

BOSS™



OVER
100 YEARS
OF QUALITY

BOSS™ FIG 216 PRESSURE REDUCING VALVES WITH DIAPHRAGM, INCORPORATED FILTER AND ADJUSTMENT HANDWHEEL

PRODUCT CODES



Threaded version

1/2"	28110102
3/4"	28110113
1"	28110124
1 1/4"	28110135
1 1/2"	28110146
2"	28110157



Compression version

Ø 15	28110305
Ø 22	28110316
Ø 28	28110327

DESCRIPTION

The BOSS™ FIG 216 pressure reducing valve with diaphragm reduces and stabilizes the fluid pressure in a fluid distribution system according to a preset value. It is suitable for use in Domestic, Commercial and Industrial sanitary installations for water supply and compressed air (not oil mist) distribution systems. The product conforms to the specific provisions according to EN 1567 and local UK water regulations.

TECHNICAL FEATURES

Pressure:

Maximum allowable working pressure

For threaded version (PN) 25 bar

For compression version (PN) 16 bar

Outlet settings (Ps)

Ps value set during testing

From 1 to 6 bar

3 bar

Outlet Ps set tolerance on varying inlet pressure

According to EN 1567.

Temperature:

Maximum working temperature range (Ts)

0°C ÷ 80 °C

Compatible fluids:

Hot and Cold Water

Compressed air (not oil mist)

Sea or brackish water

Glycolate solutions max glycol 50%

Connections:

Pipeline connection

Male BSPT according to EN 10226-1

Compression fittings according to EN 1254-2

Rp1/4" connection according to EN 10226-1

Gauge connection

Tests and inspections:

According to EN 1567

WRAS Approved to 80°C

TECHNICAL SPECIFICATION

DZR Brass body EN12165 - CW625N

DZR Brass plug EN12165 - CW625N

Bonnet in polyamide PA6 GF15

Head frame in resin POM

Filtering cartridge in stainless steel AISI 304 with filtration rating <500 µm

SM galvanized steel calibration spring EN10270-1

Nuts in brass EN12165 - CW617N

Dismantling fittings in DZR brass EN12164 - CW626N

Other components in contact with water in DZR brass EN12164 - CW626N

Other components not in contact with water in brass EN12164 - CW614N

EPDM peroxide rubber diaphragm polyamide reinforced

Seat gaskets in EPDM peroxide rubber

O-ring washers static seal in EPDM peroxide rubber

O-ring washers dynamic seal in EPDM peroxide rubber

Pressed fiber dismantling fittings washers

INSTALLATION

Although the pressure reducing valve is already equipped with a built-in filter, to ease maintenance and pipeline cleaning it is recommended to install another strainer before the pressure reducing valve, in order to eliminate any impurities in the water which could compromise the functioning of the hydraulic system.

Proceed as follows:

- Flush the pipework to prevent the impurities from damaging the device.
- Make sure that the operating pressures and temperatures are within the permitted range.
- The housing of the device must ensure sufficient space for adjustments and maintenance.
- Install shut-off valves upstream and downstream of the pressure reducing valve.
- Assemble the pressure gauge (sold separately) in the provided port.
- Make sure that the water flow follows the direction of the arrow.
- It is advisable to apply a sealing material compatible with drinking water and compliant with the current legislation on the connections of the pressure reducing valve. The sealing material must be applied completely enveloping the thread of the male fitting in a clockwise direction, leaving out the first external thread.

The pressure reducing valve can be installed in any position (horizontal as well as vertical).

At the end of the installation, the pressure reducing valve must be put into operation by qualified personnel, as specified by the applicable current legislation. We advise not to proceed with the installation of the device if these instructions have not been completely read and understood or if there are aspects of the installation or the system which do not meet the stated requirements.

ADJUSTMENT

The pressure reducing valves are pre-set during testing at an outlet pressure of 3 bar. The adjustment handwheel and the pressure gauge (optional) show the value (Ps) of the already reduced pressure of the outgoing fluid. To set a different outlet pressure, turn the adjustment handwheel **CLOCKWISE** to **INCREASE** the outlet pressure, or **COUNTERCLOCKWISE** to **DECREASE** the outlet pressure, in order to have the indicator in line with the set point on the setting scale.

MAINTENANCE

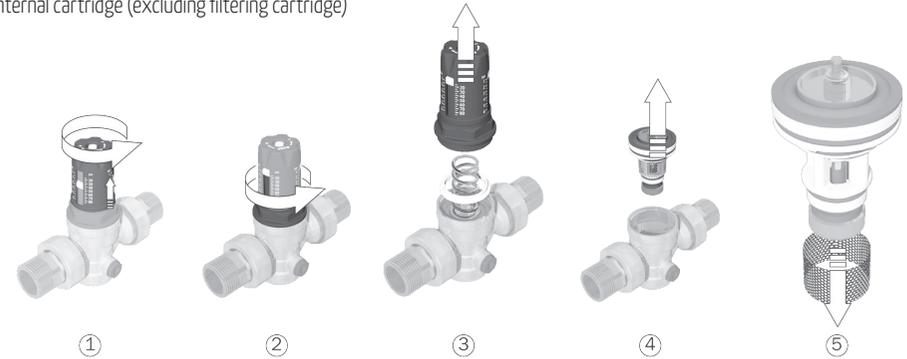
Periodically check that the outlet pressure value from the pressure reducing valve corresponds to the one set during installation. In order to ensure a correct check it is necessary to assemble a pressure gauge in one of the threaded seats provided on the body of the valve. Then close the shut-off valve placed downstream of the pressure reducing valve and check the value on the pressure gauge; it is important to make sure the shut-off valve is fully closed as the pressure has to be measured in the absence of flow. If the outlet pressure is considerably different from the set pressure indicated on the adjustment knob, it is necessary to inspect the internal cartridge and the gasket of the sealing seat of the pressure reducing valve, as follows:

- 1) Close the shut-off valve placed at the inlet of the pressure reducing valve and drain the pressure for a few seconds by opening a point of use and the shut-off valve placed at the outlet; then close both.
- 2) Write down the setting value and then turn the adjustment knob to the minimum value. (fig.1)
- 3) Use a fork wrench to unscrew and take off the bonnet to gain access to the spring and the plastic ring. Take care of them as they will be reassembled later. (fig.2-3) **ATTENTION:** do not unscrew the hexagonal head nipple on the top of the hand wheel, as this will result in a change in the device's calibration and a consequent wrong pressure setting.
- 4) Take off the complete internal cartridge with the filtering unit by using a pincer and be careful not to ruin the threading of the rod. (fig.4)
- 5) Carefully remove the filtering element from the cartridge and rinse the dirt off; if the filtering unit is damaged, substitute it. (fig.5)
- 6) Inspect accurately the complete cartridge to verify that all the components are intact and there are no impurities between the gasket and the sealing seat. If the gasket is damaged or compromised by dirt and sand, it's recommended to replace the complete internal cartridge. If it's not damaged, just clean it with water.
- 7) Before reassembling the cartridge in the pressure reducing valve, slightly lubricate the o-rings on the cartridge with a silicone lubricant compatible with products for WRAS usage, put the filtering unit back in its seat and reposition in the valve body.
- 8) Place the plastic ring on the diaphragm, the spring in its seat and start screwing the bonnet with the setting system until it reaches the mechanical stop.

- 9) Return the adjustment hand wheel to the previous set point. Rinsing the filtering unit is also necessary in case of a considerable flow decrease in the points of use. Once the pressure reducing valve has been reassembled, it's usable again. Before putting it into operation, repeat the pressure setting check as explained before to verify the maintenance efficiency. If the pressure on the gauge is not the same as the pressure set on the hand wheel and the cartridge has not been substituted, it means that cleaning is not enough and we advise to change the complete internal cartridge.

Spare parts available for all sizes:

- Filtering cartridge
- Internal cartridge (excluding filtering cartridge)



SAFETY PROVISIONS

Never exceed the maximum setting pressure. Only use the pressure reducing valve with compatible fluids. Do not disassemble the pressure reducing valve before having completely discharged the pressure of the system. The pressure reducing valve must be installed by qualified personnel, according to the provisions set forth by the national regulations concerning safety. Failure to comply with these instructions may lead to incorrect installation, operation or maintenance, which may cause the device to malfunction and may damage items or people. While using the connection fittings it is advisable to make sure that everything is hydraulically sealed: water leaks, even when small, may cause considerable damage. Always take the necessary actions to avoid serious burns and hazards to people. Each device is carefully checked before shipment. The manufacturer is in no way liable for any damage due to improper transport and/or handling; does not accept any type of responsibility for damages to the device or to devices connected to it, to people or property arising from improper use or the incorrect installation and/or operation of the product. The product must be removed and disposed of according to the current national laws applicable in the country where the product was used. This product was created as part of the ISO 9001:2008 certified quality management system. We reserve the right to amend the contents of this document without warning.

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