

# Ball Valves

## Actuators

### *Pneumatic Actuators*

### *Electric Actuators*

Autoclave Engineers ball valves can be supplied with either pneumatic or electric operators for automated or remote operation.

Pneumatic and electric operators can be supplied with a variety of features and options. Operators are sized for each valve series to provide reliable and trouble free operation. Listed below are the operator features and available options.

### **AE Ball Valve Actuator Features/Options:**

#### **Pneumatic Operators**

- Used for remote and automatic operation
- Air-to-open/spring-to-close
- Air-to-close/spring-to-open
- Air-to-open and close (double acting)
- Limit switches or limit switches with visual indicators available
- High temperature option available.
- Stainless steel housing for corrosive applications available.
- Optional solenoid valve available
- Standard anodized aluminum housing
- Optional epoxy coated housing available

#### **Electric Operators**

- Interface with control systems for automated operation and monitoring
- 120 & 220 VAC, 50/60 Hz standard
- 24VDC
- Explosion proof available
- CE mark available



**Autoclave  
Engineers** 

Fluid Components  
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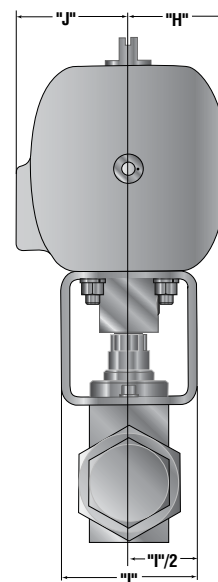
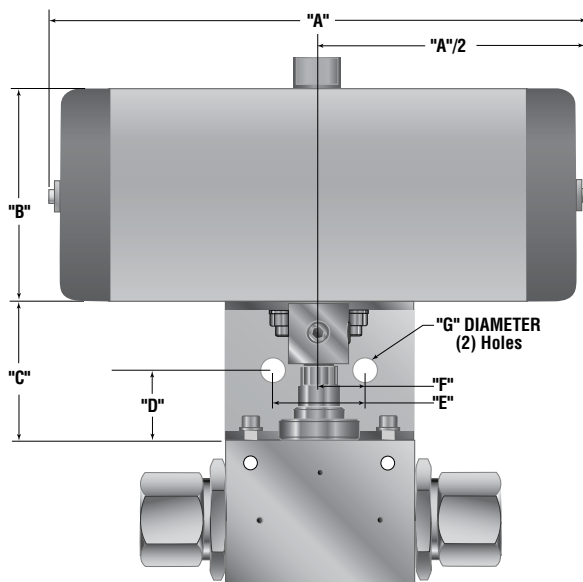
## Pneumatic Operated Ball Valves

Add the suffix **-AO**, **-AC** or **-AOC** to the appropriate valve catalog number for a complete valve assembly

VALVE SERIES	DIMENSION DATA - Inches (mm)										MINIMUM REQUIRED
	"A"	"B"	"C"	"D"	"E"	"F"	"G"	"H"	"I"	"J"	AIR PRESSURE
2B4-AO/AC	6.69 (169.92)	2.56 (65.02)	2.50 (63.50)	1.25 (31.75)	1.00 (25.40)	0.50 (12.70)	0.28 (7.11)	1.14 (28.95)	2.50 (63.50)	1.58 (40.13)	80 psi (5.51 bar)
2B6-AO/AC	9.84 (249.93)	3.94 (100.07)	3.00 (76.20)	1.50 (38.10)	1.50 (25.40)	0.75 (19.05)	0.34 (8.63)	1.87 (47.49)	3.00 (76.20_)	2.24 (56.89)	80 psi (5.51 bar)
2B8-AO/AC ★	11.65 (299.91)	4.57 (116.07)	3.00 (76.20)	1.50 (38.10)	2.00 (50.80)	1.00 (25.40)	0.53 (13.46)	2.17 (55.11)	3.00 (76.20)	2.48 (62.99)	80 psi (5.51 bar)
3BD3-AO/AC	6.69 (169.92)	2.56 (65.02)	2.50 (63.50)	1.25 (31.75)	1.00 (25.40)	0.50 (12.70)	0.28 (7.11)	1.14 (28.95)	2.50 (63.50)	1.58 (40.13)	80 psi (5.51 bar)
3BD6-AO/AC ★	9.84 (249.93)	3.94 (100.07)	3.00 (76.20)	1.50 (38.10)	1.50 (25.40)	0.75 (19.05)	0.34 (8.63)	1.87 (47.49)	3.00 (76.20_)	2.24 (56.89)	80 psi (5.51 bar)
3BD8-AO/AC	11.65 (299.91)	4.57 (116.07)	3.00 (76.20)	1.50 (38.10)	2.00 (50.80)	1.00 (25.40)	0.53 (13.46)	2.17 (55.11)	3.00 (76.20)	2.48 (62.99)	80 psi (5.51 bar)
2B4-AOC	6.69 (169.92)	2.56 (65.02)	2.50 (63.50)	1.25 (31.75)	1.00 (25.40)	0.50 (12.70)	0.28 (7.11)	1.14 (28.95)	2.50 (63.50)	1.58 (40.13)	80 psi (5.51 bar)
2B6-AOC	7.95 (201.93)	3.07 (77.97)	3.00 (76.20)	1.50 (38.10)	1.50 (38.10)	0.75 (19.05)	0.34 (8.63)	1.40 (35.56)	3.00 (76.20_)	1.77 (44.95)	80 psi (5.51 bar)
2B8-AOC	9.84 (249.91)	3.94 (100.07)	3.00 (76.20)	1.50 (38.10)	2.00 (50.80)	1.00 (25.40)	0.53 (13.46)	1.87 (47.49)	3.00 (76.20)	2.24 (56.89)	80 psi (5.51 bar)
3BD3-AOC	6.69 (169.92)	2.56 (65.02)	2.50 (63.50)	1.25 (31.75)	1.00 (25.40)	0.50 (12.70)	0.28 (7.11)	1.14 (28.95)	2.50 (63.50)	1.58 (40.13)	80 psi (5.51 bar)
3BD6-AOC	7.95 (201.93)	3.07 (77.97)	3.00 (76.20)	1.50 (38.10)	1.50 (25.40)	0.75 (19.05)	0.34 (8.63)	1.40 (35.56)	3.00 (76.20_)	1.77 (44.95)	80 psi (5.51 bar)
3BD8-AOC	9.84 (249.91)	3.94 (100.07)	3.00 (76.20)	1.50 (38.10)	2.00 (50.80)	1.00 (25.40)	0.53 (13.46)	1.87 (47.49)	3.00 (76.20)	2.24 (56.89)	80 psi (5.51 bar)

- NOTE:
- Maximum allowable air pressure is 150 psi (10.34)
  - 1/8" NPT female air connector (\* = 1/4" NPT)
  - AO: Air to open/spring to close
  - AC: Air to close/spring to open
  - AOC: Air to open/air to close (double acting)

- Actuators operating temperature: -20°F to 175°F (-29°C to 79°C)
- High temperature actuator option available, consult factory
- Stainless steel housing actuator models available, consult factory
- Actuators available with limit switches and visual indicators.
- Corrosion resistant anodized aluminum housing.
- Epoxy coated housing available.
- Solenoids available, direct or nipple mount.



# Ball Valves - Actuators

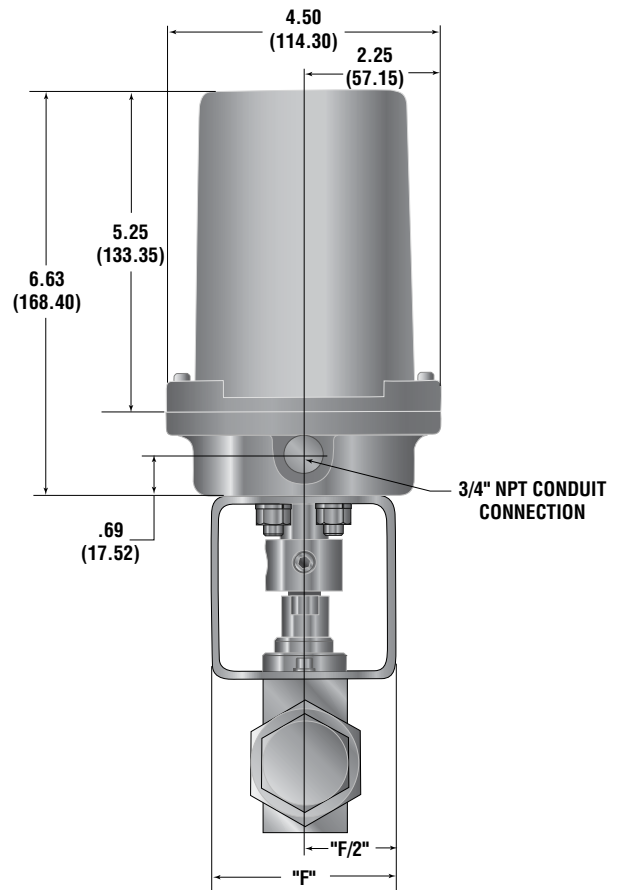
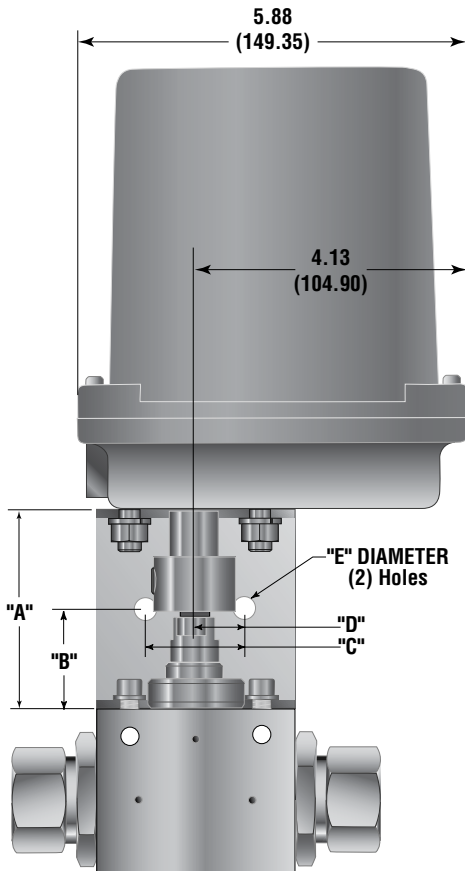
## Electric Operated Ball Valves

Add the suffix **-E01**, **-E02** or **-E03** to the appropriate valve catalog number for a complete valve assembly

VALVE SERIES	DIMENSION DATA - Inches (mm)						VOLTAGE	
	"A"	"B"	"C"	"D"	"E"	"F"		
2B4-E01 2B4-E02	2.50 (63.50)	1.25 (31.75)	1.00 (25.40)	0.50 (12.70)	0.28 (7.11)	2.50 (63.50)	120 VAC 240 VAC	50/60 Hz
2B6-E01 2B6-E02	3.00 (76.20)	1.50 (38.10)	1.50 (38.10)	0.75 (19.05)	0.34 (8.63)	3.00 (76.20)	120 VAC 240 VAC	50/60 Hz
3BD3-E01 3BD3-E02	2.50 (63.50)	1.25 (31.75)	1.00 (25.40)	0.50 (12.70)	0.28 (7.11)	2.50 (63.50)	120 VAC 240 VAC	50/60 Hz
3BD6-E01 3BD6-E02	3.00 (76.20)	1.50 (38.10)	1.50 (38.10)	0.75 (19.05)	0.34 (8.63)	3.00 (76.20)	120 VAC 240 VAC	50/60 Hz
2B4-E03	2.50 (63.50)	1.25 (31.75)	1.00 (25.40)	0.50 (12.70)	0.28 (7.11)	2.50 (63.50)	24 VDC	
2B6-E03	3.00 (76.20)	1.50 (38.10)	1.50 (38.10)	0.75 (19.05)	0.34 (8.63)	3.00 (76.20)	24 VDC	
3BD3-E03	2.50 (63.50)	1.25 (31.75)	1.00 (25.40)	0.50 (12.70)	0.28 (7.11)	2.50 (63.50)	24 VDC	
3BD6-E03	3.00 (76.20)	1.50 (38.10)	1.50 (38.10)	0.75 (19.05)	0.34 (8.63)	3.00 (76.20)	24 VDC	

- NOTE:
- E01: Electric 120 VAC
  - E02: Electric 220 VAC
  - E03: Electric 24 VDC
  - CSA approved for NEMA 4 & 4X

- For other voltages consult factory
- Actuator operating temperature: -20°F to 160°F (-29°C to 71°C)
- Corrosive resistant Zytel housing
- Consult factory for epoxy option



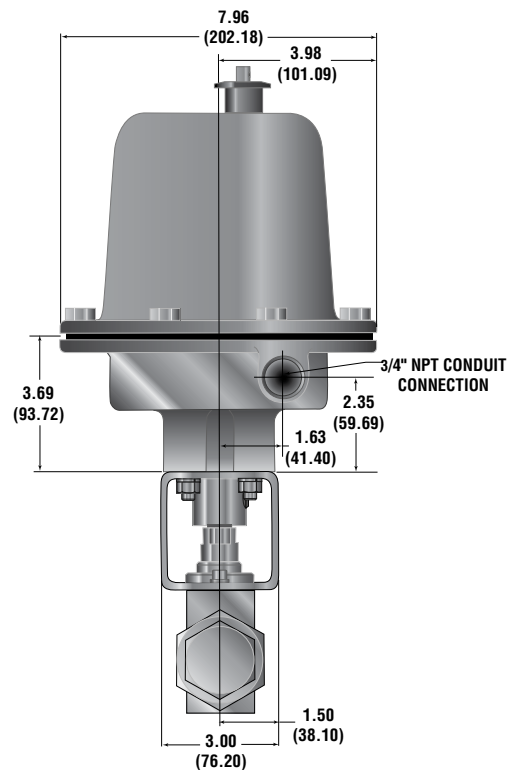
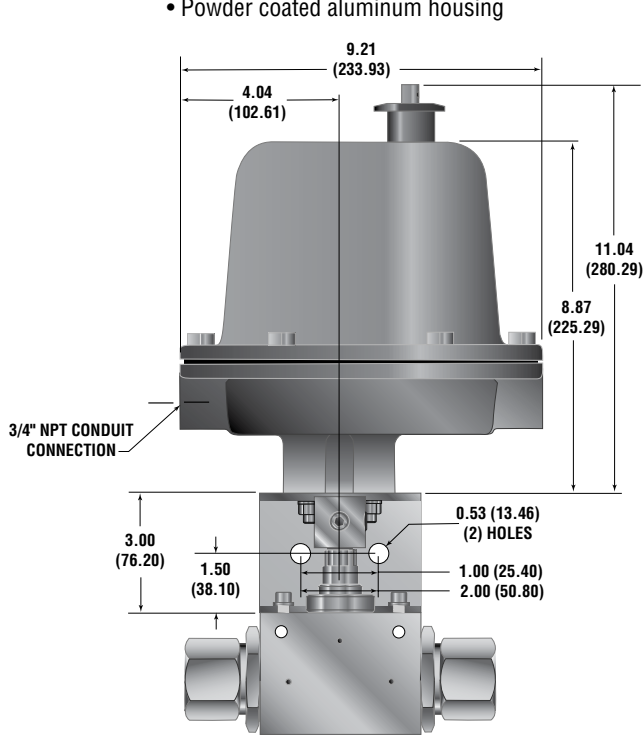
# Ball Valves - Actuators

## Electric Operated Ball Valves

Add the suffix -E01, -E02 or -E03 to the appropriate valve catalog number for a complete valve assembly

VALVE SERIES	VOLTAGE	VALVE SERIES	VOLTAGE
	50/60 HZ		
2B8-E01	120 VAC	2B8-E03	24 VDC
3BD8-E01	120 VAC	3BD8-E03	24 VDC
2B8-E02	220 VAC	2B8-E03	24 VDC
3BD8-E02	220 VAC	3BD8-E03	24 VDC

- NOTE:
- E01: Electric 120 VAC
  - E02: Electric 220 VAC
  - E03: Electric 24 VDC
  - For other voltages consult factory
  - Actuator operating temperature: -20°F to 160°F (-29°C to 71°C)
  - Powder coated aluminum housing
  - CE marked.
  - UL listed & CSA approved for NEMA 4, 4x, 7 & 9
  - Explosion proof



### ! WARNING !

FAILURE OR IMPROPER SELECTION OR IMPROPER USE OF THE PRODUCTS AND/OR SYSTEMS DESCRIBED HEREIN OR RELATED ITEMS CAN CAUSE DEATH, PERSONAL INJURY AND/OR PROPERTY DAMAGE.

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