

PRESSURE REDUCING VALVE – PISTON TYPE

PURPOSE

The main purpose of this device is setting at user's will the installation's pressure at own valve's outlet. It benefits that all devices and equipment installed after the valve (downstream) work with a constant pressure, avoiding ram effects and optimizing the useful life of all of them.

APPLICATIONS

The most common applications are: plumbing in general, heating, water and fluid networks in general that aren't corrosive. All fluids should be free of lime and solid particles. This pressure regulating valve is a special device to achieve the desired outlet pressure setting. Outlet pressure can be set using the adjusting nut (6). It's widely used in high buildings, municipal water supply networks, mines, underground garages, etc. to guarantee all the water consuming at different position in the supply system can obtain the desired water pressure.

MAXIMUM WORKING TEMPERATURE

Due to materials' quality used for manufacturing this valve, working temperature's range is from 0 °C to maximum 80°C. However, to extend useful life of the valve it's suggested that the valve usual working temperature's range doesn't exceeds from 50 °C.

WORKING PRESSURE RANGE

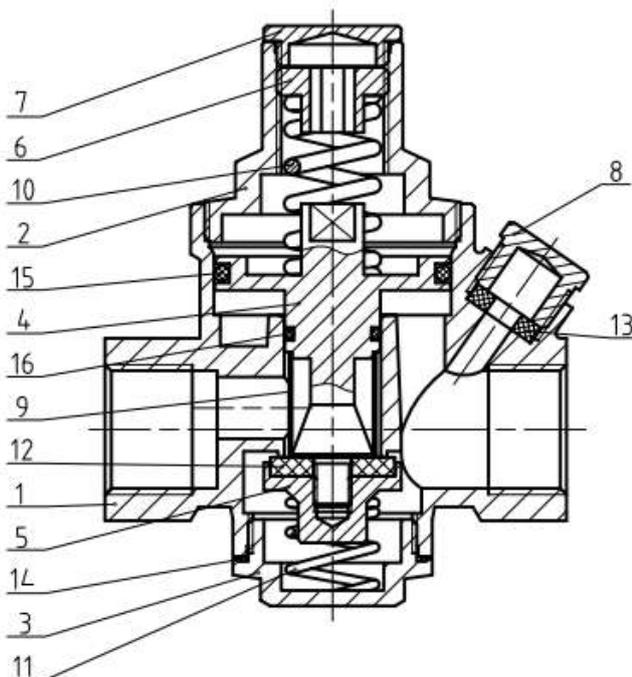
Inlet maximum nominal pressure is 16 bar.

Outlet pressure can be set from 2 bar to 8 bar. It's recommended not to exceed outlet maximum pressure of 8 bar so as not damage internal parts of the valve.

This valve is supplied with setting outlet pressure 3 bar. When inlet pressure is 10 bar or above, outlet pressure is 3 bar with a tolerance of ± 1 bar. When inlet pressure is less than 10 bar, outlet pressure is in accordance with inlet pressure because it's a reducing valve not a multiplier.

MATERIALS

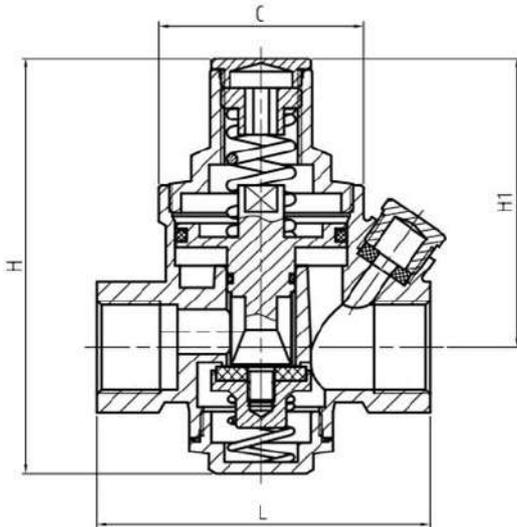
Materials used for manufacturing pressure reducing valves are the following ones:



- | | |
|---------------------------------|-------------------|
| 1. Body | brass |
| 2. Bonnet | brass |
| 3. Bottom Cap | brass |
| 4. Valve Core or Piston | brass |
| 5. Inner Cap..... | brass |
| 6. Adjusting Nut | brass |
| 7. Bonner Cover | brass |
| 8. Pressure Gauge Cap | brass |
| 9. Filter | AISI 304 |
| 10. Bonnet Spring | Zinc plated steel |
| 11. Bottom Spring | AISI304 |
| 12. Inner Gasket | NBR |
| 13. Pressure Gauge Gasket | NBR |
| 14. Bottom Gasket | PTFE (teflon) |
| 15. Top O-ring | NBR |
| 16. Bottom O-ring | NBR |

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AVAILABLE SIZES



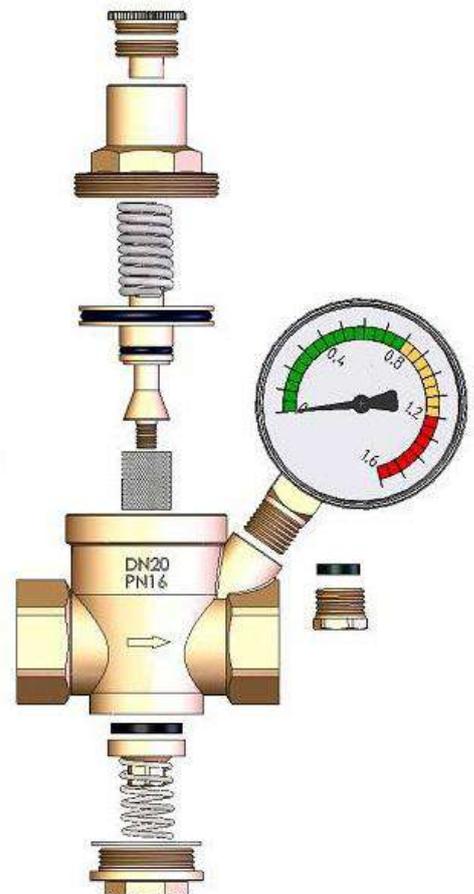
| CODE | THREAD | L | H | H1 | C | SIEVE |
|------------|--------|-------|-------|------|------|-------|
| 5850120000 | 1/2" | 67,0 | 90,0 | 61,0 | 41,5 | 18 |
| 5850340000 | 3/4" | 70,0 | 91,0 | 61,0 | 41,5 | 18 |
| 5850100000 | 1" | 75,0 | 96,0 | 64, | 45,0 | 18 |
| 5850114000 | 1"1/4 | 82,5 | 106,0 | 72,0 | 49,0 | 18 |
| 5850112000 | 1"1/2 | 96,0 | 137,0 | 94,0 | 61,0 | 18 |
| 5850200000 | 2" | 105,0 | 145,0 | 98,5 | 67,0 | 18 |

Sieve sizes correspond to holes per square inch

Components' detailed view of pressure reducing valve.

Pressure reducing valve includes a 1/4" threaded outlet ready for assembling a pressure gauge, if necessary. Ensure that pressure gauge range is the suitable for the desired pressure range.

It's not supplied with the pressure gauge. In case necessary that pressure reducing valve is supplied with a pressure gauge, it should be expressly stated, detailing desired pressure range.



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INSTALLATION

This pressure reducing valve must be installed, set and tested by a qualified plumber. During assembling, suitable tools must be used so as not to damage the valve or its connections. For a correct operation, flow direction marked in the body of the pressure reducing valve must be respected. It's suggested to clear out to all the installation before assembling this valve.

Ensure that there is no leakage between pressure reducing valve and its connections to the pipe. Check that connections to the pipe are free of tensions, such as traction, torsion or bending.

Choose the optimum size of the pressure reducing valve, according to the size of the installation pipe, its flow rate and desired working pressure.

Ensure that the fluid to set is compatible with materials, features and working temperature of this valve.

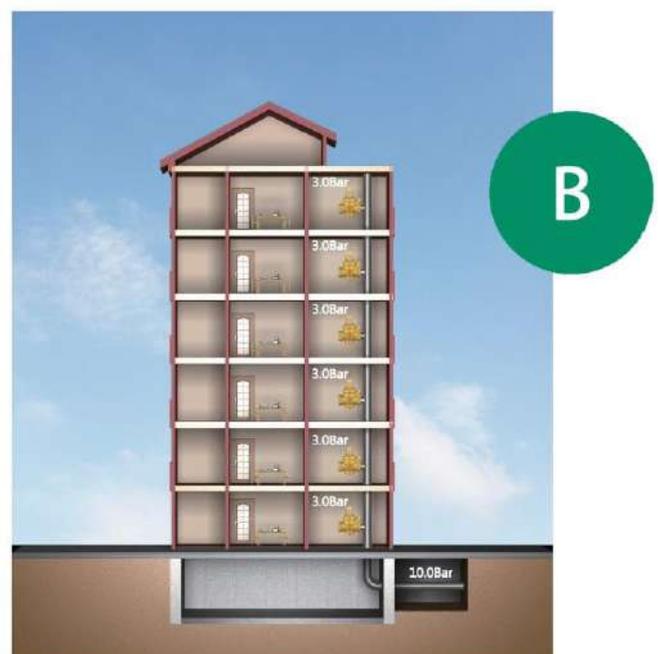
To set outlet pressure, first remove bonnet cover (7) and use a special tool to adjust the adjusting nut (6) to get the requested outlet pressure. Screwing on (clockwise) adjusting nut, outlet pressure increases. Unscrewing (anti-clockwise) the adjusting nut, outlet pressure decreases.

It's advisable to realize regular maintenance to make sure that internal filter is normally working and it's not clogged.

Installation samples of the pressure reducing valves:



For buildings with equal or less than 5 floors, pressure reducing valve can be installed in the main inlet pipeline. This produces a pressure differential in each floor. As example, if the height between each floor is 3m, every each floor higher, the pressure reduces 0,3 bar.



For buildings with more than 5 floors, pressure reducing valves must be installed in each home or floor to make sure that all the floors have the same inlet pressure. In this case, it's also advisable to install a bigger pressure reducing valve in the main inlet pipeline of the building.

NOTE: These two examples are not a manual regarding to the pressure reducing valves distribution.