

# PLASTIC AUTOMATED BALL VALVES

## Electric and Pneumatic Actuators



PVC body

CPVC body

The **Series PBV Plastic Automated Ball Valves** are ideal for services in industrial, chemical, turf and irrigation, and pool and spa applications, as well as for use with potable water. The valve features a shear-proof stem designed to prevent leakage in the event of damage, reinforced TFE seats and EPDM seals for longer life, and an all-plastic construction (PVC or CPVC) for heavyweight durability at a lightweight cost. Valves also come standard with selectable NPT or socket process connections.

The PBV is an economical automated valve package with either an electric or pneumatic actuator. Electrically actuated models are weatherproof, NEMA 4 (IP56), powered by standard 115 VAC supply, and are available in either two-position or proportional control. Two-position actuators use the 115 VAC input to drive each of the valve ports open or closed, while the modulating actuator accepts a 4-20 mA input for infinite valve positioning. Actuator features include thermal overload protection to withstand stall conditions, visual position indication and a permanently lubricated gear train.

The pneumatic double acting actuator uses an air supply to drive each of the actuator ports. Spring return pneumatic actuators use the air supply to drive the valve stem one direction, and internally loaded springs return the valve to its original position. Also available is the SV3 solenoid valve to electrically switch the supply pressure between the air supply ports. Actuators are constructed of anodized aluminum and are epoxy coated for years of corrosion free service.

**BENEFITS/FEATURES**

- Shear proof stem
- All plastic construction

**APPLICATIONS**

- Gas or liquid flow control

**OPTIONS**

To order add suffix:	Description	Actuator Size*
-EX	Explosion proof electric actuators	XX1-XX6

\*Example: Third digit in U12 or V12 is the size.

**Note:** For optional electric actuator supply voltages, contact factory for model number change.

**MODEL CHART - PVC**

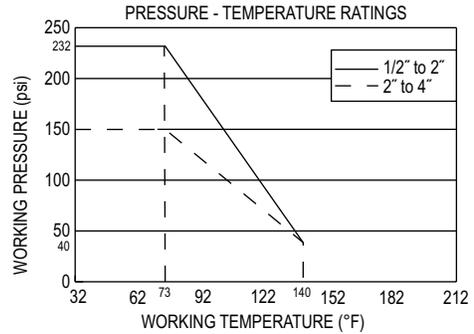
Size	CV	Double Acting Pneumatic	Spring Return Pneumatic	Two Position Electric	Modulating Electric
		Model	Model	Model	Model
1/2"	25	PBVPDA102	PBVPSR202	PBVPU1102	PBVPV1202
3/4"	51	PBVPDA103	PBVPSR203	PBVPU1103	PBVPV1203
1"	97	PBVPDA104	PBVPSR204	PBVPU1104	PBVPV1204
1-1/4"	204	PBVPDA105	PBVPSR205	PBVPU1105	PBVPV1205
1-1/2"	285	PBVPDA206	PBVPSR306	PBVPU1106	PBVPV1206
2"	540	PBVPDA207	PBVPSR307	PBVPU1207	PBVPV1207
2-1/2"	712	PBVPDA308	PBVPSR608	PBVPU1308	PBVPV1308
3"	1294	PBVPDA309	PBVPSR609	PBVPU1509	PBVPV1509
4"	2629	PBVPDA410	PBVPSR710	PBVPU1510	PBVPV1510

**Note:** All spring return actuators are factory standard as spring (fail) close. For spring (fail) open valves, add suffix "-FO" to the model number.

**MODEL CHART - CPVC**

Size	CV	Double Acting Pneumatic	Spring Return Pneumatic	Two Position Electric	Modulating Electric
		Model	Model	Model	Model
1/2"	25	PBVDA102	PBVCSR202	PBVPU1102	PBVCV1202
3/4"	51	PBVDA103	PBVCSR203	PBVPU1103	PBVCV1203
1"	97	PBVDA104	PBVCSR204	PBVPU1104	PBVCV1204
1-1/4"	204	PBVDA105	PBVCSR205	PBVPU1105	PBVCV1205
1-1/2"	285	PBVDA206	PBVCSR306	PBVPU1106	PBVCV1206
2"	540	PBVDA207	PBVCSR307	PBVPU1207	PBVCV1207
2-1/2"	712	PBVDA308	PBVCSR608	PBVPU1308	PBVCV1308
3"	1294	PBVDA309	PBVCSR609	PBVPU1509	PBVCV1509
4"	2629	PBVDA410	PBVCSR710	PBVPU1510	PBVCV1510

**Note:** All spring return actuators are factory standard as spring (fail) close. For spring (fail) open valves, add suffix "-FO" to the model number.



**SPECIFICATIONS**

**Service:** Compatible liquids or gases.  
**Body:** 2-way.  
**Line Size:** 1/2" to 4".  
**End Connections:** Female NPT or socket (field selectable).  
**Pressure Limit:** 1/2" to 2": 232 psi (16.0 bar) @ 73°F (23°C); 2-1/2" to 4": 150 psi (10.3 bar) @ 73°F (23°C) WOG. Vacuum: 29" Hg.  
**Wetted Materials:** Body, end connectors: PVC or CPVC; Ball, stem: PVC or CPVC; Seat: TFE; Stem seal: EPDM.  
**Temperature Limit:** 32 to 140°F (0 to 60°C).  
**Other Materials:** Stem bearing: Polypropylene (1-1/4" and up).

**ACTUATORS**

**Electric**  
**Power Requirements:** 120 VAC, 50/60 Hz, single phase. Optional 220 VAC, 24 VAC, 12 VDC, and 24 VDC.  
**Power Consumption:** (Locked rotor current): Two position: 1/2" to 1-1/2": .55 A, 2" to 4": 0.75 A. Modulating: 1/2" to 2": 0.75 A, 2-1/2": 1.1 A, 3" and 4": 0.75 A.  
**Cycle Time:** (per 90°): Two position: 1/2" to 1-1/2": 2.5 s, 2" and 2-1/2": 5 s, 3" and 4": 15 s; Modulating: 1/2" to 2-1/2": 5 s, 3" and 4": 15 s.  
**Duty Cycle:** Two position: 1/2" to 1-1/2": 75%, 2" to 4": 25%. Modulating: 75%.  
**Enclosure Rating:** NEMA 4. Optional NEMA 7 (Class 1, Div. II groups A, B, C, D).  
**Housing Material:** Aluminum with thermal bonding polyester powder finish.  
**Temperature Limit:** 0 to 150°F (-18 to 65°C).  
**Conduit Connection:** 1/2" female NPT.  
**Modulating Input:** 4-20 mA.  
**Standard Features:** Manual override and visual position indicator except modulating units.

**Pneumatic "DA" and "SR" Series**

**Type:** DA series is double acting and SR series is spring return (rack and pinion).  
**Normal Supply Pressure:** 80 psi (5.5 bar).  
**Maximum Supply Pressure:** 120 psig (8 bar).  
**Air Connections:** DA/SR1 to 5: 1/8" female NPT, all other sizes: 1/4" female NPT.  
**Air Consumption:** (per stroke) DA1: 2.32 in3; DA2: 9.34 in3; DA3: 17.21 in3; DA4: 20.5 in3; SR2: 9.34 in3; SR3: 17.21 in3; SR6: 54.34 in3; SR7: 85.43 in3.  
**Cycle Time:** (per 90°) DA1: .03 s; DA2: .04 s; DA3: .08 s; DA4: .12 s; SR2: .09 s; SR3: .14 s; SR6: .46 s; SR7: .83 s.  
**Housing Material:** Anodized aluminum body and epoxy coated aluminum end caps.  
**Temperature Limit:** -4 to 180°F (-20 to 82°C).  
**Accessory Mounting:** NAMUR standard.  
**Standard Features:** Visual position indicator.

Valves, Ball, Automated