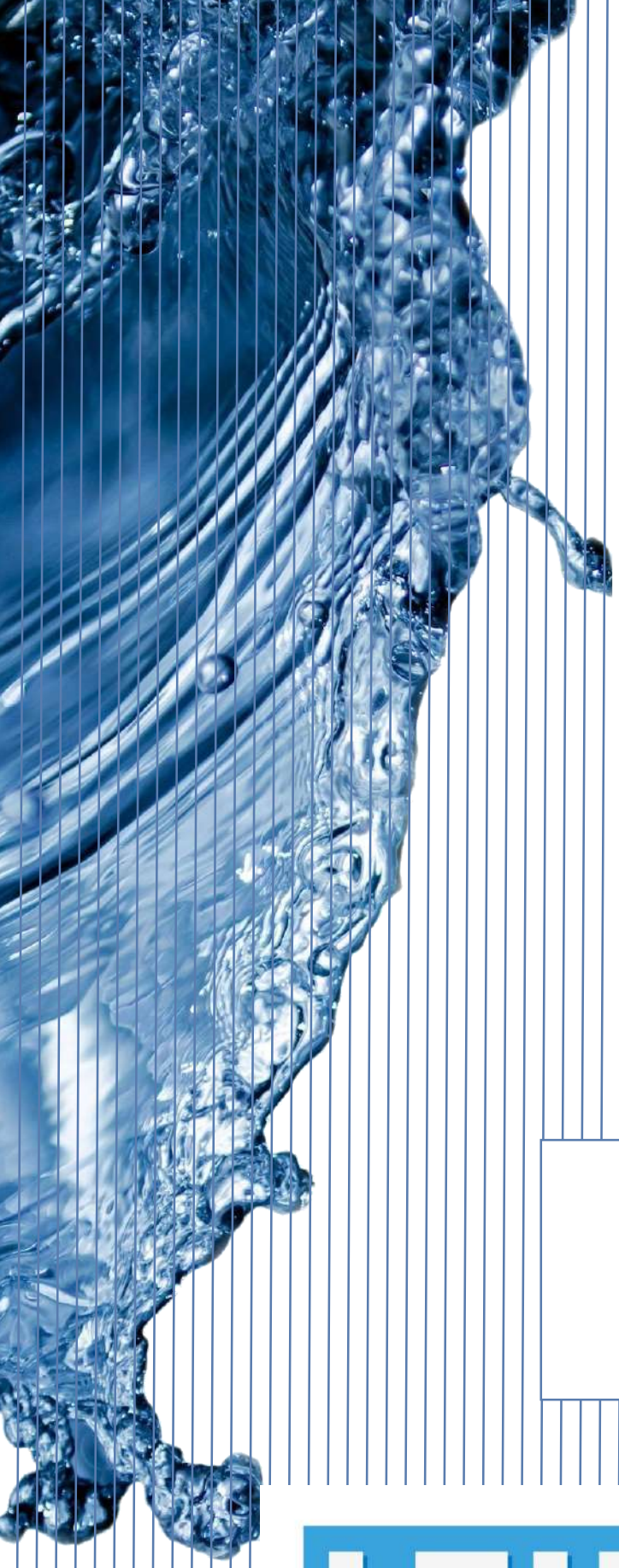

MP Filter FHA
051 Series

LTH
HYDRAULIC
COMPONENTS
& FLUID CONTAMINATION
CONTROL

FHA 051 series

Maximum working pressure up to 56 MPa (560 bar) - Flow rate up to 150 l/min

INSTALLATION, SERVICE AND MAINTENANCE MANUAL AND SAFETY INSTRUCTIONS

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FHA 051 GENERAL INFORMATION

Description

High Pressure filters

In-line
Maximum working pressure up to 56 MPa (560 bar)
Flow rate up to 150 l/min

FHA 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 lines of the system through the hydraulic fittings.

Available features:

- Female threaded connections up to 3/4", for a maximum flow rate of 150 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
- Reverse flow valve, to allow bidirectional flow through the filter housing. The back flow is not filtered
- Low collapse filter element "N", for use with filters provided with bypass valve
- Low collapse filter element with external support "R", for filter element protection against the back pressure caused by the check valve or the reverse flow in filters provided with the bypass valve
- High collapse filter element with external support "S", for filter element protection against the back pressure caused by the check valve or the reverse flow in filters not provided with the bypass valve
- Visual, electrical and electronic differential clogging indicators

Common applications:

Delivery lines, in any heavy duty industrial equipment or mobile machines

Technical data

Filter housing materials

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

Pressure

- Test pressure: 84 MPa (840 bar)
- Min. Burst pressure: 168 MPa (1680 bar)
- Pulse pressure fatigue test: 1 00 000 cycles with pressure from 0 to 56 MPa (560 bar)

Bypass valve

- Opening pressure 0.6 MPa (6 bar) ±10%
- Other opening pressures on request.

Filter element features

Filter		Filter element	
FHA 051		HP	
Δp Element type			
Element media	**Construction**	**Δp Series**	**Δp**
A - Microfiber	Standard	N	20 bar
	With external support	R	20 bar
	High Δp with external support	S	210 bar
M - Wire mesh	Standard	N	20 bar
Please see ordering code tables to check element Δp series availability based on filter features.			
Flow direction 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

In-line Inlet/Outlet

Note

FHA filters are provided for vertical mounting

Weights [kg] and volumes [dm³]

Filter series	Weights [kg]						Volumes [dm³]					
	Length	1	2	3	4	5	Length	1	2	3	4	5
FHA 051		3.28	3.65	4.06	4.54	5.74		0.33	0.47	0.62	0.79	1.23

Flow rates [l/min]

		Filter element design - N Series						Filter element design - R Series					Filter element design - S Series				
Filter series	Length	A03	A06	A10	A16	A25	M25	A03	A06	A10	A16	A25	A03	A06	A10	A16	A25
	1	42	41	82	85	110	156	42	41	82	85	110	30	40	58	60	76
	2	53	58	87	100	127	158	53	58	87	100	127	45	50	78	91	120
FHA 051	**3**	68	71	101	111	137	160	68	71	101	111	137	59	62	92	103	131
	4	86	92	118	121	142	162	86	92	118	121	142	77	83	110	113	137
	5	112	115	137	142	150	165	112	115	137	142	150	96	99	116	128	147

Maximum flow rate for a complete pressure filter with a pressure drop Δp = 1.5 bar.

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

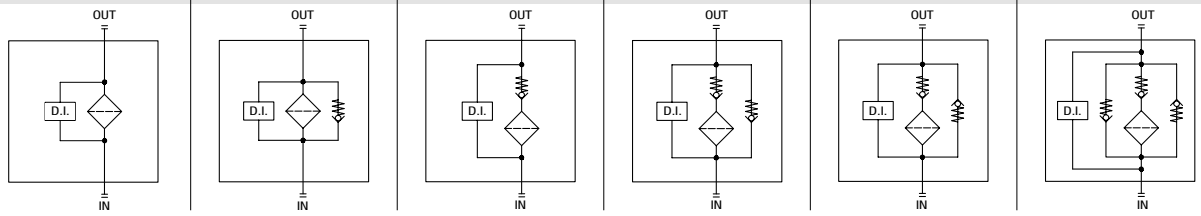
For different pressure drop or fluid viscosity we recommend to use our selection software available on www.mpfiltri.com.

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.

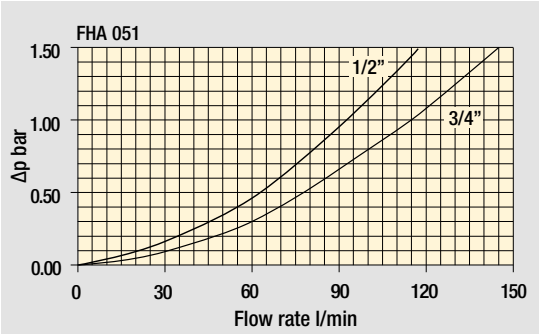
Please, contact our Sales Department for further additional information.

Hydraulic symbols

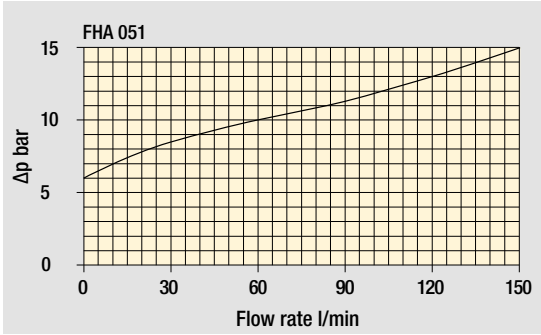
Filter series	Style S	Style B	Style T	Style D	Style V	Style Z
FHA 051	•	•	•	•	•	•



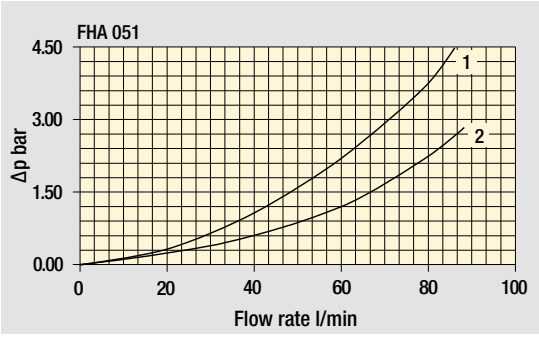
Pressure drop



Filter housings
Δp pressure drop



Bypass valve
pressure drop



Pressure drop in reverse flow valves

1 - Reverse flow
2 - In filter direction

The curves are plotted using mineral oil with density of 0.86 kg/dm^3 in compliance with ISO 3968. Δp varies proportionally with density.

FHA 051

Designation & Ordering code

COMPLETE FILTER

Configuration example: FHA051 | 3 | B | A | G | A10 | N | P01

Series and size
FHA051

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
V	With reverse flow, without bypass
Z	With reverse flow, with bypass 6 bar

Seals

A	NBR
V	FPM

Connections

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

Filtration rating (filter media)

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

Valves

Element Δp		S	B	T	D	V	Z
N	20 bar	-	•	-	-	-	-
R	20 bar	-	-	-	•	-	•
S	210 bar	•	-	•	-	•	-

Execution

P01	Upper connection for clogging indicator
P02	Without connection for clogging indicator
P03	Frontal connection for clogging indicator
Pxx	Customized

FILTER ELEMENT

Configuration example: HP050 | 3 | A10 | A | N | P01

Element series and size
HP050

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

Filtration rating (filter media)

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

Seals

A	NBR
V	FPM

Element Δp

N	20 bar
R	20 bar
S	210 bar

Execution

P01	MP Filtri standard
Pxx	Customized

To be installed for working pressures up to 420 bar max

CLOGGING INDICATORS

See page 721

DEA	Electrical differential pressure indicator	**DLE**	Electrical / visual differential pressure indicator
DEM	Electrical differential pressure indicator	**DTA**	Electronic differential pressure indicator
DEU	Electrical differential pressure indicator	**DVA**	Visual differential pressure indicator
DLA	Electrical / visual differential pressure indicator	**DVM**	Visual differential pressure indicator

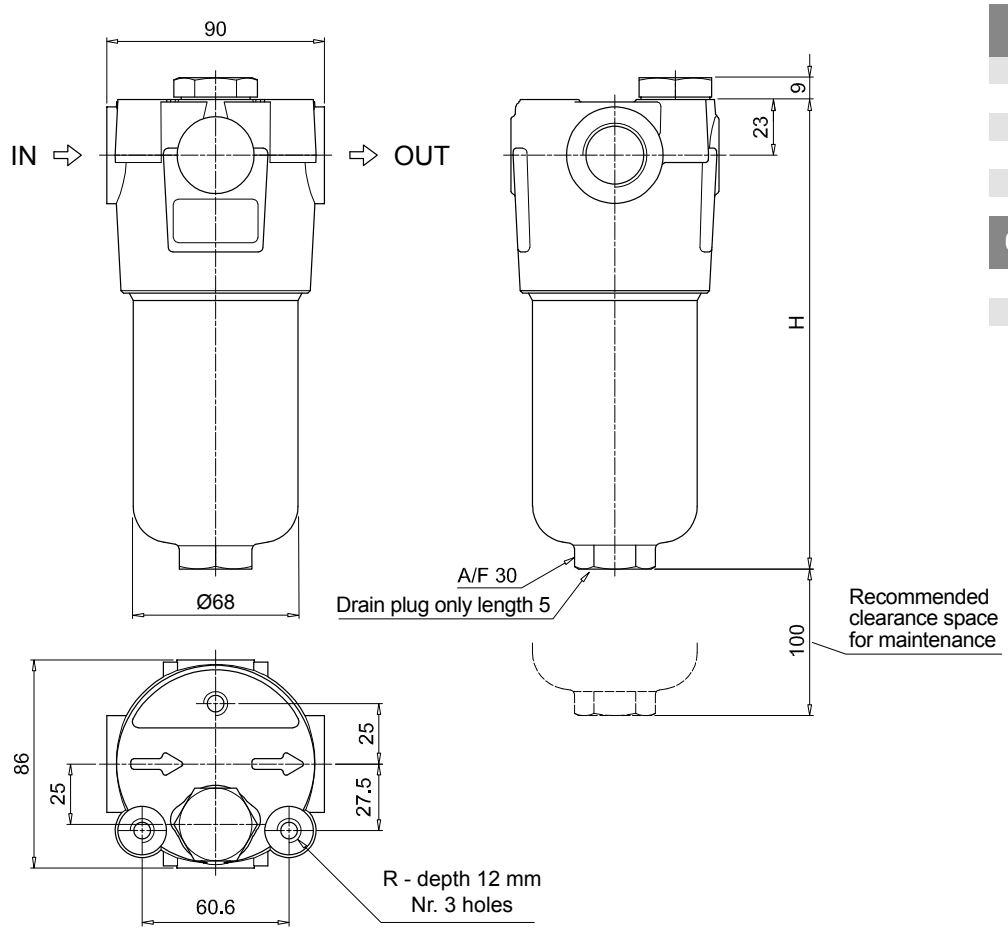
PLUGS

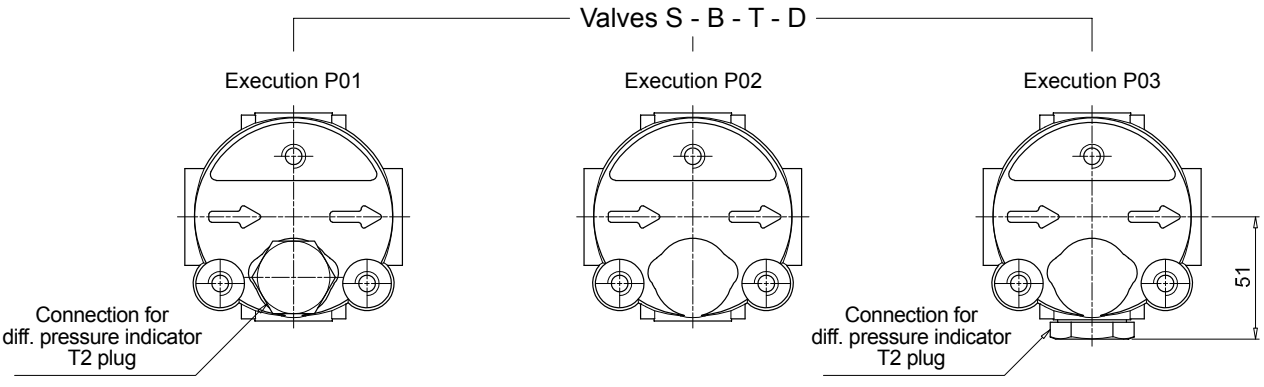
See page 741

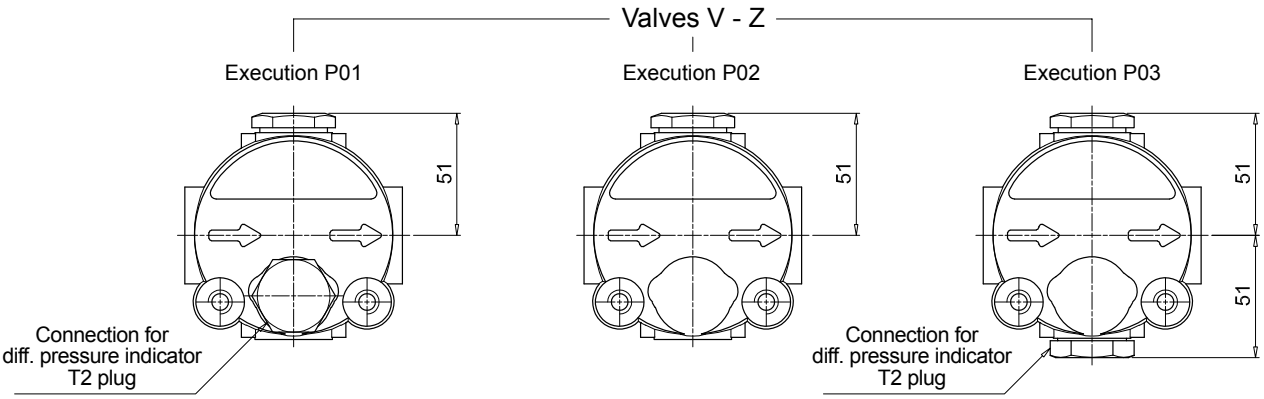
T2	Plug (not included)

FHA051	
Filter length	**H [mm]**
1	158
2	195
3	237
4	285
5	407

Connections	**R**
A-B-C-D	M10
E-F-G-H	3/8" UNC



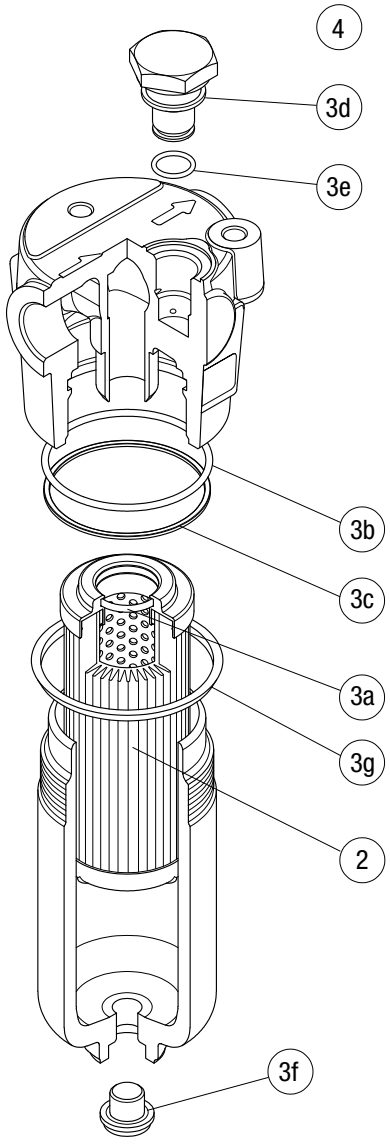




FHA 051 SPARE PARTS

Order number for spare parts

FHA 051



Item:	Q.ty: 1 pc. (2)	Q.ty: 1 pc. (3) (3a ÷ 3g)		Q.ty: 1 pc. (4)	
Filter series	Filter element	Seal Kit code number NBR	Seal Kit code number FPM	Indicator connection plug NBR	Indicator connection plug FPM
FHA 051	See order table	02050288	02050305	T2H	T2V

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