

# 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



FZP039



FZP136

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## Description

## Technical data

### Stainless steel high pressure filters

#### 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 Epox painted
- Media/Support/Pre-filter: Microfibre/Syntetic

Microfibre filter elements - series S: 210 bar.

Element series "S":

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

Stainless Steel Microfibre filter elements series U: 210 bar.

Element series "U":

- End cap: Stainless steel
- Core tube: Stainless steel
- External support: Stainless steel
- Internal support: Stainless steel
- Media/Support/Pre-filter: Microfibre/Syntetic

## Weights [kg] and volumes [dm<sup>3</sup>]

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

Flow rates [l/min]

Filter series	Length	Filter element design - R Series					Filter element design - S-U Series				
		A03	A06	A10	A16	A25	A03	A06	A10	A16	A25
<b>FZP 039</b>	<b>2</b>	19	25	43	50	59	19	23	41	45	55
	<b>3</b>	34	37	53	62	74	31	34	48	52	66
	<b>4</b>	42	46	63	72	81	38	41	55	71	78
<b>FZP 136</b>	<b>1</b>	63	67	102	108	136	47	53	87	89	127
	<b>2</b>	95	100	122	123	159	81	95	113	115	138
	<b>3</b>	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 mm<sup>2</sup>/s (cSt) and a density of 0.86 kg/dm<sup>3</sup>.

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

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

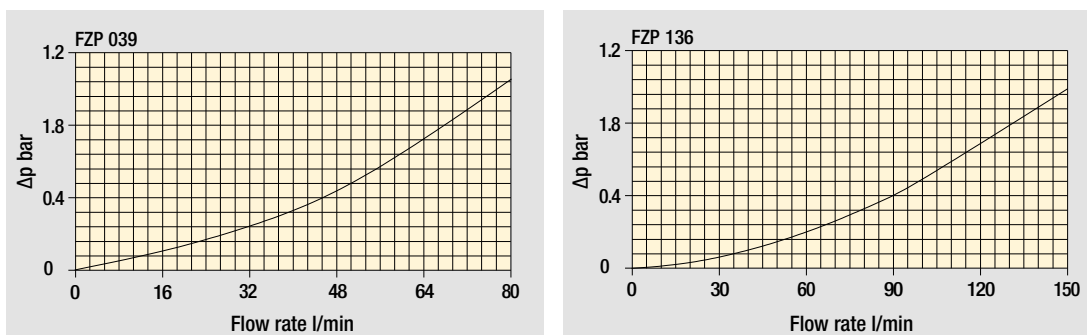
## Hydraulic symbols

Filter series	Style S	Style B	Style T	Style D	Style V	Style Z
<b>FZP 039</b>	•	•	•	•	•	•
<b>FZP 136</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

Configuration example: **FZP039** | **2** | **B** | **F** | **B** | **2** | **A03** | **U** | **P01**

**Series and size**  
**FZP039**

**Length**  
**2** | **3** | **4** |

**Valves**  
**S** Without bypass  
**B** With bypass 6 bar  
**T** With check valve, without bypass  
**D** With check valve, with bypass 6 bar  
**V** With reverse flow, without bypass  
**Z** With reverse flow, with bypass 6 bar

**Seals**  
**A** NBR  
**V** FPM  
**F** MFQ

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

**Connections for differential pressure indicators**  
**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
	S	B	T	D	V	Z	
<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	•	•	•	•	•	•	

### FILTER ELEMENT

Configuration example: **HP039** | **2** | **A03** | **F** | **U** | **P01**

**Element series and size**  
**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	Element Δp	Valves						Execution
		S	B	T	D	V	Z	
<b>A</b> NBR	<b>R</b> 20 bar	-	•	-	•	-	•	<b>P01</b> MP Filtri standard
<b>V</b> FPM	<b>S</b> 210 bar	•	-	•	-	•	-	<b>Pxx</b> Customized
<b>F</b> MFQ	<b>U</b> 210 bar, stainless steel filter element	•	•	•	•	•	•	

### CLOGGING INDICATORS

See page 728

**DEX** Electrical differential pressure indicator

**DLX** Electrical/visual differential pressure indicator

**DVX** Visual differential pressure indicator

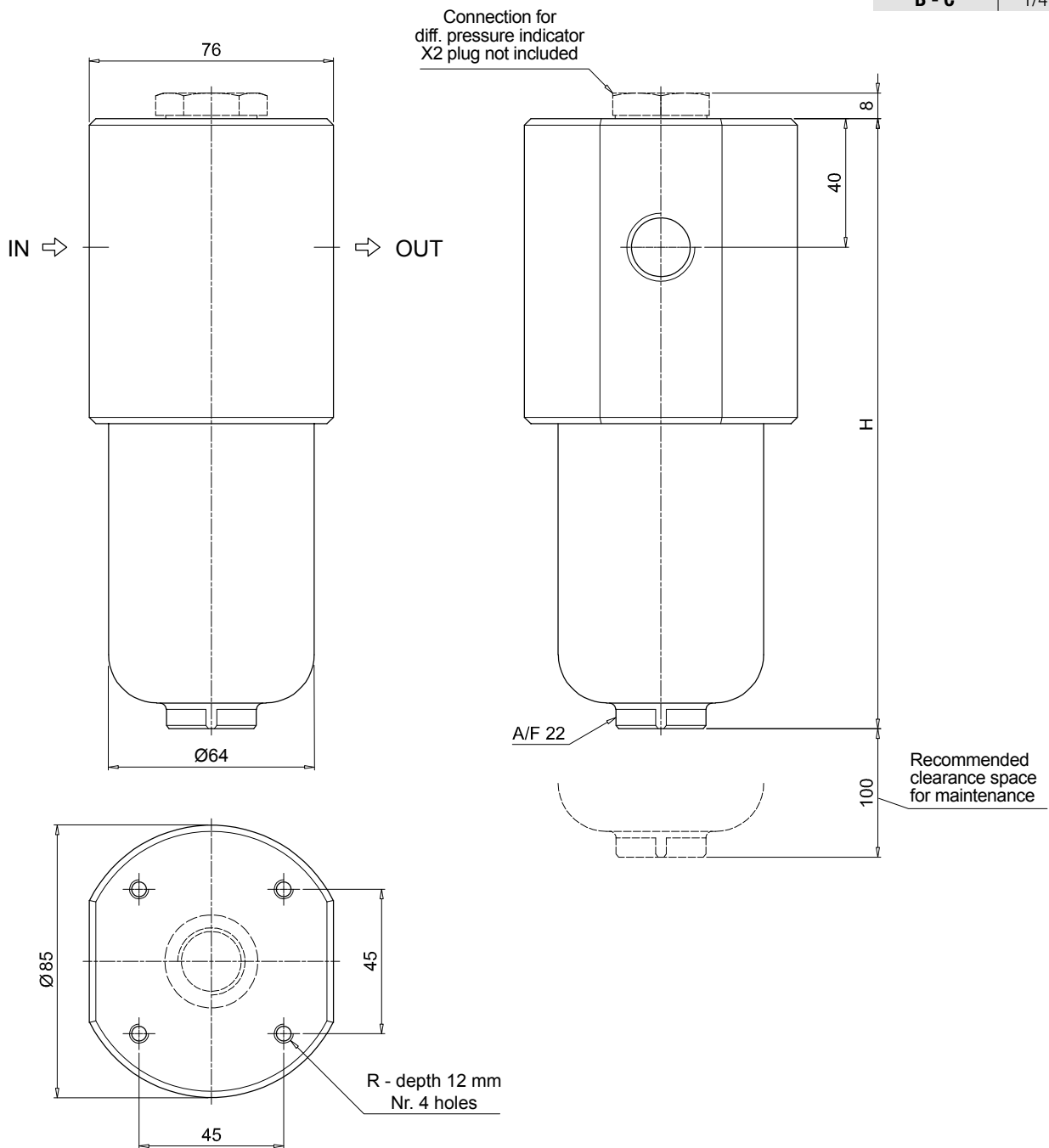
**DVY** Visual differential pressure indicator

### PLUGS

See page 747

**X2** Stainless steel plug (not included)

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



## Designation & Ordering code

### COMPLETE FILTER

Configuration example: **FZP136** | **1** | **B** | **A** | **B** | **6** | **A03** | **R** | **P01**

**Series and size**  
**FZP136**

**Length**  
**1** | **2** | **3**

**Bypass valve**  
**S** Without bypass  
**B** With bypass 6 bar

**Seals**  
**A** NBR  
**V** FPM  
**F** MFQ

**Connections**  
**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

**Connections for differential pressure indicators**  
**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		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	•	•	

### FILTER ELEMENT

Configuration example: **HP135** | **1** | **A03** | **A** | **R** | **P01**

**Element series and size**  
**HP135**

**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

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	•	•	

### CLOGGING INDICATORS

See page 728

**DEX** Electrical differential pressure indicator

**DLX** Electrical/visual differential pressure indicator

**DVX** Visual differential pressure indicator

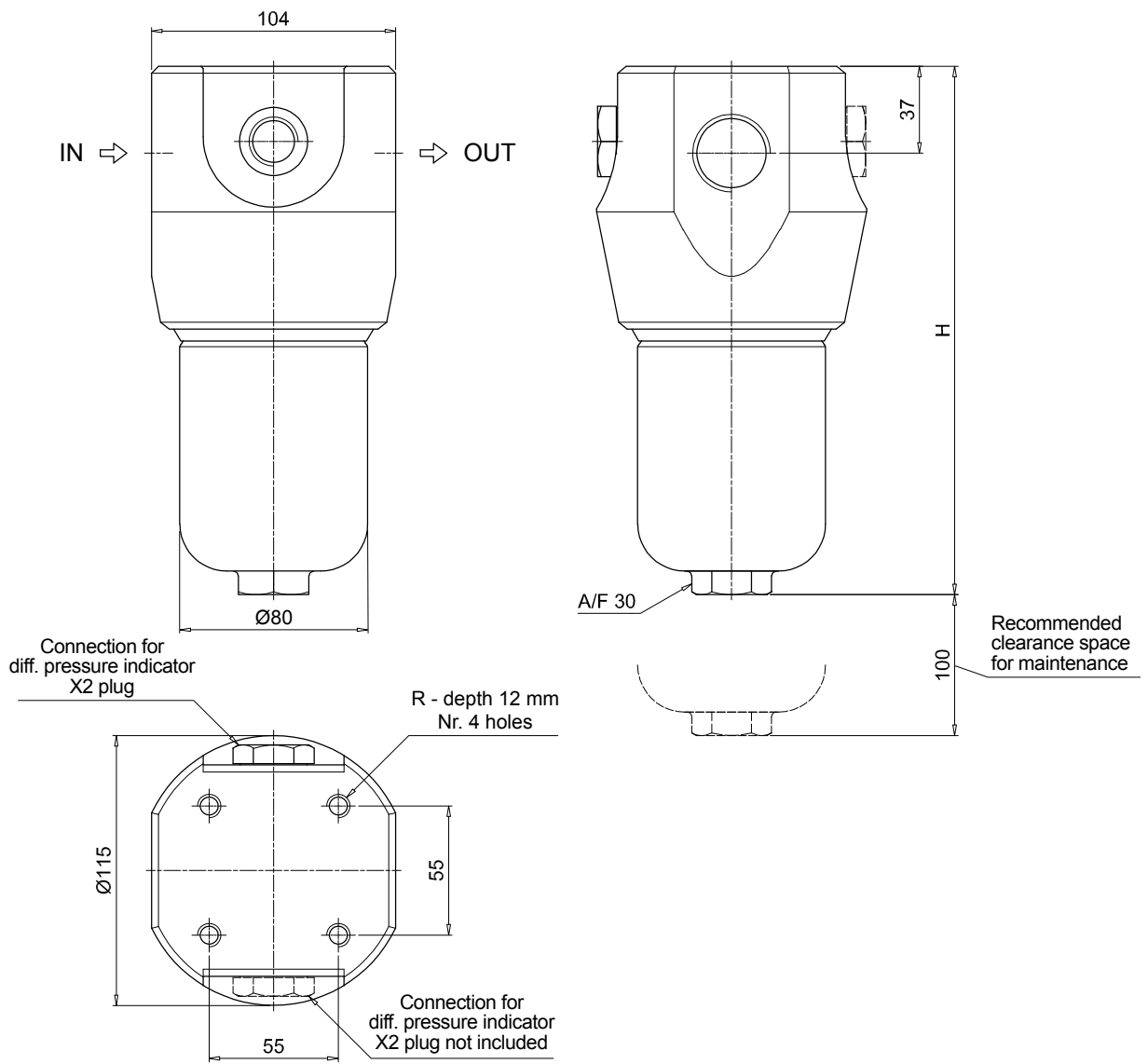
**DVY** Visual differential pressure indicator

### PLUGS

See page 747

**X2** Stainless steel plug (not included)

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



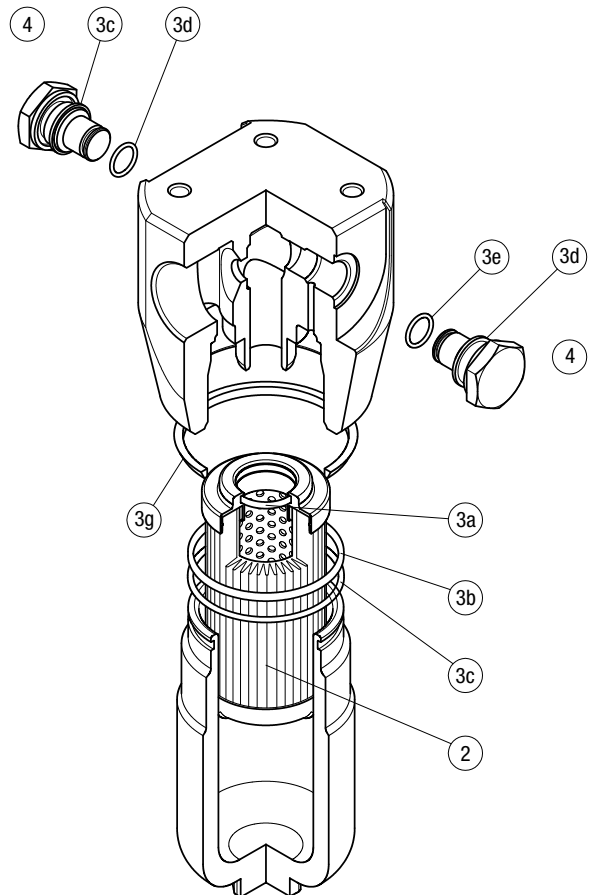
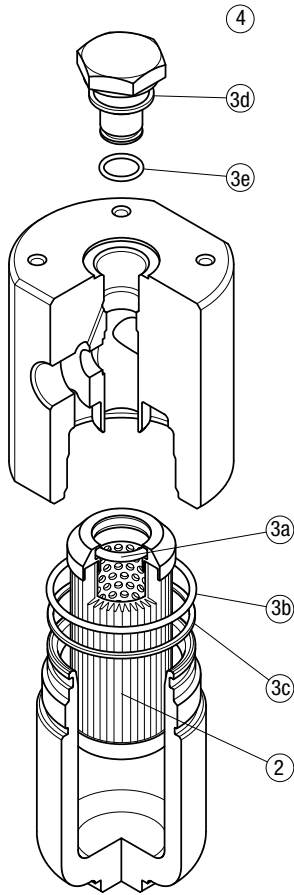
The position of the X2 plug is reversible

# 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.	
Filter series	Filter element	Seal Kit code number		Indicator connection plug	
FZP 039	See order table	NBR	FPM	NBR	FPM
		02050299	02050300	X2H	X2V
<b>FZP 136</b>		02050636	02050637		



# CLOGGING INDICATORS

## STAINLESS STEEL HIGH PRESSURE FILTERS

Designation & Ordering code

### DIFFERENTIAL PRESSURE INDICATORS

Series	Configuration example 1:						
<b>DE</b> Electrical differential pressure indicator	DE	Z	50	H	A	50	P01
<b>DL</b> Electrical / Visual differential pressure indicator	Configuration example 2:						
<b>DV</b> Visual differential pressure indicator	DL	X	70	V	A	52	P01
Type	DE	DL	DV				
<b>X</b> Stainless steel standard type 420 bar	•	•	•				
<b>Y</b> Stainless steel optional type 420 bar	-	-	•				
<b>Z</b> Stainless steel 700 bar (only for FZH)	•	•	•				
Pressure setting	DEX	DEZ	DL	DV			
<b>50</b> 5.0 bar	•	•	•	•			
<b>70</b> 7.0 bar	•	•	•	•			
<b>95</b> 9.5 bar	•	•	•	•			
Seals	DEX	DEZ	DL	DV			
<b>H</b> HNBR	•	•	•	•			
<b>V</b> FPM	-	-	•	•			
<b>F</b> MFQ	•	•	-	-			
Thermostat	DEX	DEZ	DL	DV			
<b>A</b> Without thermostat	•	•	•	-			
Electrical connections	DEX	DEZ	DL				
<b>50</b> Connection EN 175301-803	•	•	-				
<b>51</b> Connection EN 175301-803, transparent base with lamps 24 Vdc	-	-	•				
<b>52</b> Connection EN 175301-803, transparent base with lamps 110 Vdc	-	-	•				

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

### PLUGS

Series	Configuration example	
<b>X2</b> Stainless Steel plug 420 bar	X2	H
<b>X3</b> Stainless Steel plug 700 bar (only for FZH)		
Seals		
<b>H</b> HNBR		
<b>V</b> FPM		
<b>F</b> MFQ		