



Balanced diaphragm operated  
pressure reducing valve.

EXTENDED HYDRAULIC  
CHARACTERISTICS  
REENFORCED  
ANTISCALING DEVICE



## Description

- **Performance:**
  - Reduces automatically a higher upstream pressure giving a stabilized constant downstream pressure, regardless of variations of upstream pressure and flow rate.
  - No friction during operation or any risk of blocking (guided piston).
  - Lower stem with antiscaling coating.
  - Watertight at zero flow rate, with only 1 bar excess pressure over the set point.
- **Construction:**
  - Ductile iron body and bonnet.
  - Stainless steel seat.
  - Powder epoxy coating.
  - Stainless steel screws and bolts.
- **Easy to operate and maintain:**
  - Maintenance-free device.
  - Supplied with multifunction calibration key.
  - Removable seat.
  - Internal mechanism which can be accessed from the top without dismantling the body.
  - Mounting possible in all the positions.
- Face-to-face dimension according to standard ISO 5752 series 1.

## Applications

- Drinking water networks
- Domestic water networks
- Irrigation networks

## Tests

- Fully tested manufacturing according to standard ISO 5208-2.

## Technical Data

- **Range:**
  - DN 40 to 200 - PN 16
  - DN 50 to 150 - PN 25
- **Temperature limits:** +1°C to +65°C.
- **Flanges drilling according to standards EN 1092-2 and ISO 7005-2 :**
  - PN 16 valve: ISO PN 16 (DN 200 ISO PN 10 or 16)
  - PN 25 valve: ISO PN 25
- **Adjustable downstream pressure:**
  - Spring A (blue) 1.5 to 6 bar,
  - Spring B (red) 5 to 12 bar. } Please specify at time of ordering.
  - Other pressure ranges, please consult us.

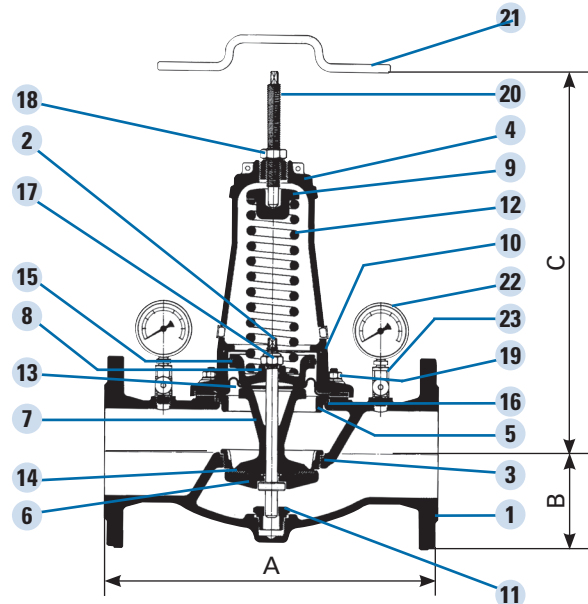
## Operation principle

Balanced main valve assembly which means the device is insensitive to the upstream pressure variations. The effect of the downstream pressure under the main valve is compensated by the calibration spring.

When the downstream pressure drops below the set pressure, the

force exerted by the spring becomes predominant and pushes the mobile unit downwards increasing the opening and maintaining a constant downstream pressure.

Conversely, if the downstream pressure increases, the mobile unit rises reducing the opening, thus limiting the flow and maintaining a constant downstream pressure.



Item	Designation	Qty	Materials	Standards
1	Body	1	Ductile iron/EN-GJS-450-10	EN 1563
2	Stem with antiscaling coating	1	Stainless steel/X8CrNiS 18-9	EN 10088
3	Seat	1	Stainless steel/X2CrNi 18-9	EN 10088
4	Bonnet	1	Ductile iron/EN-GJS-450-10	EN 1563
5	Lower cylinder	1	Cast iron/EN-GJL-250	EN 1561
6	Valve disc holder	1	Cast iron/EN-GJL-250	EN 1561
7	Valve stirrup	1	Cast iron/EN-GJL-250	EN 1561
8	Upper diaphragm holder	1	Cast iron/EN-GJL-250	EN 1561
9	Base plate	1	Cast iron/EN-GJL-250	EN 1561
10	Cylinder	1	Stainless steel/X2CrNi18-9	EN 10088
11	Stem guide	1	Copper-aluminium/CuAl9Ni3Fe2	EN 1982
12	Spring	1	Coated steel	DIN 17223
13	Diaphragm	1	Textile reinforced elastomer	
14	Resilient valve disc	1	PUR	
15	Piston guide ring	1	PEHD	
16	O-ring lower cylinder	1	EPDM	
17	Locking nut	1	Stainless steel A2	EN ISO 3506
18	Nut	1	Stainless steel A2	EN ISO 3506
19	Bonnet mounting screw	s/DN	Stainless steel A2	EN ISO 3506
20	Calibration screw	1	Stainless steel 420/X20Cr13	EN 10088
21	Calibration key	1	Steel/S235JR	EN 10025
22	Pressure gauge*	2	Steel 304/X5CrNi 18-10	EN 10088
23	Pressure gauge isolating cocks	2	Nickel plated brass	

\* in option

DN	A mm	B mm	C mm	Weight kg	Alternatives
50	230	86	430	18	40/50 drilling, on PN 16 valve
65	290	100	420	22	60/65 drilling, on PN 16 valve
80	310	112	450	25	4/8 holes drilling on PN 16 valve
100	350	112	450	31	
125	400	145	550	60	
150	480	145	550	66	
200	600	185	940	120	ISO PN 10 or 16 drilling not available in PN 25

## Valve sizing

The valve diameter must be selected according to the maximum flow rate and to its conditions of use and not according to the pipeline diameter.

See maximum flow rate on table opposite.

## Performances

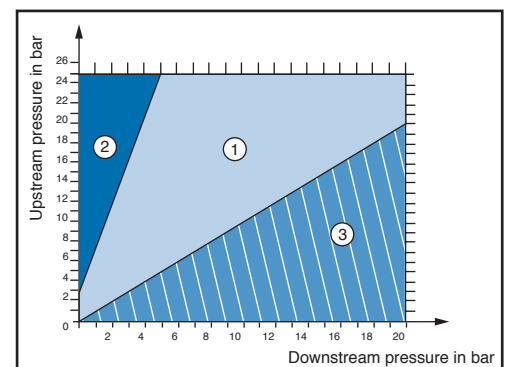
Accuracy of setting: 0.4 bar + 5% of set value (PAR).

DN	50	65	80	100	125	150	200
Kv in m <sup>3</sup> /h	25.0	31.0	72.0	101.0	175.0	216.0	437.0
Kv in l/s	6.9	8.6	20.0	28.1	48.6	60.0	121.4
<b>Optimal use, 2 possible cases</b>							
<b>Case 1, Upst. press. - Down. press. &lt; 3 bar</b> V=2 m/s, Q in l/s	4.0	6.6	10.1	15.7	24.5	35.3	62.8
<b>Case 2, Upst. press. - Down. press. &gt; 3 bar</b> V=3 m/s, Q in l/s	5.9	10.0	15.0	23.6	36.8	53.0	94.1
<b>Exceptional flowrate (fire security use)</b> V=4 m/s*, Q in l/s	7.9	13.3	20.0	31.4	49.1	70.7	125.7

\* At that speed, regulation accuracy is no more guaranteed.

## Cavitation diagram

This diagram allows verification of safe operating conditions.



Area 1: Normal working conditions  
Area 2: Cavitation area  
Area 3: Not applicable