Installation, Operation and Maintenance Instructions

9400X Stainless Steel Metering Station

- 9400X is a stainless steel Metering Station, an orifice plate having a square edged entrance. The two stainless steel extension tubes are fitted with pressure test points (or plugs) . Accuracy of flow measurement at normal velocities is ±3%.
- 9400X is fitted between flanges to BSEN1092.2 and suitable for use with PN10, PN16, or PN25 flanges or flanged valves. Service temperature and pressures indicated on the identification tag or body marking shall not be exceeded.

INSTALLATION

1. 9400X Metering Station must be installed into a well-designed system. Ensure 9400X is suitable for service conditions eg. pressure, temperature, service media.

Maximum Pressure / Temperature Rating

TEMPERATURE °C	-10 to 100	120
PRESSURE (BAR)	25	25

2. 9400X must be fitted with at least 10 clear diameters upstream and 5 clear diameters downstream of any disturbing influence, such as elbows, tees, valves etc., and should be in a straight run of pipe.
3. 9400X must be fitted between mating flanges, with gaskets. It is essential that care be taken to ensure that the 9400X is centralised within the flanges before tightening the bolts. Inside diameter of gaskets must not encroach into pipe bore. The gasket should be suitable for the operating conditions or maximum pressure/temperature ratings, free from foreign matter, defects or damage.
4. The Installation shall be designed to provide adequate means of draining and venting to avoid harmful effects such as water hammer, vacuum collapse, corrosion and uncontrolled chemical reactions and to permit cleaning, inspection and maintenance in the correct manner.

5. The piping system shall be so designed to reduce the risk of fatigue due to vibration of pipes. The device has been designed for loadings appropriate to its intended use and other reasonably foreseeable operating conditions. Loadings caused by traffic, hurricane and earthquake have not been taken into account.
6. It is the responsibility of the installer to ensure that the valves do not exceed the allowable limits of pressure. However the equipment is designed to withstand a momentary pressure surge of up to 10% above the maximum working pressure.
7. In assembly, bolts are tightened sequentially to make the initial contact of flanges and gaskets flat and parallel followed by gradual and uniform tightening in an opposite bolting sequence to avoid bending one flange relative to the other, particularly on flanges with raised faces.
8. It is important to ensure that the flow arrow on the metering station is coincident with the direction of flow in the pipeline. If close coupled to a valve the metering station must be upstream, that is the flow passing through the metering station before the valve.
9. It is preferable to have the plane of the test points above horizontal to prevent the accumulation of debris
10. All special packaging material must be removed. Packaging should only be permanently removed immediately before installation.

OPERATION

1. When using Test points it is advisable to use a silicone based lubricant to prolong effective life of the seal. A petroleum based lubricant should not be used.
2. Each test point is fitted with a captive cap retained by a coloured strap:
   Upstream: (High Pressure) - Red
   Downstream: (Low Pressure) – Blue
3. Before commissioning a system, it should be flushed to eliminate debris and chemically cleaned as appropriate to eliminate contamination all of which will prolong the life of the metering station

MAINTENANCE

1. Due to the nature of the 9400X, once in service the device is maintenance free.
2. The metering station should be at zero pressure and ambient temperature prior to any inspection. Maintenance Engineers & Operators are reminded to use correct fitting tools and equipment.

GENERAL CAUTIONS

1. Test Point and Extension

   Test point and extension are supplied fitted and ready for use.

   If they are supplied loose and should be fitted during installation as follows:-

   Remove the blanking plugs from the metering station.

   Fit the extensions into the metering station.

   Fit the test points to the extensions, ensuring that the test point with the red strap is on the upstream side of the metering station.

2. Pipe Cutting

   When cutting pipe, the end must be deburred before fitting the mating flanges otherwise disturbance could be caused across the orifice.

SERVICE APPLICATIONS

For use on hazardous liquids only – Group 2 – as defined by the Pressure Equipment Directive 97/23/EC.

BSS Industrial Ltd.
BOSS Court, 7 Barton Close, Grove Park, Leicester, LE19 1SJ United Kingdom
T: 0116 262 3232
F: 0116 253 1343
E: enquiries@bssgroup.com
W: www.bssindustrial.co.uk

Date: 7th April 2017
Issue: 1