67C Series Instrument Supply Regulators



TYPE 67CF FILTER REGULATOR WITH OPTIONAL GAUGE



TYPE 67C OR 67CR REGULATOR

Figure 1. *67C Series Regulators*

Introduction

Scope of the Manual

This manual provides instructions and parts lists for 67C Series Instrument Supply Regulators. Instructions and parts lists for other equipment mentioned in this instruction manual, as well as for other 67C Series Regulators, are found in separate manuals.

Product Descriptions

The 67C Series Direct-operated Regulators are typically used to provide constantly controlled, reduced pressures to pneumatic and electro-pneumatic controllers and other instruments. They are suitable for most air or gas applications. Other applications include providing reduced pressures to air chucks, air jets and spray guns.

- The Types 67C and 67CS are the standard instrument supply regulators without a filter or internal relief.
- The Types 67CF and 67CFS are equipped with a filter for removing particles from the supply gas.
- The Types 67CR and 67CSR have an internal relief valve with a soft seat for reliable shutoff with no discernible leakage.
- The Types 67CFR and 67CFSR have a filter and internal relief valve with a soft seat for reliable shutoff with no discernible leakage.

Principle of Operation

Downstream pressure is registered internally on the lower side of the diaphragm. When the downstream pressure is at or above the set pressure, the valve plug is held against the orifice and there is no flow through the regulator. When demand increases, downstream pressure drops slightly allowing the spring to extend, moving the stem down and the valve plug away from the orifice. This allows flow through the regulator.

Specifications

The Specifications section gives some general specifications for the 67C Series Regulator. A label on the spring case gives the control spring range for a given regulator as it comes from the factory.

Body Size, Inlet and Outlet Connection Style
1/4 NPT

Maximum Inlet Pressure (Body Rating)(1)
All except Types 67CS and 67CSR: 250 psig / 17.2 bar
Types 67CS and 67CSR: 400 psig / 27.6 bar

Outlet Pressure Ranges
See Table 1

Maximum Emergency Outlet Pressure(1)
50 psi / 3.4 bar over outlet pressure setting

Wide-Open Flow Coefficients
Main Valve: C_g: 11.7; C_v: 0.36; C_1: 32.2
Internal Relief Valve: C_g: 1.45; C_v: 0.045; C_1: 32.8

IEC Sizing Coefficients
Main Valve: X_T: 0.66; F_L: 0.89; F_D: 0.50

Accuracy
Inlet Sensitivity for Nitrile (NBR) and Silicone (VMQ) Elastomers: Less than 0.2 psig / 14 mbar change in outlet pressure for every 25 psig / 1.7 bar change in inlet pressure
Inlet Sensitivity for Fluorocarbon (FKM) Elastomers: Less than 0.4 psig / 28 mbar change in outlet pressure for every 25 psig / 1.7 bar change in inlet pressure
Repeatability for Nitrile (NBR) and Silicone (VMQ) Elastomers: 0.1 psig / 7 mbar(2)
Repeatability for Fluorocarbon (FKM) Elastomers: 0.3 psig / 21 mbar(2)
Air Consumption: Testing repeatedly shows no discernible leakage

Types 67CR, 67CSR, 67CFR and 67CFSR Internal Relief Performance
Low capacity for minor seat leakage only; other overpressure protection must be provided if inlet pressure can exceed the maximum pressure rating of downstream equipment or exceeds maximum outlet pressure rating of the regulator.

Approximate Weights
Types 67C, 67CR, 67CF and 67CFR: 1 lb / 0.5 kg
Types 67CS and 67CSR: 2.5 lbs / 1.1 kg
Types 67CFS and 67CFSR: 4 lbs / 1.8 kg

Temperature Capabilities(1)
With Nitrile (NBR)
Standard Bolting: -20 to 180°F / -29 to 82°C
Stainless Steel Bolting: -40 to 180°F / -40 to 82°C
With Fluorocarbon (FKM)(6):
Polyethylene Filter(5) ***(standard)****:* 0 to 180°F / -18 to 82°C
Polyvinylidene (PVDF), Stainless steel or Glass Filter (Optional): 0 to 300°F / -18 to 149°C

Temperature Capabilities(1)(continued)
With Silicone (VMQ)(3)
Diaphragm and Low Temperature bolting: -60 to 180°F / -51 to 82°C
With Gauges: -40 to 180°F / -40 to 82°C
Arctic/Extreme Low Temperature Construction(3)(8)
Low Temperature Silicone (VMQ)/ Fluorosilicone (FVMQ)/Nitrile (NBR) and Low Temperature bolting: -76 to 140°F / -60 to 60°C

Smart Bleed™ Check Valve Setpoint
6 psi / 0.41 bar differential

Types 67CF, 67CFR, 67CFS and 67CFSR Filter Capabilities
Free Area: 12 times pipe area
Micron Rating:
Polyethylene Filter(5) ***(standard)****:* 5 microns
Glass Fiber Filter (Optional): 5 microns
PVDF or Stainless Steel Filter (Optional): 40 microns

Drain Valve and Spring Case Vent Location
Aligned with inlet standard, other positions optional

Pressure Registration
Internal

Options
All Types
- Handwheel adjusting screw
- Inlet screen
- NACE MR0175 or NACE MR0103 construction(4)
- Panel mount (includes spring case with 1/4 NPT vent, handwheel and panel mounting nut)
- Closing cap (available on spring case with 1/4 NPT vent)
- Fluorocarbon (FKM) elastomers for high temperatures and/or corrosive chemicals
- Silicone (VMQ) elastomers for cold temperatures
- Fixed Bleed Restriction
- Triple scale outlet pressure gauge (Brass or Stainless steel)
- Stainless steel stem on the valve plug
- Tire valve or pipe plug in second outlet

Types 67CFR and 67CFSR only
- Smart Bleed internal check valve(7)
- Large dripwell with manual or automatic drain

Types 67CF and 67CFR only
- Stainless steel drain valve

1. The pressure/temperature limits in this Instruction Manual and any applicable standard or code limitation should not be exceeded.
2. Repeatability is the measure of the regulator's ability to return to setpoint consistently when traveling from steady state to transient to steady state.
3. Silicone (VMQ) is not compatible with hydrocarbon gas.
4. Product complies with the material requirements of NACE MR0175. Environmental limits may apply.
5. Do not use in high aromatic hydrocarbon service.
6. Consult factory for applications where the Smart Bleed unit will be at process temperatures above 180°F / 82°C for an extended period.
7. The Smart Bleed internal check valve is bubble tight at temperatures down to -40°F / -40°C. Leakage from P_1 to P_2 is possible at temperatures below -40°F / -40°C.
8. The arctic/extreme low temperature construction passed Emerson laboratory testing for lockup and external leakage down to -76°F / -60°C. Some internal relief valve venting may occur at temperatures below -58°F / -50°C.

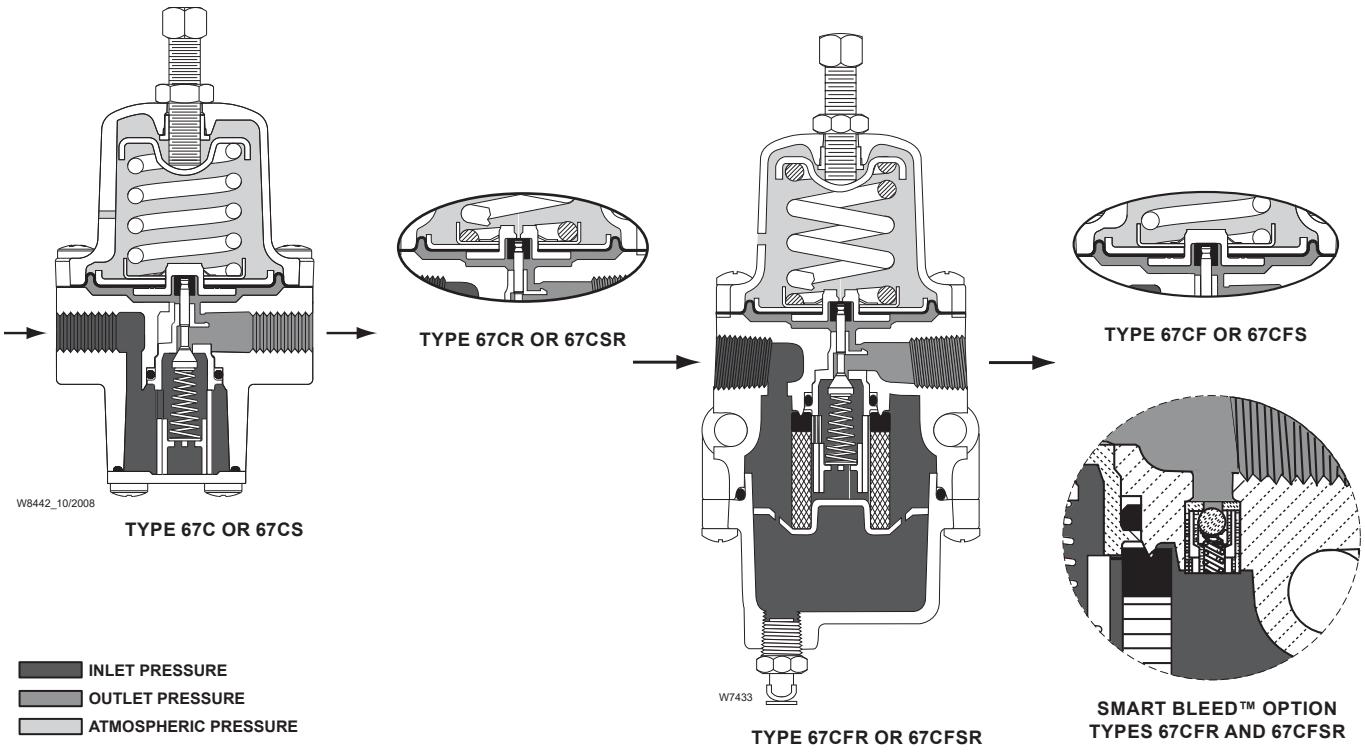


Figure 2. *67C Series Operational Schematics*

Internal Relief (Types 67CR, 67CSR, 67CFR and 67CFSR)

If for some reason, outside of normal operating conditions, the downstream pressure exceeds the setpoint of the regulator, the force created by the downstream pressure will lift the diaphragm until the diaphragm is lifted off the relief seat. This allows flow through the token relief. The relief valve on the Type 67CR, 67CSR, 67CFR or 67CFSR is an elastomer plug that prevents leakage of air from the downstream to atmosphere during normal operation, thereby conserving plant air.

Smart Bleed Airset

Recommended for fail-safe actuators, no bleed applications and dead-end service.

In some cases, it is desired to exhaust downstream pressure if inlet pressure is lost or drops below the setpoint of the regulator. For example, if the regulator is installed on equipment that at times has no flow demand but is expected to backflow on loss of inlet pressure. The Types 67CFR and 67CFSR can be ordered with the Smart Bleed option which includes an integrated soft seat check valve. During operation, if inlet pressure is lost or decreases below the setpoint of the regulator, the downstream pressure will back flow upstream through the regulator and check valve. This option eliminates the need for a fixed bleed downstream of the regulator, thereby conserving plant air. In addition, the soft seat feature of the check valve eliminates leakage while the airset is in the lock-up position, preventing pressure build-up that could trip safety loop functions on valves.

Overpressure Protection

The 67C Series Regulators have maximum outlet pressure ratings that are lower than their maximum inlet pressure ratings. A pressure relieving or pressure limiting device is needed if inlet pressure can exceed the maximum outlet pressure rating.

Types 67CR, 67CSR, 67CFR and 67CFSR have a low capacity internal relief valve for minor seat leakage only. Other overpressure protection must be provided if the maximum inlet pressure can exceed the maximum pressure rating of the downstream equipment or exceeds the maximum outlet pressure rating of the regulator.

Table 1. *Outlet Pressure Ranges and Control Spring Data*

TYPE	OUTLET PRESSURE RANGES		CONTROL SPRING DATA						
			Color	Material	Part Number	Wire Diameter		Free Length	
	psig	bar				In.	mm	In.	mm
67C, 67CR, 67CF and 67CFR	0 to 20	0 to 1.4	Green stripe	Music Wire	GE07809T012	0.135	3.43	1.43	36.2
	0 to 35	0 to 2.4	Silver		T14059T0012	0.156	3.96	1.43	36.2
	0 to 60	0 to 4.1	Blue stripe		T14058T0012	0.170	4.32	1.43	36.2
	0 to 125	0 to 8.6	Red stripe		T14060T0012	0.207	5.26	1.43	36.2
	0 to 35	0 to 2.4	Silver stripe	Inconel®	T14113T0012	0.156	3.96	1.43	36.2
	0 to 60	0 to 4.1	Blue		T14114T0012	0.172	4.37	1.43	36.2
	0 to 125	0 to 8.6	Red		T14115T0012	0.207	5.26	1.43	36.2
67CS, 67CSR, 67CFS and 67CFSR	0 to 20	0 to 1.3	Green	Inconel®	10C1729X012	0.135	3.43	1.50	38.1
	0 to 35	0 to 2.4	Silver stripe		T14113T0012	0.156	3.96	1.43	36.2
	0 to 60	0 to 4.1	Blue		T14114T0012	0.172	4.37	1.43	36.2
	0 to 125	0 to 8.6	Red		T14115T0012	0.207	5.26	1.43	36.2
	0 to 150	0 to 10.3	Black		10C1730X012	0.250	6.35	1.77	44.9

Installation

Note

If the regulator is shipped mounted on another unit, install that unit according to the appropriate Instruction Manual.

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

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.

Before installing a Type 67C, 67CR, 67CS, 67CSR, 67CF, 67CFR, 67CFS or 67CFSR Regulator, be sure the installation complies with the following installation guidelines:

1. Regulator operation within ratings does not preclude the possibility of damage from debris in the lines or from external sources. Regulators should be inspected for damage periodically and after any overpressure condition.
2. Only personnel qualified through training and experience should install, operate and maintain a regulator. Make sure that there is no damage to or foreign material in the regulator. Also ensure that all tubing and 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.
4. For best drainage, orient the drain valve (key 2) to the lowest possible point on the dripwell (key 5). This orientation may be improved by rotating the dripwell with respect to the body (key 1).
5. 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.

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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.

6. For use in 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.
7. Apply a good grade of pipe compound to the external pipe threads before making connections, making sure not to get the pipe compound inside the regulator.
8. Install tubing fitting or piping into the 1/4 NPT inlet connection on the body (key 1) and into the 1/4 NPT body outlet connection.
9. The second 1/4 NPT outlet can be used for a gauge or other use. If not used, it must be plugged.

Installing a 67CF Series Regulator in an Existing Installation

When installing a 67CF Series Regulator in an existing installation, it may be necessary to use spacers (key 34, Figure 13) to adapt the installation. If the mounting bolts are too long, place a spacer on the bolt (see Figure 13). To be sure the regulator is secure, the bolts should have at least two full threads of engagement.

Startup and Adjustment

Key numbers are referenced in Figures 3 through 9.

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.

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 according to the diaphragm parts maintenance procedure.

2. 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 18), if used, and turning the adjusting screw or handwheel (key 19) clockwise to increase or counterclockwise to decrease the outlet pressure setting. Retighten the locknut to maintain the adjustment position.

Shutdown

First, close the nearest upstream block valve and then close the nearest downstream block valve (when used). Next, open the downstream vent valve. Since the regulator remains open in response to the decreasing downstream pressure, pressure between the closed block valves will be released through the open vent valve.

Maintenance

Regulator parts are subject to normal wear and must be inspected and replaced as necessary. The frequency of inspection and replacement of parts depends on the severity of service conditions and applicable codes and government regulations. Open the Type 67CF, 67CFR, 67CFS or 67CFSR drain valve (key 2) regularly to empty accumulated liquid from the dripwell (key 5).

Note

If sufficient clearance exists, the body (key 1) may remain mounted on other equipment or in a line or panel during maintenance unless the entire regulator will be replaced.

WARNING

To avoid personal injury, property damage or equipment damage caused by sudden release of pressure or explosion of accumulated gas, do not attempt any maintenance or disassembly without first isolating the regulator from system pressure and relieving all internal pressure from the regulator.

Types 67C, 67CR, 67CS and 67CSR

Trim Maintenance

Key numbers are referenced in Figures 3, 4 and 12.

1. Remove four bottom plate screws (key 3) from the bottom plate (key 39) and separate the bottom plate and O-ring (key 4) from the body (key 1).
2. Inspect the removed parts for damage and debris. Replace any damaged parts.
3. To remove the valve cartridge assembly, grasp the end of cartridge (key 10) and pull it straight out of body (key 1). Replace with new cartridge assembly. The cartridge assembly may be disassembled and parts may be cleaned or replaced. If the soft seat (key 15) was removed, make sure it is properly snapped into place before installing the valve cartridge assembly.
4. Check O-ring (key 14) for wear and replace, if necessary. Apply lubricant to the O-ring and place in the body. Align cartridge key to keyway in body and insert. Reinstall the O-ring (key 4), secure the bottom plate (key 39) with screws (key 3) and torque to 15 to 30 in-lbs / 1.7 to 3.4 N•m.

Diaphragm Maintenance

Key numbers are referenced in Figures 3 and 4.

1. Back out the adjusting screw or handwheel (key 18) until compression is removed from the spring (key 17).
2. Remove the spring case screws (key 3) to separate the spring case (key 7) from the body (key 1). Remove the upper spring seat (key 20) and spring (key 17).
3. Remove the diaphragm assembly (key 16), inspect the diaphragm and replace the assembly, if necessary.
4. Place the diaphragm assembly (key 16) on the body (key 1) as shown in Figure 3 or 4. Push down on the diaphragm assembly to make sure the valve plug (key 11) strokes smoothly and approximately 1/16 in. / 1.6 mm.

Note

In step 5, if installing a control spring of a different range, be sure to delete the spring range originally appearing on the label and indicate the new spring range.

5. Stack the control spring (key 17) and upper spring seat (key 20) onto the diaphragm assembly (key 16).
6. Install the spring case (key 7) on the body (key 1) with the vent oriented to prevent clogging or entrance of moisture. Install the six spring case screws (key 3) using a crisscross pattern and torque to 15 to 30 in-lbs / 1.7 to 3.4 N•m.

Note

On Types 67CS and 67CSR, lubricate the adjusting screw (key 18) thread to reduce galling of the Stainless steel.

7. When all maintenance is complete, refer to the Startup and Adjustment section to put the regulator back into operation and adjust the pressure setting. Tighten the locknut (key 19) if used and install the closing cap (key 33) if used.

Types 67CF, 67CFR, 67CFS and 67CFSR

Filter Element and Trim Maintenance

Key numbers are referenced in Figures 5, 6 and 12.

1. Remove four dripwell screws (key 3) from the dripwell (key 5) and separate the dripwell and O-ring (key 4) from the body (key 1). The filter retainer (key 9), thrust washer (key 37), filter element (key 6) and gasket (key 26) may come off with dripwell. If not, remove these parts.
2. Inspect the removed parts for damage and debris. Replace any damaged parts. If a replacement is not available, the filter element may be cleaned.
3. To remove the valve cartridge assembly, grasp the end of cartridge and pull it straight out of body (key 1). Replace with new cartridge assembly. The cartridge assembly may be disassembled and parts may be cleaned or replaced. If the soft seat (key 15) was removed, make sure it is properly snapped into place before installing the valve cartridge assembly.
4. Check O-ring (key 14) for wear and replace, if necessary. Apply lubricant to the O-ring (key 14), then align cartridge key to keyway in body and insert. Reinstall the gasket (key 26), filter element (key 6), thrust washer (key 37) and filter retainer (key 9). Reinstall the O-ring (key 4), secure the dripwell with screws (key 3) and torque to 15 to 30 in-lbs / 1.7 to 3.4 N•m.

Diaphragm Maintenance

Key numbers are referenced in Figures 5 and 6.

5. Back out the adjusting screw or handwheel (key 18) until compression is removed from the spring (key 17).
6. Remove the six spring case screws (key 3) to separate the spring case (key 7) from the body (key 1). Remove the upper spring seat (key 20) and spring (key 17).
7. Remove the diaphragm assembly (key 16), inspect the diaphragm and replace the assembly, if necessary.
8. Place the diaphragm assembly (key 16) on the body (key 1) as shown in Figure 5. Push down on the diaphragm assembly to make sure the valve plug (key 11) strokes smoothly and approximately 1/16 in. / 1.6 mm.

Note

In step 5, if installing a control spring of a different range, be sure to delete the spring range originally appearing on the label and indicate the new spring range.

9. Stack the control spring (key 17) and upper spring seat (key 20) onto the diaphragm assembly (key 16).
10. Install the spring case (key 7) on the body (key 1) with the vent oriented to prevent clogging or entrance of moisture. Install the six spring case screws (key 3) using a crisscross pattern and torque to 15 to 30 in-lbs / 1.7 to 3.4 N•m.

Note

On Types 67CFS and 67CFSR, lubricate the adjusting screw (key 18) thread to reduce galling of Stainless steel.

11. When all maintenance is complete, refer to the Startup and Adjustment section to put the regulator back into operation and adjust the pressure setting. Tighten the locknut (key 19) if used and install the closing cap (key 33) if used.

Parts Ordering

When corresponding with the local Sales Office about this regulator, include the type number and all other pertinent information printed on the label. Specify the eleven-character part number when ordering new parts from the following parts list.

Parts List

Key	Description	Part Number
	Parts Kits	
	Types 67C, 67CR, 67CS and 67CSR	
	Includes valve cartridge assembly (contains keys 10, 11, 12, 13, 14 and 15), O-ring (key 4), diaphragm assembly (key 16), and four screws (key 3)	
	Type 67C (without relief)	
	Brass stem with Nitrile (NBR) plug	R67CX000012
	Aluminum stem with Nitrile (NBR) plug (NACE)	R67CX000N12
	Type 67CR (with relief)	
	Brass stem with Nitrile (NBR) plug	R67CRX00012
	Aluminum stem with Nitrile (NBR) plug (NACE)	R67CRX00N12
	Type 67CS (without relief)	
	Stainless steel stem with Nitrile (NBR) plug (NACE)	R67CSX00012
	Type 67CSR (with relief)	
	Stainless steel stem with Nitrile (NBR) plug (NACE)	R67CSRX0012
	Types 67CF, 67CFR and 67CFSR	
	Includes valve cartridge assembly (contains keys 10, 11, 12, 13, 14 and 15), diaphragm assembly (key 16), O-ring (key 4), filter element (key 6), filter gasket (key 26), thrust washer (key 37) and four screws (key 3)	
	Type 67CF (without relief)	
	Brass stem with Nitrile (NBR) plug	R67CFX00012
	Aluminum stem with Nitrile (NBR) plug (NACE)	R67CFX00N12
	Type 67CFR (with relief)	
	Brass stem with Nitrile (NBR) plug	R67CFRX0012
	Aluminum stem with Nitrile (NBR) plug (NACE)	R67CFRX0N12
	Type 67CFSR (with relief)	
	Stainless steel stem with Nitrile (NBR) plug (NACE)	R67CFSRX012
	Valve Cartridge Assembly Only*(1)	
	Type 67C, 67CR, 67CF or 67CFR	
	Brass stem with Nitrile (NBR) plug	
	with Nitrile (NBR) O-ring	T14121T0012
	with Silicone (VMQ) O-ring	T14121T0032
	Aluminum stem	
	with Fluorocarbon (FKM) plug	T14121T0022
	with Nitrile (NBR) plug	T14121T0042
	Aluminum stem (NACE)	
	with Nitrile (NBR) plug	T14121T0052
	with Fluorocarbon (FKM) plug	T14121T0062
	Stainless steel stem	
	with Nitrile (NBR) plug	T14121T0072
	Type 67CS, 67CSR, 67CFS or 67CFSR	
	316 Stainless steel stem	
	with Nitrile (NBR) plug and O-rings (NACE)	T14121T0092
	with Fluorocarbon (FKM) plug and O-rings	T14121T0102
	with Nitrile (NBR) plug and Silicone (VMQ) O-rings	T14121T0112
	Automatic Drain Conversion Kits	
	Includes auto-drain (key 2), four flange screws (key 3), dripwell O-ring (key 4) and dripwell (key 5).	
	Note: Temperature rating is 40 to 175°F / 4 to 79°C.	
	Types 67CF and 67CFR	
	Nitrile (NBR)	R67ADNX0012
	Fluorocarbon (FKM)	R67ADFX0012
	Types 67CFS and 67CFSR	
	Nitrile (NBR)	R67ADNX0022
	Fluorocarbon (FKM)	R67ADFX0022

- continued -

*Recommended Spare Part.
1. Valve cartridge assembly includes keys 10, 11, 12, 13, 14 and 15.

Key	Description	Part Number
1	Body	
	Type 67C or 67CR, Aluminum	T40643T0RG2
	Type 67CS or 67CSR, CF3M/CF8M	
	Stainless steel	GE00909X012
	Type 67CF or 67CFR, Aluminum	T80510T0012
	Type 67CFS or 67CFSR, CF3M/CF8M	
	Stainless steel	40C1887X012
	Type 67CFR with Smart Bleed™, Aluminum	
	Nitrile (NBR)	GE03477X022
	Fluorocarbon (FKM)	GE03477X032
	Type 67CFSR with Smart Bleed, Stainless steel	
	Nitrile (NBR)	GE09414X022
	Fluorocarbon (FKM)	GE09414X032
2	Drain Valve	
	Manual Type 67CF or 67CFR	
	Brass	1K418918992
	316 Stainless steel	AH3946X0052
	Type 67CFS or 67CFSR	
	316 Stainless steel	AH3946X0052
	Automatic (only used with large capacity dripwell)	
	Type 67CFS or 67CFSR	
	Nitrile (NBR)	GG00554X012
	Fluorocarbon (FKM)	GG00554X022
3	Flange Screw	
	Type 67C, 67CR, 67CF or 67CFR	
	Standard spring case and spring case with 1/4 NPT vent (10 required)	T13526T0012
	For wire seal	
	Zinc-plated steel (9 required)	T13526T0012
	Steel (with hole) (1 required)	14B3987X012
	Type 67CS, 67CSR, 67CFS or 67CFSR (10 required)	T13526T0042
4*	O-ring	
	Type 67C, 67CR, 67CS or 67CSR	
	Nitrile (NBR)	T14380T0012
	Fluorocarbon (FKM)	T14380T0022
	Silicone (VMQ)	T14380T0032
	Type 67CF, 67CFR, 67CFS or 67CFSR	
	Nitrile (NBR)	T14057T0042
	Fluorocarbon (FKM)	T14057T0022
	Silicone (VMQ)	T14057T0032
5	Dripwell	
	Type 67CF or 67CFR, Aluminum	
	Standard	T21040T0012
	Large Capacity, manual drain	GE34605X012
	Large Capacity, automatic drain	GE34606X012
	Type 67CFS or 67CFSR, CF3M/CF8M Stainless steel	
	Standard	20C1726X012
	Large Capacity, manual drain	GE34607X012
	Large Capacity, automatic drain	GE31792X012
6*	Filter Element	
	(Types 67CF, 67CFR, 67CFS and 67CFSR)	
	Polyethylene (5 microns) (standard)	GE32761X012
	Glass fiber (5 microns)	17A1457X012
	Polyvinylidene fluoride (PVDF) (40 microns)	GE32762X012
	316 Stainless steel (40 microns)	15A5967X022
7	Spring Case Assembly	
	Type 67C, 67CR, 67CF or 67CFR, Aluminum/Steel	
	Drilled hole vent (standard)	T14070T0012
	Single hole vent	T14070T0022
	Type 67CS, 67CSR, 67CFS or 67CFSR, CF3M/CF8M Stainless steel	20C1727X012
9	Filter Retainer	
	Type 67CF or 67CFR, Zinc-plated	T14052T0012
	Type 67CFS or 67CFSR, 316 Stainless steel	T14052T0022
10*(1)	Valve Cartridge	T80434T0012
11*(1)	Valve Plug	
	Type 67C, 67CR, 67CF or 67CFR	
	Brass stem, Nitrile (NBR) plug	T14053T0012
	Aluminum stem, Fluorocarbon (FKM) plug	T14053T0022
	Aluminum stem, Nitrile (NBR) plug	T14053T0032
	Type 67CS, 67CSR, 67CFS or 67CFSR	
	Stainless steel stem, Nitrile (NBR) plug	T14053T0042
	Stainless steel stem, Fluorocarbon (FKM) plug	T14053T0052
12*(1)	Valve Spring	
	Type 67C, 67CR, 67CF or 67CFR	
	302 Stainless steel	T14105T0012
	Inconel® (NACE)	T14116T0012
	Type 67CS, 67CSR, 67CFS or 67CFSR, Inconel® (NACE)	T14116T0012
13*(1)	Valve Retainer, Rynite®	T14071T0012
14*(1)	O-ring	
	Nitrile (NBR)	T14063T0012
	Fluorocarbon (FKM)	T14063T0022
	Silicone (VMQ)	T14063T0032
15*(1)	Soft Seat	
	Nitrile (NBR)	T14055T0012
	Fluorocarbon (FKM)	T14055T0022
16*	Diaphragm Assembly	
	Type 67C or 67CF (without relief)	
	Nitrile (NBR)	T14119T0022
	Fluorocarbon (FKM)	T14119T0042
	Type 67CR or 67CFR (with relief)	
	Nitrile (NBR)	T14119T0012
	Fluorocarbon (FKM)	T14119T0032
	Silicone (VMQ)	T14119T0052
	Type 67CS or 67CFS (without relief)	
	Nitrile (NBR)	T14119T0062
	Fluorocarbon (FKM)	T14119T0072
	Type 67CSR or 67CFSR (with relief)	
	Nitrile (NBR)	T14119T0082
	Fluorocarbon (FKM)	T14119T0092
	Silicone (VMQ)	T14119T0102
17	Spring	
	Type 67C, 67CR, 67CF or 67CFR, Plated steel (standard)	
	0 to 20 psig / 0 to 1.4 bar, Green stripe	GE07809T012
	0 to 35 psig / 0 to 2.4 bar, Silver	T14059T0012
	0 to 60 psig / 0 to 4.1 bar, Blue stripe	T14058T0012
	0 to 125 psig / 0 to 8.6 bar, Red stripe	T14060T0012
	Type 67CR or 67CFR (NACE), Inconel® (NACE)	
	0 to 35 psig / 0 to 2.4 bar, Silver stripe	T14113T0012
	0 to 60 psig / 0 to 4.1 bar, Blue	T14114T0012
	0 to 125 psig / 0 to 8.6 bar, Red	T14115T0012
	Type 67CS, 67CSR, 67CFS or 67CFSR, Inconel® (NACE)	
	0 to 20 psig / 0 to 1.3 bar, Green	10C1729X012
	0 to 35 psig / 0 to 2.4 bar, Silver stripe	T14113T0012
	0 to 60 psig / 0 to 4.1 bar, Blue	T14114T0012
	0 to 125 psig / 0 to 8.6 bar, Red	T14115T0012
	0 to 150 psig / 0 to 10.3 bar, Black	10C1730X012
18	Adjusting Screw	
	Type 67C, 67CR, 67CF or 67CFR, Zinc-plated steel	
	For standard spring case	
	Square head (standard)	T14061T0012
	Handwheel	T14102T0012
	Wire seal (not shown)	T14104T0012
	Type 67C, 67CR, 67CF or 67CFR, Zinc-plated steel (continued)	
	For spring case with 1/4 NPT vent, Zinc-plated steel	
	Square head for closing cap,	T14101T0012
	Handwheel	T14103T0012
	Wire seal (not shown)	T14198T0012

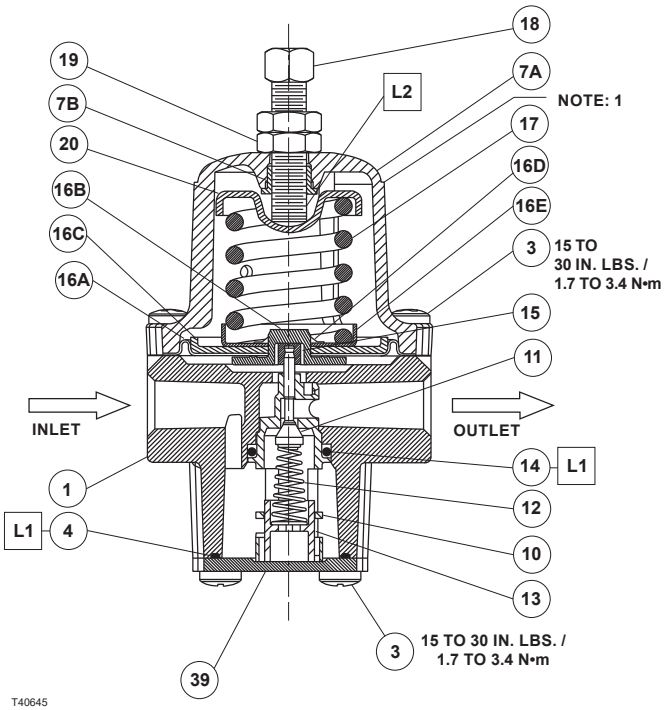
*Recommended Spare Part.
1. Valve cartridge assembly includes keys 10, 11, 12, 13, 14 and 15.
Inconel® is a mark owned by Special Metals Corporation.
Rynite® is a mark owned by E.I. du Pont de Nemours and Co.

- continued -

Key	Description	Part Number
18	Adjusting Screw (continued)	
	Type 67CS, 67CSR, 67CFS or 67CFSR	
	Square head with or without closing cap,	
	316 Stainless steel	T14101T0022
	Handwheel, Zinc-plated steel	T14103T0012
19	Locknut	
	Type 67C, 67CR, 67CF or 67CFR	
	Zinc-plated steel	1A946324122
	316 Stainless steel	1A9463X0042
	Type 67CS, 67CSR, 67CFS or 67CFSR	
	316 Stainless steel	1A9463X0042
20	Upper Spring Seat	
	Type 67C or 67CR only	
	1/4 NPT Vent	T14051T0042
	Type 67C, 67CR, 67CF or 67CFR	
	Standard	T14051T0012
22	Pressure Gauge (not shown)	
	Type 67C, 67CR, 67CF or 67CFR, Brass	
	0 to 30 psig / 0 to 2.1 bar / 0 to 0.2 MPa	11B8579X022
	0 to 60 psig / 0 to 4.1 bar / 0 to 0.4 MPa	11B8579X032
	0 to 160 psig / 0 to 11.0 bar / 0 to 1.1 MPa	11B8579X042
	For all types, Stainless steel	
	0 to 30 psig / 0 to 2.1 bar / 0 to 0.2 MPa	11B9639X012
	0 to 60 psig / 0 to 4.1 bar / 0 to 0.4 MPa	11B9639X022
	0 to 160 psig / 0 to 11.0 bar / 0 to 1.1 MPa	11B9639X032
23	1/4 in. / 6.4 mm Pipe Plug (not shown)	
	Type 67C, 67CR, 67CF or 67CFR	
	Socket head, Steel	1C333528992
	For all types	
	Hex head, Stainless steel	1A767535072
24	Tire Valve (not shown)	
	Type 67C, 67CR, 67CF or 67CFR	1H447099022
26*	Filter Gasket	
	Type 67CF, 67CFR, 67CFS or 67CFSR	
	with Nitrile (NBR) O-ring	T14081T0012
	with Fluorocarbon (FKM) O-ring	T14081T0022
30	NACE Tag (not shown), 18-8 Stainless steel	19A6034X012
31	Panel Mounting Nut, 303 Stainless steel	10B2657X012
32	Wire Seal (not shown)	
	Type 67C or 67CR	
	304 Stainless steel	1U7581000A2
33	Closing Cap, Resin	23B9152X012
34	Spacer (2 required) (Figure 13)	
	Type 67CF or 67CFR, Steel	T14123T0012
	Type 67CFS or 67CFSR, 18-8 Stainless steel	T14123T0022
37*	Thrust Washer	
	(Type 67CF, 67CFR, 67CFS or 67CFSR)	
	with Nitrile (NBR) O-rings	T14196T0012
	with Fluorocarbon (FKM) O-rings	T14196T0022
39	Bottom Plate, 316 Stainless steel	
	Type 67C or 67CR	GE03520XRG2
	Type 67CS or 67CSR	GE03520X012
45	Screen Vent, 18-8 Stainless steel	
	Type 67CS, 67CSR, 67CFS or 67CFSR	0L078343062

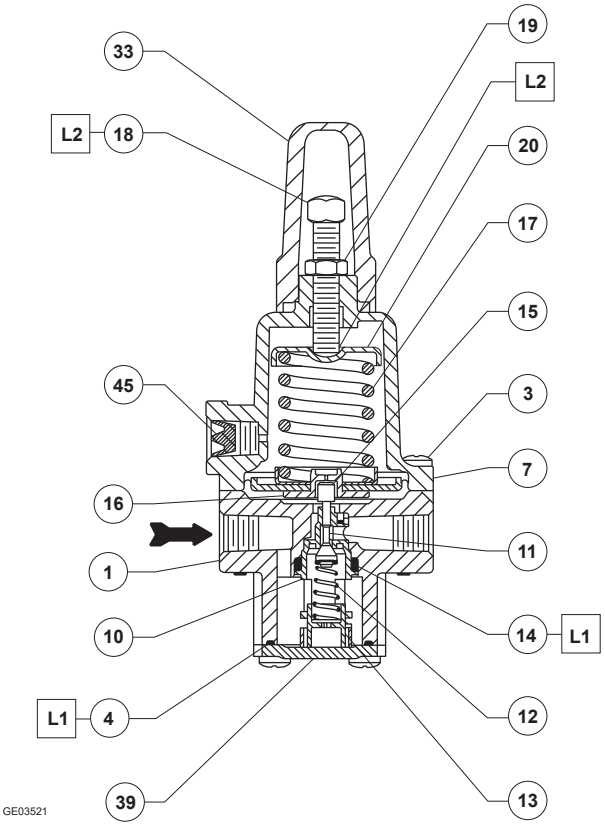
Parts for Mounting on Fisher™ 2500 Series Controller (Type 67CF or 67CFR)

Key	Description	Part Number
35	Mounting adaptor plate, Steel (not shown)	T21043T0012
36	O-ring, Nitrile (NBR) (not shown)	1E591406992
38	Gasket, Neoprene (CR) (not shown)	1C898603012



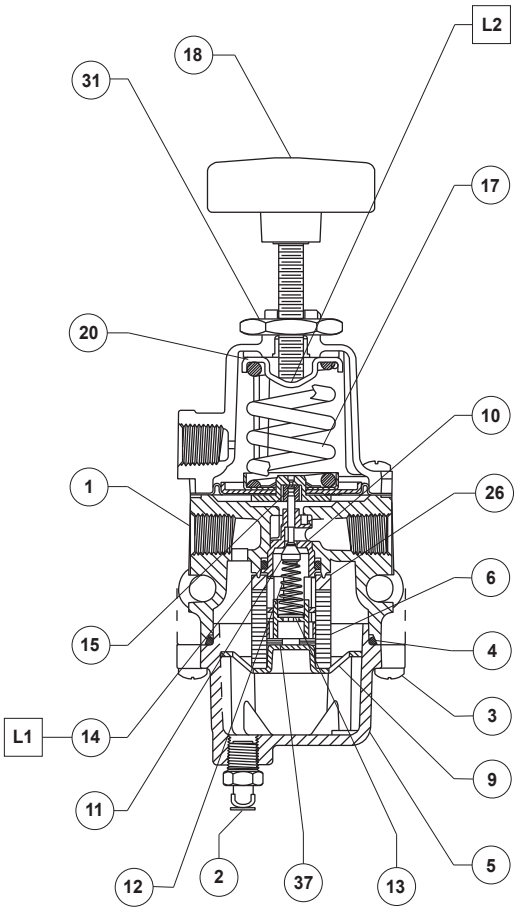
☐ APPLY LUBRICANT (L)
L1 = MULTI-PURPOSE POLYTETRAFLUOROETHYLENE (PTFE) LUBRICANT
L2 = ANTI-SEIZE COMPOUND

Figure 3. *Type 67C or 67CR Assembly*



☐ APPLY LUBRICANT (L):
L1 = MULTI-PURPOSE POLYTETRAFLUOROETHYLENE (PTFE) LUBRICANT
L2 = ANTI-SEIZE COMPOUND

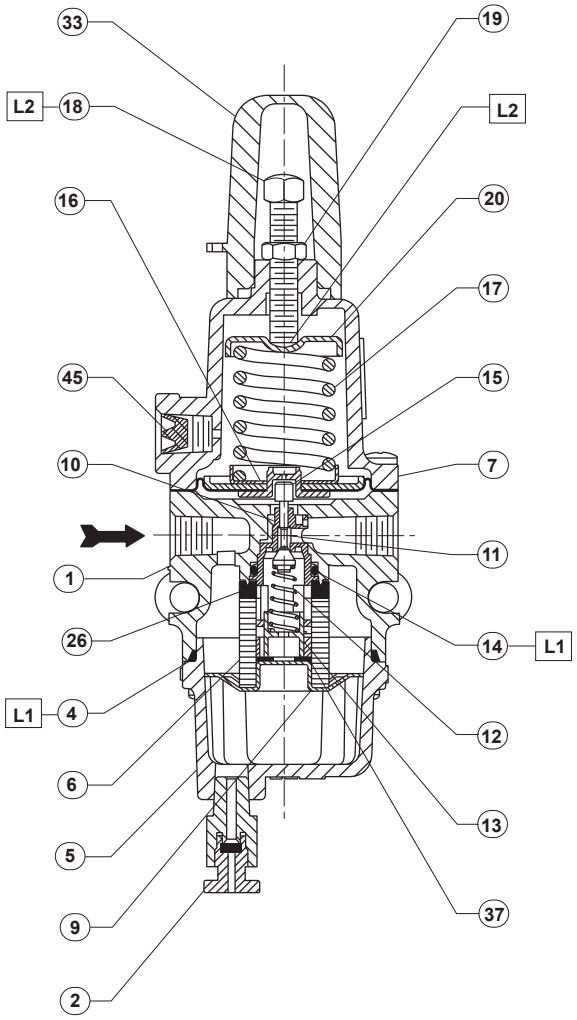
Figure 4. *Type 67CS or 67CSR Assembly*



T40580

☐ APPLY LUBRICANT (L):
L1 = MULTI-PURPOSE POLYTETRAFLUOROETHYLENE (PTFE) LUBRICANT
L2 = ANTI-SEIZE COMPOUND

Figure 5. *Type 67CF or 67CFR Assembly*



40C1728

☐ APPLY LUBRICANT (L):
L1 = MULTI-PURPOSE POLYTETRAFLUOROETHYLENE (PTFE) LUBRICANT
L2 = ANTI-SEIZE COMPOUND

Figure 6. *Type 67CFS or 67CFSR Assembly*

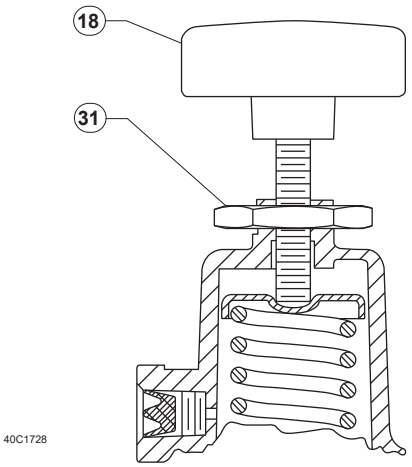


Figure 7. *67C Series Optional Panel Mount*

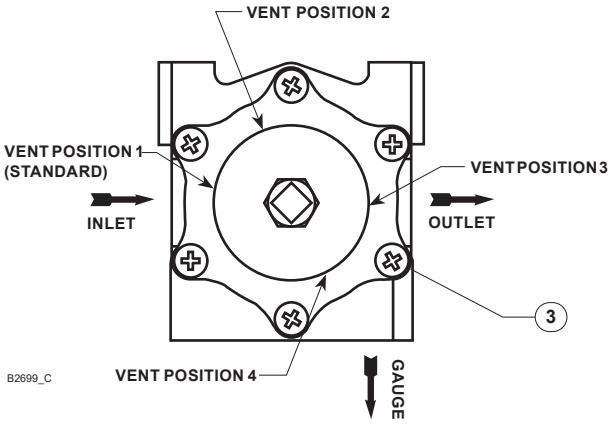


Figure 8. *67C Series Spring Case Vent Positions*

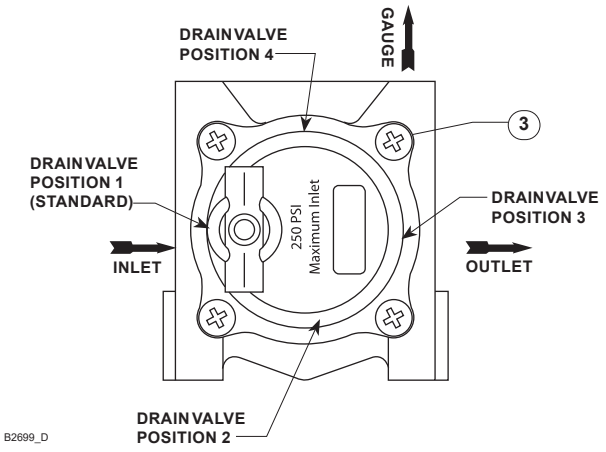


Figure 9. *Types 67CF, 67CFR, 67CFS and 67CFSR Drain Valve Positions*

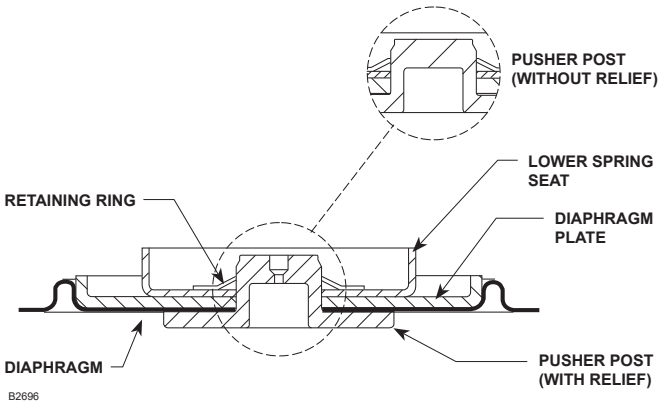


Figure 10. *Diaphragm Assembly (key 16)*

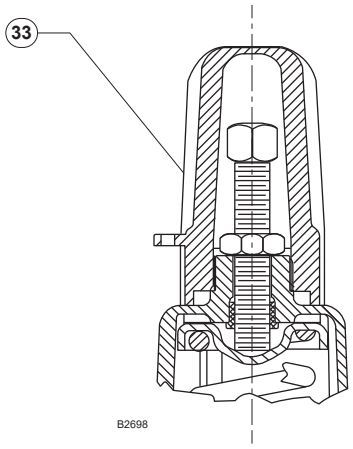


Figure 11. *Optional Closing Cap (Only Available with the 1/4 in. / 6.4 mm Spring Case Vent)*

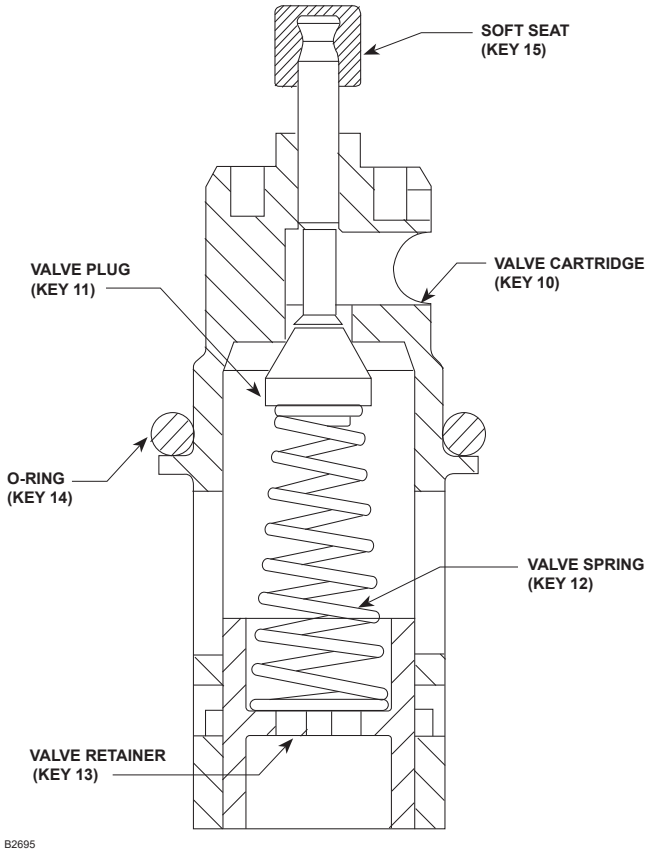


Figure 12. *Valve Cartridge Assembly*

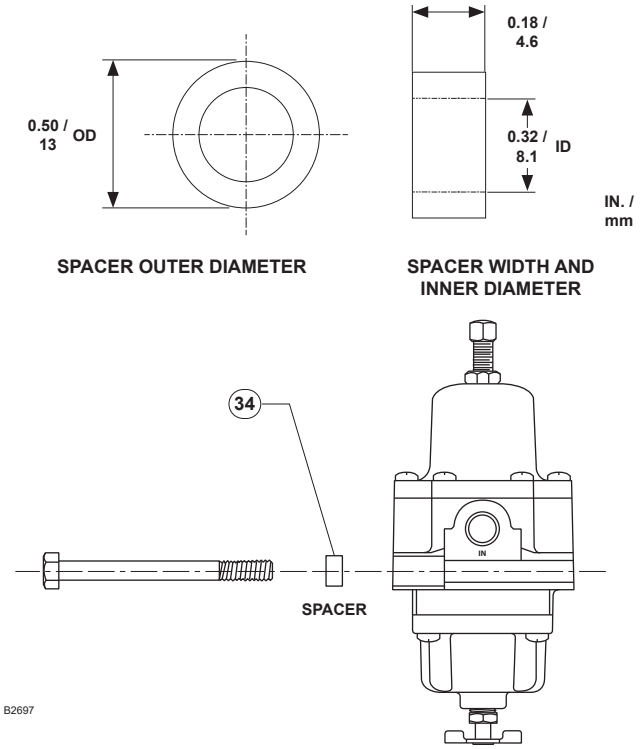


Figure 13. *Spacer Diameter and Assembly*
(For Installing in an Existing Installation if the Mounting Bolts are Too Long)

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