

MPH series & MPI series

Maximum pressure up to 10 bar - Flow rate up to 3000 l/min



The correct filter sizing have to be based on the variable pressure drop depending by the application. For example, for the return filter the pressure drop have to be in the range 0.4 - 0.6 bar.

The pressure drop calculation is performed by adding together the value of the housing with the value of the filter element. The pressure drop in the housing is proportional to the fluid density (kg/dm³); all the graphs in the catalogue are referred to mineral oil with density of 0.86 kg/dm³.

The filter element pressure drop is proportional to its viscosity (mm²/s), the corrective factor Y is related to an oil viscosity different than 30 mm²/s.

Sizing data for single cartridge, head at top

Δp_c = Filter housing pressure drop [bar]

Δp_e = Filter element pressure drop [bar]

Y = Multiplication factor Y (see correspondent table), depending on the filter element size, on the filter element length and on the filter media

Q = flow rate (l/min)

V1 reference viscosity = 30 mm²/s (cSt)

V2 = operating viscosity in mm²/s (cSt)

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

$\Delta p_{Tot.} = \Delta p_c + \Delta p_e$

Calculation examples with HLP Mineral oil Variation in viscosity

Application data:

Top tank return filter

Filter with in-line connections

Pressure Pmax = 10 bar

Flow rate Q = 120 l/min

Viscosity V2 = 46 mm²/s (cSt)

Oil viscosity = 0.86 kg/dm³

Required filtration efficiency = 25 µm with absolute filtration

With bypass valve and 1 1/4" inlet connection

From the working pressure and the flow rate we understand it should be possible using the following top tank return filter series: MPT, MPH and FRI. Let's proceed with MPT series.

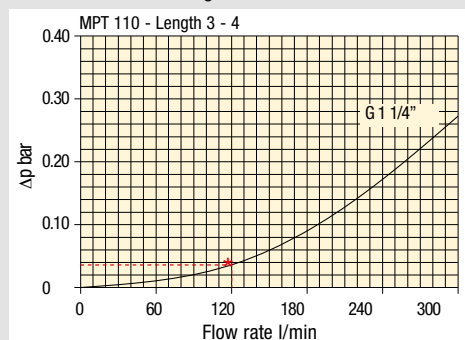
The size 20 doesn't achieve the required flow rate, therefore we have to consider the size 100. The final version of size 100 (101, 104, 110, 120 and 114) will be then defined in function of the mounting characteristics.

$\Delta p_c = 0.03 \text{ bar}$ (* see graphic below, considering size 100 with the max available length to get the lowest pressure drop)

$\Delta p_e = (2.0 : 1000) \times 120 \times (46/30) = 0.37 \text{ bar}$

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

The selection is correct because the total pressure drop value is inside the admissible range for top tank return filters. It is of course possible trying to find a different solution, according to the mounting position or to other commercial need, repeating the previous steps while using a different series or length.



Filter housings Δp pressure drop.

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

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 viscosity 30 mm²/s

Return filters

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

Corrective factor Y, to be used for the filter element pressure drop calculation.
The values depend to the filter size and lenght and to the filter media.

Reference viscosity 30 mm²/s

Suction filters

Filter element	Nominal filtration N Series	
	P10	P25
SF 250	65	21

Return / Suction filters

Filter element	Absolute filtration			
	A10	A16	A25	
RSX 116	1	5.12	4.33	3.85
	2	2.22	1.87	1.22
RSX 165	1	2.06	1.75	1.46
	2	1.24	1.05	0.96
	3	0.94	0.86	0.61

Low & Medium pressure filters

Filter element	Type	Absolute filtration N-W Series					Nominal filtration N Series		
		A03	A06	A10	A16	A25	P10	P25	M25
CU 110	1	16.25	15.16	8.75	8.14	5.87	2.86	2.65	0.14
	2	12.62	10.44	6.11	6.02	4.15	1.60	1.49	0.12
	3	8.57	7.95	5.07	4.07	2.40	1.24	1.15	0.11
	4	5.76	4.05	2.80	2.36	1.14	0.91	0.85	0.05
CU 210	1	5.30	4.80	2.00	1.66	1.32	0.56	0.43	0.12
	2	3.44	2.95	1.24	1.09	0.70	0.42	0.35	0.09
	3	2.40	1.70	0.94	0.84	0.54	0.33	0.23	0.05
DN	016	7.95	7.20	3.00	2.49	1.98	0.84	0.65	0.18
	025	5.00	4.53	1.89	1.57	1.25	0.53	0.41	0.11
	040	3.13	2.66	1.12	0.98	0.63	0.38	0.32	0.08
CU 400	2	3.13	2.55	1.46	1.22	0.78	0.75	0.64	0.19
	3	2.15	1.70	0.94	0.78	0.50	0.40	0.34	0.10
	4	1.60	1.28	0.71	0.61	0.40	0.34	0.27	0.08
	5	1.00	0.83	0.47	0.34	0.20	0.24	0.19	0.06
	6	0.82	0.58	0.30	0.27	0.17	0.22	0.18	0.05
	CU 900	1	0.86	0.63	0.32	0.30	0.21	-	-
CU 950	2	1.03	0.80	0.59	0.40	0.26	-	-	0.05
	3	0.44	0.40	0.27	0.18	0.15	-	-	0.02
MR 630	7	0.88	0.78	0.36	0.34	0.16	0.12	0.96	0.47

FILTER SIZING Corrective factor

Corrective factor **Y**, to be used for the filter element pressure drop calculation.
The values depend to the filter size and lenght and to the filter media.

Reference viscosity 30 mm²/s

High pressure filters

Filter element	Absolute filtration N - R Series					Nominal filtration N Series	
	Type	A03	A06	A10	A16		A25
HP 011	1	332.71	250.07	184.32	152.36	128.36	-
	2	220.28	165.56	74.08	59.13	37.05	-
	3	123.24	92.68	41.48	33.08	20.72	-
	4	77.76	58.52	28.37	22.67	16.17	-
HP 039	1	70.66	53.20	25.77	20.57	14.67	4.90
	2	36.57	32.28	18.00	13.38	8.00	2.90
	3	26.57	23.27	12.46	8.80	5.58	2.20
HP 050	1	31.75	30.30	13.16	12.3	7.29	1.60
	2	24.25	21.26	11.70	9.09	4.90	1.40
	3	17.37	16.25	8.90	7.18	3.63	1.25
	4	12.12	10.75	6.10	5.75	3.08	1.07
	5	7.00	6.56	3.60	3.10	2.25	0.80
HP 065	1	58.50	43.46	23.16	19.66	10.71	1.28
	2	42.60	25.64	16.22	13.88	7.32	1.11
	3	20.50	15.88	8.18	6.81	3.91	0.58
HP 135	1	20.33	18.80	9.71	8.66	4.78	2.78
	2	11.14	10.16	6.60	6.38	2.22	1.11
	3	6.48	6.33	3.38	3.16	2.14	1.01
HP 320	1	10.88	9.73	5.02	3.73	2.54	1.04
	2	4.40	3.83	1.75	1.48	0.88	0.71
	3	2.75	2.11	1.05	0.87	0.77	0.61
	4	2.12	1.77	0.98	0.78	0.55	0.47
HP 500	1	4.44	3.67	2.30	2.10	1.65	0.15
	2	3.37	2.77	1.78	1.68	1.24	0.10
	3	2.22	1.98	1.11	1.09	0.75	0.08
	4	1.81	1.33	0.93	0.86	0.68	0.05
	5	1.33	1.15	0.77	0.68	0.48	0.04

Filter element	Absolute filtration N Series					Nominal filtration N Series	
	Type	A03	A06	A10	A16		A25
HF 320	1	3.65	2.95	2.80	1.80	0.90	0.38
	2	2.03	1.73	1.61	1.35	0.85	0.36
	3	1.84	1.42	1.32	1.22	0.80	0.35

Stainless steel high pressure filters

Filter element	Absolute filtration N Series					
	Type	A03	A06	A10	A16	A25
HP 011	1	332.71	250.07	184.32	152.36	128.36
	2	220.28	165.56	74.08	59.13	37.05
	3	123.24	92.68	41.48	33.08	20.72
	4	77.76	58.52	28.37	22.67	16.17
HP 039	2	70.66	53.20	25.77	20.57	14.67
	3	36.57	32.28	18.00	13.38	8.00
	4	26.57	23.27	12.46	0.88	5.58
	1	31.75	30.30	13.16	12.3	7.29
HP 050	2	24.25	21.26	11.70	9.09	4.90
	3	17.37	16.25	8.90	7.18	3.63
	4	12.12	10.75	6.10	5.75	3.08
	5	7.00	6.56	3.60	3.10	2.25
	1	20.33	18.80	9.71	8.66	4.78
HP 135	2	11.14	10.16	6.60	6.38	2.22
	3	6.48	6.33	3.38	3.16	2.14

Filter element	Absolute filtration H - U Series					
	Type	A03	A06	A10	A16	A25
HP 011	1	424.58	319.74	235.17	194.44	163.78
	2	281.06	211.25	94.53	75.45	47.26
	3	130.14	97.50	43.63	34.82	21.81
	4	109.39	82.25	36.79	29.37	18.40
HP 039	2	70.66	53.20	25.77	20.57	14.67
	3	36.57	32.28	18.00	13.38	8.00
	4	26.57	23.27	12.46	8.80	5.58
	1	47.33	34.25	21.50	20.50	14.71
HP 050	2	29.10	25.95	14.04	10.90	5.88
	3	20.85	19.50	10.68	8.61	4.36
	4	14.55	12.90	7.32	6.90	3.69
	5	9.86	9.34	6.40	4.80	2.50
	1	29.16	25.33	13.00	12.47	5.92
HP 135	2	14.28	11.04	7.86	7.60	4.44
	3	8.96	7.46	4.89	4.16	3.07

Step 1 Select "FILTERS"



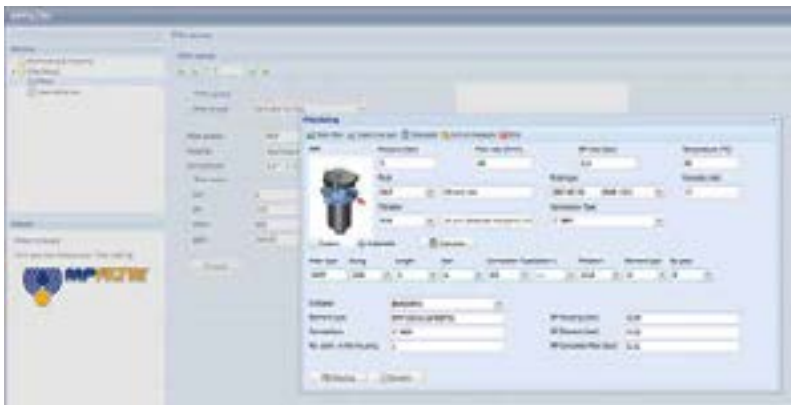
Step 2 Choose filter group (Return Filter, Pressure Filter, etc.)



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



Step 4 Push "PROCEED"



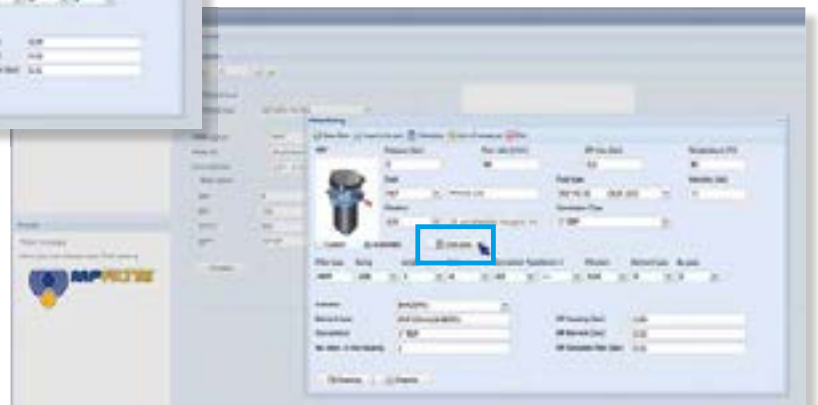
Step 5

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"



THE NEW FILTER CONCEPT

MPFX
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 filter elements MP Filtri 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, MPTX, MFBX and MFX are protected by one or more of the following patent applications:

European Patent Pending: n° 16181725.9
Italian Patent Pending: n° 102015000040473
US Patent Pending: n° 15/224,337
Canadian Patent Pending: n° 2,937,258



MPH series & MPI series

Maximum pressure up to 10 bar - Flow rate up to 3000 l/min



Technical data

Return filter Maximum pressure up to 10 bar - Flow rate up to 3000 l/min

Filter housing materials

- Head:
 - Aluminium: MPH 104-110-114-120-250
 - Anodised Aluminium: MPH 630-850
 - Painted Aluminium: MPH 660
- Cover:
 - Nylon: MPH 104-110-114-120
 - Aluminium: MPH 250
 - Anodised Aluminium: MPH 630
 - Painted Aluminium: MPH 660
 - Steel: MPH 850
- Insert assembly:
 - Nylon (only for: MPH 104-110-114-120)
 - Aluminium (the other insert assemblies)
- Diffuser:
 - Zinc Plated Steel (excluded MPH 850)
 - Tinned Steel: MPH 850
- Valve:
 - Phosphated Steel

Pressure

Working pressure: 1 MPa (10 bar)

Bypass valve

- Opening pressure 175 kPa (1.75 bar)
- Opening pressure 250 kPa (2.5 bar) (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

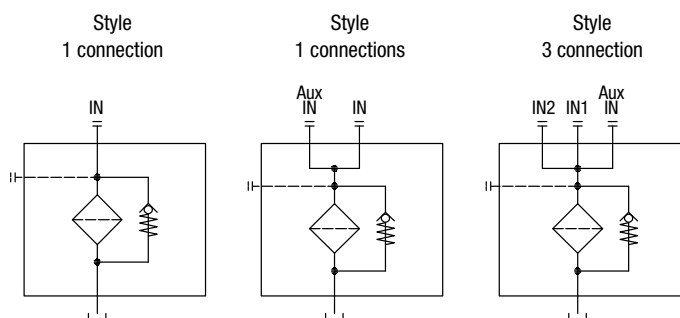
Note

MPH filters are provided for vertical mounting

Weights [kg] and volumes [dm³]

	Weights [kg]					Volumes [dm ³]						
	Lenght	1	2	3	4	5	Lenght	1	2	3	4	5
MPH 104-110	1.60	1.70	1.80	2.20	2.60	1.60	1.70	1.80	2.20	2.60		
MPH 114-120	1.60	1.70	1.80	2.20	2.60	1.60	1.70	1.80	2.20	2.60		
MPH 250	3.60	3.90	4.20	5.60	-	4.40	4.40	5.40	8.00	-		
MPH 630	6.50	7.00	7.40	8.50	10.50	7.30	9.00	11.00	13.00	19.20		
MPH 660	-	-	-	11.50	14.00	-	-	-	14.60	21.00		
MPH 850	32.00	35.00	38.00	42.00	-	13.00	16.50	21.00	25.00	-		

Hydraulic symbols

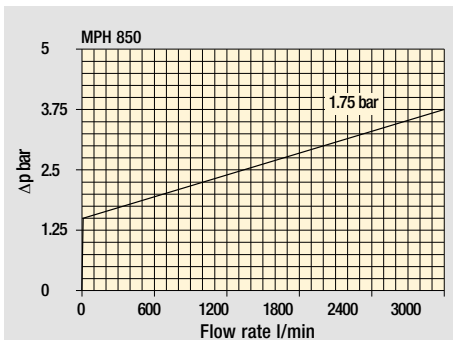
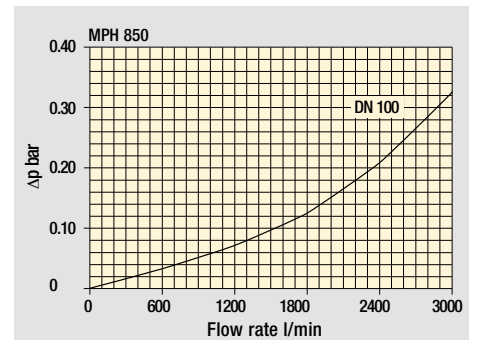
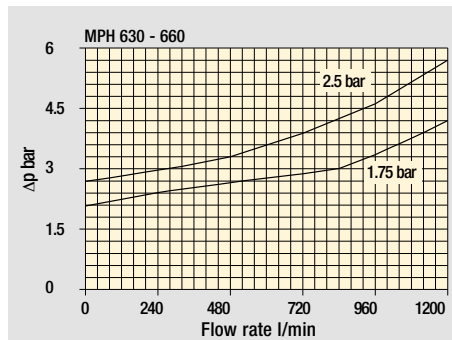
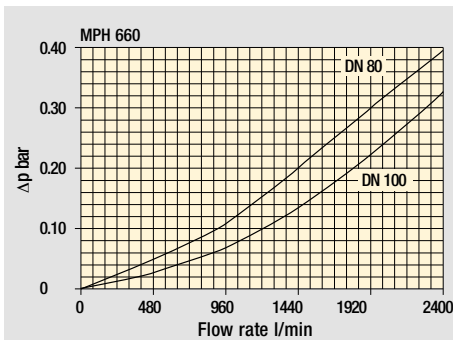
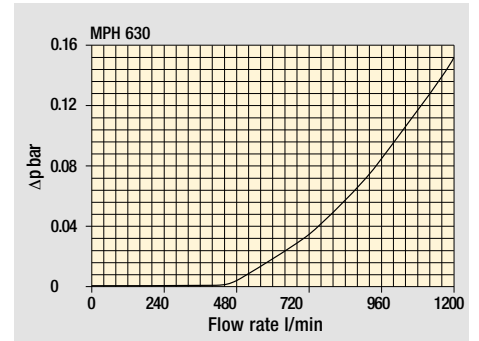
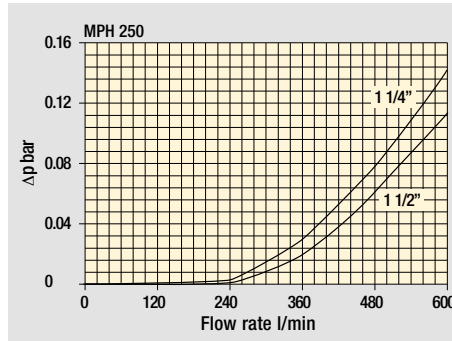
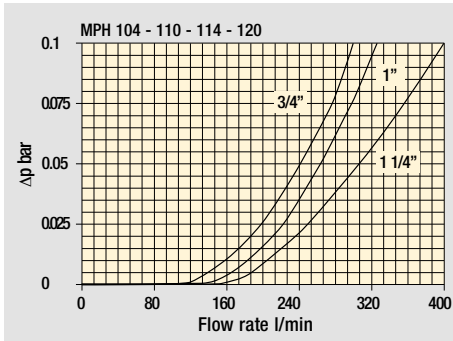


The curves are plotted using mineral oil with density of 0.86 kg/dm³ in compliance with ISO 3968.

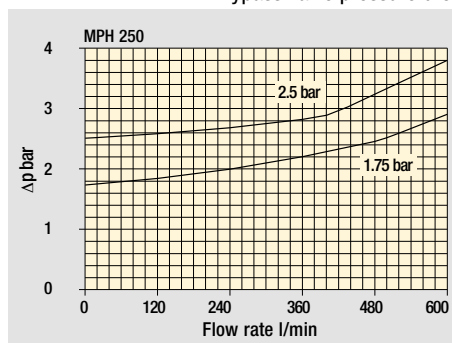
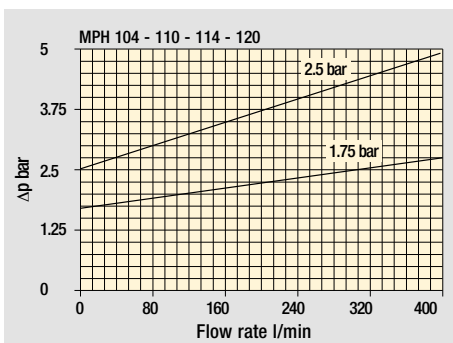
Δp varies proportionally with density.

Pressure drop

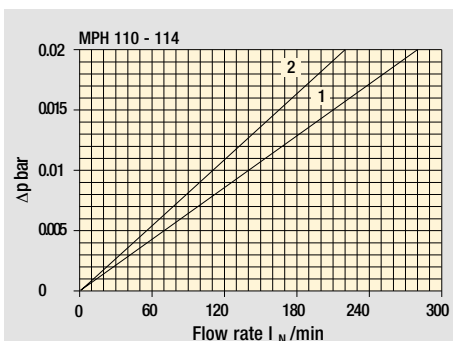
Filter housings Δp pressure drop



Bypass valve pressure drop



Air breather pressure drop



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

MPH MPH104 - MPH114

Designation & Ordering code

COMPLETE FILTER

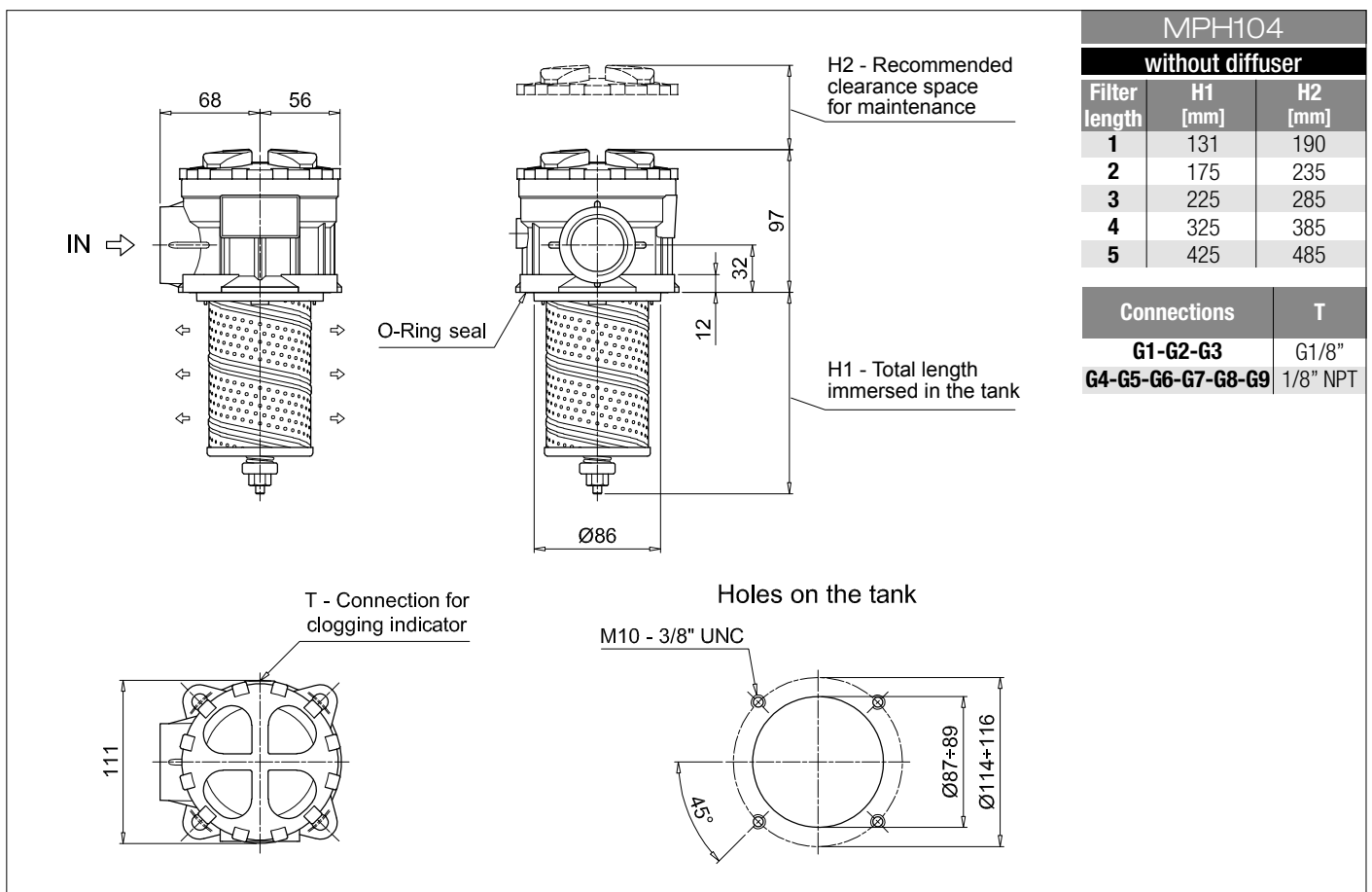
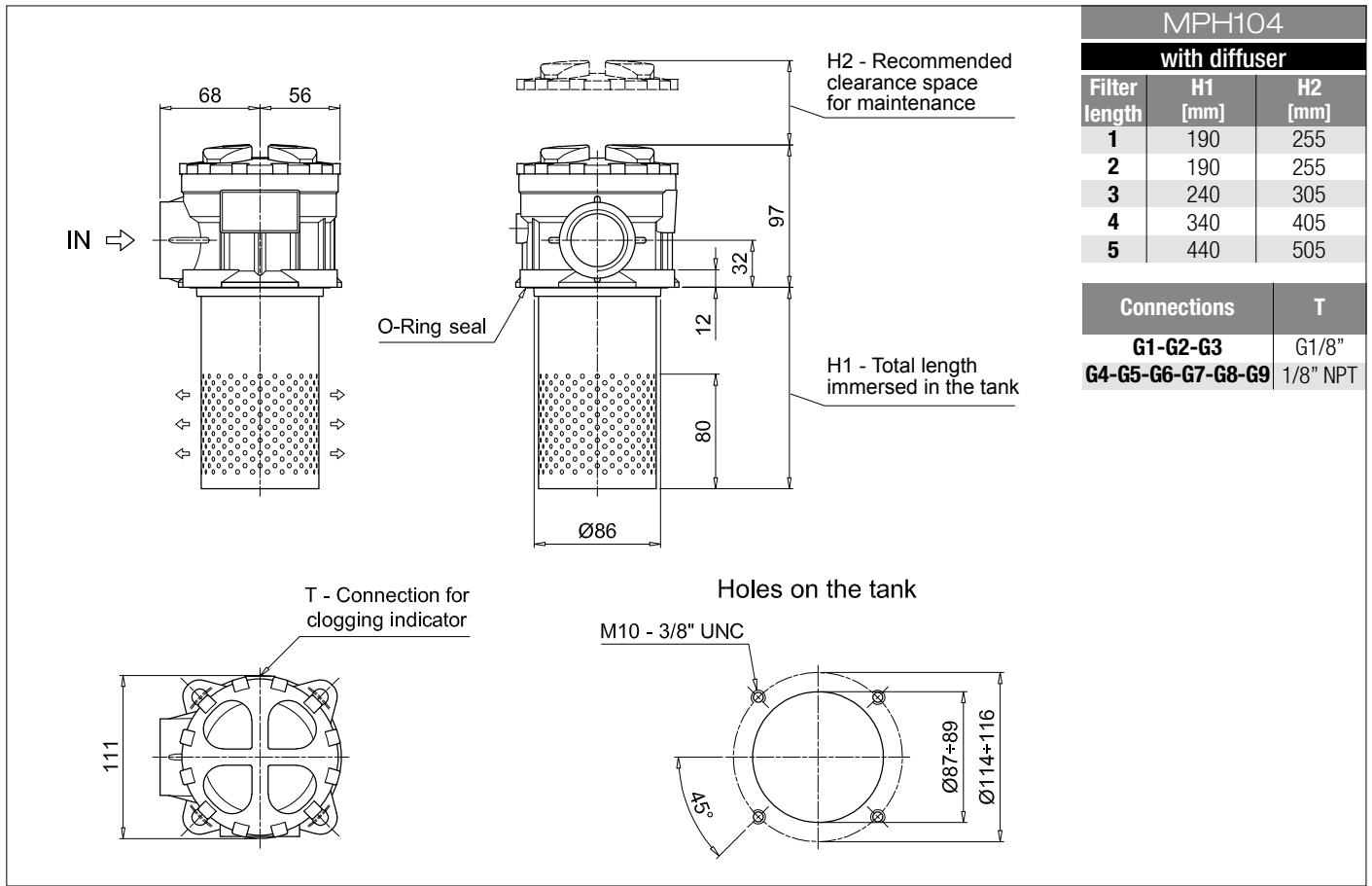
Series and size	Configuration example 1: MPH104 1 S D S A G1 A10 P01									
MPH104	Configuration example 2: MPH114 3 C E C Z G6 M60 P01									
MPH114										
Length	1 2 3 4 5									
Bypass valve	S Without bypass C 1.75 bar E 2.5 bar									
Diffuser and magnetic column	D With diffuser, with magnetic column F With diffuser, without magnetic column O Without diffuser, with magnetic column E Without diffuser, without magnetic column									
Air breather	MPH104 MPH114 S Without air breather C With air breather 10 µm D With anti-splash and air breather SAP050 10 µm P With anti-splash and air breather SAP050 10 µm pressurization 0.5 bar									
Seals and treatments	Filtration rating Axx Mxx Pxx A NBR V FPM W NBR head anodized filter element compatible with fluids HFA-HFB-HFC Z FPM head anodized									
Connections	G1 G3/4" G2 G1" G3 G1 1/4" G4 3/4" NPT G5 1" NPT G6 1 1/4" NPT G7 SAE 12 - 1 1/16" - 12 UN G8 SAE 16 - 1 5/16" - 12 UN G9 SAE 20 - 1 5/8" - 12 UN									
Filtration rating (filter media)	A03 Inorganic microfiber 3 µm A06 Inorganic microfiber 6 µm A10 Inorganic microfiber 10 µm A16 Inorganic microfiber 16 µm A25 Inorganic microfiber 25 µm M25 Wire mesh 25 µm M60 Wire mesh 60 µm M90 Wire mesh 90 µm P10 Resin impregnated paper 10 µm P25 Resin impregnated paper 25 µm									
										Execution P01 MP Filtri standard Pxx Customized

FILTER ELEMENT

Element series and size	Configuration example 1: MR100 1 A10 A P01				
MR100	Configuration example 2: MR100 3 M60 V P01				
Element length	1 2 3 4 5				
Filtration rating (filter media)	A03 Inorganic microfiber 3 µm A06 Inorganic microfiber 6 µm A10 Inorganic microfiber 10 µm A16 Inorganic microfiber 16 µm A25 Inorganic microfiber 25 µm M25 Wire mesh 25 µm M60 Wire mesh 60 µm M90 Wire mesh 90 µm P10 Resin impregnated paper 10 µm P25 Resin impregnated paper 25 µm				
					Seals A NBR V FPM
					Execution P01 MP Filtri standard Pxx Customized

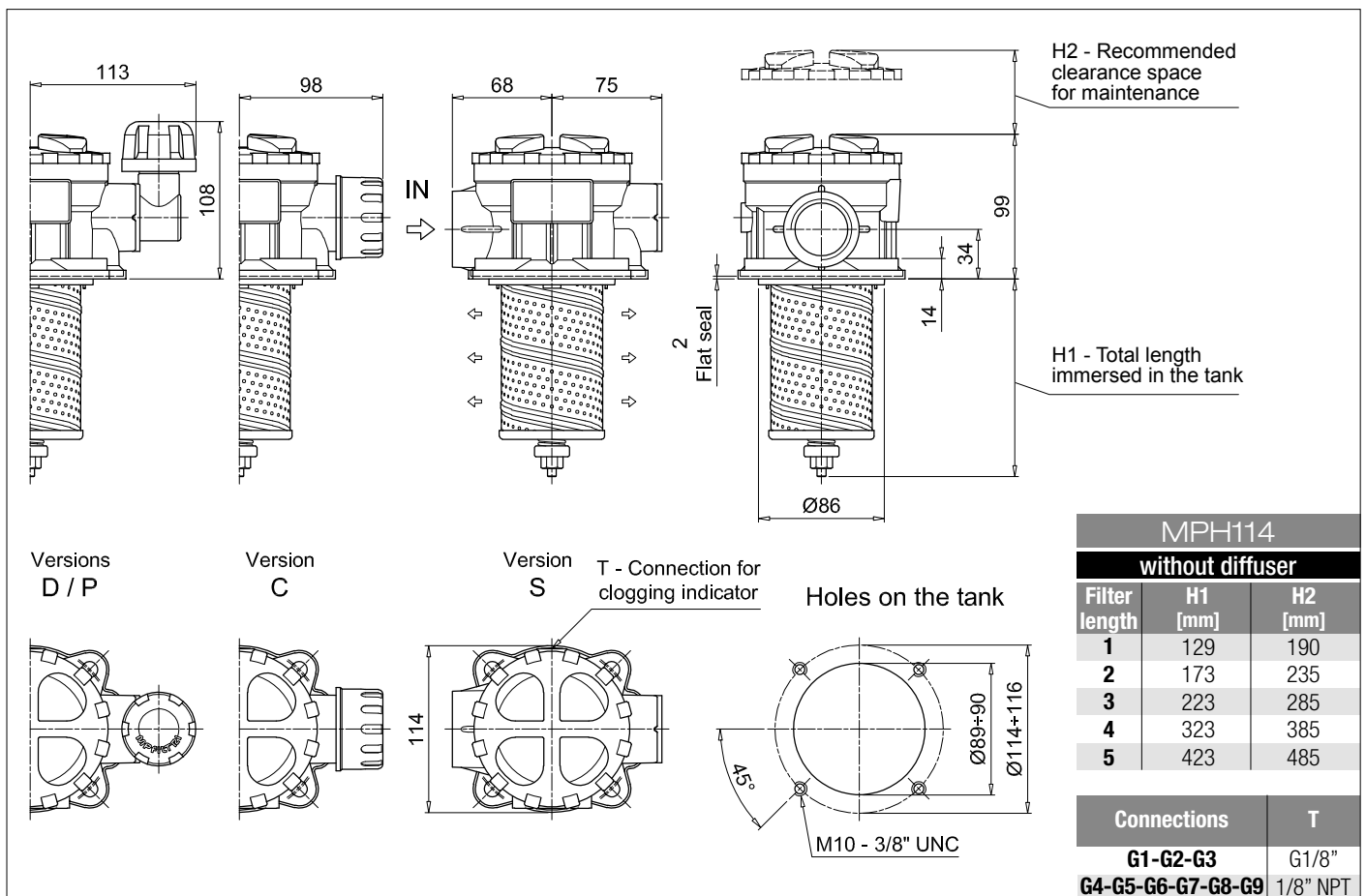
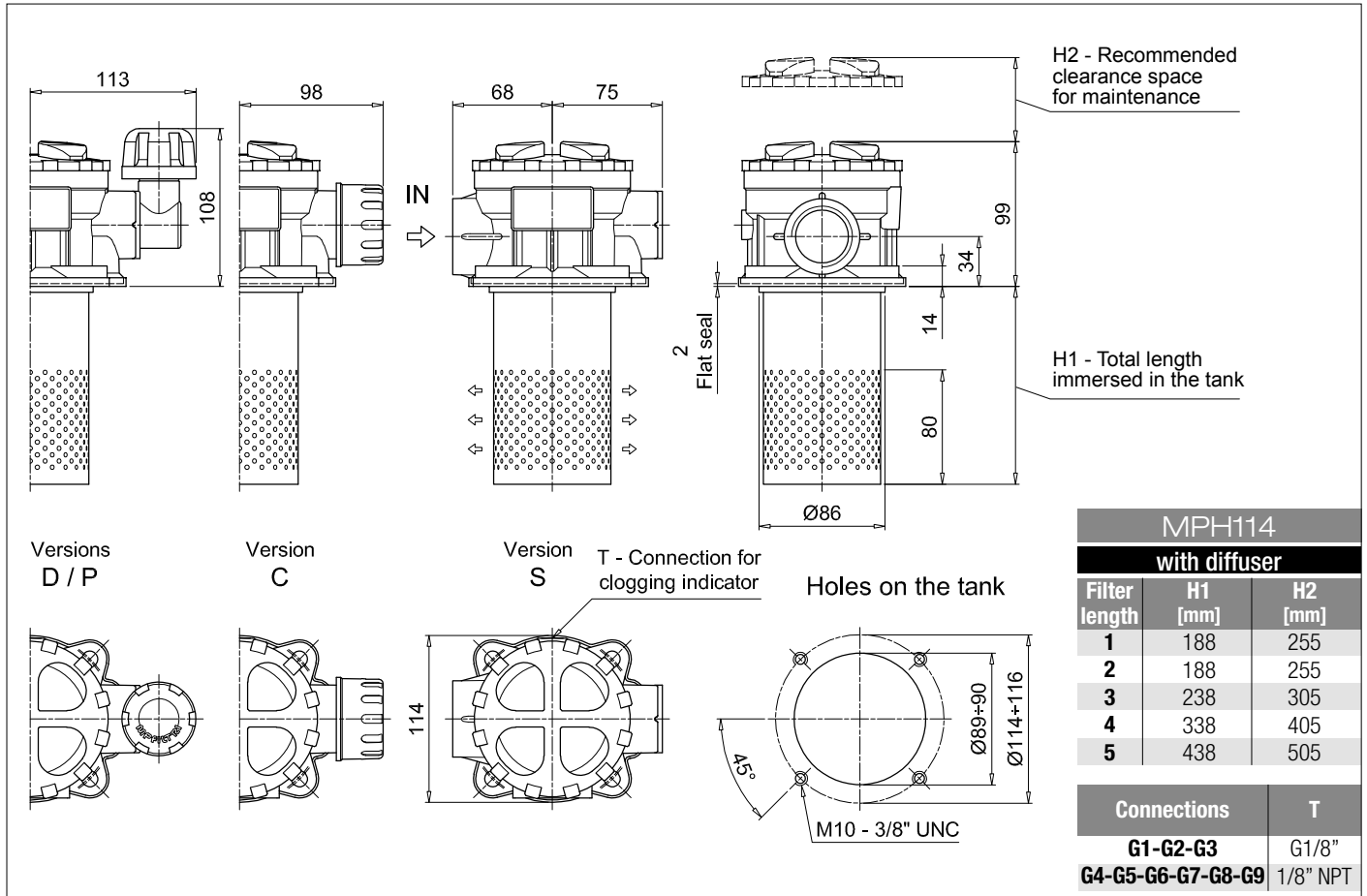
ACCESSORIES

Indicators	page		page
BVA Axial pressure gauge	216	BEA Electrical pressure indicator	215
BVR Radial pressure gauge	216	BEM Electrical pressure indicator	215
BVP Visual pressure indicator with automatic reset	217	BLA Electrical / visual pressure indicator	215-216
BVQ Visual pressure indicator with manual reset	217		
Additional features	page		
DPT Dipstick	225		



MPH MPH104 - MPH114

Dimensions



Designation & Ordering code

COMPLETE FILTER

Series and size **MPH110** Configuration example: **MPH110** | **1** | **S** | **D** | **S** | **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 column
D With diffuser, with magnetic column
F With diffuser, without magnetic column
O Without diffuser, with magnetic column
E Without diffuser, without magnetic column

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

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

Main Connections	Aux size 1	Aux size 2	Main Connections	Aux size 1	Aux size 2
G1 G3/4"	G3/8"	G1/2"	G7 SAE 12 - 1 1/16" - 12 UN	SAE 6 - 9/16" - 18 UNF	SAE 8 - 3/4" - 16 UNF
G2 G1"			G8 SAE 16 - 1 5/16" - 12 UN		
G3 G1 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					

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 |

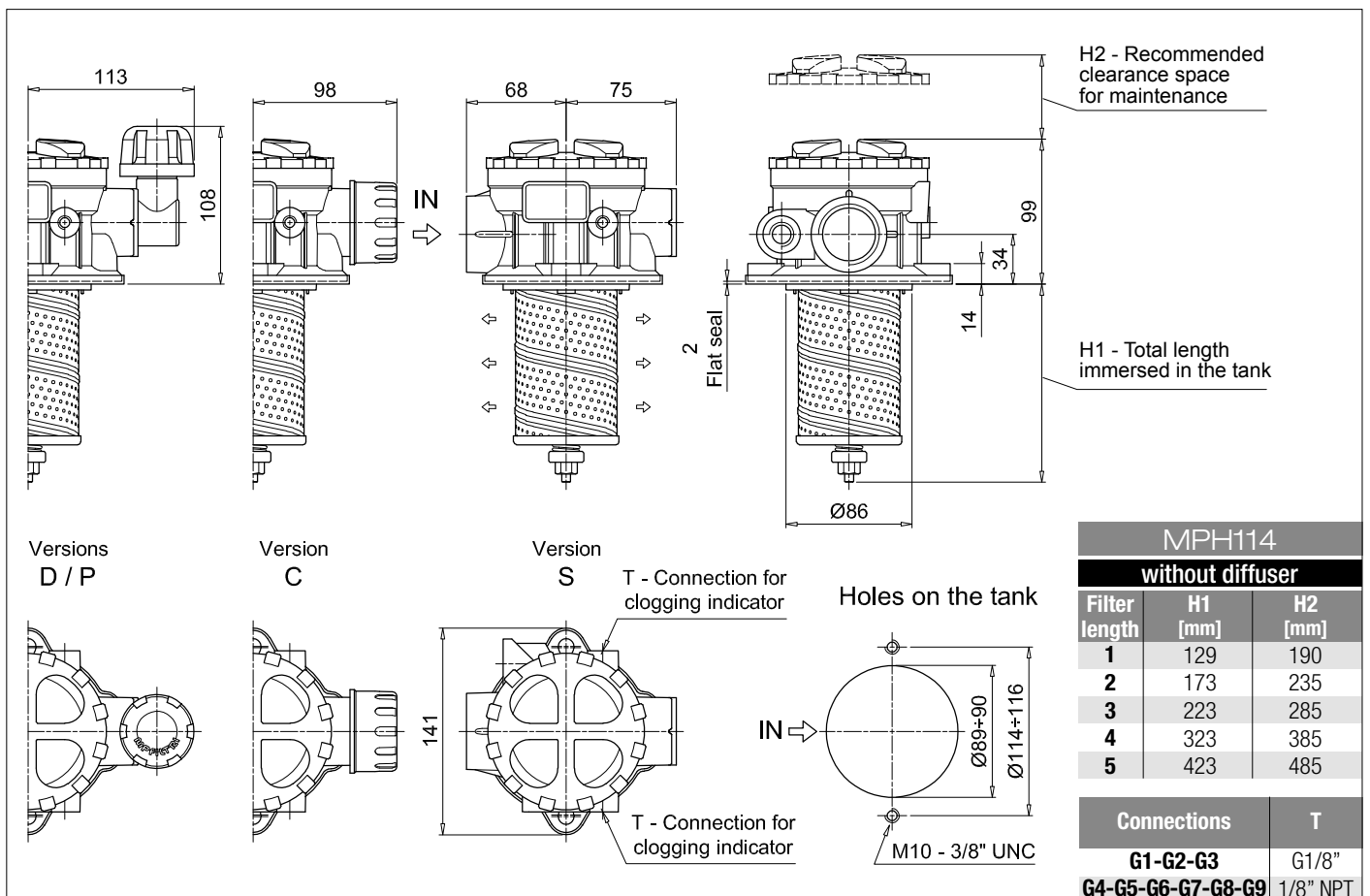
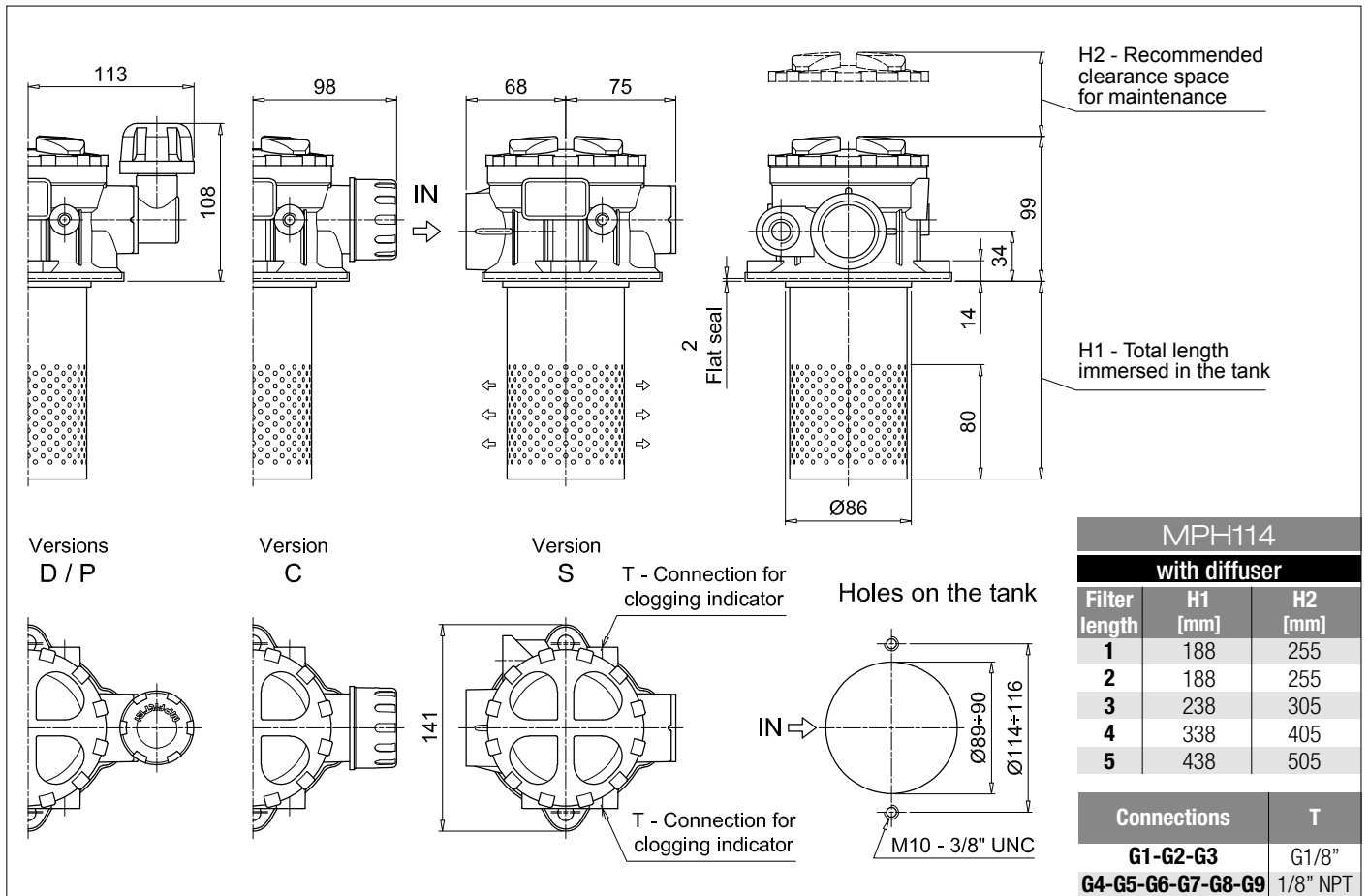
Filtration rating (filter media)	
A03 Inorganic microfiber 3 µm	M25 Wire mesh 25 µm
A06 Inorganic microfiber 6 µm	M60 Wire mesh 60 µm
A10 Inorganic microfiber 10 µm	M90 Wire mesh 90 µm
A16 Inorganic microfiber 16 µm	P10 Resin impregnated paper 10 µm
A25 Inorganic microfiber 25 µm	P25 Resin impregnated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

Seals
A NBR
V FPM

Execution
P01 MP Filtri standard
Pxx Customized

ACCESSORIES

Indicators	page		page
BVA Axial pressure gauge	216	BEA Electrical pressure indicator	215
BVR Radial pressure gauge	216	BEM Electrical pressure indicator	215
BVP Visual pressure indicator with automatic reset	217	BLA Electrical / visual pressure indicator	215-216
BVQ Visual pressure indicator with manual reset	217		
Additional features	page		
DPT Dipstick	225		



Designation & Ordering code

COMPLETE FILTER

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

Series and size
MPH120

Length
1 | **2** | **3** | **4** | **5** |

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

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

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

Main Connections	Rear connections	Aux size 1	Aux size 2
G1 G3/4"	G3/4"	G3/8"	G1/2"
G2 G1"	G1"		
G3 G1 1/4"	G3/4"		
G4 3/4" NPT	3/4" NPT	3/8" NPT	1/2" NPT
G5 1" NPT	1" NPT		
G6 1 1/4" NPT	3/4" NPT		
G7 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
G8 SAE 16 - 1 5/16" - 12 UN	SAE 16 - 1 5/16" - 12 UN		
G9 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

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

Element series and size
MR100

Element length
1 | **2** | **3** | **4** | **5** |

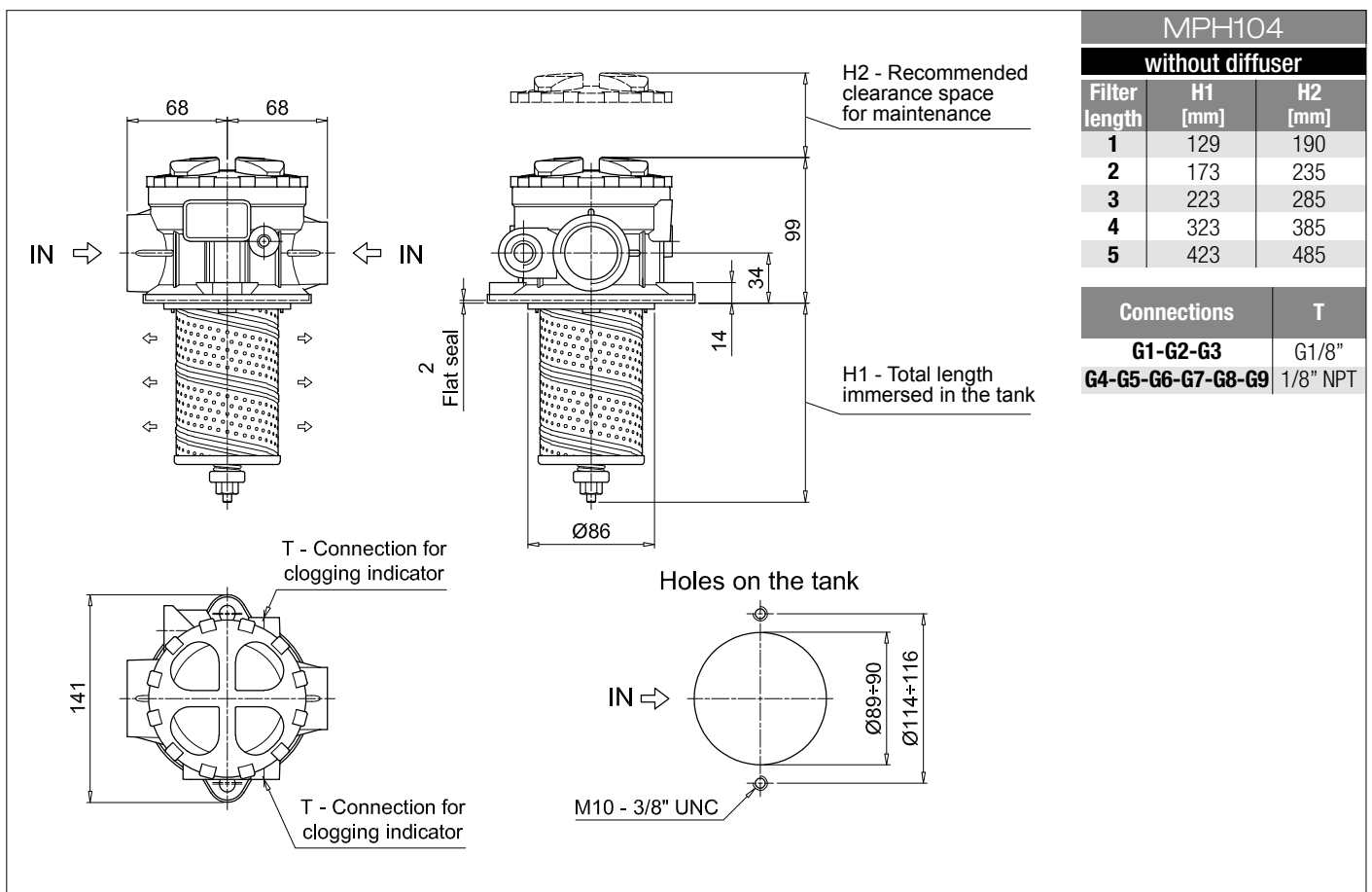
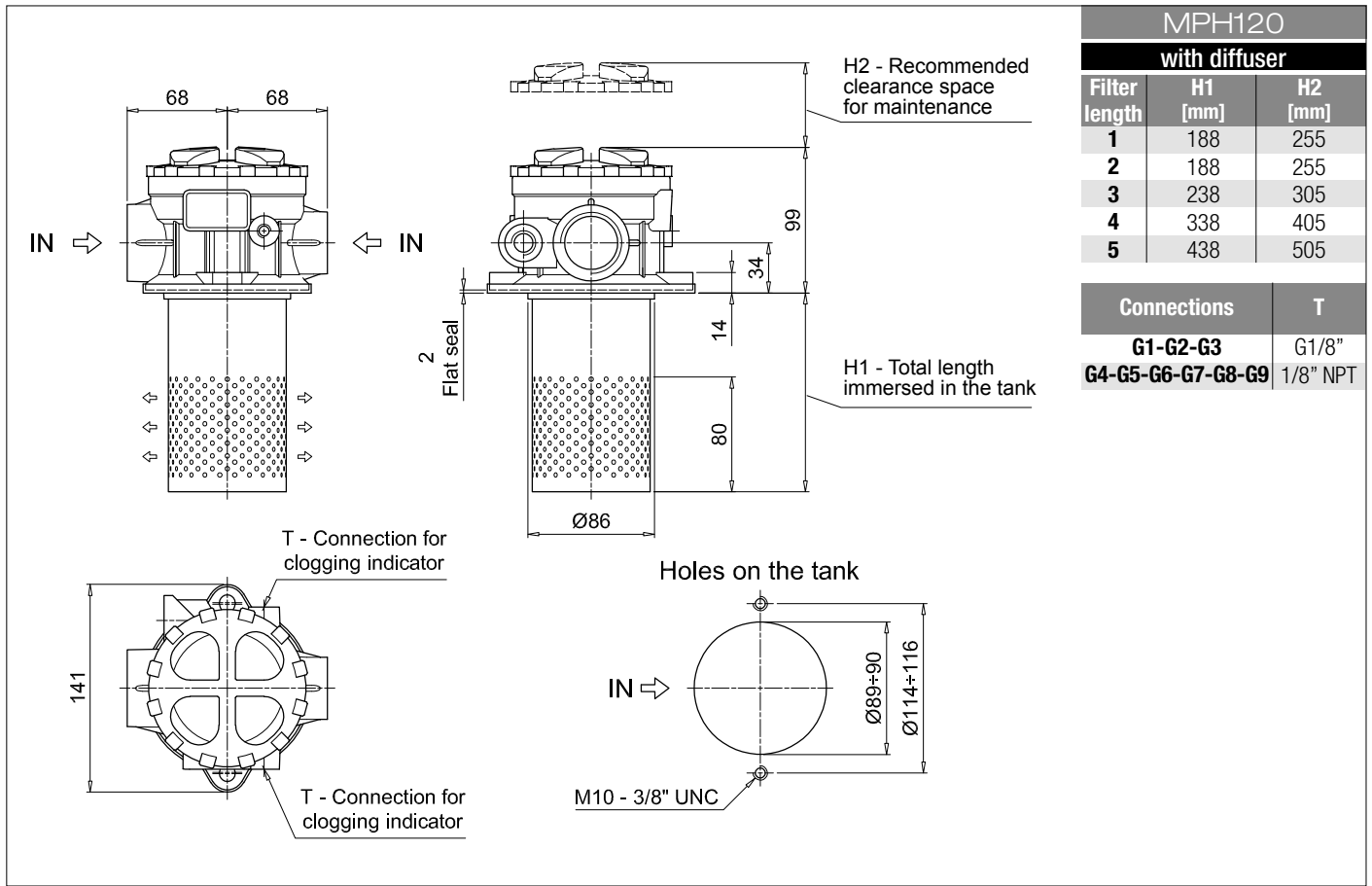
Filtration rating (filter media)	
A03 Inorganic microfiber 3 µm	M25 Wire mesh 25 µm
A06 Inorganic microfiber 6 µm	M60 Wire mesh 60 µm
A10 Inorganic microfiber 10 µm	M90 Wire mesh 90 µm
A16 Inorganic microfiber 16 µm	P10 Resin impregnated paper 10 µm
A25 Inorganic microfiber 25 µm	P25 Resin impregnated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

Seals	
A NBR	
V FPM	

Execution	
P01 MP Filtri standard	
Pxx Customized	

ACCESSORIES

Indicators	page		page
BVA Axial pressure gauge	216	BEA Electrical pressure indicator	215
BVR Radial pressure gauge	216	BEM Electrical pressure indicator	215
BVP Visual pressure indicator with automatic reset	217	BLA Electrical / visual pressure indicator	215-216
BVQ Visual pressure indicator with manual reset	217		
Additional features	page		
DPT Dipstick	225		



Designation & Ordering code

COMPLETE FILTER

Series and size **MPH250** Configuration example: **MPH250** | **1** | **C** | **D** | **S** | **A** | **G1** | **A10** | **P01**

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

By-pass valve **S** Without bypass | **C** 1.75 bar | **E** 2.5 bar

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

Air breather **S** Without air breather

Seals and treatments	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	•	•	

Main Connections	Rear connections
G1 G1 1/2"	-
G2 G1 1/2"	G1 1/4"
G4 1 1/2" NPT	-
G5 1 1/2" NPT	1 1/4" NPT
G7 SAE 24 - 1 7/8" - 12 UN	-
G8 SAE 24 - 1 7/8" - 12 UN	SAE 20 - 1 5/8" - 12 UN
F1 1 1/2" SAE 3000 psi/M	-
F2 1 1/2" SAE 3000 psi/M	1 1/4" SAE 3000 psi/M
F3 1 1/2" SAE 3000 psi/UNC	-
F4 1 1/2" SAE 3000 psi/UNC	1 1/4" SAE 3000 psi/UNC

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 **MR250** Configuration example: **MR250** | **1** | **A10** | **A** | **P01**

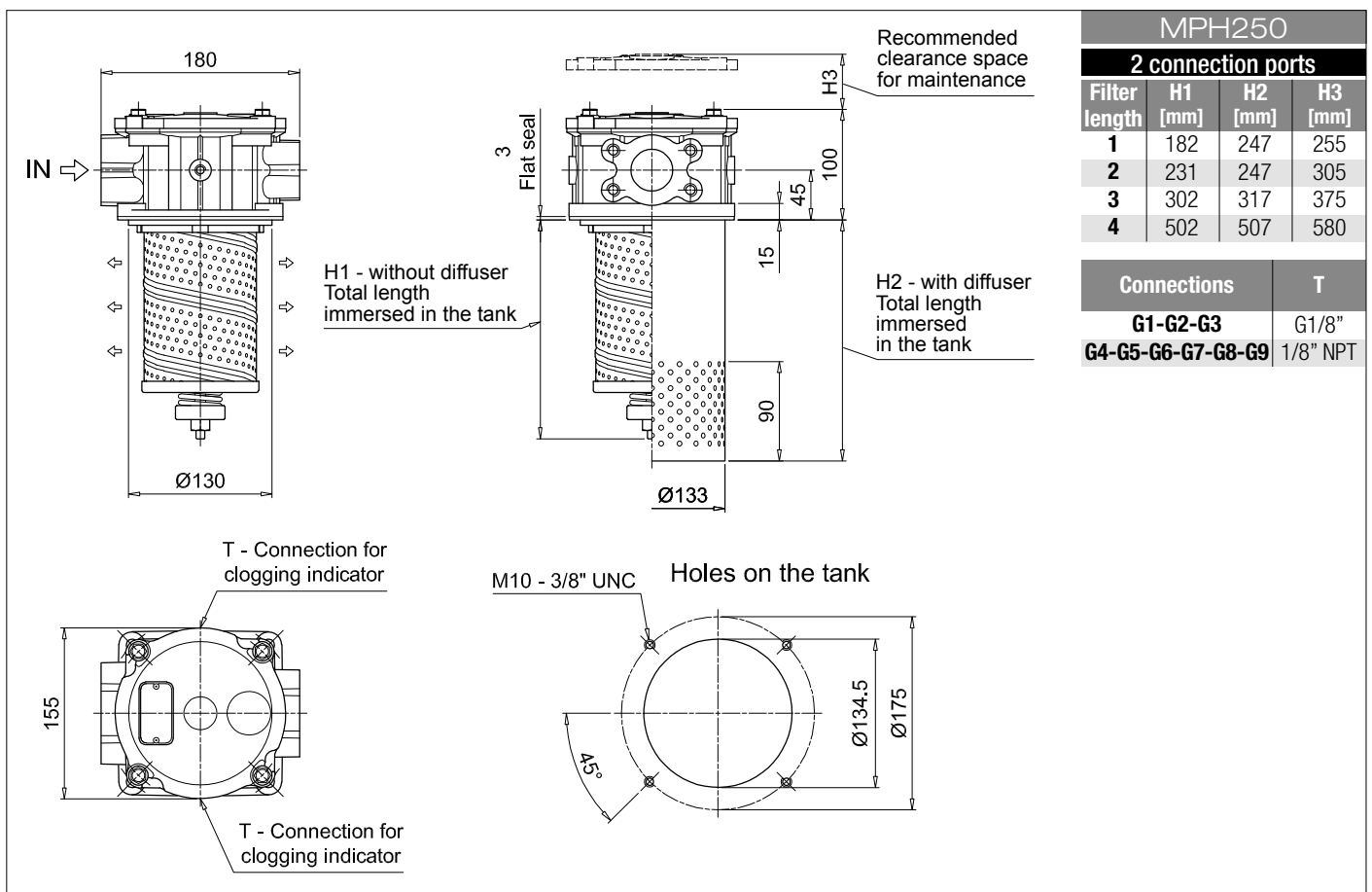
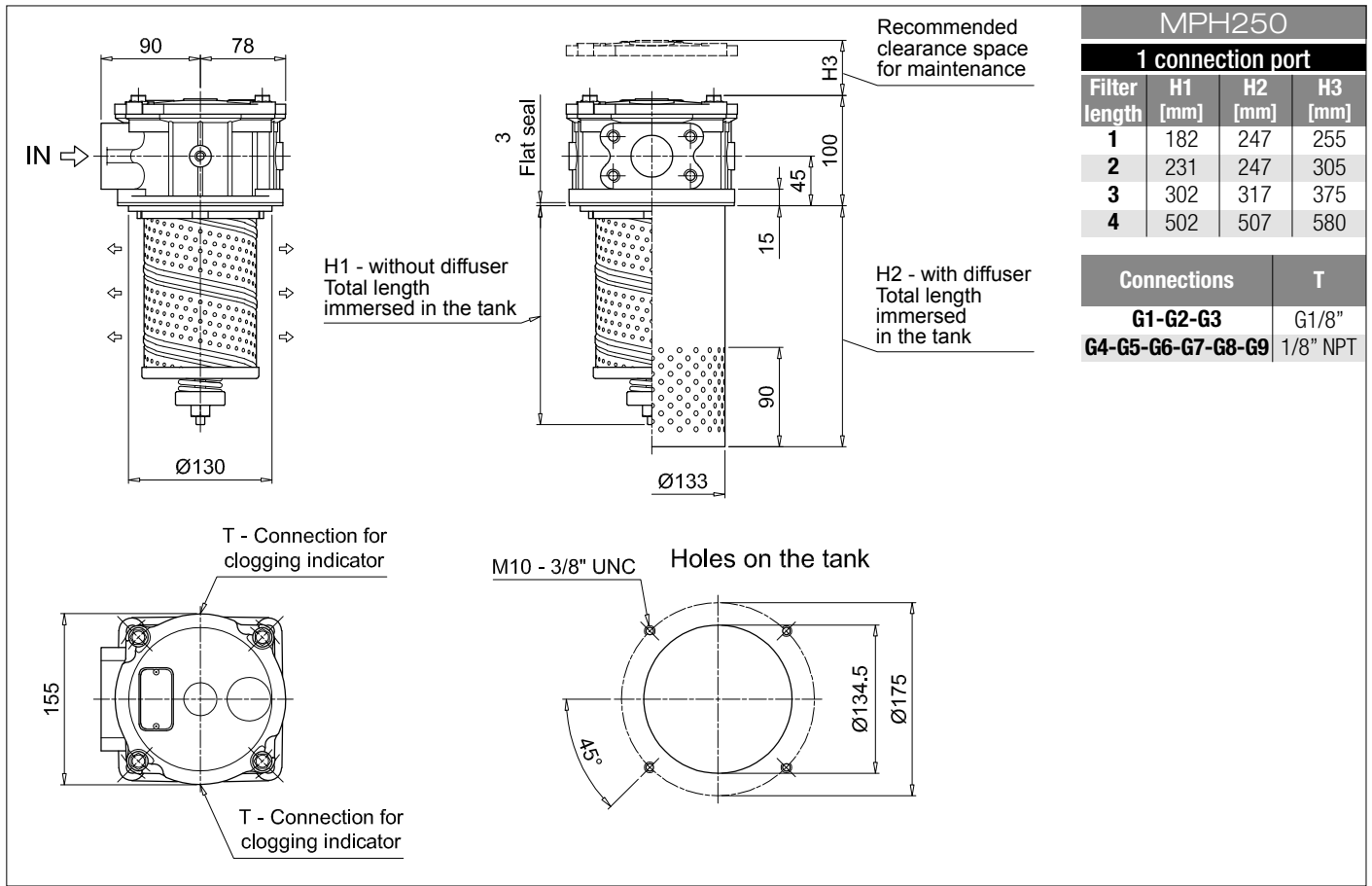
Element length **1** | **2** | **3** | **4** |

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

Seals	Execution
A NBR	P01 MP Filtri standard
V FPM	Pxx Customized

ACCESSORIES

Indicators	page		page
BVA Axial pressure gauge	216	BEA Electrical pressure indicator	215
BVR Radial pressure gauge	216	BEM Electrical pressure indicator	215
BVP Visual pressure indicator with automatic reset	217	BLA Electrical / visual pressure indicator	215-216
BVQ Visual pressure indicator with manual reset	217		



MPH MPH630 - MPH660

Designation & Ordering code

COMPLETE FILTER

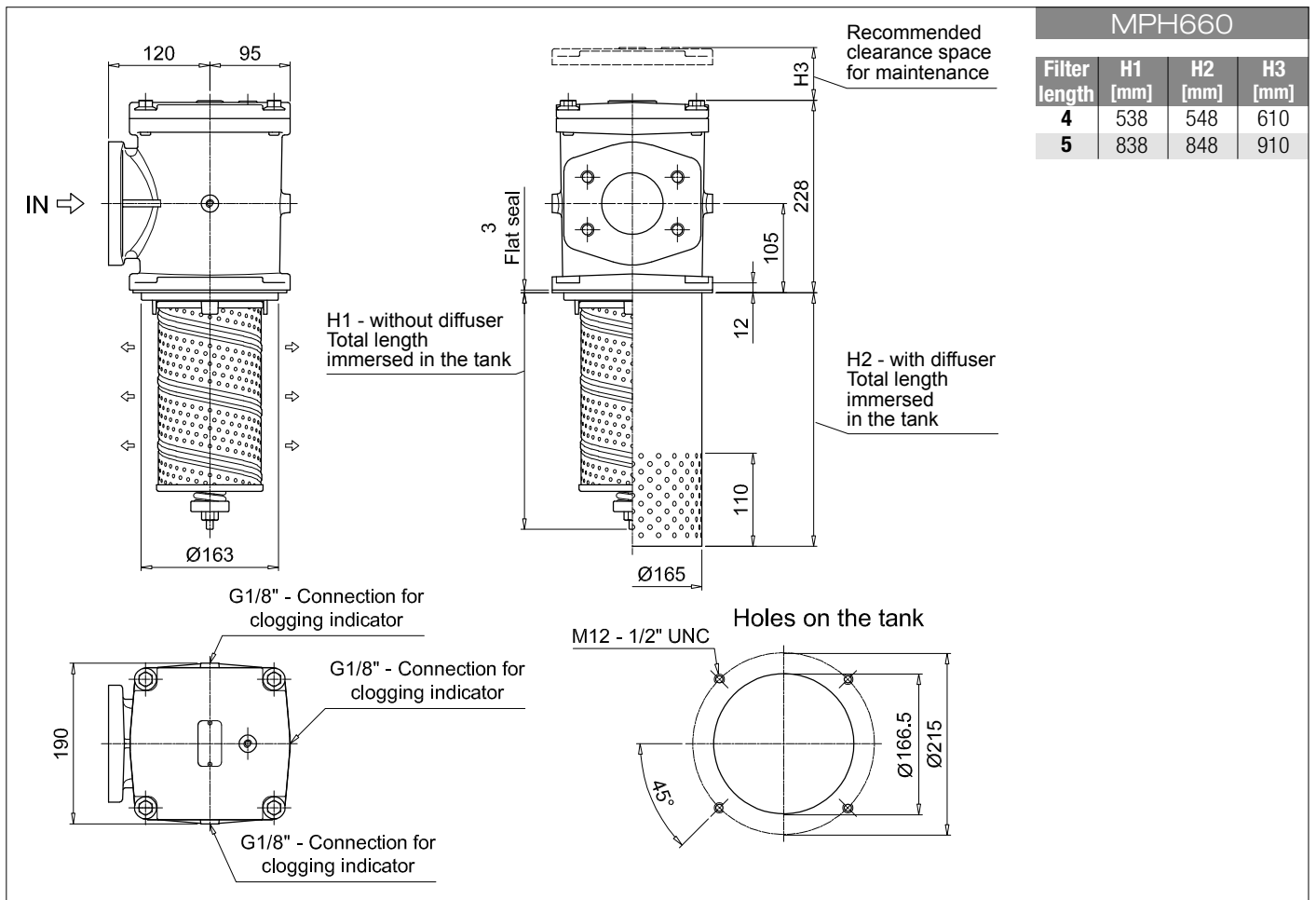
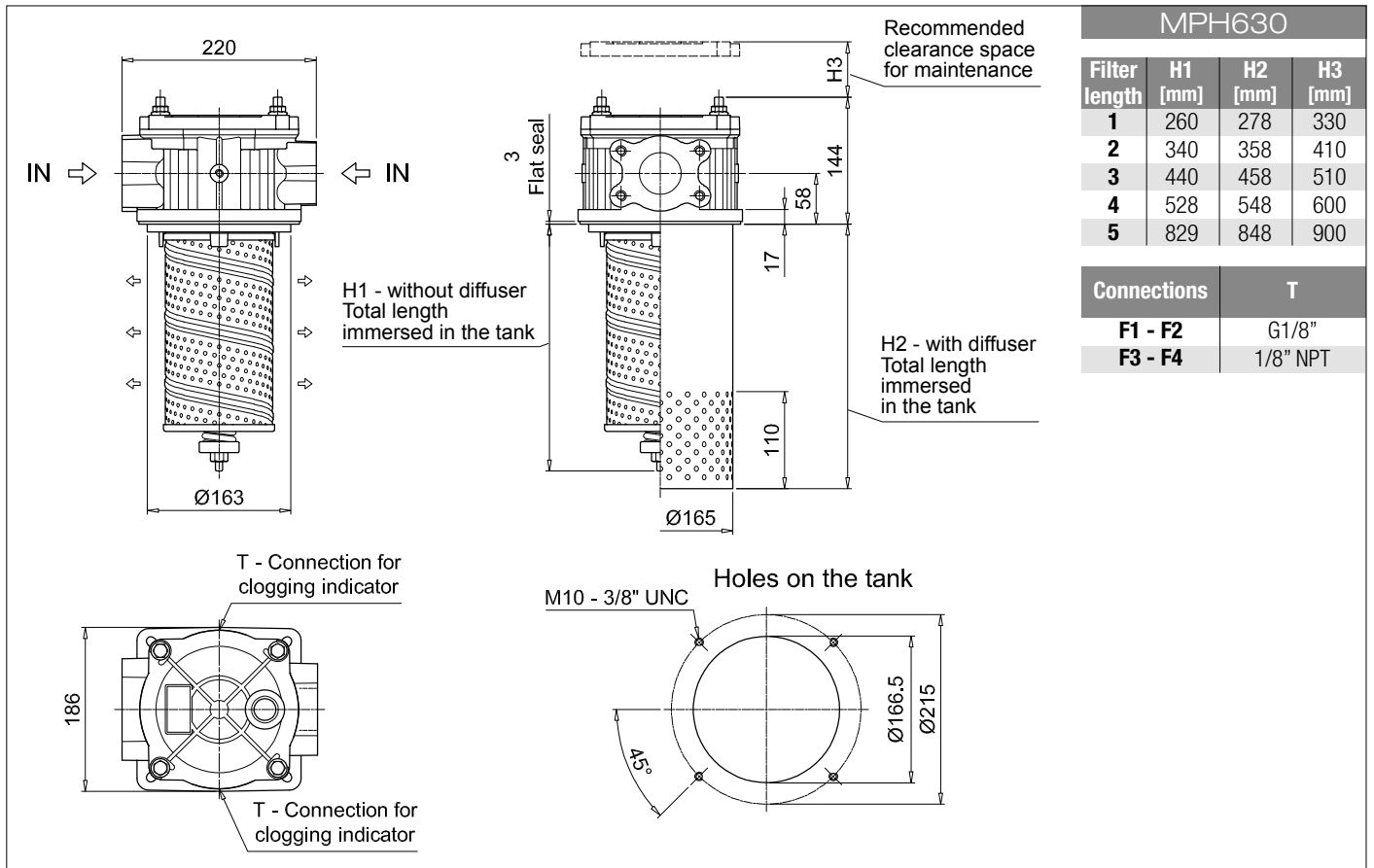
Series and size		Configuration example 1: MPH630 1 S E S W F1 M25 P01										
MPH630		Configuration example 2: MPH660 1 C D S A F4 A10 P01										
MPH660												
Length	MPH630	MPH660										
1	•											
2	•											
3	•											
4	•	•										
5	•	•										
Bypass valve		S Without bypass		C 1.75 bar	E 2.5 bar							
Diffuser and magnetic column												
D With diffuser, with magnetic column												
F With diffuser, without magnetic column												
O Without diffuser, with magnetic column												
E Without diffuser, without magnetic column												
Air breather												
S Without air breather												
Seals and treatments		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	•	•									
Main Connections MPH630		Rear connections		Connections MPH660								
F1	2 1/2" SAE 3000 psi/M	-		F1	3" SAE 3000 psi/M							
F2	2 1/2" SAE 3000 psi/M	2" SAE 3000 psi/M		F2	4" 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										
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		Configuration example 1: MR630 1 M25 A P01				
MR630		Configuration example 2: MR630 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		Execution		
		A NBR		P01 MP Filtri standard		
		V FPM		Pxx Customized		

ACCESSORIES

Indicators	page		page
BVA Axial pressure gauge	216	BEA Electrical pressure indicator	215
BVR Radial pressure gauge	216	BEM Electrical pressure indicator	215
BVP Visual pressure indicator with automatic reset	217	BLA Electrical / visual pressure indicator	215-216
BVQ Visual pressure indicator with manual reset	217		



Designation & Ordering code

COMPLETE FILTER

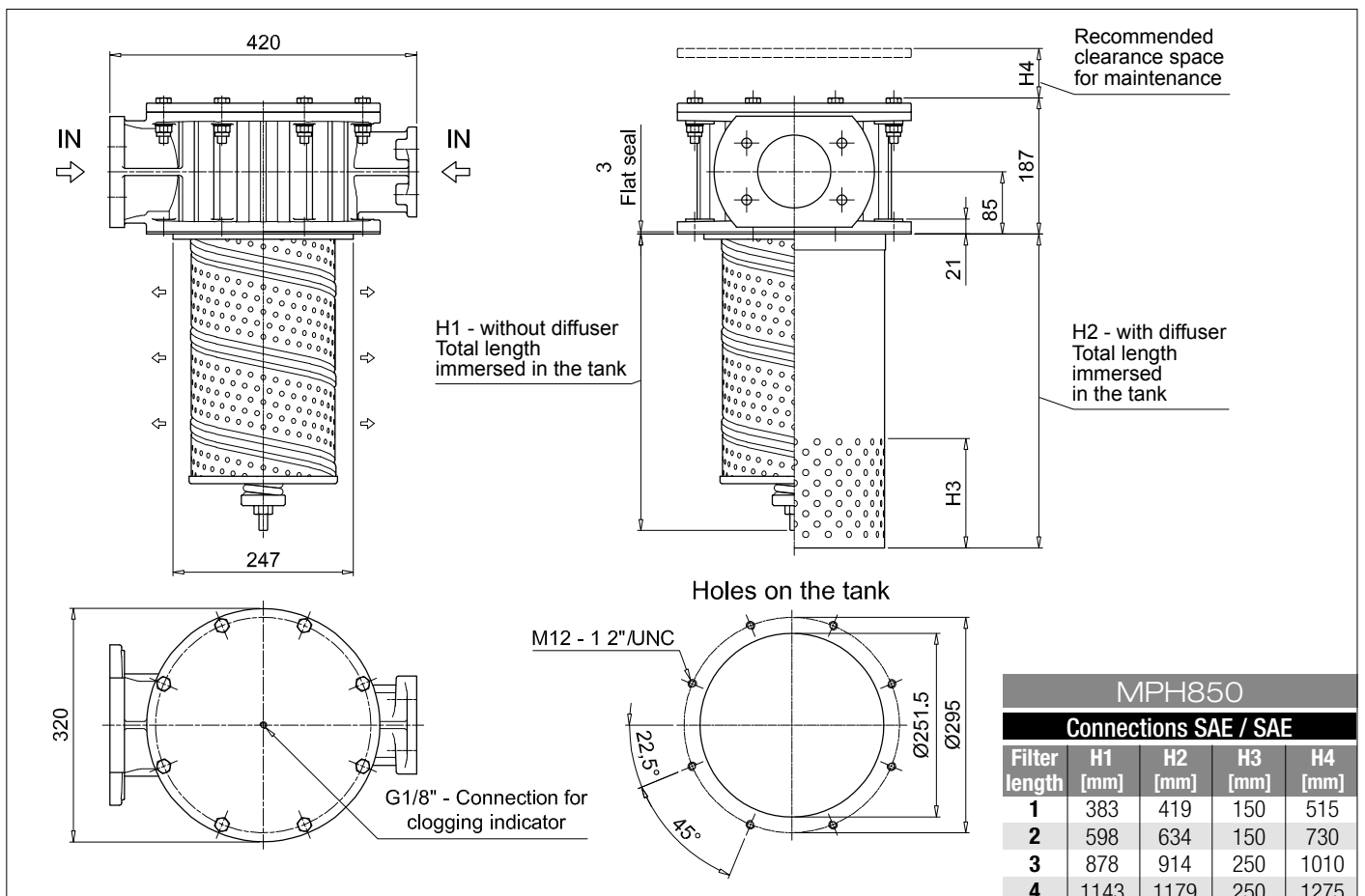
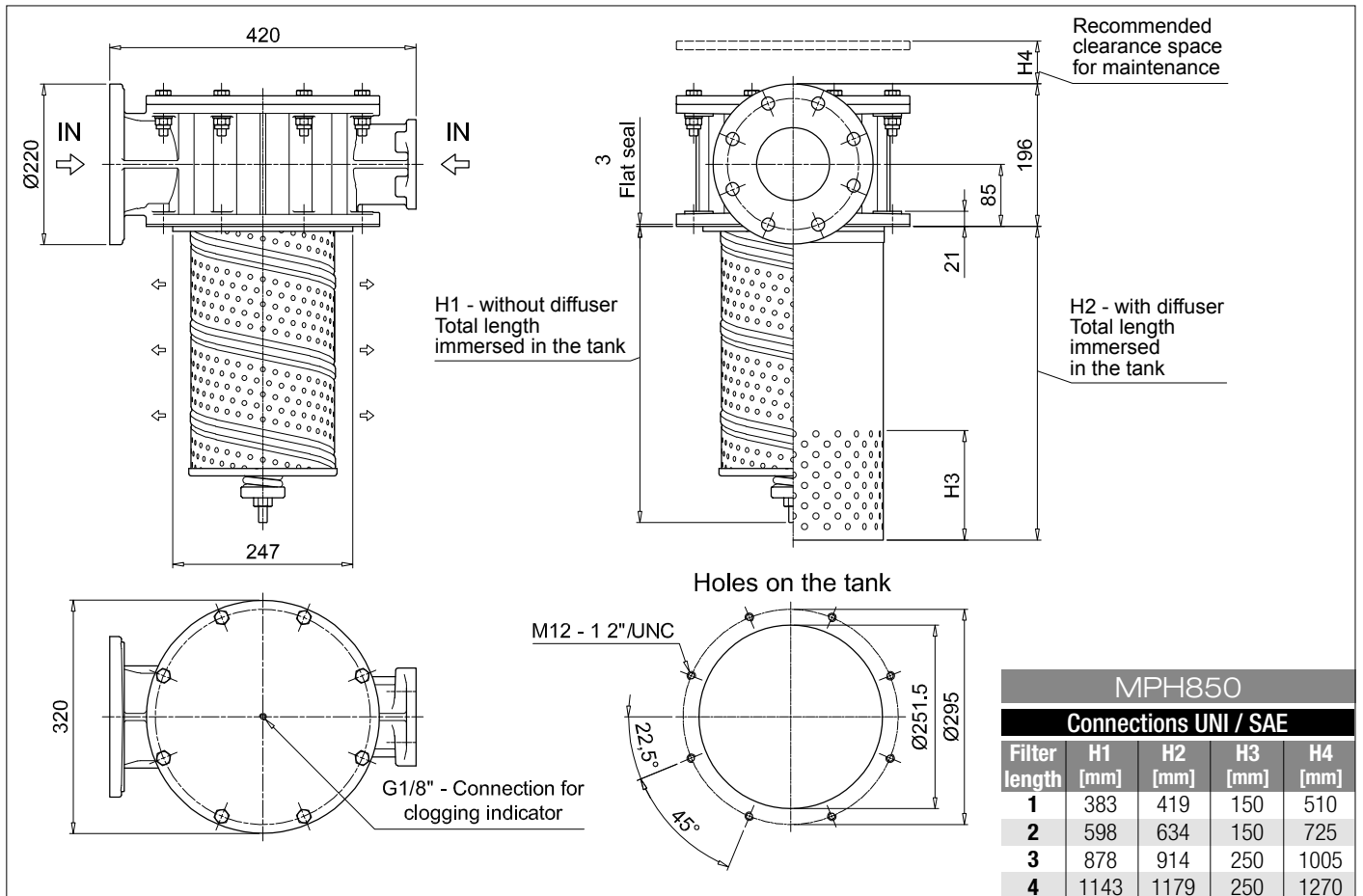
Series and size MPH850	Configuration example: MPH850 1 C D S A F1 A10 P01									
Length 1 2 3 4										
Bypass valve S Without bypass C 1.75 bar										
Diffuser and magnetic column D With diffuser, with magnetic column F With diffuser, without magnetic column O Without diffuser, with magnetic column E Without diffuser, without magnetic column										
Air breather S Without air breather										
Seals and treatments	Filtration rating									
A NBR	Axx	Mxx	Pxx							
V FPM	•	•	•							
W NBR head anodized	•	•		filter element compatible with fluids HFA-HFB-HFC						
Z FPM head anodized	•	•								
Main Connections	Rear connections									
F1 UNI 2223 DN 100 PN 10/16	3" SAE 3000 psi/M									
F2 UNI 2223 DN 100 PN 10/16	3" SAE 3000 psi/UNC									
F5 Not machined	3" SAE 3000 psi/M									
F6 Not machined	3" SAE 3000 psi/UNC									
F7 4" SAE 3000 psi/M	3" SAE 3000 psi/M									
F8 4" SAE 3000 psi/UNC	3" SAE 3000 psi/UNC									
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 MR850	Configuration example: MR850 1 A10 A P01				
Element length 1 2 3 4					
Filtration rating (filter media)					
A03 Inorganic microfiber 3 µm	M25 Wire mesh 25 µm				
A06 Inorganic microfiber 6 µm	M60 Wire mesh 60 µm				
A10 Inorganic microfiber 10 µm	M90 Wire mesh 90 µm				
A16 Inorganic microfiber 16 µm	P10 Resin impregnated paper 10 µm				
A25 Inorganic microfiber 25 µm	P25 Resin impregnated paper 25 µm				
Seals		Execution			
A NBR		P01 MP Filtri standard			
V FPM		Pxx Customized			

ACCESSORIES

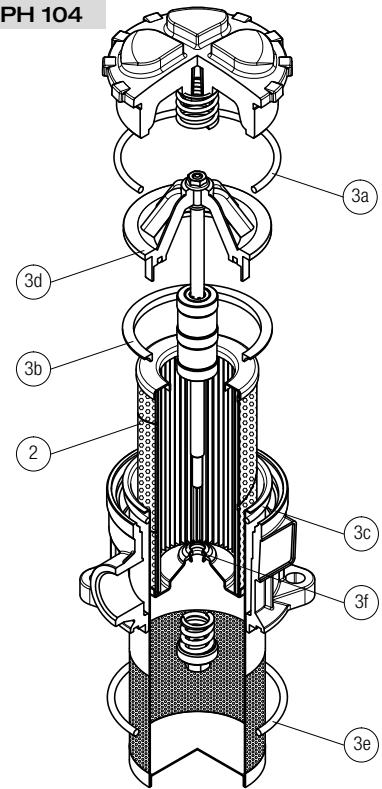
Indicators	page		page
BVA Axial pressure gauge	216	BEA Electrical pressure indicator	215
BVR Radial pressure gauge	216	BEM Electrical pressure indicator	215
BVP Visual pressure indicator with automatic reset	217	BLA Electrical / visual pressure indicator	215-216
BVQ Visual pressure indicator with manual reset	217		



MPH SPARE PARTS

Order number for spare parts

MPH 104

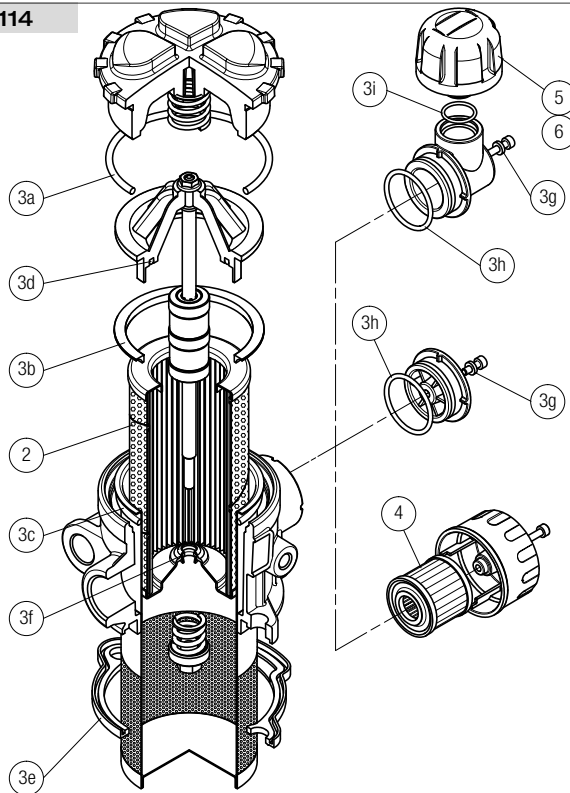


Q.ty: 1 pc.

Q.ty: 1 pc.

Item:	2	3 (3a ÷ 3f)	
Filter series	Filter element	Seal Kit code number NBR	FPM
MPH 104	See order table	02050390	02050409

MPH 110 - 114



Q.ty: 1 pc.

Q.ty: 1 pc.

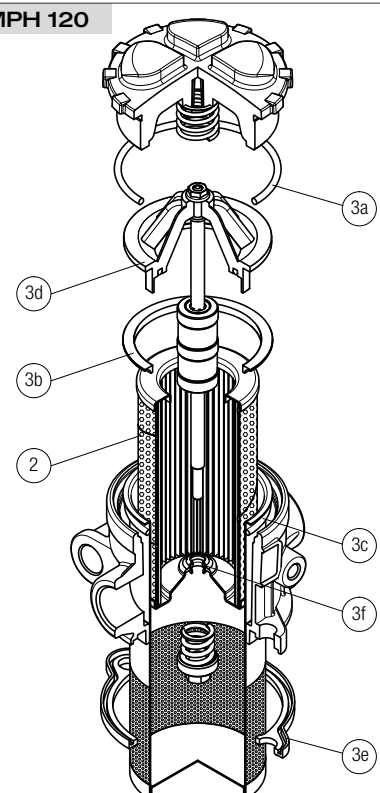
Q.ty: 1 pc.

Q.ty: 1 pc.

Q.ty: 1 pc.

Item:	2	3 (3a ÷ 3i)		4	5	6
Filter series	Filter element	Seal Kit code number NBR	FPM	C	Air breather filter element - version:	
MPH 110	See order table	02050565	02050566	10 µm	D	P
MPH 114		02050582	02050583	A3L03	SAP50G3L03A0P01	SAP50G3L03A1P01

MPH 120

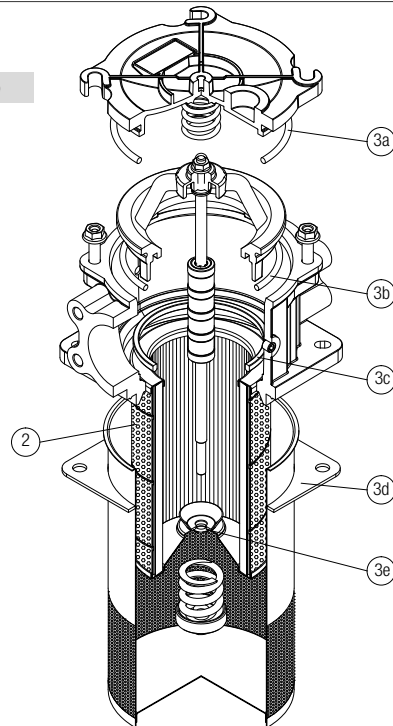


Q.ty: 1 pc.

Q.ty: 1 pc.

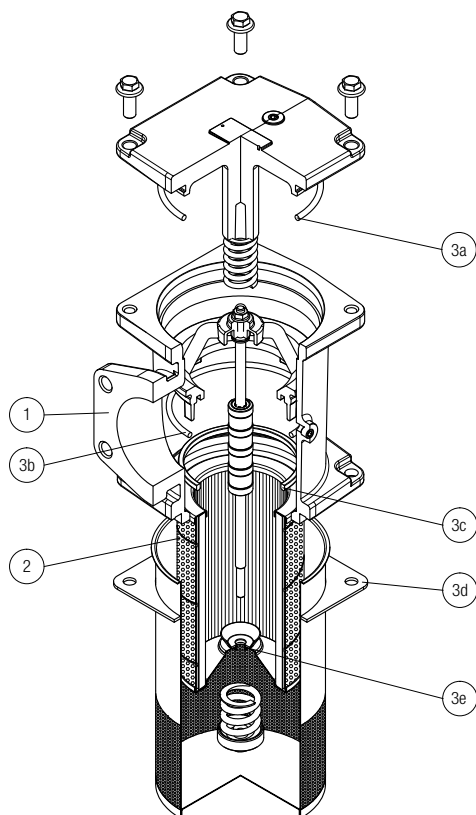
Item:	2	3 (3a ÷ 3f)	
Filter series	Filter element	Seal Kit code number NBR	FPM
MPH 120	See order table	02050567	02050568

MPH 250 - 630



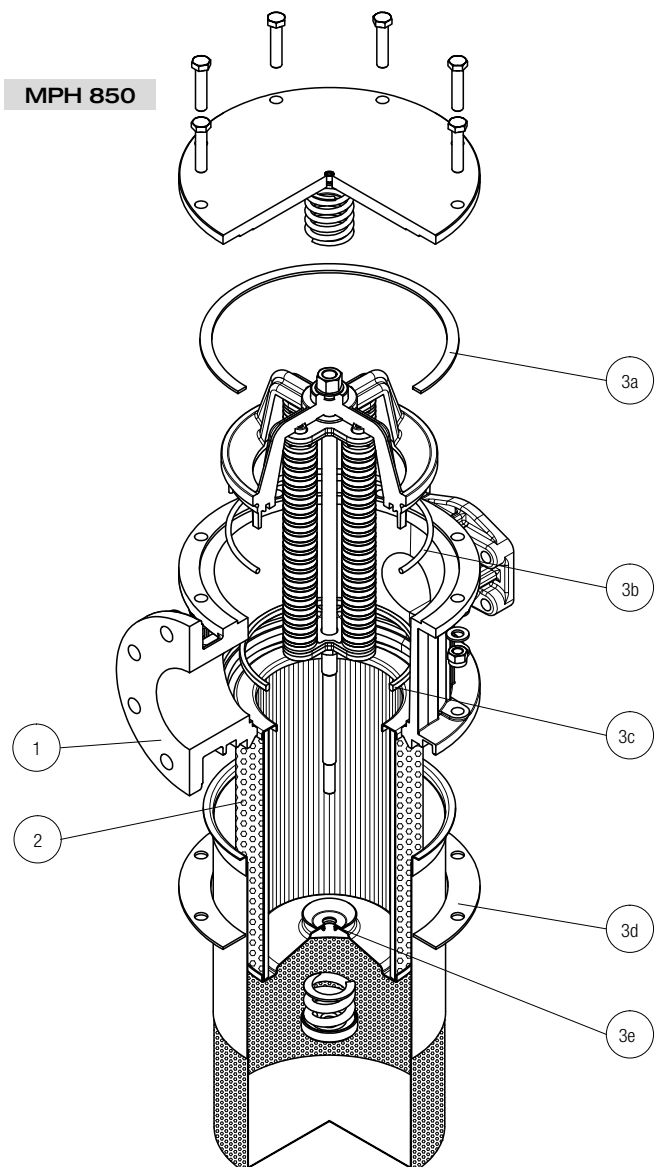
Item:	Q.ty: 1 pc. 2	Q.ty: 1 pc. 3 (3a ÷ 3e)
Filter series	Filter element	Seal Kit code number NBR FPM
MPH 250	See order table	02050151 02050152
MPH 630	See order table	02050153 02050154

MPH 660



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

MPH 850



Technical data

Return filter Maximum pressure up to 10 bar - Flow rate up to 3000 l/min

Filter housing materials

- Insert assembly:
Polyamide, GF reinforced (only for: MPI 100)
Aluminium (the other insert assemblies)

- Diffuser: Zinc Plated Steel

- Valve: Steel

Seals

- Standard NBR series A
- Optional FPM series V

Temperature

From -25 °C to +110 °C

Pressure

Working pressure: 1 MPa (10 bar)

Note

MPI filters are provided for vertical mounting

Bypass valve

- Opening pressure 175 kPa (1.75 bar)
- Opening pressure 250 kPa (2.5 bar) (except for MPI 850)

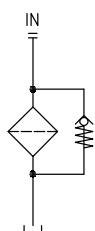
Δp element type

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

Weights [kg] and volumes [dm³]

	Weights [kg]					Volumes [dm ³]				
	Lenght	1	2	3	4	Lenght	1	2	3	4
MPI 100		0.90	1.00	1.20	1.50		0.90	0.90	1.20	1.60
MPI 250		2.20	2.50	2.90	4.30		3.50	3.50	4.50	7.00
MPI 630		3.40	3.90	4.30	5.40		5.80	7.40	9.50	11.4
MPI 850		15.2	18.2	21.2	25.2		8.80	12.2	16.7	20.8

Hydraulic symbol



MPI MPI100 - MPI250 - MPI630 - MPI850

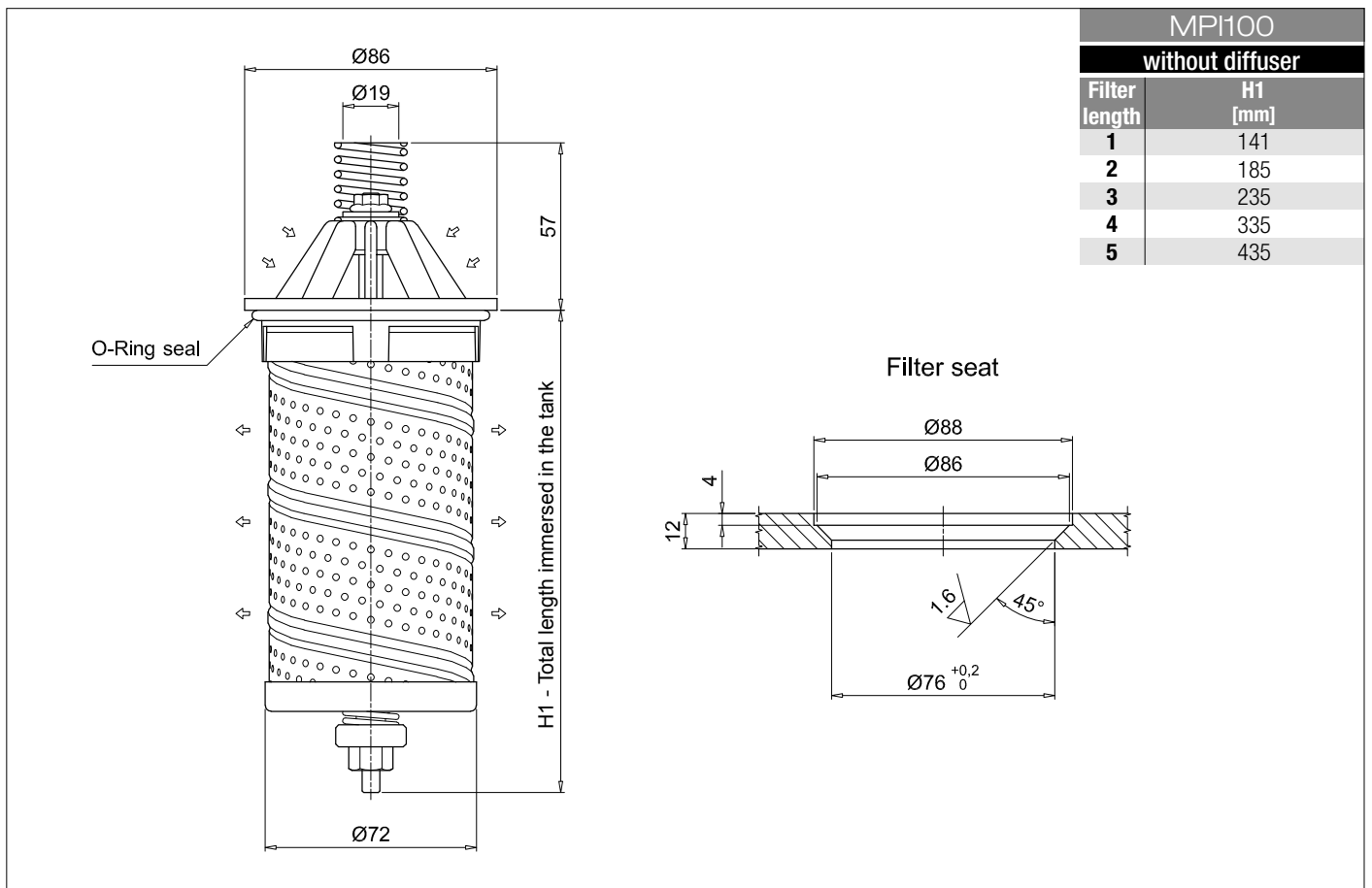
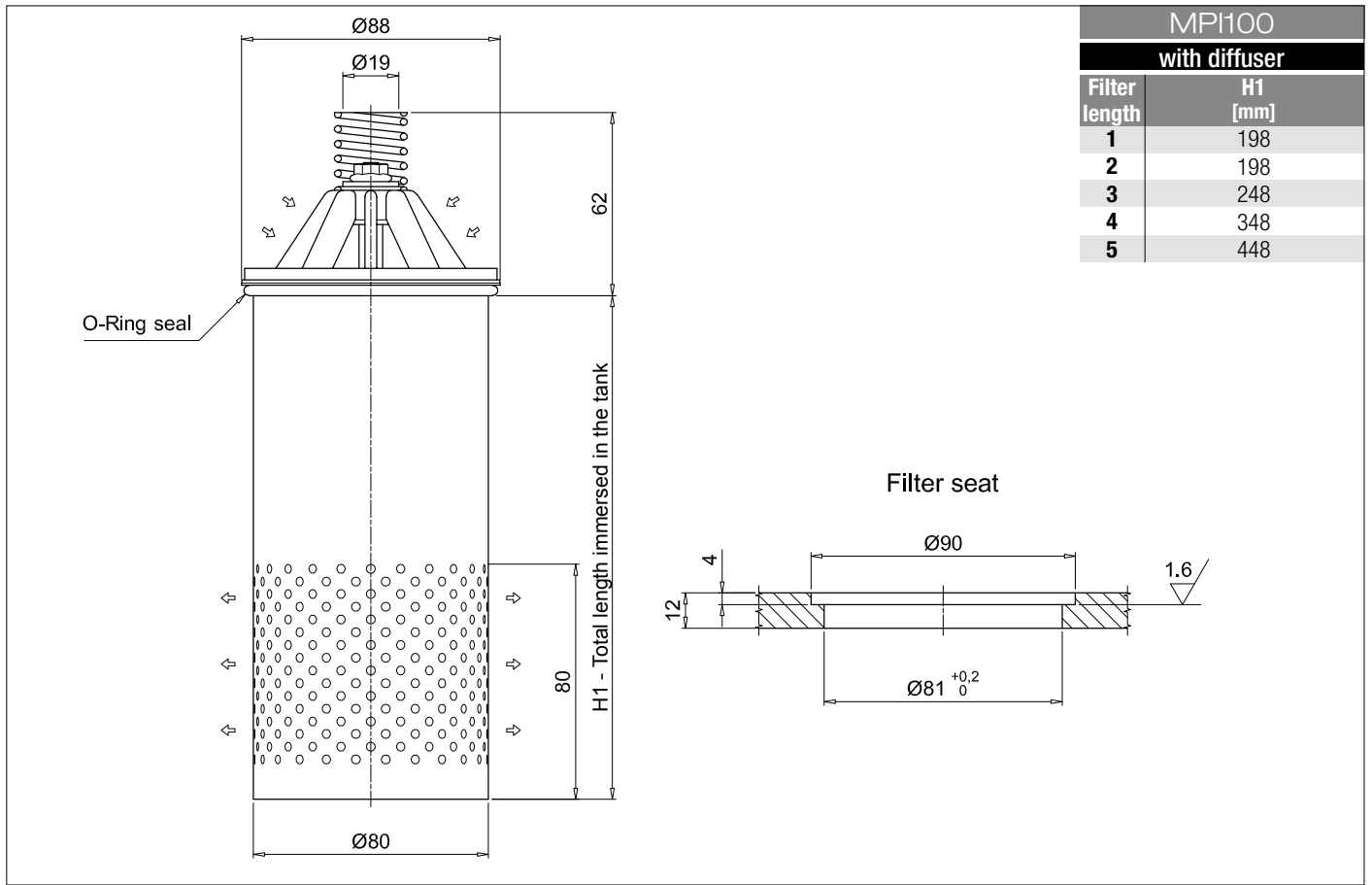
Designation & Ordering code

COMPLETE FILTER

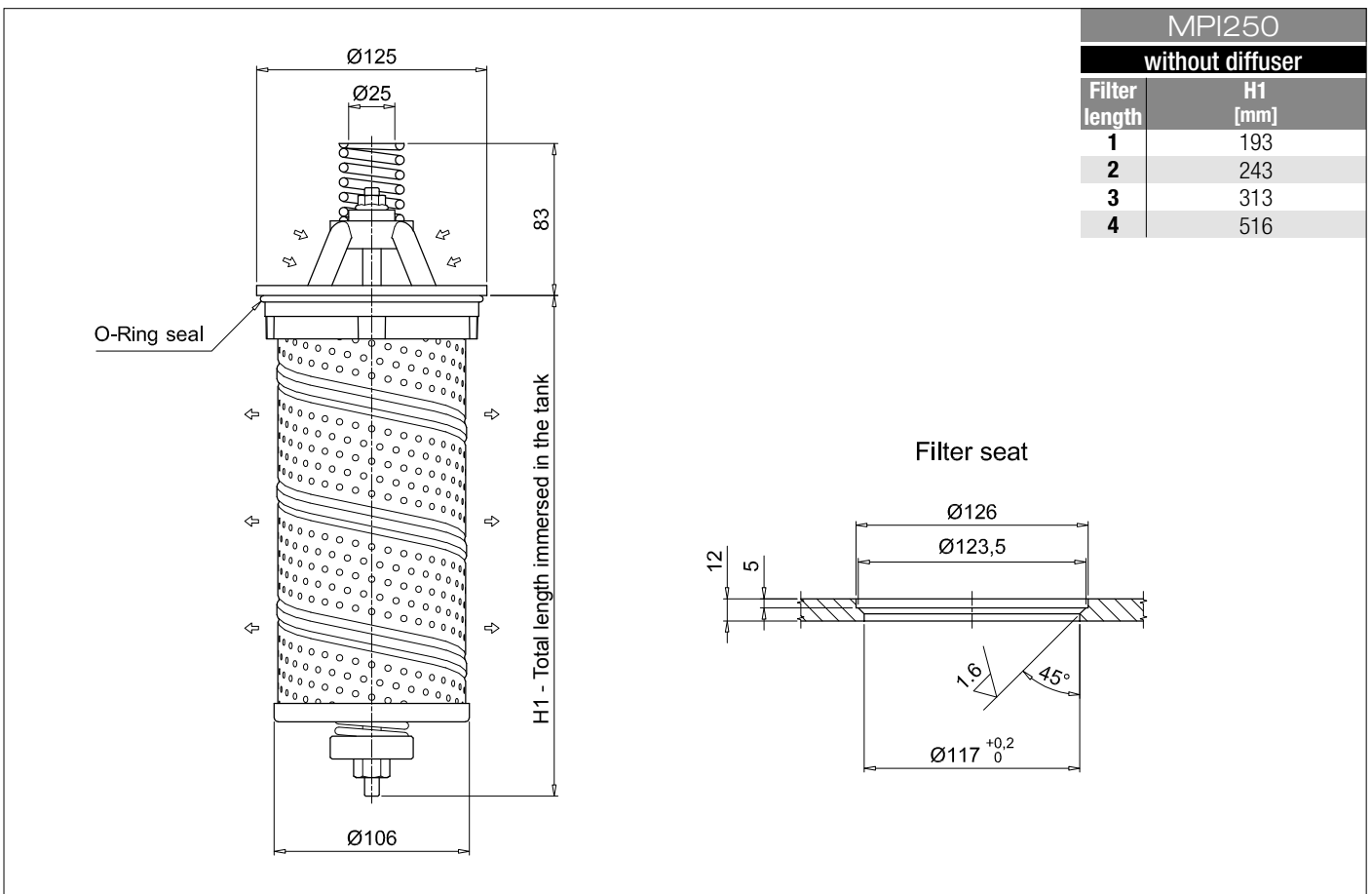
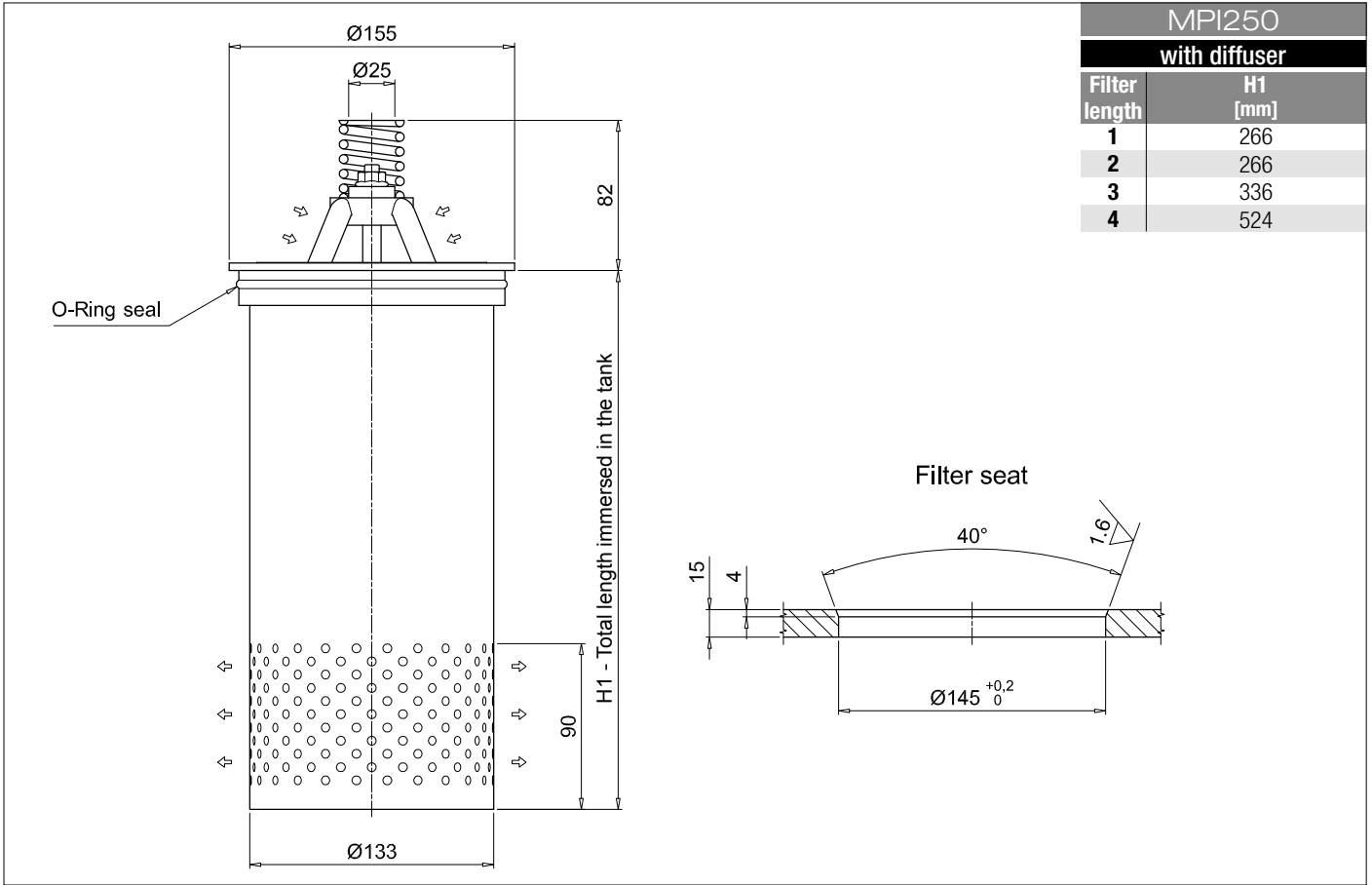
Series and size					Configuration example 1: MPI100 1 C D A A10 P01						
MPI100					Configuration example 2: MPI630 5 E D Z M25 P01						
MPI250											
MPI630											
MPI850											
Length					MPI100	MPI250	MPI630	MPI850			
1		•	•	•	•						
2		•	•	•	•						
3		•	•	•	•						
4		•	•	•	•				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

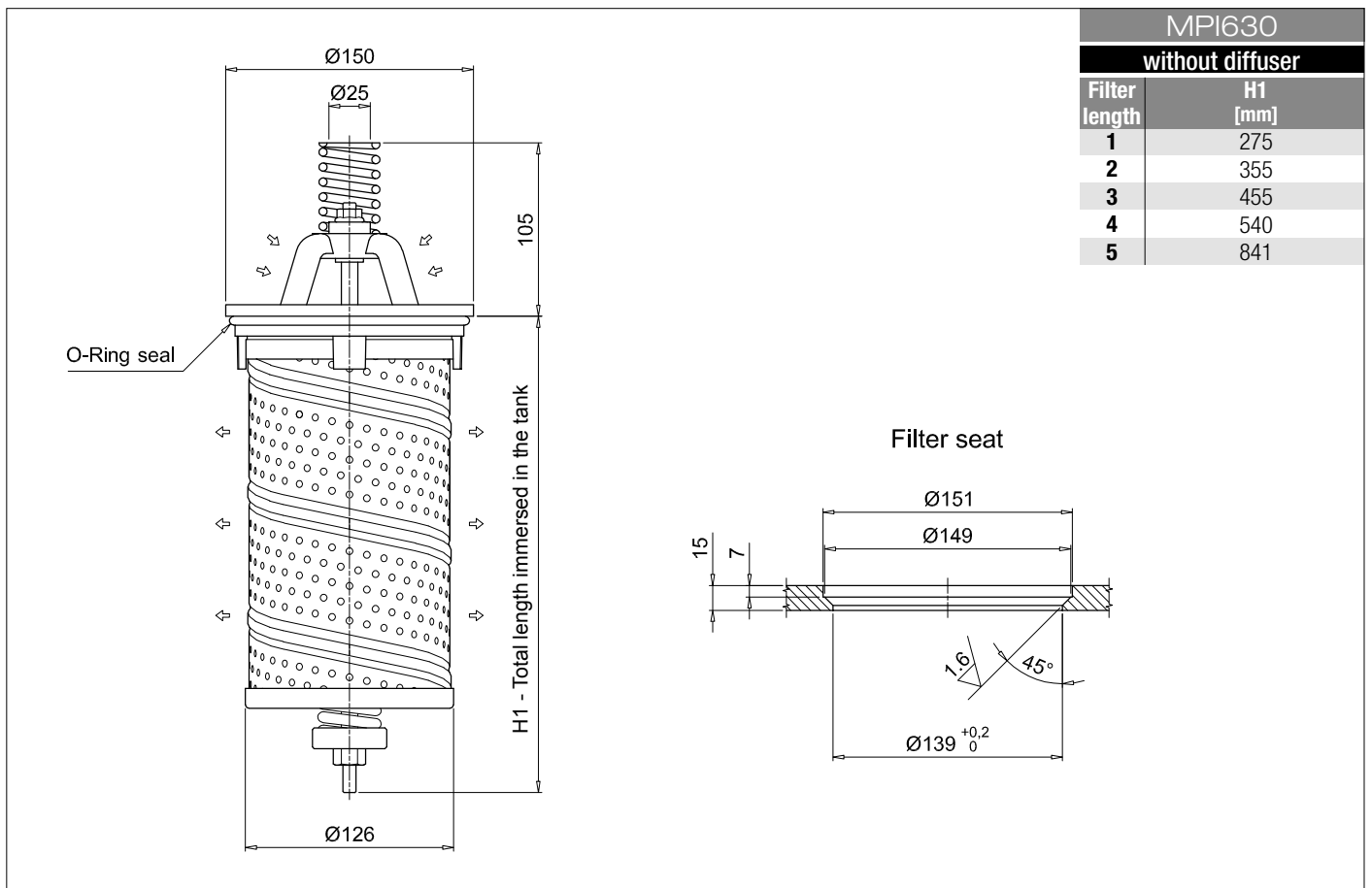
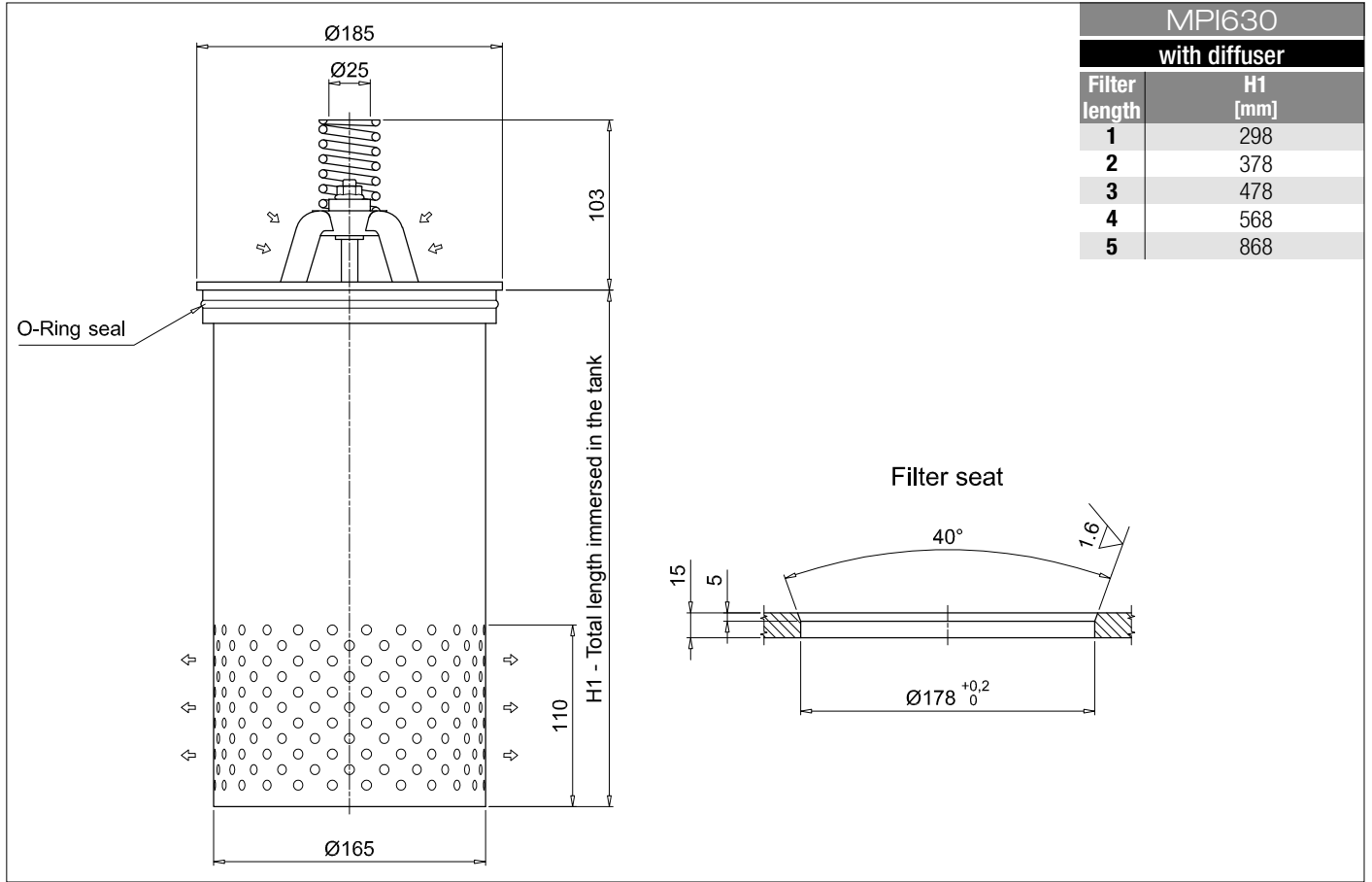
FILTER ELEMENT

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

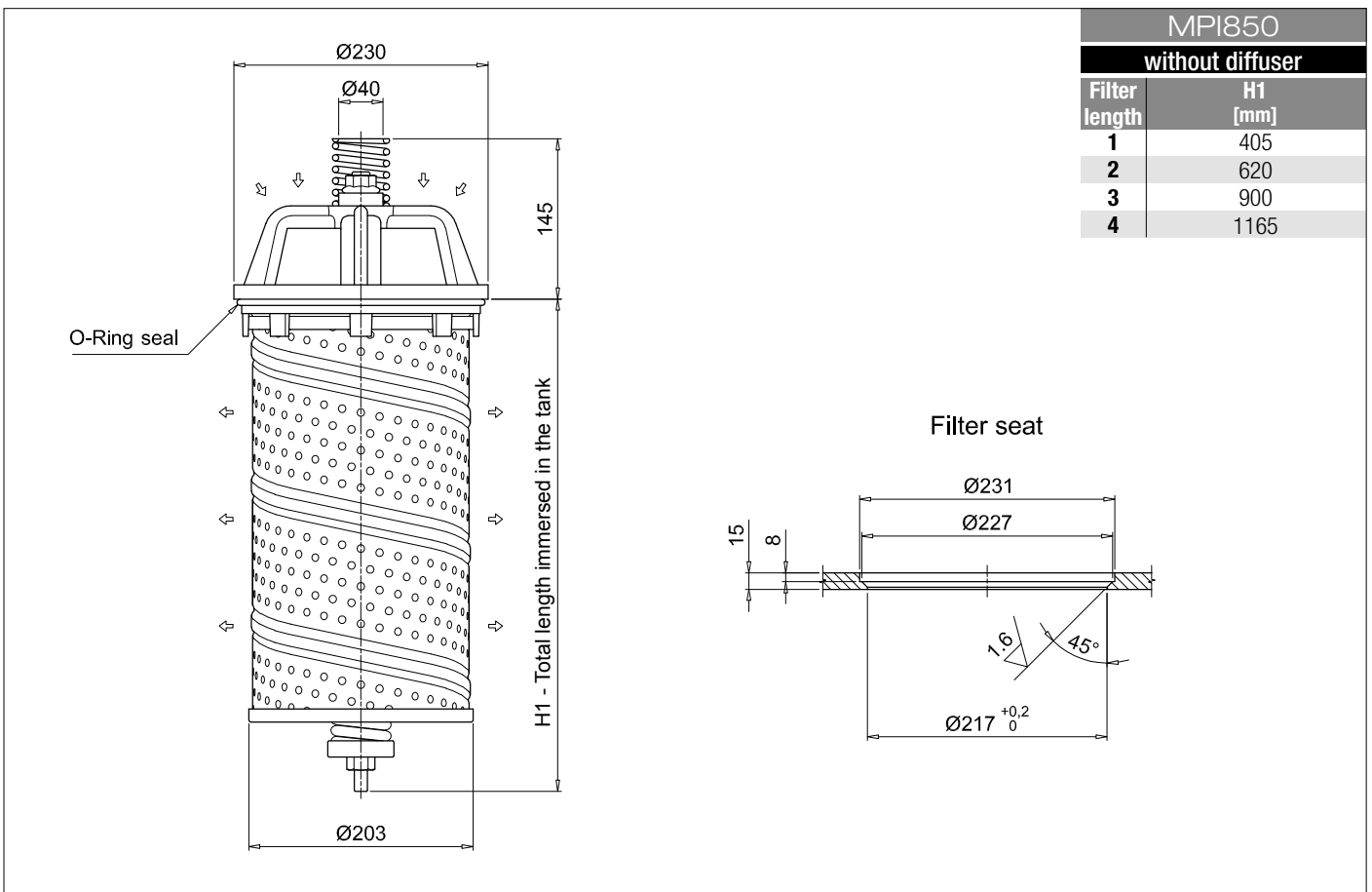
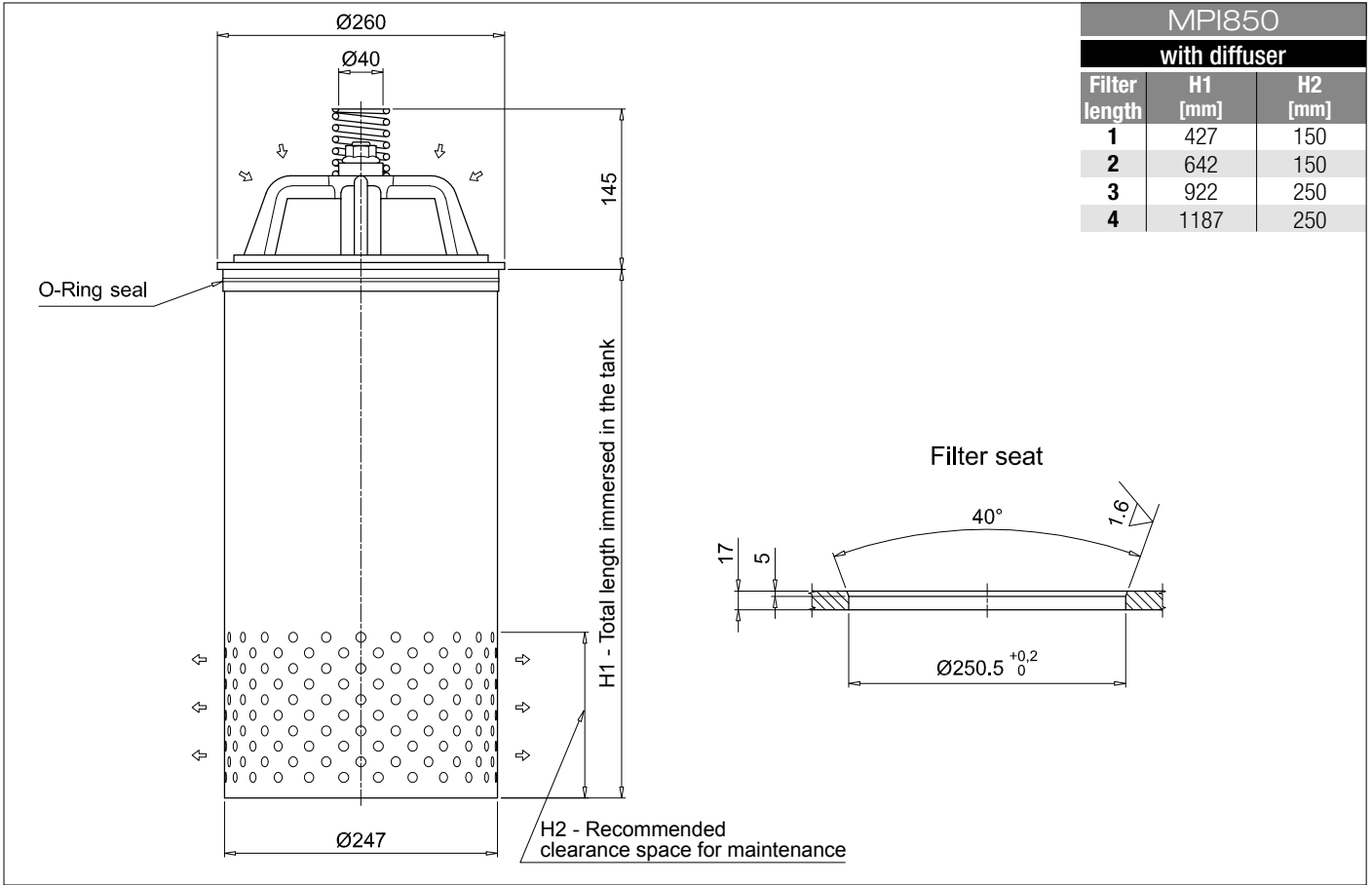


Dimensions

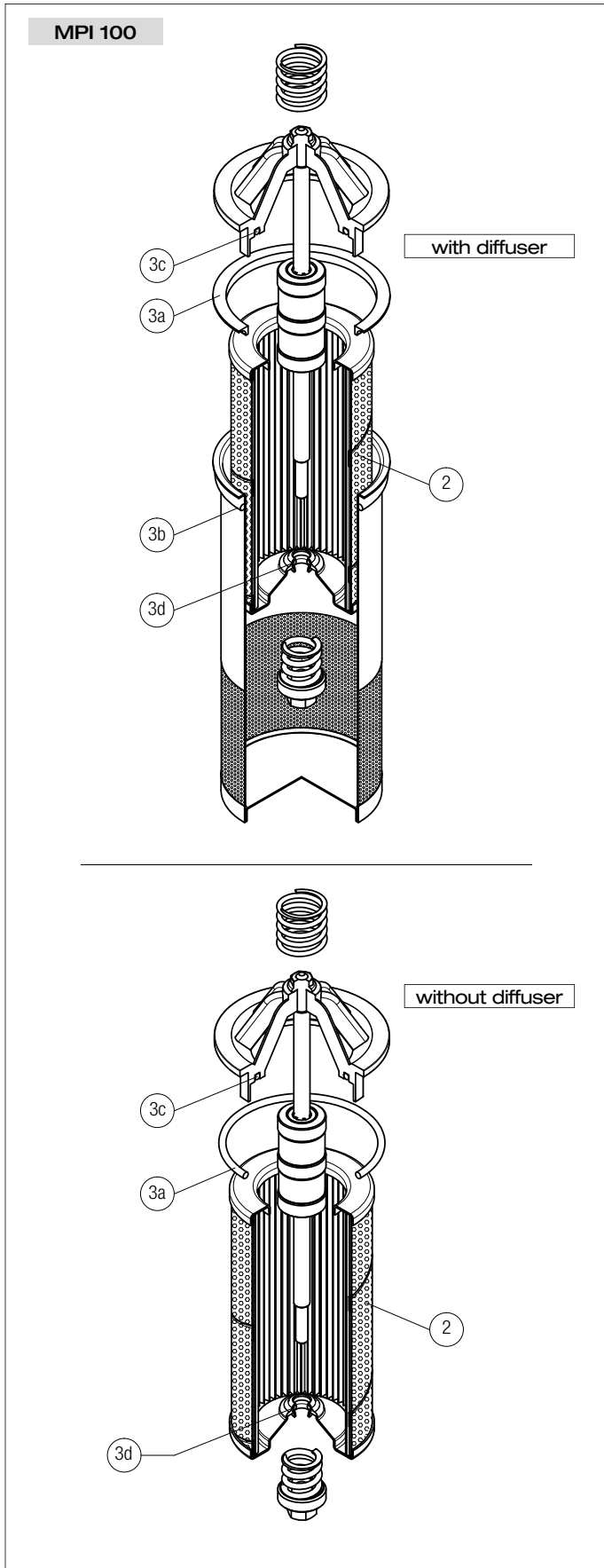




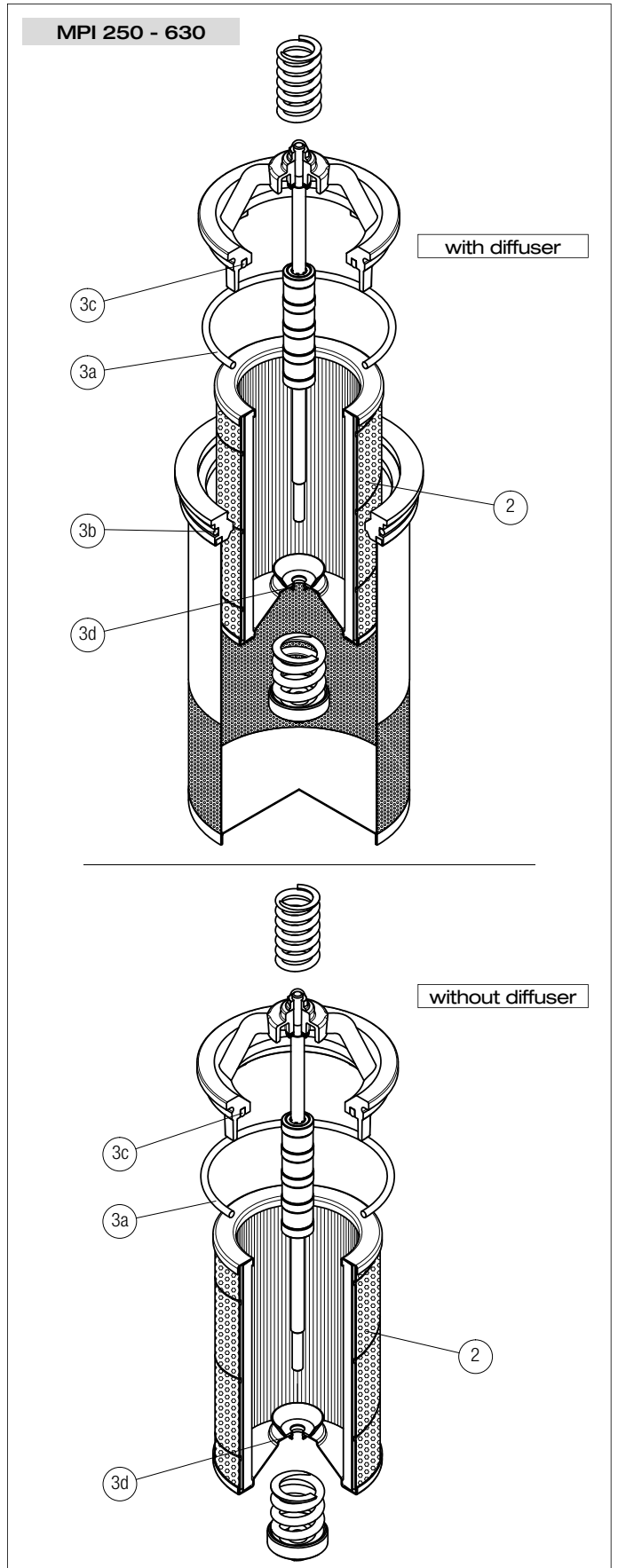
Dimensions



Order number for spare parts

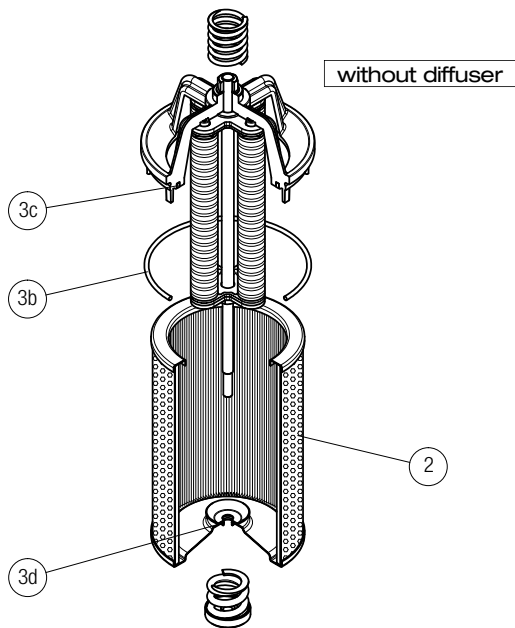
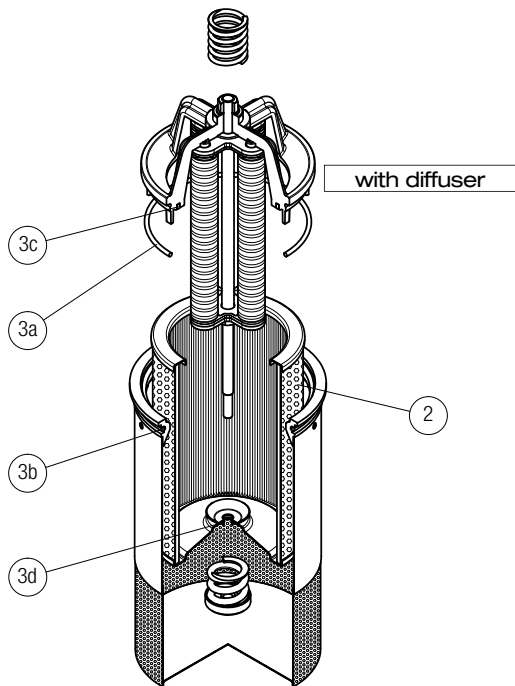


Item:	Q.ty: 1 pc. 2	Q.ty: 1 pc. 3 (3a ÷ 3d)
Filter series	Filter element	Seal Kit code number NBR FPM
MPI 100	See order table	02050145 02050146



Item:	Q.ty: 1 pc. 2	Q.ty: 1 pc. 3 (3a ÷ 3d)
Filter series	Filter element	Seal Kit code number NBR FPM
MPI 250 MPI 630	See order table	02050147 02050148 02050112 02050113

MPI 850



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