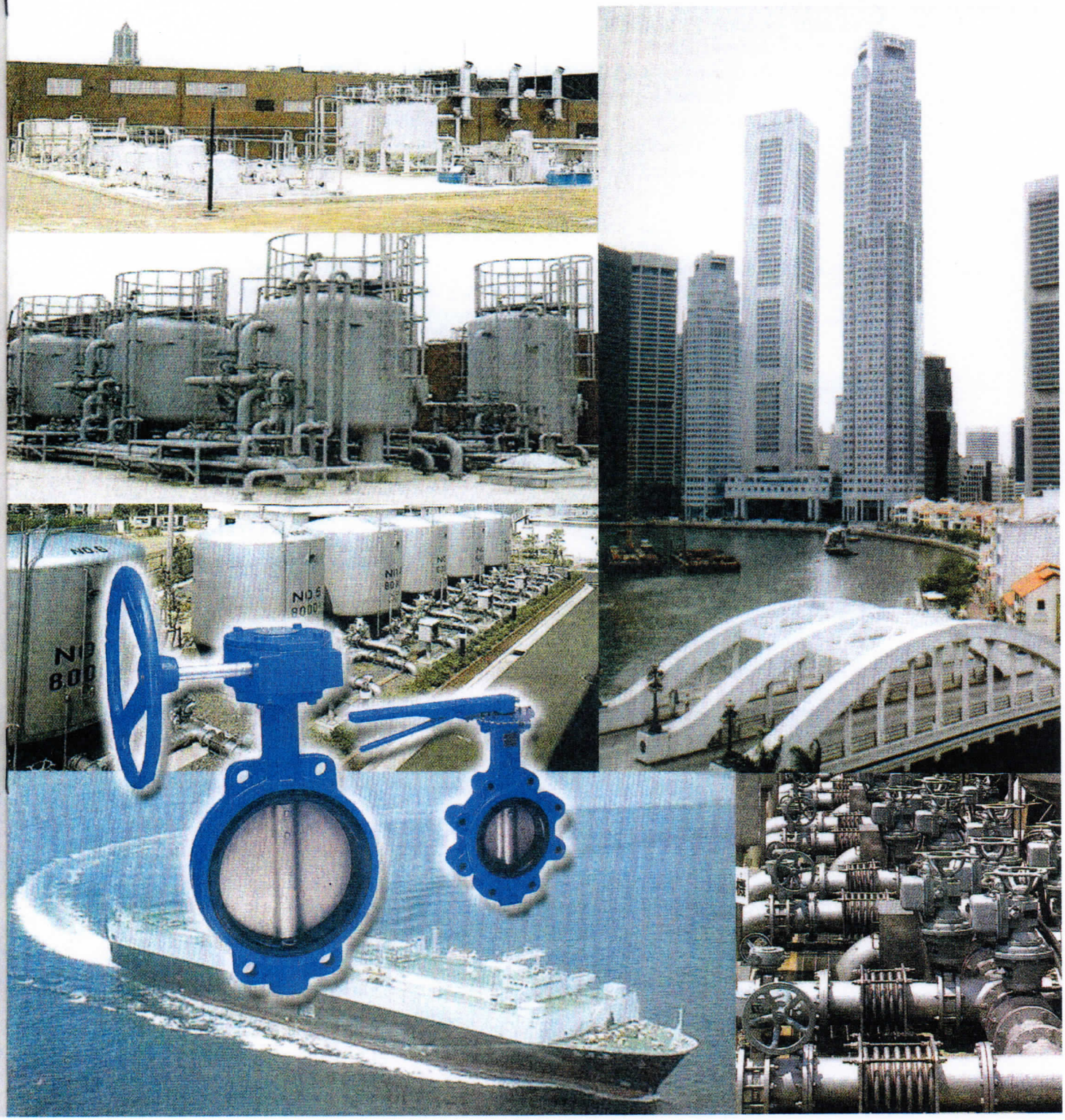
Neu-Flo

BFV *SERIES*
BUTTERFLY VALVES



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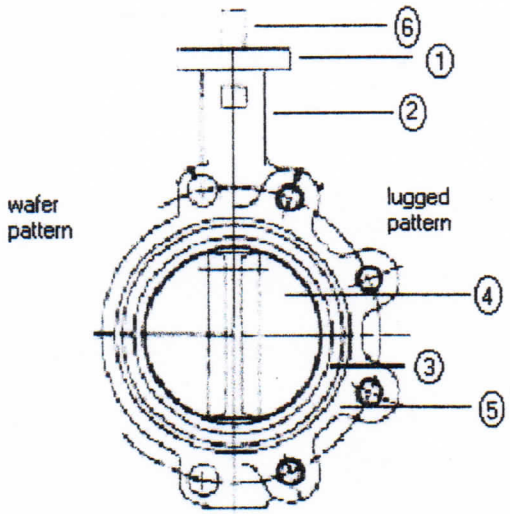
Summary of Product Advantages :

1. The operator flange conforms to ISO 5211 onto which manual, pneumatic or electric actuators can be readily mounted.

2. The height of the valve neck is high enough to accommodate complete insulation.

3. The phenolic backed rubber seat is non-collapsible, stretch resistant, blowout proof and easily field replaceable. Supplementary gasket seals for the adjacent flanges are not required.



4. The precision machining of the disc guarantees the benefit of low operating torque and tight valve sealing up to a maximum working pressure of 16 bars. The hydrodynamic disc design gives high flow characteristics.

5. The valve body is precision machined in order that the valve rubber seat with shaft locations can be accurately positioned to ensure minimal operational wear and an extended reliable service life.

6. The one piece shaft design with support bushings at three locations for optimal guidance, positive shaft alignment, actuator support and long service life.

Material Configurations

BODY	Cast Iron (ASTM A126 Gr.B), Ductile Cast Iron (ASTM A536), Cast Steel, (ASTM A216 WCB), Stainless Steel (ASTM A351 CF8M)
DISC	Ductile Iron with Nickel Plated (ASTM A536), Aluminium Bronze (ASTM B148), Stainless Steel 316 (ASTM A351 CF8M)
SHAFT	Stainless Steel 416
SEAT	NBR, EPDM, Viton, PTFE

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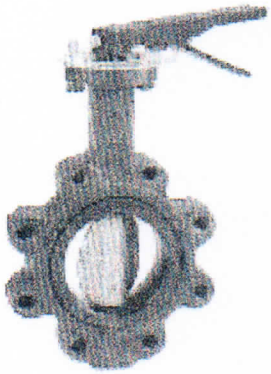
Neu-*Flo* butterfly valve when compared with other traditional isolating valves such as Gate, Globe and Ball valves offers the following advantages :

They all ideally suitable for isolation and control purposes.

- Their light weight and compact design reduce installation, storage and transport cost.
- They can be installed at any selected position.
- The centrally mounted disc and hydrodynamic design minimize pressure loss.
- Excellent flow characteristics with flow in either direction optimally achieved in the operating range between 15° and 70° opening.
- No gasket is required for installation.
- Gas tight sealing in either direction.

Technical Features :

Neu-*Flo* series BFW (wafer type), BFL (full lugged type) and BFD (double flanged type) are concentric disc, soft sealing butterfly valves for installation with flanges drilled in accordance with JIS, ANSI, DIN etc.



Size range : 50mm to 350mm (2" to 14")
Working pressure : 16 bar
Working temperature : -10° to 80° (NBR seat)
-20° to 120° (EPDM seat)
-20° to 150° (Viton seat)

Overall length in accordance with ISO 5752 for actuator mounting flange in accordance with ISO 5211

To meet the stringent specifications of tight shut off butterfly valve for chemical processing plants, power plants, refineries, shipbuilding, pulp and paper mills and HVAC applications, Neu-*Flo* butterfly valve are specially designed with emphasis being put on the seal tolerance between the disc and the liner.

Quality control stresses highly on the precision machining of the valve body and disc, precise positioning of the rubber liner within the body and exact positioning of the shaft. The primary seal is achieved by means of the interference between the disc and the surface of the liner, particularly in the area of the shaft locations. Pressure surge seals are molded inside the sea shaft collars providing supplementary security. These multiple seals ensure that the medium comes into contact only with the disc and the seat.

Neu-*Flo* butterfly valves are highly competitive with their absolutely tight sealing, corrosion resistance and low operation torque requirement. Thus, minimal operational wear and an extended service life are the long-term benefits.

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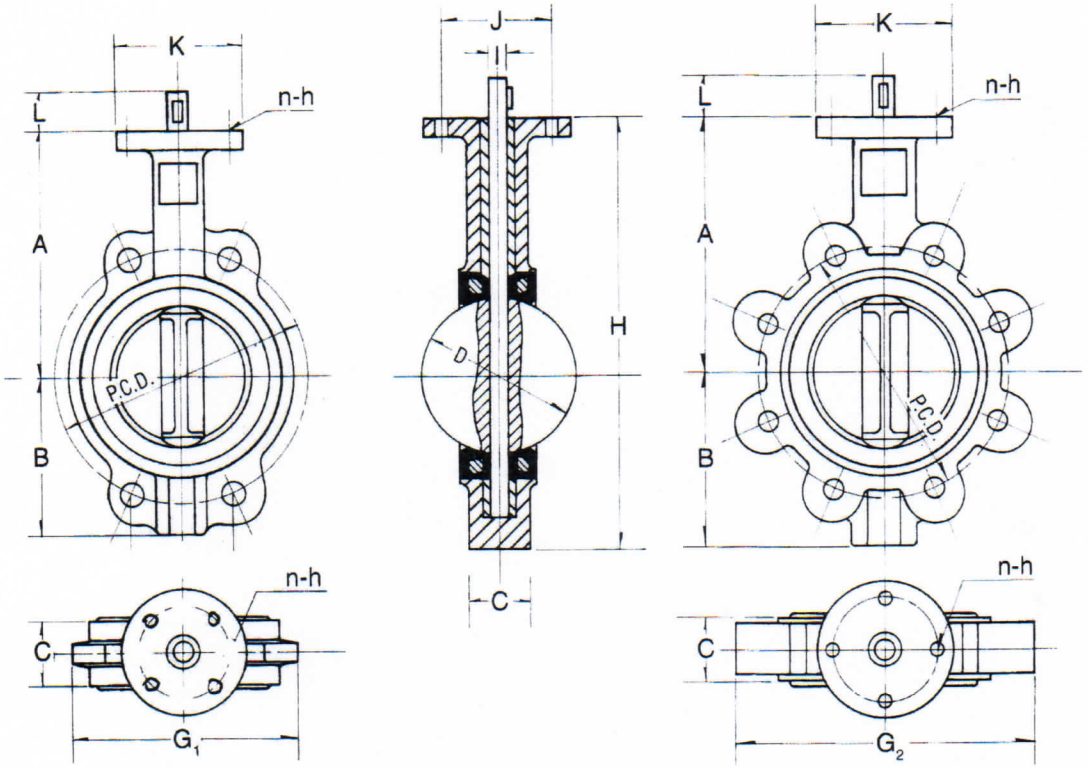
Dimensions-Bare shaft



(Unit : mm)

Size	H	A	B	C	D	G_1	G_2	I	J	K	L	n	h	ISO 5211
50 mm	241	161	80	42	52.9	118	121	12.6	50	77	32	4	7	F 05
65 mm	264	175	89	44.7	64.5	136	138	12.6	50	77	32	4	7	F 05
80 mm	276	181	95	45.2	78.8	143	146	12.6	50	77	32	4	7	F 05
100 mm	314	200	114	52.1	104	156	206	15.8	70	92	32	4	10	F 07
125 mm	340	213	127	54.4	123.3	187	234	18.9	70	92	32	4	10	F 07
150 mm	370	226	139	55.8	155.6	212	262	18.9	70	92	32	4	10	F 07
200 mm	435	260	175	60.6	202.5	264	313	22.1	102	125	45	4	12	F 10
250 mm	495	292	203	65.6	250.5	325	394	28.5	102	125	45	4	12	F 10
300 mm	579	337	242	76.9	301.6	375	468	31.6	102	140	45	4	12	F 10
350 mm	635	368	267	76.5	333.5	416	515	31.6	102	140	45	4	12	F 10

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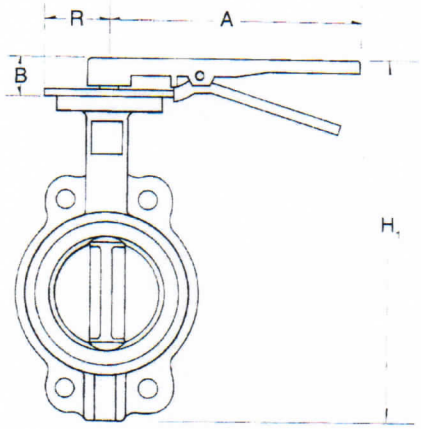
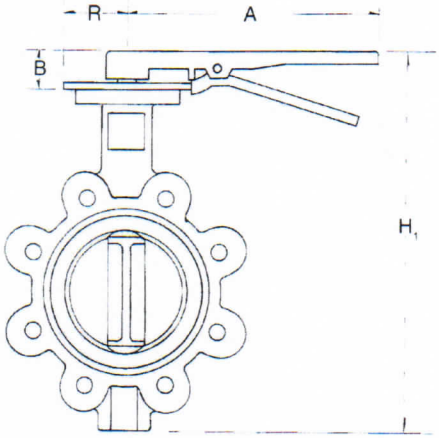
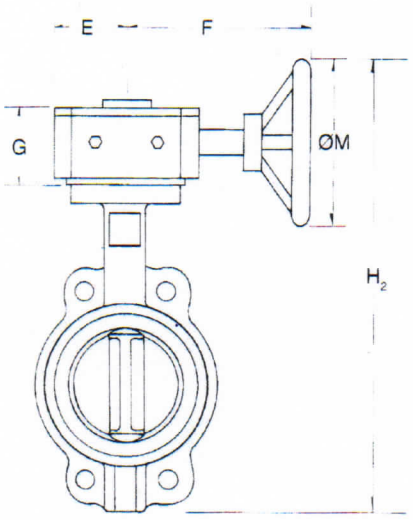
Dimensions-Lever and gear operator

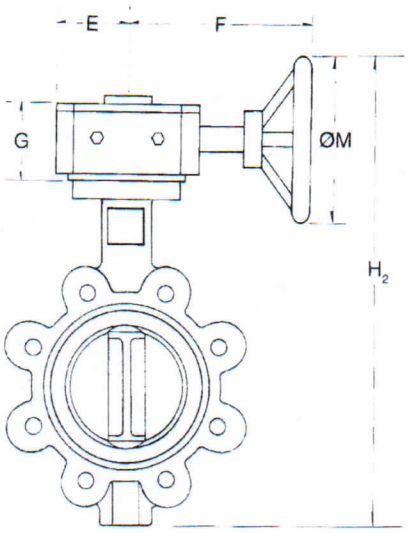




(Unit : mm)

Size	Lever operator					Gear operator			
	H_1	A	B	R	H_2	E	F	G	M
50 mm	273	267	32	51	348	59	121	63	150
65 mm	296	267	32	51	371	59	121	63	150
80 mm	308	267	32	51	383	59	121	63	150
100 mm	346	267	32	51	421	59	121	63	150
125 mm	372	345	32	51	447	59	121	63	150
150 mm	402	345	32	51	477	59	121	63	150
200 mm	480	353	45	76	622	78	163	74	300
250 mm	540	353	45	76	682	78	163	74	300
300 mm	-	-	-	-	767	98	193	75	300
350 mm	-	-	-	-	823	98	193	75	300





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Seating Torque

The operating torque figures have reasonable safety factors included for on/off applications with normal liquid media. For dry or heavy media, we recommend these valves to be increased by 30%. For modulating service, multiply by 1.5. When in doubt, please consult our Technical Department.

The below figures are given in Nm. If pounds feet are required, apply a multiplier of 0.738.

ΔP Size	3.5 bar	7 bar	10.5 bar	14 bar	16 bar
50mm	13	14	15	16	17
65mm	15	16	17	18	20
80mm	19	22	24	25	27
100mm	29	32	35	38	40
125mm	51	56	62	66	70
150mm	68	74	80	86	93
200mm	98	106	116	125	134
250mm	209	228	247	267	286
300mm	261	285	309	333	356
350mm	324	353	382	412	441

Dynamic torque - The flow of a liquid across the disc of a partly open butterfly valve produces a force on the disc tending to close the valve. The flow is said to produce dynamic torque. The magnitude of this dynamic torque depends on the valve size, the density of the liquid and its velocity. For valve size smaller than 150mm, the dynamic torque may usually be neglected. For valve size 200mm or larger, we recommend a normal flow velocity, otherwise dynamic torque must be considered when choosing a suitable operator.

Installation Instruction

1. Neu-*Flo* butterfly valve is used between flanges with flat or standard raised faces. Set valve disc at partially close position and within the confines of the valve body.
2. Check the I.D. of the flange and pipe to ensure free disc movement, particularly on cement or rubber lined, or heavy scheduled pipe.
3. Position the connecting pipe flanges in line with the pipeline system, clear of the valve and seat, and allow sufficient space between the flanges. Position the valve carefully between two flanges, properly centre the valve and insert bolts through the upper and lower valve alignment holes first. Cross tighten all the bolts diagonally. Finally, check flange alignment and valve to ensure disc clearance.
4. Never weld the flange with valve installed. Do not use flange gasket or sealing compound.
5. It is recommended to install the valve with its shaft in the horizontal position and the lower part of the disc opening to downstream direction, particularly on slurry or sedimentary duties.

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Flow Coefficient

The flow coefficient Kv is a dimensional quantity of water flow in m^3/hr of water at a temperature of 5 °C to 30 °C when the pressure drop across the valve is 1 bar. If Cv value are required, apply a multiplier of 1.167 to the Kv value.

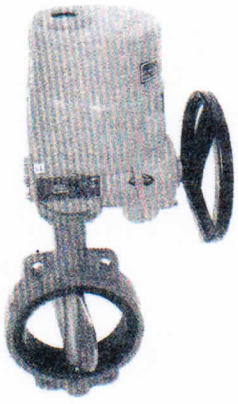
Disc Opening / Size	10 °	20 °	30 °	40 °	50 °	60 °	70 °	80 °	90 °
50 mm	0.10	6.14	11.53	19.23	29.13	41.99	48.84	53.13	53.13
65 mm	0.16	9.61	24.58	38.29	55.94	74.55	90.83	101.1	105.4
80 mm	0.23	13.83	35.39	55.14	80.72	115.9	147.4	178.2	204.8
100 mm	0.41	24.59	62.91	98.0	143.5	206.2	269.1	329.0	375.3
125 mm	0.64	38.42	98.3	153.1	224.3	322.1	431.0	560.4	700.1
150 mm	0.92	55.33	141.6	220.6	322.9	463.8	637.5	852.6	1131
200 mm	1.63	98.4	251.7	392.1	574.0	824.6	1171	1518	2587
250 mm	2.55	153.7	393.2	612.6	897.2	1289	1820	2506	3409
300 mm	3.67	221.3	566.2	882.6	1291	1855	2656	3820	5842
350 mm	4.75	285.9	731.6	1140	1668	2398	3143	4440	6218

Formula for the calculation of valve sizing-Liquid

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

Where, Kv : Flow coefficient
Q : Flow rate, M^3 / Hr
G : Specific gravity (Water = 1)
$\triangle$ P : Pressure drop across the valve (P_1 - P_2)
P_1 : Absolute pressure at inlet, Bar
P_2 : Absolute preassure at outlet, Bar

Optional available on request:



Electric Operated

Pneumatic Operated

Neu-Flo

Mounting Flange Dimensions

(Unit : mm)

Size	JIS 5K		JIS 10K		PN 10		PN 16		ANSI 150	
	PCD of holes	Number & size of holes	PCD of holes	Number & size of holes	PCD of holes	Number & size of holes	PCD of holes	Number & size of holes	PCD of holes	Number & size of holes
50 mm	105	4 - 15	120	4 - 19	125	4 - 18	125	4 - 18	121	4 - 19
65 mm	130	4 - 15	140	4 - 19	145	4 - 18	145	4 - 18	140	4 - 19
80 mm	145	4 - 19	150	8 - 19	160	8 - 18	160	8 - 18	152	4 - 19
100 mm	165	8 - 19	175	8 - 19	180	8 - 18	180	8 - 18	191	8 - 19
125 mm	200	8 - 19	210	8 - 23	210	8 - 18	210	8 - 18	216	8 - 22
150 mm	230	8 - 19	240	8 - 23	240	8 - 23	240	8 - 23	241	8 - 22
200 mm	280	8 - 23	290	12 - 23	295	8 - 23	295	12 - 23	299	8 - 22
250 mm	345	12 - 23	355	12 - 25	350	12 - 23	355	12 - 27	362	12 - 25
300 mm	390	12 - 23	400	16 - 25	400	12 - 23	410	12 - 27	432	12 - 25
350 mm	435	12 - 25	445	16 - 25	460	16 - 23	470	16 - 27	476	12 - 29

Bolting

(Unit : mm)

Size	Size & length of the bolt for BFW- W and BFL- L when the valve is installed between two flanges					Length of the bolt for BFL-L When the valve is used as a terminal fitting				
	JIS 5 K	JIS 10 K	PN 10	PN 16	ANSI 150	JIS 5 K	JIS 10 K	PN 10	PN 16	ANSI 150
50 mm	M12 x 95	M16 x 95	M16 x 100	M16 x 100	W5/8" x 100	35	35	40	40	40
65 mm	M12 x 100	M16 x 105	M16 x 105	M16 x 105	W5/8" x 115	35	40	40	40	45
80 mm	M16 x 100	M16 x105	M16 x 110	M16 x 110	W5/8" x 120	35	40	45	45	45
100 mm	M16 x 110	M16 x 100	M16 x 115	M16 x115	W5/8" x 125	40	40	45	45	45
125 mm	M16 x 115	M20 x 120	M16 x125	M16 x 125	W3/4" x 130	40	45	50	50	50
150 mm	M16 x 125	M20 x 130	M20 x 130	M20 x 130	W3/4" x 135	45	50	50	50	50
200 mm	M20 x 130	M20 x 130	M20 x 135	M20 x 135	W3/4 " x 145	50	50	55	55	55
250 mm	M20 x 150	M22 x 150	M20 x 150	M24 x 155	W7/8" x 163	55	55	60	60	60
300 mm	M20 x 160	M22 x 160	M20 x 160	M24 x 170	W7/8 x 180	60	60	60	65	70
350 mm	M22 x 160	M22 x 160	M20 x 160	M24 x 170	W 1" x 180	60	65	65	70	70

Specifications and design are subject to change without notice.

Distributor: