Product Data Sheet



< STANDARDS >



IPEX FE Series Automated Butterfly Valves incorporate many features of our industrial FK valve, yet the all PVC construction and EPDM liner make this valve the perfect choice for water and light industrial applications. This versatile valve features double self-lubricating seals, and a special shaped liner and body cavity guaranteeing a bubble tight seal while keeping break-away torque at an absolute minimum. Inserting stainless steel lugs into special molded features in the body allows for end of line installation. FE Series Automated Butterfly 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 |
|-------------------|--|
| Disc Material: | PVC |
| Size Range: | 1-1/2" through 12" |
| Pressure: | 232psi (1-1/2" to 2") 150psi (2-1/2" to 8") 75psi (10" to 12") |
| Seats: | EPDM |
| Seals: | EPDM |
| Body Style: | Wafer |
| End Connections: | Flanged (ANSI 150) |
| Actuator Control: | Double Acting Pneumatic, Spring Return Pneumatic, Electric |





ANSI B16.5

ipexna.com Toll Free: 800 463-9572

Product Data Sheet

Sample Specification

1.0 Butterfly Valves – FE

1.1 Material

- The valve body and disc shall be made of PVC compound which shall meet or exceed the requirements of cell classification 12454 according to ASTM D1784.
- The valve shaft shall be made of zinc plated steel (sizes 1-1/2" to 8").
- The valve shaft shall be made of 420 stainless steel (sizes 10" and 12").

1.2 Seats

• The disc liner shall be made of EPDM

1.3 Seals

• The o-ring seals shall be made of EPDM.

2.0 Connections

2.1 Flanged Style

• The ANSI 150 flanged connections shall conform to the dimensional standard ANSI B16.5.

3.0 Design Features

- The valve shall be of wafer design.
- The shaft shall have standard ISO square dimensions for direct mounting of actuators.
- The disc seat shall be a trapezoidal elastomeric liner and provide a bubble tight seal.
- The liner shall completely isolate the valve body from the process flow.
- The liner shall function as a flange gasket on both sides of the valve.
- The body cavity shall feature special channeling to prevent liner slippage and compression.
- The disc, seats, and seals shall be the only wetted parts.
- Teflon[®] seated o-ring seals shall prevent the shaft from becoming wetted.

3.1 Pressure Rating

- All valves sizes 2-1/2" through 8" shall be rated at 150psi at 73°F.
- All valves sizes 10" through 12" shall be rated at 75psi at 73°F.

3.2 Markings

• All valves shall be marked to indicate size, material designation, and manufacturer's name or trade mark.

3.3 Color Coding

- All valves shall be color-coded dark gray.
- 4.0 All valves shall be Xirtec® PVC by IPEX or approved equal.

5.0 Actuators

• All Actuators shall be factory installed by IPEX

Pneumatic Actuator:

- Shall be sized for 80 psi control air pressure
- Shall be dual piston rack and pinion design with linear torque output.
- Body shall be Technopolymer UT series or Anodized Aluminum MT series with standard position indicator and NAMUR VDI/VDE 3845 and ISO 5211 mounting dimensions.
- All models shall be operable using air, water, nitrogen or compatible hydraulic fluids from 40 120psi.
- Aluminum body models shall feature dual travel stops that provide +/- 10° stroke rotation on both the opening and closing phases.
- · All external fasteners shall be stainless steel.

Electric Actuator:

- Shall have 100VAC 240VAC reversing motors with torque limiters, thermal protection, auxiliary limit switches, NEMA 4X enclosure*, manual override, and position indicator as standard.
- or Shall have 24VDC reversing motors with torque limiters, thermal protection, auxiliary limit switches, NEMA 4X enclosure*, manual override, and position indicator as standard.
- 4-20mA positioner, battery backup, and 180° rotation models shall be available in 100 – 240VAC and 24VDC
- All models shall have ISO 5211 mounting dimensions

* Type 4X Indoor Use Only Enclosure

Product Data Sheet

Valve Selection

| | | | | IPEX Part | Number | |
|------------------|------------------|------------------|-------------------------------------|---|---|--|
| Size (inches) | Disc Material | Seal Material | Pneumatic Double Acting Wafer | Pneumatic Spring Return, Normally Closed Wafer | Pneumatic Spring Return, Normally Open Wafer | Electric Double Acting, 100-240 VAC Wafer |
| 1-1/2 | PVC | EPDM | 253680 | 253690 | 253700 | 253710 |
| 2 | PVC | EPDM | 253681 | 253691 | 253701 | 253711 |
| 2-1/2 | PVC | EPDM | 253682 | 253692 | 253702 | 253712 |
| 3 | PVC | EPDM | 253683 | 253693 | 253703 | 253713 |
| 4 | PVC | EPDM | 253684 | 253694 | 253704 | 253714 |
| 5 | PVC | EPDM | 253685 | 253695 | 253705 | 253715 |
| 6 | PVC | EPDM | 253686 | 253696 | 253706 | 253716 |
| 8 | PVC | EPDM | 253687 | 253697 | 253707 | 253717 |
| 10 | PVC | EPDM | 253688 | 253698 | 253708 | - |
| 12 | PVC | EPDM | 253689 | 253699 | 253709 | - |

FOR CUSTOM CONFIGURATIONS, PLEASE CONTACT IPEX.

PP, CPVC and PVDF disc valves availabe on request.

For 10" and 12" electrically actuated valves, please contact IPEX.

For 14" and 24" actuated valves, please contact IPEX.

Product Data Sheet

Dimensions



Dimensions (inches)

| Size | DN | | B2 | B3 | Н | Amin | Amax | | # holes | Pattern |
|-------|-------|------|------|-------|-------|-------|-------|------|---------|-------------|
| 1-1/2 | 1.57 | 1.30 | 2.36 | 4.17 | 5.20 | 3.68 | 4.29 | 0.75 | 4 | square |
| 2 | 1.97 | 1.69 | 2.76 | 4.45 | 5.79 | 4.25 | 4.88 | 0.75 | 4 | square |
| 2-1/2 | 2.56 | 1.81 | 3.15 | 4.84 | 6.50 | 5.04 | 5.67 | 0.75 | 4 | square |
| 3 | 3.15 | 1.93 | 3.54 | 5.59 | 5.12 | 5.71 | 6.26 | 0.75 | 4 | rectangular |
| 4 | 3.94 | 2.20 | 4.13 | 5.98 | 5.91 | 6.50 | 7.48 | 0.75 | 4 | rectangular |
| 5 | 4.92 | 2.52 | 4.76 | 6.93 | 7.28 | 8.03 | 8.46 | 0.91 | 4 | rectangular |
| 6 | 5.91 | 2.76 | 5.20 | 7.44 | 8.27 | 9.06 | 9.53 | 0.91 | 4 | rectangular |
| 8 | 7.87 | 2.80 | 6.34 | 8.46 | 12.80 | 11.02 | 11.73 | 0.91 | 8 | square |
| 10 | 9.84 | 4.49 | 8.27 | 9.76 | 15.94 | 14.25 | 14.25 | 1.00 | 12 | square |
| 12 | 11.81 | 4.49 | 9.65 | 12.01 | 18.70 | 17.00 | 17.00 | 1.00 | 12 | square |

Sizes 1-1/2" to 8"







| | | [| Dimensions (inches) | | |
|-------|------|------|---------------------|--------------------|--------------------|
| Size | | Q | ISO | Р | |
| 1-1/2 | 0.47 | 0.43 | F05 | 1.97 | 0.28 |
| 2 | 0.47 | 0.43 | F05 | 1.97 | 0.28 |
| 2-1/2 | 0.47 | 0.43 | F05 / F07 | 1.97 / 2.76 | 0.28 / 0.35 |
| 3 | 0.63 | 0.55 | F07 | 2.76 | 0.35 |
| 4 | 0.63 | 0.55 | F07 | 2.76 | 0.35 |
| 5 | 0.75 | 0.67 | F07 | 2.76 | 0.35 |
| 6 | 0.75 | 0.67 | F07 | 2.76 | 0.35 |
| 8 | 0.94 | 0.87 | F10 | 4.02 | 0.43 |
| 10 | 0.94 | 0.87 | F10 / F12 / F14 | 4.02 / 4.92 / 5.51 | 0.43 / 0.51 / 0.67 |
| 12 | 0.94 | 0.87 | F10 / F12 / F14 | 4.02 / 4.92 / 5.51 | 0.43 / 0.51 / 0.67 |

Product Data Sheet

Pneumatic Actuator Dimensions

Models UT16, UT21, UT26, UT31, UT36, UT41, UT46, UT51, UT61









| | Dimensions (inches) | | | | | | | | | | | | |
|------------|---------------------|-----------|------|-------|------|------|------|------|------|--------------------|--|--|--|
| Valve Size | Double Acting Model | ISO | СН | | W | W2 | Н | H2 | | В | | | |
| 1-1/2 | UT16DA | F05 / F07 | 0.55 | 6.50 | 3.19 | 2.44 | 4.37 | 3.19 | 0.75 | 1/4-20 UNC x 0.51 | | | |
| 2 | UT16DA | F05 / F07 | 0.55 | 6.50 | 3.19 | 2.44 | 4.37 | 3.19 | 0.75 | 1/4-20 UNC x 0.51 | | | |
| 2-1/2 | UT16DA | F05 / F07 | 0.55 | 6.50 | 3.19 | 2.44 | 4.37 | 3.19 | 0.75 | 1/4-20 UNC x 0.51 | | | |
| 3 | UT21DA | F05 / F07 | 0.67 | 6.97 | 3.78 | 3.01 | 5.04 | 3.86 | 0.75 | 5/16-18 UNC x 0.51 | | | |
| 4 | UT21DA | F05 / F07 | 0.67 | 6.97 | 3.78 | 3.01 | 5.04 | 3.86 | 0.75 | 5/16-18 UNC x 0.51 | | | |
| 5 | UT26DA | F05 / F07 | 0.67 | 9.41 | 3.78 | 3.01 | 5.04 | 3.86 | 0.75 | 5/16-18 UNC x 0.51 | | | |
| 6 | UT31DA | F05 / F07 | 0.67 | 9.06 | 4.49 | 3.56 | 5.79 | 4.61 | 0.91 | 5/16-18 UNC x 0.51 | | | |
| 8 | UT36DA | F07 / F10 | 0.87 | 9.69 | 5.10 | 3.76 | 7.24 | 6.06 | 1.18 | 3/8-16 UNC x 0.71 | | | |
| 10 | UT51DA | F10 / F12 | 1.06 | 14.21 | 7.13 | 4.33 | 9.13 | 7.95 | 1.57 | 1/2-13 UNC x 0.79 | | | |
| 12 | UT51DA | F10 / F12 | 1.06 | 14.21 | 7.13 | 4.33 | 9.13 | 7.95 | 1.57 | 1/2-13 UNC x 0.79 | | | |

| | | | | Dimen | isions (inc | ches) | | | | |
|--------------|---------------------|-----------|------|-------|-------------|-------|-------|-------|------|--------------------|
| Valve Size S | Spring Return Model | ISO | СН | | W | W2 | Н | H2 | | В |
| 1-1/2 | MT21S5 | F05 / F07 | 0.67 | 6.97 | 3.78 | 3.01 | 5.04 | 3.86 | 0.75 | 5/16-18 UNC x 0.51 |
| 2 | MT26S4 | F05 / F07 | 0.67 | 9.41 | 3.78 | 3.01 | 5.04 | 3.86 | 0.75 | 5/16-18 UNC x 0.51 |
| 2-1/2 | MT26S4 | F05 / F07 | 0.67 | 9.41 | 3.78 | 3.01 | 5.04 | 3.86 | 0.75 | 5/16-18 UNC x 0.51 |
| 3 | MT31S4 | F05 / F07 | 0.67 | 9.06 | 4.49 | 3.56 | 5.79 | 4.61 | 0.91 | 5/16-18 UNC x 0.51 |
| 4 | MT36S4 | F07 / F10 | 0.87 | 9.69 | 5.10 | 3.76 | 7.24 | 6.06 | 1.18 | 3/8-16 UNC x 0.71 |
| 5 | MT41S4 | F07 / F10 | 0.87 | 11.42 | 5.16 | 3.76 | 7.24 | 6.06 | 1.18 | 3/8-16 UNC x 0.71 |
| 6 | MT46S4 | F07 / F10 | 0.87 | 13.82 | 5.71 | 3.88 | 7.81 | 6.63 | 1.18 | 3/8-16 UNC x 0.71 |
| 8 | MT51S4 | F10 / F12 | 1.06 | 14.21 | 7.13 | 4.33 | 9.13 | 7.95 | 1.57 | 1/2-13 UNC x 0.79 |
| 10 | MT61S5 | F14 | 1.42 | 17.48 | 9.13 | 6.32 | 11.30 | 10.12 | 1.97 | 5/8-11 UNC x 0.98 |
| 12 | MT61S5 | F14 | 1.42 | 17.48 | 9.13 | 6.32 | 11.30 | 10.12 | 1.97 | 5/8-11 UNC x 0.98 |

Product Data Sheet

Electric Actuator Dimensions



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| | III ICHES | 1 |
| | | |

| Valve Size | Actuator Model | ISO | СН | | В | С | D | | | G | Н | | | Μ | | Ο | ØP |
|---------------|-------------------|-----------|------|------|------|------|------|------|------|------|------|------|------|------|---------------------|---------------------|------|
| 1-1/2 | VB015 | F03 / F05 | 0.43 | 4.84 | 5.57 | 1.67 | 4.74 | 4.96 | 0.61 | 4.06 | 1.26 | 0.55 | 1.42 | 1.97 | 10-24 UNC 2BX0.47 | 1/4-20 UNC 2BX0.55 | 2.68 |
| 2 | VB030 | F03 / F05 | 0.43 | 6.18 | 7.40 | 2.38 | 5.12 | 5.75 | 1.65 | 1.30 | 1.42 | 0.47 | 1.42 | 1.97 | 10-24 UNC 2BX0.47 | 1/4-20 UNC 2BX0.55 | 2.56 |
| 2-1/2 | VB030 | F03 / F05 | 0.43 | 6.18 | 7.40 | 2.38 | 5.12 | 5.75 | 1.65 | 1.30 | 1.42 | 0.47 | 1.42 | 1.97 | 10-24 UNC 2BX0.47 | 1/4-20 UNC 2BX0.55 | 2.56 |
| 3 | VB060 | F05 / F07 | 0.55 | 7.28 | 8.46 | 2.66 | 5.77 | 6.81 | 1.65 | 2.01 | 1.42 | 0.63 | 1.97 | 2.76 | 1/4-20 UNC 2BX0.59 | 5/16-18 UNC 2BX0.67 | 2.56 |
| 4 | VB060 | F05 / F07 | 0.67 | 7.28 | 8.46 | 2.66 | 5.77 | 6.81 | 1.65 | 2.01 | 1.42 | 0.63 | 1.97 | 2.76 | 1/4-20 UNC 2BX0.59 | 5/16-18 UNC 2BX0.67 | 2.56 |
| 5 | VB110 | F07 / F10 | 0.67 | 8.31 | 9.14 | 3.31 | 6.02 | 7.01 | 2.13 | 2.13 | 1.58 | 0.75 | 2.76 | 4.02 | 5/16-18 UNC 2BX0.79 | 3/8-16 UNC 2BX0.79 | 4.33 |
| 6 | VB110 | F07 / F10 | 0.67 | 8.31 | 9.14 | 3.31 | 6.02 | 7.01 | 2.13 | 2.13 | 1.58 | 0.75 | 2.76 | 4.02 | 5/16-18 UNC 2BX0.79 | 3/8-16 UNC 2BX0.79 | 4.33 |
| 8 | VB270 | F07 / F10 | 0.87 | 8.74 | 9.19 | 3.03 | 6.69 | 7.17 | 2.03 | 2.13 | 1.58 | 0.95 | 2.76 | 4.02 | 5/16-18 UNC 2BX0.79 | 3/8-16 UNC 2BX0.79 | 4.33 |

Product Data Sheet

Electric Actuator Dimensions



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

Actuator Technical Data

| Valve Size | Double Acting | Spring Return | Floctric |
|------------|---------------|---------------|----------|
| (inches) | Pneumatic | Pneumatic | Electric |
| 1-1/2 | UT16DA | UT21S5 | VB015 |
| 2 | UT16DA | UT26S4 | VB030 |
| 2-1/2 | UT16DA | UT26S4 | VB030 |
| 3 | UT21DA | UT31S4 | VB060 |
| 4 | UT21DA | UT36S4 | VB060 |
| 5 | UT26DA | UT41S4 | VB110 |
| 6 | UT31DA | UT46S4 | VB110 |
| 8 | UT36DA | UT51S4 | VB190 |
| 10 | UT51DA | UT61S5 | - |
| 12 | UT51DA | UT61S5 | - |
| | | | |

Pneumatic Actuator Torque Data

| Value Size | DOUE | BLE ACTING | SPRING RETURN | | | | | | | | |
|------------|--------|-----------------|---------------|--------------------------|---------------------|---------------------|--------------------|--------------------|--|--|--|
| (inches) | Model | Torque (in-lbs) | Model | Spring Set (standard) | Spring Tor Start | que (in-lbs) End | Air Torqu Start | ıe (in-lbs) End | | | |
| 1-1/2 | UT16DA | 275 | UT21S5 | S5 | 307 | 230 | 270 | 193 | | | |
| 2 | UT16DA | 275 | UT26S4 | S4 | 392 | 247 | 503 | 358 | | | |
| 2-1/2 | UT16DA | 275 | UT26S4 | S4 | 392 | 247 | 503 | 358 | | | |
| 3 | UT21DA | 500 | UT31S4 | S4 | 502 | 374 | 626 | 498 | | | |
| 4 | UT21DA | 500 | UT36S4 | S4 | 824 | 614 | 986 | 776 | | | |
| 5 | UT26DA | 750 | UT41S4 | S4 | 1011 | 741 | 1259 | 989 | | | |
| 6 | UT31DA | 1000 | UT46S4 | S4 | 1779 | 1120 | 2005 | 1346 | | | |
| 8 | UT36DA | 1600 | UT51S4 | S4 | 2203 | 1738 | 2762 | 2297 | | | |
| 10 | UT51DA | 4500 | UT61S5 | S5 | 5366 | 4277 | 4823 | 3734 | | | |
| 12 | UT51DA | 4500 | UT61S5 | S5 | 5366 | 4277 | 4823 | 3734 | | | |

Pneumatic Actuator Weights and Air Consumption

| Valve Size | | DOUBLE ACTING | | SPRING RETURN | | | | | |
|------------|--------|---------------|-----------------|---------------|--------------|-----------------|--|--|--|
| (inches) | Model | Weight (lbs) | Air Cons. (in³) | Model | Weight (lbs) | Air Cons. (in³) | | | |
| 1-1/2 | UT16DA | 4.03 | 25.6 | UT21S5 | 7.16 | 18.1 | | | |
| 2 | UT16DA | 4.03 | 25.6 | UT26S4 | 9.88 | 30.0 | | | |
| 2-1/2 | UT16DA | 4.03 | 25.6 | UT26S4 | 9.88 | 30.0 | | | |
| 3 | UT21DA | 6.33 | 44.4 | UT31S4 | 12.28 | 40.6 | | | |
| 4 | UT21DA | 6.33 | 44.4 | UT36S4 | 19.88 | 75.0 | | | |
| 5 | UT26DA | 8.82 | 68.7 | UT41S4 | 23.61 | 100.0 | | | |
| 6 | UT31DA | 10.67 | 88.9 | UT46S4 | 33.11 | 115.6 | | | |
| 8 | UT36DA | 16.71 | 153.1 | UT51S4 | 49.89 | 181.3 | | | |
| 10 | UT51DA | 39.24 | 425.0 | UT61S5 | 101.19 | 343.8 | | | |
| 12 | UT51DA | 39.24 | 425.0 | UT61S5 | 101.19 | 343.8 | | | |

Product Data Sheet

Electrical Actuator

Model VB015 24V AC/DC



Model VB015 100V - 240V AC



STATIC IMPULSE DRIVE OPTOISOLATED BY PLC

I= 6 mA

Product Data Sheet

Electrical Actuator

Model VB030 to VB350 24V AC/DC, 110 - 240V AC



VB030 to VB350 24V AC/DC, 110 - 240V AC with Positioner



Product Data Sheet

| Model | VB015 | VB030 | VB060 | VB110 | VB270 |
|--|---------------------|---------------------------------------|----------------------------|---------------------------------------|---------------------------------------|
| Max Working Torque (in-Lbs) | 133 | 266 | 530 | 975 | 2390 |
| Low Voltag | e 24V AC/DC | 24V AC/DC | 24V AC/DC | 24V AC/DC | 24V AC/DC |
| Voltage (V) High Voltag Multitensio | e 100-240V AC | 100-240V AC | 100-240V AC | 100-240V AC | 100-240V AC |
| Working Time (sec) | 10 | 8 | 9 | 27 | 50 |
| Torque Limiter | STD | STD | STD | STD | STD |
| Duty Rating | 50% | 75% | 75% | 75% | 75% |
| Protection | IP65 ** NEMA 4X* | IP65-67 NEMA 4X* | IP65-67 NEMA 4X* | IP65-67 NEMA 4X* | IP65-67 NEMA 4X* |
| Rotation | 90° | 90° | 90° | 90° | 90° |
| Upon Request | 180° | $180^{\circ} \text{ or } 270^{\circ}$ | 180° or 270° | $180^{\circ} \text{ or } 270^{\circ}$ | $180^{\circ} \text{ or } 270^{\circ}$ |
| Manual Intervention | STD | STD | STD | STD | STD |
| Position Indicator | STD | STD | STD | STD | STD |
| Working Temperature | -4F +131F | -4F +131F | -4F +131F | -4F +131F | -4F +131F |
| Heater | STD | STD | STD | STD | STD |
| Additional Free Limit Switches | 2 STD | 2 STD | 2 STD | 2 STD | 2 STD |
| Drilling ISO 5211 PAD | F03 - F05 | F03 - F05 | F05 - F07 | F07 - F10 | F07 - F10 |
| Square Drive | 0.43 | 0.43 | 0.55 | 0.67 | 0.87 |
| Positioner (4~20mA or 0~10 VI | DC) Not Available | Upon Request | Upon Request | Upon Request | Upon Request |
| Electrical Connections | PG11 | PG11 | PG11 | PG11 | PG 11 |
| Weight (LBS) | 3.09 | 5.07 | 7.28 | 10.80 | 13.23 |

* Type 4X Indoor Use Only Enclosure ** UL pending

| MODEL | | VB015 | | VB030 | VB060 | VB110 | VB270 | | |
|--------------|---------------------|-----------|---------|------------|---------------|-----------|-----------|--|--|
| VERSION H | Nominal Voltage | 100V AC | 240V AC | | 100 – 240V AC | | | | |
| | Absorbed Current | 75mA | 25mA | 0.3 – 0.2A | 0.6 – 0.3A | | | | |
| | Absorbed Power | 6.6 VA | 6 VA | 30 – 48VA | | | | | |
| VERSION L | Nominal Voltage | 24V AC/DC | | 24V AC/DC | 24V AC/DC | 24V AC/DC | 24V AC/DC | | |
| | Absorbed Current | 0.6A | | 1.0A | 1.8A | 1.0A | 1.8A | | |
| | Absorbed Power | 15 VA | | 24 VA | 24 VA 44 VA | | 44 VA | | |
| Frequency | | 50/60 HZ | | | | | | | |

Product Data Sheet

Components

Sizes 1-1/2" to 8"



Product Data Sheet

Components (cont'd)



Product Data Sheet

Installation Procedures

Ensure that the length of the bolts is sufficient for the 1. size of valve being installed. Due to the varying designs of plastic flanges, there is no recommended minimum length. However, a length that results in at least 5 exposed threads on each side should be sufficient.



- 2. Please refer to the appropriate application sub-section:
 - a. For typical inline installation, ensure that the disc is in the partially closed position then carefully insert the valve into the piping system between the two flanges. Insert the bolts, washers, and nuts (if necessary), then hand tighten. Take care to properly line up the valve and flanges as any misalignment may cause leakage.
 - b. For lugged version end of line installation, insert the necessary steel lugs into the valve body. Ensure that the disc is in the partially closed position then carefully position the valve on the flange. Insert the bolts, and washers, then hand tighten. Take care to properly line up the valve and flange as any misalignment may cause leakage.
- 3. Connect pneumatic or electric connections according to provided diagrams.
- 4. To avoid damage to the primary gasket, cycle the valve to the open position before tightening the bolts. For correct joining procedure, please refer to the section entitled, "Joining Methods - Flanging" in the IPEX Industrial Technical Manual Series, "Volume I: Vinyl Process Piping Systems". The bolts should be tightened in an even pattern to the nominal torque in the table below. These torque ratings are sufficient to maintain a watertight seal at the maximum rated operating pressure.

Note: End of line installation will cause the maximum rated pressure to be reduced to the values listed in the table below. If the process media is dirty or contains suspended particles, it is advisable to install the valve in an orientation in which the shaft is not vertical (see diagrams). Over time, particles may collect at the bottom of the valve posing a threat to the seal between the disc, liner, and shaft. 0° normal service 45° dirty fluids 90° suspended particles



0° Normal

Particles

| | | - | _ | | | | | - | |
|---|---|----|---|----|---|---|---|---|--|
| C | ~ | | | .: | - | | _ | | |
| С | e | ;I | ν | 1 | C |) | E | • | |
| | | | | | | | | | |

Size (inches) Nominal Bolt Torque (ft-lbs) Lugged Pmax (psi) 1-1/2 7 90 9 90 2 2-1/2 90 11 3 13 90 4 15 90 5 26 90 6 30 60 8 41 60 10 52 12 52

Product Data Sheet

Valve Maintenance

Disassembly

 If removing the valve from an operating system, isolate the valve from the rest of the system. Be sure to depressurize and drain the isolated branch before continuing. It is recommended that all actuators be de-activated before servicing the valve to avoid injury

Sizes 1-1/2" to 8":

- 4. Loosen and remove the bolts, washers and protection caps fixed to the actuator (2, 3 & 4). Carefully remove the actuator from the valve taking care not to damage the stem.
- Remove the cap (18) then loosen and remove the screw (17) and washer(s) (16) from the base of the valve body.
- 6. Carefully pull the shaft (5) out of the valve body then remove the disc (14).
- 7. Remove the primary liner (15) from the valve body.
- 8. Remove the nylon bushing (10) and o-rings (9) from the valve body (sizes 2-1/2" to 8").
- 9. Remove the disc anti-friction rings (13), and o-rings (12, sizes 2-1/2" to 8").
- 10. Remove the retaining ring (8, sizes 2-1/2" to 8") and orings (6, 7) from the shaft.
- 11. The valve components can now be checked for problems and/or replaced.

2. Cycle the valve to a partially open position then loosen each bolt holding the valve to the pipe flange(s).

Please refer to the section entitled, "Joining Methods – Flanging" in the IPEX Industrial Technical Manual Series, "Volume I: Vinyl Process Piping Systems" for a recommended bolt tightening pattern diagram. Follow the same pattern when disassembling the flanged joint(s) then carefully remove the valve from the line.

Sizes 10" to 12":

- 3. Loosen and remove the bolts, washers and protection caps fixed to the actuator (22, 23 & 24). Carefully remove the actuator from the valve taking care not to damage the stem.
- Remove the cap (13) then loosen and remove the screw
 (14) and washers (11, 12, and 15) from the base of the valve body (1).
- 5. Carefully pull the shaft (16) out of the valve body then remove the disc (10).
- 6. Remove the primary liner (7) from the valve body
- 7. Remove the upper and lower bushings (3, 5), washers (2, 6), and o-rings (4) from the valve body.
- Remove the disc anti-friction rings (8) and o-rings (4, 9).
- 9. Remove the retaining ring (18) and o-rings (17) from the shaft.
- 10. The valve components can now be checked for problems and/or replaced.

Product Data Sheet

Assembly

Note: Before assembling the valve components, it is advisable to lubricate the o-rings with a water soluble lubricant. Be sure to consult the "IPEX Chemical Resistance Guide" and/or other trusted resources to determine specific lubricant-rubber compatibilities.

Sizes 1-1/2" to 8":

- Insert the primary liner (15) into the valve body (11). Ensure that the proper holes line up with those on the body.
- Properly fit the o-rings (9) on the nylon bushing (10) (sizes 2-1/2" to 8") then insert into the valve body from above.
- 3. Properly fit the disc o-rings (12, sizes 2-1/2" to 8") and anti-friction rings (13) on the disc (14), then insert into the valve liner taking care to center the holes.
- Properly fit the o-rings (6, 7) and retaining ring (8, sizes 2-1/2" to 8") in their grooves on the shaft (6), then carefully insert into the valve body from above.
- 5. Fasten the shaft at the base of the valve body using the screw (17) and washer (16). Affix the cap (18) over the bolt.
- 6. For 8" sizes, affix the spacer pad (20) to the valve body using the screws (19), washers (21), and nuts (22).
- 7. Carefully place the actuator on the stem, lining up the holes. Fasten using the necessary bolts, washers and protective caps (2, 3 & 4). Ensure that the actuator and disk position correspond to the same operating position.

Sizes 10" to 12":

- Insert the primary liner (7) into the valve body (1). Ensure that the proper holes line up with those on the body.
- 2. Properly fit the o-rings (4) on the upper and lower bushings (3, 5) then insert into the valve body from above and below along with the washers (2, 6).
- Properly fit the disc o-rings (4, 9) and anti-friction rings (8) on the disc (10), then insert into the valve liner taking care to center the holes.
- 4. Properly fit the o-rings (17) and retaining ring (18) in their grooves on the shaft (16), then carefully insert into the valve body from above.
- 5. Fasten the shaft at the base of the valve body using the screw (14) and washers (11, 12, and 15). Affix the cap (13) over the bolt.
- 6. Carefully place the actuator on the stem, lining up the holes. Fasten using the necessary bolts, washers and protection caps (22, 23 & 24). Ensure that the actuator and disk position correspond to the same operating position.

About IPEX

About the IPEX Group of Companies

As leading suppliers of thermoplastic piping systems, the IPEX Group of Companies provides our customers with some of the world's largest and most comprehensive product lines. All IPEX products are backed by more than 50 years of experience. With state-of-the-art manufacturing facilities and distribution centers across North America, we have established a reputation for product innovation, quality, enduser focus and performance.

Markets served by IPEX group products are:

- Electrical systems
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- Industrial process piping systems
- Municipal pressure and gravity piping systems
- Plumbing and mechanical piping systems
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- Irrigation systems
- PVC, CPVC, ABS, PE, PEX, PVCO, PP and PVDF pipe and fittings (1/2" to 60")

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