FE Series Automated Butterfly Valves

Product Data Sheet

< STANDARDS >

ASTM D1784

ANSI B16.5

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

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IPEX by aliaxis

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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

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Valve Selection

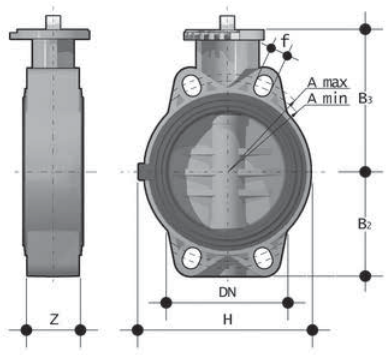
Size (inches)	Disc Material	Seal Material	IPEX Part Number			
			Pneumatic Double Acting Wafer	Pneumatic Spring Return, Normally Closed Wafer	Pneumatic Spring Return, Normally Open Wafer	Electric Double Acting, 100-240 VAC Wafer
1-1/2	PVC	EPDM	253680	253690	253700	253710
2	PVC	EPDM	253681	253691	253701	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.

FE Series Automated Butterfly Valves

Product Data Sheet

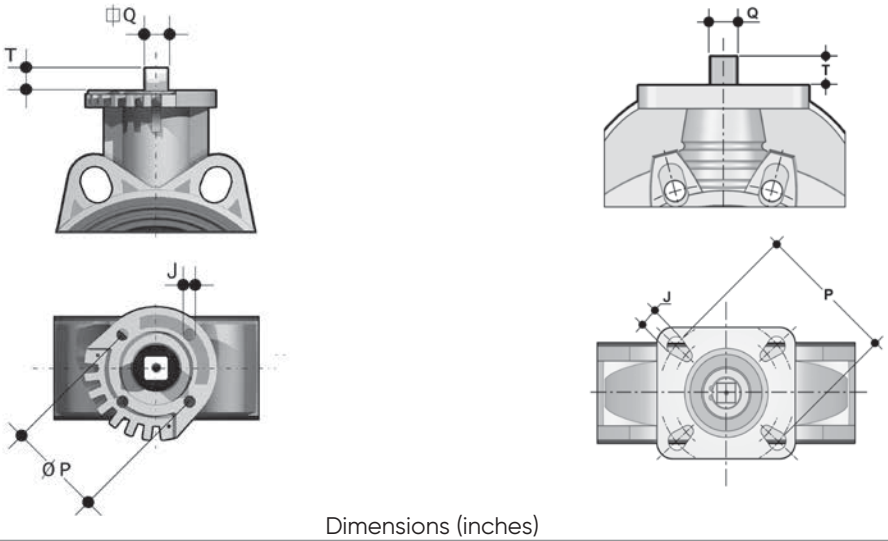
Dimensions



Dimensions (inches)

Size	DN	Z	B2	B3	H	Amin	Amax	f	# 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	T	Q	ISO	P	J
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

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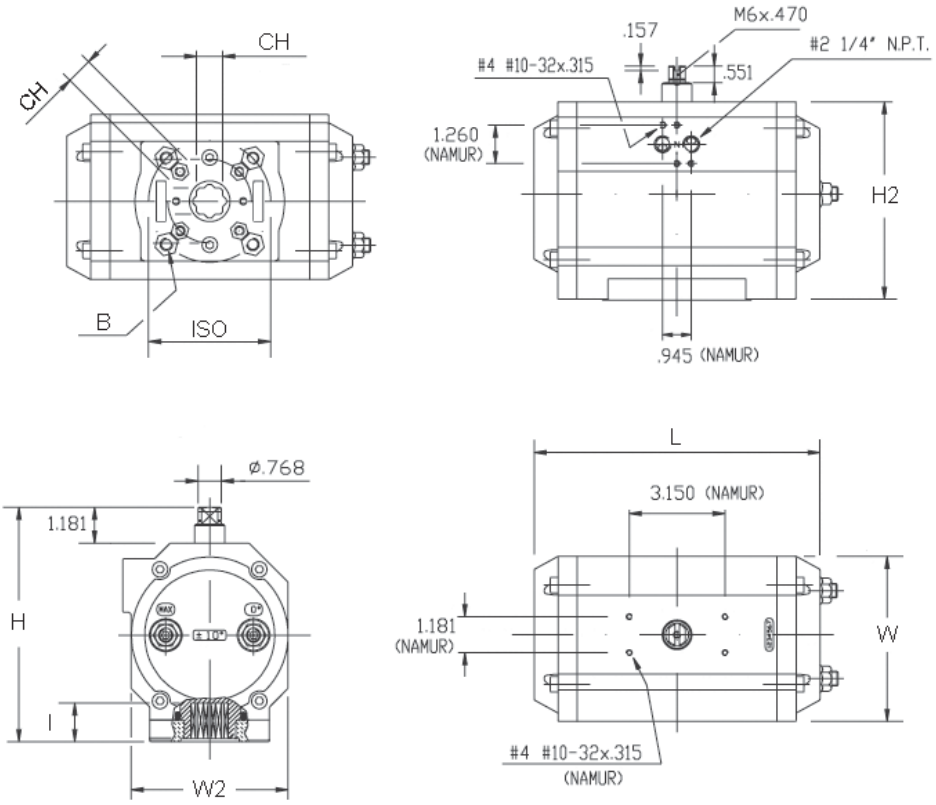
Pneumatic Actuator Dimensions

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



Dimensions (inches)

Valve Size	Double Acting Model	ISO	CH	L	W	W2	H	H2	I	B
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

Dimensions (inches)

Valve Size	Spring Return Model	ISO	CH	L	W	W2	H	H2	I	B
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

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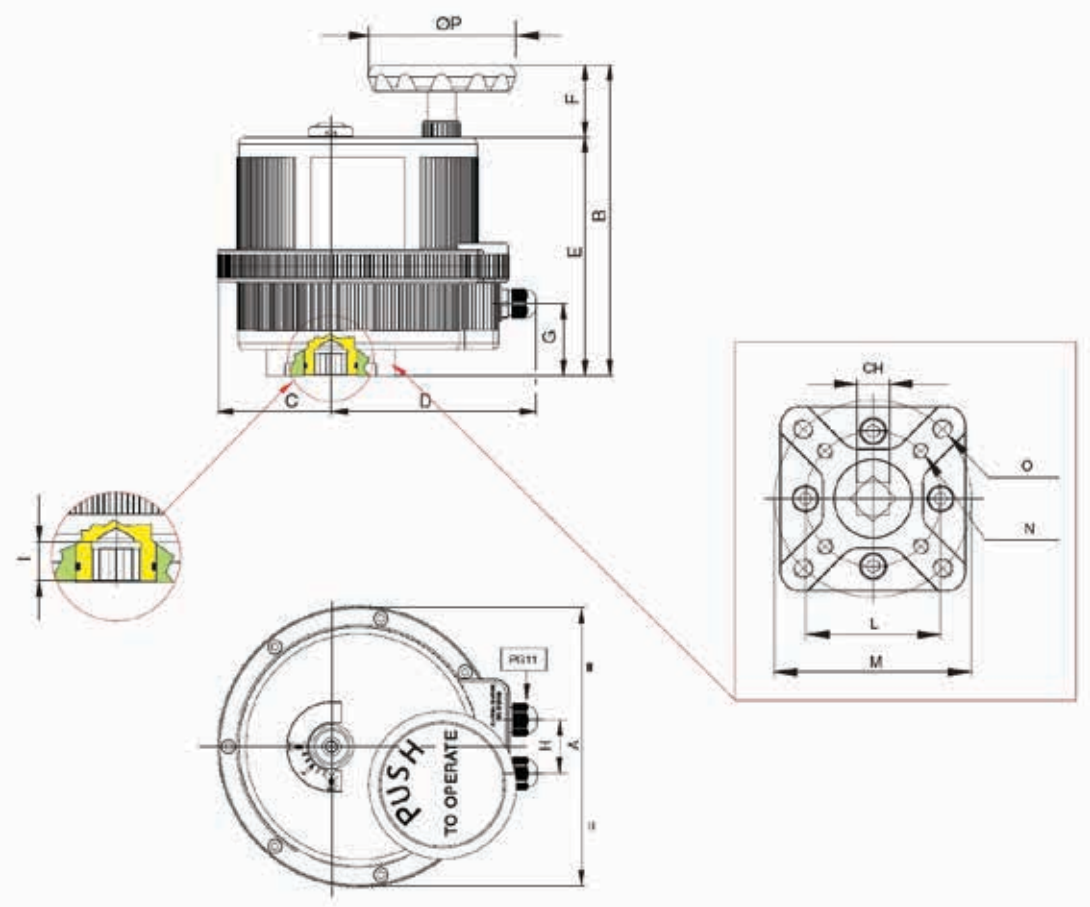
Electric Actuator Dimensions



Dimensions (inches)

Valve Size	Actuator Model	ISO	CH	A	B	C	D	E	F	G	H	I	L	M	N	O	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

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Electric Actuator Dimensions

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

Actuator Technical Data

Valve Size (inches)	Double Acting Pneumatic	Spring Return 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

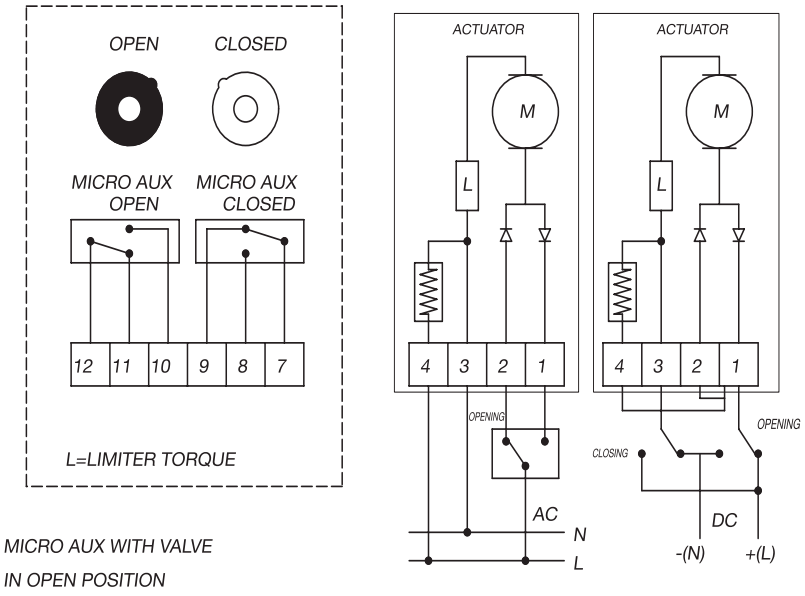
Valve Size (inches)	DOUBLE ACTING		SPRING RETURN					
	Model	Torque (in-lbs)	Model	Spring Set (standard)	Spring Torque (in-lbs) Start	Spring Torque (in-lbs) End	Air Torque (in-lbs) Start	Air Torque (in-lbs) End
1-1/2	UT16DA	275	UT21S5	S5	307	230	270	193
2	UT16DA	275	UT26S4	S4	392	247	503	358
2-1/2	UT16DA	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 (inches)	DOUBLE ACTING			SPRING RETURN		
	Model	Weight (lbs)	Air Cons. (in^3)	Model	Weight (lbs)	Air Cons. (in^3)
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

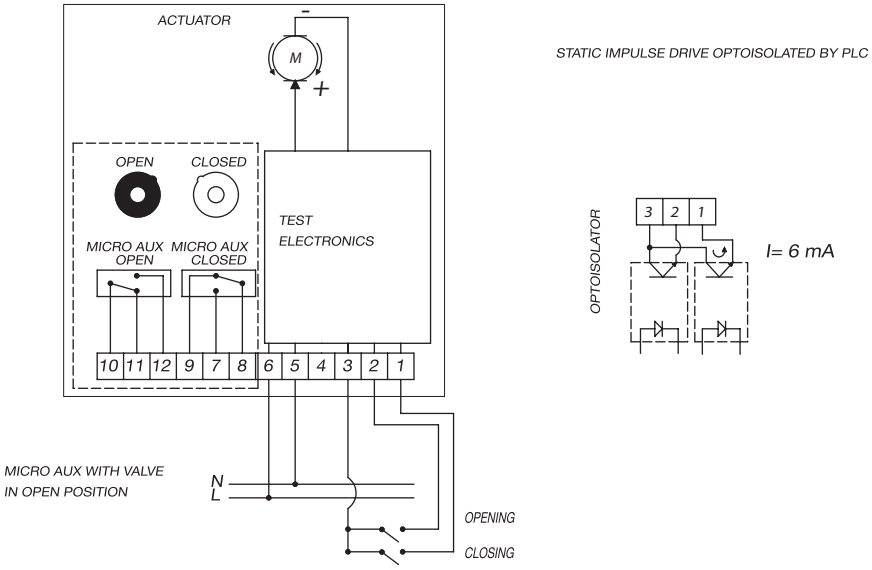
Electrical Actuator

Model VB015 24V AC/DC



MICRO AUX WITH VALVE IN OPEN POSITION

Model VB015 100V – 240V AC



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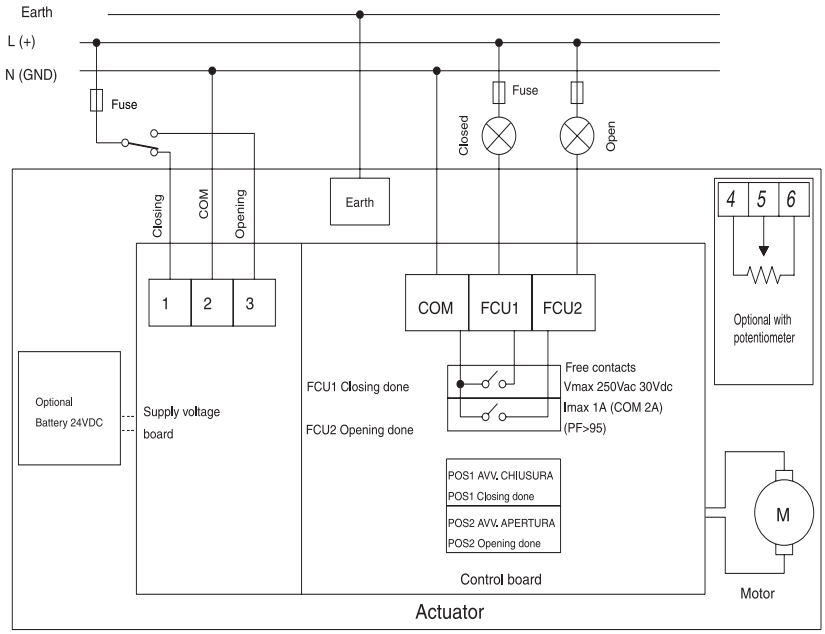
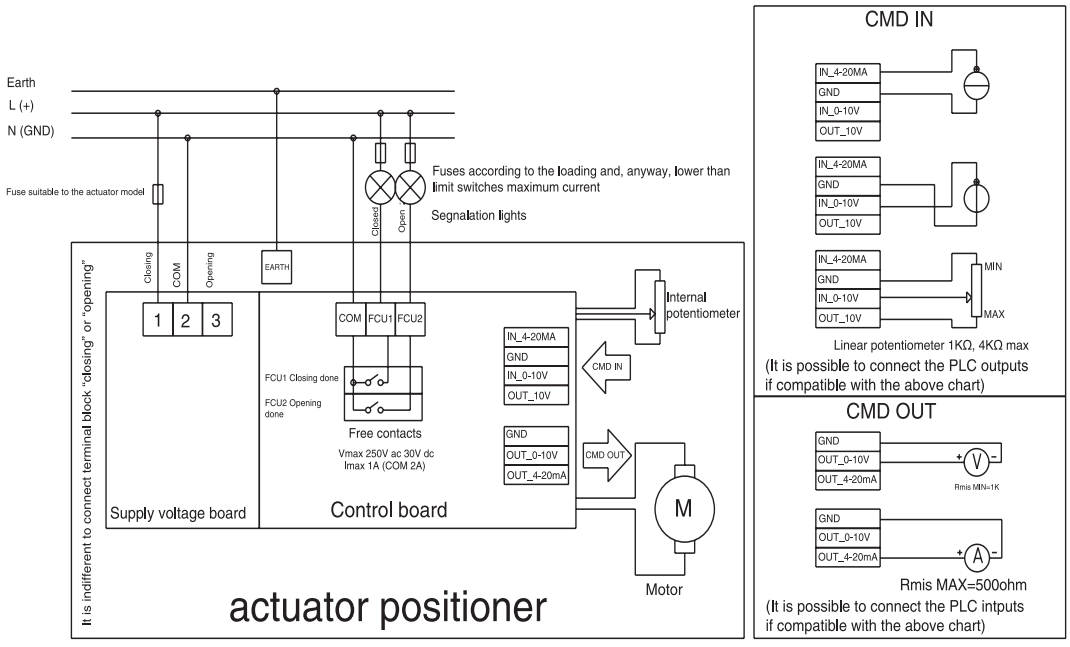
Electrical Actuator

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



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



FE Series Automated Butterfly Valves

Product Data Sheet

Model		VB015	VB030	VB060	VB110	VB270
Max Working Torque (in-Lbs)		133	266	530	975	2390
Voltage (V)	Low Voltage	24V AC/DC	24V AC/DC	24V AC/DC	24V AC/DC	24V AC/DC
	High Voltage Multitension	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° or 270°	180° or 270°	180° or 270°	180° or 270°
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 VDC)		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	60 – 72 VA		
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	44 VA	24 VA	44 VA
Frequency		50/60 HZ				

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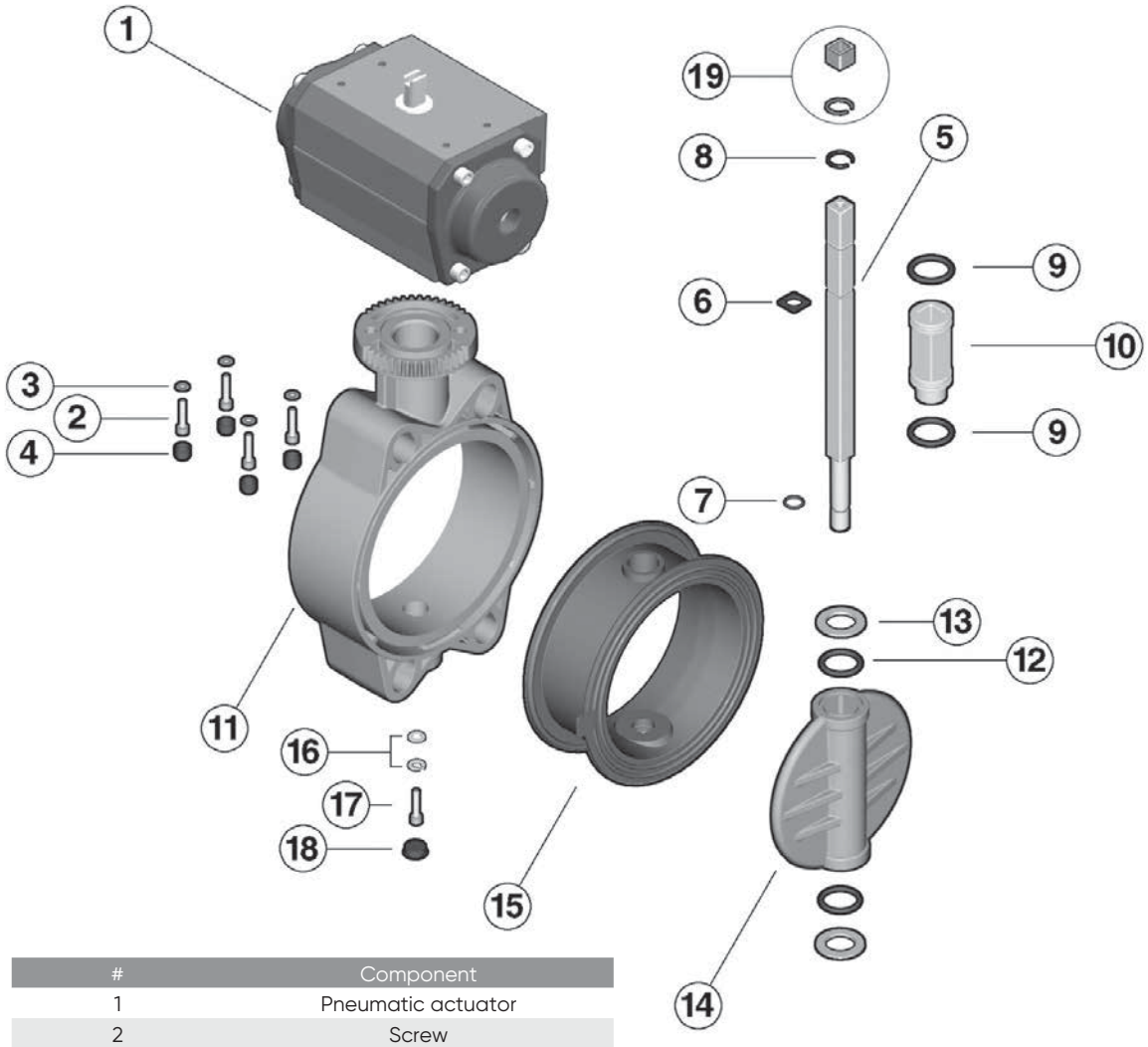
Components

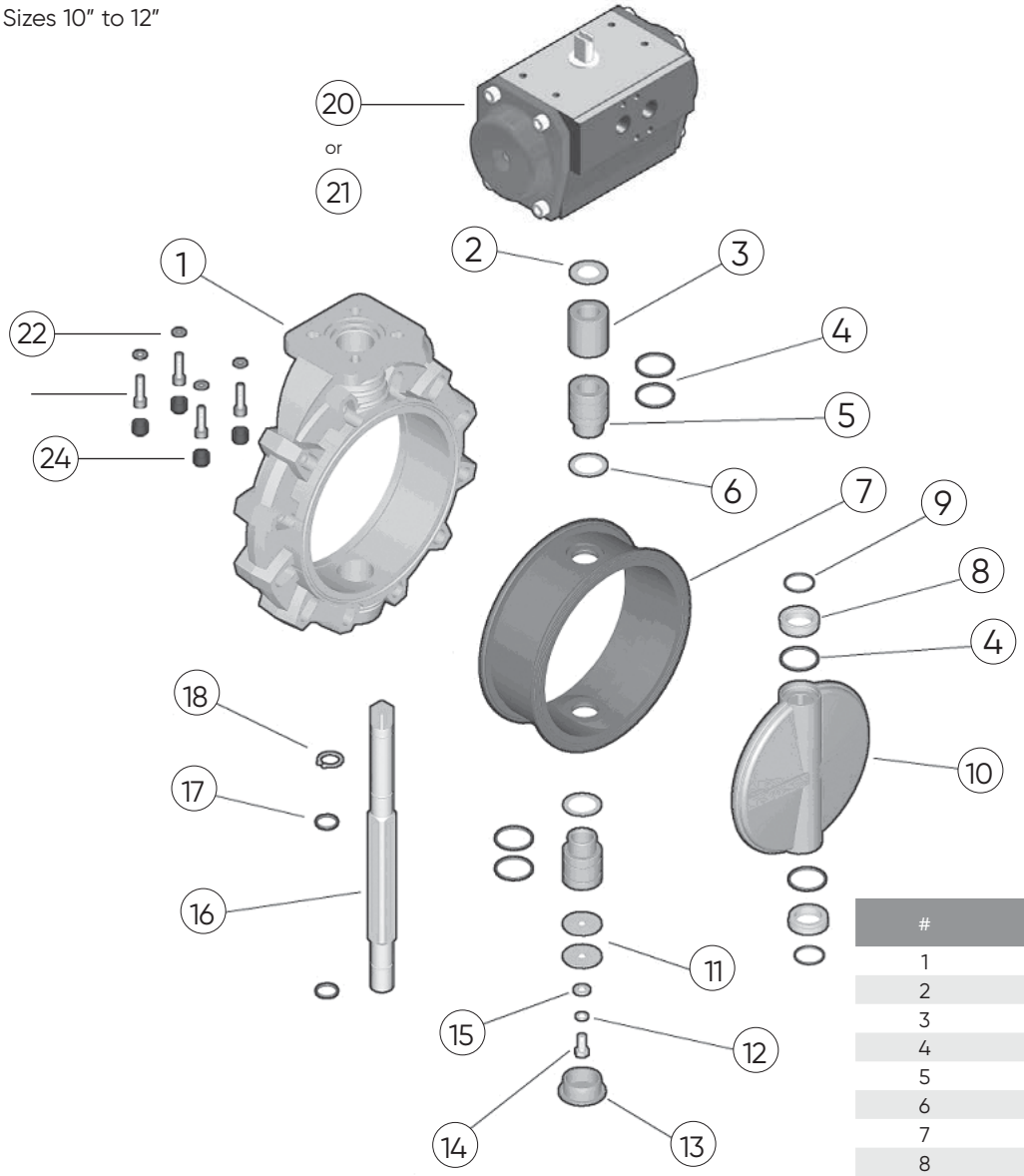
Sizes 1-1/2" to 8"



#	Component
1	Pneumatic actuator
2	Screw
3	Washer
4	Protection cap
5	Shaft
6	Shaft O-ring
7	Shaft O-ring
8	Seeger ring
9	Bush O-ring
10	Bush
11	Body
12	Disc O-ring
13	Anti-friction ring
14	Disc
15	Primary liner
16	Washer
17	Screw
18	Protection cap
19	Reduction sleeve
20	Electric Actuator (not shown)

Components (cont'd)

Sizes 10" to 12"



#	Component
1	Body
2	Washer
3	Bushing
4	Bushing O-Ring
5	Bushing for O-Ring
6	Washer
7	Primary Liner
8	Anti-Friction Ring
9	Disc O-Ring
10	Disc
11	Washer
12	Washer
13	Cap
14	Screw
15	Washer
16	Shaft
17	Shaft O-Ring
18	Retaining Ring
19	O-Ring
20	Pneumatic Actuator
21	Electric Actuator (not shown)
22	Washer
23	Screws
24	Protection Cap

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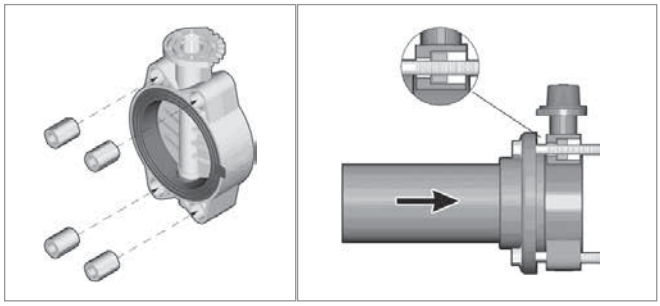
Installation Procedures

1. Ensure that the length of the bolts is sufficient for the 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:

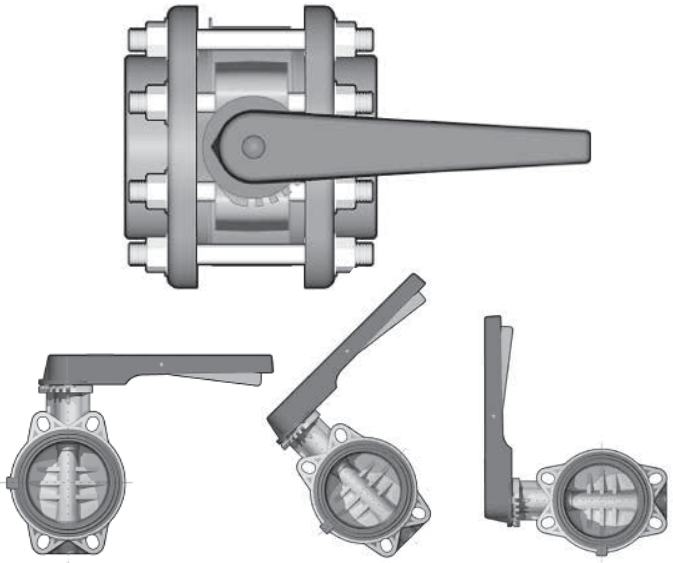
   a. For typical inline installation, ensure that the disc is in the partially closed position then carefully insert the valve into the piping system between the two flanges. Insert the bolts, washers, and nuts (if necessary), then hand tighten. Take care to properly line up the valve and flanges as any 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 Service | 45° Dirty Fluids | 90° Suspended Particles

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

Valve Maintenance

Disassembly

1. 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
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 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.
5. 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.

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.
4. 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.
8. 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.

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":

1. Insert the primary liner (15) into the valve body (11). Ensure that the proper holes line up with those on the body.
2. 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.
4. 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":

1. 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).
3. 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.

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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, end-user focus and performance.

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