Type HSR

June 2019

Introduction

This manual provides instructions for the installation, startup and adjustment of the Type HSR pressure regulator. If maintenance is required, refer to the Type HSR Instruction Manual, form 5753. To receive a copy of the instruction manual, contact your local Sales Office.

Specifications

Maximum Emergency Inlet Pressures[1]
150 psi / 10.3 bar

Maximum Emergency Outlet (Casing) Pressures[1]
25 psig / 1.72 bar

Outlet Pressure Ranges
4 to 6 in. w.c / 10 to 15 mbar
6 to 8 in. w.c / 15 to 20 mbar
8 to 10 in. w.c / 20 to 25 mbar
10 to 12.5 in. w.c / 25 to 31 mbar
12.5 to 20 in. w.c / 31 to 50 mbar
20 to 35 in. w.c / 50 to 87 mbar
1.25 to 2.2 psig / 0.09 to 0.15 bar

Temperature Capabilities[1]
-20 to 160°F / -29 to 71°C

Installation

WARNING

Personal injury, equipment damage or leakage due to escaping gas or bursting of pressure-containing parts might result if these regulators are overpressured or installed where service conditions could exceed the limits for which the regulators were designed, or where conditions exceed any ratings of the adjacent piping or piping connections. To avoid such injury or damage, provide pressure-relieving or pressure-limiting devices (as required by the appropriate code, regulation or standard) to prevent service conditions from exceeding those limits.

Additionally, physical damage to a regulator could cause personal injury and property damage due to escaping gas. To avoid such injury and damage, install the regulator in a safe location.

A regulator may vent some gas to the atmosphere in hazardous or flammable gas service, vented gas might accumulate and cause personal injury, death or property damage due to fire or explosion. Vent a regulator in hazardous gas service to a remote, safe location away from air intakes or any hazardous location. The vent line must be protected against condensation or clogging.

Before installing the regulator, check for damage which might have occurred in shipment. Also check for dirt or foreign matter which may have accumulated in the regulator body or in the pipeline. Apply pipe compound to the male threads of the pipeline and install the regulator so that the flow is in the direction of the arrow cast on the side of the body. The diaphragm actuator assembly can be rotated to any position relative to the body, in 90° increments. **Remove the two cap screws that hold the body to the actuator in order to rotate the diaphragm actuator assembly.**

Do not install the regulator in a location where there can be excessive water accumulation, such as directly beneath a downspout or in an undrained pit.

To obtain the maximum flow capacities or other performance characteristics, the length of pipe from the regulator outlet to the meter should have no bends and should be the same size as the regulator outlet. Replace the regulator if water gets into the spring case or the lower casing of the regulator.

CAUTION

You are advised to use new vent piping because defective threads on the relief vent piping may interfere with the venting assembly if the piping obstructs the movement of the vent flapper.

On indoor installations, the vent should be piped outside the building. Remove the screen from the regulator vent connection and connect vent piping from that connection to the outdoors. Install a weather and insect resistant vent assembly on the outside end of the pipe. Inspect the vent opening regularly. On some installations, it may be necessary to install the regulator beneath a protective hood. The vent should be pointing or sloping down sufficiently to allow any condensate to drain. Also check the regulator periodically for external or internal corrosion.

Overpressure Protection

WARNING

Some type of overpressure protection is needed if actual inlet pressure can exceed the outlet pressure rating. Overpressuring any portion of this equipment may cause

1. The pressure/temperature limits in this installation sheet and any applicable standard or code limitation should not be exceeded.

damage to regulator parts, leaks in the regulator or personal injury due to bursting of pressure-containing parts or explosion of accumulated gas.

Type HSR regulators provide internal relief that limits the total outlet pressure buildup over setpoint. This internal relief may be adequate for the application, if not, provide additional pressure relief or a pressure-limiting device downstream. Regulators should be inspected for damage after any overpressure condition.

WARNING

To avoid personal injury or property damage due to explosion or damage to regulator or downstream components during startup, release downstream pressure to prevent an overpressure condition on the diaphragm of the regulator.

In order to avoid an overpressure condition and possible equipment damage, pressure gauges should always be used to monitor pressures during startup.

Startup

With proper installation completed, slowly open the shutoff valve. Check all connections for leaks. Check the downstream equipment for proper operations.

Adjustment

To increase the outlet pressure setting, turn the adjusting screw clockwise. To reduce the outlet pressure setting, turn the adjusting screw counterclockwise. A pressure gauge should always be used to monitor downstream pressure while adjustments are being made. Do not adjust the spring to produce an outlet pressure setting above the limit identified on the information label. If the required pressure setting is not within the range of the spring being used, substitute with the correct spring. When changing the spring, also change the range identified on the information label to indicate the actual pressure range of the spring in use. After the spring adjustment has been completed, replace the closing cap.

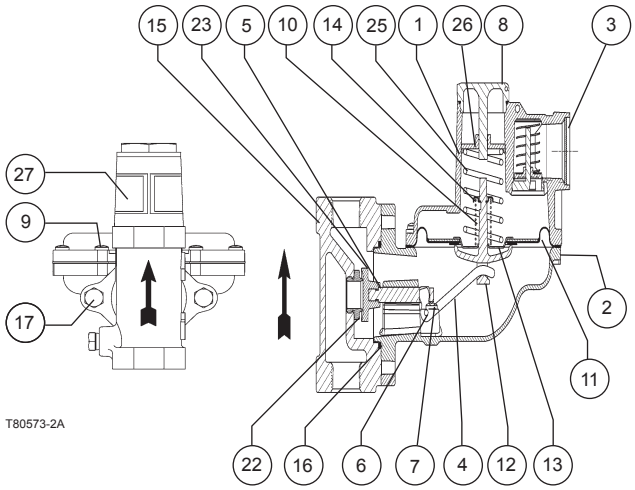

***Figure 1**. Type HSR Regulator Assembly*

Parts List

Key	Description	Key	Description
1	Spring Case Assembly	12	Pusher Post
2	Lower Casing	13	Lower Spring Seat
3	Screen	14	Relief Spring Retainer
4	Lever	15	Body
5	Stem	16	O-ring
6	Straight Pin	17	Cap Screw (2 required)
7	Machine Screw (2 required)	22	Orifice
8	Closing Cap	23	Disk
9	Machine Screw (8 required)	25	Spring
10	Relief Valve Spring	26	Adjusting Screw
11	Diaphragm	27	Information Label

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