

TYPE 16F15

## Flanged direct acting pressure reducing valves with piston



The flanged, direct acting, pressure reducing valves, with piston, in the series F15 are suitable for reducing and controlling the pressure. They are made of ductile iron, with an epoxy coating suitable for drinking water. Reduces and stabilizes the high upstream pressure into a lower downstream pressure regardless of flow rate and upstream pressure fluctuations.

They are available in PN 10 – 16, PN 25, PN 40 and for 2 regulation ranges of the outlet pressure.  
Flanged version DN 50-150

YES: for water and compressed air

The pressure reducing valve is used to:

- > Supply a low pressure network from a high pressure network
- > Protect a delicate section of a plant or device
- > In sanitary networks, to keep the pressure level under a maximum value
- > In compressed air circuits, to keep the pressure constant, independently of any variation caused by compressors
- > Downstream of tanks or accumulation basins, to reduce and stabilize the pressure of the distribution network.

Design and testing standards (correspondences):

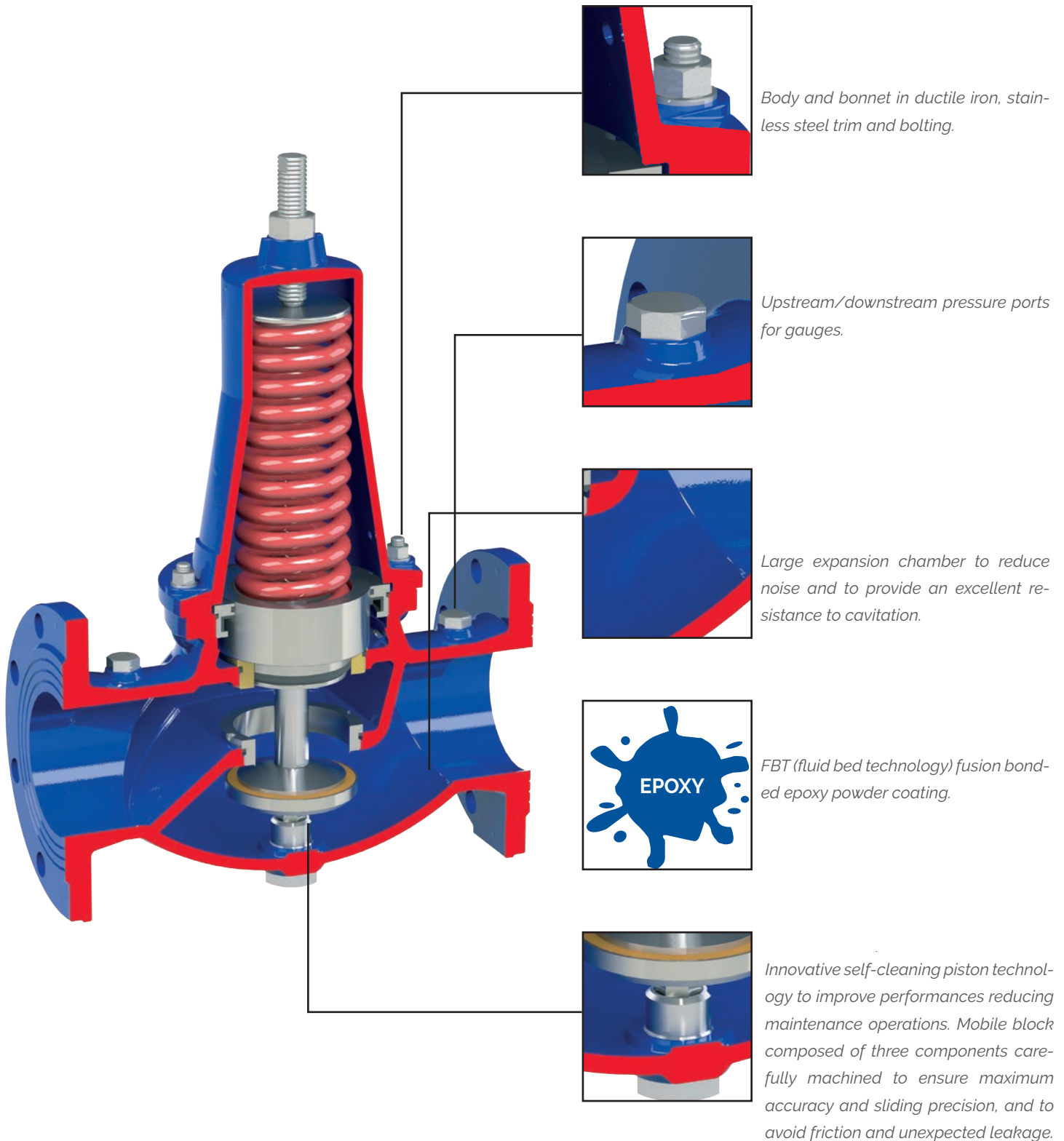
Face-to-face: EN 558-1/1 (ex DIN 3202 F1) ISO 5752

Flanges: EN 1092 ISO 7005

Testing: tested according to EN 1074

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Body and bonnet in ductile iron, stainless steel trim and bolting.

Upstream/downstream pressure ports for gauges.

Large expansion chamber to reduce noise and to provide an excellent resistance to cavitation.



FBT (fluid bed technology) fusion bonded epoxy powder coating.

Innovative self-cleaning piston technology to improve performances reducing maintenance operations. Mobile block composed of three components carefully machined to ensure maximum accuracy and sliding precision, and to avoid friction and unexpected leakage.

**Pressione regolabile 1,5 - 6 bar - Pressure regulation 1,5 - 6 bar**



**F15.100 - PN 10/16**

Body: ductile iron  
Seal: NBR  
Pressure regulation: 1,5 - 6 bar



**F15.100 - PN 25**

Body: ductile iron  
Seal: NBR  
Pressure regulation: 1,5 - 6 bar



**F15.100 - PN 40**

Body: ductile iron  
Seal: NBR  
Pressure regulation: 1,5 - 6 bar

**Pressione regolabile 5 - 12 bar - Pressure regulation 5 - 12 bar**



**F15.100 - PN 10/16**

Body: ductile iron  
Seal: NBR  
Pressure regulation: 5 - 12 bar



**F15.100 - PN 25**

Body: ductile iron  
Seal: NBR  
Pressure regulation: 5 - 12 bar

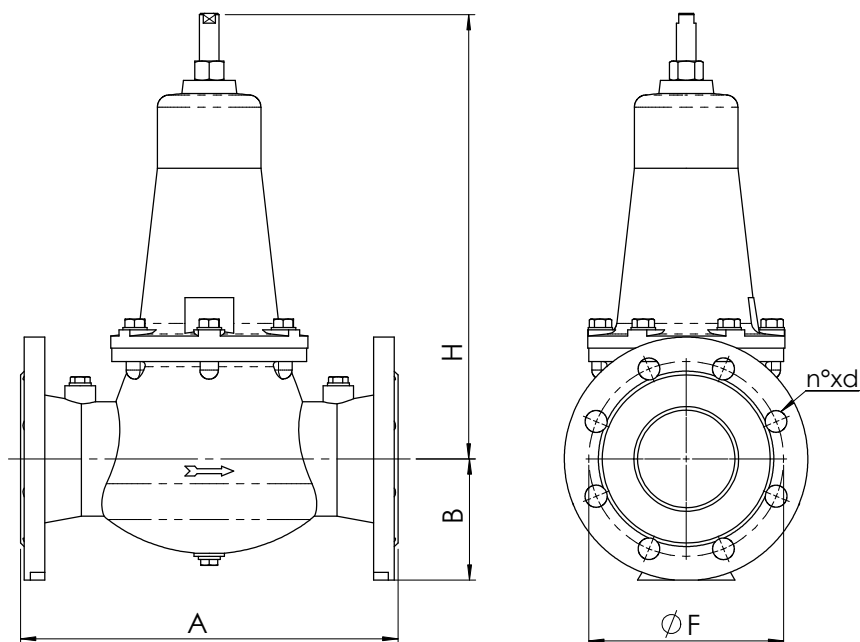


**F15.100 - PN 40**

Body: ductile iron  
Seal: NBR  
Pressure regulation: 5 - 12 bar

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## Dimensioni (mm) / Dimensions (mm)

DN		50		65		80		100		125		150	
		PN10/16/25/40	PN10/16/25/40	PN10/16/25/40	PN10/16/25/40	PN10/16/25/40	PN10/16/25/40	PN10/16/25/40	PN10/16/25/40	PN10/16/25/40	PN10/16/25/40	PN10/16/25/40	
A	EN 558-1/1	230	290	310	350	400	450						
H		280	320	350	420	590	690						
B		83	93	100	117	135	150						
F		145	160	160	180	190	210	220	240	250			
n x d	EN 1092	4 x 18	4 x 18   8 x 18	8 x 18	8 x 18	8 x 22	8 x 18	8 x 26	8 x 22	8 x 26			

## Peso (kg) / Weight (kg)

kg		12	19	24	34	56	74
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## Materiali / Materials

	Componente - Component	Materiale - Material
1	Corpo e cappello - Body and bonnet	Ghisa sferoidale GJS 450-10 EN 1563
2	Molla - Spring	Acciaio 55SiCr6 - Steel 55SiCr6
3	Pistone - Piston	Acciaio inox AISI 303 - Stainless steel AISI 303
4	Sede otturatore - Shutter seat	Acciaio inox AISI 304 - Stainless steel AISI 304
5	Otturatore - Shutter	Acciaio inox AISI 303 - Stainless steel AISI 303
6	Guarnizione - Seal	NBR
7	O ring - O-ring	NBR
8	Bulloneria - Nuts and bolts	Acciaio inox AISI 304 - Stainless steel AISI 304

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## Pressione / Pressure

Pressione - Pressure	Massima - Maximum
F15.100 PN10-16	16 bar
F15.100 PN25	25 bar
F15.100 PN40	40 bar

## Temperature / Temperature

Temperatura - Temperature	min °C	max° C (continuo) - Max° C (continuous)
	0	70

### Pressione regolabile a valle

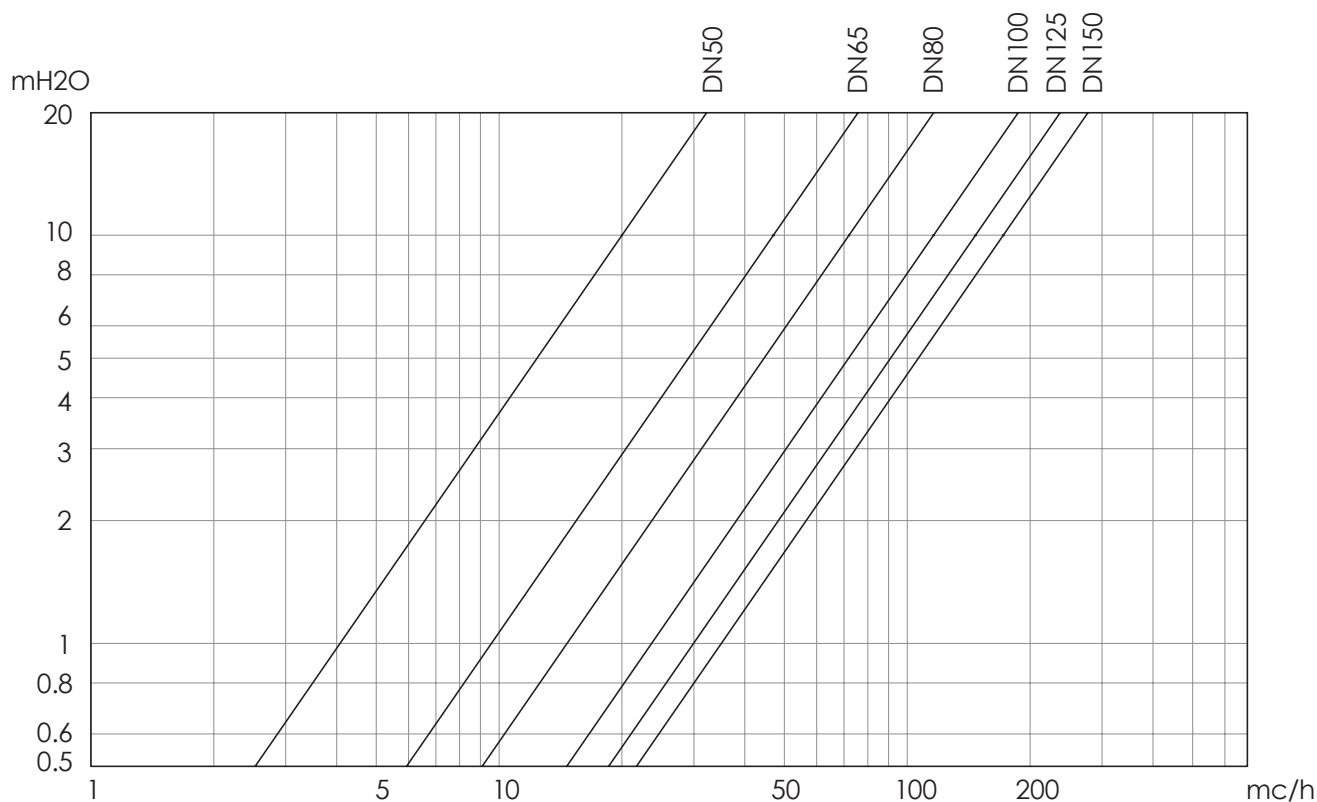
- ➔ da 1,5 a 6 bar (molla blu)
  - ➔ da 5 a 12 bar (molla rossa)
- Avvertenza: non superare il rapporto di riduzione 5:1

### Pressure regulation downstream

- ➔ From 1,5 to 6 bar (blue spring)
  - ➔ From 5 to 12 bar (red spring)
- NB: Do not exceed a pressure reducing ratio of 5:1

## Perdite di carico **Fluid: acqua** (1m H<sub>2</sub>O = 0,098bar)

### Head loss **Fluid: water** (1m H<sub>2</sub>O = 0,098bar)



## Tabella Kv - DN / Kv - DN chart

DN	50	65	80	100	125	600
Kv	20	47	72	116	147	172

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## STORING

Keep in a closed and dry place.

## CORRECT CHOICE OF THE PRESSURE REDUCER

In order to optimize operation working, and reduce noise and head losses, the pressure reducer must be chosen in accordance with the flow and not the nominal diameter of the piping. Choose the pressure reducer, in order not to exceed the maximum flow rate indication in the chart.

DN	PORTATA MASSIMA - MAXIMUM FLOW RATE	
	l/s	m <sup>3</sup> /h
50	3,9	14,0
65	7,0	25,2
80	10,1	36,4
100	16,4	59,0
125	25,7	92,5
150	38,0	136,8

This value may be exceeded, but it causes losses in the precision of the regulation, increases in head losses and noise.

## RECOMMENDATIONS

Before carrying out maintenance or dismantling:

- ensure that the pipes, valves and fluids have cooled down,
- that the pressure has decreased and that the lines and pipes have been drained in case of toxic, corrosive, inflammable and caustic liquids. Temperatures above 50°C and below 0°C might cause damage to people.

## INSTALLATION

- Install the pressure reducing valves in series F15 in a horizontal position, for the best working situation, in order to reduce wear of the internal parts; if necessary, it is possible to install the pressure reducing valve in a vertical position.
- Before installing the valve, ensure that the piping is cleaned thoroughly in order to avoid damage to the internal parts of the valve caused by residues and stones.
- Ensure that the size of the sump is sufficient, and that there is easy access to allow maintenance, cleaning operations and checking the gauge connection; the sump must be equipped with a drain for the filter cleaning work.
- Respect the flow direction indicated by the arrow on the body.
- Install the pressure reducing valve between 2 shut-off valves, V, in order to allow maintenance work, and install a filter upstream of the pressure reducing valve. Place a relief valve upstream of the pressure reducing valve, if the piping goes upwards or is placed horizontally, or place it downstream, if the piping goes downwards.
- Include a safety valve, S, downstream.

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## SETTING

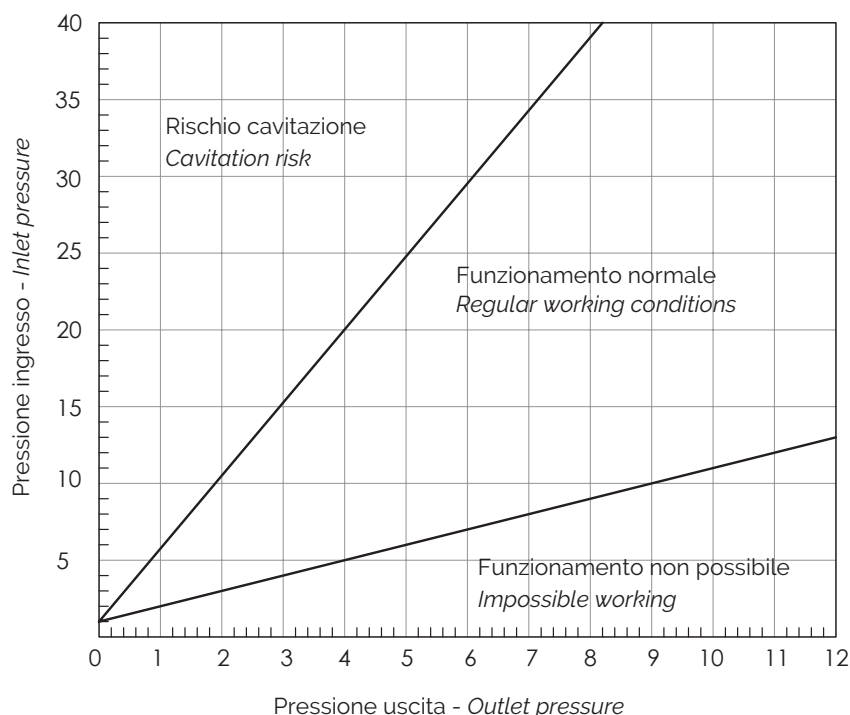
NB: Do not exceed a pressure reducing ratio of 5:1.

The setting has to be done under static conditions (flow = 0)

- By turning the screw clockwise, the downstream pressure will increase, by turning it anticlockwise, the downstream pressure will decrease.

- Considering the pressure value downstream  $P_v$ , under working conditions (flow different from 0 value), the pressure reducing valve must be set at static pressure  $P_o = P_v + DP$  (head loss). Head loss  $DP$  can be considered to be 0.5 bar plus 5% of the value of the downstream pressure setting.

The admissible working conditions are shown in the following chart.



## DISPOSAL

For valve operating with hazardous media (toxic, corrosive...), if there is a possibility of residue remaining in the valve, take due safety precaution and carry out required cleaning operation. Personnel in charge must be trained and equipped with appropriate protection devices.

Prior to disposal, disassemble the valve and separate the component according to various materials. Please refer to product literature for more information. Forward sorted material to recycling (e.g. metallic materials) or disposal, according to local and currently valid legislation and under consideration of the environment.