

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	CATEGORY	FLUID TYPE
DN 25 / NPS 1/4 to 1	SEP	1

Specifications

Available Constructions

Type 95L: Pressure reducing regulator suitable for controlling gases and liquids. Cast iron, steel, or stainless steel bodies are available.

Type 95LD: Differential pressure version of the Type 95L.

Body Sizes and End Connection Styles

TYPES	BODY SIZE, DN / NPS	END CONNECTION STYLE	
		Cast Iron	Steel or Stainless Steel
95L and 95LD	1/4	NPT	NPT
	15, 20, 25 / 1/2, 3/4, 1		NPT, CL150 RF, CL300 RF, SWE, or PN 16/25/40

Maximum Cold Working Pressures of Body Size and Material⁽¹⁾⁽⁴⁾

TYPES	BODY SIZE	BODY AND SPRING CASE MATERIALS	MAXIMUM INLET PRESSURE		MAXIMUM OULET PRESSURE	
			bar	psig	bar	psig
95L and 95LD	All Sizes	Cast Iron	17,2	250	3,4	50
		Steel	20,7	300	8,6	125
		Stainless Steel	20,7	300	8,6	125

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. Fluorocarbon (FKM) is limited to 93°C / 200°F hot water.
4. Temperature and/or the body end connection may decrease these maximum pressures.

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⁾

TYPES	BODY SIZE	OUTLET PRESSURE RANGE	
		bar	psig
95L and 95LD	DN 25 / NPS 1/4 to 1	0,14 to 0,41 0,35 to 1,0 0,90 to 2,1	2 to 6 5 to 15 13 to 30

Maximum Temperature Ranges of Body Materials⁽¹⁾⁽²⁾

TYPES	BODY AND SPRING CASE MATERIALS	TEMPERATURE RANGE
95L and 95LD	Cast Iron Steel Stainless Steel	-40° to 208°C / -40° to 406°F -29° to 232°C / -20° to 450°F -40° to 232°C / -40° to 450°F

Maximum Temperature Ranges of Diaphragm and Seat Materials⁽¹⁾⁽²⁾

MATERIAL	TEMPERATURE RANGE
Nitrile (NBR)	-40° to 82°C / -40° to 180°F
Neoprene (CR)	-40° to 82°C / -40° to 180°F
Fluorocarbon (FKM) ⁽³⁾	-18° to 149°C / 0° to 300°F
Ethylenepropylene (EPDM)	-40° to 135°C / -40° to 275°F
Perfluoroelastomer (FFKM)	-18° to 218°C / 0° to 425°F
Polytetrafluoroethylene (PTFE)	-40° to 204°C / -40° to 400°F
Stainless steel (SST)	-40° to 343°C / -40° to 650°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.

Types 95L and 95LD

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 not 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 95L

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 95LD

The Type 95LD 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.

Types 95L and 95LD

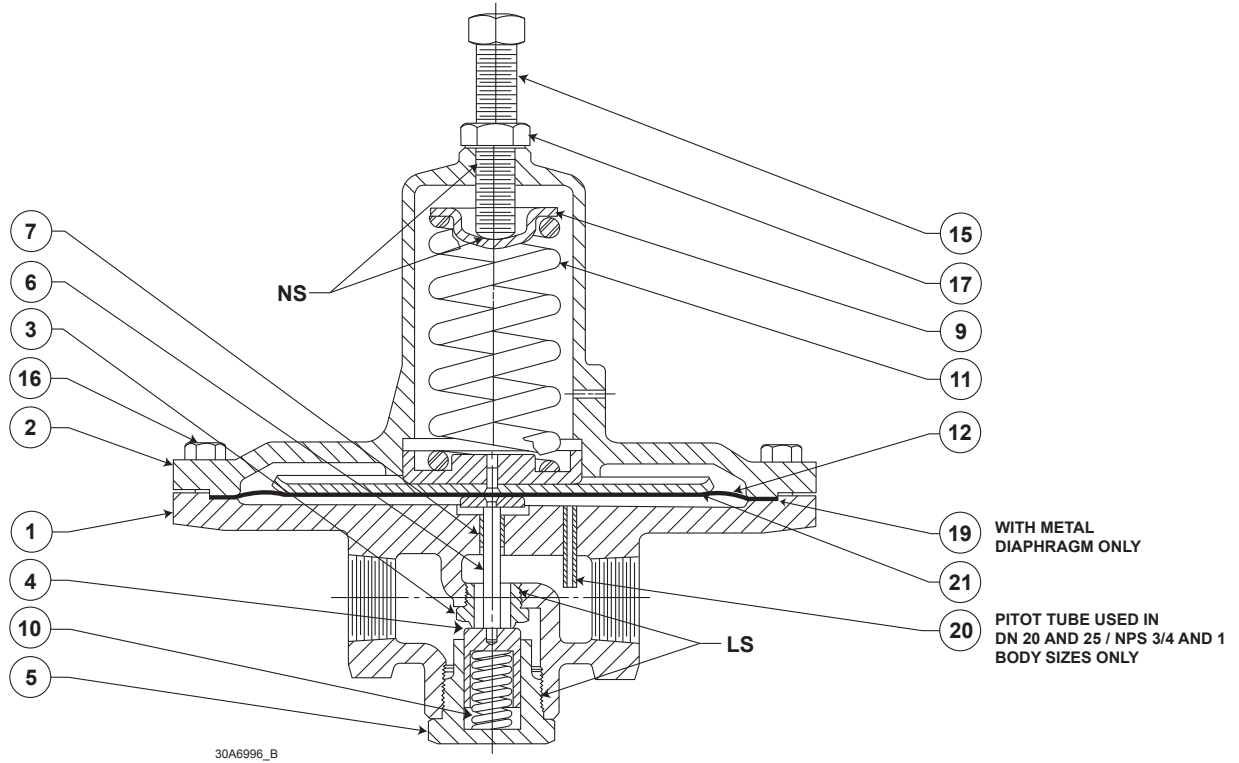
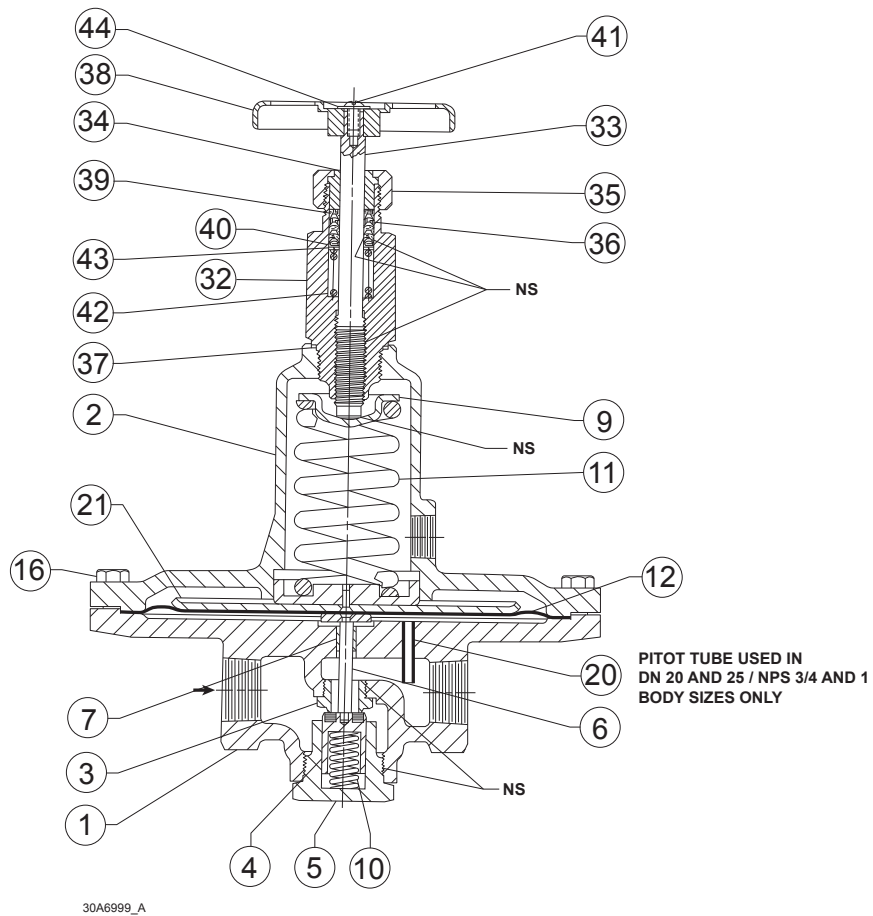


Figure 1. Type 95L Assembly



NS - NEVER-SEEZ®
LS - LEAD SEAL

Figure 2. Type 95LD Assembly

Types 95L and 95LD

Parts List

Key	Description
1	Regulator Body
2	Spring Case
3	Orifice
4	Valve Plug
5	Valve Plug Guide
6	Stem Assembly
7	Stem Guide Bushing
9	Upper Spring Seat
10	Valve Plug Spring
11	Regulator Spring
12	Diaphragm
13	Nameplate, Aluminum (not shown)
14	Diaphragm Protector (for Type 95L only, not shown)
15	Adjusting Screw (for Type 95L only)
16	Cap Screw
17	Lock Nut (for Type 95L only)
18	Drive Screw (not shown)
19	Diaphragm Gasket (for Types 95L and 95LD with metal diaphragm only)
20	Pitot Tube (for DN 20 and 25 / NPS 3/4 and 1 body sizes only)
21	Diaphragm Head Assembly
22	Adjusting Screw (for Type 95L tee-handle construction)
23	Handwheel (for Type 95L handwheel construction)
24	Machine Screw (for Type 95L handwheel construction)
25	Lockwasher (for Type 95L handwheel construction)

The following parts are for the Type 95LD only:

Key	Description
32	Packing Box
33	Adjusting Screw
34	Packing Follower
35	Packing Box Nut
36	Packing
37	Packing Box Gasket
38	Handwheel
39	Female Adaptor
40	Male Adaptor
41	Machine Screw
42	Spring
43	Washer
44	Washer

Industrial Regulators

Emerson Process Management Regulator Technologies, Inc.

USA - Headquarters
McKinney, Texas 75069-1872, USA
Tel: +1 800 558 5853
Outside U.S. +1 972 548 3574

Asia-Pacific
Shanghai 201206, China
Tel: +86 21 2892 9000

Europe
Bologna 40013, Italy
Tel: +39 051 419 0611

Middle East and Africa
Dubai, United Arab Emirates
Tel: +971 4811 8100

Natural Gas Technologies

Emerson Process Management Regulator Technologies, Inc.

USA - Headquarters
McKinney, Texas 75069-1872, USA
Tel: +1 800 558 5853
Outside U.S. +1 972 548 3574

Asia-Pacific
Singapore 128461, Singapore
Tel: +65 6770 8337

Europe
Bologna 40013, Italy
Tel: +39 051 419 0611
Gallardon 28320, France
Tel: +33 2 37 33 47 00

TESCOM

Emerson Process Management Tescom Corporation

USA - Headquarters
Elk River, Minnesota 55330-2445, USA
Tels: +1 763 241 3238
+1 800 447 1250

Europe
Selmsdorf 23923, Germany
Tel: +49 38823 31 287

Asia-Pacific
Shanghai 201206, China
Tel: +86 21 2892 9499

For further information visit www.fisherregulators.com

The Emerson logo is a trademark and service mark of Emerson Electric Co. All other marks are the property of their prospective owners. Fisher is a mark owned by Fisher Controls, Inc., a business of Emerson Process Management.

The contents of this publication are presented for informational purposes only, and while every effort has been made to ensure their accuracy, they are not to be construed as warranties or guarantees, express or implied, regarding the products or services described herein or their use or applicability. We reserve the right to modify or improve the designs or specifications of such products at any time without notice.

Emerson Process Management does not assume responsibility for the selection, use or maintenance of any product. Responsibility for proper selection, use and maintenance of any Emerson Process Management product remains solely with the purchaser.