

FZD series

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



INSTALLATION, SERVICE AND MAINTENANCE MANUAL AND SAFETY INSTRUCTIONS



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FZD010



FZD021



FZD051

For all the QR codes: Scan or click me!

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 60 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

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 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 [dm³]

Filter series	Weights [kg]					Volumes [dm ³]						
	Length	1	2	3	4	5	Length	1	2	3	4	4
FZD 010	-	7.9	-	-	-	-	-	0.10	-	-	-	-
FZD 021	-	9.6	9.8	10.3	-	-	-	0.06	0.12	0.22	-	-
FZD 051	-	17.4	18.0	19.0	20.3	-	-	0.31	0.41	0.53	0.83	-

Flow rates [l/min]

Filter series	Length	Filter element design - H Series					Filter element design - U Series				
		A03	A06	A10	A16	A25	A03	A06	A10	A16	A25
FZD 010	2	4	5	7	8	11	4	5	7	8	11
	3	5	6	11	12	16	5	6	11	12	16
FZD 021	3	9	11	16	18	20	9	11	16	18	20
	4	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
FZD 051	2	39	41	51	54	59	35	37	48	51	58	35	37	48	51	58
	3	45	46	54	56	61	41	43	52	54	60	41	43	52	54	60
	4	50	52	58	58	62	47	49	56	56	61	47	49	56	56	61
	5	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 mm²/s (cSt) and a density of 0.86 kg/dm³.

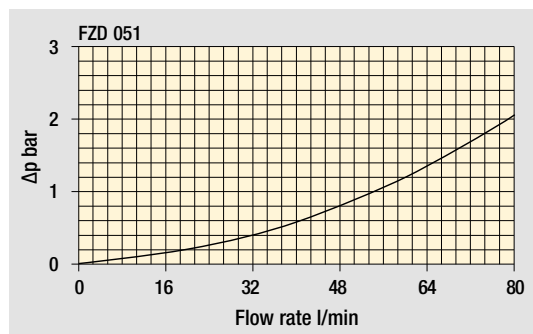
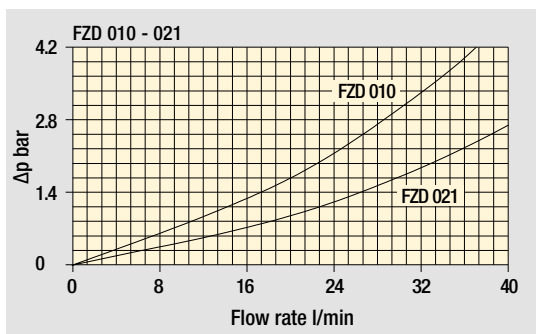
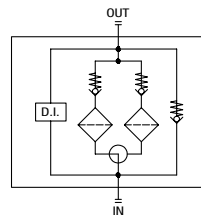
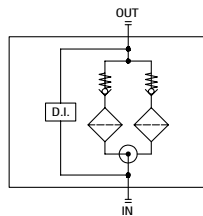
For different pressure drop or fluid viscosity we recommend to use our selection software available on www.mpfiltri.com.

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
FZD 010	•	-
FZD 021	•	-
FZD 051	•	•



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

Series and size		Configuration example: FZD021 4 S A G1 A06 H P01									
FZD010	FZD021										
Length		FZD010	FZD021								
2		•	•								
3		-	•								
4		-	•								
Bypass valve											
S	Without bypass										
Seals											
A	NBR										
V	FPM										
Connections		FZD010	FZD021								
G1		G 3/8"	G 1/2"								
G2		3/8" NPT	1/2" NPT								
G3		-	SAE 8 - 3/4" - 16 UNF								
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					Execution				
		H 210 bar					P01 MP Filtri standard				
		U 210 bar, stainless steel filter element					Pxx Customized				

FILTER ELEMENT

Element series and size		Configuration example: HP011 4 A06 A H P01											
HP010	HP011												
Element length		HP010	HP011										
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		H 210 bar					P01 MP Filtri standard				
		V FPM		U 210 bar, stainless steel filter element					Pxx Customized				

CLOGGING INDICATORS

See page 728

DEX Electrical differential pressure indicator

DVX Visual differential pressure indicator

DLX Electrical/visual differential pressure indicator

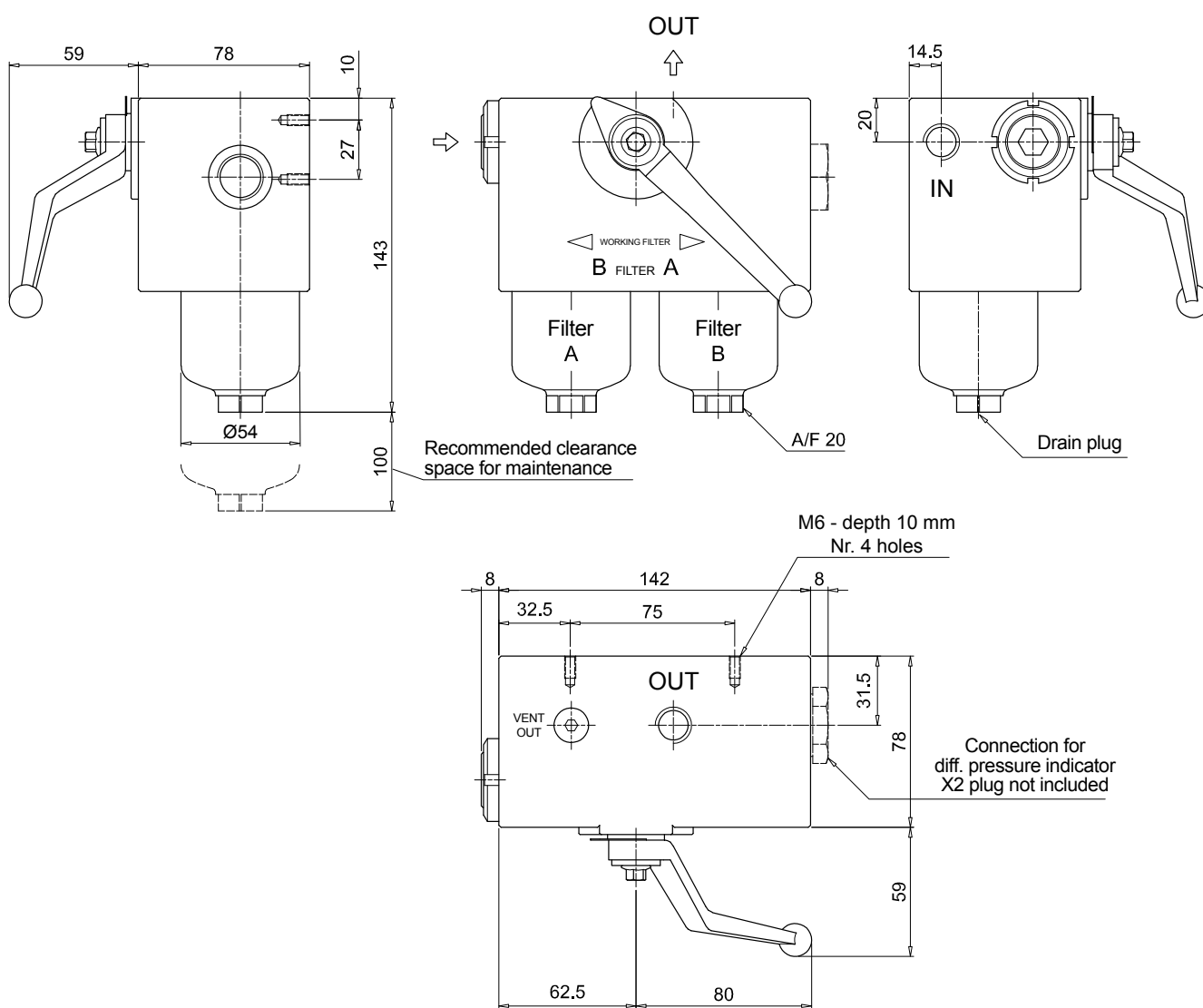
DVY Visual differential pressure indicator

PLUGS

See page 747

X2 Stainless steel plug (not included)

FZD010

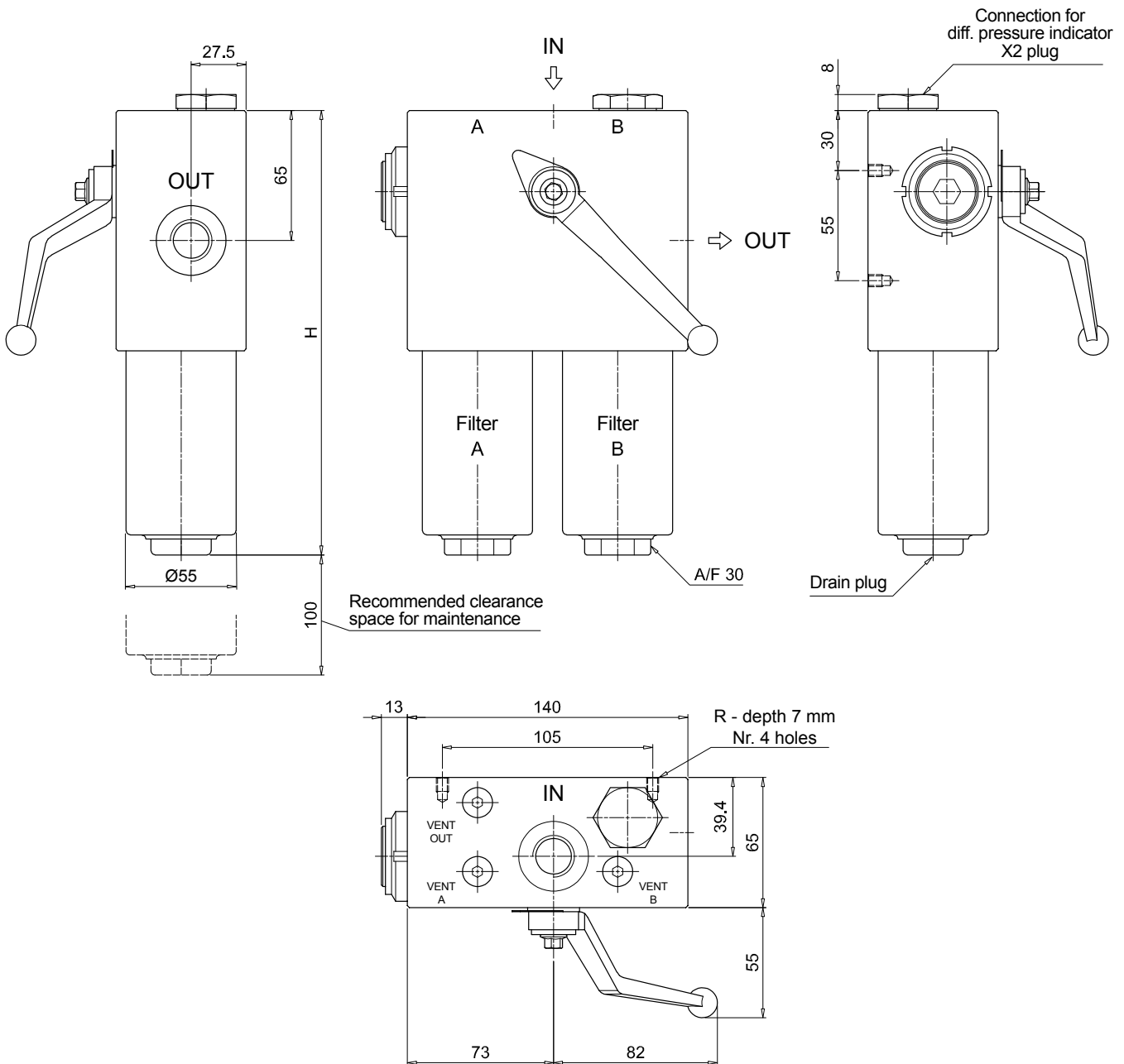


Dimensions

FZD021

Filter length	H [mm]
2	172
3	222
4	272

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



Designation & Ordering code

COMPLETE FILTER

Series and size FZD051	Configuration example: FZD051 3 B A G3 A03 U P01							
Length 2 3 4 5								
Bypass valve S Without bypass B With bypass 6 bar								
Seals A NBR V FPM								
Connections G1 G 3/4" G2 3/4" NPT G3 G 1/2" G4 1/2" NPT G5 SAE 8 - 3/4" - 16 UNF G6 SAE 12 - 1 1/16" - 12 UN								
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							
					Valves			
					S B			
Element Δp							Execution	
R 20 bar					-		• P01 MP Filtri standard	
S 210 bar					•		- Pxx Customized	
U 210 bar, stainless steel filter element					•		•	

FILTER ELEMENT

Element series and size HP050	Configuration example: HP050 3 A03 A U P01							
Element length 2 3 4 5								
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		
			U 210 bar, stainless steel filter element					

CLOGGING INDICATORS

See page 728

DEX Electrical differential pressure indicator

DVX Visual differential pressure indicator

DLX Electrical/visual differential pressure indicator

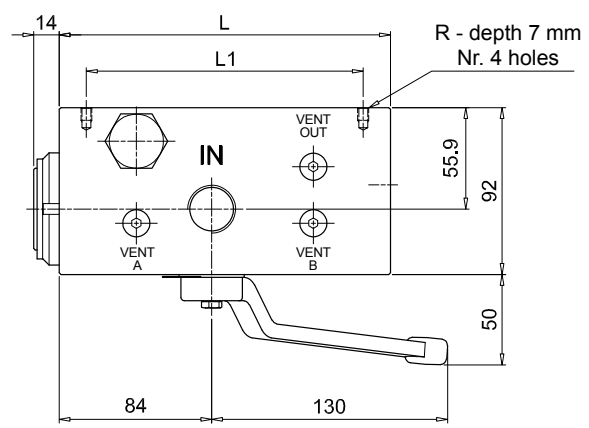
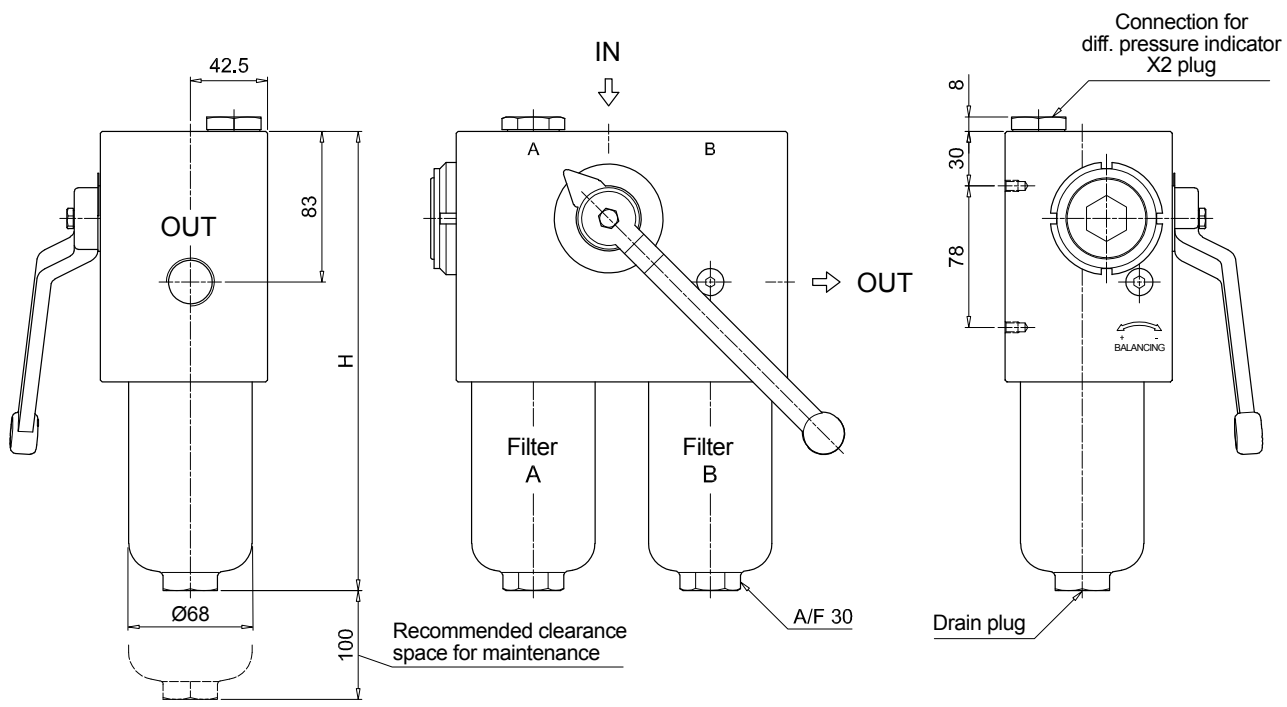
DVY Visual differential pressure indicator

PLUGS

See page 747

X2 Stainless steel plug (not included)

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

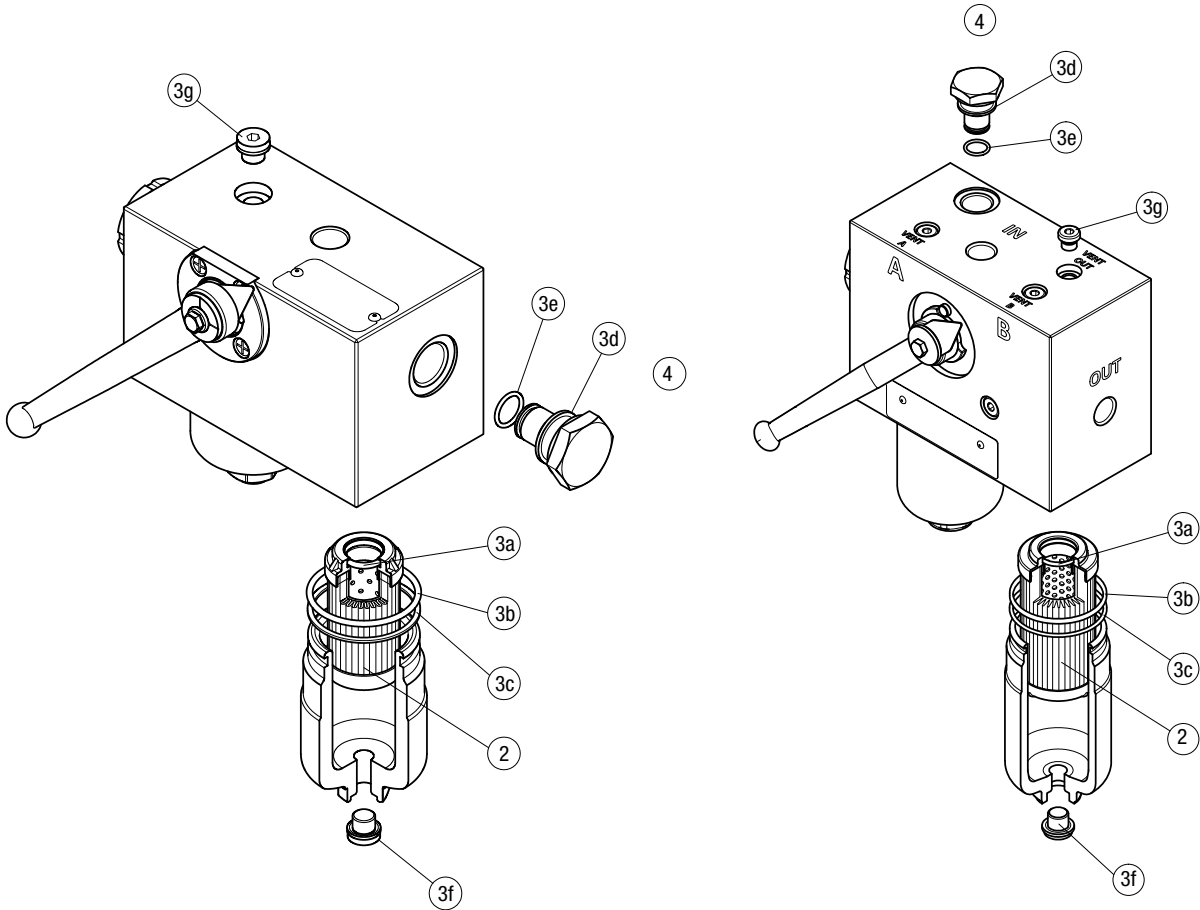


FZD SPARE PARTS

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			
FZD 021		02050796	02050797	X2H	X2V	
FZD 051		02050800	02050801			

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		