Type 1190

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: Type 1190 Instruction Manual, form 5307, D101644X012.

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 SIZES		CATEGORIES	FLUID TYPE
DN	NPS		
25	1	SEP	1
50, 80, 100, 150	2, 3, 4, 6	II	

Specifications

Body Size and End Connection Styles
See Table 1

Main Valve Maximum Inlet Pressure(1)
27,6 bar / 400 psig or body rating limit whichever is lower. DN 150 / NPS 6 main valve is limited to 19,0 bar / 275 psig and the DN 200 x 150 / NPS 8 x 6 is limited to 16,0 bar / 232 psig for PED Category II.

Maximum Operating Inlet Pressure(1)
13,8 bar / 200 psig with cast iron construction or 20,7 bar / 300 psig with a steel or stainless steel construction.

Maximum Outlet (Casing) Pressure(1)
5,2 bar / 75 psig

Outlet Pressure Ranges(1)
See Table 2

Maximum and Minimum Differential Pressures(1)
See Table 3

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

Maximum Temperature Capabilities(1)
Nitrile (NBR): -29° to 82°C / -20° to 180°F
Fluorocarbon (FKM): 4° to 149°C / 40° to 300°F
Ethylenepropylene (EPDM): -29° to 149°C / -20° to 300°F
Perfluoroelastomer (FFKM): -29° to 149°C / -20° to 300°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.

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.

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 SIZES		END CONNECTION STYLES	
DN	NPS	Cast Iron	WCC Steel or CF8M Stainless Steel
25, 50	1, 2	NPT, CL125 FF, or CL250 RF flanged	NPT, SWE, BWE, CL150 RF, CL300 RF, CL600 RF, or PN 16/25/40 flanged
80, 100, 150	3, 4, 6	CL125 FF, or CL250 RF flanged	BWE, CL150 RF, CL300 RF, CL600 RF, or PN 16 flanged
200 x 150, 300 x 150	8 x 6, 12 x 6	- - - -	BWE, CL150 RF, CL300 RF, CL600 RF, or PN 25 flanged

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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 shut-off 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.

Table 2. *Outlet Pressure Ranges*

OUTLET PRESSURE RANGE[1]	
mbar	**inches w.c.**
0,6 to 6 5 to 17 12 to 40	0.25 to 2.5 2 to 7 5 to 16
0,03 to 0,08 bar 0,07 to 0,17 bar 0,17 to 0,31 bar 0,31 to 0,48 bar	0.5 to 1.2 psig 1.1 to 2.5 psig 2.5 to 4.5 psig 4.5 to 7.0 psig

1. Outlet pressure ranges based on pilot being installed with the spring case pointed down. Do not use Fluorocarbon (FKM) diaphragm with this spring at diaphragm temperatures lower than 16°C / 60°F.

Table 3. *Maximum and Minimum Differential Pressures Main Valve Spring Selection*

BODY SIZES		MAIN VALVE SPRING PART NUMBER	SPRING COLOR	MAXIMUM ALLOWABLE DIFFERENTIAL PRESSURE		MINIMUM DIFFERENTIAL PRESSURE REQUIRED FOR FULL STROKE	
DN	**NPS**			**bar**	**psig**	**bar**	**psig**
25	1	14A9687X012	Green	4,1	60	0,17	2.5
		14A9680X012	Blue	8,6	125	0,28	4
		14A9679X012	Red	20,7 bar / 300 psig or body rating limit, whichever is lower		0,34	5
50	2	14A6626X012	Green	4,1	60	0,21	3
		14A6627X012	Blue	8,6	125	0,34	5
		14A6628X012	Red	20,7 bar / 300 psig or body rating limit, whichever is lower		0,69	10
80	3	14A6629X012	Green	4,1	60	0,28	4
		14A6630X012	Blue	8,6	125	0,41	6
		14A6631X012	Red	20,7 bar / 300 psig or body rating limit, whichever is lower		0,76	11
100	4	14A6632X012	Green	4,1	60	0,34	5
		14A6633X012	Blue	8,6	125	0,55	8
		14A6634X012	Red	20,7 bar / 300 psig or body rating limit, whichever is lower		0,90	13
150, 200 x 150, 300 x 150	6, 8 x 6, 12 x 6	14A9686X012	Green	4,1	60	0,66	9.5
		14A9685X012	Blue	8,6	125	0,97	14
		15A2615X012	Red	20,7 bar / 300 psig or body rating limit, whichever is lower		1,3	19

Parts List

Type EGR Parts List

Key	Description	Key	Description
1	Valve Body	19	Indicator Protector
2	Body Flange	20	Plug O-Ring
3	Cap Screw	21	Indicator Fitting O-Ring
4	Gasket	22	Flange Nut
5	Lower Indicator Fitting	23	E-Ring
6	O-Ring Retainer	24	Drive Screw
7	Indicator Stem O-Ring	25	Flow Arrow
8	Indicator Hex Nut	27	Indicator Plug
9	Spring	28	Spring Seat
10	Travel Indicator Stem	31	Pipe Plug
11	Cage	32	Travel Stop
12	Port Seal	33	NACE Tag
13	Seat Ring	34	Tag Wire
14	Piston Ring	35	Indicator Fitting
15	Upper Seal	36	Back-up Ring
16	Valve Plug	37	O-Ring
17	Cage O-Ring	38	Pipe Plug
18	Indicator Scale		

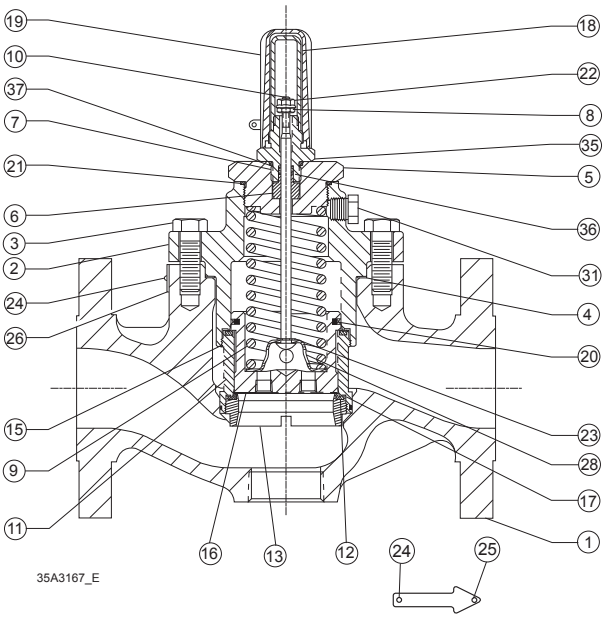

Figure 1. *Type EGR Main Valve Assembly*

Type 1098 Parts List

Key	Description
1	Lower Diaphragm Case
2	Upper Diaphragm Case
3	Bonnet
4	Cap Screw
5	Casing O-Ring
6	Stem O-Ring
7	Diaphragm
8	Diaphragm Plate
9	Stem Cap Screw
10	Cap Screw
11	Hex Nut
12	Stem
13	Nameplate
27	Vent Insert
28	Grease Fitting
54	NACE Tag
55	NACE Tag Wire
56	Bearing
57	Wiper

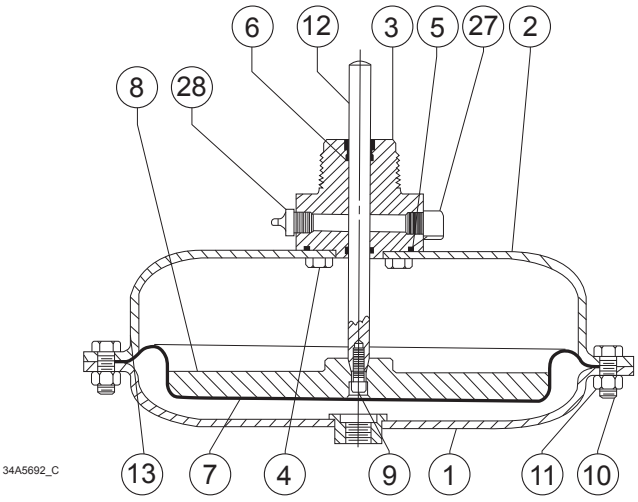

Figure 2. *Type 1098 Actuator Assembly*

Type Y191A Parts List

Key	Description	Key	Description
1	Body	22	Closing Cap
2	Cap Screw	23	Hex Nut
3	Spring Case Assembly	24	Cap Screw
4	Lower Diaphragm Casing	25	Closing Cap Gasket (use with steel and stainless steel closing caps)
5	Orifice		
6	Spring		
7	Diaphragm Head	31	Throat Seal
8	Pusher Post	33	Machine Screw
10	Diaphragm	35	Adjusting Screw
11	Body Seal O-Ring	37	Spring Holder
12	Insert Seal	38	Machine Screw
13	Disk Assembly	39	Overpressure Spring
14	Stem	40	Pusher Post Connector
15	Cotter Pin	48	Post Seal
16	Lever Assembly	49	Back-up ring
17	Machine Screw	50	Connector Seal O-Ring
18	Insert Guide	51	Lower Diaphragm Head Assembly
21	Hex Nut		

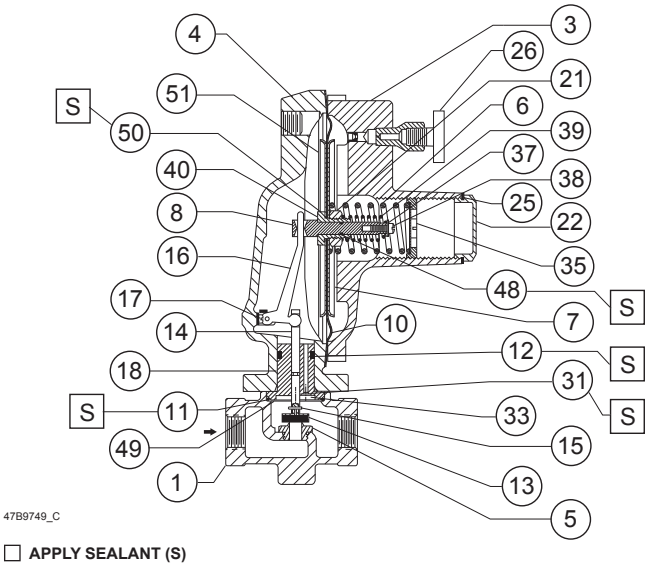

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Figure 3. *Type Y191A Assembly*

Type 95H Parts List

Key	Description
1	Body
2	Spring Case
3	Orifice
4	Valve Plug
5	Valve Plug Guide
6	Stem Assembly
7	Stem Guide Bushing
8	Lower Spring Seat
9	Upper Spring Seat
10	Valve Plug Spring
11	Spring
12	Diaphragm
15	Adjusting Screw
16	Cap Screw
17	Locknut
18	Drive Screw
56	NACE Tag
57	Tag Wire

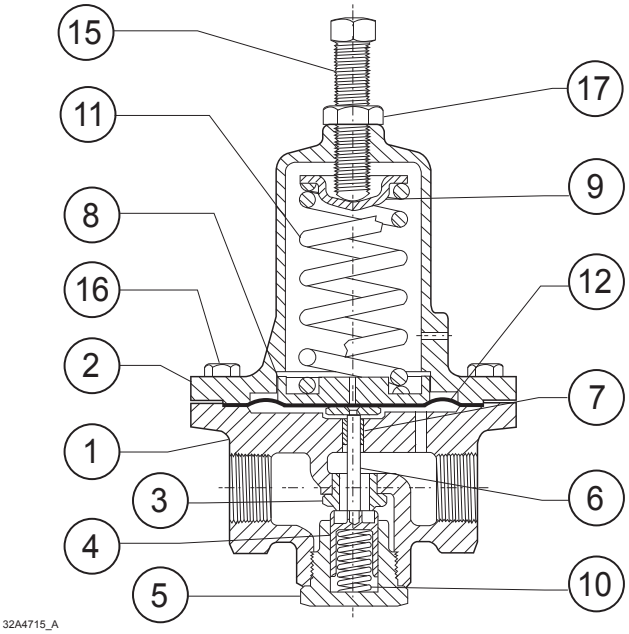

Figure 4. *Type 95H Supply Pressure Regulator*

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