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Butterfly Valves
Series 'LBFVZ'



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Manufacturer of Pumps, Tanks, Heat Exchangers & Accessories
for HVAC Market After-Sales Parts and Services

BUTTERFLY VALVES SERIES "LBFVZ"

FLO FAB INC
LAKE WORTH,
FLORIDA, USA



Butterfly Valves Series LBFVZ

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SUBMITTAL DATA SHEET
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FEATURES

Application: HVAC, Water supply, Chemical and/or Petrochemical processing, Power and utilities, Paper and pulp.

Type: Lugged

Face to Face: API 609, BS 5155, DIN 3202, ISO 5752

Flange: ANSI

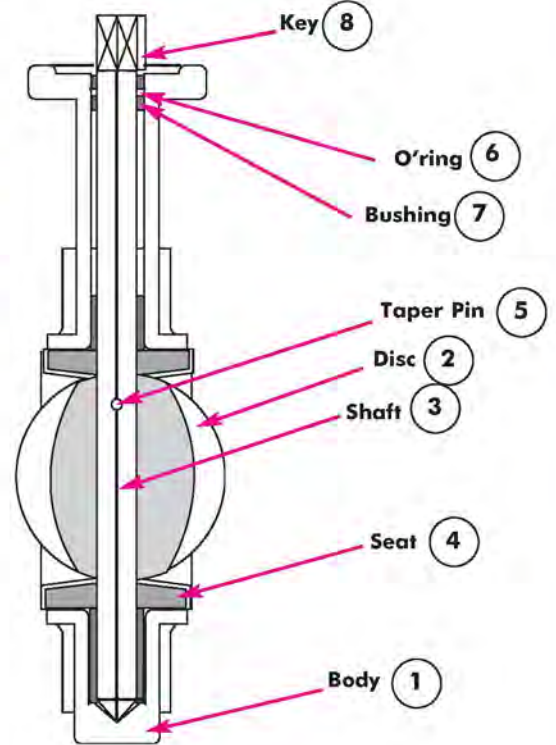
Mounting Flange: ISO 5211

Maximum Working Pressure: From 2" (50 mm) to 12" (300 mm) 200 PSI PN16 (1376 kPa) @ 225°F (107°C)
 From 14" (350 mm) to 24" (600mm) 150 PSI PN10 (1034 kPa) @ 225oF (107°C)



Part		Material
1	Body	Cast Iron ASTM A126 Class B
2	Disc	304 Stainless Steel ASTM A315 Gr.CF8
3	Shaft	416 Stainless Steel ASTM A276
4	Seat	EPDM
5	Taper Pin	Stainless Steel ASTM A276 Gr 316
6	O'ring	EPDM
7	Bushing	PTFE
8	Key	Carbon Steel

Part		Material
1	Body	Ductile Iron, Carbon Steel, SS316
2	Disc	CF8, CF8M, SS416
3	Shaft	SS416
4	Seat	NBR, Viton, Neoprene, Hypalon, Silicon
5	Taper Pin	SS416
6	O'ring	NBR
7	Bushing	Bronze
8	Key	N/A



Dimensions not to be used for construction unless prints certified by factory.



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CONSTRUCTION

Weather Seal:

Top bushing keeps dust and moisture from entering the upper shaft journal.

Shaft:

One-piece through shaft ensures dependability and positive disc positioning.

Bushings:

Shaft bushings reduce torque and isolate the shaft from the valve body, preventing seizure of the shaft due to corrosion in the shaft journal.

Seat Face:

Seat to flange seal eliminates the need for flange gaskets.

Seat:

Phenolic-backed seat is non-collapsible, stretch resistant, blow out proof, and field replaceable.

Mounting Flange:

Mounting flange accommodates direct mounting of all type of actuators, including: handles, gear operators, electric and pneumatic.

O'ring(s):

Shaft seal provides further assurance against stem leakage.

Flat Seal:

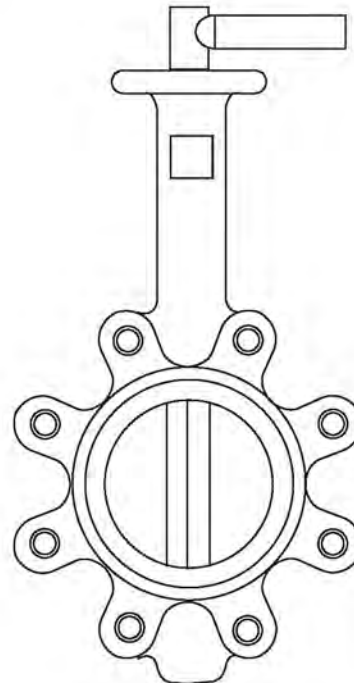
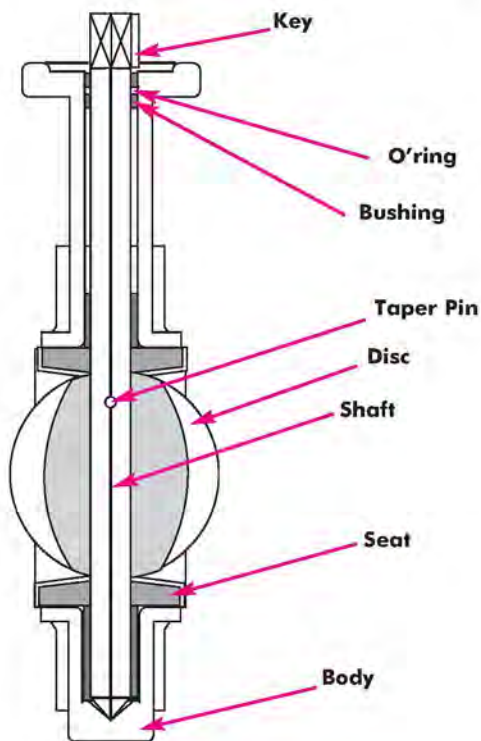
Smooth finished disc flat mate with seat flat to give a highly efficient primary seal that prevents leakage into the shaft area.

Taper Pin(s):

Precision taper pin ensure positive, vibration proof, shaft to disc connection. Field replaceable.

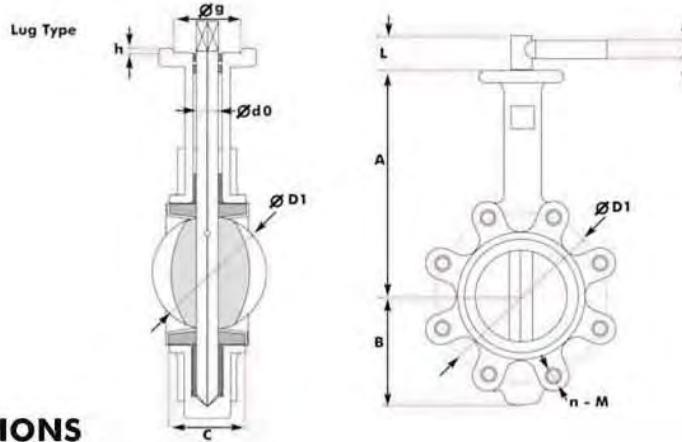
Disc:

Precision profile provides bubble-tight shut-off, assures minimum torque and longer seat life.



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NOMINAL DIMENSIONS

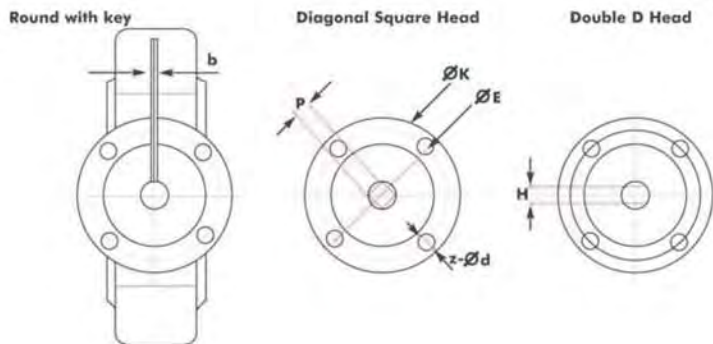
MODELS	A	B	C	L	d0	g	h	D1 ANSI 150	n-M	WEIGHT (KG)
BFVZ0200-L 2"	6-5/16	3-1/8	1-5/8	1-1/4	1/2	1-3/8	1/8	4-3/4	4 - 5/8"	3,8
BFVZ0250-L 2-1/2"	6-7/8	3-1/2	1-3/4	1-1/4	1/2	1-3/8	1/8	5-1/2	4 - 5/8"	4,2
BFVZ0300-L 3"	7-1/8	3-3/4	1-3/4	1-1/4	1/2	1-3/8	1/8	6	4 - 5/8"	4,7
BFVZ0400-L 4"	7-7/8	4-1/2	2-1/16	1-1/4	5/8	2-3/16	1/8	7-1/2	8 - 5/8"	9,0
BFVZ0500-L 5"	8-3/8	5	2-1/8	1-1/4	3/4	2-3/16	1/8	8-1/2	8 - 3/4"	10,9
BFVZ0600-L 6"	8-7/8	5-1/2	2-3/16	1-1/4	3/4	2-3/16	1/8	9-1/2	8 - 3/4"	14,2
BFVZ0800-L 8"	10-1/4	6-7/8	2-3/8	1-3/4	7/8	2-3/4	1/8	11-3/4	8 - 3/4"	18,2
BFVZ1000-L 10"	11-1/2	8	2-9/16	1-3/4	1-1/8	2-3/4	1/8	14-1/4	12 - 7/8"	26,8
BFVZ1200-L 12"	13-1/4	9-1/2	3	1-3/4	1-1/4	2-3/4	1/8	17	12 - 7/8"	40
BFVZ1400-L 14"	14-1/2	10-1/2	3	1-3/4	1-1/4	2-3/4	1/8	18-3/4	12 - 1"	56
BFVZ1600-L 16"	15-3/4	12-3/16	3-3/8	2	1-5/16	3-15/16	3/16	21-3/4	16 - 1"	96
BFVZ1800-L 18"	16-5/8	12-15/16	4-3/16	2	1-1/2	3-15/16	3/16	22-3/4	16 - 1-1/8"	122
BFVZ2000-L 20"	18-7/8	14-3/16	5-3/16	2-1/2	1-5/8	3-15/16	3/16	25	20 - 1-1/8"	202
BFVZ2400-L 24"	22-1/8	18-1/16	6	2-3/4	2	5-1/8	3/16	29-1/2	20 - 1-1/4"	270

DIMENSIONS ARE SUBJECT TO CHANGE WITHOUT NOTICE



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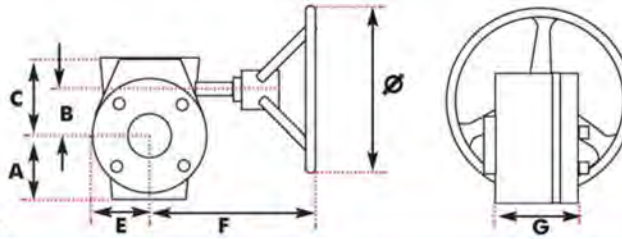
NOMINAL DIMENSIONS

MODELS	P	H	Key b x l	K	Z - d	E
BFVZ0200-L 2"	3/8	3/8	1/8 x 5/8	3-1/16	4 - 1/4	1-15/16
BFVZ0250-L 2-1/2"	3/8	3/8	1/8 x 5/8	3-1/16	4 - 1/4	1-15/16
BFVZ0300-L 3"	3/8	3/8	1/8 x 5/8	3-1/16	4 - 1/4	1-15/16
BFVZ0400-L 4"	7/16	1/2	3/16 x 3/4	3-9/16	4 - 3/8	2-3/4
BFVZ0500-L 5"	9/16	9/16	3/16 x 3/4	3-9/16	4 - 3/8	2-3/4
BFVZ0600-L 6"	9/16	9/16	3/16 x 3/4	3-9/16	4 - 3/8	2-3/4
BFVZ0800-L 8"	11/16	11/16	3/16 x 3/4	4-15/16	4 - 1/2	4
BFVZ1000-L 10"	7/8	7/8	5/16 x 1-1/8	4-15/16	4 - 1/2	4
BFVZ1200-L 12"	7/8	15/16	5/16 x 1-1/8	5-1/2	4 - 1/2	4
BFVZ1400-L 14"	7/8	15/16	5/16 x 1-1/8	5-1/2	4 - 1/2	4
BFVZ1600-L 16"	15/16	15/16	3/8 x 1-15/16	7-3/4	4 - 11/16	5-1/2
BFVZ1800-L 18"	1-1/16	1-1/16	3/8 x 1-15/16	7-3/4	4 - 11/16	5-1/2
BFVZ2000-L 20"	1-7/16	1-1/4	3/8 x 1-15/16	7-3/4	4 - 11/16	5-1/2
BFVZ2400-L 24"	1-7/16	1-7/16	2 - 5/8 x 2-3/8	10-7/8	4 7/8	6-1/2

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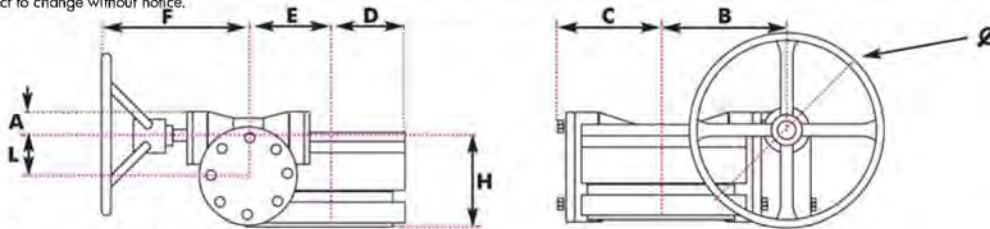
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NOMINAL DIMENSIONS

Models & Dimensions	Rated Output USGPM	Max. Output USGPM	Ratio	A	B	C	E	F	G	Ø	Weight
3Dc-15 2" - 6"	150	270	24:1	2 ¹ / ₁₆ " 52 mm	1 ⁷ / ₈ " 45 mm	2 ⁵⁹ / ₆₄ " 74 mm	2 ¹ / ₁₆ " 52 mm	6" 152.5 mm	2 ⁶¹ / ₆₄ " 75 mm	5 ¹⁵ / ₁₆ " 150 mm	11.46 lbs 5.2 kg
3Dc-50 8" - 10"	500	700	30:1	2 ⁶¹ / ₆₄ " 75 mm	2 ¹ / ₂ " 62.75 mm	4 ³¹ / ₃₂ " 101 mm	2 ⁶¹ / ₆₄ " 75 mm	9 ¹⁵ / ₁₆ " 250 mm	3 ³ / ₈ " 86 mm	11 ⁷ / ₈ " 300 mm	28.66 lbs 13 kg
3Dc-120 12" - 14"	1 000	1 200	50:1	3 ³ / ₁₆ " 81 mm	3 ² / ₁₆ " 80 mm	4 ¹¹ / ₁₆ " 118 mm	3 ³ / ₁₆ " 81 mm	8 ⁵⁹ / ₆₄ " 227 mm	3 ¹ / ₄ " 83 mm	11 ⁷ / ₈ " 300 mm	33.07 lbs 15 kg

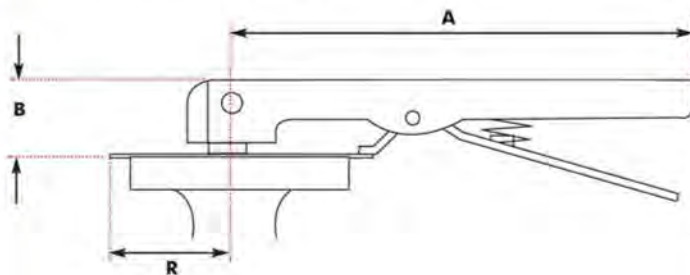
Dimensions are subject to change without notice.



NOMINAL DIMENSIONS

Models & Dimensions	Rated Output USGPM	Max. Output USGPM	Ratio	A	B	C	D	E	F	H	L	Ø	Weight
3DA30/250 16" - 20"	2 500	3 000	560:1	2 ¹ / ₄ " 56.5 mm	7 ¹ / ₁₆ " 178.5 mm	4 ⁷ / ₈ " 121 mm	4 ¹ / ₂ " 115 mm	4 ¹ / ₈ " 104 mm	6 ¹⁵ / ₁₆ " 174 mm	4 ⁶¹ / ₆₄ " 125.5 mm	5 ¹ / ₄ " 145.5 mm	2 ⁹ / ₁₆ " 66 mm	125.4 lbs 56.9 kg
3DA30/400 24"	4 000	5 200	640:1	2 ¹ / ₄ " 56.5 mm	7 ⁷ / ₈ " 197.5 mm	5 ⁹ / ₁₆ " 142 mm	5 ¹¹ / ₁₆ " 144 mm	5 ⁹ / ₁₆ " 130 mm	6 ¹⁵ / ₁₆ " 174 mm	5 ¹ / ₄ " 145.5 mm	5 ¹ / ₄ " 145.5 mm	2 ⁹ / ₁₆ " 66 mm	159.5 lbs 72.37 kg

Dimensions are subject to change without notice.



NOMINAL DIMENSIONS

Models & Dimensions	A	B	R	Weight
2" - 6"	10 ² / ₁₆ " 270 mm	1 ¹ / ₄ " 32 mm	2 ³ / ₈ " 52 mm	1.98 lbs 0.9 kg
8"	14 ¹ / ₈ " 360 mm	1 ⁷ / ₈ " 45 mm	2 ⁶¹ / ₆₄ " 75.2 mm	4.30 lbs 1.95 kg
10" - 12"	19 ² / ₁₆ " 500 mm	1 ⁷ / ₈ " 45 mm	2 ⁶¹ / ₆₄ " 75.2 mm	5.84 lbs 2.65 kg

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DEFINITION OF A Kv VALUE

The value Kv is the flow rate of pure water at 15°C passing through the valve when the disc is fully opened and the differential pressure between the two ends of the valve is 100 kPa.

$$Kv = Q \sqrt{\frac{G}{\Delta P}}$$

- Q** Maximum Flow(m³/h)
- G** Specific Gravity (g/cm³) (1 for water)
- Δ P** Differential Pressure (kPa)
- Kv** = 0.855 Cv

DEFINITION OF A Cv VALUE

The value Cv is the flow rate of pure water at 60°F passing through the valve when the disc is fully opened and the differential pressure between the two ends of the valve is 1 PSI

$$Cv = V \sqrt{\frac{G}{\Delta P}}$$

- V** Maximum Flow (USGPM)
- G** Specific Gravity (1 for water)
- Δ P** Differential Pressure (PSI)
- Cv** = 1.77 Kv

CV VALUE OF CONCENTRIC BUTTERFLY VALVES

Sizes in	Flow in USGPM @ 1 PSI @ Various Disc Angle								
	10°	20°	30°	40°	50°	60°	70°	80°	Full Open 90°
2	0.1	5	12	24	45	64	90	125	135
2½	0.2	8	20	37	65	98	144	204	220
3	0.3	12	22	39	70	116	183	275	302
4	0.5	17	36	78	139	230	364	546	600
5	0.8	29	61	133	237	392	620	930	1022
6	2	45	95	205	366	605	958	1437	1579
8	3	89	188	408	727	1202	1903	2854	3136
10	4	151	320	694	1237	2047	3240	4859	5340
12	5	234	495	1072	1911	3162	5005	7505	8250
14	6	338	715	1549	2761	4568	7230	10844	11917
16	8	464	983	2130	3797	6282	9942	14913	16388
18	11	615	1302	2822	5028	8320	13168	19752	21705
20	14	791	1674	3628	6465	10698	16931	25396	27908
24	22	1222	2587	5605	9989	16528	26157	39236	43116

Dimensions are subject to change without notice.

TYPICAL SPECIFICATION

Furnish and install as shown on plans, FLO FAB butterfly valves designed to perform the functions as a tight shut off and/or fully open valve.

All valves shall have memory stopper with set screw.

Valve shall be LUG type series LBFVZ from 2" to 24".

The valves shall be of heavy-duty cast iron construction suitable for standard ANSI connections, and rated for a maximum working pressure of 200 PSI (1378.95 kPa) for diameters 2" to 12" and 150 PSI (1034.21 kPa) for diameters 14" to 24" at 225°F (107.2°C). Construction of the shaft will be in 316 stainless steel, seat in EPDM with 304 stainless steel disc.

All valves shall be FLO FAB series LBFVZ.

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