Type 1290

English - July 2016

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 1290 Instruction Manual, D101645X012.

The Type 1290 vapor recovery regulator is a self-contained, pilot-operated regulator used for vapor recovery of blanketing gas.

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 SIZES	CATEGORIES
DN 25 / NPS 1	SEP
DN 50, 80, 100 and 150 / NPS 2, 3, 4 and 6	II

Specifications

Body Size and End Connection Style

BODY SIZE		MAIN VALVE END CONNECTION STYLE	
NPS	DN	Cast Iron	WCC Steel or CF8M Stainless Steel
1 or 2	25 or 50	NPT, CL125 FF or CL250 RF flanged	NPT, SWE, BWE, CL150 RF, CL300 RF, CL600 RF or PN 16/25/40 flanged
3, 4 or 6	80, 100 or 150	CL125 FF or CL250 RF flanged	BWE, CL150 RF, CL300 RF, CL600 RF or PN 16 flanged
8 x 6 or 12 x 6	200 x 150 or 300 x 150	- - - -	BWE, CL150 RF, CL300 RF, CL600 RF or PN 25 flanged

Maximum Main Valve Inlet Pressure(1)
1.4 bar / 20 psig

Maximum Differential Pressure(1)
2.4 bar / 35 psi

Outlet (Control) Pressure Ranges(1)(2)
Type T208PL:
1 to 4 mbar / 0.5 to 1.5 in. w.c.(3)
Type T208P:
2 to 6 mbar / 1 to 2.5 in. w.c.(3)(4)
5 to 17 mbar / 2 to 7 in. w.c.(3)(5)
10 to 35 mbar / 4 to 14 in. w.c.
35 to 83 mbar / 0.5 to 1.2 psig
0.07 to 0.17 bar / 1.0 to 2.5 psig
0.17 to 0.31 bar / 2.5 to 4.5 psig
0.31 to 0.48 bar / 4.5 to 7 psig

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

Type MR95H Supply Pressure Settings(1)

PILOT TYPE	TYPE EGR MAIN VALVE WITH GREEN SPRING, NPS / DN		SPRING COLOR
	1, 2, 3 or 4 / 25, 50, 80 or 100	6 or 8 x 6 / 150 or 200 x 150	
T208PL	0.55 bar / 8 psig	0.90 bar / 13 psig	Black
T208P	0.55 bar / 8 psig 0.55 bar / 8 psig 0.62 bar / 9 psig 0.69 bar / 10 psig	0.90 bar / 13 psig 0.90 bar / 13 psig 0.97 bar / 14 psig 0.97 bar / 14 psig	Orange Red Unpainted Yellow
	0.76 bar / 11 psig 0.97 bar / 14 psig 1.0 bar / 15 psig	1.0 bar / 15 psig 1.2 bar / 18 psig 1.4 bar / 20 psig	Light Green Light Blue Black

Temperature Capabilities(1)
Nitrile (NBR): -29 to 82°C / -20 to 180°F
Fluorocarbon (FKM):
For In. w.c. Setpoints: 4 to 149°C / 40 to 300°F
For psig Setpoints: -18 to 149°C / 0 to 300°F
Ethylenepropylene (EPDM): -29 to 135°C / -20 to 275°F
Perfluoroelastomer (FFKM): -29 to 149°C / -20 to 300°F

Installation

WARNING

Only qualified personnel should install or service a backpressure regulator. Backpressure regulators 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 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 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.

1. The pressure/temperature limits in this Installation Guide and any applicable standard or code limitation should not be exceeded.
2. Spring ranges based on pilot being installed with the spring case pointed down.
3. Do not use fluorocarbon (FKM) diaphragm with this spring at diaphragm temperatures lower than 16°C / 60°F.
4. When using a fluorocarbon (FKM) diaphragm, the minimum outlet pressure is 5 mbar / 2 in. w.c.
5. When using a fluorocarbon (FKM) diaphragm, the minimum outlet pressure is 6 mbar / 2.5 in. w.c.

Additionally, physical damage to the backpressure regulator could result in personal injury and property damage due to escaping fluid. To avoid such injury and damage, install the backpressure regulator in a safe location.

Clean out all pipelines before installation of the backpressure regulator and check to be sure the 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 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 backpressure regulator be installed so that the vent hole in the spring case is unobstructed at all times. For outdoor installations, the 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 backpressure regulator beneath eaves or downspouts, and be sure it is above the probable snow level.

Overpressure

The recommended pressure limitations are stamped on the regulator nameplate. Some type of overpressure protection is needed if the actual inlet pressure exceeds the maximum operating outlet pressure rating. Overpressure protection should also be provided if the regulator inlet pressure is greater than the safe working pressure of the downstream equipment.

Regulator operation below the maximum pressure limitations does not preclude the possibility of damage from external sources or debris in the line. The regulator should be inspected for damage after any overpressure condition.

Startup

The backpressure regulator control spring is factory set at a setpoint specified in the order. If no setpoint is specified, the control spring is set at approximately the midpoint of the spring range, so an initial adjustment may be required to give the desired result. With proper installation completed and relief valves properly adjusted, slowly open the upstream and downstream shutoff valves (if applicable).

Adjustment

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

Taking Out of Service (Shutdown)

WARNING

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

Parts List

Design Type EGR Main Valve (Figure 1)

Key	Description
1	Body
2	Body Flange
3	Cap Screw, Zinc-plated steel
3	Stud Bolt, Stainless steel
4*	Gasket, Composition
5	Indicator Fitting, Plated steel
6	O-ring Retainer
7*	Travel Indicator Stem O-ring
8	Hex Nut, Plated steel
9	Spring
10	Indicator Stem
11	Cage
12*	Port Seal
13*	Seat Ring
15*	Upper Seal
16*	Valve Plug
17*	Cage O-ring
18	Indicator Scale, Plastic
19	Travel Indicator Protector, Plated steel
21*	Indicator Fitting O-ring
22	Flange Nut, Plated steel
23	E-ring
24	Drive Screw, Stainless steel
25	Flow Arrow, Stainless steel (2 required)
27	Indicator Plug
28	Spring Seat, Full capacity trim
29	Hex Nut, Steel (Stainless steel body, not shown)
31	Pipe Plug
32	Travel Stop, Zinc-plated steel
33	NACE Tag, Stainless steel (not shown) (except NPS 1)
34	Tag Wire, Stainless steel (not shown) (except NPS 1)
35	Indicator Fitting
36	Back-up Ring (2 required)
37	Travel Indicator O-ring
38	Pipe Plug

Type 1098 Actuator, Size 40 (Figure 2)

Key	Description
1	Lower Diaphragm Case
2	Upper Diaphragm Case
3	Bonnet
4	Cap Screws
5*	Case O-ring
6*	Stem O-ring
7*	Diaphragm
8	Diaphragm Plate
9	Stem Cap Screw
10	Cap Screw (16 required)
11	Hex Nut (16 required)
12	Stem
13	Nameplate, Stainless steel
27	Type Y602-12 Vent Assembly
28	Grease Fitting, Steel
56	Bearing (2 required)
57	Wiper Ring

Types T208P and T208PL (Figures 3 and 4)

Key	Description
1	Body, 3/4 NPT
2	Cap Screw (2 required)
3	Spring Case
3	Spring Case Assembly
4	Lower Diaphragm Casing
5	Orifice, 9.5 mm / 3/8 in.
6	Spring
7	Lower Diaphragm Head
8	Pusher Post, Stainless steel
9	Diaphragm Gasket, Nitrile (NBR)
10*	Diaphragm
11*	Body Seal O-ring
12*	Insert Seal O-ring
13*	Disk Assembly, Stainless steel disk holder
14	Stem, Stainless steel
16	Lever Assembly, Stainless steel
17	Machine Screw (2 required), Stainless steel
18	Guide Insert, Stainless steel
19	Upper Spring Seat
20	Lock Nut
20	Adjusting Nut, Type T208PL only
21	Hex Nut, Type T208PL only
22	Closing Cap
23	Hex Nut (8 required)
24	Cap Screw (8 required)
25	Closing Cap Gasket, Neoprene (CR)
26	Vent Assembly
31*	Throat Seal O-ring
33	Lower Diaphragm Head, Type T208P only
34	Machine Screw, Stainless steel
35	Adjusting Screw, Type T208P only
36	Washer, Steel
38	Cap Screw, Zinc-plated steel, Type T208P only
41	Back Disk Spring
42*	Back Body Seal O-ring
43	Back Body Cap, Stainless steel
44	Disk Spacer, Stainless steel
45*	Lower Head Gasket, Composition
46	Nameplate
47	Drive Screw (2 required)
48	Flow Arrow
49	Backup Ring, Stainless steel
50	Lower Spring Seat, Type T208P only
51	Connector Thread Stud, Zinc-plated steel, Type T208PL only

*Recommended spare part.

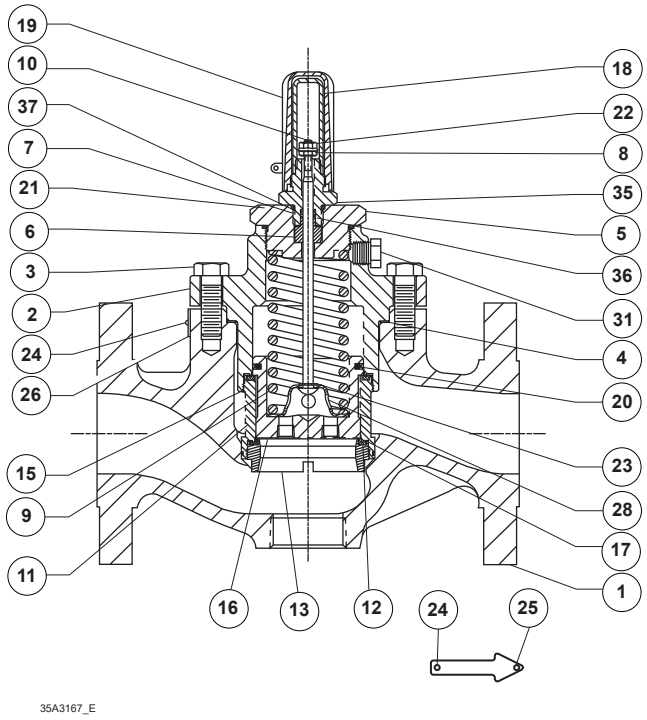


Figure 1. *Type EGR Main Valve Assembly*

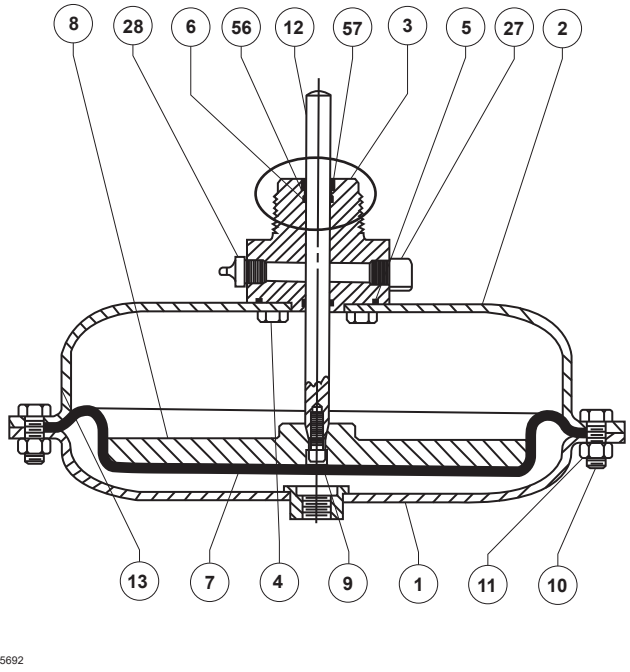
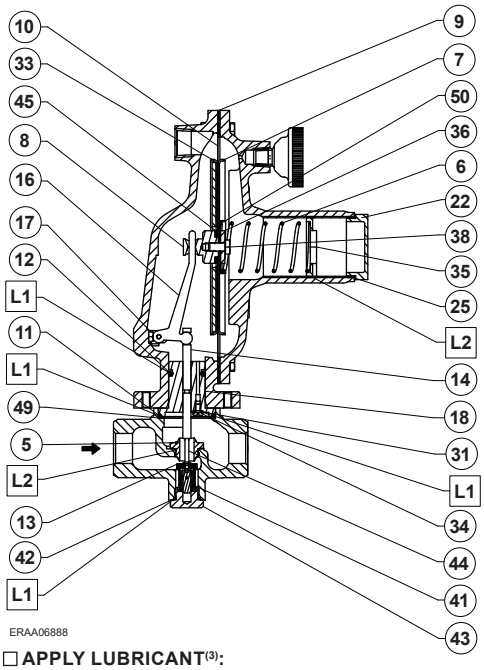
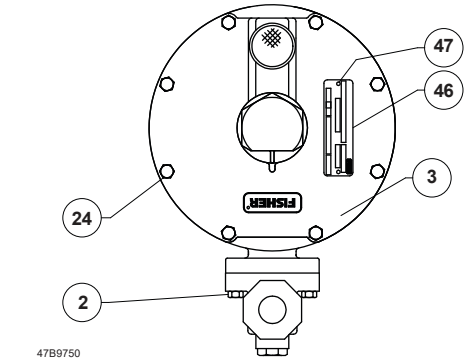


Figure 2. *Type 1098 Actuator Assembly*

Type MR95H Regulator (Figure 5)

Key	Description
1	Body
2	Spring Case
3*	Orifice
4*	Valve Plug, Metal seat
4*	Disk Holder Assembly, Composition seat
4a	Disk Holder
4b	Disk
5	Valve Plug Guide
6	Stem/Stem Assembly
6a	Stem
6b	Pusher Plate
7	Stem Guide Bushing
8	Lower Spring Seat, NACE(1)
9	Upper Spring Seat, NACE(1)
11	Control Spring, 1.0 to 2.1 bar / 15 to 30 psi, NACE(1)(2)
12*	Diaphragm
14*	Diaphragm Protector, PTFE, NACE(1)
15	Adjusting Screw, NACE(1)(2)
16	Cap Screw, NACE(1)(2)
17	Lock Nut, NACE(1)(2)
18	Nameplate Drive Screw, Stainless steel (4 required)
19*	Diaphragm Gasket
20	Pitot Tube (for constructions without control line)
26	Inner Valve Spring
47	NACE Tag
48	Tag Wire
63*	Bottom Plug Seal





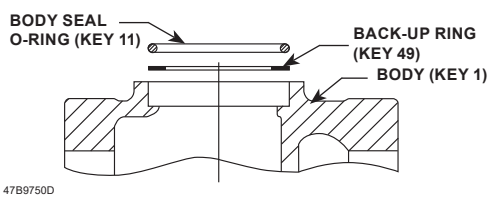


Figure 3. *Type T208P Pilot Assembly*

*Recommended spare part.
1. NACE MR0175-2002 and MR0103.
2. Part meets NACE requirements only for applications in which the part is not exposed to sour gas.
3. Lubricants must be selected such that they meet the temperature requirements.

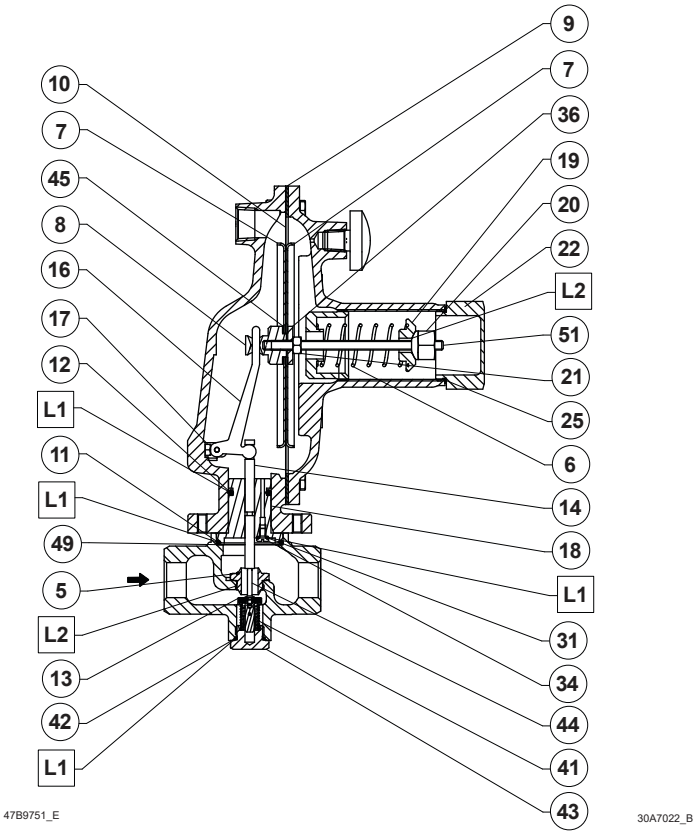


Figure 4. *Type T208PL Assembly*

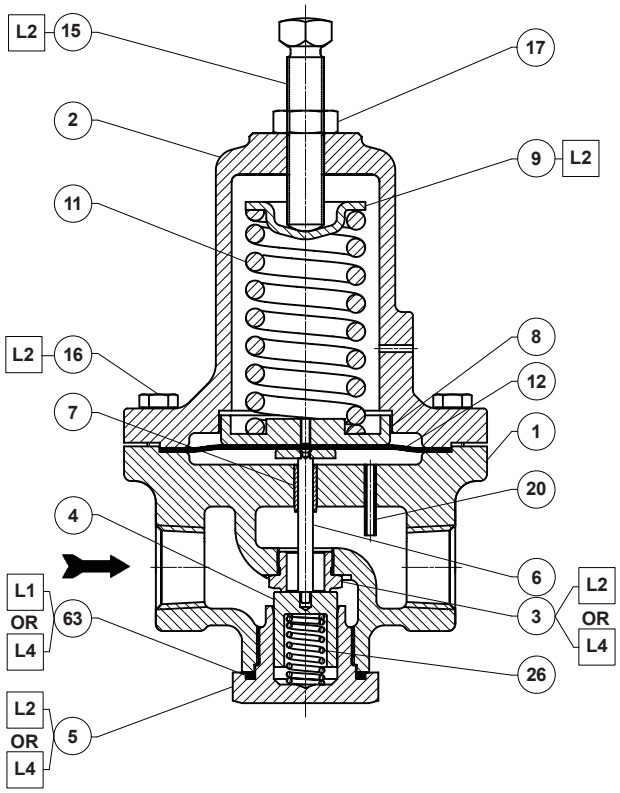


Figure 5. *Type MR95H Assembly*

☐ APPLY LUBRICANT OR SEALANT(1):
L1 = GENERAL PURPOSE PTFE OR LITHIUM GREASE
L2 = ANTI-SEIZE COMPOUND
L4 = GRAPHITE SEALANT

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

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

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