



BOSS™ 9510X Series Double Regulating Valve (DRV) **Installation, Operation and Maintenance Manual**

Technical Parameters:

BOSS™ 9510X DRV

Nominal dimension: DN65-DN200

Nominal pressure: PN16

Working temperature: -10°C-120°C

Seal test: 1.1PN

Shell test: 1.5PN

Media: water, ethanediol solution



Valve Selection

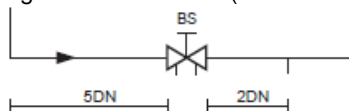
- It is important that the valve selected is suitable for the required service conditions. Providing it is installed correctly it should give years of trouble-free service.
- BOSS™ valves are not suitable for fatigue loading, creep conditions, fire testing, fire hazard environment, corrosive or erosive service, or for carrying fluids containing abrasive solids. There is no allowance for corrosion in the design of these valves. Designs for this valve do not allow for decomposition of unstable fluids and must not be used where this could occur and are not designed to withstand the effects of fire, wind, earthquakes and traffic loading.
- When BOSS™ valves are fitted to pressure equipment or assemblies, suitable protective devices may be required. The valves to which these Instructions apply have been categorized in accordance with the Pressure Equipment Directive.

Valve Location

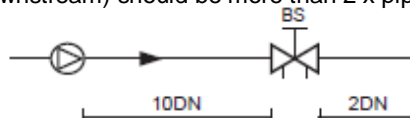
- To ensure ease of operation, adjustment and maintenance, valve locations should be decided during the system design stage.
- To prevent imposing strain on the valve joints, pipe work and valves must be adequately supported.

Installation:

- The valves should not be crushed or toppled and should be kept in a clean, dry and well ventilated place and not exposed to corrosive gases.
- BOSS™ 9510X DRVs are manufactured to high quality standards and should not be subjected to misuse. The following should be avoided:
 - Careless handling of the valve (Do not lift BOSS™ 9510X DRV by the hand wheel)
 - Dirt and debris entering the valve through the end ports
 - Excessive force during assembly and lever operation
- During installation the hand wheel should be protected and prevented from damage.
- Unpack the valve and check that the flow paths are clean and free from debris.
- Check the body and hand wheel markings to ensure that the correct valve has been selected for the required service conditions e.g. pressure, temperature, service media.
- Service temperature and pressure indicated should not be exceeded.
 - The maximum allowable pressure in valves as specified in the standards is for non- shock conditions.
- Remove dust caps/flange protectors, where fitted.
- Before valve installation, the pipe work to which the valve is to be connected should be inspected for cleanliness and freedom from debris.
- The DRV must be installed so that the flow direction is as indicated by the direction on the valve body.
- To prevent damage caused by debris in the system, it is not recommended to install valves with the hand wheels pointing downwards.
- It is recommended to install the BOSS™ 9510X DRV in the return pipeline.
- When installing on the return pipeline, the straight pipe length before the valve (upstream) should be more than 5 x pipe diameter (DN). Straight pipe lengths after the valve (downstream) should be more than 2 x pipe diameter (DN).



- If installing on the flow pipeline, the straight pipe length before the valve (upstream) should be more than 10 x pipe diameter (DN). Straight pipe lengths after the valve (downstream) should be more than 2 x pipe diameter (DN).



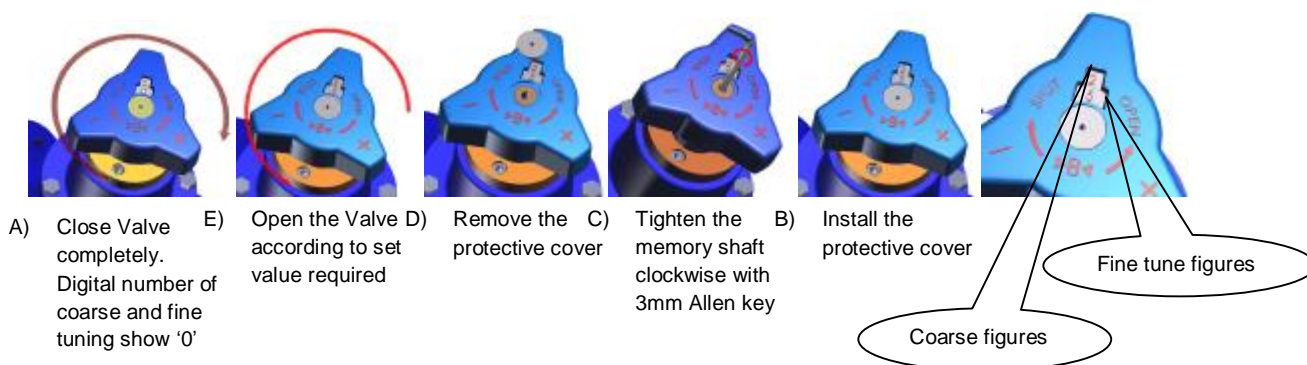
- Adjoining pipework must be supported to avoid the imposition of pipeline stress on the valve body which may impair its performance.
- After installation the BOSS™ 9510X DRV should be fully opened so as to rinse repeatedly until it is entirely clean. To avoid damaging the rubber seat, do not repeatedly shut valve when rinsing.

Operation

- The BOSS™ 9510X DRV is designed to be operated with standard handwheel. Other tools should not be used to operate a valve. Excessive torque could cause damage to valve components.
- Suitable hand protection should be worn when operating valves used in extreme temperature applications.
- The flow rate through the BOSS™ 9510X DRV can be measured with a manometer via a metering station. By measuring the differential pressure the flow rate can be calculated.



- The flow rate can be regulated using a 3mm Allen key. If the Allen key is rotated to the left, the flow rate increases and it is reduced by turning to the right.



Maintenance

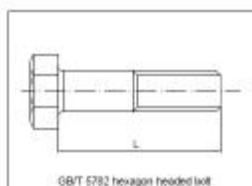
- The BOSS™ 9510X DRV provides a long service life under normal working conditions.
- Occasionally operate valves that remain open or closed for long periods to ensure they are in good working order, thus avoiding the possibility of being inoperable in a time of emergency.
- For leaks at the body/bonnet joint, re-tighten bolts in vicinity of leak. Do not over-tighten bolts.
- In the unlikely event that a valve requires repair or replacement then the following should be taken into consideration:
 - The valve should be at zero pressure and ambient temperature before any valve replacement is carried out and correctly fitting tools and equipment should be used for the valve replacement work. Eye protection and gloves must be worn for this operation.
 - Separate means of draining the pipework must be provided when carrying out any BOSS™ DRV replacement.
 - As the valve is removed there will be water loss between the two isolation points, therefore unless the pipework has been drained at another location, a means of collecting the discharged water is recommended.
 - A full risk assessment and methodology statement must be compiled prior to any maintenance. This must include the removal of dust deposits by good housekeeping.

Product Life Span

- When a valve is properly selected for its service conditions it should give years of trouble-free service providing it is installed and operated correctly.
- By not considering the compatibility of the system design and the pressure and temperature requirements the life expectancy of the valves can be adversely affected and valve failure may occur. The nature of the fluid being carried through the valve could also affect the valve performance as this could lead to premature valve failure.
- There may also be interactions between metals in the pipe system and the valve which need to be considered.
- Appropriate flushing and cleaning of the pipe work installation should take place when commissioning the system as this would help extend the valve life.

Flange Joints and Bolts

- Cast iron flanges may be damaged by over tightening the bolts. The following procedures will reduce this risk:
 - Make sure the pipe flanges are correctly aligned.
 - Always use the correct size and number of bolts.
 - Use correct assembly torque applicable for conditions.
 - Do not match a flat-faced flange to a raised face flange.



DN	PN16		
Flange	Specification	L	Qty
65	M16	60	8
80	M16	60	16
100	M16	60	16
125	M16	60	16
150	M20	65	16
200	M20	65	24

Please leave this Instruction Sheet for the User.

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