

FZP series

Maximum working pressure up to 42 Mpa (420 bar) - Flow rate up to 160 l/min



INSTALLATION, SERVICE AND MAINTENANCE MANUAL AND SAFETY INSTRUCTIONS



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of the related document.



TYPICAL FILTER SIZING Selection Software

Step ①

Select "FILTER SIZING SOFTWARE" after login

WELCOME MARIO ROSSI

Then you're selecting the tool wanted:

- FILTER SIZING SOFTWARE** (highlighted)
- POWER TRANSMISSION SOFTWARE
- SOFTWEAR

Logout | Modify profile

OR

Select "FILTER SIZING" after login from a product page

MPFX

Tank mounted return filter, filter element flow control M version. Working pressure up to 6 bar (110 psi), flow rates up to 100 l/min (106 gpm). Threaded connections from 1/2" to 2" BSP/PT1/4in and SAE code 81 flanged connections up to 3".

TECHNICAL BROCHURE | 3D DOWNLOAD | FILTER SIZING *

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

Step ②

SUCTION LOW & MEDIUM PRESSURE HIGH PRESSURE

RETURN/SUCTION RETURN STAINLESS STEEL HIGH PRESSURE

Working Pressure (bar)* Flow rate (l/min)* Fluid max (bar)* Fluid Working Temperature (°C)*

6	90	0.5	40
---	----	-----	----

Fluid* Fluid type* Viscosity (cst)* Viscosity (SUS)*

HLP - Mineral oil	ISO VG 46 (SUS 216)	40	216
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Filtration* Connection Type*

A25 - 25 µm absolute inorganic microfibre	G 1"
---	------

* required field

CALCULATE

SUCTION LOW & MEDIUM PRESSURE HIGH PRESSURE

RETURN/SUCTION RETURN STAINLESS STEEL HIGH PRESSURE

Product: MPFX

Working Pressure (bar)* Flow rate (l/min)* Fluid max (bar)* Fluid Working Temperature (°C)*

6	90	0.5	40
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Fluid* Fluid type* Viscosity (cst)* Viscosity (SUS)*

HLP - Mineral oil	ISO VG 46 (SUS 216)	40	216
-------------------	---------------------	----	-----

Filtration* Connection Type*

A25 - 25 µm absolute inorganic microfibre	G 1"
---	------

CALCULATE

Step ③
Select the desired options to choose the appropriate filter type for the application.

Working Pressure 6 (bar) Fluid HLP

Flow rate 90 (l/min) Fluid type ISO VG 46 (SUS 216)

DP max of the project 0.5 (bar) Seal A - NBR

Working Temperature 40 (°C) Working Temperature -25 + 110 (°C)

Filtration 25 µm absolute inorganic microfibre Optional seals V - FPM

Connection Type G 1" Working Temperature with options -20 + 110 (°C)

Viscosity 46 (cst) - 216 (SUS) Viscosity 46 (cst) - 216 (SUS)

NEW SEARCH

Filter type Valve Seal

MPFX - Tank lid mounting - [Pmax x -] B: 1.75 bar Bypass	A: NBR	X RESET
--	--------	---------

Option1 Single or duplex DIN Standard Indicator

--None	Single	NOT APPLICABLE	Visual
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CSV Excel Show 10 entries Search:

Image	Code	Prex	Qmax	DP	Housing DP	Element DP	Connection	Seal	Link
	MPFX-103-3-A-G3-A25-H-BP61	6	116	95.74	25.3	0.47	T	A	
	MPFX-103-3-A-G3-A25-H-BP21	6	116	68.74	26.3	0.47	Z	A	

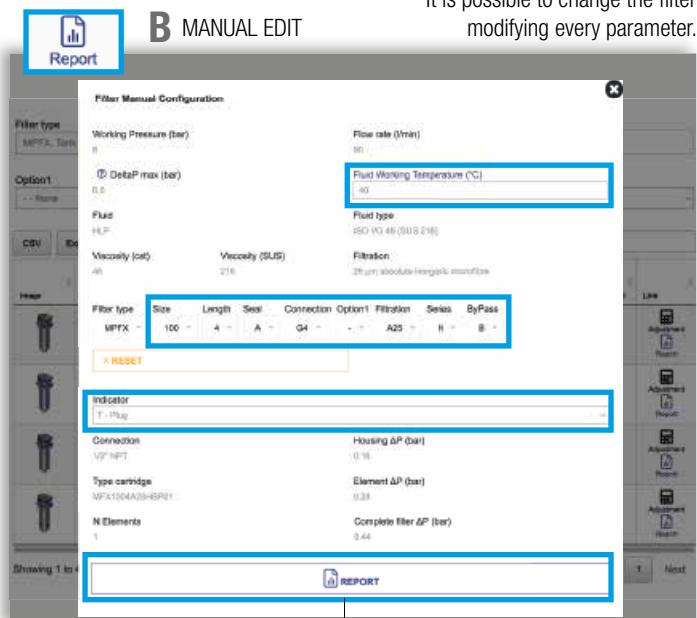
TYPICAL FILTER SIZING

Step 4

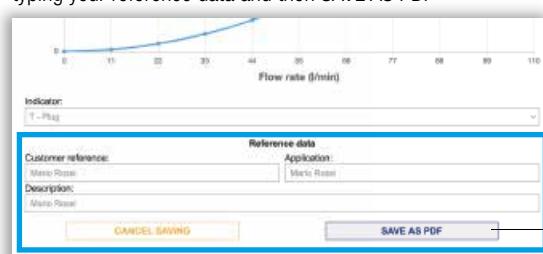
Choose the most suitable filter from the proposed list.

Filter type	Valve	Seal								
MPX: Tank lid mounting - [Pmax] <=	B: 1.75 bar Bypass	A: NBR	X RESET							
Option1	Single or duplex	DIN Standard	Indicator							
-- None	Single	NOT APPLICABLE	Visual							
CSV	Excel	Show 10 entries	Search: <input type="text"/>							
Image	Code	Peak bar psi	Qmax dm³/s gpm us	dP bar mbar inHg inH2O	Housing AP	Element AP	Material	Connection	Seal	Link
	MPX-100-S-A-G3-A25-H-BPS1	B: 116 B: 1694	95.74 25.3	0.47 T	E.12 2	E.35 5	G 1"	A		 
	MPX-104-S-A-G3-A25-H-BPS1	B: 116 B: 1694	95.74 25.3	0.47 T	E.12 2	E.35 5	G 1"	A		 

Step 5



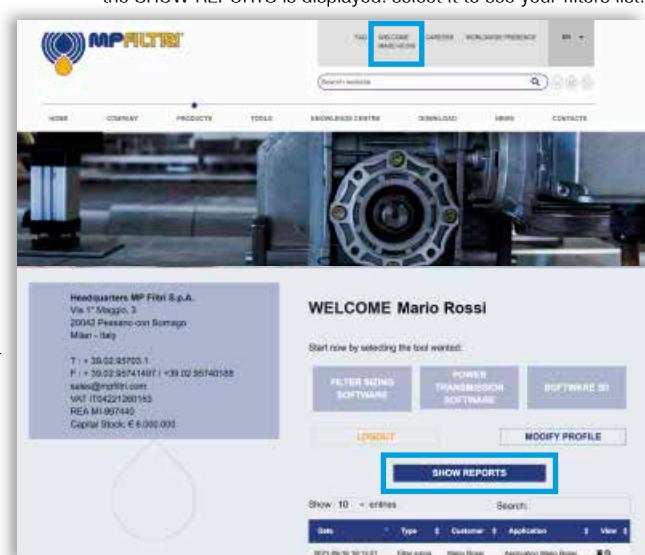
SAVE IN YOUR ARCHIVE
typing your reference data and then **SAVE AS PDF**



A new browser window displays the pdf

see A

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



FZP GENERAL INFORMATION

Description

Technical data

Filters for potentially explosive atmosphere

In-line

Maximum working pressure up to 42 Mpa (420 bar)

Flow rate up to 160 l/min

FZP 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 1/4" female threaded connections, for a maximum flow rate of 160 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 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 ±10%

Temperature

From -50 °C to +120 °C

Note

FZP 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 Epoxy painted
- Media/Support/Pre-filter: Microfibre/Synthetic

Microfibre filter elements - series S: 210 bar.

Element series "S":

- End cap: Tinned steel
- Core tube: Tinned steel
- External support: Wire mesh Epoxy painted
- Internal support: Wire mesh stainless steel
- Media/Support/Pre-filter: Microfibre/Synthetic

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/Synthetic

Filter with:

NBR seal in configuration **zerospark®**

   II 3G Ex h IIC T6 Gc X
II 3D Ex h IIIC T85°C Dc X
T_{amb} : -15°C ÷ +80°C, T_{max fluid} +80°C

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
T_{amb} : -15°C ÷ +110°C, T_{max fluid} +110°C

Weights [kg] and volumes [dm³]

Filter series	Weights [kg]				Volumes [dm ³]					
	Length	1	2	3	4	Length	1	2	3	4
FZP 039		-	4.5	5.1	5.6		-	0.19	0.26	0.34
FZP 136		8.3	10.2	11.5	-		0.45	0.78	1.00	-

Filter series	Length	Filter element design - R Series					Filter element design - S-U Series				
		A03	A06	A10	A16	A25	A03	A06	A10	A16	A25
FZP 039	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
FZP 136	1	63	67	102	108	136	47	53	87	89	127
	2	95	100	122	123	159	81	95	113	115	138
	3	122	124	148	150	160	106	116	135	141	151

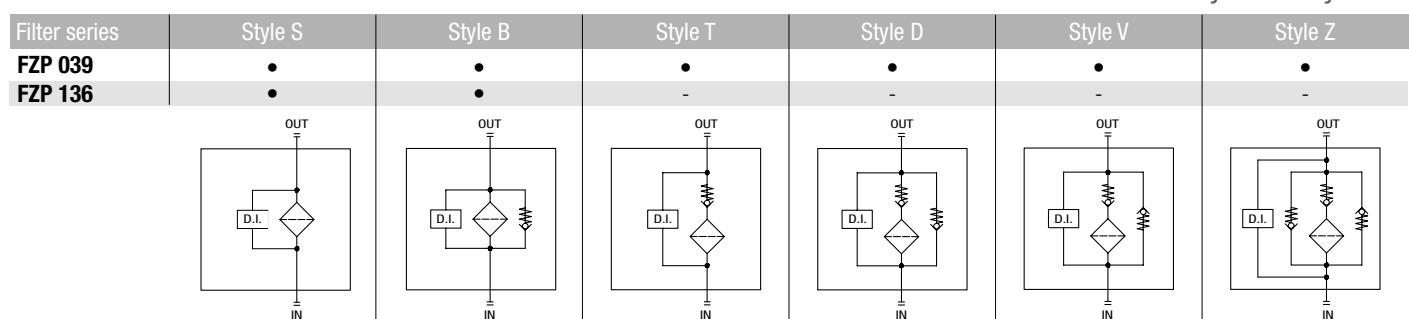
Maximum flow rate for a complete stainless steel high pressure filter with a pressure drop $\Delta p = 1.5$ bar.

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.mpfilttri.com.

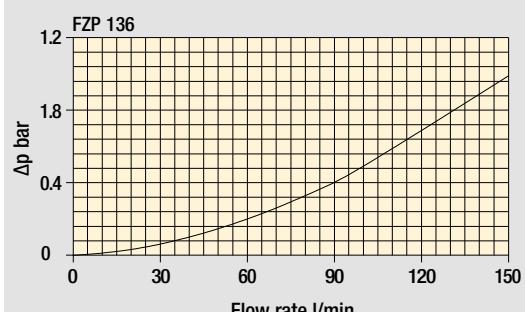
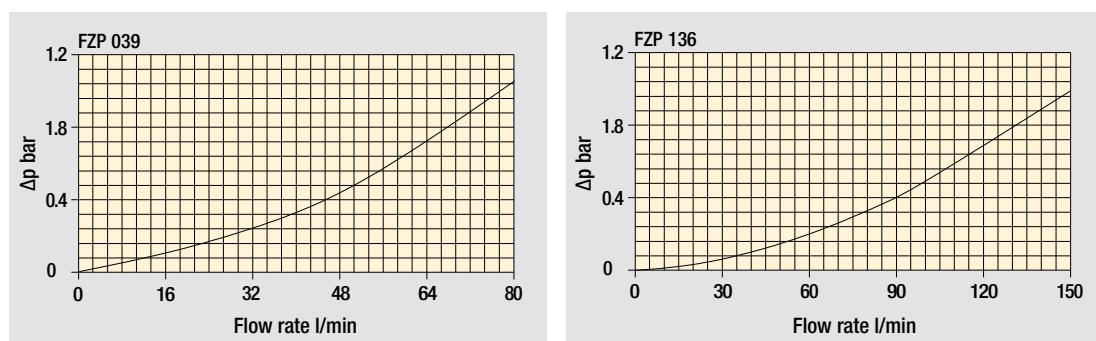
You can also calculate the right size using the formulas present on the FILTER SIZING paragraph at the beginning of the full catalogue or at the beginning of the filter family brochure.
Please, contact our Sales Department for further additional information.

Hydraulic symbols



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

Filter series and size	Configuration example: FZP039 2 B F B 2 A03 U Z01 EX											
FZP039												
Filter length	2 3 4											
Valves												
S Without bypass	D With reverse flow, with bypass 6 bar											
B With bypass 6 bar	V With reverse flow, without bypass											
T 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 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						Execution				Certifications	
R 20 bar	-	•	-	•	-	•	zerospark®				EX ATEX certifications	
S 210 bar	•	-	•	-	•	-	Z01 MP Filtri standard					
U 210 bar, stainless steel filter element	•	•	•	•	•	•	Zxx Customized					

FILTER ELEMENT

Element series and size	Configuration example: HP039 2 A03 F U Z01											
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							Execution					
R 20 bar							zerospark®					
S 210 bar							Z01 MP Filtri standard					
U 210 bar, stainless steel filter element							Zxx Customized					

CLOGGING INDICATORS

See page 729

DEH Electrical differential indicator
DVX Visual differential indicator

DVY Visual differential indicator
X2 Plug

FZP039	
Filter length	H [mm]
2	179
3	222
4	266
Connections	R
A	M6
B - C	1/4" UNC

The technical drawing illustrates the FZP039 filter's dimensions and features. The front view shows an IN port on the left and an OUT port on the right, with a height of 76 mm and a bottom diameter of Ø64 mm. The side view shows a top connection for a differential indicator (X2 plug not included) and a height H. The base view shows a flange with a diameter of Ø85 mm, a thickness of 45 mm, and four mounting holes. Recommended clearance space for maintenance is indicated as 100 mm.

Designation & Ordering code

COMPLETE FILTER

Filter series and size FZP136	Configuration example: FZP136	1	B	A	B	6	A03	R	Z01	EX
Filter length 1 2 3										
Valves										
S Without bypass										
B With bypass 6 bar										
Seals										
A NBR										
V FPM										
F MFQ										
Connections										
A G 3/4"	G	G 1 1/4"								
B 3/4" NPT	H	1 1/4" NPT								
C SAE 12 - 1 1/16" - 12 UN	I	SAE 20 - 1 5/8" - 12 UN								
D G 1"										
E 1" NPT										
F SAE 16 - 1 5/16" - 12 UN										
Connections for differential indicator										
1 Without connection										
6 With two connections on both sides										
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									
R 20 bar	S	B								
S 210 bar	•	-								
U 210 bar, stainless steel filter element	•	•								
Execution										
zerospark®										
Z01 MP Filtri standard										
Zxx Customized										
Certifications										
EX ATEX certifications										

FILTER ELEMENT

Element series and size HP135	Configuration example: HP135	1	A03	A	R	Z01
Element length 1 2 3						
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						

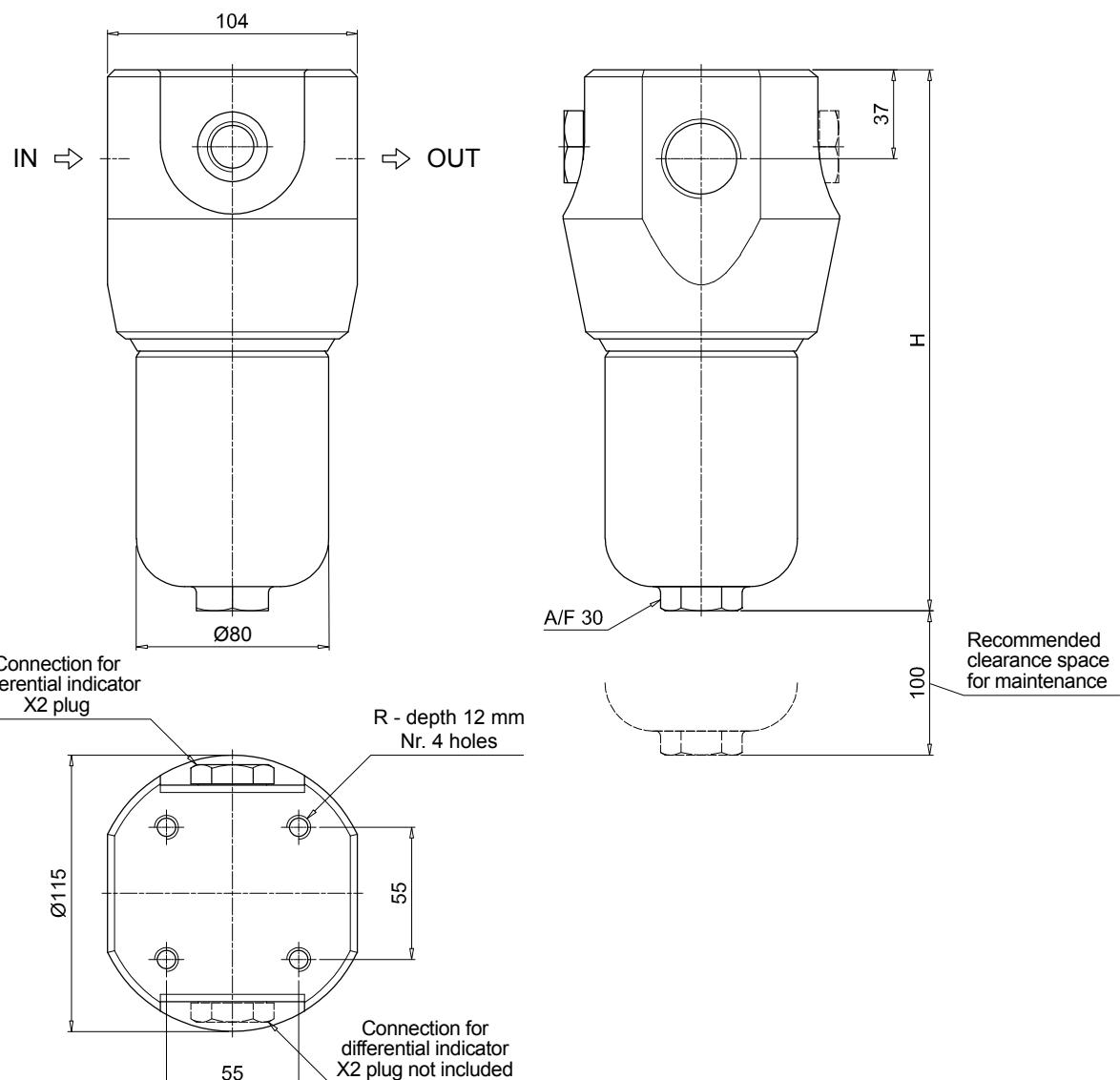
CLOGGING INDICATORS

See page 729

DEH Electrical differential indicator
DVX Visual differential indicator

DVY Visual differential indicator
X2 Plug

FZP136	
Filter length	H [mm]
1	222
2	335
3	410
Connections	R
A	M10
B - C	3/8" UNC
D	M10
E - F	3/8" UNC
G	M10
H - I	3/8" UNC



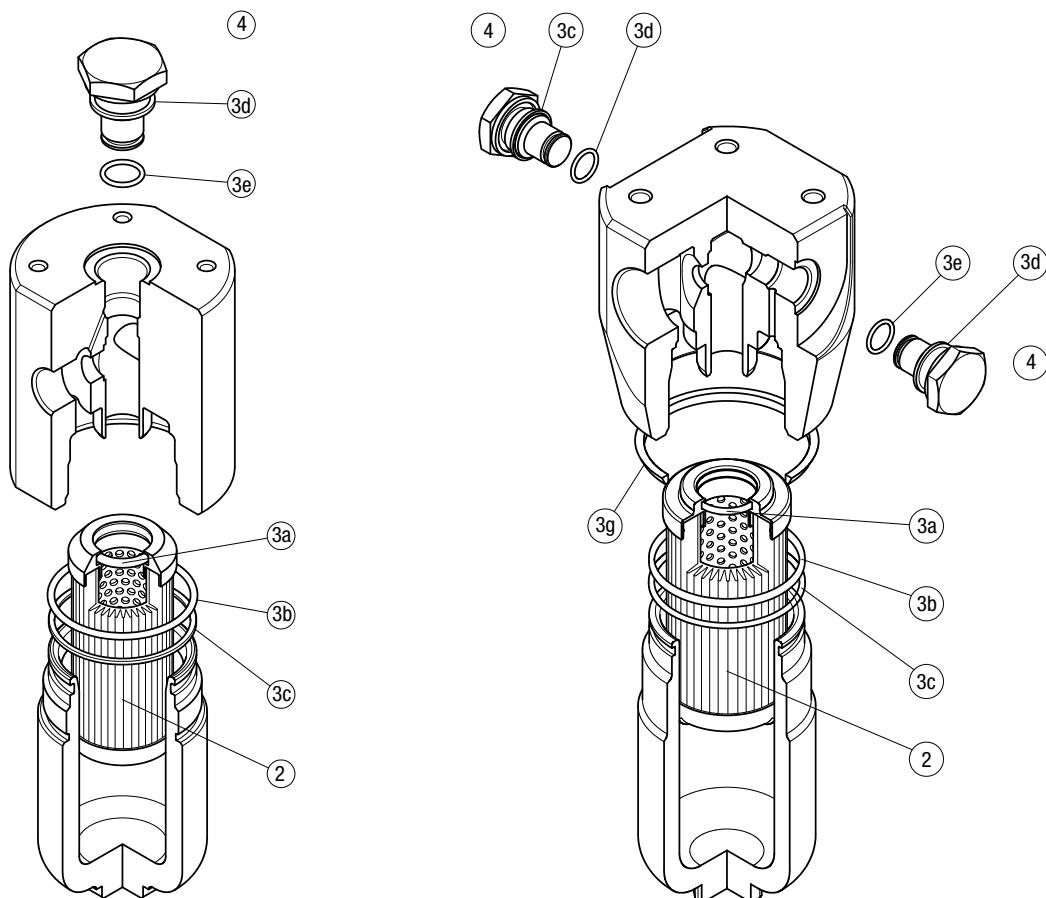
The position of the X2 plug is reversible

FZP SPARE PARTS

Order number for spare parts

FZP 039

FZP 136



Item:	Q.ty: 1 pc.		Q.ty: 1 pc.		Q.ty: 1 pc.	
	2	3 (3a ÷ 3g)	3	(3a ÷ 3g)	4	
Filter series	Filter element	Seal Kit code number	NBR	FPM	Indicator connection plug	
FZP 039	See order table	02050299	02050300		X2H	X2V
FZP 136		02050636	02050637			

Clogging indicators

Introduction

Filter elements are efficient only if their Dirt Holding Capacity is fully exploited. This is achieved by using filter housings equipped with clogging indicators.

These devices trip when the clogging of the filter element causes an increase in pressure drop across the filter element.

The indicator is set to alarm before the element becomes fully clogged.

MP Filtri can supply indicators of the following designs:

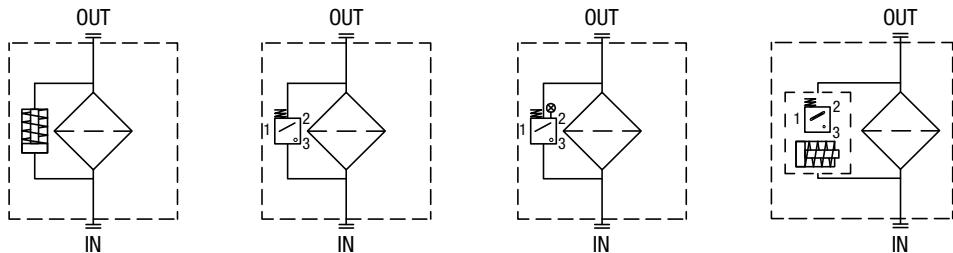
- Vacuum switches and gauges
- Pressure switches and gauges
- Differential pressure indicators

These type of devices can be provided with a visual, electrical or both signals.

Suitable indicator types

DIFFERENTIAL INDICATORS

Differential indicators are used on the Pressure line to check the efficiency of the filter element. They measure the pressure upstream and downstream of the filter element (differential pressure). Standard items are produced with special connection G 1/2" size. Also available in Stainless Steel models.

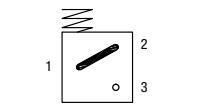
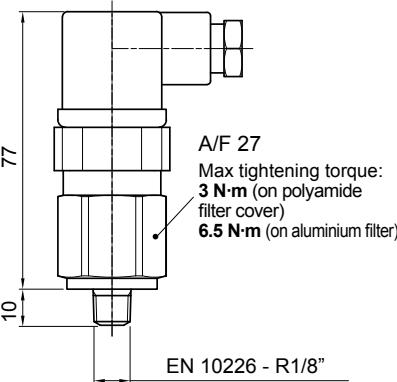


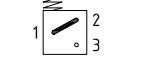
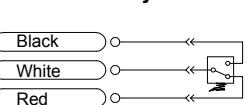
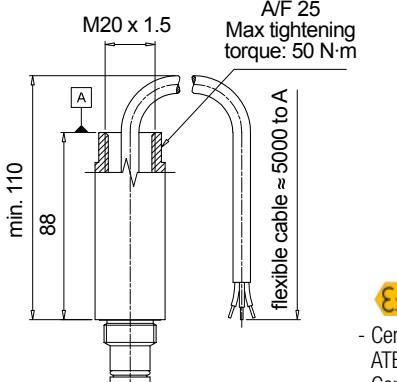
Quick reference guide

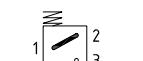
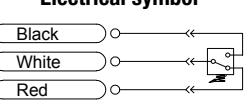
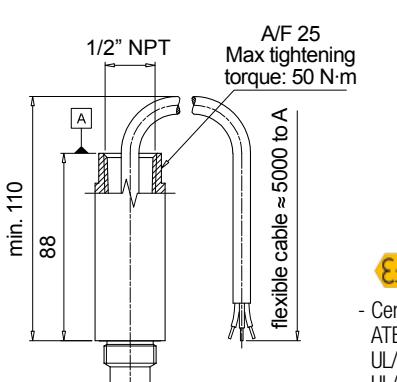
Filter family	Filter series	Visual indicators	Electrical indicators	Electrical / Visual indicators
With bypass valve 6 bar	FMMX 50 FMM 050 -150	DVA50xP01 DVM50xP01	DEH50xA48P01 DEH50xA49P01 DEH50xA70P01	
Without bypass valve	FMMX 50 FMM 050 -150	DVA70xP01 DVA95xP01 DVM70xP01 DVM95xP01	DEH70xA48P01 DEH70xA49P01 DEH70xA70P01 DEH95xA48P01 DEH95xA49P01 DEH95xA70P01	
With bypass valve 6 bar	FZP 039 - 136	DVX50xP01 DVY50xP01	DEH50xA48P01 DEH50xA49P01 DEH50xA70P01 DEX50xA50P01 DEZ50xA50P01	
Without bypass valve	FZP 039 - 136	DVX70xP01 DVX95xP01 DVY70xP01 DVY95xP01	DEH70xA48P01 DEH70xA49P01 DEH70xA70P01 DEH95xA48P01 DEH95xA49P01 DEH95xA70P01 DEX70xA50P01 DEZ70xA50P01	
With bypass valve 6 bar	FZH 012 - 040	DVZ50xP01		
Without bypass valve	FZH 012 - 040	DVZ70xP01 DVZ95xP01		

DIFFERENTIAL INDICATORS

Dimensions

BEA*50		Hydraulic symbol	Materials	
Electrical Pressure Indicator				
Settings	Ordering code	Technical data		
1.5 bar $\pm 10\%$	BE A 15 H A 50 P01	- Max working pressure: 40 bar - Proof pressure: 60 bar - Working temperature: From -25 °C to +80 °C - Compatibility with fluids: Mineral oils, Synthetic fluids HFA, HFB, HFC according to ISO 2943 - Degree of protection: IP65 according to EN 60529		
2.0 bar $\pm 10\%$	BE A 20 H A 50 P01	Electrical symbol  Materials - Body: Brass - Base: Black polyamide - Contacts: Silver - Seal: HNBR		
 A/F 27 Max tightening torque: 3 N·m (on polyamide filter cover) 6.5 N·m (on aluminum filter)		Electrical data - Electrical connection: EN 175301-803 - Resistive load: 5 A / 14 Vdc 4 A / 30 Vdc 5 A / 125 Vac 4 A / 250 Vac - Available ATEX product: I M1 Ex ia I Ma II 1GD Ex ia IIC TX Ga Ex ia IIIC TX °C Da - CE certification		

DEH*48		Hydraulic symbol	Materials	
Electrical Differential Indicator				
Settings	Ordering code	Technical data		
5.0 bar $\pm 10\%$	DE H 50 x A 48 P01	Hydraulic symbol  Electrical symbol  Materials - Body: AISI 316L - Contacts: Rhodium - Seal: FPM - MFQ		
7.0 bar $\pm 10\%$	DE H 70 x A 48 P01	Technical data - Max working pressure: 420 bar - Proof pressure: 630 bar - Burst pressure: 1260 bar - Working temperature: From -60 °C to +125 °C - Compatibility with fluids: Mineral oils, Synthetic fluids HFA, HFB, HFC according to ISO 2943 - Temperature class: T4 (135 °C) and T6 (85 °C) - Degree of protection: IP 66/67/68 according to EN 60529 - Connection type: Three-core cable, fitting M20x1.5 - Contact type: SPCO/SPDT (Hermetically sealed - Volt-free contacts)		
 M20 x 1.5 A/F 25 Max tightening torque: 50 N·m flexible cable \approx 5000 to A		Electrical data - Resistive Load: 830 mA / 24 Vdc - 180 mA / 110 Vac - Electrical Ratings: Ui = 30 Vdc / Ii = 250 mA / Pi = 1.3 W - Available ATEX product: II 1 GD Ex ia IIC T6 Ga -60°C \leq Ta \leq 80°C Ex ia IIC T4 Ga -60°C \leq Ta \leq 125°C II 2 GD Ex db IIC T6* Gb Ex tb IIIC T85°C* Db (Tamb : -60°C to +70°C)* IP66/67 * alternative T/Class and ambients T4, T135°C (Tamb = -60°C to +120°C)		
- Certification / Approvals: ATEX, IECEx, EAC TR CU, INMETRO - Certification included as standard				

DEH*49		Hydraulic symbol	Materials	
Electrical Differential Indicator				
Settings	Ordering code	Technical data		
5.0 bar $\pm 10\%$	DE H 50 x A 49 P01	Hydraulic symbol  Electrical symbol  Materials - Body: AISI 316L - Contacts: Rhodium - Seal: FPM - MFQ		
7.0 bar $\pm 10\%$	DE H 70 x A 49 P01	Technical data - Max working pressure: 420 bar - Proof pressure: 630 bar - Burst pressure: 1260 bar - Working temperature: From -60 °C to +120 °C : ATEX, IECEx, EAC TR CU, INMETRO From -60 °C to +105 °C : UL/CSA - Compatibility with fluids: Mineral oils, Synthetic fluids HFA, HFB, HFC according to ISO 2943 - Temperature class: T4 (135 °C) and T6 (85 °C) - Degree of protection: IP 66/67/68 according to EN 60529 - Connection type: Four-core cable, fitting 1/2" NPT - Contact type: SPCO/SPDT (Hermetically sealed - Volt-free contacts)		
 1/2" NPT A/F 25 Max tightening torque: 50 N·m flexible cable \approx 5000 to A		Electrical data - Resistive Load: 830 mA / 24 Vdc - 180 mA / 110 Vac - Max voltage: 150 Vac/dc - Power: 20 W - Available ATEX product: II 1 GD Ex ia IIC T6 Ga -60°C \leq Ta \leq 80°C Ex ia IIC T4 Ga -60°C \leq Ta \leq 125°C II 2 GD Ex db IIC T6* Gb Ex tb IIIC T85°C* Db (Tamb : -60°C to +70°C)* IP66/67 * alternative T/Class and ambients T4, T135°C (Tamb = -60°C to +120°C)		
- Certification / Approvals: ATEX, IECEx, EAC TR CU, INMETRO, UL/CSA Class I Division 1 Groups A-D, UL/CSA Class II Division 1 Groups E-G - Certification included as standard				

DIFFERENTIAL INDICATORS

Dimensions

DEH*70		Hydraulic symbol	Materials
Electrical Differential Indicator			Materials
Settings	Ordering code	Electrical symbol	Technical data
5.0 bar $\pm 10\%$	DE H 50 x A 70 P01		- Body: AISI 316L with internal engineered resin switch - Contacts: Rhodium - Seal: FPM - MFQ
7.0 bar $\pm 10\%$	DE H 70 x A 70 P01	Technical data	
		<ul style="list-style-type: none"> - Max working pressure: 420 bar - Proof pressure: 630 bar - Burst pressure: 1260 bar - Working temperature: From -60 °C to +80 °C - Compatibility with fluids: Mineral oils, Synthetic fluids HFA, HFB, HFC according to ISO 2943 - Temperature class: T6 (85 °C) - Degree of protection: IP 66/67 according to EN 60529 - Connection type: IEC 61076-2-101 D (M12) - Contact type: SPCO/SPDT (Hermetically sealed - Volt-free contacts) 	
		Electrical data	
<ul style="list-style-type: none"> - Certification / Approvals: ATEX, IECEx, EAC TR CU, INMETRO - Certification included as standard 		<ul style="list-style-type: none"> - Resistive Load: 830 mA / 24 Vdc - 180 mA / 110 Vdc - Electrical Ratings: $U_i = 30$ Vdc $I_i = 250$ mA $P_i = 1.3$ W - Available ATEX product: II 1 GD Ex ia IIC T6 Ga -60°C ≤ Ta ≤ 80°C Ex ia IIC T4 Ga -60°C ≤ Ta ≤ 125°C II 2 GD Ex db IIC T6* Gb Ex tb IIIC T85°C* Db (Tamb : = -60°C to +70°C)* IP66/67 * alternative T/Class and ambients T4, T135°C (Tamb = -60°C to +120°C) 	

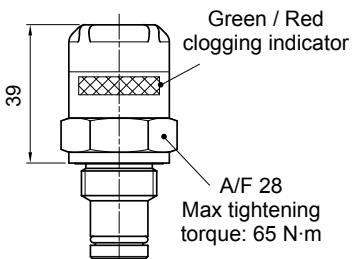
DVA		Hydraulic symbol	Materials
Visual Differential Indicator			Materials
Settings	Ordering code	Technical data	
5.0 bar $\pm 10\%$	DV A 50 x P01	<ul style="list-style-type: none"> - Body: Brass - Internal parts: Brass - Polyamide - Contacts: Silver - Seal: HNBR - FPM 	
7.0 bar $\pm 10\%$	DV A 70 x P01	Technical data	
9.5 bar $\pm 10\%$	DV A 95 x P01	<ul style="list-style-type: none"> - Reset: Automatic reset - Max working pressure: 420 bar - Proof pressure: 630 bar - Burst pressure: 1260 bar - Working temperature: From -25 °C to +110 °C - Compatibility with fluids: Mineral oils, Synthetic fluids HFA, HFB, HFC according to ISO 2943 - Degree protection: IP65 according to EN 60529 	

DVM		Hydraulic symbol	Materials
Visual Differential Indicator			Materials
Settings	Ordering code	Technical data	
5.0 bar $\pm 10\%$	DV M 50 x P01	<ul style="list-style-type: none"> - Body: Brass - Internal parts: Brass - Polyamide - Contacts: Silver - Seal: HNBR - FPM 	
7.0 bar $\pm 10\%$	DV M 70 x P01	Technical data	
9.5 bar $\pm 10\%$	DV M 95 x P01	<ul style="list-style-type: none"> - Reset: Manual reset - Max working pressure: 420 bar - Proof pressure: 630 bar - Burst pressure: 1260 bar - Working temperature: From -25 °C to +110 °C - Compatibility with fluids: Mineral oils, Synthetic fluids HFA, HFB, HFC according to ISO 2943 - Degree protection: IP65 according to EN 60529 	

DIFFERENTIAL INDICATORS

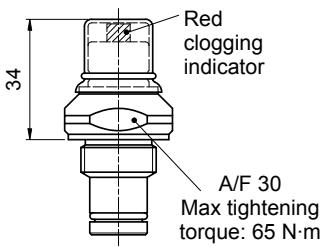
Dimensions

DVX		Hydraulic symbol	Materials
Visual Differential Indicator			
Settings	Ordering code		Technical data
5.0 bar $\pm 10\%$	DV X 50 x P01		<ul style="list-style-type: none"> - Body: AISI 316L - Internal parts: AISI 316L - Polyamide - Contacts: Silver - Seal: HNBR - MFQ
7.0 bar $\pm 10\%$	DV X 70 x P01		
9.5 bar $\pm 10\%$	DV X 95 x P01		



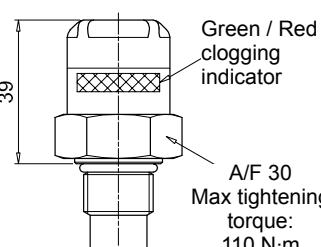
Green / Red clogging indicator
A/F 28 Max tightening torque: 65 N·m
39

DVY		Hydraulic symbol	Materials
Visual Differential Indicator			
Settings	Ordering code		Technical data
5.0 bar $\pm 10\%$	DV Y 50 x P01		<ul style="list-style-type: none"> - Body: AISI 316L - Internal parts: AISI 316L - Polyamide - Contacts: Silver - Seal: HNBR - MFQ
7.0 bar $\pm 10\%$	DV Y 70 x P01		
9.5 bar $\pm 10\%$	DV Y 95 x P01		

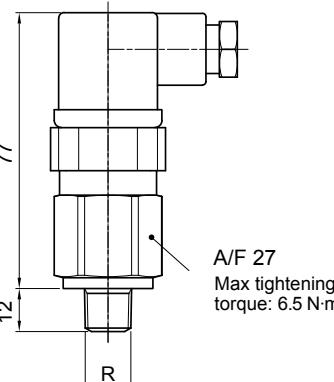
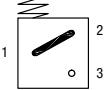
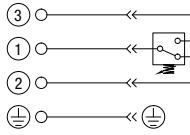
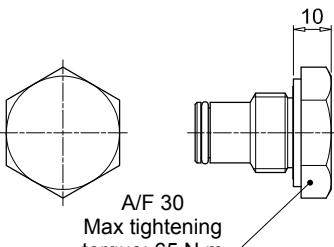
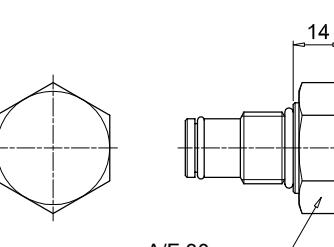


Red clogging indicator
A/F 30 Max tightening torque: 65 N·m
34

DVZ		Hydraulic symbol	Materials
Visual Differential Indicator			
Settings	Ordering code		Technical data
5.0 bar $\pm 10\%$	DV Z 50 x P01		<ul style="list-style-type: none"> - Body: AISI 316L - Internal parts: AISI 316L - Polyamide - Contacts: Silver - Seal: HNBR - MFQ
7.0 bar $\pm 10\%$	DV Z 70 x P01		
9.5 bar $\pm 10\%$	DV Z 95 x P01		



Green / Red clogging indicator
A/F 30 Max tightening torque: 110 N·m
39

<p>VE*50</p> <p>Electrical Vacuum Indicator</p> <table border="1" data-bbox="187 321 520 377"> <thead> <tr> <th>R</th><th>Ordering code</th></tr> </thead> <tbody> <tr> <td>EN 10226 - R1/8"</td><td>VE B 21 AA 50 P01</td></tr> </tbody> </table> 	R	Ordering code	EN 10226 - R1/8"	VE B 21 AA 50 P01	<p>Hydraulic symbol</p>  <p>Electrical symbol</p> 	<p>Materials</p> <ul style="list-style-type: none"> - Body: Brass - Base: Black polyamide - Contacts: Silver - Seal: NBR <p>Technical data</p> <ul style="list-style-type: none"> - Vacuum setting: -0.21 bar $\pm 10\%$ - Max working pressure: 10 bar - Proof pressure: 15 bar - Working temperature: From -25 °C to +80 °C - Compatibility with fluids: Mineral oils, Synthetic fluids HFA, HFB, HFC according to ISO 2943 - Degree of protection: IP65 according to EN 60529 <p>Electrical data</p> <ul style="list-style-type: none"> - Electrical connection: EN 175301-803 - Resistive load: <ul style="list-style-type: none"> 5 A / 14 Vdc 4 A / 30 Vdc 5 A / 125 Vac 4 A / 250 Vac - Available ATEX product: I M1 Ex ia I Ma II 1GD Ex ia IIC Tx Ex ia IIIC Tx °C X - CE certification 		
R	Ordering code							
EN 10226 - R1/8"	VE B 21 AA 50 P01							
<p>X2</p> <p>Indicator plug 420 bar</p> <table border="1" data-bbox="187 972 520 1051"> <thead> <tr> <th>Seal</th><th>Ordering code</th></tr> </thead> <tbody> <tr> <td>HNBR</td><td>X2 H</td></tr> <tr> <td>MFQ</td><td>X2 F</td></tr> </tbody> </table> 	Seal	Ordering code	HNBR	X2 H	MFQ	X2 F		<p>Materials</p> <ul style="list-style-type: none"> - Body: AISI 316L - Seal: HNBR / MFQ
Seal	Ordering code							
HNBR	X2 H							
MFQ	X2 F							
<p>X3</p> <p>Indicator plug 700 bar (only for FZH)</p> <table border="1" data-bbox="187 1594 520 1673"> <thead> <tr> <th>Seal</th><th>Ordering code</th></tr> </thead> <tbody> <tr> <td>HNBR</td><td>X3 H</td></tr> <tr> <td>MFQ</td><td>X3 F</td></tr> </tbody> </table> 	Seal	Ordering code	HNBR	X3 H	MFQ	X3 F		<p>Materials</p> <ul style="list-style-type: none"> - Body: AISI 316L - Seal: HNBR / MFQ
Seal	Ordering code							
HNBR	X3 H							
MFQ	X3 F							

DIFFERENTIAL INDICATORS

T2	
Indicator plug	
Seal	Ordering code
HNBR	T2 H
FPM	T2 V

A/F 30
Max tightening torque: 65 N·m

Materials

- Body: Phosphatized steel
- Seal: HNBR / FPM

ATEX Certified Filters

734

 MP FILTRI

DESIGNATION & ORDERING CODE - DIFFERENTIAL INDICATORS

Series	Configuration example 1: DE H 50 F A 48 P01										
DE Electrical differential indicator	Configuration example 2: DV X 70 V A 49 P01										
DV Visual differential indicator											
Type	DE	DV									
H Hazardous area	•	-									
X Standard type	•	•									
Z 700 bar	•	•									
Y Optional type	-	•									
Pressure setting	DEH	DL	DV								
50 5.0 bar	•	•	•								
70 7.0 bar	•	•	•								
95 9.5 bar	-	•	•								
Seals	DEH	DL	DV								
H HNBR	-	•	•								
V FPM	•	•	•								
F MFQ	•	-	-								
Thermostat	DEH	DL	DV								
A Without	•	•	-								
Electrical connections	DEH	DV									
48 Connection via three-core cable - fitting M20x1.5	•	-									
49 Connection via four-core cable - fitting 1/2" NPT	•	-									
51 Connection EN 175301-803, transparent base with lamps 24 Vdc	-	-									
70 Connection IEC 61076-2-101 D (M12)	•	-									
Option											
P01 MP Filtri standard											
Pxx Customized											

DESIGNATION & ORDERING CODE - DIFFERENTIAL INDICATOR PLUG

Series	Configuration example X2 H	
X2 Indicator plug 420 bar		
X3 Indicator plug 700 bar (only for FZH)		
Seals		
H HNBR		
V FPM		
F MFQ		