

# FZD series

Maximum working pressure up to 35 Mpa (350 bar) - Flow rate up to 60 l/min



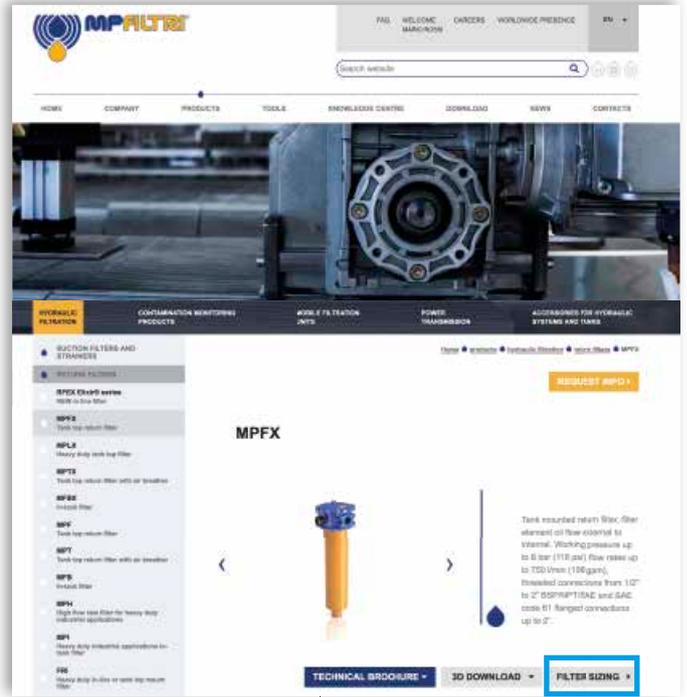
# TYPICAL FILTER SIZING Selection Software

## Step ①

Select "FILTER SIZING SOFTWARE" after login

OR

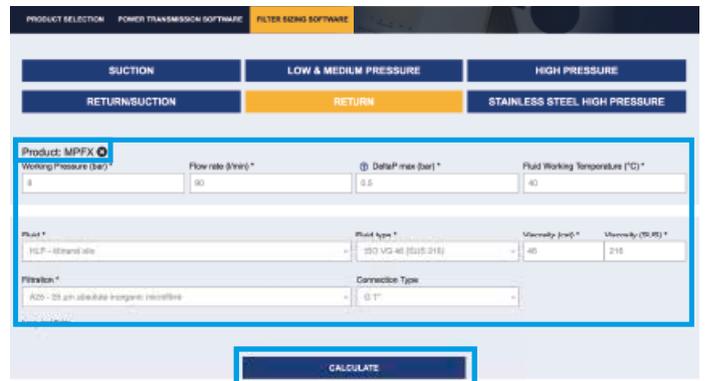
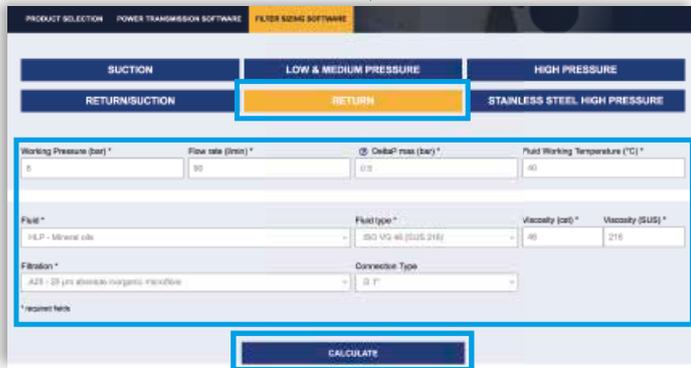
Select "FILTER SIZING" after login from a product page



Choose the type of filter family.  
Enter the main data for sizing the filter  
then push CALCULATE.

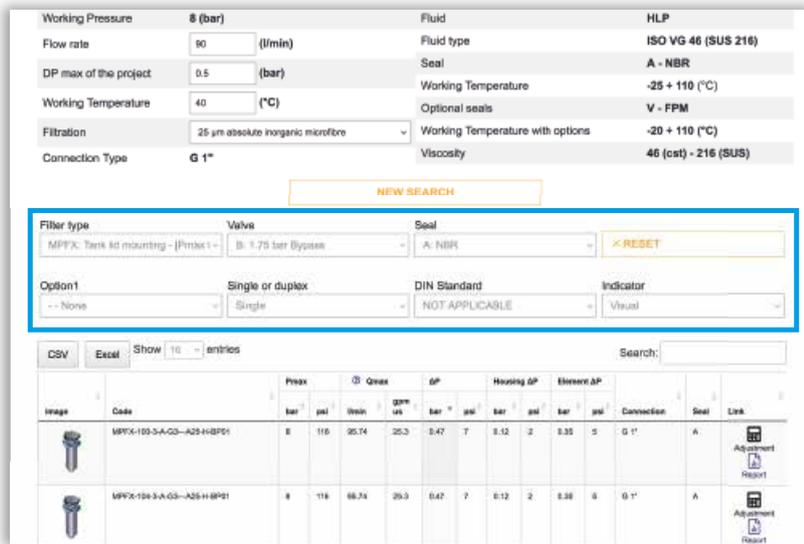
## Step ②

Enter the main data for sizing the filter  
then push CALCULATE.



## Step ③

Select the desired options to choose the appropriate filter type for the application.



## Step 4

Choose the most suitable filter from the proposed list.

Image	Code	Peak bar	Qmax psi	Qmax m³/min	Qmax gpm us	ΔP bar	ψ	Housing ΔP bar	ψ	Element ΔP bar	ψ	Connection	Seal	Link
	MPFX-103-3-A-Q3-A25-H-BPFI	8	116	25.74	25.3	0.47	7	0.12	2	0.33	5	G 1"	A	 
	MPFX-104-3-A-Q3-A25-H-BPFI	8	116	25.74	25.3	0.47	7	0.12	2	0.33	5	G 1"	A	 

## Step 5

It is possible to change the filter modifying every parameter.



**A** SAVE YOUR FILTER'S REPORT



**B** MANUAL EDIT



SAVE IN YOUR ARCHIVE  
typing your reference data and then SAVE AS PDF



A new browser window displays the pdf

see **A**

Close the report window



By clicking your WELCOME button, the SHOW REPORTS is displayed: select it to see your filters list.

## Description

## Technical data

### Stainless steel high pressure filters

#### Duplex

**Maximum working pressure up to 35 Mpa (350 bar)**  
**Flow rate up to 60 l/min**

FZD is a range of stainless steel high pressure duplex filter with integrated changeover function to allow the filter element replacement without the system shut-down. 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 90 l/min
- Fine filtration rating, to get a good cleanliness level into the system
- Balancing valve, available for FZD051, to equalize the housing pressure before the switch.
- Bypass valve, to relieve excessive pressure drop across the filter media
- Vent ports, to avoid air trapped into the filter going into the system
- Drain ports, to remove the fluid from the housing prior the maintenance work
- 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:

- System where shut-down causes high costs
- System where shut-down causes safety issues

#### 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

FZD filters are provided for vertical mounting

#### $\Delta p$ element type

Fluid flow through the filter element from OUT to IN

Microfibre filter elements - series R: 20 bar.

Element series "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	5	Length	1	2	3	4	4
<b>FZD 010</b>	-	7.9	-	-	-	-	-	0.10	-	-	-	-
<b>FZD 021</b>	-	9.6	9.8	10.3	-	-	-	0.06	0.12	0.22	-	-
<b>FZD 051</b>	-	17.4	18.0	19.0	20.3	-	-	0.31	0.41	0.53	0.83	-

Filter series	Length	Filter element design - H Series					Filter element design - U Series				
		A03	A06	A10	A16	A25	A03	A06	A10	A16	A25
<b>FZD 010</b>	<b>2</b>	4	5	7	8	11	4	5	7	8	11
	<b>3</b>	5	6	11	12	16	5	6	11	12	16
<b>FZD 021</b>	<b>3</b>	9	11	16	18	20	9	11	16	18	20
	<b>4</b>	10	12	17	19	21	10	12	17	19	21

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>FZD 051</b>	<b>2</b>	39	41	51	54	59	35	37	48	51	58	35	37	48	51	58
	<b>3</b>	45	46	54	56	61	41	43	52	54	60	41	43	52	54	60
	<b>4</b>	50	52	58	58	62	47	49	56	56	61	47	49	56	56	61
	<b>5</b>	56	57	61	62	63	53	53	57	59	63	53	53	57	59	63

### 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>.

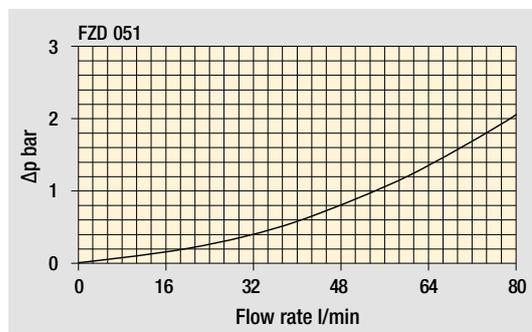
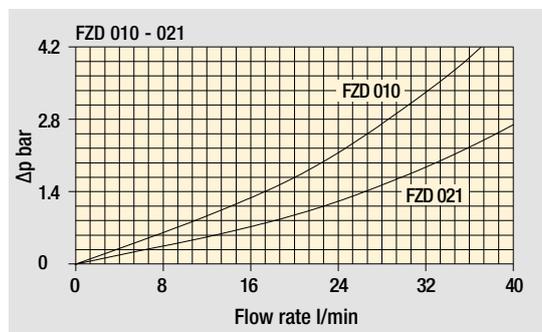
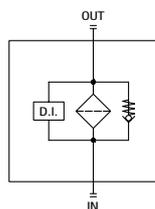
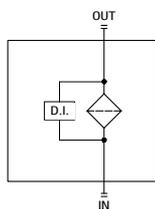
For different pressure drop or fluid viscosity we recommend to use our selection software available on [www.mpfiltri.com](http://www.mpfiltri.com).

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
<b>FZD 010</b>	•	
<b>FZD 021</b>	•	
<b>FZD 051</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		Configuration example: <b>FZD021</b>   <b>4</b>   <b>S</b>   <b>A</b>   <b>G1</b>   <b>A06</b>   <b>H</b>   <b>P01</b>											
FZD010		FZD021											
<b>Length</b>		FZD010	FZD021										
<b>2</b>		•	•										
<b>3</b>			•										
<b>4</b>			•										
<b>Valves</b>													
<b>S</b>	Without bypass												
<b>Seals</b>													
<b>A</b>	NBR												
<b>V</b>	FPM												
<b>Connections</b>		FZD010	FZD021										
<b>G1</b>		G 3/8"	G 1/2"										
<b>G2</b>		3/8" NPT	1/2" NPT										
<b>G3</b>		-	SAE 8 - 3/4" - 16 UNF										
<b>Filtration rating (filter media)</b>													
<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										
		<b>Element Δp</b>					<b>Execution</b>						
		<b>H</b> 210 bar					<b>P01</b> MP Filtri standard						
		<b>U</b> 210 bar, stainless steel filter element					<b>Pxx</b> Customized						

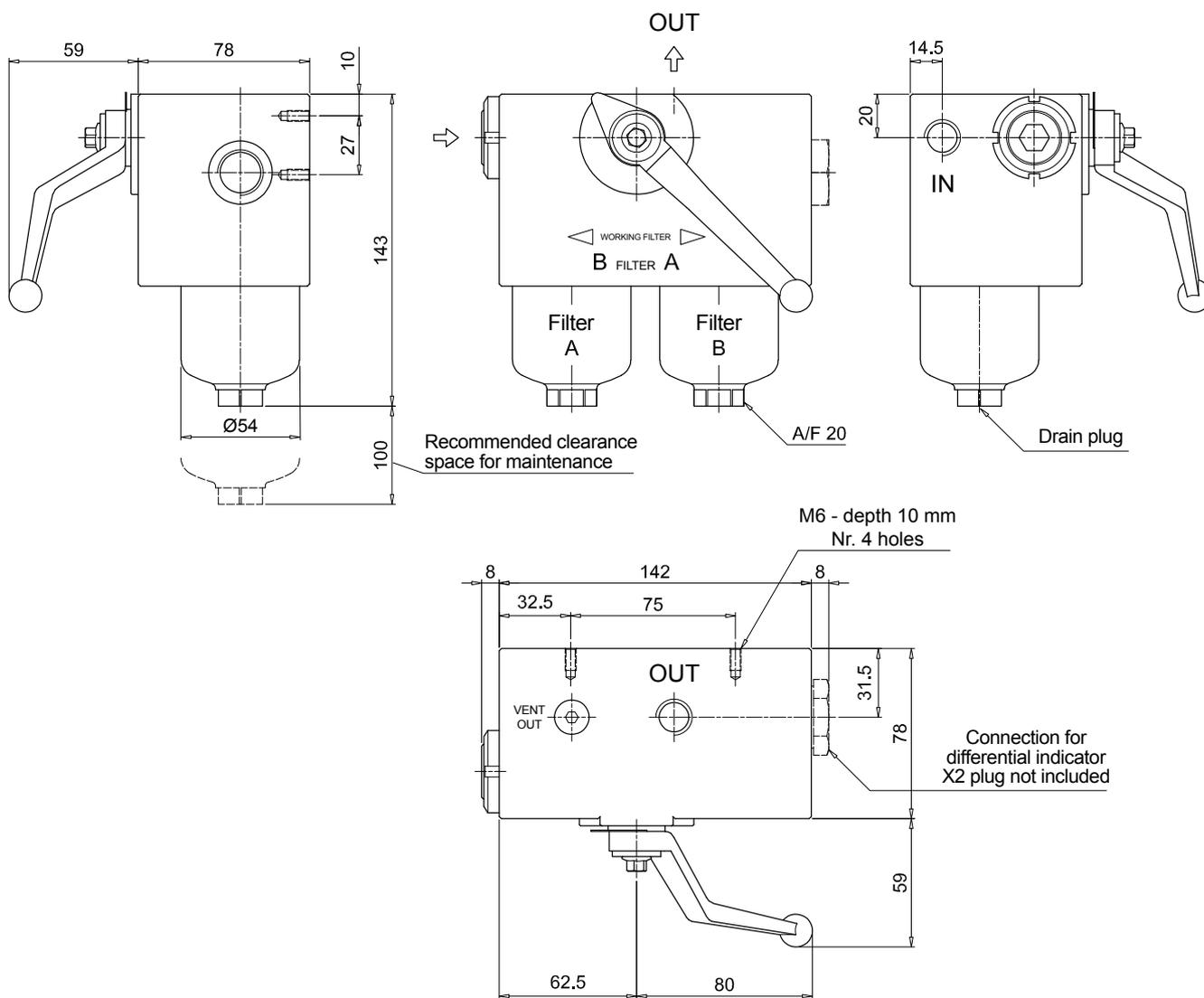
### FILTER ELEMENT

Element series and size		Configuration example: <b>HP011</b>   <b>4</b>   <b>A06</b>   <b>A</b>   <b>H</b>   <b>P01</b>											
FZD010		FZD021											
<b>HP010</b>		•											
<b>HP011</b>			•										
<b>Element length</b>		HP010	HP011										
<b>2</b>		•	•										
<b>3</b>			•										
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<b>A10</b>	Inorganic microfiber		10 µm										
<b>A16</b>	Inorganic microfiber		16 µm										
<b>A25</b>	Inorganic microfiber		25 µm										
		<b>Seals</b>					<b>Element Δp</b>					<b>Execution</b>	
		<b>A</b> NBR					<b>H</b> 210 bar					<b>P01</b> MP Filtri standard	
		<b>V</b> FPM					<b>U</b> 210 bar, stainless steel filter element					<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			

FZD010



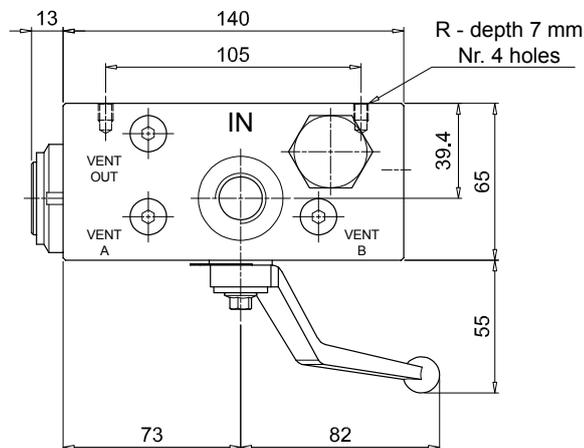
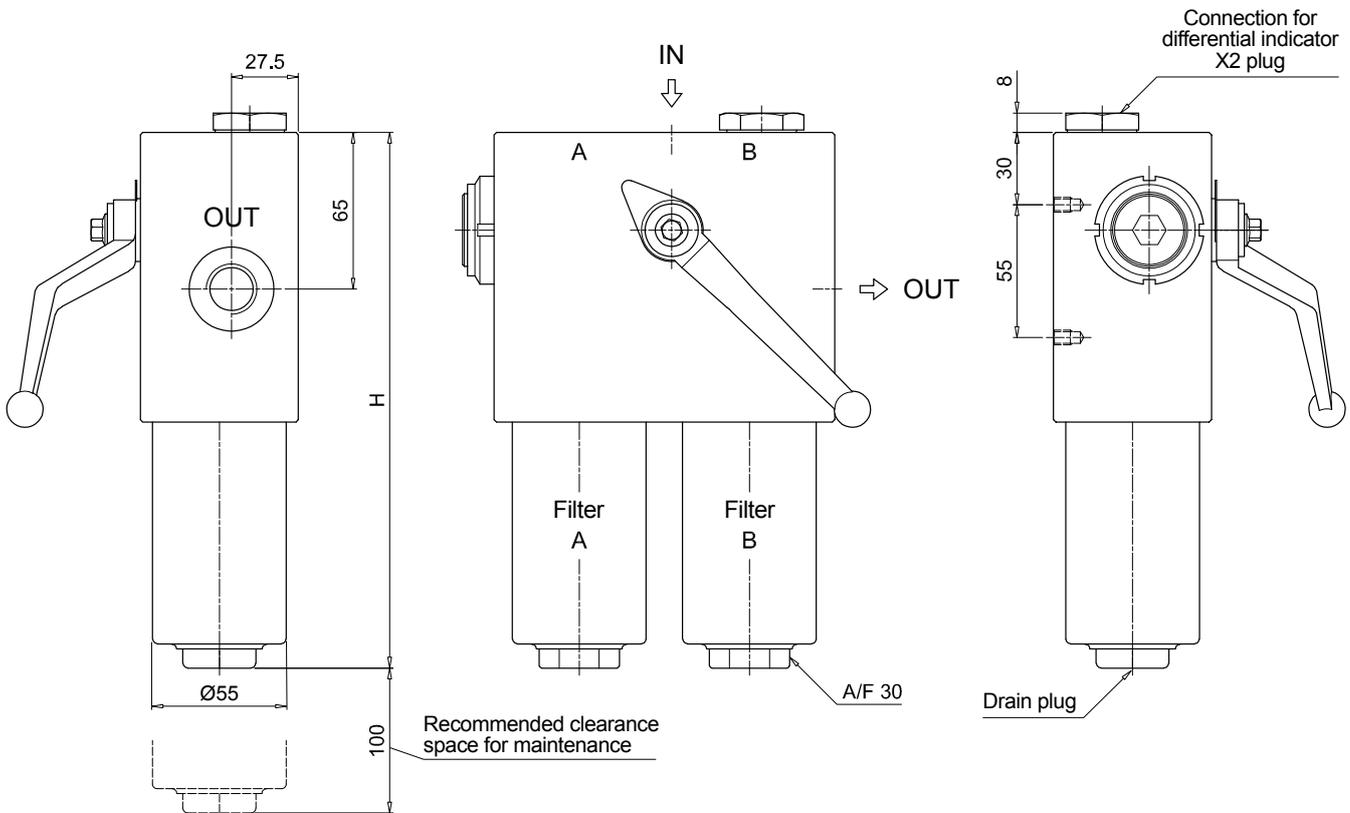
## Dimensions

### FZD021

Filter length	H [mm]
<b>2</b>	172
<b>3</b>	222
<b>4</b>	272

Connections	R
<b>G1</b>	M6
<b>G2 - G3</b>	1/4" UNC





## Designation & Ordering code

### COMPLETE FILTER

<b>Series and size</b> <b>FZD051</b>	Configuration example: <b>FZD051</b>   <b>3</b>   <b>B</b>   <b>A</b>   <b>G3</b>   <b>A03</b>   <b>U</b>   <b>P01</b>																		
<b>Length</b> 2   3   4   5																			
<b>Valves</b> <b>S</b> Without bypass <b>B</b> With bypass 6 bar																			
<b>Seals</b> <b>A</b> NBR <b>V</b> FPM																			
<b>Connections</b> <b>G1</b> G 3/4" <b>G2</b> 3/4" NPT <b>G3</b> G 1/2" <b>G4</b> 1/2" NPT <b>G5</b> SAE 8 - 3/4" - 16 UNF <b>G6</b> SAE 12 - 1 1/16" - 12 UN																			
<b>Filtration rating (filter media)</b> <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																			
	<table border="1"> <thead> <tr> <th rowspan="2">Element Δp</th> <th colspan="2">Valves</th> <th rowspan="2">Execution</th> </tr> <tr> <th>S</th> <th>B</th> </tr> </thead> <tbody> <tr> <td><b>R</b> 20 bar</td> <td></td> <td>•</td> <td><b>P01</b> MP Filtri standard</td> </tr> <tr> <td><b>S</b> 210 bar</td> <td>•</td> <td></td> <td><b>Pxx</b> Customized</td> </tr> <tr> <td><b>U</b> 210 bar, stainless steel filter element</td> <td>•</td> <td>•</td> <td></td> </tr> </tbody> </table>	Element Δp	Valves		Execution	S	B	<b>R</b> 20 bar		•	<b>P01</b> MP Filtri standard	<b>S</b> 210 bar	•		<b>Pxx</b> Customized	<b>U</b> 210 bar, stainless steel filter element	•	•	
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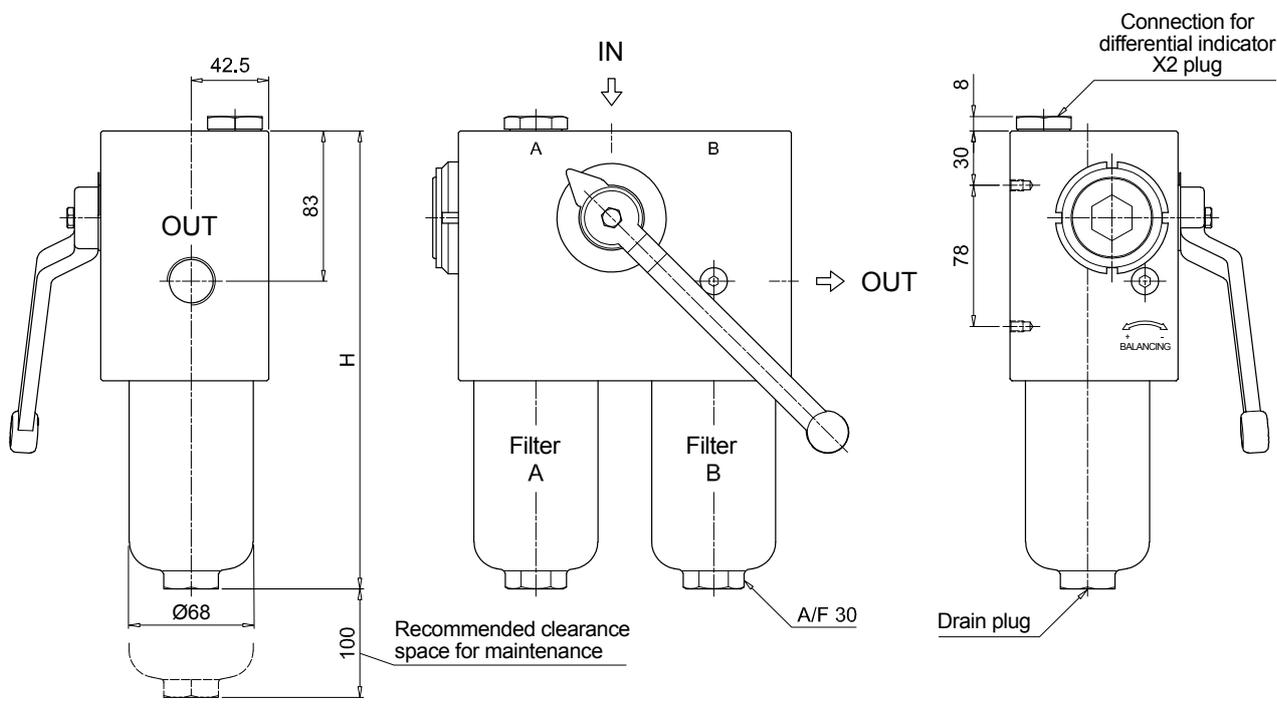
### FILTER ELEMENT

<b>Element series and size</b> <b>HP050</b>	Configuration example: <b>HP050</b>   <b>3</b>   <b>A03</b>   <b>A</b>   <b>U</b>   <b>P01</b>												
<b>Element length</b> 2   3   4   5													
<b>Filtration rating (filter media)</b> <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													
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Additional features	page		
<b>X2</b> Plug	644		

FZD051		
Filter length	H [mm]	
2	253	
3	295	
4	343	
5	465	
Connections	R	
G1	M6	
G2	1/4" UNC	
G3	M6	
G4-G5-G6	1/4" UNC	
Valves	L [mm]	L1 [mm]
S	168	138
B	182.5	152.5



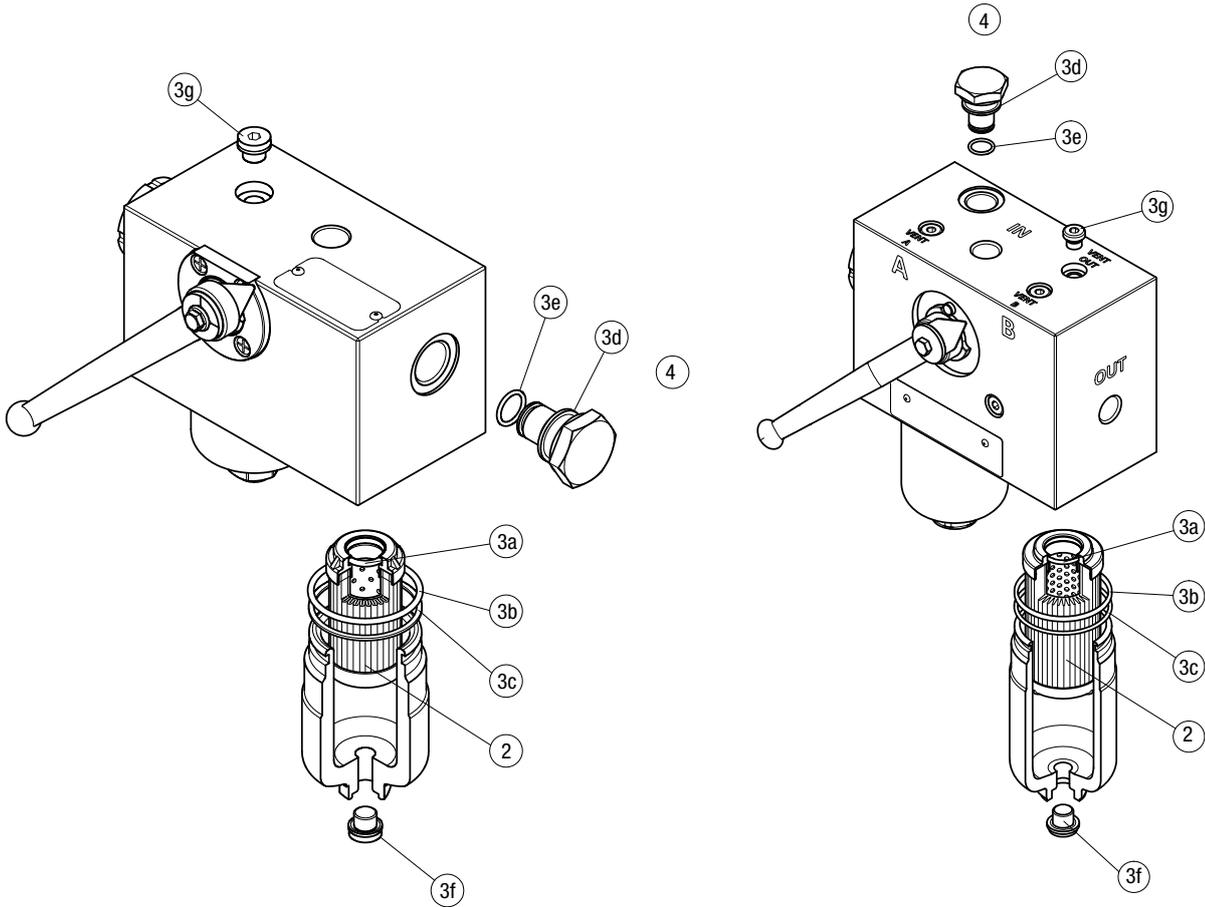
Recommended clearance space for maintenance

# FZD SPARE PARTS

Order number for spare parts

FZD 010

FZD 021 - FZD 051



Item:	Q.ty: 1 pc.	Q.ty: 1 pc.		Q.ty: 1 pc.	
Filter series	Filter element	Seal Kit code number		Indicator connection plug	
FZD 010	See order table	NBR	FPM	NBR	FPM
		02050613	02050655		
<b>FZD 021</b>		02050796	02050797	X2H	X2V
<b>FZD 051</b>		02050800	02050801		