



Series  
3BV3

# Automated Ball Valves - 3-Way SS NPT

## Electric and Pneumatic Actuators

ELECTRIC (NEMA 4 ENCL.) (inches)						
A	1/2"	3/4"	1"	1-1/4"	1-1/2"	2"
B	6.47, 7.35	7.72	7.88	8.51	11.95*	12.62*
C	4.00, 4.25	4.25	4.25	4.25	7.00	7.00
D	3.78	4.21	4.96	5.24	5.94	6.56
E	5.83, 6.88	6.88	6.88	6.88	7.00	7.00
F	2.31, 2.43	2.43	2.43	2.43	2.38	2.38
M	1.89	2.11	2.48	2.62	2.97	3.27
ACT.	U11, V12	U12, V12	U12, V12	U13, V13	U14, V14	U15, V15

\*Includes de clutchable manual override and handwheel

PNEUMATIC DOUBLE ACTING (inches)						
A	1/2"	3/4"	1"	1-1/4"	1-1/2"	2"
B	5.93	6.30	6.46	7.09	8.07	6.74
C	2.80	2.80	2.80	2.80	3.72	3.72
D	3.78	4.96	4.96	5.24	5.94	6.54
E	5.49	5.49	5.49	5.49	8.15	8.15
F	1.61	1.61	1.61	1.61	2.07	2.07
M	1.89	2.11	2.48	2.62	2.97	3.27
ACT.	DA2	DA2	DA2	DA2	DA4	DA4

PNEUMATIC SPRING RETURN (inches)						
A	1/2"	3/4"	1"	1-1/4"	1-1/2"	2"
B	5.93	6.30	7.11	7.74	9.03	10.88
C	2.80	3.17	3.72	3.72	4.84	5.39
D	3.78	4.21	4.96	5.24	5.94	6.54
E	5.49	6.38	8.15	8.15	10.69	12.91
F	1.61	1.77	2.07	2.07	2.68	2.87
M	1.89	2.11	2.48	2.62	2.97	3.27
ACT.	SR2	SR3	SR4	SR4	SR6	SR7

The Series 3BV3 incorporates a full port design for maximum flow rates with minimal pressure drop. Features include a blowout proof stem for added safety and reinforced RTFE seats and seals for longer life and leak free operation. The four seat design allows for high cyclic capabilities and tight shut off in any position. Perfect for mixing or diverting services in the food and chemical processing industries.

The 3BV3 is an economical automated valve package with either an electric or pneumatic actuator. Electrically actuated models are weatherproof, NEMA 4, 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 to 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.

### HOW TO ORDER:

1. Select **Model No.** to specify pipe size and actuator.
2. Choose a **Port Configuration** to determine valve flow path.  
**Example:** 3BV3SR404-T2

Port Configuration	Flow Path		Diagram
	Act. Open	Act. Closed	
"T" Port	-T1	A-B	
	-T2	A-B	
	-T3	A-C	
	-T4	B-C	
"L" Port	-L1	A-B	
	-L2	All Closed	
	-L3	B-C	

### SPECIFICATIONS

**Service:** Compatible liquids, gases or steam.

**Body:** 3-way.

**Line Size:** 1/2" to 2".

**End Connections:** Female NPT.

**Pressure Limit:** 1000 psi (69 bar) WOG; 150 psi (10.3 bar) SWP.

**Wetted Materials:**

Body, End Cap, Stem: 316 SS.

Ball: 316 SS.

Seat, Stem Seal: RTFE.

**Temperature Limit:** -40 to 450°F (-40 to 232°C). Steam max.: 366°F (186°C).

**Other Materials:** Body Seal, Body O-ring, Stem O-ring: Fluoroelastomer.

### 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": .55A, 3/4" to 1-1/2": .75A, 2": 1.1A. Modulating: 1/2" to 1-1/2": .75A, 2": 1.1A.

**Cycle Time:** (per 90°): Two Position: 1/2": 2.5 sec., 3/4" to 1-1/4": 5 sec., 1-1/2": 10 sec., 2": 15 sec. Modulating: 1/2" to 1-1/4": 5 sec., 1-1/2": 10 sec., 2": 15 sec.

**Duty Cycle:** Two Position: 1/2": 75%, 3/4" to 2": 25%. Modulating: 75%.

**Enclosure Rating:** NEMA 4. Optional NEMA 7.

#### Options

Explosion Proof Electric Actuator

-Add suffix "-EX" to the model number

Optional Electric Actuator Supply Voltages

-Contact factory for model number change (24 VAC)

220 VAC, 24 VDC or 12 VDC

Solenoid Valve - See Model SV3.

**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 to 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:** 1/4" female NPT.

**Air Consumption:** (per stroke) DA1: 2.32 cu. in.; DA2, SR2: 9.34 cu. in.; DA3, SR3: 17.21 cu. in.; DA4, SR4: 20.5 cu. in.; SR5: 39.54 cu. in.; SR6: 54.37 cu. in.; SR7: 85.43 cu. in.

**Cycle Time:** (per 90°) DA1: .03 sec.; DA2: .04 sec.; DA3: .08 sec.; DA4: .12 sec.; SR2: .09 sec.; SR3: .14 sec.; SR4: .22 sec.; SR5: .33 sec.; SR6: .46 sec.; SR7: .78 sec.

**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.

Size (in.)	Cv		Double Acting Pneumatic		Spring Return Pneumatic		Two Position Electric		Modulating Electric	
	L-Port	T-Port	Model*		Model*		Model*		Model*	
1/2"	10.0	16.0	3BV3DA202		3BV3SR202		3BV3U1102		3BV3V1202	
3/4"	14.0	24.0	3BV3DA203		3BV3SR303		3BV3U1203		3BV3V1203	
1"	25.0	45.0	3BV3DA204		3BV3SR404		3BV3U1204		3BV3V1204	
1-1/4"	34.0	77.0	3BV3DA205		3BV3SR405		3BV3U1305		3BV3V1305	
1-1/2"	56.0	100.0	3BV3DA406		3BV3SR606		3BV3U1406		3BV3V1406	
2"	110.0	430.0	3BV3DA407		3BV3SR707		3BV3U1507		3BV3V1507	

\* Complete model includes **Port Configuration** - see "How to Order" above.