

# FHB series

Maximum working pressure up to 32 MPa (320 bar) - Flow rate up to 485 l/min



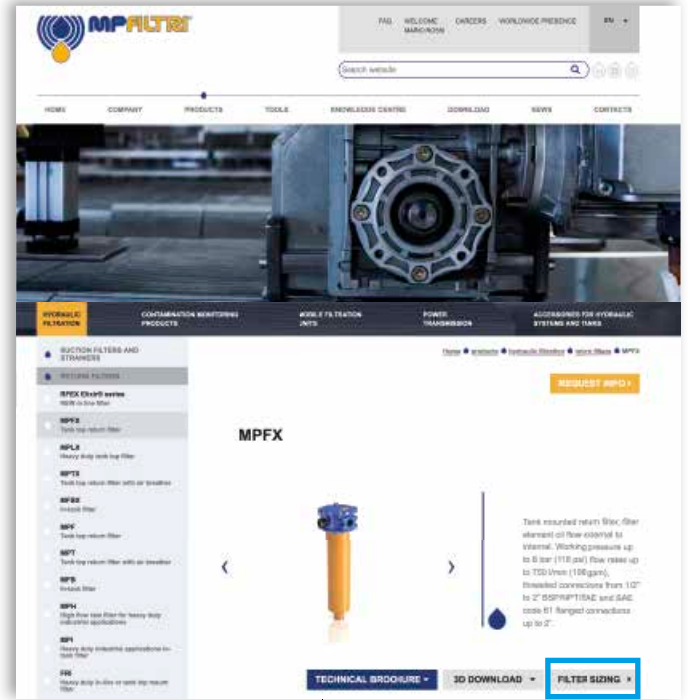
# TYPICAL FILTER SIZING Selection Software

## Step ①

Select "FILTER SIZING SOFTWARE" after login

OR

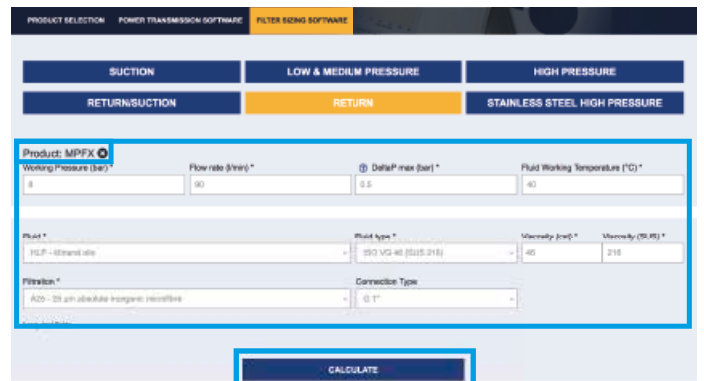
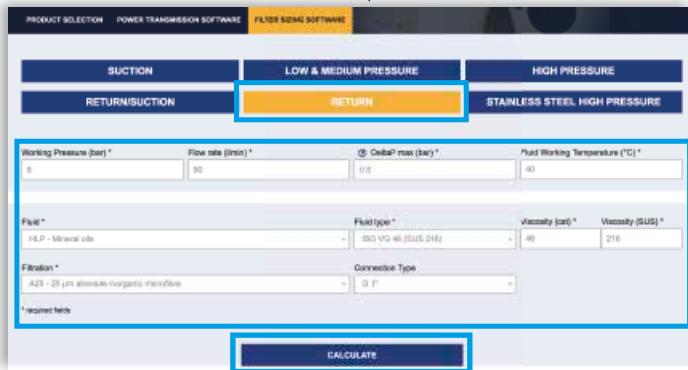
Select "FILTER SIZING" after login from a product page



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

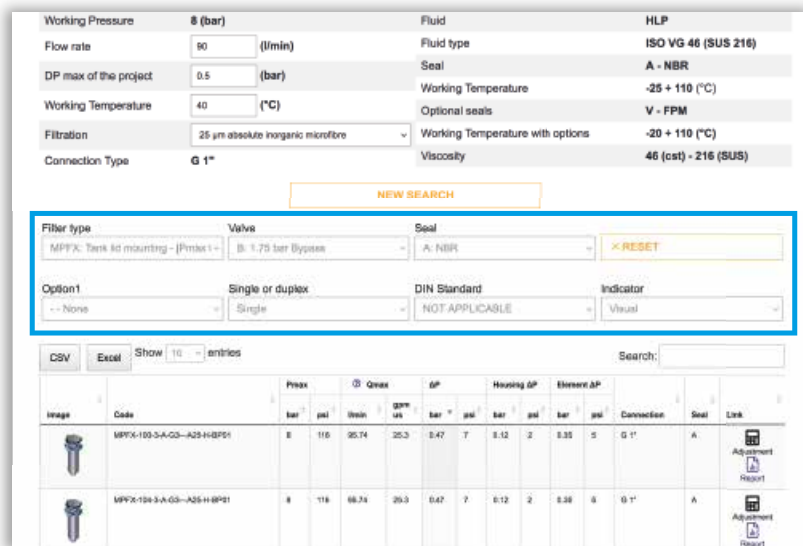
## Step ②

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



## Step ③

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



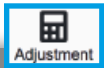
## Step 4

Choose the most suitable filter from the proposed list.

Image	Code	Peak bar	Qmax gal/min	ΔP bar	Housing ΔP bar	Element ΔP bar	Connection	Seal	Link					
	MPFX-103-3-A-Q3-A25-H-BPFI	8	116	25.74	25.3	0.47	T	0.12	2	0.33	5	G 1"	A	Adjustment Report
	MPFX-104-3-A-Q3-A25-H-BPFI	8	116	25.74	25.3	0.47	T	0.12	2	0.33	5	G 1"	A	Adjustment Report

## Step 5

It is possible to change the filter modifying every parameter.



### A SAVE YOUR FILTER'S REPORT



### B MANUAL EDIT



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.

## Description

## Technical data

### High Pressure filters

#### Manifold

**Maximum working pressure up to 32 MPa (320 bar)**

**Flow rate up to 485 l/min**

FHB is a range of high pressure filter for protection of sensitive components in high pressure hydraulic systems in the mobile machines. They are directly connected to the side of the manifold, through the proper flanged interface.

#### Available features:

- Manifold connections up to Ø30 mm, for a maximum flow rate of 485 l/min
- Fine filtration rating, to get a good cleanliness level into the system
- Bypass valve, to relieve excessive pressure drop across the filter media
- Check valve, to protect the system against reverse flow
- Low collapse filter element "N", for use with filters provided with bypass valve
- High collapse filter element "H", for use with filters not provided with bypass valve
- High collapse filter element with external support "S", for filter element protection against the back pressure caused by the check valve in filters not provided with the bypass valve
- Visual, electrical and electronic differential clogging indicators

#### Common applications:

Delivery lines, in any high pressure industrial equipment or mobile machines

#### Filter housing materials

- Head: Phosphatized cast iron
- Housing: Phosphatized steel
- Bypass valve: Steel
- Check valve: Steel

#### Pressure

- Working pressure: 32 MPa (320 bar)
- Test pressure: 48 MPa (480 bar)
- Burst pressure: 96 MPa (960 bar)
- Pulse pressure fatigue test: 1 000 000 cycles with pressure from 0 to 32 MPa (320 bar)

#### Bypass valve

- Opening pressure 600 kPa (6 bar) ±10%
- Other opening pressures on request.

#### Δp element type

- Microfibre filter elements - series N: 20 bar
- Microfibre filter elements - series H: 210 bar (not available for FHB050)
- Microfibre filter elements - series S: 210 bar (only for FHB050)
- Wire mesh filter elements - series N: 20 bar
- Fluid flow through the filter element from OUT to IN

#### Seals

- Standard NBR series A
- Optional FPM series V

#### Temperature

From -25 °C to +110 °C

#### Connections

Manifold mounting

#### Note

FHB filters are provided for vertical mounting

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

Filter series	Weights [kg]					Volumes [dm <sup>3</sup> ]						
	Length	1	2	3	4	5	Length	1	2	3	4	5
<b>FHB 050</b>		2.61	2.98	3.39	3.86	5.04		0.21	0.30	0.40	0.52	0.81
<b>FHB 065</b>		3.33	3.69	4.90	-	-		0.20	0.27	0.49	-	-
<b>FHB 135</b>		6.61	8.21	9.21	-	-		0.40	0.73	0.94	-	-
<b>FHB 320</b>		12.95	15.08	17.37	26.77	-		0.91	1.63	2.40	3.59	-

Filter series	Length	Filter element design - N Series						Filter element design - S Series				
		A03	A06	A10	A16	A25	M25	A03	A06	A10	A16	A25
<b>FHB 050</b>	<b>1</b>	43	42	79	81	101	131	30	40	58	60	74
	<b>2</b>	53	58	84	93	112	132	46	50	76	86	108
	<b>3</b>	67	70	94	101	119	133	59	62	87	95	115
	<b>4</b>	82	87	106	108	122	134	74	80	101	103	119
	<b>5</b>	102	104	119	122	127	136	90	92	105	113	126

Filter series	Length	Filter element design - N Series						Filter element design - H Series				
		A03	A06	A10	A16	A25	M25	A03	A06	A10	A16	A25
<b>FHB 065</b>	<b>1</b>	25	33	55	62	87	133	23	25	49	58	81
	<b>2</b>	33	51	70	76	101	134	33	38	66	75	94
	<b>3</b>	60	71	97	103	118	138	60	68	95	102	116
<b>FHB 135</b>	<b>1</b>	67	72	120	129	177	212	49	55	97	100	160
	<b>2</b>	109	116	152	154	224	250	90	110	137	140	182
	<b>3</b>	153	155	201	205	226	253	126	142	175	187	207
<b>FHB 320</b>	<b>1</b>	130	143	238	286	343	442	110	117	192	201	304
	<b>2</b>	259	281	391	409	454	468	200	230	319	325	392
	<b>3</b>	332	368	441	455	463	476	269	312	381	389	432
	<b>4</b>	368	390	446	462	481	488	311	334	388	394	437

### Maximum flow rate for a complete pressure filter with a pressure drop $\Delta p = 1.5$ bar.

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

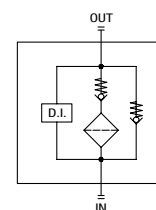
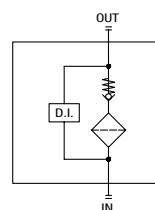
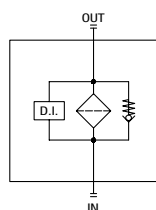
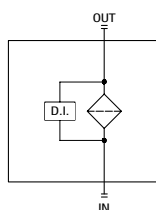
For different pressure drop or fluid viscosity we recommend to use our selection software available on [www.mpfiltri.com](http://www.mpfiltri.com).

You can also calculate the right size using the formulas present on the FILTER SIZING paragraph at the beginning of the full catalogue or at the beginning of the filter family brochure.

Please, contact our Sales Department for further additional information.

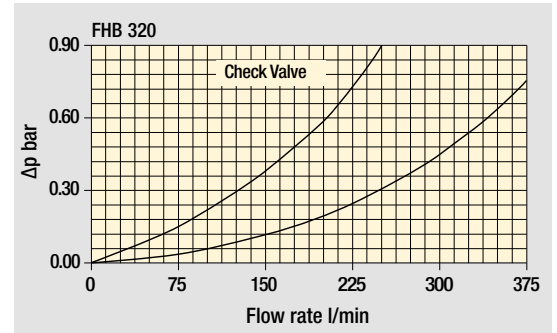
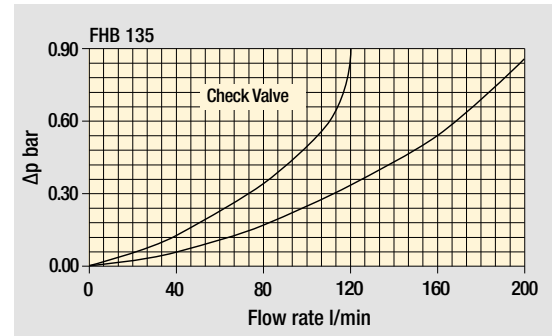
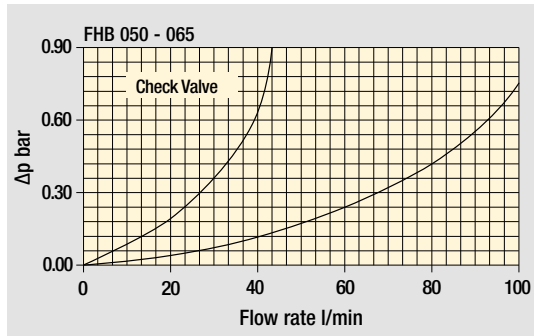
### Hydraulic symbols

Filter series	Style S	Style B	Style T	Style D
<b>FHB 050</b>	•	•	•	•
<b>FHB 065</b>	•	•	•	•
<b>FHB 135</b>	•	•	•	•
<b>FHB 320</b>	•	•	•	•

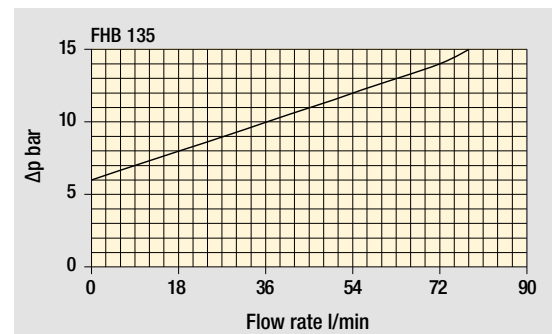
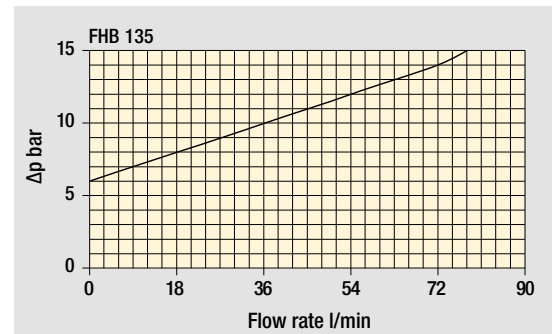
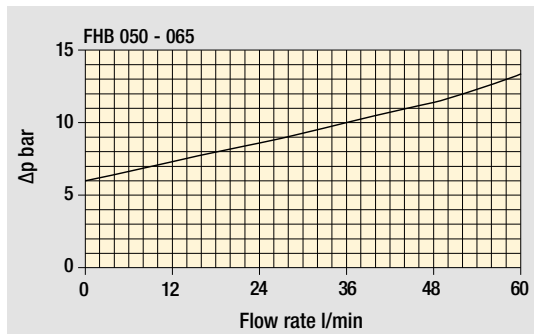


## Pressure drop

Filter housings  $\Delta p$  pressure drop



Bypass valve pressure drop



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



## Designation & Ordering code

### COMPLETE FILTER

Configuration example: **FHB050** | **2** | **T** | **A** | **F1** | **A06** | **S** | **P01**

**Series and size**  
**FHB050**

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

**Valves**  
**S** Without bypass  
**B** With bypass 6 bar  
**T** With check valve, without bypass  
**D** With check valve, with bypass 6 bar

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

**Connections**  
**F1** Manifold

**Filtration rating (filter media)**

<b>A03</b> Inorganic microfiber	3 µm
<b>A06</b> Inorganic microfiber	6 µm
<b>A10</b> Inorganic microfiber	10 µm
<b>A16</b> Inorganic microfiber	16 µm
<b>A25</b> Inorganic microfiber	25 µm
<b>M25</b> Wire mesh	25 µm

Element Δp	Valves				Execution
	S	B	T	D	
<b>N</b> 20 bar	-	•	-	•	<b>P01</b> MP Filtri standard
<b>S</b> 210 bar	•	-	•	-	<b>Pxx</b> Customized

### FILTER ELEMENT

Configuration example: **HP050** | **2** | **A06** | **A** | **S** | **P01**

**Element series and size**  
**HP050**

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

**Filtration rating (filter media)**

<b>A03</b> Inorganic microfiber	3 µm
<b>A06</b> Inorganic microfiber	6 µm
<b>A10</b> Inorganic microfiber	10 µm
<b>A16</b> Inorganic microfiber	16 µm
<b>A25</b> Inorganic microfiber	25 µm
<b>M25</b> Wire mesh	25 µm

Seals		Element Δp		Execution	
<b>A</b> NBR		<b>N</b> 20 bar		<b>P01</b> MP Filtri standard	
<b>V</b> FPM		<b>S</b> 210 bar		<b>Pxx</b> Customized	

### CLOGGING INDICATORS

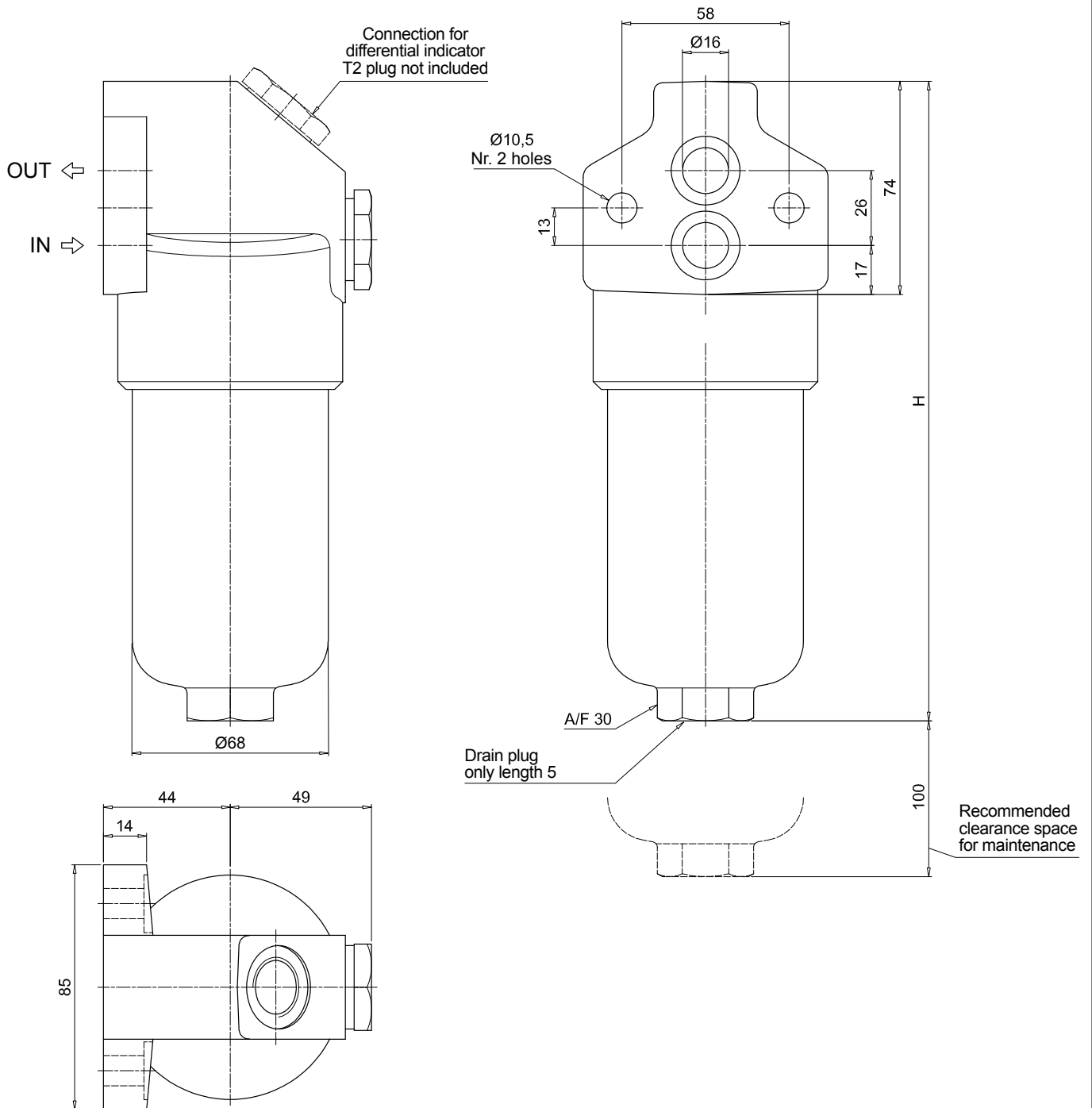
See page 622

<b>DEA</b> Electrical differential indicator
<b>DEM</b> Electrical differential indicator
<b>DLA</b> Electrical / visual differential indicator
<b>DLE</b> Electrical / visual differential indicator

<b>DTA</b> Electrical differential indicator
<b>DVA</b> Visual differential indicator
<b>DVM</b> Visual differential indicator
<b>T2</b> Plug



FHB050	
Filter length	H [mm]
1	185
2	222
3	264
4	312
5	434



# FHB FHB065 - FHB135 - FHB320

## Designation & Ordering code

### COMPLETE FILTER

Configuration example: **FHB320** **4** **S** **A** **F1** **A06** **H** **P01**

Series and size	FHB065   FHB135   FHB320		
Length	FHB065	FHB135	FHB320
1	•	•	•
2	•	•	•
3	•	•	•
4	-	-	•

Valves
<b>S</b> Without bypass
<b>B</b> With bypass 6 bar
<b>T</b> With check valve, without bypass
<b>D</b> With check valve, with bypass 6 bar

Seals
<b>A</b> NBR
<b>V</b> FPM

Connections
<b>F1</b> Manifold

Filtration rating (filter media)
<b>A03</b> Inorganic microfiber 3 µm
<b>A06</b> Inorganic microfiber 6 µm
<b>A10</b> Inorganic microfiber 10 µm
<b>A16</b> Inorganic microfiber 16 µm
<b>A25</b> Inorganic microfiber 25 µm
<b>M25</b> Wire mesh 25 µm

Element Δp	S	B	T	D
<b>N</b> 20 bar	-	•	-	•
<b>H</b> 210 bar	•	-	•	-

Execution	1	2	3	4
<b>P01</b> MP Filtri standard	•	•	•	•
<b>P02</b> Maintenance from the bottom of the housing	-	-	-	•
<b>Pxx</b> Customized	•	•	•	•

### FILTER ELEMENT

Configuration example: **HP320** **4** **A06** **A** **H** **P01**

Element series and size	HP065   HP135   HP320		
Element length	HP065	HP135	HP320
1	•	•	•
2	•	•	•
3	•	•	•
4	-	-	•

Filtration rating (filter media)
<b>A03</b> Inorganic microfiber 3 µm
<b>A06</b> Inorganic microfiber 6 µm
<b>A10</b> Inorganic microfiber 10 µm
<b>A16</b> Inorganic microfiber 16 µm
<b>A25</b> Inorganic microfiber 25 µm
<b>M25</b> Wire mesh 25 µm

Seals
<b>A</b> NBR
<b>V</b> FPM

Element Δp
<b>N</b> 20 bar
<b>H</b> 210 bar

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

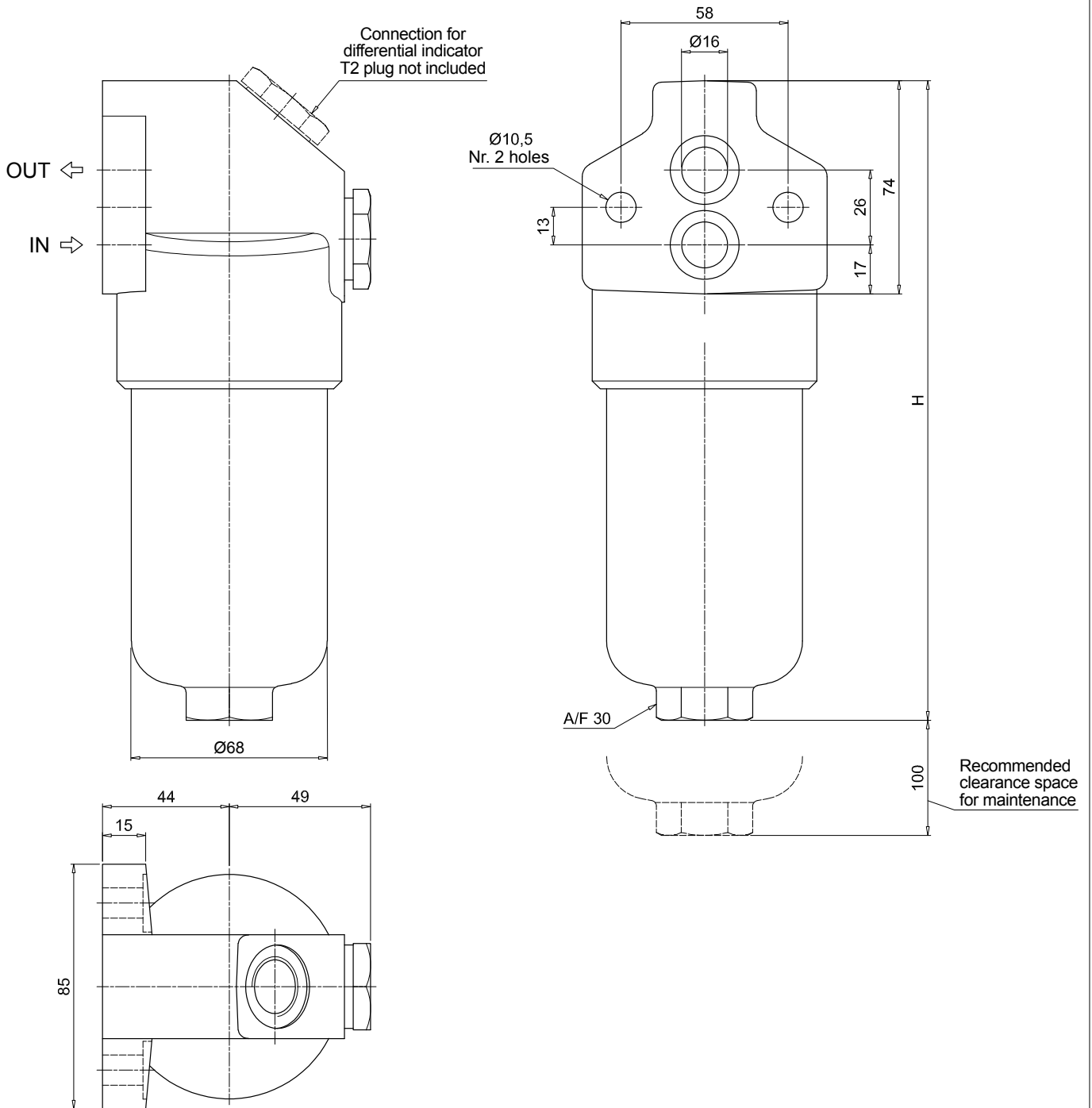
### CLOGGING INDICATORS

See page 622

<b>DEA</b> Electrical differential indicator
<b>DEM</b> Electrical differential indicator
<b>DLA</b> Electrical / visual differential indicator
<b>DLE</b> Electrical / visual differential indicator

<b>DTA</b> Electrical differential indicator
<b>DVA</b> Visual differential indicator
<b>DVM</b> Visual differential indicator
<b>T2</b> Plug

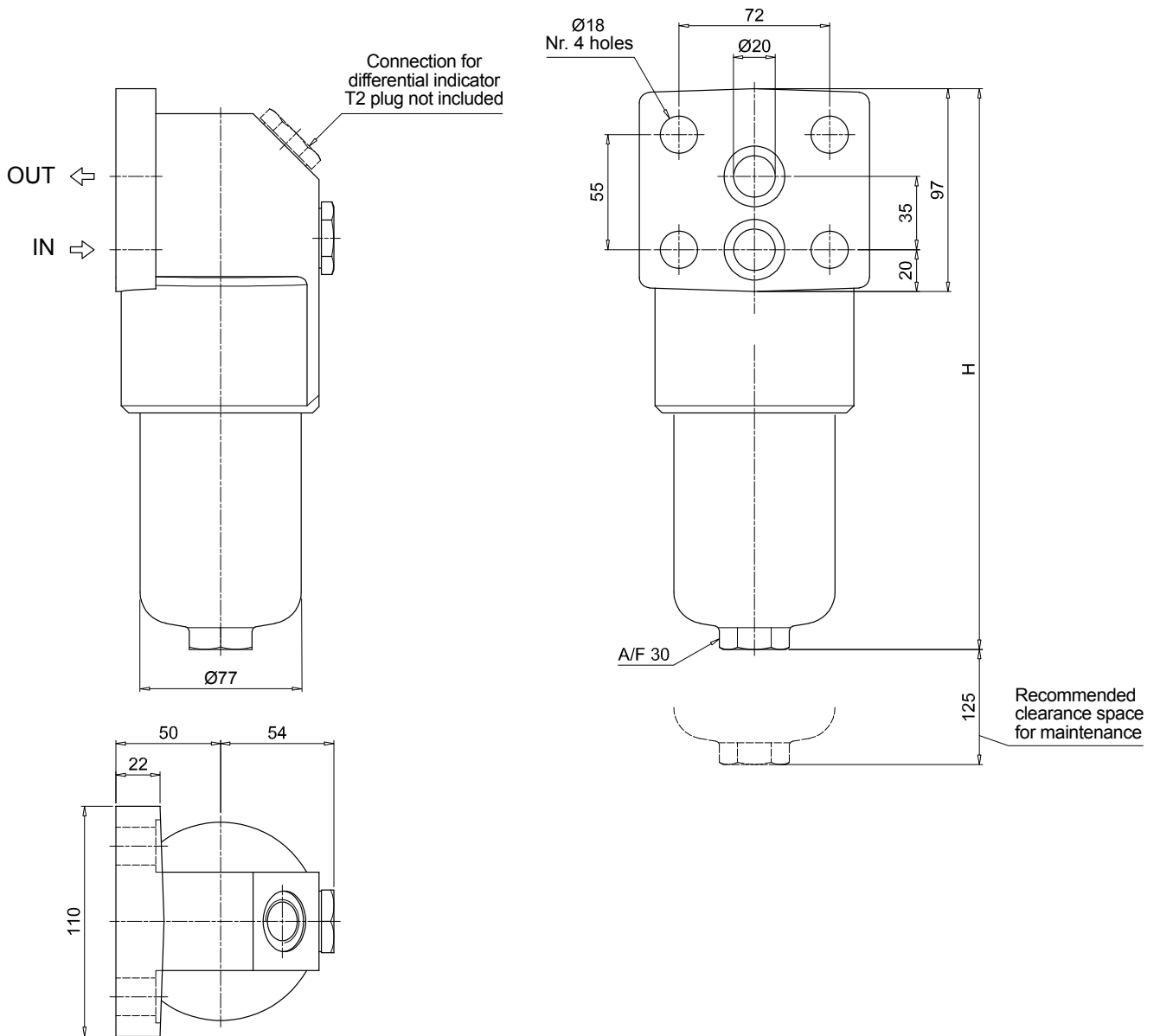
FHB065	
Filter length	H [mm]
<b>1</b>	194
<b>2</b>	225
<b>3</b>	327



## Dimensions

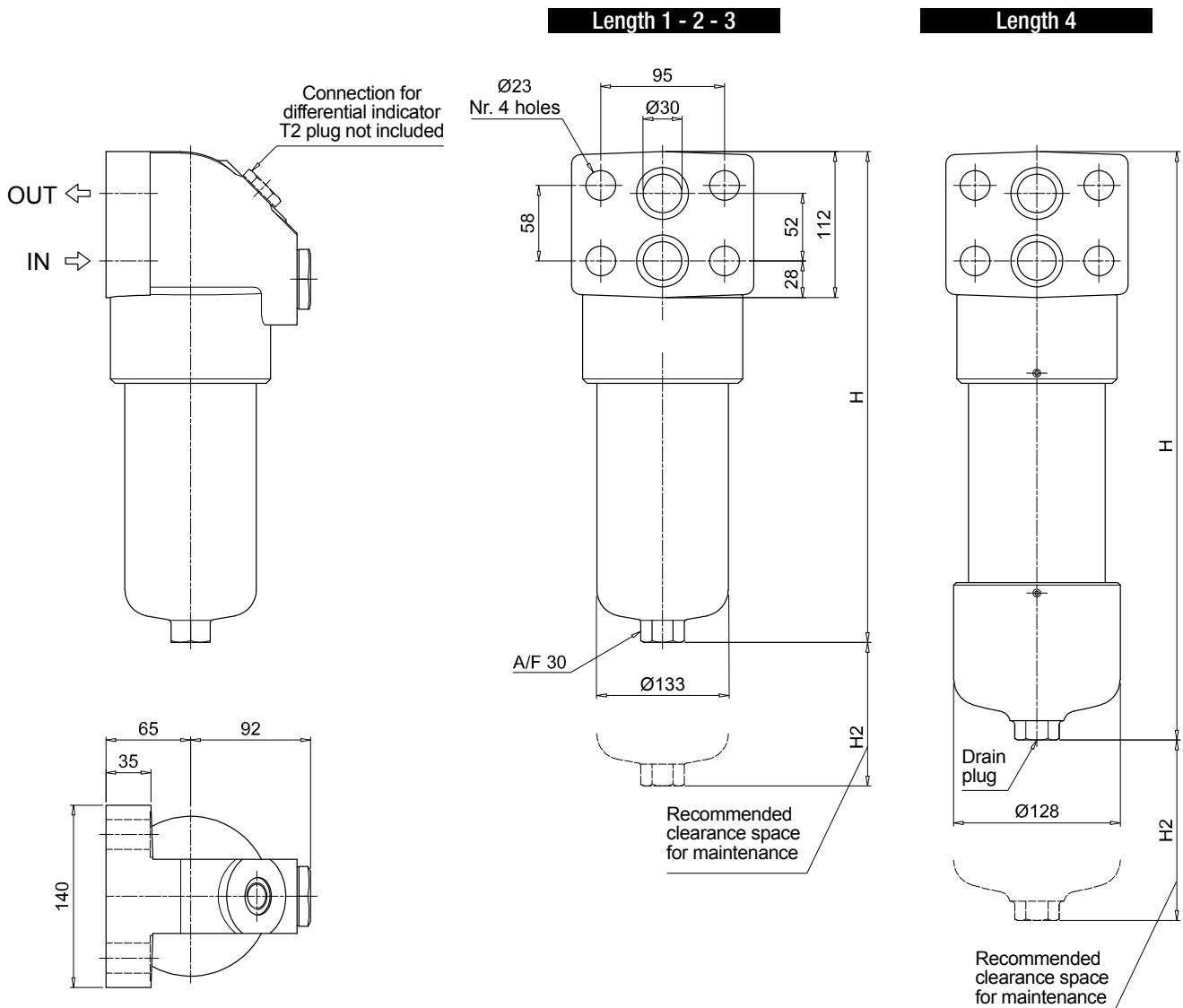
### FHB135

Filter length	H [mm]
<b>1</b>	268
<b>2</b>	381
<b>3</b>	456



### FHB320

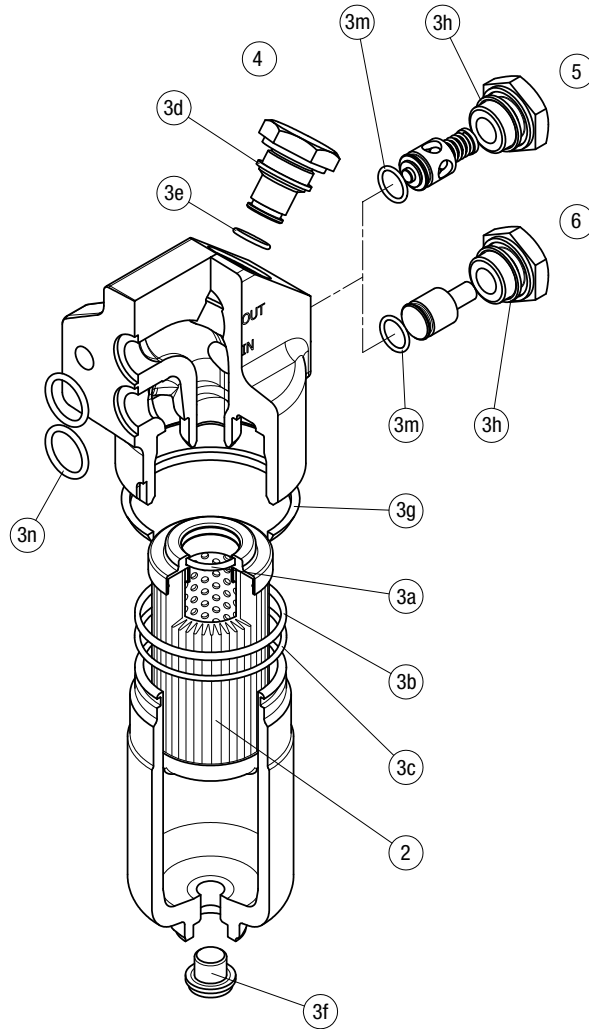
Filter length	H [mm]	H2 [mm]	
		Execution P01	Execution P02
1	301	150	-
2	424	150	-
3	556	150	-
4	709	150	550



# FHB SPARE PARTS

Order number for spare parts

FHB 050 - 065 - 135 - 320



Item:	Q.ty: 1 pc.	Q.ty: 1 pc.		Q.ty: 1 pc.		Q.ty: 1 pc.		Q.ty: 1 pc.	
Filter series	Filter element	Seal Kit code number		Indicator connection plug		Bypass assembly		Non-bypass assembly	
		NBR	FPM	NBR	FPM	NBR	FPM	NBR	FPM
<b>FHB 050</b>	See order table	02050412	02050413	T2H	T2V	02001312	02001385	02001314	02001386
<b>FHB 065</b>		02050266	02050277			02001312	02001385	02001314	02001386
<b>FHB 135</b>		02050270	02050281			02001312	02001385	02001314	02001386
<b>FHB 320</b>		02050273	02050284			02001381	02001382	02001383	02001384



# 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.

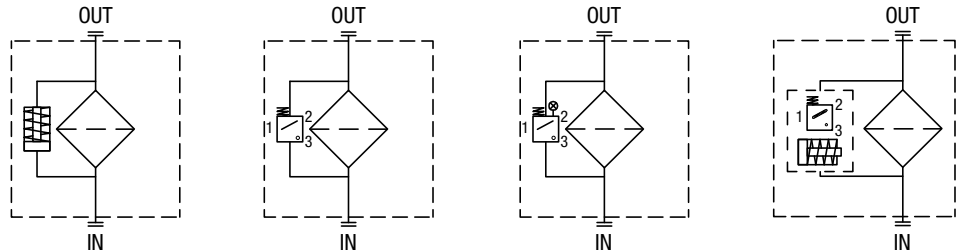
## Suitable indicator types

### 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	
HIGH PRESSURE FILTERS	With bypass valve 6 bar	FMP 039 - 065 - 135 - 320 FHP 010 - 011 - 065 - 135 - 350 - 351 - 500 FMMX 050 FMM 050 - 150 FHA 051 FHM 006 - 007 - 010 - 050 - 065 - 135 - 320 - 500 FHB 050 - 135 - 320 FHF 325 FHD 021 - 051 - 326 - 333	DVA50xP01 DVM50xP01	DEA50xA50P01 DEM50XX10P01 DEM50XX20P01 DEM50XX30P01 DEM50XX35P01 DTA50xF70P01 DEA70xA50P01 DEA95xA50P01	DLA50xA51P01 DLA50xA52P01 DLA50xA71P01 DLE50xA50P01 DLE50xF50P01
	Without bypass valve	FMP 039 - 065 - 135 - 320 FHP 010 - 011 - 065 - 135 - 350 - 351 - 500 FMMX 050 FMM 050 - 150 FHA 051 FHM 006 - 007 - 010 - 050 - 065 - 135 - 320 - 500 FHB 050 - 135 - 320 FHF 325 FHD 021 - 051 - 326 - 333	DVA70xP01 DVA95xP01 DVM70xP01 DVM95xP01	DEM70XX10P01 DEM70XX20P01 DEM70XX30P01 DEM70XX35P01 DEM95XX10P01 DEM95XX20P01 DEM95XX30P01 DEM95XX35P01 DTA70xF70P01 DTA95xF70P01	DLA70xA51P01 DLA70xA52P01 DLA70xA71P01 DLA95xA51P01 DLA95xA52P01 DLA95xA71P01 DLE70xA50P01 DLE70xF50P01 DLE95xA50P01 DLE95xF50P01



DEA*50	
<b>Electrical Differential Indicator</b>	
Settings	Ordering code
5.0 bar ±10%	DE A 50 x A 50 P01
7.0 bar ±10%	DE A 70 x A 50 P01
9.5 bar ±10%	DE A 95 x A 50 P01

A/F 30  
Max tightening torque: 65 N·m

**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	
<b>Electrical Differential Indicator</b>	
Settings	Ordering code
5.0 bar ±10%	DE M 50 x x 10 P01
7.0 bar ±10%	DE M 70 x x 10 P01
9.5 bar ±10%	DE M 95 x x 10 P01

min. 60  
30  
flexible cable: 290 to "A"  
A/F 28  
Max tightening torque: 65 N·m

**Hydraulic symbol**

**Electrical symbol**

Thermal lockout

**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	
<b>Electrical Differential Indicator</b>	
Settings	Ordering code
5.0 bar ±10%	DE M 50 x x 20 P01
7.0 bar ±10%	DE M 70 x x 20 P01
9.5 bar ±10%	DE M 95 x x 20 P01

min. 60  
30  
flexible cable: 290 to "A"  
A/F 28  
Max tightening torque: 65 N·m

**Hydraulic symbol**

**Electrical symbol**

Thermal lockout

**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")



DLA*71	
<b>Electrical/Visual Differential Indicator</b>	
Settings	Ordering code
5.0 bar ±10%	DL A 50 x A 71 P01
7.0 bar ±10%	DL A 70 x A 71 P01
9.5 bar ±10%	DL A 95 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	
<b>Electrical/Visual Differential Indicator</b>	
Settings	Ordering code
5.0 bar ±10%	DL E 50 x A 50 P01
7.0 bar ±10%	DL E 70 x A 50 P01
9.5 bar ±10%	DL E 95 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	
<b>Electrical/Visual Differential Indicator</b>	
Settings	Ordering code
5.0 bar ±10%	DL E 50 x F 50 P01
7.0 bar ±10%	DL E 70 x F 50 P01
9.5 bar ±10%	DL E 95 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

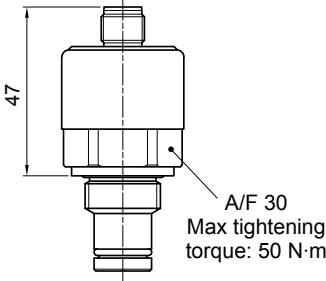
**Electrical data**

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

# DIFFERENTIAL INDICATORS

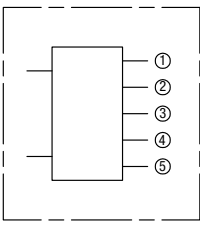
## Dimensions

DTA*70	
<b>Electrical Differential Indicator</b>	
Settings	Ordering code
5.0 bar ±10%	DT A 50 x x 70 P01
7.0 bar ±10%	DT A 70 x x 70 P01
9.5 bar ±10%	DT A 95 x x 70 P01



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

**Hydraulic symbol**



**Electrical symbol**

①	○	○	+24 Vdc
②	○	○	4 ÷ 20 mA
③	○	○	75% - N.O. Digital output
④	○	○	100% - N.O. Digital output
⑤	○	○	0 Vdc

**Materials**


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

**Technical data**

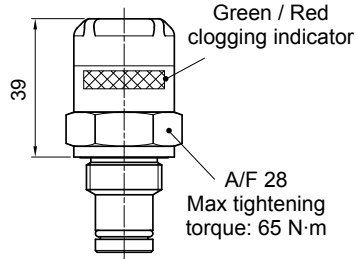
- Max working pressure: 420 bar
- Proof pressure: 630 bar
- Burst pressure: 1260 bar
- Compatibility with fluids: Mineral oils, Synthetic fluids HFA, HFB, HFC according to ISO 2943
- Degree protection: IP67 according to EN 60529

**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)



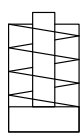
DVA	
<b>Visual Differential Indicator</b>	
Settings	Ordering code
5.0 bar ±10%	DV A 50 x P01
7.0 bar ±10%	DV A 70 x P01
9.5 bar ±10%	DV A 95 x P01



Green / Red clogging indicator

A/F 28  
Max tightening torque: 65 N·m

**Hydraulic symbol**



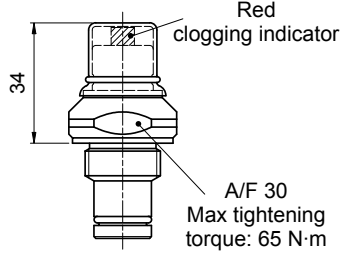
**Materials**

- Body: Brass
- Internal parts: Brass - Polyamide
- 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

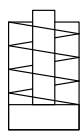
DVM	
<b>Visual Differential Indicator</b>	
Settings	Ordering code
5.0 bar ±10%	DV M 50 x P01
7.0 bar ±10%	DV M 70 x P01
9.5 bar ±10%	DV M 95 x P01



Red clogging indicator

A/F 30  
Max tightening torque: 65 N·m

**Hydraulic symbol**



**Materials**

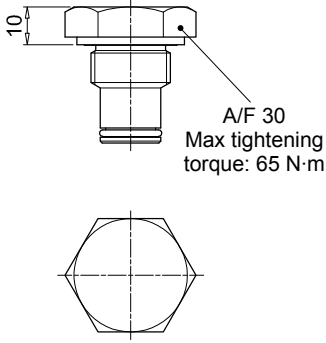
- Body: Brass
- Internal parts: Brass - Polyamide
- Contacts: Silver
- Seal: HNBR - FPM

**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

T2	
Indicator plug	
Seal	Ordering code
HNBR	T2 H
FPM	T2 V



A/F 30  
Max tightening  
torque: 65 N·m

**Materials**

- Body: Phosphatized steel
- Seal: HNBR / FPM

# DIFFERENTIAL INDICATORS

## Designation & Ordering code

### DESIGNATION & ORDERING CODE - DIFFERENTIAL INDICATORS

Series	Configuration example 1:	DE	M	50	H	F	35	P01
<b>DE</b> Electrical differential indicator	Configuration example 2:	DE	H	50	F	A	70	P01
<b>DL</b> Electrical / Visual differential indicator	Configuration example 3:	DL	E	70	V	A	50	P01
<b>DT</b> Electrical differential indicator	Configuration example 4:	DT	A	50	H	F	70	P01
<b>DV</b> Visual differential indicator	Configuration example 5:	DV	M	95	V			P01

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

Pressure setting	DEA	DEM	DLA	DLE	DT	DV
<b>50</b> 5 bar	•	•	•	•	•	•
<b>70</b> 7 bar	•	•	•	•	•	•
<b>95</b> 9.5 bar	•	•	•	•	•	•

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

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

Electrical connections	DEA	DEM	DLA	DLE	DT	DV
<b>10</b> Connection AMP Superseal series 1.5	-	•	-	-	-	-
<b>20</b> Connection AMP Timer Junior	-	•	-	-	-	-
<b>30</b> Connection Deutsch DT-04-2-P	-	•	-	-	-	-
<b>35</b> Connection Deutsch DT-04-3-P	-	•	-	-	-	-
<b>48</b> Connection via three-core cable - fitting M20x1.5	-	-	-	-	-	-
<b>49</b> Connection via four-core cable - fitting 1/2" NPT	-	-	-	-	-	-
<b>50</b> Connection EN 175301-803	•	-	-	•	-	-
<b>51</b> Connection EN 175301-803, transparent base with lamps 24 Vdc	-	-	•	-	-	-
<b>52</b> Connection EN 175301-803, transparent base with lamps 110 Vdc	-	-	•	-	-	-
<b>70</b> Connection IEC 61076-2-101 D (M12)	-	-	-	-	•	-
<b>71</b> Connection IEC 61076-2-101 D (M12), black base with lamps 24 Vdc	-	-	•	-	-	-

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

### DESIGNATION & ORDERING CODE - DIFFERENTIAL INDICATOR PLUG

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

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