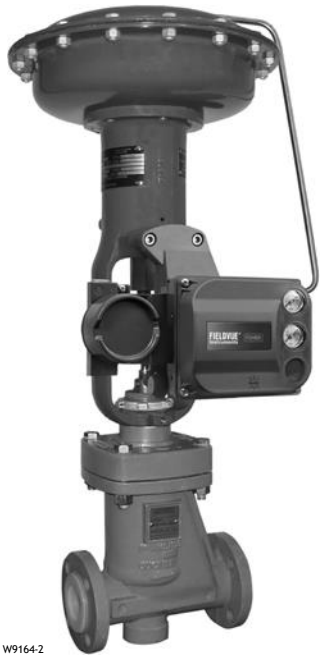
Fisherr RSS Lined Globe Valve

Contents

Figure 1. Fisher RSS Valve with 667 Actuator and FIELDVUE™ DVC6200 Digital Valve Controller



Introduction

Scope of Manual

This instruction manual includes installation, maintenance, and parts information for NPS 1 through NPS 4 Fisher RSS lined globe valves. Refer to separate manuals for instructions covering the actuator, positioner, and accessories.

Description

The RSS lined globe-style valve (figure 1) has pure-modified PTFE trim parts, push-down-to- close action, and positive shutoff. This valve is intended for applications involving severely corrosive and toxic flowing media, and is well-suited for pure media applications, as well. The RSS valve body provides an economical alternative to alloy valve bodies in a wide variety of applications.

Do not install, operate, or maintain an RSS valve without being fully trained and qualified in valve, actuator, and accessory installation, operation, and maintenance. **To avoid personal injury or property damage, it is important to carefully read, understand, and follow all the contents of this manual, including all safety cautions and warnings.** If you have any questions about these instructions, contact your Emerson Process Management sales office before proceeding.

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Table 1. Specifications

Valve Sizes

NPS J 1, J 1-1/2, J 2, J 3, and J 4

Face-To-Face and Flange Compatibility

VALVE SIZE, NPS	DUCTILE IRON			
	Raised-Face Flange			
	CL150		CL300	
	Face-To-Face			
	ASME(1)	EN(2)	ASME(1)	EN(2)
1	X	X	X	---
1-1/2	X	X	X	---
2	X	X	X	---
3	X	X	---	---
4	X	X	---	---

1. For ANSI/ISA face-to-face dimensions, see figure 9.
2. For EN face-to-face dimensions, see figure 9.

Maximum Inlet Pressures and Temperatures(1)

See table 2

Downstream/Outlet Pressure Ratings(1)

See figures 3 and 4

Shutoff Classification

Class VI per ANSI/FCI 70-2 and IEC 60534-4

Application Limits

Liquid Service: For cavitating applications, contact your Emerson Process Management sales office

Gas Service: Velocity ± 0.33 MACH

Temperature Capabilities

Positive Pressure Service: -29 to 180_C (-20 to 360_F)
Vacuum Service: -29 to 180_C (-20 to 360_F)

Standard Flow Characteristic/Valve Plug Style

Equal percentage

Flow Direction

Up through the seat ring (see figure 7)

Packing Arrangement

Braided PTFE rings

Dimensions and Weights

See figure 9

1. The pressure or temperature limits in this manual, and any applicable standard limitations should not be exceeded.

Table 2. Maximum Allowable Inlet Pressures and Temperatures(1)

TEMPERATURE, _C	PRESSURE, BAR	TEMPERATURE, _F	PRESSURE, PSIG
	Ductile Iron		Ductile Iron
-29 to 38	19.7	-20 to 100	285
93	17.9	200	260
149	15.9	300	230
180	14.8	360	215

1. Includes valves with CL300 flanges.

Specifications

Specifications for the RSS valve are shown in table 1. If the valve is shipped with the actuator, some of the valve specifications are on the valve nameplate, which is attached to the actuator. If the valve is shipped without the actuator, the valve nameplate is wired to the valve.

Installation

⚠ WARNING

Always wear protective gloves, clothing, and eyewear when performing any maintenance operations to avoid personal injury.

Personal injury or equipment damage caused by sudden release of pressure can result if the valve is installed where service conditions could exceed the limits given on the nameplate or in table 1 or 2, or figure 3 or 4. To avoid such injury or damage, use pressure-limiting or pressure-relieving devices to prevent service conditions from exceeding these limits.

Check with your process or safety engineer for any other hazards that may be present from exposure to process media.

If installing into an existing application, also refer to the WARNING at the beginning of the Maintenance section in this instruction manual.

CAUTION

When ordered, the valve configuration and construction materials are selected to meet particular pressure, temperature, pressure drop, and controlled fluid conditions. Since some valve body/trim material combinations are limited in their pressure drop and temperature ranges, do not apply any other conditions to the valve without first contacting your Emerson Process Management sales office.

CAUTION

Before installing the valve, inspect it to be certain that the valve cavity is free of foreign material. Use extra care in handling to avoid damage to the exposed lining on the flanges. Clean out all pipelines to remove scale, welding slag, and any other foreign materials that could cause erosion of the valve body lining.

Use accepted piping practices when installing the valve in the pipeline. To minimize valve damage caused by expansion of PTFE lined pipe, use a line flange gasket (figure 2). This gasket evenly distributes the piping loads across the valve flange face and minimizes the potential for cutting or indenting the lined face on the valve flange.

1. The control valve assembly should be installed in a horizontal pipeline with the valve stem in a vertical position. Before installing in any other orientation, consult your Emerson Process Management sales office.

Flow through the valve must be in the direction indicated by the arrow cast on the valve (figure 7).

2. With a leak-off bonnet construction, remove the pipe plug (key 20, not shown) and install the leak-off piping into the tapping in the bonnet (key 2, figure 10).
3. If continuous operation is required during inspection or maintenance, install a three-way bypass around the control valve assembly.
4. For a valve used with a fail-closed actuator, remove the shim (key 24, not shown) from between the bonnet and the travel stop. Discard the shim.
5. If the actuator and valve are shipped separately, refer to the appropriate actuator instruction manual for the actuator mounting procedure.

Note

Bench sets for Fisher 657 and 667 actuators must be adjusted after installation on the RSS valve. The heavy duty bellows on the RSS valve has a significant spring rate that must be included in the bench set for proper operation.

Figure 2. Typical Line Flange Gasket (Key 17)