

English - November 2022

Introduction

This installation guide provides instructions for installation, startup and adjustment. To receive a copy of the instruction manual, contact your local Sales Representative or view a copy at www.fisher.com. For further information refer to: ACE95 Series Instruction Manual, D102775X012.

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 TYPE	PRODUCT SIZE	CATEGORIES	FLUID TYPE
ACE95	DN 20 / NPS 3/4	SEP	1
	DN 25 / NPS 1		
ACE95Sr	DN 50 / NPS 2	I	

Specifications

Sizes and End Connection Styles

See Table 1

Maximum Operating Inlet Pressure

13.8 bar / 200 psig

Maximum Outlet (Casing) Pressure

1.4 bar / 20 psig

Maximum Operating Outlet Pressure

0.10 bar / 1.5 psig

Outlet (Control) Pressure Ranges⁽¹⁾

See Table 2

Proof Test Pressure

All Pressure Retaining Components have been proof tested per Directive.

Material Temperature Capabilities⁽¹⁾

Nitrile (NBR): -29 to 82°C / -20 to 180°F

Fluorocarbon (FKM): -18 to 100°C / 0 to 212°F

Ethylene propylene (EPDM/FDA)⁽²⁾:

-29 to 100°C / -20 to 212°F

Perfluoroelastomer (FFKM):

-29 to 100°C / -20 to 212°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 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.

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.

Install the regulator above the fluid level in the tank with the actuator case horizontal.

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.

1. Special low temperature constructions for process temperatures between -49 to 180°F / -45 to 82°C are available by request. The low temperature constructions passed Emerson laboratory testing for lockup and external leakage down to -49°F / -45°C.

2. FDA/USP Class VI approved/ADI-free elastomers (wetted parts only).

ACE95 Series

Table 1. Body Sizes and End Connection Styles

TYPE	BODY TYPE	BODY SIZE	END CONNECTION STYLE
ACE95	Angled Body ⁽¹⁾	3/4 in.	NPT
		1 in.	NPT
		DN 25 / NPS 1	CL150 RF
			CL300 RF
			PN16/25/40 RF
	Sanitary Flange		
	In-Line Body	3/4 in.	NPT
		1 in.	NPT
		DN 25 / NPS 1	CL150 RF
			CL300 RF
PN16/25/40 RF			
DN 25 x 50 / NPS 1 x 2		CL150 RF	
PN16/25/40 RF			
ACE95Sr	Angled Body ⁽¹⁾	DN 25 / NPS 1	Sanitary Flange
		2 in.	NPT
		DN 50 / NPS 2	CL150 RF
		DN 50 / NPS 2	CL300 RF

1. Various Single Array Manifold (SAM) tank connections are also available. Contact your local Sales Office for more information.

Table 2. Outlet (Control) Pressure Ranges

OUTLET (CONTROL) PRESSURE RANGE	
mbar	In. w.c.
-12 to -1	-5 to -0.5
-2 to 2	-1 to 1
1.2 to 12 10 to 25 20 to 37 0.03 to 0.10 bar	0.5 to 5 4 to 10 8 to 15 0.5 to 1.5 psig

Table 3. Main Valve Springs

TYPE	VALVE Cv	INLET PRESSURE	
		bar	psig
ACE95	1 through 4	1.72 to 3.45	25 to 50
		3.52 to 8.27	51 to 120
		8.34 to 13.8	121 to 200
ACE95Sr	20 through 60	1.72 to 3.45	25 to 50
		3.52 to 8.27	51 to 120
		8.34 to 13.8	121 to 200

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 set pressure, remove the closing cap or loosen the locknut and turn the adjusting screw clockwise to increase set pressure or counterclockwise to decrease pressure. Monitor the set 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)



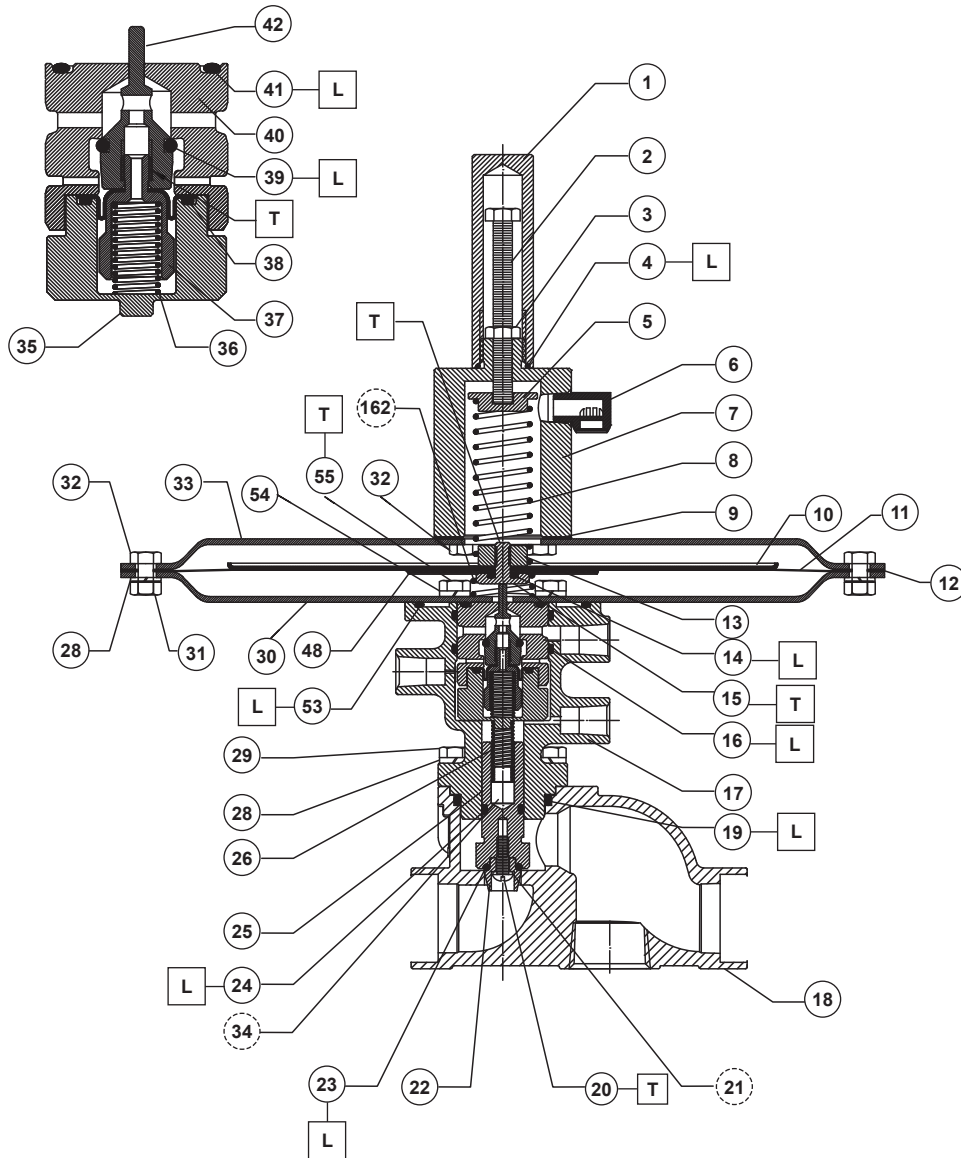
WARNING

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

Parts List

Key	Description
1	Cap
2	Adjusting Screw
3	Lock Nut
4*	O-ring
5	Spring Seat
6	Vent (Type Y602-A12)
7	Spring Case
8	Range Spring
9*	Gasket (spring tower)
10	Diaphragm Plate (upper)
11	Diaphragm (main) - FEP
12*	Gasket (actuator)
13	Diaphragm Retaining Nut
14*	O-ring
15	Diaphragm Bolt
16*	O-ring
17	Bonnet
18	Body
19*	O-ring
20	Round-Head Machine Screw
21	Lock Washer
22	Plug
23*	O-ring
24*	O-ring
25	Piston (main valve)
26	Spring (main valve)
27*	Gasket (bonnet/actuator), Type ACE95Sr only
28	Lock Washer
29	Hex-Head Machine Screw

*Recommended Spare Part.



□ APPLY LUBRICANT (L) AND SEALANT (S)^(*):
 S = THREADLOCKING METHACRYLATE ADHESIVE
 L = FOOD GRADE CLEAR GREASE

1. Lubricants and sealant must be selected such that they meet the temperature requirements.

Figure 1. Type ACE95 Tank Blanketing Valve

Key Description

- 30 Actuator Case (lower)
- 31 Hex Nut
- 32 Hex-Head Machine Screw
- 33 Actuator Case (upper)
- 34 Spring Shim (Type ACE95 only)
- 35 Lower Cage
- 36 Spring (cage)
- 37 Piston (pilot)
- 38* Rolling Diaphragm
- 39* O-ring
- 40 Cage (upper)
- 41* O-ring
- 42 Pilot (poppet)

Key Description

- 43 Pilot Filter (optional, not shown)
- 48 Diaphragm Plate (lower)
- 49 Spring Guide (Type ACE95Sr only)
- 50 Hex Head Cap Screw
- 51 Lock Washer
- 53* O-ring (Type ACE95 only)
- 54 Washer
- 55 Hex Head Machine Screw
- 138 Hex Head Pipe Plug, Type ACE95 only
- 139 Hex Head Pipe Plug
- 162 Lower Range Spring
- 168 Sealant
- 169 Lubricant

*Recommended Spare Part.

ACE95 Series

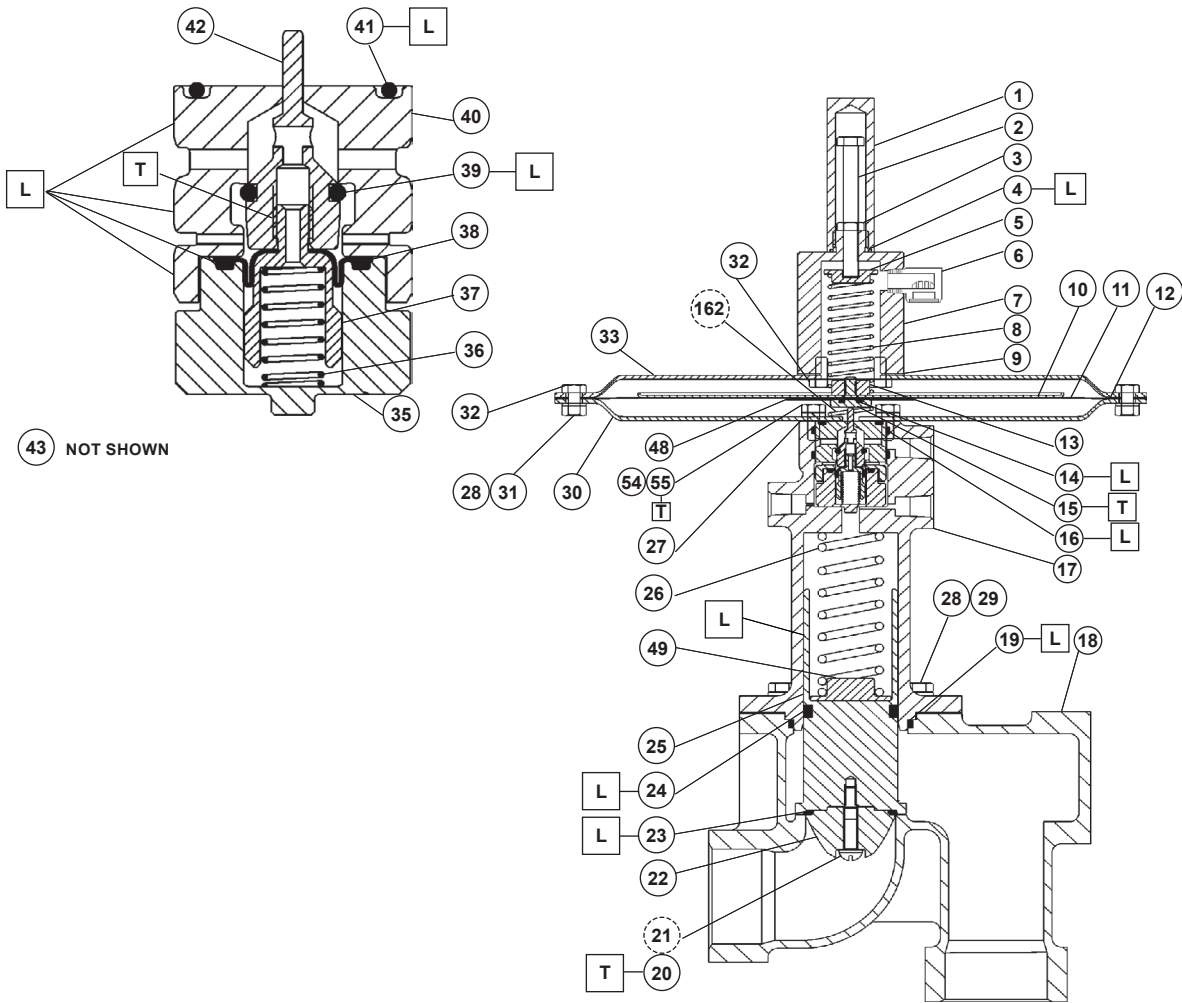


Figure 2. Type ACE95Sr Assembly

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

