

March 2009

## Types 67CS and 67CSR Installation Sheet

### Introduction

This Installation Sheet covers the installation, startup, and adjustment of the Types 67CS and 67CSR instrument supply regulators. If maintenance is required, refer to the 67C Series Instruction Manual, form 5469. Contact your local Sales Office to receive a copy of the instruction manual.

### Specifications

#### Maximum Inlet Pressure:

400 psi (27,6 bar)

#### Maximum Emergency Outlet Pressure:

50 psi (3,4 bar) over outlet pressure setting

#### Outlet Pressure Ranges:

- 0 to 20 psig (0 to 1,4 bar)
- 0 to 35 psig (0 to 2,4 bar)
- 0 to 60 psig (0 to 4,1 bar)
- 0 to 125 psig (0 to 8,6 bar)
- 0 to 150 psig (0 to 10,3 bar)

#### Temperature Capabilities

**With Nitrile (NBR):** -40° to 180°F (-40° to 82°C)

**With Fluorocarbon (FKM):** 0° to 300°F (-18° to 149°C)

**With Silicone (VMQ)<sup>(1)</sup> Diaphragm:** -60° to 180°F (-51° to 82°C)

**With Gauges:** -20° to 180°F (-29° to 82°C)

### Installation



#### WARNING

**Personal injury, property damage, equipment damage, or leakage due to escaping gas or bursting of pressure-containing parts may result if this regulator is overpressured or is installed where service conditions could exceed the limits given in the Specifications section, 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.**

**The internal relief valve of the Type 67CSR regulator does not provide full overpressure protection. The internal relief valve is designed for minor seat leakage only. If maximum inlet pressure to the Type 67CSR exceeds the maximum pressure ratings of the downstream equipment or exceeds the maximum allowable outlet pressure of Type 67CSR, additional overpressure protection is required.**

Before installing a Type 67CS or 67CSR regulator, be sure the installation complies with the following installation guidelines:

1. Regulator operation within ratings does not preclude the possibility of physical damage from external sources or

1. Silicone (VMQ) is not compatible with hydrocarbon gas.

debris in the lines. Regulators should be inspected for damage periodically and after an overpressure condition.

2. Only personnel qualified through training and experience should install, operate, and maintain a regulator. Make sure there is no damage to or foreign material in the regulator and all tubing/piping is free of debris.
3. Install the regulator so that flow is from the IN to the OUT connection as marked on the regulator body.



#### WARNING

**A regulator may vent some gas to the atmosphere. In hazardous or flammable gas service, vented gas may 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 area. The vent line or stack opening must be protected against condensation or clogging.**

4. A clogged spring case vent hole may cause the regulator to function improperly. To keep this vent hole from being plugged (and to keep the spring case from collecting moisture, corrosive chemicals, or other foreign material) orient the vent to the lowest possible point on the spring case or otherwise protect it. Inspect the vent hole regularly to make sure it is not plugged. Spring case vent hole orientation may be changed by rotating the spring case with respect to the body. A 1/4 NPT spring case vent may be remotely vented by installing obstruction-free tubing or piping into the vent. Protect the remote vent by installing a screened vent cap on the remote end of the vent pipe.
5. For regulator shutdown, install upstream block and vent valves and downstream block and vent valves (if required), or provide some other suitable means of properly venting the regulator inlet and outlet pressures. Install a pressure gauge to monitor instruments on startup.
6. Apply a good grade of pipe compound to the male pipe threads before making connections, making sure not to get the pipe compound inside the regulator.
7. Install tubing fitting or piping into the NPS 1/4, NPT inlet connection on the body (key 1) and into the NPS 1/4, NPT body outlet connection.
8. The second NPS 1/4, NPT outlet can be used for a gauge or other use. If not used, it must be plugged.

### Startup and Adjustment

Key numbers are referenced in Figure 1.

1. With proper installation completed and downstream equipment properly adjusted, slowly open the upstream and downstream shutoff valve (when used) while using pressure gauges to monitor pressure.



# Types 67CS and 67CSR



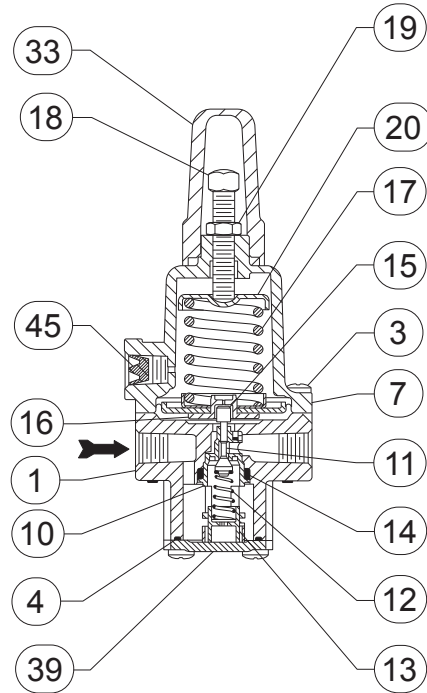
## WARNING

To avoid personal injury, property damage, or equipment damage caused by bursting of pressure-containing parts or explosion of accumulated gas, never adjust the control spring to produce an outlet pressure higher than the upper limit of the outlet pressure range for that particular spring. If the desired outlet pressure is not within the range of the control spring, install a spring of the proper range.

- If outlet pressure adjustment is necessary, monitor outlet pressure with a gauge during the adjustment procedure. The regulator is adjusted by loosening the locknut (key 19), if used, and turning the adjusting screw or handwheel (key 18) clockwise to increase or counterclockwise to decrease the outlet pressure setting. Tighten the locknut to maintain the adjustment position.

## Parts List

Key	Description	Key	Description
1	Body	16*	Diaphragm Assembly
3 <sup>(2)</sup>	Flange Screw	17	Spring
4*	O-Ring	18 <sup>(2)</sup>	Adjusting Screw/Handwheel
7	Spring Case	19 <sup>(2)</sup>	Locknut
10 <sup>*(1)</sup>	Valve Cartridge	20	Upper Spring Seat
11 <sup>*(1)</sup>	Valve Plug	23 <sup>(2)</sup>	Pipe Plug
12 <sup>*(1)</sup>	Valve Spring	31 <sup>(2)</sup>	Panel Mounting Nut
13 <sup>*(1)</sup>	Valve Retainer	33	Closing Cap
14 <sup>*(1)</sup>	O-Ring	39	Bottom Plate
15 <sup>*(1)</sup>	Soft Seat	45	Vent Screen



GE03521

Figure 1. Type 67CS or 67CSR Assembly

\*Recommended Spare Part

- Valve cartridge assembly includes keys 10, 11, 12, 13, 14, and 15.
- Part not shown.

### Industrial Regulators

#### Emerson Process Management Regulator Technologies, Inc.

USA - Headquarters  
McKinney, Texas 75069-1872 USA  
Tel: 1-800-558-5853  
Outside U.S. 1-972-548-3574

Asia-Pacific  
Shanghai, China 201206  
Tel: +86 21 2892 9000

Europe  
Bologna, Italy 40013  
Tel: +39 051 4190611

Middle East and Africa  
Dubai, United Arab Emirates  
Tel: +971 4811 8100

### Natural Gas Technologies

#### Emerson Process Management Regulator Technologies, Inc.

USA - Headquarters  
McKinney, Texas 75069-1872 USA  
Tel: 1-800-558-5853  
Outside U.S. 1-972-548-3574

Asia-Pacific  
Singapore, Singapore 128461  
Tel: +65 6777 8211

Europe  
Bologna, Italy 40013  
Tel: +39 051 4190611  
Gallardon, France 28320  
Tel: +33 (0)2 37 33 47 00

### TESCOM

#### Emerson Process Management Tescom Corporation

USA - Headquarters  
Elk River, Minnesota 55330-2445 USA  
Tel: 1-763-241-3238

Europe  
Selmsdorf, Germany 23923  
Tel: +49 (0) 38823 31 0

For further information visit [www.emersonprocess.com/regulators](http://www.emersonprocess.com/regulators)

The Emerson logo is a trademark and service mark of Emerson Electric Co. All other marks are the property of their prospective owners. Fisher is a mark owned by Fisher Controls, Inc., a business of Emerson Process Management.

The contents of this publication are presented for informational purposes only, and while every effort has been made to ensure their accuracy, they are not to be construed as warranties or guarantees, express or implied, regarding the products or services described herein or their use or applicability. We reserve the right to modify or improve the designs or specifications of such products at any time without notice.

Emerson Process Management does not assume responsibility for the selection, use or maintenance of any product. Responsibility for proper selection, use and maintenance of any Emerson Process Management product remains solely with the purchaser.