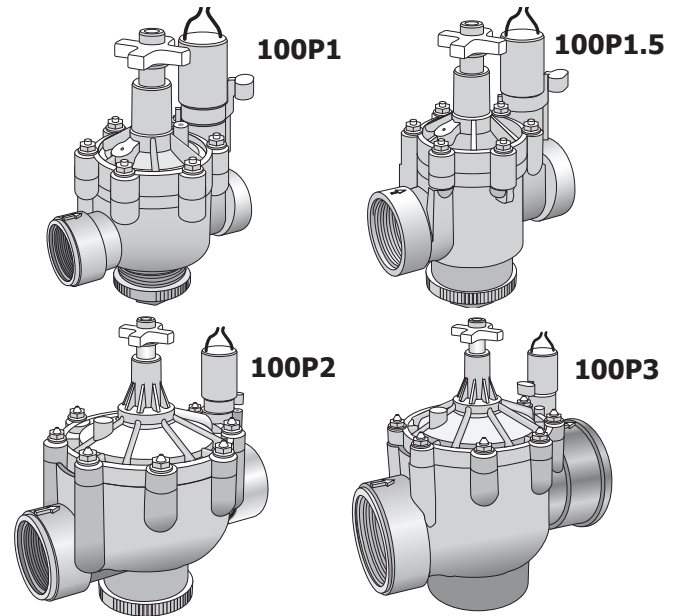


Introduction

Built on proven technologies and components, the Irritrol 100 Series valves are tough, have excellent performance, and are extremely reliable. A self-cleaning metering system and 220 PSI rating assures years of trouble-free performance.

In commercial installations, it is advantageous to install the valves in a valve box. This enables the valve to be easily located, accessed, and maintained. The use of clean aggregate in 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. If the valves are installed below grade without a valve box, access to the top of the valve should be provided by using a section of 4" PVC pipe and a valve cover installed directly over each valve.

**Features**

- 220 PSI maximum pressure rating
- Removable, self-cleaning metering system
- Precise pressure control with optional Omni-Reg® pressure regulator (field installed)
- Manual flow control: adjustable to zero flow
- Internal manual bleed screw: bleeds internally downstream
- External manual bleed screw: bleeds to atmosphere, allows cleaning of metering rod and provides maximum flushing

Specifications**Models:**

100 Series electric 1", 1½", 2", and 3"

Body Style:

Globe/Angle with female threads (all models)
BSP threads available

Dimensions:

1":	6¾" H x 3⅝" W
1½":	7¼" H x 3" W
2":	9½" H x 6⅛" W
3":	10¾" H x 6⅛" W

Flow range: 5 - 300 GPM

Burst pressure safety rating: 450-500 PSI

Operating Pressure: 20-220 PSI maximum

Minimum pressure differential: 20 PSI
(between inlet and outlet)

Solenoid (standard): 24 VAC

Inrush: 0.40 amps, 11.50 VA; Max. Inrush: 0.50 amps

Holding: 0.20 amps, 5.75 VA; Max. Holding: 0.30 amps

Voltage Requirement (based on inlet pressure):

22.5 V a.c. @ 220 PSI

21.1 V a.c. @ 200 PSI

20.2 V a.c. @ 175 PSI

19.1 V a.c. @ 150 PSI

18.2 V a.c. @ 125 PSI


16.1 V a.c. @ 75 PSI

16.0 V a.c. @ 50 PSI


Friction Loss Chart (US PSI)

GPM Flow

Size	Configuration	5	10	20	30	40	50	60	70	80	90	100	110	120	130	140	150	180	200	225	250	275	300	
1"	globe	6.3	4.2	3.2	4.1	7.2	10.9																	
	angle	6.3	4.2	3.1	2.7	4.8	7.9																	
1.5"	globe				1.6	2.3	3.6	5.2	7.0	9.2	11.7	14.4	17.5											
	angle				1.3	1.6	2.8	4.0	5.5	7.1	9.0	11.0	13.3											
2"	globe									2.1	2.7	3.3	4.0	4.8	5.6	6.5	7.5	8.05						
	angle									1.2	1.6	2.0	2.4	2.8	3.3	3.9	4.4	5.1						
3"	globe																2.5	3.0	4.1	5.3	6.7	8.3	10.1	
	angle																1.9	2.4	3.3	4.3	5.5	6.9	8.5	

 For optimum performance when designing a system, be sure to calculate total friction loss to ensure sufficient downstream pressure. For optimum regulation performance, size regulating valves toward the higher flow ranges.

Installation Guidelines

-  Using pipe dope on valve connections can cause thread damage and failure of the valve body. Use only PTFE tape or pipe thread sealant.
- 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

Flow Control

Flow control reduces the flow and pressure to valve outlet. By turning the control handle clockwise, the flow will be gradually reduced to zero.

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.

External Manual Bleed Knob (flush mode)

The external manual bleed knob, located on top of the flow control handle, is used for system flushing. Turning this knob counterclockwise allows water in the diaphragm chamber to vent to atmosphere, creating maximum opening power and debris flushing action. This operation bypasses the regulator (if installed) and opens the valve fully, regardless of regulator setting. In addition, the metering rod (attached to the external bleed knob) can be easily removed for cleaning as necessary.

