

Ball Valve Actuators

Pneumatic and Electric

Single and Double Acting Pneumatic
24VDC, 120 and 220 VAC Electric



Principle of Operation:

Pneumatic and Electric Actuators

Pneumatic ball valve actuators found on pages 35-42 and are available for every bore/size option we offer (90° or 180° as needed). Our standard weather-proof housing is corrosion resistant anodized aluminum, Stainless Steel materials are available. CE Marked and SIL3 rated.

Parker Autoclave Engineers offers an ISO 5211 compliant pneumatic actuator with mounting configuration for NAMUR solenoid valves, limit switches or positioner as standard. Electric actuators (pages 37-42) are available in Weather-proof or Explosion-proof styles depending on location. Both varieties come standard with two (15 amp SPDT) position switches (SPDT). Explosionproof version includes an external handwheel for manual operation.

Ball Valve Actuators Features:

Pneumatic

- Temperature Range of 0° to 176°F (-18° to 80°C) with Buna-N Nitrile Seals
- Air-to-open/spring-to-close
- Air-to-close/spring-to-open
- Air-to-open and close (double acting)
- Visual Position Indication as Standard, Limit switches
- Anodized Aluminum Weather-proof housing as standard
- Stainless steel housing for corrosive atmospheres can be ordered
- Extended Temperature operation with Silicone Seals from 0° to 300°F (-18° to 150°C)
- CE Marked, SIL3 Rated

Electric

- Interface with control systems for automated operation and monitoring
- Weather-Proof NEMA 4X Polyester Housing Standard, 0° to 160°F (-18° to 70°C)
- 120 & 220 VAC, 50/60 Hz standard
- 24VDC
- Explosion-Proof, NEMA 7X Enclosure available
- CE mark available

Actuators: Pneumatic Operated Ball Valves (AO and AC)

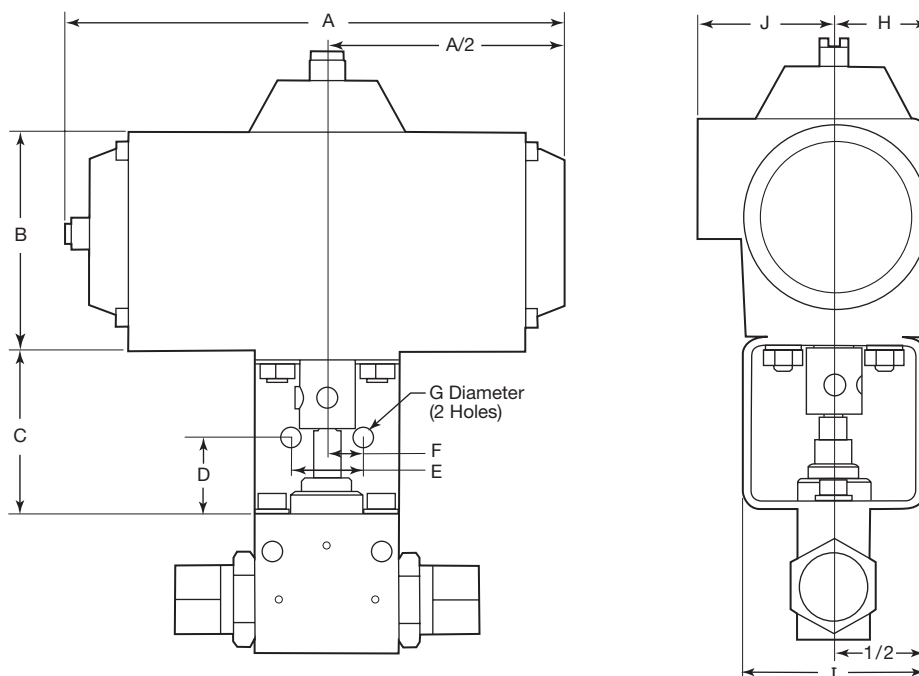
90° Actuation/Spring Return

Valve Series*	Dimension Data - Inches (mm)										Actuator Weight .lbs	Air Usage
	A	B	C	D	E	F	G	H	I	J		Turn Time/90°
2B4-AO/AC	6.85 (173.99)	3.20 (81.28)	2.50 (63.50)	1.25 (31.75)	1.00 (25.40)	0.50 (12.70)	0.28 (7.11)	1.30 (33.02)	2.50 (63.50)	1.88 (47.75)	3.94	11.2 in ³ 0.5 sec
2B6-AO/AC	7.28 (184.91)	3.86 (98.04)	3.00 (76.20)	1.50 (38.10)	1.50 (38.10)	0.75 (19.05)	0.34 (8.63)	1.59 (40.39)	3.00 (76.20)	2.10 (53.54)	6.0	18.1 in ³ 1.0 sec
2B8-AO/AC	9.38 (238.25)	4.62 (117.35)	3.00 (76.20)	1.50 (38.10)	2.00 (50.80)	1.00 (25.40)	0.53 (13.46)	2.00 (50.80)	3.00 (76.20)	2.48 (62.99)	10.7	40.6 in ³ 1.0 sec
2B12-AO/AC	17.30 (439.42)	8.00 (203.20)	5.00 (127.00)	2.50 (63.50)	3.25 (82.55)	1.63 (41.40)	0.53 (13.46)	3.54 (89.92)	5.00 (127.00)	3.57 (90.68)	53.8	256.3 in ³ 3.0 sec
2B16-AO/AC	17.30 (439.42)	8.00 (203.20)	5.00 (127.00)	2.50 (63.50)	3.25 (82.55)	1.63 (41.40)	0.53 (13.46)	3.54 (89.92)	5.00 (127.00)	3.57 (90.68)	53.8	11.2 in ³ 3.0 sec
3BD3-AO/AC	6.85 (173.99)	3.20 (81.28)	2.50 (63.50)	1.25 (31.75)	1.00 (25.40)	0.50 (12.70)	0.28 (7.11)	1.30 (33.02)	2.50 (63.50)	1.88 (47.75)	3.94	18.1 in ³ 0.5 sec
3BD6-AO/AC	7.28 (184.91)	3.86 (98.04)	3.00 (76.20)	1.50 (38.10)	1.50 (38.10)	0.75 (19.05)	0.34 (8.63)	1.59 (40.39)	3.00 (76.20)	2.10 (53.54)	6.0	18.1 in ³ 1.0 sec
3BD8-AO/AC	9.38 (238.25)	4.62 (117.35)	3.00 (76.20)	1.50 (38.10)	2.00 (50.80)	1.00 (25.40)	0.53 (13.46)	2.00 (50.80)	3.00 (76.20)	2.48 (62.99)	10.7	40.6 in ³ 1.5 sec
4B6-AO/AC	9.38 (238.25)	4.62 (117.35)	3.00 (76.20)	1.50 (38.10)	2.00 (50.80)	1.00 (25.40)	0.53 (13.46)	2.00 (50.80)	3.00 (76.20)	2.48 (62.99)	10.7	40.6 in ³ 1.5 sec

* Add the suffix **-AO** or **-AC** to the appropriate valve catalog number for a complete valve assembly.
Actuators do not have repair kits and must be returned to factory for repair.

SPECIFICATIONS:

- Control Air Pressure: 80 to 150 psi (6 to 10 bar)
- 1/4" NPT female air connector
- AO**: Air to open/spring to close
- AC**: Air to close/spring to open
- Actuators operating temperature: -10°F to 176°F (-23°C to 80°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.
- Meets ISO 5211 Solenoid Mounting dimensions
- CE Marked, SIL3 Rated



Actuators: Pneumatic Operated Ball Valves (AOC - Double Acting)

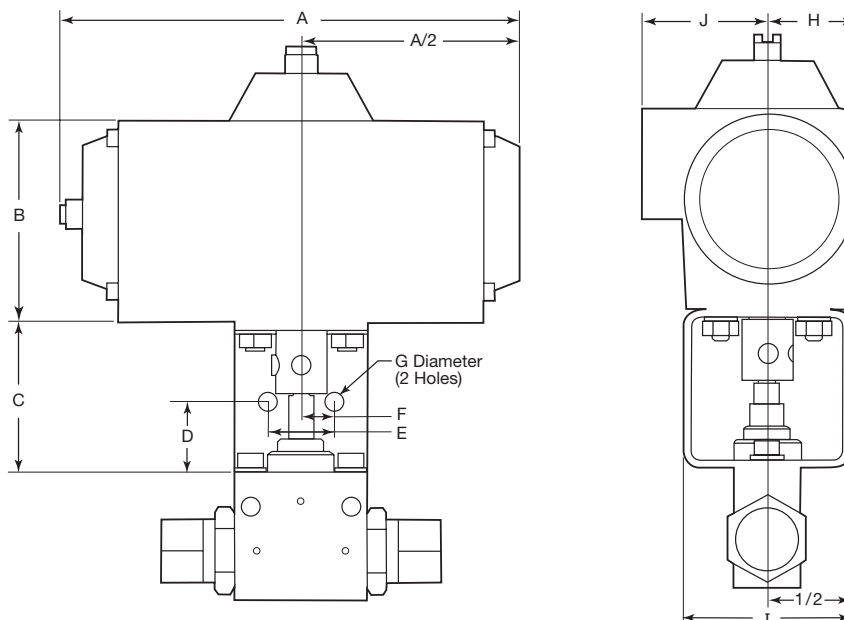
90° and 180° Actuation - No Spring

Valve Series*	Dimension Data - Inches (mm)										Actuator Weight .lbs	Air Usage
	A	B	C	D	E	F	G	H	I	J		Turn Time/90°
2B4-AOC	6.85 (173.99)	3.20 (81.28)	2.50 (63.50)	1.25 (31.75)	1.00 (25.40)	0.50 (12.70)	0.28 (7.11)	1.30 (33.02)	2.50 (63.50)	1.88 (47.75)	3.52	25.6 in ³ 0.5 sec
2B6-AOC	6.85 (173.99)	3.20 (81.28)	3.00 (76.20)	1.50 (38.10)	1.50 (38.10)	0.75 (19.05)	0.34 (8.63)	1.30 (33.02)	2.50 (63.50)	1.88 (47.75)	5.17	44.4 in ³ 0.5 sec
2B8-AOC	7.28 (184.91)	3.86 (98.04)	3.00 (76.20)	1.50 (38.10)	2.00 (50.80)	1.00 (25.40)	0.53 (13.46)	1.59 (40.39)	3.00 (76.20)	2.10 (53.34)	9.13	88.9 in ³ 1.0 sec
2B12-AOC	11.82 (300.23)	6.10 (154.94)	5.00 (127.00)	2.50 (63.50)	3.25 (82.55)	1.63 (41.40)	0.53 (13.46)	2.55 (64.77)	5.00 (127.00)	2.55 (64.77)	44.1	565.5 in ³ 2.5 sec
2B16-AOC	13.98 (355.09)	6.56 (166.62)	5.00 (127.00)	2.50 (63.50)	3.25 (82.55)	1.63 (41.40)	0.53 (13.46)	2.86 (72.64)	5.00 (127.00)	2.95 (74.93)	44.1	565.5 in ³ 2.5 sec
3B3-AOC	9.50 (241.30)	3.59 (91.19)	2.50 (63.50)	1.25 (31.75)	1.00 (25.40)	0.50 (12.70)	0.28 (7.11)	1.37 (34.80)	2.50 (63.50)	1.98 (50.29)	3.52	42.5 in ³ 1.0 sec
3B6-AOC	9.50 (241.30)	3.59 (91.19)	3.00 (76.20)	1.50 (38.10)	1.50 (38.10)	0.75 (19.05)	0.34 (8.63)	1.36 (34.54)	3.00 (76.20)	1.99 (50.55)	5.17	77.3 in ³ 1.0 sec
3B8-AOC	10.21 (259.33)	4.47 (113.54)	3.00 (76.20)	1.50 (38.10)	2.00 (50.80)	1.00 (25.40)	0.53 (13.46)	1.67 (42.42)	3.00 (76.20)	2.10 (53.34)	9.13	150.0 in ³ 2.0 sec
3BD3-AOC	6.85 (173.99)	3.20 (81.28)	2.50 (63.50)	1.25 (31.75)	1.00 (25.40)	0.50 (12.70)	0.28 (7.11)	1.30 (33.02)	2.50 (63.50)	1.88 (47.75)	3.53	25.6 in ³ 0.5 sec
3BD6-AOC	6.85 (173.99)	3.20 (81.28)	3.00 (76.20)	1.50 (38.10)	1.50 (38.10)	0.75 (19.05)	0.34 (8.63)	1.30 (33.02)	3.00 (76.20)	1.88 (47.75)	5.17	44.4 in ³ 0.5 sec
3BD8-AOC	7.28 (184.91)	3.86 (98.04)	3.00 (76.20)	1.50 (38.10)	2.00 (50.80)	1.00 (25.40)	0.53 (13.46)	1.59 (40.39)	3.00 (76.20)	2.10 (53.34)	9.13	88.9 in ³ 1.0 sec
4B6-AOC	7.28 (184.91)	3.86 (98.04)	3.00 (76.20)	1.50 (38.10)	2.00 (50.80)	1.00 (25.40)	0.53 (13.46)	1.59 (40.39)	3.00 (76.20)	2.10 (53.34)	9.13	88.9 in ³ 1.0 sec

* Add the suffix **-AOC** to the appropriate valve catalog number for a complete valve assembly
Actuators do not have repair kits and must be returned to factory for repair.

SPECIFICATIONS:

- Control Air Pressure: 80 to 150 psi (6 to 10 bar)
- 1/4" NPT female air connector
- AOC:** Air to open/Air to close (double acting)
- Actuators operating temperature: -10°F to 176°F (-23°C to 80°C)
- Corrosion resistant anodized aluminum housing
- Stainless steel housing actuator models available, consult factory
- Actuators available with limit switches and visual indicators.
- High temperature actuator option available, consult factory
- CE Marked, SIL₃ Rated



Actuators: Electric Operated Ball Valves (E01, E02, E03)

Weather-proof, NEMA 4, 4X Watertight Enclosure

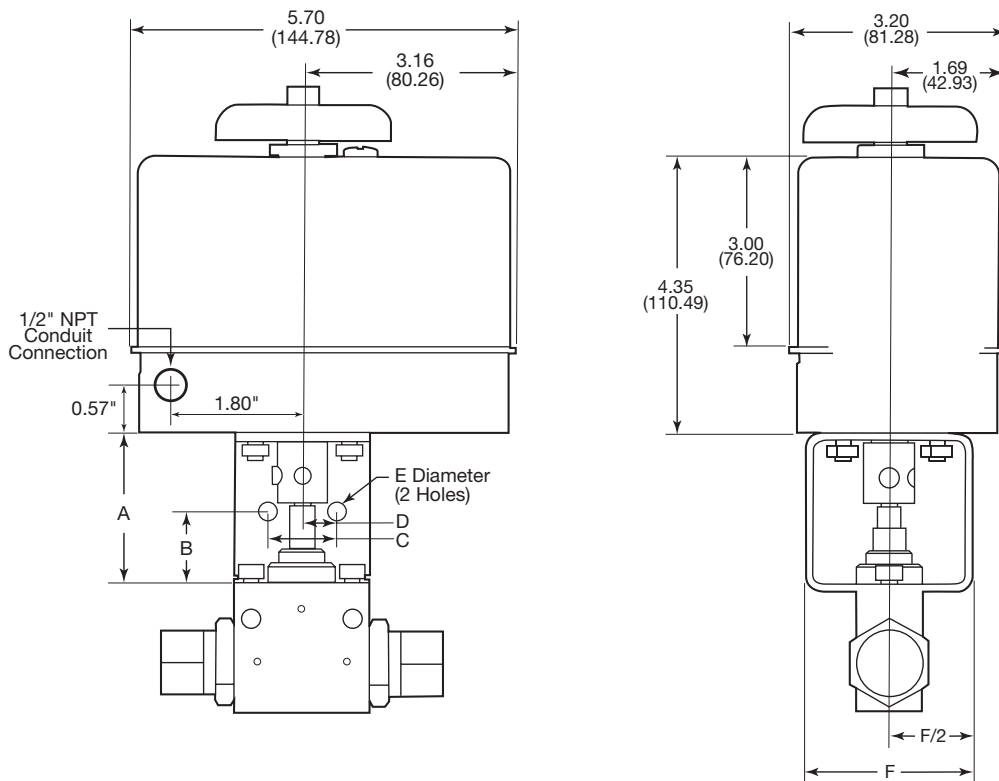
90° and 180° Actuation (No Spring Return)

Valve Series*	Dimension Data - Inches (mm)						Voltage	Time to Turn 90° Seconds
	A	B	C	D	E	F		
2B4-EO1	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	3
2B4-EO2							240 VAC	3
2B4-EO3							24 VDC	3
2B6-EO1	3.00 (76.20)	1.50 (38.10)	1.50 (38.10)	0.75 (19.05)	0.34 (8.64)	3.00 (76.20)	120 VAC	7
2B6-EO2							240 VAC	7
2B6-EO3							24 VDC	5
3B3-EO1	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	3
3B3-EO2							240 VAC	3
3B6-EO1	3.00 (76.20)	1.50 (38.10)	1.50 (38.10)	0.75 (19.05)	0.34 (8.64)	3.00 (76.20)	120 VAC	7
3B6-EO2							240 VAC	7
3BD3-EO1	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	3
3BD3-EO2							240 VAC	3
3BD3-EO32							24 VDC	3
3BD6-EO1	3.00 (76.20)	1.50 (38.10)	1.50 (38.10)	0.75 (19.05)	0.34 (8.64)	3.00 (76.20)	120 VAC	7
3BD6-EO2							240 VAC	7
3BD6-EO3							24 VDC	5

* Add the suffix **-E01**, **-E02** or **-E03** to the appropriate valve catalog number for a complete valve assembly
Actuators do not have repair kits and must be returned to factory for repair.

SPECIFICATIONS:

- 1/2" NPT female conduit connection
- Manual Override
- Powder coated aluminum housing
- CE & CSA approved
- Weight (all models): 5 lbs.
- 120 & 240 Volt are 50/60 Hz, for other voltages consult factory
- Actuator operating temperature: 0°F to 160°F (-17°C to 71°C)
- 15 amp SPDT Limit Switches (standard)
- For other options consult factory



Actuators: Electric Operated Ball Valves (E01, E02, E03)

Weather-proof, NEMA 4, 4X Watertight Enclosure

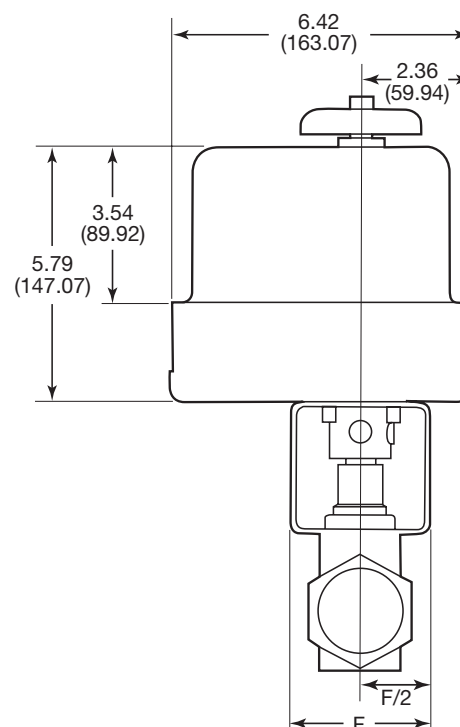
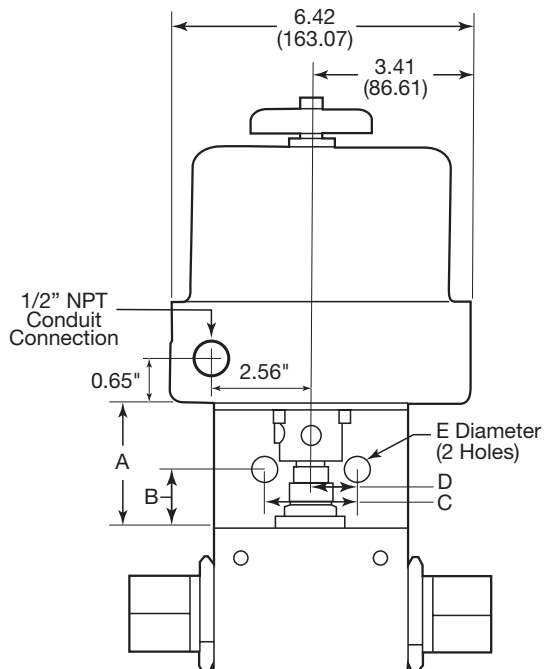
90° and 180° Actuation

Valve Series*	Dimension Data - Inches (mm)						Voltage	Time to Turn 90° Seconds
	A	B	C	D	E	F		
2B8-E01	3.00 (76.20)	1.50 (38.10)	2.00 (50.80)	1.00 (25.40)	0.53 (13.46)	3.00 (76.20)	120 VAC	5
2B8-E02							240 VAC	5
2B8-E03							24 VDC	5
3B8-E01	3.00 (76.20)	1.50 (38.10)	2.00 (50.80)	1.00 (25.40)	0.53 (13.46)	3.00 (76.20)	120 VAC	5
3B8-E02							240 VAC	5
3BD8-E01	3.00 (76.20)	1.50 (38.10)	2.00 (50.80)	1.00 (25.40)	0.53 (13.46)	3.00 (76.20)	120 VAC	5
3BD8-E02							240 VAC	5
3BD8-E03							24 VDC	5
4B6-E01	3.00 (76.20)	1.50 (38.10)	1.50 (38.10)	0.75 (19.05)	0.34 (8.64)	3.00 (76.20)	120 VAC	5
4B6-E02							240 VAC	5
4B6-E03							24 VDC	5
4BS6-E01	3.00 (76.20)	1.50 (38.10)	1.50 (38.10)	0.75 (19.05)	0.34 (8.64)	3.00 (76.20)	120 VAC	5
4BS6-E02							240 VAC	5
4BS6-E03							24 VDC	5

* Add the suffix **-E01**, **-E02** or **-E03** to the appropriate valve catalog number for a complete valve assembly
Actuators do not have repair kits and must be returned to factory for repair.

SPECIFICATIONS:

- **E01:** Electric 120 VAC
- **E02:** Electric 240 VAC
- **E03:** Electric 24 VDC
- Actuator operating temperature: 0°F to 160°F (-18°C to 71°C)
- Weight (all models): 9 lbs.
- For other options consult factory
- Powder coated aluminum housing
- CE & CSA approved for NEMA 4 & 4X
- Manual Override (wrench required)
- 1/2" NPT female conduit connection
- 15 amp SPDT Limit Switches (standard)



Actuators:

Electric Operated Ball Valves (EO1, EO2)

Weather-proof, NEMA 4, 4X Watertight Enclosure

90° Actuation only

Valve Series*	Dimension Data - Inches (mm)						Voltage	Time to Turn 90° Seconds	Weight lbs.	Figure
	A	B	C	D	E	F				
2B12-EO1	5.00 (127.00)	2.50 (63.50)	3.25 (82.55)	1.63 (41.400)	0.53 (13.46)	5.00 (127.00)	120 VAC	10	50.5	1
2B12-EO2							240 VAC	10		
2B16-EO1	6.00 (152.40)	3.00 (76.20)	3.25 (82.55)	1.63 (41.40)	0.53 (13.46)	6.00 (152.40)	120 VAC	10	64.0	2
2B16-EO2							240 VAC	10		

* Add the suffix **-EO1**, **-EO2** or **-EO3** to the appropriate valve catalog number for a complete valve assembly
 Actuators do not have repair kits and must be returned to factory for repair.

SPECIFICATIONS:

- **EO1:** Electric 120 VAC
 - **EO2:** Electric 240 VAC
 - Manual Override (wrench required)
 - Weatherproof enclosure, IP67, Type 4, 4X,
 - For other options consult factory
- 3/4" NPT female conduit connection
 - CE & CSA approved for NEMA 4 and 4X
 - Actuator operating temperature: -4°F to 158°F (20°C to 70°C)
 - Powder coated aluminum housing

Figure 1

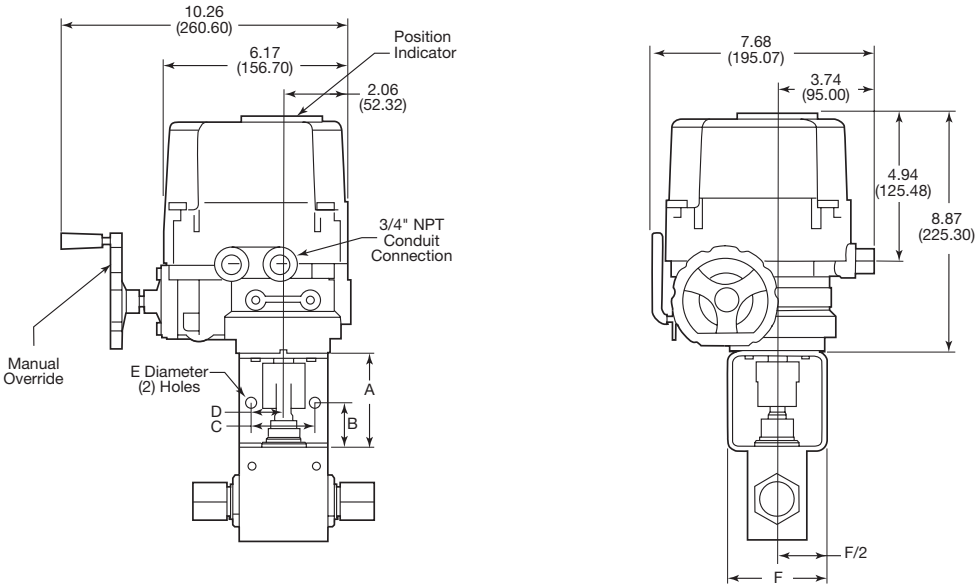
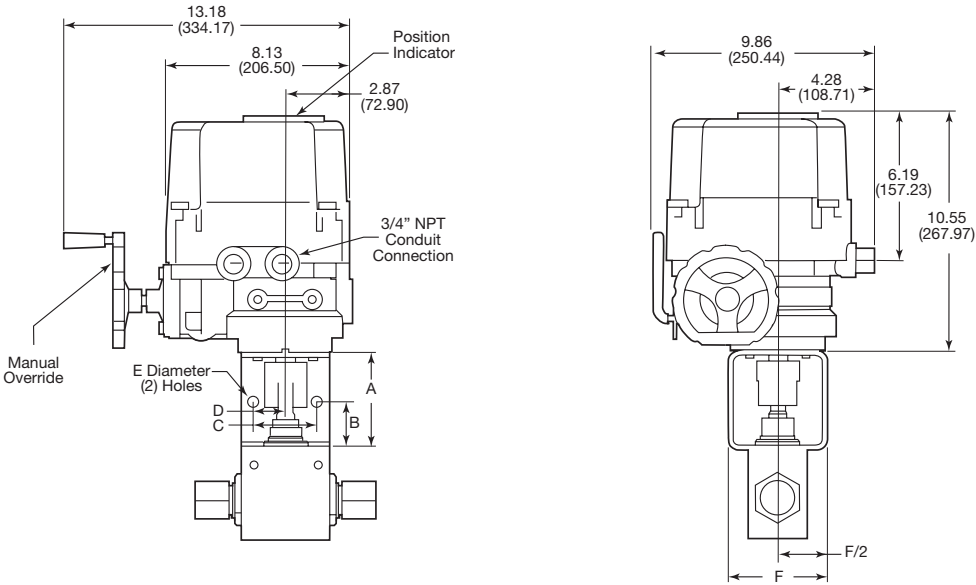


Figure 2



Actuators: Electric Explosion Proof Operated Ball Valves (E01X, E02X, E03X)

Explosion-proof, NEMA 7 Enclosure, ATEX Ex d IIB T4, IP67

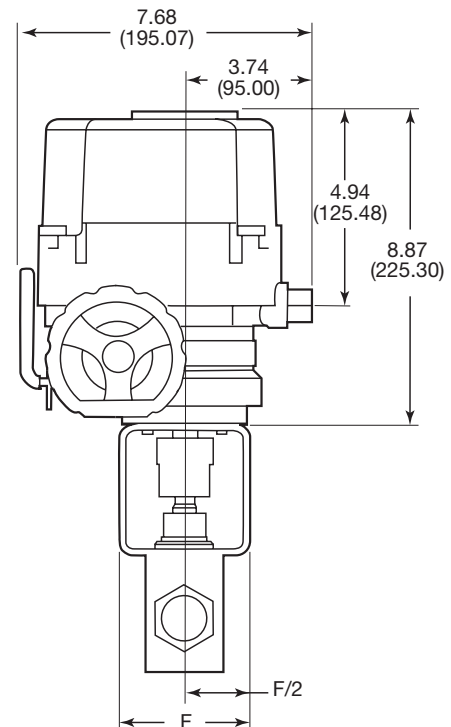
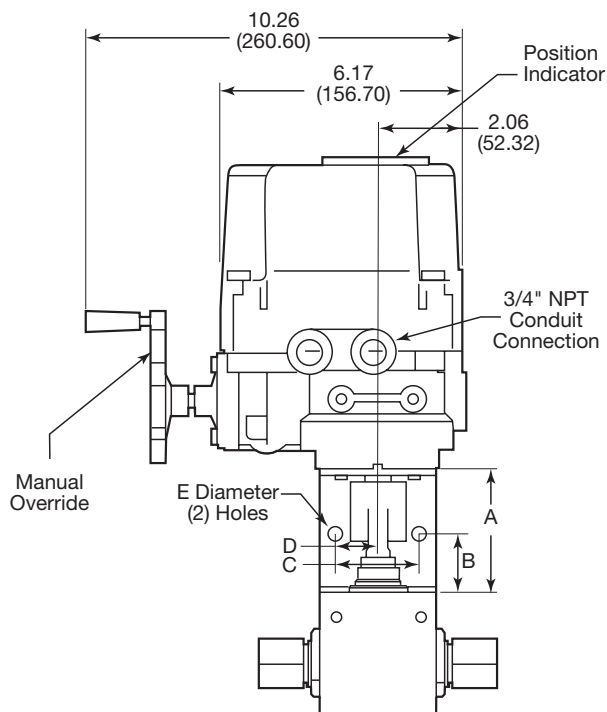
90° Actuation only

Valve Series*	Dimension Data - Inches (mm)						Voltage	Time to Turn 90° Seconds
	A	B	C	D	E	F		
2B4-E01X	3.00 (76.20)	1.50 (38.10)	1.00 (25.40)	0.50 (12.70)	0.28 (7.11)	3.00 (76.20)	120 VAC	7
2B4-E02X							240 VAC	
2B4-E03X							24 VDC	
2B6-E01X	3.00 (76.20)	1.50 (38.10)	1.50 (38.10)	0.75 (19.05)	0.34 (8.64)	3.00 (76.20)	120 VAC	7
2B6-E02X							240 VAC	
2B6-E03X							24 VDC	
3BD3-E01X	3.00 (76.20)	1.50 (38.10)	1.00 (25.40)	0.50 (12.70)	0.28 (7.11)	3.00 (76.20)	120 VAC	7
3BD3-E02X							240 VAC	
3BD3-E03X							24 VDC	
3BD6-E01X	3.00 (76.20)	1.50 (38.10)	1.50 (38.10)	0.75 (19.05)	0.34 (8.64)	3.00 (76.20)	120 VAC	7
3BD6-E02X							240 VAC	
3BD6-E03X							24 VDC	

* Add the suffix **-E01X**, **-E02X** or **-E03X** to the appropriate valve catalog number for a complete valve assembly
Actuators do not have repair kits and must be returned to factory for repair.

SPECIFICATIONS:

- 3/4" NPT female conduit connection
- Manual Override
- Powder coated aluminum housing
- CE & CSA approved
- ATEX Explosion-Proof enclosure II 2 G, E Ex d IIB T4, IP67
- Limit switches (SPDT) as standard
- 120 & 240 Volt are 50/60 Hz, for other voltages consult factory
- Actuator operating temperature: -4°F to 158°F (-20°C to 70°C)
- Weight (all models): 16.4 lbs.
- Designed to comply with NEMA 7 Explosion Proof
- Watertight enclosure (IP68 10M 72HR)
- For other options consult factory



Actuators: Electric Explosion Proof Operated Ball Valves (E01X, E02X, E03X)

Explosion-proof, NEMA 7 Enclosure, ATEX Ex d IIB T4, IP67

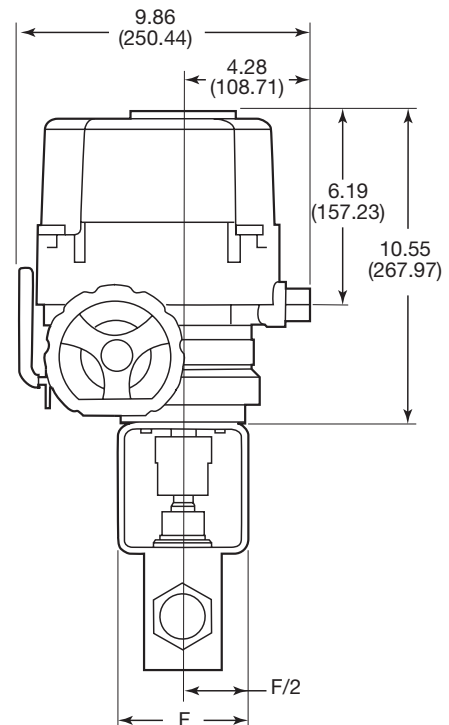
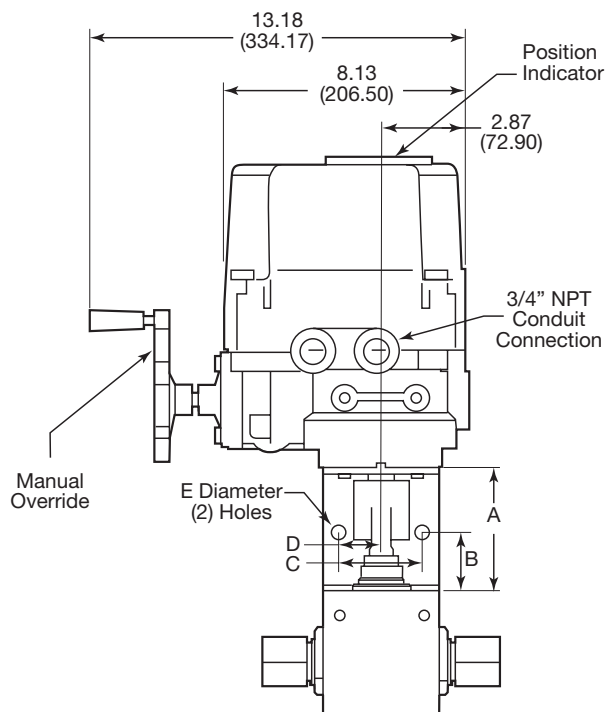
90° Actuation only

Valve Series*	Dimension Data - Inches (mm)						Voltage	Time to Turn 90° Seconds
	A	B	C	D	E	F		
2B8-E01X	3.00 (76.20)	1.50 (38.10)	2.00 (50.80)	1.00 (25.40)	0.56 (14.22)	3.00 (76.20)	120 VAC	7
2B8-E02X							240 VAC	
2B8-E03X							24 VDC	
3BD8-E01X	3.00 (76.20)	1.50 (38.10)	2.00 (50.80)	1.00 (25.40)	0.56 (14.22)	3.00 (76.20)	120 VAC	7
3BD8-E02X							240 VAC	
3BD8-E03X							24 VDC	
4B6-E01X	3.00 (76.20)	1.50 (38.10)	2.00 (50.80)	1.00 (25.40)	0.56 (14.22)	3.00 (76.20)	120 VAC	7
4B6-E02X							240 VAC	
4B6-E03X							24 VDC	

* Add the suffix **-E01X**, **-E02X** or **-E03X** to the appropriate valve catalog number for a complete valve assembly
Actuators do not have repair kits and must be returned to factory for repair.

SPECIFICATIONS:

- 3/4" NPT female conduit connection
- Manual Override
- Powder coated aluminum housing
- CE & CSA approved
- ATEX Explosion-Proof enclosure II 2 G, E Ex d IIB T4, IP67
- Limit switches (SPDT) as standard
- 120 & 240 Volt are 50/60 Hz, for other voltages consult factory
- Actuator operating temperature: -4°F to 158°F (-20°C to 70°C)
- Weight (all models): 36.7 lbs.
- Designed to comply with NEMA 7 Explosion Proof
- Watertight enclosure (IP68 10M 72HR)
- For other options consult factory



Actuators: Electric Explosion Proof Operated Ball Valves (E01X, E02X)

Explosion-proof, NEMA 7 Enclosure, ATEX Ex d IIB T4, IP67

90° Actuation only

Valve Series*	Dimension Data - Inches (mm)						Voltage	Time to Turn 90° Seconds	Weight lbs.	Figure
	A	B	C	D	E	F				
2B12-E01X	5.00 (127.00)	2.50 (63.50)	3.25 (82.55)	1.63 (41.400)	0.53 (13.46)	5.00 (127.00)	120 VAC	8.5	50.8	1
2B12-E02X							240 VAC			
2B16-E01X	6.00 (152.40)	3.00 (76.20)	3.25 (82.55)	1.63 (41.40)	0.53 (13.46)	6.00 (152.40)	120 VAC	10.5	64.0	2
2B16-E02X							240 VAC			

* Add the suffix **-E01X**, or **-E02X** to the appropriate valve catalog number for a complete valve assembly
Actuators do not have repair kits and must be returned to factory for repair.

SPECIFICATIONS:

- **E01**: Electric 120 VAC
- **E02**: Electric 240 VAC
- Manual Override
- Designed to comply with NEMA 7 Explosion Proof
- Watertight enclosure (IP68 10M 72HR)
- Limit switches (SPDT) as standard

- 3/4" NPT female conduit connection
- CE & CSA approved for NEMA 4 and 4X
- Actuator operating temperature: -4°F to 158°F (20°C to 70°C)
- Powder coated aluminum housing
- ATEX Explosion-Proof enclosure II 2 G, E Ex d IIB, T4, IP67
- For other options consult factory

Figure 1

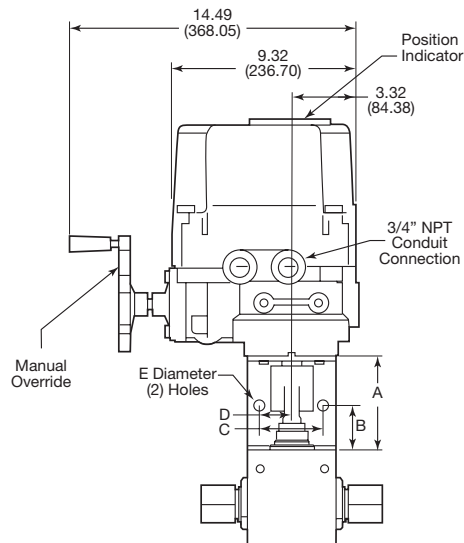


Figure 2

