

# FZB 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**

FZB 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 side of the manifold, through the proper flanged interface.

#### Available features:

- Manifold connections up to Ø16 mm, for a maximum flow rate of 70 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
- 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

### Pressure

- Test pressure: 48 MPa (480 bar)
- Min. 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 6 bar  $\pm$ 10%

### Filter element features

Filter FZB		Filter element HP		
Δp Element type				
Element media	Construction	Δp Series	Δp	
A - Microfiber	with external support	R	20 bar	
	High Δp with external support	S	210 bar	
	High Δp with stainless steel components	U	210 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				
Filter element components materials		Δp Series		
		R	S	U
End cap		Polyamide	Tinned Steel	Stainless steel
Core tube		Tinned Steel	Tinned Steel	Stainless steel
External support		Wire mesh epoxy painted	Wire mesh epoxy painted	Stainless steel
Internal support		Wire mesh epoxy painted	Stainless steel	Stainless steel
Pre-filter		Synthetic	Synthetic	Synthetic

### 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)

### Temperature

From -50 °C to +120 °C

### Note

FZB filters are provided for vertical mounting

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

Filter series	Weights [kg]				Volumes [dm³]					
	Length	1	2	3	4	Length	1	2	3	4
<b>FZB 039</b>		-	4.6	5.2	5.7		-	0.19	0.26	0.34

Flow rates [l/min]

Filter series	Length	Filter element design - R Series					Filter element design - S Series					Filter element design - U Series				
		A03	A06	A10	A16	A25	A03	A06	A10	A16	A25	A03	A06	A10	A16	A25
<b>FZB 039</b>	<b>2</b>	18	23	39	44	52	18	22	37	40	48	18	22	37	40	48
	<b>3</b>	31	33	47	54	65	28	31	43	46	84	28	31	43	46	84
	<b>4</b>	38	41	56	63	71	34	36	48	62	68	34	36	48	62	68

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

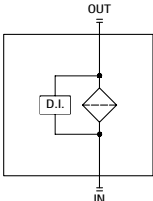
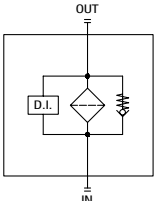
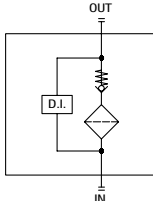
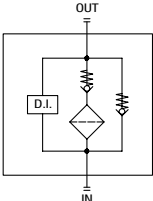
The reference fluid has a kinematic viscosity of 30 mm<sup>2</sup>/s (cSt) and a density of 0.86 kg/dm<sup>3</sup>.

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.

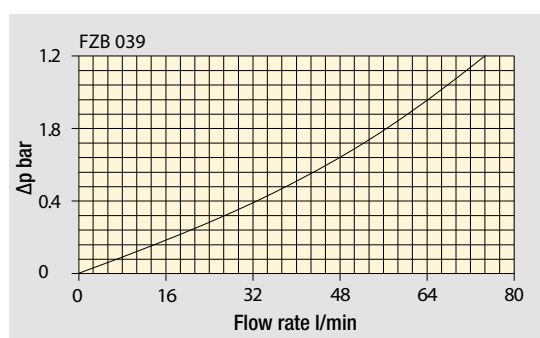
Please, contact our Sales Department for further additional information.

Hydraulic symbols

Filter series	Style S	Style B	Style T	Style D
<b>FZB 039</b>	•	•	•	•
				

Pressure drop

Filter housings  $\Delta p$  pressure drop



The curves are plotted using mineral oil with density of 0.86 kg/dm<sup>3</sup> in compliance with ISO 3968.  $\Delta p$  varies proportionally with density.

## Designation &amp; Ordering code

## COMPLETE FILTER

<b>Series and size</b> <b>FZB039</b>	Configuration example: FZB039	2	T	A	F	2	A06	S	P01
<b>Length</b> 2   3   4									
<b>Valves</b> S Without bypass B With bypass 6 bar T With check valve, without bypass D With check valve, with bypass 6 bar									
<b>Seals</b> A NBR V FPM F MFQ									
<b>Connections</b> F Manifold									
<b>Connections for differential pressure indicators</b> 1 Without connection 2 With connection on the top									
<b>Filtration rating (filter media)</b> 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	T	D	
R 20 bar	-	•	-	•	P01 MP Filtri standard
S 210 bar	•	-	•	-	Pxx Customized
U 210 bar, stainless steel filter element	•	•	•	•	

## FILTER ELEMENT

<b>Element series and size</b> <b>HP039</b>	Configuration example: HP039	2	A06	A	S	P01
<b>Element length</b> 2   3   4						
<b>Filtration rating (filter media)</b> 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 722

DEX Electrical differential pressure indicator

DLX Electrical/visual differential pressure indicator

DVX Visual differential pressure indicator

DVY Visual differential pressure indicator

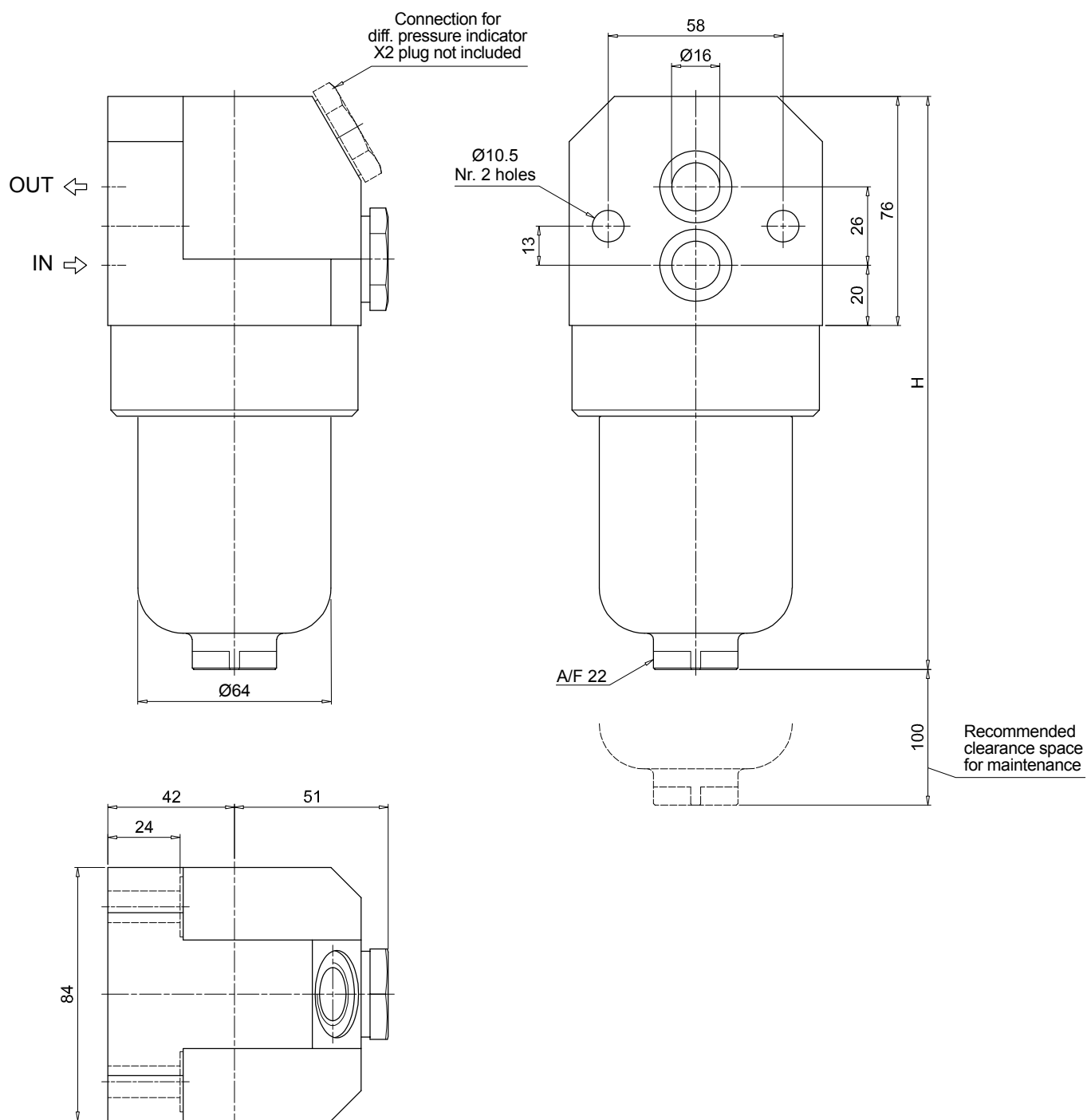
## PLUGS

See page 741

X2 Stainless steel plug (not included)

FZB039

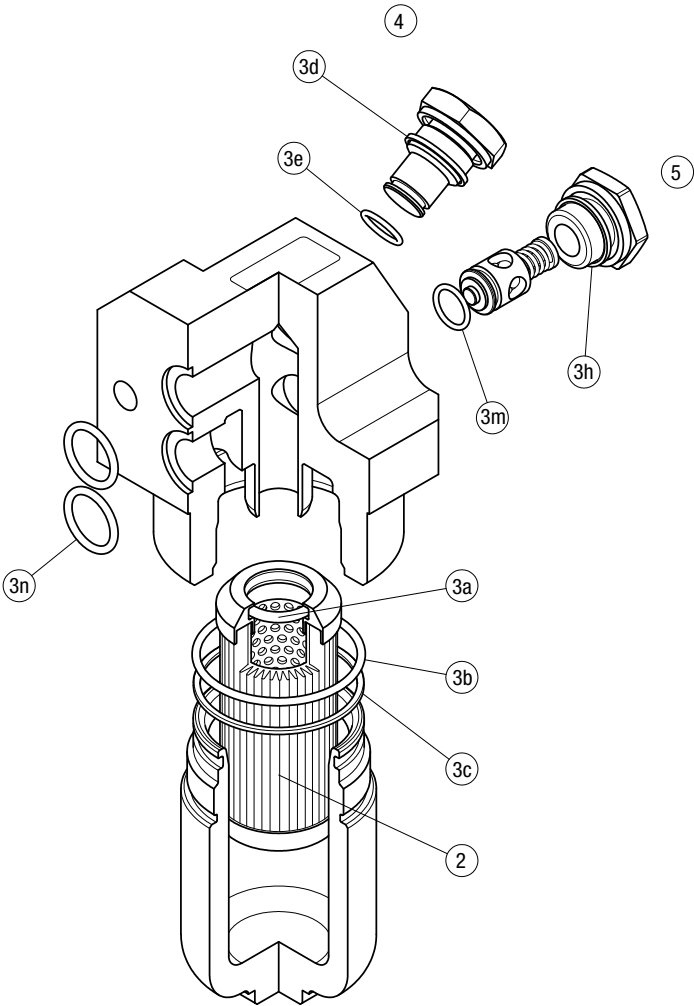
Filter length	H [mm]
2	190
3	233
4	277



# FZB SPARE PARTS

Order number for spare parts

FZB 039



Item:		Seal Kit code number		Indicator connection plug		Bypass assembly / plug	
Filter series		NBR	FPM	NBR	FPM	NBR	FPM
FZB 039		02050647	02050648	X2H	X2V	02001286	02001295