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>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>Execution</b>	P01 MP Filtri standard Pxx Customized											

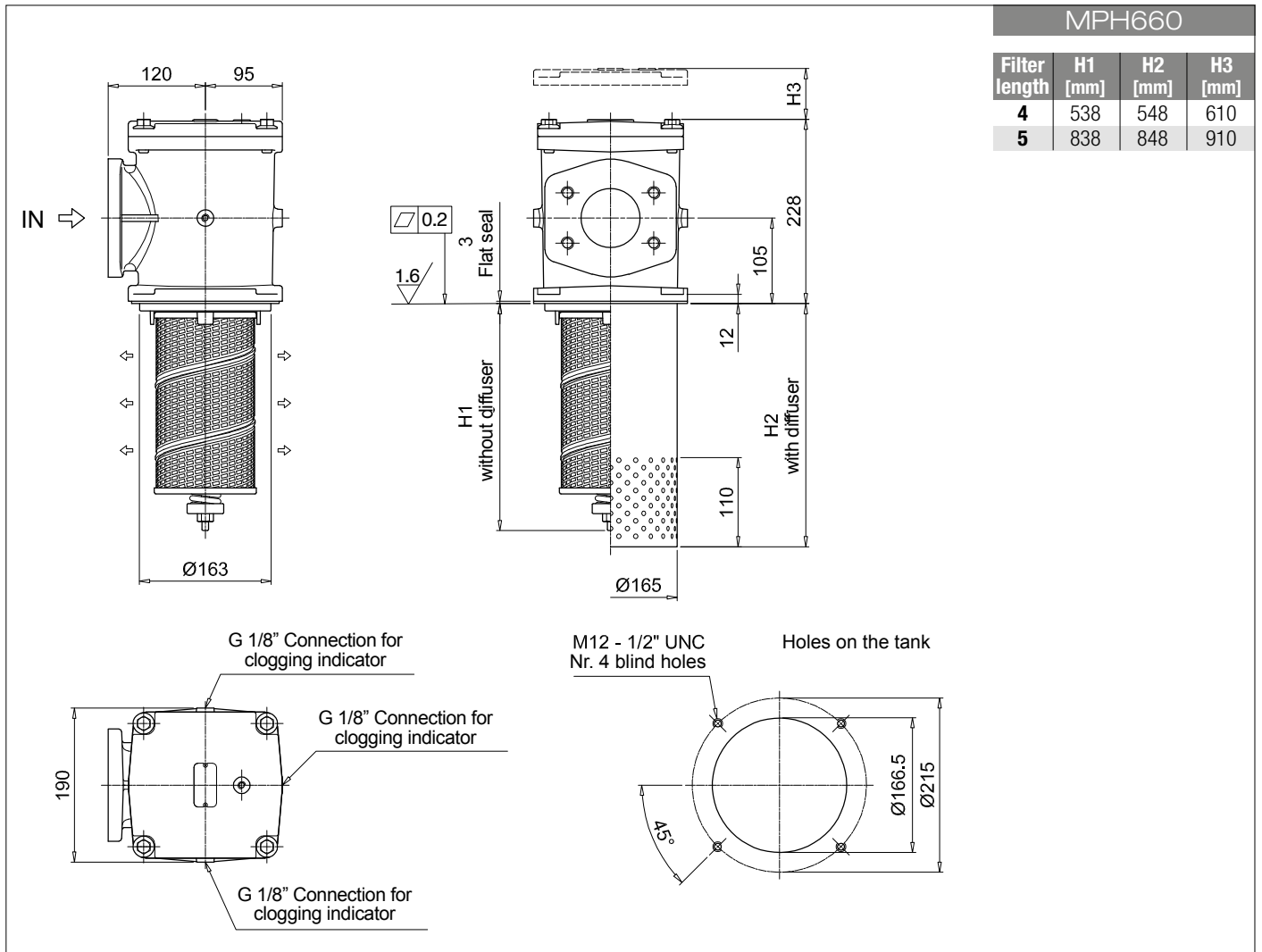
### FILTER ELEMENT

<b>Element series and size</b>	Configuration example: <b>MR630</b>   <b>5</b>   <b>M25</b>   <b>A</b>   <b>P01</b>														
<b>MR630</b>															
<b>Element length</b>	4   5														
<b>Filtration rating (filter media)</b>	<table border="0"> <tr> <td><b>A03</b> Inorganic microfiber 3 µm</td> <td><b>M25</b> Wire mesh 25 µm</td> </tr> <tr> <td><b>A06</b> Inorganic microfiber 6 µm</td> <td><b>M60</b> Wire mesh 60 µm</td> </tr> <tr> <td><b>A10</b> Inorganic microfiber 10 µm</td> <td><b>M90</b> Wire mesh 90 µm</td> </tr> <tr> <td><b>A16</b> Inorganic microfiber 16 µm</td> <td><b>P10</b> Resin impregnated paper 10 µm</td> </tr> <tr> <td><b>A25</b> Inorganic microfiber 25 µm</td> <td><b>P25</b> Resin impregnated paper 25 µm</td> </tr> </table>					<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>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>Seals</b>		<b>Execution</b>												
	A NBR		P01	MP Filtri standard											
	V FPM		Pxx	Customized											

### ACCESSORIES

Indicators	page		page
<b>BVA</b> Axial pressure gauge	240	<b>BEA</b> Electrical pressure indicator	239
<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
<b>BVQ</b> Visual pressure indicator with manual reset	241		





## Designation & Ordering code

### COMPLETE FILTER

Series and size **MPH850** Configuration example: **MPH850** | **1** | **C** | **D** | **S** | **A** | **F1** | **A10** | **P01**

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

Bypass valve **S** Without bypass | **C** 1.75 bar

Diffuser and magnetic filter  
**D** With diffuser, with magnetic filter  
**F** With diffuser, without magnetic filter  
**O** Without diffuser, with magnetic filter  
**E** Without diffuser, without magnetic filter

Air breather **S** Without air breather

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

filter element compatible with fluids HFA-HFB-HFC

Main Connections	Rear connections
<b>F1</b> UNI 2223 DN 100 PN 10/16	3" SAE 3000 psi/M
<b>F2</b> UNI 2223 DN 100 PN 10/16	3" SAE 3000 psi/UNC
<b>F5</b> Not machined	3" SAE 3000 psi/M
<b>F6</b> Not machined	3" SAE 3000 psi/UNC
<b>F7</b> 4" SAE 3000 psi/M	3" SAE 3000 psi/M
<b>F8</b> 4" SAE 3000 psi/UNC	3" SAE 3000 psi/UNC

Filtration rating (filter media)

<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

Execution  
**P01** MP Filtri standard  
**Pxx** Customized

### FILTER ELEMENT

Element series and size **MR850** Configuration example: **MR850** | **1** | **A10** | **A** | **P01**

Element length **1** | **2** | **3** | **4**

Filtration rating (filter media)

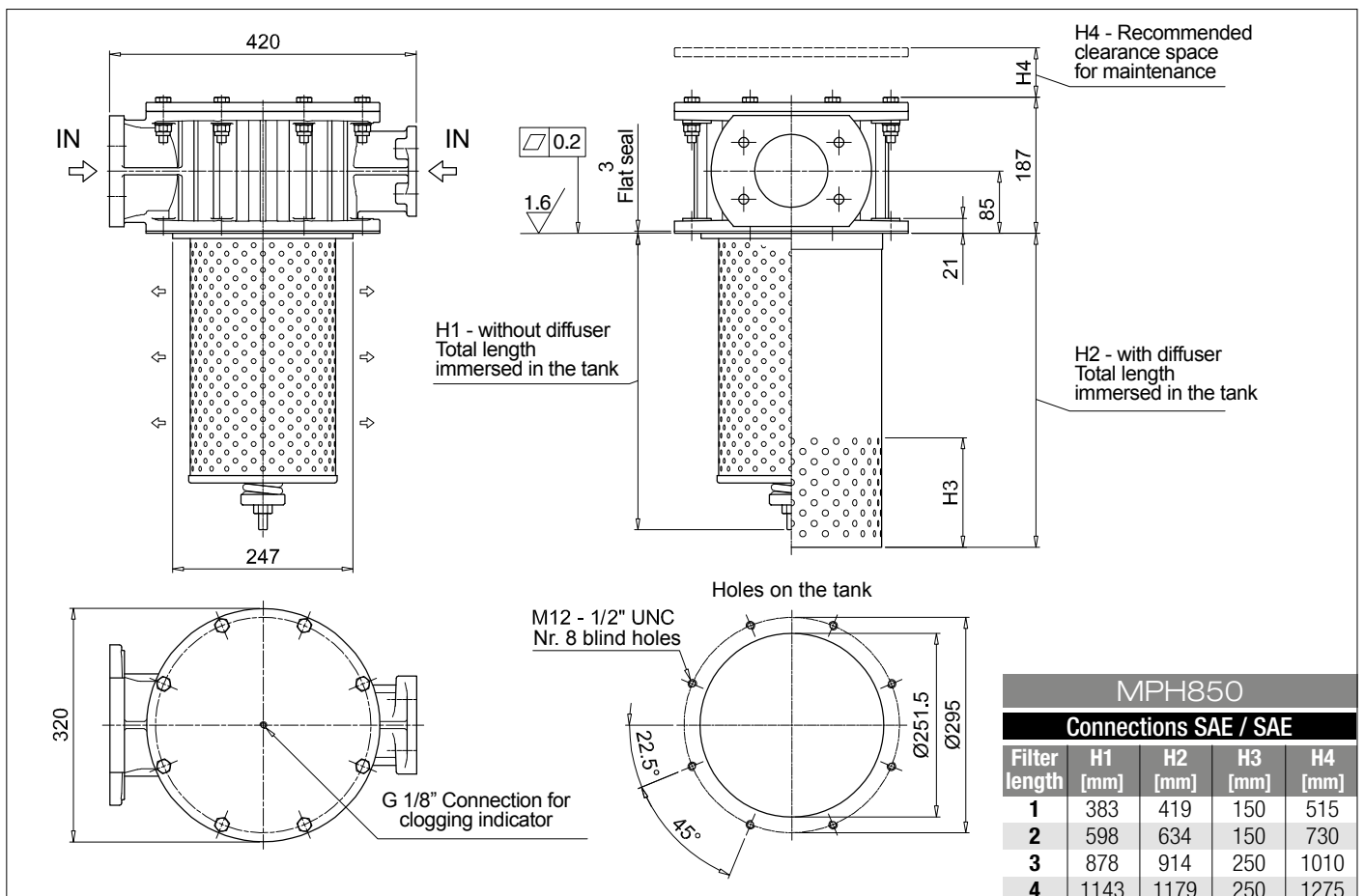
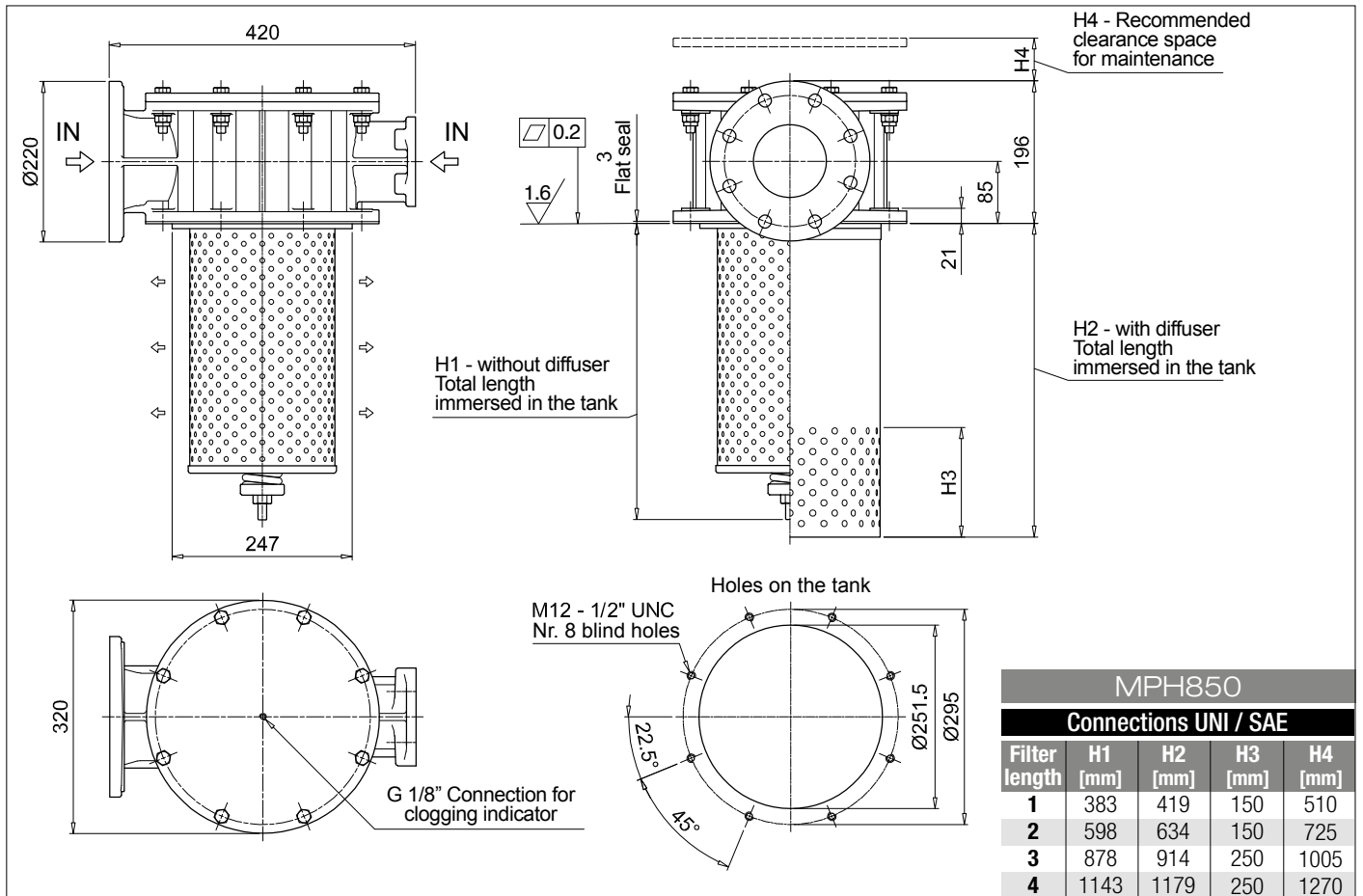
<b>A03</b> Inorganic microfiber 3 µm	<b>M25</b> Wire mesh 25 µm
<b>A06</b> Inorganic microfiber 6 µm	<b>M60</b> Wire mesh 60 µm
<b>A10</b> Inorganic microfiber 10 µm	<b>M90</b> Wire mesh 90 µm
<b>A16</b> Inorganic microfiber 16 µm	<b>P10</b> Resin impregnated paper 10 µm
<b>A25</b> Inorganic microfiber 25 µm	<b>P25</b> Resin impregnated paper 25 µm

Seals  
**A** NBR  
**V** FPM

Execution  
**P01** MP Filtri standard  
**Pxx** Customized

### ACCESSORIES

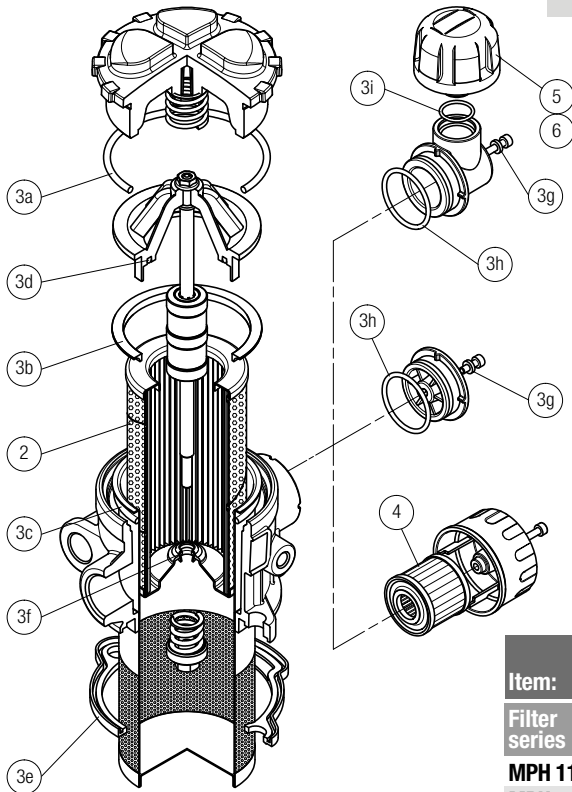
Indicators	page		page
<b>BVA</b> Axial pressure gauge	240	<b>BEA</b> Electrical pressure indicator	239
<b>BVR</b> Radial pressure gauge	240	<b>BEM</b> Electrical pressure indicator	239
<b>BVP</b> Visual pressure indicator with automatic reset	241	<b>BLA</b> Electrical / visual pressure indicator	239-240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



# MPH SPARE PARTS

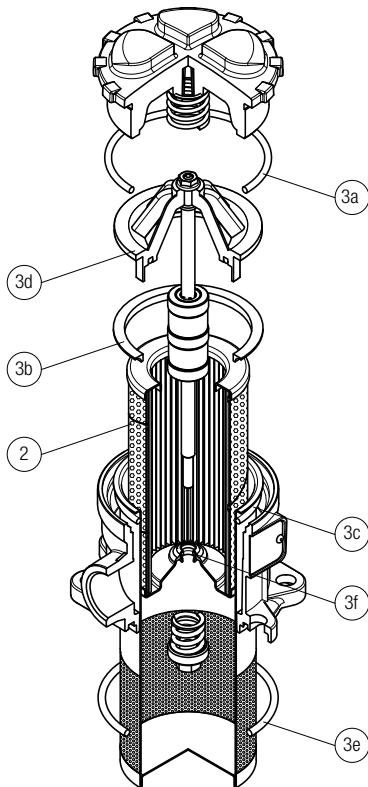
Order number for spare parts

## MPH 110 - 114



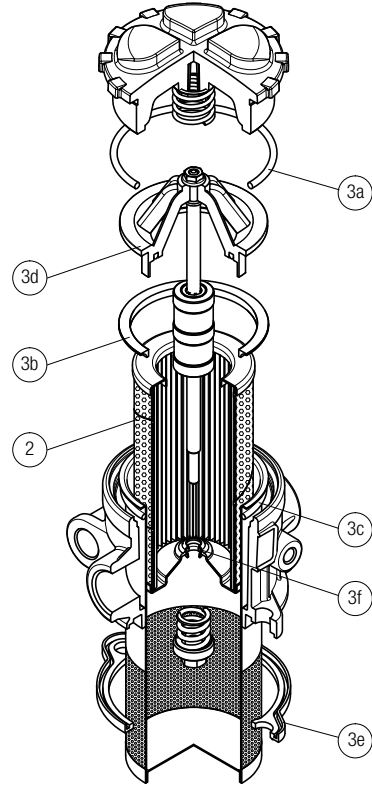
Item:	Q.ty: 1 pc.	Q.ty: 1 pc.		Q.ty: 1 pc.	Q.ty: 1 pc.		Q.ty: 1 pc.
Filter series	Filter element	Seal Kit code number		Air breather filter element - version:			
		NBR	FPM	C	D	P	
MPH 110	See order table	02050565	02050566	10 µm A3L03	10 µm SAP50G3L03A0P01	10 µm SAP50G3L03A1P01	
MPH 114	See order table	02050582	02050583				

## MPH 116



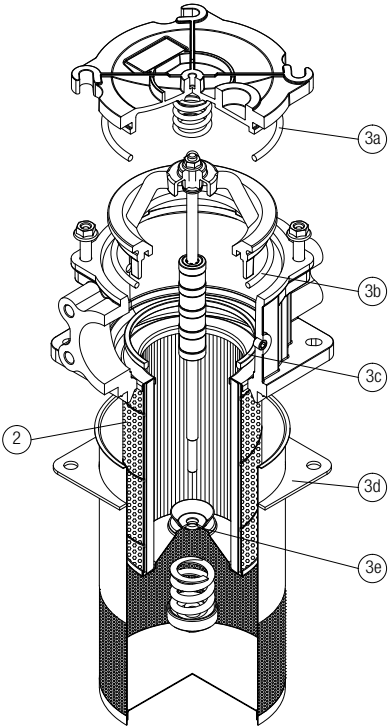
Item:	Q.ty: 1 pc.	Q.ty: 1 pc.	
Filter series	Filter element	Seal Kit code number	
		NBR	FPM
MPH 116	See order table	02050741	02050742

## MPH 120



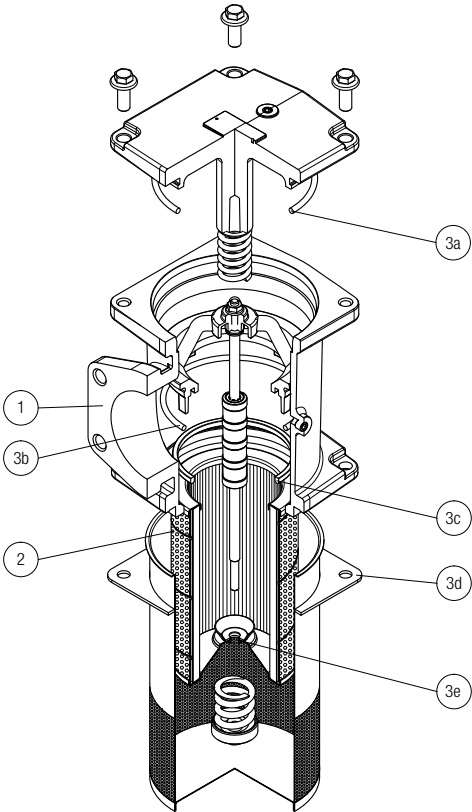
Item:	Q.ty: 1 pc.	Q.ty: 1 pc.	
Filter series	Filter element	Seal Kit code number	
		NBR	FPM
MPH 120	See order table	02050567	02050568

**MPH 250 - 630**



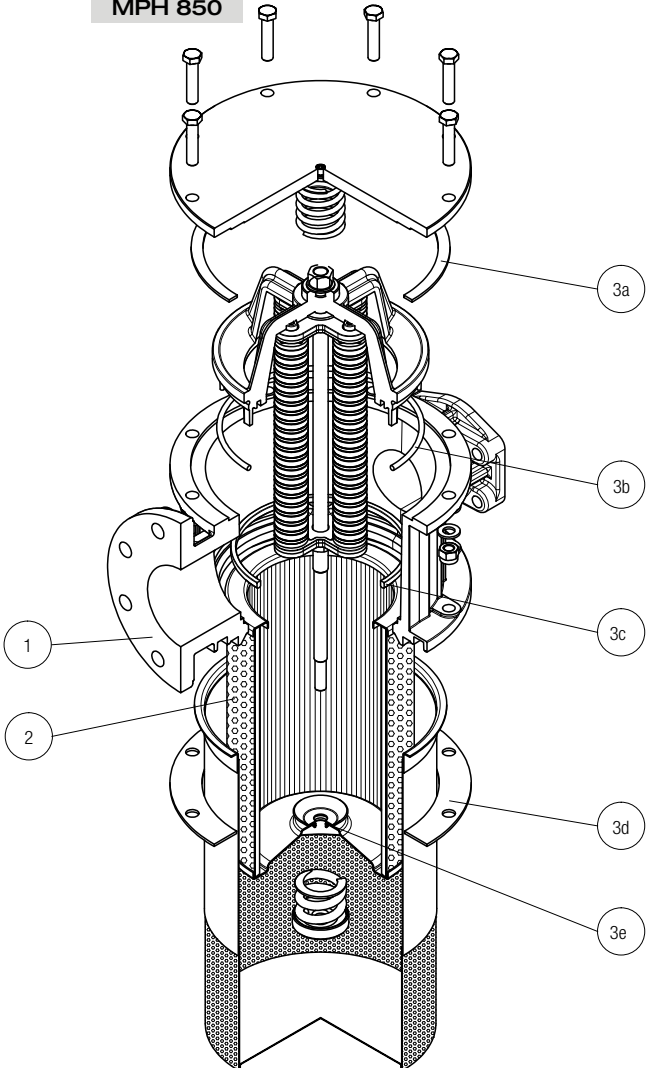
Item:	Q.ty: 1 pc.	Q.ty: 1 pc.	
Filter series	Filter element	Seal Kit code number	
MPH 250	MPH 630	NBR	FPM
	2	3 (3a ÷ 3e)	
	See order table	02050151	02050152
	See order table	02050153	02050154

**MPH 660**



Item:	Q.ty: 1 pc.	Q.ty: 1 pc.	
Filter series	Filter element	Seal Kit code number	
MPH 660	MPH 850	NBR	FPM
	2	3 (3a ÷ 3e)	
	See order table	02050153	02050154
	See order table	02050155	02050156

**MPH 850**





# MPI series

Maximum working pressure up to 1 MPa (10 bar) - Flow rate up to 3500 l/min



## Description

## Technical data

### Return filter

**Maximum working pressure up to 1 MPa (10 bar)**

**Flow rate up to 3500 l/min**

MPI is a range of return filter kits for protection of the reservoir against the system contamination.

They are directly integrated in the reservoir in immersed or semi-immersed position to save space into the tank.

The use of the diffuser is recommended, to place the filter output always immersed into the fluid to avoid aeration or foam generation into the reservoir.

The filtration from inside to outside allows a cleaner filter element replacement, the dirty remains into the filter element.

#### Available features:

- Fine filtration rating, to get a good cleanliness level into the reservoir
- Bypass valve, to relieve excessive pressure drop across the filter media
- Magnetic filter, to hold the ferrous particles
- Oil dipstick, to easily check the level of the fluid into the reservoir (separate item)
- Diffuser, to reduce the risk of aeration, foaming and noise

#### Common applications:

Heavy duty industrial equipment

### Filter housing materials

- Insert assembly  
Polyamide, GF reinforced: MPI 100  
Aluminium: MPI 250-630-850

- Diffuser: Tinned Steel

- Valve: Steel

### Bypass valve

- Opening pressure 175 kPa (1.75 bar)  $\pm 10\%$
- Opening pressure 250 kPa (2.5 bar)  $\pm 10\%$ , except for MPI 850

### $\Delta p$ element type

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

### Seals

- Standard NBR series A
- Optional FPM series V

### Temperature

From -25 °C to +110 °C

### Note

MPI 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	5	Length	1	2	3	4	5
<b>MPI 100</b>		0.90	1.00	1.20	1.50	1.80		0.90	0.90	1.20	1.60	1.80
<b>MPI 250</b>		2.20	2.50	2.90	4.30	-		3.50	3.50	4.50	7.00	-
<b>MPI 630</b>		3.40	3.90	4.30	5.40	6.60		5.80	7.40	9.50	11.40	13.50
<b>MPI 850</b>		15.20	18.20	21.20	25.20	-		8.80	12.20	16.70	20.80	-



## FILTER ASSEMBLY SIZING Flow rates [l/min]

Filters series	Length	A03	A06	A10	A16	A25	M25 M60 M90	P10	P25
<b>MPI 100</b>	<b>1</b>	26	29	72	79	107	282	164	190
	<b>2</b>	43	46	112	114	161	318	164	190
	<b>3</b>	64	72	132	156	178	324	219	251
	<b>4</b>	90	99	184	198	216	324	266	302
	<b>5</b>	117	128	201	219	244	324	282	318
<b>MPI 250</b>	<b>1</b>	93	102	210	251	315	1093	339	383
	<b>2</b>	124	151	327	412	421	1122	460	514
	<b>3</b>	189	221	418	445	500	1137	544	616
	<b>4</b>	261	304	592	670	766	1166	832	923
<b>MPI 630</b>	<b>1</b>	160	200	369	423	518	1894	565	632
	<b>2</b>	240	257	571	611	1045	1929	1137	1285
	<b>3</b>	330	374	745	788	1308	1938	1416	1577
	<b>4</b>	374	403	887	1010	1348	1956	1448	1612
	<b>5</b>	625	698	1210	1257	1723	2121	1839	1929
<b>MPI 850</b>	<b>1</b>	775	1041	1246	1568	2242	3311	2371	2625
	<b>2</b>	1176	1522	1682	1747	2449	3378	2684	2886
	<b>3</b>	1490	1914	1995	2014	3035	3405	3144	3220
	<b>4</b>	1668	2088	2305	2363	3169	3517	3272	3378

### 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>.

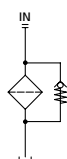
For different pressure drop or fluid viscosity we recommend to use our selection software available on [www.mpfiltri.com](http://www.mpfiltri.com).

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 symbol

Filter series	Style 1 connection
<b>MPI 100</b>	•
<b>MPI 250</b>	•
<b>MPI 630</b>	•
<b>MPI 850</b>	•



# MPI MPI100 - MPI250 - MPI630 - MPI850

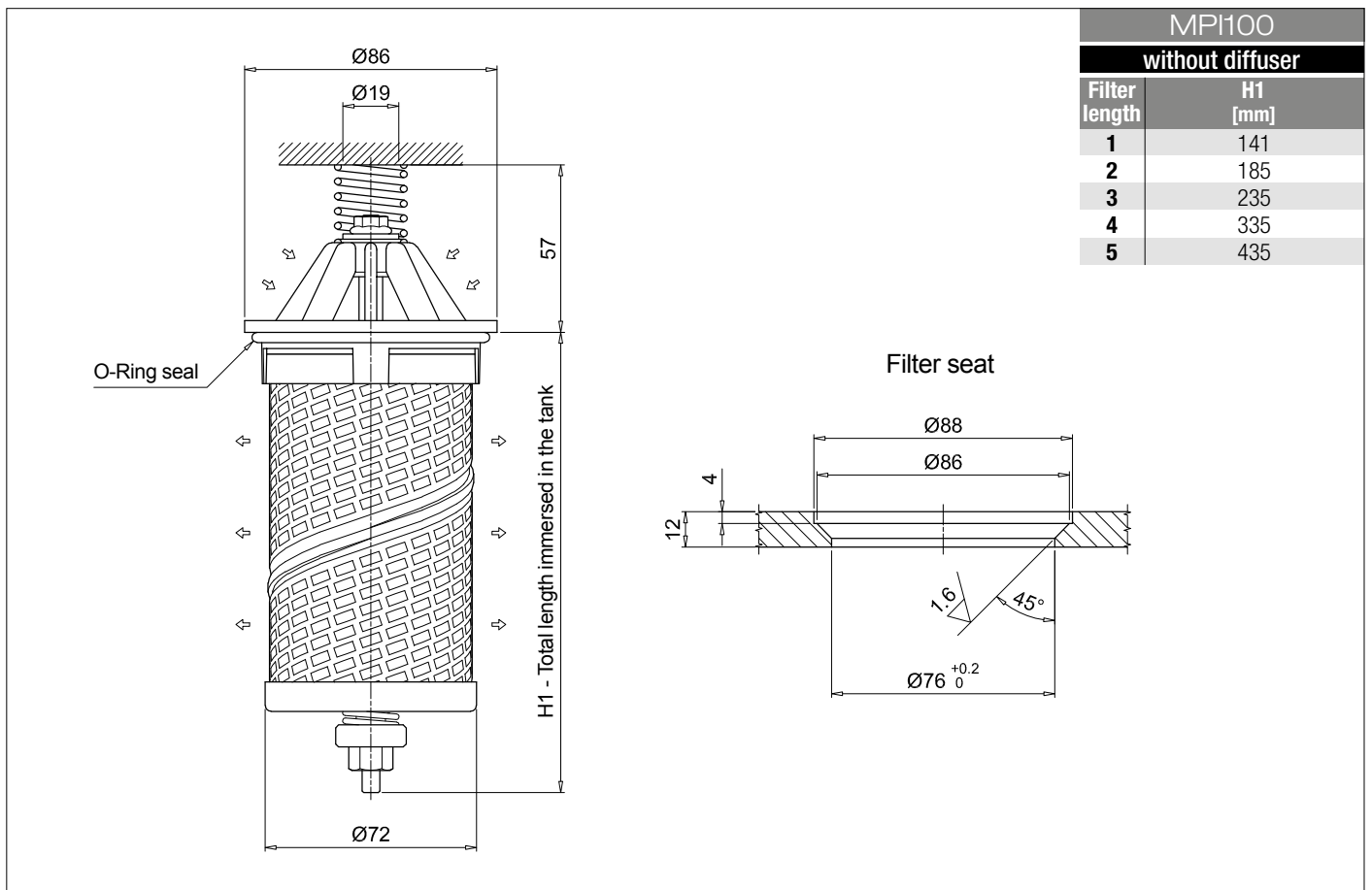
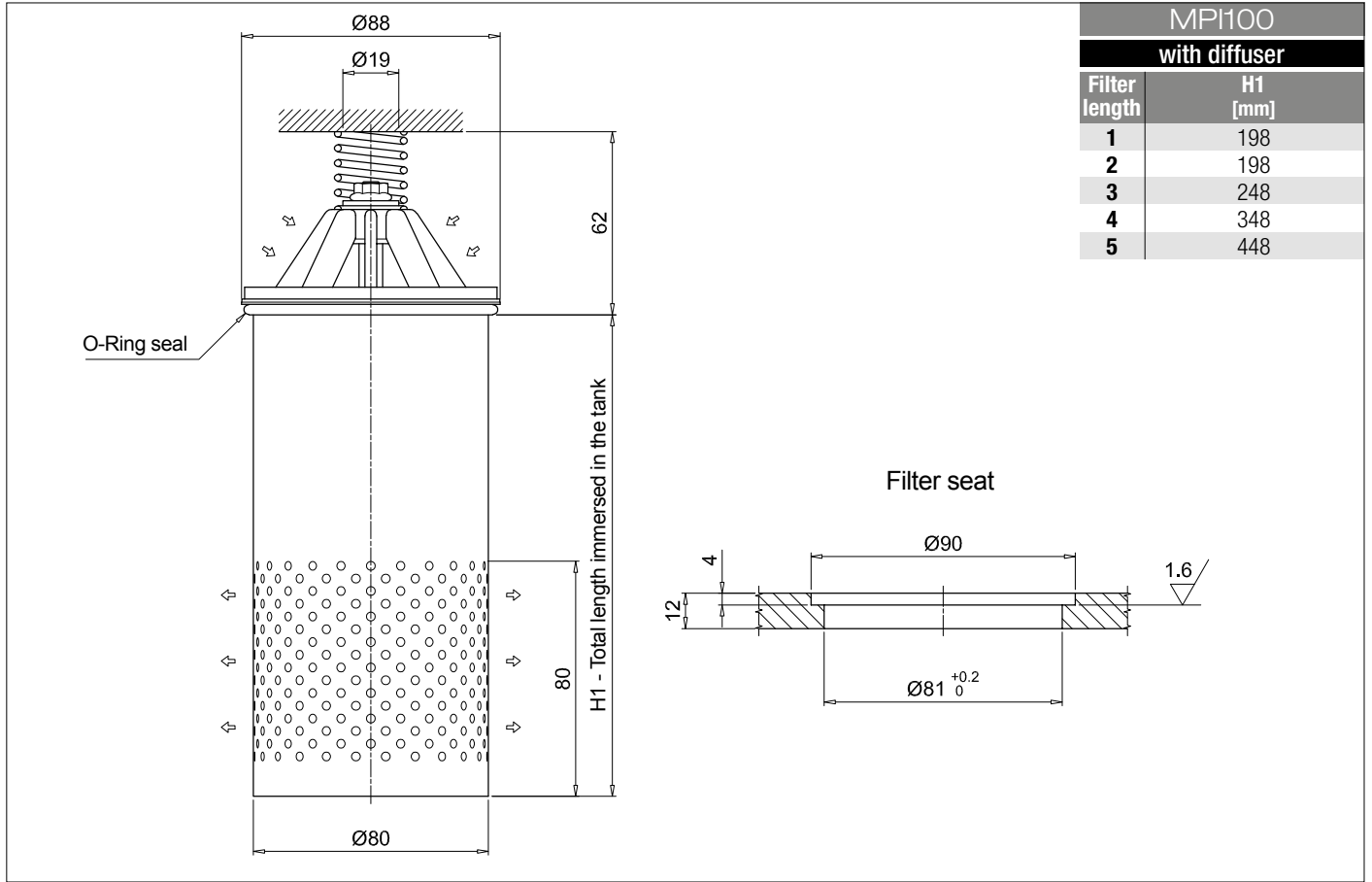
## Designation & Ordering code

### COMPLETE FILTER

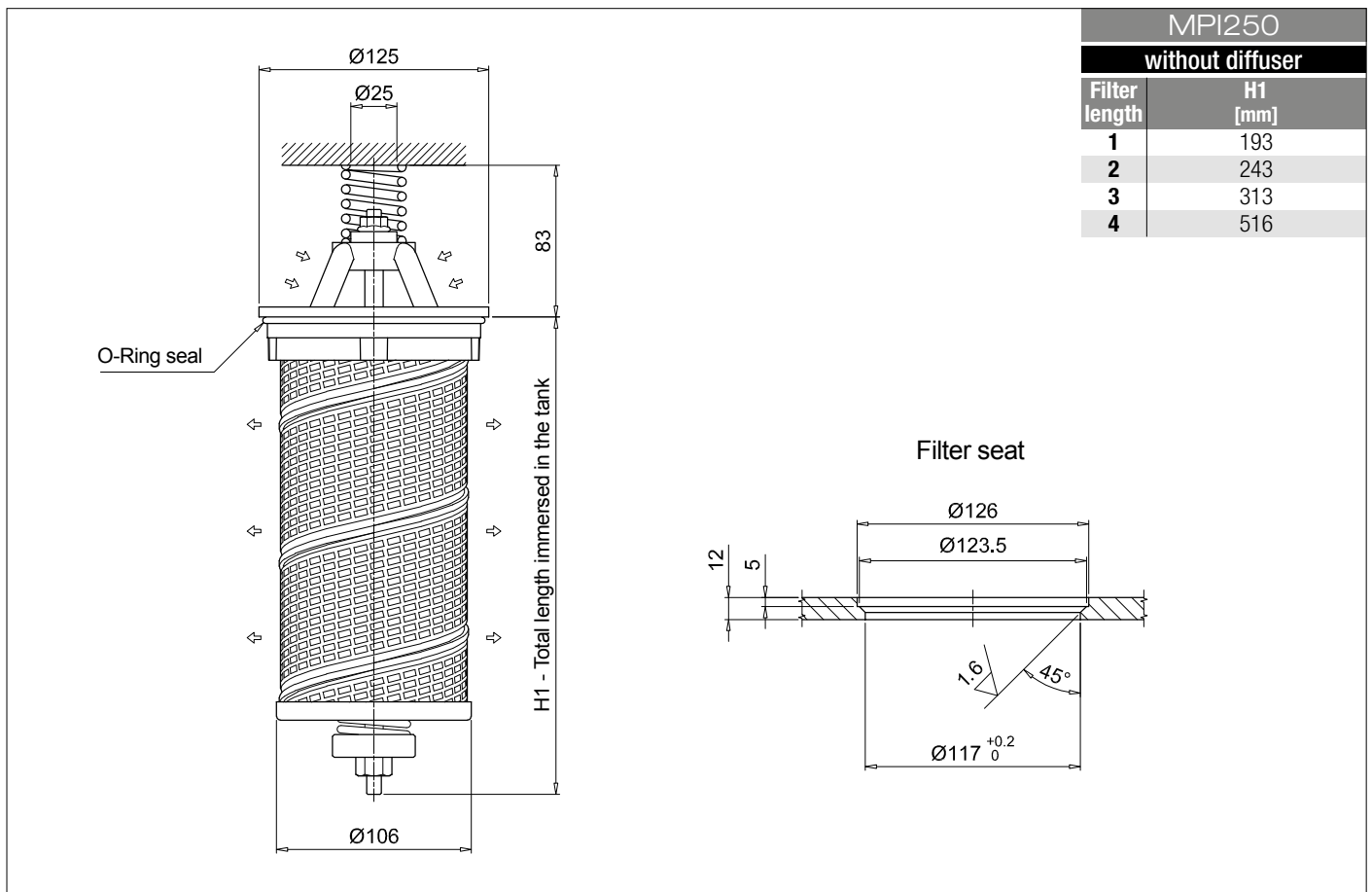
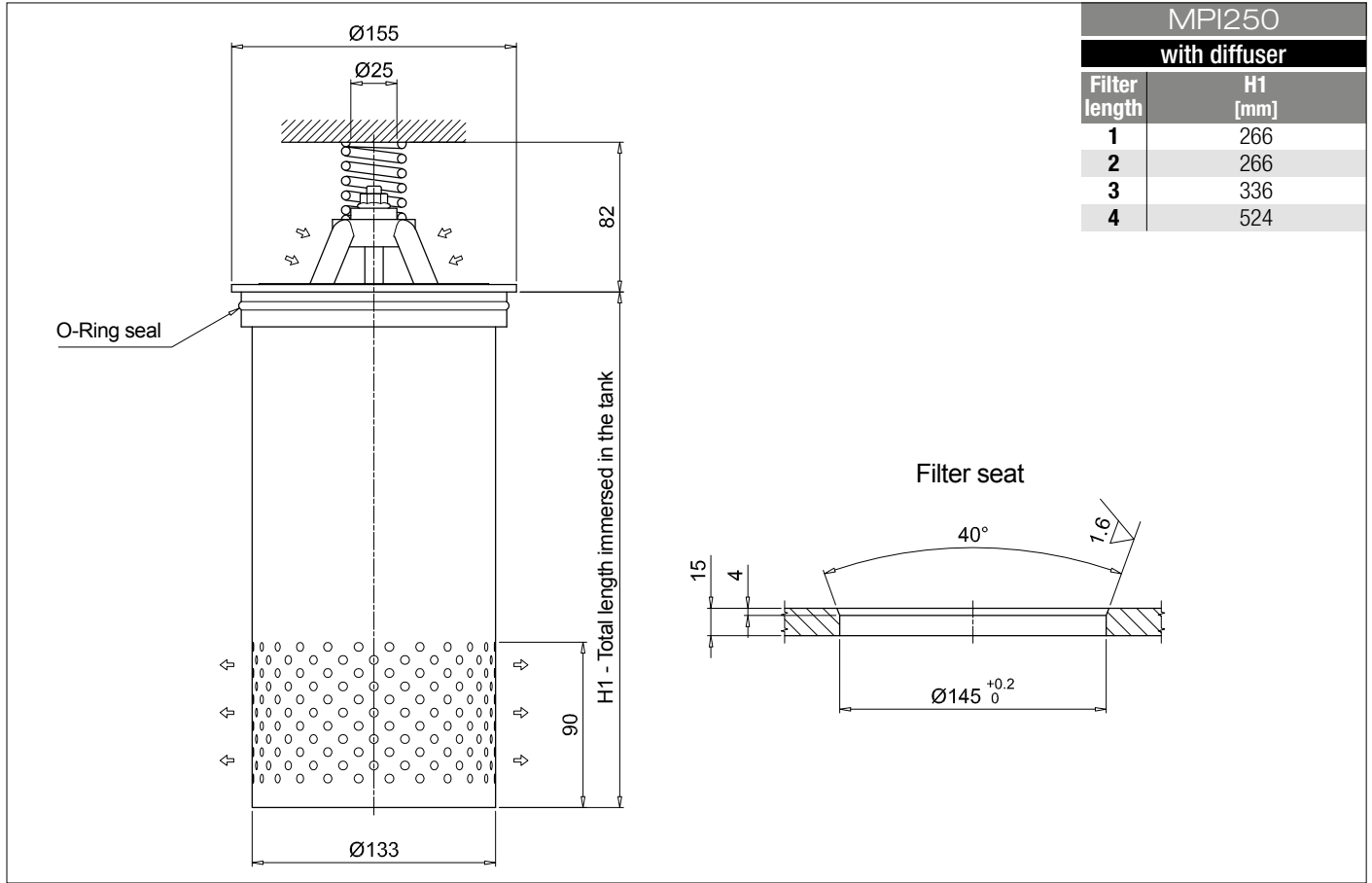
<b>Series and size</b>					Configuration example 1: <b>MPI100</b>   <b>1</b>   <b>C</b>   <b>D</b>   <b>A</b>   <b>A10</b>   <b>P01</b>							
<b>MPI100</b>					Configuration example 2: <b>MPI630</b>   <b>5</b>   <b>E</b>   <b>D</b>   <b>Z</b>   <b>M25</b>   <b>P01</b>							
<b>MPI250</b>												
<b>MPI630</b>												
<b>MPI850</b>												
<b>Length</b>					<b>MPI100</b>	<b>MPI250</b>	<b>MPI630</b>	<b>MPI850</b>				
<b>1</b>		•	•	•	•							
<b>2</b>		•	•	•	•							
<b>3</b>		•	•	•	•							
<b>4</b>		•	•	•	•							
<b>5</b>		•	•	•	•							
<b>Bypass valve</b>					<b>MPI100</b>	<b>MPI250</b>	<b>MPI630</b>	<b>MPI850</b>				
<b>S</b>	Without	•	•	•	•							
<b>C</b>	1.75 bar	•	•	•	•							
<b>E</b>	2.5 bar	•	•	•	•							
<b>Diffuser and magnetic filter</b>												
<b>D</b>	With diffuser, with magnetic filter											
<b>F</b>	With diffuser, without magnetic filter											
<b>O</b>	Without diffuser, with magnetic filter											
<b>E</b>	Without diffuser, without magnetic filter											
					<b>Filtration rating</b>							
<b>Seals and treatments</b>					<b>Axx</b>	<b>Mxx</b>	<b>Pxx</b>					
<b>A</b>	NBR				•	•	•					
<b>V</b>	FPM				•	•	•					
<b>W</b>	NBR	head anodized	filter element compatible with fluids HFA-HFB-HFC		•	•						
<b>Z</b>	FPM	head anodized			•	•						
<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>Execution</b>							
					<b>P01</b> MP Filtri standard							
					<b>Pxx</b> Customized							

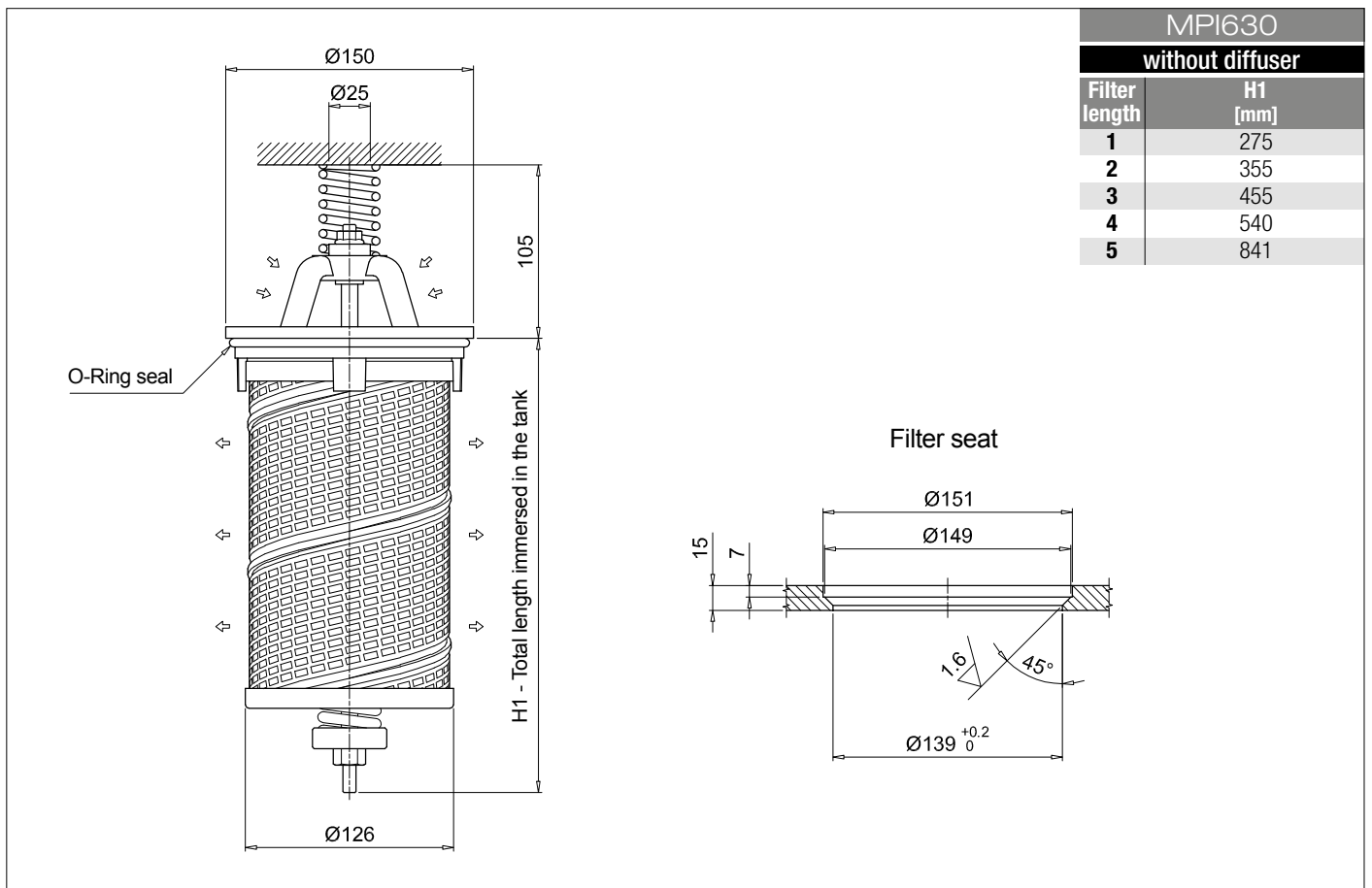
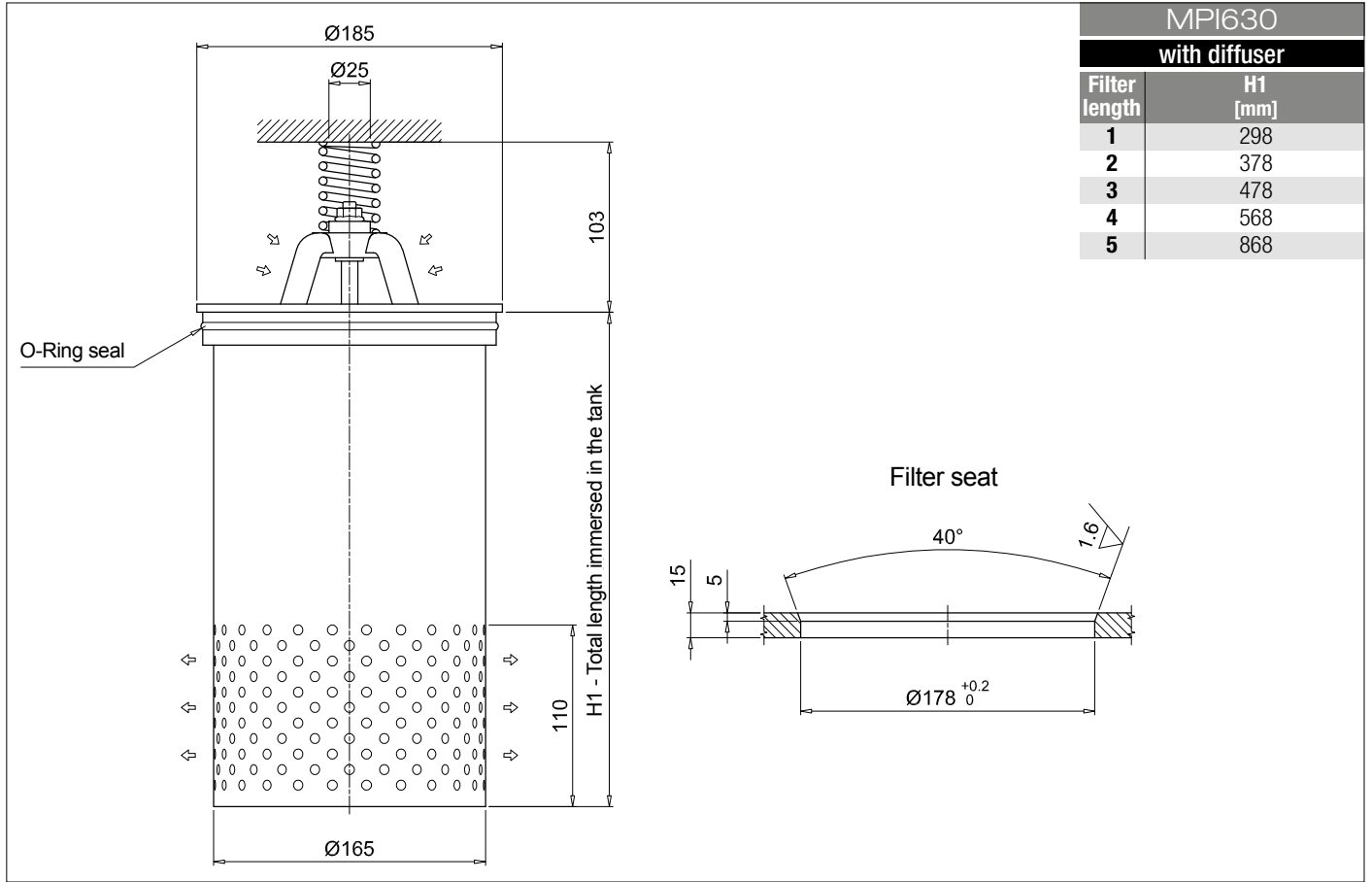
### FILTER ELEMENT

<b>Element series and size</b>					Configuration example 1: <b>MR100</b>   <b>1</b>   <b>A10</b>   <b>A</b>   <b>P01</b>					
<b>MR100</b>					Configuration example 2: <b>MR630</b>   <b>5</b>   <b>M25</b>   <b>V</b>   <b>P01</b>					
<b>MR250</b>										
<b>MR630</b>										
<b>MR850</b>										
<b>Element length</b>					<b>Size 100</b>	<b>Size 250</b>	<b>Size 630</b>	<b>Size 850</b>		
<b>1</b>		•	•	•	•					
<b>2</b>		•	•	•	•					
<b>3</b>		•	•	•	•					
<b>4</b>		•	•	•	•					
<b>5</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>Seals</b>		<b>Execution</b>			
					<b>A</b> NBR		<b>P01</b> MP Filtri standard			
					<b>V</b> FPM		<b>Pxx</b> Customized			



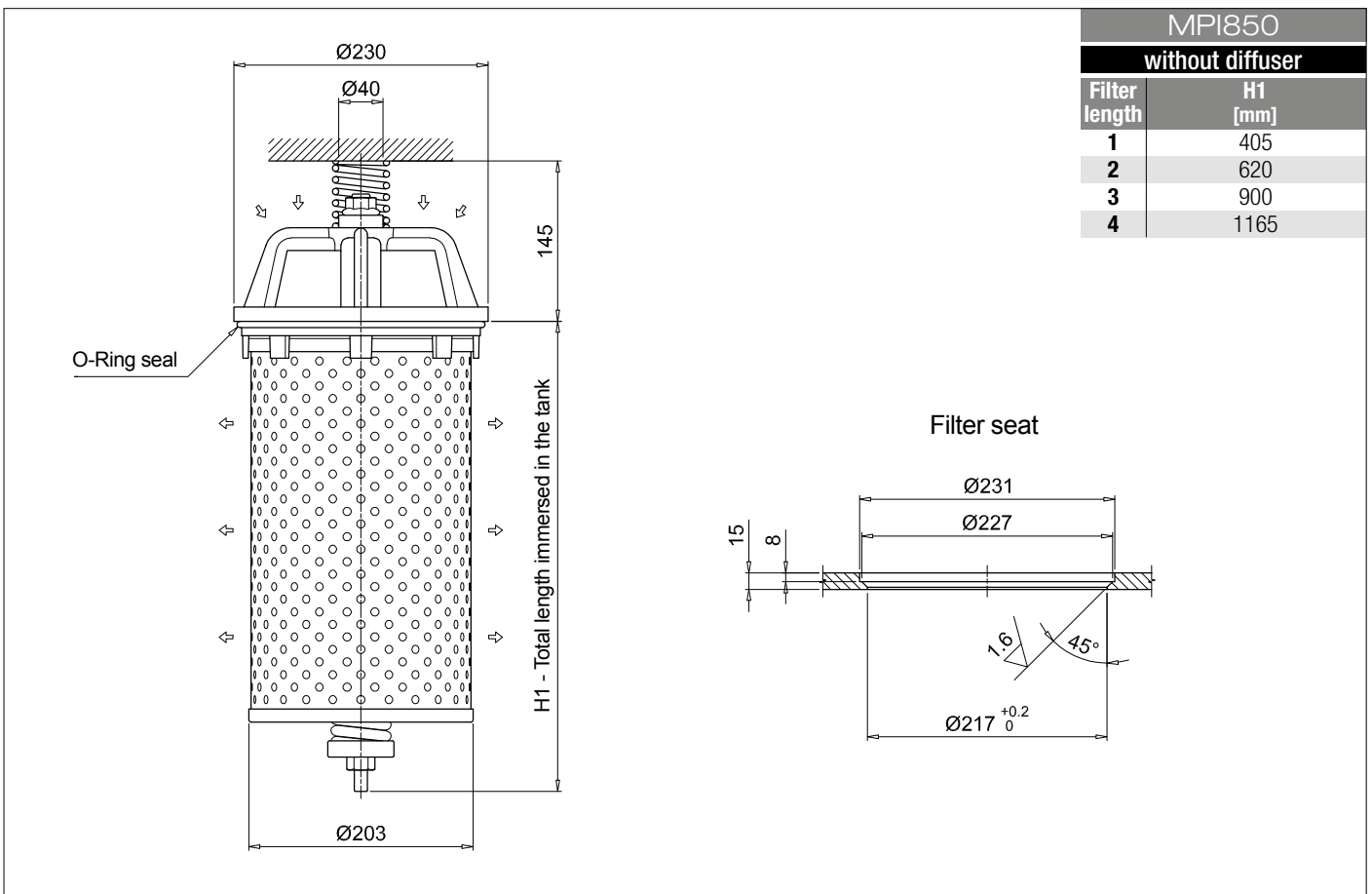
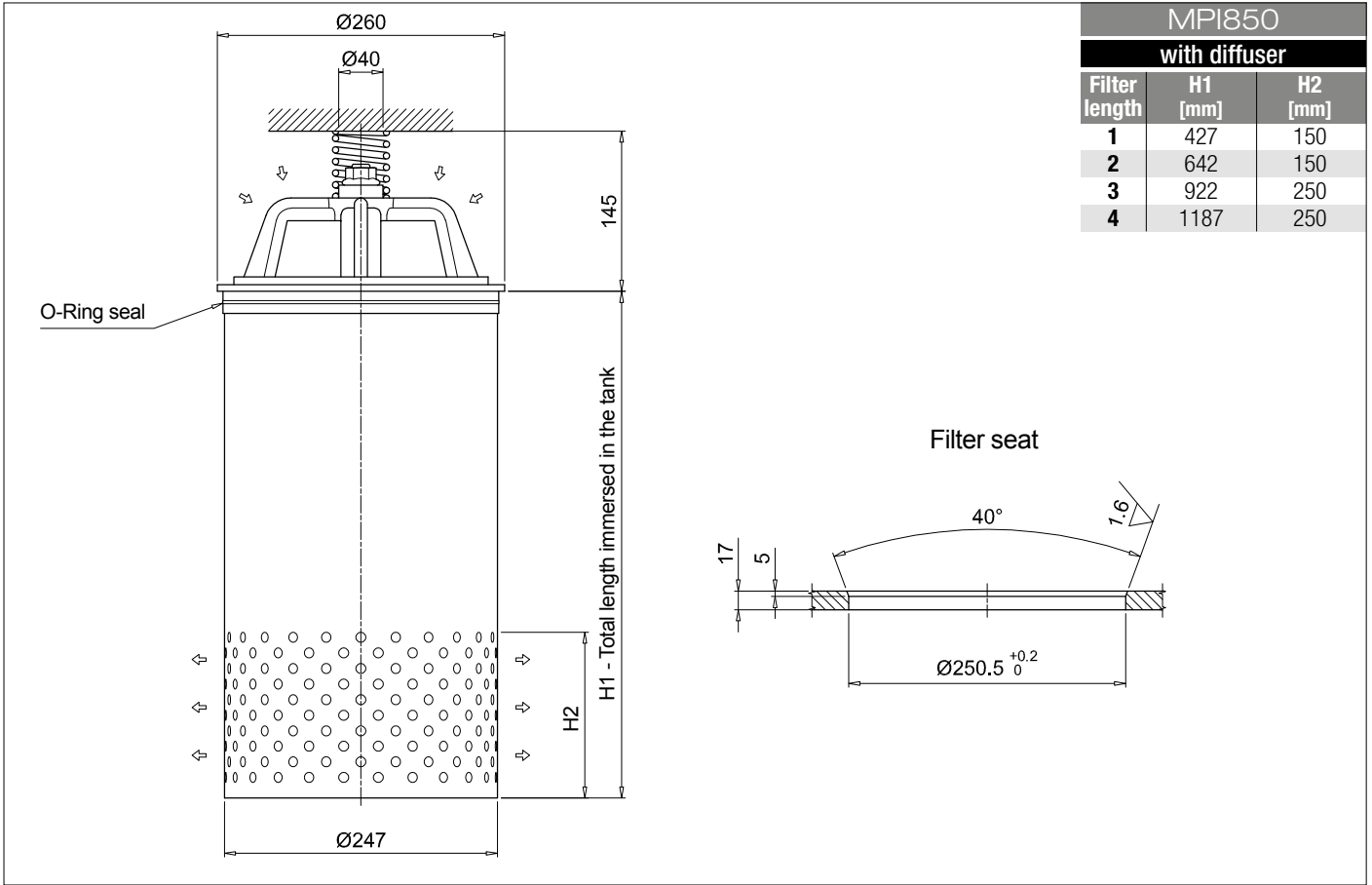
## Dimensions





# MPI MPI100 - MPI250 - MPI630 - MPI850

## Dimensions

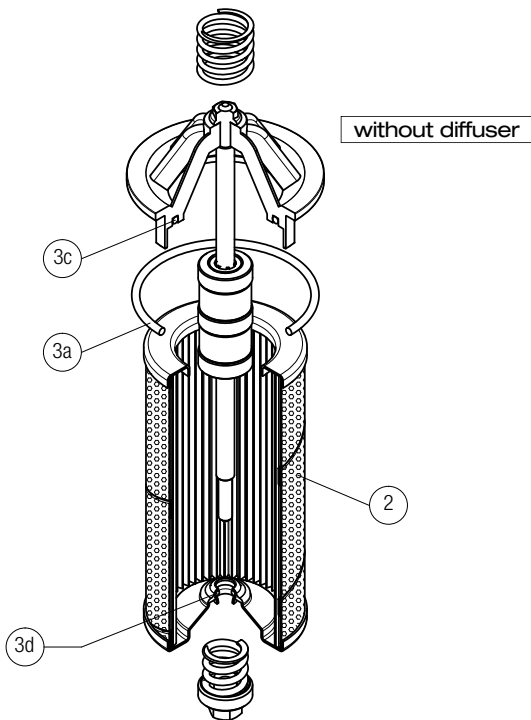
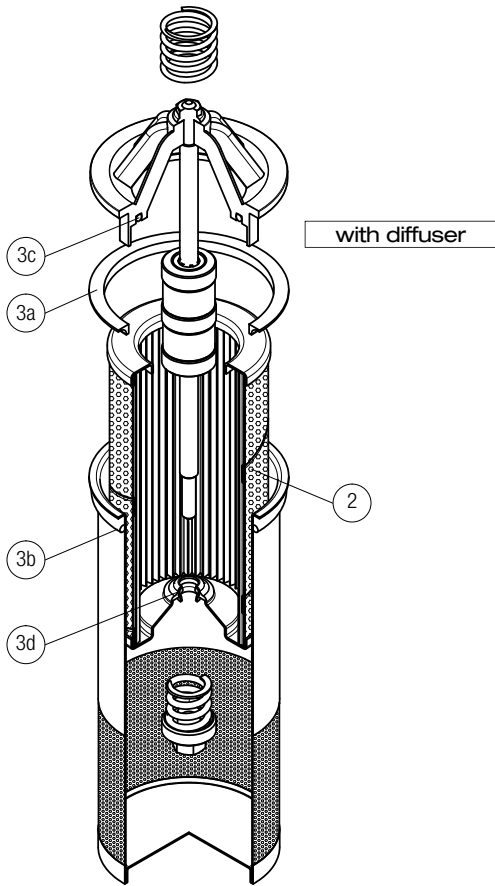




# MPI SPARE PARTS

Order number for spare parts

## MPI 100



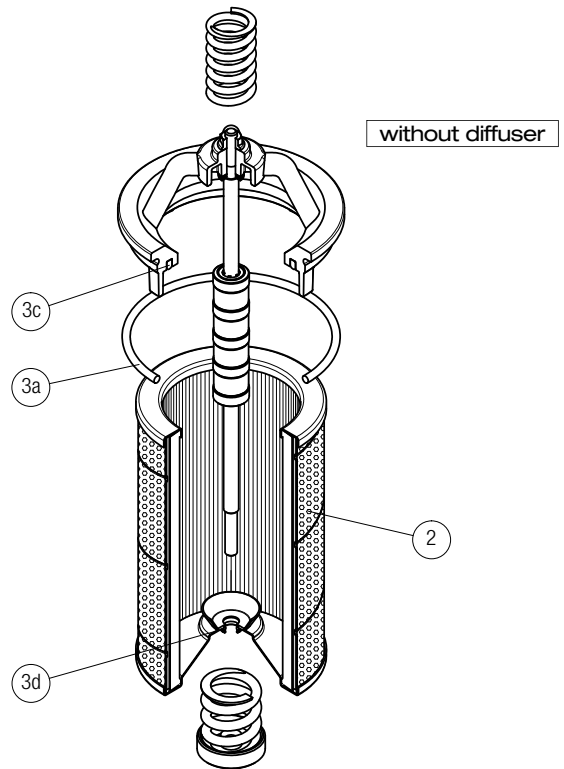
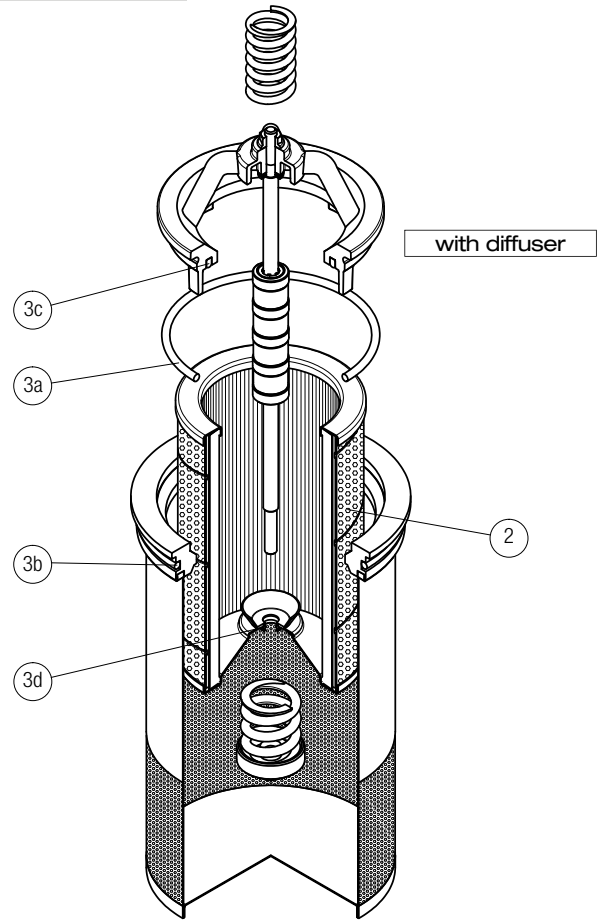
Q.ty: 1 pc.

Q.ty: 1 pc.

Item: **2** **3** (3a ÷ 3d)

Filter series	Filter element	Seal Kit code number	
		NBR	FPM
<b>MPI 100</b>	See order table	02050145	02050146

## MPI 250 - 630



Q.ty: 1 pc.

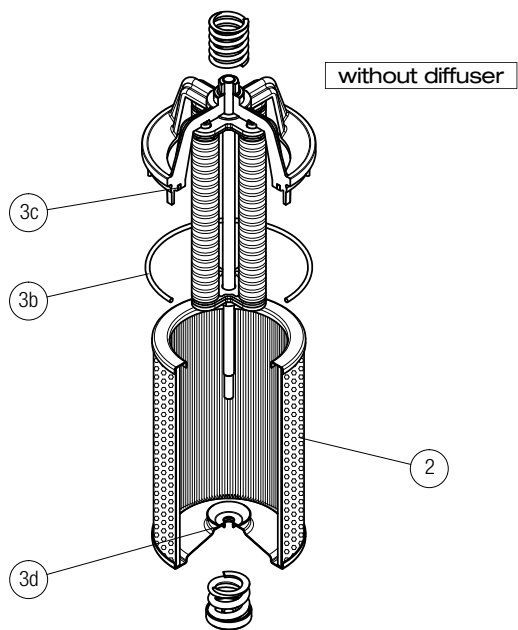
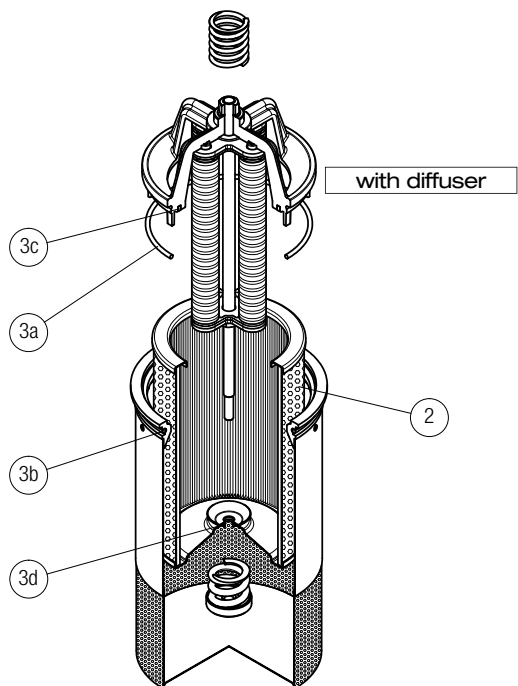
Q.ty: 1 pc.

Item: **2** **3** (3a ÷ 3d)

Filter series	Filter element	Seal Kit code number	
		NBR	FPM
<b>MPI 250</b>	See order table	02050147	02050148
<b>MPI 630</b>		02050112	02050113



**MPI 850**



Item:	Q.ty: 1 pc. <b>2</b>	Q.ty: 1 pc. <b>3</b> (3a ÷ 3d)
Filter series	Filter element	Seal Kit code number NBR FPM
<b>MPI 850</b>	See order table	02050114 02050115



# FRI series

Maximum working pressure up to 2 MPa (20 bar) - Flow rate up to 2500 l/min



## Description

## Technical data

### Return filter

**Maximum working pressure up to 2 MPa (20 bar)**  
**Flow rate up to 2500 l/min**

FRI is a range of return filters for protection of the reservoir against the system contamination.

They could be directly fixed to the reservoir in immersed or semi-immersed position or connected to the lines of the system through the hydraulic fittings.

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 1/2" and flanged connections up to 3 1/2", for a maximum flow rate of 1500 l/min
- Double input connections, to connect several return lines or drains
- Fine filtration rating, to get a good cleanliness level into the reservoir
- Bypass valve, to relieve excessive pressure drop across the filter media
- Visual, electrical and electronic differential clogging indicators

#### Common applications:

Heavy duty industrial equipment

### Filter housing materials

- Filter body
  - Aluminium: FRI 255
  - Anodized Aluminium: FRI 025-040-100-250-630
  - Phosphatized Steel: FRI 850
- Cover
  - Polyamide, GF reinforced: FRI 255
  - Anodized Aluminium: FRI 025-040-100-250-630-850
- Valve: Polyamide, GF reinforced - Steel

### Bypass valve

Opening pressure 240 kPa (2.4 bar) ±10%

### Δp element type

- Microfibre filter elements - series N: 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

FRI 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	Length	1
<b>FRI 025</b>		1.0		0.28
<b>FRI 040</b>		2.0		0.70
<b>FRI 100</b>		3.8		1.09
<b>FRI 250</b>		6.3		2.60
<b>FRI 255</b>		4.2		3.20
<b>FRI 630</b>		13.8		7.05
<b>FRI 850</b>		48.0		21.50

Filter series	Length	Filter element design - N Series							
		A03	A06	A10	A16	A25	M25 M60 M90	P10	P25
<b>FRI 025</b>	<b>1</b>	6	10	17	19	43	122	43	47
<b>FRI 040</b>	<b>1</b>	19	23	43	45	94	155	94	102
<b>FRI 100</b>	<b>1</b>	32	34	89	92	187	260	187	206
<b>FRI 250</b>	<b>1</b>	144	179	271	300	448	645	448	490
<b>FRI 255</b>	<b>1</b>	144	179	271	300	448	645	448	490
<b>FRI 630</b>	<b>1</b>	242	279	508	577	834	1446	834	911
<b>FRI 850</b>	<b>1</b>	440	541	971	1143	1705	2528	1705	1880

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

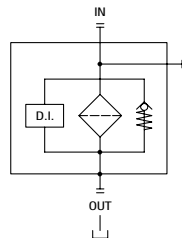
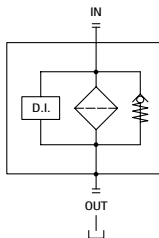
The reference fluid has a kinematic viscosity of 30 mm<sup>2</sup>/s (cSt) and a density of 0.86 kg/dm<sup>3</sup>.

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.

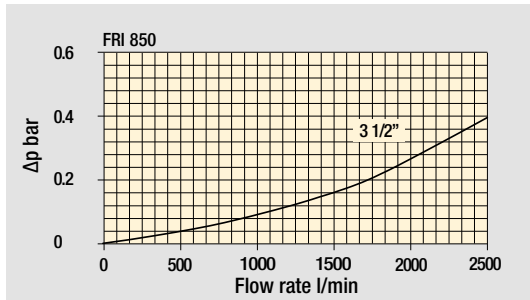
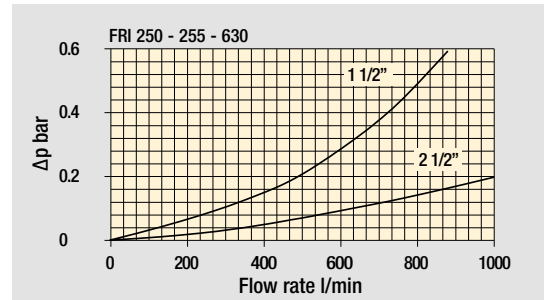
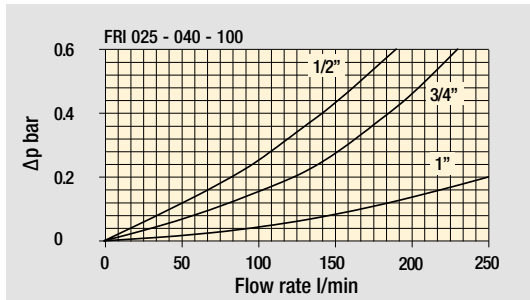
### Hydraulic symbols

Filter series	Style 1 connection + Diff. indic.	Style 2 connections + Diff. indic.
<b>FRI 025</b>		•
<b>FRI 040</b>		•
<b>FRI 100</b>		•
<b>FRI 250</b>		•
<b>FRI 255</b>	•	
<b>FRI 630</b>		•
<b>FRI 850</b>	•	

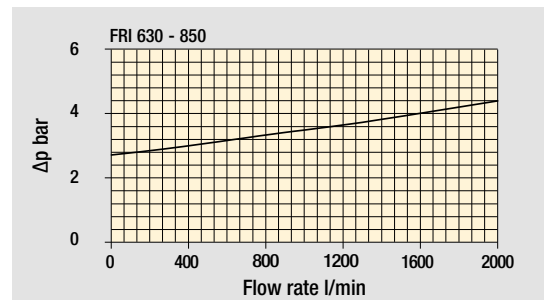
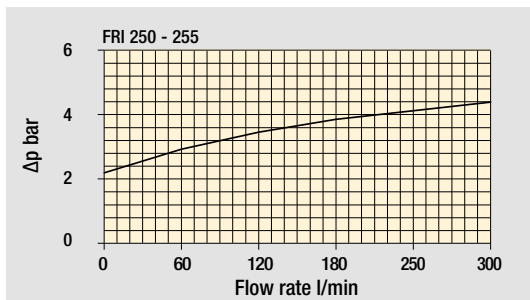
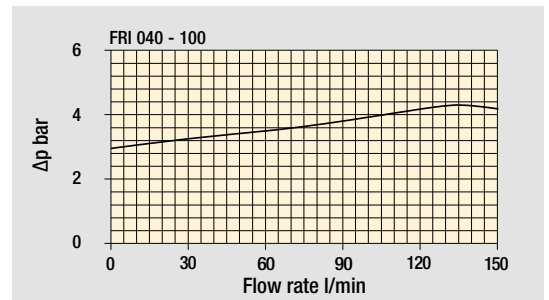
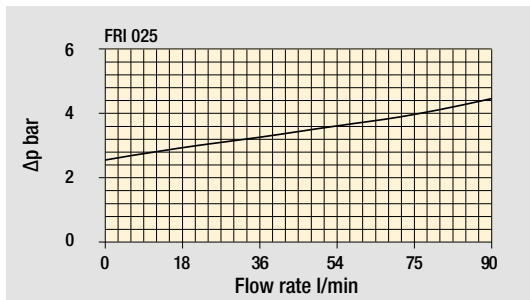


## Pressure drop

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



### Bypass valve pressure drop



The curves are plotted using mineral oil with density of  $0.86 \text{ kg/dm}^3$  in compliance with ISO 3968.  $\Delta p$  varies proportionally with density.



## Designation & Ordering code

### COMPLETE FILTER

<b>Series and size</b>	Configuration example 1: <b>FRI025</b> <b>B</b> <b>A</b> <b>G1</b> <b>A25</b> <b>N</b> <b>P01</b>						
<b>FRI025</b>	Configuration example 2: <b>FRI040</b> <b>S</b> <b>W</b> <b>G2</b> <b>M25</b> <b>N</b> <b>P01</b>						
<b>FRI040</b>							
<b>Bypass valve</b>							
<b>B</b> With bypass							
<b>S</b> Without bypass							
<b>Seals and treatments</b>	Filtration rating						
<b>A</b> NBR	<b>Axx</b>	<b>Mxx</b>	<b>Pxx</b>				
<b>V</b> FPM	•	•	•				
<b>W</b> NBR head anodized	•	•					
<b>Z</b> FPM head anodized	•	•					
	filter element compatible with fluids HFA-HFB-HFC						
<b>Connections for FRI025</b>	<b>Connections for FRI040</b>						
<b>G1</b> G 1/2"	<b>G 3/4"</b>						
<b>G2</b> 1/2" NPT	<b>3/4" NPT</b>						
<b>G3</b> SAE 8 - 3/4" - 16 UNF	<b>SAE 12 - 1 1/16" - 12 UN</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>Execution</b>			
	<b>N</b> 10 bar			<b>P01</b> MP Filtri standard			
				<b>Pxx</b> Customized			

### FILTER ELEMENT

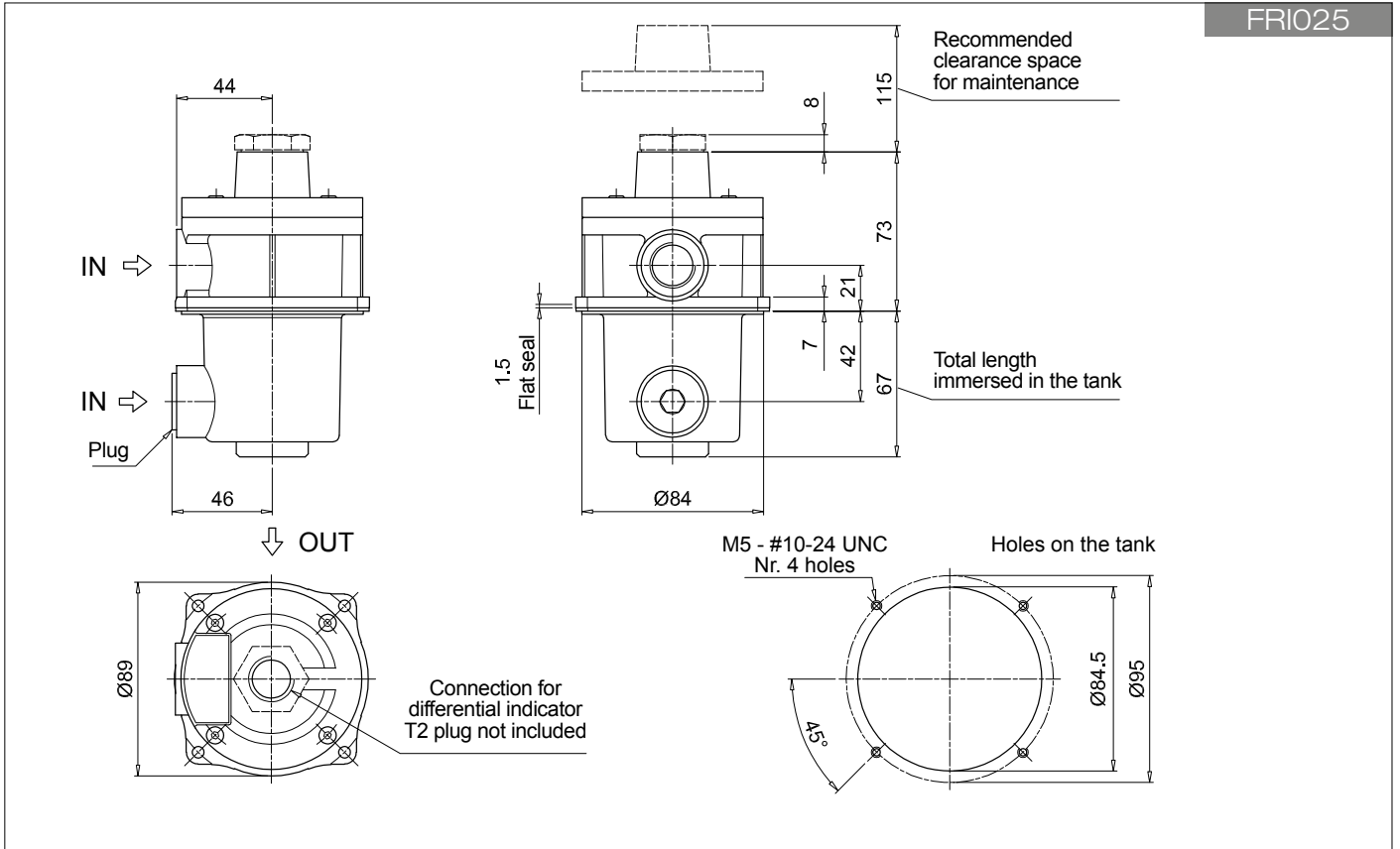
<b>Element series and size</b>	Configuration example 1: <b>CU025</b> <b>A25</b> <b>N</b> <b>P01</b>						
<b>CU025</b>	Configuration example 2: <b>CU040</b> <b>M25</b> <b>W</b> <b>P01</b>						
<b>CU040</b>							
<b>Filtration rating (filter media)</b>							
<b>A03</b> Inorganic microfiber 3 µm	<b>M25</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>Seals and treatments</b>	Filtration rating						
<b>N</b> NBR	<b>Axx</b>	<b>Mxx</b>	<b>Pxx</b>				
<b>V</b> FPM	•	•	•				
<b>W</b> NBR	•	•					
<b>Z</b> FPM	•	•					
	filter element compatible with fluids HFA-HFB-HFC						
	<b>Execution</b>			<b>P01</b> MP Filtri standard			
				<b>Pxx</b> Customized			

### ACCESSORIES

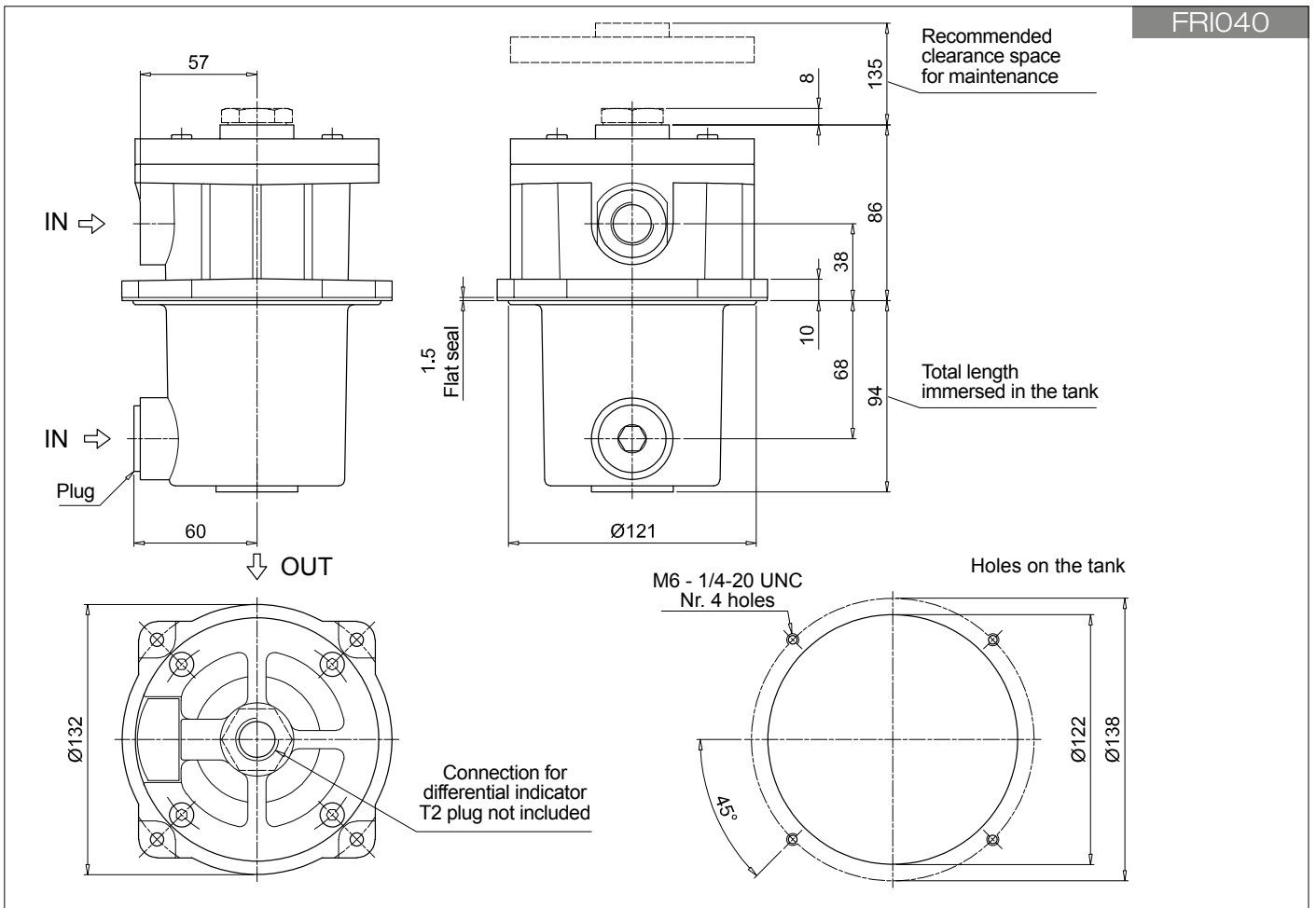
<b>Indicators</b>	page		page
<b>DEA</b> Electrical differential indicator	242	<b>DTA</b> Electronic differential indicator	245
<b>DEM</b> Electrical differential indicator	242-243	<b>DVA</b> Visual differential indicator	245
<b>DLA</b> Electrical / visual differential indicator	243-244	<b>DVM</b> Visual differential indicator	245
<b>DLE</b> Electrical / visual differential indicator	244		
<b>Additional features</b>	page		
<b>T2</b> Plug	246		



FRI025



FRI040



# FRI FRI100 - FRI250 - FRI630

## Designation & Ordering code

### COMPLETE FILTER

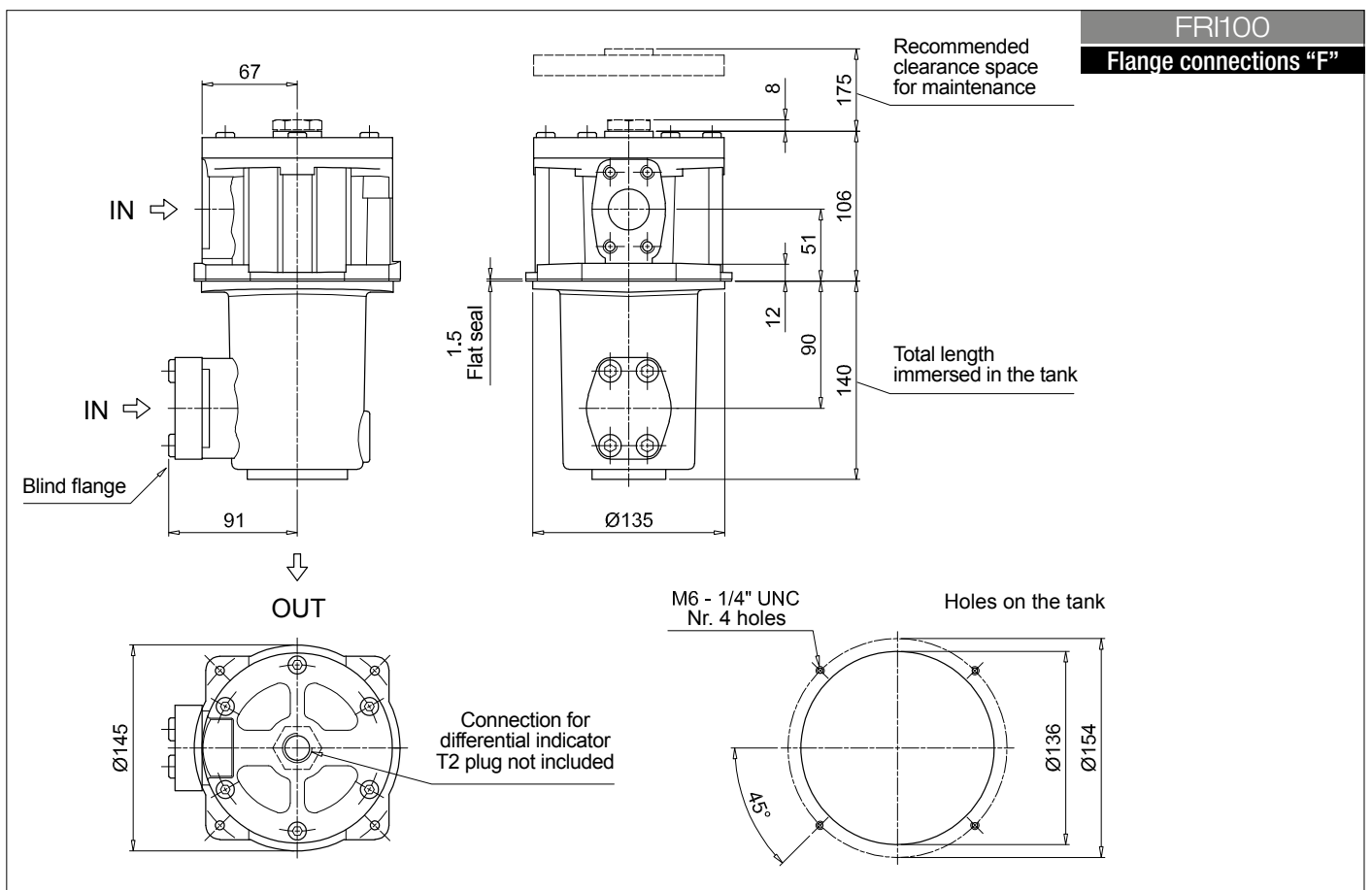
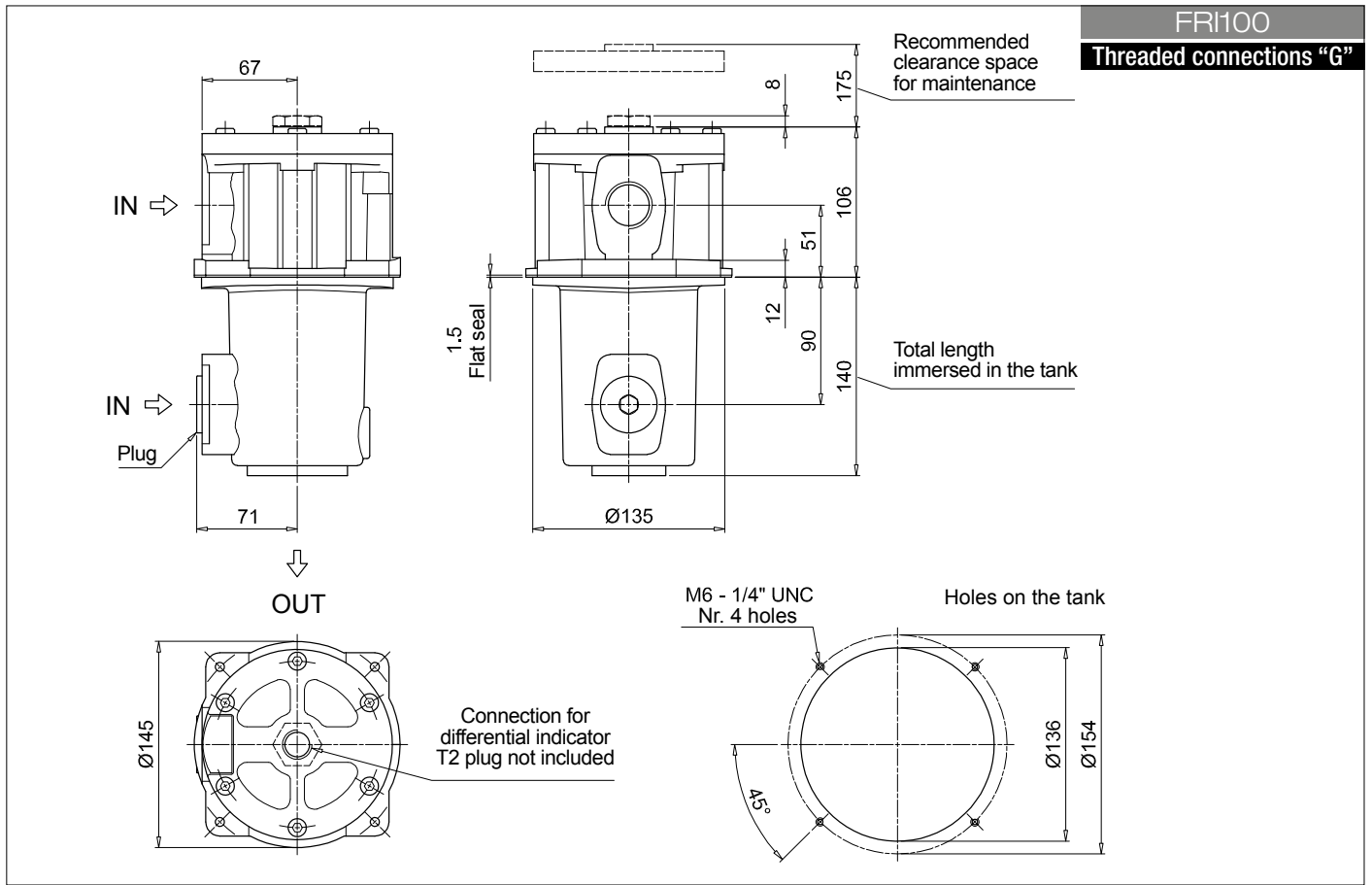
<b>Series and size</b>	Configuration example 1: <b>FRI100</b> <b>B</b> <b>A</b> <b>G1</b> <b>A25</b> <b>N</b> <b>P01</b>						
<b>FRI100</b>	Configuration example 2: <b>FRI630</b> <b>S</b> <b>W</b> <b>F2</b> <b>M25</b> <b>N</b> <b>P01</b>						
<b>FRI250</b>							
<b>FRI630</b>							
<b>Bypass valve</b>							
<b>B</b>	With bypass						
<b>S</b>	Without bypass						
<b>Seals and treatments</b>							
		Filtration rating					
<b>A</b>	NBR	Axx	Mxx	Pxx			
<b>V</b>	FPM						
<b>W</b>	NBR head anodized				filter element compatible with fluids HFA-HFB-HFC		
<b>Z</b>	FPM head anodized						
<b>Connections for FRI100</b>		<b>Connections for FRI250</b>		<b>Connections for FRI630</b>			
<b>G1</b>	G 1"	<b>G1</b>	G 1 1/2"	<b>G2</b> 2 1/2"			
<b>G2</b>	1" NPT	<b>G2</b>	1 1/2" NPT	<b>G3</b> SAE 32 - 2 1/2" - 12 UN			
<b>G3</b>	SAE 16 - 1 5/16" - 12 UN	<b>G3</b>	SAE 24 - 1 7/8" - 12 UN	<b>F1</b> 1" SAE 3000 psi/M			
<b>F1</b>	1" SAE 3000 psi/M	<b>F1</b>	1 1/2" SAE 3000 psi/M	<b>F2</b> 1" SAE 3000 psi/UNC			
<b>F2</b>	1" SAE 3000 psi/UNC	<b>F2</b>	1 1/2" SAE 3000 psi/UNC				
<b>Filtration rating (filter media)</b>							
<b>A03</b>	Inorganic microfiber	3 µm	<b>M25</b>	Wire mesh	25 µm	<b>Element Δp</b>	<b>Execution</b>
<b>A06</b>	Inorganic microfiber	6 µm	<b>M60</b>	Wire mesh	60 µm	<b>N</b>	10 bar
<b>A10</b>	Inorganic microfiber	10 µm	<b>M90</b>	Wire mesh	90 µm	<b>P01</b>	MP Filtri standard
<b>A16</b>	Inorganic microfiber	16 µm	<b>P10</b>	Resin impregnated paper	10 µm	<b>Pxx</b>	Customized
<b>A25</b>	Inorganic microfiber	25 µm	<b>P25</b>	Resin impregnated paper	25 µm		

### FILTER ELEMENT

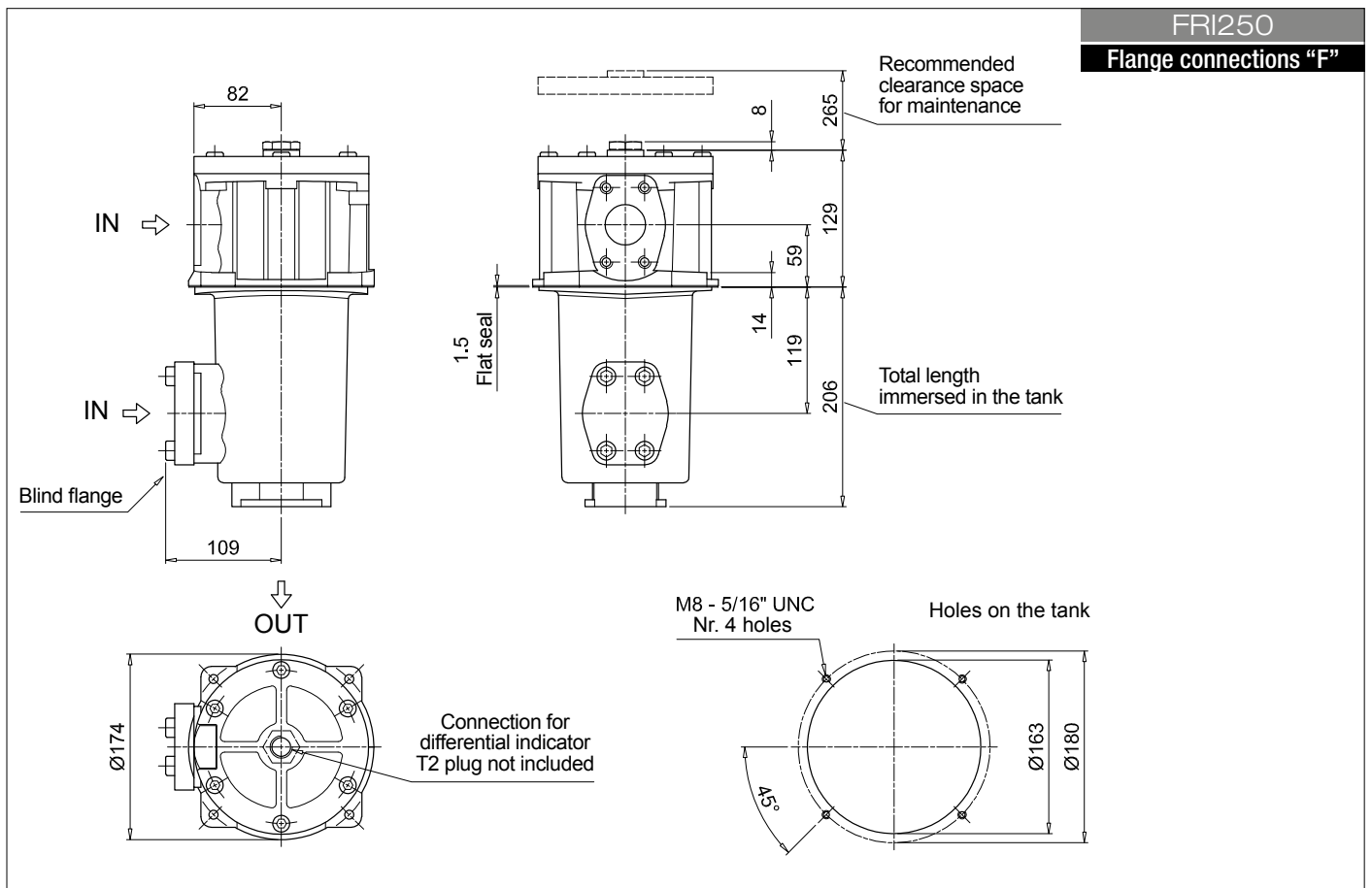
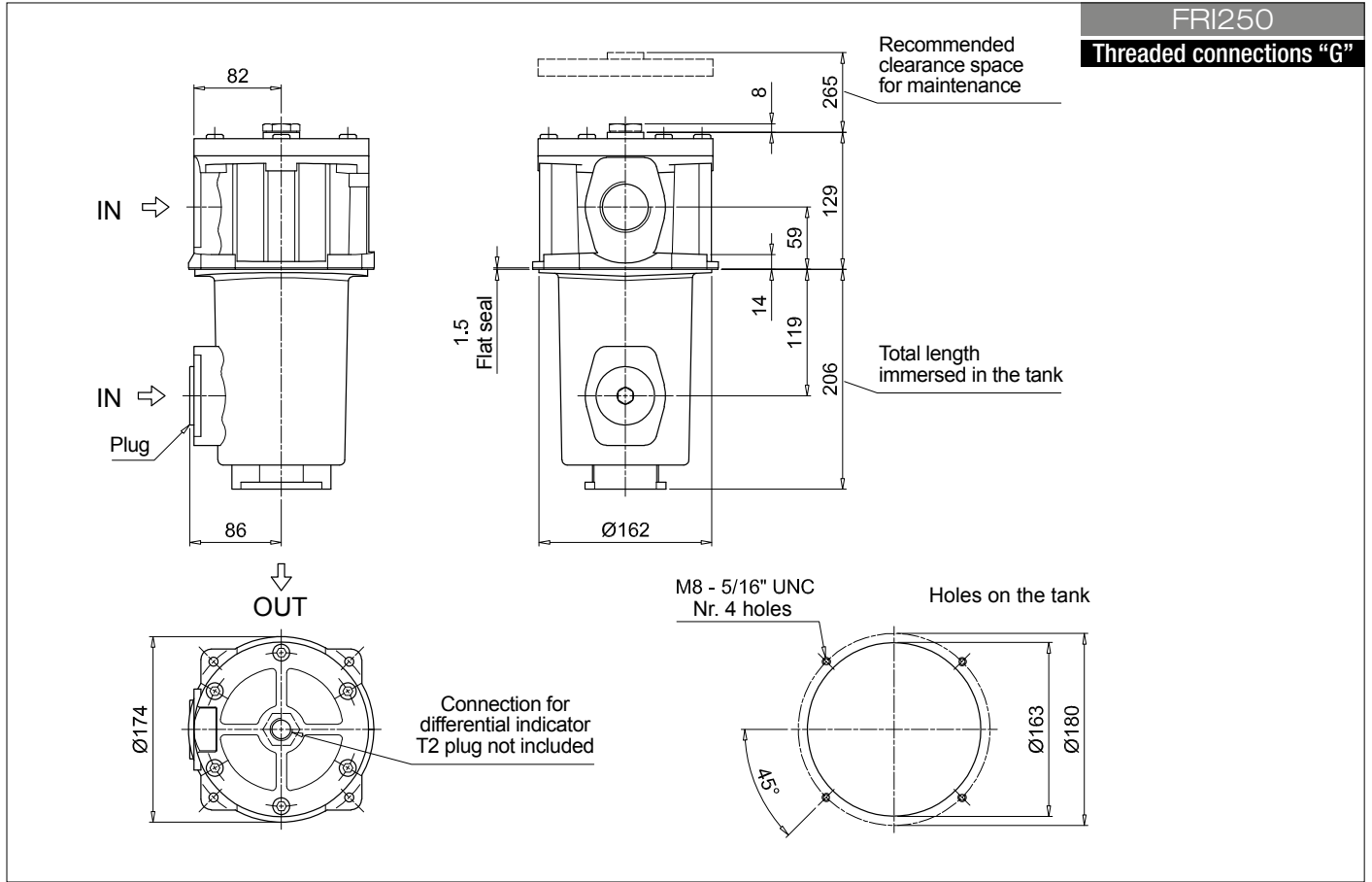
<b>Element series and size</b>	Configuration example 1: <b>CU100</b> <b>A25</b> <b>N</b> <b>P01</b>			
<b>CU100</b>	Configuration example 2: <b>CU630</b> <b>M25</b> <b>W</b> <b>P01</b>			
<b>CU250</b>				
<b>CU630</b>				
<b>Filtration rating (filter media)</b>				
<b>A03</b>	Inorganic microfiber	3 µm	<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>Seals and treatments</b>				
		Filtration rating		
<b>N</b>	NBR	Axx	Mxx	Pxx
<b>V</b>	FPM			
<b>W</b>	NBR			
<b>Z</b>	FPM			
				filter element compatible with fluids HFA-HFB-HFC
<b>Execution</b>				
<b>P01</b>	MP Filtri standard			
<b>Pxx</b>	Customized			

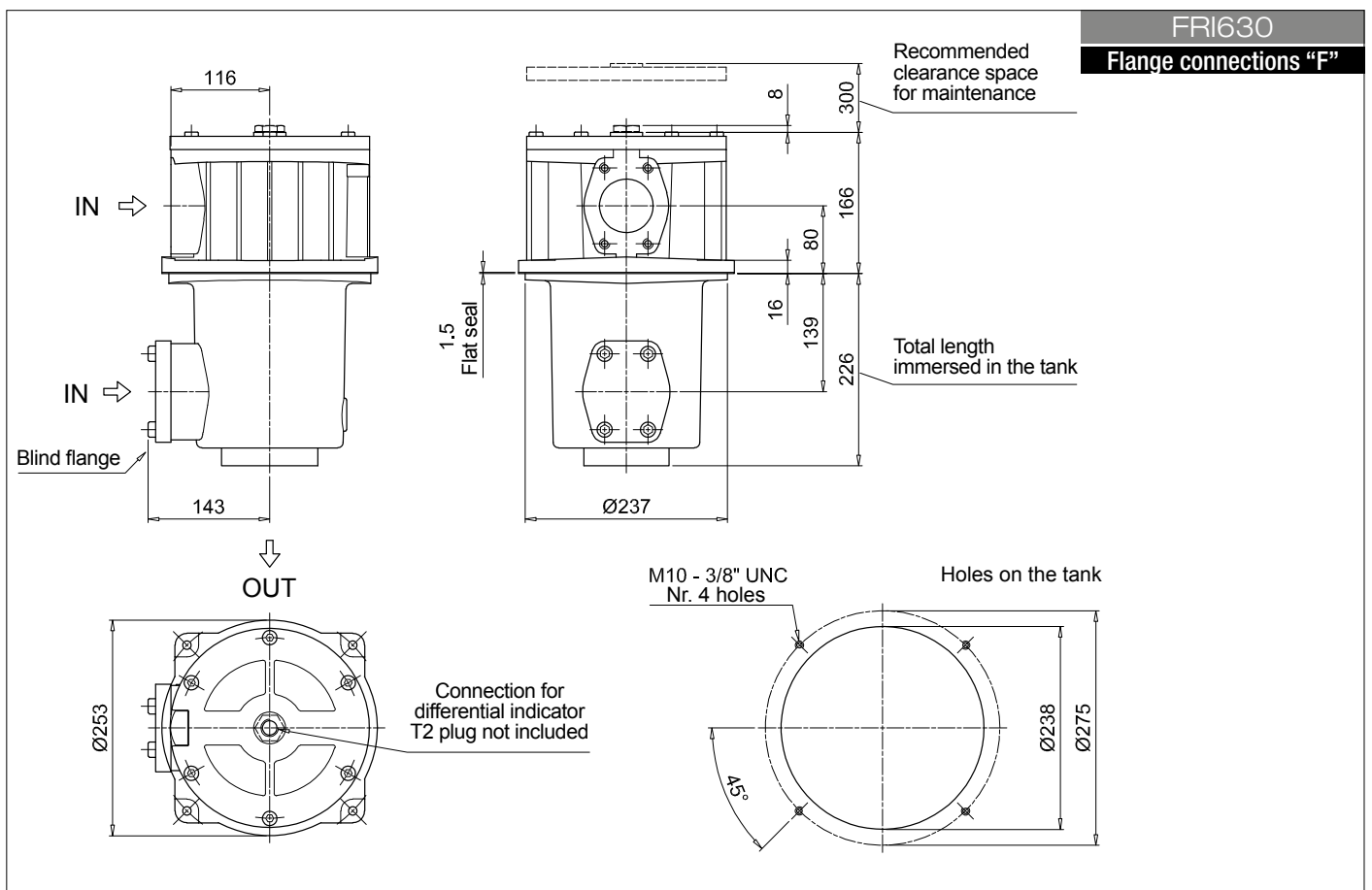
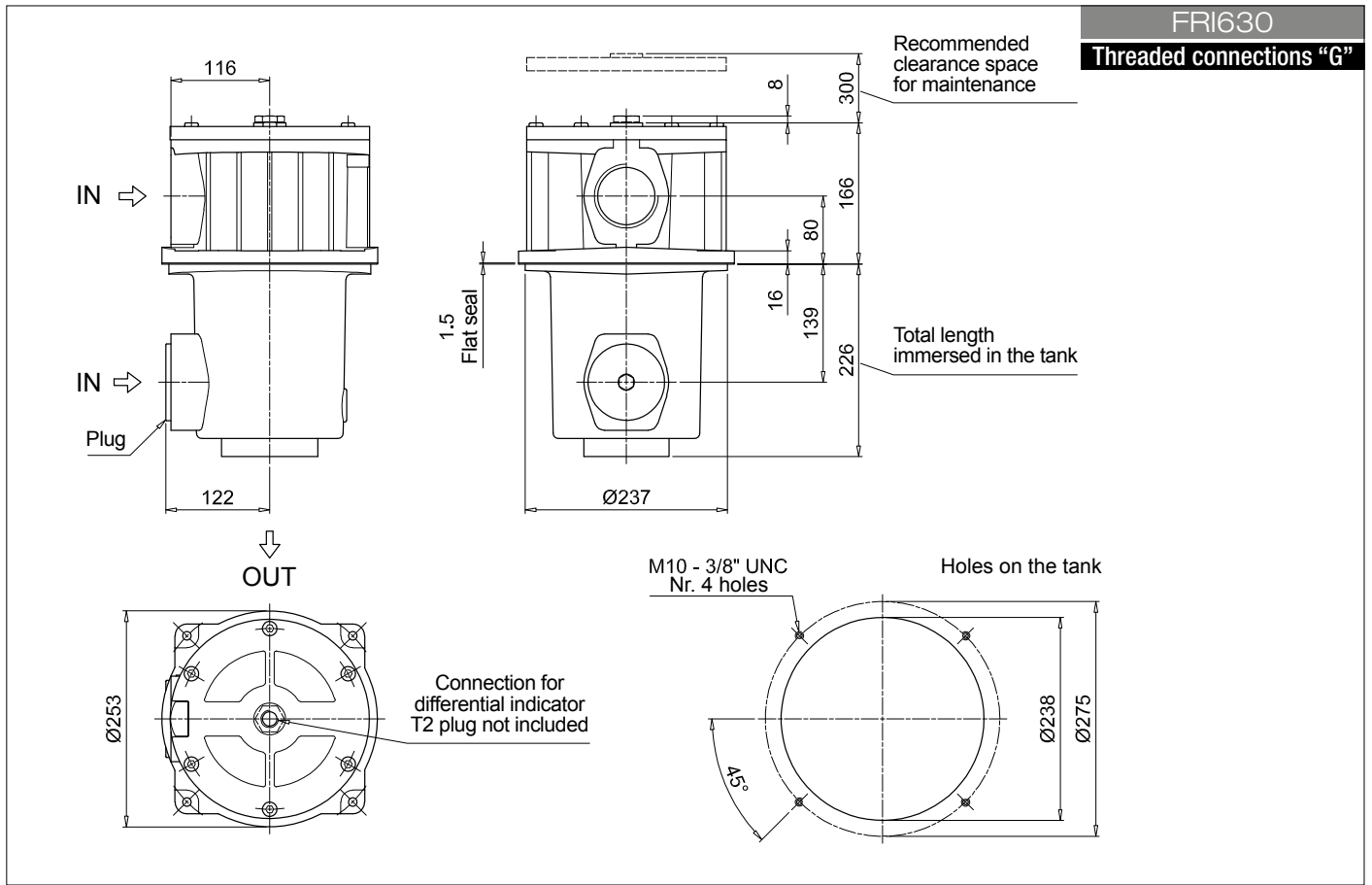
### ACCESSORIES

<b>Indicators</b>	page		page
<b>DEA</b> Electrical differential indicator	242	<b>DTA</b> Electronic differential indicator	245
<b>DEM</b> Electrical differential indicator	242-243	<b>DVA</b> Visual differential indicator	245
<b>DLA</b> Electrical / visual differential indicator	243-244	<b>DVM</b> Visual differential indicator	245
<b>DLE</b> Electrical / visual differential indicator	244		
<b>Additional features</b>		page	
<b>T2</b> Plug	246		



## Dimensions





# FRI FRI255 - FRI850

## Designation & Ordering code

### COMPLETE FILTER

<b>Series and size</b>	Configuration example 1: <b>FRI255</b> <b>S</b> <b>W</b> <b>F2</b> <b>M25</b> <b>N</b> <b>P01</b>						
<b>FRI255</b>	Configuration example 2: <b>FRI850</b> <b>B</b> <b>A</b> <b>F1</b> <b>A25</b> <b>N</b> <b>P01</b>						
<b>FRI850</b>							
<b>Bypass valve</b>							
<b>B</b> With bypass							
<b>S</b> Without bypass							
<b>Seals and treatments</b>	Filtration rating						
<b>A</b> NBR	<b>Axx</b>	<b>Mxx</b>	<b>Pxx</b>				
<b>V</b> FPM	•	•	•				
<b>W</b> NBR head anodized	•	•		filter element compatible with fluids HFA-HFB-HFC			
<b>Z</b> FPM head anodized	•	•					
<b>Connections for FRI255</b>	<b>Connections for FRI850</b>						
<b>G1</b> G 1 1/2"				<b>F1</b> 3 1/2" SAE 3000 psi/M			
<b>G2</b> 1 1/2" NPT				<b>F2</b> 3 1/2" SAE 3000 psi/UNC			
<b>G3</b> SAE 24 - 1 7/8" - 12 UN							
<b>G4</b> G 1 1/4"							
<b>G5</b> 1 1/4" NPT							
<b>G6</b> SAE 20 - 1 5/8" - 12 UN							
<b>F1</b> 1 1/2" SAE 3000 psi/M							
<b>F2</b> 1 1/2" SAE 3000 psi/UNC							
<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>Execution</b>		
				<b>N</b> 10 bar	<b>P01</b> MP Filtri standard		
					<b>Pxx</b> Customized		

### FILTER ELEMENT

<b>Element series and size</b>	Configuration example 1: <b>CU250</b> <b>M25</b> <b>W</b> <b>P01</b>						
<b>CU250</b>	Configuration example 2: <b>CU850</b> <b>A25</b> <b>N</b> <b>P01</b>						
<b>CU850</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>Seals and treatments</b>	Filtration rating						
<b>N</b> NBR	<b>Axx</b>	<b>Mxx</b>	<b>Pxx</b>				
<b>V</b> FPM	•	•	•				
<b>W</b> NBR	•	•		filter element compatible with fluids HFA-HFB-HFC			
<b>Z</b> FPM	•	•					
				<b>Execution</b>			
				<b>P01</b> MP Filtri standard			
				<b>Pxx</b> Customized			

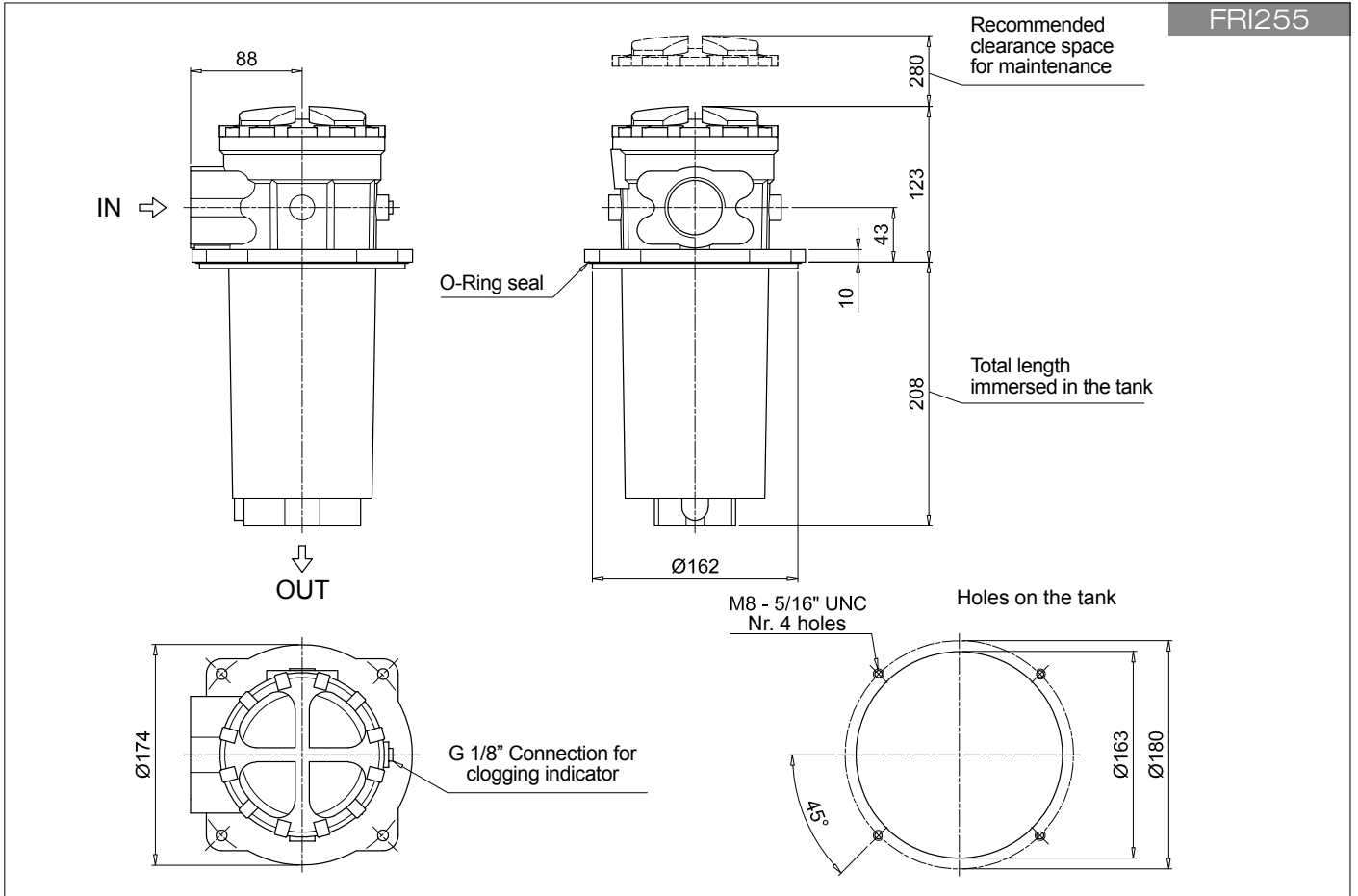
### FRI255 ACCESSORIES

<b>Indicators</b>	page			page
<b>BVA</b> Axial pressure gauge	240	<b>BEA</b> Electrical pressure indicator		239
<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
<b>BVQ</b> Visual pressure indicator with manual reset	241			

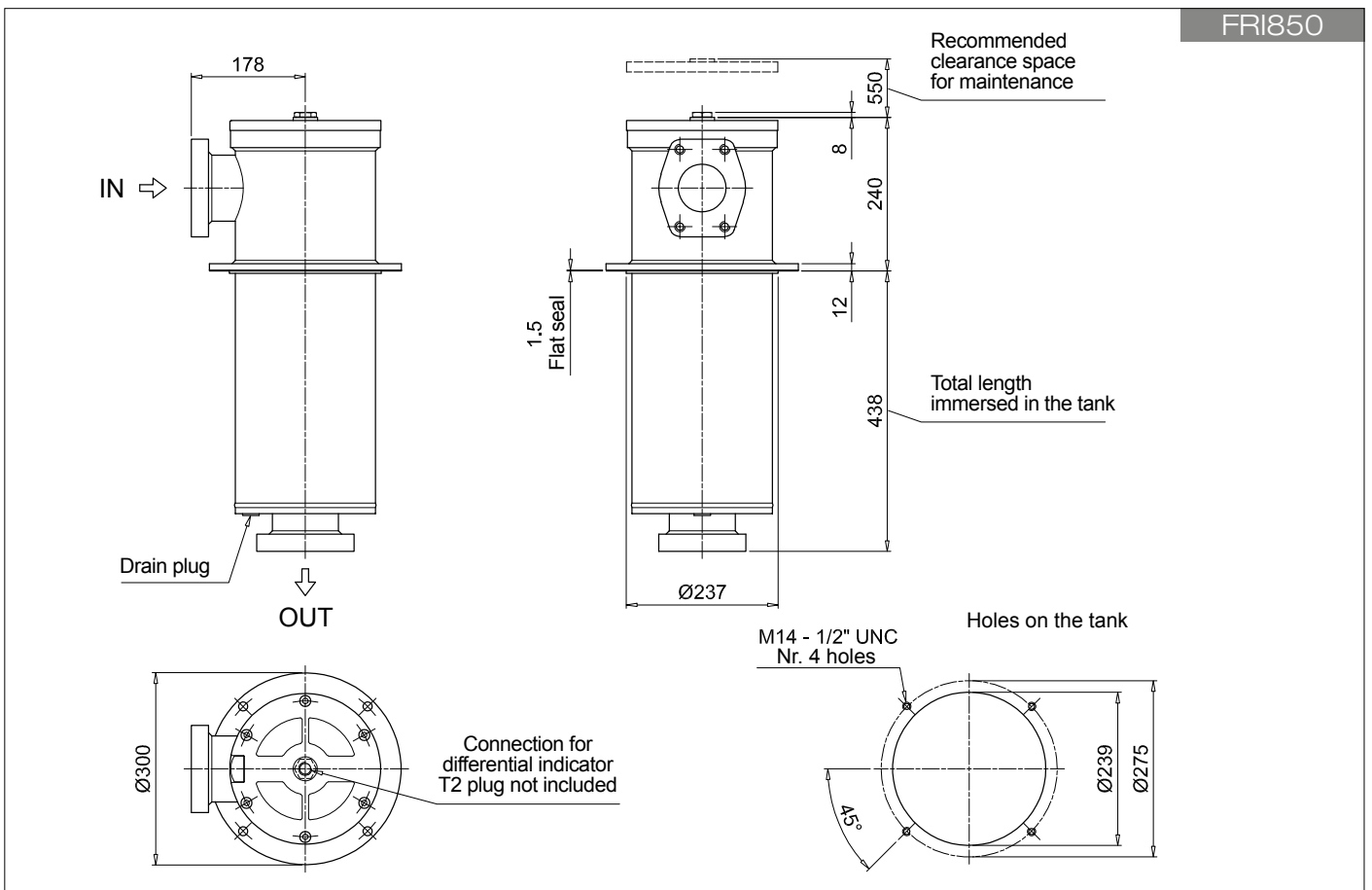
### FRI850 ACCESSORIES

<b>Indicators</b>	page			page
<b>DEA</b> Electrical differential indicator	242	<b>DTA</b> Electronic differential indicator		245
<b>DEM</b> Electrical differential indicator	242-243	<b>DVA</b> Visual differential indicator		245
<b>DLA</b> Electrical / visual differential indicator	243-244	<b>DVM</b> Visual differential indicator		245
<b>DLE</b> Electrical / visual differential indicator	244			
<b>Additional features</b>	page			
<b>T2</b> Plug	246			

FRI255



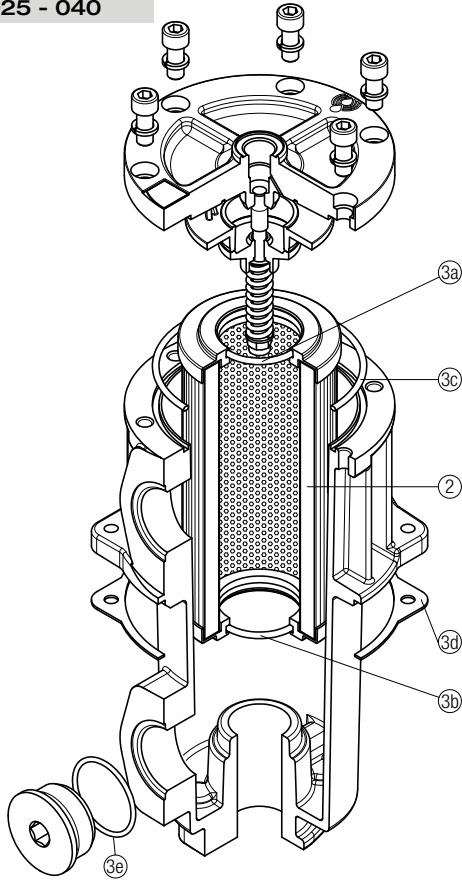
FRI850



# FRI SPARE PARTS

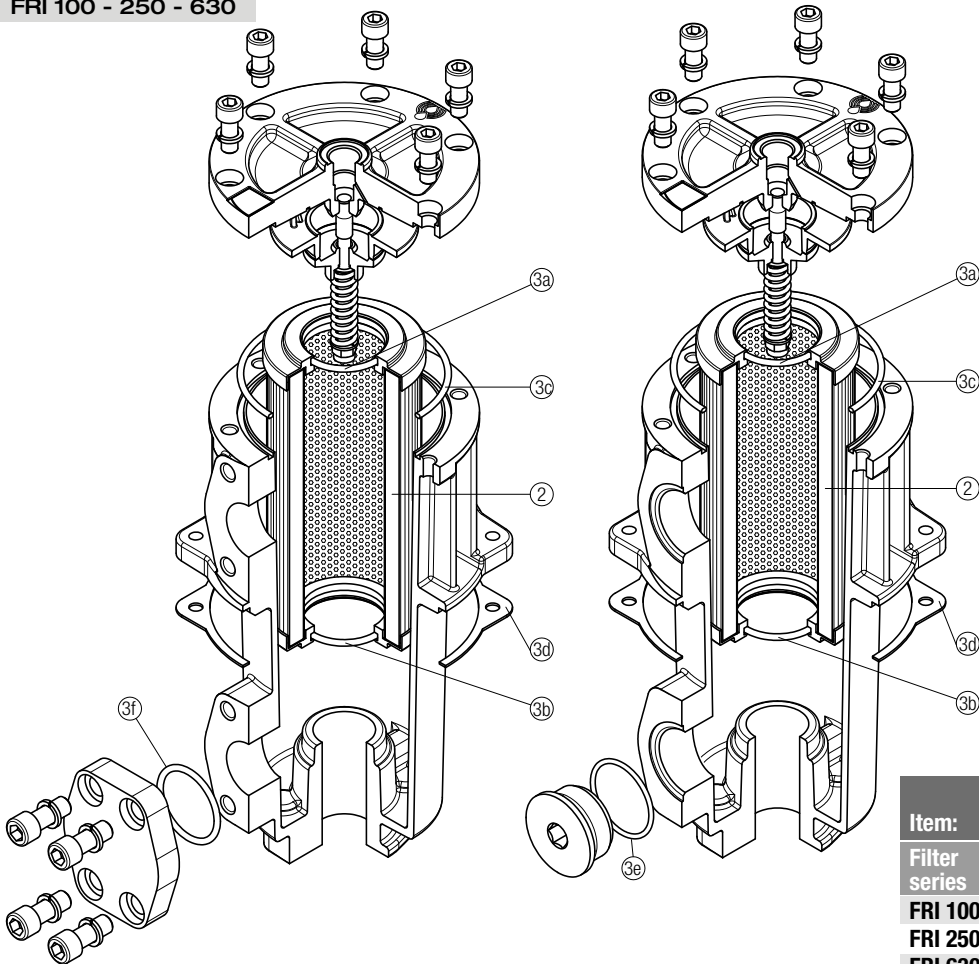
Order number for spare parts

## FRI 025 - 040



Item:	Q.ty: 1 pc.	Q.ty: 1 pc.	
	<b>2</b>	<b>3</b> (3a ÷ 3e)	
Filter series	Filter element	Seal Kit code number	
		NBR	FPM
<b>FRI 025</b>	See order table	02050213	02050220
<b>FRI 040</b>		02050214	02050221

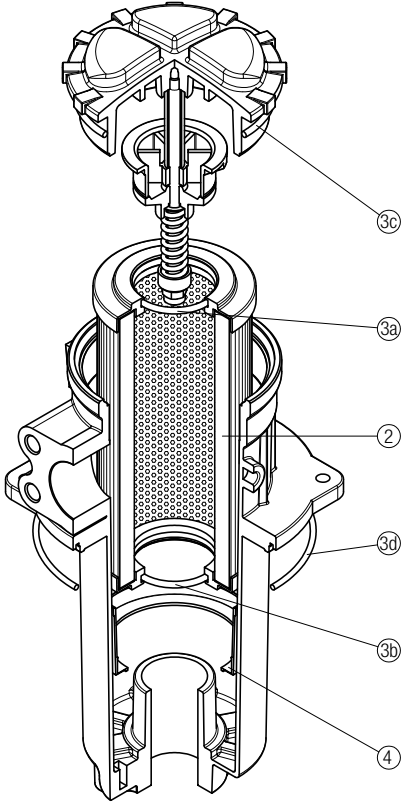
## FRI 100 - 250 - 630



Item:	Q.ty: 1 pc.	Q.ty: 1 pc.	
	<b>2</b>	<b>3</b> (3a ÷ 3f)	
Filter series	Filter element	Seal Kit code number	
		NBR	FPM
<b>FRI 100</b>	See order table	02050215	02050222
<b>FRI 250</b>		02050216	02050223
<b>FRI 630</b>		02050217	02050224

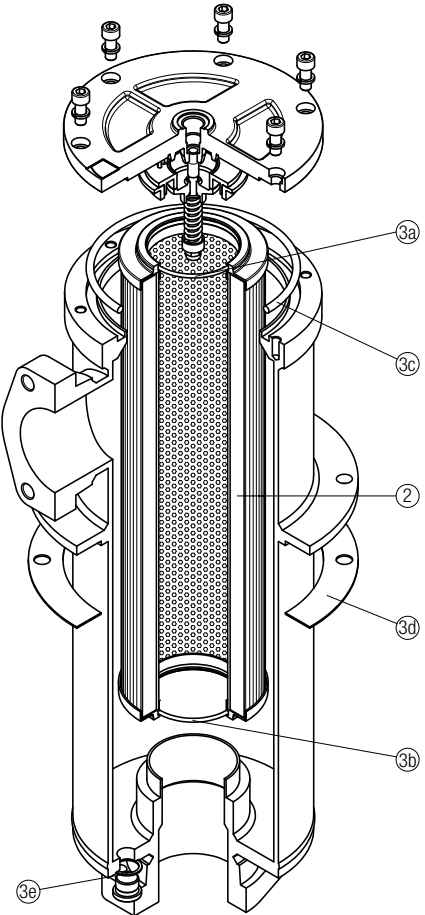


FRI 255



Item:	Q.ty: 1 pc.	Q.ty: 1 pc.	Q.ty: 1 pc.
	<b>2</b>	<b>3</b> (3a ÷ 3d)	<b>4</b>
Filter series	Filter element	Seal Kit code number	
	See order table	NBR	FPM
<b>FRI 255</b>		02050013	02050014
		Contamination retainer binder	
		01060301	

FRI 850



Item:	Q.ty: 1 pc.	Q.ty: 1 pc.
	<b>2</b>	<b>3</b> (3a ÷ 3e)
Filter series	Filter element	Seal Kit code number
	See order table	NBR
<b>FRI 850</b>		02050218
		FPM
		02050225



# RF2 series

Maximum working pressure up to 2 MPa (20 bar) - Flow rate up to 615 l/min



## Description

## Technical data

### Return filter

**Maximum working pressure up to 2 MPa (20 bar)**  
**Flow rate up to 615 l/min**

RF2250 and RF2350 are ranges of return filters for side tank mounting with integrated shut-off valve for protection of the reservoir against the system contamination.

They are placed below the minimum oil level, directly connected to the return line of the system.

The shut-off valve closes automatically when the cover is removed, allowing the filter element replacement without the fluid drop.

#### Available features:

- Female threaded connections up to 1" and flanged connections up to 1 1/2", for a maximum flow rate of 350 l/min
- Bypass valve, to relieve excessive pressure drop across the filter media
- Magnetic filter, to hold the ferrous particles
- Visual, electrical and electronic clogging indicators

#### Common applications:

- Compact mobile machines
- Compact industrial equipment

### Filter housing materials

- Filter body: Aluminium
- Cover: Polyamide, GF reinforced
- Valve: Polyamide, GF reinforced - Steel
- Anti-Emptying valve: Steel

### Bypass valve

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

### $\Delta p$ element type

- Microfibre filter elements - series CU: 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

RF2 250-350 filters mounting, see the drawings on page 235 and following



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

Filter series	Weights [kg]		Volumes [dm <sup>3</sup> ]	
	Length	1	Length	1
<b>RF2 250</b>		2.6		2.0
<b>RF2 350</b>		2.8		2.0

Filter series	Length	Filter element design - N Series							
		A03	A06	A10	A16	A25	M25 M60 M90	P10	P25
<b>RF2 250</b>	<b>1</b>	148	184	278	307	447	615	447	485
<b>RF2 350</b>	<b>1</b>	148	184	278	307	447	615	447	485

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

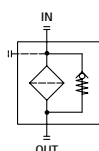
The reference fluid has a kinematic viscosity of 30 mm<sup>2</sup>/s (cSt) and a density of 0.86 kg/dm<sup>3</sup>.

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.

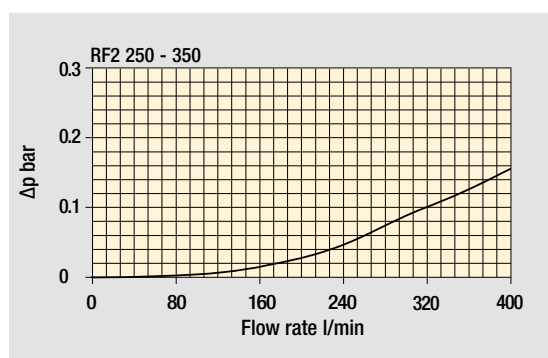
Filter series	Style B - E
<b>RF2 250</b>	•
<b>RF2 350</b>	•

### Hydraulic symbols

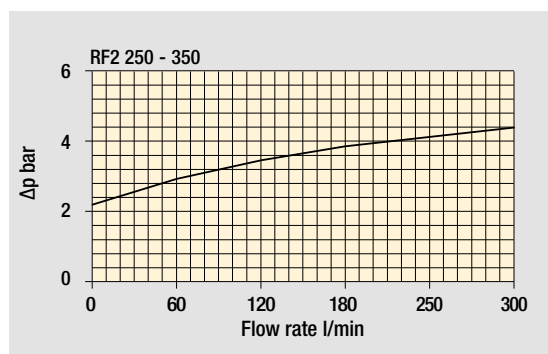


### Pressure drop

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.

# RF2 RF2250 - RF2350

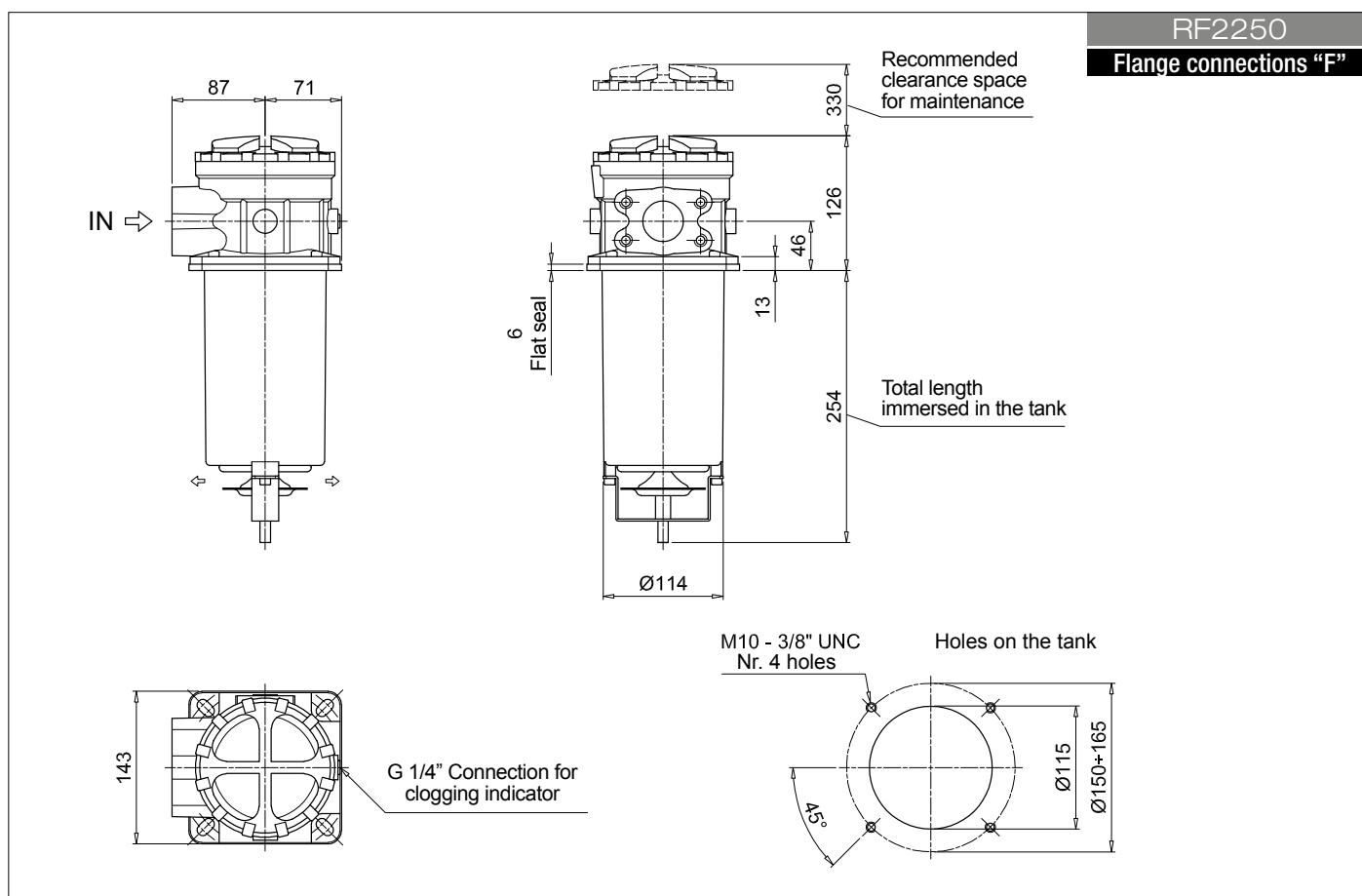
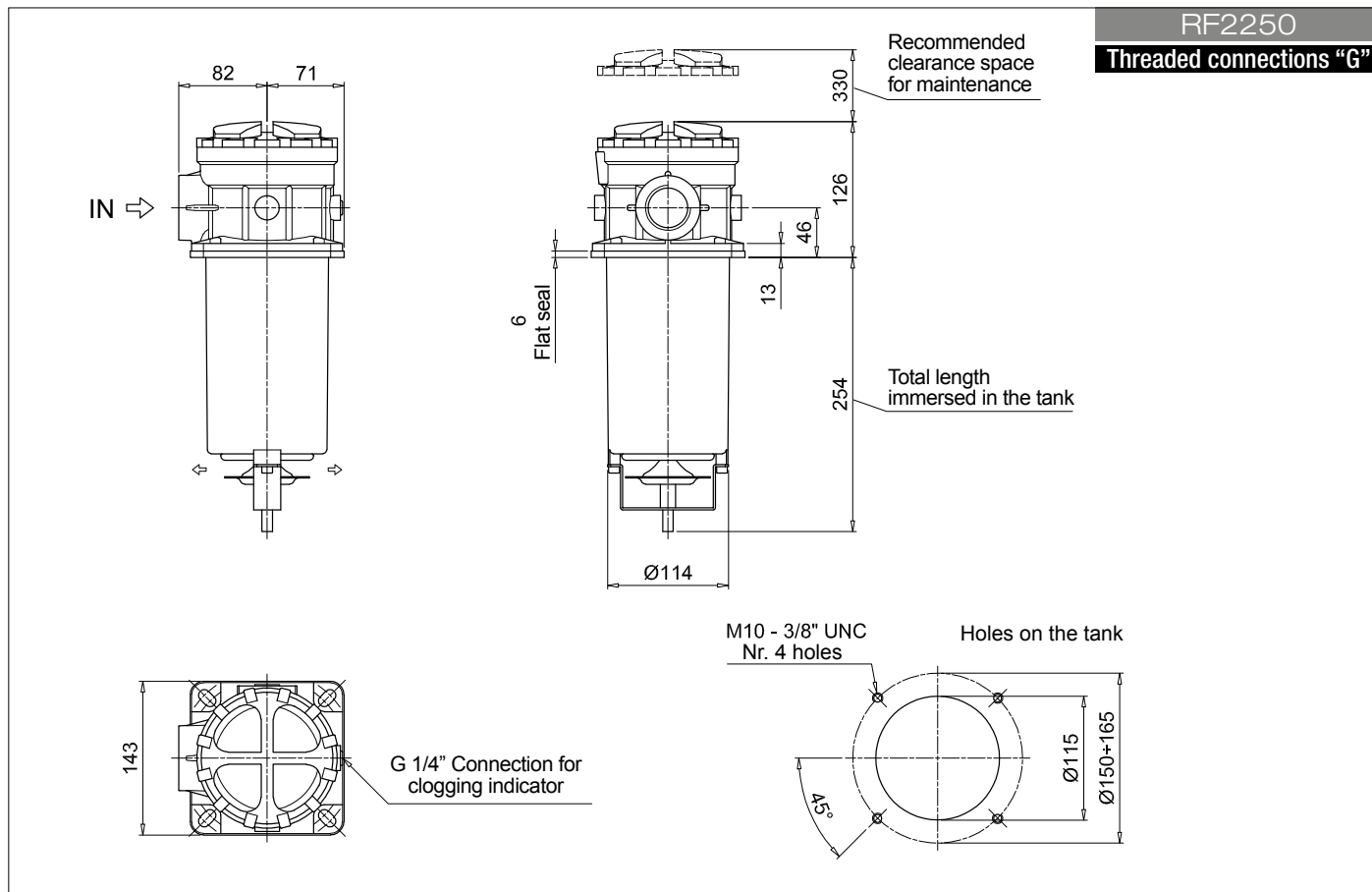
## Designation & Ordering code

### COMPLETE FILTER

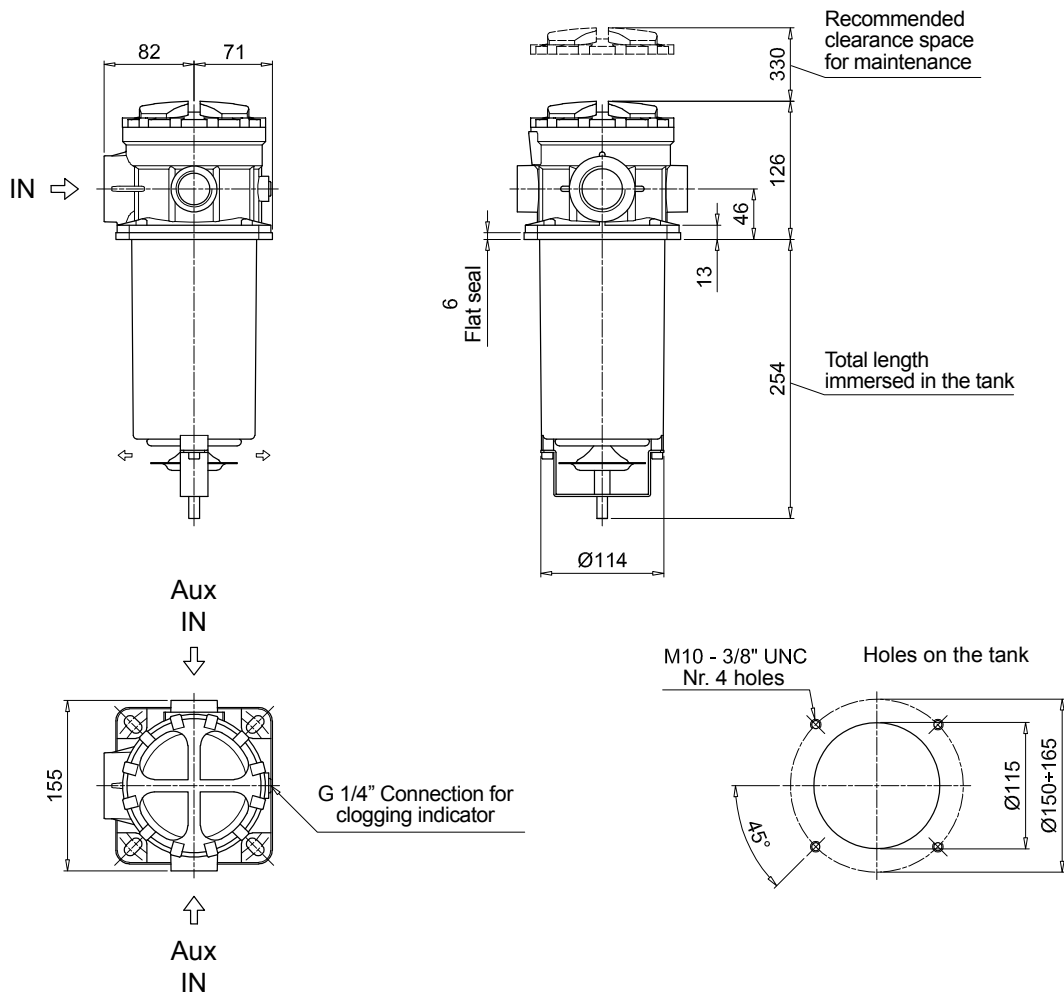
<b>Series and size</b>				Configuration example 1: <b>RF2250</b> <b>W</b> <b>F2</b> <b>E</b> <b>M25</b> <b>P01</b>					
<b>RF2250</b>				Configuration example 2: <b>RF2350</b> <b>A</b> <b>G1</b> <b>B</b> <b>A25</b> <b>P01</b>					
<b>RF2350</b>									
				Filtration rating					
<b>Seals and treatments</b>				<b>Axx</b>	<b>Mxx</b>	<b>Pxx</b>			
<b>A</b>	NBR			•	•	•			
<b>V</b>	FPM			•	•	•			
<b>W</b>	NBR compatible with fluids HFA-HFB-HFC			•	•				
<b>Z</b>	FPM compatible with fluids HFA-HFB-HFC			•	•				
<b>Connections</b>				<b>Aux (only RF2350)</b>		<b>Mxx</b>	<b>Pxx</b>		
<b>G1</b>	G 1 1/2"			G 1"		•	•		
<b>G2</b>	1 1/2" NPT			-		•			
<b>G3</b>	SAE 24 - 1 7/8" - 12 UN			SAE 16 - 1 5/16" - 12 UN		•	•		
<b>G4</b>	G 1 1/4"			-		•			
<b>G5</b>	1 1/4" NPT			-		•			
<b>G6</b>	SAE 20 - 1 5/8" - 12 UN			-		•			
<b>G7</b>	G 1"			-		•			
<b>G8</b>	1" NPT			-		•			
<b>G9</b>	SAE 16 - 1 5/16" - 12 UN			-		•			
<b>F1</b>	1 1/2" SAE 3000 psi/M			-		•			
<b>F2</b>	1 1/2" SAE 3000 psi/UNC			-		•			
<b>Bypass valve</b>									
<b>B</b>	1.75 bar								
<b>E</b>	3 bar								
<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			
				Execution					
				<b>P01</b> MP Filtri standard					
				<b>Pxx</b> Customized					

### FILTER ELEMENT

<b>Element series and size</b>				Configuration example 1: <b>CU250</b> <b>M25</b> <b>W</b> <b>P01</b>					
<b>CU250</b>				Configuration example 2: <b>CU250</b> <b>A25</b> <b>N</b> <b>P01</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>Seals and treatments</b>				Filtration rating					
				<b>Axx</b>	<b>Mxx</b>	<b>Pxx</b>			
<b>N</b>	NBR			•	•	•			
<b>V</b>	FPM			•	•	•			
<b>W</b>	NBR head anodized	filter element compatible with fluids HFA-HFB-HFC		•	•				
<b>Z</b>	FPM head anodized	filter element compatible with fluids HFA-HFB-HFC		•	•				
				Execution					
				<b>P01</b> MP Filtri standard					
				<b>Pxx</b> Customized					

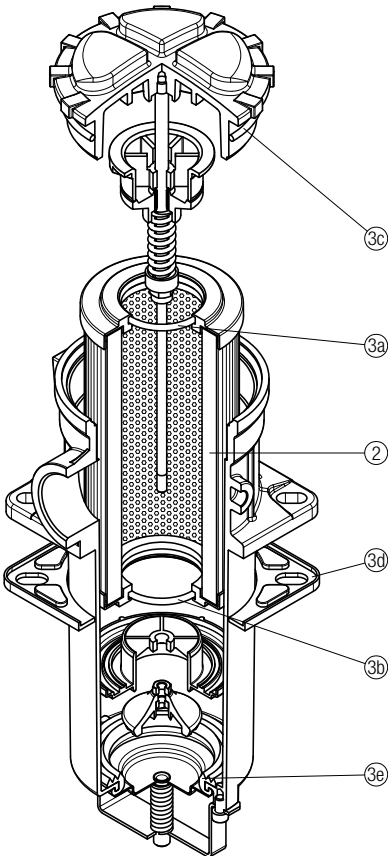


### RF2350





**RF2 250 - 350**



Item:	Q.ty: 1 pc. 2	Q.ty: 1 pc. 3 (3a ÷ 3e)
Filter series	Filter element	Seal Kit code number NBR FPM
<b>RF2 250</b>	See order table	02050586 02050587
<b>RF2 350</b>		

# Clogging indicators

Barometric indicators  
Differential indicators

## Introduction

Filter elements are efficient only if their Dirt Holding Capacity is fully exploited. This is achieved by using filter housings equipped with clogging indicators.

These devices trip when the clogging of the filter element causes an increase in pressure drop across the filter element.

The indicator is set to alarm before the element becomes fully clogged.

MP Filtri can supply indicators of the following designs:

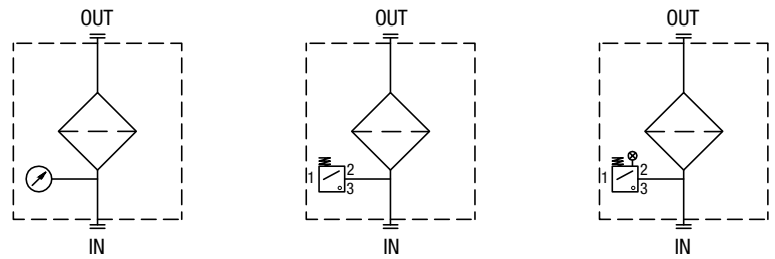
- Vacuum switches and gauges
- Pressure switches and gauges
- Differential pressure indicators

These type of devices can be provided with a visual, electrical or both signals.

## Suitable indicator types

### BAROMETRIC INDICATORS

Pressure indicators are used on the Return line to check the efficiency of the filter element. They measure the pressure upstream of the filter element. Standard items are produced with R 1/8" EN 10226 connection.



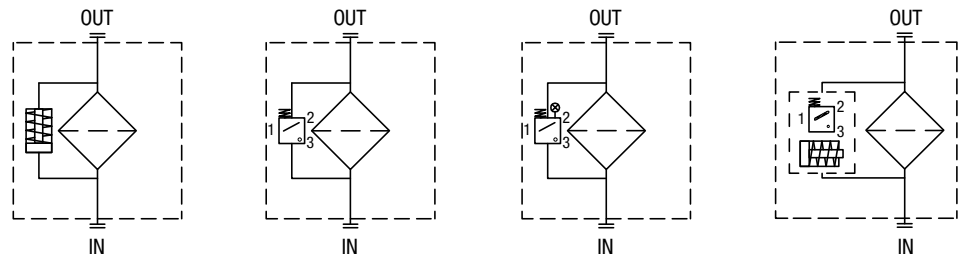
### DIFFERENTIAL INDICATORS

Differential indicators are used on the Pressure line to check the efficiency of the filter element.

They measure the pressure upstream and downstream of the filter element (differential pressure).

Standard items are produced with special connection G 1/2" size.

Also available in Stainless Steel models.



## Quick reference guide

Filter series	Visual indicator	Electrical indicator	Electrical / Visual indicator	Electronic indicator
MPFX-MPTX-MPF-MPT with bypass 1.75 bar MPH with bypass 1.75 bar	BVA14P01 BVR14P01 BVP20HP01 BVQ20HP01	BEA15HA50P01 BEM15HA41P01	BLA15HA51P01 BLA15HA52P01 BLA15HA53P01 BLA15HA71P01	
MPFX-MPTX-MPF-MPT with bypass 3 bar MPH with bypass 2.5 bar FRI 255	BVA25P01 BVR25P01 BVP20HP01 BVQ20HP01	BEA20HA50P01 BEM20HA41P01	BLA20HA51P01 BLA20HA52P01 BLA20HA53P01 BLA20HA71P01	
MPLX FRI 025 - 040 - 100 - 250 - 630 - 850	DVA20xP01 DVM20xP01	DEA20xA50P01 DEM20xAxxP01	DLA20xA51P01 DLA20xA52P01 DLA20xA71P01 DLE20xA50P01 DLE20xF50P01	DTA20xF70P01

BEA*50	
<b>Electrical Pressure Indicator</b>	
Settings	Ordering code
1.5 bar ±10%	BE A 15 H A 50 P01
2.0 bar ±10%	BE A 20 H A 50 P01

**Hydraulic symbol**

**Electrical symbol**

**Materials**

- Body: Brass
- Base: Black Nylon
- Contacts: Silver
- Seal: HNBR

**Technical data**

- Max working pressure: 40 bar
- Proof pressure: 60 bar
- Working temperature: From -25 °C to +80 °C
- Compatibility with fluids: Mineral oils, Synthetic fluids HFA, HFB, HFC according to ISO 2943
- Degree of protection: IP65 according to EN 60529

**Electrical data**

- Electrical connection: EN 175301-803
- Resistive load: 5 A / 14 Vdc, 4 A / 30 Vdc, 5 A / 125 Vac, 4 A / 250 Vac

- Available Atex product: II 1GD Ex ia IIC Tx Ex ia IIIC Tx°C X

- CE certification

BEM*41	
<b>Electrical Pressure Indicator</b>	
Settings	Ordering code
1.5 bar ±10%	BE M 15 H A 41 P01
2.0 bar ±10%	BE M 20 H A 41 P01

**Hydraulic symbol**

**Electrical symbol**

**Materials**

- Body: Brass
- Base: Black Nylon
- Contacts: Silver
- Seal: HNBR

**Technical data**

- Max working pressure: 40 bar
- Proof pressure: 60 bar
- Working temperature: From -25 °C to +80 °C
- Compatibility with fluids: Mineral oils, Synthetic fluids HFA, HFB, HFC according to ISO 2943
- Degree of protection: IP67 according to EN 60529

**Electrical data**

- Electrical connection: Four-core cable
- Resistive load: 5 A / 14 Vdc, 4 A / 30 Vdc, 5 A / 125 Vac, 4 A / 250 Vac

- CE certification  
On request this indicator can be provided with main connectors in use for wirings.

BL*51 - BL*52 - BL*53	
<b>Electrical/Visual Pressure Indicator</b>	
Settings	Ordering code
1.5 bar ±10%	BL A 15 H A xx P01
2.0 bar ±10%	BL A 20 H A xx P01

**Hydraulic symbol**

**Electrical symbol**

**Materials**

- Body: Brass
- Base: Transparent Nylon
- Contacts: Silver
- Seal: HNBR

**Technical data**

- Max working pressure: 40 bar
- Proof pressure: 60 bar
- Working temperature: From -25 °C to +80 °C
- Compatibility with fluids: Mineral oils, Synthetic fluids HFA, HFB, HFC according to ISO 2943
- Degree of protection: IP65 according to EN 60529

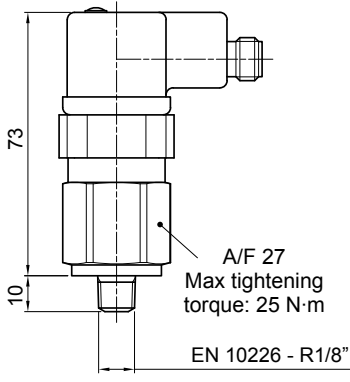
**Electrical data**

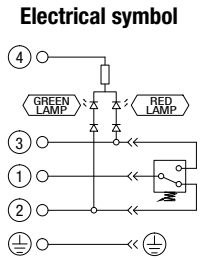
- Electrical connection: EN 175301-803
- Type: 51, 52, 53
- Lamps: 24 Vdc, 110 Vdc, 230 Vac
- Resistive load: 1 A / 24 Vdc, 1 A / 110 Vdc, 1 A / 230 Vac

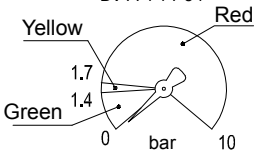
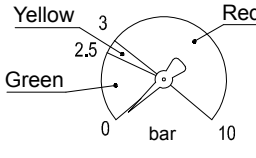
# BAROMETRIC INDICATORS

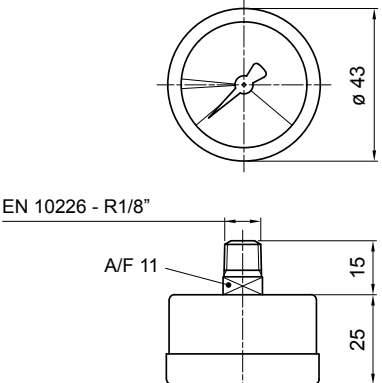
## Dimensions

BL*71		Hydraulic symbol	Materials
<b>Electrical/Visual Pressure Indicator</b>			
Settings	Ordering code	<b>Technical data</b> - Max working pressure: 40 bar - Proof pressure: 60 bar - Working temperature: From -25 °C to +80 °C - Compatibility with fluids: Mineral oils, Synthetic fluids HFA, HFB, HFC according to ISO 2943 - Degree of protection: IP65 according to EN 60529	
1.5 bar ±10%	BLA 15 HA 71 P01		<b>Electrical data</b> - Electrical connection: IEC 61076-2-101 D (M12) - Lamps: 24 Vdc - Resistive load: 0.4 A / 24 Vdc
2.0 bar ±10%	BLA 20 HA 71 P01		





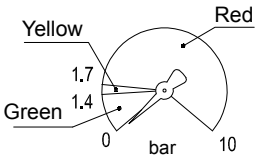
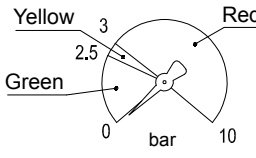
BVA		Hydraulic symbol	Materials
<b>Axial Pressure Gauge</b>			
Settings	Ordering code	<b>Technical data</b> - Max working pressure: Static: 7 bar Fluctuating: 6 bar Short time: 10 bar - Working temperature: From -40 °C to +60 °C - Compatibility with fluids: Mineral oils, Synthetic fluids HFA, HFB, HFC according to ISO 2943 - Accuracy: Class 2.5 according to EN 13190 - Degree of protection: IP31 according to EN 60529	
1.4 bar ±10%	BVA 14 P01		
2.5 bar ±10%	BVA 25 P01		

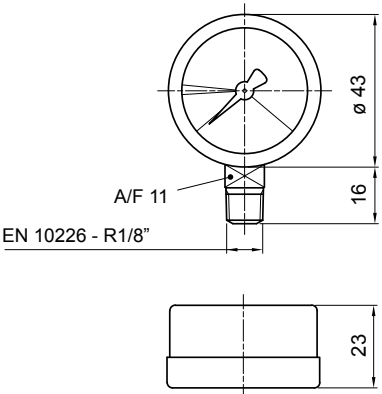


**Dial scale**

BVA 14 P01

BVA 25 P01

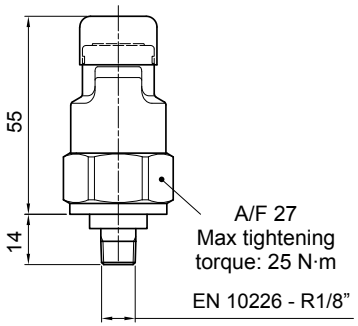
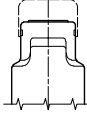
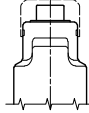
BVR		Hydraulic symbol	Materials
<b>Radial Pressure Gauge</b>			
Settings	Ordering code	<b>Technical data</b> - Max working pressure: Static: 7 bar Fluctuating: 6 bar Short time: 10 bar - Working temperature: From -40 °C to +60 °C - Compatibility with fluids: Mineral oils, Synthetic fluids HFA, HFB, HFC according to ISO 2943 - Accuracy: Class 2.5 according to EN 13190 - Degree of protection: IP31 according to EN 60529	
1.4 bar ±10%	BV R 14 P01		
2.5 bar ±10%	BV R 25 P01		



**Dial scale**

BV R 14 P01

BV R 25 P01

BVP - BVQ		Hydraulic symbol	Materials
Visual Pressure Indicator			
Setting	Ordering code		
1.5 bar ±10%	BV P 15 H P01		<b>Technical data</b> - Reset: BVP - Automatic reset BVQ - Manual reset - Max working pressure: 10 bar - Proof pressure: 15 bar - Working temperature: From -25 °C to +80 °C - Compatibility with fluids: Mineral oils, Synthetic fluids HFA, HFB, HFC according to ISO 2943 - Degree of protection: IP45 according to EN 60529
	BV Q 15 H P01		
2.0 bar ±10%	BV P 20 H P01	<b>Signals</b>	 Absence of pressure (no indicator)
	BV Q 20 H P01		
		 Clogged filter element (red button risen)	

### DESIGNATION & ORDERING CODE

Series	Configuration example 1:	BE	M	15	H	A	41	P01
<b>BE</b> Electrical pressure indicator	Configuration example 2:	BL	A	20	H	A	71	P01
<b>BL</b> Electrical/Visual pressure indicator	Configuration example 3:	BV	R	14				P01
<b>BV</b> Visual pressure indicator	Configuration example 4:	BV	P	20	H			P01

Type	BE	BL	BV
<b>A</b> Standard type	•	•	<b>A</b> Axial connection pressure gauge
<b>M</b> With wired electrical connection	•		<b>R</b> Radial connection pressure gauge
			<b>P</b> Visual indicator with automatic reset
			<b>Q</b> Visual indicator with manual reset

Pressure setting	BEA-BEM	BLA	BVA-BVR	BVP-BVQ
<b>14</b> 1.4 bar			•	
<b>15</b> 1.5 bar	•	•		
<b>20</b> 2.0 bar	•	•		•
<b>25</b> 2.5 bar			•	

Seals	BE	BLA	BVA-BVR	BVP-BVQ
<b>H</b> HNBR	•	•		•

Thermostat	BEA-BEM	BLA	BV
<b>A</b> Without	•	•	

Electrical connections	BEA	BEM	BL	BV
<b>41</b> Connection via four-core cable		•		
<b>50</b> Connection EN 175301-803	•			
<b>51</b> Connection EN 175301-803, transparent base with lamps 24 Vdc			•	
<b>52</b> Connection EN 175301-803, transparent base with lamps 110 Vdc			•	
<b>53</b> Connection EN 175301-803, transparent base with lamps 230 Vdc			•	
<b>71</b> Connection IEC 61076-2-101 D (M12), black base with lamps 24 Vdc			•	

Option
<b>P01</b> MP Filtri standard
<b>Pxx</b> Customized

# DIFFERENTIAL INDICATORS

## Dimensions

DEA*50	
<b>Electrical Differential Indicator</b>	
<b>Settings</b> 2.0 bar ±10%	<b>Ordering code</b> DE A 20 x A 50 P01
<p><b>Hydraulic symbol</b></p>	
<p><b>Electrical symbol</b></p>	
<p><b>Materials</b></p> <ul style="list-style-type: none"> <li>- Body: Brass</li> <li>- Base: Black Nylon</li> <li>- Contacts: Silver</li> <li>- Seal: HNBR - FPM</li> </ul>	
<p><b>Technical data</b></p> <ul style="list-style-type: none"> <li>- Max working pressure: 420 bar</li> <li>- Proof pressure: 630 bar</li> <li>- Burst pressure: 1260 bar</li> <li>- Working temperature: From -25 °C to +110 °C</li> <li>- Compatibility with fluids: Mineral oils, Synthetic fluids HFA, HFB, HFC according to ISO 2943</li> <li>- Degree protection: IP66 according to EN 60529 IP69K according to ISO 20653</li> </ul>	
<p><b>Electrical data</b></p> <ul style="list-style-type: none"> <li>- Electrical connection: EN 175301-803</li> <li>- Resistive load: 0.2 A / 115 Vdc</li> </ul>	

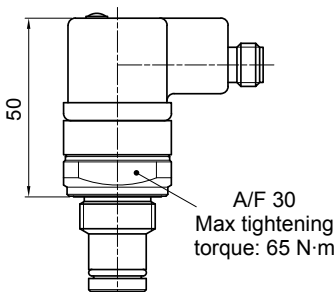
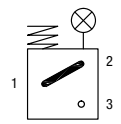
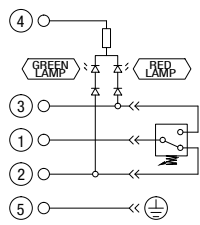
DEM*10	
<b>Electrical Differential Indicator</b>	
<b>Settings</b> 2.0 bar ±10%	<b>Ordering code</b> DE M 20 xx 10 P01
<p><b>Hydraulic symbol</b></p>	
<p><b>Electrical symbol</b></p>	
<p><b>Materials</b></p> <ul style="list-style-type: none"> <li>- Body: Brass</li> <li>- Base: Black Nylon</li> <li>- Contacts: Silver</li> <li>- Seal: HNBR - FPM</li> </ul>	
<p><b>Technical data</b></p> <ul style="list-style-type: none"> <li>- Max working pressure: 420 bar</li> <li>- Proof pressure: 630 bar</li> <li>- Burst pressure: 1260 bar</li> <li>- Working temperature: From -25 °C to +110 °C</li> <li>- Compatibility with fluids: Mineral oils, Synthetic fluids HFA, HFB, HFC according to ISO 2943</li> <li>- Degree protection: IP66 according to EN 60529</li> </ul>	
<p><b>Electrical data</b></p> <ul style="list-style-type: none"> <li>- Electrical connection: AMP Superseal series 1.5</li> <li>- Resistive load: 0.2 A / 115 Vdc</li> <li>- Switching type: Normally open contacts (NC on request)</li> <li>- Thermal lockout: Normally open up to 30 °C (option "F")</li> </ul>	

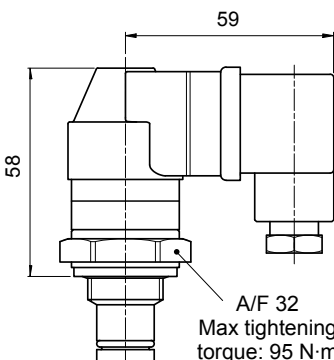
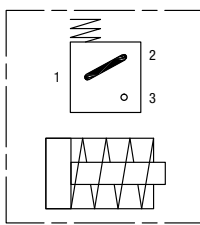
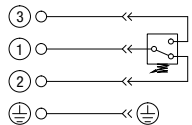
DEM*20	
<b>Electrical Differential Indicator</b>	
<b>Settings</b> 2.0 bar ±10%	<b>Ordering code</b> DEM20xx20P01
<p><b>Hydraulic symbol</b></p>	
<p><b>Electrical symbol</b></p>	
<p><b>Materials</b></p> <ul style="list-style-type: none"> <li>- Body: Brass</li> <li>- Base: Black Nylon</li> <li>- Contacts: Silver</li> <li>- Seal: HNBR - FPM</li> </ul>	
<p><b>Technical data</b></p> <ul style="list-style-type: none"> <li>- Max working pressure: 420 bar</li> <li>- Proof pressure: 630 bar</li> <li>- Burst pressure: 1260 bar</li> <li>- Working temperature: From -25 °C to +110 °C</li> <li>- Compatibility with fluids: Mineral oils, Synthetic fluids HFA, HFB, HFC according to ISO 2943</li> <li>- Degree protection: IP66 according to EN 60529</li> </ul>	
<p><b>Electrical data</b></p> <ul style="list-style-type: none"> <li>- Electrical connection: AMP Time junior</li> <li>- Resistive load: 0.2 A / 115 Vdc</li> <li>- Switching type: Normally open contacts (NC on request)</li> <li>- Thermal lockout: Normally open up to 30 °C (option "F")</li> </ul>	

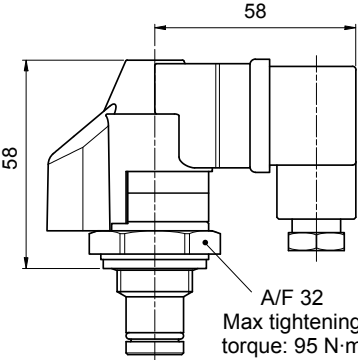
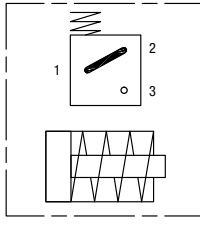
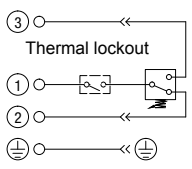


# DIFFERENTIAL INDICATORS

## Dimensions

DLA*71	
<b>Electrical/Visual Differential Indicator</b>	
<b>Settings</b> 2.0 bar $\pm$ 10%	<b>Ordering code</b> DLA 20 x A 71 P01
 <p>A/F 30 Max tightening torque: 65 N·m</p>	
<p><b>Hydraulic symbol</b></p> 	
<p><b>Electrical symbol</b></p> 	
<p><b>Materials</b></p> <ul style="list-style-type: none"> <li>- Body: Brass</li> <li>- Base: Black Nylon</li> <li>- Contacts: Silver</li> <li>- Seal: HNBR - FPM</li> </ul>	
<p><b>Technical data</b></p> <ul style="list-style-type: none"> <li>- Max working pressure: 420 bar</li> <li>- Proof pressure: 630 bar</li> <li>- Burst pressure: 1260 bar</li> <li>- Working temperature: From -25 °C to +110 °C</li> <li>- Compatibility with fluids: Mineral oils, Synthetic fluids HFA, HFB, HFC according to ISO 2943</li> <li>- Degree protection: IP65 according to EN 60529 IP69K according to ISO 20653</li> </ul>	
<p><b>Electrical data</b></p> <ul style="list-style-type: none"> <li>- Electrical connection: IEC 61076-2-101 D (M12)</li> <li>- Lamps: 24 Vdc</li> <li>- Resistive load: 0.4 A / 24 Vdc</li> </ul>	

DLE*A50	
<b>Electrical/Visual Differential Indicator</b>	
<b>Settings</b> 2.0 bar $\pm$ 10%	<b>Ordering code</b> DLE 20 x A 50 P01
 <p>A/F 32 Max tightening torque: 95 N·m</p>	
<p><b>Hydraulic symbol</b></p> 	
<p><b>Electrical symbol</b></p> 	
<p><b>Materials</b></p> <ul style="list-style-type: none"> <li>- Body: Brass</li> <li>- Base: Black Nylon</li> <li>- Contacts: Silver</li> <li>- Seal: HNBR - FPM</li> </ul>	
<p><b>Technical data</b></p> <ul style="list-style-type: none"> <li>- Max working pressure: 420 bar</li> <li>- Proof pressure: 630 bar</li> <li>- Burst pressure: 1260 bar</li> <li>- Working temperature: From -25 °C to +110 °C</li> <li>- Compatibility with fluids: Mineral oils, Synthetic fluids HFA, HFB, HFC according to ISO 2943</li> <li>- Degree protection: IP65 according to EN 60529</li> </ul>	
<p><b>Electrical data</b></p> <ul style="list-style-type: none"> <li>- Electrical connections: EN 175301-803</li> <li>- Resistive load: 5 A / 250 Vac</li> <li>- Available the connector with lamps</li> </ul>	

DLE*F50	
<b>Electrical/Visual Differential Indicator</b>	
<b>Settings</b> 2.0 bar $\pm$ 10%	<b>Ordering code</b> DLE 20 x F 50 P01
 <p>A/F 32 Max tightening torque: 95 N·m</p>	
<p><b>Hydraulic symbol</b></p> 	
<p><b>Electrical symbol</b></p> 	
<p><b>Materials</b></p> <ul style="list-style-type: none"> <li>- Body: Brass</li> <li>- Base: Black Nylon</li> <li>- Contacts: Silver</li> <li>- Seal: HNBR - FPM</li> </ul>	
<p><b>Technical data</b></p> <ul style="list-style-type: none"> <li>- Max working pressure: 420 bar</li> <li>- Proof pressure: 630 bar</li> <li>- Burst pressure: 1260 bar</li> <li>- Working temperature: From -25 °C to +110 °C</li> <li>- Compatibility with fluids: Mineral oils, Synthetic fluids HFA, HFB, HFC according to ISO 2943</li> <li>- Degree protection: IP65 according to EN 60529</li> </ul>	
<p><b>Electrical data</b></p> <ul style="list-style-type: none"> <li>- Electrical connections: EN 175301-803</li> <li>- Resistive load: 5 A / 250 Vac</li> <li>- Thermal lockout setting: +30 °C</li> </ul>	



DTA*70	
<b>Electronic Differential Indicator</b>	
Settings	Ordering code
2.0 bar $\pm$ 10%	DT A 20 x x 70 P01
<p><b>Hydraulic symbol</b></p>	
<p><b>Electrical symbol</b></p>	
<p><b>Materials</b></p> <ul style="list-style-type: none"> <li>- Body: Brass</li> <li>- Internal parts: Brass - Nylon</li> <li>- Contacts: Silver</li> <li>- Seal: HNBR - FPM</li> </ul>	
<p><b>Technical data</b></p> <ul style="list-style-type: none"> <li>- Max working pressure: 420 bar</li> <li>- Proof pressure: 630 bar</li> <li>- Burst pressure: 1260 bar</li> <li>- Compatibility with fluids: Mineral oils, Synthetic fluids HFA, HFB, HFC according to ISO 2943</li> <li>- Degree protection: IP67 according to EN 60529</li> </ul>	
<p><b>Electrical data</b></p> <ul style="list-style-type: none"> <li>- Electrical connection: IEC 61076-2-101 D (M12)</li> <li>- Power supply: 24 Vdc</li> <li>- Analogue output: From 4 to 20 mA</li> <li>- Thermal lockout: 30 °C (all output signals stalled up to 30 °C)</li> </ul>	



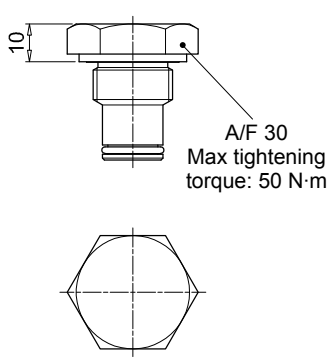
DVA	
<b>Visual Differential Indicator</b>	
Settings	Ordering code
2.0 bar $\pm$ 10%	DV A 20 x P01
<p><b>Hydraulic symbol</b></p>	
<p><b>Materials</b></p> <ul style="list-style-type: none"> <li>- Body: Brass</li> <li>- Internal parts: Brass - Nylon</li> <li>- Contacts: Silver</li> <li>- Seal: HNBR - FPM</li> </ul>	
<p><b>Technical data</b></p> <ul style="list-style-type: none"> <li>- Reset: Automatic reset</li> <li>- Max working pressure: 420 bar</li> <li>- Proof pressure: 630 bar</li> <li>- Burst pressure: 1260 bar</li> <li>- Working temperature: From -25 °C to +110 °C</li> <li>- Compatibility with fluids: Mineral oils, Synthetic fluids HFA, HFB, HFC according to ISO 2943</li> <li>- Degree protection: IP65 according to EN 60529</li> </ul>	

DVM	
<b>Visual Differential Indicator</b>	
Settings	Ordering code
2.0 bar $\pm$ 10%	DV M 20 x P01
<p><b>Hydraulic symbol</b></p>	
<p><b>Materials</b></p> <ul style="list-style-type: none"> <li>- Body: Brass</li> <li>- Internal parts: Brass - Nylon</li> <li>- Contacts: Silver</li> <li>- Seal: HNBR - FPM</li> </ul>	
<p><b>Technical data</b></p> <ul style="list-style-type: none"> <li>- Reset: Manual reset</li> <li>- Max working pressure: 420 bar</li> <li>- Proof pressure: 630 bar</li> <li>- Burst pressure: 1260 bar</li> <li>- Working temperature: From -25 °C to +110 °C</li> <li>- Compatibility with fluids: Mineral oils, Synthetic fluids HFA, HFB, HFC according to ISO 2943</li> <li>- Degree protection: IP65 according to EN 60529</li> </ul>	

# DIFFERENTIAL INDICATORS

## Dimensions

T2		<b>Materials</b> - Body: Phosphatized steel - Seal: HNBR / FPM
Indicator plug		
Seal	Ordering code	
HNBR	T2 H	
FPM	T2 V	



A/F 30  
Max tightening torque: 50 N·m

### DESIGNATION & ORDERING CODE - DIFFERENTIAL INDICATORS

Series	Configuration example 1:						
<b>DE</b> Electrical differential indicator	DE	M	20	H	F	50	P01
<b>DL</b> Electrical/Visual differential indicator	DL	E	20	V	A	71	P01
<b>DT</b> Electronic differential indicator	DT	A	20	H	F	70	P01
<b>DV</b> Visual differential indicator	DV	M	20	V			P01

Type	DE	DL	DT	DV
<b>A</b> Standard type	•	•	•	<b>A</b> With automatic reset
<b>M</b> With wired electrical connection	•			<b>M</b> With manual reset
<b>E</b> For high power supply		•		

Pressure setting	DEA	DEM	DLA	DLE	DT	DV
<b>20</b> 2.0 bar						

Seals	DEA	DEM	DLA	DLE	DT	DV
<b>H</b> HNBR	•	•	•	•		
<b>V</b> FPM		•		•	•	

Thermostat	DEA	DEM	DLA	DLE	DT	DV
<b>A</b> Without	•	•	•	•		
<b>F</b> With thermostat		•		•	•	

Electrical connections	DEA	DEM	DLA	DLE	DT	DV
<b>10</b> Connection AMP Superseal series 1.5		•				
<b>20</b> Connection AMP Timer Junior		•				
<b>30</b> Connection Deutsch DT-04-2-P		•				
<b>35</b> Connection Deutsch DT-04-3-P		•				
<b>50</b> Connection EN 175301-803	•			•		
<b>51</b> Connection EN 175301-803, transparent base with lamps 24 Vdc			•			
<b>52</b> Connection EN 175301-803, transparent base with lamps 110 Vdc			•			
<b>70</b> Connection IEC 61076-2-101 D (M12)					•	
<b>71</b> Connection IEC 61076-2-101 D (M12), black base with lamps 24 Vdc			•			

Option
<b>P01</b> MP Filtri standard
<b>Pxx</b> Customized

### DESIGNATION & ORDERING CODE - DIFFERENTIAL INDICATOR PLUG

Series	Configuration example	
<b>T2</b> Indicator plug	T2	H

Seals
<b>H</b> HNBR
<b>V</b> FPM



# Accessories

## NYLON EXTENSION TUBE

H1 - Total length immersed in the tank

Configuration example: **TE** **40** **A** **250**

Series	Size	Material	Length	H [mm]
<b>TE</b>			<b>200</b>	200
			<b>250</b>	250
			<b>300</b>	300
			<b>350</b>	350
			<b>400</b>	400
			<b>450</b>	450
			<b>500</b>	500

Filter series		Filter size		Filter length	TE25	TE32	TE40	200	250	300	350	400	450	500				
					Tube length H1 [mm]													
MPF - MPFX		30		1	•			266	316	366	416	466	516	566				
MPF	100	104	110	1		•		275	325	375	425	475	525	575				
				2				322	372	422	472	522	572	622				
				3			•	400	450	500	550	600	650	700				
				4				502	552	602	652	702	752	802				
MPFX	100	104	110	1				277	327	377	427	477	527	577				
				2			•	322	372	422	472	522	572	622				
				3				400	450	500	550	600	650	700				
				4				502	552	602	652	702	752	802				
MPF MPFX	181	182	184	1				410	460	510	560	610	660	710				
				2			•	623	673	723	773	823	873	923				
MPT MPTX	025	027		1	•			278	328	378	428	478	528	578				
				2				342	392	442	492	542	592	642				
				3				380	430	480	530	580	630	680				
MPT	101	104	110	114	120			1			•							
								2				273	323	373	423	473	523	573
								3				320	370	420	470	520	570	620
								4				396	446	496	546	596	646	696
MPTX	101	104	110	114	120			1				•						
								2				498	548	598	648	698	748	798
								3				273	323	373	423	473	523	573
								4				318	368	418	468	518	568	618

## STEEL EXTENSION TUBE

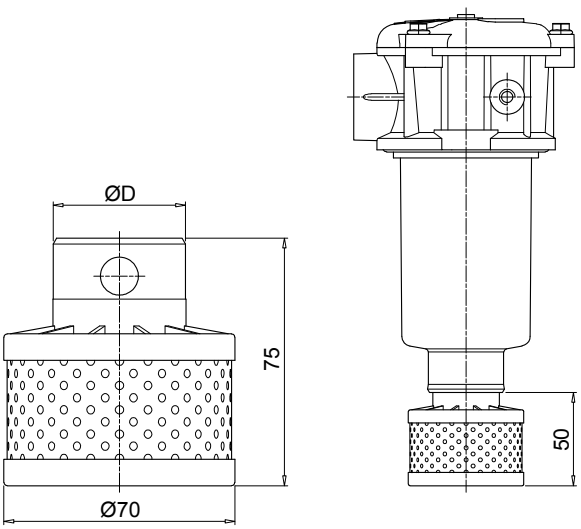
H1 - Total length immersed in the tank

Configuration example: **MPF191** **2** **A** **F1** **A10** **H** **B** **S60**

Series	Size	Material	Length	H1 [mm]
<b>S30</b>			<b>300</b>	
<b>S35</b>			<b>350</b>	
<b>S40</b>			<b>400</b>	
<b>S45</b>			<b>450</b>	
<b>S50</b>			<b>500</b>	
<b>S60</b>			<b>600</b>	
<b>S70</b>			<b>700</b>	
<b>S80</b>			<b>800</b>	
<b>S90</b>			<b>900</b>	

Filter series		Filter size		Filter length	Ø D [mm]		
					52	65	
MPF	400	410	450	451	2	•	
					1	•	
					2		•
					3		
					1		•

## DIFFUSER WITH FAST LOCK CONNECTION

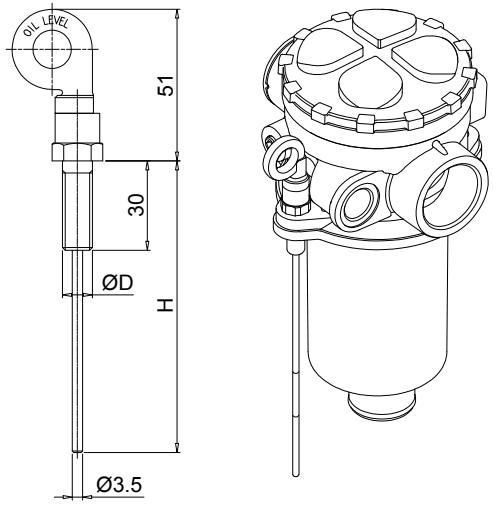


Configuration example: **DFS 32 A 075**

Series		<b>DFS</b>
Size	ø D [mm]	
<b>32</b>	32	
<b>40</b>	40	
Version		<b>A</b> Standard
Length		<b>075</b> Standard

COMPATIBILITY TABLE								
Filter series	Filter size			Filter Length	DFS32	DFS40		
MPF	100	104	110	1	•			
				2				
				3		•		
				4				
MPFX	100	104	110	1		•		
				2		•		
				3				
				4				
MPT	101	104	110	114	120	1	•	
						2		
						3		
						4		•
MPTX	101	104	110	114	120	1		•
						2		•
						3		
						4		

## DIPSTICK



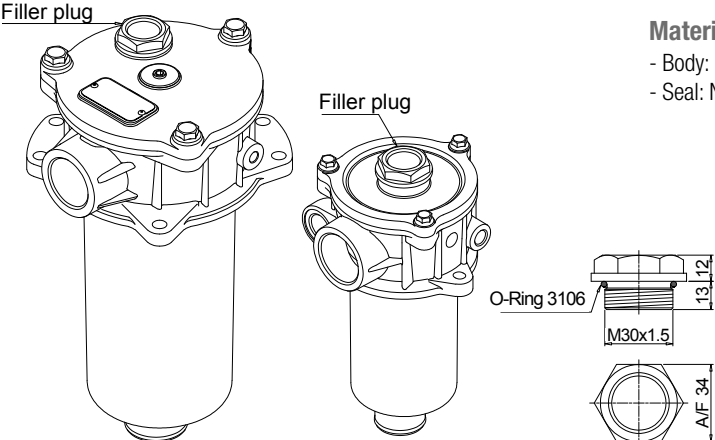
Configuration example: **DPT 20 M10 A P01**

Series		<b>DPT</b>
Length	H [mm]	
<b>15</b>	134	
<b>20</b>	184	
<b>25</b>	234	
<b>30</b>	284	
<b>35</b>	334	
Fastening		
<b>M8</b>	Fastening with screws ø D = M8	
<b>M10</b>	Fastening with screws ø D = M10	
Seals		
<b>A</b>	NBR	
<b>V</b>	FPM	
Execution		
<b>P01</b>	MP Filtri standard	
<b>Pxx</b>	Customized	

**Materials**  
 - Screw: phosphatized steel  
 - Stick: phosphatized steel  
 - Handle: Nylon

**Technical data**  
 Working temperature: from -25 °C to +110 °C

## FILLER PLUG



Configuration example: **DPT 20 M10 A P01**

Series		<b>DPT</b>
Length	H [mm]	
<b>15</b>	134	
<b>20</b>	184	
<b>25</b>	234	
<b>30</b>	284	
<b>35</b>	334	
Fastening		
<b>M8</b>	Fastening with screws ø D = M8	
<b>M10</b>	Fastening with screws ø D = M10	
Seals		
<b>A</b>	NBR	
<b>V</b>	FPM	
Execution		
<b>P01</b>	MP Filtri standard	
<b>Pxx</b>	Customized	

**Materials**  
 - Body: Nylon  
 - Seal: NBR

**Technical data**  
 Tightening torque: 15 N·m

O-Ring 3106  
 M30x1.5  
 A/F 34

For any further information, please, contact our commercial dept.

**Clogging indicators are devices that check the life time of the filter elements. They measure the pressure drop through the filter element directly connected to the filter housing.**

**These devices trip when the clogging of the filter element causes a pressure drop increasing across the filter element.**

**Filter elements are efficient only if their Dirt Holding Capacity is fully exploited.**

**This is achieved by using filter housings equipped with clogging indicators.**

**The indicator is set to alarm before the element becomes fully clogged.**

**MP Filtri can supply indicators of the following designs:**

- Vacuum switches and gauges**
- Pressure switches and gauges**
- Differential pressure indicators**

**These type of devices can be provided with a visual, electrical or both signals.**

**The electronic differential pressure clogging indicator is also available.**

**It provides both analogical 4-20 mA output and digital warning (75% of clogging) and alarm (clogging) outputs.**

# Clogging Indicators



# Clogging indicators



## Suitable indicator types

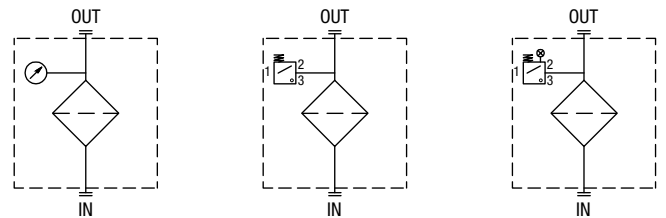
### VACUUM INDICATORS

Vacuum indicators are used on the Suction line to check the efficiency of the filter element.

They measure the pressure downstream of the filter element.

Standard items are produced with R 1/4" EN 10226 connection.

Available products with R 1/8" EN 10226 to be fitted on MPS series.

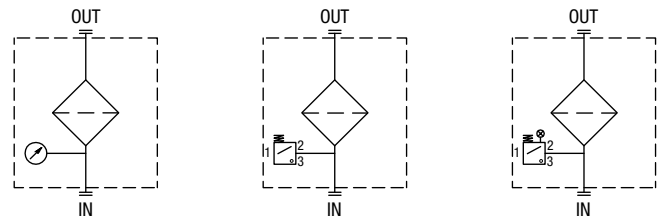


### BAROMETRIC INDICATORS

Pressure indicators are used on the Return line to check the efficiency of the filter element.

They measure the pressure upstream of the filter element.

Standard items are produced with R 1/8" EN 10226 connection.



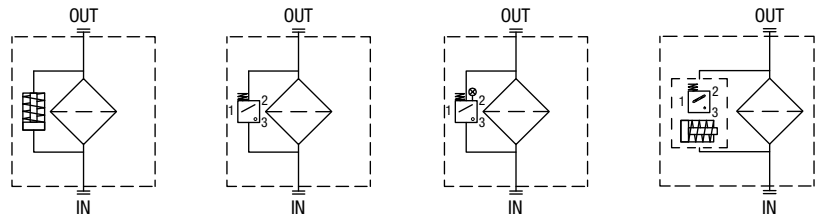
### DIFFERENTIAL INDICATORS

Differential indicators are used on the Pressure line to check the efficiency of the filter element.

They measure the pressure upstream and downstream of the filter element (differential pressure).


Standard items are produced with special connection G 1/2" size.

Also available in Stainless Steel models.





Filter family	Filter series	Electrical indicator	Electrical / Visual indicator	Electronic indicator	Visual indicator
SUCTION FILTERS	ELIXIR® SFEX060-080-110-160	VEB21AA50P01	VLB21AA51P01 VLB21AA52P01 VLB21AA53P01 VLB21AA71P01		VVB16P01 VVS16P01
	SF2 250 - 350 SF2 500 - 501 - 503 - 504 - 505 SF2 510 - 535 - 540	VEA21AA50P01	VLA21AA51P01 VLA21AA52P01 VLA21AA53P01 VLA21AA71P01		VVA16P01 VVR16P01
RETURN FILTERS	With bypass valve ELIXIR® RFEX060-080-110-160	BEA15HA50P01 BEM15HA41P01	BLA15HA51P01 BLA15HA52P01 BLA15HA53P01 BLA15HA71P01		BVA14P01 BVR14P01 BVP15HP01 BVQ15HP01
	Without bypass valve ELIXIR® RFEX060-080-110-160	BEA20HA50P01 BEM20HA41P01	BLA20HA51P01 BLA20HA52P01 BLA20HA53P01 BLA20HA71P01		BVA25P01 BVR25P01 BVP20HP01 BVQ20HP01
	With bypass valve MPFX-MPTX-MPF-MPT - bypass 1.75 bar MPH - bypass 1.75 bar RF2250 - RF2350 - bypass 1.75 bar	BEA15HA50P01 BEM15HA41P01	BLA15HA51P01 BLA15HA52P01 BLA15HA53P01 BLA15HA71P01		BVA14P01 BVR14P01 BVP15HP01 BVQ15HP01
	With bypass valve MPFX-MPTX-MPF-MPT - bypass 3 bar MPH - bypass 2.5 bar FRI 255 RF2250 - RF2350 - bypass 3 bar	BEA20HA50P01 BEM20HA41P01	BLA20HA51P01 BLA20HA52P01 BLA20HA53P01 BLA20HA71P01		BVA25P01 BVR25P01 BVP20HP01 BVQ20HP01
MPLX FRI 025 - 040 - 100 - 250 - 630 - 850	DEA20xA50P01 DEM20xA10P01 DEM20xA20P01 DEM20xA30P01 DEM20xA35P01	DLA20xA51P01 DLA20xA52P01 DLA20xA71P01 DLE20xA50P01 DLE20xF50P01	DTA20xF70P01	DVA20xP01 DVM20xP01	
RETURN / SUCTION FILTERS	Suction line MRSX 116 - 165 - 166	VEB21AA50P01	VLB21AA51P01 VLB21AA52P01 VLB21AA53P01 VLB21AA71P01		VVB16P01 VVS16P01
	Return line MRSX 116 - 165 - 166 LMP 124 MULTIPORT	BEA25HA50P01 BEM25HA41P01 BET25HF10P01 BET25HF30P01 BET25HF50P01	BLA25HA51P01 BLA25HA52P01 BLA25HA53P01 BLA25HA71P01		BVA25P01 BVR25P01 BVP20HP01 BVQ20HP01
SPIN-ON FILTERS	Suction line MPS 050 - 070 - 100 - 150 MPS 200 - 250 - 300 - 350	VEB21AA50P01	VLB21AA51P01 VLB21AA52P01 VLB21AA53P01 VLB21AA71P01		VVB16P01 VVS16P01
	Return line MPS 050 - 070 - 100 - 150 MPS 200 - 250 - 300 - 350	BEA15HA50P01 BEM15HA41P01	BLA15HA51P01 BLA15HA52P01 BLA15HA53P01 BLA15HA71P01		BVA14P01 BVR14P01 BVP20HP01 BVQ20HP01
	In-line MPS 051 - 071 - 101 - 151 MPS 301 - 351 MSH 050 - 070 - 100 - 150	DEA12xA50P01 DEM12xAxxP01	DLA12xA51P01 DLA12xA52P01 DLA12xA71P01 DLE12xA50P01 DLE12xF50P01 DLE20xF50P01 DLE20xF50P01	DTA12xA70P01 DTA12xF70P01 DTA20xA70P01 DTA20xF70P01	DVA12xP01 DVM12xP01

Filter family	Filter series	Electrical indicator	Electrical / Visual indicator	Electronic indicator	Visual indicator	Hazardous area electronic indicator 		
LOW & MEDIUM PRESSURE FILTERS	With bypass valve	ELIXIR® LFEX060-080-110-160	DES25HA10P01 DES25HA30P01 DES25HA80P01			DVS25HP01		
	Without bypass valve	ELIXIR® LFEX060-080-110-160	DES40HA10P01 DES40HA30P01 DES40HA80P01			DVS40HP01		
		LMP 110 - 112 - 116 - 118 - 119 MULTIPORT LMP 120 - 122 - 123 MULTIPORT LMP 210 - 211 - LDP				DVS25HP01 DVS40HP01		
	With bypass valve	LMP 400 - 401 & 430 - 431 LMP 900 - 901 LMP 902 - 903 LMP 950 - 951 LMP 952 - 953 - 954 LMD 211 - 400 - 401 - 431 - 951 - LDD	DEA20xA50P01 DEM20xAxxP01	DLA20xA51P01 DLA20xA52P01 DLA20xA71P01 DLE20xA50P01 DLE20xF50P01	DTA20xF70P01	DVA20xP01 DVM20xP01		
	Without bypass valve	LMP 110 - 112 - 116 - 118 - 119 MULTIPORT LMP 120 - 122 - 123 MULTIPORT LMP 210 - 211 - LDP LMP 400 - 401 & 430 - 431 LMP 900 - 901 LMP 902 - 903 LMP 950 - 951 LMP 952 - 953 - 954 LMD 211 - 400 - 401 - 431 - 951 - LDD	DEA50xA50P01 DEM50xAxxP01	DLA50xA51P01 DLA50xA52P01 DLA50xA71P01 DLE50xA50P01 DLE50xF50P01	DTA50xF70P01	DVA50xP01 DVM50xP01		
	HIGH PRESSURE FILTERS	With bypass valve	FMP 039 - 065 - 135 - 320 FHP 010 - 011 - 065 - 135 - 350 - 500 FMM 050 - 150 FHA 051 FHM 006 - 007 - 010 - 050 - 065 - 135 - 320 - 500 FHB 050 - 065 - 135 - 320 FHF 325 FHD 021 - 051 - 326 - 333	DEA50xA50P01 DEM50xAxxP01	DLA50xA51P01 DLA50xA52P01 DLA50xA71P01 DLE50xA50P01 DLE50xF50P01	DTA50xF70P01	DVA50xP01 DVM50xP01	DEH50xA48P01 DEH50xA49P01 DEH50xA70P01 DEH70xA48P01 DEH70xA49P01 DEH70xA70P01
		Without bypass valve	FMP 039 - 065 - 135 - 320 FHP 010 - 011 - 065 - 135 - 350 - 500 FMM 050 - 150 FHA 051 FHM 006 - 007 - 010 - 050 - 065 - 135 - 320 - 500 FHB 050 - 065 - 135 - 320 FHF 325 FHD 021 - 051 - 326 - 333	DEA70xA50P01 DEM70xAxxP01 DEA95xA50P01 DEM95xAxxP01	DLA70xA51P01 DLA70xA52P01 DLA70xA71P01 DLE70xA50P01 DLE70xF50P01 DLA95xA51P01 DLA95xA52P01 DLE95xA50P01 DLE95xF50P01	DTA70xF70P01 DTA95xF70P01	DVA70xP01 DVM70xP01 DVA95xP01 DVM95xP01	DEH50xA48P01 DEH50xA49P01 DEH50xA70P01 DEH70xA48P01 DEH70xA49P01 DEH70xA70P01
		With bypass valve	FZH 010 - 011 - 039 FZP 039 - 136 FZX 011 FZB 039 FZM 039 FZD 051	DEX50xA50P01	DLX50xA51P01 DLX50xA52P01		DVX50xP01 DVG50xP01	DEH50xA48P01 DEH50xA49P01 DEH50xA70P01 DEH70xA48P01 DEH70xA49P01 DEH70xA70P01
			Without bypass valve	FZH 010 - 011 - 039 FZP 039 - 136 FZB 039 FZM 039 FZD 010 - 021 - 051	DEX70xA50P01 DEX95xA50P01	DLX70xA51P01 DLX70xA52P01 DLX95xA51P01		DVX70xP01 DVG70xP01 DVG95xP01





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## WORLDWIDE NETWORK

### HEADQUARTERS

**MP Filtri S.p.A.**  
Pessano con Bornago  
Milano - Italy  
+39 02 957031  
sales@mpfiltri.it

### BRANCH OFFICES

**ITALFILTRI LLC**  
Moscow - Russia  
+7 (495) 220 94 60  
mpfiltrirussia@yahoo.com

**MP Filtri Canada Inc.**  
Concord, Ontario - Canada  
+1 905 303 1369  
sales@mpfiltricanada.com

**MP Filtri France SAS**  
Villeneuve la Garenne  
France  
+33 (0)1 40 86 47 00  
sales@mpfiltrifrance.com

**MP Filtri Germany GmbH**  
St. Ingbert - Germany  
+49 (0) 6894 95652-0  
sales@mpfiltri.de

**MP Filtri India Pvt. Ltd.**  
Bangalore - India  
+91 80 4147 7444 / +91 80 4146 1444  
sales@mpfiltri.co.in

**MP Filtri (Shanghai) Co., Ltd.**  
Shanghai - Minhang District - China  
+86 21 58919916 116  
sales@mpfiltrishanghai.com

**MP Filtri U.K. Ltd.**  
Bourton on the Water  
Gloucestershire - United Kingdom  
+44 (0) 1451 822 522  
sales@mpfiltri.co.uk

**MP Filtri U.S.A. Inc.**  
Quakertown, PA - U.S.A.  
+1 215 529 1300  
sales@mpfiltriusa.com

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