



## Products and Solutions

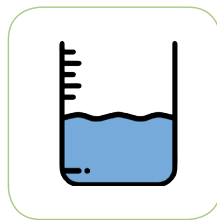
To Measure, Monitor and Control



Flow



Pressure



Level



Temperature

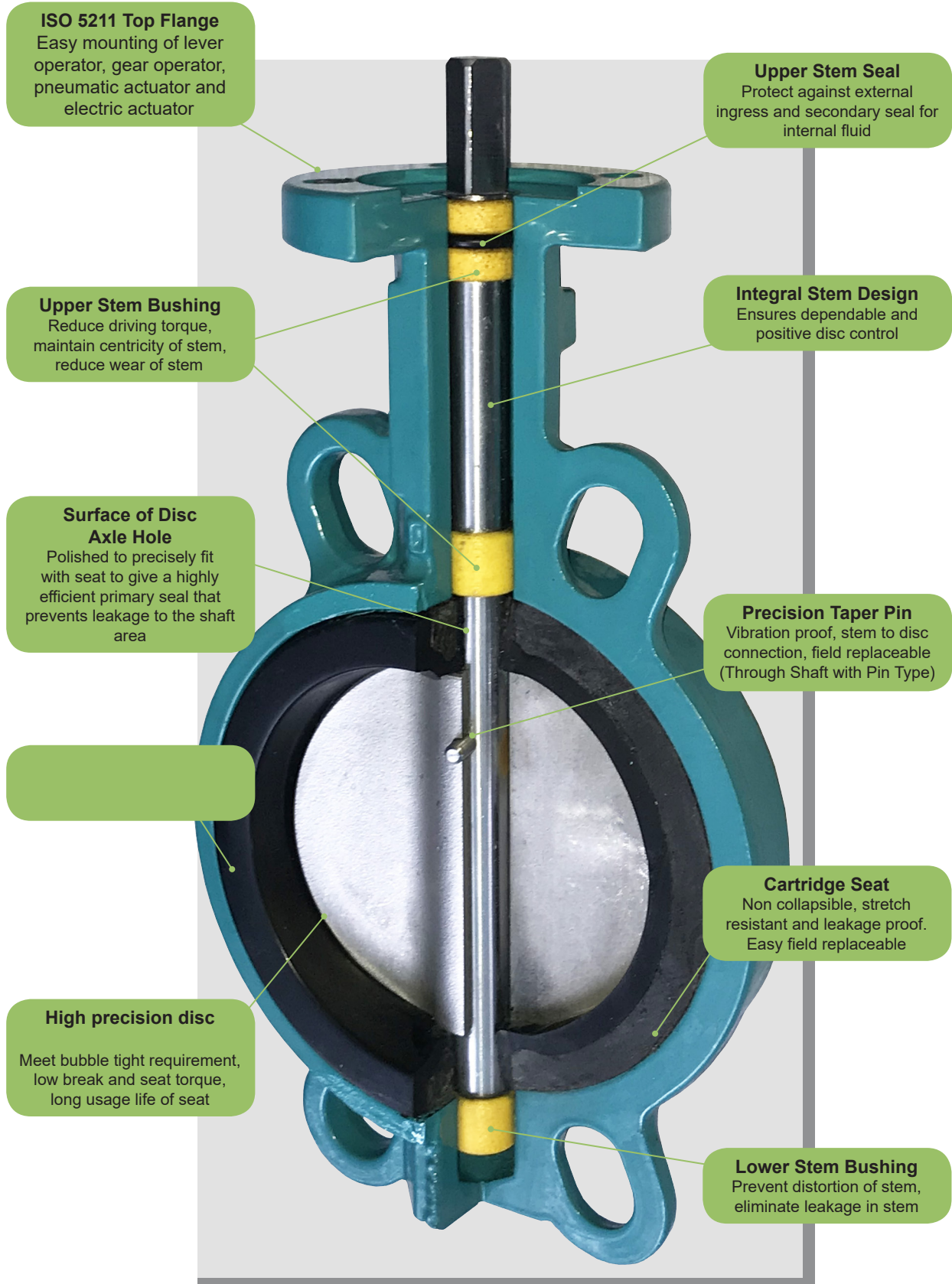


Analytical

For The Process Industries

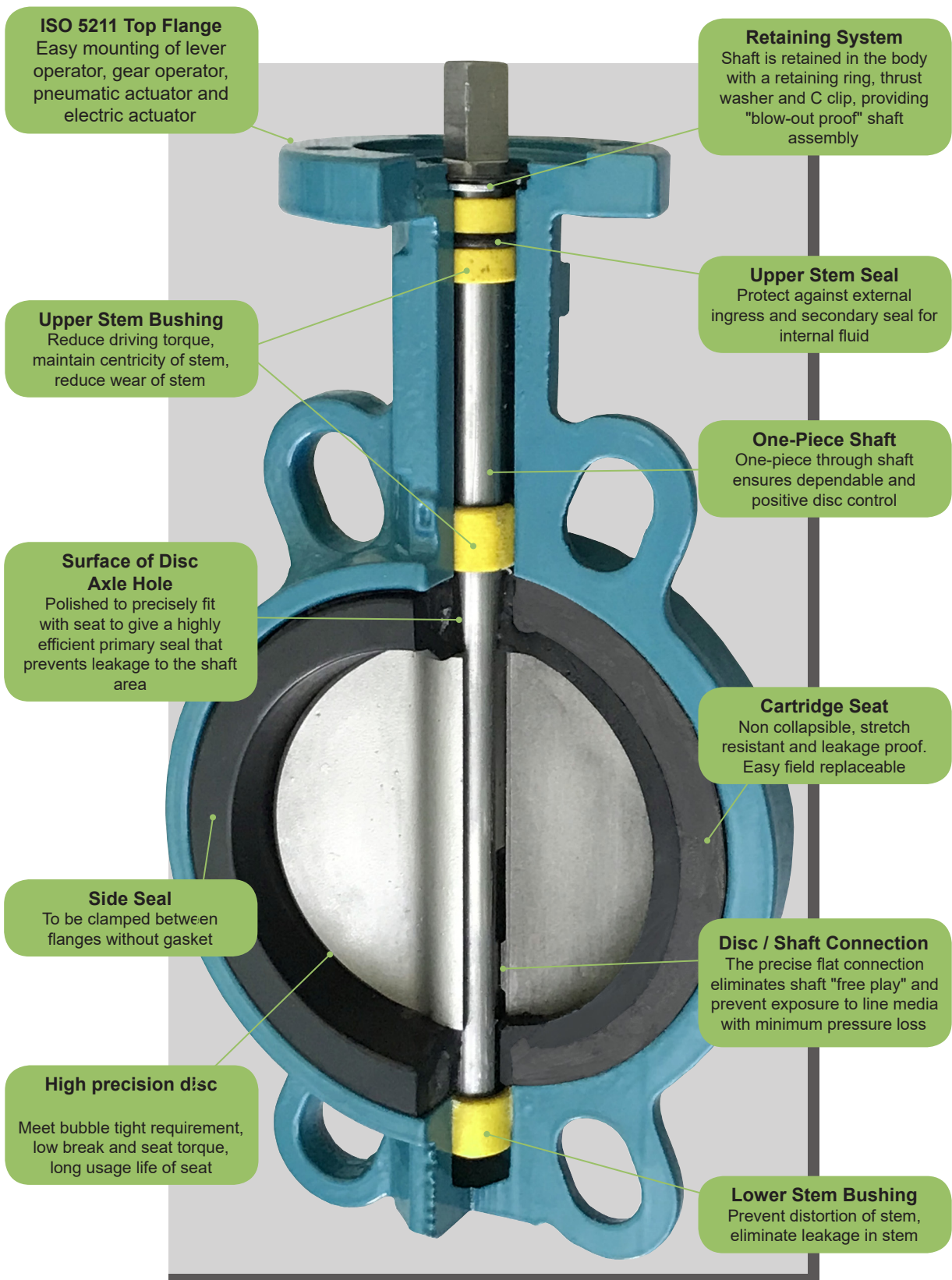
# AE BUTTERFLY VALVE (Through Shaft With Pin)

## Design and Features



# AE BUTTERFLY VALVE (Through Shaft WithOut Pin)

## Design and Features



# AE BUTTERFLY VALVE (Through Shaft With Pin / Through Shaft without Pin)



## Design

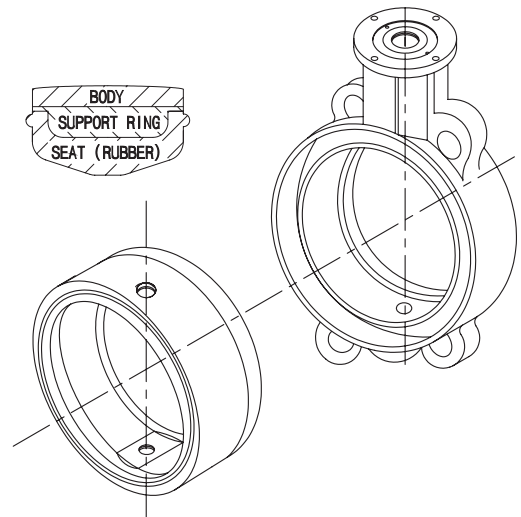
AE BYV331 Series butterfly valve has a through shaft with pin design meant for general purpose requirement at low to medium frequency cycle and the AE BYV332 Series butterfly valve has a through shaft without pin design meant for more demanding and higher frequency operation.

Both types has a wafer pattern body and can be used for shut off as well as throttling application. With its resilient cartridge type seat design, it is able to provide shut off pressure of up to 16 bar. The unique cartridge seat design also offers easy seat replacement on site without the need of any special tool. The valve can be easily installed between flanges with no gasket required. The valve can be manually operated by lever, gear or retrofitted to pneumatic and electric actuator for automatic process control with its top flange dimension in accordance to ISO5211.

Size	DN40 to DN600 (bigger size on request)
Body Material	Cast Iron, Ductile Iron, WCB, CF8 (SS304), CF8M (SS316) (other material on request)
Disc Material	CF8, CF8M, Bronze (other material and ECTFE coated disc on request)
Stem Material	SS410 (other material on request)
Seat Material	EPDM, FKM, PTFE (other material on request)
Installation	Any direction, between ANSI150#, PN10, PN16, JIS5K and JIS10K flanges (for DN40 to DN350) To specify mounting flange standard at time of order for DN400 to DN600
Medium Pressure	Up to 16 bar (for DN40 to DN300) Up to 10 bar (for DN300 to DN600) (Subject to pressure limitation of mounting flanges used)
Medium Temperature	-20°C to +110°C (EPDM) -10°C to +160°C (FKM) -10°C to +130°C (PTFE)
Operator	Aluminium lever / Cast Iron Gear box

## Cartridge Seat Design

Easy disassembly and assembly without damage to seat

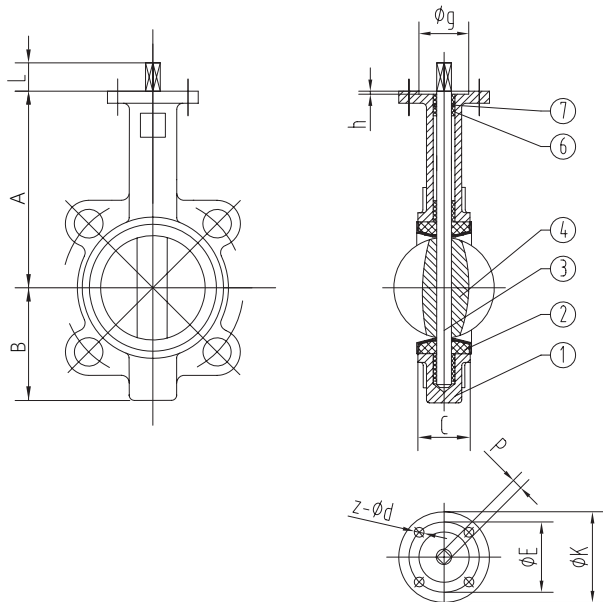


## Kv Value

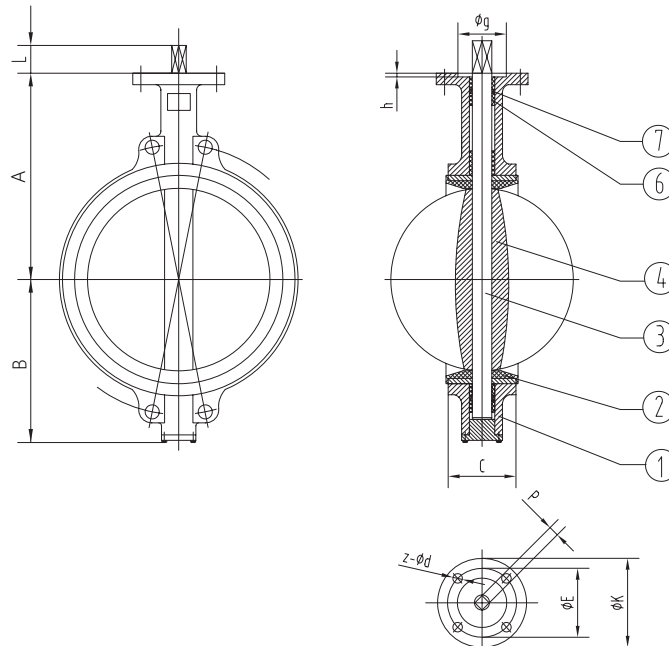
Size (mm)	Angle of Opening Kv Value (Water) (m <sup>3</sup> /h)							
	20°	30°	40°	50°	60°	70°	80°	90°
40	2.6	4.3	9.5	16	22	39	60	69
50	6.7	7.8	16	24	48	62	95	116
65	8.6	13	23	38	73	95	145	181
80	13	20	34	56	112	142	216	267
100	23	35	61	99	198	259	401	466
125	50	74	129	211	414	526	845	948
150	83	121	211	345	677	871	1392	1647
200	142	211	354	591	1099	1478	2302	2746
250	220	328	560	974	1810	2328	3664	4224
300	319	466	819	1353	2629	3405	5129	6336
350	388	647	1120	1905	3517	4836	6964	9665
400	552	776	1483	2405	4310	6336	9284	11121
450	630	1078	1978	3190	6078	7914	11983	15086
500	785	1375	2457	3991	7414	9914	15121	19310
600	1078	1974	3448	5250	10776	14224	20336	24397

# AE BUTTERFLY VALVE (Through Shaft With Pin / Through Shaft withOUT Pin)

Bare Shaft DN40 to DN350



Bare Shaft DN400 to DN600



## Standard Materials

No.	Part	Material
1	Body	CI, DI, WCB, CF8, CF8M
2	Seat	EPDM, FKM, PTFE
3	Shaft	SS410
4	Disc	CF8, CF8M, Bronze
5	Pin	SS304, SS316
6	Bushing	Polymers
7	O Ring	NBR

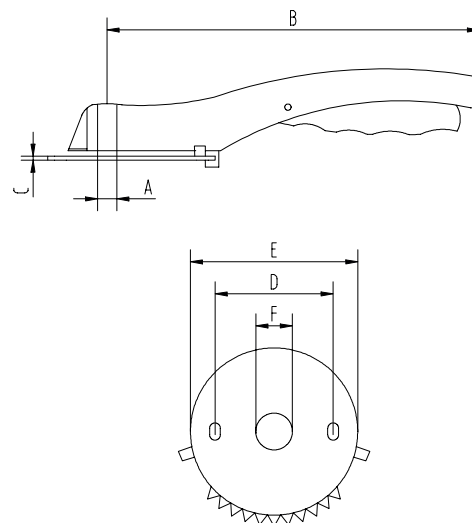
## Dimensions (Bare Shaft)

Size (mm)	A	B	C	L	P	Upper flange					Weight (kg)
						K	E	z-d	g	h	
40	125	67	33	19	9	65	50	4-7	35	3	1.6
50	128	73	42	19	9	65	50	4-7	35	3	2
65	140	82	44.7	19	9	65	50	4-7	35	3	2.5
80	146	91	45.2	19	9	65	50	4-7	35	3	3
100	168	106	52.1	19	11	90	70	4-9	55	3	4
125	181	125	54.4	19	14	90	70	4-9	55	3	5.5
150	199	139	55.8	19	14	90	70	4-9	55	3	7
200	235	171	60.6	24	17	125	102	4-12	70	3	12
250	265	200	65.6	24	22	125	102	4-12	70	3	16.8
300	298	237	76.9	24	22	125	102	4-12	70	3	27
350	368	267	79.5	29	22	125	102	4-12	70	3	33.6
400	400	309	86.5	29	24	175	140	4-18	100	4	50
450	422	328	105.6	38	27	175	140	4-18	100	4	70
500	480	361	131.8	38	32	175	140	4-18	100	4	110
600	562	459	152	48	36	210	165	4-23	130	5	165

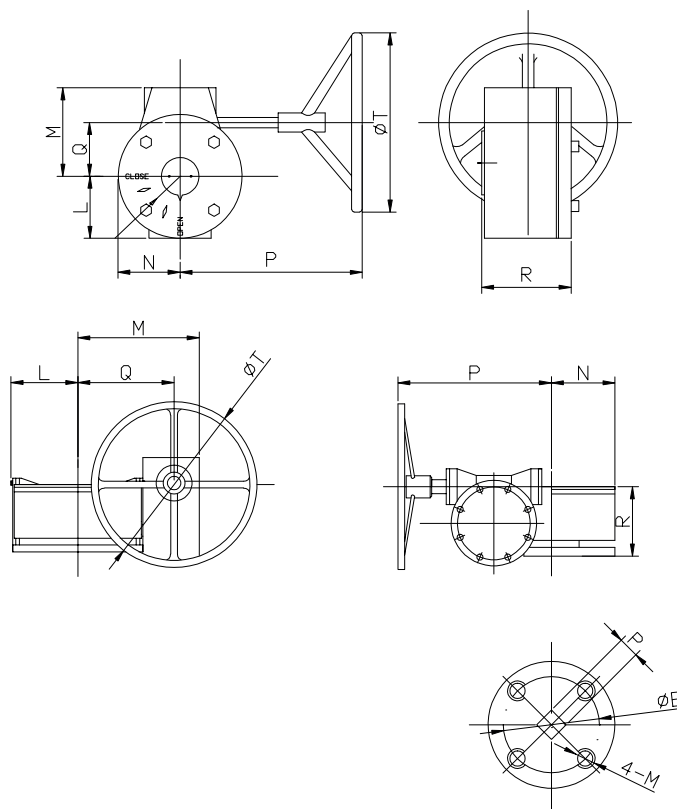
# AE BUTTERFLY VALVE (Through Shaft With Pin / Through Shaft withOUT Pin)

## Lever Operator

Valve Size	A	B	C	D	E	F	Weight (kg)
DN40 - 80	9 x 9	170	2.5	50	72	20	0.4
DN100	11 x 11	215	2.5	70	92	21	0.5
DN125 - 150	14 x 14	215	2.5	70	92	21	0.5
DN200	17 x 17	350	2.5	102	127	35	0.6
DN250 - 300	22 x 22	350	2.5	102	127	35	0.6



## Gear Operator



Valve Size	L	Q	M	N	P	R	T	P	E	M	Weight (kg)
DN40 - 150	51	45	70	51	150	67	146	9 / 11 / 14	50 / 70	M6 / M8	4.0
DN200 - 250	72	66	98	66	207	84	285	17 / 22	102	M10	8.0
DN300 - 350	80	77	107	76	195	84	285	22	102	M10	10.3
DN400 - 500	111	174	217	96	243	164	290	24 / 27 / 32	140	M16	30.0
DN600	133	198	250	132	296	188	375	36	165	M20	50.0

# AE BUTTERFLY VALVE (Through Shaft With Pin / Through Shaft without Pin)

## Pneumatic and Electric Actuated Version



### Design

AE BYV331/332 Series butterfly valve when retrofitted with pneumatic or electric actuator make it suitable for automatic process control application.

Pneumatic actuator is available in double acting (DA) or spring return (SR) version. Wide range of accessories including E/P positioner, limit switch box for position feedback, declutchable manual override gearbox and pilot solenoid valves complete the range to meet various application requirements.

Electric actuator is available in on/off or modulating control version and comes standard with manual override built in.

The actuator is mounted onto the valve in normal open or normally closed position either directly or using customized mounting bracket. It is fully tested for alignment and proper functioning before delivery.

**Actuator**

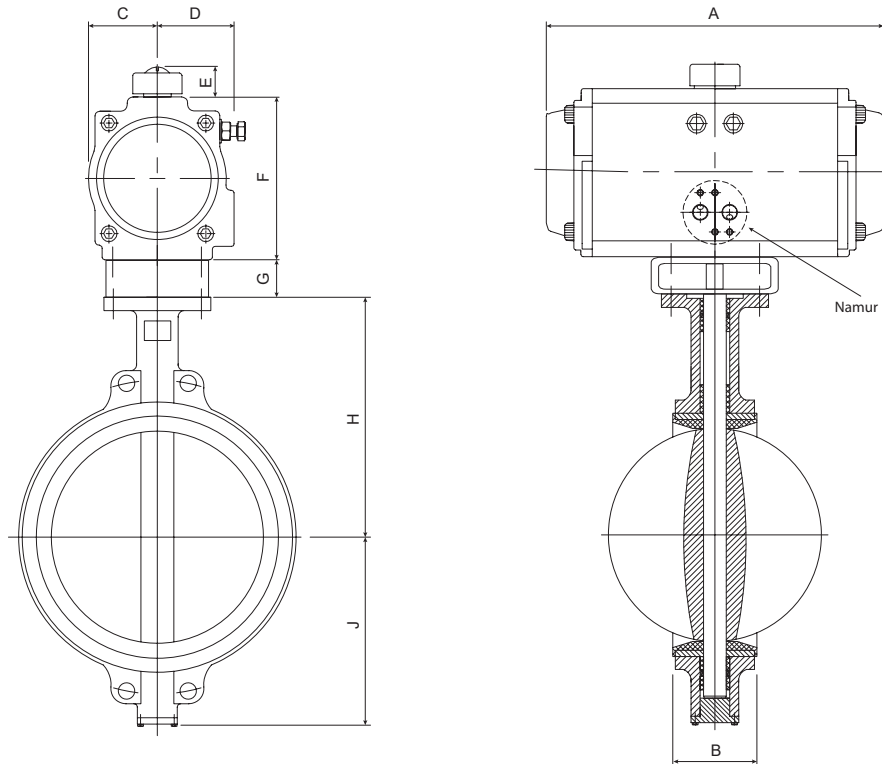
Function	Double Acting (DA) or Spring Return (SR)
Material	
Housing	Extruded aluminum alloy, hard anodized
End Cap	Pressure die cast aluminum alloy, epoxy coated
Pinion	Carbon steel, nickel plated
Piston	Cast aluminum / steel, hard anodized / Zinc galvanized
Cap Screw	Stainless steel
Spring	Spring steel, Dip Coated
Bearing and Guide	Engineering plastic
Travel Stop Cam	Alloy steel
Adjustment Screw	Stainless steel
Seal	NBR
Mounting Bracket	Aluminum, stainless steel, alloy steel
Operating Media	Dry or lubricated compressed air or non-corrosive gases
Supply Pressure	Min. 2 bar, Max. 8 bar
Operating Temperature	-20°C to +80°C (NBR) Lower or higher temperature version on request
Rotation	90°
Travel Adjustment	± 5°
Connection and Mounting	Namur, ISO5211 and DIN3337
Torque Output	3 Nm to 13024 Nm (DA) 4 Nm to 6584 Nm (SR)
Selection	Actuator is selected and matched in accordance to each process operating conditions and requirement to ensure proper functioning of the actuated valve

**Actuator**

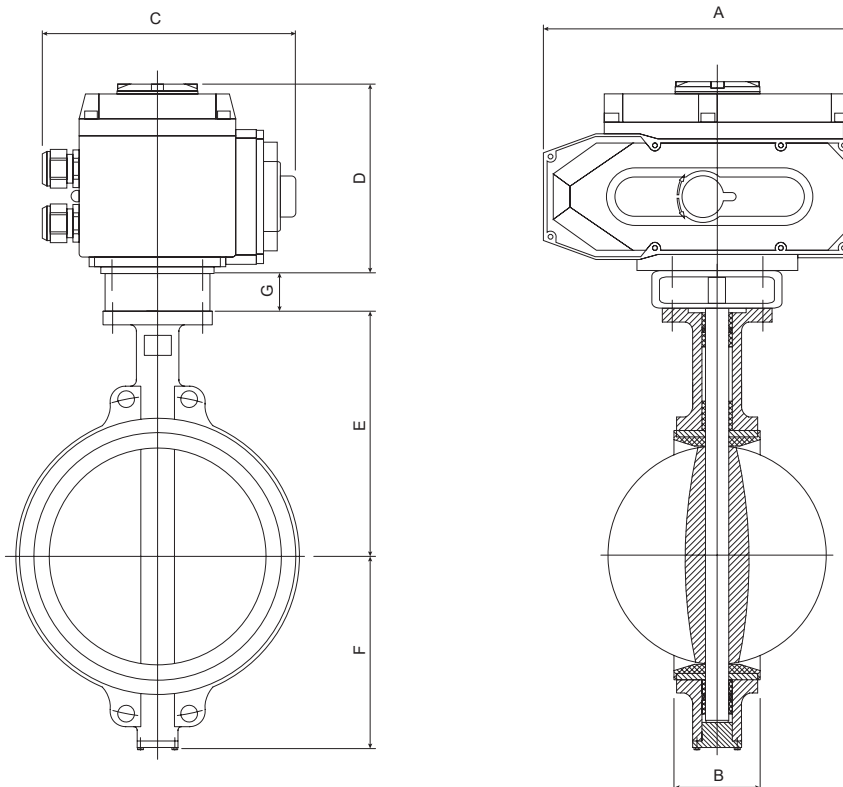
Function	On/Off or Modulating
Material	
Housing	Aluminum alloy, epoxy powder coated
Gear	Steel / aluminum bronze
Screws	Stainless steel
Indicator Cover	Polycarbonate
Shaft / Adaptor	Alloy steel
Seal	NBR
Power Supply	24VDC, 110VAC, 220VAC
Motor	Squirrel cage asynchronous motor
Limit Switch	SPDT, 250VAC10A, each for Open/Close position
Rotation	90° (± 10°) other rotation on request
Stall protection	Internal overheating protection, open @ 120°C / close @ 97°C (± 5°C)
Manual Operation	Mechanical handle standard
Space Heater	7 ... 10W (110/220VAC)
Conduit Entry	2 x M18
Operating Temperature	-20°C to +70°C
Ambient Humidity	Max. 90% RH
Mounting	ISO5211
Torque Output	30 Nm to 1000 Nm (2000 Nm on request)
Selection	Actuator is selected and matched in accordance to each process operating conditions and requirement to ensure proper functioning of the actuated valve
Options	
	Position Feedback Potentiometer (1K ... 10K)
	Position Feedback Sensor with Current output (4 ... 20mA)
	Proportional Control Unit for modulating control (input/output signal, 4 ... 20mA, 1 ... 5 VDC, 1 ... 10VDC)
	Power Failure Sell Reset
	Quick Opening Version

# AE BUTTERFLY VALVE (Through Shaft With Pin / Through Shaft withOUT Pin)

## Pneumatic Actuated Version



## Electric Actuated Version



# AE BUTTERFLY VALVE

## (Through Shaft With Pin / Through Shaft withOUT Pin)

### Pneumatic Actuated Version Common Selection and Dimension (mm)

Function	Size (mm)	Pressure Range <sup>1)</sup> (bar)	Actuator @ pilot air of:	Dimensions									Weight (kg)
			5.5 bar (80 psi)	A	B	C	D	E	F	G <sup>2)</sup>	H	J	
DA	40	0 to 10	AEJAT052DA	145	33	30	41	26	72	5	125	67	3.3
	50	0 to 10	AEJAT052DA	145	42	30	41	26	72	5	128	73	3.7
	65	0 to 10	AEJAT052DA	145	44.7	30	41	26	72	5	140	82	4.2
	80	0 to 10	AEJAT063DA	169	45.2	46	46	26	89	5	146	91	5.4
	100	0 to 10	AEJAT075DA	201	52.1	42	52	26	100	5	168	106	7.3
	125	0 to 10	AEJAT083DA	209	54.4	46	55	26	109	5	181	125	8.7
	150	0 to 10	AEJAT092DA	242	55.8	51	57.5	26	117	-	199	139	11.6
	200	0 to 10	AEJAT125DA	332	60.6	67.5	70	36	157	-	235	171	21.5
	250	0 to 10	AEJAT140DA	400	65.6	76	77	36	174	-	265	200	30.5
	300	0 to 10	AEJAT160DA	455	76.9	87.5	87.5	38	199	-	298	237	47.5
	350	0 to 10	AEJAT160DA	455	79.5	87.5	87.5	38	199	-	368	267	54.1
	400	0 to 10	AEJAT190DA	507	86.5	103	103	38	232	100	400	309	82.1
	450	0 to 10	AEJAT210DA	562	105.6	113	113	38	257	100	422	328	112.8
	500	0 to 10	AEJAT240DA	646	131.8	129	129	38	293	100	480	361	173.4
600	0 to 10	AEJAT270DA	722	152	146	146	38	333	-	562	459	251.3	
SR	40	0 to 10	AEJAT063SR	169	33	46	46	26	89	5	125	67	4.2
	50	0 to 10	AEJAT075SR	201	42	42	52	26	100	5	128	73	5.6
	65	0 to 10	AEJAT075SR	201	44.7	42	52	26	100	5	140	82	6.1
	80	0 to 10	AEJAT083SR	209	45.2	46	55	26	109	5	146	91	7.2
	100	0 to 10	AEJAT092SR	242	52.1	51	57.5	26	117	-	168	106	9.2
	125	0 to 10	AEJAT105SR	275	54.4	58	64	26	134	-	181	125	12.6
	150	0 to 10	AEJAT125SR	332	55.8	67.5	70	36	157	-	199	139	17.9
	200	0 to 10	AEJAT160SR	455	60.6	87.5	87.5	38	199	-	235	171	35.6
	250	0 to 10	AEJAT190SR	507	65.6	103	103	38	232	100	265	200	53.1
	300	0 to 10	AEJAT210SR	562	76.9	113	113	38	257	100	298	237	74.6
	350	0 to 10	AEJAT240SR	546	79.5	129	129	38	293	100	368	267	107.0
	400	0 to 10	AEJAT270SR	722	86.5	146	146	38	333	100	422	328	149.3
	450	0 to 10	AEJAT300SR	825	105.6	162	173	38	354	100	422	328	214.0
	500	0 to 10	AEJAT350SR	866	131.8	190	195	38	410	100	480	361	299.0
600	0 to 10	AEJAT400SR	924	152	258	258	38	464	100	562	459	526.0	

<sup>1)</sup> Actuator selection serve as a guide and is based on clean lubricating operating media at pressure up to 10 bar. For other operating conditions, please consult us.

<sup>2)</sup> For version where mounting bracket is required

# AE BUTTERFLY VALVE (Through Shaft With Pin / Through Shaft withOUT Pin)

## Electric Actuated Version Common Selection and Dimension (mm)

Function	Size (mm)	Pressure Range <sup>1)</sup> (bar)	Actuator	Dimensions							Weight (kg)
				A	B	C	D	E	F	G <sup>2)</sup>	
Bi-Stable	40	0 to 10	AEJMO-003/005*	123	33	100	115	125	67	5	4.2
	50	0 to 10	AEJMO-003/005*	123	42	100	115	128	73	5	4.6
	65	0 to 10	AEJMO-003/005*	123	44.7	100	115	140	82	5	5.1
	80	0 to 10	AEJMO-005	161	45.2	121	125	146	91	5	5.6
	100	0 to 10	AEJMO-010	188	52.1	145	127	168	106	5	8
	125	0 to 10	AEJMO-010	188	54.4	145	127	181	125	5	9.5
	150	0 to 10	AEJMO-015	188	55.8	145	127	199	139	-	12
	200	0 to 10	AEJMO-040	268	60.6	255	164	235	171	-	24
	250	0 to 10	AEJMO-060	268	65.6	255	164	265	200	-	29
	300	0 to 10	AEJMO-080	268	76.9	255	164	298	237	-	41
	350	0 to 10	AEJMO-100	268	79.5	255	164	368	267	-	48
	400	0 to 10	AEJMO-200	280	86.5	172	160	400	309	100	66
	450	0 to 10	AEJMO-200	280	105.6	172	160	422	328	100	84
500	0 to 10	On request			131.8			480		-	
600	0 to 10	On request			152			562	459	-	

\* AEJMO-003 available in 220VAC only.

\* AEJMO-005 available in 220VAC or 24VDC

<sup>1)</sup> Actuator selection serve as a guide and is based on clean lubricating operating media at pressure up to 10 bar. For other operating conditions, please consult us.

<sup>2)</sup> For version where mounting bracket or spacer is required

### Other

### alve



AE BYV333 - Wafer Pattern Through Shaft with Pin Lug Type Butterfly Valve

AE BYV334 - Wafer Pattern Through Shaft withOUT Pin Lug Type Butterfly Valve

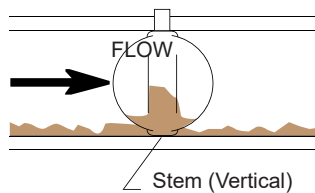
AE BYV335 - Double Flange Pattern Through Shaft with or withOUT Pin Type Butterfly Valve

AE BYV336 - Wafer Pattern 2 pcs Shaft withOUT Pin Butterfly Valve

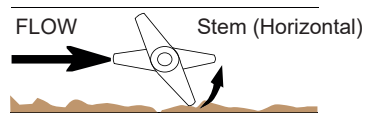
AE BYV337 - High Performance Eccentric Butterfly Valve

# AE BUTTERFLY VALVE (Through Shaft With Pin / Through Shaft without Pin)

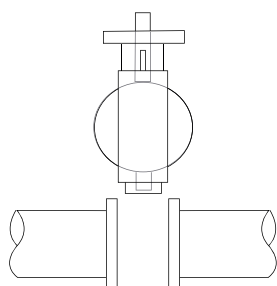
## Installation Guide



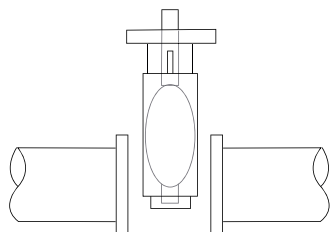
Incorrect Installation  
Sludge builds up on disc and stem



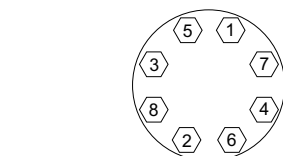
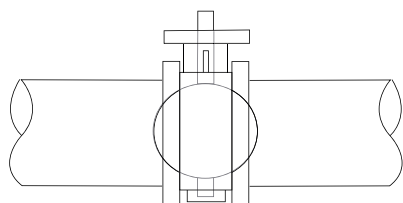
Correct Installation  
Sludge passes under disc



Incorrect Installation  
Pipe not spread, disc open beyond valve body face which will result in disc edge damage when it hits pipe flange



Correct Installation  
Pipe spread and align, disc open within valve body face



With disc fully open, tighten all flange-bolts according to the tightening pattern

## Valve Location

- Resilient seated butterfly valves should be installed if possible a minimum of 6 pipe diameters from other line elements, example, elbows, pumps, valves. When it is not possible, it is important to achieve as much distance as possible.
- Where the resilient seated butterfly valve is connected to a check valve or pump, use an expansion joint between them to ensure the disc does not interfere with the adjacent equipment.

## Valve Orientation

- In general, it is recommended that resilient seated valve be installed with the stem in the vertical position and the actuator mounted vertically above the valve.
- It is not recommended that the valve be installed in an upside down position.
- For slurries, sludge, mine tailing, pulp stock, dry cement and any media with sediments or particles, it is recommended that the resilient valve be installed with the lower disc edge opening in the down stream direction (please refer to picture).

## Procedures

- Make sure the pipeline and pipe flanges faces are clean. Any foreign material can obstruct disc movement or damage the disc or seat of the valve.
- The wafer butterfly valves can be installed directly in between flanges without gasket.
- Align the the piping and then spread the flanges a distance apart so as to permit the valve body to be easily dropped between the flanges without contacting the pipe flanges.
- Insert in the lower part of flanges at least two flange-bolts.
- Open the valve to position the valve disc to approx. 10 to 15mm inside the face of the seat (approx. 10° to 20° open).
- For valve installed with failed safe actuator, it is recommended to remove the actuator.
- Insert the valve between the flanges taking care not to damage the seat faces. Use the previously fitted flange-bolts to hold the valve where applicable.
- Insert the flange-bolt through centering centering lugs of valve.
- Span the valve body with all flange-bolts, but do not tighten the bolts.
- Carefully open the disc to the full open position, making sure the disc does not hit the adjacent pipe inside diameter.
- Systematically remove jack bolts or other flange spreaders and hand tighten the flange-bolts.
- Very slowly close the valve disc to ensure disc edge clearance from the adjacent pipe flange inside diameter and check for smooth operation.
- Then open the disc to full open and tighten all flange-bolts according to the tightening pattern shown and to adequate torque below.
- Valve installation with fully closed disc can distort the seat during bolt tightening and will increase initial torque.
- Finally repeat a full close to full open rotation of the disc to ensure proper clearances and operation.
- For installing resilient seat butterfly valve between welding type flanges, first place the valve between the flanges with the flange bores and valve body aligned properly. The disc should be in the approx. 10° to 20° open position and inside the face of the seat.
- Span the body with the bolts.
- Take the assembly of flange-body-flange and align it properly to the pipe.
- Tack weld the flanges to the pipe.
- Remove the bolts and the valve from the pipe flanges after tack welding and then complete the welding of the flanges without the valve.
- Be sure to let the pipe and flanges cool before installing the valve as the procedures mentioned before.
- Never complete the welding process (after tacking) with the valve between pipe flanges. This causes severe seat damage due to heat transfer from the welding!

## Recommended Bolt Tightening Torques for up to Class 150 service

Valve Size (mm)	Min Torque (Nm)	Max Torque (Nm)
40 to 100	30	80
125 to 200	40	130
250 to 300	70	270
350 to 400	90	330
450 to 500	140	470
600	200	540



**AE** ANDERSON  
EUROTECH  
VALVES AND INSTRUMENTS

For Your Sales and After Sales, please contact:

Indonesia Sole Distributor

**PT. Multi Sukses Pratama**

Jl. Bandengan Utara No. 80  
Rukan Bandengan Indah D No.20

Jakarta Utara, Indonesia

☎ (62) (21) 29379590, 29379591, 68292838, 8822918 (62)

☎ (21) 29379571

E-mail: [sales@suksespratama.com](mailto:sales@suksespratama.com)