

Introduction

This Installation Guide provides instructions for installation, startup and adjustment. To receive a copy of the Instruction Manual, contact your local Sales office or view a copy at www.fisher.com. For further information refer to: Type 63EG-98HM Instruction Manual, D102630X012.

PED/PE(S)R Categories

This product may be used as a safety accessory with pressure equipment in the following categories. It may also be used outside of these Directives using Sound Engineering Practice (SEP) per table below. For information on the current PED/PE(S)R revision, see Bulletin: [D103053X012](#).

PRODUCT SIZE	CATEGORY	FLUID TYPE
DN 50 to 150 and 200x150 / 2 to 6 and 8x6 NPS	II	1

Specifications

Main Valve Body Sizes and End Connection Styles

See Table 1

Maximum Design Pressure⁽¹⁾⁽²⁾

41.4 bar / 600 psig or body rating limit, whichever is lower

Maximum Operating Relief (Inlet) Pressure Including Buildup⁽¹⁾⁽²⁾

31.0 bar / 450 psig or body rating limit, whichever is lower

Maximum Outlet Pressure⁽¹⁾⁽²⁾

31.0 bar / 450 psig

Maximum Differential Pressure⁽¹⁾

27.6 bar / 400 psig

Proof Test Pressure

All Pressure Retaining Components have been proof tested per Pressure Equipment Directive and Pressure Equipment (Safety) Regulation.

Relief Set Pressure/Backpressure Control Ranges⁽³⁾⁽⁴⁾

CONTROL PRESSURE RANGE	
bar	psig
1.0 to 2.4	15 to 35
1.7 to 5.2	25 to 75
4.8 to 9.7	70 to 140
9.0 to 13.8	130 to 200
10.3 to 25.9 ⁽⁵⁾	150 to 375 ⁽⁵⁾

Differential and Buildup Pressure Requirements⁽¹⁾

See Table 2

Temperature Capabilities⁽¹⁾

Fluorocarbon (FKM): -18 to 149°C / 0 to 300°F hot water limited to 82°C / 180°F

Ethylenepropylene (EPR):

Steel: -29 to 177°C / -20 to 350°F

Stainless steel: -40 to 177°C / -40 to 350°F

Perfluoroelastomer (FFKM): -18 to 232°C / 0 to 450°F

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

2. Fluorocarbon (FKM) diaphragm is limited to 20.7 bar / 300 psig.

3. Set pressure is defined as the pressure at which the pilot starts-to-discharge.

4. All springs may be backed off to 0 bar / 0 psig. However, highest capacities and best performances are obtained by using these springs in their recommended ranges.

5. 10.3 to 25.9 bar / 150 to 375 psig spring range is for the Type MR98HH pilot construction.

Installation



WARNING

Only qualified personnel shall install or service a relief valve or backpressure regulator. Relief valve or backpressure regulator should be installed, operated and maintained in accordance with international and applicable codes and regulations and Emerson Process Management Regulator Technologies, Inc. instructions.

If using a relief valve or backpressure regulator on a hazardous or flammable fluid service, personal injury and property damage could occur due to fire or explosion of vented fluid that may have accumulated. To prevent such injury or damage, provide piping or tubing to vent the fluid to a safe, well-ventilated area or containment vessel. Also, when venting a hazardous fluid, the piping or tubing should be located far enough away from any buildings or windows so to not create a further hazard and the vent opening should be protected against anything that could clog it.

Personal injury, equipment damage or leakage due to escaping fluid or bursting of pressure-containing parts may result if this relief valve or backpressure 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 limits.

Additionally, physical damage to the relief valve or backpressure regulator could result in personal injury and property damage due to escaping fluid.

To avoid such injury and damage, install the relief valve or backpressure regulator in a safe location.

Type 63EG-98HM

Table 1. Body Sizes and End Connection Styles

MAIN VALVE BODY SIZES, DN / NPS	END CONNECTION STYLE
50 / 2	NPT, CL150 RF, CSL300 RF, CL600 RF or PN 16/25/40 flanged
80, 100 and 150 / 3, 4 and 6	CL150 RF, CSL300 RF, CL600 RF or PN 16/25/40 flanged
200 x 150 / 8 x 6	CL150 RF, CSL300 RF and CL600 RF flanged

Table 2. Minimum and Maximum Differential and Buildup Required for Wide-Open Flow

BODY SIZE, DN / NPS	MAIN VALVE SPRING RANGE AND SPRING COLOR	MINIMUM DIFFERENTIAL PRESSURE REQUIRED FOR FULL STROKE ⁽¹⁾	BUILDUP OVER SET PRESSURE REQUIRED FOR FULL STROKE	MAXIMUM DIFFERENTIAL PRESSURE
50 / 2	0.69 to 2.8 bar / 10 to 40 psig, Yellow	1.5 bar / 22 psig	0.48 bar / 7 psig	2.8 bar / 40 psig
	2.1 to 8.6 bar / 30 to 125 psig, Green	2.1 bar / 30 psig	0.6 bar / 9 psig	8.6 bar / 125 psig
	5.9 to 27.6 bar / 85 to 400 psig, Red	6.2 bar / 90 psig	1.6 bar / 23 psig	28 bar ⁽²⁾ / 400 psig ⁽²⁾
80 / 3	0.69 to 2.8 bar / 10 to 40 psig, Yellow	1.3 bar / 19 psig	0.34 bar / 5 psig	2.8 bar / 40 psig
	2.1 to 8.6 bar / 30 to 125 psig, Green	1.7 bar / 25 psig	0.48 bar / 7 psig	8.6 bar / 125 psig
	5.9 to 27.6 bar / 85 to 400 psig, Red	4.1 bar / 60 psig	1.2 bar / 17 psig	28 bar ⁽²⁾ / 400 psig ⁽²⁾
100 / 4	0.69 to 2.8 bar / 10 to 40 psig, Yellow	1.1 bar / 16 psig	0.28 bar / 4 psig	2.8 bar / 40 psig
	2.1 to 8.6 bar / 30 to 125 psig, Green	1.4 bar / 20 psig	0.4 bar / 6 psig	8.6 bar / 125 psig
	5.9 to 27.6 bar / 85 to 400 psig, Red	3.8 bar / 55 psig	1.1 bar / 16 psig	28 bar ⁽²⁾ / 400 psig ⁽²⁾
150 / 6 200 x 150 / 8 x 6	0.69 to 2.8 bar / 10 to 40 psig, Yellow	1.1 bar / 16 psig	0.28 bar / 4 psig	2.8 bar / 40 psig
	2.1 to 8.6 bar / 30 to 125 psig, Green	1.4 bar / 20 psig	0.4 bar / 6 psig	8.6 bar / 125 psig
	5.9 to 27.6 bar / 85 to 400 psig, Red	3.8 bar / 55 psig	1.1 bar / 16 psig	28 bar ⁽²⁾ / 400 psig ⁽²⁾

1. Minimum differential is defined as the difference between the inlet pressure to the main valve body and the exhaust pressure from the pilot outlet. If the pilot exhaust is piped to the immediate downstream system, the differential is between the inlet and outlet pressure of the backpressure regulator. The pilot exhaust also may be discharged to atmosphere.
2. CL150 steel body is limited to 20 bar / 290 psig.

Clean out all pipelines before installation of the relief valve or backpressure regulator and check to be sure the relief valve or backpressure regulator has not been damaged or has collected foreign material during shipping. For NPT bodies, apply pipe compound to the external pipe threads. For flanged bodies, use suitable line gaskets and approved piping and bolting practices. Install the relief valve or backpressure regulator in any position desired, unless otherwise specified, but be sure flow through the body is in the direction indicated by the arrow on the body.

Note

It is important that the relief valve or backpressure regulator be installed so that the vent hole in the spring case is unobstructed at all times. For outdoor installations, the relief valve or backpressure regulator should be located away from vehicular traffic and positioned so that water, ice and other foreign materials cannot enter the spring case through the vent. Avoid placing the relief valve or backpressure regulator beneath eaves or downspouts and be sure it is above the probable snow level.

Overpressure Protection

Maximum inlet pressures depend upon body materials and temperatures. Refer to the nameplate for the maximum inlet pressure of the relief valve or backpressure regulator. The relief valve or backpressure regulator should be inspected for damage after any overpressure condition. **Fisher™ relief valve or backpressure regulators are NOT ASME safety relief valves.**

Startup

The relief valve or backpressure regulator is factory set at approximately the midpoint of the spring range or the pressure requested, so an initial adjustment may be required to give the desired results. With proper installation completed and relief valves properly adjusted, slowly open the upstream and downstream shutoff valves (if applicable).

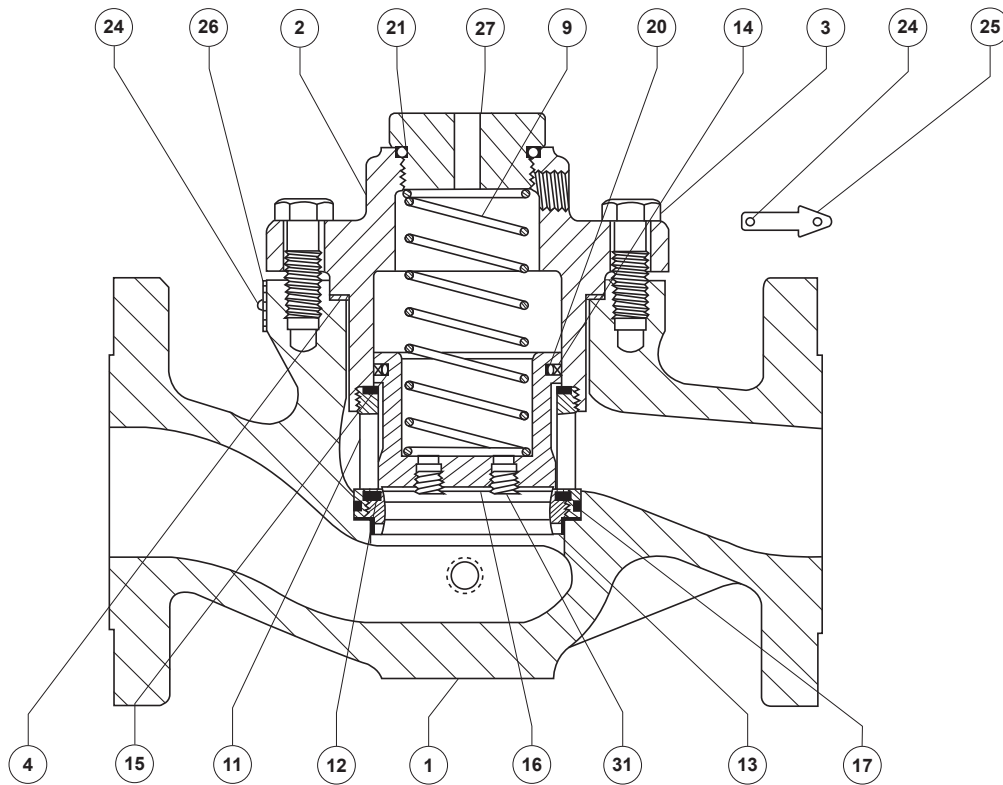
Adjustment

To change the set pressure, remove the closing cap or loosen the locknut and turn the adjusting screw clockwise to increase set pressure or counterclockwise to decrease pressure. Monitor the set pressure with a test gauge during the adjustment. Replace the closing cap or tighten the locknut to maintain the desired setting.

Taking Out of Service (Shutdown)



To avoid personal injury resulting from sudden release of pressure, isolate the relief valve or backpressure regulator from all pressure before attempting disassembly.



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Figure 1. Type 63EG Main Valve

Parts List

Type 63EG Main Valve

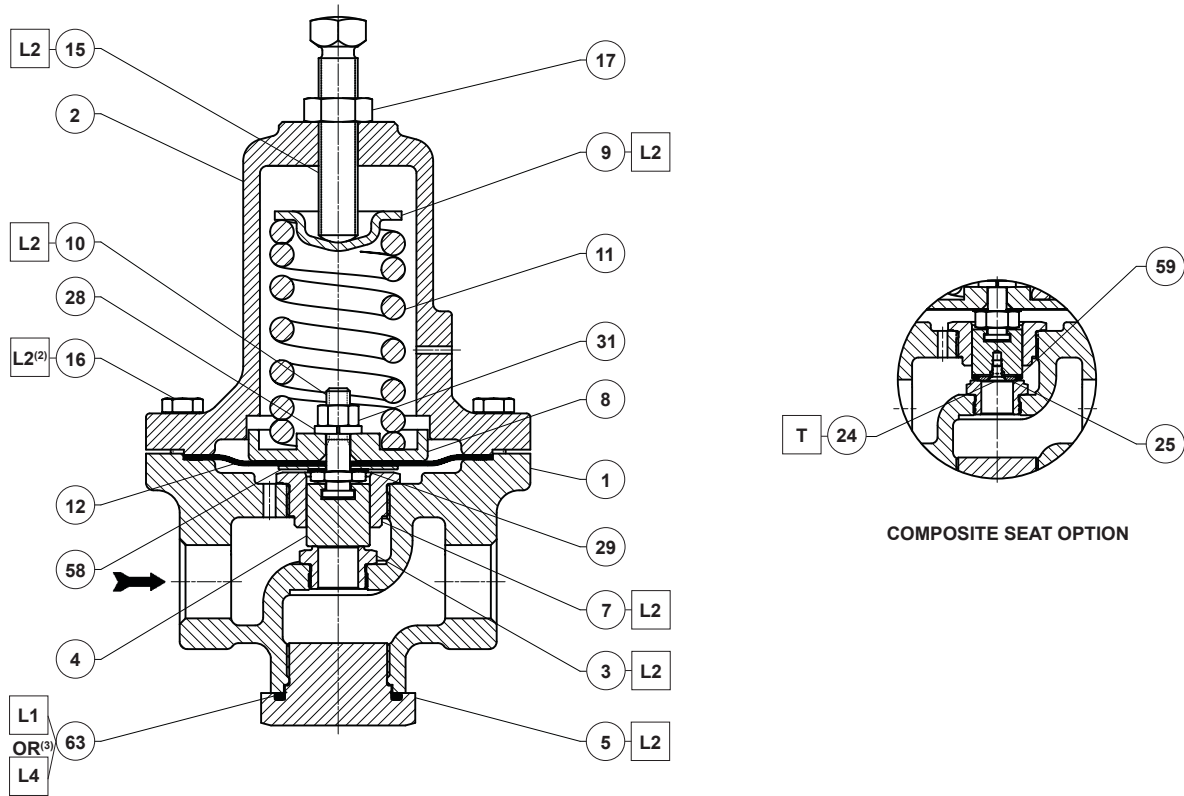
Key	Description
1	Main Valve Body
2	Body Flange
3	Cap Screw
3	Stud Bolt
4*	Gasket
9	Spring
11*	Cage
12*	Port Seal
13*	Seat Ring
14*	Piston Ring
15*	Upper Seal
16*	Valve Plug
17*	Cage O-ring
20*	Plug O-ring
21*	O-ring
24	Drive Screw
25	Flow Arrow
26	Nameplate
27	Travel Indicator Plug
29	Hex Nut
31	Pipe Plug
32	NACE Tag
33	Tag Wire
34	Pipe Nipple (not shown)
35	Tubing (not shown)
36*	Restrictor (not shown)
37	Connector (not shown)
39	Pipe Nipple (not shown)
40	Tee (not shown)
41	Needle Valve (not shown)
45	Pipe Plug (not shown)

Type MR98H Pilot

Key	Description
1	Regulator Body
2	Spring Case
3*	Orifice
4*	Valve Plug
5	Bottom Plug
7	Valve Plug Guide
8	Lower Spring Seat
9	Upper Spring Seat
10*	Pusher Post
11	Control Spring
12*	Diaphragm
13	Nameplate
14	Diaphragm Protector
15	Adjusting Screw
16	Cap Screw
17	Jam Nut
18	Drive Screw
24	Machine Screw
25	O-ring Retainer
28	Lock Washer
29*	Gasket
31	Locknut
51	Vent
53*	Valve Plug Sealing O-ring
58	Washer
59*	Valve Plug O-ring
63*	Bottom Seal Plug
64	Flow Arrow

*Recommended spare part

Type 63EG-98HM



GF04916

APPLY⁽¹⁾:

- T = THREAD LOCKER
- L1 = GENERAL PURPOSE POLYTETRAFLUOROETHYLENE (PTFE) OR LITHIUM GREASE FOR O-RINGS
- L2 = ANTI - SEIZE COMPOUND
- L4 = GRAPHITE SEALANT FOR GRAPHITE RING

1. Lubricants and sealants must be selected such that they meet the temperature requirements.
2. Apply L2 (anti-seize compound) on key 16 for stainless steel bolts.
3. Apply L4 (graphite sealant) instead of L1 (general purpose PTFE or lithium grease) on key 63 for graphite ring.

Figure 2. Type MR98H Pilot Assembly

Webadmin.Regulators@emerson.com

Facebook.com/EmersonAutomationSolutions

Fisher.com

LinkedIn.com/company/emerson-automation-solutions

Twitter.com/emr_automation

Emerson Automation Solutions

Americas

McKinney, Texas 75070 USA
 T +1 800 558 5853
 +1 972 548 3574

Asia Pacific

Singapore 128461, Singapore
 T +65 6777 8211

Europe

Bologna 40013, Italy
 T +39 051 419 0611

Middle East and Africa

Dubai, United Arab Emirates
 T +971 4 811 8100

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For further information on the current PED/PE(S)R revision see Bulletin: [D103053X012](#) or scan the QR code.

