

Introduction

This installation guide provides instructions for installation, startup, and adjustment. To receive a copy of the instruction manual, contact your local Fisher Sales Office or Sales Representative or view a copy at www.FISHERregulators.com. For further information refer to: Type 92B and 92P Instruction Manual, form 1329, D100703X012.

P.E.D. Categories

This product may be used as a safety accessory with pressure equipment in the following Pressure Equipment Directive 97/23/EC categories. It may also be used outside of the Pressure Equipment Directive using sound engineering practice (SEP) per table below.

PRODUCT SIZE	CATEGORIES	FLUID TYPE
DN 25 (1-inch)	SEP	1
DN 40, 50, 80, 100 (1-1/2, 2, 3, 4-inch)	I, II	

Specifications

Available Configurations

Type 92B: Pilot-operated, pressure reducing valve with post guiding and flow to close valve plug action

Type 92P: Pilotless version of the Type 92B for remote pressure loading

Body Sizes and End Connection Styles

See table 1

Maximum Inlet Pressures and Temperatures⁽¹⁾

See table 3

Maximum Outlet (Casing) Pressure⁽¹⁾

Cast Iron: 10,3 bar (150 psig) or body rating limits, whichever is lower

Steel/Stainless steel: 21 bar (300 psig) or body rating limits, whichever is lower

Proof Test Pressure

All Pressure Retaining Components have been proof tested per Directive 97/23/EC - Annex 1, Section 7.4

Outlet Pressure Ranges⁽¹⁾

See table 2

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

Table 1. Body Sizes and End Connection Styles

BODY SIZE, DN (INCHES)	END CONNECTION STYLE	
	Cast Iron	Steel or Stainless Steel
25 (1)	NPT, BSPT	NPT, BSPT, Class 150RF, Class 300RF, and PN 16/25/40
40 (1-1/2), 50 (2)	NPT, BSPT, Class 125FF, and Class 250RF	
80 (3), 100 (4)	Class 125FF and Class 250RF	Class 150RF, Class 300RF, PN 16, and PN 25/40

Minimum Differential Pressure Required for Full Stroke⁽¹⁾

Type 92B: 1,4 bar (20 psig) with stainless steel spring; 0,69 bar (10 psig) with Inconel spring

Type 92P: 0,34 bar (5 psig)

Type 92P Maximum Diaphragm Loading Pressure⁽¹⁾

10,3 bar (150 psig)

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 Fisher 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.

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 male 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.

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)



Type 92B and 92P

Table 3. Maximum Inlet Pressures and Temperatures

BODY MATERIAL	END CONNECTION	MAXIMUM INLET PRESSURE, bar (PSIG)	MAXIMUM TEMPERATURE, °C (°F)
Cast Iron	NPT, BSPT	17,2 (250)	208 (406)
	125FF	8,6 (125)	178 (353)
	250RF	17,2 (250)	208 (406)
Steel	NPT, BSPT	20,7 (300)	232 (450)
	150RF	12,8 (185)	232 (450)
	300RF	20,7 (300) ⁽¹⁾	316 (600) ⁽¹⁾
	PN 16/25/40 (DN 25, 40, 50 bodies)	20,7 (300)	316 (600) ⁽¹⁾
	PN 16 (DN 80, 100 bodies)	12,8 (185)	232 (450)
	PN 25/40 (DN 80, 100 bodies)	20,7 (300)	316 (600) ⁽¹⁾
Stainless Steel	NPT, BSPT	20,7 (300)	232 (450)
	150RF	12,1 (175)	232 (450)
	300RF	20,7 (300) ⁽¹⁾	316 (600) ⁽¹⁾
	PN 16/25/40 (DN 25, 40, 50 bodies)	20,7 (300)	316 (600) ⁽¹⁾
	PN 16 (DN 80, 100 bodies)	12,1 (175)	232 (450)
	PN 25/40 (DN 80, 100 bodies)	20,7 (300)	316 (600) ⁽¹⁾

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



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.

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 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 can result in personal injury or death.

Adjustment

To change the outlet 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)



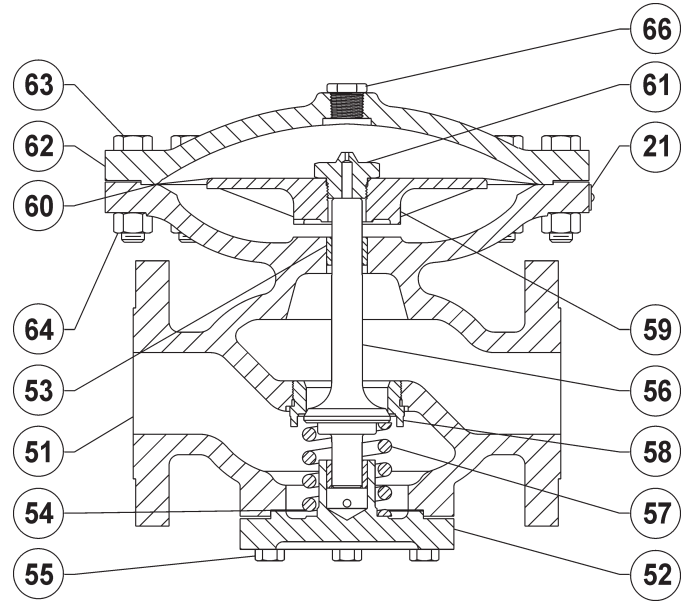
WARNING

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

Type 92B and 92P

Type 92B Parts List

Key	Description
20	Warning Label (Cast Iron only) (not shown)
21	Nameplate
51	Valve Body
52	Bottom Flange Assembly
53	Guide Bushing
54	Gasket
55	Cap Screw
56	Valve Plug
57	Spring
58	Seat Ring
59	Diaphragm Plate
60	Diaphragm
61	Bleed Fitting
62	Diaphragm Case
63	Cap Screw
64	Hex Nut
66	Pipe Bushing

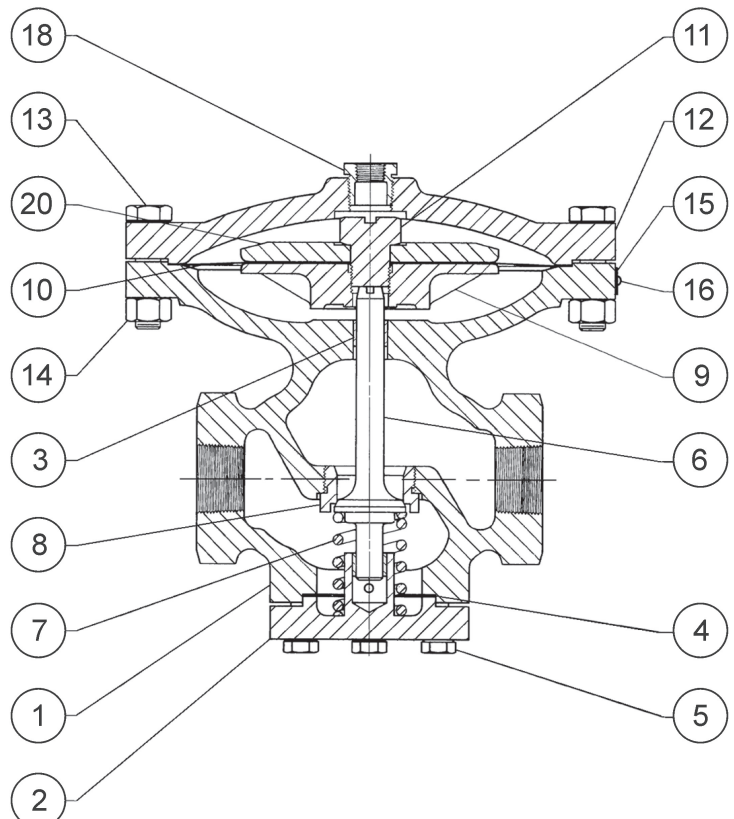


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Figure 1. Type 92B Main Valve Assembly

Type 92P Parts List

Key	Description
1	Valve Body
2	Bottom Flange Assembly
3	Guide Bushing
4	Gasket
5	Cap Screw
6	Valve Plug
7	Spring
8	Seat Ring
9	Diaphragm Plate
10	Diaphragm
11	Diaphragm Plate Plug
12	Diaphragm Case
13	Cap Screw
14	Hex Nut
15	Nameplate
16	Drive Screw
18	Pipe Bushing
20	Diaphragm Plate



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Figure 2. Type 92P Assembly

Type 92B and 92P

Type 92B Pilot Parts List

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	Locknut
17	Cap Screw
18	Diaphragm Gasket
19	Drive Screw
20	Nameplate
22	Pipe Nipple
24	Diaphragm Plate Assembly
74	Pipe Plug
75	Check Valve Assembly
77	Screen

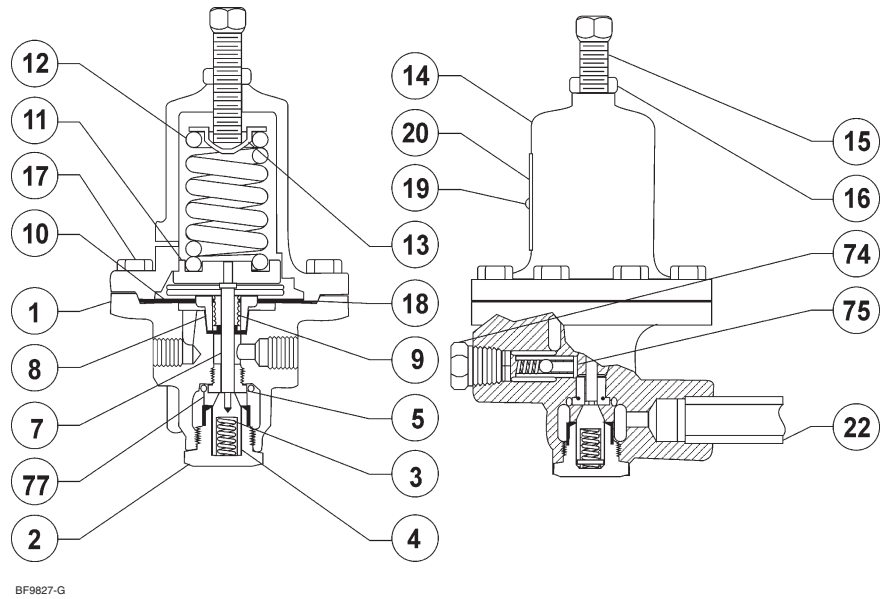


Figure 3. High Pressure Pilot Assembly

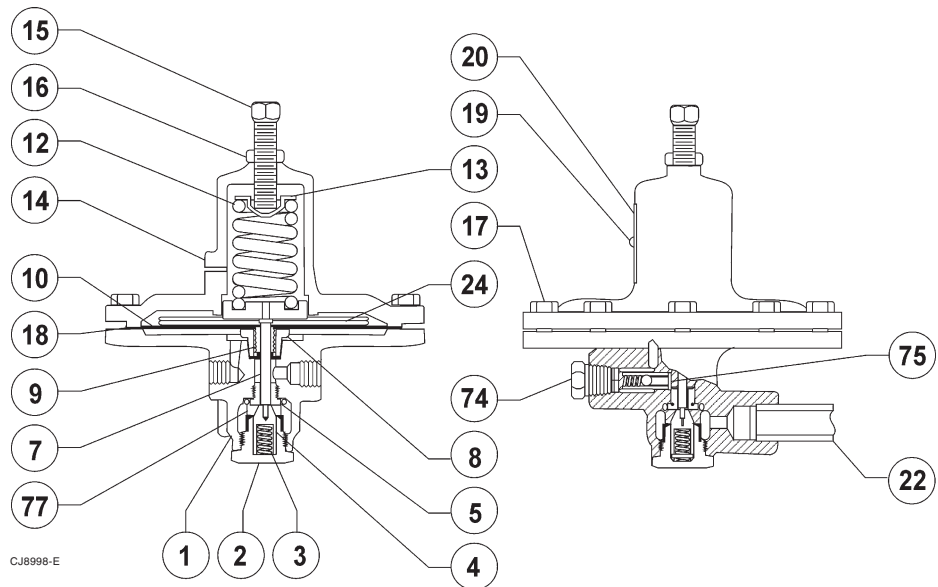


Figure 4. Low Pressure Pilot Assembly

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