

# VX Series Automated Ball Valves

## Product Data Sheet



## introduction

### < STANDARDS >



ASTM D1784  
ASTM D2464  
ASTM D2466  
ASTM D2467  
ASTM F437  
ASTM F439  
ASTM F1498



ANSI B1.20.1

IPEX VX Series Automated Ball Valves are ideal for general purpose and O.E.M. applications. These valves feature an ultra-compact double block design, and full port bi-directional operation. The true union design allows the valve to be easily removed from the piping system and fully serviced. A threaded seat stop carrier provides improved seal integrity under tough service conditions. VX Series Automated Ball Valves are part of our complete systems of pipe, valves, and fittings, engineered and manufactured to our strict quality, performance, and dimensional standards.

#### Valve Availability

|                   |  |
|-------------------|--|
| Body Material:    | PVC, CPVC  |
| Size Range:       | 1/2" through 2"  |
| Pressure:         | 232psi   |
| Seats:            | Teflon® (PTFE)   |
| Seals:            | EPDM or Viton® (FKM)                                       |
| End Connections:  | Socket (IPS), Threaded (FNPT)                              |
| Actuator Control: | Double Acting Pneumatic, Spring Return Pneumatic, Electric |

# VX Series Automated Ball Valves

## Sample Specification



### 1.0 Ball Valves - VX

#### 1.1 Material

- The valve body, stem, ball and unions shall be made of PVC compound which shall meet or exceed the requirements of cell classification 12454 according to ASTM D1784.
- or The valve body, stem, ball and unions shall be made of Corzan® CPVC compound which shall meet or exceed the requirements of cell classification 23447 according to ASTM D1784.

#### 1.2 Seats

- The ball seats shall be made of Teflon® (PTFE).

#### 1.3 Seals

- The o-ring seals shall be made of EPDM.
- or The o-ring seals shall be made of Viton® (FKM).

- 1.4 All wetted parts of the valves shall comply with standards that are equivalent to NSF Standard 61 for potable water.

### 2.0 Connections

#### 2.1 Socket Style

- The IPS socket PVC end connectors shall conform to the dimensional standards ASTM D2466 and ASTM D2467.
- or The IPS socket CPVC end connectors shall conform to the dimensional standard ASTM F439.

#### 2.2 Threaded Style

- The female NPT threaded PVC end connectors shall conform to the dimensional standards ASTM D2464, ASTM F1498, and ANSI B1.20.1.
- or The female NPT threaded CPVC end connectors shall conform to the dimensional standards ASTM F437, ASTM F1498, and ANSI B1.20.1.

### 3.0 Design Features

- The valve shall be double blocking with union ends.
- All valves shall be full port.
- All valves shall allow for bi-directional flow.
- The valve body shall be single end entry with a threaded carrier (ball seat support).
- The threaded carrier shall be adjustable with the valve installed.
- The valve body shall have an expansion and contraction compensating groove on the molded end.

# VX Series Automated Ball Valves

## *Sample Specification (cont'd)*



- The valve body, union nuts, and carrier shall have deep square style threads for increased strength.
- The ball and stem shall be machined smooth to minimize wear on valve seats and seals.
- The stem design shall feature a shear point above the o-ring to maintain system integrity in the unlikely event of a stem breakage.

### **3.1 Pressure Tested**

- All valves shall have been pressure tested in both the open and closed positions by the manufacturer.

### **3.2 Pressure Rating**

- All valves shall be rated at 232psi at 73°F.

### **3.3 Markings**

- All valves shall be marked to indicate size, material designation, and manufacturers name or trade mark.

### **3.4 Color Coding**

- All PVC valves shall be color-coded dark gray.
- or All CPVC valves shall be color-coded light gray.

**4.0** All valves shall be Xirtec®140 or Corzan® by IPEX or approved equal.

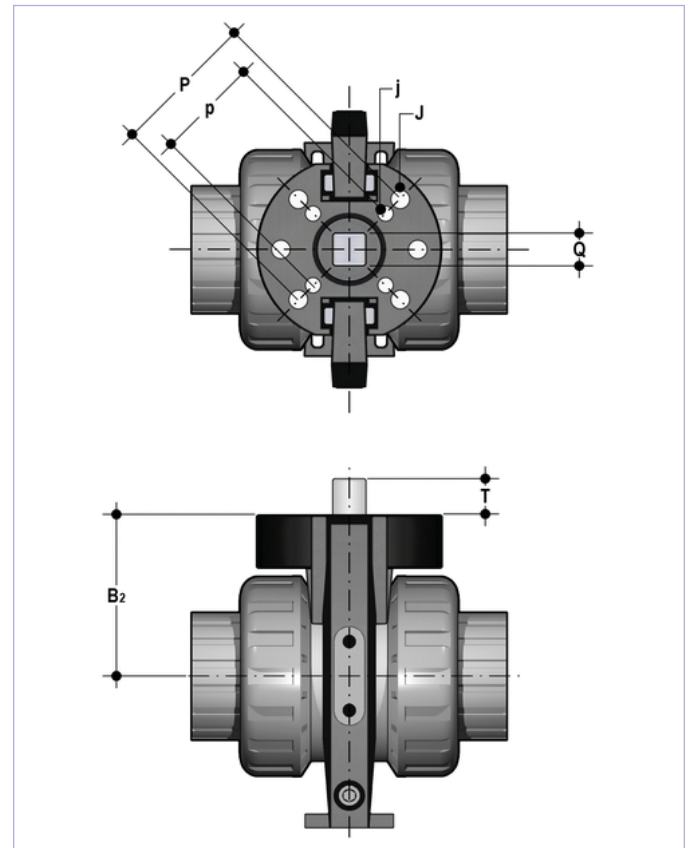
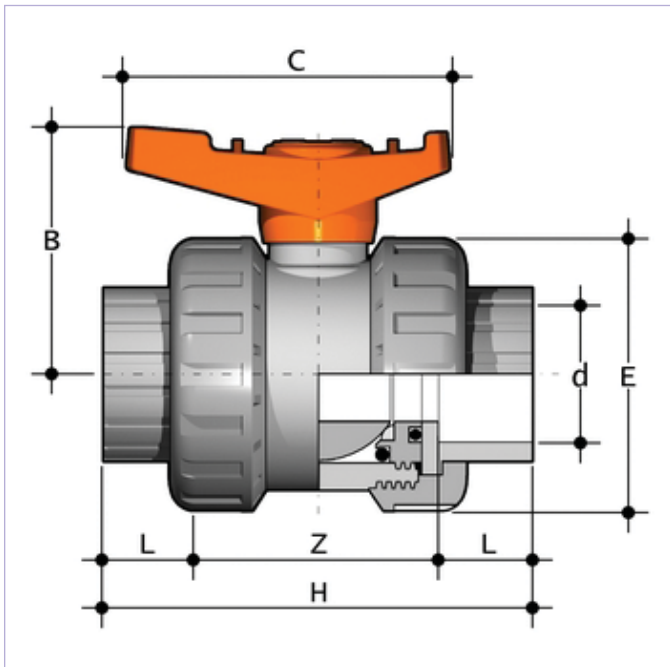
### **5.0 Actuators**

- All actuators shall be factory installed by IPEX.
- Pneumatic actuators shall be dual piston rack and pinion design, sized for 80psi control air pressure.
- Electric actuators shall have 110 VAC reversing motors, torque limiters, thermal protection, and NEMA 4 or equivalent housings.

# VX Series Automated Ball Valves

## Technical Data

### dimensions



| Dimensions (inches) |      |      |      |      |      |      |      |
|---------------------|------|------|------|------|------|------|------|
| Size                | d    | L    | Z    | H    | E    | B    | C    |
| 1/2                 | 0.84 | 0.89 | 2.01 | 3.78 | 2.09 | 1.97 | 2.56 |
| 3/4                 | 1.05 | 1.00 | 2.13 | 4.13 | 2.44 | 2.28 | 2.99 |
| 1                   | 1.32 | 1.13 | 2.34 | 4.61 | 2.80 | 2.56 | 3.35 |
| 1-1/4               | 1.66 | 1.26 | 2.83 | 5.35 | 3.31 | 2.99 | 3.94 |
| 1-1/2               | 1.90 | 1.38 | 3.03 | 5.79 | 3.86 | 3.35 | 4.41 |
| 2                   | 2.38 | 1.50 | 3.84 | 6.85 | 4.61 | 4.06 | 5.39 |

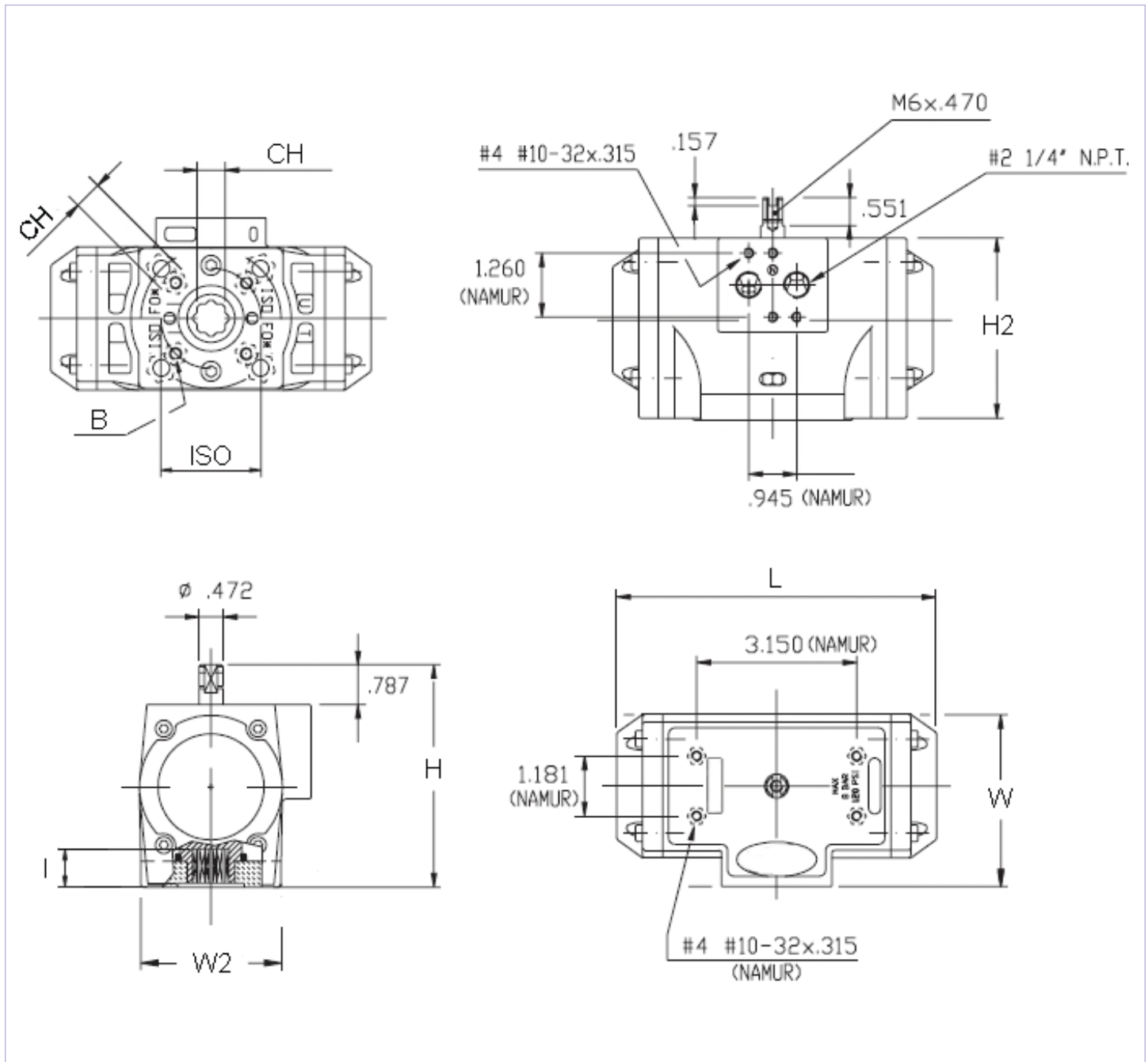
| Dimensions (inches) |                |             |             |         |             |
|---------------------|----------------|-------------|-------------|---------|-------------|
| Size                | B <sub>2</sub> | T           | Q           | p / P   | j / J       |
| 1/2                 | 1.86           | 0.43        | 0.43        | F04/F05 | 0.22 / 0.26 |
| 3/4                 | 2.12           | 0.43        | 0.43        | F04/F05 | 0.22 / 0.26 |
| 1                   | 2.29           | 0.43        | 0.43        | F04/F05 | 0.22 / 0.26 |
| 1-1/4               | 2.69           | 0.43        | 0.43        | F04/F05 | 0.22 / 0.26 |
| 1-1/2               | 3.13           | 0.47 / 0.58 | 0.43 / 0.55 | F05/F07 | 0.26 / 0.33 |
| 2                   | 3.60           | 0.47 / 0.58 | 0.43 / 0.55 | F05/F07 | 0.26 / 0.33 |

# VX Series Automated Ball Valves

## Technical Data (cont'd)

### pneumatic actuator dimensions

models UT11, UT14, UT19



# VX Series Automated Ball Valves

## Technical Data (cont'd)

### pneumatic actuator dimensions (cont'd)

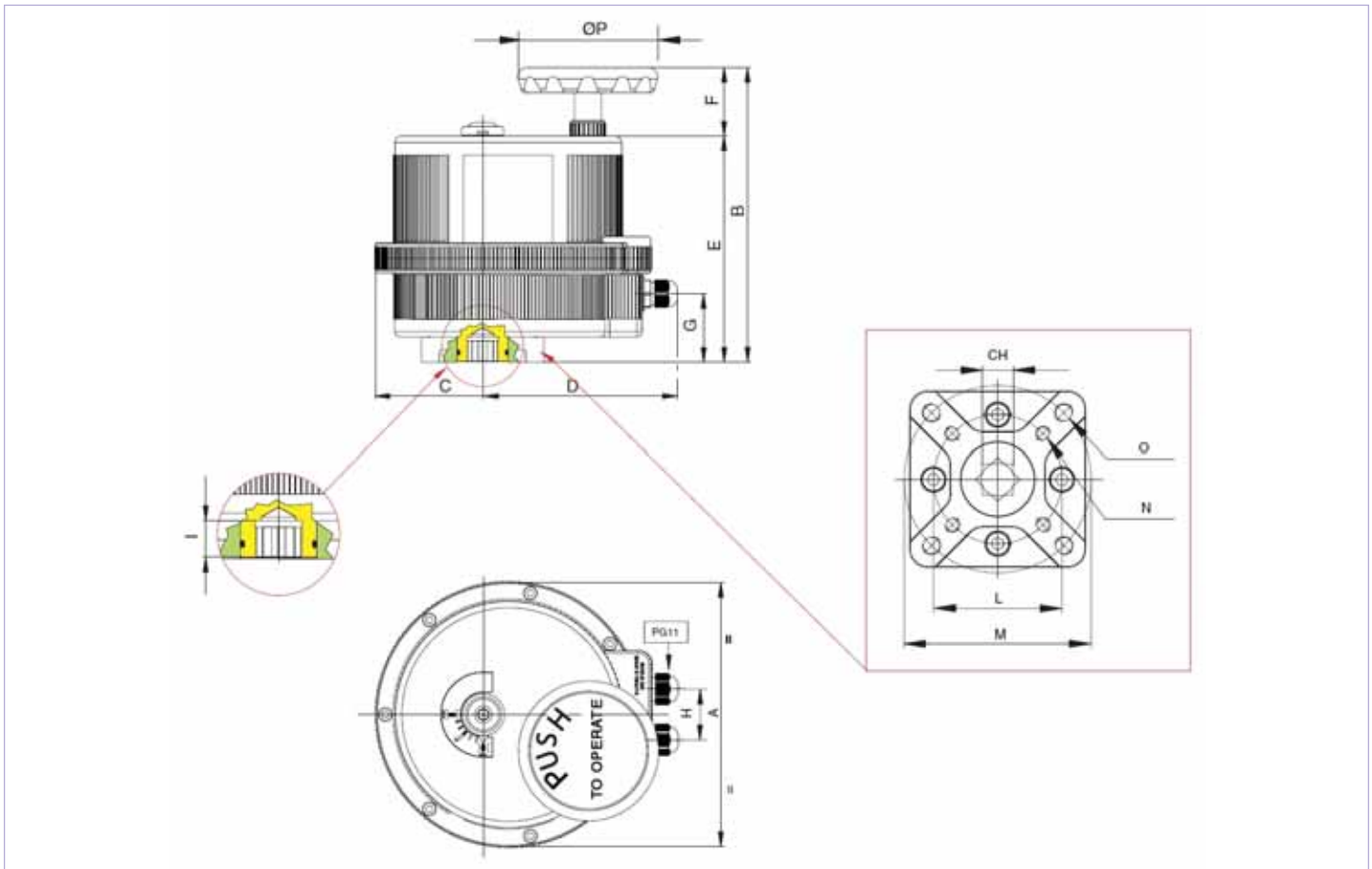
| Valve Size | Double Acting Model | ISO       | Dimensions (inches) |      |      |                |      |                |      |                   |
|------------|---------------------|-----------|---------------------|------|------|----------------|------|----------------|------|-------------------|
|            |                     |           | CH                  | L    | W    | W <sub>2</sub> | H    | H <sub>2</sub> | I    | B                 |
| 1/2        | UT11DA              | F04       | 0.43                | 4.69 | 2.64 | 2.09           | 3.58 | 2.76           | 0.49 | 10-32 UNF x 0.40  |
| 3/4        | UT11DA              | F04       | 0.43                | 4.69 | 2.64 | 2.09           | 3.58 | 2.76           | 0.49 | 10-32 UNF x 0.40  |
| 1          | UT11DA              | F04       | 0.43                | 4.69 | 2.64 | 2.09           | 3.58 | 2.76           | 0.49 | 10-32 UNF x 0.40  |
| 1-1/4      | UT11DA              | F04       | 0.43                | 4.69 | 2.64 | 2.09           | 3.58 | 2.76           | 0.49 | 10-32 UNF x 0.40  |
| 1-1/2      | UT14DA              | F05 / F07 | 0.55                | 6.30 | 3.39 | 2.76           | 4.37 | 3.54           | 0.75 | 1/4-20 UNC x 0.51 |
| 2          | UT14DA              | F05 / F07 | 0.55                | 6.30 | 3.39 | 2.76           | 4.37 | 3.54           | 0.75 | 1/4-20 UNC x 0.51 |

| Valve Size | Spring Return Model | ISO       | Dimension (inches) |      |      |                |      |                |      |                    |
|------------|---------------------|-----------|--------------------|------|------|----------------|------|----------------|------|--------------------|
|            |                     |           | CH                 | L    | W    | W <sub>2</sub> | H    | H <sub>2</sub> | I    | B                  |
| 1/2        | UT11S2              | F04       | 0.43               | 4.69 | 2.64 | 2.09           | 3.58 | 2.76           | 0.49 | 10-32 UNF x 0.40   |
| 3/4        | UT11S2              | F04       | 0.43               | 4.69 | 2.64 | 2.09           | 3.58 | 2.76           | 0.49 | 10-32 UNF x 0.40   |
| 1          | UT14S4              | F05 / F07 | 0.55               | 6.30 | 3.39 | 2.76           | 4.37 | 3.54           | 0.75 | 1/4-20 UNC x 0.51  |
| 1-1/4      | UT14S4              | F05 / F07 | 0.55               | 6.30 | 3.39 | 2.76           | 4.37 | 3.54           | 0.75 | 1/4-20 UNC x 0.51  |
| 1-1/2      | UT19S5              | F05 / F07 | 0.67               | 6.89 | 3.98 | 2.76           | 5.22 | 4.39           | 0.91 | 5/16-18 UNC x 0.51 |
| 2          | UT19S5              | F05 / F07 | 0.67               | 6.89 | 3.98 | 2.76           | 5.22 | 4.39           | 0.91 | 5/16-18 UNC x 0.51 |

# VX Series Automated Ball Valves

## Technical Data (cont'd)

### electric actuator dimensions



| Dimensions (inches) |                |           |      |      |      |      |      |      |      |      |      |      |      |      |                  |                   |
|---------------------|----------------|-----------|------|------|------|------|------|------|------|------|------|------|------|------|------------------|-------------------|
| Valve Size          | Actuator Model | ISO       | CH   | A    | B    | C    | D    | E    | F    | G    | H    | I    | L    | M    | N                | O                 |
| 1/2                 | VB015          | F03 / F05 | 0.43 | 4.84 | 6.28 | 1.67 | 4.78 | 5.67 | 0.61 | 4.35 | 1.26 | 0.47 | 1.42 | 1.97 | 10-24 UNC x 0.55 | 1/4-20 UNC x 0.55 |
| 3/4                 | VB015          | F03 / F05 | 0.43 | 4.84 | 6.28 | 1.67 | 4.78 | 5.67 | 0.61 | 4.35 | 1.26 | 0.47 | 1.42 | 1.97 | 10-24 UNC x 0.55 | 1/4-20 UNC x 0.55 |
| 1                   | VB015          | F03 / F05 | 0.43 | 4.84 | 6.28 | 1.67 | 4.78 | 5.67 | 0.61 | 4.35 | 1.26 | 0.47 | 1.42 | 1.97 | 10-24 UNC x 0.55 | 1/4-20 UNC x 0.55 |
| 1-1/4               | VB015          | F03 / F05 | 0.43 | 4.84 | 6.28 | 1.67 | 4.78 | 5.67 | 0.61 | 4.35 | 1.26 | 0.47 | 1.42 | 1.97 | 10-24 UNC x 0.55 | 1/4-20 UNC x 0.55 |
| 1-1/2               | VB015          | F03 / F05 | 0.43 | 4.84 | 6.28 | 1.67 | 4.78 | 5.67 | 0.61 | 4.35 | 1.26 | 0.47 | 1.42 | 1.97 | 10-24 UNC x 0.55 | 1/4-20 UNC x 0.55 |
| 2                   | VB030          | F03 / F05 | 0.43 | 6.18 | 7.39 | 2.38 | 5.01 | 5.75 | 1.64 | 1.30 | 1.42 | 0.47 | 1.42 | 1.97 | 10-24 UNC x 0.55 | 1/4-20 UNC x 0.55 |

# VX Series Automated Ball Valves

## Technical Data (cont'd)



**Note:**  
Pneumatic actuator performance is based on 80 psi available control air pressure.

### actuator technical data

| Valve Size (inches) | Dimensions              |  |          |
|---------------------|-------------------------|--|----------|
|                     | Double Acting Pneumatic | Actuator Model Spring Return Pneumatic | Electric |
| 1/2                 | UT11DA                  | UT11S2                                 | VB015    |
| 3/4                 | UT11DA                  | UT11S2                                 | VB015    |
| 1                   | UT11DA                  | UT14S4                                 | VB015    |
| 1-1/4               | UT11DA                  | UT14S4                                 | VB015    |
| 1-1/2               | UT14DA                  | UT19S5                                 | VB015    |
| 2                   | UT14DA                  | UT19S5                                 | VB030    |

### pneumatic actuator torque data

| Valve Size (inches) | Dimensions    |                 |               |                       |                              |                            |       |     |
|---------------------|---------------|-----------------|---------------|-----------------------|------------------------------|----------------------------|-------|-----|
|                     | Double Acting |                 | Spring Return |                       | Air Torque (in-lbs)          |                            |       |     |
|                     | Model         | Torque (in-lbs) | Model         | Spring Set (standard) | Spring Torque (in-lbs) Start | Spring Torque (in-lbs) End | Start | End |
| 1/2                 | UT11DA        | 125             | UT11S2        | S2                    | 66                           | 44                         | 81    | 59  |
| 3/4                 | UT11DA        | 125             | UT11S2        | S2                    | 66                           | 44                         | 81    | 59  |
| 1                   | UT11DA        | 125             | UT14S4        | S4                    | 150                          | 107                        | 168   | 125 |
| 1-1/4               | UT11DA        | 125             | UT14S4        | S4                    | 150                          | 107                        | 168   | 125 |
| 1-1/2               | UT14DA        | 275             | UT19S5        | S5                    | 307                          | 230                        | 270   | 193 |
| 2                   | UT14DA        | 275             | UT19S5        | S5                    | 307                          | 230                        | 270   | 193 |

### pneumatic actuator weights and air consumption

| Valve Size (inches) | Dimensions |               |                              |        |               |                              |
|---------------------|------------|---------------|------------------------------|--------|---------------|------------------------------|
|                     | Model      | Double Acting |                              | Model  | Spring Return |                              |
|                     |            | Weight (lbs)  | Air Cons. (in <sup>3</sup> ) |        | Weight (lbs)  | Air Cons. (in <sup>3</sup> ) |
| 1/2                 | UT11DA     | 1.26          | 13.5                         | UT11S2 | 1.44          | 8.0                          |
| 3/4                 | UT11DA     | 1.26          | 13.5                         | UT11S2 | 1.44          | 8.0                          |
| 1                   | UT11DA     | 1.26          | 13.5                         | UT14S4 | 3.06          | 10.8                         |
| 1-1/4               | UT11DA     | 1.26          | 13.5                         | UT14S4 | 3.06          | 10.8                         |
| 1-1/2               | UT14DA     | 2.62          | 22.0                         | UT19S5 | 5.16          | 17.5                         |
| 2                   | UT14DA     | 2.62          | 22.0                         | UT19S5 | 5.16          | 17.5                         |

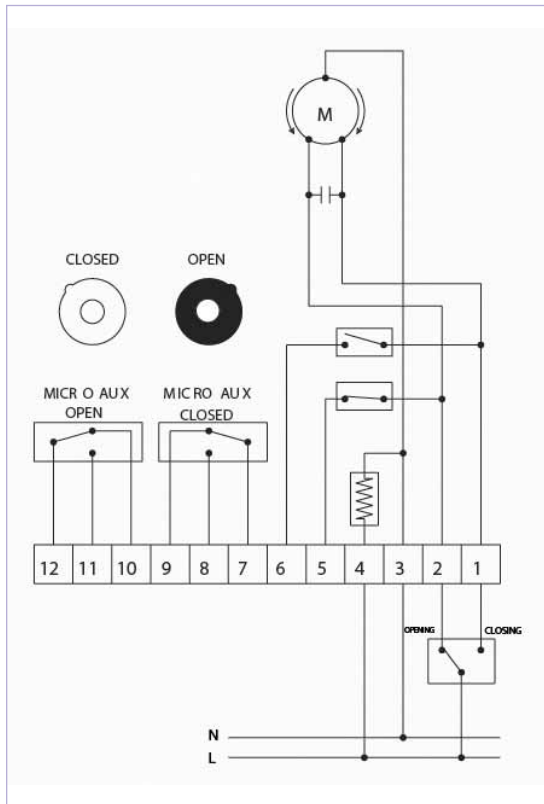


# VX Series Automated Ball Valves

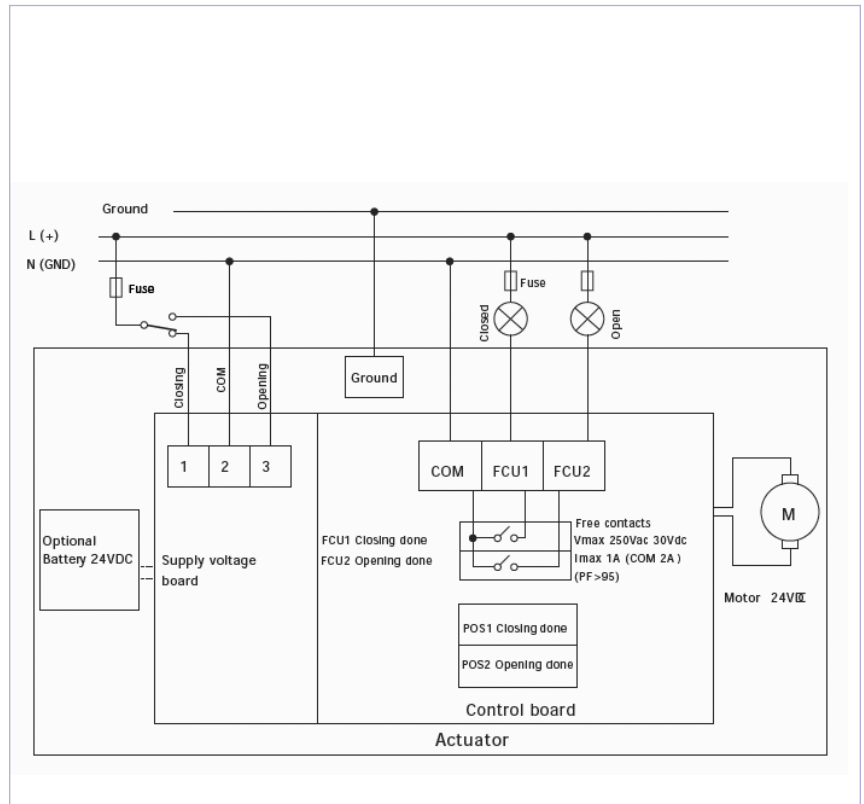
## Technical Data (cont'd)

### electrical actuator

model VB015



models VB030



| Electrical Actuator Data        |                           |               |               |
|---------------------------------|---------------------------|---------------|---------------|
| Model                           |                           | VB015         | VB030         |
| Maximum Working Torque (in-lbs) |                           | 133           | 266           |
| 1                               | Voltage                   | 110 VAC       | 100-240 VAC   |
| 2                               | Absorbed Current          | 50 mA         | 0.3-0.2 A     |
| 3                               | Absorbed Power            | 6.6 VA        | 30-48 VA      |
| 4                               | Working Time              | 25 sec        | 8 sec         |
| 5                               | Torque Limiter            | STD           | STD           |
| 6                               | Duty Rating               | 50%           | 75%           |
| 7                               | Protection                | IP 65-67      | IP 65-67      |
| 8                               | Rotation                  | 90°           | 90°           |
| 9                               | Manual Override           | STD           | STD           |
| 10                              | Position Indicator        | STD           | STD           |
| 11                              | Working Temperature       | -4°F / +131°F | -4°F / +131°F |
| 12                              | Heater                    | STD           | STD           |
| 13                              | Additional Limit Switches | 2 STD         | 2 STD         |
| 14                              | ISO 5211 Mounting         | F03 F05       | F03 F05       |
| 15                              | Square (in)               | 0.43          | 0.43          |
| 16                              | Electrical Connections    | PG11          | PG11          |
| 17                              | Weight (lbs)              | 3.09          | 5.07          |

# VX Series Automated Ball Valves

## About IPEX

IPEX is a leading supplier of thermoplastic piping systems. We provide our customers with one of the largest and most comprehensive product lines. All IPEX products are backed by over 50 years of experience. With state-of-the-art manufacturing facilities and distribution centers, the IPEX name is synonymous with quality and performance.

Our products and systems have been designed for a broad range of customers and markets. Contact us for information on:

- PVC, CPVC, PP, FR-PVDF, ABS, PEX and PE pipe and fittings (1/4" to 48")
- Industrial process piping systems
- Double containment systems
- Acid waste systems
- High purity systems
- Industrial, plumbing and electrical cements
- Municipal pressure and gravity piping systems
- Plumbing and mechanical pipe systems
- Electrical systems
- Telecommunications systems
- Irrigation systems
- PE Electrofusion systems for gas and water
- Radiant heating systems

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