

P-150 Series Plastic Valves Installation Instructions

Introduction

In most commercial installations, it is advantageous to install the valves in a valve box. This practice enables the valve to be easily accessed and maintained. The use of clean aggregate in the the bottom of the box, and locating the valve box away from structures, potential hardscaping features (such as sidewalks) and large planting locations is recommended. Additionally, valve box locations generally should be in shrub beds and at right angles to structure locations.

Features:

- Top-removable filtered metering system
- Precise pressure control with EZ-Reg dial design (ordered separately)
- Pressure regulated in electric and manual modes, serviceable under pressure (pressure regulated models only)
- Manual flow control – adjustable to zero flow
- Manual bleed screw – bleeds internally downstream



Specifications:

Body Style

- Globe or Angle with Female Threads (threaded plug included)

Dimensions

- 25mm (1") - 171mm H x 92mm W (1" - 6 3/4" H x 3 5/8" W)
- 40mm (1 1/2") - 184mm H x 92mm W (1 1/2" - 7 1/4" H x 3 5/8" W)
- 50mm (2") - 241mm H x 156 mm W (2" - 9 1/2" H x 6 1/8" W)

Flow range

- 25mm (1") - 19 – 151 LPM (5 – 40 GPM)
- 40mm (1 1/2") - 76 – 303 LPM (20 – 80 GPM)
- 50mm (2") - 151 – 568 LPM (40 – 150 GPM)

Operating pressure

- Electric models: 1.4 to 10 Bar (20 – 150 PSI)
- Pressure regulating models (ordered separately):
EZ- 30 – 0.3 to 2.0 Bar (5 – 30 PSI)
EZ- 100 – 0.3 to 7.0 Bar (5 – 100 PSI)

Burst pressure safety rating

- 31 Bar (450 PSI)

Minimum pressure differential (between inlet and outlet)

- 0.68 Bar (10 PSI)

Solenoid (24 VAC)

- Inrush: 0.40A, 11.50 VA
- Holding: 0.20A, 5.75 VA

Voltage Requirements (minimum)

- 19.1 VAC @ 10 Bar (150 PSI)
- 18.2 VAC @ 8.6 Bar (125 PSI)
- 16.1 VAC @ 5.2 Bar (75 PSI)
- 16.0 VAC @ 3.5 Bar (50 PSI)

P-150 Valve Series Friction Loss Data – LPM/Bar

Valve Size	Flow-LPM	40	60	80	100	120	140	160	180	200	250	300	350	400	450	500	550	600
25mm (1")	Globe	0,16	0,18	0,14	0,22	0,29	0,36	0,45										
	Angle	0,09	0,16	0,14	0,19	0,25	0,35	0,45										
40mm (1 1/2")	Globe			0,22	0,21	0,21	0,17	0,18	0,20	0,31	0,46							
	Angle			0,21	0,21	0,22	0,15	0,13	0,13	0,19	0,26							
50mm (2")	Globe							0,22	0,22	0,20	0,19	0,26	0,34	0,42	0,42	0,52	0,62	0,74
	Angle							0,18	0,17	0,14	0,13	0,16	0,24	0,24	0,26	0,32	0,37	0,43

- All tabular values are shown in Bar.
- Values exceeding 0,35 Bar are not recommended.
- Value conversions: Bar to Kpa, multiply by 100
Bar to Kg/cm², multiply by 1,02.

P-150 Valve Series Friction Loss Data – GPM/PSI

Valve Size	Flow-LPM	5	10	20	30	40	50	60	70	80	100	120	150
1"	Globe	1.00	2.33	1.86	4.29	5.18							
	Angle	0.90	1.34	1.86	3.09	5.18							
1 1/2"	Globe			3.14	3.11	2.59	2.67	3.77	5.09	6.40			
	Angle			3.10	3.36	2.37	1.72	2.22	3.10	3.98			
2"	Globe					3.20	3.33	2.86	2.81	2.87	4.39	6.20	9.68
	Angle					2.63	2.62	2.24	1.88	1.97	2.67	3.82	5.67

- All tabular values are shown in PSI.
- Values exceeding 5.00 PSI are not recommended.

Installation Guidelines

- Note the flow direction arrows on the bonnet or body and install accordingly.
- The valve can be installed at any angle without affecting operation.
- The valve body plug and o-ring must be properly installed in the unused inlet.
- Use direct-burial wire, utilizing different color codes for each station control wire and one color for the common wire to all valves.
- Waterproof wire splice connectors are absolutely essential for proper electric control system operation. Follow the installation instructions provided with the connectors for optimum waterproof splice protection.
- Leaving a wire expansion loop at each valve location on long-run wire lengths is recommended.

Valve Operation and Adjustment

Flow Control

The flow control is used to reduce the flow and pressure to valve outlet. By turning the control handle clockwise, the flow will be gradually reduced to zero.

- For valve models **without EZReg**, adjust the flow control as necessary for optimum sprinkler performance.
- For valve models **with EZReg**, the flow control should remain in the fully open position. Use only for emergency shut off or for valve zone fine tuning.

Internal Manual Bleed Knob

The internal manual bleed system is used to manually operate the valve. Turning the internal bleed knob (located beneath the solenoid) counterclockwise allows water to bleed downstream from the diaphragm chamber. Internal pressure is relieved from the top of the diaphragm, allowing the valve to open. Turning the bleed knob clockwise until tight shuts off the discharge enabling pressure to build within the diaphragm chamber, causing the valve to close.

EZReg Adjustment (pressure regulating models only)

An accurate, adjustable dial, coupled with a forward-flow valve design, allows the P-150 series valve with EZReg to regulate downstream water pressure with precision. It's easy and simple to use and requires only 0.68 Bar (10 PSI) differential pressure to operate. The EZReg will operate during powered and manual valve operation using internal manual bleed.

To adjust the downstream pressure, remove the cover from the regulator dial, then turn the dial until the pointer is on the desired pressure of (EZR-30) 0.3 to 2.0 Bar (5 to 30 PSI) or (EZR-100) 0.3 to 7.0 Bar (5-100 PSI).

Note: Due to the micro-adjustment feature of the EZReg, the dial requires 10 revolutions for complete regulation range.

Operate the valve (electrically or manually). Check the flow control to confirm that it is in the fully open position. Adjust the regulator dial if necessary for optimum sprinkler operation.

To confirm the downstream pressure using a pressure gauge, attach the pitot tube adapter of the Toro pressure gauge kit (P/N 995-51) to the pressure gauge and take a reading at the closest downstream sprinkler nozzle. Adjust the EZ-Reg as necessary for the desired pressure.

Note: The valve will remain watertight in the closed position if removal of the EZReg assembly is required.

