

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.fisherregulators.com. For further information refer to:

Types 95L and 95H instruction manual (form 1151, D100256X012) or Types 95LD and 95HD instruction manual (form 1396, D100257X012).

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 / NPS 1/4 to 1	SEP	1
DN 40 to 50 / NPS 1-1/2 to 2	I, II	

Specifications

Available Constructions

Type 95H: High-pressure regulator for 0,34 to 10,3 bar / 5 to 150 psig outlet pressures. DN 15, 20, 25, 40, and 50 / NPS 1/4, 1/2, 3/4, 1, 1-1/2, and 2 body sizes are available in cast iron, steel, or stainless steel.

Type 95HD: High-pressure differential regulator for 0,34 to 10,3 bar / 5 to 150 psi differential pressures. DN 15, 20, 25, 40, and 50 / NPS 1/4, 1/2, 3/4, 1, 1-1/2, and 2 body sizes are available in cast iron, steel, or stainless steel.

Maximum Inlet and Outlet Pressures⁽¹⁾⁽³⁾

Cast Iron: 17,2 bar / 250 psig

Steel and Stainless Steel: 20,7 bar / 300 psig

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⁾

DN 15, 20, and 25 / NPS 1/4, 1/2, 3/4, and 1: 1,0 to 2,1 bar / 15 to 30 psig; 1,7 to 5,2 bar / 25 to 75 psig; and 4,8 to 10,3 bar / 70 to 150 psig

DN 40 and 50 / NPS 1-1/2 and 2: 0,34 to 5,5 bar / 5 to 80 psig; 4,1 to 8,3 bar / 60 to 120 psig; 6,9 to 9,7 bar / 100 to 140 psig; and 8,3 to 10,3 bar / 120 to 150 psig

Temperature Capabilities⁽¹⁾⁽²⁾

Elastomer Parts

Nitrile (NBR)/Neoprene (CR): -40° to 82°C / -40° to 180°F

Fluorocarbon (FKM): -18° to 149°C / 0° to 300°F; hot water limited to 93°C / 200°F

Ethylene propylene (EPDM): -40° to 135°C / -40° to 275°F

Polytetrafluoroethylene (PTFE): -40° to 204°C / -40° to 400°F

Perfluoroelastomer (FFKM): -18° to 218°C / 0° to 425°F

Metal Parts

Cast Iron: -40° to 208°C / -40° to 406°F

Steel: -29° to 232°C / -20° to 450°F

Stainless Steel: -40° to 232°C / -40° to 450°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 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.

1. The pressure/temperature limits in this Installation Guide and any applicable standard or code limitation should not be exceeded.
2. Pressures and/or the body end connection may decrease these maximum temperatures.
3. Temperature and/or the body end connection may decrease these maximum pressures.

Types 95H and 95HD

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 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.

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

Type 95H:

To change the outlet pressure, 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. Tighten the locknut to maintain the desired setting.

Type 95HD:

The Type 95HD setting may be adjusted by turning the handwheel (key 38, Figure 2).

Taking Out of Service (Shutdown)



WARNING

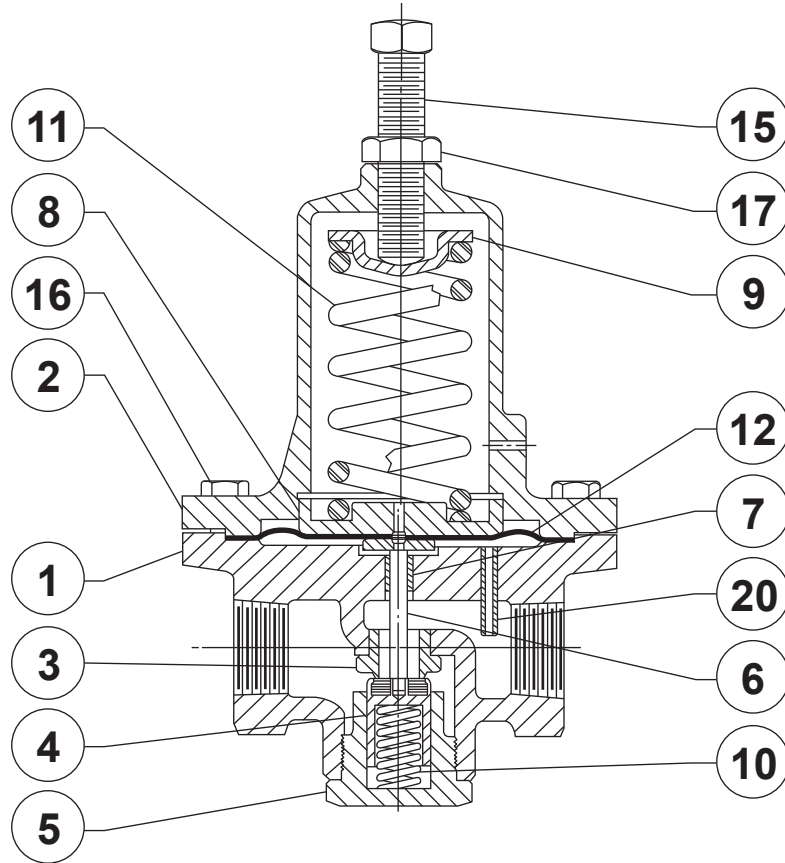
To avoid personal injury resulting from sudden release of pressure, isolate the regulator from all pressure before attempting disassembly.

Parts List

Key	Description	The following parts are for the Type 95HD only:	
1	Regulator Body	Key	Description
2	Spring Case	32	Packing Box
3	Orifice	33	Adjusting Screw
4	Valve Plug	34	Packing Follower
5	Valve Plug Guide	35	Packing Box Nut
6	Stem Assembly	36	Packing
7	Stem Guide Bushing	37	Packing Box Gasket
8	Lower Spring Seat	38	Handwheel
9	Upper Spring Seat	39	Female Adaptor
10	Valve Plug Spring	40	Male Adaptor
11	Regulator Spring	41	Machine Screw
12	Diaphragm	42	Spring
14	Diaphragm Protector	43	Washer
15	Adjusting Screw	44	Washer
16	Cap Screw	45	O-Ring
17	Locknut	47	Diaphragm Gasket
18	Drive Screw	48	Diaphragm Head
19	Diaphragm Gasket	49	Lockwasher
20	Pilot Tube	50	Packing Follower
22	Adjusting Screw Assembly	51	O-Ring
23	Handwheel	52	Spring
24	Machine Screw	54	Inner Valve Base
25	Lockwasher		

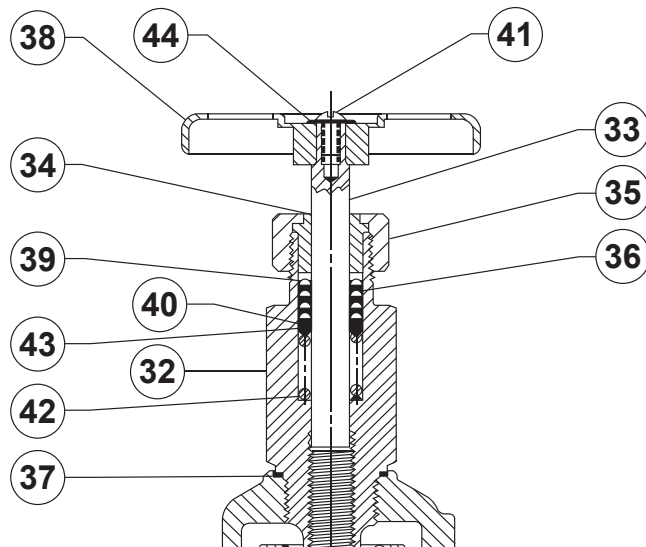
The following parts are for the DN 40 and 50 / 1-1/2 and 2 body sizes only:

Key	Description
30	Pusher Post
31	Locknut
45	O-Ring
47	Diaphragm Gasket
48	Diaphragm Head
49	Lockwasher
50	Packing Follower
51	O-Ring
52	Spring
54	Inner Valve Base
56	NACE Tag
57	Tag Wire



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Figure 1. Type 95H, Sizes DN 15, 20, and 25 / NPS 1/2, 3/4, and 1 Composition Trim



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Figure 2. Type 95HD Handwheel Assembly

Types 95H and 95HD

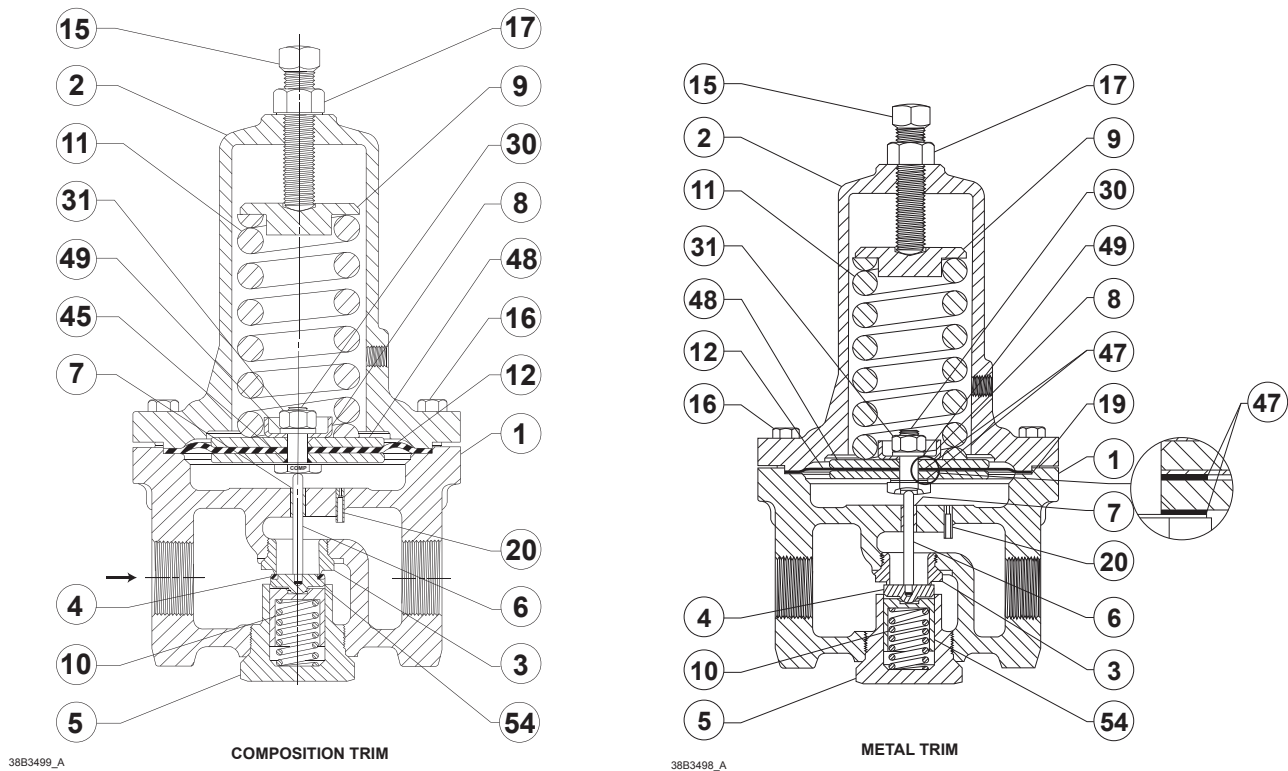


Figure 3. Type 95H, Sizes DN 40 and 50 / NPS 1-1/2 and 2

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