

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 92B Instruction Manual, D100703X012.

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, 80, 100 / NPS 1-1/2, 2, 3, 4	II	

Specifications

Available Configurations

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

Body Size and End Connection Style

See Table 1

Maximum Inlet Pressures and Temperatures⁽¹⁾

See Table 3

Maximum Outlet (Casing) Pressure

Cast Iron: 10.3 bar / 150 psig or body rating limit, whichever is lower

Steel/Stainless steel: 20.7 bar / 300 psig or body rating limit, whichever is lower

Proof Test Pressure

All Pressure Retaining Components have been proof tested per Directive.

Outlet Pressure Ranges⁽¹⁾

See Table 2

Minimum Differential Pressure Required for Full Stroke⁽¹⁾

1.4 bar / 20 psig with Stainless steel spring

0.69 bar / 10 psig with Inconel® spring

Pressure Registration

External

Temperature Capabilities⁽¹⁾

See Table 3

Downstream Control Line Connections

DN 25 and 40 / NPS 1 and 1-1/2 bodies:

1/4 NPT

DN 50 / NPS 2 body:

3/8 NPT

DN 80 and 100 / NPS 3 and 4 bodies:

1/2 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.

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

Type 92B

Table 1. Body Sizes and End Connection Styles

BODY SIZE		END CONNECTION STYLE	
DN	NPS	Cast Iron	Steel or Stainless Steel
25	1	NPT	NPT, SWE ⁽¹⁾ , CL150 RF, CL300 RF and PN 16/25/40 RF
40, 50	1-1/2, 2	NPT, CL125 FF and CL250 RF	
80, 100	3, 4	CL125 FF and CL250 RF	CL150 RF, CL300 RF, PN 16 RF and PN 25/40 RF

1. Available in steel bodies only.

Table 2. Outlet Pressure Ranges

PILOT TYPE	OUTLET PRESSURE	
	bar	psig
Low Pressure	0.14 to 0.41	2 to 6
	0.34 to 1.0	5 to 15
	0.90 to 1.7	13 to 25
High Pressure	1.0 to 2.1	15 to 30
	1.7 to 5.2	25 to 75
	4.8 to 10.3	70 to 150
High Temperature	1.0 to 6.9	15 to 100
	5.5 to 17.2	80 to 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.

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.

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

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.

WARNING

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

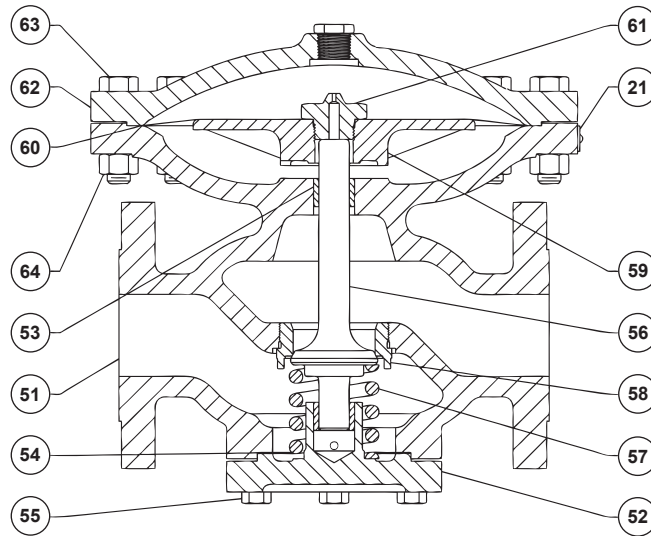
Adjustment

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.



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Figure 1. Type 92B Main Valve Assembly

Table 3. Maximum Inlet Pressures and Temperatures

BODY MATERIAL	END CONNECTION	MAXIMUM INLET PRESSURE		MAXIMUM TEMPERATURE	
		bar	psig	°C	°F
Cast Iron	NPT	17.2	250	208	406
	CL125 FF	8.6	125	178	353
	CL250 FF	17.2	250	208	406
Steel	NPT, SWE	20.7	300	232	450
	CL150 RF	12.8	185	232	450
	CL300 RF	20.7	300	316 ⁽¹⁾	600 ⁽¹⁾
	PN 16/25/40 (DN 25, 40, 50 and 80 / NPS 1, 1-1/2, 2 and 3)	20.7	300	316 ⁽¹⁾	600 ⁽¹⁾
	PN 16 (DN 100 / NPS 4)	12.8	185	232	450
	PN 25/40 (DN 100 / NPS 4)	20.7	300	316 ⁽¹⁾	600 ⁽¹⁾
Stainless steel	NPT	20.7	300	232	450
	CL150 RF	12.1	175	232	450
	CL300 RF	20.7	300	316 ⁽¹⁾	600 ⁽¹⁾
	PN 16/25/40 (DN 25, 40, 50 and 80 / NPS 1, 1-1/2, 2 and 3)	20.7	300	316 ⁽¹⁾	600 ⁽¹⁾
	PN 16 (DN 80 and 100 / NPS 3 and 4)	12.1	175	232	450
	PN 25/40 (DN 80 and 100 / NPS 3 and 4)	20.7	300	316 ⁽¹⁾	600 ⁽¹⁾

1. 232°C / 450°F with standard seat ring, 316°C / 600°F with seal weld option.

Parts List

Type 92B Main Valve

Key Description

- 19 Drive Screw
- 20 Warning Label (Cast iron only) (not shown)
- 21 Nameplate
- 51 Valve Body Assembly
- 52 Bottom Flange Assembly
- 53 Guide Bushing
- 54* Gasket
- 55 Cap Screw, For Cast iron and Steel bodies
- 56 Valve Plug
- 57 Spring

Key Description

- 58* Seat Ring
- 59 Diaphragm Head
- 60* Diaphragm
- 61 Bleed Fitting
- 62 Diaphragm Case
- 63 Cap Screw
- 64 Hex Nut
- 69 Pipe Plug

*Recommended spare part.

Type 92B

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
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
20	Nameplate
22	Pipe Nipple
24	Diaphragm Plate Assembly
34	Machine Screw
74	Pipe Plug
75	Check Valve Assembly
77	Screen

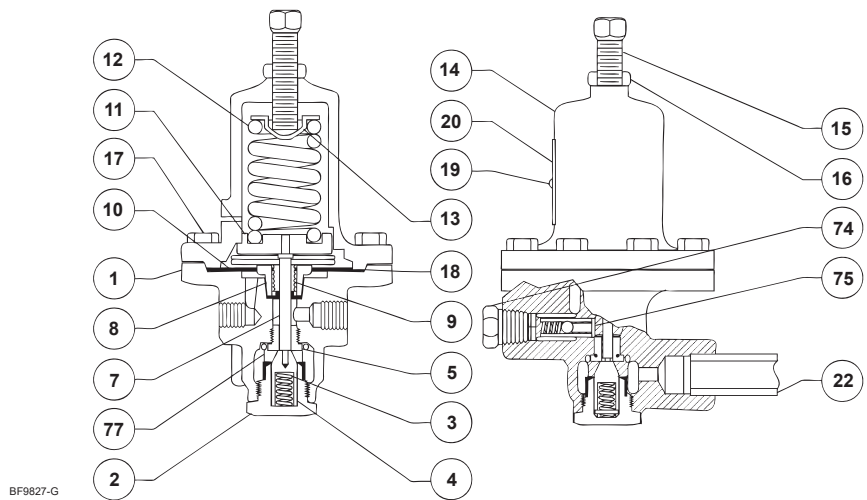


Figure 2. High-Pressure Pilot Assembly

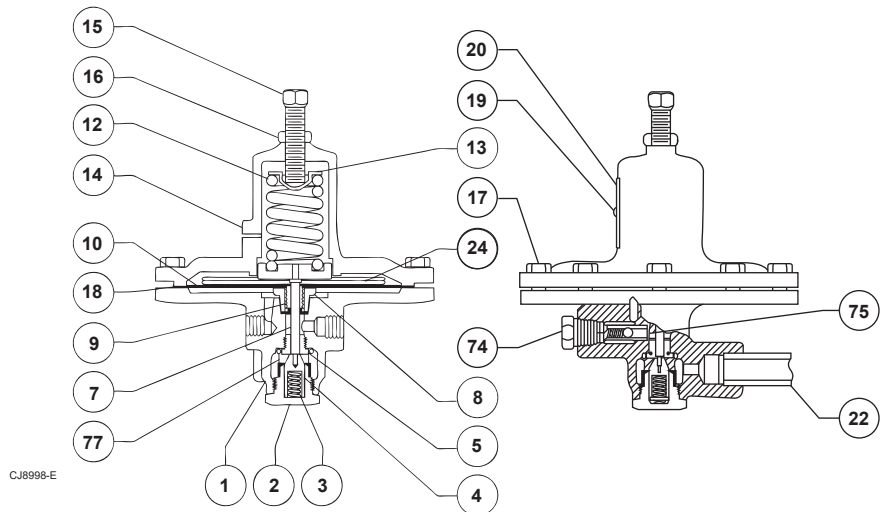


Figure 3. Low-Pressure Pilot Assembly

*Recommended spare part.

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

