

# **PEB & PESB Valve**

**Installation and Operating Instructions  
Troubleshooting Guide**

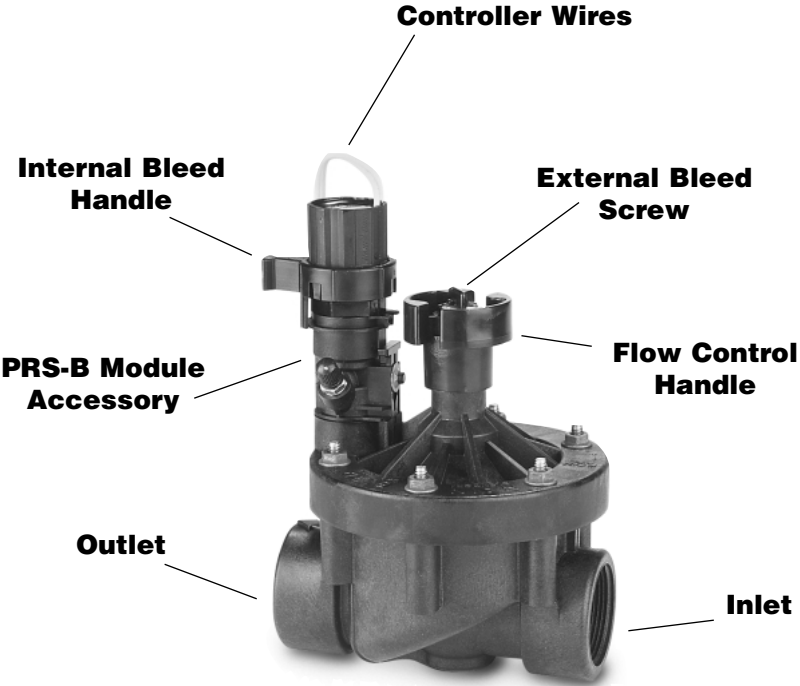


***RAIN***  ***BIRD***®

## INSTALLATION & OPERATING INSTRUCTIONS

1. Flush main line thoroughly before installing valves.
2. Install valve onto main line. Ensure inlet side is connected to main line and outlet side is connected to lateral line. Note arrow on valve indicating direction of water flow. Solenoid should be on the downstream side of the valve.
3. Use two wraps “Teflon Tape” along the full length of the inlet and outlet pipe threads. **Do not use pipe thread or pipe dope compound.** Thread inlet pipe and fitting into the inlet port of the valve and hand tighten. Thread outlet pipe and fitting into the outlet port of the valve and hand tighten. Do not exceed two turns beyond hand tight.
4. Connect one solenoid wire to the controller common wire and the other to the controller power wire. Use only water-tight wire connectors, like RAIN BIRD ST-03.
5. After installing valves, slowly open water supply at point of connection. Valves may discharge water momentarily, then shut off.
6. To activate the valve using the **internal** manual bleed feature, turn the solenoid handle counter clockwise  $\frac{1}{4}$  to  $\frac{3}{4}$  turn or until you hear water flowing through the valve. To close valve, turn the solenoid handle clockwise  $\frac{1}{4}$  to  $\frac{3}{4}$  turn and wait a moment for the valve to close. Only hand tighten the solenoid to close the valve.
7. To activate the valve using the **external** manual bleed feature, turn the bleed screw on the top of the valve counter clockwise. Water will leak externally into the valve box to relieve bonnet pressure and open the valve. Turning the bleed screw clockwise will seal the o-ring and the valve will shut off momentarily.
8. For automatic valve operation, turn on the controller that has been wired to the valve according to the controller operating instructions, as controllers operate differently.

- 9. Use the flow control handle to adjust the amount of water flowing through the valve. Counter clockwise turns increase flow; clockwise turns decrease flow. Close the valve before making large flow adjustments, then activate the valve to fine tune flow adjustments. Good adjustment practice, when not intentionally trying to limit the flow, is to turn the flow control stem (from the full up position) clockwise until resistance is felt on the flow control stem handle.
- 10. If necessary, install Rain Bird's pressure regulating module PRS-B according to the installation manual.



# **TROUBLESHOOTING GUIDE**

## **1. Sprinkler heads emit water when valve is turned off.**

*Dirt or debris is lodged on the diaphragm seat.*

Remove bonnet and diaphragm to dislodge debris.

*Solenoid is not fully closed after manual operation.*

Turn solenoid handle clockwise to fully seated position.

*Solenoid o-ring is damaged or twisted.*

Turn off the water supply and turn the solenoid counter-clockwise to remove and inspect the o-ring. Remove any debris, then reset or replace the o-ring as necessary.

*Diaphragm is damaged or not properly aligned.*

Turn off the water supply and remove the bonnet. Check alignment of the diaphragm with the valve body and positioning tabs. Inspect the diaphragm for nicks or damage, then realign or replace diaphragm as necessary.

*Dirt is interfering with proper solenoid operation.*

Turn off the water supply and turn the solenoid counter-clockwise to remove and flush solenoid seating bowl in bonnet with clean water. Rinse solenoid bottom in clean water. For internal cleaning, remove the white retainer using a small flat screwdriver. Remove the plunger and screen and rinse with clean water. Return plunger, spring and retainer to solenoid. Return solenoid to bonnet by turning the solenoid clockwise.

*Solenoid is shorted or damaged.*

Turn off water supply and turn the solenoid counter-clockwise to remove. Replace with new solenoid by turning clockwise.

## **2. Water will not shut off.**

*Controller may be operating the valve automatically.*

Check controller to confirm it is turned off.

*Valve is set in the manual "ON" position.*

Use finger-tight pressure to turn the solenoid clockwise to the "OFF" position. CAUTION: Over-tightening risks the possibility of damaging the solenoid seat. Re-tighten bleed screw on top of valve if leakage is observed. Verify that the o-ring is not damaged.

*Diaphragm filter screen is blocked.*

Turn off the water supply and remove the bonnet. Inspect the diaphragm filter screen located on the bottom of the diaphragm. Remove debris, rinse screen in clean water and return diaphragm and bonnet to valve body.

*Solenoid is shorted or damaged.*

Turn off water supply and turn the solenoid counter-clockwise to remove. Replace with new solenoid by turning clockwise.

## **3. Low or inadequate flow condition.**

*Flow control stem is turned down.*

Adjust flow control stem by turning counter-clockwise in order to allow the diaphragm to open further.

*Water pressure is being used elsewhere on the site.*

Check the water requirements of all areas using the same water supply.

*Too many sprinklers are operating at one time.*

Check to see that the controller is only running one valve at one time. The system hydraulics may only be capable of single valve operation. If you find that all the sprinklers are located on one circuit, an additional valve may be required to better meet maximum hydraulic flow rates.

*System gate or master valve is not fully open.*

Locate the gate or master valve and open.

*Obstruction in the mainline pipe.*

Isolate obstruction and remove.

#### **4. Valve will not turn on electrically.**

*Controller not supplying power to valve.*

Check the controller for output power to the valve. If no power is detected at controller, then service controller. Check power input at the solenoid of the valve. If output is detected at the controller, but no input is detected at the solenoid, then a power wire is broken or damaged. Isolate and repair.

*Main water supply is turned off.*

Locate main gate or master valve and open.

*Solenoid problem.*

If power input is detected at solenoid, but valve still is not operating, then turn off the water supply. Without cutting wires, swap solenoids with the next valve (if present). If other solenoid operates valve, replace solenoid. If other solenoid does not operate valve, continue troubleshooting.

*Flow control stem is turned all the way down.*

Adjust the flow control stem by turning it counter-clockwise until water flows through the valve, but do not leave the stem in a full up position. While water is flowing through the valve, turn the flow control stem (from the full up position) clockwise until resistance is felt on the flow control stem handle. Then turn the flow control stem handle counter-clockwise one turn, as the valve will operate more effectively with the flow control stem handle in this position.

## **5. Valve with PRS-B Pressure Regulating Module.**

Consult the PRS-B instruction manual for additional troubleshooting information.

For further assistance, please call the Rain Bird Spec Hotline at 1-800-458-3005.

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