



# HYDRAULIC MEGASTORE

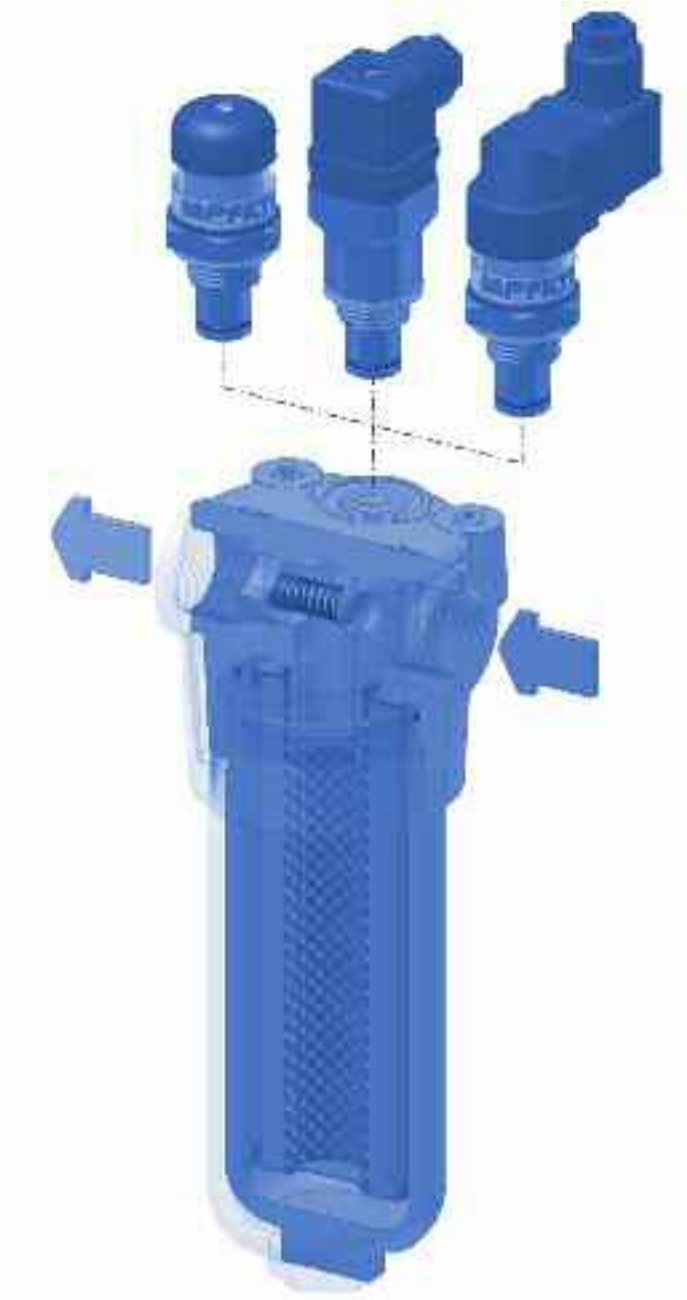
Serving the Hydraulics Industry Worldwide



## FMM 050

# FMM **SERIES** 050

*Working pressure*  
**420 bar**

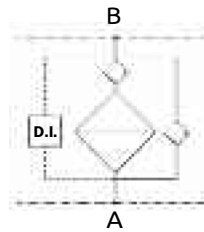
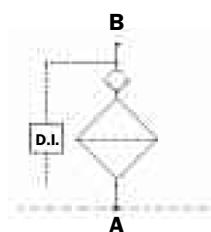
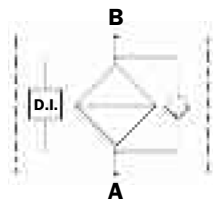
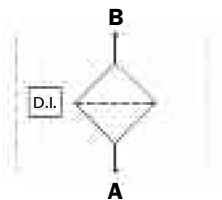


Style S

Style B

Style T

Style D



# Technical data

## Filter body (Materials)

- Head: Cast iron (chemical heat treatment)
- Housing: Steel (chemical heat treatment)
- Bypass valve: Steel

## Pressure

- Working pressure: 420 bar (42 MPa)
- Test pressure: 420 bar (42 MPa)
- Burst pressure: 840 bar (84 MPa)
- Pulsed pressure fatigue test 1,000,000 of cycles with variable pressure from 0 to 420 bar (42 MPa)

## Temperature

- From -25°C to +110°C

## Bypass valve

- Opening pressure 6 bar ±10%
- Other opening pressures on request.

## Elements type $\Delta p$

- Microfibre filter elements series N: 20 bar
- Microfibre filter elements series H: 210 bar
- Stainless steel mesh elements series N: 20 bar
- Oil flow from exterior to interior.

## Seals

- Standard Nitrile (NBR) series A
- Optional FPM series V

## Weights without filter elements (kg)

### Length

- FMM050-1 2.6
- FMM050-2 3.6
- FMM050-3 3.9
- FMM050-4 4.5
- FMM050-5 6.1

## Filter internal volumes (dm<sup>3</sup>)

### Length

- FMM050-1 0.38
- FMM050-2 0.48
- FMM050-3 0.58
- FMM050-4 0.69
- FMM050-5 0.86

## Connections

In-line Inlet/Outlet

## Compatibility

- Bodies compatible with:  
Mineral oils to ISO 2943 - aqueous emulsions  
synthetic fluids, water/glycol.
- Filter elements compatible with:  
Mineral oils to ISO 2943 - aqueous emulsions  
synthetic fluids, water/glycol.

- Nitrile (NBR) seals series A, compatible with:  
Mineral oils to ISO 2943 - aqueous emulsions  
synthetic fluids, water/glycol.
- V series FPM seals, compatible with:  
Synthetic fluids type HS-HFDR-HFDS-HFDU To  
ISO 2943

## Filter Element Area

Filter element in stainless steel mesh

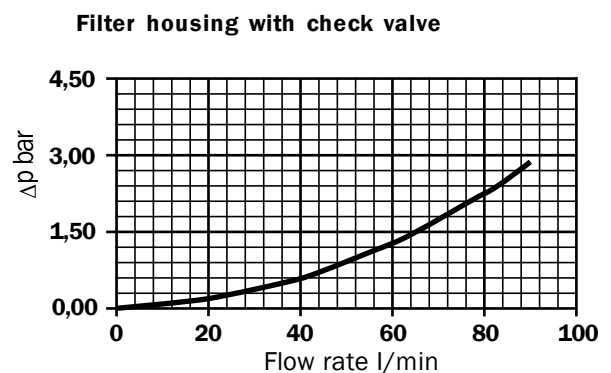
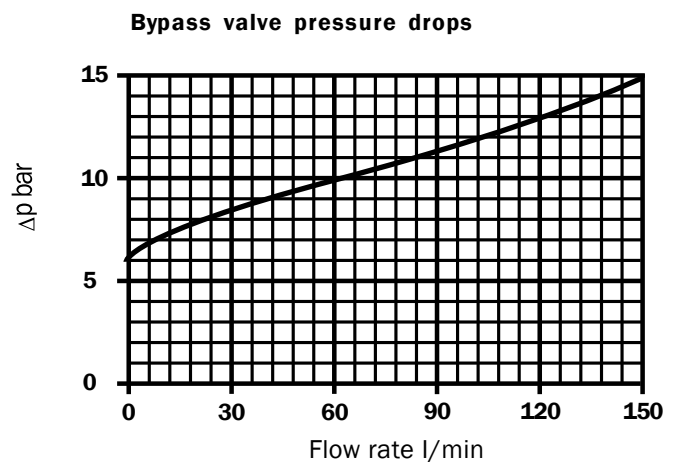
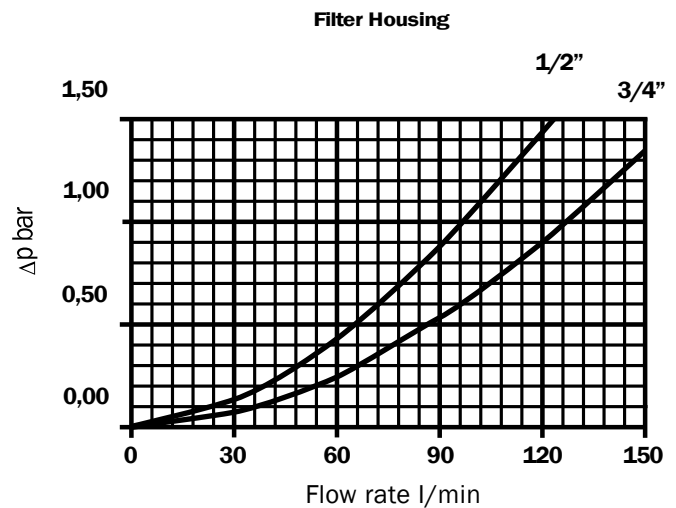
Type	Length				
	1	2	3	4	5
HP050	450	700	1000	1300	2100

Values expressed in cm<sup>2</sup>

## Pressure drops $\Delta p$ Housing

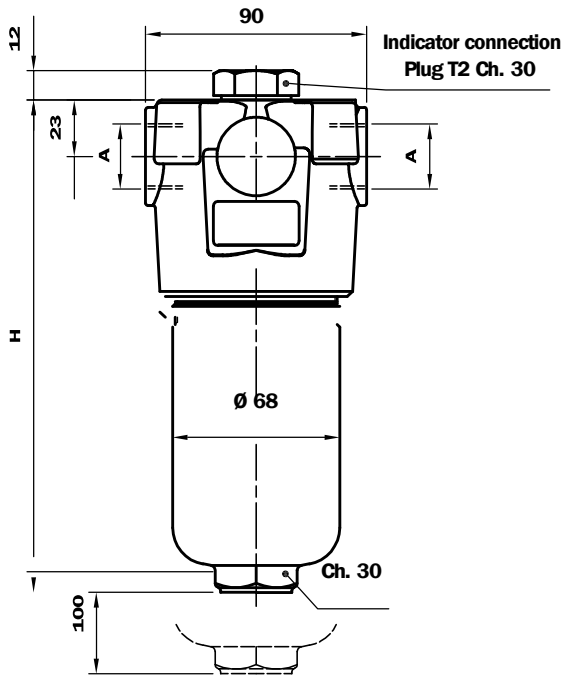
The curves are plotted using mineral oil with density of 0.86 kg/dm<sup>3</sup> to ISO 3968.

$\Delta p$  varies proportional with density.

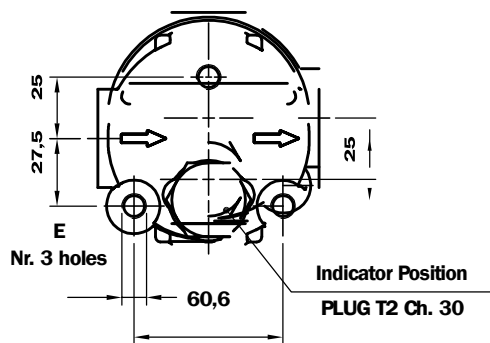


# FMM 050

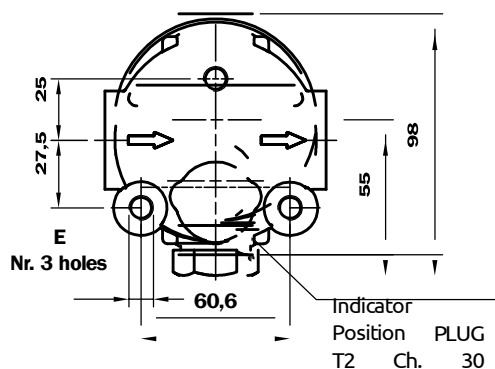
## Dimensions



With standard indicator



Option P03 with indicator at 90°



**Note.** Differential indicator versions are supplied with plug T2.

Recommended maximum flow rate

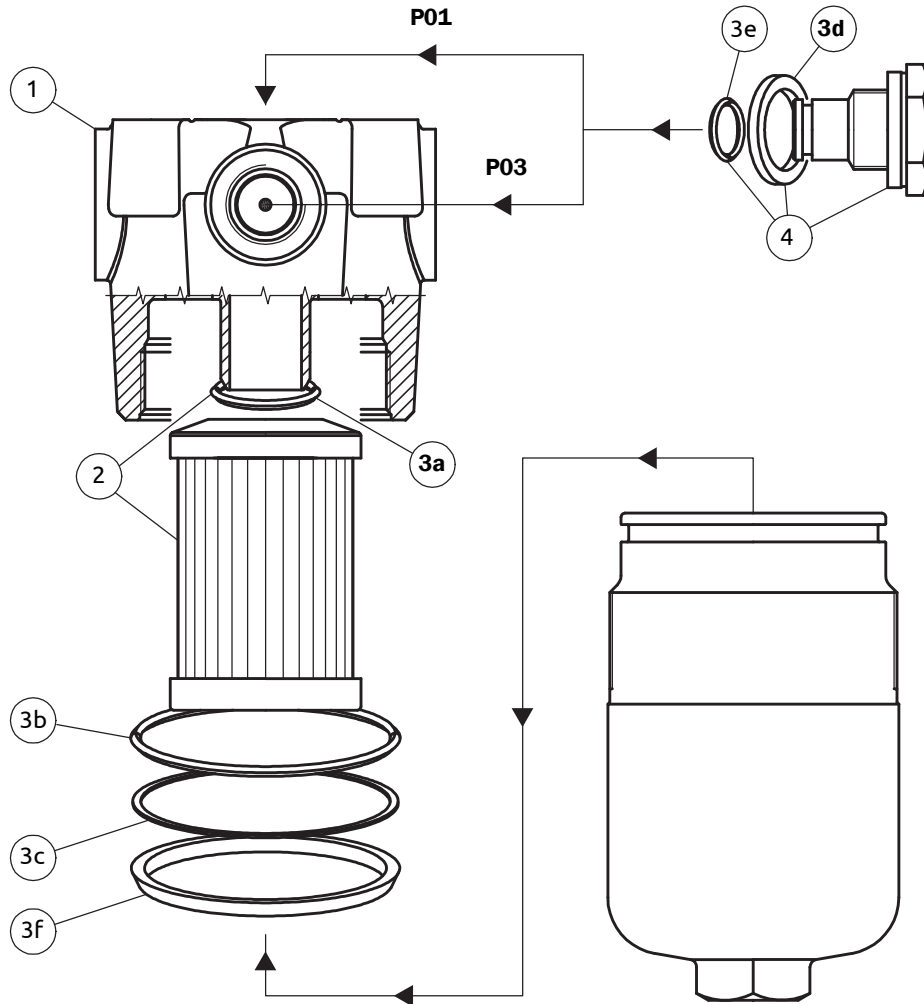
- Pressure drop of complete filter equal to  $\Delta p$  1.5 bar.
- Oil kinematic viscosity  $30 \text{ mm}^2/\text{s}$  (cSt).
- Density  $0.86 \text{ kg}/\text{dm}^3$ .
- Connections of filter under test G 3/4".

Filter rate element /min type	Flow Series N	Flow rate /min Series H	Filter Length
A03	44	30	1
A06	44	40	
A10	80	58	
A16	82	60	
A25	110	75	
M25	140	-	2
A03	53	45	
A06	58	50	
A10	87	78	
A16	100	90	
A25	125	119	
M25	140	-	3
A03	68	59	
A06	71	62	
A10	100	92	
A16	110	100	
A25	135	130	
M25	140	-	4
A03	85	75	
A06	92	82	
A10	118	106	
A16	120	112	
A25	135	135	
M25	145	-	5
A03	110	94	
A06	112	98	
A10	130	112	
A16	135	120	
A25	140	140	
M25	152	-	

A	E Depth 15 mm
Threaded Connections	M10
18x1,5 ISO 6149	M10
22x1,5 ISO 6149	M10
G 1/2"	M10
G 3/4"	M10
1/2" NPT	3/8" UNC
3/4" NPT	3/8" UNC
SAE 8 (3/4" - 16 UNF)	3/8" UNC
SAE 12 (1 1/16" - 12 UN)	3/8" UNC

Filter Length	H mm
1	158
2	195
3	237
4	285
5	407

# Spare parts FMM050



Pos.	Description	Qty.	FMM 050 series FILTER 050 1 - 2 - 3 - 4 - 5	
1	Complete filter	1	See order table	
2	Filter Element	1	See order table	
3	Seal kits	1	NBR 02050314	FPM 02050315
3a	O-Ring for filter element	1	OR 3093 Ø 23.67 x 2.62	
3b	O-Ring for housing	1	OR 3225 Ø 56.82 x 2.62	
3c	Anti-extrusion ring	1	Parbak 139 Ø 56.03 x 2.18	
3d	Gasket	1	01030058 (HNBR)	01030046 (FPM)
3e	O-Ring	1	OR 2050 Ø 12.42 x 1.78	
3f	Protection seal	1	01026521	
4	Indicator plug	1	T2H	T2V
-	Indicator	1	See order table	

# Ordering information FMM050

## Filter assembly FMM 050

Example: HP050

<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>	<b>6</b>	<b>7<sub>a</sub></b>
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2	B	A	C	A10	N	P01

## Filter element HP 050

Example: HP050

<b>1</b>	<b>5</b>	<b>3</b>	<b>6</b>	<b>7<sub>b</sub></b>
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2	A10	A	N	P01

### 1 - Filter lengths

<b>1</b>
<b>2</b>
<b>3</b>
<b>4</b>
<b>5</b>

### 2 - Bypass valve

<b>S</b>	Without bypass
<b>B</b>	With bypass
<b>T</b>	Without bypass + check valve*
<b>D</b>	With bypass + check valve*

\*Reduced cross-section oilways

### 3 - Seals

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

### 4 - Threaded connections

<b>A</b>	M18x1.5 ISO 6149
<b>B</b>	M22x1.5 ISO 6149
<b>C</b>	G 1/2"
<b>D</b>	G 3/4"
<b>E</b>	1/2" NPT
<b>F</b>	3/4" NPT
<b>G</b>	SAE 8 (3/4" - 16 UNF)
<b>H</b>	SAE 12 (1 1/16" - 12 UN)

### 5 - Filter elements

<b>A03</b>	Inorganic microfibre 3 µ	βx(c) ≥ 1000 see page 10
<b>A06</b>	Inorganic microfibre 6 µ	
<b>A10</b>	Inorganic microfibre 10 µ	
<b>A16</b>	Inorganic microfibre 16 µ	
<b>A25</b>	Inorganic microfibre 25 µ	
<b>M25</b>	Stainless steel mesh 25 µ (N style only)	

### 6 - Filter elements differential pressure

<b>N</b>	20 bar
<b>S</b>	210 bar

### 7 - Options

#### a) Filter

<b>P01</b>	Standard threaded connection for indicator
<b>P02</b>	Without threaded connection for indicator
<b>P03</b>	Threaded connection for indicator at 90°
<b>Pxx</b>	Customer request

#### b) Filter element

<b>P01</b>	MP Filtri standard
<b>Pxx</b>	Customer request

DIFFERENTIAL INDICATORS (see page 15)