

# FZH series

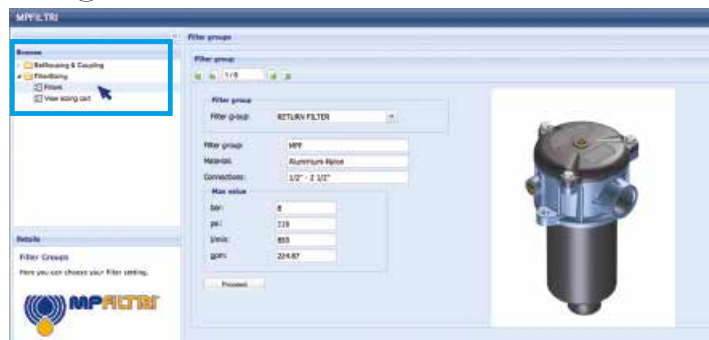
Maximum working pressure up to 70 Mpa (700 bar) - Flow rate up to 80 l/min



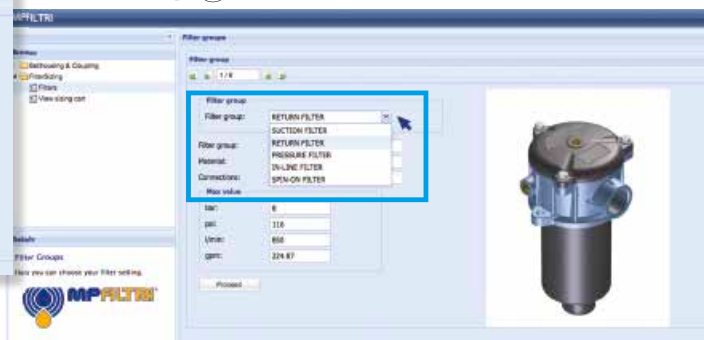


# TYPICAL FILTER SIZING Selection Software

**Step 1** Select "FILTERS"



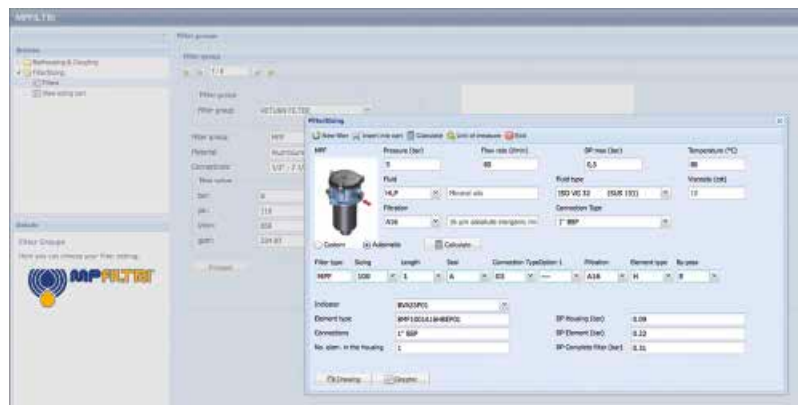
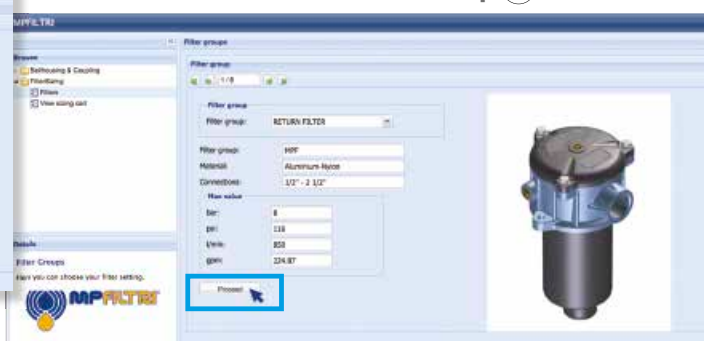
**Step 2** Choose filter group (Return Filter, Pressure Filter, etc.)



**Step 3** Choose filter type (MPF, MPT, etc.) in function of the max working pressure and the max flow rate



**Step 4** Push "PROCEED"



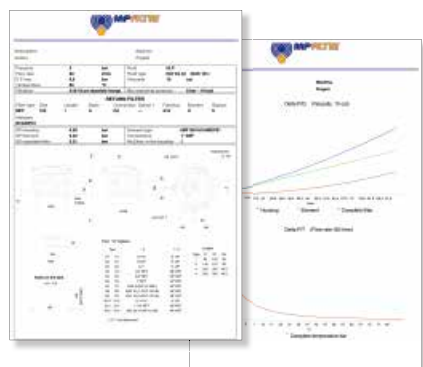
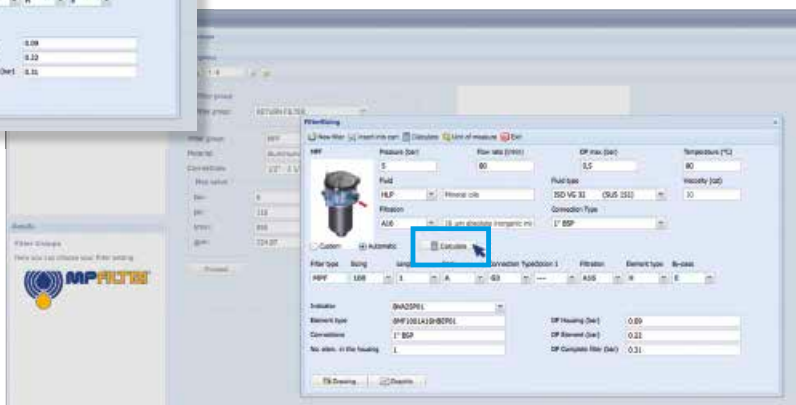
**Step 5**

Insert all application data to calculate the filter size following the sequence:

- working pressure
- working flow rate
- working pressure drop
- working temperature
- fluid material and fluid type
- filtration media
- connection type

**Step 6**

Push "CALCULATE" to have result; in case of any mistake, the system will advice which parameter is out of range to allow to modify/adjust the selection



**Step 7**

Download PDF Datasheet "Report.aspx" pushing the button "Drawing"



## Description

## Technical data

### Stainless steel high pressure filters

#### In-line

**Maximum working pressure up to 80 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 50 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

#### 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  $\pm$ 10%

#### Temperature

From -50 °C to +120 °C

#### Note

FZH filters are provided for vertical mounting

#### $\Delta p$ element type

Fluid flow through the filter element from OUT to IN

Microfibre filter elements - series N-R: 20 bar.

Element series "N - R":

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

Microfibre filter elements - series H-S: 210 bar.

Element series "H - 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 [dm<sup>3</sup>]

Filter series	Weights [kg]					Volumes [dm <sup>3</sup> ]				
	Length	1	2	3	4	Length	1	2	3	4
<b>FZH 010-011</b>		2.1	2.2	2.7	3.3		0.10	0.12	0.15	0.20
<b>FZH 039</b>		-	7.8	8.9	10.1		-	0.19	0.26	0.34

Filter series	Length	Filter element design - R Series					Filter element design - S-U Series				
		A03	A06	A10	A16	A25	A03	A06	A10	A16	A25
<b>FZH 010</b>	<b>1</b>	4	6	8	9	11	4	5	6	7	9
	<b>2</b>	7	9	17	20	26	5	7	14	17	23
	<b>3</b>	11	14	25	27	32	11	14	24	27	32
	<b>4</b>	17	20	29	31	34	13	16	26	29	33
<b>FZH 011</b>	<b>1</b>	4	6	8	9	11	3	5	6	7	9
	<b>2</b>	7	9	17	21	28	5	7	14	17	24
	<b>3</b>	11	14	26	30	37	11	14	25	29	36
	<b>4</b>	17	21	32	36	40	12	16	28	32	38
<b>FZH 039</b>	<b>2</b>	19	25	43	50	59	19	23	41	45	55
	<b>3</b>	34	37	53	62	74	31	34	48	52	66
	<b>4</b>	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 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.

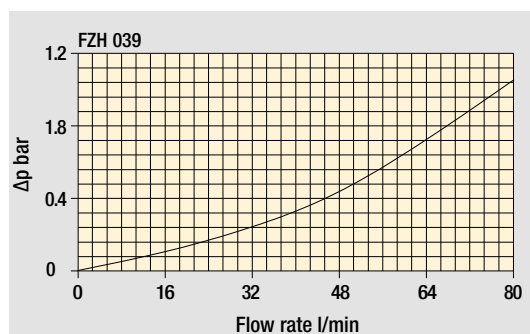
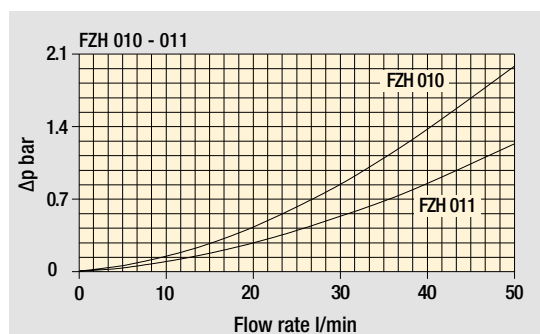
### Hydraulic symbols

Filter series	Style S	Style B	Style T	Style D	Style V	Style Z
<b>FZH 010-011</b>	•	•			•	•
<b>FZH 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 & Ordering code

### COMPLETE FILTER

Series and size **FZH010** | **FZH011** Configuration example: **FZH010** **2** **B** **F** **B** **2** **A03** **U** **P01**

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

Connections for differential indicator  
**1** Without  
**2** With connection on the top

Filtration rating (filter media)	
<b>A03</b> Inorganic microfiber	3 µm
<b>A06</b> Inorganic microfiber	6 µm
<b>A10</b> Inorganic microfiber	10 µm
<b>A16</b> Inorganic microfiber	16 µm
<b>A25</b> Inorganic microfiber	25 µm

Element Δp	Valves			
	S	B	V	Z
<b>N</b> 20 bar		•		•
<b>H</b> 210 bar		•	•	
<b>U</b> 210 bar, stainless steel filter element	•	•	•	•

Execution	
<b>P01</b>	MP Filtri standard
<b>Pxx</b>	Customized

### FILTER ELEMENT

Element series and size **HP011** Configuration example: **HP011** **2** **A03** **F** **U** **P01**

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

Filtration rating (filter media)	
<b>A03</b> Inorganic microfiber	3 µm
<b>A06</b> Inorganic microfiber	6 µm
<b>A10</b> Inorganic microfiber	10 µm
<b>A16</b> Inorganic microfiber	16 µm
<b>A25</b> Inorganic microfiber	25 µm

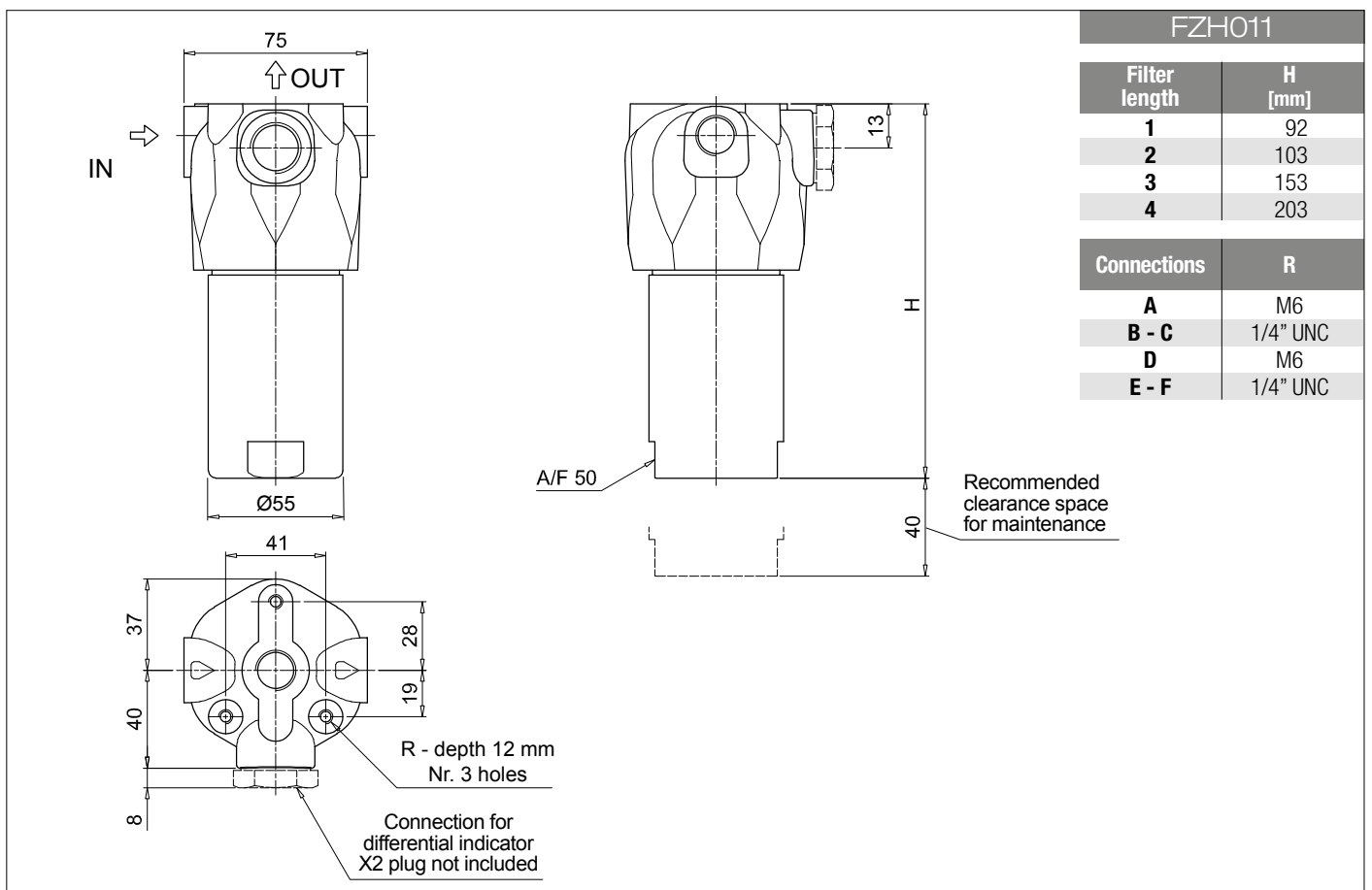
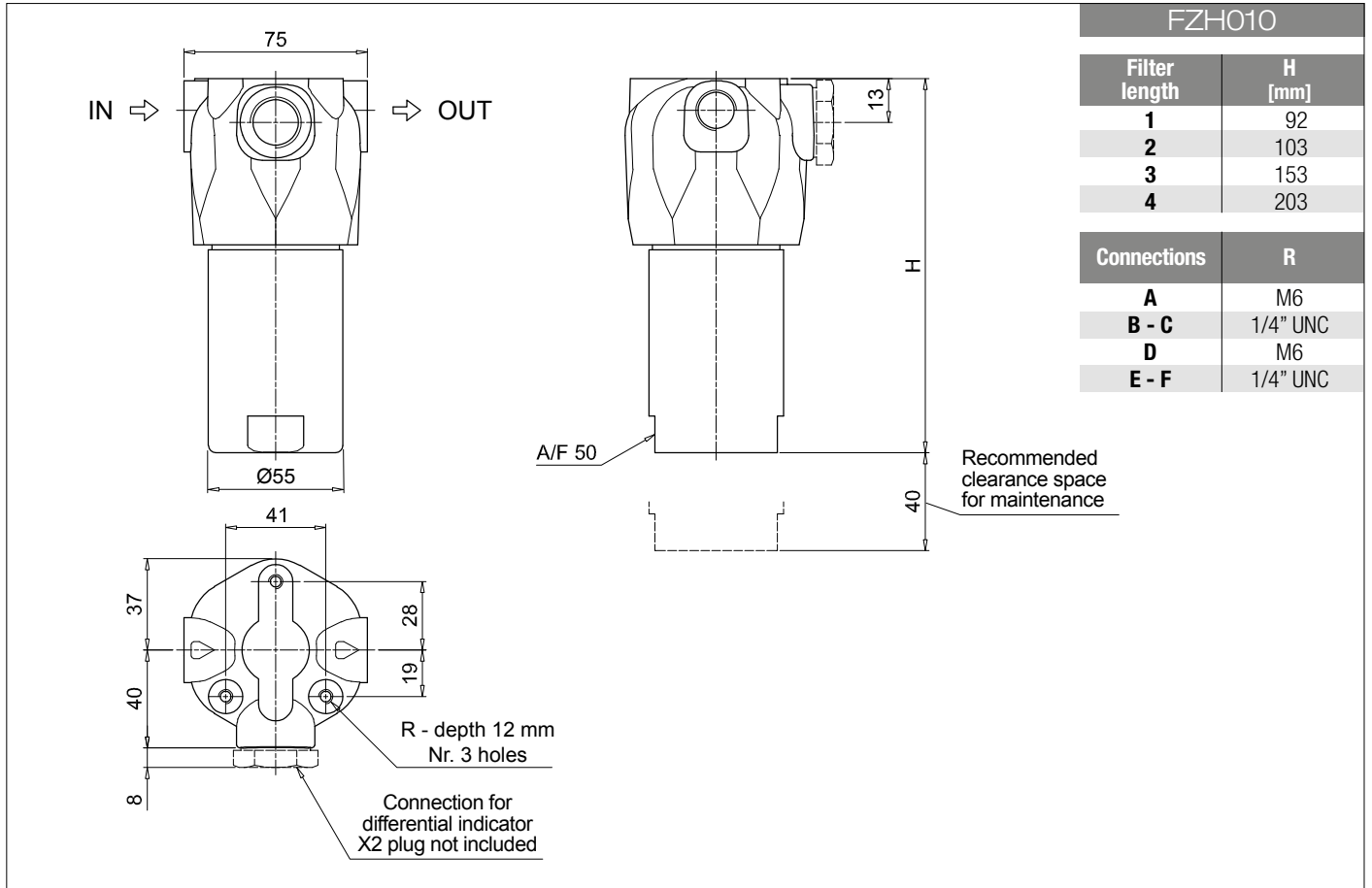
Seals	Element Δp	Valves			
		S	B	V	Z
<b>A</b> NBR	<b>N</b> 20 bar		•		•
<b>V</b> FPM	<b>H</b> 210 bar		•	•	
<b>F</b> MFQ	<b>U</b> 210 bar, stainless steel filter element	•	•	•	•

Execution	
<b>P01</b>	MP Filtri standard
<b>Pxx</b>	Customized

### ACCESSORIES

Differential indicators	page		page
<b>DEH</b> Hazardous area electronic differential indicator	642	<b>DVX</b> Visual differential indicator	643
<b>DEX</b> Electrical differential indicator	643	<b>DVY</b> Visual differential indicator	644
<b>DLX</b> Electrical / visual differential indicator	643		

Additional features	page
<b>X2</b> Plug	644



## Designation & Ordering code

### COMPLETE FILTER

Series and size **FZH039** Configuration example: **FZH039** **2** **T** **A** **A** **2** **A03** **S** **P01**

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  
**V** FPM  
**F** MFQ

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

Connections for differential indicator  
**1** Without  
**2** With connection on the top

Filtration rating (filter media)	
<b>A03</b> Inorganic microfiber	3 µm
<b>A06</b> Inorganic microfiber	6 µm
<b>A10</b> Inorganic microfiber	10 µm
<b>A16</b> Inorganic microfiber	16 µm
<b>A25</b> Inorganic microfiber	25 µm

Element Δp	Valves					
	S	B	T	D	V	Z
<b>R</b> 20 bar		•		•		•
<b>S</b> 210 bar	•		•		•	
<b>U</b> 210 bar, stainless steel filter element	•	•	•	•	•	•

Execution	
<b>P01</b>	MP Filtri standard
<b>Pxx</b>	Customized

### FILTER ELEMENT

Element series and size **HP039** Configuration example: **HP039** **2** **A03** **A** **S** **P01**

Element length  
2 | 3 | 4 |

Filtration rating (filter media)	
<b>A03</b> Inorganic microfiber	3 µm
<b>A06</b> Inorganic microfiber	6 µm
<b>A10</b> Inorganic microfiber	10 µm
<b>A16</b> Inorganic microfiber	16 µm
<b>A25</b> Inorganic microfiber	25 µm

Seals	Element Δp	Valves					
		S	B	T	D	V	Z
<b>A</b> NBR	<b>R</b> 20 bar		•		•		•
<b>V</b> FPM	<b>S</b> 210 bar	•		•		•	
<b>F</b> MFQ	<b>U</b> 210 bar, stainless steel filter element	•	•	•	•	•	•

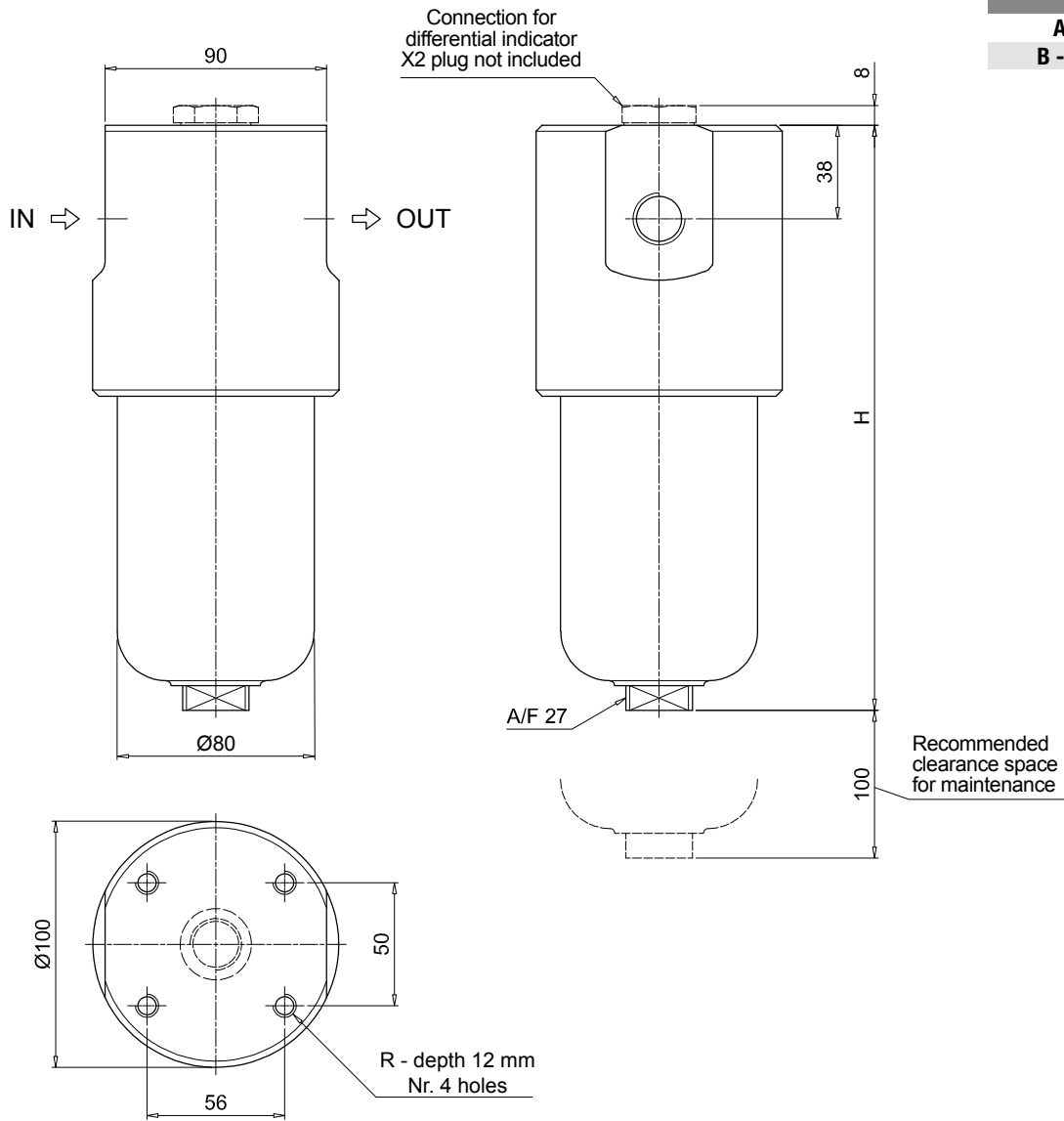
Execution	
<b>P01</b>	MP Filtri standard
<b>Pxx</b>	Customized

### ACCESSORIES

Differential indicators		page			page
<b>DEH</b> Hazardous area electronic differential indicator	642	<b>DVX</b> Visual differential indicator	643		
<b>DEX</b> Electrical differential indicator	643	<b>DVY</b> Visual differential indicator	644		
<b>DLX</b> Electrical / visual differential indicator	643				
Additional features		page			
<b>X2</b> Plug	644				



FZH039	
Filter length	H [mm]
2	200
3	243
4	287
Connections	R
A	M10
B - C	3/8" UNC

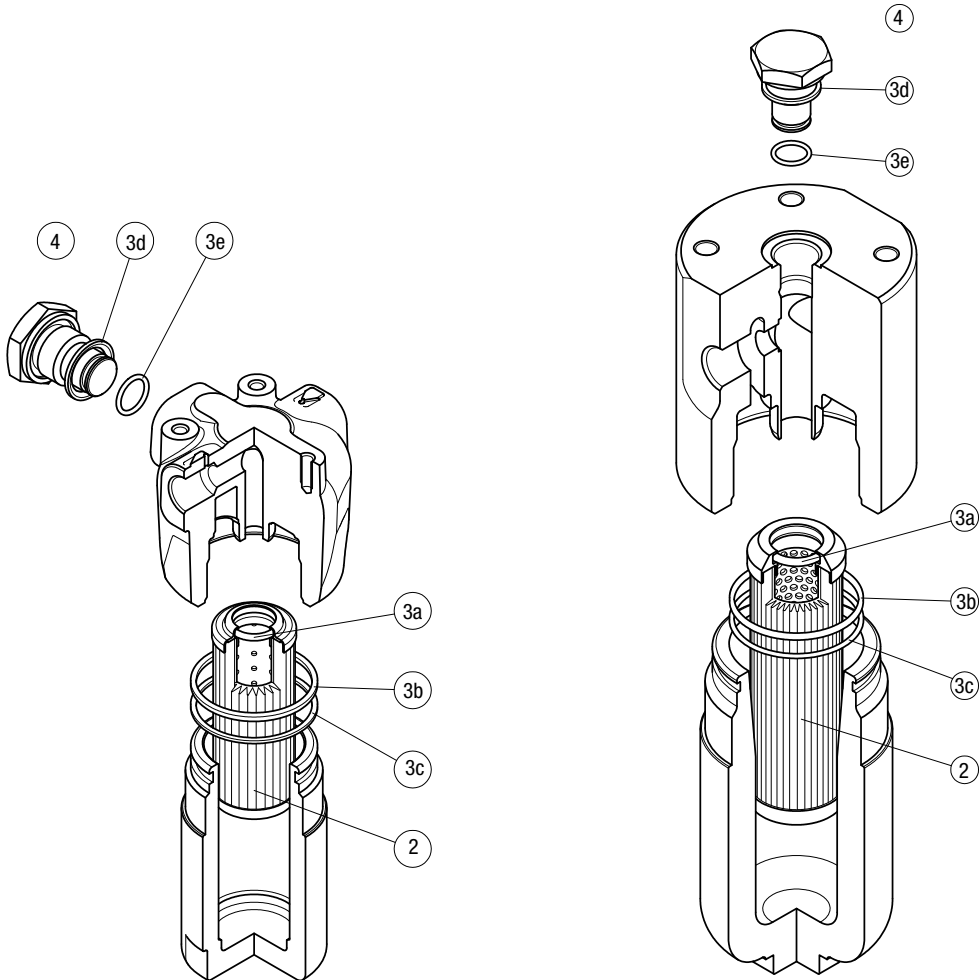


# FZH SPARE PARTS

Order number for spare parts

FZH 010 - 011

FZH 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	
FZH 010-011	See order table	NBR	FPM	NBR	FPM
FZH 039	See order table	02050501	02050492	X2H	X2V
		02050335	02050336		