

FZM series

Maximum working pressure up to 32 Mpa (320 bar) - Flow rate up to 70 l/min



INSTALLATION, SERVICE AND MAINTENANCE MANUAL AND SAFETY INSTRUCTIONS



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Description

Technical data

Stainless steel high pressure filters

Manifold

Maximum working pressure up to 32 Mpa (320 bar)
Flow rate up to 70 l/min

FZM is a range of stainless steel high pressure filter for protection of sensitive components in high pressure hydraulic systems placed in difficult environmental conditions.

They are directly connected to the top of the manifold, through the proper flanged interface.

Available features:

- Manifold connections up to Ø15 mm, for a maximum flow rate of 70 l/min
- ISO 4401 CETOP 3 and CETOP 5 interface, for direct mounting on the CETOP valves.
- Fine filtration rating, to get a good cleanliness level into the system
- Bypass valve, to relieve excessive pressure drop across the filter media
- 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
- High collapse filter element "U", for use with aggressive fluids
- Visual, electrical and electronic differential clogging indicators

Common applications:

- Off-shore equipment
- Water filtration systems
- Systems with strong or corrosive environmental conditions
- Systems with corrosive fluids

Filter housing materials

- Head: AISI 316L
- Housing: AISI 316L
- Bypass valve: AISI 316L

Seals

- Standard NBR series A (-25 °C to +110 °C)
- Optional FPM series V (-20 °C to +120 °C)
- Optional MFQ series F (-50 °C to +120 °C)

Bypass valve

Opening pressure 6 bar ±10%

Temperature

From -50 °C to +120 °C

Note

FZM filters are provided for vertical mounting

Δp element type

Fluid flow through the filter element from OUT to IN

Microfibre filter elements - series R: 20 bar.

Element series "R":

- End cap: Polyamide
- Core tube: Tinned steel
- External/Internal support: Wire mesh Epox painted
- Media/Support/Pre-filter: Microfibre/Syntetic

Microfibre filter elements - series S: 210 bar.

Element series "S":

- End cap: Tinned steel
- Core tube: Tinned steel
- External support: Wire mesh Epox painted
- Internal support: Wire mesh Stainless steel
- Media/Support/Pre-filter: Microfibre/Syntetic

Stainless Steel Microfibre filter elements series U: 210 bar.

Element series "U":

- End cap: Stainless steel
- Core tube: Stainless steel
- External support: Stainless steel
- Internal support: Stainless steel
- Media/Support/Pre-filter: Microfibre/Syntetic

Weights [kg] and volumes [dm³]

Filter series	Weights [kg]					Volumes [dm ³]				
	Length	1	2	3	4	Length	1	2	3	4
FZM 039	-	5.0	5.6	6.1		-	0.19	0.26	0.34	

Flow rates [l/min]

Filter series	Length	Filter element design - R Series					Filter element design - S-U Series				
		A03	A06	A10	A16	A25	A03	A06	A10	A16	A25
FZM 039	2	19	25	41	47	54	19	23	39	43	51
	3	33	36	50	56	65	30	33	45	49	60
	4	41	44	58	64	70	37	39	51	63	68

Maximum flow rate for a complete stainless steel high pressure filter with a return drop $\Delta p = 1.5$ bar.

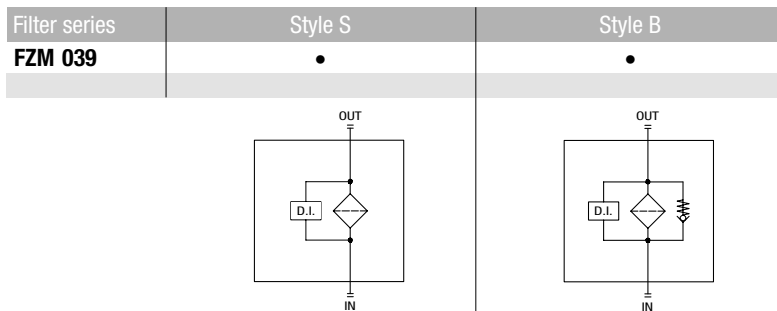
The reference fluid has a kinematic viscosity of 30 mm²/s (cSt) and a density of 0.86 kg/dm³.

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.

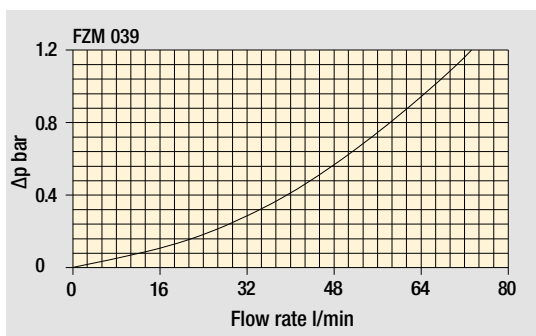
Please, contact our Sales Department for further additional information.

Hydraulic symbols



Pressure drop

Filter housings Δp pressure drop



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

Designation & Ordering code

COMPLETE FILTER

Configuration example: **FZM039** | **2** | **S** | **A** | **M** | **1** | **A10** | **H** | **P01**

Series and size
FZM039

Length
2 | 3 | 4 |

Bypass valve
S Without bypass
B With bypass 6 bar

Seals
A NBR
V FPM
F MFQ

Connections
M Manifold

Connection for differential pressure indicator
1 Without connection
2 With connection

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

Element Δp	Valves		Execution
	S	B	
R 20 bar	-	•	P01 MP Filtri standard
S 210 bar	•	-	Pxx Customized
U 210 bar, stainless steel filter element	•	•	

FILTER ELEMENT

Configuration example: **HP039** | **3** | **A10** | **A** | **S** | **P01**

Element series and size
HP039

Element length
2 | 3 | 4 |

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

Seals	Element Δp	Execution
A NBR	R 20 bar	P01 MP Filtri standard
V FPM	S 210 bar	Pxx Customized
F MFQ	U 210 bar, stainless steel filter element	

CLOGGING INDICATORS

See page 724

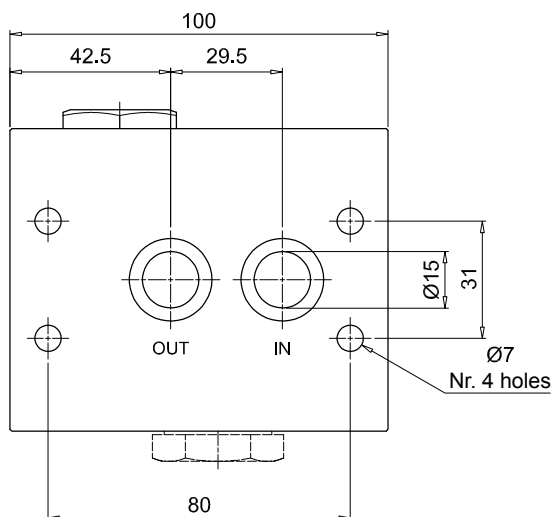
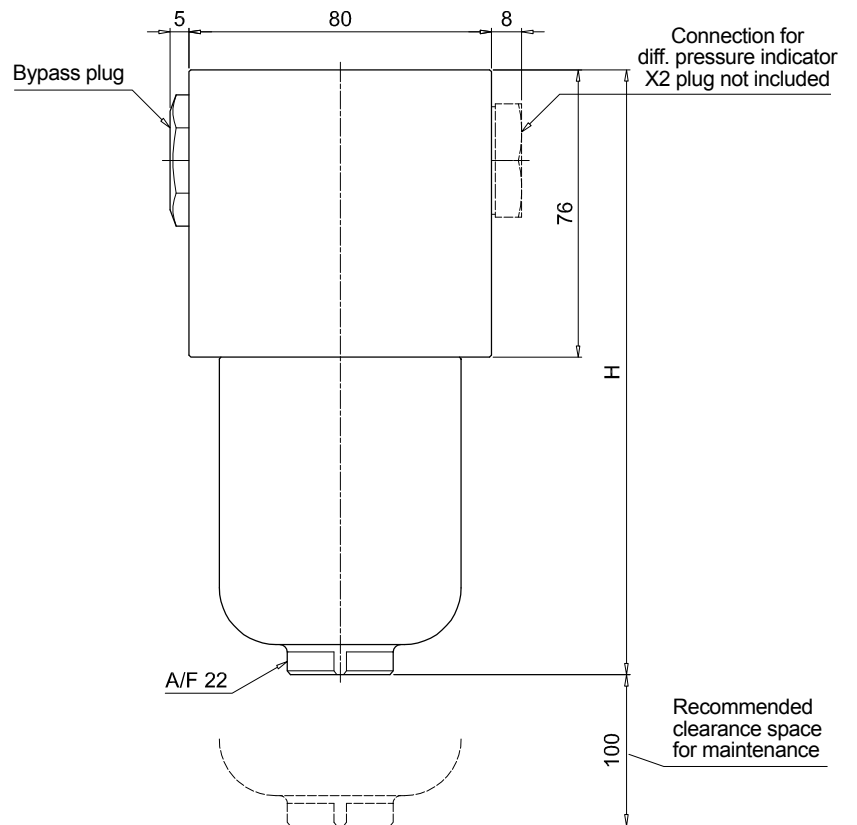
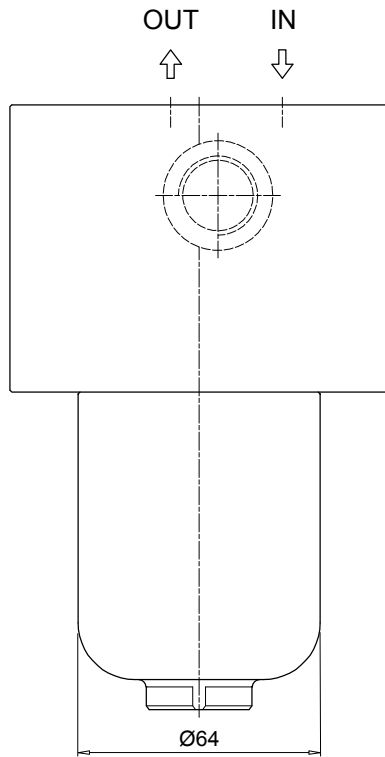
DEX Electrical differential pressure indicator	DVX Visual differential pressure indicator
DLX Electrical/visual differential pressure indicator	DVY Visual differential pressure indicator

PLUGS

See page 743

X2 Stainless steel plug (not included)
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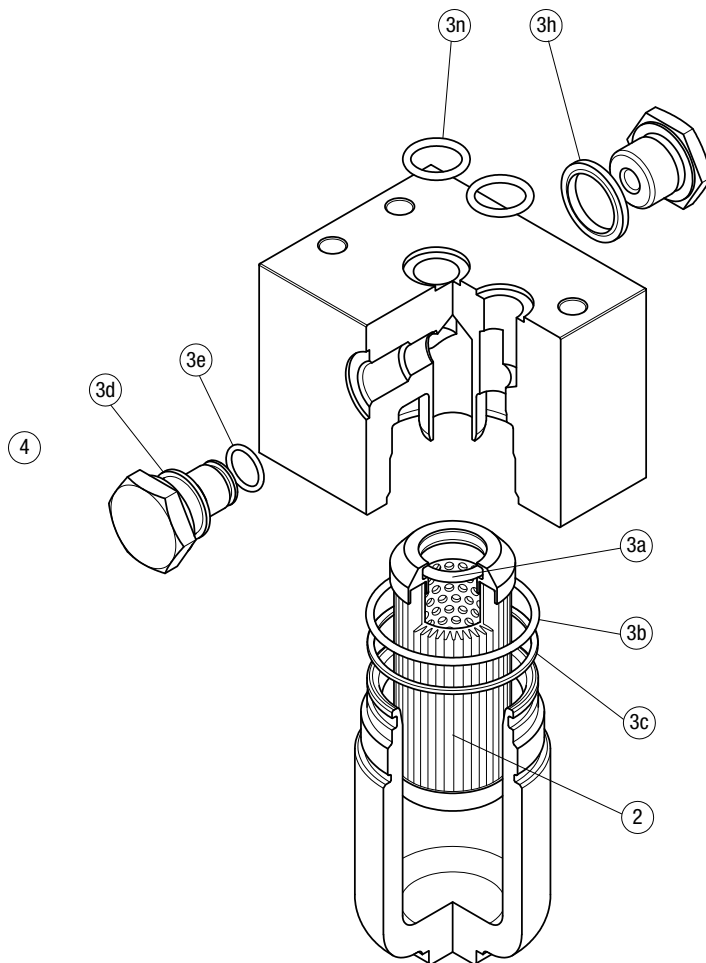
FZM039	
Filter length	H [mm]
2	160
3	203
4	247



FZM SPARE PARTS

Order number for spare parts

FZM 039



Item:	Q.ty: 1 pc.	Q.ty: 1 pc.		Q.ty: 1 pc.	
Filter series	Filter element	Seal Kit code number		Indicator connection plug	
FZM 039	See order table	NBR	FPM	NBR	FPM
	2	3 (3a ÷ 3n)		4	
		02050651	02050652	X2H	X2V

CLOGGING INDICATORS

STAINLESS STEEL HIGH PRESSURE FILTERS

Designation & Ordering code

DIFFERENTIAL PRESSURE INDICATORS

Series	Configuration example 1:						
DE Electrical differential pressure indicator	DE	Z	50	H	A	50	P01
DL Electrical / Visual differential pressure indicator	Configuration example 2:						
DV Visual differential pressure indicator	DL	X	70	V	A	52	P01
Type	DE	DL	DV				
X Stainless steel standard type 420 bar	•	•	•				
Y Stainless steel optional type 420 bar	-	-	•				
Z Stainless steel 700 bar (only for FZH)	•	•	•				
Pressure setting	DEX	DEZ	DL	DV			
50 5.0 bar	•	•	•	•			
70 7.0 bar	•	•	•	•			
95 9.5 bar	•	•	•	•			
Seals	DEX	DEZ	DL	DV			
H HNBR	•	•	•	•			
V FPM	-	-	•	•			
F MFQ	•	•	-	-			
Thermostat	DEX	DEZ	DL	DV			
A Without thermostat	•	•	•	-			
Electrical connections	DEX	DEZ	DL				
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	-	-	•				

Option
P01 MP Filtri standard
Pxx Customized

PLUGS

Series	Configuration example	
X2 Stainless Steel plug 420 bar	X2	H
X3 Stainless Steel plug 700 bar (only for FZH)		
Seals		
H HNBR		
V FPM		
F MFQ		