

## PESB-R Series Valves

### Durable chlorine-resistant valves for reclaimed water applications

A true reclaimed water valve, able to handle chlorine and other chemicals found in reclaimed water systems. PESB-R Series valves offer long life and efficient, trouble-free performance – even in harsh reclaimed water applications. Construction of heavy-duty, glass-filled nylon, these valves resist clogging and feature a patented scrubber to actively fight dirt, algae and other particles from blocking the pilot flow.

### Features

- Diaphragm and plastic scrubber components molded of chlorine- and chemical-resistant materials
- Body constructed of durable glass-filled nylon construction for long life and heavy-duty performance at 200 psi (13.80 bar) pressure
- Stainless steel studs molded into the body. Bonnet can be attached and removed easily without damaging threads
- One-piece solenoid design with captured plunger and spring for easy servicing. Prevents loss of parts during field service.
- External bleed protects the solenoid ports from debris when system is flushed
- Internal bleed operates the valve without allowing water into the valve box; allows pressure regulator to be adjusted without turning on the valve at the controller first
- Slow closing to prevent water hammer and subsequent system damage
- Scrubber mechanism scrapes stainless steel screen clean to break down grit and plant material
- Purple flow control handle standard on PESB-R Series valves

### Options (order separately)

- Accommodates optional, field installed PRS-D pressure regulating module to ensure optimum sprinkler performance
- Accepts latching solenoid for use with Rain Bird battery-operated controllers up to 150 psi (10.35 bar)
- PESB-R conversion kits are available to convert existing PEB and PESB valves to reclaimed water valves
- Compatible with ESP-LXD decoders

### Operating Range

- Pressure: 20 to 200 psi (1.38 to 13.80 bar)
- Flow: 0.25 to 200 gpm (0.06 to 45.40 m<sup>3</sup>/h; 1.2 to 757 l/m)
- Flow with PRS-D: 5 to 200 gpm (1.14 to 45.40 m<sup>3</sup>/h; 19.2 to 757 l/m)
- Temperature: up to 150° F (66° C)

PESB-R Series Valve Pressure Loss (psi)

Flow GPM	100-PESB-R 1"	150-PESB-R 1½"	200-PESB-R 2"
0.25	1.6	-	-
0.5	3.0	-	-
1	1.8	-	-
5	2.9	-	-
10	2.9	-	-
20	2.6	3.5	-
30	5.8	3.1	-
40	10.2	2.3	-
50	16.0	2.1	3.7
75	-	4.3	3.3
100	-	7.5	4.7
125	-	11.9	8.6
150	-	17.0	12.6
175	-	-	14.8
200	-	-	18.9

PESB-R Series Valve Pressure Loss (bar)

Flow m <sup>3</sup> /h	Flow l/m	100-PESB-R 2.5 cm	150-PESB-R 3.8 cm	200-PESB-R 5.1 cm
0.06	1	0.11	-	-
0.3	5	0.13	-	-
0.6	10	0.15	-	-
1.2	20	0.20	-	-
3	50	0.19	-	-
6	100	0.32	0.22	-
9	150	0.69	0.16	-
12	200	-	0.16	0.25
15	250	-	0.24	0.24
18	300	-	0.33	0.25
21	350	-	0.45	0.30
24	400	-	0.59	0.38
27	450	-	0.75	0.53
30	500	-	0.91	0.67
33	550	-	1.10	0.82
36	600	-	-	0.92
39	650	-	-	1.00
42	700	-	-	1.13
45	757	-	-	1.30

#### Notes

- 1) Loss values are with flow control fully open.
- 2) PRS-D module recommended for all flow ranges.

#### Recommendations

- 1) Rain Bird recommends flow rates in the supply line not to exceed 7.5 ft./sec. (2.29 m/s) in order to reduce the effects of water hammer.
- 2) For flows below 5 gpm (1.14 m<sup>3</sup>/h; 19.2 l/m), Rain Bird recommends use of upstream filtration to prevent debris from collecting below the diaphragm.
- 3) For flows below 10 gpm (2.27 m<sup>3</sup>/h; 37.8 l/m) Rain Bird recommends the flow control stem be turned down two full turns from the fully open position.



### Electrical Specifications

- Power: 24 VAC 50/60 Hz (cycles/sec) solenoid
- Inrush current: 0.41 A (9.84 VA) at 60 Hz
- Holding current: 0.14A (3.43VA) at 60Hz
- Coil resistance: 30-39 Ohms

### Dimensions

Size	Height	Length	Width
100	6½" (16.5 cm)	4" (10.2 cm)	4" (10.2 cm)
150	8" (20.3 cm)	6" (15.2 cm)	6" (15.2 cm)
200	8" (20.3 cm)	6" (15.2 cm)	6" (15.2 cm)

Note: The PRS-D option adds 2" (5.1 cm) to valve height.

### Models

- 100PESB-R 1"
- 150PESB-R 1½"
- 200PESB-R 2"
- PESB-R Conversion Kit

BSP threads available, specify when ordering.

### How To Specify

100	- PESBR	- PRS-D
Size 100: 1" 150: 1½" 200: 2"	Model PESB-R: scrubber model	Optional Feature PRS-Dial: pressure regulating module (must be ordered separately)

Note: Valve and PRS-Dial module must be ordered separately. For non-U.S. applications, it is necessary to specify NPT or BSP thread type.

## Specifications

The electric remote control valve shall be a normally closed 24 VAC 50/60 Hz (cycles/sec) solenoid actuated globe pattern design. The valve pressure rating shall not be less than 200 psi (13.80 bar). The valve shall have the following characteristics (circle one):

Flow rate: \_\_\_\_\_ gpm m<sup>3</sup>/h l/m

Pressure loss not to exceed: \_\_\_\_\_ psi bar

The valve body shall be constructed of heavy-duty, glass-filled UV resistant nylon and have stainless steel studs and flange nuts.

The valve shall have both internal and external manual open/close control (internal and external bleed) to manually open and close the valve without electrically energizing the solenoid. The valve's internal bleed shall prevent flooding of the valve box.

The valve shall house a fully-encapsulated, one-piece solenoid. The solenoid shall have a captured plunger with a removable retainer for easy servicing and a leverage handle for easy turning. This 24 VAC 50/60 Hz solenoid shall open with 19.6 VAC minimum at 200 psi (13.80 bar). At 24 VAC, average inrush current shall not exceed 0.41 amps. Average holding current shall not exceed 0.28 amps.

The valve shall have a brass flow control stem for accurate manual regulation and/or shut-off of outlet flow. The valve must open or close in less than 1 minute at 200 psi (13.80 bar), and less than 30 seconds at 20 psi (1.38 bar).

The PESB-R valve shall have a self-cleaning stainless steel screen designed for use in dirty water applications.

The valve construction shall be such as to provide for all internal parts to be removable from the top of the valve without disturbing the valve installation.

The valve shall have a purple flow control handle to indicate to the user that non-potable water is being used.

## Optional Feature Specifications

### PRS-D Pressure Regulating Module:

**100PESB-R-PRS-D**

**150PESB-R-PRS-D**

**200PESB-R-PRS-D**

When so indicated on the design, the 1", 1½" and 2" electric remote control plastic valves shall have a pressure regulating module (PRS-D) capable of regulating outlet pressure between 15 and 100 psi (±3 psi) (1.04 and 6.90 bar (±0.21 bar)).

The PRS-D module shall have an adjusting knob for setting pressure, with a pressure indicator scale, and Schrader valve connection for monitoring pressure. The pressure shall be adjustable from the PRS-D when the valve is internally manually bled or electrically activated.

Plastic Electric Remote Control PESB-R Valve  
(with PRS-D)

