

June 2018

119 Series Fuel Gas Valve

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WARNING

Failure to follow these instructions or to properly install and maintain this equipment could result in an explosion, fire and/or chemical contamination causing property damage and personal injury or death.

Fisher™ valves must be installed, operated and maintained in accordance with federal, state and local codes, rules and regulations and Emerson Process Management Regulator Technologies, Inc. (Emerson) instructions.

If the valve vents gas or a leak develops in the system, service to the unit may be required. Failure to correct trouble could result in a hazardous condition.



TYPE 119



TYPE 119EZ

Figure 1. 119 Series Fuel Gas Valve

Installation, operation and maintenance procedures performed by unqualified personnel may result in improper adjustment and unsafe operation. Either condition may result in equipment damage or personal injury. Call a qualified personnel when installing, operating and maintaining the 119 Series valve.

119 Series

Specifications

The Specifications table lists the specifications for the 119 Series fuel gas valve. Some of the specifications of the given valve that originally comes from the factory, are stamped on the nameplate located on the spring case flange.

Available Configuration

Type 119: Direct-operated valve used for on-off or throttling control of noncorrosive or mildly corrosive liquids and gases

Type 119EZ: Direct-operated valve with adjustable opening speed for reliable startup operation on gas burner systems

Type 119Ezs: Type 119EZ equipped with solenoid for valve to be operated by local control system

Body Sizes and End Connection Styles

Type 119:

BODY SIZE, NPT	BODY MATERIAL
3/4	Cast Iron, WCC Steel
1	
1-1/4	Cast Iron

Types 119EZ and 119Ezs:

BODY SIZE, NPT	BODY MATERIAL
1	Cast Iron, CF8M Stainless Steel

Spring Ranges

See Table 1

Orifice Size and Flow Coefficients

See Table 2

Maximum Inlet Pressure⁽¹⁾

150 psig / 10.3 bar

Maximum Control Pressure to Diaphragm

150 psig / 10.3 bar

Maximum Pressure Drop⁽¹⁾

150 psig / 10.3 bar for all port diameters
115 psig / 7.9 bar for Type 119Ezs with ASCO 8320 Series solenoid

Pressure Setting Adjustment

May be adjusted throughout each spring range by rotating the adjusting screw

Type 119Ezs Solenoid Specifications

Electric Train: Refer to ASCO 8320 Series General Service Solenoid Valve Catalog (Document Number: 8320R2)

Low Power/Solar: Refer to ASCO Low Power Solutions Catalog (Document Number: V7704)

Valve Plug Travel

3/16 in. / 4.8 mm

Actuator Control Line Connection

1/4 FNPT

Spring Case and Bonnet Vents

1/4 FNPT

Flow Direction

Up through the orifice

Material Temperature Capabilities⁽¹⁾⁽²⁾

Type 119:

MATERIAL	TEMPERATURE RANGE
Nitrile (NBR)	-20 to 180°F / -29 to 82°C
Fluorocarbon (FKM) ⁽³⁾	0 to 250°F / -18 to 121°C

Types 119EZ and 119Ezs:

MATERIAL	TEMPERATURE RANGE
Nitrile (NBR) ⁽⁴⁾	-40 to 180°F / -40 to 82°C
Fluorocarbon (FKM) ⁽³⁾	0 to 250°F / -18 to 121°C

Type 119Ezs Solenoid Temperature Capabilities⁽¹⁾

ASCO™ 8320 Series Solenoid:

32 to 125°F / 0 to 52°C

ASCO 8314 Series Solenoid:

-13 to 131°F / -25 to 55°C

Construction Materials

Standard Construction

Valve Body: Cast iron, WCC steel or Stainless steel

Spring Case: Aluminum

Bonnet: Aluminum

Disk Holder Assembly: Aluminum and Nitrile (NBR) (**standard**), Stainless steel and Nitrile (NBR) or Stainless steel and Fluorocarbon (FKM)

Orifice: Aluminum (**standard**) or Stainless steel

Diaphragm: Nitrile (NBR) or Fluorocarbon (FKM)

O-rings: Nitrile (NBR) (**standard**) or Fluorocarbon (FKM)

Stem Wiper: Polytetrafluoroethylene (PTFE)

Adjusting Screw: Steel

Spring: Steel

NACE Construction

Body: Steel or Stainless steel

Disk Holder Assembly: Aluminum or Fluorocarbon (FKM)

Diaphragm and Stem Assembly: Aluminum or Fluorocarbon (FKM)

O-rings and Internal Retaining Rings: Fluorocarbon (FKM)

Approximate Weight

6 lbs / 3 kg

1. The pressure/temperature limits in this Instruction Manual, ASCO solenoid documentation and any applicable standard or code limitation should not be exceeded.

2. Pressure and/or the body end connection may decrease these maximum temperatures.

3. Not for use with hot water or Ammonia (NH₃).

4. Minimum temperature for Cast Iron body is -20°F / -29°C.

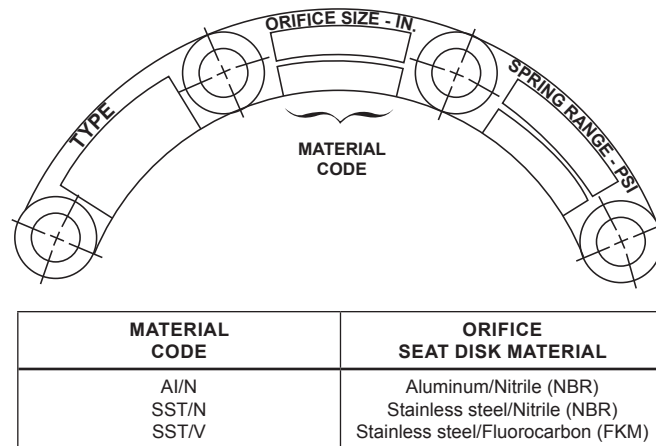


Figure 2. 119 Series Nameplate

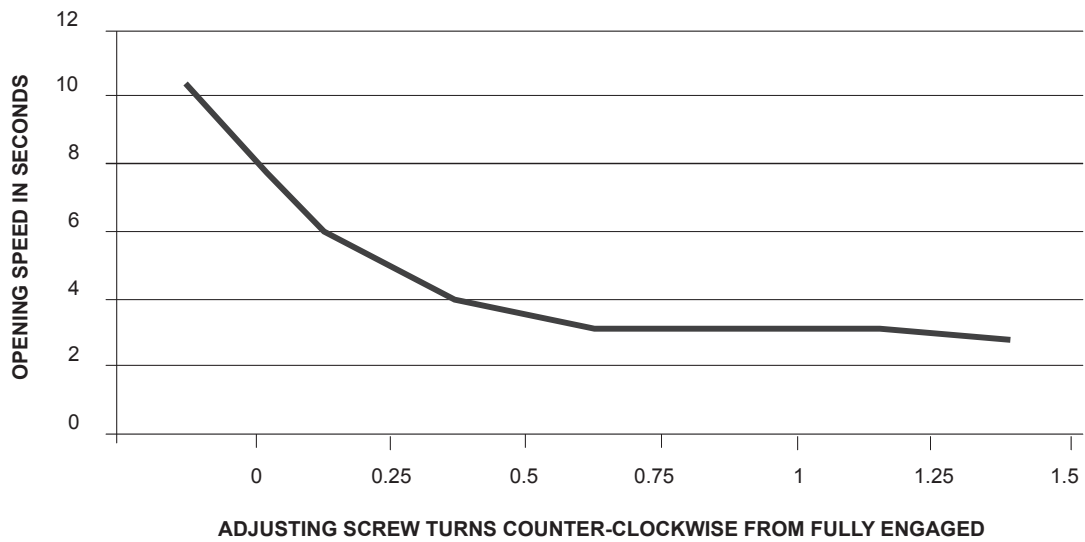
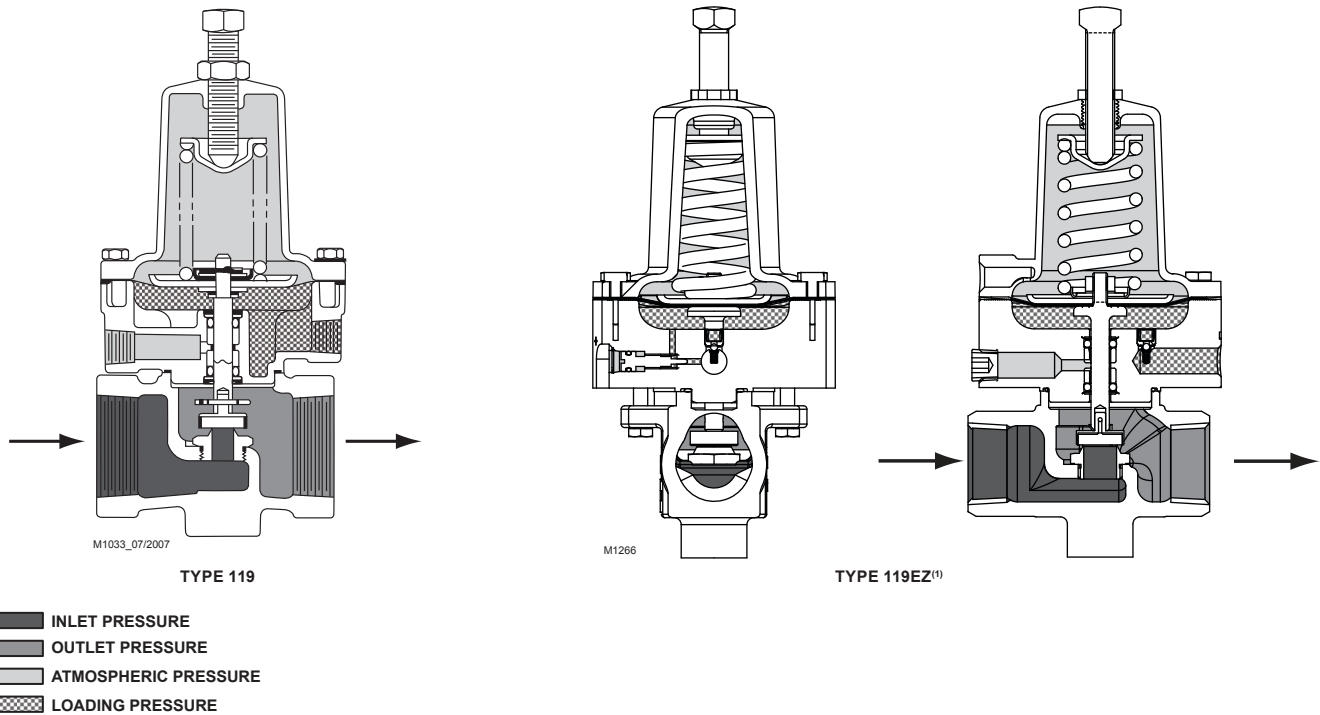


Figure 3. Types 119EZ and 119EVS Valve Opening Restrictor Adjustment with 50 psig / 3.45 bar Inlet Pressure

Table 1. Spring Selection

SPRING RANGE		SPRING PART NUMBER	SPRING COLOR CODE	FREE LENGTH		WIRE DIAMETER	
psig	bar			in.	mm	in.	mm
3 to 15	0.21 to 1.0	1D89230X0A0	Red	2.94	75	0.168	4.27
5 to 20	0.34 to 1.4	1D75150X0A0	Silver	2.81	71	0.187	4.75
5 to 35	0.34 to 2.4	1D66590X0A0	Blue	2.50	64	0.218	5.54
30 to 60	2.1 to 4.1	ERAA01910A0	Green	2.60	66	0.234	5.94



1. Solenoid valve connects to loading pressure port.

Figure 4. 119 Series Operational Schematics

Introduction

Scope of the Manual

This instruction manual provides installation, spring adjustment, maintenance and parts information for the 119 Series valve.

Description

The 119 Series valve (Figure 1) is used for on-off or throttling control of noncorrosive or mildly corrosive flow media. It is designed to meet low-pressure application requirements in many varied industries.

Principle Of Operation

119 Series

As loading pressure is applied to the 119 Series valve diaphragm, the disk holder is pulled off the orifice. As loading pressure is reduced, the opposing spring force moves the disk holder toward the closed position, resulting in spring-close action should a loss of loading supply pressure occur.

The Type 119EZ comes equipped with an adjustment tool that can be used to modulate the valve opening speed, while still allowing for quick closing speeds. The Type 119Ezs comes equipped with a solenoid control valve that opens and closes based on signal responses from the burner management system.

Burner Management System

A Burner Management System (BMS) is a safety solution for Oil and Gas facilities that enables the safe start-up, operation and shut down of the burner section of a fire tube vessel. It reduces maintenance, improves up-time and provides a safe environment for fire tube vessels and field personnel.

Reliable pressure control elements are essential to ensure a safe and efficient burner system. A burner pressure regulator needs to be able to open slow during startup, close fast during shutdown and throttle to maintain temperature during normal operation. Poor main burner pressure regulation contributes to an inefficient fuel gas pressure control system.

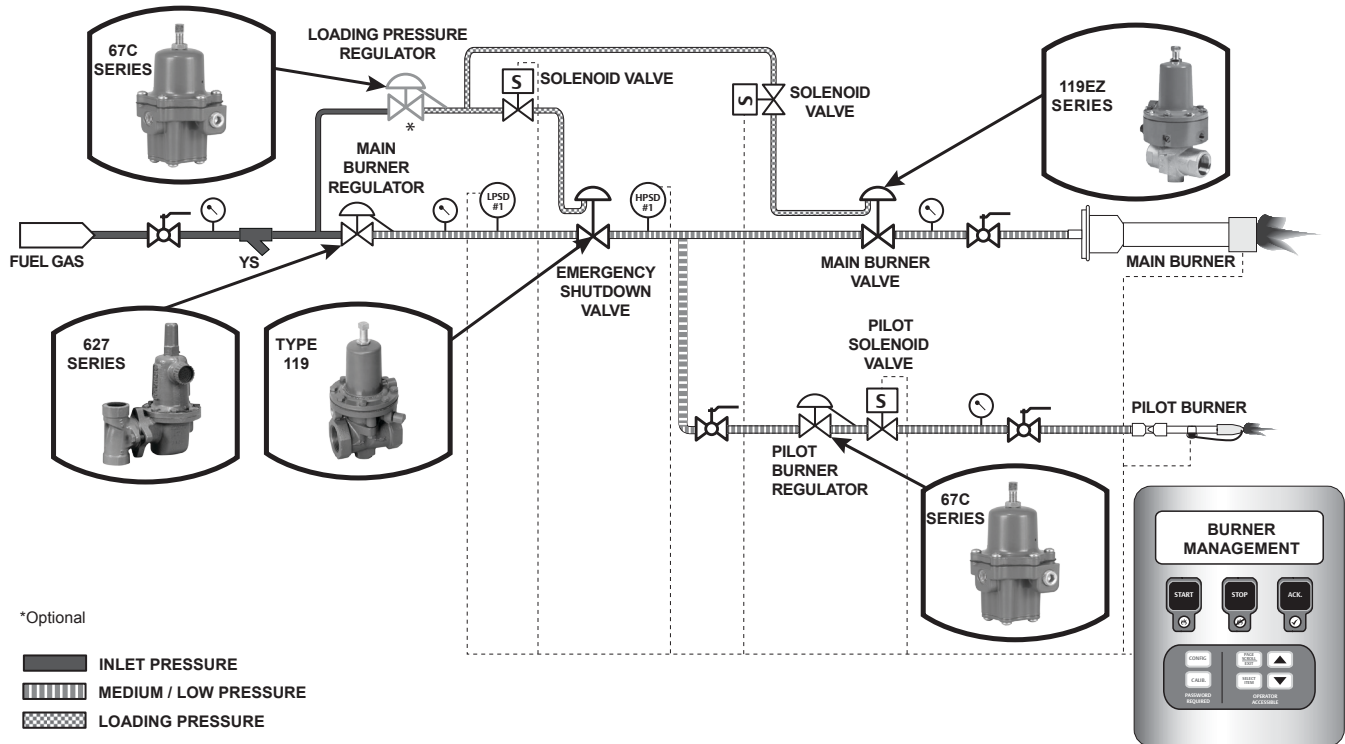


Figure 5. Burner Management Operational Schematics

In addition, if the main burner regulators require frequent monitoring, maintenance and replacement, increased operation and maintenance costs could be incurred.

Emerson simplifies the complexity of fuel gas pressure control system by providing a one-stop solution, eliminating procurement challenges. Emerson's solution works with a BMS to ensure efficient burner ignition/re-ignition, shutdown and steadily throttles to maintain temperature during normal operation. The solution is proven and robust, thereby significantly lowering maintenance expenses.

Installation

WARNING

To avoid personal injury or property damage caused by controlled process fluid or bursting of pressure-retaining parts, be certain the service conditions do not exceed the limits shown in Specifications section. The leak-off and spring case vents must be kept open.

To avoid danger of fire or explosion from venting of flammable or otherwise hazardous fluid into a closed or poorly vented location, pipe the vents to a well-ventilated location, away from any buildings or windows so as not to create a further hazard.

1. Before installing the valve, be sure the valve body and associated equipment are free of damage and foreign material.
2. The valve can be installed in any position, but the normal orientation is with the actuator portion vertical above the body. If installing the valve at an outside location, point the spring case and bonnet vents in the downward direction to protect them from moisture or foreign materials.
3. Install the valve using accepted piping practices. Make sure that the valve is oriented so that flow through the body will match the flow direction arrow on the body.
4. If continuous operation is required during maintenance and inspection, install a three-valve bypass around the valve.

Table 2. 119 Series Valve Flow Coefficients

VALVE TRAVEL		ORIFICE SIZE		BODY SIZE ⁽¹⁾								
				3/4 In. Body			1 In. Body			1-1/4 In. Body		
In.	mm	In.	mm	C _v	C _g	C _i	C _v	C _g	C _i	C _v	C _g	C _i
3/16	4.8	1/8	3.2	0.43	12.5	29.1	0.43	12.5	29.1	0.43	12.5	29.1
		3/16	4.8	0.95	27.8	29.3	0.95	27.8	29.3	0.95	27.8	29.3
		1/4	6.4	1.70	48.3	28.4	1.70	48.3	28.4	1.70	48.3	28.4
		5/16	7.9	2.64	76.5	29.0	2.64	76.5	29.0	2.64	76.5	29.0
		3/8	9.5	3.22	104	32.3	3.3	105	31.8	3.57	106	29.7
		1/2	13	4.7	176	37.4	5.0	178	35.6	5.75	183	31.8
		9/16	14	5.6	213	38.0	5.9	218	36.8	7.2	230	31.9

1. Types 119EZ and 119Ezs only available in 1 in. body size.

- Connect the control pressure line to the 1/4 NPT connection in the valve body bonnet marked 150 psig / 10.3 bar max.
- For Type 119Ezs, wire the solenoid per the solenoid wiring instructions, Document Number: 8320R2, for the standard ASCO™ 8320 Series solenoid using 24V DC power. Wire the low power ASCO 8314 Series solenoid per Document Number: V7704. Wiring must comply with applicable local, state and federal codes and the National Electric Code.
- Slowly open the valves in the following order:
 - Loading supply and control line valve(s), if used
 - Inlet block valve
 - Outlet block valve
- Set the desired control pressure according to the Adjustment procedure.

Speed Adjustment:

The Types 119EZ and 119Ezs have a variable restrictor to 'control' or 'limit' the rate of opening.

The restrictor (key 28) can be turned clockwise to restrict the opening speed as shown in Figure 3.

Startup



WARNING

The maximum inlet, differential and outlet pressures should never be exceeded during startup. Use pressure gauges to monitor inlet pressure, outlet pressure and any loading pressure during startup.

- Check that proper installation is completed and upstream and downstream equipment has been properly adjusted.
- Make sure all block and vent valves are closed.
- Decompress the control spring by turning the adjusting screw counterclockwise.

Note

Special care should be taken not to adjust the speed adjustment screw past the retaining clip, as process gas may vent if adjustment screw is removed.

Spring Adjustment

The valve spring has been selected to meet the pressure condition requirements of the application as specified on the order. This pressure condition is stamped on the actuator nameplate.

The spring has a fixed pressure span over which loading pressure will stroke the valve. Adjustment of the spring compression shifts the span so that more or less loading pressure is required to start travel. Since the span does not change, there will be a corresponding increase or decrease in the pressure requirements at the end of the valve stroke.

If the valve has been disassembled or pressure conditions have changed, the spring may need adjustment to make the valve travel coincide with the diaphragm pressure range. Make the adjustment in the following manner. For key numbers refer to Figures 6 and 7.

1. Loosen the locknut (key 13) on the spring case.
2. Turn the adjusting screw (key 12) clockwise to compress the spring (key 16) or counterclockwise to decrease spring compression. Increased spring compression results in increased loading pressure necessary to start travel. Decreased spring compression results in less loading pressure required to start travel.
3. After adjustment, tighten the locknut. Note that the spring can be identified by the color code. Depending on how much conditions are changed, it may be necessary to install a new spring, using appropriate steps in the Maintenance section. After changing the spring, adjust the valve using the above steps in this section and indicate the new spring range on the nameplate.

Shutdown

1. Close the upstream block valve to the regulator inlet.
2. Close the downstream block valve to the regulator outlet.
3. Vent the downstream pressure by slowly opening the bleed valve between the valve and the downstream shutoff valve. Keeping the loading pressure on the valve during this process, will allow for all gas to vent between the upstream block valve and outlet bleed valve.
4. Close the block valve to the loading pressure.

5. Vent loading pressure slowly to release pressure in the spring case.
6. Vent inlet pressure slowly (through the bleed valve) to release all remaining pressure in the regulator.

Maintenance

Valve parts are subject to normal wear and must be inspected and replaced periodically. The frequency of inspection and maintenance depends on the severity of the service conditions.



WARNING

To avoid personal injury or property damage caused by sudden release of pressure or uncontrolled process fluid, isolate the valve from the pressure system and release all pressure from the valve body and actuator before performing maintenance operations.

The following describes the procedure for complete disassembly and assembly of the actuator-valve body combination. When inspection or repairs are required, disassemble only those parts necessary to accomplish the job. For key numbers refer to Figure 6 and 7.

Disassembly

1. Isolate the valve from all pressure and release pressure from the valve body and actuator. Loosen the locknut (key 13) and remove all spring compression from the valve by turning the adjusting screw (key 12) out of the spring case.
2. Remove the two bonnet cap screws (key 15, not shown) that secure the bonnet to the body and lift the spring case, bonnet and trim assembly from the body.
3. Examine the seating edge of the orifice (key 3). If it is nicked or rough, unscrew it from the body with a thin wall 7/8 in. / 22 mm socket wrench and replace it with a new orifice of the proper size.
4. Remove the bonnet O-ring (key 11) and inspect it for wear or damage.

5. Unscrew and remove the spring case cap screws (key 14). Remove the spring case, upper spring seat and spring (keys 2, 17 and 16). Do not lose the nameplate (key 20) when removing the spring case.
6. Pull the hairpin clip (key 6) from the stem and remove the disk holder assembly (key 4).
7. Pull the diaphragm/stem assembly (key 5) out of the bonnet (key 9) and inspect for damage or deterioration. If necessary, replace the entire diaphragm assembly.
8. Without removing the O-rings and bushing spacers (keys 8 and 7) inspect their inside diameter surfaces for damage or deterioration.

Note

The following step should be performed only when there is an indication of O-ring or bushing spacer wear or damage.

9. Remove the internal retaining rings, stem wipers, O-rings and bushing spacers (keys 10, 19, 8 and 7). Inspect these parts for wear or deterioration and replace if necessary.

Assembly

This procedure assumes that the valve has been completely disassembled. If the valve has been only partially disassembled, start these instructions at the appropriate step.

1. If the orifice (key 3) was removed during disassembly, lubricate the threads with Anti-Seize compound lubricant (key 21) or equivalent and screw it into the valve body using a thin wall 7/8 in. / 22 mm socket wrench and a tighten using 29 to 38 ft-lbs / 39 to 52 N•m .
2. Lubricate the bushing spacers, O-rings, stem wipers and internal retaining rings (keys 7, 8, 19 and 10) with Silicone grease lubricant or equivalent and install as shown in Figure 6.
3. Carefully slide the diaphragm assembly (key 5) into and through the O-rings and bushing cavity. Turn the diaphragm assembly to line up the diaphragm holes with the bonnet holes.
4. Slide the disk holder assembly (key 4) all the way into the stem. Connect the disk holder assembly with the hairpin clip (key 6).
5. Coat the bonnet O-ring (key 11) with Silicone grease lubricant or equivalent. Install the O-ring in the recessed notch in the bonnet (key 9).

6. Mount the bonnet (key 9) on the valve body (key 1), insert two cap screws (key 15, not shown) and tighten to 5.5 to 7.1 ft-lbs / 7.5 to 9.6 N•m.
7. Put the spring (key 16) on the diaphragm assembly (key 5) and place the upper spring seat (key 17) in the end of the spring.
8. Lubricate the point and threads of the adjusting screw (key 12) with Anti-Seize Compound lubricant or equivalent.
9. Position the spring case (key 2) and nameplate (key 20) on the diaphragm assembly (key 5). Insert the cap screws (key 14).
10. Tighten all cap screws until finger tight. Then, following a crisscross pattern, tighten each cap screw using 4.5 to 5.5 ft-lbs / 6 to 7.5 N•m.
11. Connect the control piping to the control connection in the bonnet.
12. Adjust the spring by following the procedures in the Spring Adjustment section and remark the nameplate if necessary.

Parts Ordering

When contacting your local Sales Office for technical assistance or ordering replacement parts, include the type number and all other pertinent information stamped on the nameplate attached to the spring case.

When ordering replacement parts, also be sure to include the 11-character part number for each part required from the following parts list.

Parts List

Note

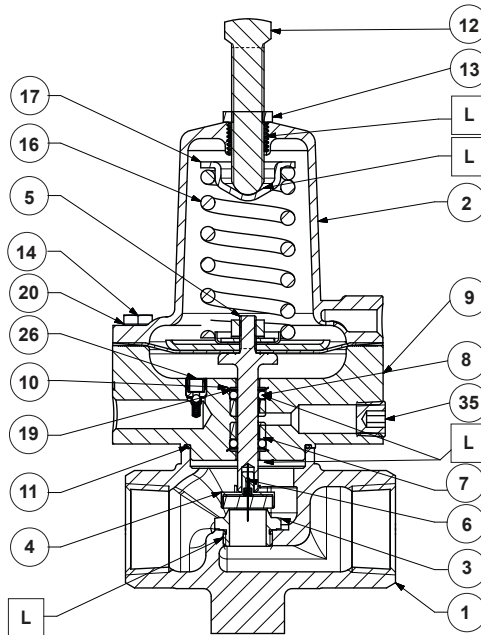
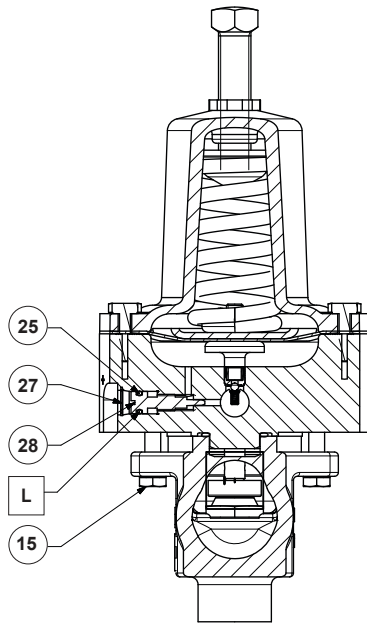
In this parts list, parts marked NACE can be used for sour gas service as detailed in the NACE International standard MR0175.

Key	Description	Part Number
	Part Kits	
	Kits include keys 4, 5, 6, 8, 10, 11 and 19.	
	For 1/8, 3/16, 1/4, 5/16 and 3/8 in. / 3.2, 4.8, 6.4, 7.9 and 9.5 mm orifices with Aluminum disk holder Nitrile (NBR) diaphragm, Nitrile (NBR) disk and O-rings	R119X000A12
	For 1/2 and 9/16 in. / 13 and 14 mm orifices with aluminum disk holder, Nitrile (NBR) diaphragm, Nitrile (NBR) disk and O-rings	R119X000A22
	For 1/8, 3/16, 1/4, 5/16 and 3/8 in. / 3.2, 4.8, 6.4, 7.9 and 9.5 mm orifices with Stainless steel disk holder, Nitrile (NBR) diaphragm, Nitrile (NBR) disk and O-rings	R119X000SN12

Parts List (continued)

Key	Description	Part Number	Key	Description	Part Number
			4*	Disk Holder Assembly ⁽¹⁾ (continued)	
	For 1/2 and 9/16 in. / 13 and 14 mm			NACE MR0175, Aluminum/Fluorocarbon (FKM)	
	Orifices with Stainless steel disk holder,			1/8, 3/16, 1/4, 5/16 and 3/8 in. / 3.2, 4.8,	1A8328X0122
	Nitrile (NBR) diaphragm, Nitrile (NBR) disk			6.4, 7.9 and 9.5 mm orifices	
	and O-rings	R119X00SN22		1/2 and 9/16 in. / 13 and 14 mm orifices	1C4248X0182
	For 1/8, 3/16, 1/4, 5/16 and 3/8 in. / 3.2, 4.8,			Stainless Steel/Nitrile (NBR)	
	6.4, 7.9 and 9.5 mm orifices with			1/8, 3/16, 1/4, 5/16 and 3/8 in. / 3.2, 4.8,	
	Stainless steel disk holder,			6.4, 7.9 and 9.5 mm orifices	1A8328000A2
	Fluorocarbon (FKM) diaphragm,			1/2 and 9/16 in. / 13 and 14 mm orifices	1C4248X0202
	disk and O-rings and Stainless		5*	Diaphragm/Stem Assembly ⁽¹⁾	
	steel disk holder	R119X00SV12		Aluminum/Nitrile (NBR)	ERAA22164A0
	For 1/2 and 9/16 in. / 13 and 14 mm			Stainless Steel/Nitrile (NBR)	ERAA22164A1
	Orifices with Stainless steel disk holder and			Stainless Steel/Fluorocarbon (FKM)	19A0348X012
	Fluorocarbon (FKM) diaphragm, disk			NACE MR0175	19A0348X022
	and O-rings	R119X00SV22	6	Hair Pin Clip ⁽¹⁾	19A0347X012
	NACE Construction		7	Bushing Spacer, Acetal (2 required)	18A7021X012
	For 1/8, 3/16, 1/4, 5/16 and 3/8 in. / 3.2, 4.8,		8*	O-ring ⁽¹⁾ (2 required)	
	6.4, 7.9 and 9.5 mm orifices with Aluminum			Nitrile (NBR)	18A7019X012
	disk holder, Fluorocarbon (FKM) diaphragm,			Fluorocarbon (FKM)	
	disk and O-rings	R119XN0SV32		(high-temperature, corrosion)	18A7019X022
	For 1/2 and 9/16 in. / 13 and 14 mm			NACE MR0175, Fluorocarbon (FKM)	18A7019X022
	Orifices with Aluminum disk holder,		9	Bonnet	
	Fluorocarbon (FKM) diaphragm,			For Type 119, Aluminum	48A7025X012
	disk and O-rings	R119XN0SV42		For Types 119EZ and 119EZS, Aluminum	ERAA12941A2
1	Valve Body		10	Internal Retaining Ring ⁽¹⁾ (2 required)	
	For Type 119			Nitrile (NBR) and Fluorocarbon (FKM)	18A7020X022
	Cast Iron			NACE MR0175, Fluorocarbon (FKM)	18A7020X022
	NPS 3/4 / DN 20	1E987119012	11*	Bonnet O-ring ⁽¹⁾	
	NPS 1 / DN 25	ERSA01755A0		Nitrile (NBR)	1K594906562
	NPS 1-1/4 / DN 32	1E987519012		Fluorocarbon (FKM) (high-temperature,	
	Steel			corrosion) and NACE MR0175	
	NPS 3/4 / DN 20	1E9871X0012	12	Adjusting Screw, Zinc-plated steel	13A5559X012
	NPS 1 / DN 25	1E9873X0012	13	Locknut, Zinc-plated steel	1D995448702
	For Types 119EZ and 119EZS		14	Cap Screw, Zinc-plated steel (8 required)	1D667728982
	NPS 1 / DN 25			For Type 119	1A391724052
	Stainless steel	ERSA00194A0		For Types 119EZ and 119EZS	
	Cast Iron	ERSA01755A0		Stainless Steel body	1A3917X0062
2	Spring Case	ERAA19719A1		Cast Iron body	1A391724052
3*	Orifice		15	Cap Screw, (2 required) (not shown)	
	Aluminum			For Type 119, Zinc-plated steel	
	1/8 in. / 3.2 mm diameter	1A936709012		Cast Iron body	1B787724052
	3/16 in. / 4.8 mm diameter	00991209012		Steel body	1B762424052
	1/4 in. / 6.4 mm diameter	0B042009012		For Types 119EZ and 119EZS	
	5/16 in. / 7.9 mm diameter	0B042109012		Stainless steel body	18B3456X012
	3/8 in. / 9.5 mm diameter	0B042209012		Cast Iron body	1C856228992
	1/2 in. / 13 mm diameter	1A928809012	16	Actuator Spring, Zinc-plated steel	See Table 1
	9/16 in. / 14 mm diameter	1C4252X0012	17	Upper Spring Seat, Zinc-plated steel	ERCA00823A0
	Stainless steel		18	Type Y602-12 Vent (not shown)	27A5516X012
	1/8 in. / 3.2 mm diameter	1A936735032	19	Stem Wiper ⁽¹⁾ ,	
	3/16 in. / 4.8 mm diameter	00991235032		Polytetrafluoroethylene (PTFE) (2 required)	18A7024X012
	1/4 in. / 6.4 mm diameter	0B042035032	20	Nameplate, Aluminum	-----
	5/16 in. / 7.9 mm diameter	0B042135032	23	Vent Screen, Stainless steel (not shown)	0L078343062
	3/8 in. / 9.5 mm diameter	0B042235032	24	NACE Tag	-----
	1/2 in. / 13 mm diameter	1A928835032	25	O-ring (For Types 119EZ and 119EZS only)	1P8453X00A0
	9/16 in. / 14 mm diameter	1C425235032	26	Check Valve (For Types 119EZ and 119EZS only)	ERAA15487A0
	316 Stainless Steel		27	Restraining Ring	
	(For Types 119EZ and 119EZS only)			(For Types 119EZ and 119EZS only)	ERAA14977A0
	9/16 in. / 14 mm diameter	1C4252X0022	28	Restrictor Screw	
4*	Disk Holder Assembly ⁽¹⁾			(For Types 119EZ and 119EZS only)	ERAA13988A0
	Aluminum/Nitrile (NBR)		29	Solenoid Valve (For Type 119EZS only)	
	1/8, 3/16, 1/4, 5/16 and 3/8 in. / 3.2, 4.8,			Electric (Standard)	ERAA17178A0
	6.4, 7.9 and 9.5 mm orifices	1A8328000N2		Solar	ERAA17494A0
	1/2 and 9/16 in. / 13 and 14 mm orifices	1C4248X0212	30	Connector (For Type 119EZS only)	15A6002XW22
	1/8, 3/16, 1/4, 5/16 and 3/8 in. / 3.2, 4.8,		31	Tubing (For Type 119EZS only)	0500213809W
	6.4, 7.9 and 9.5 mm orifices	1A8328000M2	32	Tag Wire (not shown)	-----
	1/2 and 9/16 in. / 13 and 14 mm orifices	1C4248X0052	33	Drive screw (2 required) (not shown)	
				NPS 1 / DN 25,	
				Cast Iron and Stainless Steel body	1A368228982
			34	Flow Arrow (not shown)	-----
			35	Pipe Plug (Types 119EZ and 119EZS)	
				Cast Iron body	1C333528992
				Stainless Steel body	1C3335X0012

*Recommended Spare Parts
1. Included in repair kit.



TYPE 119EZ

ERAA14665

APPLY LUBRICANT⁽¹⁾

1. Lubricant must be selected such that they meet the temperature requirements.

Figure 6. Types 119EZ and 119EVS Fuel Gas Valve Assembly

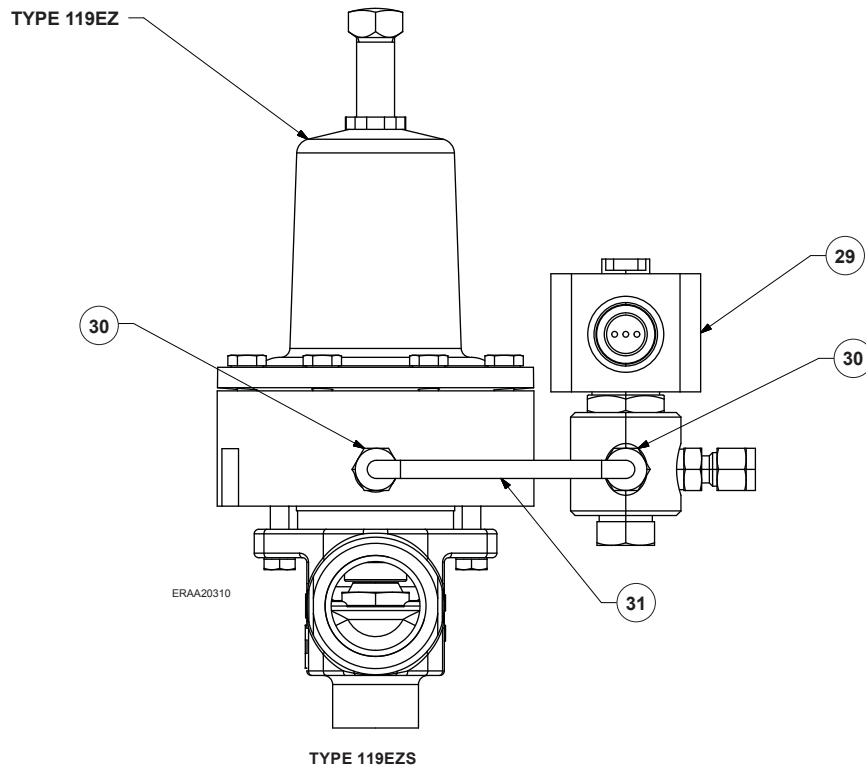
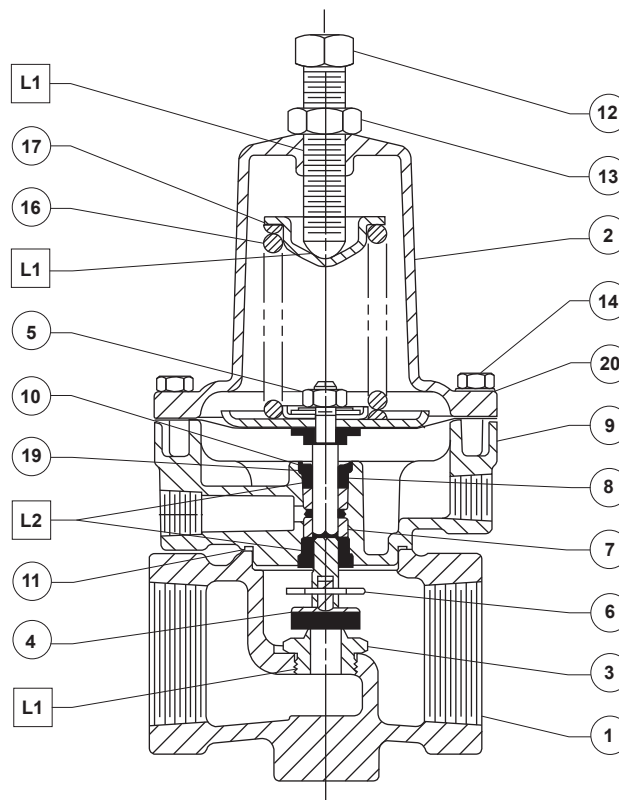


Figure 6. Types 119EZ and 119Ezs Fuel Gas Valve Assembly (continued)



37A8078-C

□ **APPLY LUBRICANT⁽¹⁾**
 L1 = Anti-seize compound Lubricant
 L2 = Silicone grease lubricant

1. Lubricants must be selected such that they meet the temperature requirements.

Figure 7. Type 119 Fuel Gas Valve Assembly

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