

Style FZ

Stainless Steel Pressure filter

Technical data

Style

In-Line filter:

- FZH 010-011 Max. working pressure: 700 bar
- FZP 039 Max. working pressure: 420 bar
- FZH 039 Max. working pressure: 700 bar
- FZP 136 Max. working pressure: 420 bar
- FZX 011 Max. working pressure: 1000 bar

Manifold mounting:

- FZB 039 Max. working pressure: 320 bar
- FZM 039 Max. working pressure: 320 bar

Duplex pressure filter:

- FZD 010 Max. working pressure: 350 bar
- FZD 021 Max. working pressure: 350 bar
- FZD 051 Max. working pressure: 350 bar

Filter housing (Materials)

- Head: AISI 316L
- Housing: AISI 316L
- Bypass valve: AISI 316L

Bypass valve

- Opening pressure 6 bar $\pm 10\%$

Temperature

- From -50°C to $+120^{\circ}\text{C}$

Seals

- Standard NBR series A (-25°C to $+110^{\circ}\text{C}$)
- Optional FPM series V (-20°C to $+120^{\circ}\text{C}$)
- Optional MFQ series F (-50°C to $+120^{\circ}\text{C}$)

Δp Elements type

- Microfibre filter elements series N-R: 20 bar
- Microfibre filter elements series H-S: 210 bar
- Stainless Steel Microfibre filter elements series U: 210 bar
- Fluid flow through the filter element from OUT to IN.

Element series "N - R":

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

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

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

STAINLESS STEEL PRESSURE FILTERS ARE PROVIDED FOR VERTICAL MOUNTING

Filter element

Element description

A - Microfibre

Characteristics of filter elements with absolute filtration, A series

For microfibre filter elements, filtration degree is defined by the test bench MULTIPASS ISO 16889.

Multipass test in compliance ISO 16889 Contaminant ISO MTD

Filtration	$\beta_{x@} \geq 1000$
Filter element	
A03	5
A06	7
A10	10
A16	15
A25	20

Reference standards

All filter elements comply with the following ISO standards.

ISO 2941 - Collapse and burst resistance.

ISO 2942 - Bubble point test resistance.

ISO 2943 - Compatibility with fluids.

ISO 3723 - Resistance to axial deformation.

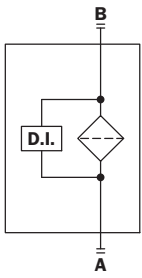
ISO 23181 - Fatigue test with flow.

ISO 3968 - Pressure drop.

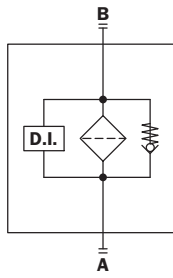
ISO 16889 - Filtration efficiency by means of Multipass.

Hydraulic symbols & Compatibility

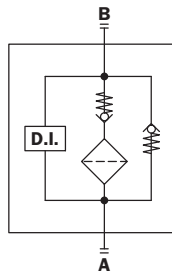
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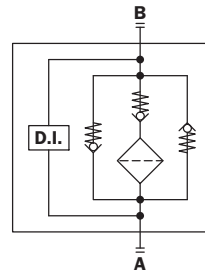
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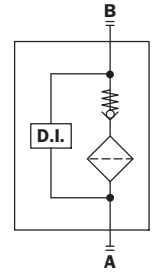
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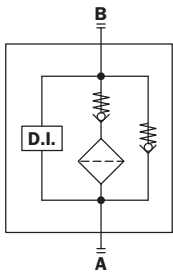
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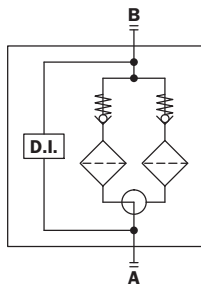
Style **T**



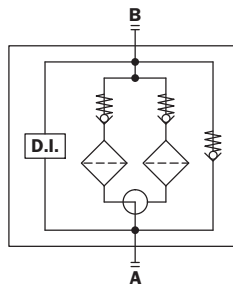
Style **D**



Style **S**
Series FZD



Style **B**
Series FZD 051



Hydraulic symbols

Filter series	Hydraulic symbols					
	Style S	Style B	Style V	Style Z	Style T	Style D
FZH 010-011	●	●	●	●		
FZP 039	●	●	●	●		
FZH 039	●	●	●	●		
FZP 136	●	●				
FZX 011	●					
FZB 039	●	●			●	●
FZM 039	●	●			●	●
FZD 010	●					
FZD 021	●					
FZD 051	●	●				

Compatibility (to ISO 2943)

- Housings compatible with:
Mineral oils, synthetic fluids
aqueous emulsions, water and glycol.
- The filter elements are compatible with:
Mineral oils, synthetic fluids.
Aqueous emulsions, water and glycol.
- NBR seals series A, compatible with:
Mineral oils, synthetic fluids, aqueous emulsions
and water and glycol.
- FPM seals series V, compatible with:
Mineral oils, synthetic fluids
aqueous emulsions, water and glycol.
- MFQ seals series F, compatible with:
Mineral oils, synthetic fluids
aqueous emulsions, water and glycol.

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Multiplication factor "Y" for definition of the pressure drop of filter elements.

Filter sizing

Reference viscosity 30 mm²/s

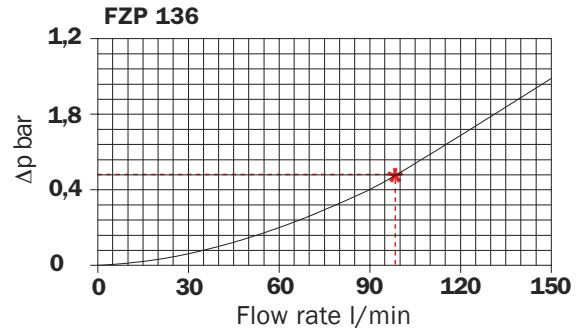
Filter Element	Absolute Filtration					
	N Series					
Type	A 0 3	A 0 6	A 1 0	A 1 6	A 2 5	
HP 011	1	332,71	250,07	184,32	152,36	128,36
	2	220,28	165,56	74,08	59,13	37,05
	3	123,24	92,68	41,48	33,08	20,72
	4	77,76	58,52	28,37	22,67	16,17
HP 039	2	70,66	53,20	25,77	20,57	14,67
	3	36,57	32,28	18,00	13,38	8,000
	4	26,57	23,27	12,46	0,880	5,580
HP 050	1	31,75	30,30	13,16	12,3	7,29
	2	24,25	21,26	11,70	9,09	4,90
	3	17,37	16,25	8,90	7,18	3,63
	4	12,12	10,75	6,10	5,75	3,08
	5	7,00	6,56	3,60	3,10	2,25
HP 135	1	20,33	18,80	9,71	8,66	4,78
	2	11,14	10,16	6,60	6,38	2,22
	3	6,48	6,33	3,38	3,16	2,14

Filter Element	Absolute Filtration					
	H - U Series					
Type	A 0 3	A 0 6	A 1 0	A 1 6	A 2 5	
HP 011	1	424,58	319,74	235,17	194,44	163,78
	2	281,06	211,25	94,53	75,45	47,26
	3	130,14	97,50	43,63	34,82	21,81
	4	109,39	82,25	36,79	29,37	18,40
HP 039	2	70,66	53,20	25,77	20,57	14,67
	3	36,57	32,28	18,00	13,38	8,000
	4	26,57	23,27	12,46	8,80	5,580
HP 050	1	47,33	34,25	21,50	20,50	14,71
	2	29,10	25,95	14,04	10,90	5,88
	3	20,85	19,50	10,68	8,61	4,36
	4	14,55	12,90	7,32	6,90	3,69
	5	9,86	9,34	6,40	4,80	2,50
HP 135	1	29,16	25,33	13,00	12,47	5,92
	2	14,28	11,04	7,86	7,60	4,44
	3	8,96	7,46	4,89	4,16	3,07

Filter housings Δp pressure drop

The curves are plotted utilising mineral oil with density of 0,86 kg/dm³ to ISO 3968.

Δp varies proportionally with density.



Sizing data for single cartridge, head at top

Δp Tot.

Δp_c Filter housing

Δp_e Filter element

Y Multiplication factor

Q l/min = flow rate

V1 = reference viscosity 30 mm²/s (cSt)

V2 = operating viscosity in mm²/s (cSt)

Δp Tot. = $\Delta p_c + \Delta p_e$

$\Delta p_e = Y : 1000 \times Q \times (V2/V1)$

Calculation example with HLP Mineral Oil Variation in viscosity

Data:

Filter with in-line connections

Pressure = 380 bar

Flow rate = 100 l/min

Viscosity = 46 mm²/s (cSt)

Density = 0,86 Kg/dm³

Filtration = 6 μ m absolute

With bypass valve

Filter type - FZP 136 3

(see housings pressure drop graphs on the next page)

Practical example

Q = 100 l/min

V₂ = 46 mm²/s (cSt)

P_{max} = 380 bar

Filtration = 6 μ m absolute

Δp Tot. max = **1,5 bar** (max. recommended value)

Filter element series N, Δp max 20 bar

$\Delta p_c = 0,46$ bar (* see diagram)

$\Delta p_e = (6,33 : 1000) \times 100 \times (46/30) = 0,968$ bar

Δp Tot. = **0,46 + 0,968 = 1,428 bar**

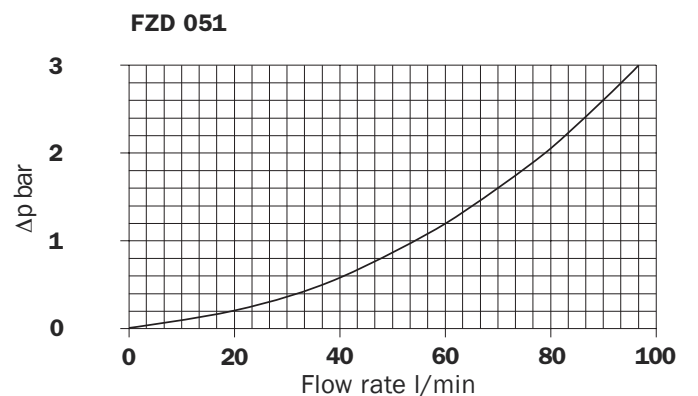
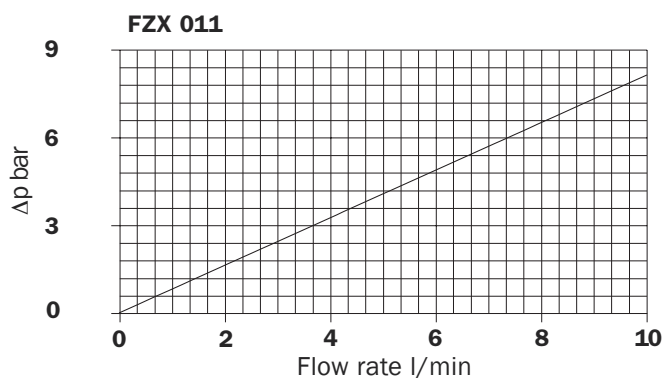
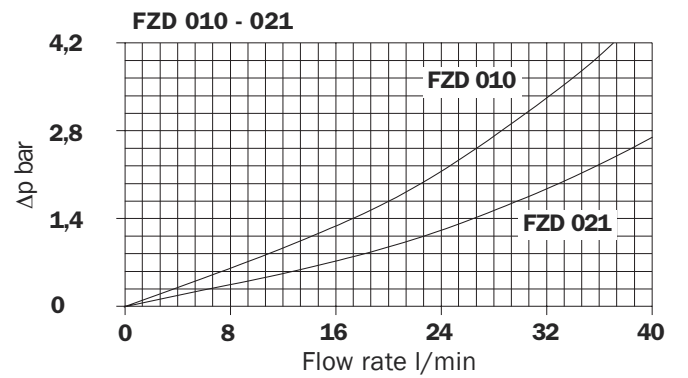
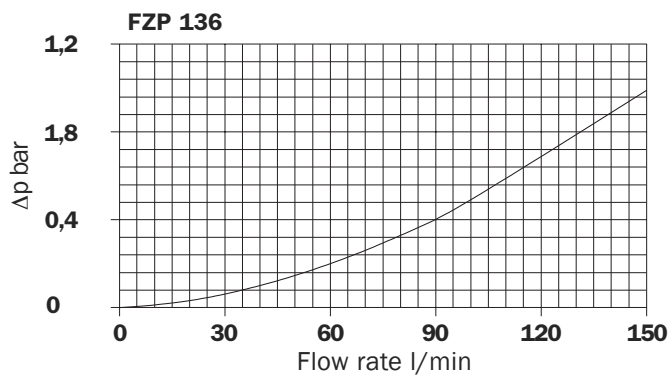
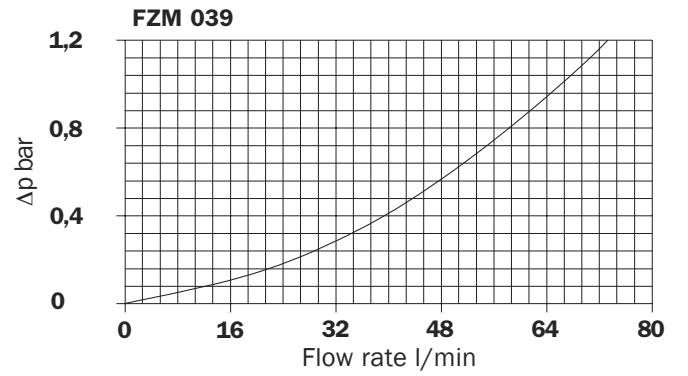
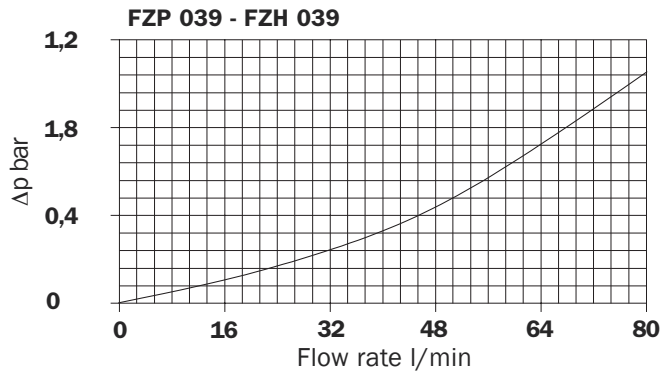
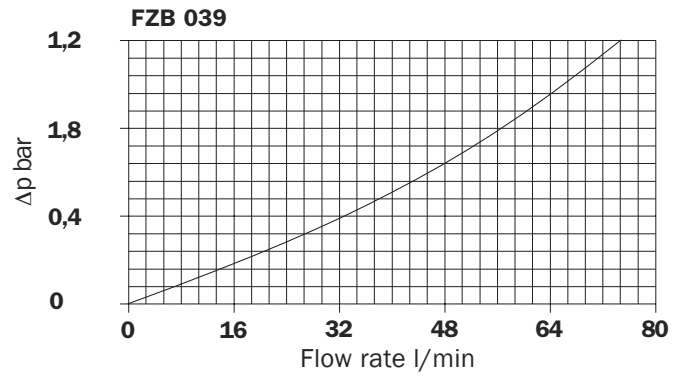
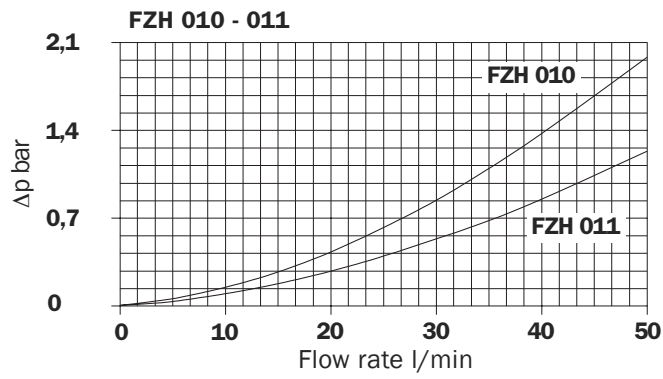
Sized filter type:

FZP 136 3 B A G A06 N P01

Filter housings Δp pressure drop

The curves are plotted utilising mineral oil with density of 0,86 kg/dm³ to ISO 3968.

Δp varies proportionally with density.



In-Line Stainless Steel Pressure Filter

Recommended maximum flow rate

- Pressure drop of filter assembly equal to Δp 1,5 bar.
- Pressure drop of FZX 011 filter assembly equal to Δp 5 bar.
- Oil kinematic viscosity 30 mm²/s (cSt).
- Density 0,86 kg/dm³.

	Filtration					
	Length	A03	A06	A10	A16	A25
FZH 010	1	4	6	8	9	11
	2	6	8	16	19	24
	3	11	13	22	25	30
	4	14	19	27	29	32

Serie N - Flow rate l/min

	Filtration					
	Length	A03	A06	A10	A16	A25
FZH 010	1	3	4	6	7	9
	2	5	7	13	16	21
	3	10	13	22	24	29
	4	12	15	24	27	31

Serie H - Flow rate l/min

	Filtration					
	Length	A03	A06	A10	A16	A25
FZH 011	1	4	6	8	9	11
	2	6	9	17	21	28
	3	11	14	26	29	37
	4	16	21	32	35	40

Serie N - Flow rate l/min

	Filtration					
	Length	A03	A06	A10	A16	A25
FZH 011	1	3	4	7	8	9
	2	5	7	14	17	24
	3	11	14	25	28	36
	4	13	16	28	31	38

Serie H/U - Flow rate l/min

	Filtration					
	Length	A03	A06	A10	A16	A25
FZP/FZH 039	2	20	25	43	50	60
	3	32	34	53	60	70
	4	42	46	65	70	80

Serie N - Flow rate l/min

	Filtration					
	Length	A03	A06	A10	A16	A25
FZP/FZH 039	2	16	20	35	41	49
	3	26	28	43	49	58
	4	34	38	53	58	66

Serie H/U - Flow rate l/min

	Filtration					
	Length	A03	A06	A10	A16	A25
FZP 136	1	50	52	75	80	100
	2	70	74	90	90	115
	3	90	95	115	120	125

Serie N - Flow rate l/min

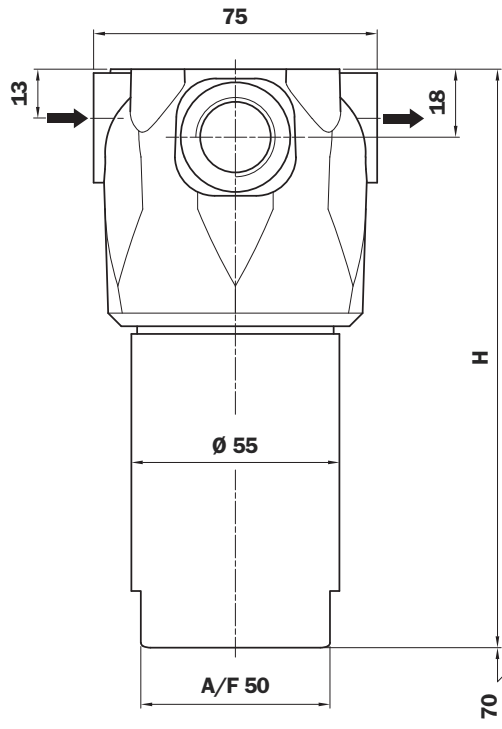
	Filtration					
	Length	A03	A06	A10	A16	A25
FZP 136	1	39	45	65	68	90
	2	60	70	83	86	105
	3	80	88	100	108	115

Serie H/U - Flow rate l/min

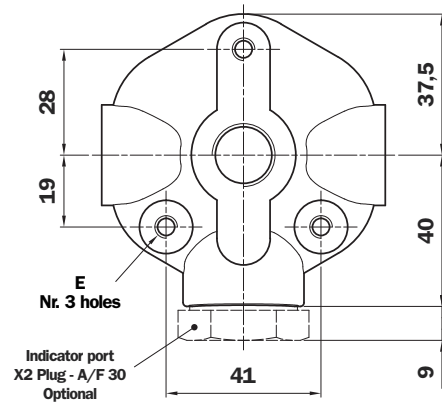
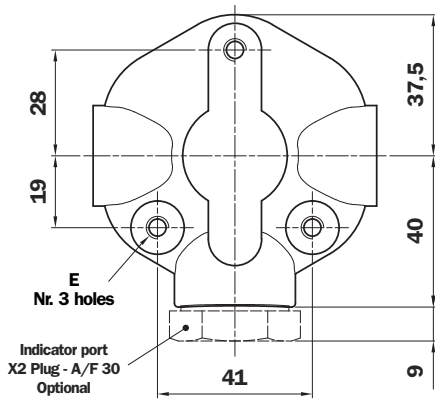
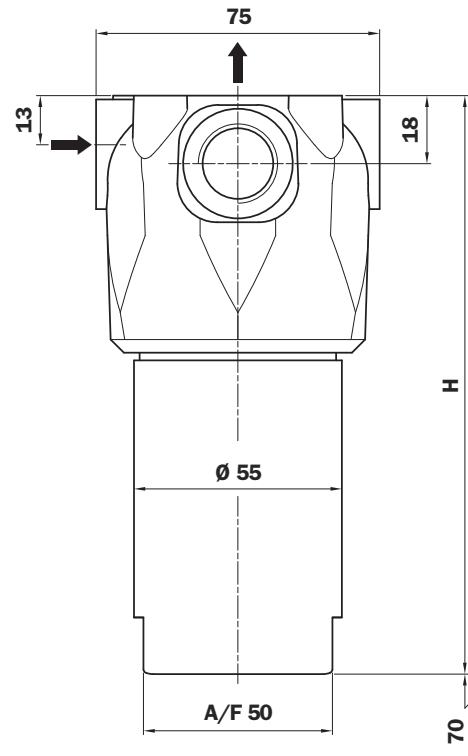
	Filtration					
	Length	A03	A06	A10	A16	A25
FZX 011	3	5	5,5	6	6	6

Serie H/U - Flow rate l/min

FZH 010



FZH 011



FZH 010 - 011

Filter Length	H mm
1	92
2	103
3	153
4	203

Thread connections

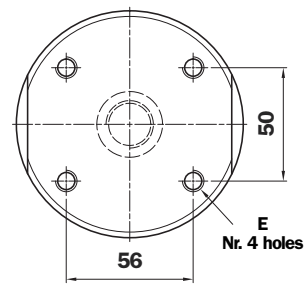
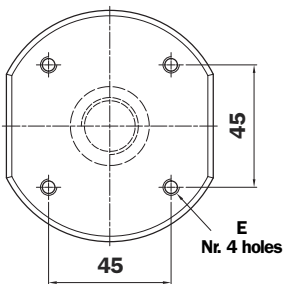
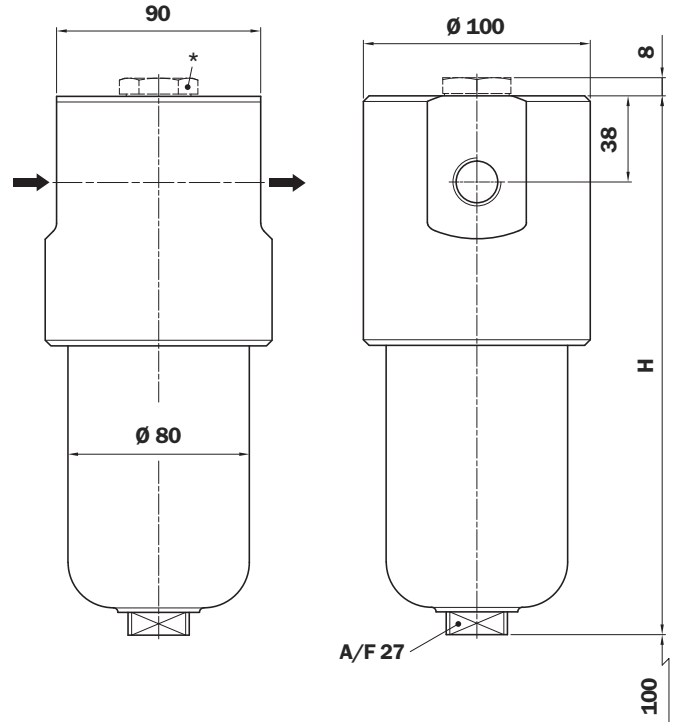
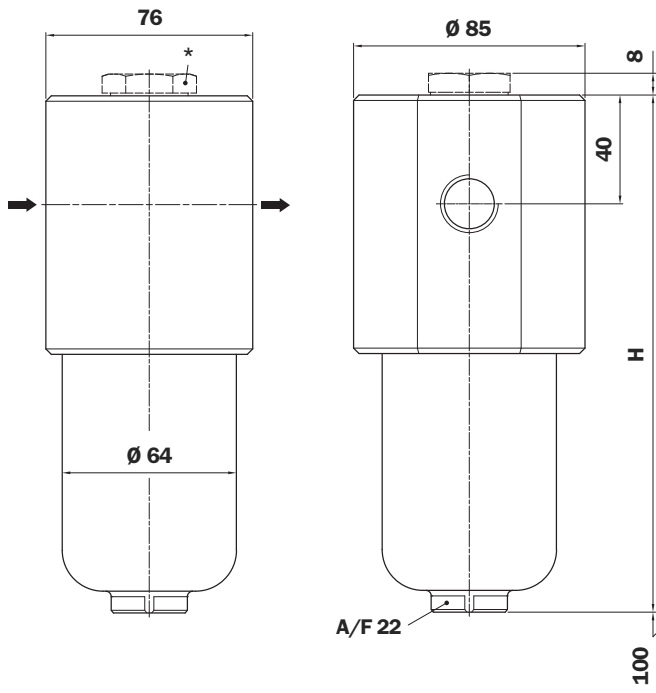
Type	Size	E Depth 12 mm
A	G 1/4"	M6
B	1/4" NPT	1/4" UNC
C	SAE 5 - 1/2" - 20 UNF	1/4" UNC
D	G 3/8"	M6
E	3/8" NPT	1/4" UNC
F	SAE 6 - 9/16" - 18 UNF	1/4" UNC

FZP 039

FZH 039

*
Indicator port
X2 Plug - A/F 30
Optional

*
Indicator port
X2 Plug - A/F 30
Optional



FZP 039

Filter Length	H mm
2	179
3	222
4	266

Thread connections

Type	Size	E Depth 12 mm
A	G 1/2"	M6
B	1/2" NPT	1/4" UNC
C	SAE 8 - 3/4" - 16 UNF	1/4" UNC

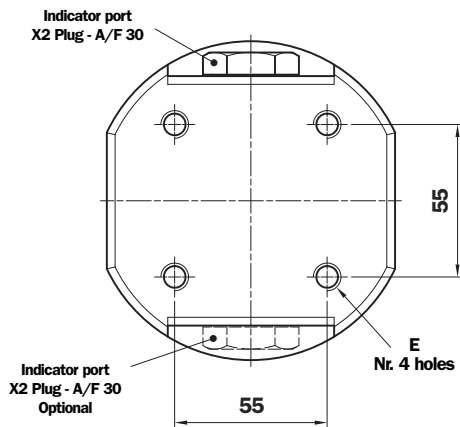
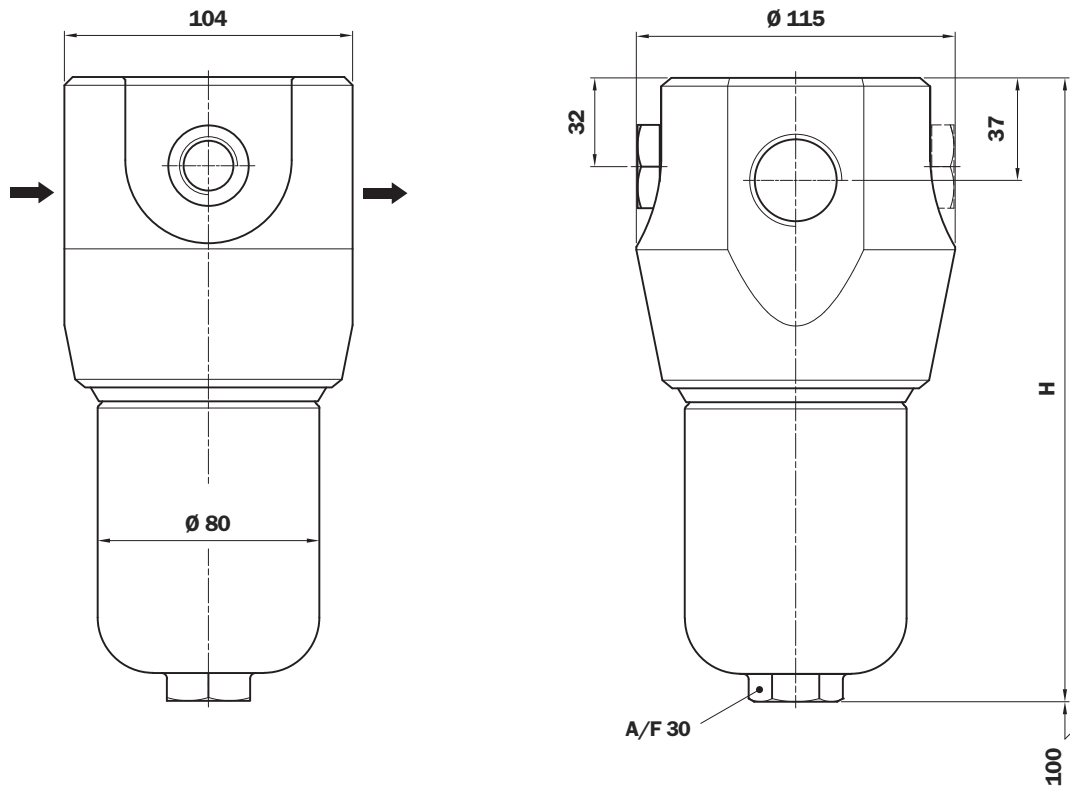
FZH 039

Filter Length	H mm
2	200
3	243
4	287

Thread connections

Type	Size	E Depth 12 mm
A	G 1/2"	M10
B	1/2" NPT	3/8" UNC
C	SAE 8 - 3/4" - 16 UNF	3/8" UNC

FZP 136



FZP 136

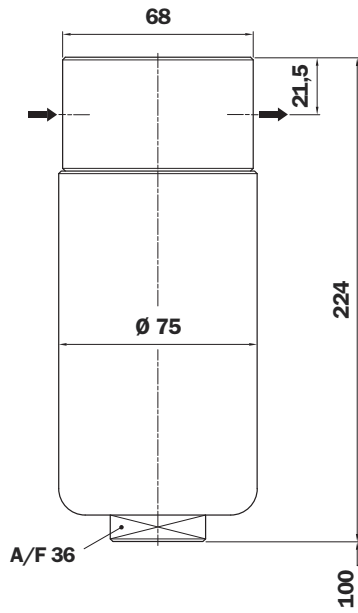
Filter Length	H mm
1	222
2	335
3	410

Thread connections

Type	A	E Depth 12 mm
A	G 3/4"	M10
B	3/4" NPT	3/8" UNC
C	SAE 12 - 1.1/16" - 12 UN	3/8" UNC
D	G 1"	M10
E	1" NPT	3/8" UNC
F	SAE 16 - 1.5/16" - 12 UN	3/8" UNC
G	G 1 1/4"	M10
H	1 1/4" NPT	3/8" UNC
I	SAE 20 - 1.5/8" - 12 UN	3/8" UNC

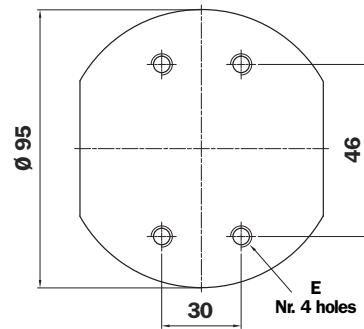
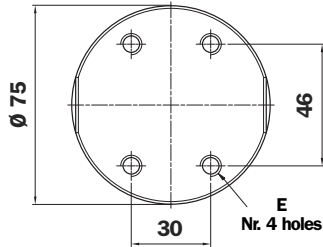
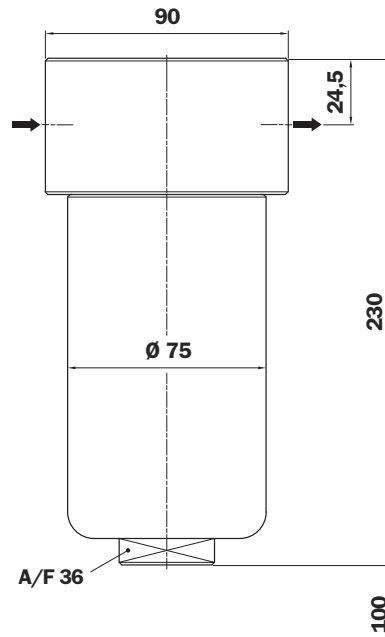
FZX 011

A - B - G - H



FZX 011

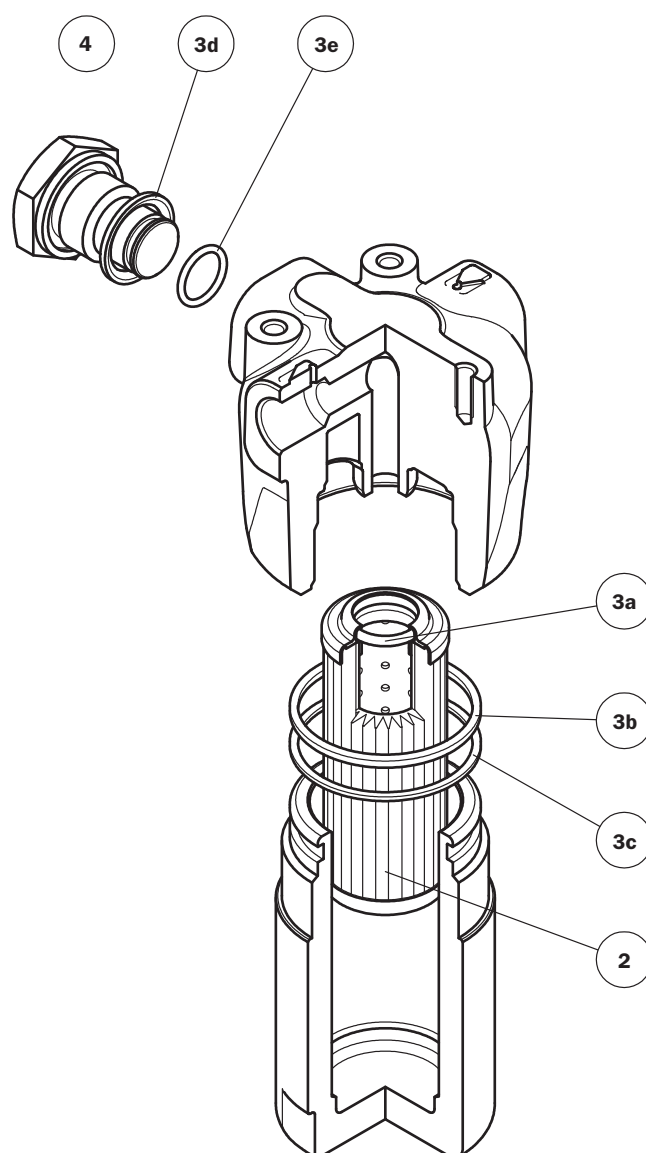
M - L - N - P



FZX 011 - Thread connections

Type	Size - 700 bar	E Depth 15 mm
A	G 1/4"	M8
B	1/4" NPT	5/16" UNC
G	G 1/2"	M8
H	1/2" NPT	5/16" UNC

Type	Autoclave 20 000 psi	E Depth 15 mm
M	9/16" - 18 UNF	M8
L	3/4" - 14 NPS	M8
N	9/16" - 18 UNF	5/16" UNC
P	3/4" - 14 NPS	5/16" UNC

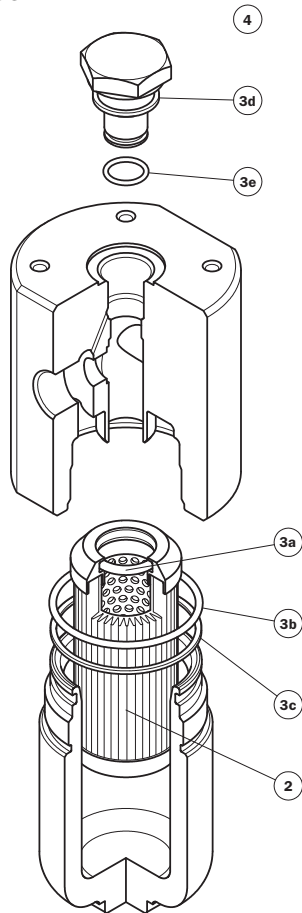


Item	Description	Q.ty	FILTER Series FZH 010 - 011	
1	Filter assembly	1	See order table	
2	Filter element	1	See order table	
3	Seal Kit	1	NBR 02050501	FPM 02050492
3a	O-Ring for filter element	1	O-R 121 Ø 15,88 x 2,62	
3b	O-Ring for housing	1	O-R 3168 Ø 42,52 x 3,53	
3c	Anti-extrusion ring	1	Parbak 131 Ø 43,33 x 2,18	
3d	Indicator seal	1	01030058 (HNBR)	01030046 (FPM)
3e	O-Ring indicator	1	O-R 2050 Ø 12,42 x 1,78	
4	Indicator connection plug	1*	X2H	X2V

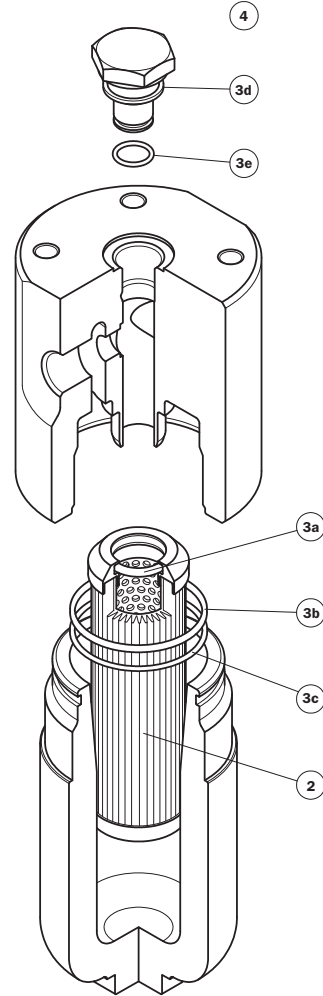
* 0 for version 1 (without indicator port)
1 for version 2 (with indicator port)

Spare parts

FZP 039

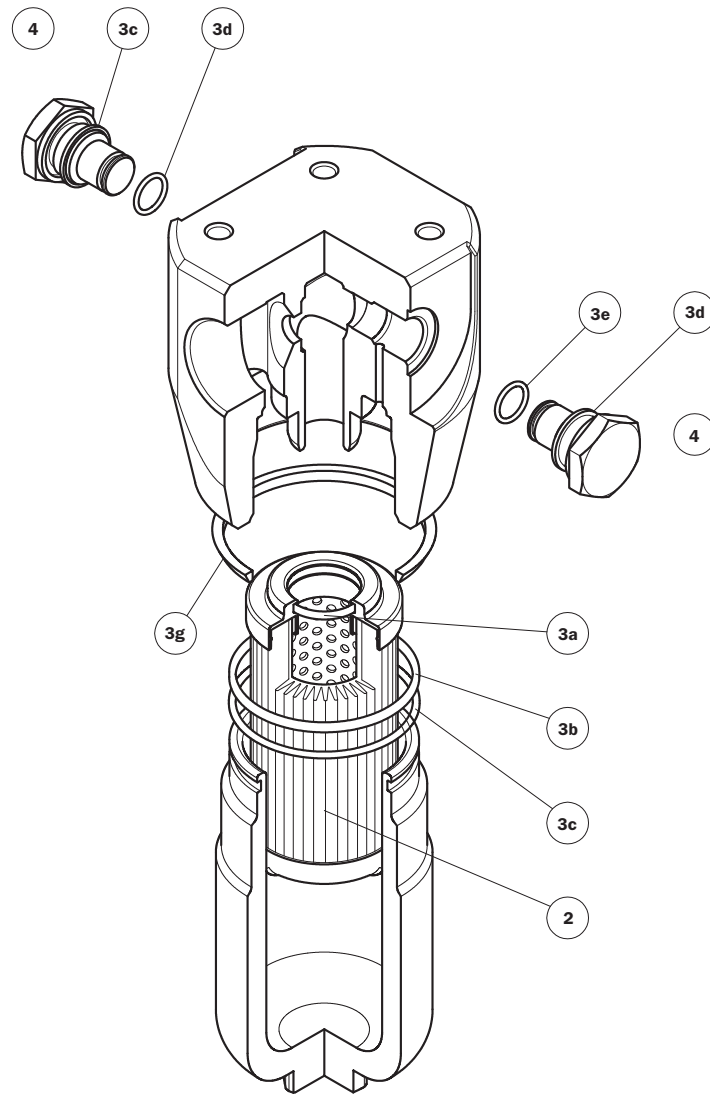


FZH 039



Item	Description	Q.ty	FILTER Series FZP 039		FILTER Series FZH 039	
			NBR	FPM	NBR	FPM
1	Filter assembly	1	See order table		See order table	
2	Filter element	1	See order table		See order table	
3	Seal Kit	1	02050299	02050300	02050335	02050336
3a	O-Ring for filter element	1	O-R 4087 Ø 21,82 x 3,53		O-R 4087 Ø 21,82 x 3,53	
3b	O-Ring for housing	1	O-R 3200 Ø 50,47 x 2,62		O-R 3256 Ø 64,77 x 2,62	
3c	Anti-extrusion ring	1	Parbak 136 Ø 51,26 x 2,18		Parbak 144 Ø 63,96 x 2,18	
3d	Indicator seal	1	01030058 (HNBR)	01030046 (FPM)	01030058 (HNBR)	01030046 (FPM)
3e	O-Ring indicator	1	O-R 2050 Ø 12,42 x 1,78		O-R 2050 Ø 12,42 x 1,78	
4	Indicator connection plug	1*	X2H	X2V	X2H	X2V

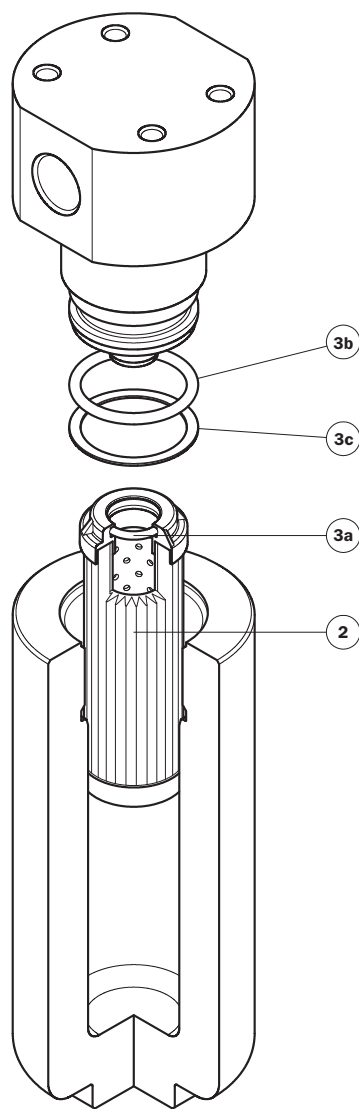
* 0 for version 1 (without indicator port)
1 for version 2 (with indicator port)



Item	Description	Q.ty	FILTER Series FZP 136	
1	Filter assembly	1	See order table	
2	Filter element	1	See order table	
3	Seal Kit	1	NBR 02050636	FPM 02050637
3a	O-Ring for filter element	1	O-R 3106 Ø 26,65 x 2,62	
3b	O-Ring for housing	1	O-R 3256 Ø 64,77 x 2,62	
3c	Anti-extrusion ring	1	Parbak 144 Ø 63,96 x 2,18	
3d	Indicator seal	1	01030058 (HNBR)	01030046 (FPM)
3e	O-Ring indicator	1	O-R 2050 Ø 12,42 x 1,78	
3g	Protective seal	1	01026509	
4	Indicator connection plug	1*	X2H	X2V

* 0 for version 1 (without indicator port)
1 for version 2 (with indicator port)

Spare parts



Item	Description	Q.ty	FILTER Series FZX 011	
1	Filter assembly	1	See order table	
2	Filter element	1	See order table	
3	Seal Kit	1	NBR 02050643	FPM 02050644
3a	Filter element seal	1	O-R 121 Ø 15,88 x 2,62	
3b	Bowl seal	1	O-R 4131 Ø 32,93 x 3,53	
3c	Bowl anti-extrusion ring	1	Parbak 219 Ø 33,88 x 1,27	

Ordering information FZH 010 - 011

Filter assembly FZH

	1	2	3	4	5	6	7	8	9
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Example: FZH	011	3	S	A	A	2	A10	N	P01

Filter element HP

	1	2	7	4	8	9
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Example: HP	011	3	A10	A	N	P01

1 - Style

Filter

010

011

Filter element

011 High pressure filter AISI 316
In-Line port

011 High pressure filter AISI 316
With 90° out port

6 - Indicator port

1

Without indicator port

2

With indicator port

2 - Filter length

010

011

1	2	3	4
1	2	3	4

7 - Filter element

A03

Inorganic microfibre 3 µm

A06

Inorganic microfibre 6 µm

A10

Inorganic microfibre 10 µm

A16

Inorganic microfibre 16 µm

A25

Inorganic microfibre 25 µm

Absolute filtration
Inorganic
Microfibre

$\beta_x(c) \geq 1000$

3 - Valves

S

Without bypass

B

With bypass
(opening pressure: 6 bar)

V

Without bypass + with reverse flow

Z

With bypass + with reverse flow
(opening pressure: 6 bar)

8 - Max filter element differential pressure

N

Δp 20 bar

H

Δp 210 bar

U

Δp 210 bar (Stainless Steel filter element)

4 - Filter seals

A

NBR

V

FPM

F

MFQ

9 - Option

P01

MP Filtri standard

Pxx

Customer request

5 - Connections

Threaded

FZH 010 - 011

Type	Size
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

Indicator plug:

Stainless Steel plug X2 has to be ordered separately.

Code

X2H

Seal NBR

X2V

Seal FPM

X2F

Seal MFQ

For Clogging Indicator:
See page 324

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Ordering information FZP/FZH 039 - 136

Filter assembly FZP-FZH

	1	2	3	4	5	6	7	8	9
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Example: FZP	039	2	B	A	A	2	A10	N	P01

Filter element HP

	1	2	7	4	8	9
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Example: HP	039	2	A10	A	N	P01

1 - Style

Filter	Filter element
039	039 FZP: 420 bar
039	039 FZH: 700 bar
136	135 FZP: 420 bar

6 - Indicator port

1	Without indicator port
2	With indicator port (plug not supplied - only for FZP/FZH 039)
6	With double indicator port (only for FZP136)

2 - Filter length

039	2	3	4
136	1	2	3

7 - Filter element

A03	Inorganic microfibre 3 µm	Absolute filtration Inorganic Microfibre βx (c) ≥ 1000
A06	Inorganic microfibre 6 µm	
A10	Inorganic microfibre 10 µm	
A16	Inorganic microfibre 16 µm	
A25	Inorganic microfibre 25 µm	

3 - Valves

S	Without bypass
B	With bypass (opening pressure: 6 bar)
V	With reverse flow + without bypass (only for FZP/FZH 039)
Z	With reverse flow + bypass (opening pressure: 6 bar - only for FZP/FZH 039)
T	Without bypass + check valve (only for FZP/FZH 039)
D	With bypass + check valve (opening pressure: 6 bar - only for FZP/FZH 039)

8 - Max filter element differential pressure

N	Δp 20 bar
H	Δp 210 bar
U	Δp 210 bar (Stainless Steel filter element)

9 - Option

P01	MP Filtri standard
Pxx	On request

4 - Filter seals

A	NBR
V	FPM
F	MFQ

5 - Connections

Threaded

FZP-FZH 039

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

FZP 136

Type	A
A	G 3/4"
B	3/4" NPT
C	SAE 12 - 1 1/16" - 12 UN
D	G 1"
E	1" NPT
F	SAE 16 - 1 5/16" - 12 UN
G	G 1 1/4"
H	1 1/4" NPT
I	SAE 20 - 1 5/8" - 12 UN

Indicator plug:

Stainless Steel plug X2 has to be ordered separately.

Code

X2H	Seal NBR
X2V	Seal FPM
X2F	Seal MFQ

For Clogging Indicator:
See page 324

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Ordering information FZX 011

Filter assembly

FZX

Example: FZX

1	2	3	4	5	6	7	8	9
<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
011	3	S	A	A	1	A10	H	P01

Filter element

HP

Example: HP

1	2	7	4	8	9
<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
011	3	A10	A	H	P01

1 - Style

Filter

Filter element

1000 bar

2 - Filter length

3 - Valves

Without bypass

4 - Filter seals

<input type="text" value="A"/>	NBR
<input type="text" value="V"/>	FPM
<input type="text" value="F"/>	MFQ

5 - Connections

Threaded

FZX 011

Type	Size - 700 bar
A	G 1/4"
B	1/4" NPT
G	G 1/2"
H	1/2" NPT

Type	Autoclave 20.000 psi
M	9/16" - 18 UNF
L	3/4" - 14 NPS
N	9/16" - 18 UNF
P	3/4" - 14 NPS

6 - Indicator port

Without indicator port

7 - Filter element

<input type="text" value="A03"/>	Inorganic microfibre	3 µm
<input type="text" value="A06"/>	Inorganic microfibre	6 µm
<input type="text" value="A10"/>	Inorganic microfibre	10 µm
<input type="text" value="A16"/>	Inorganic microfibre	16 µm
<input type="text" value="A25"/>	Inorganic microfibre	25 µm

Absolute filtration
Inorganic
Microfibre

$\beta_x (c) \geq 1000$

8 - Max filter element differential pressure

Δp 210 bar

Δp 210 bar (Stainless Steel filter element)

9 - Option

MP Filtri standard

Customer request

For Clogging Indicator:
See page 324

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Manifold Stainless Steel Pressure Filter

Recommended maximum flow rate

- Pressure drop of filter assembly equal to Δp 1,5 bar.
- Oil kinematic viscosity 30 mm²/s (cSt).
- Density 0,86 kg/dm³.

Filtration

	Length	A03	A06	A10	A16	A25
FZB/FZM	2	19	23	40	46	56
039	3	32	36	50	56	66
	4	38	44	58	65	72

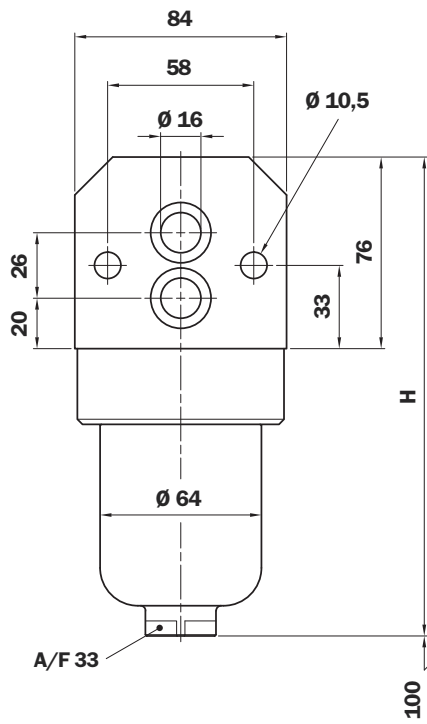
Serie N - Flow rate l/min

Filtration

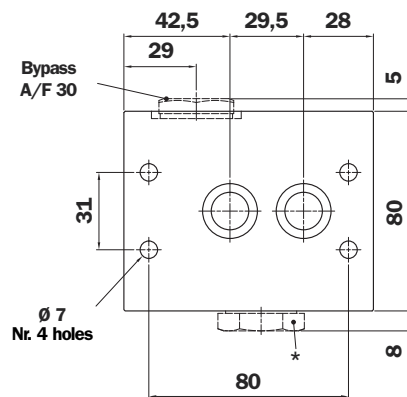
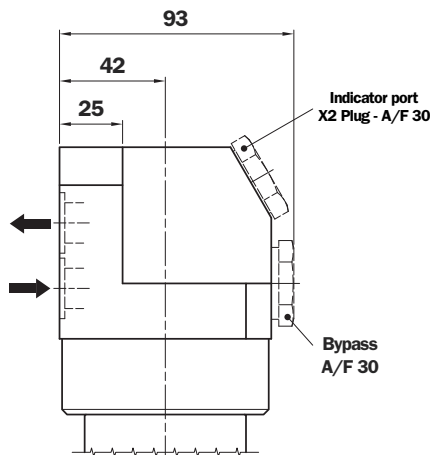
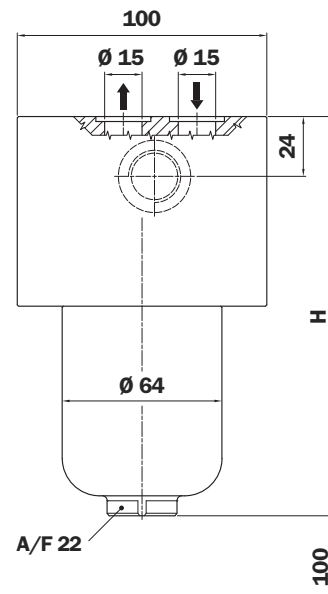
	Length	A03	A06	A10	A16	A25
FZB/FZM	2	16	20	36	40	50
039	3	25	30	44	52	62
	4	36	38	54	60	68

Serie H/U - Flow rate l/min

FZB 039



FZM 039



*
Option "M1"
Indicator port
X2 Plug - A/F 30
Optional

FZB 039

Filter Length	H mm
2	190
3	233
4	277

Thread connections

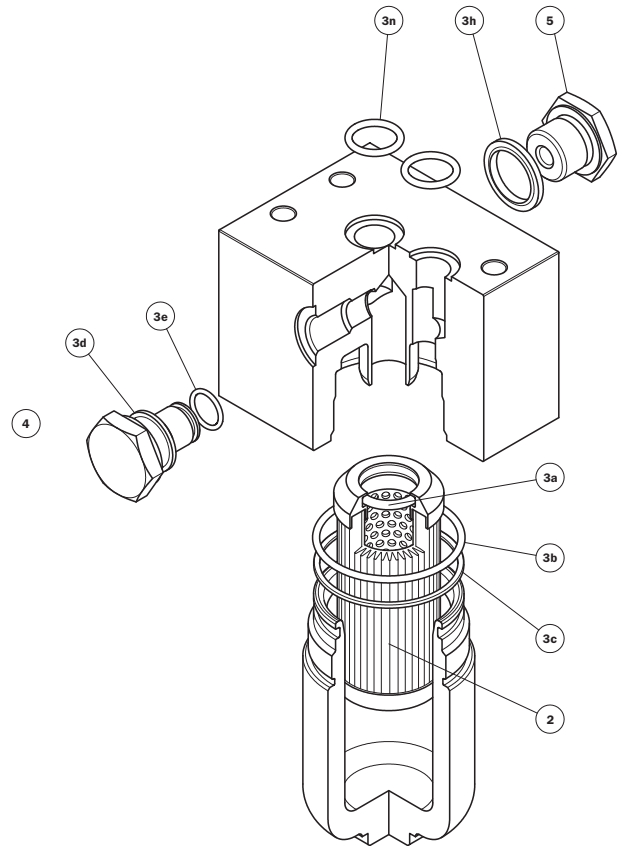
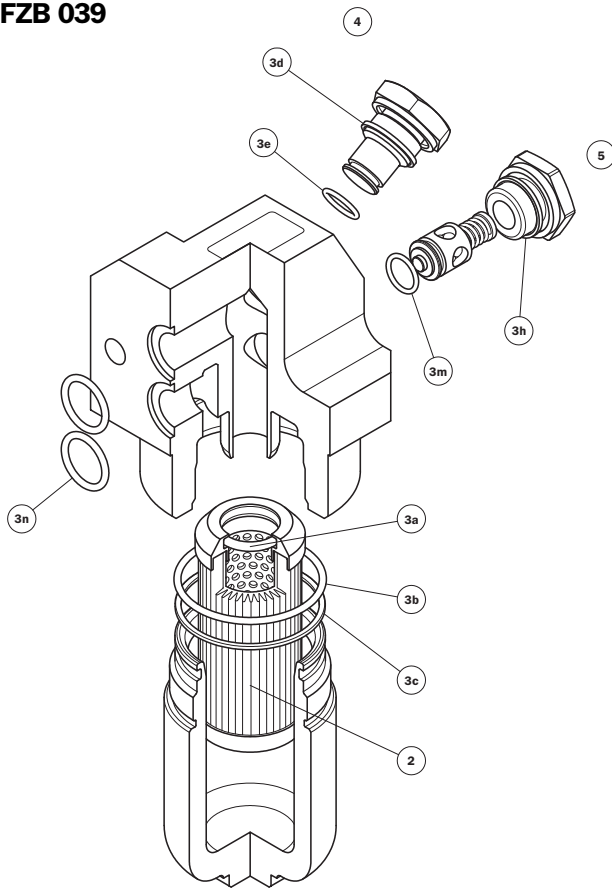
Type	A
F	Standard Manifold

FZM 039

Filter Length	H mm
2	160
3	203
4	247

Thread connections

Type	Size
M1	Manifold without indicator port
M2	Manifold with indicator port



Item	Description	Q.ty	FILTER Series FZB 039		FILTER Series FZM 039	
			NBR	FPM	NBR	FPM
1	Filter assembly	1	See order table		See order table	
2	Filter element	1	See order table		See order table	
3	Seal Kit	1	02050647	02050648	02050651	02050652
3a	Filter element seal	1	O-R 4087 Ø 21,82 x 3,53		O-R 4087 Ø 21,82 x 3,53	
3b	Bowl seal	1	O-R 3200 Ø 50,47 x 2,62		O-R 3256 Ø 64,77 x 2,62	
3c	Bowl anti-extrusion ring	1	Parbak 136 Ø 51,26 x 2,18		Parbak 144 Ø 63,96 x 2,18	
3d	Gasket	1	01030058 (HNBR)	01030046 (FPM)	01030058 (HNBR)	01030046 (FPM)
3e	O-Ring indicator	1	O-R 2050 Ø 12,42 x 1,78		O-R 2050 Ø 12,42 x 1,78	
3h	Bypass seal	1	01030058 (HNBR)	01030046 (FPM)	Bonded seal G 1/2"	
3m	Bypass seal	1	O-R 2050 Ø 12,42 x 1,78		-	
3n	Head seal	2	O-R 3075 Ø 18,72 x 2,62		O-R 3068 Ø 17,13 x 2,62	
4	Indicator connection plug	1*	X2H	X2V	X2H	X2V
5	Bypass assembly/plug	1	02001286 (NBR)	02001295 (FPM)	010029083	

* Only for FZB:
 0 for version 1 (without indicator port)
 1 for version 2 (with indicator port)

Ordering information FZB 039

Filter assembly	1	2	3	4	5	6	7	8	9
FZB	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
Example: FZB	039	2	B	A	F	2	A10	N	P01

Filter element	1	2	7	4	8	9
HP	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
Example: HP	039	2	A10	A	N	P01

1 - Style

Filter

Filter element

FZB: 320 bar

6 - Indicator port

Without indicator port

With Top indicator port (plug not supplied)

2 - Filter length

3 - Valves

Without bypass

With bypass (opening pressure: 6 bar)

Without bypass + check valve

With bypass + check valve (opening pressure: 6 bar)

4 - Filter seals

NBR

FPM

MFQ

7 - Filter element

Inorganic microfibre 3 µm

Inorganic microfibre 6 µm

Inorganic microfibre 10 µm

Inorganic microfibre 16 µm

Inorganic microfibre 25 µm

Absolute filtration
Inorganic
Microfibre

$\beta_x (c) \geq 1000$

8 - Max filter element differential pressure

Δp 20 bar

Δp 210 bar

Δp 210 bar (Stainless Steel filter element)

9 - Option

MP Filtri standard

On request

5 - Connections

Threaded

FZB 039

Type	Size
F	Standard manifold

For Clogging Indicator:
See page 324

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Ordering information FZM 039

Filter assembly FZM

	1	2	3	4	5	6	7	8
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Example: FZM	039	2	B	A	M1	A10	N	P01

Filter element HP

	1	2	6	4	7	8
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Example: HP	039	2	A10	A	N	P01

1 - Style

Filter

039

Filter element

039 FZM: 350 bar

2 - Filter length

039

2 **3** **4**

3 - Valves

S Without bypass

B With bypass
(opening pressure: 6 bar)

4 - Filter seals

A NBR

V FPM

F MFQ

5 - Connections

Threaded

FZM 039

Type	Size
M1	Manifold without indicator port
M2	Manifold with indicator port

6 - Filter element

A03 Inorganic microfibre 3 µm

A06 Inorganic microfibre 6 µm

A10 Inorganic microfibre 10 µm

A16 Inorganic microfibre 16 µm

A25 Inorganic microfibre 25 µm

Absolute filtration
Inorganic
Microfibre
βx (c) ≥ 1000

7 - Max filter element differential pressure

N Δp 20 bar

H Δp 210 bar

U Δp 210 bar (Stainless Steel filter element)

8 - Option

P01 MP Filtri standard

Pxx On request

For Clogging Indicator:
See page 324

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Duplex Stainless Steel Pressure Filter

Recommended maximum flow rate

- Pressure drop of filter assembly equal to Δp 2,5 bar.
- Oil kinematic viscosity 30 mm²/s (cSt).
- Density 0,86 kg/dm³.

FZD 010	Filtration					
	Length	A03	A06	A10	A16	A25
	2	7	9	14	16	19
	3	12	14	20	21	23
	4	13	15	21	22	24

Serie H/U - Flow rate l/min

FZD 051	Filtration					
	Length	A03	A06	A10	A16	A25
	2	56	59	70	74	80
	3	63	65	74	76	81
	4	70	72	78	79	82
	5	76	77	81	82	84

Serie R - Flow rate l/min

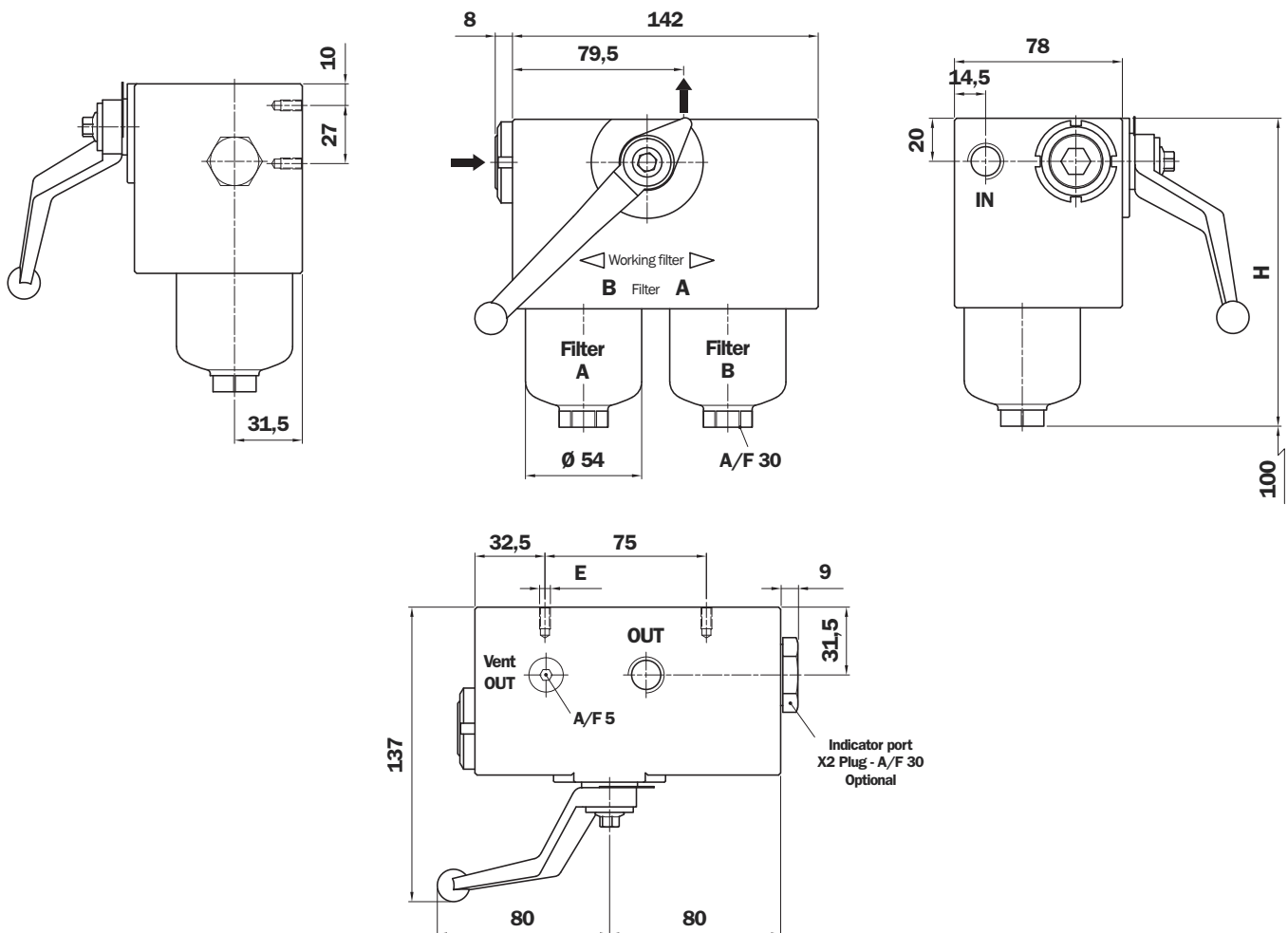
FZD 021	Filtration					
	Length	A03	A06	A10	A16	A25
	2	7,5	10	18	20	25
	3	14	17	26	28	31
	4	16	19	27	29	32

Serie H/U - Flow rate l/min

FZD 051	Filtration					
	Length	A03	A06	A10	A16	A25
	2	52	55	67	71	78
	3	60	61	72	74	80
	4	67	69	76	77	81
	5	73	74	78	80	83

Serie S/U - Flow rate l/min

FZD 010



FZD 010

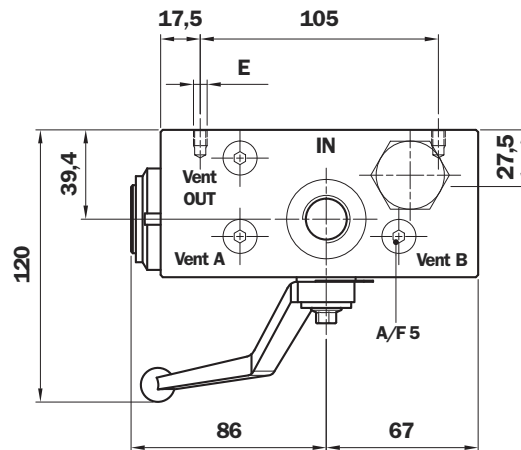
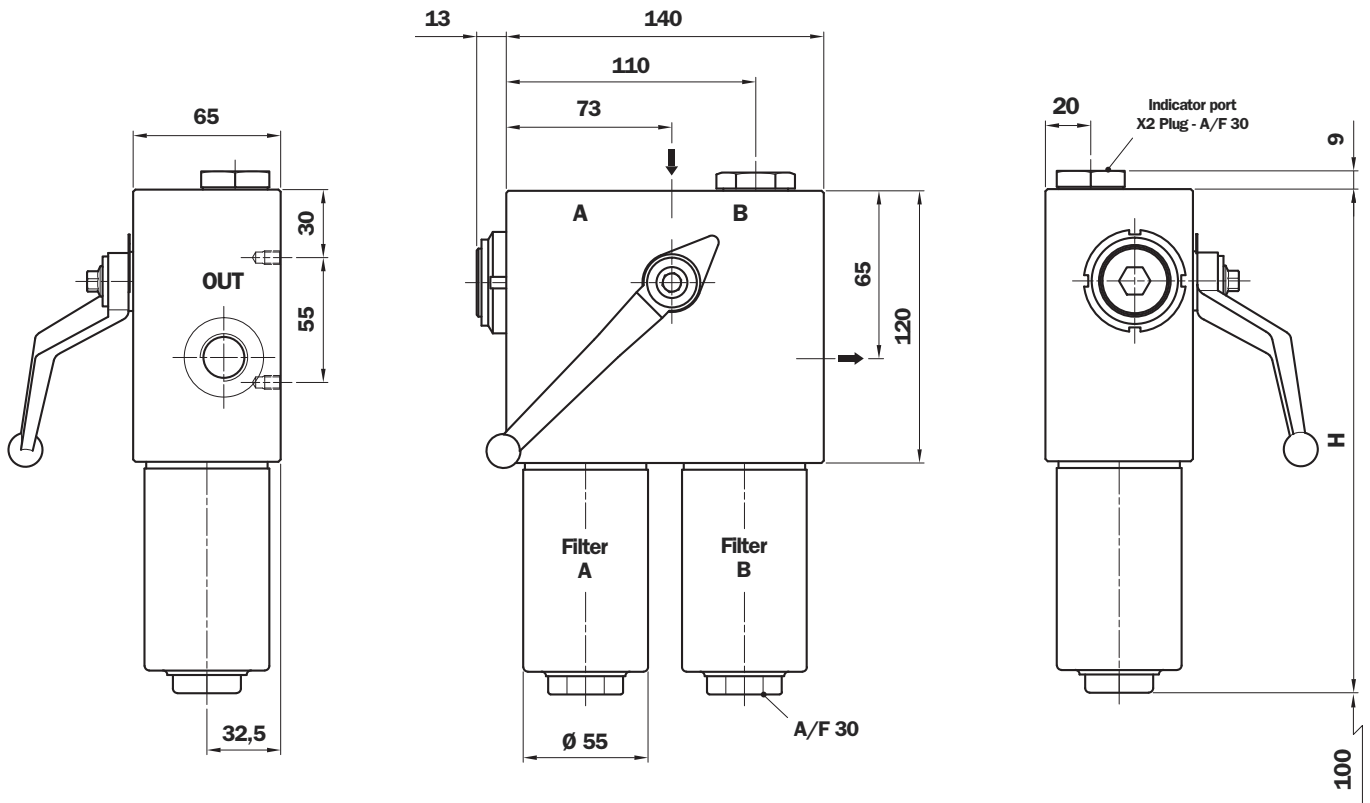
Filter Length	H mm
2	143
3	193
4	243

FZD 010

Thread connections

Type	Size	E Depth 10 mm
G1	G 3/8"	M6
G2	3/8" NPT	1/4" UNC
G3	SAE 6-9/16"-18 UNF	1/4" UNC

FZD 021



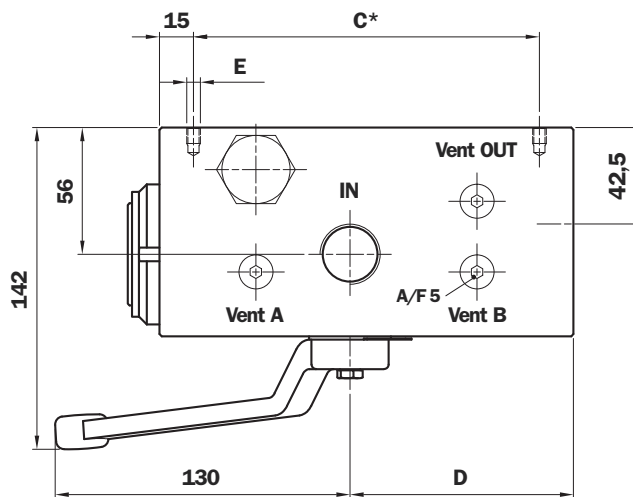
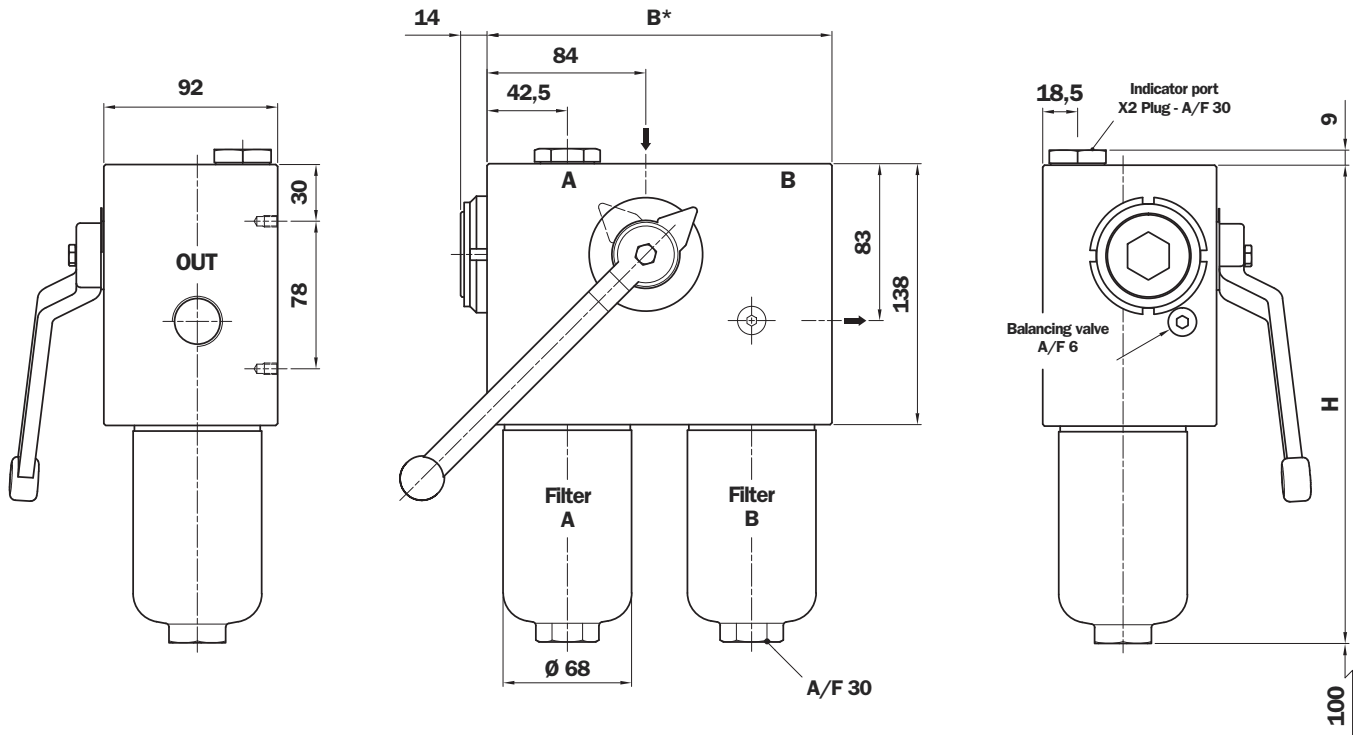
FZD 021

Filter Length	H mm
2	172
3	222
4	272

Thread connections

Type	Size	E Depth 8 mm
G1	G 1/2"	M6
G2	1/2" NPT	1/4" UNC
G3	SAE 8 - 3/4" - 16 UNF	1/4" UNC

FZD 051



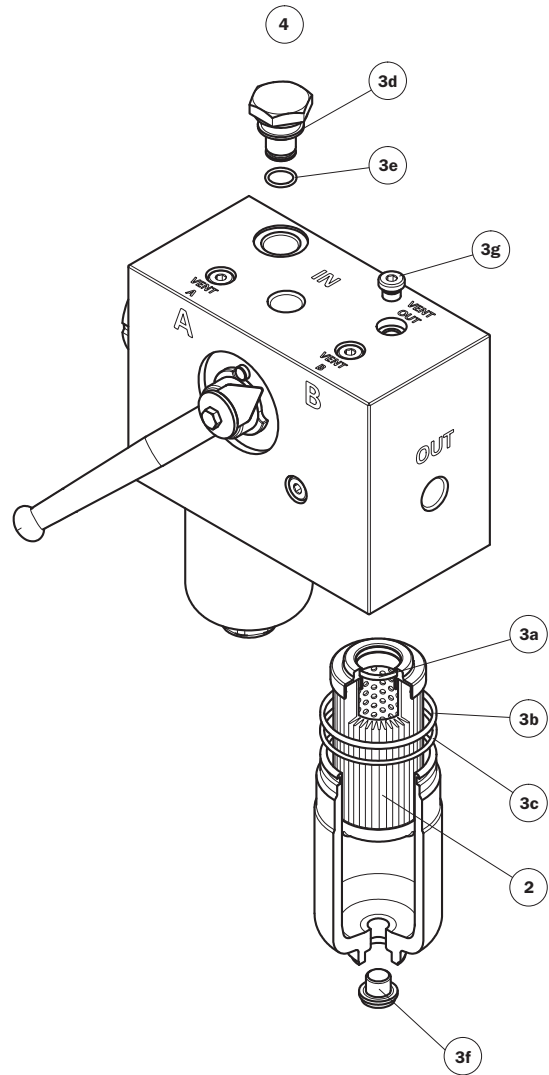
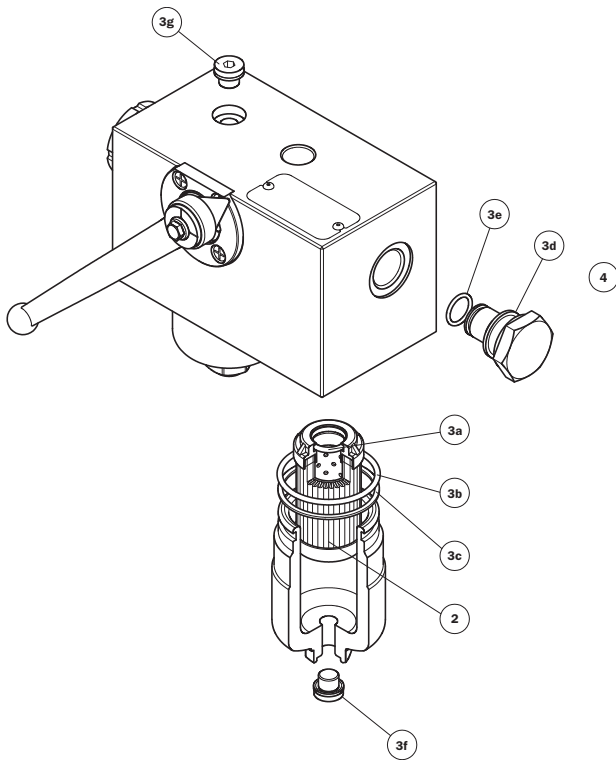
FZD 051

Filter Length	H mm
2	253
3	295
4	343
5	465

	B	C	D
With bypass	182,5	152,5	98,5
Without bypass	168	138	84

Thread connections

Type	Size	E Depth 8 mm
G1	G 3/4"	M6
G2	3/4" NPT	1/4" UNC
G3	G 1/2"	M6
G4	1/2" NPT	1/4" UNC
G5	SAE 8 - 3/4" - 16 UNF	1/4" UNC
G6	SAE 12 - 1 1/16" - 12 UN	1/4" UNC



Item	Description	Q.ty	FILTER Series					
			FZD 010		FZD 021		FZD 051	
1	Filter assembly	1	See order table					
2	Filter element	1	See order table					
3	Seal Kit	1	NBR 02050613	FPM 02050655	NBR 02050420	FPM 02050421	NBR 02050377	FPM 02050378
3a	Filter element seal	2	O-R 121 Ø 15,88 x 2,62		O-R 3093 Ø 23,67 x 2,62		O-R 144 Ø 39,69 x 2,62	
3b	Bowl seal	2	O-R 3168 Ø 42,52 x 2,62		O-R 3225 Ø 56,82 x 2,62		4 pcs	O-R 3350 Ø 88,57 x 2,62
3c	Bowl anti-extrusion ring	2	Parbak 131 Ø 43,33 x 2,18		Parbak 139 Ø 56,03 x 2,18		4 pcs	Parbak 153 Ø 89,36 x 2,18
3d	Gasket	1	01030058 (HNBR)	01030046 (FPM)	01030058 (HNBR)	01030046 (FPM)	01030058 (HNBR)	01030046 (FPM)
3e	O-Ring indicator	1	O-R 2050 Ø 12,42 x 1,78		O-R 2050 Ø 12,42 x 1,78		O-R 2050 Ø 12,42 x 1,78	
3f	Drain plug	2	G 1/8" with seal		G 1/4" with seal		G 3/8" with seal	
3g	Air vent	3	01029124 (HNBR)	01029094 (FPM)	01029124 (HNBR)	01029094 (FPM)	01029124 (HNBR)	01029094 (FPM)
4	Indicator connection plug	1	X2H	X2V	X2H	X2V	X2H	X2V

* 0 for version 1 (without indicator port)
1 for version 2 (with indicator port)

Ordering information FZD 010 - 021 - 051

Filter assembly FZD

	1	2	3	4	5	6	7	8
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Example: FZD	010	2	S	A	G1	A10	N	P01

Filter element HP

	1	2	6	4	7	8
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Example: HP	010	2	A10	A	N	P01

1 - Style

Filter

010
021
051

Filter element

011 FZD: 350 bar
011 FZD: 350 bar
050 FZD: 350 bar

6 - Filter element

A03	Inorganic microfibre 3 µm	Absolute filtration Inorganic Microfibre βx (c) ≥ 1000
A06	Inorganic microfibre 6 µm	
A10	Inorganic microfibre 10 µm	
A16	Inorganic microfibre 16 µm	
A25	Inorganic microfibre 25 µm	

2 - Filter length

010	2	3	4	
021	2	3	4	
051	2	3	4	5

7 - Max filter element differential pressure

R	Δp 20 bar (only FZD 051)
H	Δp 210 bar
S	Δp 210 bar (only FZD 051)
U	Δp 210 bar (Stainless Steel filter element)

3 - Valves

S	Without bypass
B	With bypass (opening pressure: 6 bar - only for FZD 051)

8 - Option

P01	MP Filtri standard
Pxx	On request

4 - Filter seals

A	NBR
V	FPM

5 - Connections

Threaded

FZD 010

Type	Size
G1	G 3/8"
G2	3/8" NPT
G3	SAE 6-9/16" - 18 UNF

FZD 051

Type	Size
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

FZD 021

Type	Size
G1	G 1/2"
G2	1/2" NPT
G3	SAE 8-3/4" - 16 UNF

For Clogging Indicator:
See page 324

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