

BV2H-Series Ball Valve

The BV2H valve is a full port valve and available with pneumatic or electric actuator and a variety of control options.

Applications

- Used in oil, water, and gas applications when you need a valve for isolation or control of the flow of product
- They are found in the industrial market and in the sanitary process markets on the non-process side where there is no product contact

Sizes

- 1/4", 3/8", 1/2", 1", 1-1/4", 1-1/2", 2", 2-1/2", 3"

Features

- Blow-out proof stem design
- ISO 5211 mounting pad

Specifications

- Standard connections: FNPT
- Valve data
 - Maximum pressure
 - 1/4" to 2": **1000 PSI WOG**
 - 2-1/2" to 3": **800 PSI WOG**
 - Operating temperature range
 - 1/4" to 2": **-20°F to 350°F (-28°C to 177°C)**
 - 2-1/2" to 3": **-20°F to 310°F (-28°C to 154°C)**
- Actuator: ISO 5211 mounting pad connection
- Materials of construction
 - Product contact metal components: CF8M stainless steel
 - Product contact seals: RTFE
- Surface finish
 - Product Contact Metal Components: ≤ 32 Ra
 - Seat lubricant: BESSIL F-100



| Size | ISO 5211 Mounting Pad Connections | | Stem Width (mm) | Stem Height (mm) |
|--------|-----------------------------------|-----|-----------------|------------------|
| 1/4" | F03 | F04 | 9 | 9 |
| 3/8" | F03 | F04 | 9 | 10 |
| 1/2" | F03 | F04 | 9 | 10 |
| 3/4" | F03 | F04 | 9 | 11 |
| 1" | F04 | F05 | 11 | 12.5 |
| 1-1/4" | F04 | F05 | 11 | 14 |
| 1-1/2" | F05 | F07 | 14 | 17 |
| 2" | F05 | F07 | 14 | 17 |
| 2-1/2" | F07 | F10 | 17 | 18.5 |
| 3" | F07 | F10 | 17 | 18.5 |

BV2H-Series Ball Valve - Part Number Key

| Valve ID | Size | Code | FNPT Connections |
|----------|--------|------|------------------|
| 2HG | 1/4" | 03 | 1 |
| | 3/8" | 04 | |
| | 1/2" | 50 | |
| | 3/4" | 75 | |
| | 1" | 10 | |
| | 1-1/4" | 13 | |
| | 1-1/2" | 15 | |
| | 2" | 20 | |
| | 2-1/2" | 25 | |
| | 3" | 30 | |

Continue to part number selection by following column 1 or 2.

| 1. Pneumatic Actuator or Spring Return Manual Handle | | | | | 2. Electric Actuator | | | |
|--|------------------|----------|---------|-----------------|---|---------|----------|----------|
| Actuator | Actuator Options | Feedback | Control | Valve Operation | Actuator | Voltage | Option 1 | Option 2 |
| 1 | XX | 00 | XX | 1 | E | B | 1 | 1 |
| Actuator | | | | | Actuator | | | |
| Code | | | | | Code | | | |
| Aluminum spring return pneumatic rack and pinion | | | | | Electric | | | |
| Aluminum double acting pneumatic rack and pinion | | | | | Oversized (1-UP) electric | | | |
| Stainless steel spring return pneumatic rack and pinion | | | | | Nema 7 electric | | | |
| Stainless steel double acting pneumatic rack and pinion | | | | | Electric with riser kit | | | |
| Dead man spring return handle | | | | | Voltage | | | |
| Technopolymer spring return pneumatic rack and pinion | | | | | Code | | | |
| None | | | | | 115VAC | | | |
| Oversized (1-UP) | | | | | 12VDC | | | |
| Actuator mounted perpendicular to flow | | | | | 24VAC | | | |
| High temp FKM elastomers | | | | | 24VDC | | | |
| Extended travel stops | | | | | 220VAC | | | |
| Riser kit | | | | | 12VAC | | | |
| Feedback | | | | | Option 1 | | | |
| Code | | | | | Code | | | |
| None | | | | | None | | | |
| Limit switch box, OPEN/CLOSE beacon, (2) SPDT mech. switches | | | | | Torque switches | | | |
| Limit switch box, OPEN/CLOSE beacon, (2) switches, magnetic reed SPDT, hermetically sealed, up to SIL3, exia ready, cULus class 1/2 div1/2 | | | | | 4-20mA input/output modulating controller | | | |
| Limit switch box, OPEN/CLOSE beacon, AS-I | | | | | Current position transmitter | | | |
| | | | | | Potentiometer | | | |
| | | | | | Local control unit | | | |

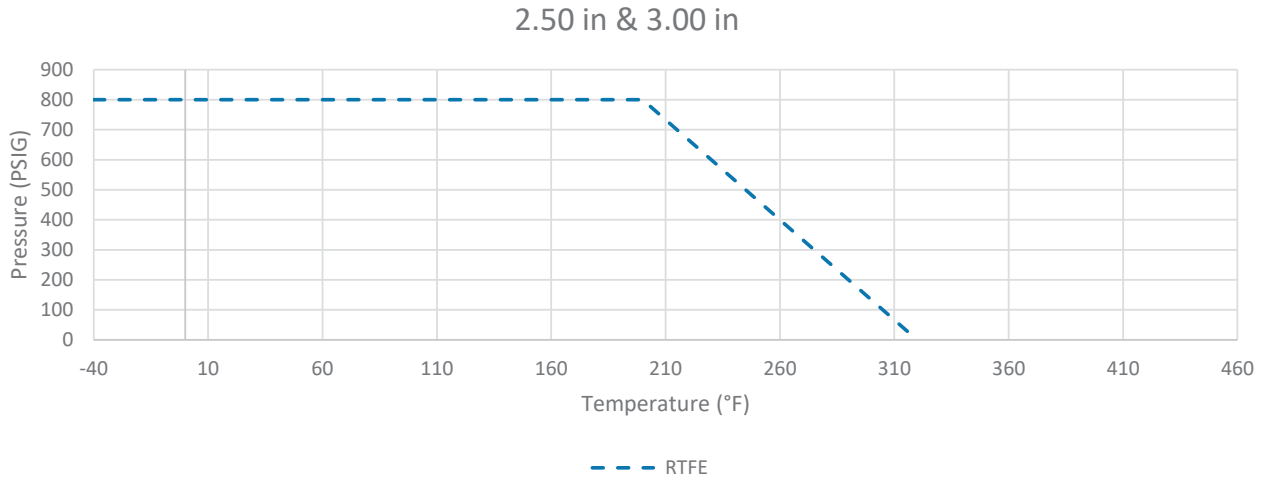
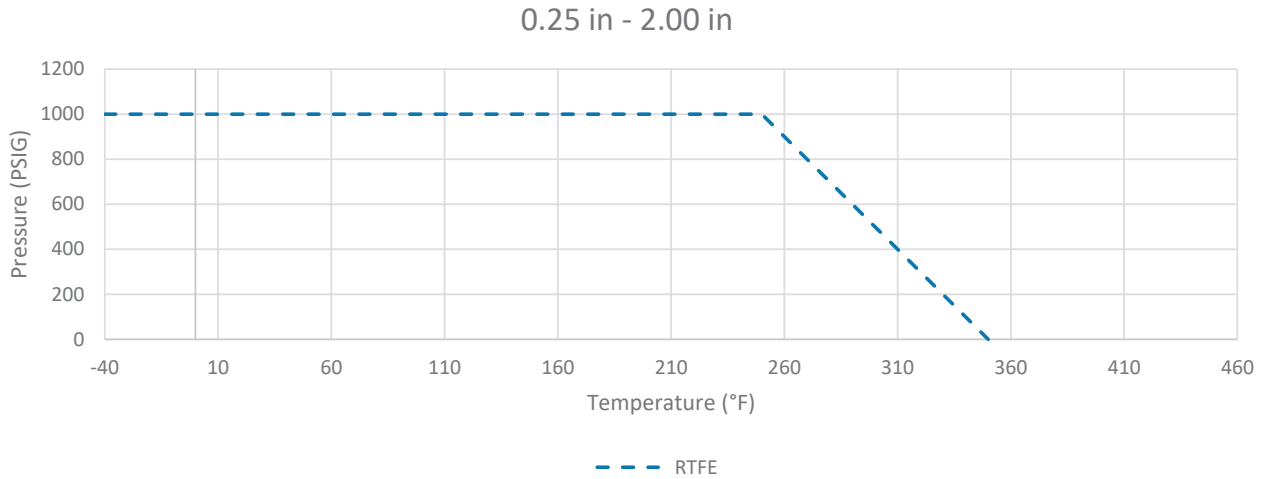
BV2H-Series Ball Valve - Part Number Key

| | | | |
|--|-------------|---|-------------|
| Limit switch box, OPEN/CLOSE beacon, (2) proximity SPDT switches, aluminum Exd IIB certified enclosure | 14 | Two extra travel cams and switches | 7 |
| Limit switch box, OPEN/CLOSE beacon, (2) DPDT mech. switches | 15 | Three position cam set | 8 |
| Limit switch box, OPEN/CLOSE beacon, (2) switches, electro mec. SPDT, silver contacts, up to SIL3, cULus Class 1/2 Div 1 | 16 | Local control unit with lock | 9 |
| Limit switch box, OPEN/CLOSE beacon, inductive proximity P+F NBB2-V3-E2, 3 wire PNP NO | 17 | 1-5V input/2-10V output modulating controller | A |
| Limit switch box, OPEN/CLOSE beacon, 4-20ma analog position transmitter | 18 | 2-10V input/output modulating controller | B |
| Limit switch box, OPEN/CLOSE beacon, SPDT proximity, 0.25A@120VAC, 0.416A@48VDC, resistive | 19 | 75% duty cycle | C |
| Limit switch box, OPEN/CLOSE beacon, 4-20ma analog position transmitter + 2 SPDT mechanical switches | 20 | Relay | D |
| Stainless steel limit switch box, OPEN/CLOSE beacon, (2) proximity SPDT switches | 21 | Four position cam set | E |
| Control | Code | 25% duty cycle (actuator code G only) | F |
| None | XX | 75% duty cycle (actuator code G only) | G |
| Single coil solenoid, 120VAC | AA | Option 2 | Code |
| Single coil solenoid, 24VDC | AB | None | 1 |
| Single coil solenoid, 12VDC | AC | Torque switches | 2 |
| Single coil solenoid, 220VAC | AD | 4-20mA input/output modulating controller | 3 |
| Dual coil solenoid, 120VAC | AE | Current position transmitter | 4 |
| Dual coil solenoid, 24VDC | AF | Potentiometer | 5 |
| Dual coil solenoid, 220VAC | AG | Local control unit | 6 |
| Pneumatic positioner 3-15psi input, no feedback | AH | Two extra travel cams and switches | 7 |
| Pneumatic positioner 3-15psi input, (2) SPDT mech. switches for feedback | AI | Three position cam set | 8 |
| Pneumatic positioner 3-15psi input, 4-20mA for feedback | AJ | Local control unit with lock | 9 |
| Electropneumatic positioner 4-20mA input, no feedback | AK | 1-5V input/2-10V output modulating controller | A |
| Electropneumatic positioner 4-20mA input, (2) SPDT mech. switches for feedback | AL | 2-10V input/output modulating controller | B |
| Electropneumatic positioner 4-20mA input, 4-20mA for feedback | AM | 75% duty cycle | C |
| Electropneumatic positioner 0-10v input, no feedback | AN | Relay | D |
| Electropneumatic positioner 0-10v input, (2) SPDT mech. switches for feedback | AO | Four position cam set | E |
| Electropneumatic positioner 0-10v input, 4-20mA for feedback | AP | 25% duty cycle (actuator code G only) | F |
| V200 rotary electropneumatic positioner 4-20mA input, 4-20mA feedback | AQ | 75% duty cycle (actuator code G only) | G |

BV2H-Series Ball Valve - Part Number Key

| | |
|---|-------------|
| Electropneumatic positioner 4-20mA input, no feedback, class 1, div II explosion proof | AR |
| Single coil solenoid, 24VDC and 24V banjo solenoid valve with form B plug | AS |
| Single coil solenoid, 24VDC, AS-I, 2.5W low power | AT |
| Single coil solenoid, 24VDC, intrinsically safe | AU |
| Single coil solenoid, 120VAC, exp. proof, class H coil | AV |
| Single coil solenoid, 24VDC, exp. proof, class H coil | AW |
| Single coil solenoid, 24VAC | AX |
| V200 rotary electropneumatic positioner 4-20mA input, 4-20mA feedback, class 1, div II explosion proof | AY |
| Single coil solenoid, 24VDC, molded LED, ind. form, 2M leads | AZ |
| TUFRAM COATED electropneumatic positioner 4-20mA input, no feedback | BA |
| V200 rotary pneumatic positioner, (2) REED SWITCH feedback | BB |
| Single coil solenoid, 24VDC, pre-wired to limit switch WITH CORDSET (dual keyway, 1/2"-20 UNF mating thread, single ended, straight female connector, 22 AWG PVC, auto color code 2P to 6P cable, 12' length) | BC |
| Single coil solenoid, 24VDC, pre-wired to limit switch, 6P MALE CONNECTOR | BD |
| Single coil solenoid, stainless steel, 24VDC | BE |
| Valve Operation | Code |
| Normally closed (spring return) | 1 |
| Normally open (spring return) | 2 |
| Fail in place (double acting) | 3 |

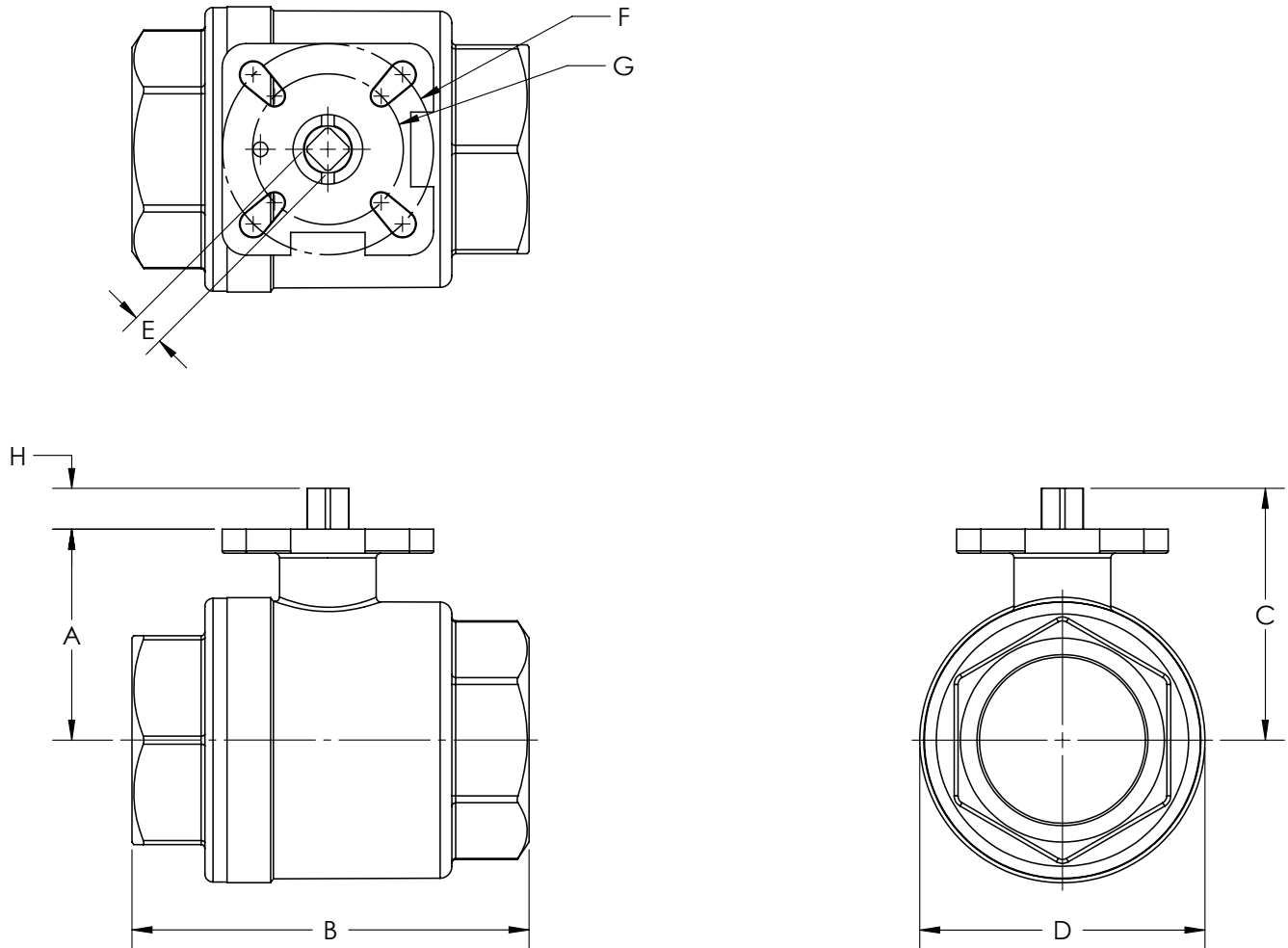
BV2H-Series Ball Valve - Pressure Drop Table



BV2H-Series Ball Valve - Weight & Break Torque Chart

| Part Number | Size | Break Torque (in-lbs) | Weight (lbs) |
|-------------|--------|-----------------------|--------------|
| BV2HG-02511 | 1/4" | 12 | 0.53 |
| BV2HG-03811 | 3/8" | 46 | 0.53 |
| BV2HG-05011 | 1/2" | 70 | 0.66 |
| BV2HG-07511 | 3/4" | 125 | 1.12 |
| BV2HG-10011 | 1" | 136 | 1.87 |
| BV2HG-12511 | 1-1/4" | 193 | 2.76 |
| BV2HG-15011 | 1-1/2" | 195 | 4.45 |
| BV2HG-20011 | 2" | 377 | 6.30 |
| BV2HG-25011 | 2-1/2" | 1250 | 11.62 |
| BV2HG-30011 | 3" | 1450 | 24.69 |

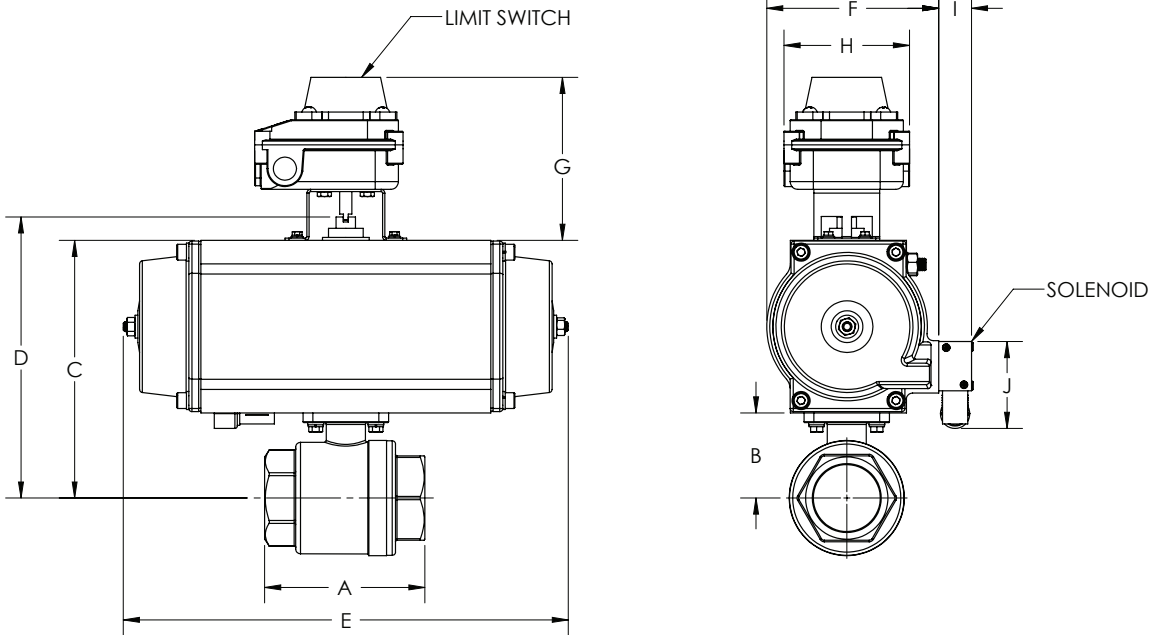
BV2H-Series Ball Valve - Dimensions



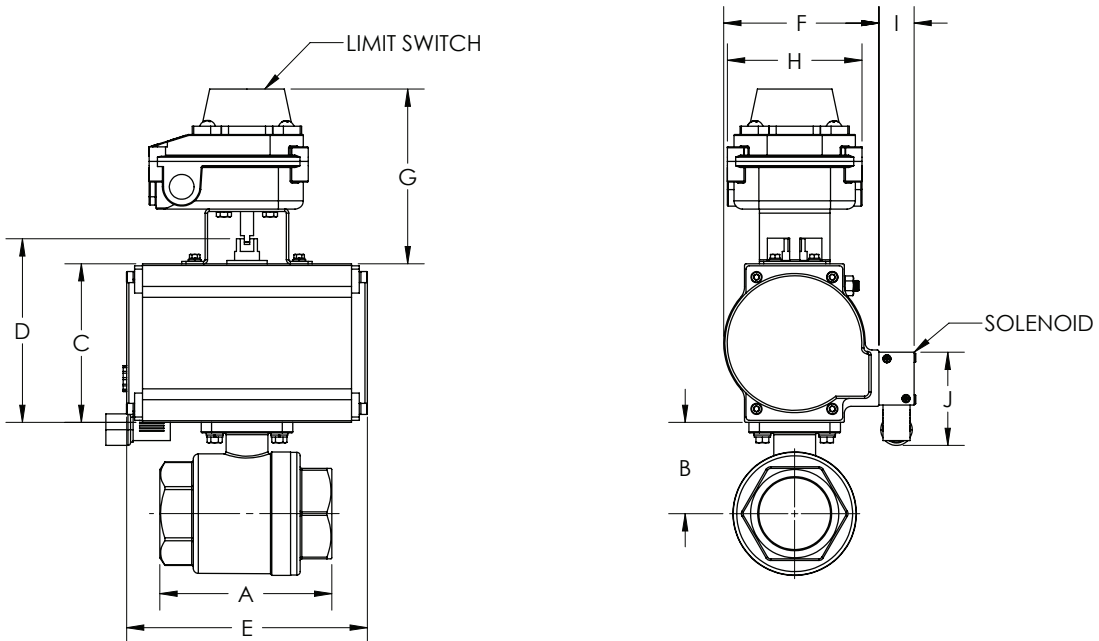
| Size | A (in) | B (in) | C (in) | D (in) | E (mm) | F (ISO 5211) | G (ISO 5211) | H (mm) |
|--------|--------|--------|--------|--------|--------|--------------|--------------|--------|
| 1/4" | 1.1 | 2.2 | 1.7 | 1.4 | 9.0 | F04 | F03 | 11 |
| 3/8" | 1.1 | 2.2 | 1.5 | 1.2 | 9.0 | F04 | F03 | 11 |
| 1/2" | 2.4 | 2.4 | 3.0 | 1.5 | 9.0 | F04 | F03 | 12 |
| 3/4" | 3.0 | 3.0 | 3.6 | 1.9 | 9.0 | F04 | F03 | 10 |
| 1" | 3.4 | 3.4 | 4.1 | 2.3 | 9.0 | F05 | F04 | 10 |
| 1-1/4" | 3.9 | 3.9 | 4.6 | 2.8 | 9.0 | F05 | F04 | 13 |
| 1-1/2" | 4.5 | 4.5 | 5.3 | 3.2 | 11.0 | F07 | F05 | 17 |
| 2" | 5.2 | 5.2 | 6.0 | 3.9 | 11.0 | F07 | F05 | 14 |
| 2-1/2" | 4.1 | 6.6 | 4.8 | 4.6 | 17.0 | F10 | F07 | 17 |
| 3" | 4.6 | 7.5 | 5.3 | 5.5 | 17.0 | F10 | F07 | 21 |

BV2H-Series Ball Valve - Dimensions

Actuated Spring Return



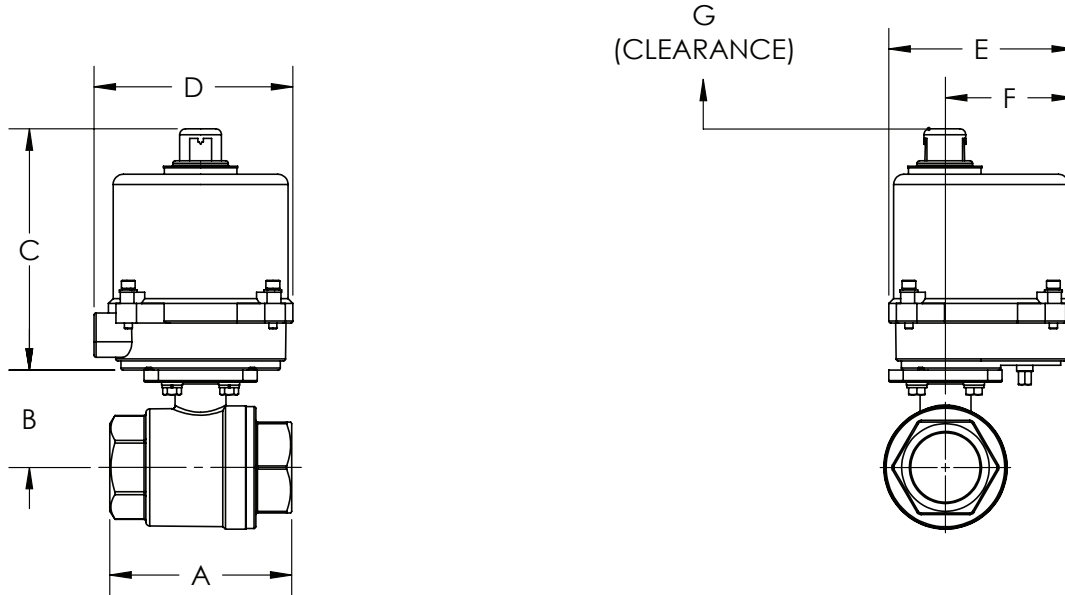
Actuated Double Acting



NOTE: For more information on actuation accessories see relevant EPRG for actuator, limit switch, and solenoid
 Pictured with optional limit switch and solenoid.

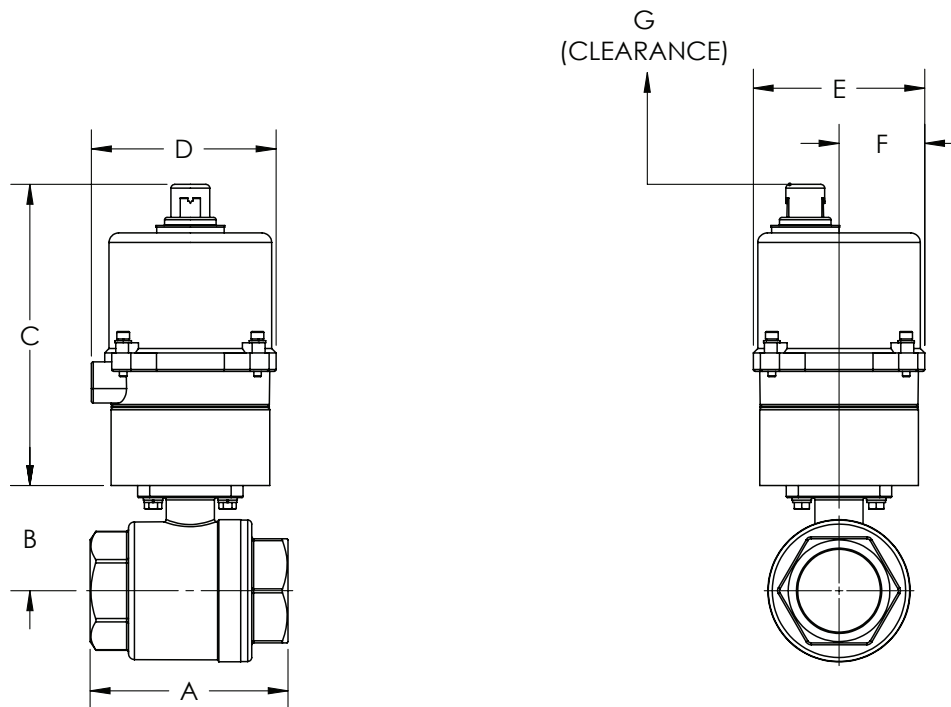
BV2H-Series Ball Valve - Dimensions

Actuated Electric



NOTE: Electric actuator shown is BEOM-1 series. For more information on actuation accessories, see relevant EPRG for electric actuators.

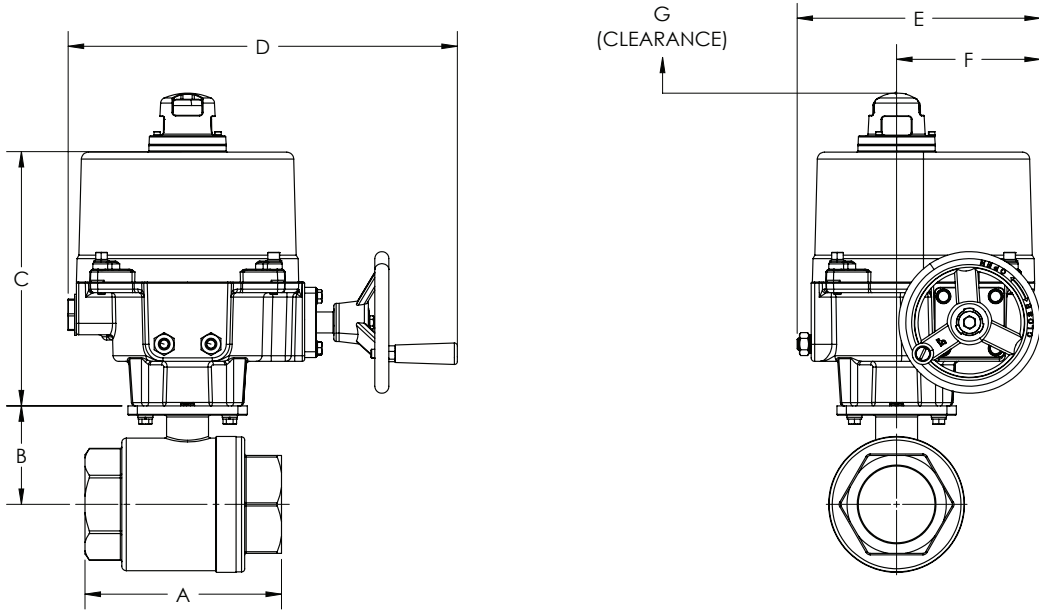
Actuated Electric



NOTE: Electric actuator shown is BEOM-A series. For more information on actuation accessories, see relevant EPRG for electric actuators.

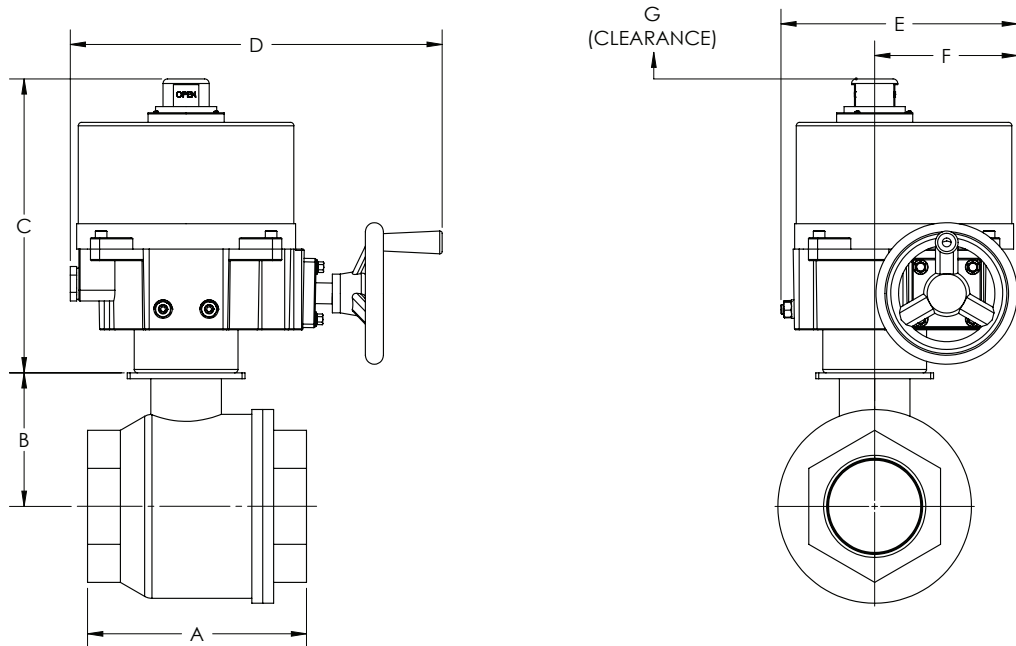
BV2H-Series Ball Valve - Dimensions

Actuated Electric



NOTE: Electric actuator shown is BM-2 series. For more information on actuation accessories, see relevant EPRG for electric actuators.

Actuated Electric



NOTE: Electric actuator shown is OM-3 series. For more information on actuation accessories, see relevant EPRG for electric actuators.

BV2H-Series Ball Valve - Dimensions

Spring Return

| Size | A (in) | B (in) | RP-BA Series Actuator | C (in) | D (in) | E (in) | F(in) | G (in) | H (in) | I (in) | J (in) |
|--------|--------|--------|-----------------------|--------|--------|--------|-------|---------------|--------|----------|--------|
| | | | | | | | | XLS-B4 Series | | X Series | |
| 1/4" | 2.17 | 1.06 | RP-BA-025-SR | 3.10 | 3.83 | 7.66 | 3.20 | 5.27 | 4.06 | 1.07 | 2.81 |
| 3/8" | 2.17 | 1.06 | | | | | | | | | |
| 1/2" | 2.40 | 2.40 | | | | | | | | | |
| 3/4" | 2.99 | 2.99 | | | | | | | | | |
| 1" | 3.43 | 3.43 | RP-BA-025-SR05 | 3.10 | 3.83 | 7.66 | 3.20 | 5.27 | 4.06 | 1.07 | 2.81 |
| 1-1/4" | 3.94 | 3.94 | RP-BA-045-SR | 3.68 | 4.63 | 8.09 | 3.72 | | | | |
| 1-1/2" | 4.49 | 4.49 | RP-BA-101-SR | 4.79 | 5.54 | 9.84 | 4.68 | | | | |
| 2" | 5.20 | 5.20 | RP-BA-225-SR | 5.58 | 6.34 | 13.98 | 5.56 | 5.27 | 4.06 | 1.07 | 2.81 |
| 2-1/2" | 6.61 | 4.13 | | | | | | | | | |
| 3" | 7.48 | 4.56 | | | | | | | | | |

Double Acting

| Size | A (in) | B (in) | RP-BA Series Actuator | C (in) | D (in) | E (in) | F(in) | G (in) | H (in) | I (in) | J (in) |
|--------|--------|--------|-----------------------|--------|--------|--------|-------|---------------|--------|----------|--------|
| | | | | | | | | XLS-B4 Series | | X Series | |
| 1/4" | 2.17 | 1.06 | RP-BA-012-DA | 2.60 | 3.39 | 4.72 | 2.93 | 5.27 | 4.06 | 1.07 | 2.81 |
| 3/8" | 2.17 | 1.06 | | | | | | | | | |
| 1/2" | 2.40 | 2.40 | | | | | | | | | |
| 3/4" | 2.99 | 2.99 | | | | | | | | | |
| 1" | 3.43 | 3.43 | RP-BA-025-DA05 | 3.1 | 3.87 | 5.68 | 3.2 | 5.27 | 4.06 | 1.07 | 2.81 |
| 1-1/4" | 3.94 | 3.94 | RP-BA-045-DA | 3.86 | 4.63 | 5.87 | 3.72 | | | | |
| 1-1/2" | 4.49 | 4.49 | RP-BA-101-DA | 4.79 | 5.54 | 7.20 | 4.77 | 5.27 | 4.06 | 1.07 | 2.81 |
| 2" | 5.20 | 5.20 | | | | | | | | | |
| 2-1/2" | 6.61 | 4.13 | | | | | | | | | |
| 3" | 7.48 | 4.56 | | | | | | | | | |

Electric

| Size | A (in) | B (in) | Electric Actuator Series | C (in) | D (in) | E (in) | F (in) | G (in) |
|--------|--------|--------|--------------------------|--------|--------|--------|--------|--------|
| 1/4" | 2.17 | 1.06 | OM-1 | 6.02 | 4.80 | 4.49 | 3.11 | 4.72 |
| 3/8" | 2.17 | 1.06 | | | | | | |
| 1/2" | 2.40 | 2.40 | | | | | | |
| 3/4" | 2.99 | 2.99 | | | | | | |
| 1" | 3.43 | 3.43 | | | | | | |
| 1-1/4" | 3.94 | 3.94 | | | | | | |
| 1-1/2" | 4.49 | 4.49 | OM-A | 7.83 | 4.80 | 4.49 | 2.24 | 4.72 |
| 2" | 5.20 | 5.20 | BM-2 | 7.68 | 6.34 | 6.06 | 4.33 | 4.72 |
| 2-1/2" | 6.61 | 4.13 | OM-3 | 10.55 | 12.84 | 7.13 | 4.84 | 6.50 |
| 3" | 7.48 | 4.56 | | | | | | |

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