MPH series

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

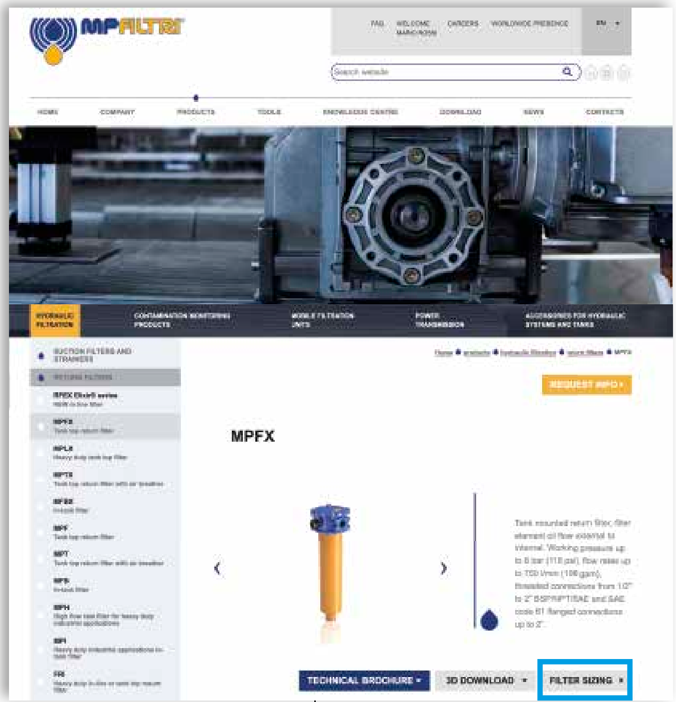
TYPICAL FILTER SIZING Selection Software

Step 1

Select “FILTER SIZING SOFTWARE” after login

OR

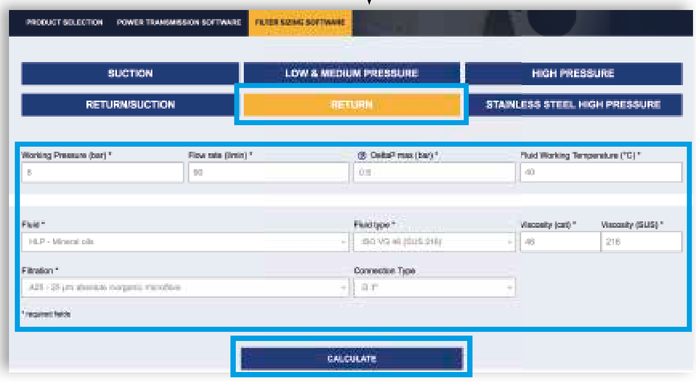
Select “FILTER SIZING” after login from a product page

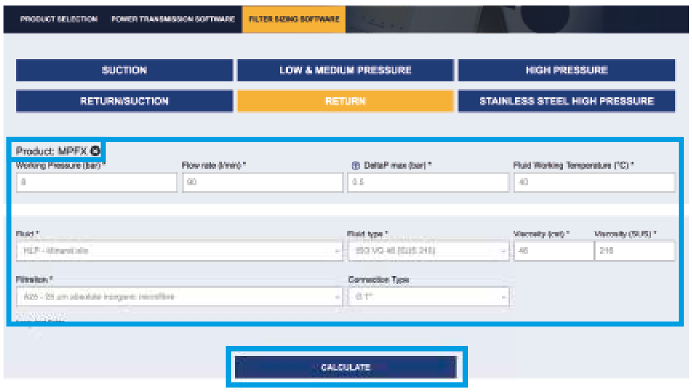


Choose the type of filter family.
Enter the main data for sizing the filter
then push CALCULATE.

Step 2

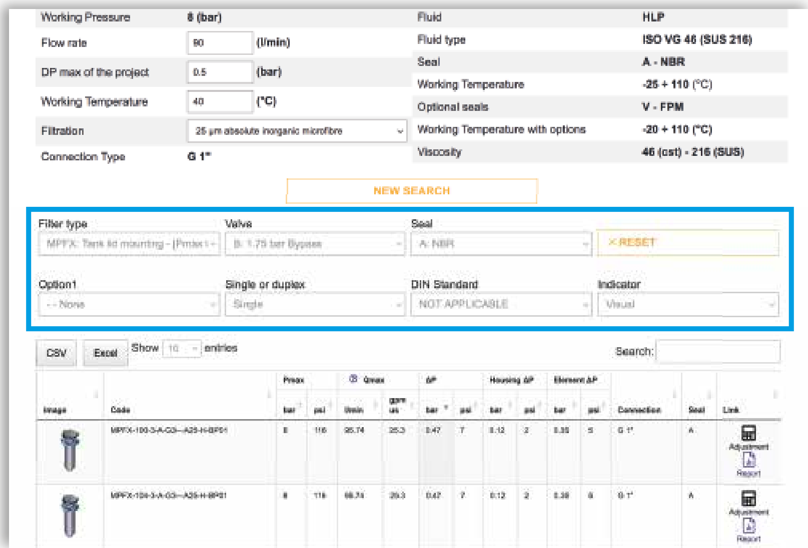
Enter the main data for sizing the filter
then push CALCULATE.





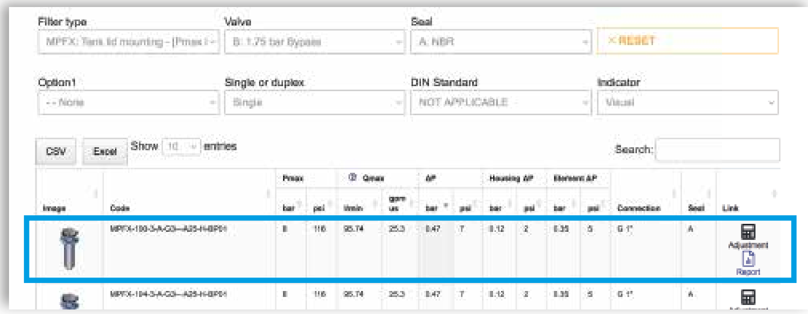
Step 3

Select the desidered options to choose the appropriate filter type for the application.



Step 4

Choose the most suitable filter from the proposed list.

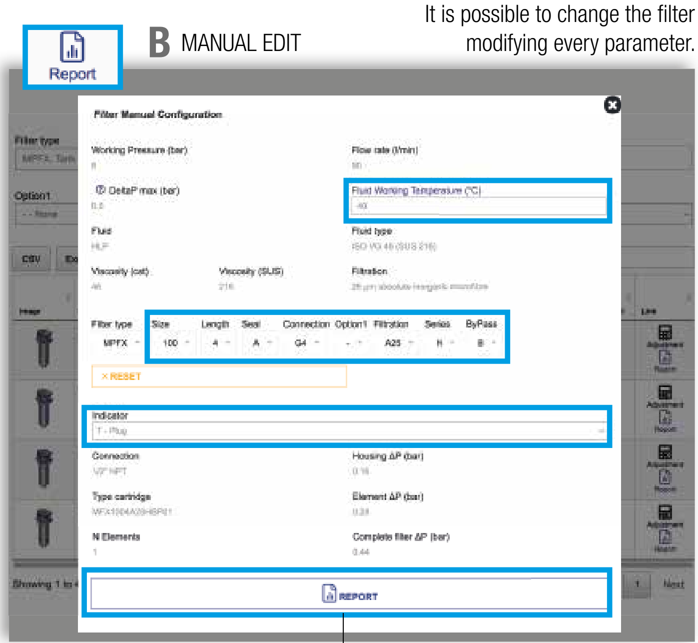


Step 5

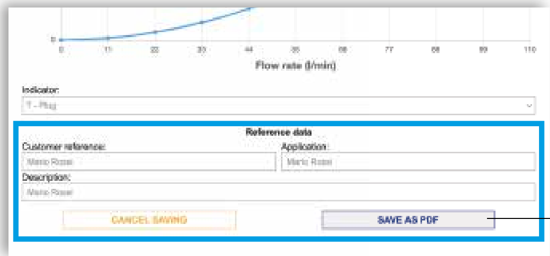
A SAVE YOUR FILTER'S REPORT

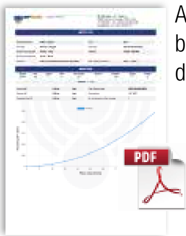
B MANUAL EDIT

It is possible to change the filter modifying every parameter.



SAVE IN YOUR ARCHIVE
typing your reference data and then SAVE AS PDF



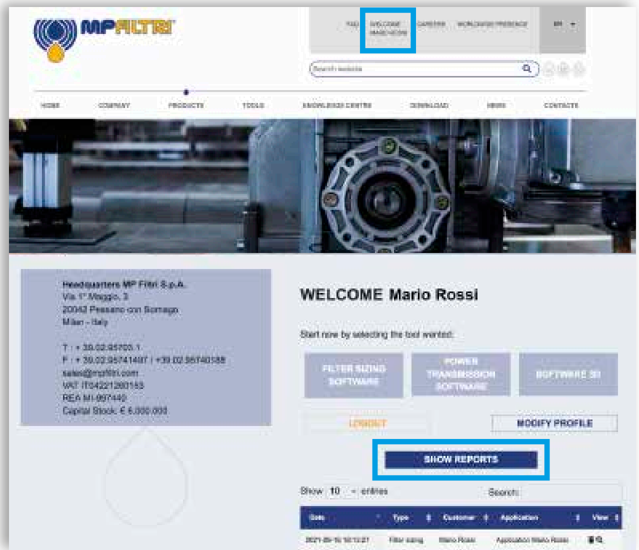


A new browser window displays the pdf

see A

Close the report window

By clicking your WELCOME button, the SHOW REPORTS is displayed: select it to see your filters list.



MPH GENERAL INFORMATION

Description

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 3500 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

Technical data

Filter housing materials

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

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

- Insert assembly
  Polyamide: 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^3]

Filter series	Weights [kg]					Volumes [dm^3]				
Length	1	2	3	4	5	1	2	3	4	5
MPH 110	1.60	1.70	1.80	2.20	2.60	1.60	1.70	1.80	2.20	2.60
MPH 114	1.60	1.70	1.80	2.20	2.60	1.60	1.70	1.80	2.20	2.60
MPH 116	1.60	1.70	1.80	2.20	2.60	1.60	1.70	1.80	2.20	2.60
MPH 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	-

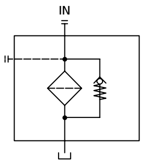
FILTER ASSEMBLY SIZING
Flow rates [l/min]

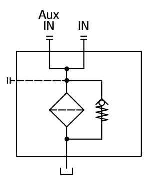
Filter series	Length	A03	A06	A10	A16	A25	M25 M60 M90	P10	P25
MPH 110-114 116-120	**1**	26	29	72	79	107	282	164	190
	2	43	46	112	114	161	318	164	190
	3	64	72	132	156	178	324	219	251
	4	90	99	184	198	216	324	266	302
	5	117	128	201	219	244	324	282	318
MPH 250	**1**	93	102	210	251	315	1093	339	383
	2	124	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
MPH 630	**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
MPH 660	**4**	370	399	903	1042	1460	2376	1596	1830
	5	624	699	1282	1343	1997	2663	2182	2331
MPH 850	**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

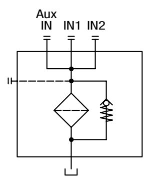
Maximum flow rate for a complete return filter with a pressure drop Δp = 0.5 bar.
The reference fluid has a kinematic viscosity of 30 mm^2/s (cSt) and a density of 0.86 kg/dm^3.
For different pressure drop or fluid viscosity we recommend to use our selection software available on www.mpfiltri.com.
You can also calculate the right size using the formulas present on the FILTER SIZING paragraph at the beginning of the full catalogue or at the beginning of the filter family brochure.
Please, contact our Sales Department for further additional information.

Hydraulic symbols

Filter series	Style 1 connection	Style 2 connections	Style 3 connections
MPH 110	-	•	-
MPH 114	•	-	-
MPH 116	•	-	-
MPH 120	-	-	•
MPH 250	•	•	-
MPH 630	•	•	-
MPH 660	•	-	-
MPH 850	-	•	-

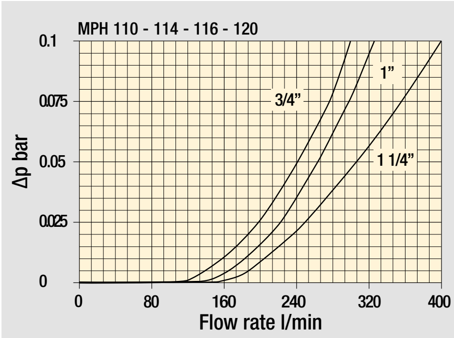


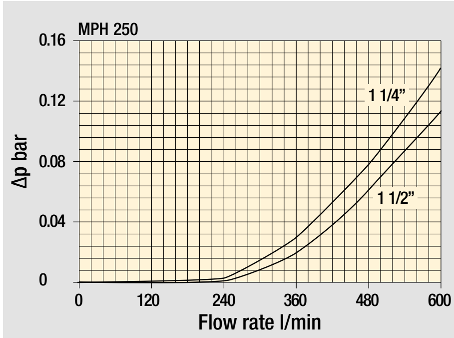


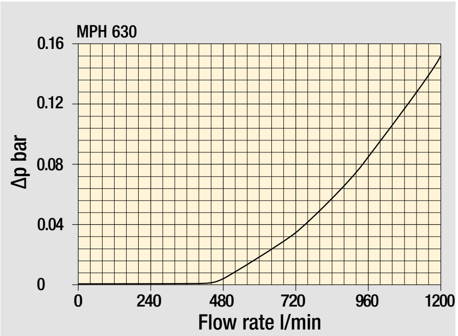


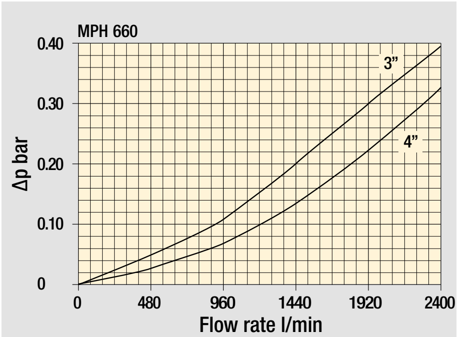
Pressure drop

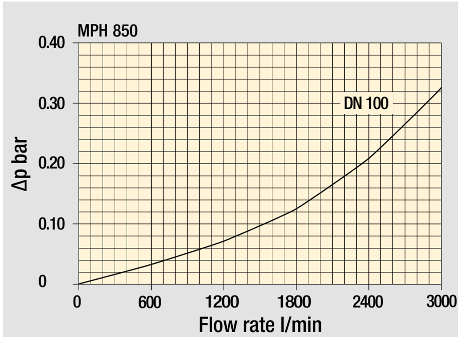
Filter housings Δp pressure drop



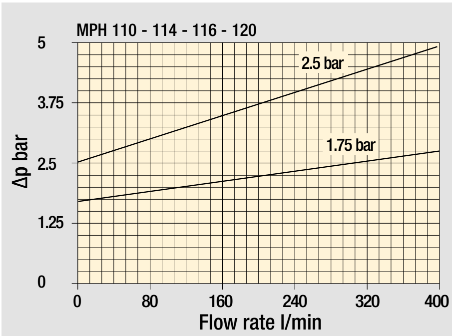


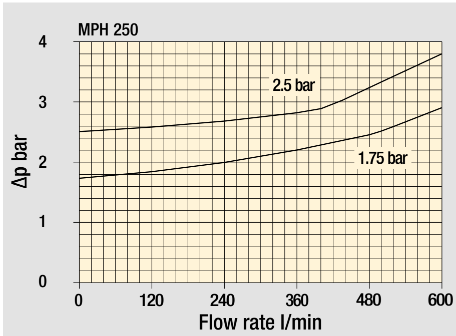


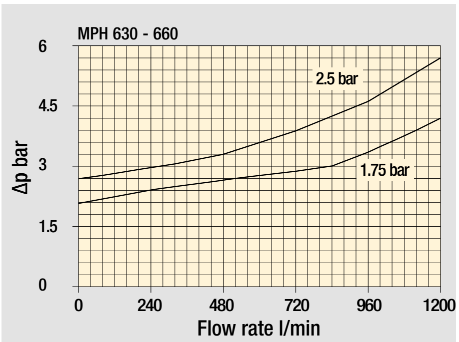


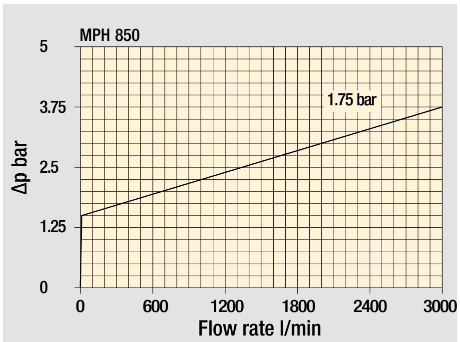


Bypass valve pressure drop

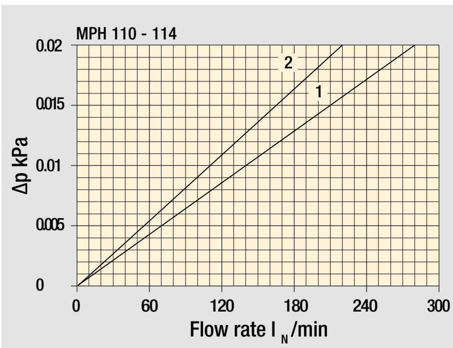








Air breather pressure drop



1 C With air breather 10 μm

2 D With anti-splash and SAP50 10 μm

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

Designation & Ordering code

COMPLETE FILTER

Configuration example: MPH110 | 1 | S | D | S | A | G1 | 1 | A10 | P01

Series and size

MPH110

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

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	filter element compatible with fluids HFA-HFB-HFC	•	•	-
Z	FPM head anodized		•	•	-

Main Connections		Aux size 1	Aux size 2
G1	G 3/4”	G 3/8”	G 1/2”
G2	G 1”		
G3	G 1 1/4”		
G4	3/4” NPT	3/8” NPT	1/2” NPT
G5	1” NPT		
G6	1 1/4” NPT		

Main Connections		Aux size 1	Aux size 2
G7	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		
G9	SAE 20 - 1 5/8” - 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

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

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

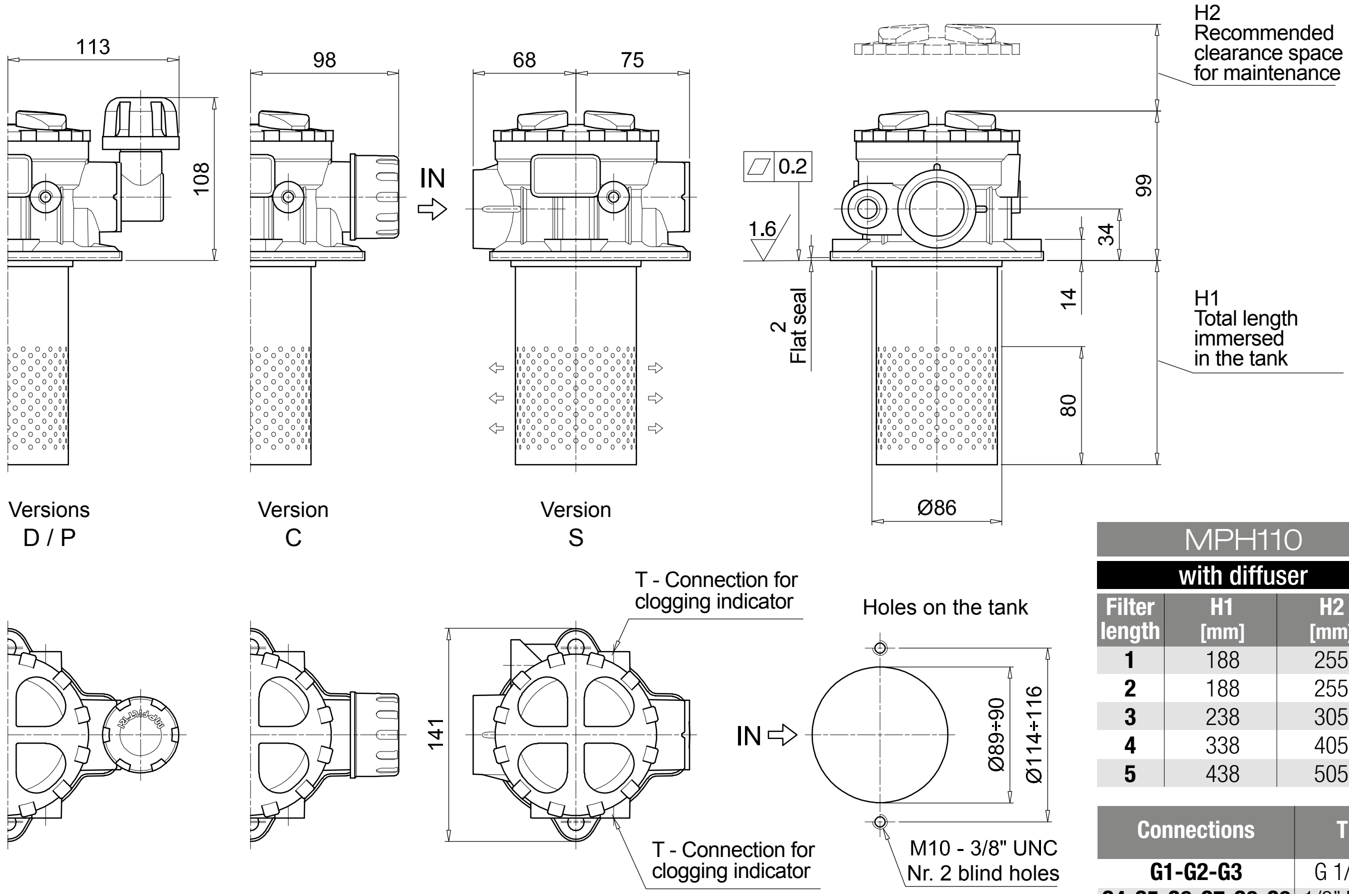
CLOGGING INDICATORS

See page 266

BVA	Axial pressure gauge	**BEA**	Electrical pressure indicator
BVR	Radial pressure gauge	**BEM**	Electrical pressure indicator
BVP	Visual pressure indicator with automatic reset	**BLA**	Electrical / visual pressure indicator
BVQ	Visual pressure indicator with manual reset		

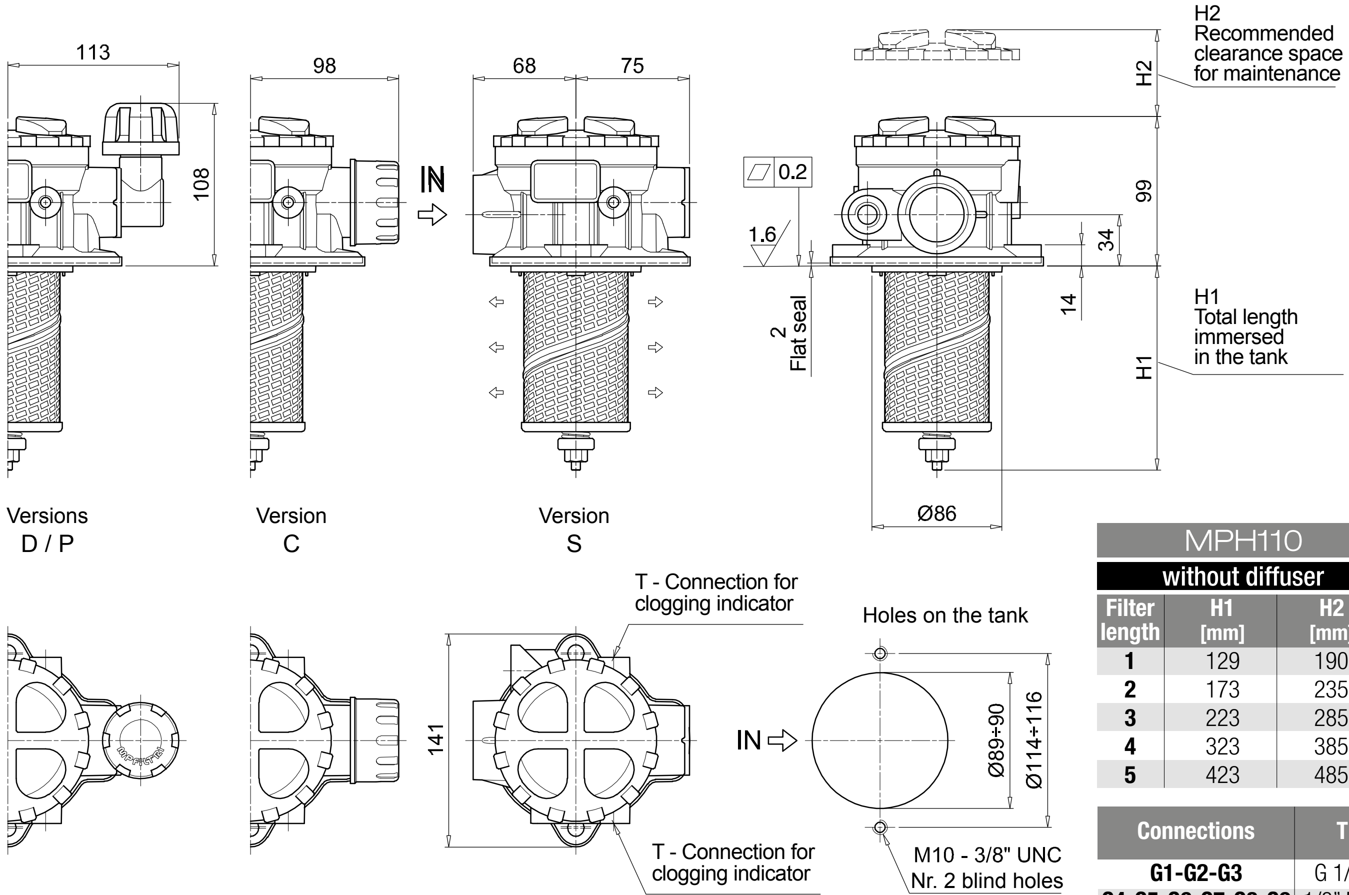
Additional features See page 278

DPT	Dipstick



MPH110		
with diffuser		
Filter length	**H1 [mm]**	**H2 [mm]**
1	188	255
2	188	255
3	238	305
4	338	405
5	438	505

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



MPH110		
without diffuser		
Filter length	**H1 [mm]**	**H2 [mm]**
1	129	190
2	173	235
3	223	285
4	323	385
5	423	485

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

Designation & Ordering code

COMPLETE FILTER

Configuration example: MPH114 | 3 | C | E | C | Z | G6 | M60 | P01

Series and size

MPH114

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
0	Without diffuser, with magnetic filter
E	Without diffuser, without magnetic filter

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	filter element compatible with fluids HFA-HFB-HFC	•	•	-
Z	FPM head anodized	filter element compatible with fluids HFA-HFB-HFC	•	•	-

Connections

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		

Filtration rating (filter media)

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

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

Execution

P01	MP Filtri standard
Pxx	Customized

FILTER ELEMENT

Configuration example: MR100 | 3 | M60 | V | 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

CLOGGING INDICATORS

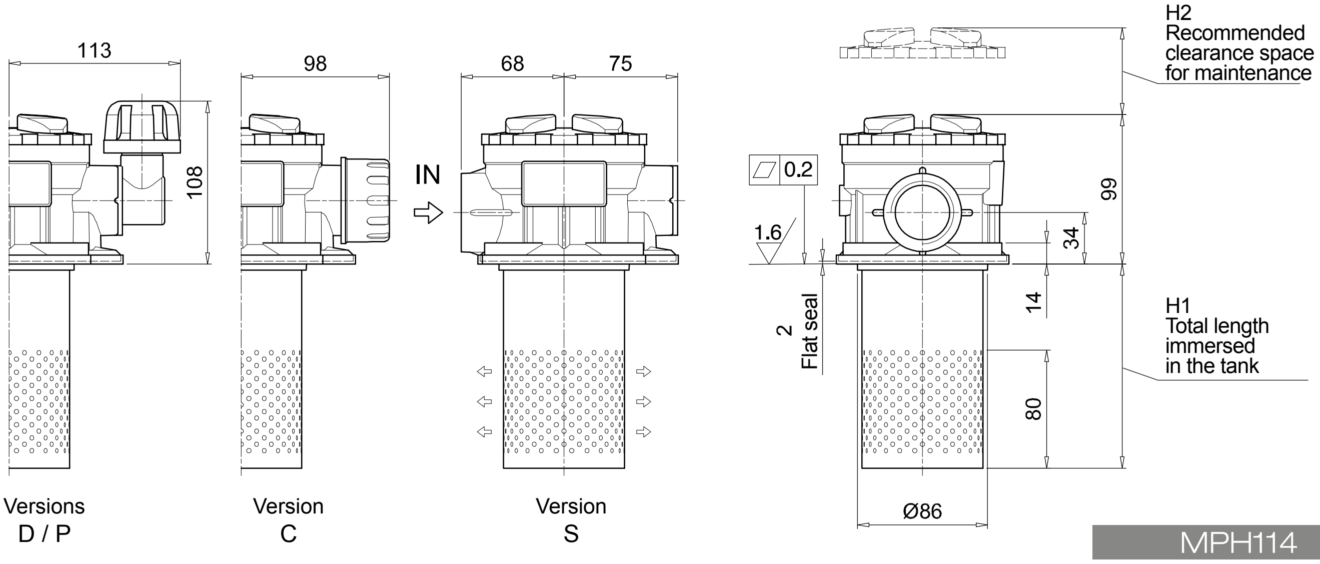
See page 266

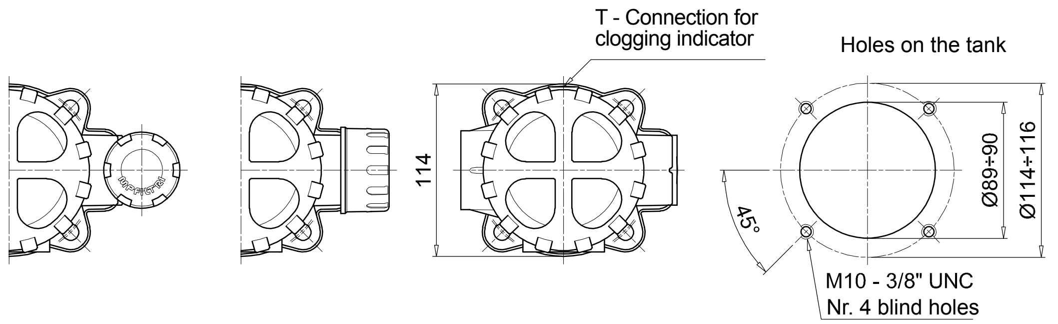
BVA	Axial pressure gauge	**BEA**	Electrical pressure indicator
BVR	Radial pressure gauge	**BEM**	Electrical pressure indicator
BVP	Visual pressure indicator with automatic reset	**BLA**	Electrical / visual pressure indicator
BVQ	Visual pressure indicator with manual reset		

Additional features

See page 278

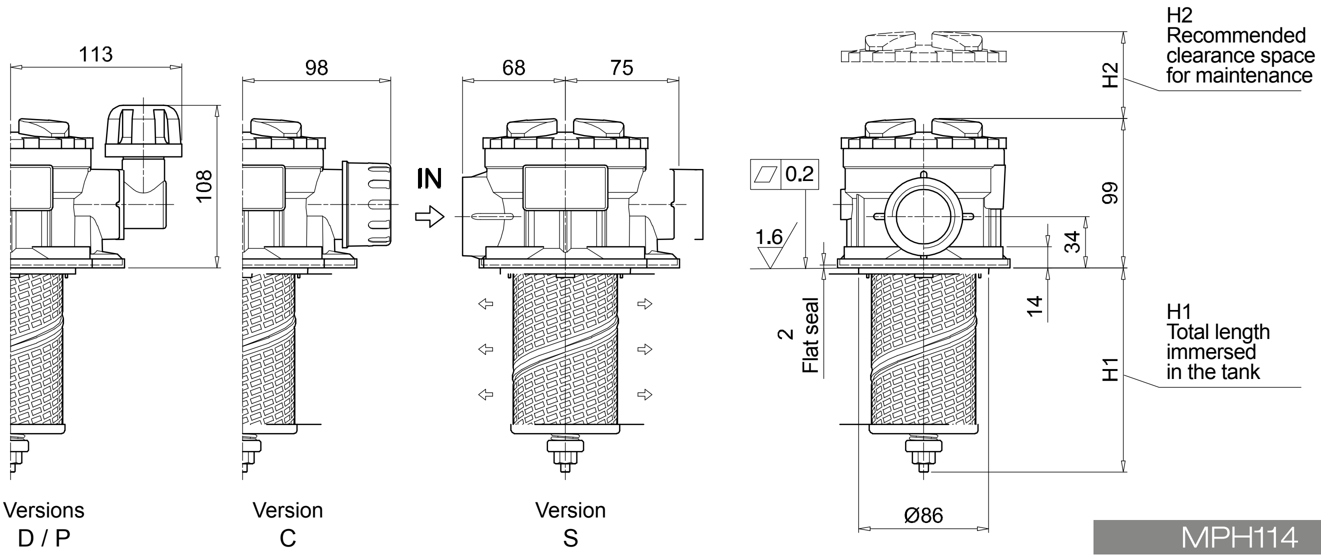
DPT	Dipstick

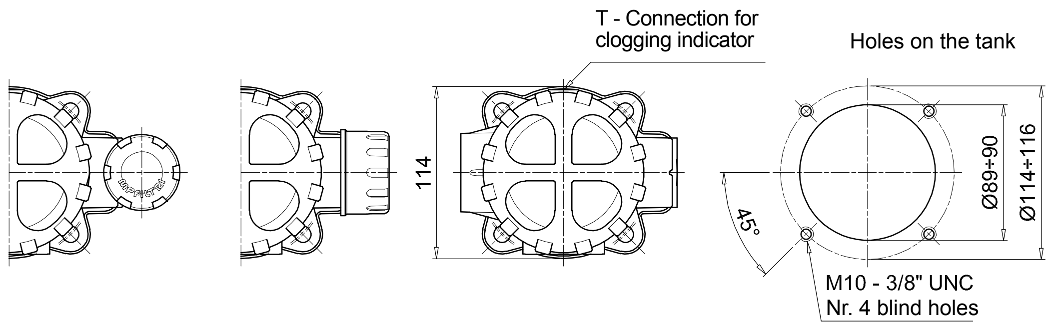




MPH114 with diffuser		
Filter length	**H1 [mm]**	**H2 [mm]**
1	188	255
2	188	255
3	238	305
4	338	405
5	438	505

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





MPH114 without diffuser		
Filter length	**H1 [mm]**	**H2 [mm]**
1	129	190
2	173	235
3	223	285
4	323	385
5	423	485

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

MPH MPH116

Designation & Ordering code

COMPLETE FILTER

Configuration example: | MPH116 | 5 | S | D | S | A | G1 | A10 | P01 |

Series and size

MPH116

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
0	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
A	NBR		•	•	•
V	FPM		•	•	•
W	NBR head anodized	filter element compatible with fluids HFA-HFB-HFC	•	•	-
Z	FPM head anodized	filter element compatible with fluids HFA-HFB-HFC	•	•	-

Flat seal on the head on request

Connections

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		

Filtration rating (filter media)

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

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

Execution

P01	MP Filtri standard
Pxx	Customized

FILTER ELEMENT

Configuration example: | MR100 | 5 | 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

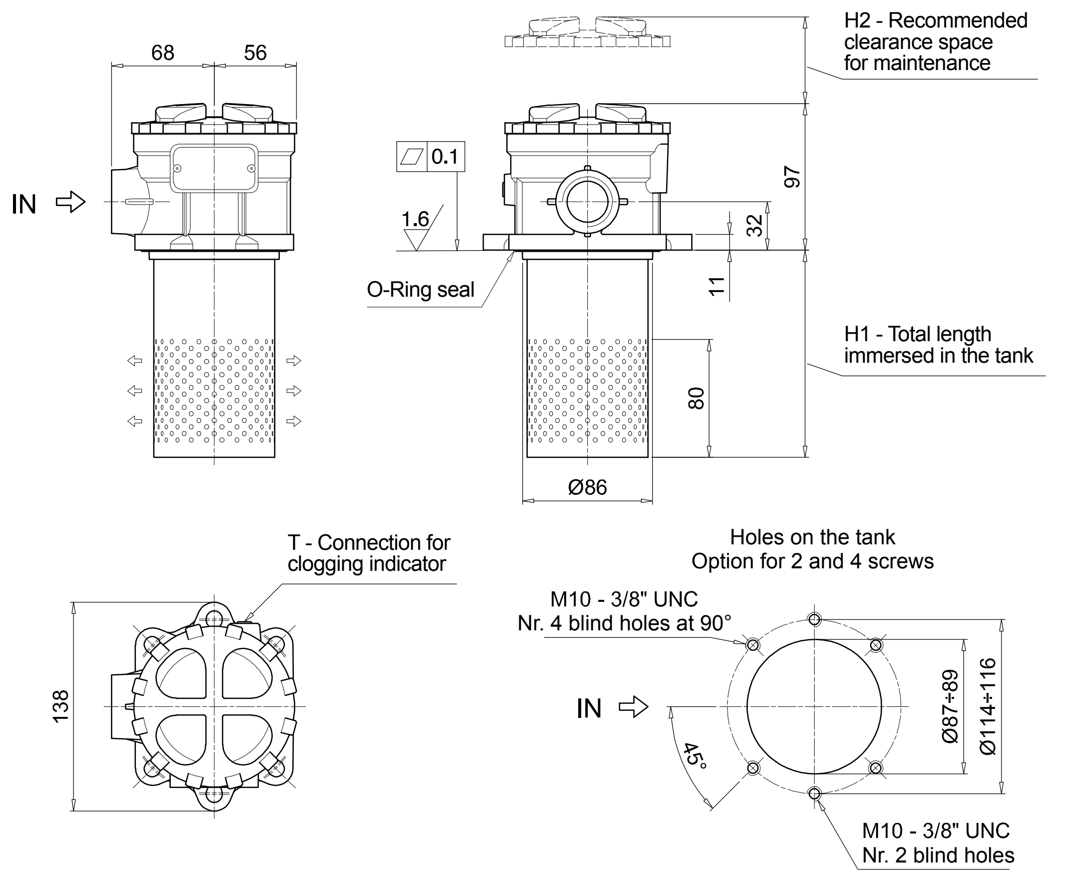
CLOGGING INDICATORS

See page 266

BVA	Axial pressure gauge	**BEA**	Electrical pressure indicator
BVR	Radial pressure gauge	**BEM**	Electrical pressure indicator
BVP	Visual pressure indicator with automatic reset	**BLA**	Electrical / visual pressure indicator
BVQ	Visual pressure indicator with manual reset		

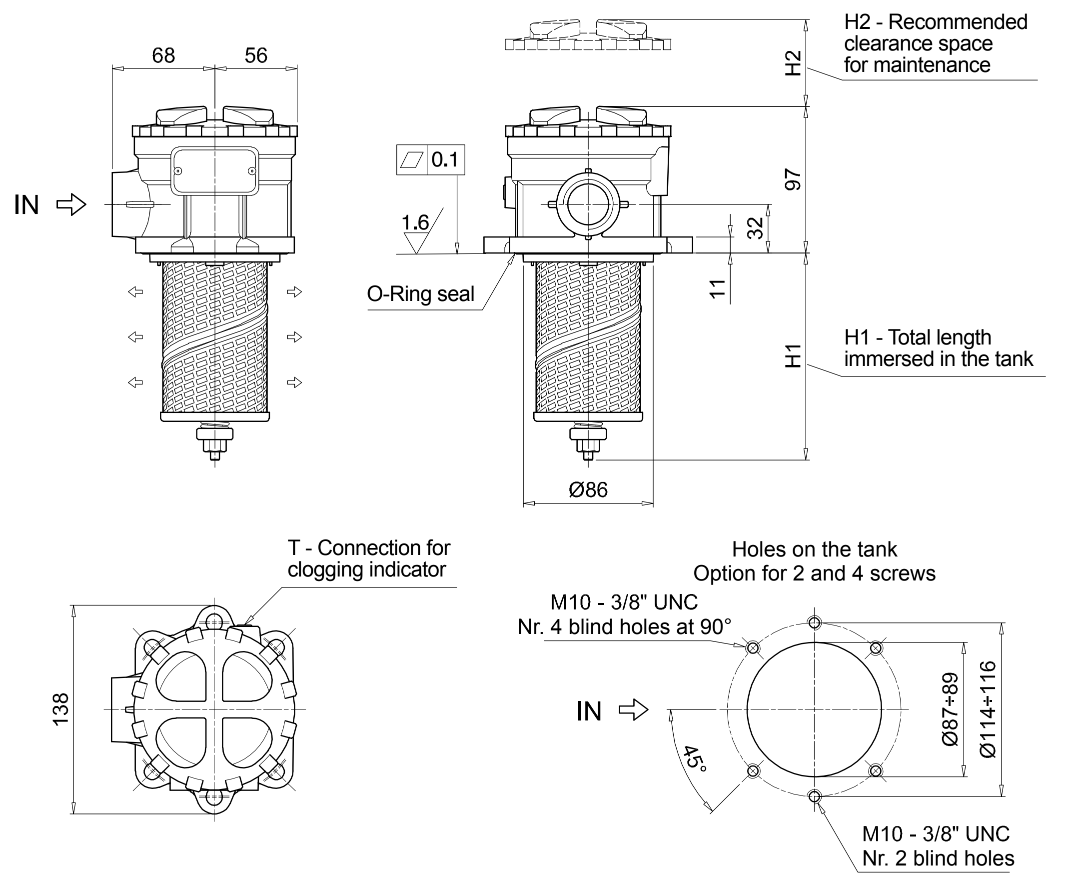
Additional features See page 278

DPT	Dipstick



MPH116 with diffuser		
Filter length	H1 [mm]	H2 [mm]
1	190	255
2	190	255
3	240	305
4	340	405
5	440	505

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



MPH116 without diffuser		
Filter length	H1 [mm]	H2 [mm]
1	131	190
2	175	235
3	225	285
4	325	385
5	425	485

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

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 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
A	NBR			•	•	•
V	FPM			•	•	•
W	NBR	head anodized	filter element compatible with fluids HFA-HFB-HFC	•	•	-
Z	FPM	head anodized		•	•	-

Main Connections		Rear connections	Aux size 1	Aux size 2
G1	G 3/4"	G 3/4"	G 3/8"	G 1/2"
G2	G 1"	G 1"		
G3	G 1 1/4"	G 3/4"		
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

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

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

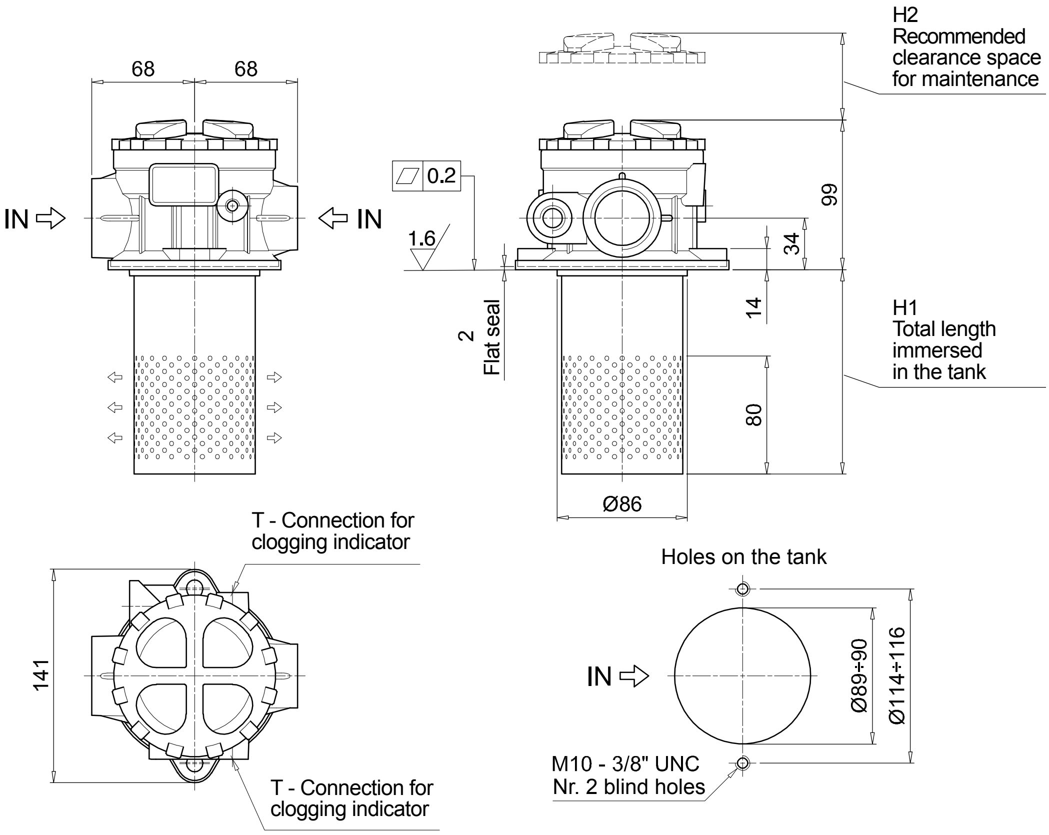
CLOGGING INDICATORS

See page 266

BVA	Axial pressure gauge	**BEA**	Electrical pressure indicator
BVR	Radial pressure gauge	**BEM**	Electrical pressure indicator
BVP	Visual pressure indicator with automatic reset	**BLA**	Electrical / visual pressure indicator
BVQ	Visual pressure indicator with manual reset		

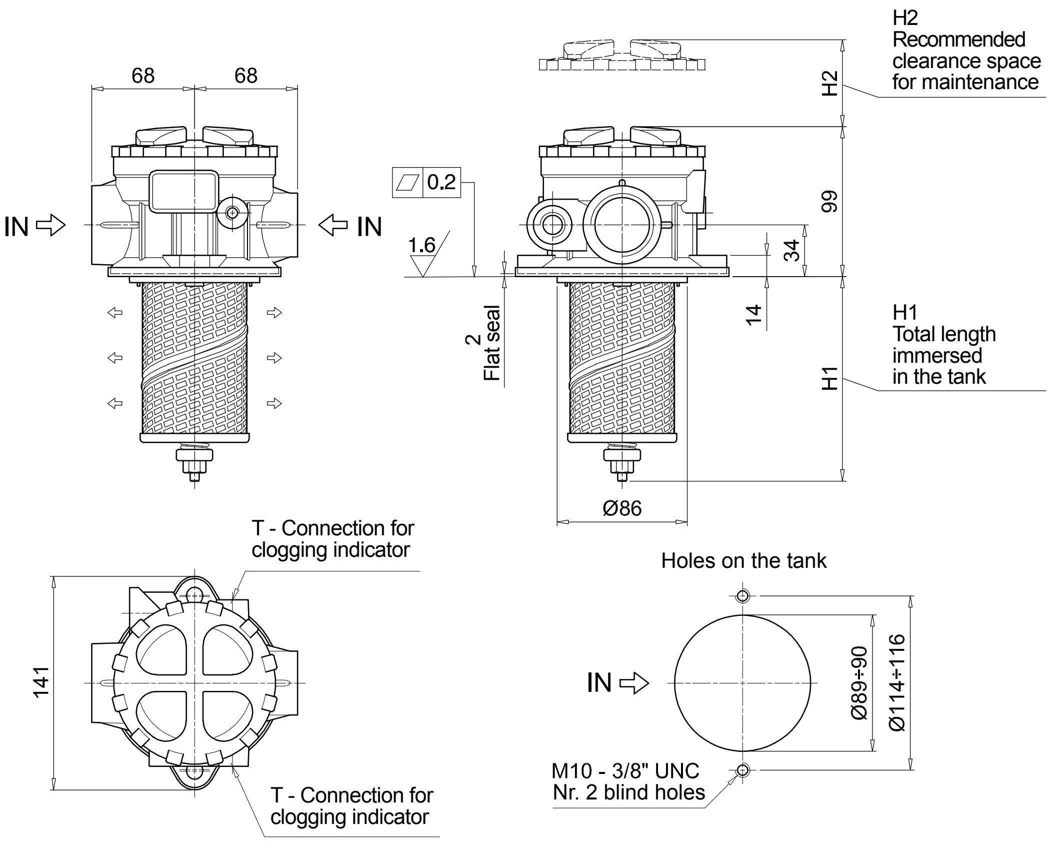
Additional features See page 278

DPT	Dipstick



MPH120		
with diffuser		
Filter length	H1 [mm]	H2 [mm]
1	188	255
2	188	255
3	238	305
4	338	405
5	438	505

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



MPH120		
without diffuser		
Filter length	H1 [mm]	H2 [mm]
1	129	190
2	173	235
3	223	285
4	323	385
5	423	485

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

Designation & Ordering code

COMPLETE FILTER

Configuration example: MPH250 | 1 | C | D | S | A | G1 | A10 | P01

Series and size
MPH250

Length
1 | 2 | 3 | 4

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
0	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
A	NBR		•	•	•
V	FPM		•	•	•
W	NBR head anodized	filter element compatible with fluids HFA-HFB-HFC	•	•	-
Z	FPM head anodized	filter element compatible with fluids HFA-HFB-HFC	•	•	-

Main Connections		Rear connections
G1	G 1 1/2”	-
G2	G 1 1/2”	G 1 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

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

Execution

P01	MP Filtri standard
Pxx	Customized

FILTER ELEMENT

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

Element series and size
MR250

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

A	NBR
V	FPM

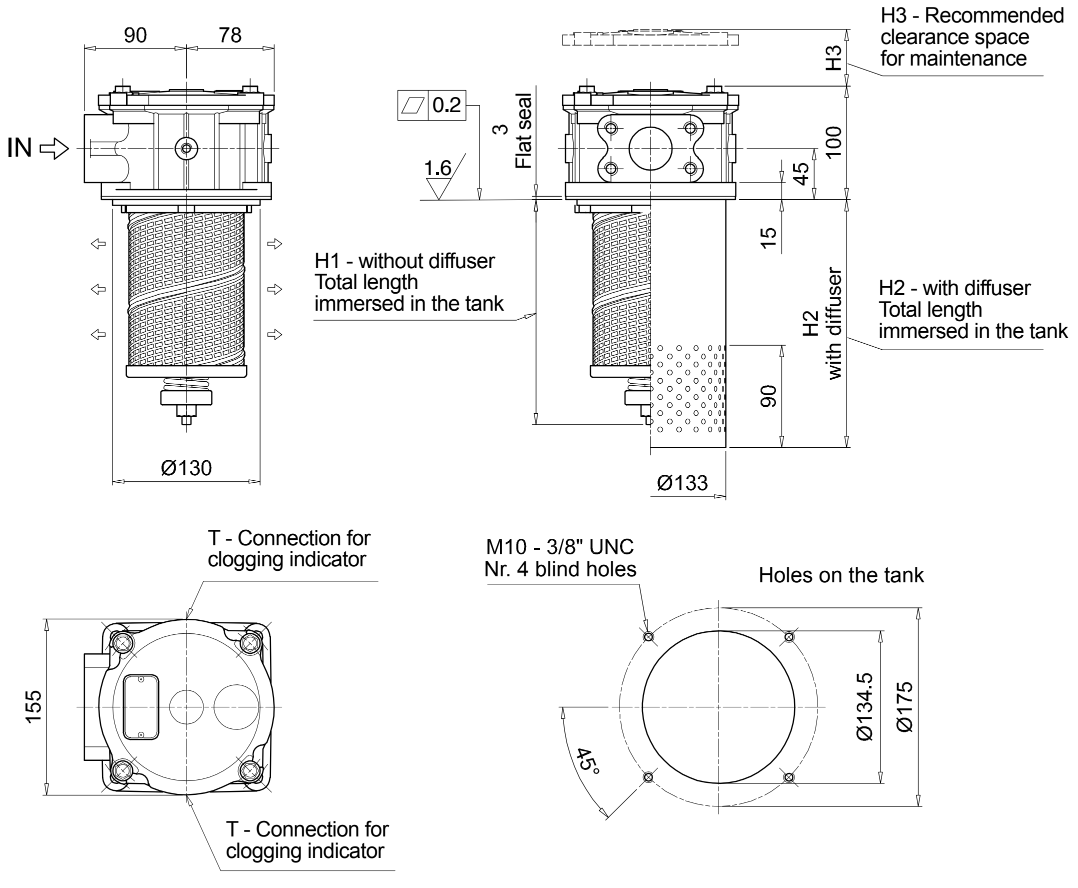
Execution

P01	MP Filtri standard
Pxx	Customized

CLOGGING INDICATORS

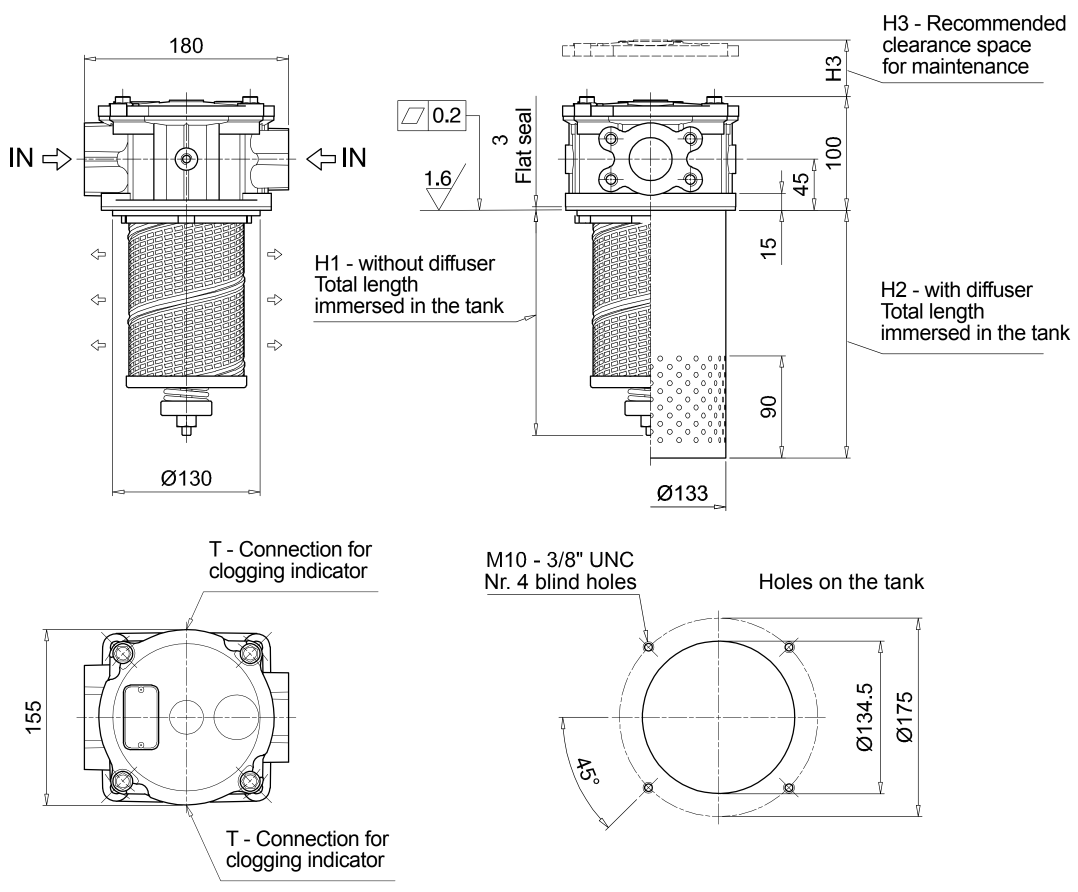
See page 266

BVA	Axial pressure gauge	**BEA**	Electrical pressure indicator
BVR	Radial pressure gauge	**BEM**	Electrical pressure indicator
BVP	Visual pressure indicator with automatic reset	**BLA**	Electrical / visual pressure indicator
BVQ	Visual pressure indicator with manual reset		



MPH250			
1 connection port			
Filter length	H1 [mm]	H2 [mm]	H3 [mm]
1	182	247	255
2	231	247	305
3	302	317	375
4	502	507	580

Connections	T
G1-G2-G3	G 1/8"
G4-G5-G6-G7-G8-G9	1/8" NPT
F1-F2	G 1/8"
F3-F4	1/8" NPT



MPH250			
2 connection ports			
Filter length	H1 [mm]	H2 [mm]	H3 [mm]
1	182	247	255
2	231	247	305
3	302	317	375
4	502	507	580

Connections	T
G1-G2-G3	G 1/8"
G4-G5-G6-G7-G8-G9	1/8" NPT
F1-F2	G 1/8"
F3-F4	1/8" NPT

Designation & Ordering code

COMPLETE FILTER

Configuration example: MPH630 | 1 | S | E | S | W | F1 | M25 | P01

Series and size

MPH630

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
0	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
A	NBR		•	•	•
V	FPM		•	•	•
W	NBR head anodized	filter element compatible with fluids HFA-HFB-HFC	•	•	-
Z	FPM head anodized		•	•	-

Main Connections		Rear connections
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

Filtration rating (filter media)

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

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

Execution

P01	MP Filtri standard
Pxx	Customized

FILTER ELEMENT

Configuration example: MR630 | 1 | M25 | A | P01

Element series and size

MR630

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

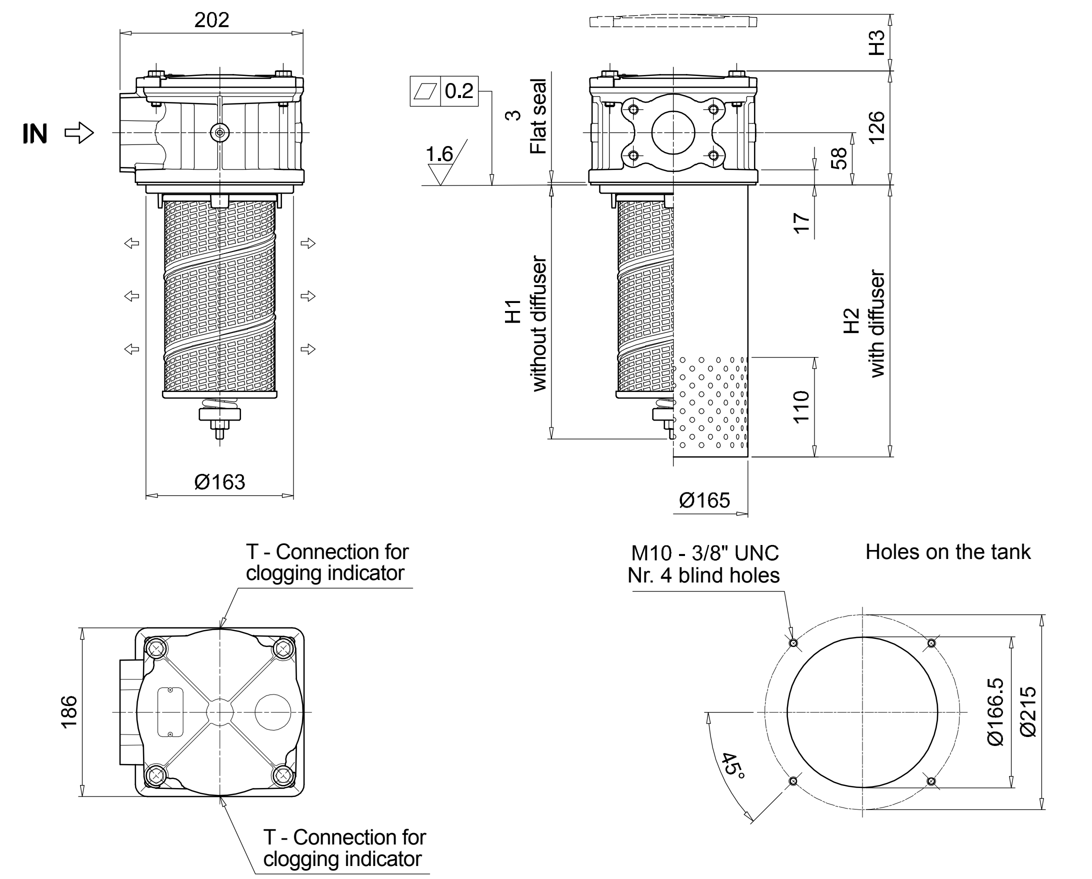
Execution

P01	MP Filtri standard
Pxx	Customized

CLOGGING INDICATORS

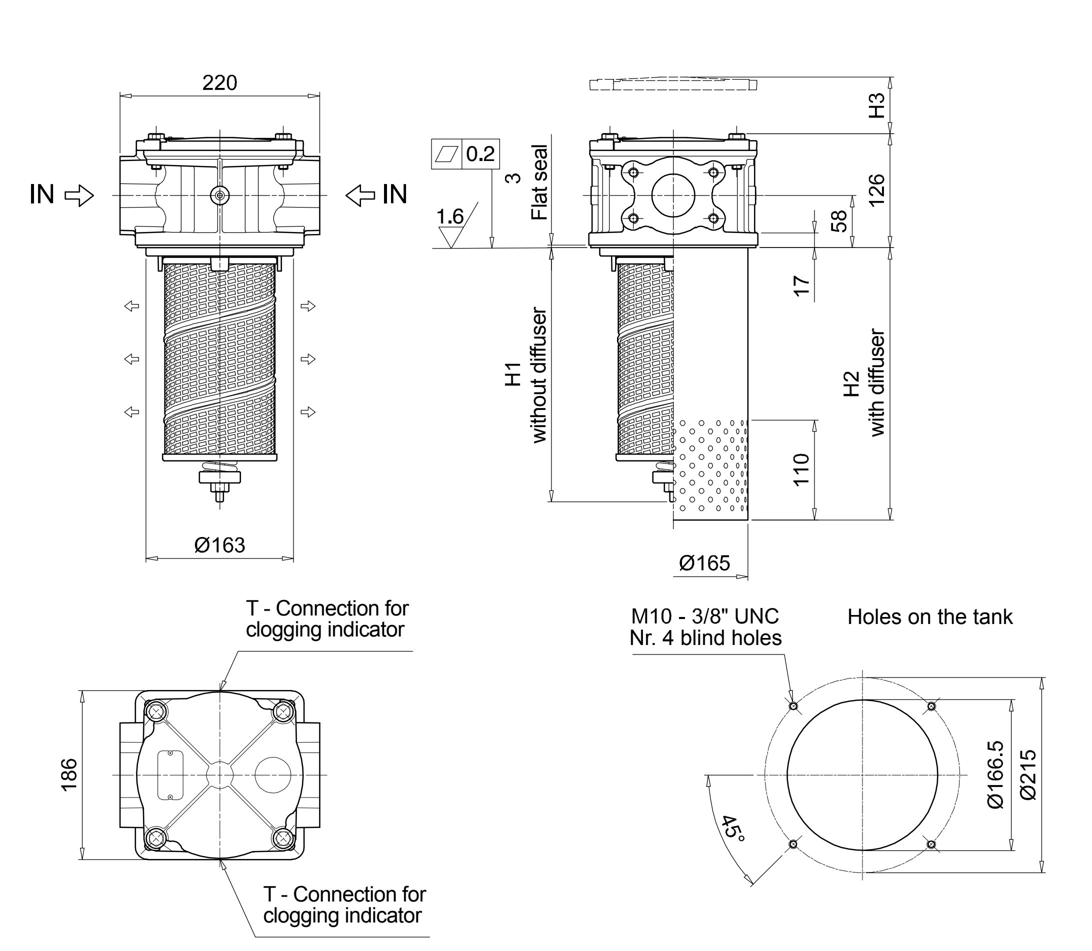
See page 266

BVA	Axial pressure gauge	**BEA**	Electrical pressure indicator
BVR	Radial pressure gauge	**BEM**	Electrical pressure indicator
BVP	Visual pressure indicator with automatic reset	**BLA**	Electrical / visual pressure indicator
BVQ	Visual pressure indicator with manual reset		



MPH630			
1 connection port			
Filter length	**H1 [mm]**	**H2 [mm]**	**H3 [mm]**
1	260	278	330
2	340	358	410
3	440	458	510
4	528	548	600
5	829	848	900

Connections	T
F1	G 1/8”
F3	1/8” NPT



MPH630			
2 connection ports			
Filter length	**H1 [mm]**	**H2 [mm]**	**H3 [mm]**
1	260	278	330
2	340	358	410
3	440	458	510
4	528	548	600
5	829	848	900

Connections	T
F2	G 1/8”
F4	1/8” NPT

MPH MPH660

Designation & Ordering code

COMPLETE FILTER

Configuration example: MPH660 | 4 | C | D | S | A | F2 | A10 | P01

Series and size

MPH660

Length

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

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	filter element compatible with fluids HFA-HFB-HFC	•	•	-

Main Connections

F1	3” SAE 3000 psi/M
F2	4” SAE 3000 psi/M

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

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

FILTER ELEMENT

Configuration example: MR630 | 5 | M25 | A | P01

Element series and size

MR630

Element length

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

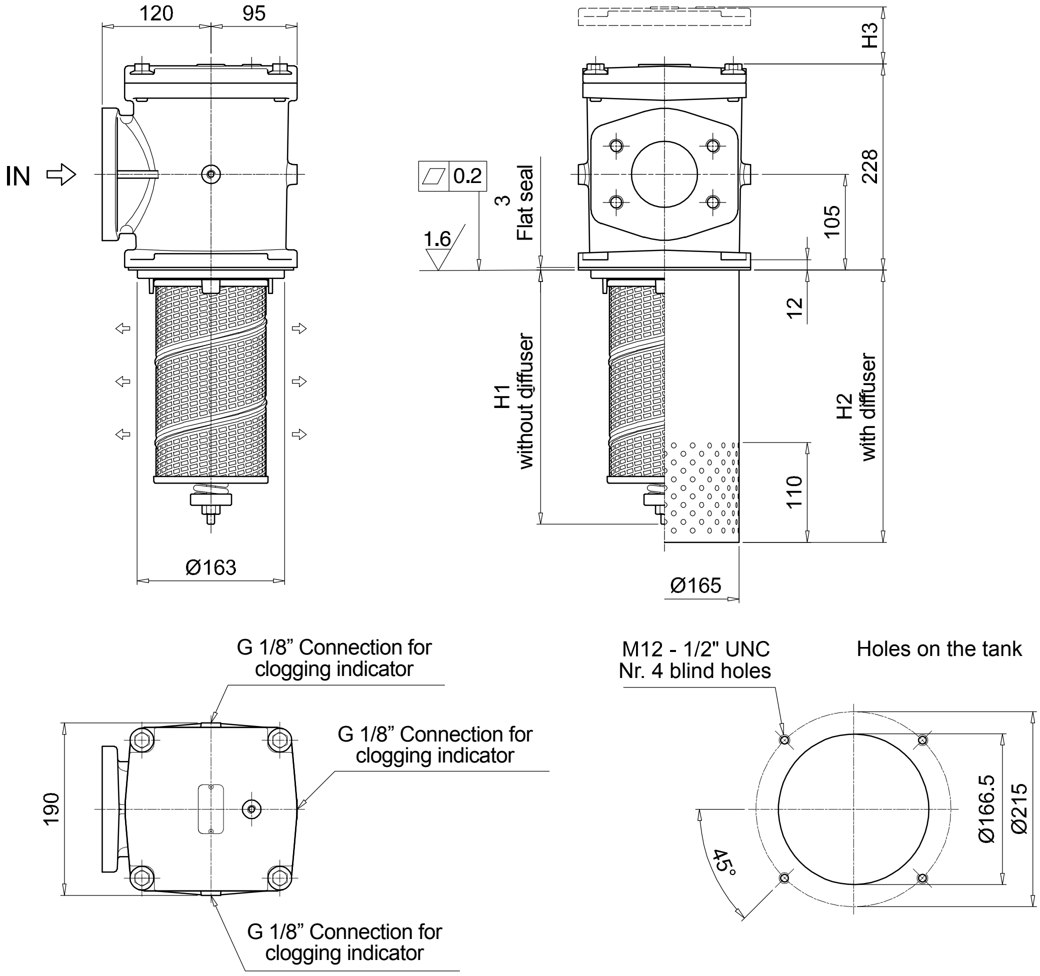
P01	MP Filtri standard
Pxx	Customized

CLOGGING INDICATORS

See page 266

BVA	Axial pressure gauge
BVR	Radial pressure gauge
BVP	Visual pressure indicator with automatic reset
BVQ	Visual pressure indicator with manual reset
BEA	Electrical pressure indicator
BEM	Electrical pressure indicator
BLA	Electrical / visual pressure indicator

MPH660			
Filter length	**H1 [mm]**	**H2 [mm]**	**H3 [mm]**
4	538	548	610
5	838	848	910



Designation & Ordering code

COMPLETE FILTER

Configuration example: MPH850 | 1 | C | D | S | A | F1 | A10 | P01

Series and size

MPH850

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
A	NBR		•	•	•
V	FPM		•	•	•
W	NBR head anodized	filter element compatible with fluids HFA-HFB-HFC	•	•	-
Z	FPM head anodized	filter element compatible with fluids HFA-HFB-HFC	•	•	-

	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

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

Execution

P01	MP Filtri standard
Pxx	Customized

FILTER ELEMENT

Configuration example: MR850 | 1 | A10 | A | P01

Element series and size

MR850

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

A	NBR
V	FPM

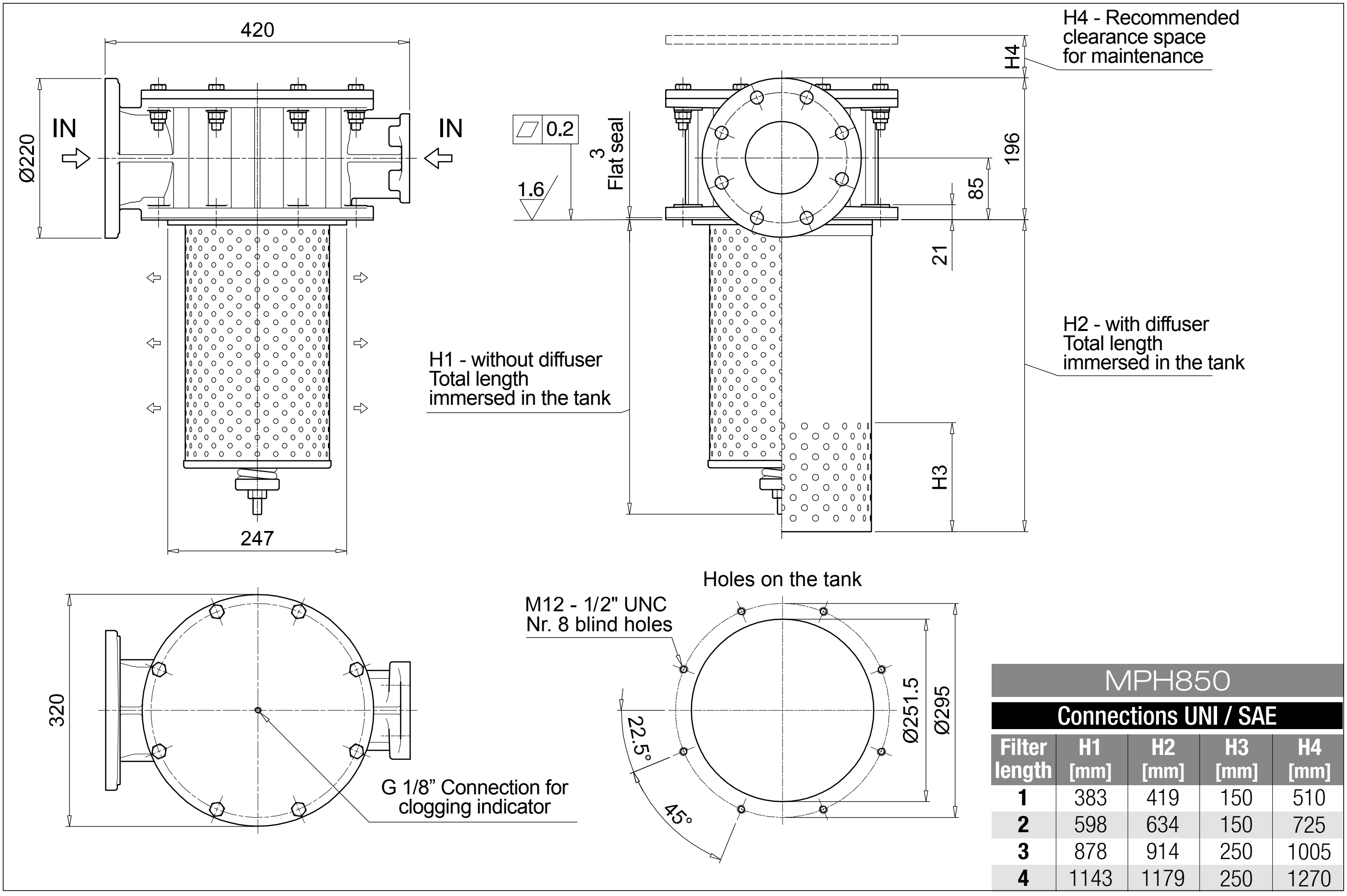
Execution

P01	MP Filtri standard
Pxx	Customized

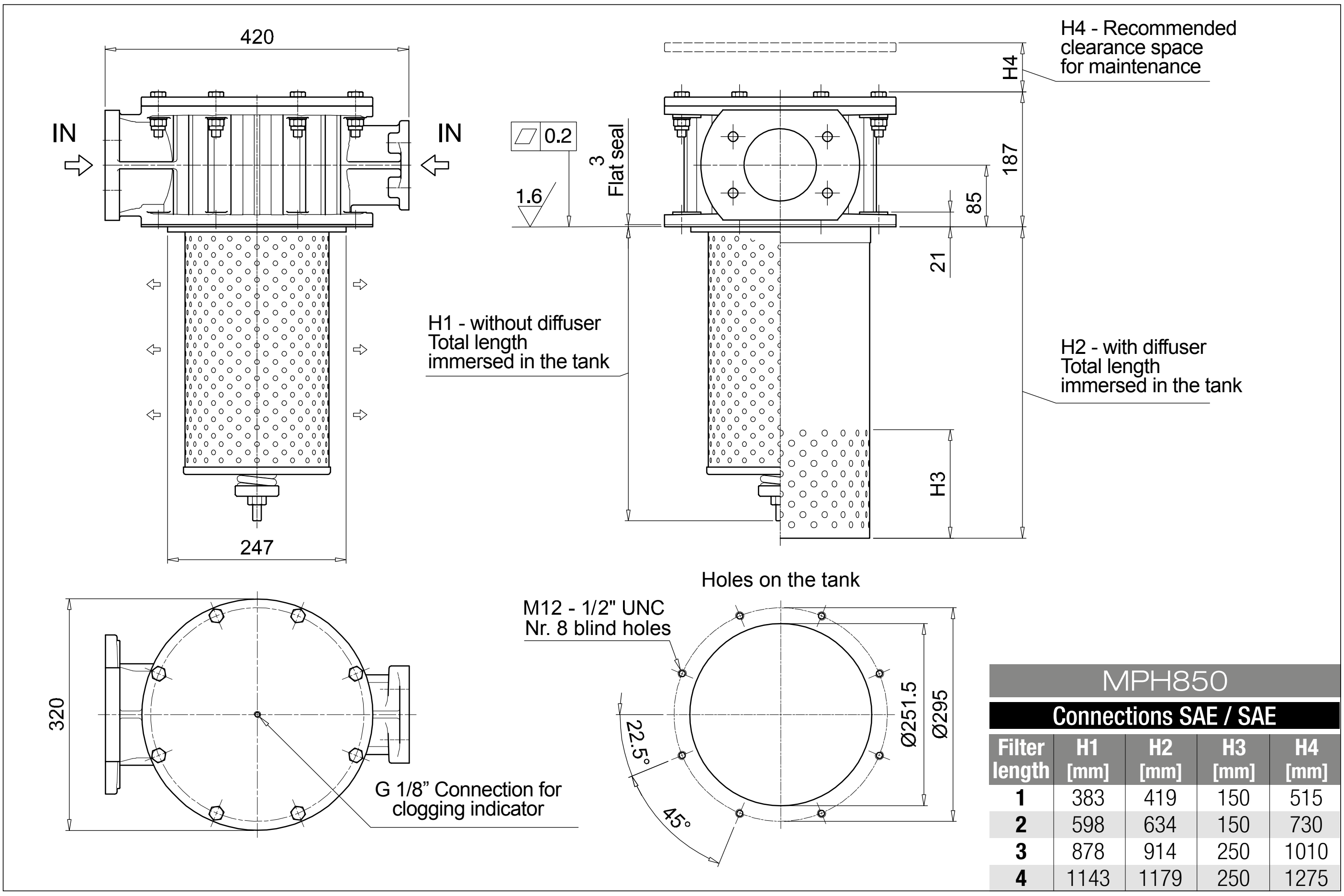
CLOGGING INDICATORS

See page 266

BVA	Axial pressure gauge	**BEA**	Electrical pressure indicator
BVR	Radial pressure gauge	**BEM**	Electrical pressure indicator
BVP	Visual pressure indicator with automatic reset	**BLA**	Electrical / visual pressure indicator
BVQ	Visual pressure indicator with manual reset		



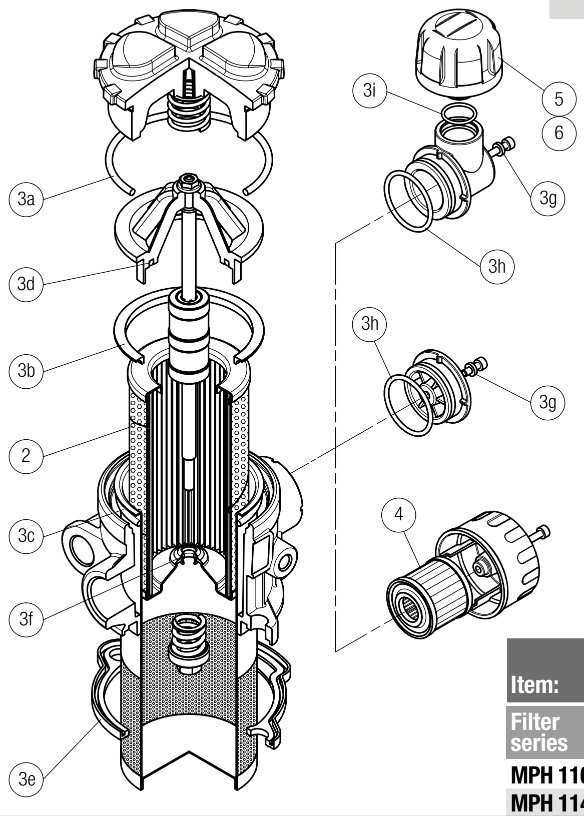
MPH850				
Connections UNI / SAE				
Filter length	H1 [mm]	H2 [mm]	H3 [mm]	H4 [mm]
1	383	419	150	510
2	598	634	150	725
3	878	914	250	1005
4	1143	1179	250	1270



MPH850				
Connections SAE / SAE				
Filter length	H1 [mm]	H2 [mm]	H3 [mm]	H4 [mm]
1	383	419	150	515
2	598	634	150	730
3	878	914	250	1010
4	1143	1179	250	1275

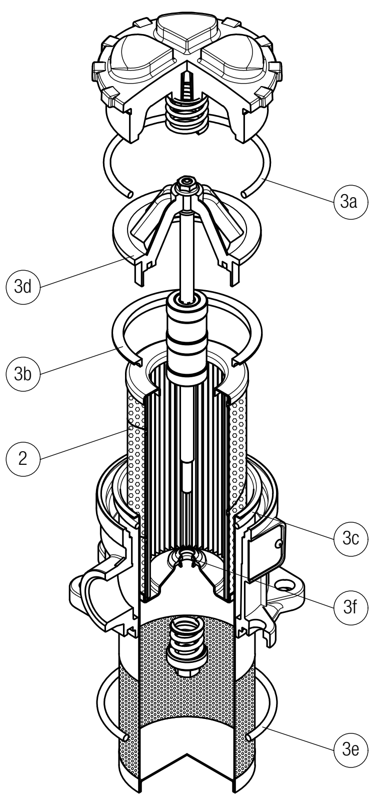
Order number for spare parts

MPH 110 - 114



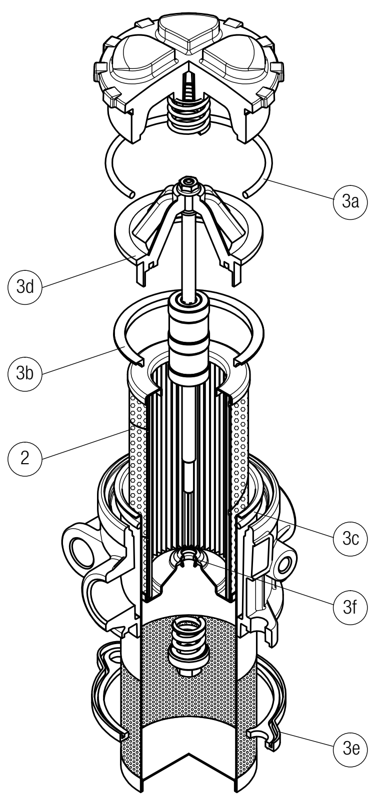
Item:	Q.ty: 1 pc. 2	Q.ty: 1 pc. 3 (3a ÷ 3i)		Q.ty: 1 pc. 4	Q.ty: 1 pc. 5	Q.ty: 1 pc. 6
Filter series	Filter element	Seal Kit code number		Air breather filter element - version:		
		NBR	FPM	C	D	P
MPH 110	See order table	02050565	02050566	10 µm A3L03	10 µm SAP50G3L03A0P01	10 µm SAP50G3L03A1P01
MPH 114		02050582	02050583			

MPH 116



Item:	Q.ty: 1 pc. 2	Q.ty: 1 pc. 3 (3a ÷ 3f)	
Filter series	Filter element	Seal Kit code number	
		NBR	FPM
MPH 116	See order table	02050741	02050742

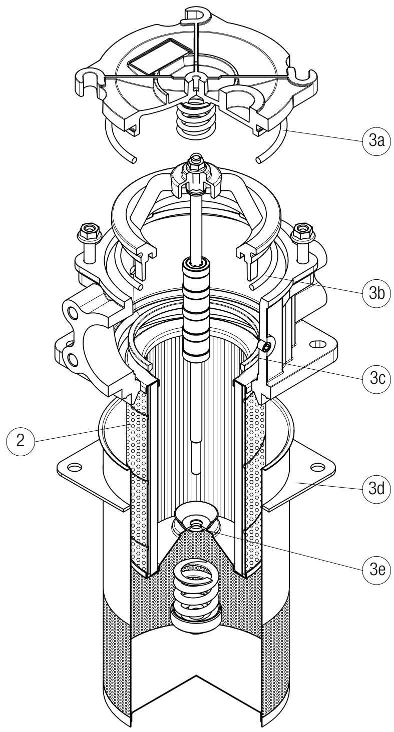
MPH 120



Item:	Q.ty: 1 pc. 2	Q.ty: 1 pc. 3 (3a ÷ 3f)	
Filter series	Filter element	Seal Kit code number	
		NBR	FPM
MPH 120	See order table	02050567	02050568

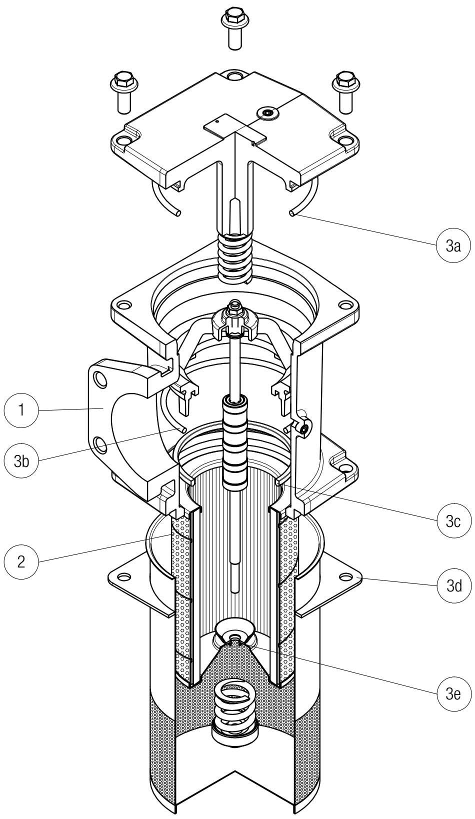
Order number for spare parts

MPH 250 - 630

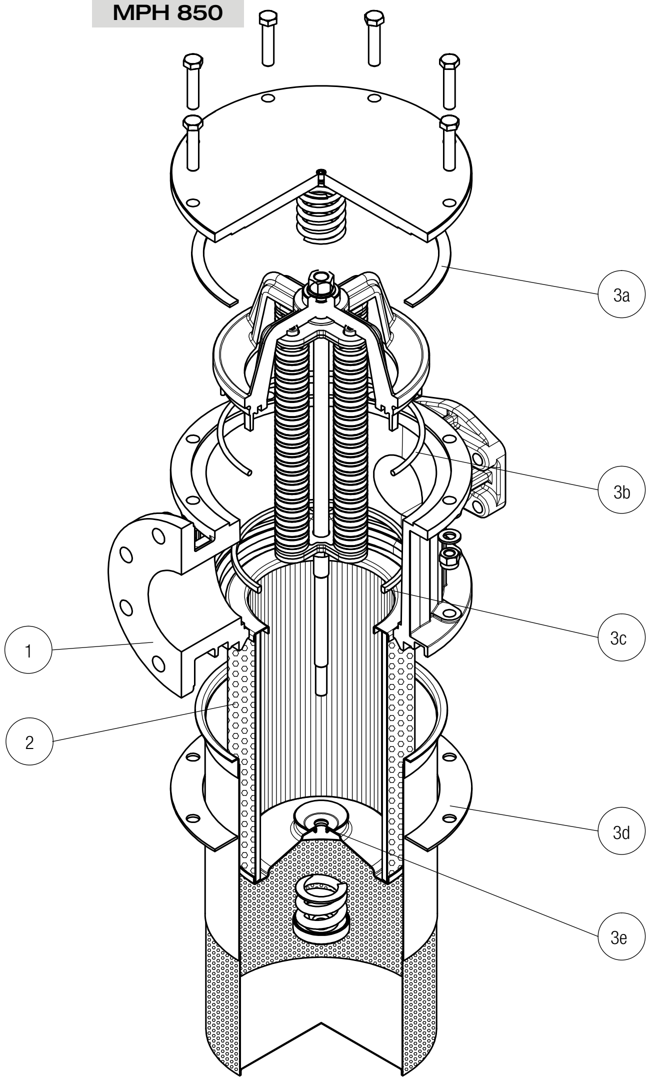


Item:	Q.ty: 1 pc. 2	Q.ty: 1 pc. 3 (3a ÷ 3e)	
Filter series	Filter element	Seal Kit code number NBR	FPM
MPH 250	See order table	02050151	02050152
MPH 630		02050153	02050154

MPH 660



MPH 850



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		02050155	02050156

Clogging 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.

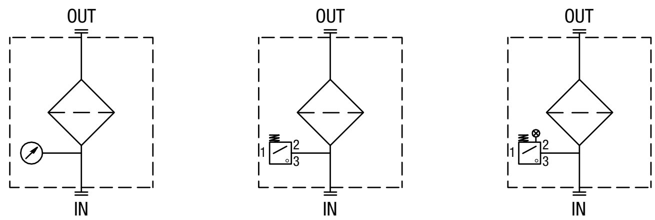
MP Filtri can supply indicators of the following designs:

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

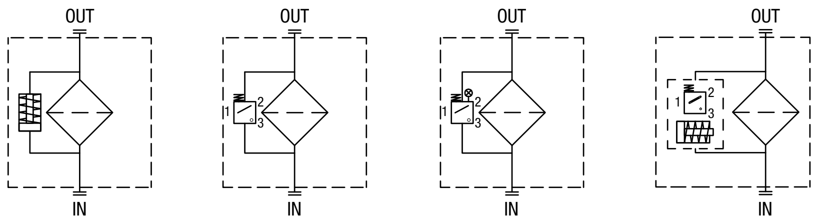
These type of devices can be provided with a visual, electrical or both signals.

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 family		Filter series	Visual indicators	Electrical indicators	Electrical / Visual indicators
RETURN FILTERS	With bypass 1.75 bar	ELIXIR® RFEX060-080-110-160	BVA14P01 BVR14P01 BVP15HP01 BVQ15HP01	BEA15HA50P01 BEM15HA41P01	BLA15HA51P01 BLA15HA52P01 BLA15HA53P01 BLA15HA71P01
	Without bypass	ELIXIR® RFEX060-080-110-160	BVA25P01 BVR25P01 BVP20HP01 BVQ20HP01	BEA20HA50P01 BEM20HA41P01	BLA20HA51P01 BLA20HA52P01 BLA20HA53P01 BLA20HA71P01
	With bypass 1.75 bar	MDH 250	BVA14P01 BVR14P01 BVP15HP01 BVQ15HP01 DVS12HP01	BEA15HA50P01 BEM15HA41P01 DES12HA10P01 DES12HA30P01 DES12HA80P01	BLA15HA51P01 BLA15HA52P01 BLA15HA53P01 BLA15HA71P01
	With bypass 3 bar	MDH 250	BVA25P01 BVR25P01 BVP20HP01 BVQ20HP01 DVS25HP01	BEA20HA50P01 BEM20HA41P01 DES25HA10P01 DES25HA30P01 DES25HA80P01	BLA20HA51P01 BLA20HA52P01 BLA20HA53P01 BLA20HA71P01
	With bypass 1.75 bar	MPFX MPTX MPF MPT MPH	BVA14P01 BVR14P01 BVP15HP01 BVQ15HP01	BEA15HA50P01 BEM15HA41P01	BLA15HA51P01 BLA15HA52P01 BLA15HA53P01 BLA15HA71P01
	With bypass 3 bar	MPFX MPTX MPF MPT	BVA25P01 BVR25P01 BVP20HP01 BVQ20HP01	BEA20HA50P01 BEM20HA41P01	BLA20HA51P01 BLA20HA52P01 BLA20HA53P01 BLA20HA71P01
	With bypass 2.5 bar	MPH			
	With bypass 4.5 bar	MPLX	DVA20xP01 DVM20xP01	DEA20xA50P01 DEM20XX10P01 DEM20XX20P01 DEM20XX30P01 DEM20XX35P01 DTA20xF70P01	DLA20xA51P01 DLA20xA52P01 DLA20xA71P01 DLE20xA50P01 DLE20xF50P01
	With bypass 2.4 bar	FRI			

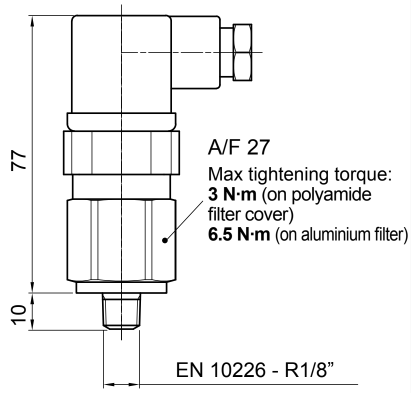
BAROMETRIC INDICATORS

Dimensions

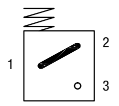
BEA*50

Electrical Pressure Indicator

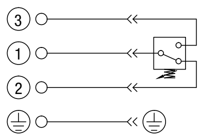
Settings	Ordering code
1.5 bar ±10%	BE A 15 H A 50 P01
2.0 bar ±10%	BE A 20 H A 50 P01



Hydraulic symbol



Electrical symbol



Materials

- Body:	Brass
- Base:	Black polyamide
- 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

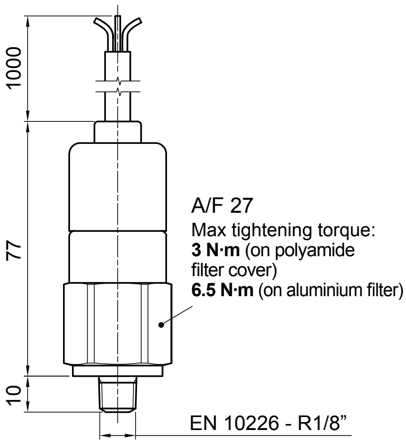
Electrical data

- 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:	I M1 Ex ia I Ma II 1GD Ex ia IIC TX Ga Ex ia IIIC TX °C Da
- CE certification	

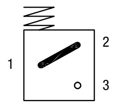
BEM*41

Electrical Pressure Indicator

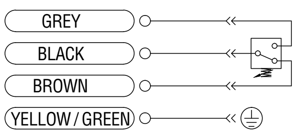
Settings	Ordering code
1.5 bar ±10%	BE M 15 H A 41 P01
2.0 bar ±10%	BE M 20 H A 41 P01



Hydraulic symbol



Electrical symbol



Materials

- Body:	Brass
- Base:	Black polyamide
- 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

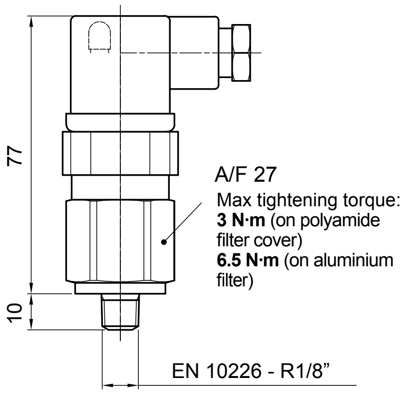
- Electrical connection:	Four-core cable
- Resistive load:	5 A / 14 Vdc 4 A / 30 Vdc 5 A / 125 Vac 4 A / 250 Vac
- CE certification	

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

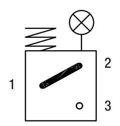
BL*51 - BL*52 - BL*53

Electrical/Visual Pressure Indicator

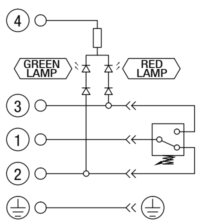
Settings	Ordering code
1.5 bar ±10%	BL A 15 H A xx P01
2.0 bar ±10%	BL A 20 H A xx P01



Hydraulic symbol



Electrical symbol



Materials

- Body:	Brass
- Base:	Transparent polyamide
- 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

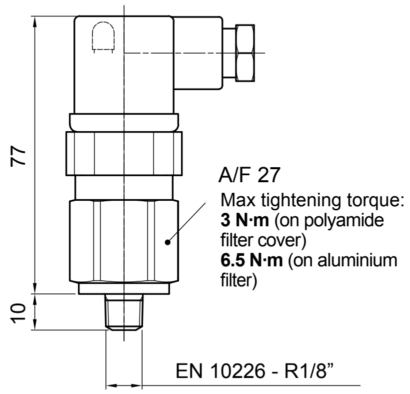
Electrical data

- 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

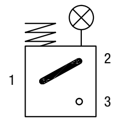
BL*71

Electrical/Visual Pressure Indicator

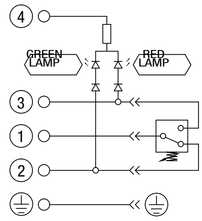
Settings	Ordering code
1.5 bar ±10%	BL A 15 H A 71 P01
2.0 bar ±10%	BL A 20 H A 71 P01



Hydraulic symbol



Electrical symbol



Materials
- Body: Brass
- Base: Black polyamide
- Contacts: Silver
- Seal: HNBR

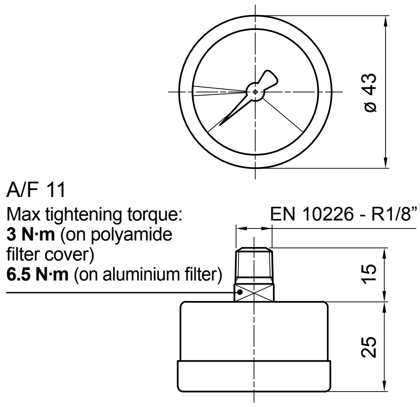
Technical data
- Max working pressure: 40 bar
- Proof pressure: 60 bar
- Working temperature: From -25 °C to +80 °C
- Compatibility with fluids: Mineral oils, Synthetic fluids HFA, HFB, HFC according to ISO 2943
- Degree of protection: IP65 according to EN 60529

Electrical data
- Electrical connection: IEC 61076-2-101 D (M12)
- Lamps: 24 Vdc
- Resistive load: 0.4 A / 24 Vdc

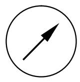
BVA

Axial Pressure Gauge

Settings	Ordering code
1.4 bar ±10%	BV A 14 P01
2.5 bar ±10%	BV A 25 P01

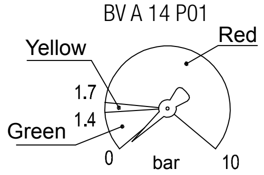


Hydraulic symbol

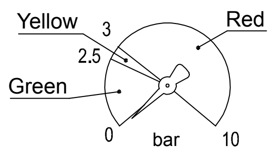


Dial scale

BV A 14 P01



BV A 25 P01



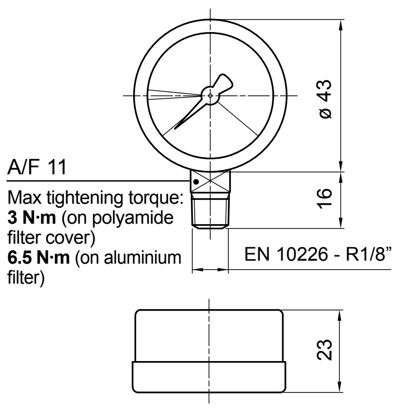
Materials
- Case: Painted Steel
- Window: Transparent plastic
- Dial: Painted Steel
- Pointer: Painted Aluminium
- Pressure connection: Brass
- Pressure element: Bourdon tube Cu-alloy soft soldered

Technical data
- 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

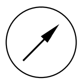
BVR

Radial Pressure Gauge

Settings	Ordering code
1.4 bar ±10%	BV R 14 P01
2.5 bar ±10%	BV R 25 P01

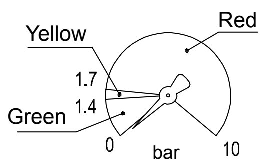


Hydraulic symbol

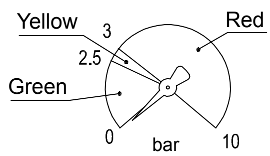


Dial scale

BV R 14 P01



BV R 25 P01

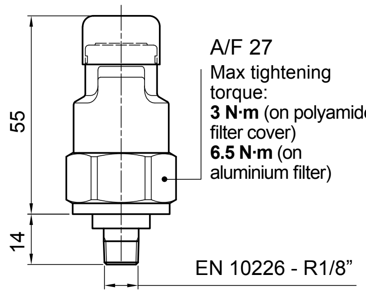


Materials
- Case: Painted Steel
- Window: Transparent plastic
- Dial: Painted Steel
- Pointer: Painted Aluminium
- Pressure connection: Brass
- Pressure element: Bourdon tube Cu-alloy soft soldered

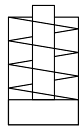
Technical data
- Max working pressure: Static: 7 bar
  Fluctuating: 6 bar
  Short time: 10 bar
- Working temperature: From -40 °C to +60 °C
- Compatibility with fluids: Mineral oils, Synthetic fluids HFA, HFB, HFC according to ISO 2943
- Accuracy: Class 2.5 according to EN 13190
- Degree of protection: IP31 according to EN 60529

Dimensions

BVP - BVQ	
Visual Pressure Indicator	
Setting	**Ordering code**
1.5 bar ±10%	BV P 15 H P01
	BV Q 15 H P01
2.0 bar ±10%	BV P 20 H P01
	BV Q 20 H P01



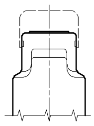
Hydraulic symbol



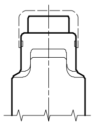
Materials
- Body: Brass
- Cover / internal parts: Polyamide
- Caps: VMQ
- Seal: HNBR

Technical data
- 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

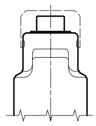
Signals



Absence of pressure
(no indicator)



Presence of pressure
(green button rises gradually)



Clogged filter element
(red button risen)

DESIGNATION & ORDERING CODE

Configuration example 1:	BE	M	15	H	A	41	P01
Configuration example 2:	BL	A	20	H	A	71	P01
Configuration example 3:	BV	R	14				P01
Configuration example 4:	BV	P	20	H			P01

Series	
BE	Electrical pressure indicator
BL	Electrical/Visual pressure indicator
BV	Visual pressure indicator

Type		BE	BL
A	Standard type	•	•
M	With wired electrical connection	•	-

BV	
A	Axial connection pressure gauge
R	Radial connection pressure gauge
P	Visual indicator with automatic reset
Q	Visual indicator with manual reset

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

Seals		BE	BLA	BVA-BVR	BVP-BVQ
H	HNBR	•	•	-	•

Thermostat		BEA-BEM	BLA	BV
A	Without	•	•	-

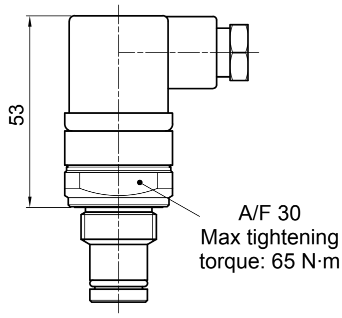
Electrical connections		BEA	BEM	BL	BV
41	Connection via four-core cable	-	•	-	-
50	Connection EN 175301-803	•	-	-	-
51	Connection EN 175301-803, transparent base with lamps 24 Vdc	-	-	•	-
52	Connection EN 175301-803, transparent base with lamps 110 Vdc	-	-	•	-
53	Connection EN 175301-803, transparent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

Option	
P01	MP Filtri standard
Pxx	Customized

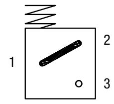
DEA*50

Electrical Differential Indicator

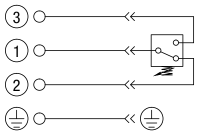
Settings	Ordering code
2.0 bar ±10%	DE A 20 x A 50 P01



Hydraulic symbol



Electrical symbol



Materials
- Body: Brass
- Base: Black polyamide
- Contacts: Silver
- Seal: HNBR - FPM

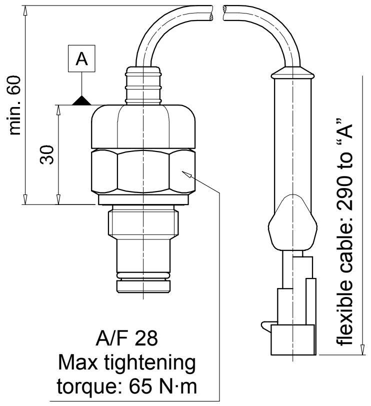
Technical data
- Max working pressure: 420 bar
- Proof pressure: 630 bar
- Burst pressure: 1260 bar
- Working temperature: From -25 °C to +110 °C
- Compatibility with fluids: Mineral oils, Synthetic fluids HFA, HFB, HFC according to ISO 2943
- Degree protection: IP66 according to EN 60529 IP69K according to ISO 20653

Electrical data
- Electrical connection: EN 175301-803
- Resistive load: 0.2 A / 115 Vdc

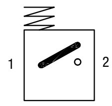
DEM*10

Electrical Differential Indicator

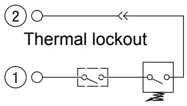
Settings	Ordering code
2.0 bar ±10%	DE M 20 xx 10 P01



Hydraulic symbol



Electrical symbol



Materials
- Body: Brass
- Base: Black polyamide
- Contacts: Silver
- Seal: HNBR - FPM

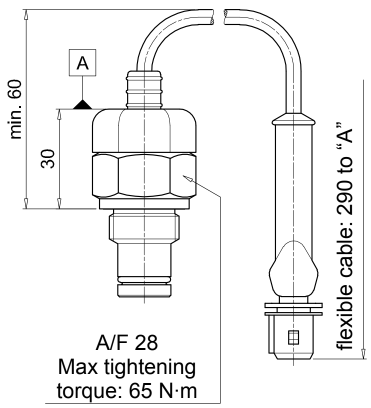
Technical data
- Max working pressure: 420 bar
- Proof pressure: 630 bar
- Burst pressure: 1260 bar
- Working temperature: From -25 °C to +110 °C
- Compatibility with fluids: Mineral oils, Synthetic fluids HFA, HFB, HFC according to ISO 2943
- Degree protection: IP66 according to EN 60529

Electrical data
- Electrical connection: AMP Superseal series 1.5
- Resistive load: 0.2 A / 115 Vdc
- Switching type: Normally open contacts (NC on request)
- Thermal lockout: Normally open up to 30 °C (option "F")

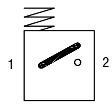
DEM*20

Electrical Differential Indicator

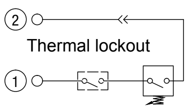
Settings	Ordering code
2.0 bar ±10%	DE M 20 xx 20 P01



Hydraulic symbol



Electrical symbol



Materials
- Body: Brass
- Base: Black polyamide
- Contacts: Silver
- Seal: HNBR - FPM

Technical data
- Max working pressure: 420 bar
- Proof pressure: 630 bar
- Burst pressure: 1260 bar
- Working temperature: From -25 °C to +110 °C
- Compatibility with fluids: Mineral oils, Synthetic fluids HFA, HFB, HFC according to ISO 2943
- Degree protection: IP66 according to EN 60529

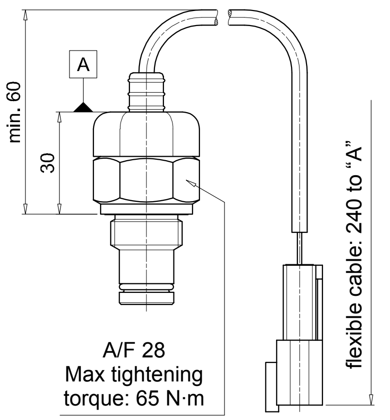
Electrical data
- Electrical connection: AMP Time junior
- Resistive load: 0.2 A / 115 Vdc
- Switching type: Normally open contacts (NC on request)
- Thermal lockout: Normally open up to 30 °C (option "F")

Dimensions

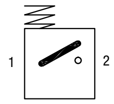
DEM*30

Electrical Differential Indicator

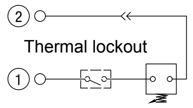
Settings	Ordering code
2.0 bar ±10%	DE M 20 xx 30 P01



Hydraulic symbol



Electrical symbol



Materials
- Body: Brass
- Base: Black polyamide
- Contacts: Silver
- Seal: HNBR - FPM

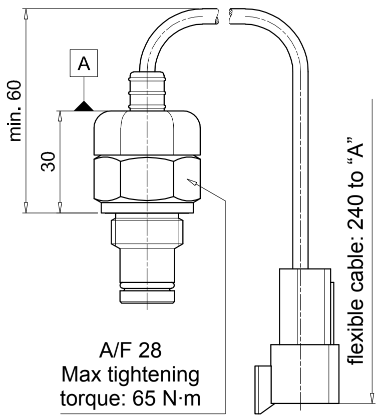
Technical data
- Max working pressure: 420 bar
- Proof pressure: 630 bar
- Burst pressure: 1260 bar
- Working temperature: From -25 °C to +110 °C
- Compatibility with fluids: Mineral oils, Synthetic fluids HFA, HFB, HFC according to ISO 2943
- Degree protection: IP66 according to EN 60529

Electrical data
- Electrical connection: Deutsch DT-04-2-P
- Resistive load: 0.2 A / 115 Vdc
- Switching type: Normally open contacts (NC on request)
- Thermal lockout: Normally open up to 30 °C (option “F”)

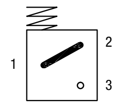
DEM*35

Electrical Differential Indicator

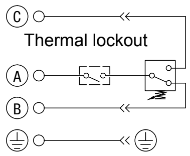
Settings	Ordering code
2.0 bar ±10%	DE M 20 xx 35 P01



Hydraulic symbol



Electrical symbol



Materials
- Body: Brass
- Base: Black polyamide
- Contacts: Silver
- Seal: HNBR - FPM

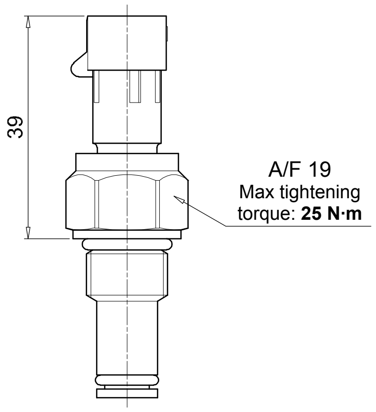
Technical data
- Max working pressure: 420 bar
- Proof pressure: 630 bar
- Burst pressure: 1260 bar
- Working temperature: From -25 °C to +110 °C
- Compatibility with fluids: Mineral oils, Synthetic fluids HFA, HFB, HFC according to ISO 2943
- Degree protection: IP66 according to EN 60529

Electrical data
- Electrical connection: Deutsch DT-04-3-P
- Resistive load: 0.2 A / 115 Vdc
- Switching type: SPDT contact
- Thermal lockout: Normally open up to 30 °C (option “F”)

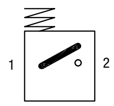
DES*10

Electrical Differential Indicator

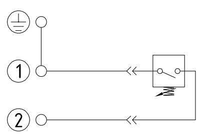
Settings	Ordering code
1.2 bar ±10%	DE S 12 H A 10 P01
2.5 bar ±10%	DE S 25 H A 10 P01



Hydraulic symbol



Electrical symbol



Materials
- Body: Brass
- Internal parts: Brass - Polyamide
- Contacts: Silver
- Seal: HNBR

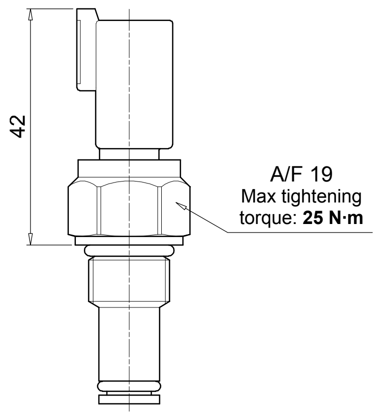
Technical data
- Max working pressure: 16 bar
- Proof pressure: 24 bar
- Burst pressure: 48 bar
- Working temperature: From -25 °C to +110 °C
- Compatibility with fluids: Mineral oils, Synthetic fluids HFA, HFB, HFC according to ISO 2943
- Degree protection: IP67 according to EN 60529

Electrical data
- Electrical connection: AMP Superseal series 1.5
- Resistive load: 0.2 A / 24 Vdc
- Switching type: Normally open contacts (NC on request)

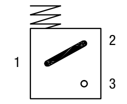
DES*30

Electrical Differential Indicator

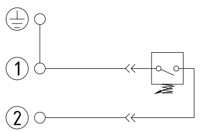
Settings	Ordering code
1.2 bar ±10%	DE S 12 H A 30 P01
2.5 bar ±10%	DE S 25 H A 30 P01



Hydraulic symbol



Electrical symbol



Materials

- Body: Brass
- Internal parts: Brass - Polyamide
- Contacts: Silver
- Seal: HNBR

Technical data

- Max working pressure: 16 bar
- Proof pressure: 24 bar
- Burst pressure: 48 bar
- Working temperature: From -25 °C to +110 °C
- Compatibility with fluids: Mineral oils, Synthetic fluids HFA, HFB, HFC according to ISO 2943
- Degree protection: IP67 according to EN 60529

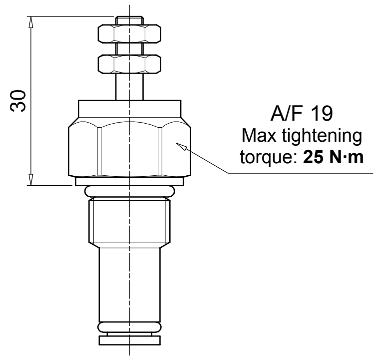
Electrical data

- Electrical connection: Deutsch DT-04-2-P
- Resistive load: 0.2 A / 24 Vdc
- Switching type: Normally open contacts (NC on request)

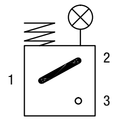
DES*80

Electrical Differential Indicator

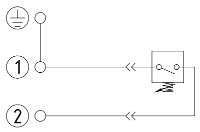
Settings	Ordering code
1.2 bar ±10%	DE S 12 H A 80 P01
2.5 bar ±10%	DE S 25 H A 80 P01



Hydraulic symbol



Electrical symbol



Materials

- Body: Brass
- Internal parts: Brass - Polyamide
- Contacts: Silver
- Seal: HNBR

Technical data

- Max working pressure: 16 bar
- Proof pressure: 24 bar
- Burst pressure: 48 bar
- Working temperature: From -25 °C to +110 °C
- Compatibility with fluids: Mineral oils, Synthetic fluids HFA, HFB, HFC according to ISO 2943
- Degree protection: IP67 according to EN 60529

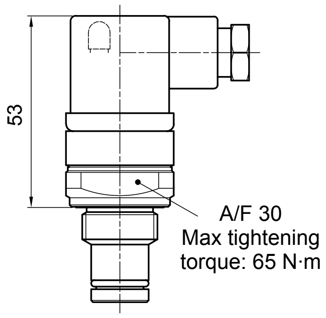
Electrical data

- Electrical connection: Stud #10-32 UNF
- Resistive load: 0.2 A / 24 Vdc
- Switching type: Normally open contacts (NC on request)

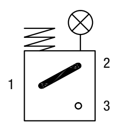
DLA*51 - DLA*52

Electrical/Visual Differential Indicator

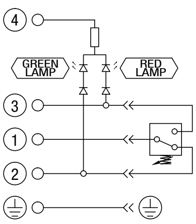
Settings	Ordering code
2.0 bar ±10%	DL A 20 x A xx P01



Hydraulic symbol



Electrical symbol



Materials

- Body: Brass
- Base: Transparent polyamide
- Contacts: Silver
- Seal: HNBR - FPM

Technical data

- Max working pressure: 420 bar
- Proof pressure: 630 bar
- Burst pressure: 1260 bar
- Working temperature: From -25 °C to +110 °C
- Compatibility with fluids: Mineral oils, Synthetic fluids HFA, HFB, HFC according to ISO 2943
- Degree protection: IP66 according to EN 60529, IP69K according to ISO 20653

Electrical data

- Electrical connection: EN 175301-803

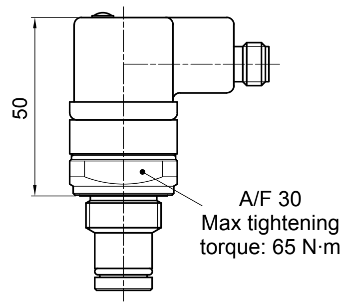
	51	52
- Type	51	52
- Lamps	24 Vdc	110 Vdc
- Resistive load:	1 A / 24 Vdc	1 A / 110 Vdc

Dimensions

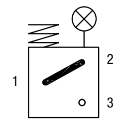
DLA*71

Electrical/Visual Differential Indicator

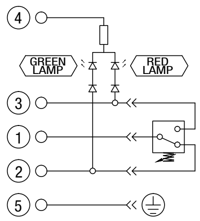
Settings	Ordering code
2.0 bar ±10%	DL A 20 x A 71 P01



Hydraulic symbol



Electrical symbol



Materials
- Body: Brass
- Base: Black polyamide
- Contacts: Silver
- Seal: HNBR - FPM

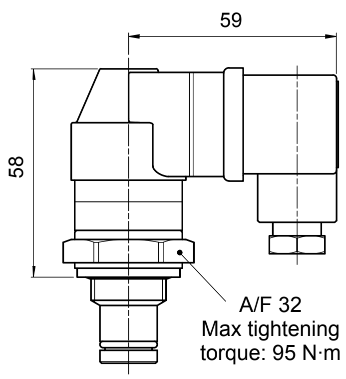
Technical data
- Max working pressure: 420 bar
- Proof pressure: 630 bar
- Burst pressure: 1260 bar
- Working temperature: From -25 °C to +110 °C
- Compatibility with fluids: Mineral oils, Synthetic fluids HFA, HFB, HFC according to ISO 2943
- Degree protection: IP65 according to EN 60529 IP69K according to ISO 20653

Electrical data
- Electrical connection: IEC 61076-2-101 D (M12)
- Lamps 24 Vdc
- Resistive load: 0.4 A / 24 Vdc

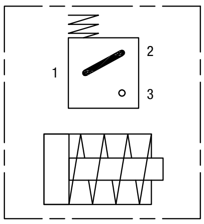
DLE*A50

Electrical/Visual Differential Indicator

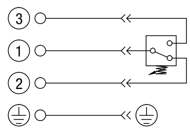
Settings	Ordering code
2.0 bar ±10%	DL E 20 x A 50 P01



Hydraulic symbol



Electrical symbol



Materials
- Body: Brass
- Base: Black polyamide
- Contacts: Silver
- Seal: HNBR - FPM

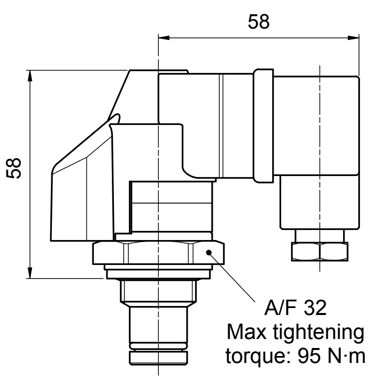
Technical data
- Max working pressure: 420 bar
- Proof pressure: 630 bar
- Burst pressure: 1260 bar
- Working temperature: From -25 °C to +110 °C
- Compatibility with fluids: Mineral oils, Synthetic fluids HFA, HFB, HFC according to ISO 2943
- Degree protection: IP65 according to EN 60529

Electrical data
- Electrical connections: EN 175301-803
- Resistive load: 5 A / 250 Vac
- Available the connector with lamps

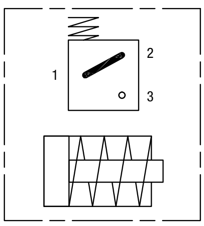
DLE*F50

Electrical/Visual Differential Indicator

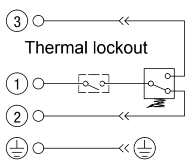
Settings	Ordering code
2.0 bar ±10%	DL E 20 x F 50 P01



Hydraulic symbol



Electrical symbol



Materials
- Body: Brass
- Base: Black polyamide
- Contacts: Silver
- Seal: HNBR - FPM

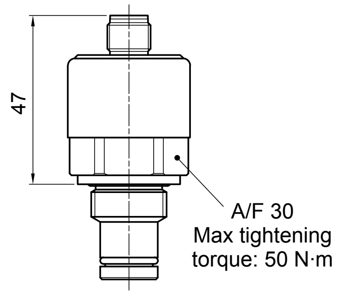
Technical data
- Max working pressure: 420 bar
- Proof pressure: 630 bar
- Burst pressure: 1260 bar
- Working temperature: From -25 °C to +110 °C
- Compatibility with fluids: Mineral oils, Synthetic fluids HFA, HFB, HFC according to ISO 2943
- Degree protection: IP65 according to EN 60529

Electrical data
- Electrical connections: EN 175301-803
- Resistive load: 5 A / 250 Vac
- Thermal lockout setting: +30 °C

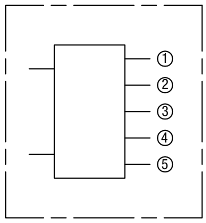
DTA*70

Electrical Differential Indicator

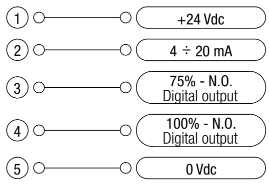
Settings	Ordering code
2.0 bar ±10%	DT A 20 x x 70 P01



Hydraulic symbol



Electrical symbol



Materials

- Body: Brass
- Internal parts: Brass - Nylon
- Contacts: Silver
- Seal: HNBR - FPM

Industry 4.0 READY

Technical data

- Max working pressure: 420 bar
- Proof pressure: 630 bar
- Burst pressure: 1260 bar
- Compatibility with fluids: Mineral oils, Synthetic fluids HFA, HFB, HFC according to ISO 2943
- Degree protection: IP67 according to EN 60529

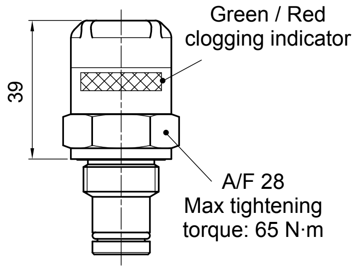
Electrical data

- Electrical connection: IEC 61076-2-101 D (M12)
- Power supply: 24 Vdc
- Analogue output: From 4 to 20 mA
- Thermal lockout: 30 °C (all output signals stalled up to 30 °C)

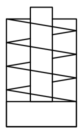
DVA

Visual Differential Indicator

Settings	Ordering code
2.0 bar ±10%	DV A 20 x P01



Hydraulic symbol



Materials

- Body: Brass
- Internal parts: Brass - Nylon
- Contacts: Silver
- Seal: HNBR - FPM

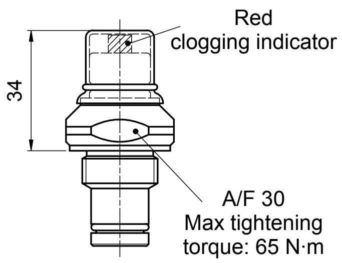
Technical data

- Reset: Automatic reset
- Max working pressure: 420 bar
- Proof pressure: 630 bar
- Burst pressure: 1260 bar
- Working temperature: From -25 °C to +110 °C
- Compatibility with fluids: Mineral oils, Synthetic fluids HFA, HFB, HFC according to ISO 2943
- Degree protection: IP65 according to EN 60529

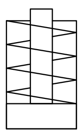
DVM

Visual Differential Indicator

Settings	Ordering code
2.0 bar ±10%	DV M 20 x P01



Hydraulic symbol



Materials

- Body: Brass
- Internal parts: Brass - Nylon
- Contacts: Silver
- Seal: HNBR - FPM

Technical data

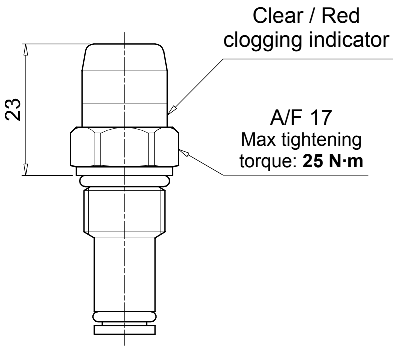
- Reset: Manual reset
- Max working pressure: 420 bar
- Proof pressure: 630 bar
- Burst pressure: 1260 bar
- Working temperature: From -25 °C to +110 °C
- Compatibility with fluids: Mineral oils, Synthetic fluids HFA, HFB, HFC according to ISO 2943
- Degree protection: IP65 according to EN 60529

Dimensions

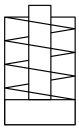
DVS

Visual Differential Indicator

Settings	Ordering code
1.2 bar ±10%	DV S 12 H P01
2.5 bar ±10%	DV S 25 H P01



Hydraulic symbol



Materials

- Body: Brass
- Internal parts: Brass - Polyamide
- Contacts: Silver
- Seal: HNBR

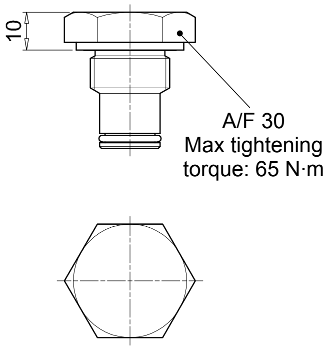
Technical data

- Reset: Automatic reset
- Max working pressure: 16 bar
- Proof pressure: 24 bar
- Burst pressure: 48 bar
- Working temperature: From -25 °C to +110 °C
- Compatibility with fluids: Mineral oils, Synthetic fluids HFA, HFB, HFC according to ISO 2943
- Degree protection: IP67 according to EN 60529

T2

Indicator plug

Seal	Ordering code
HNBR	T2 H
FPM	T2 V



Materials

- Body: Phosphatized steel
- Seal: HNBR / FPM

DESIGNATION & ORDERING CODE - DIFFERENTIAL INDICATORS

Configuration example 1:	DE	M	20	H	F	50	P01
Configuration example 2:	DL	E	20	V	A	71	P01
Configuration example 3:	DT	A	20	H	F	70	P01
Configuration example 4:	DV	M	20	V			P01

Series	
DE	Electrical differential indicator
DL	Electrical/Visual differential indicator
DT	Electrical differential indicator
DV	Visual differential indicator

Type		DE	DL	DT
A	Standard type	•	•	•
M	With wired electrical connection	•	-	-
E	For high power supply	-	•	-
S	Compact version	•	-	-

DV	
A	With automatic reset
M	With manual reset
S	With automatic reset

Pressure setting		DE	DL	DT	DV
12	1.2 bar	•	-	-	•
20	2.0 bar	•	•	•	•
25	2.5 bar	•	-	-	-

Seals	
H	HNBR
V	FPM

Thermostat		DEA	DEM	DLA	DLE	DT	DV
A	Without thermostat	•	•	•	•	-	-
F	With thermostat	-	•	-	•	•	-

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

Option	
P01	MP Filtri standard
Pxx	Customized

DESIGNATION & ORDERING CODE - DIFFERENTIAL INDICATOR PLUG

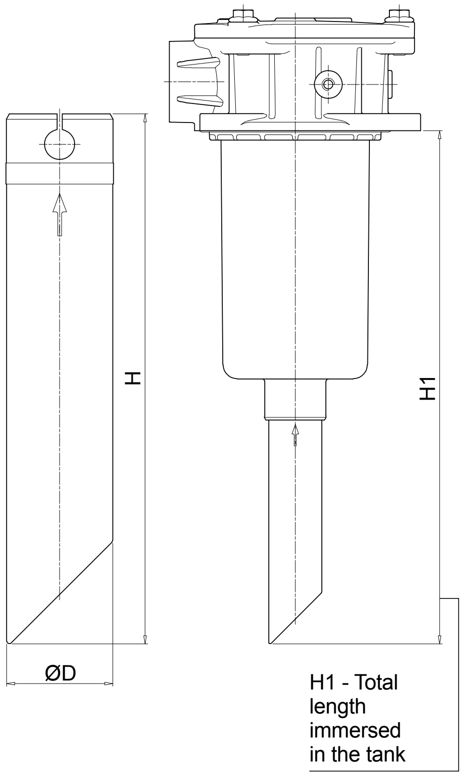
Configuration example	T2	H

Series	
T2	Indicator plug

Seals	
H	HNBR
V	FPM

Accessories

POLYAMIDE EXTENSION TUBE



Configuration example: TE | 40 | A | 250

Series	
TE	

Size	ø D [mm]
25	25
32	32
40	40

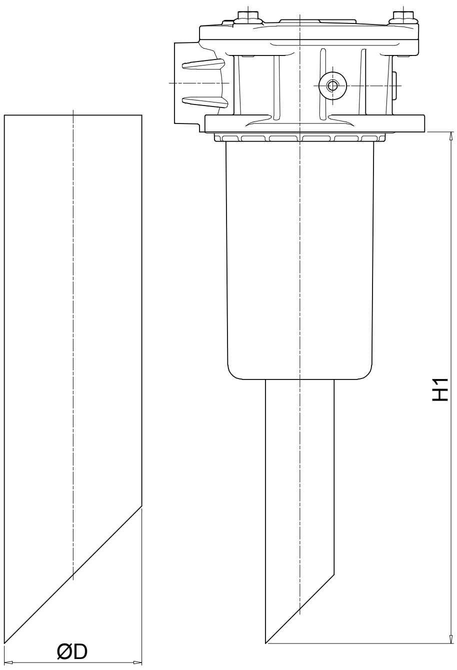
Material	
A	Polyamide

Length	H [mm]
200	200
250	250
300	300
350	350
400	400
450	450
500	500

COMPATIBILITY TABLE

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	-	•	-	273	323	373	423	473	523	573
		2				320	370	420	470	520	570	620
		3	-	-	•	396	446	496	546	596	646	696
		4				498	548	598	648	698	748	798
MPTX	101, 104, 110, 114, 120	1	-	-	•	273	323	373	423	473	523	573
		2				318	368	418	468	518	568	618
		3				396	446	496	546	596	656	696
		4				498	548	598	648	698	748	798

STEEL EXTENSION TUBE



Configuration example:

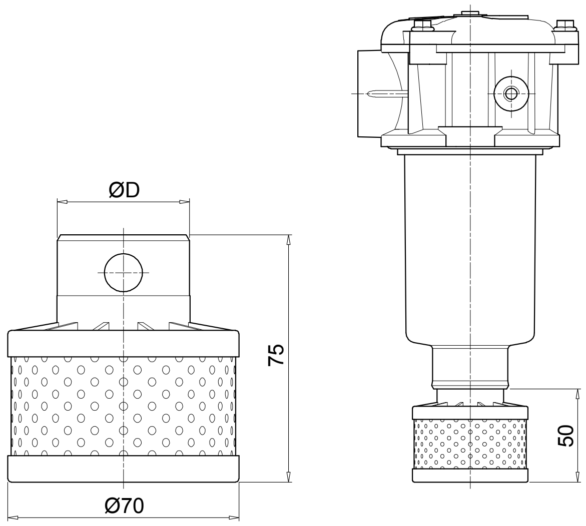
MPF191 | 2 | A | F1 | A10 | H | B | S60

Length	H1 [mm]
S30	300
S35	350
S40	400
S45	450
S50	500
S60	600
S70	700
S80	800
S90	900

COMPATIBILITY TABLE

Filter series	Filter size	Filter length	52	65
			ø D [mm]	
MPF	191, 192, 194	2	•	-
	400, 410, 450, 451	1	•	-
		2	-	•
		3		
	750	1	-	•

DIFFUSER WITH FAST LOCK CONNECTION



Configuration example: DFS | 32 | A | 075

Series	
DFS	

Size	ø D [mm]
32	32
40	40

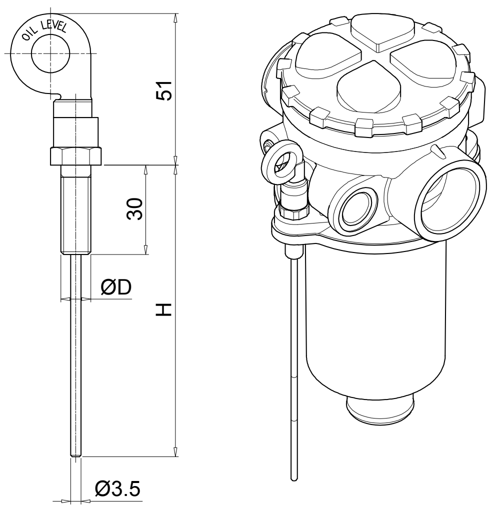
Version	
A	Standard

Length	
075	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



Materials

- Screw: phosphatized steel
- Stick: phosphatized steel
- Handle: Polyamide

Technical data

Working temperature: from -25 °C to +110 °C

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

Series	
DPT	

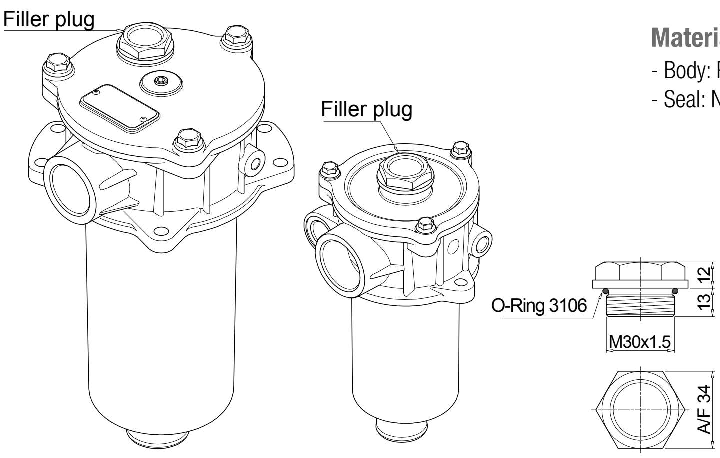
Length	H [mm]
15	134
20	184
25	234
30	284
35	334

Fastening	
M8	Fastening with screws ø D = M8
M10	Fastening with screws ø D = M10

Seals	
A	NBR
V	FPM

Execution	
P01	MP Filtri standard
Pxx	Customized

FILLER PLUG



Materials

- Body: Polyamide
- Seal: NBR

Technical data

Tightening torque:
15 N·m

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