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.fisher.com. For further information refer to: Type EZR Instruction Manual, D102600X012.

P.E.D. Category

This product may be used as a safety accessory with pressure equipment in the following Pressure Equipment Directive. It may also be used outside of the Pressure Equipment Directive using Sound Engineering Practice (SEP) per table below. For information on the current PED revision see Bulletin: *D103053X012*.

PRODUCT SIZE	CATEGORIES	FLUID GROUP
DN 25 / NPS 1	SEP	1
DN 50, 50 x 25, 80, 100, 150, 200 and 200 x 150 / NPS 2, 2 x 1, 3, 4, 6, 8, 8 x 6	I, II, III	

Specifications

Main Valve Body Sizes, End Connection Styles and Structural Design Ratings[1][2]
See Table 1

Maximum Inlet Pressures and Pressure Drops[1]
Main Valve: See Table 6
Pilots: See Table 3
Restrictor: 103 bar / 1500 psig

Outlet (Control) Pressure Ranges
See Table 2

Minimum and Maximum Differential Pressures[1]
See Tables 4 and 6

Proof Test Pressure
All Pressure Retaining Components have been proof tested per Directive

Temperature Capabilities[1]
See Table 5

Pilot Type Descriptions

Type 161AY—Low-pressure pilot with an outlet pressure range of 15 mbar to 0.48 bar / 6 in. w.c. to 7 psig. Pilot bleeds (exhausts) downstream through the sense (control) line.

Type 161AYM—The monitor version of the Type 161AY pilot. The pilot bleed (exhaust) is isolated from the sense (control) line. This pilot is used in monitoring systems requiring an isolated pilot bleed (exhaust).

Type 161EB—High accuracy pilot with an outlet pressure range of 0.34 to 24.1 bar / 5 to 350 psig. Pilot bleeds (exhausts) downstream through the sense (control) line.

Type 161EBM—The monitor version of the Type 161EB pilot. The pilot bleed (exhaust) is isolated from the sense (control) line. This pilot is used in monitoring systems requiring an isolated pilot bleed (exhaust).

1. The pressure/temperature limits in this Instruction Guide and any applicable standard or code limitation should not be exceeded.
2. End connections for other than ASME standard can usually be provided, contact your local Sales Office for assistance.

Table 1. *Main Valve Body Sizes, End Connection Styles and Body Ratings*

MAIN VALVE BODY SIZE, DN / NPS	MAIN VALVE BODY MATERIAL	END CONNECTION STYLE[1]	STRUCTURAL DESIGN RATING[2]
50 x 25, 50, 80, 100 and 150 / 2 x 1, 2, 3, 4 and 6	Cast iron	NPT (DN 50 x 25 and 50 / NPS 2 x 1 and 2 only)	27.6 bar / 400 psig
		CL125 FF	13.8 bar / 200 psig
		CL250 RF	34.5 bar / 500 psig
25, 32 x 25, 50 x 25, 50, 80, 100,150 x 100, 200 x 100, 150, 200 x 150 and 300 x 150 / 1, 1-1/4 x 1[3], 2 x 1, 2, 3, 4, 6 x 4[4], 8 x 4[4], 6, 8 x 6[4] and 12 x 6[4]	WCC Steel	NPT or SWE (DN 25, 50 x 25 and 50 / NPS 1, 2 x 1 and 2 only)	103 bar / 1500 psig
		CL150 RF	20.0 bar / 290 psig
		CL300 RF	51.7 bar / 750 psig
		CL600 RF or BWE	103 bar / 1500 psig
200 / 8	LCC Steel	CL150 RF	20.0 bar / 290 psig
		CL300 RF	51.7 bar / 750 psig
		CL600 RF	103 bar / 1500 psig

1. Ratings and end connections for other than ASME standard can usually be provided. Contact your local Sales Office for assistance.
2. See Tables 3, 5 and 6 for diaphragm materials and additional pressure ratings.
3. Available in steel NPT only.
4. DN 150 x 100, 200 x 100, 200 x 150, 300 x 150 / NPS 6 x 4, 8 x 4, 8 x 6, 12 x 6 Types EZR and 399 bodies are not the same as the EW valve bodies and are not interchangeable.

Table 2. *Outlet (Control) Pressure Ranges, Proportional Bands and Pilot Control Spring Information*

TYPE	OUTLET (CONTROL) PRESSURE RANGE	
	bar	psig
161AY or 161AYM	15 to 37 34 to 83 83 mbar to 0.17 bar 0.17 to 0.31 0.31 to 0.48	6 to 15 in. w.c. 0.5 to 1.2 1.2 to 2.5 2.5 to 4.5 4.5 to 7
161EB or 161EBM	0.34 to 1.0 0.69 to 2.8 2.1 to 5.2 4.8 to 9.7 9.0 to 13.8 13.8 to 24.1	5 to 15 10 to 40 30 to 75 70 to 140 130 to 200 200 to 350
161EB(1)	2.1 to 20.7	30 to 300
TYPE	**OUTLET (CONTROL) PRESSURE RANGE**	
	bar	**psig**
PRX/120 PRX/125	1.00 to 1.8 1.6 to 3.0 2.8 to 5.5 5.0 to 8.5	14.5 to 26 23 to 44 41 to 80 73 to 123
	8.0 to 14.5 14.0 to 23.0 22.0 to 30.0	116 to 210 203 to 334 319 to 435
PRX/120-AP PRX/125-AP	30.0 to 69.0	435 to 1000

1. Should only be used as the intermediate reduction pilot on the Type EZR worker/monitor systems.

Table 3. *Pilot Pressure Ratings*

TYPE	MAXIMUM INLET PRESSURE		MAXIMUM EMERGENCY OUTLET PRESSURE OR MAXIMUM EMERGENCY SENSE PRESSURE(1)		MAXIMUM BLEED (EXHAUST) PRESSURE FOR MONITOR PILOTS	
	bar	psig	bar	psig	bar	psig
161AY	10.3	150	10.3	150	----	
161EB	103	1500	82.7	1200		
161AYM	10.3	150	10.3	150	10.3	150
161EBM	103	1500	82.7	1200	103	1500
PRX Series	102	1480	102	1480	102	1480

1. Maximum pressure to prevent the casings from bursting during abnormal operation (leaking to atmosphere and internal parts damage may occur).

Type PRX/120—Outlet pressure range of 1.00 to 30.0 bar / 14.5 to 435 psig. The Type PRX/120 can be used as the pilot on single-stage pressure reducing regulators or as the monitor pilot or working pilot in wide-open monitor systems. The Type PRX has a double diaphragm which provides increased accuracy and sensitivity, an integral restrictor adjustment which allows adjustable opening and closing speeds and a damper adjustment which adjusts inlet pressure variability and loading pressure oscillations.

Type PRX/120-AP—Outlet pressure range of 30.0 to 69.0 bar / 435 to 1000 psig. The Type PRX/120-AP can be used as the pilot on single-stage pressure reducing regulators, as the monitor pilot or working pilot in wide-open monitor systems or as the working pilot for monitoring and working regulators in the working monitoring systems.

Type PRX/125—Identical to the Type PRX/120 except the restriction screw is removed. The Type PRX/125 can only be used as the monitor override pilot on working monitor applications.

Type PRX/125-AP—Identical to the Type PRX/120-AP except the restriction screw is removed. The Type PRX/125-AP can only be used as the monitor override pilot on working monitor applications.

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.

Table 4. *Main Valve Minimum Differential Pressures*[1]

MAIN VALVE BODY SIZE, DN / NPS	MAIN SPRING PART NUMBER AND COLOR CODE	DIAPHRAGM MATERIAL	MINIMUM DIFFERENTIAL, PERCENT OF CAGE CAPACITY											
			FOR 90% CAPACITY						FOR 100% CAPACITY					
			100% Trim		60% Trim		30% Trim		100% Trim		60% Trim		30% Trim	
			bar	psi	bar	psi	bar	psi	bar	psi	bar	psi	bar	psi
25 and 32 x 25 / 1 and 1-1/4 x 1	19B2400X012, Light Blue	17E68 and 17E88	1.7	24	2.0	29	2.2	31	1.7	24	2.2	31	2.8	40
	GE12727X012, Black	17E97	2.5	35	2.7	38	2.9	42	2.5	35	2.7	39	3.6	52
		17E68 and 17E88	2.1	30	2.4	35	2.7	39	2.1	30	2.5	36	3.6	52
	19B2401X012, Black with White Stripe[3]	17E88 and 17E97	3.0	43	3.4	50	3.9	56	3.0	43	3.7	53	4.7	68
50 x 25 / 2 x 1	19B2400X012, Light Blue	17E68 and 17E88	1.7	24	2.0	29	2.2	31	1.7	24	2.2	31	2.8	40
	19B2401X012, Black with White Stripe	17E97	3.0	43	3.4	50	3.9	56	3.0	43	3.7	53	4.7	68
		17E68 and 17E88	3.0	43	3.4	50	3.9	56	3.0	43	3.7	53	4.7	68
	GE12501X012, Red Stripe[3]	17E97	4.7	68	5.0	73	6.1	88	5.0	72	5.6	81	7.0	102
50 / 2	19B0951X012, Yellow[2]	17E68 and 17E88	0.83	12	1.0	15	1.0	15	0.83	12	1.7	25	1.4	20
	18B2126X012, Green	17E97	1.7	24	1.7	25	1.8	26	1.7	24	2.1	30	2.6	37
		17E68 and 17E88	1.2	18	1.4	20	1.5	22	1.3	19	1.8	26	1.9	28
	18B5955X012, Red[3][4] GE05504X012, Purple[3][4]	17E88 and 17E97	2.0	29	2.0	29	2.1	31	2.1	31	2.4	35	3.03	43
80 / 3	T14184T0012, Yellow[2]	17E68 and 17E88	1.1	16	1.3	19	1.7	24	1.6	23	1.6	23	2.0	29
	19B0781X012, Light Blue	17E97	1.6	23	1.6	23	1.6	23	1.6	23	1.6	23	1.7	25
		17E68 and 17E88	1.5	21	1.5	22	1.9	28	1.9	28	1.9	28	2.3	33
	19B0782X012, Black[3]	17E88 and 17E97	2.2	32	2.3	33	3.0	43	2.6	38	2.6	38	3.4	50
100, 150 x 100 and 200 x 100 / 4, 6 x 4 and, 8 x 4	T14184T0012, Yellow[2]	17E68 and 17E88	0.69	10	0.83	12	0.97	14	1.7	25	1.7	25	1.7	25
	18B8501X012, Green	17E97	1.1	16	1.2	17	1.5	21	2.3	34	2.3	34	2.3	34
		17E68 and 17E88	1.1	16	1.2	17	1.4	20	2.1	30	2.1	30	2.1	30
	18B8502X012, Red[3]	17E88 and 17E97	1.5	21	1.7	24	1.8	26	2.8	40	2.8	40	2.8	40
150, 200 x 150 and 300 x 150 / 6, 8 x 6 and 12 x 6	19B0364X012, Yellow[2]	17E97	0.69	10	0.76	11	0.97	14	0.83	12	1.1	16	1.1	16
		17E88	0.69	10	0.90	13	0.90	13	0.83	12	1.5	21	1.5	21
	19B0366X012, Green	17E97	0.97	14	1.5	22	1.5	22	1.3	19	2.0	29	2.0	29
		17E88	1.2	17	1.5	21	1.5	21	1.4	20	2.5	36	2.5	36
	19B0365X012, Red[3]	17E88 and 17E97	1.6	23	2.0	29	2.0	29	2.1	30	2.8	41	2.8	41
200 / 8	GE09393X012, Yellow[2]	17E97	1.1	16	----		----		1.3	19	----		----	
	GE09396X012, Green		1.4	20					1.6	23				
	GE09397X012, Red[3]		1.8	26					2.1	30				

1. See Table 1 for structural design ratings, Table 3 for pilot ratings and Table 6 for maximum pressure ratings.
2. The white and yellow springs are only recommended for inlet pressures under 6.9 bar / 100 psig.
3. The red, black, purple, red stripe and black with white stripe springs are only recommended for applications where the maximum inlet pressure can exceed 34.5 bar / 500 psig.
4. 18B5955X012 (Red) is used on constructions with travel indicator while GE05504X012 (Purple) is used on non-travel indicator constructions.

To avoid such injury or damage, provide pressurerelieving 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.

CAUTION

When using an inlet strainer (key 23), do not use the shim (key 23) and vise versa.

When installing a Type EZR trim package in an existing E-body, make sure flow is up through the center of the cage and down through the cage slots. In some cases, correct flow path is achieved by removing the body from the line and turning it around. If this is done, change the flow arrow to indicate the correct direction. Damage may result if flow is not in the correct direction. After assembly, check the regulator for shutoff sand leakage to atmosphere.

Note

It is important that the regulator be installed so that the vent hole in the spring case is unobstructed at all times.

***Table 5**. Temperature Capabilities*

17E68 NITRILE (NBR)	17E97 NITRILE (NBR)[1]	17E88 FLUOROCARBON (FKM)
-29 to 66°C / -20 to 150°F	-18 to 66°C / 0 to 150°F	-18 to 127°C / 0 to 260°F[2]

1. The DN 150 / NPS 6, 17E97 diaphragm will perform in gas temperatures as low as -29°C / -20°F.
2. For differential pressures above 27.6 bar / 400 psig diaphragm temperature is limited to 66°C / 150°F.

***Table 6.** Main Valve Maximum Pressure Ratings, Diaphragm Selection Information and Main Spring Selection[1]*

BODY SIZE DN / NPS	DIAPHRAGM MATERIAL	MAXIMUM OPERATING INLET PRESSURE[4]		MAXIMUM OPERATING DIFFERENTIAL PRESSURE[4]		MAXIMUM EMERGENCY INLET AND DIFFERENTIAL PRESSURE		MAIN SPRING COLOR CODE	DIAPHRAGM DESIGNATION
		bar	psig	bar d	psid	bar d	psid		
25 and 32 x 25 / 1 and 1-1/4 x 1	17E68 Nitrile (NBR) Low temperature	6.9	100	6.9	100	6.9	100	Light Blue	130
		31.7	460	27.6	400	31.7	460	Black	
	17E97 Nitrile (NBR) High pressure and/or erosion resistance	34.5	500	34.5	500	72.4	1050	Black	
		72.4	1050	55.2	800	72.4	1050	Black with White Stripe[2]	
	17E88 Fluorocarbon (FKM) High aromatic hydrocarbon content resistance	6.9	100	6.9	100	6.9	100	Light Blue	
		34.5	500	34.5[3]	500[3]	51.7	750	Black	
		51.7	750	34.5[3]	500[3]	51.7	750	Black with White Stripe[2]	
50 x 25 / 2 x 1	17E68 Nitrile (NBR) Low temperature	6.9	100	6.9	100	6.9	100	Light Blue	
		24.8	360	20.7	300	24.8	360	Black with White Stripe	
	17E97 Nitrile (NBR) High pressure and/or erosion resistance	34.5	500	34.5	500	34.5	500	Black with White Stripe	
		72.4	1050	55.2	800	72.4	1050	Red Stripe[2]	
	17E88 Fluorocarbon (FKM) High aromatic hydrocarbon content resistance	6.9	100	6.9	100	6.9	100	Light Blue	
		51.7	750	34.5[3]	500[3]	51.7	750	Black with White Stripe	
50 / 2	17E68 Nitrile (NBR) Low temperature	6.9	100	6.9	100	6.9	100	Yellow	
		31.7	460	27.6	400	31.7	460	Green	
	17E97 Nitrile (NBR) High pressure and/or erosion resistance	34.5	500	34.5	500	72.4	1050	Green	
		72.4	1050	55.2	800	72.4	1050	Red[2] or Purple[2]	
	17E88 Fluorocarbon (FKM) High aromatic hydrocarbon content resistance	6.9	100	6.9	100	6.9	100	Yellow	
		34.5	500	34.5[3]	500[3]	51.7	750	Green	
		51.7	750	34.5[3]	500[3]	51.7	750	Red[2] or Purple[2]	
80 / 3	17E68 Nitrile (NBR) Low temperature	6.9	100	6.9	100	6.9	100	Yellow	
		24.8	360	20.7	300	34.5	500	Light Blue	
	17E97 Nitrile (NBR) High pressure and/or erosion resistance	34.5	500	34.5	500	72.4	1050	Light Blue	
		72.4	1050	55.2	800	72.4	1050	Black[2]	
	17E88 Fluorocarbon (FKM) High aromatic hydrocarbon content resistance	6.9	100	6.9	100	6.9	100	Yellow	
		34.5	500	34.5[3]	500	51.7	750	Light Blue	
		51.7	750	34.5[3]	500	51.7	750	Black[2]	
100, 150 x 100 and 200 x 100 / 4, 6 x 4 and 8 x 4 /	17E68 Nitrile (NBR) Low temperature	6.9	100	6.9	100	6.9	100	Yellow	
		24.8	360	20.7	300	34.5	500	Green	
	17E97 Nitrile (NBR) High pressure and/or erosion resistance	34.5	500	34.5	500	72.4	1050	Green	
		72.4	1050	55.2	800	72.4	1050	Red[2]	
	17E88 Fluorocarbon (FKM) High aromatic hydrocarbon content resistance	6.9	100	6.9	100	6.9	100	Yellow	
		34.5	500	34.5[3]	500[3]	51.7	750	Green	
		51.7	750	34.5[3]	500[3]	51.7	750	Red[2]	
150, 200 x 150 and 300 x 150 / 6, 8 x 6 and 12 x 6	17E97 Nitrile (NBR) High pressure and/or erosion resistance	6.9	100	6.9	100	6.9	100	Yellow	
		34.5	500	34.5	500	72.4	1050	Green	
		72.4	1050	55.2	800	72.4	1050	Red[2]	
	17E88 Fluorocarbon (FKM) High aromatic hydrocarbon content resistance	6.9	100	6.9	100	6.9	100	Yellow	
		34.5	500	34.5[3]	500[3]	51.7	750	Green	
		51.7	750	34.5[3]	500[3]	51.7	750	Red[2]	
200 / 8	17E97 Nitrile (NBR) High pressure and/or erosion resistance	6.9	100	6.9	100	6.9	100	Yellow	
		34.5	500	34.5	500	72.4	1050	Green	
		72.4	1050	55.2	800	72.4	1050	Red[2]	

1. See Table 1 for main valve structural design ratings and Table 3 for pilot ratings.
2. The red, black, purple, red stripe and black with white stripe springs are only recommended for applications where the maximum inlet pressure can exceed 34.5 bar / 500 psig.
3. For differential pressures above 27.6 bar d / 400 psid diaphragm temperatures are limited to 66°C / 150°F.
4. These are recommendations that provide the best regulator performance for a typical application. Please contact your local Sales Office for further information if a deviation from the standard recommendations is required.

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.

CAUTION

Make sure to use a Type EZR bonnet. The Type EZR bonnet is NOT interchangeable with other Fisher™ E-body bonnets. Installing an improper bonnet can result in stem assembly breakage and unit failure. The bonnet can be identified by the Type EZR markings on the top.

Main Valve Parts List

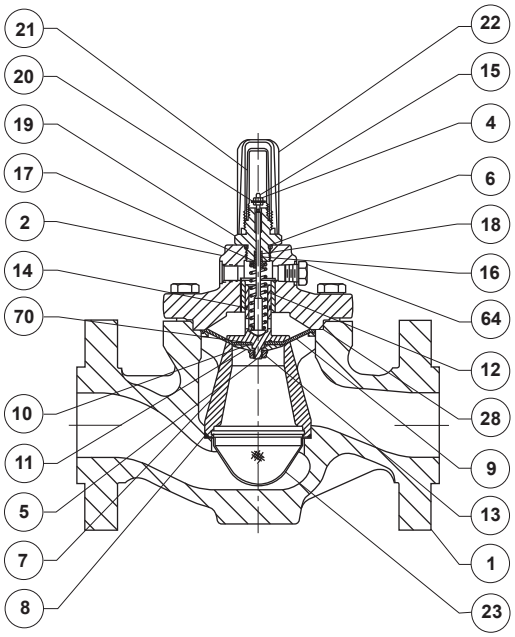
Main Valve

Key	Description	Key	Description
1	Valve Body	63	Pilot Supply Pipe Plug
2	Bonnet Assembly	64	Bonnet Pipe Plug
3	Cap Screw	66	O-ring
4	Hex Nut	67	O-ring
5	Top Plug	70*	O-ring
6*	O-ring	71	Restrictor Plate
7	Cage	72	E-Ring
8*	Cage O-ring	79	Washer
9*	Diaphragm	121	O-ring
10*	O-ring	126	Cap Screw
11	Bottom Plug	129	Socket Head Screw
12	Main Spring	130	Lock Washer
13*	Flanged Locknut	131	Upper Adaptor (DN 50 x 25 / NPS 2 x 1 body only)
14*	Top Plug O-ring		
15	Stem	132	Lower Adaptor (DN 50 x 25 / NPS 2 x 1 body only)
16	Backup Ring		
17	Upper Spring Seat	133*	O-ring, DN 50 x 25 and 200 / NPS 2 x 1 and 8 bodies only
18*	O-ring		
19	Indicator Fitting	136	Stud (DN 200 / NPS 8 body only)
19	Indicator Plug	137	Lower Spring Seat, DN 200 / NPS 8 body only
20	Indicator Washer		
21	Indicator Cover	140	Bushing, DN 150, 200 x 150 and 300 x 150, 200 / NPS 6, 8 x 6 and 2 x 6, 8 bodies only
22	Indicator Protector		
23	Inlet Strainer		
23	Strainer Replacement Shim	143	Lifting Flange, DN 200 / NPS 8 body only
24	Nameplate		
25	Flow Arrow	144	Yoke Locknut, DN 200 / NPS 8 body only
26	Drive Screw		
28*	O-ring		
47	Hex Nut, SA194-2H (DN 200 / NPS 8 body only)		

161EB Series

Key	Description
1	Body Assembly (Types 161EB and 161EBM)
2	Spring Case
3	Body Plug
4*	Valve Plug
6	Plug Spring
7*	Diaphragm Assembly
8	Control Spring Seat
9	Control Spring
10	Diaphragm Limiter
11	Adjusting Screw
12	Locknut
13	Machine Screw (Types 161EB and 161EBM)
14	Pipe Plug (Type 161EB)
15	Body Plug O-ring
16	Closing Cap (Types 161EB and 161EBM only)
17*	Closing Cap Gasket (Types 161EB and 161EBM only)
18	Type Y602-12 Vent Assembly
19*	Stem Guide Seal Assembly
22	O-ring (Type 161EBM)
38	Lower Spring Seat (Type 161EBM)

* Recommended spare part



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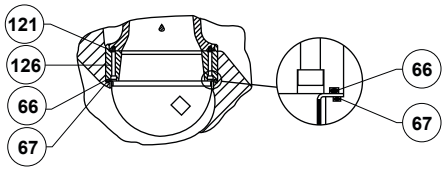
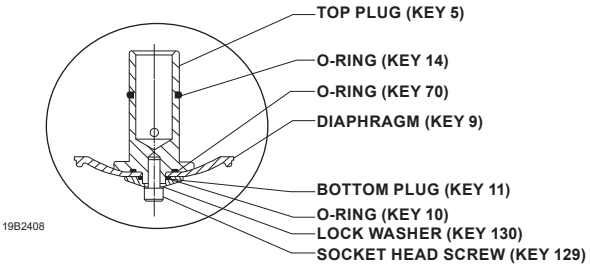
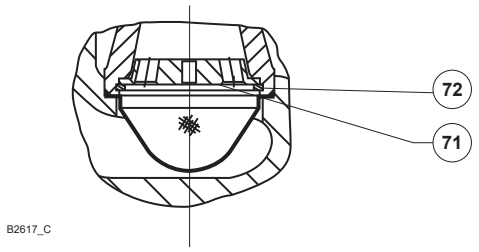
MAIN VALVE ASSEMBLY FOR DN 25, 32 X 25, 50 X 25, 50, 80, 100, 150 X 100 AND 200 X 100 / NPS 1, 1-1/4 X 1, 2 X 1, 2, 3, 4, 6 X 4 AND 8 X 4 BODY SIZES



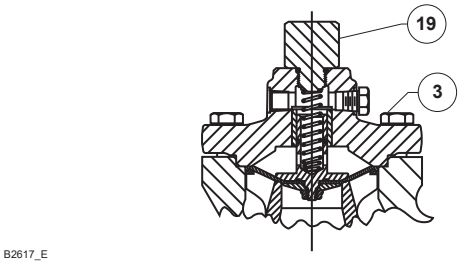
DN 200 X 150 / NPS 8 X 6 RESTRICTOR PLATE O-RING PLACEMENT



DN 25, 32 x 25 AND 50 x 25 / NPS 1, 1-1/4 x 1 AND 2 x 1 DIAPHRAGM ASSEMBLY



RESTRICTED TRIM



DN 25, 32 x 25, 50 x 25, 50, 80 AND 100 / NPS 1, 1-1/4 x 1, 2 x 1, 2, 3 AND 4 BODY SIZES

***Figure 1**. Type EZR Main Valve Assembly*

Types 161AY and 161AYM

Key	Description	Key	Description
1	Body	25	Closing Cap
2	Cap Screw	26	Vent Assembly
3	Spring Case Assembly	27	Pipe Plug (Type 161AY only)
4	Lower Casing (Types 161AY and 161AYM)	30	Stem Seal O-ring (Type 161AYM only)
5	Orifice	31	Throat Seal (Type 161AYM only)
6	Control Spring		
7	Diaphragm Head	33	Machine Screw (Type 161AYM only)
8	Pusher Post		
10	Diaphragm	35	Adjusting Screw
11	Body Seal	37	Spring Holder
12	Insert Seal	38	Machine Screw
13	Disk Assembly	39	Overpressure Spring
14	Stem	40	Pusher Post Connector
15	Cotter Pin	46	Nameplate
16	Lever Assembly	47	Drive Screw
17	Machine Screws	48	Post Seal
18	Guide Insert	49	Connector Seal
21	Hex Nut	50	Backup Ring
22	Closing Cap	55	Restriction
23	Hex Nut	56	Baffle Plate
24	Cap Screw		

* Recommended spare part

PRX Series Pilots

Key	Description	Key	Description
1	Adjusting Screw	28*	Restrictor/Damper O-ring
2	Locknut	29	Plate
3	Cap	29	Damper/Restrictor Plate Types PRX/120 and PRX/120-AP Types PRX/125 and PRX/125-AP
4*	Upper Cover O-ring		
5*	O-ring		
6	Upper Spring Seat		
7	Spring		
8	Upper Cover	30	Ring Nut
9	Lower Spring Seat	31	Nameplate Screw
10	Machine Screw	32	Restrictor Adjusting Screw with Hole
11	Washer		
12	Filter	33	Plug (Types PRX/125 and PRX/125-AP Only)
13	Upper Diaphragm Plate		
14*	Diaphragm	34	Plug (Types PRX/125 and PRX/125-AP Only)
15	Lower Diaphragm Plate		
16	Body	35	Spring Barrel Extension for AP
17*	Orifice O-ring		
18*	Lower Cover O-ring		
19	Orifice		
20	Nut		
21	Lower Cover		
22*	Pad Holder		
23	Stem		
24	Nameplate		
25*	Stem O-rin		
26	Upper Diaphragm		
27	Damper Adjusting Screw with Hole		

Type 112 Restrictor

Key	Description
14	Pipe Plug
21	Body
22	Groove Valve
23	Retainer
24*	Groove Valve O-ring

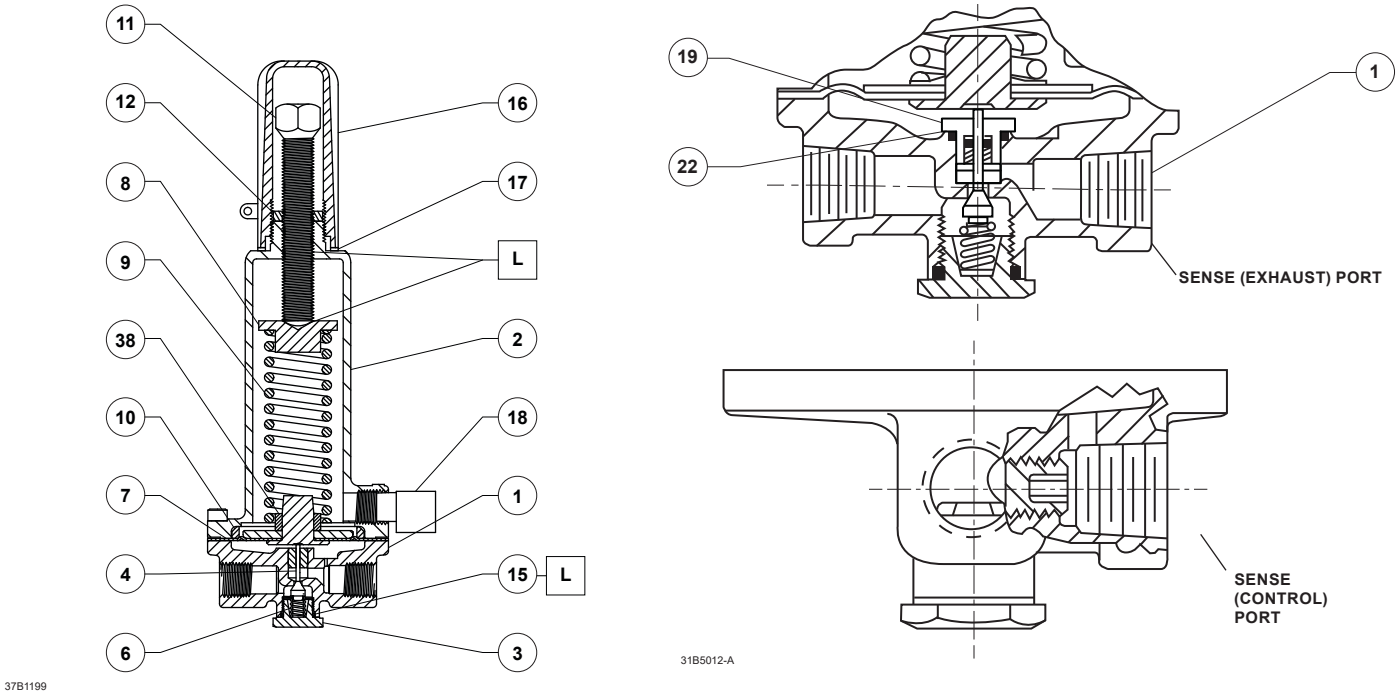


***Figure 2**. 161EB Series Pilots*

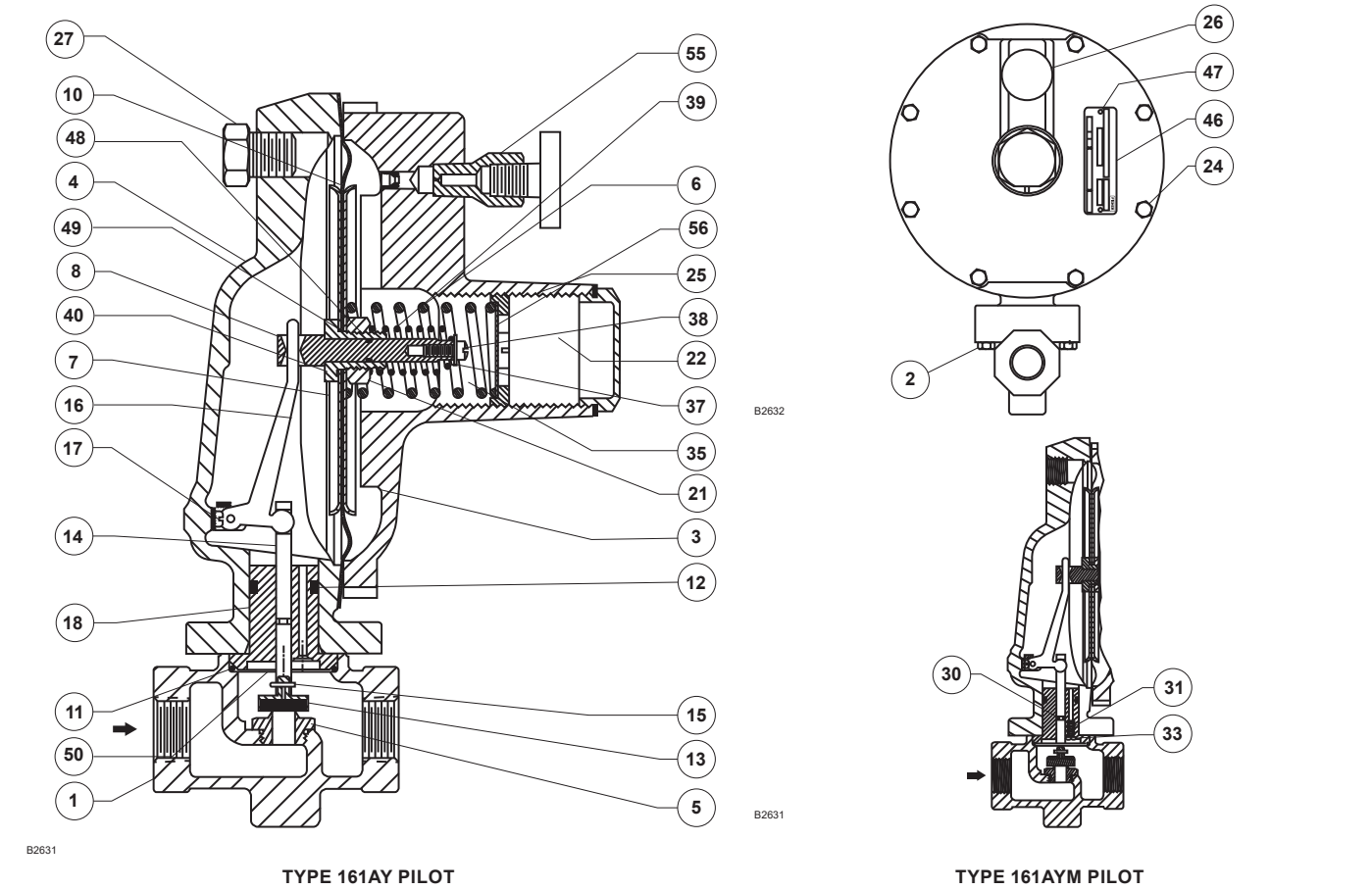
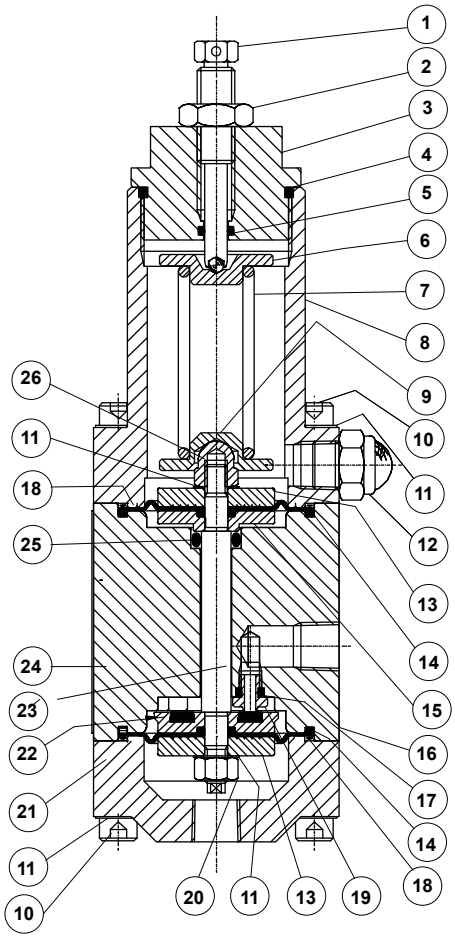
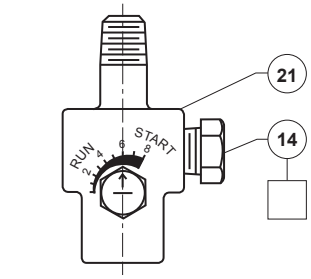


***Figure 3**. Types 161AY and 161AYM Pilots*



TYPE PRX/120 OR PRX/125



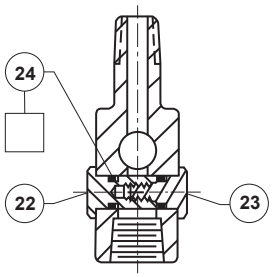
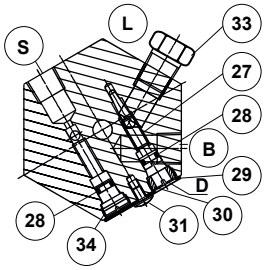
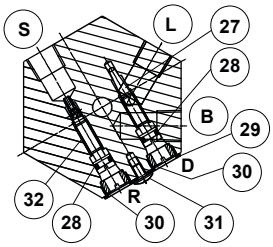


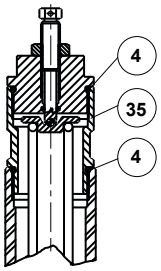
***Figure 4**. Type 112 Restrictor*



TYPE PRX/125 OR PRX/125-AP



TYPE PRX/120 OR PRX/120-AP



TYPE PRX/120-AP OR PRX/125-AP

S - SUPPLY PORT
B - BLEED PORT
L - LOADING PORT
A - SENSING PORT
D - DAMPER
R - RESTRICTOR

***Figure 5**. PRX Series Pilot Assembly*

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