inta

- Easy to service high temperature cartridge
- Large PRVs feature a dial up head
- AISI 304 stainless steel cartridge
- Supplied with a pressure gauge
- Conforms to BS EN 1567
- Controls both static and dynamic pressure
- Designed for both domestic and commercial use
- WRAS Approved

WRAS APPROVED PRODUCT

Product Range

Code	*Description*
PRV22330500G.1	1/2" Female Pressure Reducing Valve with Gauge
PRV223307500G.1	3/4" Female Pressure Reducing Valve with Gauge
PRV22331510.1	15mm Compression Pressure Reducing Valve with Gauge
PRV22332210.1	22mm Compression Pressure Reducing Valve with Gauge
PRV22332810.1	28mm Compression Dial Up Pressure Reducing Valve with Gauge
PRV22333510.1	35mm Compression Dial Up Pressure Reducing Valve with Gauge
PRV22334210.1	42mm Compression Dial Up Pressure Reducing Valve with Gauge
PRV22335410.1	54mm Compression Dial Up Pressure Reducing Valve with Gauge
PRV223310000G.1	1" Screwed Iron Dial Up Pressure Reducing Valve
PRV223312500G.1	1 1/4" Screwed Iron Dial Up Pressure Reducing Valve
PRV223315000G.1	1 1/2" Screwed Iron Dial Up Pressure Reducing Valve
PRV223320000G.1	2" Screwed Iron Dial Up Pressure Reducing Valve

Technical Features

Maximum Inlet Pressure (Cold 40°C Static):	25 Bar
Maximum Inlet Pressure (Hot 80°C Static):	16 Bar
Adjustable Pressure Range:	0.8 - 7 Bar
Minimum Inlet Pressure:	0.5 Bar
Factory Set Pressure:	3 Bar
Maximum Inlet Temperature:	80°C
Medium:	Water

Materials

Body:	DZR Brass (CR) CW602N
Metal Internal Components:	DZR Brass (CR) CW602N
Internal Cartridge:	POM
Filter:	AISI 302
Rod:	DZR Brass (CR) CW602N
Seals:	Elastomer
External Plastic Parts:	Nylon 6 with 30% Fibreglass

The internal filter of the pressure reducing valve can be removed for servicing / maintenance or replacement.

Once the water to the pressure reducing valve has been isolated, the grey cap can be removed using a suitably sized spanner. The internal components can then be removed for servicing / maintenance.

1. Cap
2. Diaphragm
3. Internal cartridge
4. Filter
5. Reducer body

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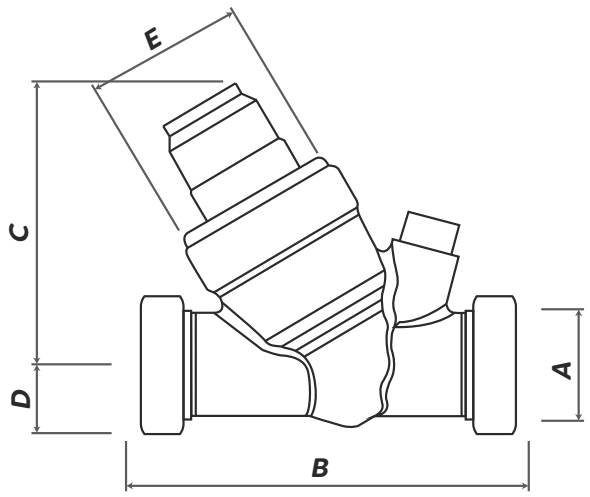
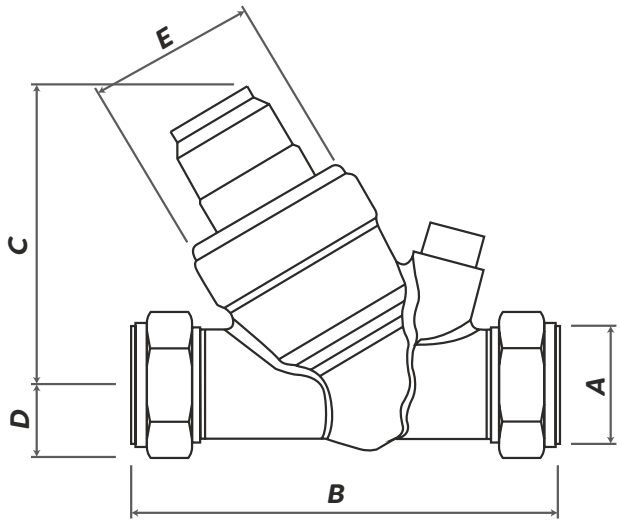
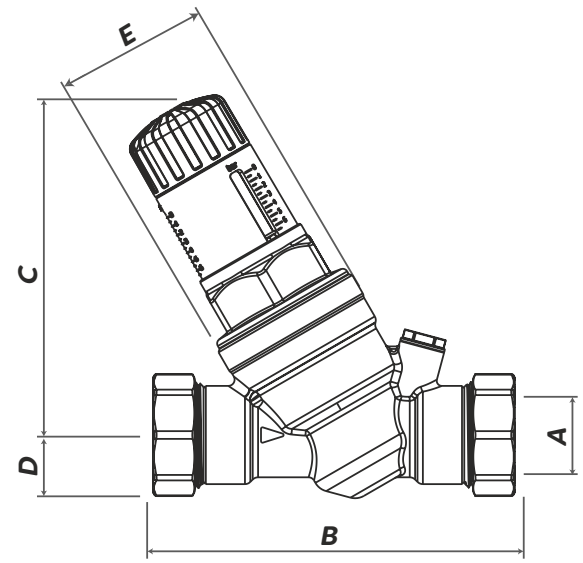


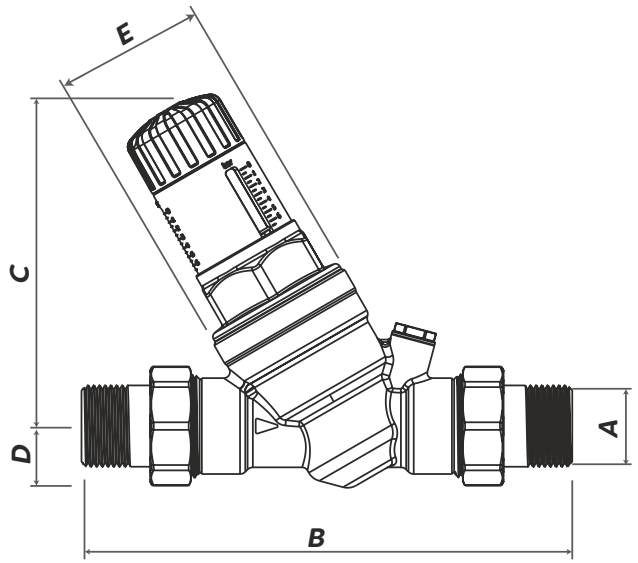
A	B	C	D	E
1/2"	75	76	18	46
3/4"	78	77	16	46



A	B	C	D	E
15	103	75	19	46
22	107	77	19	46



A	B	C	D	E
28	131	134	25	61
35	138	137	28	61
42	148	142	30	61
54	155	146	38	61



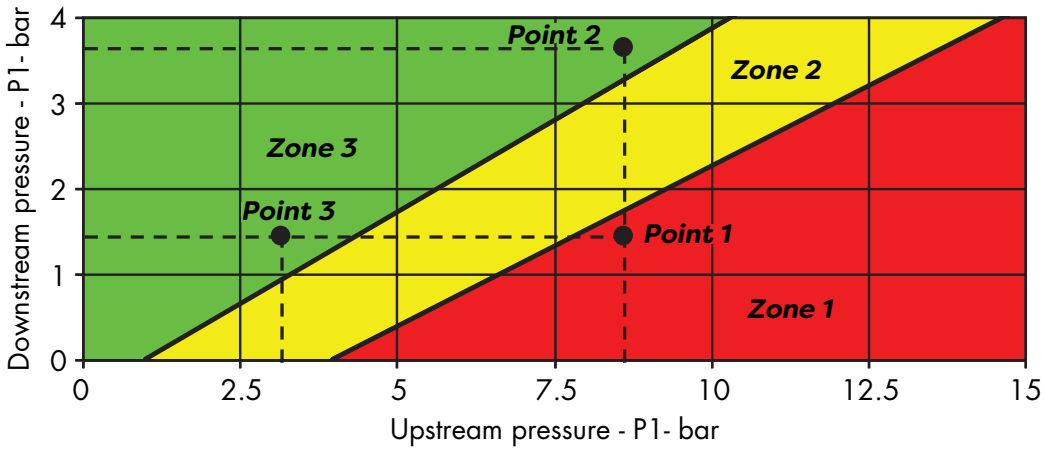
A	B	C	D	E
1"	199	134	24	61
1 1/4"	217	138	30	61
1 1/2"	236	144	37	61
2"	269	146	47	61

Cavitation Digram

In order to prevent cavitation, which can cause excessive noise, vibration and damage to the valve and downstream pipe, in certain pressure situations with high inlet pressures and low outlet pressures (high pressure loss) then a number of pressure reducing valves may be required.

The cavitation diagram shows three areas of operation depending upon the upstream and downstream (outlet) pressures.

Cavitation Diagram*



- ***ZONE 1: Damage and Noise -*** The characteristics of cavitation are clearly audible and visible inside the pressure reducing valve and pipework. The valve should not be used under these conditions.
- ***ZONE 2: Critical Zone -*** Highlights the possibility of cavitation of occurring inside the pressure reducing valve or pipework. Using the valve under these conditions should be avoided and is not recommended.
- ***ZONE 3: Operating Zone -*** The pressure reducing valve works under its optimum conditions. The valve can safely be used under these conditions.

In order to avoid cavitation occurring the ratio between the maximum upstream pressure and the outlet pressure should not exceed a value of 2.5.

* ***NOTE:*** The cavitation diagram has the sole purpose of supplying the technician with a quick reference for the system conditions to determine if cavitation will be present and the likely level.

Example

If the pressure reducing valve is used under the following conditions;

- Upstream pressure: Pm = 8.5 bar
- Outlet pressure: Pv = 1.5 bar

On the Cavitation Diagram these pressures correspond to POINT 1 in ZONE 1. Ratio Pm/Pv = 8.5/1.5 = 5.67.

Solution

Use 2 pressure reducing valves in series. First valve using the following conditions;

- Upstream pressure: Pm = 8.5 bar
- Outlet pressure: Pv = 3.5 bar

Pressure ration 8.5/3.5 = 2.42 < 2.5
On the Cavitation Diagram these pressures correspond to POINT 2 in ZONE 3.

Second valve using the following conditions;

- Upstream pressure: Pm = 3.5 bar
- Outlet pressure: Pv = 1.5 bar

Pressure ration 3.5/1.5 = 2.33 < 2.5 On the Cavitation Diagram these pressures correspond to POINT 3 in ZONE 3.

* ***NOTE:*** The outlet pressure of the pressure reducing valve MUST NEVER be higher than the maximum pressure of components and outlets downstream of the valve.

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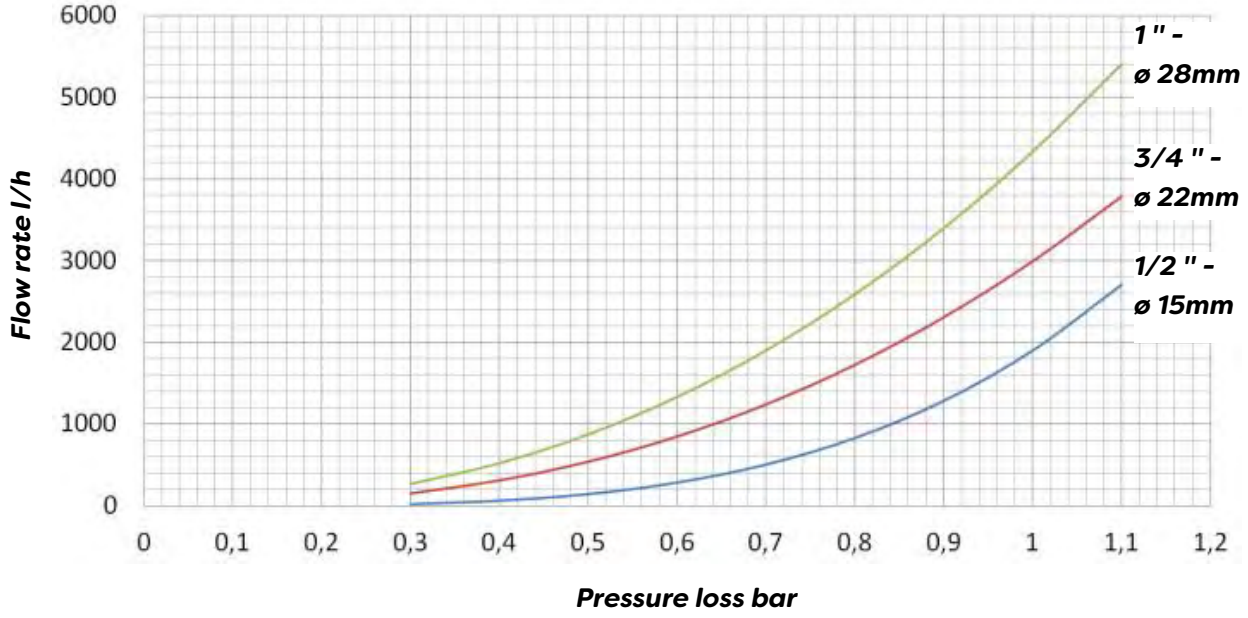
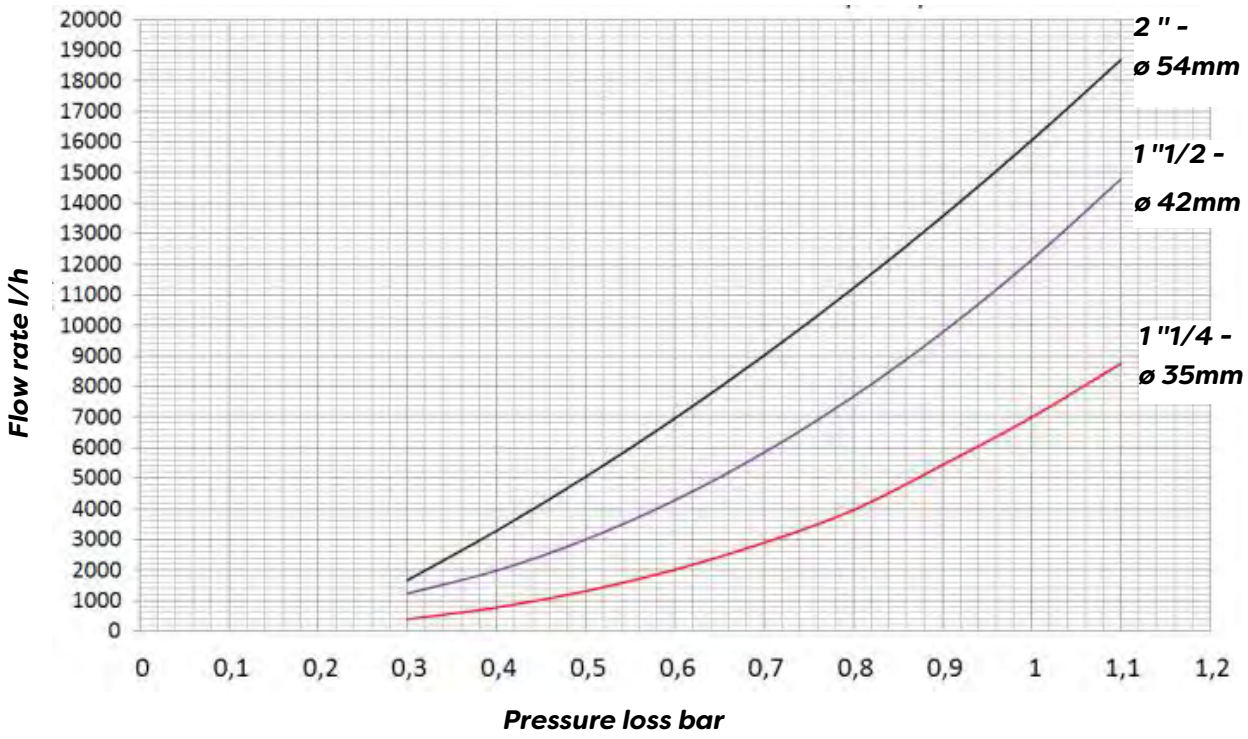

6000
5000
4000
3000
2000
1000
0
Flow rate l/h
0
0,1
0,2
0,3
0,4
0,5
0,6
0,7
0,8
0,9
1
1,1
1,2
Pressure loss bar
1 " -
ø 28mm
3/4 " -
ø 22mm
1/2 " -
ø 15mm


20000
19000
18000
17000
16000
15000
14000
13000
12000
11000
10000
9000
8000
7000
6000
5000
4000
3000
2000
1000
0
Flow rate l/h
0
0,1
0,2
0,3
0,4
0,5
0,6
0,7
0,8
0,9
1
1,1
1,2
Pressure loss bar
2 " -
ø 54mm
1 "1/2 -
ø 42mm
1 "1/4 -
ø 35mm

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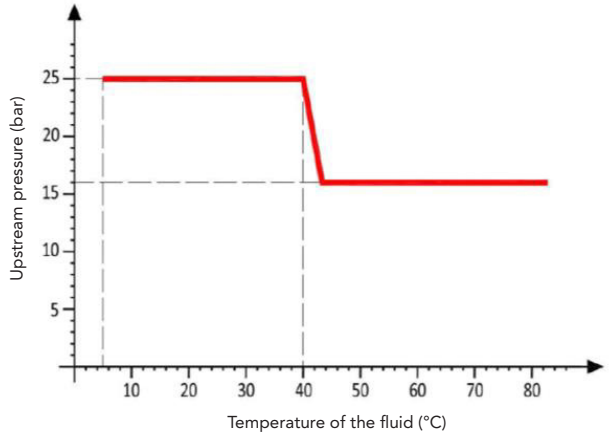
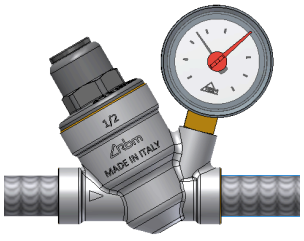
Maximum upstream pressure related to the temperature

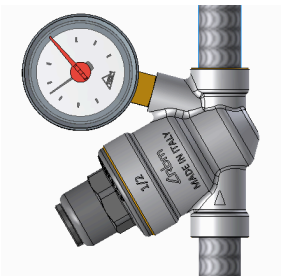


The smaller PRVs feature an allan key adjuster, turning the adjuster clockwise will increase the pressure and turning the adjuster anti-clockwise will reduce the pressure.
Larger PRVs feature a dial up adjuster with a pressure indicator to help set the valve.

The pressure reducing valves can be installed vertically or horizontally as long as the flow of water is always in the same direction as the flow arrow on the body of the valve.

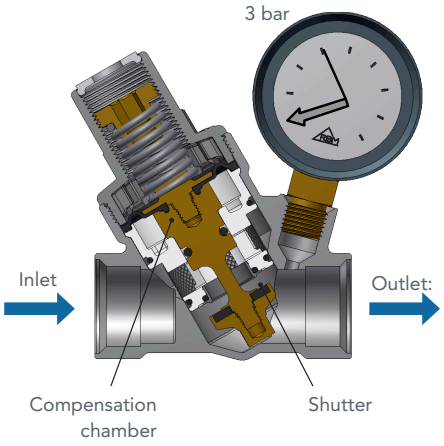


OK



OK

The pressure reducing valves control static and dynamic pressure. When all outlets are closed the differential pressure inside the chamber closes the shutter preventing pressure creep. When the outlets are open, the flow of water opens the shutter.



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