



Filtro MP
Serie
FZHEX ATEX



 HYDRAULIC
COMPONENTS
& FLUID CONTAMINATION
CONTROL

FZH series

Maximum working pressure up to 70 Mpa (700 bar) - Flow rate up to 80 l/min



INSTALLATION, SERVICE AND MAINTENANCE MANUAL AND SAFETY INSTRUCTIONS



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Description

Technical data

Filters for potentially explosive atmosphere

In-line

Maximum working pressure up to 70 Mpa (700 bar)
Flow rate up to 80 l/min

FZH 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 lines of the system through the hydraulic fittings.

Available features:

- 1/2" female threaded connections, for a maximum flow rate of 80 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 "N", for use with filters provided with bypass valve
- High collapse filter element "H", for use with filters not 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
- 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: 105 MPa (1050 bar)
- Min. Burst pressure: 210 MPa (2100 bar)
- Pulse pressure fatigue test: 1 000 000 cycles with pressure from 0 to 70 MPa (700 bar)

Bypass valve

Opening pressure 6 bar \pm 10%

Filter element features

Filter FZH	Filter element HP		
Δp Element type			
Element media	Construction	Δp Series	Δp
A - Microfiber	Standard	N	20 bar
	with external support	R	20 bar
	High Δp	H	210 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		
	N - R	H - 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

Temperature

Seals	Ambient Temperature	Max fluid Temperature	Temperature Class	Max surface temperature
NBR	-15 °C ÷ +80 °C	+80 °C	T6	T85 °C
FPM / MFQ	-15 °C ÷ +80 °C	+80 °C	T6	T85 °C
	-15 °C ÷ +95 °C	+95 °C	T5	T100 °C
	-15 °C ÷ +110 °C	+110 °C	T4	T115 °C

Seals

- Standard NBR series A
- Optional FPM series V
- Optional MFQ series F

Note

FZH filters are provided for vertical mounting

Filter with:

NBR seal in configuration **zerospark⁺**

   II 3G Ex h IIC T6 Gc X
II 3D Ex h IIIC T85°C Dc X

FPM / MFQ seal in configuration **zerospark⁺**

   II 3G Ex h IIC T6... T4 Gc X
II 3D Ex h IIIC T85°C...T115°C Dc X

Weights [kg] and volumes [dm³]

Filter series	Weights [kg]				Volumes [dm ³]					
	Length	1	2	3	4	Length	1	2	3	4
FZH 012		2.1	2.2	2.7	3.3		0.10	0.12	0.15	0.20
FZH 040		-	4.5	5.1	5.6		-	0.19	0.26	0.34

Flow rates [l/min]

Filter series	Length	Filter element design - N Series					Filter element design - H-U Series				
		A03	A06	A10	A16	A25	A03	A06	A10	A16	A25
FZH 012	1	4	6	8	9	11	3	5	6	7	9
	2	7	9	17	20	26	5	7	14	17	23
	3	11	14	25	27	32	11	14	24	27	32
	4	17	20	29	31	34	13	16	26	29	33

Filter series	Length	Filter element design - R Series					Filter element design - S-U Series				
		A03	A06	A10	A16	A25	A03	A06	A10	A16	A25
FZH 040	2	19	25	43	50	59	19	23	41	45	55
	3	34	37	53	62	74	31	34	48	52	66
	4	42	46	63	72	81	38	41	55	71	78

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 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.

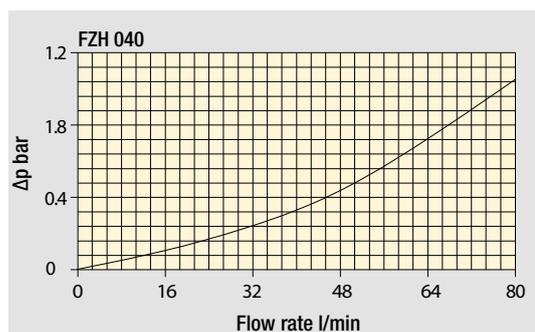
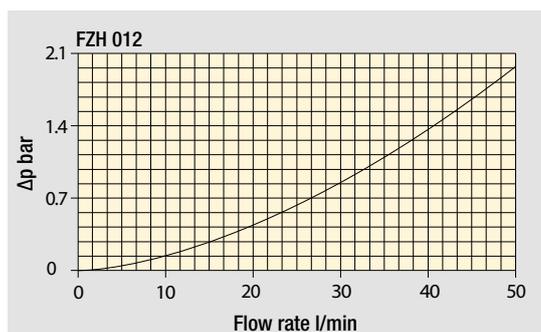
You can also calculate the right size using the formulas present on the FILTER SIZING paragraph at the beginning of the full catalogue or at the beginning of the filter family brochure. Please, contact our Sales Department for further additional information.

Hydraulic symbols

Filter series	Style S	Style B	Style T	Style D	Style V	Style Z
FZH 012	•	•	-	-	•	•
FZH 040	•	•	•	•	•	•

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: **FZH012** | **2** | **B** | **F** | **B** | **2** | **A03** | **U** | **Z01** | **EX**

Filter Series and size
FZH012

Filter length
1 | **2** | **3** | **4**

Valves
S Without bypass
B With bypass 6 bar
V With reverse flow, without bypass
Z With reverse flow, with bypass 6 bar

Seals
A NBR
V FPM
F MFQ

Connections
A G 1/4"
B 1/4" NPT
C SAE 5 - 1/2" - 20 UNF
D G 3/8"
E 3/8" NPT
F SAE 6 - 9/16" - 18 UNF

Connection for differential pressure indicator
1 Without connection
2 With connection

Filtration rating (filter media)	Element Δp	Valves			
		S	B	V	Z
A03 Inorganic microfiber 3 μm	N 20 bar	-	•	-	•
A06 Inorganic microfiber 6 μm	H 210 bar	•	-	•	-
A10 Inorganic microfiber 10 μm	U 210 bar stainless steel filter element	•	•	•	•
A16 Inorganic microfiber 16 μm					
A25 Inorganic microfiber 25 μm					

Execution
zerospark®
Z01 MP Filtri standard
Zxx Customized

Certifications
EX ATEX certifications

FILTER ELEMENT

Configuration example: **HP011** | **2** | **A03** | **F** | **U** | **Z01**

Element series and size
HP011

Element length
1 | **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
A NBR
V FPM
F MFQ

Element Δp
N 20 bar
H 210 bar
U 210 bar, stainless steel filter element

Execution
zerospark®
Z01 MP Filtri standard
Zxx Customized

CLOGGING INDICATORS

See page 723

DVZ Visual differential pressure indicator

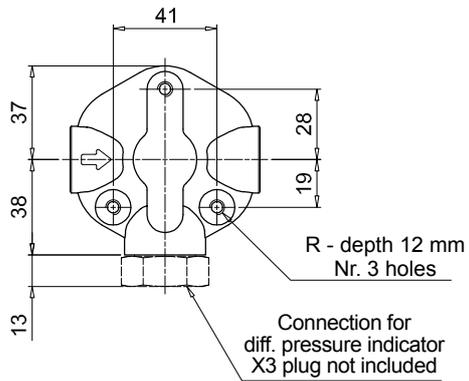
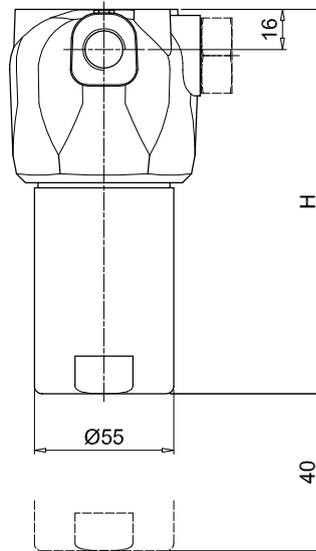
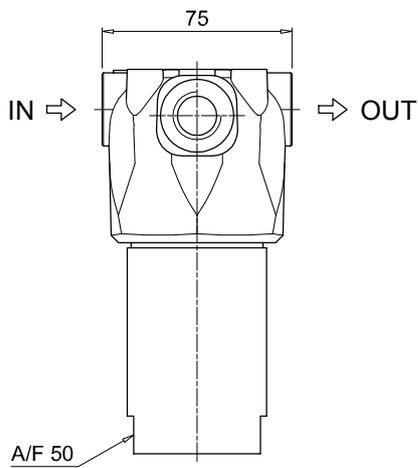
PLUGS

See page 741

X3 Stainless steel plug (not included)

FZH012	
Filter length	H [mm]
1	93
2	104
3	154
4	204

Connections	R
A	M6
B - C	1/4" UNC
D	M6
E - F	1/4" UNC



Recommended clearance space for maintenance

Designation & Ordering code

COMPLETE FILTER

Configuration example: **FZH040** | **2** | **T** | **A** | **A** | **2** | **A03** | **S** | **Z01** | **EX**

Filter Series and size
FZH040

Filter length
2 | **3** | **4**

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 **F** MFQ
V FPM

Connections
A G 1/2"
B 1/2" NPT
C SAE 8 - 3/4" - 16 UNF

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					
	S	B	T	D	V	Z
R 20 bar	-	•	-	•	-	•
S 210 bar	•	-	•	-	•	-
U 210 bar, stainless steel filter element	•	•	•	•	•	•

Execution
zerospark®
Z01 MP Filtri standard
Zxx Customized

Certifications
EX ATEX certifications

FILTER ELEMENT

Configuration example: **HP039** | **2** | **A03** | **A** | **S** | **Z01**

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
A NBR
V FPM
F MFQ

Element Δp
R 20 bar
S 210 bar
U 210 bar, stainless steel filter element

Execution
zerospark®
Z01 MP Filtri standard
Zxx Customized

CLOGGING INDICATORS

See page 723

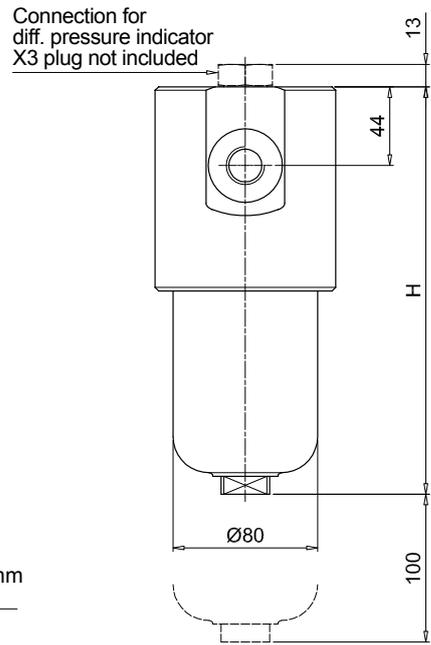
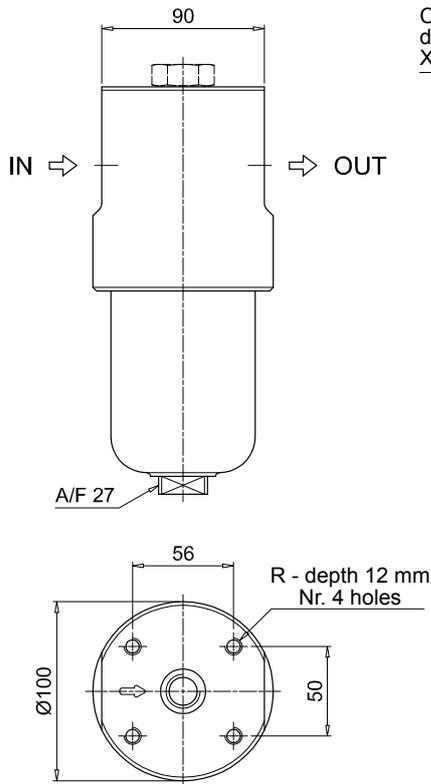
DVZ Visual differential pressure indicator

PLUGS

See page 741

X3 Stainless steel plug (not included)

Valves S - B - T - D

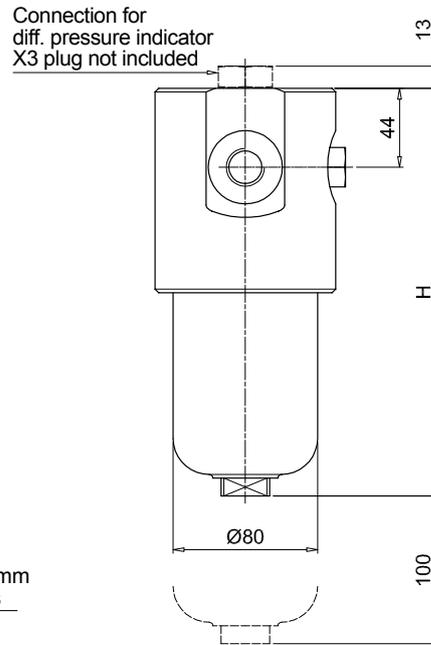
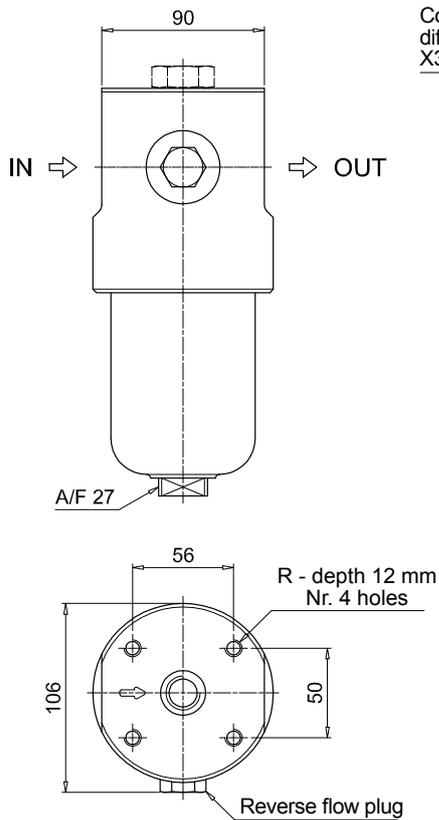


FZH040	
Filter length	H [mm]
2	204
3	247
4	291

Connections	R
A	M10
B	3/8" UNC
C	3/8" UNC

Recommended clearance space for maintenance

Valves V - Z



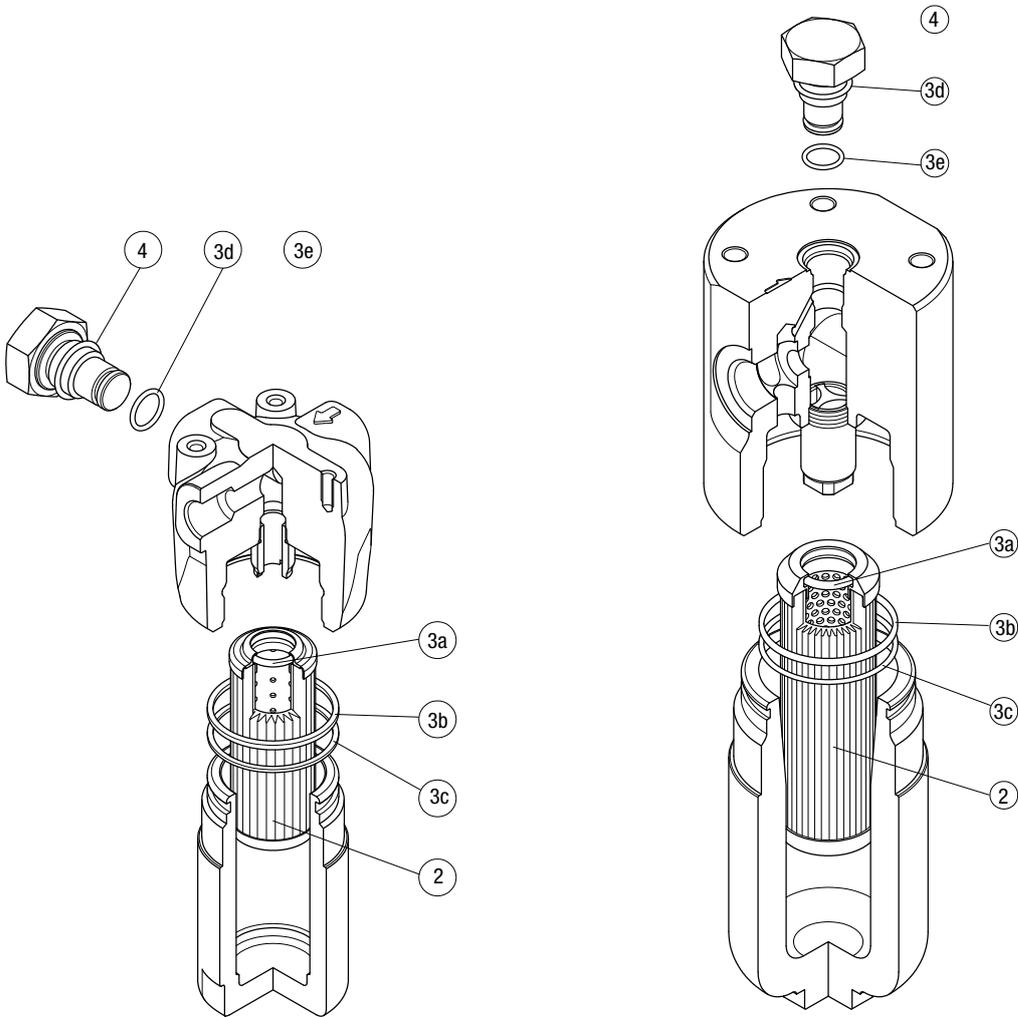
Recommended clearance space for maintenance

FZH SPARE PARTS

Order number for spare parts

FZH 012

FZH 040



Item:	Q.ty: 1 pc.	Q.ty: 1 pc.		Q.ty: 1 pc.	
Filter series	Filter element	Seal Kit code number		Indicator connection plug	
FZH 012	See order table	NBR	FPM	NBR	FPM
FZH 040	See order table	02050856	02050857	X2H	X2V
		02050860	02050861		

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