

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 92EZ Instruction Manual, D104687X012.

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	CATEGORIES	FLUID TYPE
DN 25 / NPS 1	SEP	1
DN 40, 50 / NPS 1-1/2, 2	II	

Specifications

Available Configurations

Pilot-operated, globe-style pressure reducing valve with post guiding and flow-to-close valve plug action

Body Sizes and End Connection Styles

See Table 1

Body Ratings and Maximum Inlet Pressures⁽¹⁾

See Table 2

Minimum Differential Pressure Required for Full Stroke⁽¹⁾

1.4 barg / 20 psig with Stainless steel spring;
0.69 barg / 10 psig with Inconel[®] spring

Maximum Differential Pressures⁽¹⁾⁽²⁾

Low Pressure Pilot: 10.3 bar / 150 psig
High Pressure/Temperature Pilot:
17.2 bar / 250 psig

Outlet Pressure Ranges⁽¹⁾

See Table 3

Proof Test Pressure

All Pressure Retaining Components have been proof tested per Directive.

Downstream Control Line Connections

DN 25 and 40 / NPS 1 and 1-1/2: 1/4 NPT
DN 50 / NPS 2 : 3/8 NPT

Installation



WARNING

Only qualified personnel should install or service a regulator. 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 the regulator vents fluid or a leak develops in the system, it indicates that service is required. Failure to take the regulator out of service immediately may create a hazardous condition.

Personal injury, equipment damage or leakage due to escaping fluid 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 limits.

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



CAUTION

Be sure to install Type 92B pilot above the pipeline with the adjusting screw pointing up and the control line sloped at a downward pitch to the main line to ensure proper condensate drainage.

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1. The pressure/temperature limits in this installation guide or any applicable standard limitation should not be exceeded.

2. A pre-pilot supply regulator option may be used for differential pressures above 17.2 bar d / 250 psid.

Type 92EZ

Table 1. Body Sizes and End Connection Styles

BODY SIZE		END CONNECTION STYLE	
DN	NPS	Cast Iron Body	Steel or Stainless Steel Body
25, 40 or 50	1, 1-1/2 or 2	NPT, CL125 FF or CL250 RF	NPT, CL150 RF, CL300 RF or CL600 RF

Table 2. Maximum Inlet and Outlet Pressure and Temperature

BODY MATERIAL	END CONNECTION	PILOT TYPE	MAXIMUM INLET PRESSURE		MAXIMUM OPERATING OUTLET PRESSURE		MAXIMUM EMERGENCY OUTLET PRESSURE		MAXIMUM TEMPERATURE		MAXIMUM DIAPHRAGM CASING PRESSURE		MAXIMUM DIFFERENTIAL PRESSURE	
			barg	psig	barg	psig	barg	psig	°C	°F	barg	psig	barg	psig
Cast iron	NPT	Low Pressure	12.1	175	1.72	25	6.89	100	208	406	10.3	150	10.3	150
		High Pressure	17.2	250	10.3	150	17.2	250	208	406	10.3	150	17.2	250
	CL125 FF	Low Pressure	8.62	125	1.72	25	6.89	100	178	353	10.3	150	8.62	125
		High Pressure	8.62	125	8.27	120	17.2	250	178	353	10.3	150	8.62	125
	CL250 RF	Low Pressure	12.1	175	1.72	25	6.89	100	208	406	10.3	150	10.3	150
		High Pressure	17.2	250	10.3	150	17.2	250	208	406	10.3	150	17.2	250
Steel	NPT	Low Pressure	12.1	175	1.72	25	6.89	100	232	450	20.7	300	10.3	150
		High Pressure	37.9	550	17.2	250	20.7	300	232	450	20.7	300	17.2	250
		High Temperature	37.9	550	17.2	250	20.7	300	343	650	20.7	300	17.2	250
	CL150 RF	Low Pressure	12.1	175	1.72	25	6.89	100	232	450	20.7	300	10.3	150
		High Pressure	12.8	185	12.1	175	12.8	185	232	450	20.7	300	12.8	185
		High Temperature	8.62	125	7.93	115	8.62	125	343	650	20.7	300	8.62	125
	CL300 RF	Low Pressure	12.1	175	1.72	25	6.89	100	232	450	20.7	300	10.3	150
		High Pressure	37.9	550	17.2	250	20.7	300	232	450	20.7	300	17.2	250
		High Temperature	37.9	550	17.2	250	20.7	300	343	650	20.7	300	17.2	250
	CL600 RF	High Pressure	37.9	550	17.2	250	20.7	300	232	450	20.7	300	17.2	250
		High Temperature	37.9	550	17.2	250	20.7	300	343	650	20.7	300	17.2	250
Stainless Steel	NPT	Low Pressure	12.1	175	1.72	25	6.89	100	232	450	20.7	300	10.3	150
		High Pressure	37.9	550	17.2	250	20.7	300	232	450	20.7	300	17.2	250
		High Temperature	37.9	550	17.2	250	20.7	300	343	650	20.7	300	17.2	250
	CL150 RF	Low Pressure	12.1	175	1.72	25	6.89	100	232	450	20.7	300	10.3	150
		High Pressure	12.5	182	11.9	172	12.5	182	232	450	20.7	300	12.5	182
		High Temperature	8.62	125	7.93	115	8.62	125	343	650	20.7	300	8.62	125
	CL300 RF	Low Pressure	12.1	175	1.72	25	6.89	100	232	450	20.7	300	10.3	150
		High Pressure	34.2	497	17.2	250	20.7	300	232	450	20.7	300	17.2	250
		High Temperature	30.3	440	17.2	250	20.7	300	343	650	20.7	300	17.2	250
	CL600 RF	High Pressure	37.9	550	17.2	250	20.7	300	232	450	20.7	300	17.2	250
		High Temperature	37.9	550	17.2	250	20.7	300	343	650	20.7	300	17.2	250

Clean out all pipelines before installation of the regulator and check to be sure the 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 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.

Overpressure Protection

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.

Regular 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



WARNING

Failure to remove accumulated condensate may result in severe condensation induced water hammer which may result in personal injury or death.

Table 3. Outlet Pressure Ranges

PILOT TYPE	OUTLET PRESSURE		SPRING WIRE DIAMETER		SPRING FREE LENGTH		PART NUMBER	COLOR CODE
	barg	psig	mm	in.	mm	in.		
Low Pressure	0.14 to 0.41	2 to 6	5.26	0.207	63.5	2.50	1E395627022	Yellow
	0.34 to 1.0	5 to 15	5.94	0.234	64.0	2.52	1D7455T0012	Green
	0.90 to 1.7	13 to 25	7.19	0.283	62.0	2.44	1E395727192	Red
High Pressure	1.0 to 2.1	15 to 30	5.26	0.207	63.5	2.50	1E395627022	Yellow
	1.7 to 5.2	25 to 75	5.94	0.234	64.0	2.52	1D7455T0012	Green
	4.8 to 10.3	70 to 150	7.14	0.281	62.0	2.44	1E395727192	Red
High Temperature	5.5 to 17.2	80 to 250	9.53	0.375	63.5	2.50	14B9942X022	Unpainted
	1.0 to 6.9	15 to 100	7.16	0.282	63.5	2.50	14B9943X012	Unpainted
	5.5 to 17.2	80 to 250	9.53	0.375	63.5	2.50	14B9942X022	Unpainted

The 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.

Adjustment

To change the set pressure, remove the 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 the 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 regulator from all pressure before attempting disassembly.

Parts List

Type 92EZ Main Valve

Key Description

1	Body
2	Stud
3	Hex Nut, Heavy
4	Lower Diaphragm Casing
5	Upper Diaphragm Casing
6	Cap Screw (12 required)
7	Hex Nut (12 required)
8*	Valve Plug
9*	Gasket (1 required)
10*	Integral Seat Cage
12*	Retaining Ring
13*	Stem Seal (U-cup)
14*	Gasket

Type 92EZ Main Valve (continued)

Key Description

15*	Bushing Holder
16*	Bushing (2 required)
17*	Spring
18	Upper Spring Seat
19	Diaphragm Head
20*	Diaphragm (2 required)
21	Diaphragm Fastener
22	Pipe Plug (2 required)
23	Drive Screw
24	Nameplate
25	Warning Label (Cast Iron body only)
27	Pipe Bushing

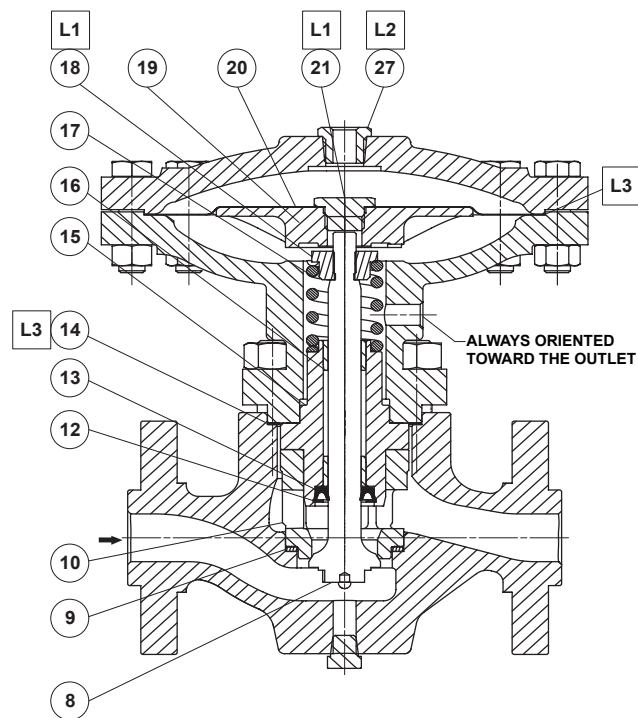
Type 92B Pilot

Key Description

1	Pilot Valve Body
2	Valve Guide
3	Valve Spring
4*	Valve Plug
5*	Orifice
7	Valve Stem
8	Bellows Retainer
9	Bellows
10*	Diaphragm (2 required)
11	Lower Spring Seat
12	Spring
13	Upper Spring Seat
14	Spring Case
15	Set Screw
16	Hex Nut
17	Cap Screw
18*	Diaphragm Gasket
19	Drive Screw (2 required)
20	Nameplate
22	Pipe Nipple
24	Diaphragm Plate Assembly
34	Machine Screw
74	Pipe Plug
75	Check Valve Assembly
77	Screen

*Recommended spare part.

Type 92EZ



ERAA57652-AA

□ APPLY LUBRICANT OR SEALANT:
L1 = GENERAL PURPOSE PTFE OR LITHIUM GREASE
L2 = ANTI-SEIZE COMPOUND
L3 = ANTI-SEIZE COMPOUND

Figure 1. Type 92EZ Main Valve Assembly

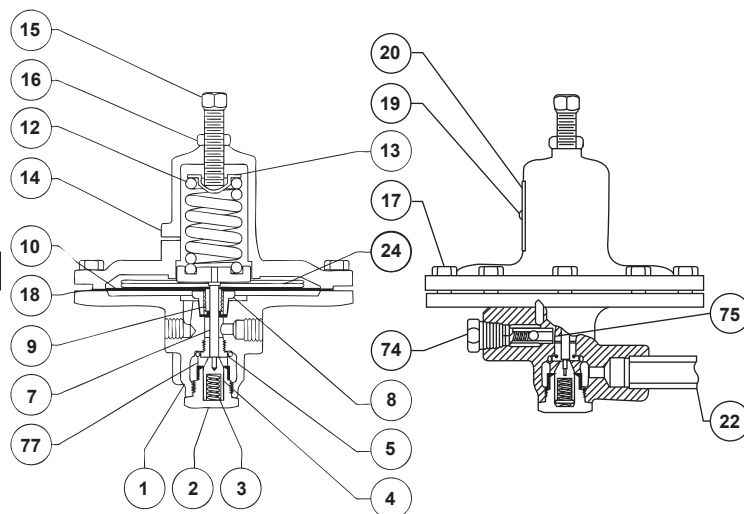


Figure 2. Low-Pressure Pilot Assembly

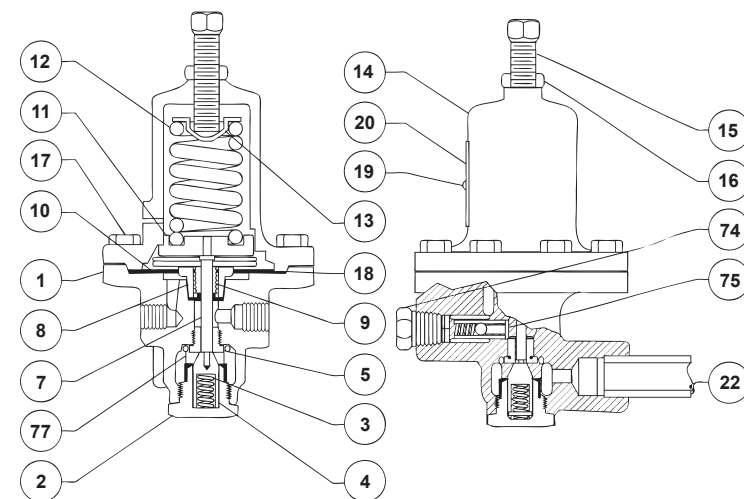


Figure 3. High-Pressure Pilot Assembly

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