

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 1098-EGR Instruction Manual, form 5084, D100339X012 Type 627F Instruction Manual, form 5282, D101545X012 (for Type 6351F only)

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 6 (1/4-inch)	SEP	1

Specifications

Available Configurations

- 6351:** Set pressures – 0,21 to 6,9 bar (3 to 100 psig). This pilot has an unbalanced valve plug design and fixed restriction.
- 6351F:** Set pressures – 0,34 to 6,9 bar (5 to 100 psig). This pilot has an unbalanced valve plug design and standard gain restriction. This pilot is used with the Type 627F main valve.
- 6352:** Set pressures – 5 mbar to 0,69 bar (2-inches w.c. to 10 psig). This pilot has a balanced valve plug design and a standard gain restriction.⁽¹⁾
- 6353:** Set pressures – 0,21 to 6,9 bar (3 to 100 psig). This pilot has a balanced valve plug design and a standard gain restriction.⁽¹⁾
- 6354L:** Set pressures – 5,9 to 13,8 bar (85 to 200 psig). This pilot has a balanced valve plug design and a standard gain restriction.⁽¹⁾
- 6354M:** Set pressures – 12,1 to 15,2 bar (175 to 220 psig). This pilot has a balanced valve plug design and a standard gain restriction.⁽¹⁾
- 6354H:** Set pressures – 13,8 to 20,7 bar (200 to 300 psig). This pilot has a balanced valve plug design and a standard gain restriction.⁽¹⁾

Maximum Inlet Pressure⁽²⁾

41 bar (600 psig)

Maximum Outlet Pressure⁽²⁾

- 6351, 6351F:** 10,3 bar (150 psig)
- 6352:** 3,4 bar (50 psig)
- 6353:** bar (150 psig)
- 6354L, 6354M, 6354H:** 24,8 bar (360 psig)

Outlet Pressure Ranges

See table 1

1. Optional low gain restriction for liquid service and/or broader proportional bands or high gain restriction for narrower proportional bands (such as low-differential boiler fuel service).

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

Proof Test Pressure

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

Temperature Capabilities

Nitrile/Neoprene: -40 to 82°C (-40 to 180°F)
Fluoroelastomer: -18 to 149°C (0 to 300°F) hot water limited to 82°C (180°F)

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 over-pressured 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.

Table 1. Outlet Pressure Ranges

PILOT TYPE	OUTLET (CONTROL) PRESSURE RANGE
6351	0,21 to 1,4 bar (3 to 20 psig)
	0,34 to 2,4 bar (5 to 35 psig)
	2,4 to 6,9 bar (35 to 100 psig)
6351F	0,34 to 2,4 bar (5 to 35 psig)
	2,4 to 6,9 bar (35 to 100 psig)
6352	5 to 140 mbar (2-inches w.c. to 2 psig)
	0,14 to 0,69 bar (2 to 10 psig)
6353	0,21 to 2,8 bar (3 to 40 psig)
	2,4 to 6,9 bar (35 to 100 psig)
6354L ⁽¹⁾	5,9 to 13,8 bar (85 to 200 psig)
6354M ⁽²⁾	12,1 to 15,2 bar (175 to 220 psig)
6354H	13,8 to 20,7 bar (200 to 300 psig)

1. Without diaphragm limiter.
2. With diaphragm limiter.



6350 Series

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.

Note

It is important that the regulator be installed so that the vent hole in the spring case is unobstructed at all times. For outdoor installations, the 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 regulator beneath eaves or downspouts, and be sure it is above the probable snow level.

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.

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 6351 Parts List

Key	Description
1	Body Assembly
2	Bonnet
3	Body Plug Assembly
4	Inner Valve Assembly
6	Valve Spring
7	Diaphragm Assembly
8	Upper Spring Seat
9	Control Spring
10	Adjusting Screw
11	Locknut
12	Machine Screw
22	Pipe Nipple
24	P590 Series Filter
35	Vent Assembly
42	Relief Valve Assembly

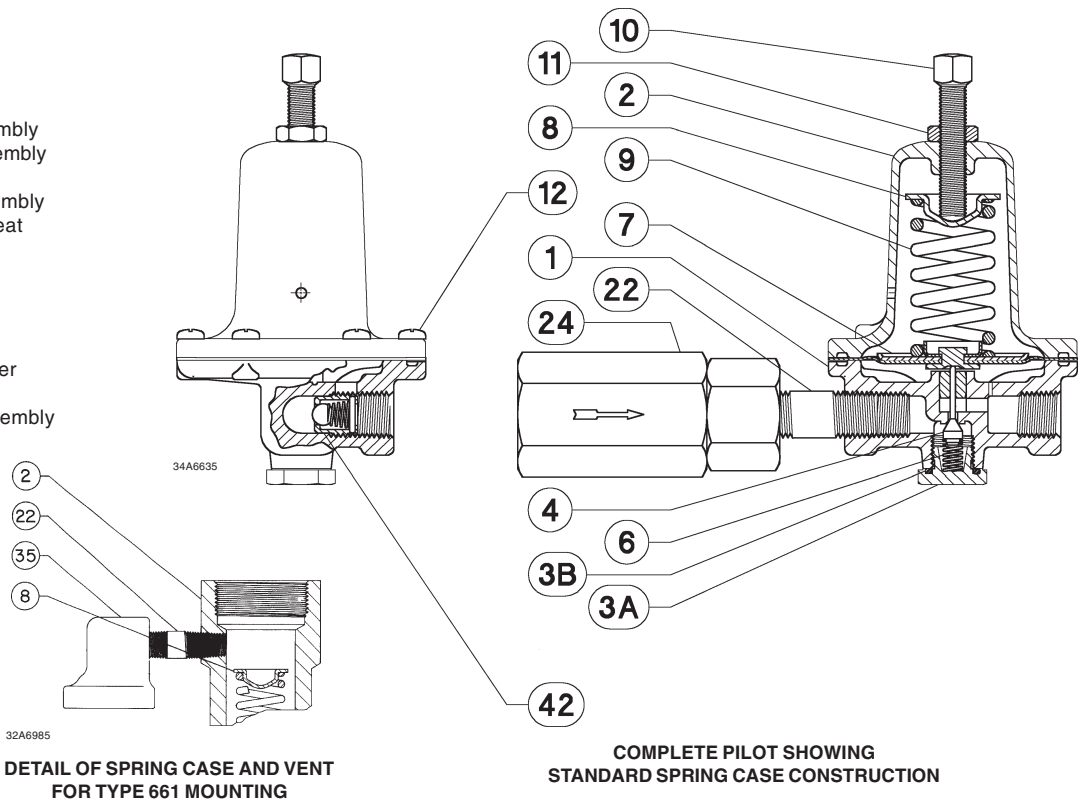


Figure 1. Type 6351 Pilot Assembly

Type 6351F Parts List

Key	Description
1	Body Assembly
2	Spring Case
3	Body Plug
4	Inner Valve Assembly
6	Valve Spring
7	Diaphragm Assembly
8	Upper Spring Seat
9	Control Spring
10	Adjusting Screw
11	Locknut
22	Pipe Nipple
23	Body Plug Gasket
24	P590 Filter (Optional)
28	Closing Cap
35	Vent Assembly
44	Restriction

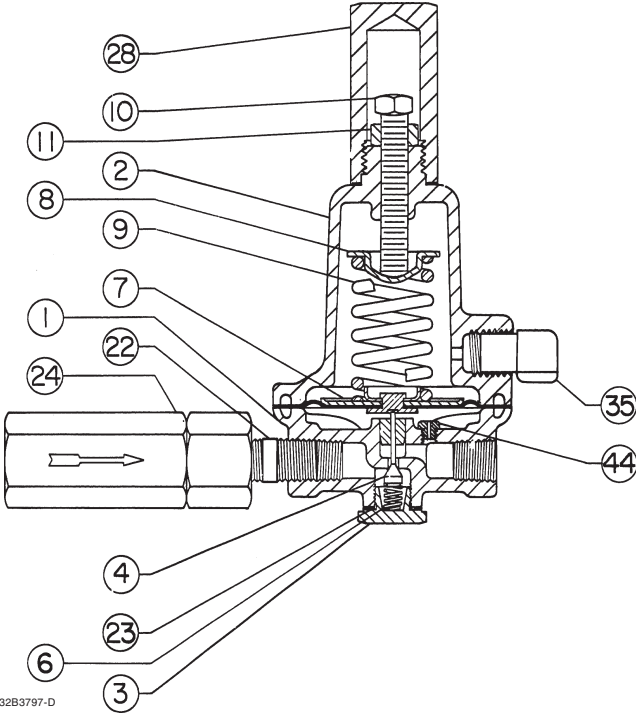
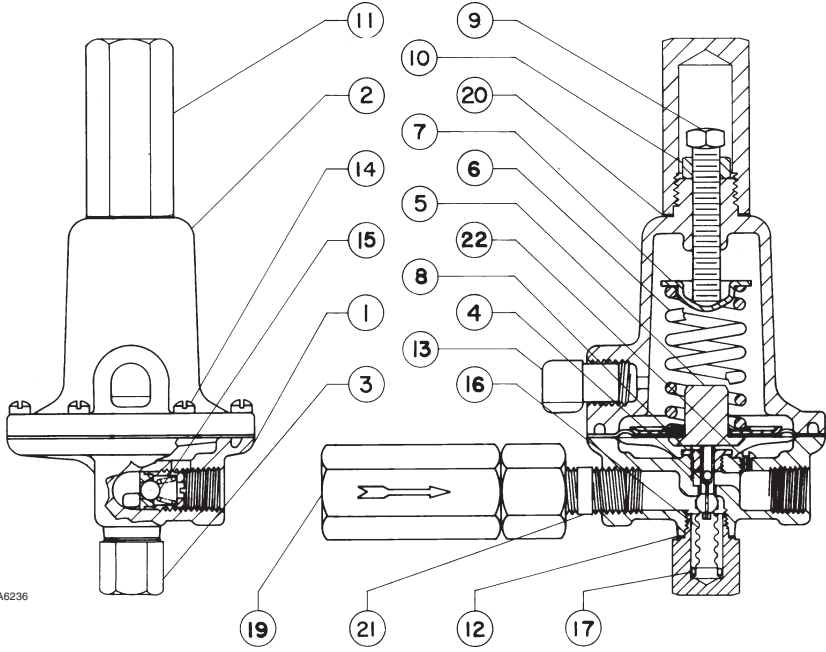


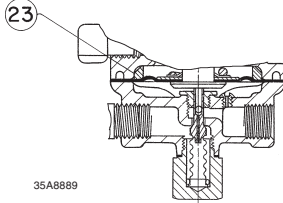
Figure 2. Type 6351F Assembly

Types 6352, 6353, 6354L, 6354M, and 6354H Parts List

Key	Description
1	Pilot Body
2	Spring Case
3	Body Plug
4	Valve Plug and Stem Assembly
5	Diaphragm Assembly
6	Control Spring
7	Spring Seat
8	Stem Guide
9	Adjusting Screw
10	Locknut
11	Closing Cap
12	Body Plug Gasket / O-ring
13	Vent Assembly
14	Machine Screw
15	Relief Valve Assembly
16	Bellows Assembly
17	O-ring
19	Filter
20	Closing Cap Gasket
21	Pipe Nipple
22	Restriction
23	Diaphragm Limiter



COMPLETE TYPE 6352, 6353, OR 6354L PILOT



DETAIL OF TYPE 6354M OR 6354H PILOT

Figure 3. Type 6352 Through 6354H Pilot Assemblies

6350 Series

P590 Series Parts List

Key	Description
1	Filter Body
2	Filter Element
3	Filter Head
4	Machine Screw
5	Washer
6	Spring Washer
7	Gasket

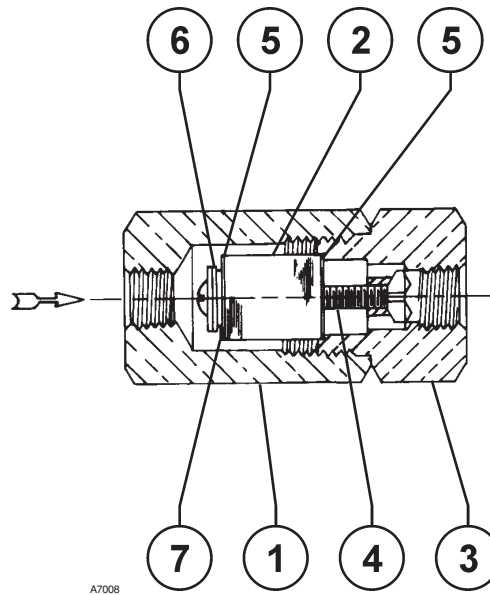


Figure 4. Standard P590 Series Filter Assembly

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