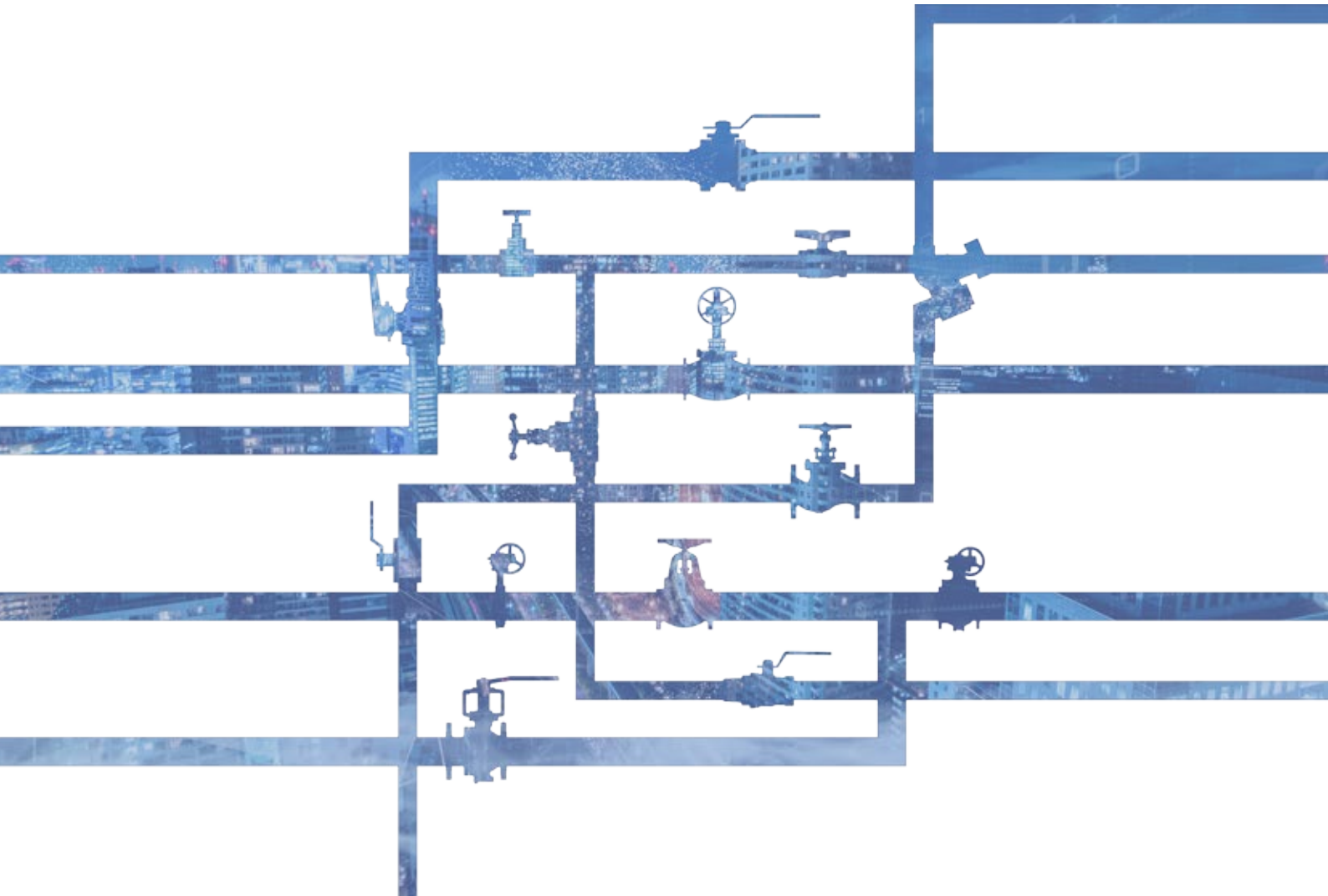
KITZ

GENERAL CATALOG

Butterfly Valves



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Title	Body Material	Type	Class	End Connection	Features	Size Range	Fig		Page
NFJ Series	DI (CI for 10DJ 14B to 24B)	Concentric	10K	Wafer	Nylon 11 Lined	2B - 6B 2B - 12B 2B - 12B	10NFJUE(W) G-10NFJUE(W) VG-10NFJUE(W)	10NFJNE(W) G-10NFJNE(W) VG-10NFJNE(W)	BFV20 117
LJ Series					PFA Lined	2B - 6B 2B - 24B	10LJF G-10LJF		
HDRJ Series (THROTTROL)			20K		High Rangeability, THROTTROL	2B - 12B	G-10HRDJUE G-20HRDJUE		
UB Series	SS	Double Eccentric	10K		PTFE Seat, Uni Direction	1 1/2B - 6B 1 1/2B - 24B	10UB GL-10UB	10UBM GL-10UBM	BFV21 118
			16K			1 1/2B - 6B 1 1/2B - 24B	16UB GL-16UB		
						1 1/2B - 6B 1 1/2B - 24B	16UBM GL-16UBM		BFV22 119
			150			1 1/2B - 6B 1 1/2B - 24B	150UB GL-150UB	150UBM GL-150UBM	
HB Series			10K		RPTFE (C/F PTFE) Seat, Bi Direction	1 1/2B - 6B 1 1/2B - 12B	10UHB G-10UHB		
			20K			1 1/2B - 6B 1 1/2B - 12B	20UHB G-20UHB		BFV23 120
			150			1 1/2B - 6B 1 1/2B - 12B	150UHB G-150UHB		
	DI		10K			2B - 6B 2B - 14B	10SHB G-10SHB		
			16K			2B - 6B 2B - 14B	16SHB G-16SHB		
			150			2B - 6B 2B - 14B	150SHB G-150SHB		
CPD Series CPC Series CPT Series	SS or CS	Double Eccentric Triple Ecc	150 - 900	Wafer or Lugged or FE	API 609, PTFE or Rubber or Metal or Laminated	2B - 24B	(■-)□0□CPD□□□ (■-)□0□CPL□□□ (■-)□0□CPT□□□		BFV24 121
HBS	CS	Double Ecc	300	Lugged	API 609, PTFE, Bi Direction, Dead End Service	2-1/2B - 5B 6B - 8B	300SCHBSL G-300SCHBSL		
GE	DI	Concentric		Grooved	Nylon Lined, Chlorine-Resistant Seat	2B - 6B 2B - 12B	300SGECE G--300SGECE		
DRAIN Series	DI	Concentric	7.5K	FE	Eccentric Valve for Swage	3B - 12B	G-7.5SVB		BFV25 122
			10K				G-10SVB		
			7.5K		Butterfly Valve for Swage	8B - 60B	G-7.5SGBFS		
			10K				G-10SGBFS		
DAMPER	CI		10K	Wafer	Metal Seat	2B - 12B	10D GL-10D		
							10A GL-10A		
Mini Butterfly	BC		7.5K	TE	W-NBR Seat	1/2B - 2B	FV		BFV26 123
	SS						UV		

* (Abbreviation) FE: Flanged Ends, FF: Flat face Ends, TE: Threaded Ends

PRODUCT CODING

Butterfly Valves

(Note: Some products do not follow this coding system.)

G – 10 DJ L M E
(1) (2) (3) (4) (5) (6)

① Valve Operation
- None ····· Handwheel or Lever
- G, G Ior VG ····· Gear

② Pressure Class
- 7.5 ····· 7.5K
- 10 ····· 10K
- 16 ····· 16K
- 20 ····· 20K
- PN10 ····· EN PN10
- PN16 ····· EN PN16
- PN25 ····· EN PN25
- 150 ····· Class 150
- 200 ····· Class 200
- 250 ····· Class 250
- 300 ····· Class 300

③ Series
- XJ
- DJ/DJK/DJL/DJF/SA
- EJ
- FJ
- NFJ
- LJ
- HRDJ
- SHB
- UB
- UHB
- SVB/SGBFS
- D/A
- FV/UV

④ End Connection
- None ····· Wafer
- S ····· Semi-Lugged
- L ····· Lugged
- F ····· Double Flanged

⑤ Disc Material
- None ····· Ductile Iron (Ni Plated)
  304SS+Cr Plating for UB/UHB/SHB
- U ····· 304SS
- M ····· 316SS
- H ····· 316SS Including Stem
- P ····· 304SS+PPS
- A ····· Aluminum Bronze

⑥ Seat Material
- None ····· NBR
- E ····· EPDM
- W ····· White EPDM
- F ····· FKM
- Q ····· VMQ (Silicon Rubber)

Butterfly Valves (CPD/CPT/CPC Series)

Please contact KITZ represeantive for details.

G – 10 U CPD L H M
(1) (2) (3) (4) (5) (6) (7)

① Valve Operation
- None ····· Lever
- G ····· Gear
- E ····· Electric Actuator
- Y, YS ····· Pneumatic Actuator

② Class
- 150, 300, 10-30K, PN10-40 ····· For CPD
- 30K ····· For CPC
- 150-2500, 10-40K, PN10-40 ····· For CPT

③ Symbol of Shell Material
- SC ····· Carbon Steel
- U ····· Stainless Steel

④ Series
- CPD ····· CPD Series/ Double Eccentric
- CPC ····· CPC Series/ Double Eccentric
- CPT ····· CPT Series/ Tripple Eccentric

⑤ End Connection
- None (or 924) ··· Wafer
- L (or 925) ····· Lugged
- F (or 926) ····· Double Flanged

⑥ Seat Material
"For CPD/CPC Series of ④"
- None (or ST) ····· PTFE
- H (ot FM) ····· Metal
- FS (or TF) ····· PTFE + Metal
- RN (or RS) ····· NBR
- RE (or RS) ····· EPDM
- RF (or RS) ····· FKM

"For CPT Series of ④"
- None (or TE) ····· Laminate (Metal + Graphite or PTFE)
- H (or TE) ····· Metal

⑦ Shell Material
For U of ③
- None ····· CF8
- M ····· CF8M

For SC of ③
- None ····· WCB
- BL ····· LCB
- CL ····· LCC

<Other Information>

Production Size ····· Up to 160[B] (4000[A])
Standard ····· API/JIS/ASME/DIN/AWWA/ISO/BS
Approval ····· PED/CE

API 607 Fire Safe	Shell MESC 77/300 "TAT"
API 609 Category A/B	SIL Ⅲ
OHSAS 18001	UL

Design Specification

Butterfly Valves

Series	Fig	Seat	Service Temp Range (EPDM: Not Frozen)	Continuous Service Temp (Not Frozen)	Valve Design	Face to Face Dimension	Coupling Flange	Remarks
XJ	10XJME 10XJMEA PN16XJME	EPDM	-20℃ to +120℃	-20℃ to +100℃		API609 Category A, EN558 Basic Series 20, ISO5752-20, JIS B2002(2032) 46 Series	JIS B2220/2239 10K ASME Class 150,JIS B2220/2239 10K *1 EN1092 PN16 *2	ISO 5211/*1 With Centering Sleeves
DJ/DJL	DJ/DJL DJE/DJLE	NBR EPDM	0℃ to +70℃ -20℃ to +120℃	-10℃ to +100℃	API609,MSS SP-67, EN593,JIS B2032	API609 Category A,MSS SP-67 W-1(2^B-14^B)W-2(16^B-24^B), EN558 Basic Series 20, ISO5752-20,JIS B2002(2032) 46 Series	ASME class 150/200/250, JIS B2220/2239 10K/16K/20K, EN1092 PN10/16/25, BS 10(AS 2129) Table D&E	ISO 5211 / 2^B to 12^B:Molded-in (Bonded) Seat, Other Sizes:Replaceable Seat
SA	SAUE	EPDM	-20℃ to +120℃	0℃ to +100℃		JIS B2002(2032) 46 Series , 1100A: KITZ Standard	JIS B2239 10K/16K	Flanged Ends
DJF	DJFU DJFUE	NBR EPDM*2	0℃ to +70℃ -20℃ to +120℃	-10℃ to +100℃	JIS B2032	JIS B2002(2032) 123 Series except 4^B of 10K/16K & 8^B/12^B/14^B/16^B of 16K	JIS B2220 10K/16K	*2 Dead End Service: 0℃ to +90℃
FJ	FJUF	FKM	5℃ to +90℃			JIS B2002(2032) 46 Series	JIS B2220 10K	ISO 5211
NFJ	NFJUE/W NFJNE/W	EPDM or W-NBR	0℃ to +60℃ 0℃ to +40℃			JIS B2002(2032) 46 Series	JIS B2220 5K/10K	ISO 5211
EJ	EJMW EJMQ EJMF	W-NBR VMQ FKM	0℃ to +80℃ -10℃ to +180℃ 0℃ to +130℃		EN593	API609, EN558 Basic Series 20, ISO5752-20, JIS B2002(2032) 46 Series	ASME Class 125/150, EN1092 PN10/16, BS 10(AS 2129) Table E	ISO 5211
LJ	LJF	PFA	-10℃ to +150℃			API609 cat. A, EN558 Basic Series 20, ISO5752-20, JIS B2002(2032) 46 Series	JIS B2220/2239 10K (ASME Class 150: Option)	ISO 5211
UB	UB UB	PTFE C/F PTFE	-29℃ to +160℃ -29℃ to +200℃		Wall Thickness ASME B16.34	Up to 6^B:ISO 5752 Short/ JIS B2002 46 Series, 8^B & Above:ISO 5752 Midium/JIS B2002 47 Series	ASME Class 150,JIS B2220 10K/16K	Uni Direction, Double Offset
HB	SHB	C/F PTFE	-10℃ to +200℃			JIS B2002(2032) 46 Series	ASME Class 150, JIS B2220 10K/16K/20K	Bi-Directional, Double Offset, ISO5211
	UHB	C/F PTFE	-29℃ to +200℃				ASME Class 150, JIS B2220 5K/10K/16K/20K	
HRDJ	HJDJUE	EPDM	-20℃ to +120℃	0℃ to +100℃		JIS B2002(2032) 46 Series	JIS B2220 5K/10K/16K/20K	160:1 of Rangeability, Equal % Flow, Tight Shut Off, Preventing Erosion by Jet Flow
D/A	D/A	Metal	0℃ to +230℃			KITZ Standard	JIS B2220 5K/10K	
FV/UV	FV/UV	304+W NBR	0℃ to +70℃			KITZ Standard	-	
CPD		Metal or RTFE or NBR/EPDM			API609 Double Offset	API 609 Category B, ISO5752-13		Wafer,Lugged,Double Flanged
CPC (JIS 30K)		NBR or EPDM			API609 Double Offset	AWWA etc		CF8/CF8M,WCB/LCB/LCC
CPT		Laminate or Metal			API609 Triple Offset			
Drain	G-7.5/10SVB					JIS B2062		End Flange: JIS G5527
	G-7.5/10SGBFS					JWWA B138		End Flange: JWWA B138

Corrosion Resistant Levels for Disc and Seat Materials Against Fluid

Table below indicates applicable fluids represented against each disc/rubber seat material. Please refer to 'Cautions' in ''Product Selection' of 'Cautions for Handling' at the end of this material for other cautions. Also, contact KITZ representative for any other queries. Temperature and operational conditions may cause differences.

Fluid \ Material	Wetted Part Materials (Disc or Body Material for UB/HB/FV/UV)				Seat Material			
	FCD450	SCS13A	SCS14A	C37771BE	NBR W-NBR	EPDM*	PTFE	PFA
Sulfurous Acid	×	○	○	×	△	△	◎	◎
Ammonia (Anhydrous Liquid)	○	◎	◎	×	△	○	◎	◎
Ammonia (Solution)	○	◎	◎	×	○	○	◎	◎
Ethane	○	○	○	–	◎	×	◎	◎
Ethyl Alcohol	○	◎	◎	○	○	◎	◎	◎
Hydrochloric Acid	×	×	×	×	△	○	◎	◎
Sea Water	×	○	○	△	◎	◎	◎	◎
Gasoline (Refined/Unieaded)	○	◎	◎	◎	△	×	◎	◎
Air	◎	◎	◎	◎	◎	◎	◎	◎
Mineral Oil	○	◎	◎	○	◎	×	◎	◎
Heavy Oil (A,B,C)	△	◎	◎	–	×	×	◎	◎
Acetic Acid (10%)	△	◎	◎	×	×	○	◎	◎
Oxgen (Cold)	○	◎	◎	◎	○	○	◎	◎
Lubricating Oil (Petroleum Base)	◎	◎	◎	○	◎	×	◎	◎
Vegitable Oil	△	◎	◎	–	◎	△	◎	◎
Steam (100°C)	◎	◎	◎	◎	×	○	◎	◎
Hydrogen Gas (Cold)	○	◎	◎	–	○	○	◎	◎
Petroleum Oil (Refined)	–	◎	◎	–	○	×	◎	◎
Soybean Oil	△	◎	◎	○	◎	△	◎	◎
Carbonic Acid	×	○	○	–	○	○	◎	◎
Calcium Carbonate	×	○	○	△	◎	◎	◎	◎
Natural Gas	◎	◎	◎	–	○	×	◎	◎
Animal Fat	◎	◎	◎	–	◎	×	◎	◎
Propane Gas	○	○	◎	–	◎	×	◎	◎
Water (Fresh ≦ 40°C)	△	◎	◎	◎	○	◎	◎	◎
Water (Hot ≦ 40-100°C)	△	◎	◎	◎	×	○	◎	◎
Methyl Alcohol	○	◎	◎	○	○	◎	◎	◎
Sulfuric Acid (7%)	×	△	○	–	○	○	◎	◎
Sulfuric Acid (20%)	×	×	×	△	×	○	◎	◎
Sulfuric Acid (≧ 50%)	×	×	×	×	×	○	◎	◎
Ammonium Sulfate	△	○	○	–	◎	◎	◎	◎
Products	DJ·DJL	DJ·DJL· UB·HRDJ	XJ·DJ· DJL·UV	FV	DJ·DJL FV·UV	XJ·DJ·DJL HRDJ	UB·SHB· UHB	LJ

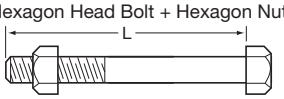
◎=Exellent ○=Good △=Less Recommended ×=Not Recommended -=Contact KITZ representative for details
* EPDM is not applicable for oil.

Differential Pressure Control Allowance and Differential Pressure Control Ratio

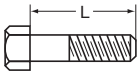
Structure	Norminal Diameter		Differential Pressure Control Allowance (kPa)		Differential Pressure Control Ratio
	NPS	DN	Fluid	Gas	
Rubber Sheet	2 ~ 8	50 ~ 200	200	100	0.30
	10 ~ 12	250 ~ 300	150	100	0.25
	14 ~ 24	350 ~ 600	100	50	0.20
PTFE Sheet (for UB Series)	2 ~ 24	50 ~ 600	300	200	0.30
Damper	2 ~ 24	50 ~ 300	–	30	0.10

[Note]
- In the event of using the product at service conditions exceeding values of table above, kindly contact KITZ representative.
- Differential Pressure is pressure differences between primary side pressure and secondary side pressure. (ΔP = p1-p2)
- Pressure difference is represented by the values of differences in pressure divided by pressure of primary side. (absolute pressure)

Hexagon Head Bolt + Hexagon Nut



*Size 24～32"require Additional Hexagon Head Bolts.

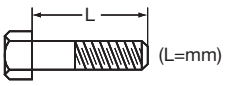


Hexagon Head Bolt + Hexagon Nut for XJ Series/DJ Series/HRDJ Series

(mm)

Flange		ASME Class 150/200/250				PN6			EN PN10			EN PN16			EN PN25			BS 10 Table E			JIS 10K			JIS 16K/20K			
NPS	DN	Size	L (inch/mm)		Number	Size	L	Number	Size	L	Number	Size	L	Number	Size	L	Number	Size	L	Number	Size	L	Number	Size	L (16K)	L (20K)	Number
1½	40	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	M16	85	4	–	–	–	–
2	50	5/8	4.25	108	4	M12	90	4	M16	105	4	M16	105	4	M16	110	4	5/8	95	4	M16	95	4	M16	95	100	8
2½	65	5/8	4.75	121	4	M12	90	4	M16	105	4	M16	105	4	M16	115	8	5/8	100	4	M16	105	4	M16	105	105	8
3	80	5/8	4.75	121	4	M16	100	4	M16	105	8	M16	105	8	M16	120	8	5/8	100	4	M16	105	8	M20	110	115	8
4	100	5/8	5.00	127	8	M16	110	4	M16	115	8	M16	115	8	M20	130	8	5/8	110	8	M16	110	8	M20	120	125	8
5	125	3/4	5.25	133	8	M16	115	8	M16	115	8	M16	115	8	M24	140	8	5/8	115	8	M20	120	8	M22	125	140	8
6	150	3/4	5.50	140	8	M16	115	8	M20	120	8	M20	120	8	M24	145	8	3/4	115	8	M20	125	8	M22	130	140	12
8	200	3/4	5.75	146	8	M16	125	8	M20	130	8	M20	130	12	M24	150	12	3/4	125	8	M20	130	12	M22	140	150	12
10	250	7/8	6.50	165	12	M16	135	12	M20	140	12	M24	150	12	M27	170	12	3/4	140	12	M22	150	12	M24	150	170	12
12	300	7/8	7.00	178	12	M20	150	12	M20	155	12	M24	160	12	M27	180	16	7/8	160	12	M22	160	16	M24	170	180	16
14	350	1	7.50	191	12	–	–	–	M20	155	16	M24	170	16	–	–	–	–	–	–	M22	160	16	–	180	190	16
16	400	1	8.50	216	16	–	–	–	–	–	–	M27	200	16	–	–	–	–	–	–	M24	190	16	–	210	230	16
18	450	1⅛	9.25	235	16	–	–	–	–	–	–	M27	210	20	–	–	–	–	–	–	M24	210	20	–	230	245	20
20	500	1⅛	10.25	260	20	–	–	–	–	–	–	M30	230	20	–	–	–	–	–	–	M24	220	20	–	250	260	20
22	550	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	M30	260	20	–	290	300	20
24	600	1¼	11.75	298	20	–	–	–	–	–	–	M33	270	20	–	–	–	–	–	–	M30	260	20	–	290	300	20
																						70*	8*		90*	100*	8*
26	650	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	M30	270	16	–	–	–	–
																						65*	16*				
28	700	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	M30	270	16	–	–	–	–
																						70*	16*				
30	750	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	M30	300	16	–	–	–	–
																						70*	16*				
32	800	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	M30	300	20	–	–	–	–
																						70*	16*				

Hexagon Head Bolts.



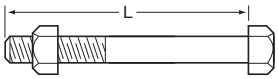
Lugged Type

Hexagon Head Bolt for DJL

(mm)

Flange		ASME Class 150/200/250				EN PN10			EN PN16			EN PN25			
NPS	DN	Size	L (inch/mm)		Number	Size	L	Number	Size	L	Number	Size	Steel	Ductile	Number
													L		
2	50	5/8	1.375	35	8	M16	38	8	M16	38	8	M16	40		8
2½	65	5/8	1.500	38	8	M16	40	8	M16	40	8	M16	40		16
3	80	5/8	1.625	41	8	M16	40	16	M16	40	16	M16	45	40	16
4	100	5/8	1.875	48	16	M16	40	16	M16	40	16	M20	45	40	16
5	125	3/4	1.875	48	16	M16	40	16	M16	40	16	M24	50	45	16
6	150	3/4	2.000	51	16	M20	45	16	M20	45	16	M24	50	45	16
8	200	3/4	2.125	54	16	–	–	–	M20	45	24	M24	55	50	24
10	250	7/8	2.375	60	24	–	–	–	M24	53	24	M27	60	55	24
12	300	7/8	2.625	67	24	–	–	–	M24	60	24	M27	65	60	32
14	350	1	2.750	70	24	–	–	–	M24	60	32	–	–	–	–
16	400	1	3.000	76	32	–	–	–	M27	70	32	–	–	–	–
18	450	1⅛	3.375	86	32	–	–	–	M27	75	40	–	–	–	–
20	500	1⅛	3.500	89	40	–	–	–	M30	80	40	–	–	–	–
24	600	1¼	4.000	102	40	–	–	–	M33	90	40	–	–	–	–

Hexagon Head Bolt + Hexagon Nut



Hexagon Head Bolt + Hexagon Nut for LJ Series

(mm)

Flange		JIS 10K			
DN	NPS	Size	L	B	Number
50	2	M16	90	38	4
65	2 1/2	M16	105	38	4
80	3	M16	105	38	4
100	4	M16	105	38	8
125	5	M20	120	46	8
150	6	M20	130	52	8
200	8	M20	150	52	8
250	10	M22	160	56	12
300	12	M22	170	56	12

Hexagon Head Bolt + Hexagon Nut for UB Series

(mm)

Flange		JIS 10K				JIS 16K				ASME Class 150			
DN	NPS	Size	L	B	Number	Size	L	B	Number	Size	L	B	Number
40	1 1/2	M16	90	38	4	M16	90	38	4	1/2	90	38	4
50	2	M16	100	38	4	M16	100	38	4	5/8	105	38	4
65	2 1/2	M16	110	38	4	M16	110	38	4	5/8	110	38	4
80	3	M16	110	38	8	M20	120	46	8	5/8	115	38	4
100	4	M16	115	38	8	M20	130	52	8	5/8	130	44	8
125	5	M20	130	52	8	M22	130	56	8	3/4	140	52	8
150	6	M20	130	52	8	M22	140	56	8	3/4	140	52	8
200	8	M20	150	52	12	M22	160	56	12	3/4	160	52	8
250	10	M22	160	56	12	M24	170	60	12	7/8	180	56	12
300	12	M22	170	56	16	M24	180	60	16	7/8	190	56	12

* Sizes apply to both hexagon bolt with nut and hexagon head bolt. (set bolt)

Hexagon Head Bolt + Hexagon Nut for UB Series

(mm)

Flange		JIS 10K				JIS 16K/20K				ASME Class 150			
DN	NPS	Size	L	B	Number	Size	L	B	Number	Size	L	B	Number
40	1 1/2	M16	90	38	4	M16	90	38	4	1/2	90	38	4
50	2	M16	110	40	4	M16	110	40	8	5/8	110	35	4
65	2 1/2	M16	115	35	4	M16	115	35	8	5/8	120	35	4
80	3	M16	115	35	8	M20	125	40	8	5/8	125	35	4
100	4	M16	120	35	8	M20	135	40	8	5/8	130	35	8
125	5	M20	135	40	8	M22	140	45	8	3/4	140	40	8
150	6	M20	140	45	8	M22	145	45	12	3/4	140	40	8
200	8	M20	145	45	12	M22	155	45	12	3/4	150	40	8
250	10	M22	155	40	12	M24	170	50	12	7/8	165	40	12
300	12	M22	165	40	16	M24	180	45	16	7/8	180	45	12

* Sizes apply to both hexagon bolt with nut and hexagon head bolt. (set bolt)

Hexagon Head Bolt + Hexagon Nut for D/A Type Damper

(mm)

Flange		JIS 5K				JIS 10K			
DN	NPS	Size	L	B	Number	Size	L	B	Number
50	2	M12	90	30	4	M16	100	38	4
65	2 1/2	M12	100	30	4	M16	110	38	4
80	3	M16	110	38	8	M16	120	38	8
100	4	M16	120	38	8	M16	130	38	8
125	5	M16	130	38	8	M20	140	52	8
150	6	M16	140	38	8	M20	150	52	8
200	8	M20	150	52	12	M20	160	52	12
250	10	M20	170	52	12	M22	180	56	12
300	12	M20	180	52	16	M22	190	56	16

* Above bolt sizes are for UB Series and D/A Type Damper with gasket of 3mm.

Pipe

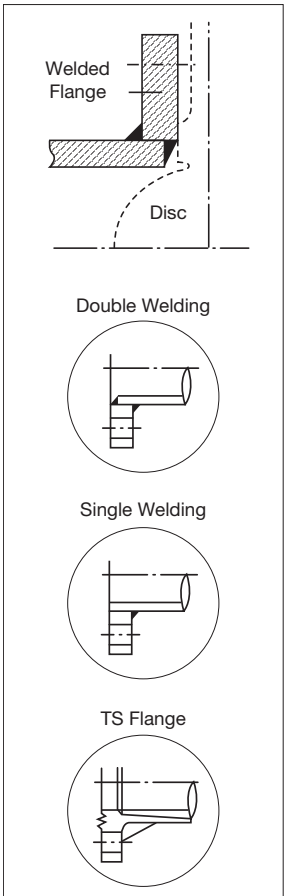
When butterfly valve is being opened, movement of disc may be interrupted by pipe internals, where butterfly valve is connected to welded pipe flange in illustration on the right. Use of pipes indicated in the table on the right is recommended. Valve-to-Flange centering must be done accurately when installing valve to pipeline.

Double Welding

Valve Series		XJ Series			DJ Series			UB Series			HB Series			D/A Damper			LJ Series		
DN	NPS	SGP	Schedule		SGP	Schedule		10S	Schedule		SGP	Schedule		SGP	Schedule		SGP	Schedule	
			20	40		20	40		20	40		20	40		20	40		40	40S
40	1 1/2	●	●	●	●	–	●	●	●	●	●	●	●	–	–	–	–	–	–
50	2	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
65	2 1/2	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
80	3	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
100	4	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
125	5	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
150	6	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
200	8	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
250	10	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
300	12	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
350	14	–	–	–	●	●	●	–	–	–	–	–	–	–	–	–	–	–	–
400	16	–	–	–	●	●	●	–	–	–	–	–	–	–	–	–	–	–	–
450	18	–	–	–	●	●	●	–	–	–	–	–	–	–	–	–	–	–	–
500	20	–	–	–	●	●	●	–	–	–	–	–	–	–	–	–	–	–	–
550	22	–	–	–	–	●	●	–	–	–	–	–	–	–	–	–	–	–	–
600	24	–	–	–	–	●	–	–	–	–	–	–	–	–	–	–	–	–	–

Single Welding/TS Flange

Valve Series		XJ Series				DJ Series				UB Series				HB Series				D/A Damper	
DN	NPS	SGP	Schedule		TS	SGP	Schedule		TS	10S	Schedule		TS	SGP	Schedule		TS	SGP	Schedule
			20	40			20	40			20	40			20	40			20	40
40	1 1/2	●	●	●	●	●	–	●	●	●	●	●	●	●	●	●	●	–	–	–
50	2	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
65	2 1/2	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
80	3	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
100	4	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
125	5	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
150	6	●	●	●	×	●	●	●	×	●	●	●	×	●	●	●	●	●	●	●
200	8	●	●	●	×	●	●	●	×	●	●	●	×	●	●	●	×	●	●	●
250	10	●	●	●	●	●	●	●	●	●	●	●	×	●	●	●	●	●	●	×
300	12	●	●	●	●	●	●	●	●	●	●	●	×	●	●	●	●	●	●	×
350	14	–	–	–	–	●	●	●	●	–	–	–	–	–	–	–	–	–	–	●
400	16	–	–	–	–	●	●	●	–	–	–	–	–	–	–	–	–	–	–	●
450	18	–	–	–	–	●	●	●	–	–	–	–	–	–	–	–	–	–	–	●
500	20	–	–	–	–	●	●	●	–	–	–	–	–	–	–	–	–	–	–	●
550	22	–	–	–	–	–	●	●	–	–	–	–	–	–	–	–	–	–	–	–
600	24	–	–	–	–	–	●	–	–	–	–	–	–	–	–	–	–	–	–	●



Sizes of Lined Steel Pipes

In case of connecting to vinyl chloride line steel pipes, size of flange must be larger than the minimum inside diameter in table below. When connecting to pulverulent polyethelene line pipes, no special care is required.

Unit: mm

Size / Valve Series	DN	40	50	65	80	100	125	150	200	250	300	350	400	450	500	550	600
	NPS	1 1/2	2	2 1/2	3	4	5	6	8	10	12	14	16	18	20	22	24
XJ Series		28	41	57	71	93	117	142	193	244	292	–	–	–	–	–	–
DJ Series		28	32	52	75	92	118	145	195	244	292	332	379	427	473	513	566
UB Series		–	33	57	71	88	118	140	190	239	281	327	373	424	471	–	567
HB Series		30	44	56	77	97	123	146	200	245	295	–	–	–	–	–	–
D/A Damper		–	36	53	69	86	119	139	190	240	288	–	–	–	–	–	–

Note: When connecting a pipe with diameter smaller than the values in table above may cause interference of the pipe and disc.

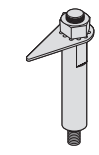
Indicator

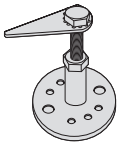
• When insulating a valve with a gear unit, in order to display open degree outside of insulation material, optional component to extend the indicator is required.

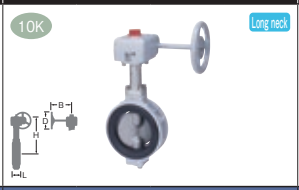
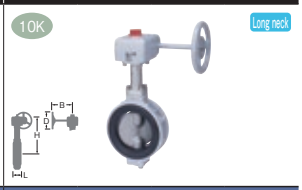
Size / Valve Series		G-10XJ	G-10DJ	G-16DJ	G-20DJ	GL-10/16/150 UB	G-10/16/150 HB	G-10HRDJ	G-10LJF
DN	NPS								
40	1 1/2	B OS SET1	B OS SET1	–	B OS SET1	OS SET1	OS SET1	OS SET1	–
50	2			B OS SET1					OS SET1
65	2 1/2								
80	3								
100	4								
125	5								
150	6								
200	8					OS SET2			
250	10		B OS SET1*1	B OS SET1*2	B OS SET1	OS SET3	OS SET2	OS SET2	OS SET2
300	12								
350	14	–	OS SET2	OS SET3	OS SET2	OS SET4	–	–	–
400	16	–					–	–	–
450	18	–			OS SET3		–	–	–
500	20	–	OS SET3	OS SET4			–	–	–
550	22	–	–	–	OS SET4	–	–	–	–
600	24	–	OS SET3	OS SET4		OS SET5	–	–	–

*1 Contact KITZ representative for products with material/paint/connection option for indicator mounting on G-10DJ Series. OS SET2CJ may be selected.
*2 Contact KITZ representative for products with material/paint/connection option for indicator mounting on G-10DJ Series. OS SET2 may be selected.

Appearance


B•OS SET

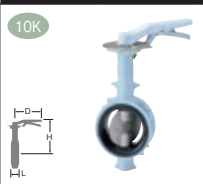
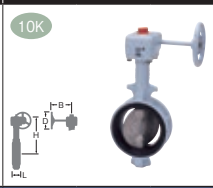
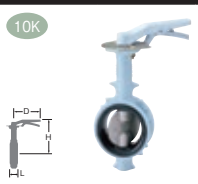
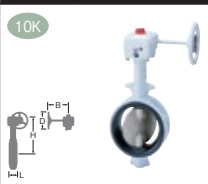

OS SET

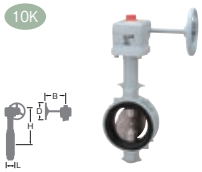
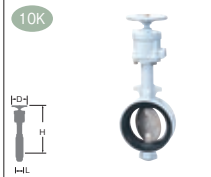
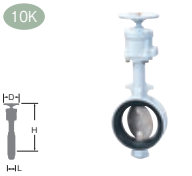
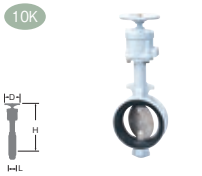
Type		XJ Series			XJ Series				XJ Series			XJ Series			
Butterfly Valve															
Fig		10XJME			G-10XJME				10XJMF			G-10XJMF			
End Connection		Wafer (JIS 5K/10K)			Wafer (JIS 5K/10K)				Wafer (JIS 5K/10K)			Wafer (JIS 5K/10K)			
inch	mm	L	H	D	L	H	D	B	L	H	D	L	H	D	B
11/2	40	33	172	180	33	175	80	122							
2	50	43	176	180	43	179	80	122	43	176	180	43	179	80	122
21/2	65	46	185	180	46	188	80	122	46	185	180	46	188	80	122
3	80	46	193	180	46	196	80	122	46	193	180	46	196	80	122
4	100	52	204	180	52	223	110	135	52	204	180	52	223	110	135
5	125	56	249	230	56	258	110	150	56	249	230	56	258	110	150
6	150	56	261	230	56	270	110	150	56	261	230	56	270	110	150
8	200	60	281	350	60	311	170	180	60	281	350	60	311	170	180
10	250				68	405	170	180							
12	300				78	430	170	180							
Body		ADC12(ASTM B85-84-383.0)			ADC12(ASTM B85-84-383.0)				ADC12(ASTM B85-84-383.0)			ADC12(ASTM B85-84-383.0)			
Neck		304SS			304SS				304SS			304SS			
Stem/Bottom Stem		410SS			410SS				410SS			410SS			
Disc		CF8M			CF8M				CF8M			CF8M			
O ring		EPDM			EPDM				EPDM			EPDM			
Rubber Seat		EPDM			EPDM				FKM			FKM			
Features		Dew Condensation Prevention			Dew Condensation Prevention				Dew Condensation Prevention			Dew Condensation Prevention			
Service Temperature Range		-20℃~+120℃ 1.0MPa (Not Frozen)/Continuous Service Temp. -20℃~+100℃			-20℃~+120℃ 1.0MPa (Not Frozen)/Continuous Service Temp. -20℃~+100℃				0℃~+90℃ 1.0MPa			0℃~+90℃ 1.0MPa			
Reference Page		P-T Rating/Flow Characteristics/ Pressure Loss : Page BFV28			P-T Rating/Flow Characteristics/ Pressure Loss : Page BFV28				P-T Rating/Flow Characteristics/ Pressure Loss : Page BFV28			P-T Rating/Flow Characteristics/ Pressure Loss : Page BFV28			

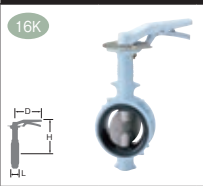
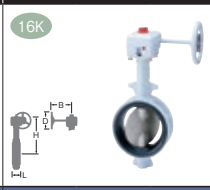
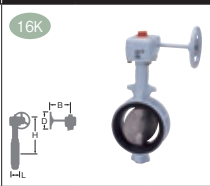
Type		XJ Series			XJ Series				XJ Series			XJ Series			
Butterfly Valve															
Fig		10XJSME			G-10XJSME				10XJPE			G-10XJPE			
End Connection		Wafer (JIS 5K/10K)			Wafer (JIS 5K/10K)				Wafer (JIS 5K/10K)			Wafer (JIS 5K/10K)			
inch	mm	L	H	D	L	H	D	B	L	H	D	L	H	D	B
11/2	40	33	137	180	33	140	80	122	33	172	180	33	175	80	122
2	50	43	139	180	43	142	80	122	43	176	180	43	179	80	122
21/2	65	46	147	180	46	150	80	122	46	185	180	46	188	80	122
3	80	46	156	180	46	159	80	122	46	193	180	46	196	80	122
4	100	52	167	180	52	186	110	135	52	204	180	52	223	110	135
5	125	56	205	230	56	214	110	150	56	249	230	56	258	110	150
6	150	56	217	230	56	226	110	150	56	261	230	56	270	110	150
8	200				60	267	170	180				60	311	170	180
10	250				68	317	170	180							
12	300				78	342	170	180							
Body		ADC12(ASTM B85-84-383.0)			ADC12(ASTM B85-84-383.0)				ADC12(ASTM B85-84-383.0)			ADC12(ASTM B85-84-383.0)			
Neck		304SS			304SS				304SS			304SS			
Stem/Bottom Stem		410SS			410SS				410SS			410SS			
Disc		CF8M			CF8M				CF8+PPS			CF8+PPS			
O ring		EPDM			EPDM				EPDM			EPDM			
Rubber Seat		EPDM			EPDM				EPDM			EPDM			
Features									Dew Condensation Prevention			Dew Condensation Prevention			
Service Temperature Range		-20℃~+120℃ 1.0MPa (Not Frozen)/Continuous Service Temp. -20℃~+100℃			-20℃~+120℃ 1.0MPa (Not Frozen)/Continuous Service Temp. -20℃~+100℃				-20℃~+120℃ 1.0MPa (Not Frozen)/Continuous Service Temp. -20℃~+100℃			-20℃~+120℃ 1.0MPa (Not Frozen)/Continuous Service Temp. -20℃~+100℃			
Reference Page		P-T Rating/Flow Characteristics/ Pressure Loss : Page BFV28			P-T Rating/Flow Characteristics/ Pressure Loss : Page BFV28				P-T Rating/Flow Characteristics/ Pressure Loss : Page BFV28			P-T Rating/Flow Characteristics/ Pressure Loss : Page BFV28			

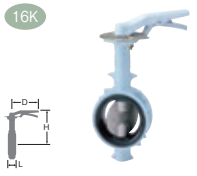
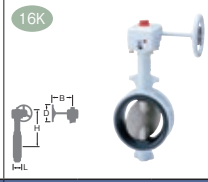
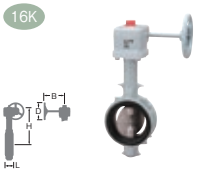
Type		XJ Series			XJ Series				XJ Series			XJ Series			
Butterfly Valve		10K Short neck 			10K Short neck 				10K 150 Long neck 			10K 150 Long neck 			
Fig		10XJSPE			G-10XJSPE				10XJMEA			G-10XJMEA			
End Connection		Wafer (JIS 5K/10K)			Wafer (JIS 5K/10K)				Wafer (5/10K,125/150)			Wafer (5/10K,125/150)			
inch	mm	L	H	D	L	H	D	B	L	H	D	L	H	D	B
11/2	40	33	137	180	33	140	80	122	33	172	180	33	175	80	122
2	50	43	139	180	43	142	80	122	43	176	180	43	179	80	122
21/2	65	46	147	180	46	150	80	122	46	185	180	46	188	80	122
3	80	46	156	180	46	159	80	122	46	193	180	46	196	80	122
4	100	52	167	180	52	186	110	135	52	204	180	52	223	110	135
5	125	56	205	230	56	214	110	150	56	249	230	56	258	110	150
6	150	56	217	230	56	226	110	150	56	261	230	56	270	110	150
8	200				60	267	170	180	60	281	350	60	311	170	180
10	250											68	405	170	180
Body		ADC12(ASTM B85-84-383.0)			ADC12(ASTM B85-84-383.0)				ADC12(ASTM B85-84-383.0)			ADC12(ASTM B85-84-383.0)			
Neck		304SS			304SS				304SS			304SS			
Stem/Bottom Stem		410SS			410SS				410SS			410SS			
Disc		CF8+PPS			CF8+PPS				CF8M			CF8M			
O ring		EPDM			EPDM				EPDM			EPDM			
Rubber Seat		EPDM			EPDM				EPDM			EPDM			
Features									Dew Condensation Prevention			Dew Condensation Prevention			
Service Temperature Range		-20℃~+120℃ 1.0MPa (Not Frozen)/Continuous Service Temp. -20℃~+100℃			-20℃~+120℃ 1.0MPa (Not Frozen)/Continuous Service Temp. -20℃~+100℃				-20℃~+120℃ 1.0MPa (Not Frozen)/Continuous Service Temp. -20℃~+100℃			-20℃~+120℃ 1.0MPa (Not Frozen)/Continuous Service Temp. -20℃~+100℃			
Reference Page		P-T Rating/Flow Characteristics/ Pressure Loss : Page BFV28			P-T Rating/Flow Characteristics/ Pressure Loss : Page BFV28				P-T Rating/Flow Characteristics/ Pressure Loss : Page BFV28			P-T Rating/Flow Characteristics/ Pressure Loss : Page BFV28			

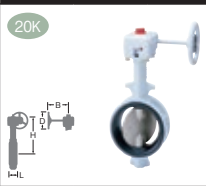
Type		XJ Series			XJ Series				DJ Series			DJ Series			
Butterfly Valve		PN16 Long neck 			PN16 Long neck 				10K 			10K 			
Fig		PN16XJME			G-PN16XJME				10DJ(E)			G-10DJ(E)			
End Connection		Wafer (EN 1092 PN16)			Wafer (EN 1092 PN16)				Wafer (JIS 10K)			Wafer (JIS 10K)			
inch	mm	L	H	D	L	H	D	B	L	H	D	L	H	D	B
2	50	43	176	180	43	179	80	122	43	189	180	43	194	80	122
21/2	65	46	185	180	46	188	80	122	46	199	180	46	202	80	122
3	80	46	193	180	46	212	80	122	46	217	180	46	236	110	135
4	100	52	204	180	52	223	110	135	52	227	180	52	246	110	135
5	125	56	249	230	56	258	110	150	56	265	230	56	274	110	150
6	150	56	261	230	56	270	110	150	56	277	230	56	286	110	150
8	200	60	281	350	60	311	170	180				60	325	170	180
10	250											68	381	250	250
12	300											78	406	250	250
14	350											78	445	310	220
16	400											102	500	310	220
18	450											114	524	310	220
20	500											127	589	360	350
24	600											154	637	360	350
Body		ADC12(ASTM B85-84-383.0)			ADC12(ASTM B85-84-383.0)				FCD450-10(ASTM A536)*			FCD450-10(ASTM A536)*			
Neck		304SS			304SS										
Stem/Bottom Stem		410SS			410SS				410SS			410SS			
Disc		CF8M			CF8M				DI+ENP			DI+ENP			
O ring		EPDM			EPDM				NBR (E: EPDM)			NBR (E: EPDM)			
Rubber Seat		EPDM			EPDM				NBR (E: EPDM)			NBR (E: EPDM)			
Features		Dew Condensation Prevention			Dew Condensation Prevention										
Service Temperature Range		-20℃~+120℃ 1.0MPa (Not Frozen)/Continuous Service Temp. -20℃~+100℃			-20℃~+120℃ 1.0MPa (Not Frozen)/Continuous Service Temp. -20℃~+100℃				NBR: 0℃~+70℃, EPDM: -20℃ ~+120℃(Not Frozen)/Continuous Service Temp. -20℃~+100℃			NBR: 0℃~+70℃, EPDM: -20℃ ~+120℃(Not Frozen)/Continuous Service Temp. -20℃~+100℃			
Reference Page		P-T Rating/Flow Characteristics/ Pressure Loss : Page BFV28			P-T Rating/Flow Characteristics/ Pressure Loss : Page BFV28				P-T Rating/Flow Characteristics/ Pressure Loss : Page BFV31			P-T Rating/Flow Characteristics/ Pressure Loss : Page BFV31			
Remarks												*Cl: 14[B] & above			

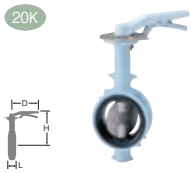
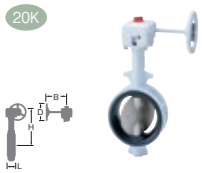
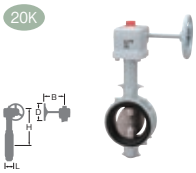
Type		DJ Series			DJ Series				DJ Series			DJ Series			
Butterfly Valve		10K 			10K 				10K 			10K 			
Fig		10DJU(E)			G-10DJU(E)				10DJM(E)			G-10DJM(E)			
End Connection		Wafer (JIS 10K)			Wafer (JIS 10K)				Wafer (JIS 10K)			Wafer (JIS 10K)			
inch	mm	L	H	D	L	H	D	B	L	H	D	L	H	D	B
11/2	40	33	172	180	33	172	80	122	33	172	180	33	172	80	122
2	50	43	189	180	43	194	80	122	43	189	180	43	194	80	122
21/2	65	46	199	180	46	202	80	122	46	199	180	46	202	80	122
3	80	46	217	180	46	236	110	135	46	217	180	46	236	110	135
4	100	52	227	180	52	246	110	135	52	227	180	52	246	110	135
5	125	56	265	230	56	274	110	150	56	265	230	56	274	110	150
6	150	56	277	230	56	286	110	150	56	277	230	56	286	110	150
8	200				60	325	170	180				60	325	170	180
10	250				68	381	250	250				68	381	250	250
12	300				78	406	250	250				78	406	250	250
14	350				78	445	310	220				78	445	310	220
16	400				102	500	310	220				102	500	310	220
18	450				114	524	310	220				114	524	310	220
20	500				127	589	360	350				127	589	360	350
22	550				154	612	360	350				154	612	360	350
24	600				154	637	360	350				154	637	360	350
26	650				165	710	600	413				165	710	600	413
28	700				165	735	600	413				165	735	600	413
30	750				190	836	500	365				190	836	500	365
32	800				190	862	500	365				190	862	500	365
Body		FCD450-10(ASTM A536)			FCD450-10(ASTM A536)*				FCD450-10(ASTM A536)			FCD450-10(ASTM A536)*			
Stem/Bottom Stem		410SS			410SS/420J2 for 14B & over				410SS			410SS/420J2 for 14B & over			
Disc		CF8			CF8				CF8M			CF8M			
O ring		NBR (E: EPDM)			NBR (E: EPDM)				NBR (E: EPDM)			NBR (E: EPDM)			
Rubber Seat		NBR (E: EPDM)			NBR (E: EPDM)				NBR (E: EPDM)			NBR (E: EPDM)			
Service Temperature Range		NBR: 0℃~+70℃, EPDM: -20℃ ~+120℃(Not Frozen)/Continuous Service Temp. -20℃~+100℃			NBR: 0℃~+70℃, EPDM: -20℃ ~+120℃(Not Frozen)/Continuous Service Temp. -20℃~+100℃				NBR: 0℃~+70℃, EPDM: -20℃ ~+120℃(Not Frozen)/Continuous Service Temp. -20℃~+100℃			NBR: 0℃~+70℃, EPDM: -20℃ ~+120℃(Not Frozen)/Continuous Service Temp. -20℃~+100℃			
Reference Page		P-T Rating/Flow Characteristics/ Pressure Loss : Page BFV31			P-T Rating/Flow Characteristics/ Pressure Loss : Page BFV31				P-T Rating/Flow Characteristics/ Pressure Loss : Page BFV31			P-T Rating/Flow Characteristics/ Pressure Loss : Page BFV31			
Remarks					*Cl: 14B & above							*Cl: 14B & above			

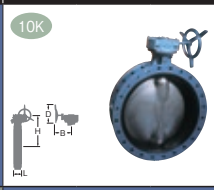
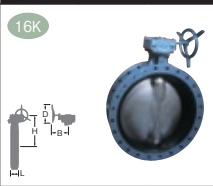
Type		DJK Series				DJ Series			DJ Series			DJ Series		
Butterfly Valve		10K 				10K 			10K 			10K 		
Fig		G-10DJKUE				VG-10DJ(E)			VG-10DJU(E)			VG-10DJM(E)		
End Connection		Wafer (JIS 10K)				Wafer (JIS 10K)			Wafer (JIS 10K)			Wafer (JIS 10K)		
inch	mm	L	H	D	B	L	H	D	L	H	D	L	H	D
11/2	40								33	251	110	33	251	110
2	50	43	220	110	135	43	270	110	43	270	110	43	270	110
21/2	65	46	228	110	135	46	278	110	46	278	110	46	278	110
3	80	46	248	110	135	46	285	110	46	285	110	46	285	110
4	100	52	258	110	135	52	295	110	52	295	110	52	295	110
5	125	56	286	110	150	56	325	170	56	325	170	56	325	170
6	150	56	298	110	150	56	337	170	56	337	170	56	337	170
8	200	60	409	170	180	60	404	200	60	404	200	60	404	200
10	250	68	477	250	250	68	461	310	68	461	310	68	461	310
12	300	78	502	250	250	78	486	310	78	486	310	78	486	310
14	350	78	571	310	220	78	569	360	78	569	360	78	569	360
16	400	102	626	310	220	102	624	360	102	624	360	102	624	360
18	450	114	650	310	220	114	648	360	114	648	360	114	648	360
20	500	127	745	360	350	127	741	500	127	741	500	127	741	500
24	600	154	793	360	350	154	789	500	154	789	500	154	789	500
Body		FCD450-10(ASTM A536)*				FCD450-10(ASTM A536)*			FCD450-10(ASTM A536)*			FCD450-10(ASTM A536)*		
Bracket/Stand		PP up to 6B/CF8 for 8B & above												
Stem/Bottom Stem		410SS/420J2 for 14B & over				410SS/420J2 for 14B & over			410SS/420J2 for 14B & over			410SS/420J2 for 14B & over		
Disc		CF8				DI+ENP			CF8			CF8M		
O ring		EPDM				NBR (E: EPDM)			NBR (E: EPDM)			NBR (E: EPDM)		
Rubber Seat		EPDM				NBR (E: EPDM)			NBR (E: EPDM)			NBR (E: EPDM)		
Service Temperature Range		NBR: 0℃~+70℃, EPDM: -20℃ ~+120℃(Not Frozen)/Continuous Service Temp. -20℃~+100℃				NBR: 0℃~+70℃, EPDM: -20℃ ~+120℃(Not Frozen)/Continuous Service Temp. -20℃~+100℃			NBR: 0℃~+70℃, EPDM: -20℃ ~+120℃(Not Frozen)/Continuous Service Temp. -20℃~+100℃			NBR: 0℃~+70℃, EPDM: -20℃ ~+120℃(Not Frozen)/Continuous Service Temp. -20℃~+100℃		
Reference Page		P-T Rating/Flow Characteristics/ Pressure Loss : Page BFV31				P-T Rating/Flow Characteristics/ Pressure Loss : Page BFV31			P-T Rating/Flow Characteristics/ Pressure Loss : Page BFV31			P-T Rating/Flow Characteristics/ Pressure Loss : Page BFV31		
Remarks		*Cl: 14B & above PP: Polypropylene				*Cl: 14B & above			*Cl: 14B & above			*Cl: 14B & above		

Type		DJ Series			DJ Series				DJ Series			DJ Series			
Butterfly Valve															
Fig		16DJ(E)			G-16DJ(E)				16DJU(E)			G-16DJU(E)			
End Connection		Wafer (JIS 16K)			Wafer (JIS 16K)				Wafer (JIS 16K)			Wafer (JIS 16K)			
inch	mm	L	H	D	L	H	D	B	L	H	D	L	H	D	B
2	50	43	191	180	43	194	80	122	43	191	180	43	194	80	122
21/2	65	46	199	180	46	202	80	122	46	199	180	46	202	80	122
3	80	46	217	180	46	236	110	135	46	217	180	46	236	110	135
4	100	52	227	180	52	246	110	135	52	227	180	52	246	110	135
5	125	56	265	230	56	274	110	150	56	265	230	56	274	110	150
6	150	56	277	230	56	286	110	150	56	277	230	56	286	110	150
8	200				60	325	170	180				60	325	170	180
10	250				68	381	250	250				68	381	250	250
12	300				78	406	250	250				78	406	250	250
14	350				78	445	310	220				78	461	360	350
16	400				102	500	310	220				102	516	360	350
18	450				114	524	310	220				114	540	360	350
20	500				127	589	360	350				127	623	500	400
22	550											154	646	500	400
24	600				154	637	360	350				154	671	500	400
Body		FCD450-10(ASTM A536)			FCD450-10(ASTM A536)				FCD450-10(ASTM A536)			FCD450-10(ASTM A536)			
Stem/Bottom Stem		410SS			410SS/420J2				410SS			410SS/420J2			
Disc		DI+ENP			DI+ENP				CF8			CF8			
O ring		NBR (E: EPDM)			NBR (E: EPDM)				NBR (E: EPDM)			NBR (E: EPDM)			
Rubber Seat		NBR (E: EPDM)			NBR (E: EPDM)				NBR (E: EPDM)			NBR (E: EPDM)			
Service Temperature Range		NBR: 0℃~+70℃, EPDM: -20℃ ~+120℃(Not Frozen)/Continuous Service Temp. -20℃~+100℃			NBR: 0℃~+70℃, EPDM: -20℃ ~+120℃(Not Frozen)/Continuous Service Temp. -20℃~+100℃				NBR: 0℃~+70℃, EPDM: -20℃ ~+120℃(Not Frozen)/Continuous Service Temp. -20℃~+100℃			NBR: 0℃~+70℃, EPDM: -20℃ ~+120℃(Not Frozen)/Continuous Service Temp. -20℃~+100℃			
Reference Page		P-T Rating/Flow Characteristics/ Pressure Loss : Page BFV31			P-T Rating/Flow Characteristics/ Pressure Loss : Page BFV31				P-T Rating/Flow Characteristics/ Pressure Loss : Page BFV31			P-T Rating/Flow Characteristics/ Pressure Loss : Page BFV31			

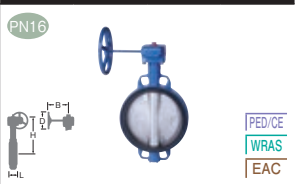
Type		DJ Series			DJ Series				DJK Series				DJ Series		
Butterfly Valve															
Fig		16DJM(E)			G-16DJM(E)				G-16DJKUE				VG-16DJ(E)		
End Connection		Wafer (JIS 16K)			Wafer (JIS 16K)				Wafer (JIS 16K)				Wafer (JIS 16K)		
inch	mm	L	H	D	L	H	D	B	L	H	D	B	L	H	D
2	50	43	191	180	43	194	80	122	43	220	110	135	43	270	110
21/2	65	46	199	180	46	202	80	122	46	228	110	135	46	278	110
3	80	46	217	180	46	236	110	135	46	248	110	135	46	285	110
4	100	52	227	180	52	246	110	135	52	258	110	135	52	295	110
5	125	56	265	230	56	274	110	150	56	286	110	150	56	325	170
6	150	56	277	230	56	286	110	150	56	298	110	150	56	337	170
8	200				60	325	170	180	60	409	170	180	60	404	200
10	250				68	381	250	250	68	477	250	250	68	461	310
12	300				78	406	250	250	78	502	250	250	78	486	310
14	350				78	461	360	350	78	587	310	220	78	569	360
16	400				102	516	360	350	102	642	310	220	102	649	360
18	450				114	540	360	350	114	666	310	220	114	673	360
20	500				127	623	500	400	127	779	360	350	127	766	500
22	550				154	646	500	400							
24	600				154	671	500	400	154	827	360	350	154	814	500
Body		FCD450-10(ASTM A536)			FCD450-10(ASTM A536)				FCD450-10(ASTM A536)				FCD450-10(ASTM A536)		
Bracket/Stand									PP up to 6^B/CF8 for 8^B & above						
Stem/Bottom Stem		410SS			410SS/420J2				410SS/420J2				410SS/420J2		
Disc		CF8M			CF8M				CF8				DI+ENP		
O ring		NBR (E: EPDM)			NBR (E: EPDM)				EPDM				NBR (E: EPDM)		
Rubber Seat		NBR (E: EPDM)			NBR (E: EPDM)				EPDM				NBR (E: EPDM)		
Features									Dew Condensation Prevention						
Service Temperature Range		NBR: 0℃~+70℃, EPDM: -20℃ ~+120℃(Not Frozen)/Continuous Service Temp. -20℃~+100℃			NBR: 0℃~+70℃, EPDM: -20℃ ~+120℃(Not Frozen)/Continuous Service Temp. -20℃~+100℃				NBR: 0℃~+70℃, EPDM: -20℃ ~+120℃(Not Frozen)/Continuous Service Temp. -20℃~+100℃				NBR: 0℃~+70℃, EPDM: -20℃ ~+120℃(Not Frozen)/Continuous Service Temp. -20℃~+100℃		
Reference Page		P-T Rating/Flow Characteristics/ Pressure Loss : Page BFV31			P-T Rating/Flow Characteristics/ Pressure Loss : Page BFV31				P-T Rating/Flow Characteristics/ Pressure Loss : Page BFV31				P-T Rating/Flow Characteristics/ Pressure Loss : Page BFV31		
Remarks									PP: Polypropylene						

Type		DJ Series			DJ Series			DJ Series			DJ Series			
Butterfly Valve		16K 			16K 			20K 			20K 			
Fig		VG-16DJU(E)			VG-16DJM(E)			20DJUE			G-20DJUE			
End Connection		Wafer (JIS 16K)			Wafer (JIS 16K)			Wafer (JIS 20K)			Wafer (JIS 20K)			
inch	mm	L	H	D	L	H	D	L	H	D	L	H	D	B
2	50	43	270	110	43	270	110	43	191	180	43	194	80	122
21/2	65	46	278	110	46	278	110	46	199	180	46	202	80	122
3	80	46	285	110	46	285	110	46	217	180	46	236	110	135
4	100	52	295	110	52	295	110	52	227	180	52	246	110	135
5	125	56	325	170	56	325	170	56	265	230	56	274	110	150
6	150	56	337	170	56	337	170	56	277	230	56	286	110	150
8	200	60	404	200	60	404	200				60	325	170	180
10	250	68	461	310	68	461	310				68	381	250	250
12	300	78	486	310	78	486	310				78	406	250	250
14	350	78	569	360	78	569	360				78	445	310	220
16	400	102	649	360	102	649	360				102	500	310	220
18	450	114	673	360	114	673	360				114	540	360	350
20	500	127	766	500	127	766	500				127	589	500	350
22	550										154	646	500	400
24	600	154	814	500	154	814	500				154	671	500	400
Body		FCD450-10(ASTM A536)			FCD450-10(ASTM A536)			FCD450-10(ASTM A536)			FCD450-10(ASTM A536)			
Stem/Bottom Stem		410SS/420J2			410SS/420J2			410SS/420J2			410SS/420J2			
Disc		CF8			CF8M			CF8			CF8			
O ring		NBR (E: EPDM)			NBR (E: EPDM)			EPDM			EPDM			
Rubber Seat		NBR (E: EPDM)			NBR (E: EPDM)			EPDM			EPDM			
Service Temperature Range		NBR: 0℃~+70℃, EPDM: -20℃ ~+120℃(Not Frozen)/Continuous Service Temp. -20℃~+100℃			NBR: 0℃~+70℃, EPDM: -20℃ ~+120℃(Not Frozen)/Continuous Service Temp. -20℃~+100℃			NBR: 0℃~+70℃, EPDM: -20℃ ~+120℃(Not Frozen)/Continuous Service Temp. -20℃~+100℃			NBR: 0℃~+70℃, EPDM: -20℃ ~+120℃(Not Frozen)/Continuous Service Temp. -20℃~+100℃			
Reference Page		P-T Rating/Flow Characteristics/ Pressure Loss : Page BFV31			P-T Rating/Flow Characteristics/ Pressure Loss : Page BFV31			P-T Rating/Flow Characteristics/ Pressure Loss : Page BFV31			P-T Rating/Flow Characteristics/ Pressure Loss : Page BFV31			

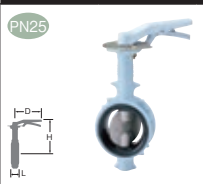
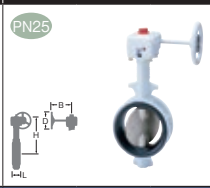
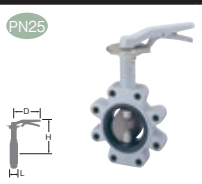
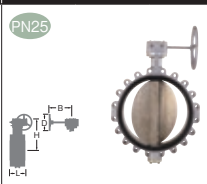
Type		DJ Series			DJ Series				DJK Series			
Butterfly Valve		20K 			20K 				20K 			
Fig		20DJME			G-20DJME				G-20DJKUE			
End Connection		Wafer (JIS 20K)			Wafer (JIS 20K)				Wafer (JIS 20K)			
inch	mm	L	H	D	L	H	D	B	L	H	D	B
2	50	43	191	180	43	194	80	122	43	220	110	135
21/2	65	46	199	180	46	202	80	122	46	228	110	135
3	80	46	217	180	46	236	110	135	46	248	110	135
4	100	52	227	180	52	246	110	135	52	258	110	135
5	125	56	265	230	56	274	110	150	56	286	110	150
6	150	56	277	230	56	286	110	150	56	298	110	150
8	200				60	325	170	180	60	409	170	180
10	250				68	381	250	250	68	477	250	250
12	300				78	406	250	250	78	502	250	250
14	350				78	445	310	220				
16	400				102	500	310	220				
18	450				114	540	360	350				
20	500				127	589	500	350				
22	550				154	646	500	400				
24	600				154	671	500	400				
Body		FCD450-10(ASTM A536)			FCD450-10(ASTM A536)				FCD450-10(ASTM A536)			
Bracket/Stand									PP up to 6B/CF8 for 8B & above			
Stem/Bottom Stem		410SS/420J2			410SS/420J2				410SS/420J2			
Disc		CF8M			CF8M				CF8			
O ring		EPDM			EPDM				EPDM			
Rubber Seat		EPDM			EPDM				EPDM			
Features									Dew Condensation Prevention			
Service Temperature Range		NBR: 0℃~+70℃, EPDM: -20℃ ~+120℃(Not Frozen)/Continuous Service Temp. -20℃~+100℃			NBR: 0℃~+70℃, EPDM: -20℃ ~+120℃(Not Frozen)/Continuous Service Temp. -20℃~+100℃				NBR: 0℃~+70℃, EPDM: -20℃ ~+120℃(Not Frozen)/Continuous Service Temp. -20℃~+100℃			
Reference Page		P-T Rating/Flow Characteristics/ Pressure Loss : Page BFV31			P-T Rating/Flow Characteristics/ Pressure Loss : Page BFV31				P-T Rating/Flow Characteristics/ Pressure Loss : Page BFV31			
Remarks									PP: Polypropylene			

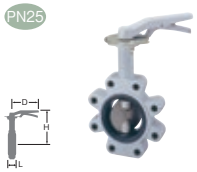
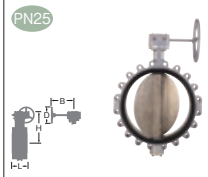
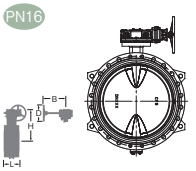
Type		SA Series				SA Series				EJ Series			EJ Series			
Butterfly Valve																
Fig		G-10SAUE				G-16SAUE				PN10EJMW(Q)(F)			G-PN10EJMW(Q)(F)			
End Connection		Wafer (JIS 10K) & *				Wafer (JIS 16K) & *				Wafer (EN1092 PN6/10/16 *)			Wafer (EN1092 PN6/10/16 *)			
inch	mm	L	H	D	B	L	H	D	B	L	H	D	L	H	D	B
2	50									43	191	180				
21/2	65									46	199	180				
3	80									46	217	180				
4	100									52	227	180				
5	125									56	265	230				
6	150									56	277	230				
8	200									60	295	350				
10	250												68	381	250	250
12	300												78	406	250	250
26	650	165	670	500	410	165	670	500	410							
28	700	165	695	500	410	165	695	500	410							
30	750	190	757	500	410	190	757	500	410							
32	800	190	782	500	410	190	782	500	410							
36	900	203	832	500	410	203	832	500	410							
40	1000	216	902	500	410	216	902	500	410							
44	1100	216	940	500	410											
48	1200	254	1007	500	410											
54	1350	280	1133	500	410											
Body		FCD450-10(ASTM A536)				FCD450-10(ASTM A536)				DI (EN-GJS-450-10)			DI (EN-GJS-450-10)			
Stem/Bottom Stem		420J2				420J2				410SS			410SS			
Disc		CF8				CF8				CF8M			CF8M			
O ring		EPDM				EPDM				FKM			FKM			
Rubber Seat		NBR				NBR				W: W-NBR, Q: VMQ (Silicon rubber), F: FKM (Fluoro rubber)			W: W-NBR, Q: VMQ (Silicon rubber), F: FKM (Fluoro rubber)			
Standard/Approval										CE(SEP for 2^{B} & below)			CE			
Service Temperature Range		NBR: 0℃~+70℃, EPDM: -20℃ ~+120℃(Not Frozen)/Continuous Service Temp. -20℃~+100℃				NBR: 0℃~+70℃, EPDM: -20℃ ~+120℃(Not Frozen)/Continuous Service Temp. -20℃~+100℃				Continuous Service: W-NBR: 0℃~+80℃, VMQ: -10℃~+180℃, FKM: 0℃~+130℃(Not Frozen)			Continuous Service: W-NBR: 0℃~+80℃, VMQ: -10℃~+180℃, FKM: 0℃~+130℃(Not Frozen)			
Reference Page										P-T Rating/Flow Characteristics/ Pressure Loss : Page BFV31			P-T Rating/Flow Characteristics/ Pressure Loss : Page BFV31			
Remarks		* JIS B2239 10K FF & with U-section				* JIS B2239(1996) 16K FF & with U-section				*BS10/AS2129 Table E, ASME CL.125/150			*BS10/AS2129 Table E, ASME CL.125/150			

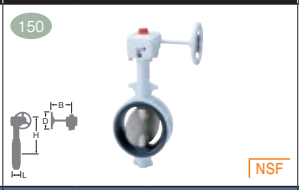
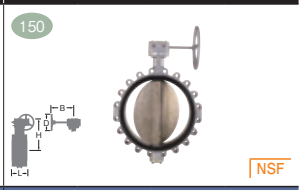
Type		DJ Series			DJ Series				DJ Series			DJ Series			
Butterfly Valve															
Fig		PN16DJ(E)			G-PN16DJ(E)				PN16DJU(E)			G-PN16DJU(E)			
End Connection		Wafer (EN1092 PN16 *)			Wafer (EN1092 PN16 *)				Wafer (EN1092 PN16 *)			Wafer (EN1092 PN16 *)			
inch	mm	L	H	D	L	H	D	B	L	H	D	L	H	D	B
2	50	43	191	180	43	194	80	122	43	191	180	43	194	80	122
21/2	65	46	199	180	46	202	80	122	46	199	180	46	202	80	122
3	80	46	217	180	46	236	110	135	46	217	180	46	236	110	135
4	100	52	227	180	52	246	110	135	52	227	180	52	246	110	135
5	125	56	265	230	56	274	110	150	56	265	230	56	274	110	150
6	150	56	277	230	56	286	110	150	56	277	230	56	286	110	150
8	200	60	295	350	60	325	170	180	60	295	350	60	325	170	180
10	250				68	381	250	250				68	381	250	250
12	300				78	406	250	250				78	406	250	250
14	350				78	461	360	350				78	461	360	350
16	400				102	516	360	350				102	516	360	350
18	450				114	540	360	350				114	540	360	350
20	500				127	623	500	400				127	623	500	400
24	600				154	671	500	400				154	671	500	400
Body		FCD450-10(ASTM A536)			FCD450-10(ASTM A536)				FCD450-10(ASTM A536)			FCD450-10(ASTM A536)			
Stem/Bottom Stem		410SS			410SS/420J2				410SS			410SS/420J2			
Disc		DI+ENP			DI+ENP				CF8			CF8			
O ring		NBR (E: EPDM)			NBR (E: EPDM)				NBR (E: EPDM)			NBR (E: EPDM)			
Rubber Seat		NBR (E: EPDM)			NBR (E: EPDM)				NBR (E: EPDM)			NBR (E: EPDM)			
Standard/Approval		CE, WRAS			CE, WRAS				CE, WRAS, EAC			CE, WRAS, EAC			
Service Condition		Max. Service Pressure 1.6MPa. (Max. Operating Temp. for WRAS Certified Valves: up to 100℃)			Max. Service Pressure 1.6MPa. (Max. Operating Temp. for WRAS Certified Valves: up to 100℃)				Max. Service Pressure 1.6MPa. (Max. Operating Temp. for WRAS Certified Valves: up to 100℃)			Max. Service Pressure 1.6MPa. (Max. Operating Temp. for WRAS Certified Valves: up to 100℃)			
Reference Page		P-T Rating/Flow Characteristics/ Pressure Loss : Page BFV31			P-T Rating/Flow Characteristics/ Pressure Loss : Page BFV31				P-T Rating/Flow Characteristics/ Pressure Loss : Page BFV31			P-T Rating/Flow Characteristics/ Pressure Loss : Page BFV31			
Remarks		CE(SEP for 2^{B} & below)			CE(SEP for 2^{B} & below)				CE(SEP for 2^{B} & below), WRAS Certified Valves: up to 12^{B}			CE(SEP for 2^{B} & below), WRAS Certified Valves: up to 12^{B}			

Type		DJ Series			DJ Series				DJL Series			DJL Series			
Butterfly Valve		PN16  PED/CE WRAS EAC			PN16  PED/CE WRAS EAC				PN16  PED/CE WRAS EAC			PN16  PED/CE WRAS EAC			
Fig		PN16DJM(E)			G-PN16DJM(E)				PN16DJSM(E)			G-PN16DJSM(E)			
End Connection		Wafer (EN1092 PN16)			Wafer (EN1092 PN16)				Semi Lugged (EN1092 PN16)			Semi Lugged (EN1092 PN16)			
inch	mm	L	H	D	L	H	D	B	L	H	D	L	H	D	B
2	50	43	191	180	43	194	80	122	43	191	180	43	194	80	122
21/2	65	46	199	180	46	202	80	122	46	199	180	46	202	80	122
3	80	46	217	180	46	236	110	135	46	217	180	46	236	110	135
4	100	52	227	180	52	246	110	135	52	227	180	52	246	110	135
5	125	56	265	230	56	274	110	150	56	265	230	56	274	110	150
6	150	56	277	230	56	286	110	150	56	277	230	56	286	110	150
8	200	60	295	350	60	325	170	180	60	295	350	60	325	170	180
10	250				68	381	250	250							
12	300				78	406	250	250							
14	350				78	461	360	350							
16	400				102	516	360	350							
18	450				114	540	360	350							
20	500				127	623	500	400							
24	600				154	671	500	400							
Body		FCD450-10(ASTM A536)			FCD450-10(ASTM A536)				FCD450-10(ASTM A536)			FCD450-10(ASTM A536)			
Stem/Bottom Stem		410SS			410SS/420J2				410SS			410SS			
Disc		CF8M			CF8M				CF8M			CF8M			
O ring		NBR (E: EPDM)			NBR (E: EPDM)				NBR (E: EPDM)			NBR (E: EPDM)			
Rubber Seat		NBR (E: EPDM)			NBR (E: EPDM)				NBR (E: EPDM)			NBR (E: EPDM)			
Standard/Approval		CE, WRAS, EAC			CE, WRAS, EAC				CE, WRAS, EAC			CE, WRAS, EAC			
Service Condition		Max. Service Pressure 1.6MPa. (Max. Operating Temp. for WRAS Certified Valves: up to 100℃)			Max. Service Pressure 1.6MPa. (Max. Operating Temp. for WRAS Certified Valves: up to 100℃)				Max. Service Pressure 1.6MPa. (Max. Operating Temp. for WRAS Certified Valves: up to 100℃)			Max. Service Pressure 1.6MPa. (Max. Operating Temp. for WRAS Certified Valves: up to 100℃)			
Reference Page		P-T Rating/Flow Characteristics/ Pressure Loss : Page BFV31			P-T Rating/Flow Characteristics/ Pressure Loss : Page BFV31				P-T Rating/Flow Characteristics/ Pressure Loss : Page BFV31			P-T Rating/Flow Characteristics/ Pressure Loss : Page BFV31			
Remarks		CE(SEP for 2^{B} & below), WRAS Certified Valves: up to 12^{B}			CE(SEP for 2^{B} & below), WRAS Certified Valves: up to 12^{B}				CE(SEP for 2^{B} & below), WRAS Certified Valves: up to 12^{B}			CE(SEP for 2^{B} & below), WRAS Certified Valves: up to 12^{B}			

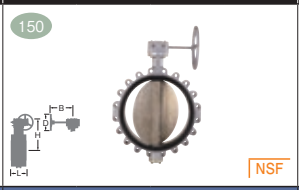
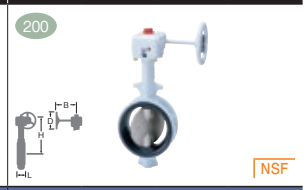
Type		DJL Series			DJL Series				DJ Series			DJ Series			
Butterfly Valve		PN16  PED/CE WRAS EAC			PN16  PED/CE WRAS EAC				PN25 			PN25 			
Fig		PN16DJLM(E)			G-PN16DJLM(E)				PN25DJE			G-PN25DJE			
End Connection		Lugged (EN1092 PN16)			Lugged (EN1092 PN16)				Wafer (EN1092 PN25)			Wafer (EN1092 PN25)			
inch	mm	L	H	D	L	H	D	B	L	H	D	L	H	D	B
2	50	43	191	180	43	194	80	122	43	191	180	43	194	80	122
21/2	65	46	199	180	46	202	80	122	46	199	180	46	202	80	122
3	80	46	217	180	46	236	110	135	46	217	180	46	236	110	135
4	100	52	227	180	52	246	110	135	52	227	180	52	246	110	135
5	125	56	265	230	56	274	110	150	56	265	230	56	274	110	150
6	150	56	277	230	56	286	110	150	56	277	230	56	286	110	150
8	200	60	295	350	60	325	170	180				60	325	250	250
10	250				68	381	250	250				68	381	250	250
12	300				78	406	250	250				78	406	250	250
14	350				78	461	360	350							
16	400				102	516	360	350							
18	450				114	540	360	350							
20	500				127	623	500	400							
24	600				154	671	500	400							
Body		FCD450-10(ASTM A536)			FCD450-10(ASTM A536)				FCD450-10(ASTM A536)			FCD450-10(ASTM A536)			
Stem/Bottom Stem		410SS			410SS/420J2				403SS/410SS/420J2			403SS/410SS/420J2			
Disc		CF8M			CF8M				DI+ENP			DI+ENP			
O ring		NBR (E: EPDM)			NBR (E: EPDM)				EPDM			EPDM			
Rubber Seat		NBR (E: EPDM)			NBR (E: EPDM)				EPDM			EPDM			
Standard/Approval		CE, WRAS, EAC			CE, WRAS, EAC										
Service Condition		Max. Service Pressure 1.6MPa. (Max. Operating Temp. for WRAS Certified Valves: up to 100℃)			Max. Service Pressure 1.6MPa. (Max. Operating Temp. for WRAS Certified Valves: up to 100℃)				Max. Service Pressure 2.5MPa			Max. Service Pressure 2.5MPa			
Reference Page		P-T Rating/Flow Characteristics/ Pressure Loss : Page BFV31			P-T Rating/Flow Characteristics/ Pressure Loss : Page BFV31				P-T Rating/Flow Characteristics/ Pressure Loss : Page BFV31			P-T Rating/Flow Characteristics/ Pressure Loss : Page BFV31			
Remarks		CE(SEP for 2^{B} & below), WRAS Certified Valves: up to 12^{B}			CE(SEP for 2^{B} & below), WRAS Certified Valves: up to 12^{B}										

Type		DJ Series			DJ Series				DJL Series			DJL Series			
Butterfly Valve		PN25 			PN25 				PN25 			PN25 			
Fig		PN25DJUE			G-PN25DJUE				PN25DJLE			G-PN25DJLE			
End Connection		Wafer (EN1092 PN25)			Wafer (EN1092 PN25)				Lugged (EN1092 PN25)			Lugged (EN1092 PN25)			
inch	mm	L	H	D	L	H	D	B	L	H	D	L	H	D	B
2	50	43	191	180	43	194	80	122	43	191	180	43	194	80	122
21/2	65	46	199	180	46	202	80	122	46	199	180	46	202	80	122
3	80	46	217	180	46	236	110	135	46	217	180	46	236	110	135
4	100	52	227	180	52	246	110	135	52	227	180	52	246	110	135
5	125	56	265	230	56	274	110	150	56	265	230	56	274	110	150
6	150	56	277	230	56	286	110	150	56	277	230	56	286	110	150
8	200				60	325	250	250				60	325	250	250
10	250				68	381	250	250				68	381	250	250
12	300				78	406	250	250				78	406	250	250
Body		FCD450-10(ASTM A536)			FCD450-10(ASTM A536)				FCD450-10(ASTM A536)			FCD450-10(ASTM A536)			
Stem/Bottom Stem		403SS/410SS/420J2			403SS/410SS/420J2				403SS/410SS/420J2			403SS/410SS/420J2			
Disc		CF8			CF8				DI+ENP			DI+ENP			
O ring		EPDM			EPDM				EPDM			EPDM			
Rubber Seat		EPDM			EPDM				EPDM			EPDM			
Service Condition		Max. Service Pressure 2.5MPa			Max. Service Pressure 2.5MPa				Max. Service Pressure 2.5MPa			Max. Service Pressure 2.5MPa			
Reference Page		P-T Rating/Flow Characteristics/ Pressure Loss : Page BFV31			P-T Rating/Flow Characteristics/ Pressure Loss : Page BFV31				P-T Rating/Flow Characteristics/ Pressure Loss : Page BFV31			P-T Rating/Flow Characteristics/ Pressure Loss : Page BFV31			

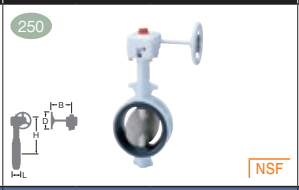
Type		DJL Series			DJL Series				DJ Series (BV13F(FSK))			
Butterfly Valve		PN25 			PN25 				PN16 			
Fig		PN25DJLUE			G-PN25DJLUE				G-PN16SFKBV13FUE			
End Connection		Lugged (EN1092 PN25)			Lugged (EN1092 PN25)				Double flanged (EN1092-2 PN16)			
inch	mm	L	H	D	L	H	D	B	L	H	D	B
2	50	43	191	180	43	194	80	122				
21/2	65	46	199	180	46	202	80	122				
3	80	46	217	180	46	236	110	135				
4	100	52	227	180	52	246	110	135				
5	125	56	265	230	56	274	110	150				
6	150	56	277	230	56	286	110	150				
8	200				60	325	250	250				
10	250				68	381	250	250				
12	300				78	406	250	250				
26	650								292	TBA	400	402
28	700								292	TBA	400	402
30	750								318	TBA	400	402
32	800								318	TBA	400	402
36	900								330	TBA	400	448.5
40	1000								410	TBA	400	448.5
48	1200								470	TBA	450	496
Body		FCD450-10(ASTM A536)			FCD450-10(ASTM A536)				FCD450-10(ASTM A536)			
Stem/Bottom Stem		403SS/410SS/420J2			403SS/410SS/420J2				420SS			
Disc		CF8			CF8				304SS			
O ring		EPDM			EPDM				NBR			
Rubber Seat		EPDM			EPDM				EPDM			
Service Condition		Max. Service Pressure 2.5MPa			Max. Service Pressure 2.5MPa				Max. Service Pressure 1.6MPa, -15℃~120℃			
Reference Page		P-T Rating/Flow Characteristics/ Pressure Loss : Page BFV31			P-T Rating/Flow Characteristics/ Pressure Loss : Page BFV31							

Type		DJ Series			DJ Series				DJL Series			DJL Series			
Butterfly Valve															
Fig		150DJH(E)			G-150DJH(E)				150DJLH(E)			G-150DJLH(E)			
End Connection		Wafer (ASME CL. 150)			Wafer (ASME CL. 150)				Lugged (ASME CL. 150)			Lugged (ASME CL. 150)			
inch	mm	L	H	D	L	H	D	B	L	H	D	L	H	D	B
2	50	42.9	191	180	42.9	194	80	121.5	42.9	191	180	42.9	194	80	121.5
21/2	65	46	199	180	46	202	80	121.5	46	199	180	46	202	80	121.5
3	80	46	217	180	46	236	110	135	46	217	180	46	236	110	135
4	100	52.3	227	180	52.3	246	110	135	52.3	227	180	52.3	246	110	135
5	125	55.6	265	230	55.6	274	110	150	55.6	265	230	55.6	274	110	150
6	150	55.6	277	230	55.6	286	110	150	55.6	277	230	55.6	286	110	150
8	200	60.5	295	350	60.5	325	170	180	60.5	295	350	60.5	325	170	180
10	250				68.3	381	170	180				68.3	381	170	180
12	300				77.7	406	170	180				77.7	406	170	180
14	350				77.7	445	310	220				77.7	445	310	220
16	400				101.6	500	310	220				101.6	500	310	220
18	450				114.3	524	310	220				114.3	524	310	220
20	500				127	589	500	360				127	589	500	360
24	600				153.9	637	500	360				153.9	637	500	360
Body		ASTM A536			ASTM A536				ASTM A536			ASTM A536			
Stem/Bottom Stem		316SS			316SS				316SS			316SS			
Disc		CF8M			CF8M				CF8M			CF8M			
O ring		NBR (E: EPDM)			NBR (E: EPDM)				NBR (E: EPDM)			NBR (E: EPDM)			
Rubber Seat		NBR (E: EPDM)			NBR (E: EPDM)				NBR (E: EPDM)			NBR (E: EPDM)			
Standard/Approval		NSF372			NSF372				NSF372			NSF372			
Service Condition		NBR: 0℃~+70℃ 1.03MPa, EPDM: -20℃~+120℃ 1.03MPa/Continuous Service Temp. 0℃~+100℃			NBR: 0℃~+70℃ 1.03MPa, EPDM: -20℃~+120℃ 1.03MPa/Continuous Service Temp. 0℃~+100℃				NBR: 0℃~+70℃ 1.03MPa, EPDM: -20℃~+120℃ 1.03MPa/Continuous Service Temp. 0℃~+100℃			NBR: 0℃~+70℃ 1.03MPa, EPDM: -20℃~+120℃ 1.03MPa/Continuous Service Temp. 0℃~+100℃			
Reference Page		P-T Rating/Flow Characteristics/ Pressure Loss : Page BFV31			P-T Rating/Flow Characteristics/ Pressure Loss : Page BFV31				P-T Rating/Flow Characteristics/ Pressure Loss : Page BFV31			P-T Rating/Flow Characteristics/ Pressure Loss : Page BFV31			

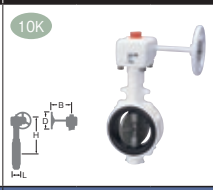
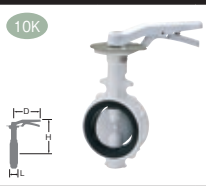
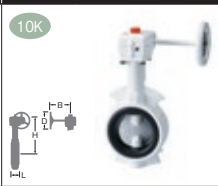
Type		DJ Series			DJ Series				DJ Series				DJL Series		
Butterfly Valve															
Fig		250DJM(E)			G-250DJM(E)				G-150DJM(E)				250DJLM(E)		
End Connection		Wafer (ASME CL. 250)			Wafer (ASME CL. 250)				Wafer (ASME CL. 150)				Lugged (ASME CL. 250)		
inch	mm	L	H	D	L	H	D	B	L	H	D	B	L	H	D
2	50	42.9	191	180	42.9	194	80	122	42.9	194	80	122	42.9	191	180
21/2	65	46	199	180	46	202	80	122	46	202	80	122	46	199	180
3	80	46	217	180	46	236	110	135	46	236	110	135	46	217	180
4	100	52.3	227	180	52.3	246	110	135	52.3	246	110	135	52.3	227	180
5	125	55.6	265	230	55.6	274	110	150	55.6	274	110	150	55.6	265	230
6	150	55.6	277	230	55.6	286	110	150	55.6	286	110	150	55.6	277	230
8	200	60.5	295	350	60.5	325	170	180	60.5	325	170	180	60.5	295	350
10	250				68.3	381	250	250	68.3	381	170	180			
12	300				77.7	406	250	250	77.7	406	170	180			
14	350								77.7	447	310	220			
16	400								101.6	502	310	220			
18	450								114.3	526	310	220			
20	500								127	587	500	360			
24	600								153.9	635	500	360			
Body		ASTM A536			ASTM A536				ASTM A536				ASTM A536		
Stem/Bottom Stem		329SS			329SS				329SS				329SS		
Disc		CF8M			CF8M				CF8M				CF8M		
O ring		NBR (E: EPDM)			NBR (E: EPDM)				NBR (E: EPDM)				NBR (E: EPDM)		
Rubber Seat		NBR (E: EPDM)			NBR (E: EPDM)				NBR (E: EPDM)				NBR (E: EPDM)		
Standard/Approval		NSF372			NSF372				NSF372				NSF372		
Service Condition		NBR: 0℃~+70℃ 1.72 MPa, EPDM: -20℃~+120℃ 1.72 MPa/Continuous Service Temp. 0℃~+100℃			NBR: 0℃~+70℃ 1.72 MPa, EPDM: -20℃~+120℃ 1.72 MPa/Continuous Service Temp. 0℃~+100℃				NBR: 0℃~+70℃ 1.03MPa, EPDM: -20℃~+120℃ 1.03MPa/Continuous Service Temp. 0℃~+100℃				NBR: 0℃~+70℃ 1.72 MPa, EPDM: -20℃~+120℃ 1.72 MPa/Continuous Service Temp. 0℃~+100℃		
Reference Page		P-T Rating/Flow Characteristics/ Pressure Loss : Page BFV31			P-T Rating/Flow Characteristics/ Pressure Loss : Page BFV31				P-T Rating/Flow Characteristics/ Pressure Loss : Page BFV31				P-T Rating/Flow Characteristics/ Pressure Loss : Page BFV31		

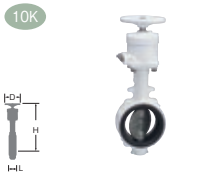
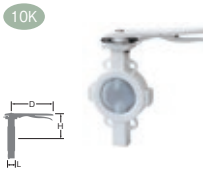
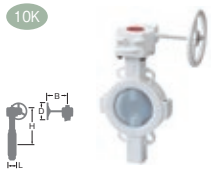
Type		DJL Series				DJL Series				DJ Series			DJ Series			
Butterfly Valve																
Fig		G-250DJLM(E)				G-150DJLM(E)				200DJA(E)			G-200DJA(E)			
End Connection		Lugged (ASME CL. 250)				Lugged (ASME CL. 150)				Wafer (ASME CL. 200)			Wafer (ASME CL. 200)			
inch	mm	L	H	D	B	L	H	D	B	L	H	D	L	H	D	B
2	50	42.9	194	80	122	42.9	194	80	122	42.9	191	180	42.9	194	80	121.5
21/2	65	46	202	80	122	46	202	80	122	46	199	180	46	202	80	121.5
3	80	46	236	110	135	46	236	110	135	46	217	180	46	236	110	135
4	100	52.3	246	110	135	52.3	246	110	135	52.3	227	180	52.3	246	110	135
5	125	55.6	274	110	150	55.6	274	110	150	55.6	265	230	55.6	274	110	150
6	150	55.6	286	110	150	55.6	286	110	150	55.6	277	230	55.6	286	110	150
8	200	60.5	325	170	180	60.5	325	170	180	60.5	295	350	60.5	325	170	180
10	250	68.3	381	250	250	68.3	381	170	180				68.3	381	170	180
12	300	77.7	406	250	250	77.7	406	170	180				77.7	406	170	180
14	350					77.7	447	310	220							
16	400					101.6	502	310	220							
18	450					114.3	526	310	220							
20	500					127	587	500	360							
24	600					153.9	635	500	360							
Body		ASTM A536				ASTM A536				ASTM A536			ASTM A536			
Stem/Bottom Stem		329SS				329SS				410SS			410SS			
Disc		CF8M				CF8M				Al-BC			Al-BC			
O ring		NBR (E: EPDM)				NBR (E: EPDM)				NBR (E: EPDM)			NBR (E: EPDM)			
Rubber Seat		NBR (E: EPDM)				NBR (E: EPDM)				NBR (E: EPDM)			NBR (E: EPDM)			
Standard/Approval		NSF372				NSF372				NSF372			NSF372			
Service Condition		NBR: 0℃~+70℃ 1.72 MPa, EPDM: -20℃~+120℃ 1.72 MPa/Continuous Service Temp. 0℃~+100℃				NBR: 0℃~+70℃ 1.03MPa, EPDM: -20℃~+120℃ 1.03MPa/Continuous Service Temp. 0℃~+100℃				NBR: 0℃~+70℃ 1.38 MPa, EPDM: -20℃~+120℃ 1.38 MPa/Continuous Service Temp. 0℃~+100℃			NBR: 0℃~+70℃ 1.38 MPa, EPDM: -20℃~+120℃ 1.38 MPa/Continuous Service Temp. 0℃~+100℃			
Reference Page		P-T Rating/Flow Characteristics/ Pressure Loss : Page BFV31				P-T Rating/Flow Characteristics/ Pressure Loss : Page BFV31				P-T Rating/Flow Characteristics/ Pressure Loss : Page BFV31			P-T Rating/Flow Characteristics/ Pressure Loss : Page BFV31			

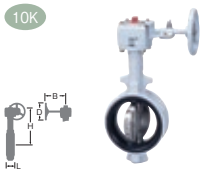
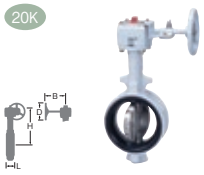
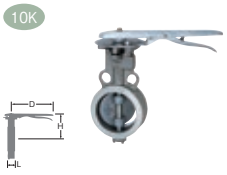
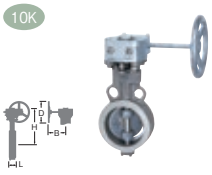
Type		DJ Series				DJL Series			DJL Series				DJL Series			
Butterfly Valve																
Fig		G-150DJA(E)				200DJLA(E)			G-200DJLA(E)				G-150DJLA(E)			
End Connection		Wafer (ASME CL. 150)				Lugged (ASME CL. 200)			Lugged (ASME CL. 200)				Lugged (ASME CL. 150)			
inch	mm	L	H	D	B	L	H	D	L	H	D	B	L	H	D	B
2	50					42.9	191	180	42.9	194	80	121.5				
21/2	65					46	199	180	46	202	80	121.5				
3	80					46	217	180	46	236	110	135				
4	100					52.3	227	180	52.3	246	110	135				
5	125					55.6	265	230	55.6	274	110	150				
6	150					55.6	277	230	55.6	286	110	150				
8	200					60.5	295	350	60.5	325	170	180				
10	250								68.3	381	170	180				
12	300								77.7	406	170	180				
14	350	77.7	447	310	220								77.7	447	310	220
16	400	101.6	502	310	220								101.6	502	310	220
18	450	114.3	526	310	220								114.3	526	310	220
20	500	127	587	500	360								127	587	500	360
24	600	153.9	635	500	360								153.9	635	500	360
Body		ASTM A536				ASTM A536			ASTM A536				ASTM A536			
Stem/Bottom Stem		410SS/420SS				410SS			410SS				410SS/420SS			
Disc		Al-BC				Al-BC			Al-BC				Al-BC			
O ring		NBR (E: EPDM)				NBR (E: EPDM)			NBR (E: EPDM)				NBR (E: EPDM)			
Rubber Seat		NBR (E: EPDM)				NBR (E: EPDM)			NBR (E: EPDM)				NBR (E: EPDM)			
Standard/Approval		NSF372				NSF372			NSF372				NSF372			
Service Condition		NBR: 0℃~+70℃ 1.03MPa, EPDM: -20℃~+120℃ 1.03MPa/Continuous Service Temp. 0℃~+100℃				NBR: 0℃~+70℃ 1.38 MPa, EPDM: -20℃~+120℃ 1.38 MPa/Continuous Service Temp. 0℃~+100℃			NBR: 0℃~+70℃ 1.38 MPa, EPDM: -20℃~+120℃ 1.38 MPa/Continuous Service Temp. 0℃~+100℃				NBR: 0℃~+70℃ 1.03MPa, EPDM: -20℃~+120℃ 1.03MPa/Continuous Service Temp. 0℃~+100℃			
Reference Page		P-T Rating/Flow Characteristics/ Pressure Loss : Page BFV31				P-T Rating/Flow Characteristics/ Pressure Loss : Page BFV31			P-T Rating/Flow Characteristics/ Pressure Loss : Page BFV31				P-T Rating/Flow Characteristics/ Pressure Loss : Page BFV31			

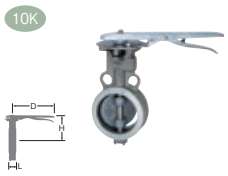
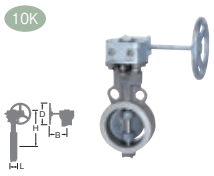
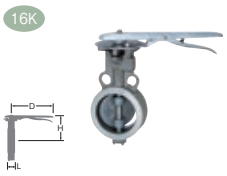
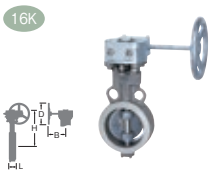
Type		DJ Series			DJ Series				DJL Series			DJL Series			
Butterfly Valve															
Fig		250DJA(E)			G-250DJA(E)				250DJLA(E)			G-250DJLA(E)			
End Connection		Wafer (ASME CL. 250)			Wafer (ASME CL. 250)				Lugged (ASME CL. 250)			Lugged (ASME CL. 250)			
inch	mm	L	H	D	L	H	D	B	L	H	D	L	H	D	B
2	50	42.9	191	180	42.9	194	80	121.5	42.9	191	180	42.9	194	80	121.5
21/2	65	46	199	180	46	202	80	121.5	46	199	180	46	202	80	121.5
3	80	46	217	180	46	236	110	135	46	217	180	46	236	110	135
4	100	52.3	227	180	52.3	246	110	135	52.3	227	180	52.3	246	110	135
5	125	55.6	265	230	55.6	274	110	150	55.6	265	230	55.6	274	110	150
6	150	55.6	277	230	55.6	286	110	150	55.6	277	230	55.6	286	110	150
8	200	60.5	295	350	60.5	325	170	180	60.5	295	350	60.5	325	170	180
10	250				68.3	381	250	250				68.3	381	250	250
12	300				77.7	406	250	250				77.7	406	250	250
Body		ASTM A536			ASTM A536				ASTM A536			ASTM A536			
Stem/Bottom Stem		410SS			410SS				410SS			410SS			
Disc		Al-BC			Al-BC				Al-BC			Al-BC			
O ring		NBR (E: EPDM)			NBR (E: EPDM)				NBR (E: EPDM)			NBR (E: EPDM)			
Rubber Seat		NBR (E: EPDM)			NBR (E: EPDM)				NBR (E: EPDM)			NBR (E: EPDM)			
Stem Bearing		Metal Backed PTFE & G/F PTFE			Metal Backed PTFE & G/F PTFE				Metal Backed PTFE & G/F PTFE			Metal Backed PTFE & G/F PTFE			
Standard/Approval		NSF372			NSF372				NSF372			NSF372			
Service Condition		NBR: 0℃~+70℃ 1.72 MPa for CL 250, EPDM: -20℃~+120℃ 1.72 MPa for CL 250 /Continuous Service Temp. 0℃~+100℃			NBR: 0℃~+70℃ 1.72 MPa for CL 250, EPDM: -20℃~+120℃ 1.72 MPa for CL 250 /Continuous Service Temp. 0℃~+100℃				NBR: 0℃~+70℃ 1.72 MPa for CL 250, EPDM: -20℃~+120℃ 1.72 MPa for CL 250 /Continuous Service Temp. 0℃~+100℃			NBR: 0℃~+70℃ 1.72 MPa for CL 250, EPDM: -20℃~+120℃ 1.72 MPa for CL 250 /Continuous Service Temp. 0℃~+100℃			
Reference Page		P-T Rating/Flow Characteristics/ Pressure Loss : Page BFV31			P-T Rating/Flow Characteristics/ Pressure Loss : Page BFV31				P-T Rating/Flow Characteristics/ Pressure Loss : Page BFV31			P-T Rating/Flow Characteristics/ Pressure Loss : Page BFV31			

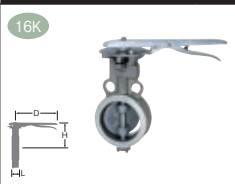
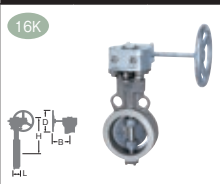
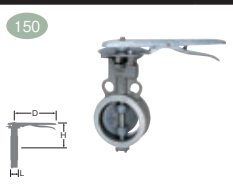
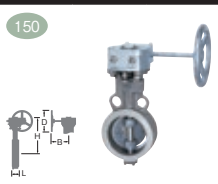
Type		DJF Series				DJF Series				FJ Series			FJ Series			
Butterfly Valve																
Fig		G-10DJFU(E)				G-16DJFU(E)				10FJUF			G-10FJUF			
End Connection		JIS B2239 10K FF				JIS B2239 16K FF				Wafer (JIS 10K)			Wafer (JIS 10K)			
inch	mm	L	H	D	B	L	H	D	B	L	H	D	L	H	D	B
2	50									43	176	180	43	179	80	122
21/2	65									46	184	180	46	187	80	122
3	80									46	194	180	46	213	110	135
4	100	100	214	110	150	100	214	110	150	52	204	180	52	223	110	135
5	125	100	239	110	150	100	244	170	180	56	249	230	56	258	110	150
6	150	100	252	110	150	100	257	170	180	56	261	230	56	270	110	150
8	200	100	288	170	180	152	389	170	180				60	311	170	180
10	250	110	369	170	180	110	389	310	280				68	381	250	250
12	300	110	394	170	180	178	414	310	280				78	406	250	250
14	350	120	445	310	220	190	461	360	310				78	437	250	250
16	400	130	500	310	220	216	516	360	310				102	500	310	220
18	450	150	524	310	220	150	539	360	310				114	524	310	220
20	500	160	589	360	350	160	623	500	410				127	589	360	350
22	550	170	613	360	350	170	647	500	410							
24	600	170	637	360	350	170	671	500	410				154	637	360	350
Body		FCD450-10(ASTM A536)				FCD450-10(ASTM A536)				FCD450-10(ASTM A536)			FCD450-10(ASTM A536)			
Stem/Bottom Stem		410SS/420J2				410SS/420J2				410SS/403SS			410SS/403SS			
Disc		CF8				CF8				CF8			CF8			
O ring		NBR (E: EPDM)				NBR (E: EPDM)				FKM			FKM			
Rubber Seat		NBR (E: EPDM)				NBR (E: EPDM)				FKM			FKM			
Service Condition		NBR: 0℃~+70℃ 1.0MPa for 10K/1.6MPa for 16K, EPDM: -20℃~+120℃ 1.0MPa for 10K/1.6MPa for 16K				NBR: 0℃~+70℃ 1.0MPa for 10K/1.6MPa for 16K, EPDM: -20℃~+120℃ 1.0MPa for 10K/1.6MPa for 16K				5℃~+90℃ 1.0MPa up to 12"/0.5MPa for 14^{B} & above			5℃~+90℃ 1.0MPa up to 12"/0.5MPa for 14^{B} & above			
Reference Page		P-T Rating/Flow Characteristics/ Pressure Loss : Page BFV31				P-T Rating/Flow Characteristics/ Pressure Loss : Page BFV31										

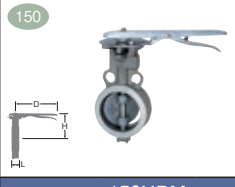
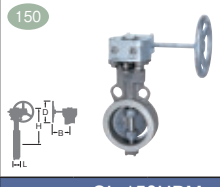
Type		NFJ Series			NFJ Series				NFJ Series			NFJ Series			
Butterfly Valve															
Fig		10NFJUE(W)			G-10NFJUE(W)				10NFJNE(W)			G-10NFJNE(W)			
End Connection		Wafer (JIS 10K)			Wafer (JIS 10K)				Wafer (JIS 10K)			Wafer (JIS 10K)			
inch	mm	L	H	D	L	H	D	B	L	H	D	L	H	D	B
2	50	43	176	180	43	179	80	122	43	176	180	43	179	80	122
21/2	65	46	184	180	46	187	80	122	46	184	180	46	187	80	122
3	80	46	194	180	46	213	110	135	46	194	180	46	213	110	135
4	100	52	204	180	52	223	110	135	52	204	180	52	223	110	135
5	125	56	249	230	56	258	110	150	56	249	230	56	258	110	150
6	150	56	261	230	56	270	110	150	56	261	230	56	270	110	150
8	200				60	311	170	180				60	311	170	180
10	250				68	381	250	250				68	381	250	250
12	300				78	406	250	250				78	406	250	250
Body		FCD450-10 + Nylon Lining			FCD450-10 + Nylon Lining				FCD450-10 + Nylon Lining			FCD450-10 + Nylon Lining			
Stem/Bottom Stem		410SS			410SS				410SS			410SS			
Disc		CF8			CF8				DI + Nylon Lining			DI + Nylon Lining			
O ring		EPDM (W: NBR)			EPDM (W: NBR)				EPDM (W: NBR)			EPDM (W: NBR)			
Rubber Seat		EPDM (W: W-NBR)			EPDM (W: W-NBR)				EPDM (W: W-NBR)			EPDM (W: W-NBR)			
Service Condition		CF8 Disc: 0℃~+60℃ 1.0 MPa, FCD450-10+Nylon Lining: 0℃~+40℃ 1.0 MPa			CF8 Disc: 0℃~+60℃ 1.0 MPa, FCD450-10+Nylon Lining: 0℃~+40℃ 1.0 MPa				CF8 Disc: 0℃~+60℃ 1.0 MPa, FCD450-10+Nylon Lining: 0℃~+40℃ 1.0 MPa			CF8 Disc: 0℃~+60℃ 1.0 MPa, FCD450-10+Nylon Lining: 0℃~+40℃ 1.0 MPa			

Type		NFJ Series			NFJ Series			LJ Series			LJ Series			
Butterfly Valve														
Fig		VG-10NFJUE(W)			VG-10NFJNE(W)			10LJF			G-10LJF			
End Connection		Wafer (JIS 10K)			Wafer (JIS 10K)			Wafer (JIS 10K)			Wafer (JIS 10K)			
inch	mm	L	H	D	L	H	D	L	H	D	L	H	D	B
2	50	43	255	110	43	255	110	43	155	230	43	175	110	150
21/2	65	46	263	110	46	263	110	46	171	280	46	188	110	150
3	80	46	262	110	46	262	110	46	178	280	46	195	110	150
4	100	52	272	110	52	272	110	52	182	280	52	200	110	150
5	125	56	309	170	56	309	170	56	217	350	56	238	170	180
6	150	56	321	170	56	321	170	56	230	350	56	253	170	180
8	200	60	390	200	60	390	200				60	287	200	205
10	250	68	461	310	68	461	310				68	357	310	280
12	300	78	480	310	78	480	310				78	382	310	280
14	350										78	444	360	350
16	400										102	519	500	360
18	450										114	542	500	360
20	500										127	589	500	400
24	600										154	639	500	400
Body		FCD450-10 + Nylon Lining			FCD450-10 + Nylon Lining			FCD450-10(ASTM A536)			FCD450-10(ASTM A536)			
Stem/Bottom Stem		410SS			410SS			420J2			420J2			
Disc		CF8			DI + Nylon Lining			CF8 + PFA			CF8 + PFA			
O ring		EPDM (W: NBR)			EPDM (W: NBR)			FKM			FKM			
Rubber Seat		EPDM (W: W-NBR)			EPDM (W: W-NBR)			PFA			PFA			
Service Condition		CF8 Disc: 0℃~+60℃ 1.0 MPa, FCD450-10+Nylon Lining: 0℃~+40℃ 1.0 MPa			CF8 Disc: 0℃~+60℃ 1.0 MPa, FCD450-10+Nylon Lining: 0℃~+40℃ 1.0 MPa			-10℃~+150℃ 1.0 MPa			-10℃~+150℃ 1.0 MPa			
Reference Page								P-T Rating : Page BFV34			P-T Rating : Page BFV34			

Type		HDRJ Series (Throttroll)				HDRJ Series (Throttroll)				UB Series			UB Series			
Butterfly Valve		10K 				20K 				10K 			10K 			
Fig		G-10HRDJUE				G-20HRDJUE				10UB			GL-10UB			
End Connection		Wafer (JIS 10K)				Wafer (JIS 20K)				Wafer (JIS 10K)			Wafer (JIS 10K)			
inch	mm	L	H	D	B	L	H	D	B	L	H	D	L	H	D	B
11/2	40									33	183	230	33	202	110	150
2	50	43	210	110	135	43	210	110	135	43	176	230	43	192	140	150
21/2	65	46	218	110	135	46	218	110	135	46	185	230	46	202	140	150
3	80	46	236	110	135	46	236	110	135	46	207	280	46	226	170	195
4	100	52	246	110	135	52	246	110	135	52	221	280	52	240	170	195
5	125	56	274	110	150	56	274	110	150	56	240	350	56	261	200	204
6	150	56	286	110	150	56	286	110	150	56	263	350	56	283	200	204
8	200	60	325	170	180	60	325	170	180				71	348	310	280
10	250	68	393	310	280	68	393	310	280				76	416	360	310
12	300	78	418	310	280	78	418	310	280				83	443	360	310
14	350												92	474	500	358
16	400												102	573	500	360
18	450												114	607	500	360
20	500												127	623	500	360
24	600												154	757	500	377
Body		FCD450-10(ASTM A536)				FCD450-10(ASTM A536)				CF8			CF8			
Stem/Bottom Stem		630SS				630SS				304SS			304SS			
Disc		CF8				CF8				CF8+Cr Plating			CF8+Cr Plating			
Packing/O ring		EPDM				EPDM				PTFE			PTFE			
Rubber Seat/Seat Ring		EPDM				EPDM				PTFE			PTFE			
Service Condition		Refer to Page BFV40				Refer to Page BFV40				-29℃~+160℃ 1.0 MPa			-29℃~+160℃ 1.0 MPa			
Reference Page		P-T Rating/Flow Characteristics/ Pressure Loss : Page BFV39 & 40				P-T Rating/Flow Characteristics/ Pressure Loss : Page BFV39 & 40				P-T Rating/Flow Characteristics/ Pressure Loss : Page BFV36			P-T Rating/Flow Characteristics/ Pressure Loss : Page BFV36			
Remarks		Gear Operation with Locking Device				Gear Operation with Locking Device				Double Eccentric, Unidirectional			Double Eccentric, Unidirectional			

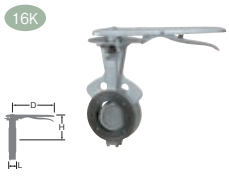
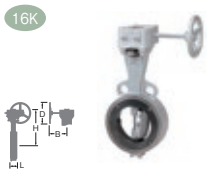
Type		UB Series			UB Series				UB Series			UB Series			
Butterfly Valve		10K 			10K 				16K 			16K 			
Fig		10UBM			GL-10UBM				16UB			GL-16UB			
End Connection		Wafer (JIS 10K)			Wafer (JIS 10K)				Wafer (JIS 16K)			Wafer (JIS 16K)			
inch	mm	L	H	D	L	H	D	B	L	H	D	L	H	D	B
11/2	40	33	183	230	33	202	110	150	33	183	230	33	202	110	150
2	50	43	176	230	43	192	140	150	43	176	230	43	192	140	150
21/2	65	46	185	230	46	202	140	150	46	186	230	46	202	140	150
3	80	46	207	280	46	226	170	195	46	207	280	46	226	170	195
4	100	52	221	280	52	240	170	195	52	221	280	52	240	170	195
5	125	56	240	350	56	261	200	204	56	241	350	56	261	200	204
6	150	56	263	350	56	283	200	204	56	263	350	56	283	200	204
8	200				71	348	310	280				71	348	310	280
10	250				76	416	360	310				76	416	360	310
12	300				83	443	360	310				83	443	360	310
14	350				92	474	500	358				92	474	500	358
16	400				102	573	500	360				102	572	500	360
18	450				114	607	500	360				114	607	500	360
20	500				127	623	500	360				127	623	500	360
24	600				154	757	500	377				154	757	500	377
Body		CF8M			CF8M				CF8			CF8			
Stem/Bottom Stem		316SS			316SS				304SS			304SS			
Disc		CF8M+Cr Plating			CF8M+Cr Plating				CF8+Cr Plating			CF8+Cr Plating			
Packing		PTFE			PTFE				PTFE			PTFE			
Seat Ring		PTFE			PTFE				PTFE			PTFE			
Service Condition		-29℃~+160℃ 1.0 MPa			-29℃~+160℃ 1.0 MPa				-29℃~+160℃ 2.0 MPa up to 12B/1.4MPa for 14B & above			-29℃~+160℃ 2.0 MPa up to 12B/1.4MPa for 14B & above			
Reference Page		P-T Rating/Flow Characteristics/ Pressure Loss : Page BFV36			P-T Rating/Flow Characteristics/ Pressure Loss : Page BFV36				P-T Rating/Flow Characteristics/ Pressure Loss : Page BFV36			P-T Rating/Flow Characteristics/ Pressure Loss : Page BFV36			
Remarks		Double Eccentric, Unidirectional			Double Eccentric, Unidirectional				Double Eccentric, Unidirectional			Double Eccentric, Unidirectional			

Type		UB Series			UB Series				UB Series			UB Series			
Butterfly Valve															
Fig		16UBM			GL-16UBM				150UB			GL-150UB			
End Connection		Wafer (JIS 16K)			Wafer (JIS 16K)				Wafer (ASME CL. 150)			Wafer (ASME CL. 150)			
inch	mm	L	H	D	L	H	D	B	L	H	D	L	H	D	B
11/2	40	33	183	230	33	202	110	150	33	183	230	33	202	110	150
2	50	43	176	230	43	192	140	150	43	176	230	43	192	140	150
21/2	65	46	186	230	46	202	140	150	46	186	230	46	202	140	150
3	80	46	207	280	46	226	170	195	46	207	280	46	226	170	195
4	100	52	221	280	52	240	170	195	52	221	280	52	240	170	195
5	125	56	241	350	56	261	200	204	56	241	350	56	261	200	204
6	150	56	263	350	56	283	200	204	56	263	350	56	283	200	204
8	200				71	348	310	280				71	348	310	280
10	250				76	416	360	310				76	416	360	310
12	300				83	443	360	310				83	443	360	310
14	350				92	474	500	358				92	476	500	358
16	400				102	572	500	360				102	572	500	360
18	450				114	607	500	360				114	607	500	360
20	500				127	623	500	360				127	623	500	360
24	600				154	757	500	377				154	757	500	377
Body		CF8M			CF8M				CF8			CF8			
Stem/Bottom Stem		329J1			329J1				304SS			304SS			
Disc		CF8M+Cr Plating			CF8M+Cr Plating				CF8+Cr Plating			CF8+Cr Plating			
Packing		PTFE			PTFE				PTFE			PTFE			
Seat Ring		PTFE			PTFE				PTFE			PTFE			
Service Condition		-29℃~+160℃ 2.0 MPa up to 12[B]/1.4MPa for 14[B] & above			-29℃~+160℃ 2.0 MPa up to 12[B]/1.4MPa for 14[B] & above				-29℃~+160℃ 1.9 MPa up to 12[B]/1.4MPa for 14[B] & above			-29℃~+160℃ 1.9 MPa up to 12[B]/1.4MPa for 14[B] & above			
Reference Page		P-T Rating/Flow Characteristics/ Pressure Loss : Page BFV36			P-T Rating/Flow Characteristics/ Pressure Loss : Page BFV36				P-T Rating/Flow Characteristics/ Pressure Loss : Page BFV36			P-T Rating/Flow Characteristics/ Pressure Loss : Page BFV36			
Remarks		Double Eccentric, Unidirectional			Double Eccentric, Unidirectional				Double Eccentric, Unidirectional			Double Eccentric, Unidirectional			

Type		UB Series			UB Series				HB Series			HB Series			
Butterfly Valve															
Fig		150UBM			GL-150UBM				10UHB			G-10UHB			
End Connection		Wafer (ASME CL. 150)			Wafer (ASME CL. 150)				Wafer (JIS 10K)			Wafer (JIS 10K)			
inch	mm	L	H	D	L	H	D	B	L	H	D	L	H	D	B
11/2	40	33	183	230	33	202	110	150	33	183	230	33	202	110	150
2	50	43	176	230	43	192	140	150	43	190	230	43	209	110	150
21/2	65	46	186	230	46	202	140	150	46	203	230	46	222	110	150
3	80	46	207	280	46	226	170	195	46	223	280	46	240	110	150
4	100	52	221	280	52	240	170	195	52	237	280	52	254	110	150
5	125	56	241	350	56	261	200	204	56	258	350	56	280	170	180
6	150	56	263	350	56	283	200	204	56	275	350	56	297	170	180
8	200				71	348	310	280				60	324	200	205
10	250				76	416	360	310				68	401	310	220
12	300				83	443	360	310				78	429	310	220
14	350				92	476	500	358							
16	400				102	572	500	360							
18	450				114	607	500	360							
20	500				127	623	500	360							
24	600				154	757	500	377							
Body		CF8M			CF8M				CF8			CF8			
Stem/Bottom Stem		329J1			329J1				304SS			304SS			
Disc		CF8M+Cr Plating			CF8M+Cr Plating				CF8+Cr Plating			CF8+Cr Plating			
Packing		PTFE			PTFE				PTFE			PTFE			
Seat Ring		PTFE			PTFE				C/F PTFE			C/F PTFE			
Service Condition		-29℃~+160℃ 1.9 MPa up to 12[B]/1.4MPa for 14[B] & above			-29℃~+160℃ 1.9 MPa up to 12[B]/1.4MPa for 14[B] & above				-29℃~+200℃ 1.4 MPa			-29℃~+200℃ 1.4 MPa			
Reference Page		P-T Rating/Flow Characteristics/ Pressure Loss : Page BFV36			P-T Rating/Flow Characteristics/ Pressure Loss : Page BFV36				P-T Rating/Flow Characteristics/ Pressure Loss : Page BFV38			P-T Rating/Flow Characteristics/ Pressure Loss : Page BFV38			
Remarks		Double Eccentric, Unidirectional			Double Eccentric, Unidirectional				Double Eccentric, Bidirectional			Double Eccentric, Bidirectional			

Type		HB Series			HB Series				HB Series			HB Series			
Butterfly Valve		20K 			20K 				150 			150 			
Fig		20UHB			G-20UHB				150UHB			G-150UHB			
End Connection		Wafer (JIS 16K/20K)			Wafer (JIS 16K/20K)				Wafer (ASME CL. 150)			Wafer (ASME CL. 150)			
inch	mm	L	H	D	L	H	D	B	L	H	D	L	H	D	B
11/2	40	33	183	230	33	202	110	150	33	183	230	33	202	110	150
2	50	43	190	230	43	209	110	150	43	190	230	43	209	110	150
21/2	65	46	203	230	46	222	110	150	46	203	230	46	222	110	150
3	80	46	223	280	46	240	110	150	46	223	280	46	240	110	150
4	100	52	237	280	52	254	110	150	52	237	280	52	254	110	150
5	125	56	258	350	56	280	170	180	56	258	350	56	280	170	180
6	150	56	275	350	56	297	170	180	56	275	350	56	297	170	180
8	200				60	324	200	205				60	324	200	205
10	250				68	401	310	220				68	401	310	220
12	300				78	429	310	220				78	429	310	220
Body		CF8			CF8				CF8			CF8			
Stem/Bottom Stem		304SS			304SS				304SS			304SS			
Disc		CF8+Cr Plating			CF8+Cr Plating				CF8+Cr Plating			CF8+Cr Plating			
Packing		PTFE			PTFE				PTFE			PTFE			
Seat Ring		C/F PTFE			C/F PTFE				C/F PTFE			C/F PTFE			
Service Condition		-29℃~+200℃ 2.0 MPa			-29℃~+200℃ 2.0 MPa				-29℃~+200℃ 1.9 MPa			-29℃~+200℃ 1.9 MPa			
Reference Page		P-T Rating/Flow Characteristics/ Pressure Loss : Page BFV38			P-T Rating/Flow Characteristics/ Pressure Loss : Page BFV38				P-T Rating/Flow Characteristics/ Pressure Loss : Page BFV38			P-T Rating/Flow Characteristics/ Pressure Loss : Page BFV38			
Remarks		Double Eccentric, Bidirectional			Double Eccentric, Bidirectional				Double Eccentric, Bidirectional			Double Eccentric, Bidirectional			

Type		HB Series			HB Series				HB Series			HB Series			
Butterfly Valve		10K 			10K 				16K 			16K 			
Fig		10SHB			G-10SHB				16SHB			G-16SHB			
End Connection		Wafer (JIS 10K)			Wafer (JIS 10K)				Wafer (JIS 16K/20K)			Wafer (JIS 16K/20K)			
inch	mm	L	H	D	L	H	D	B	L	H	D	L	H	D	B
2	50	43	190	230	43	209	110	150	43	190	230	43	209	110	150
21/2	65	46	203	230	46	222	110	150	46	203	230	46	222	110	150
3	80	46	223	280	46	240	110	150	46	223	280	46	240	110	150
4	100	52	237	280	52	254	110	150	52	237	280	52	254	110	150
5	125	56	258	350	56	280	170	180	56	258	350	56	280	170	180
6	150	56	275	350	56	297	170	180	56	275	350	56	297	170	180
8	200				60	324	200	205				60	324	200	205
10	250				68	401	310	220				68	401	310	220
12	300				78	429	310	220				78	429	310	220
Body		FCD450-10(ASTM A536)			FCD450-10(ASTM A536)				FCD450-10(ASTM A536)			FCD450-10(ASTM A536)			
Stem/Bottom Stem		420J2			420J2				420J2			420J2			
Disc		CF8+Cr Plating			CF8+Cr Plating				CF8+Cr Plating			CF8+Cr Plating			
Packing		PTFE			PTFE				PTFE			PTFE			
Seat Ring		C/F PTFE			C/F PTFE				C/F PTFE			C/F PTFE			
Service Condition		-10℃~+200℃ 1.4 MPa			-10℃~+200℃ 1.4 MPa				-10℃~+200℃ 2.0 MPa			-10℃~+200℃ 2.0 MPa			
Reference Page		P-T Rating/Flow Characteristics/ Pressure Loss : Page BFV38			P-T Rating/Flow Characteristics/ Pressure Loss : Page BFV38				P-T Rating/Flow Characteristics/ Pressure Loss : Page BFV38			P-T Rating/Flow Characteristics/ Pressure Loss : Page BFV38			
Remarks		Double Eccentric, Bidirectional			Double Eccentric, Bidirectional				Double Eccentric, Bidirectional			Double Eccentric, Bidirectional			

Type		HB Series			HB Series			
Butterfly Valve								
Fig		150SHB			G-150SHB			
End Connection		Wafer (ASME CL. 150)			Wafer (ASME CL. 150)			
inch	mm	L	H	D	L	H	D	B
2	50	43	190	230	43	209	110	150
21/2	65	46	203	230	46	222	110	150
3	80	46	223	280	46	240	110	150
4	100	52	237	280	52	254	110	150
5	125	56	258	350	56	280	170	180
6	150	56	275	350	56	297	170	180
8	200				60	324	200	205
10	250				68	401	310	220
12	300				78	429	310	220
Body		FCD450-10(ASTM A536)			FCD450-10(ASTM A536)			
Stem/Bottom Stem		420J2			420J2			
Disc		CF8+Cr Plating			CF8+Cr Plating			
Packing		PTFE			PTFE			
Seat Ring		C/F PTFE			C/F PTFE			
Service Condition		-10℃~+200℃ 1.9 MPa			-10℃~+200℃ 1.9 MPa			
Reference Page		P-T Rating/Flow Characteristics/ Pressure Loss : Page BFV38			P-T Rating/Flow Characteristics/ Pressure Loss : Page BFV38			
Remarks		Double Eccentric, Bidirectional			Double Eccentric, Bidirectional			

CP Series (Double/Triple Eccentric)

(Double/Triple Eccentric)
Product Coding

G- 10 U CPD L H M
① ② ③ ④ ⑤ ⑥ ⑦

①Valve Operation
None: Lever
G: Gear
E: Electric Actuator
YS: Pneumatic Actuator (Spring Return)
Y: Pneumatic Actuator

②Class
150, 300, 10-30K, PN10-40 for CPD Series
150-2500, 10-40K, PN10-40 for CPT Series

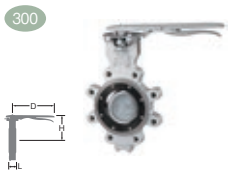
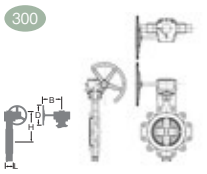
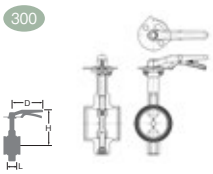
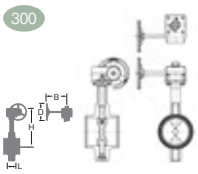
③Symbol of Shell Material
SC: Carbon Steel
U: Stainless Steel

④Series
CPD Series: Double Eccentric
CPC Series: Double Eccentric (JIS 30K Rubber Seat)
CPT Series: Tripple Eccentric

⑤End Connection
None: Wafer
L: Lugged
F: Flanged

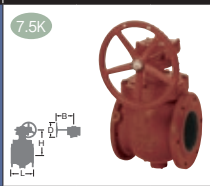
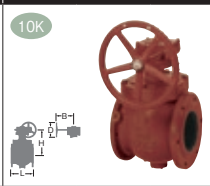
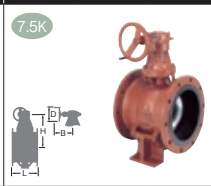
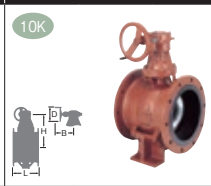
⑥Seat Material
"For CPD/CPC Series of ④"
None (or ST) PTFE
H (ot FM) Metal
FS (or TF) PTFE + Metal
RN (or RS) NBR
RE (or RS) EPDM
RF (or RS) FKM
"For CPT Series of ④"
None (or TE) Laminated (Metal + Graphite or PTFE)

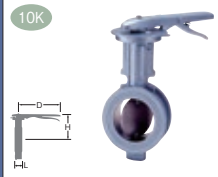
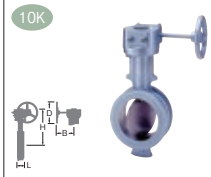
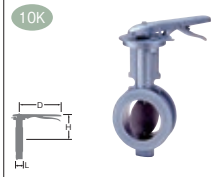
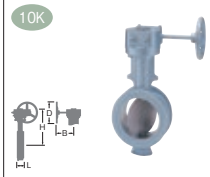
⑦Shell Material
For U: None:CF8, M:CF8M
For SC: None:WCB, CL:LCC, BL:LCB

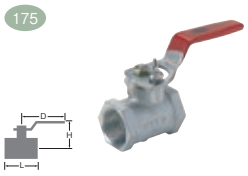
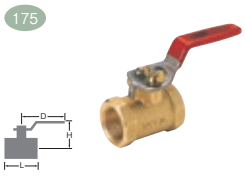
Type		HBS Series (Dead End)			HBS Series (Dead End)				GE Series (Dead End)			GE Series (Dead End)			
Butterfly Valve															
Fig		300SCHBSL			G-300SCHBSL				300SGECE			G-300SGECE			
End Connection		Lugged (ASME CL. 300)			Lugged (ASME CL. 300)				Grooved (AWWA C606-15)			Grooved (AWWA C606-15)			
inch	mm	L	H	D	L	H	D	B	L	H	D	L	H	D	B
2	50								81	188	180	81	192	80	122
21/2	65	46	221	230					96.8	197	180	96.8	200	80	122
3	80	48	235	280					96.8	214	180	96.8	233	110	135
4	100	54	255	280					115.8	225	180	115.8	244	110	135
5	125	59	273	350					147.6	263	230	147.6	272	110	150
6	150				59	315	170	180	147.6	276	230	147.6	284	110	150
8	200				73	379	310	220				133.4	324	170	180
10	250				83	422	310	220				158.8	377	250	251
12	300				92	477	360	350				165.1	405	250	251
Body		WCB			WCB				FCD450-10 + Nylon Lining			FCD450-10 + Nylon Lining			
Stem/Bottom Stem		420J2			420J2				410SS/420J2			410SS/420J2			
Disc		CF8M+HCr			CF8M+HCr				CF8+Cr Plating			CF8+Cr Plating			
Packing/O ring		PTFE			PTFE				FCD450-10 + EPDM*			FCD450-10 + EPDM*			
Seat Ring		G/F PTFE			G/F PTFE				EPDM			EPDM			
Standard/Approval									NSF61			NSF61			
Service Condition		-29℃~+100℃ for Air Conditioning 5.1 MPa			-29℃~+100℃ for Air Conditioning 5.1 MPa				-20℃~+110℃ 2.1 MPa/Continuous Service Temp. 0℃~+100℃			-20℃~+110℃ 2.1 MPa/Continuous Service Temp. 0℃~+100℃			
Reference Page		P-T Rating : API 609			P-T Rating : API 609										
Remarks		Double Eccentric, Bidirectional, Dead End Service			Double Eccentric, Bidirectional, Dead End Service				Dead End Service			Dead End Service			

* Chlorine Resistance

* Chlorine Resistance

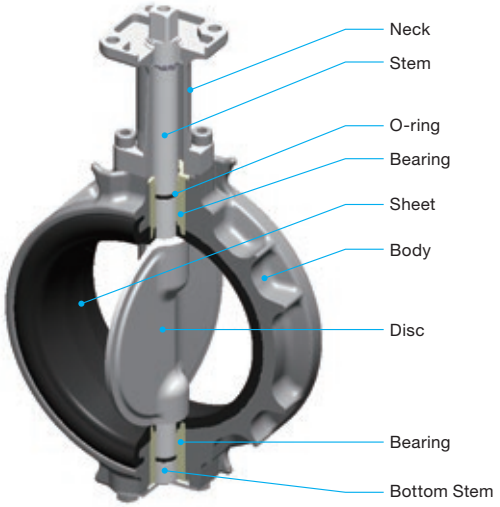
Type		DRAIN Series				DRAIN Series				DRAIN Series				DRAIN Series			
Butterfly Valve		7.5K 				10K 				7.5K 				10K 			
Fig		G-7.5SVB				G-10SVB				G-7.5SGBFS				G-10SGBFS			
End Connection		Flanged (JIS G5527 7.5K)				Flanged (JIS G5527 10K*)				Flanged (JWWA B138 7.5K)				Flanged (JWWA B138 10K)			
inch	mm	L	H	D	B	L	H	D	B	L	H	D	B	L	H	D	B
3	75/80	240	233	110	127	240	233	110	127								
4	100	250	255	170	183	250	255	170	183								
5	125	260	339	310	284	260	339	310	284								
6	150	280	351	310	284	280	351	310	284								
8	200	300	381	310	285	300	381	310	285	300	395	430	273	300	395	430	273
10	250	380	421	360	315	380	421	360	315	380	415	430	273	380	415	430	273
12	300	400	441	360	316	400	441	360	316	400	445	430	273	400	445	430	273
14	350									430	470	430	273	430	470	430	273
16	400									470	520	430	378	470	520	430	378
18	450									500	555	430	378	500	585	430	378
20	500									530	590	430	378	530	620	430	378
24	600									560	695	630	418	560	695	630	418
28	700									610	755	630	418	610	770	630	502
32	800									690	855	630	502	690	870	730	597
36	900									740	940	730	597	740	940	730	597
40	1000									770	1000	730	597	770	1000	730	597
44	1100									800	1065	730	597	800	1105	730	749
48	1200									820	1170	730	749	820	1170	730	749
54	1350									850	1265	730	749	850	1280	630	661
60	1500									900	1375	630	661	900	1375	630	661
Body		FCD450-10				FCD450-10				FCD450-10				FCD450-10			
Stem/Bottom Stem		304SS				304SS				403SS				304SS			
Disc		CF8				CF8				DI+Cr Free Anti-rust Paint				CF8			
O-ring		CR (JIS K6353)				CR (JIS K6353)				CR (JIS K6353)				CR (JIS K6353)			
Seat Ring		304SS+CR Rubber (JIS K6353)				304SS+CR Rubber (JIS K6353)				304SS+CR Rubber (JIS K6353)				304SS+CR Rubber (JIS K6353)			
Rotation Direction		Counterclockwise to Open**				Counterclockwise to Open**				Counterclockwise to Open**				Counterclockwise to Open**			
Service Condition		Static Water Ambient Temp. 0.74MPa				Static Water Ambient Temp. 0.98MPa				Static Water Ambient Temp. 0.75MPa				Static Water Ambient Temp. 1.0MPa			
Remarks		Internal: Epoxy Resin Paint** External: Anti-rust Paint** Face to Face: JIS B2064 End Flange of 125A: JIS B2062				Internal: Epoxy Resin Paint** External: Anti-rust Paint** Face to Face: JIS B2064 End Flange of 125A: JIS B2062				Internal: Epoxy Resin Paint** External: Epoxy Resin Primer**				Internal: Epoxy Resin Paint** External: Epoxy Resin Primer**			
		**Other Options: Available				*Flange Outside Dia.: KITZ STD				**Other Options: Available				**Other Options: Available			

Type		Damper				Damper				Damper				Damper			
Butterfly Valve		10K 				10K 				10K 				10K 			
Fig		10D				GL-10D				10A				GL-10A			
End Connection		Wafer (JIS 10K)				Wafer (JIS 10K)				Wafer (JIS 10K)				Wafer (JIS 10K)			
inch	mm	L	H	D		L	H	D	B	L	H	D		L	H	D	B
2	50	40	183	200		40	198	110	150	40	183	200		40	198	110	150
21/2	65	45	191	200		45	206	110	150	45	191	200		45	206	110	150
3	80	50	198	200		50	213	110	150	50	198	200		50	213	110	150
4	100	60	208	200		60	223	110	150	60	208	200		60	223	110	150
5	125	65	237	280		65	249	170	190	65	237	280		65	249	170	190
6	150	70	247	280		70	259	170	190	70	247	280		70	259	170	190
8	200	80	272	280		80	284	170	190	80	272	280		80	284	170	190
10	250	90	340	350		90	355	170	195	90	340	350		90	355	170	195
12	300	100	365	350		100	380	170	195	100	365	350		100	380	170	195
Body		FC250+HCr				FC250+HCr				FC250+HCr				FC250+HCr			
Stem/Bottom Stem		403SS				403SS				403SS				403SS			
Disc		430SS				430SS				430SS				430SS			
Packing		Flexible Graphite				Flexible Graphite				Flexible Graphite				Flexible Graphite			
Service Condition		0℃~+230℃ 0.5 MPa				0℃~+230℃ 0.5 MPa				0℃~+230℃ 0.5 MPa				0℃~+230℃ 0.5 MPa			
Reference Page		Flow Coefficient (Cv)/Flow Characteristics : Page BFV41				Flow Coefficient (Cv)/Flow Characteristics : Page BFV41				Flow Coefficient (Cv)/Flow Characteristics : Page BFV41				Flow Coefficient (Cv)/Flow Characteristics : Page BFV41			
Remarks		Max. Allowable Leakage: 3% of Normal Cv Value				Max. Allowable Leakage: 3% of Normal Cv Value				Max. Allowable Leakage: 2% of Normal Cv Value				Max. Allowable Leakage: 2% of Normal Cv Value			

Type		Special BUTTERFLY Series			Special BUTTERFLY Series		
Butterfly Valve							
Fig		UV			FV		
End Connection		BS21 (JIS B0203)			BS21 (JIS B0203)		
inch	mm	L	H	D	L	H	D
1/2	15	43	45	85	47	45	85
3/4	20	47	47	85	51	47	85
1	25	56	50	85	58	50	85
11/4	32	63	60	110	67	60	110
11/2	40	69	64	110	73	64	110
2	50	77	70	110	82	70	110
Body		CF8			B283 C37700		
Stem/Bottom Stem		304SS			304SS		
Disc		304SS + W-NBR			304SS + W-NBR		
Packing/O ring		NBR			NBR		
Handle		430SS			430SS		
Service Condition		W.O.G. Non-shock 1.21MPa(175psi) (DO NOT USE against Flammable Gas or Toxic Gas.)			W.O.G. Non-shock 1.21MPa(175psi) (DO NOT USE against Flammable Gas or Toxic Gas.)		
Reference Page		Flow Rate/Pressure Loss/Cv : Page BFV42			Flow Rate/Pressure Loss/Cv : Page BFV42		
Remarks		Balancing Stop Handle Lever			Balancing Stop Handle Lever		

XJ Series | Aluminum Butterfly Valves

KITZ XJ Series Aluminum Butterfly Valves: Featuring unique style for neck designs (U.S.P. No. 6676109) to accommodate various piping designs, piping positions and installation environments.



Specification

Class	JIS 10K	Class 150	PN16
Maximum Service Pressure	1 MPa	1 MPa	1.6 MPa (16 bar)
Service Temperature Range*1	–20°C to +120°C		
Continuous Service Temperature Range*2	–20°C to +100°C		
Face to Face Dimension	API609, BS EN558 Basic Series20 ISO 5752-20, JIS B 2002 46 Series		
Coupling Flanges	JIS B 2220/ 2239 10K	ASME Class 150 JIS B 2220/ 2239 10K *3	EN1092 PN16*3

*1 Condition: Unfrozen Fluid.
*2 Refer to P-T Rating.
*3 With Centering Sleeves.
Refer to Product Range Chart in Page BFV29 and Precautions in Page BFV43 for details.

Cv Value

Size		CV
DN	NPS	
40	1 1/2	77
50	2	99
65	2 1/2	205
80	3	372
100	4	723

Size		CV
DN	NPS	
125	5	1100
150	6	1820
200	8	2780
250	10	4350
300	12	6860

Standard Material

Parts	Materials
Body	Aluminum Die-Cast/ASTM B85-84-383.0 equivalent
Neck	304 SS
Stem	SUS410/ASTM A276 Type 410 equivalent
Disc	A351 Gr. CF8M
O-ring	EPDM
Rubber seat	EPDM
Bottom stem	SUS410/ASTM A276 Type 410 equivalent
Bearing	Metal Backed PTFE (Size 10^B and 12^B) Polyphenylenesulfide (10XJMEA : Size $1\frac{1}{2}^B$ to 8^B) Bronze : CAC401 (PN16XJME : Size 2^B to 8^B)

* Please refer to the drawing of deliverables for detail.

Features

Choice of Two Neck Designs

Long neck type and short neck type are available for variety of applications.

Easy Valve-to-Flange Centering

Light weight in aluminum die-cast body (which is only one third of the weight of KITZ' conventional cast iron butterfly valves) eases valve-to-flange centering in installing valves to pipeline.

Wide Range of Service Applications

Austenitic stainless steel disc and EPDM* rubber seat is able to handle various types of line fluid without risk of corrosion.

* EPDM: Ethylene Propylene Diene Terpolymer

Stabilized Operating Torque

Pair of stem bearings assembled around top and bottom stems prevents stem galling and stabilizes valve operating torque for smooth and trouble-free disc rotation.

On-the-Spot Actuator Assembly

Actuator mounting pad of all neck types are designed to conform ISO 5211 requirements for direct on-site mounting of actuators.

Dew Condensation Prevention (Long Neck Type)

Long stainless steel neck blocks fluid heat transfer to the operating device of valves, therefore, insulation is not required on the operating devices. Dew condensation is also minimized for gear-operated valves used in cold water services.

Rust Prevention

Main parts, such as stem, disc, neck and neck connector end plate and small parts, such as stopper plates, washers and bolts are all made of stainless steel for high-grade rust prevention.

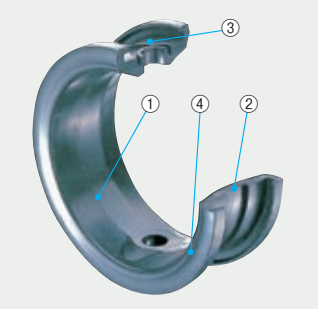
S-shaped Spherical Disc for High Sealing Performance (Patented)

KITZ' original cross-section S-shaped disc with spherical surface makes evenly tight contact with rubber liners for excellent sealing performance with reduced operating torque. Complete 360° shut-off mechanism helps to extend service life of rubber liners. (Size≧ 2inches)

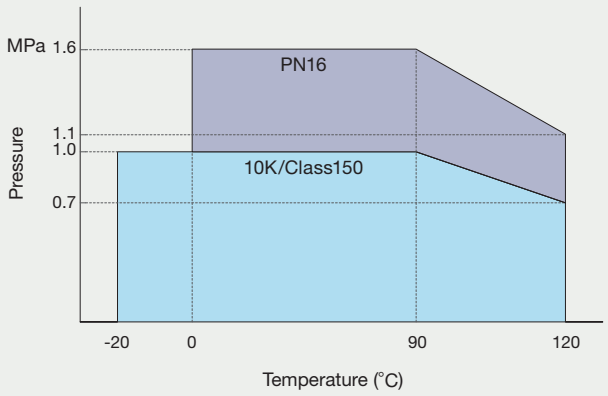
Carefully designed KITZ' EPDM seats have unique features which ensures functional stability, sealing performance and long life;

- Self-reinforced ribbing
- Wide disc seating contact
- Dual stem seal bearings

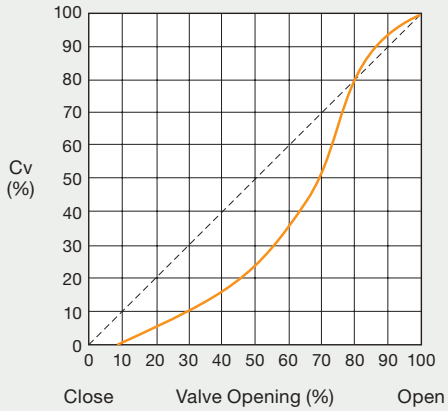
①Wide disc seating contact for high sealing performance.
②Reinforced ribbing minimizes valve operating problems such as distortion, skidding, and exfoliation of rubber liners caused by line pressure load and friction with metal discs.
③Stem seal bearings are assembled on the top and bottom stems for stable sealing.
④Gasketless flange sealing contact for easy valve mounting.



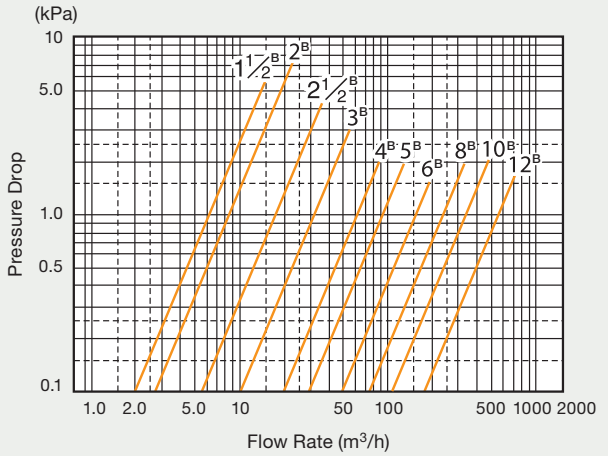
P-T Rating



Flow Characteristics



Pressure Loss



Long Neck Type

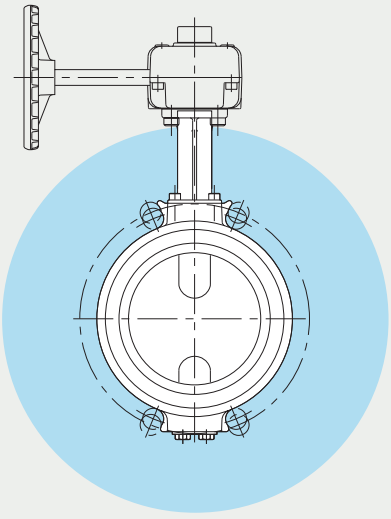
Dew Condensation Prevented

Features
- Long stainless steel neck reduces conductivity of fluid heat and prevents dew condensation.
- Available in variety of valve body and neck design for insulation.
- Choice of actuators for automated valve operation.

Applications
- Building utilities.
- Piping networks for cold water, hot water, and other water supply.

Valve Insulation
Recommended area for insulation is shown below in blue.

Long Neck Type
(G-10XJME)



Note: Not available in short neck type.

Short Neck Type

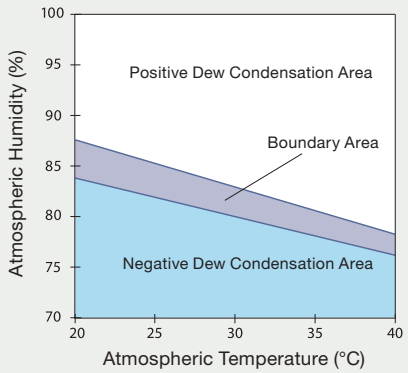
Compact Design

Features
- Suitable for installation in limited space.
- Choice of actuators in automated valve operation.

Applications
- Building utilities.
- Plant facilities.
- Water treatment facilities.
- Industrial machinery operation.

Dew Condensation Test
Samples of KITZ XJ Series butterfly valves equipped with long neck (KITZ Product Code: G-10XJMEA) were tested at KITZ laboratory under conditions in below 'Test Conditions'. Temperature in lower surface of gear box, ambient temperature and ambient humidity was measured as variable function. Dew condensation boundary is estimated to illustration in below chart.

G-10XJMEA Estimated Dew Condensation Boundary



Test Conditions
- Line Fluid : +5°C Cold Water
- Atmospheric Temperature Range : +20℃ to +40℃
- Valve Insulation: 50mm glass wool (JIS A 9501) surrounding tested valve with gear box exposed to open air.

Note: Estimation shown above is a result of tests in summary carried out within test basin at constant temperature and humidity, and does not necessarily represent absolute values. Kindly note dew condensation prevention properties of tested valves may be affected by the changes in testing conditions, such as variation in degree of air transfer, line fluid temperature, atmospheric humidity or condition of insulation. Acceptance allowance of ±5% beyond boundary is recommended.

DJ Series | Ductile Iron Butterfly Valves

Through pursuit of functions required for butterfly valves, a variety of product range is available to comply with user's requirements.

Specification

Maximum Service Pressure			
ASME 150	1.03 MPa	10K	1.0 MPa
ASME 200	1.38 MPa	16K	1.6 MPa
ASME 250	1.72 MPa	20K	2.0 MPa
PN16	1.6 MPa		
PM25	2.5 MPa		

Service Temperature Range	
NBR (Buna-N) Seat	0°C to + 70°C
EPDM Seat	-20°C to + 120°C
Continuous Service Temperature Range	0°C to + 100°C

Applicable Standards	
Valve Design	API 609, MSS-SP 67, EN 593, JIS B 2032
Face to Face Dimensions	API 609 Category A, MSS-SP 67 W-1: Size 2^B to 14^B W-2: Size 16^B to 24^B
	EN 558 Basic Series 20, ISO 5752 20Series, JIS B 2002 46 Series

Coupling Flanges	
Wafer Type	ASME Class 150/200/250
	EN 1092 PN10: DN 50 to DN 350, PN16: All sizes PN25: DN 50 to DN 300
	BS 10 Table D/Table E
	JIS 10K/16K/20K
Lugged Type	ASME Class 150/200/250
	EN 1092 PN10: DN 50 to DN 150, PN16: All sizes PN25: DN 50 to DN 300

Features

Non-Peeling Seat-to-Body Construction

Molded-in (bonded) seat structure is employed for size 2^B to 12^B (DN50 to DN300). Larger size valves are provided with replaceable seat. This non-peeling, seat-to-body construction assures maintenance free application for high velocity fluid service*1, vacuum service*2 and handling surging fluid velocity. It also guarantees peel-free valve installation in pipeline.

*1 Maximum 4 meters/second for valves up to size 12^B (DN300) and 3 meters/second for sizes 14^B (DN350) and above.

*2 Vacuum service is optional for sizes 14^B and above. (Up to 30 Torr.)

Spherical Design for Discs and Seats

Rubber seats are spherically designed to contact with top and bottom stems. Widely designed rubber seats are protected from peeling or deformation for prolonged service life of the valve. Thinly streamlined metal disc is the result of elaborate laboratory studies ultimately minimize pressure loss.

Choice of Materials and Operating Devices

Choice among 4 disc and 2 seat materials, manual, pneumatic or electric valve operating devices makes service application highly versatile.

Integral ISO 5211 Actuator Mounting Flange

Any pneumatic or electric valve actuators provided with ISO 5211 valve mounting flanges can easily be mounted for actuation.

Low Operating Torque

Designed to low operating torque for extension of valve's service life and economic consideration in selection of valve's operating device.

Lightly-Designed for Operation Efficiency

For operation efficiency in piping, XJ Series is designed much lighter in weight than our conventional series.

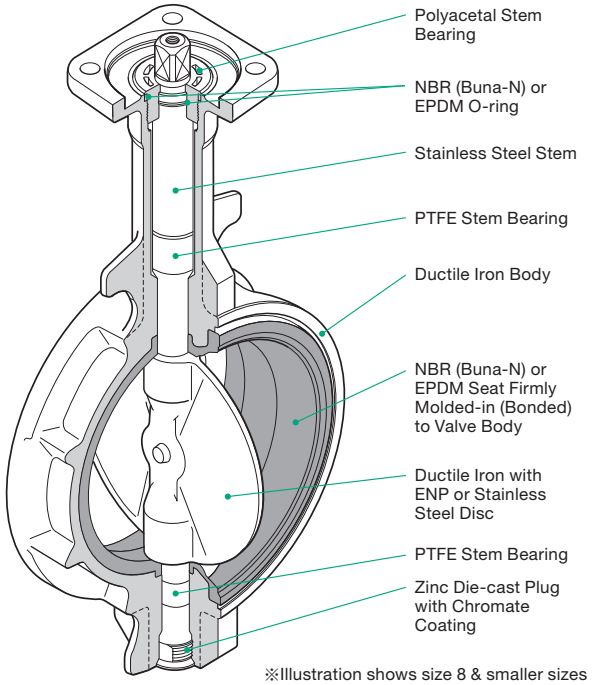
Emission-Free Stem Sealing Mechanism

Prevention of external fluid leakage is maximized with a rubber O-ring around top stem, tight contact between spherically designed rubber seat and spherically designed disc at top & bottom ends.

Dew Condensation Prevention

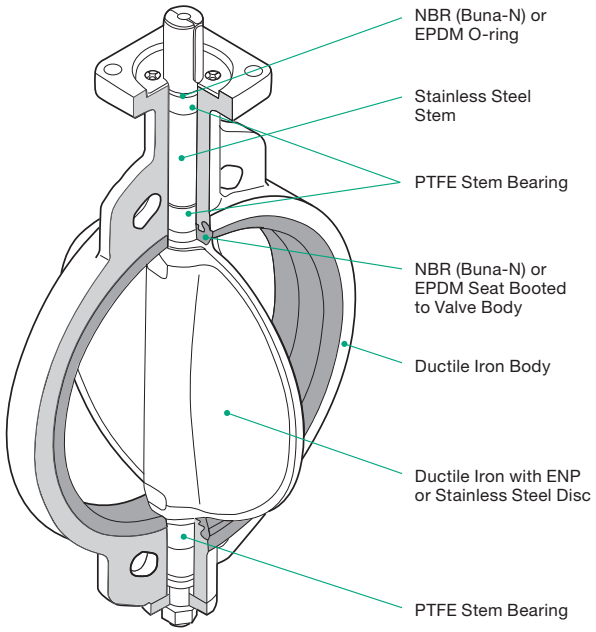
Dew condensation prevention type is available optionally with heat insulating plate (Sizes 2^B to 6^B/DN50 to DN150) or stainless steel stand (Sizes 8^B to 24^B/DN200 to DN600).

Molded-in (Bonded) Seat Structure (Size 2^B to 12^B)*1



※Illustration shows size 8 & smaller sizes

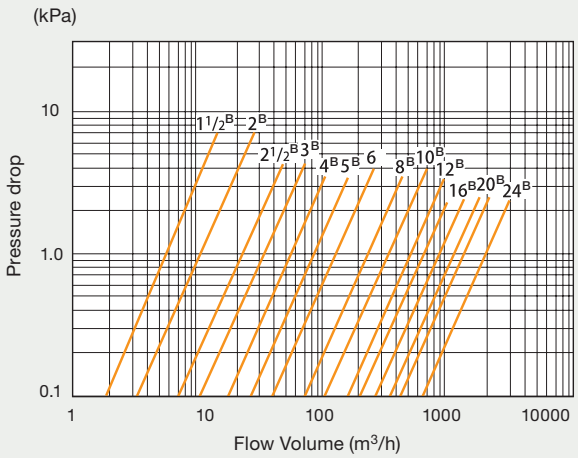
Replaceable Seat Structure (Size 14^B to 24^B)*2



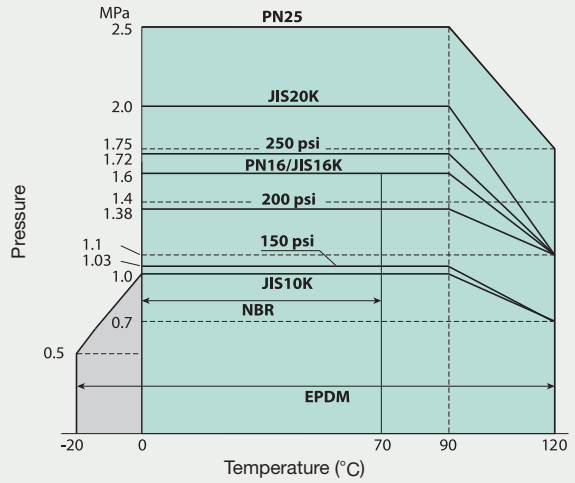
Flow Coeffient (Cv)

Size		Cv Value
DN	NPS	
40	1 1/2	77
50	2	124
65	2 1/2	270
80	3	397
100	4	671
125	5	1013
150	6	1532
200	8	2792
250	10	4025
300	12	6010
350	14	7525
400	16	10080
450	18	13120
500	20	15990
600	24	23690

Pressure Loss (for handling static clean water with valve fully open)

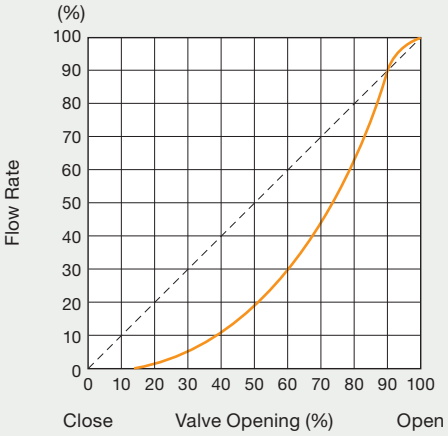


P-T Rating



Note: P-T rating for sub-zero application is optionally available.
Contact KITZ for technical advice when service conditions may exceed P-T rating limited in above.

Flow Characteristics

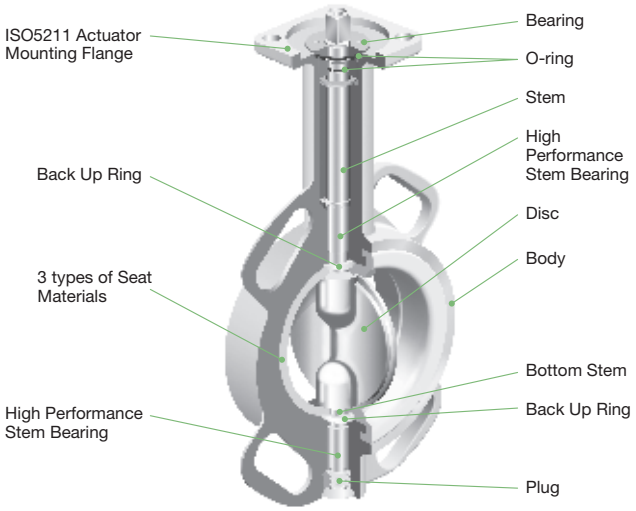


Standard Materials

Parts		Material
Body		Ductile Iron
		Cast Iron (JIS 10K design Size 14B to 24B)
Stem Bottom Stem		410 SS/420 SS
Disc		Ductile Iron (Ni-plated)/304SS/316SS /Aluminum Bronze (See Explanation of Product Code)
Seat O-ring		NBR (Buna-N)/EPDM (See Explanation of Product Code)
Bearing		Polyacetal/Glass Filled PTFE/Metal Backed PTFE
Plug (Size 2B to 8B)		Zinc Die-cast (Chromate Coating)
Operator	Lever	Aluminum Die-cast
	Gear	Aluminum Die-cast (Size 2B to 12B) Cast-Iron (Size 14B to 24B)
	Vertical Gear	Cast-Iron

EJ Series | Ductile Iron Butterfly Valves

Line-up of Three Special Seat Materials available for variety of fluids.



Specification

Maximum Service Pressure	
PN10	10ber (1.0MPa)

Body Material	
Ductile Iron	EN-GJS-450-10, Equivalent to ASTM A536 Gr. 65-45-12, BS 2789 Gr. 40/10*1

*1 Obsolete Standard.

Applicable Standards	
Valve Design	EN 593:2004

Coupling Flanges	
Wafer Type	EN1092 PN6, PN10, PN16 BS10 Table E ASME Class125, Class150

Cv Value

Size		Open Degree							
DN	NPS	20°	30°	40°	50°	60°	70°	80°	90°
50	2	8	17	29	42	56	75	86	88
65	2½	16	36	60	88	122	172	219	246
80	3	21	45	75	113	165	248	345	415
100	4	3	65	109	172	274	446	689	886
125	5	47	95	160	255	406	655	997	1250
150	6	68	138	234	375	598	958	1430	1760
200	8	116	241	419	681	1080	1700	2470	2900
250	10	160	325	575	950	1510	2420	3460	4020
300	12	258	493	859	1410	2260	3610	5160	6010

Standard Materials

Parts	Materials
Body	Ductile Iron〔EN-GJS-450-10〕
Stem	Stainless Steel〔AISI 410〕
Disc	Stainless Steel〔A351 Gr.CF8M〕
Seat	W-NBR（White NBR） VMQ（Silicone Rubber） FKM（Fluoro Rubber）
O-ring	FKM
Bearing	Multi-layered Bearing*
Stem Bearing	Multi-layered Bearing*
Plug	Zinc Die-cast
Bottom Stem	Stainless Steel〔AISI 410〕

* Tetrafluoroethylene resin filled over layer, sintered bronze interlayer with steel backing.

Features

Three Types of Seat Material

Three (3) types of seat materials are as follows; VMQ (Silicone Rubber) can be used for wide range of temperature applications; W-NBR (White NBR) is suitable for use in food processing industry; and FKM (Fluoro Rubber) has properties such as strength and durability for use in variety of fluid application. W-NBR and VMQ meets the requirements of FDA*.

* All of the above listed materials are approved by FDA, and the seats are manufactured within maximum allowable limitations and restrictions.

Suitable for Various Flanges

Flanges in EN1092 PN16, PN10, PN16, BS10 Table E, ASME Class 125 and Class 150 are suitable in all sizes.

Integral ISO 5211 Actuator Mounting Flange

All actuators, pneumatic or electric, provided with ISO 5211 valve mounting flange can easily be mounted for valve actuation.

High Performance Stem Bearing having additional strength to withstand high temperature and high pressure

Stem Bearing in EJ Series is multi layered back material to provide high performance bearing surface capable of withstanding high pressure and temperature.

Backup Ring to maintain Stem Sealing

Backup ring around the stem maintains performance of stem sealing by the movement of stem/disc in sealing/seat of the valve.

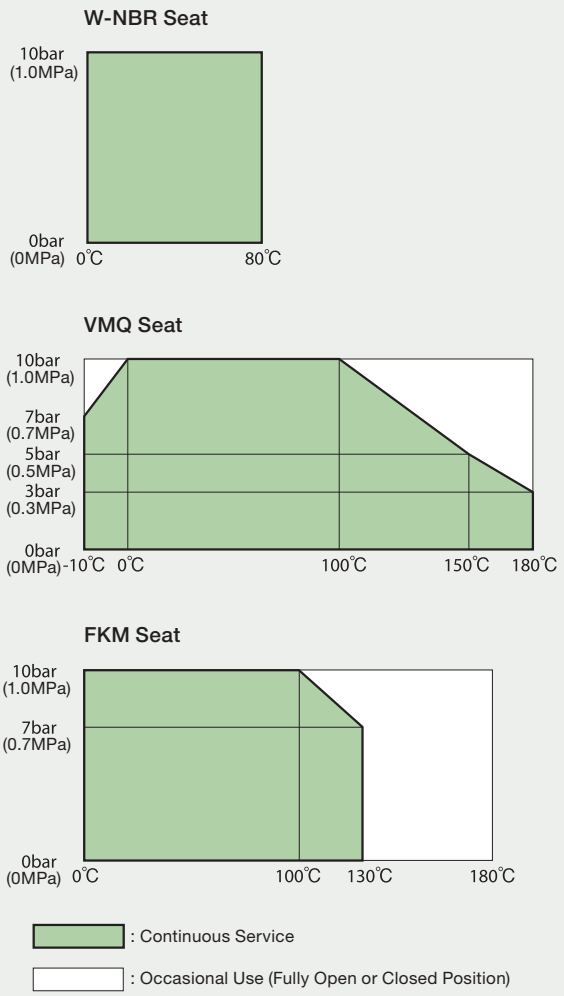
Stainless Steel Bearing Features

Embedded within stainless steel upper body bearing is multi-layered to provide smooth stem operation. Also, housed within stem is snap ring to provide protection and prevent blow out of the stem caused by internal pressure.

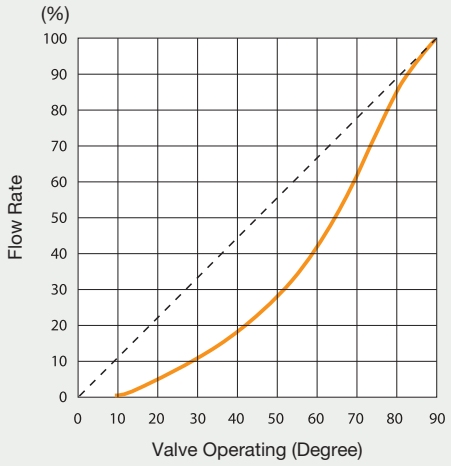
Polished Disc

Polished disc is standard for VMQ and is optional for W-NBR seats for use in food and pharmaceutical industries.

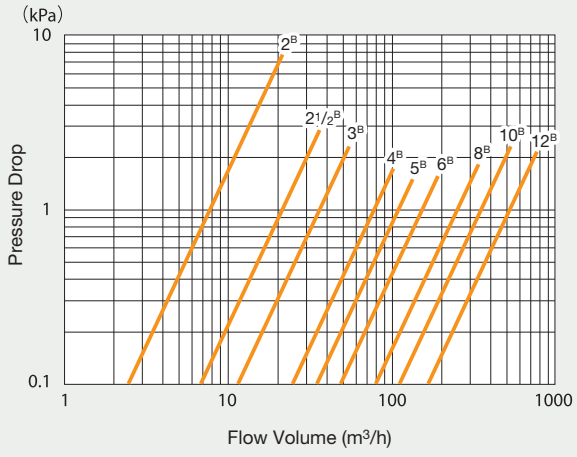
P-T Rating



Flow Characteristics



Pressure Loss



LJ Series | Ductile Iron PFA Lined Butterfly Valves

PFA Lined Butterfly Valves applicable to high corrosive fluids.

Specification

Size
50 to 300mm (2^B to 12^B)

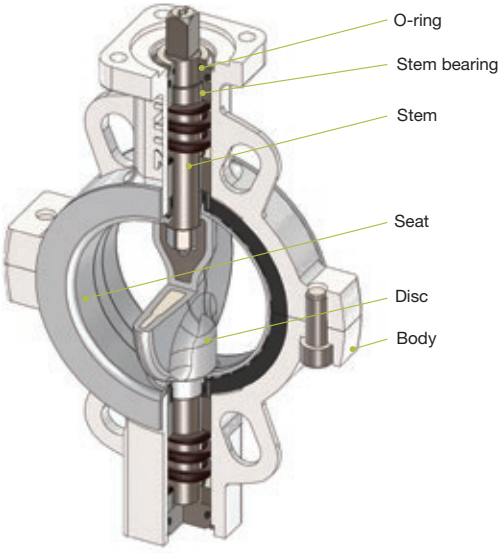
Product Code
10LJF

Maximum Service Pressure
1.0MPa

Service Temperature Range
-10 to +150°C Note: Refer to Pressure-Temperature Ratings.

Coupling Flanges
JIS2220 / 2239 10K Note: JIS5K and ASME Class 150 are optional.

Automatic Operation
Please contact us



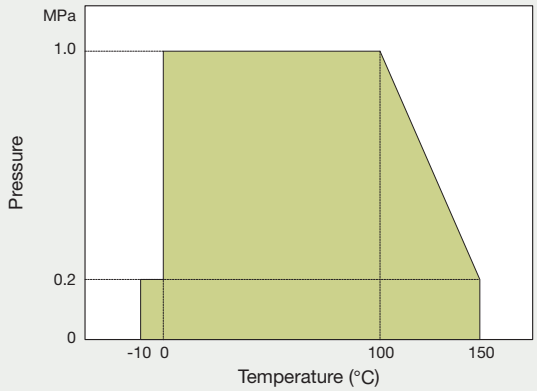
Standard Materials

Parts	Materials
Body	FCD450-10
Disc	SCS13A+PFA
Seat Liner	PFA
Back Up Rubber	FKM

Features

- Various fluids are applicable for PFA-lined internal wetted parts.
- High-grade PFA prevents troubles from corrosive fluid permeation.
- Sealing mechanism with coil spring realizes high sealing performance.
- Original stem sealing design prevents external fluid leakage.
- Easy maintenance with easily disassembled stem and disc.
- Top flange in accordance with ISO 5211.
- Blowout-proof stem.

P-T Rating



Note: Service pressure in vacuum state must be up to 20 torr and service temperature must be 100℃ or below.

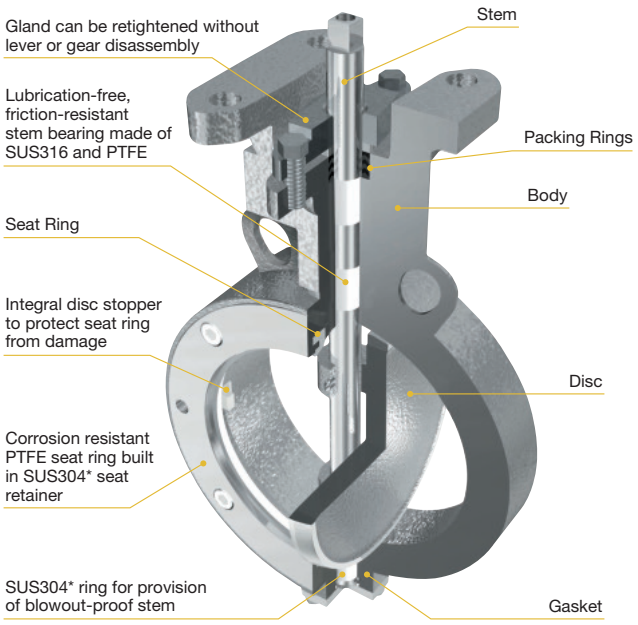
LJ Series is designated as Strategic Materials in the Foreign Trade Law. In order to export, export license issued by the exporting country is required. Kindly contact KITZ representative for details.

⚠ CAUTION

Note 1: Be careful not to damage PFA seat when handling this product.
Note 2: Do not store this product in place exposed to direct sunlight.
Note 3: Installation of gaskets between valve and flanges is not required with accurate centering of each pair of upstream/downstream pipes. Flange and pipe bores must be cleaned thoroughly to remove wetted spatters and foreign objects that may have been left inside.
Note 4: When necessary, install solid PFA gaskets having minimum of 3mm in thickness. (Rubber materials are not allowed.)

UB Series | Stainless Steel Butterfly Valves

With Double Eccentric Kinematics and all Stainless Steel Body and Trim guarantees high performance corrosion resistant services for application of KITZ UB Series Butterfly Valves to Chemical Industries.



*SCS14A or SUS316 is available as an option

Specification

Maximum Service Pressure			
10UB	1.4 MPa	16UB (size 14B to 24B)	1.4 MPa
16UB (size 1½B to 12B)	2.0 MPa	150UB	1.9 MPa

Service Temperature Range	
PTFE Seat	-29°C to + 160°C
Carbon Filled PTFE Seat	-29°C to + 200°C

Wall Thickness
ASME B 16.34 Class 150

Face to Face Dimensions	
6B and smaller	ISO 5752 Short
8B and larger	ISO 5752 Medium

Coupling Flanges	
10UB	JIS 10K
16UB	JIS 16K
150UB	ASME Class 150

Standard Materials

Parts	ASTM Materials	JIS Materials
Body	A351 Gr.CF8*1	SCS13A*1
Stem	304SS	
Disc	A351 Gr.CF8*1	SCS13A*1
Gland	A351 Gr.CF8*1	SCS13A*1
Seat Ring	PTFE*2	
Seat Retainer	304SS	
Gland Packing	PTFE	
Gasket	PTFE	

Parts	ASTM Materials	JIS Materials
Set Bolt	Stainless Steel	
Taper Pin	316SS	
Stem Bearing	METAL BACKED PTFE	
Gland Bolts	Stainless Steel	
Thrust Washer	PTFE	
End Plate	A351 Gr.CF8	SCS13A
End Plate Bolts	304SS	

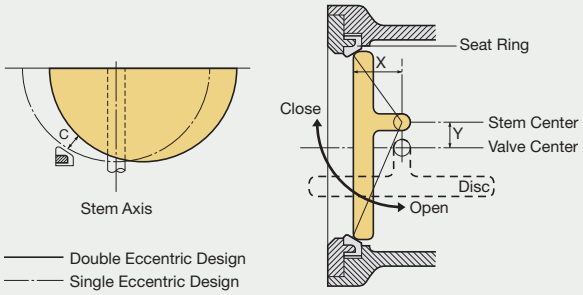
*1 CF8M(316)/ SCS14A(SUS316) is available as an option.
*2 Carbon Filled PTFE seat rings are optionally available.

Features

Double Eccentric Kinematics

Valve stem is designed in eccentric to both center of seat ring (by X) and to center of the valve body (by Y), which makes clearance 'C' between seat ring and disc seat surface to its fully open position (Fig. 1). Disc seating surface is spherically machined and contacts with PTFE seat tightly through 360° for leakage-free service. These functions minimize friction wear of seat ring and reduce valve operating torque considerably.

Fig.1



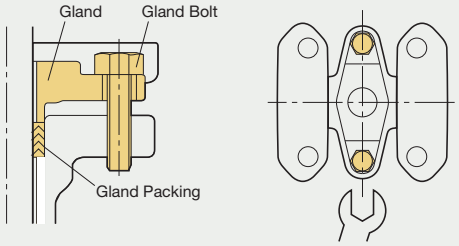
Durable Seat Rings

Seat rings are made of PTFE with stainless steel supporter. Furthermore, double eccentric kinematics relieve seat ring from damage or wear which is rather usual problem in conventional butterfly valves. This allows service life twice as long as rubber seated butterfly valves.

Retightening of Gland Packing

Room between gland and lever or gear allows retightening of gland bolt without trouble to disassemble lever or gear during plant operation is another feature of KITZ UB Series Butterfly Valves (Fig. 2).

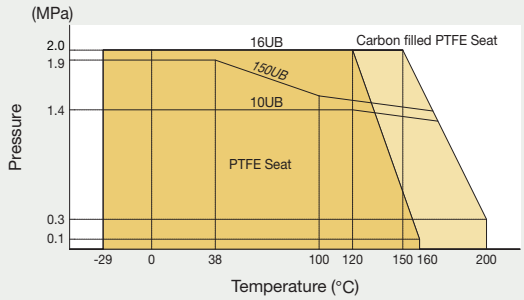
Fig.2



Flow Coefficient (Cv)

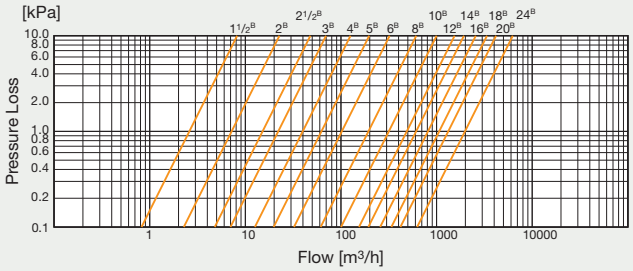
Size		Cv Value
DN	NPS	
40	1 1/2	30
50	2	83
65	2 1/2	175
80	3	255
100	4	460
125	5	722
150	6	1180
200	8	2240
250	10	3660
300	12	5640
350	14	7060
400	16	9390
450	18	12300
500	20	15300
600	24	22900

P-T Rating

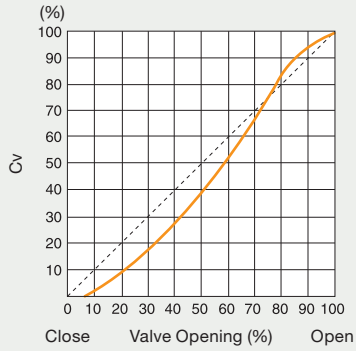


Contact KITZ for technical advice when service condition may exceed above P-T rating limitations.

Pressure Loss (for Handling Static Clean Water)



Flow Characteristics



CAUTION

When installing valves between pipes, be sure to use gaskets* specified below:

*Non-asbestos joint sheet or PTFE sheet

unit: mm

Size		I/D		O/D	Thickness
DN	NPS	Min.	Max.	Min.	Min.
40	1 1/2	48	57	73	3
50	2	60	61	90	3
65	2 1/2	73	77	115	3
80	3	88	90	126	3
100	4	108	116	146	3
125	5	136	143	181	3
150	6	162	170	211	3
200	8	213	220	257	3
250	10	266	275	322	3
300	12	312	326	367	3
350	14	342	359	410	3
400	16	389	410	470	3
450	18	444	460	530	3
500	20	493	513	580	3
600	24	594	615	688	3

CAUTION

- Following gaskets should be used for installation of UB Series Butterfly Valves to pipelines.
  [Type of Gasket]
  - Non-Asbestos Joint Gasket Sheet
  - Reinforced PTFE Gasket (Joint Gasket, Spiral Wound Gasket or Metal Gasket cannot be used.)

  [Shape of Gasket]
  - Full Face Gasket
  - Ring Gasket (for Full Face Flanges and Flat Face Flanges)

  [Dimensions of Gasket]
  Dimensions of gasket should comply with JIS B2404 and ASME B16.21 (minimum gasket thickness is 3mm).
- UB Series Butterfly Valves cannot be used with lapped loose flanges (lap joints + stub ends, stainless steel pipe joints with flanged pipe ends).
- UB Series Butterfly Valves may not be used with some large flat face flanges.
  JIS 5K RF Flanges: Not Applicable
  JIS 10K RF Flanges: Applicable, but be sure to align center of flanges and the valve
  JIS 16K RF Flanges: Applicable
  Class 150 RF Flanges: Applicable, but be sure to align center of flanges and the valve.
- UB Series Butterfly Valves cannot be used with rubber lining pipes.
- UB is unidirectional valves. Valve must be installed according to an arrow provided on the side of operator mounting flange.
  This arrow must point from higher pressure side to lower pressure side when valve is in closed position.
- When retightening the packing, do not cover the gland with insulation material.
- Retighten gland bolts before operating the valves.; Check handle torque while retightening the bolts in order to avoid over tightening and difficult to operate. Gland bolts should tightened alternately with even force. Make sure to retighten gland bolts, if leakage is observed from the gland section due to stress relaxation.

HB Series | Double Eccentric Butterfly Valves

Original Seat Configuration and Materials for Stable Sealing Performance

Double Eccentric Structure and RPTFE Seat

Specification

Valve Nominal Size	
SHB	$50^{A} \sim 300^{A}$
UHB	$40^{A} \sim 300^{A}$

Applicable Flange	
5UHB	JIS 5K
10SHB · 10UHB	JIS 10K
16SHB · 20UHB	JIS 16K (JIS 20K)
150SHB · 150UHB	ASME Class150

Maximum Allowable Pressure	
5UHB	0.7MPa
10SHB · 10UHB	1.4MPa
16SHB · 20UHB	2.0MPa
150SHB · 150UHB	1.72MPa

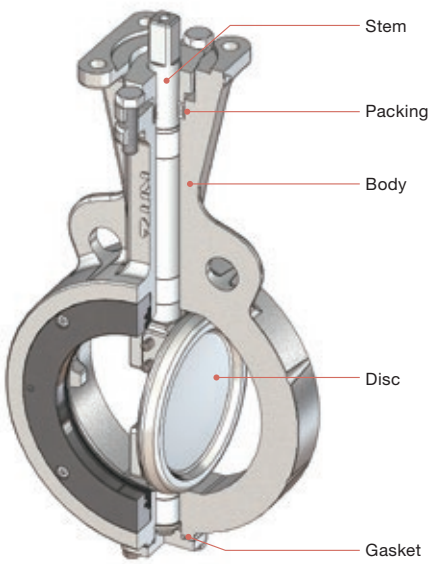
Service Temperature Range	
SHB	-10 ~ +200℃
UHB	-29 ~ +200℃

Face to Face Dimensions
JJIS B 2002 46 series

Flow Direction
Bidirectional flow * Recommended flow direction: Flow pressure from retainer side

Applicable Gaskets (commercially available gaskets)
Joint seats (Minimum thickness 1.5 mm) Spiral wound gaskets / Envelope gaskets

Automatic Valves
Contact KITZ Corporation for details.



* Illustration above shows the structure of Size 4^{B}

Standard Materials

Parts	Material	
	SHB	UHB
Body	FCD450-10	SUS13A/A351 Gr.CF8
Stem	SUS420J2	SUS304N2
Disc	SCS13A+Cr Plated	
Gland	SCS13A	
Seat Ring	RPTFE (Carbon Fiber-filled PTFE)	
Seat Retainer	S45C	SUS304
Stem Bearing	PTFE (Metal Backed)	
Gland Packing	PTFE	
Gasket	PTFE	

Features

RPTFE Seat Rings for Various Types of Fluids

Chemical resistant RPTFE is adopted as seat material which allows to be used with fluids that cannot be handled with rubber seats. (Refer to table 'Corrosion Resistant Level of Materials in Disc and Seat against Fluid' in Page BFV5.)

Double Eccentric Structure for Stable Sealing Performance

Double eccentric structure minimizes contact between disc and seat during operation and provide stable sealing performance with less wear of the seats over long period of time. (Fig. 1)

Easy Retightening of Packing

Retightening of packing is possible without removing operating device. (Fig. 2)

Original Seat Configuration for High Durability (Patented)

Bidirectional Flow

Applicable to both direct and reverse flow control, however, flow pressure from retainer side is recommended.

Applicable to Commercially Available Pipe Gaskets

Joint seats (minimum thickness 1.5mm), spiral wound gaskets and PTFE envelope gaskets conforming applicable standards can be used.

Top Flange Dimension According to ISO 5211

Fig.1
Structural Drawing of Double Eccentric Butterfly Valve

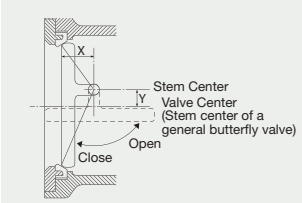
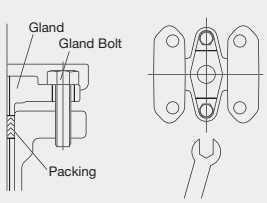


Fig.2
Retightening of Gland Bolts



Cv

Nominal Size		Rated CV Value
A	B	
50	2	64
65	$2^{1}/_{2}$	112
80	3	199
100	4	371
125	5	569
150	6	838
200	8	1669
250	10	3088
300	12	4502

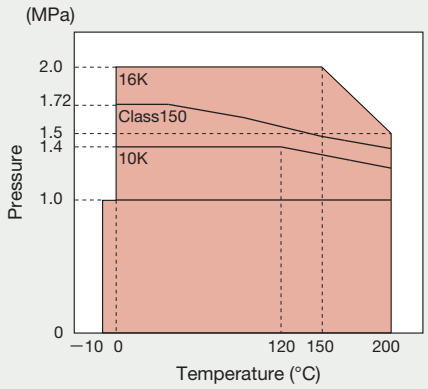
⚠ CAUTION

- HB Series Butterfly Valves must be installed in accordance with arrow direction indicated on the body.

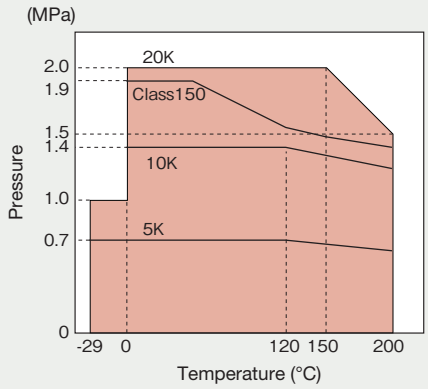
High Pressure (Upstream) Side when Valve at Fully Closed Position → Low Pressure (Downstream) Side when Valve at Fully Closed Position

- When HB Series Butterfly Valves are used for bidirectional service, align flow direction with an arrow indicating flow direction from higher pressure side to lower pressure side.
- HB Series Butterfly Valves can be used with joint seals (minimum thickness 1.5mm) , spiral wound gaskets and PTFE envelope gaskets conforming applicable standards.
- HB Series Butterfly Valves cannot be used with stub ends (lap joints, stainless steel pipe joints with flanged pipe end).
- HB Series Butterfly Valves adopt gland structure. Retighten gland bolts before operating the valve. Check handle torque while retightening bolts in order to avoid over-tightening and difficult to operate. Tightening gland bolts alternately with even force. Retighten gland bolts if leakage from the gland section due to stress relaxation is observed.
- Do not cover the gland with insulation material. Keep gland uncovered to retighten.

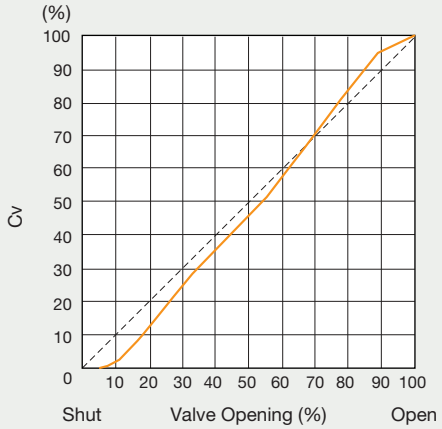
P-T Rating (SHB Series)



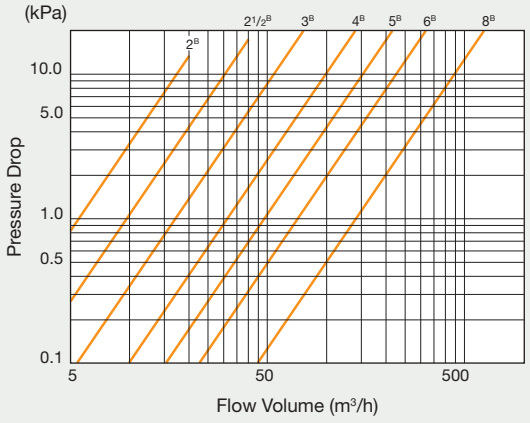
P-T Rating (UHB Series)



Flow Characteristics

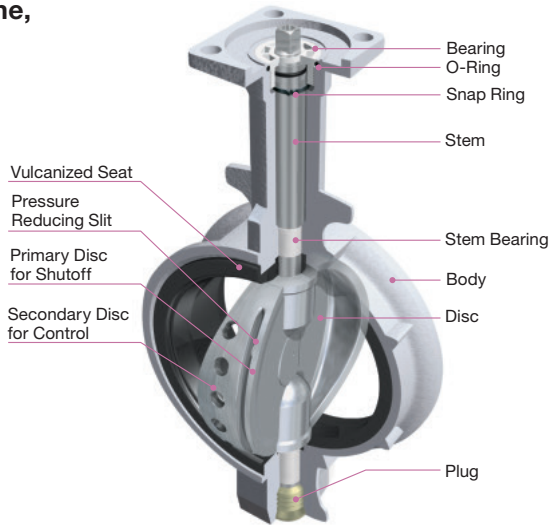


Pressure Loss



HRDJ Series | High Rangeability Butterfly Valves

THROTTROL is designed to handle extremely low fluid volume, while it completely shuts off the line flow.



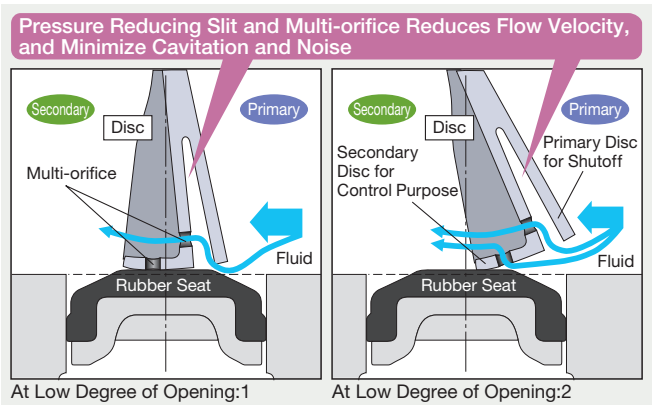
Specification

Maximum Service Pressure
1.0 MPa
Service Temperature Range EPDM
-20°C to +120°C
Continuous Service Temperature Range
0 ～ +100°C Note: Refer to Pressure-Temperature Ratings in next page.
Rangeability
160: 1
Flow Characteristics
Equal Percentage Flow Characteristics
Sealing Features
Tight Shutoff
Face to Face Dimensions
JIS B 2032 Series Number 46
Coupling Flange
JIS 5K/10K/16K/20K

Features

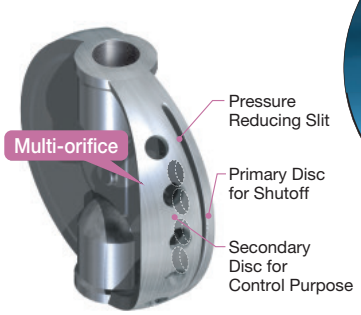
Excellent Flow Volume Control Performance with 160:1 Rangeability

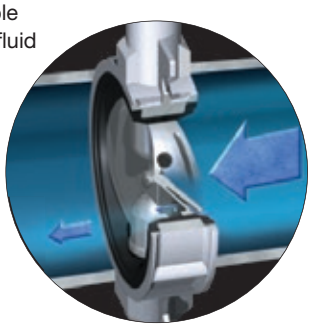
- Tight shut/high rangeability is realized with combining disc section for full-shutoff and disc section for low-operating control of the disc. Also, cavitation is suppressed by installing pressure chamber to improve anti-noise multi orifice.
- Installing multi hall at disc section for low operating control and fin section realizes flow volume characteristics to close ideal equal percent characteristics for flow volume control.



Prevention of Erosion by Jet Flow

- Vulcanized bonded seat is suitable for controlling high flow velocity fluid to reduce erosion due to jet flow.





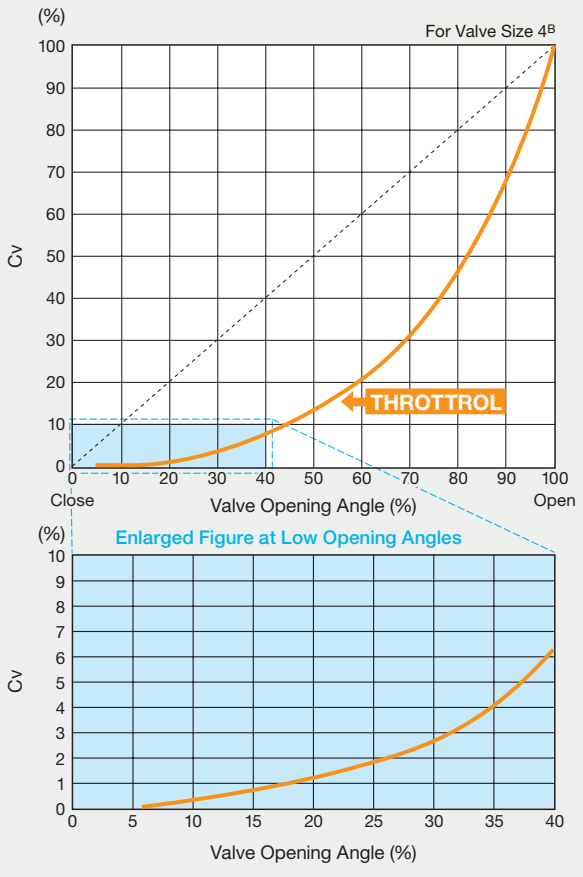
Fluid flows only through orifices at low degree of opening.

Standard Materials

Parts	Materials
Body	FCD450-10
Stem	SUS630
Disc	A351 Gr. CF8 / SCS13A
Seat	EPDM
O-ring	EPDM
Bearing	POM (2^B to 8^B)
Plug	Chromated ZDC
Bottom Stem	SUS403 (2^B to 4^B) SUS420J2 (10^B to 12^B)

* Please refer to the drawing of deliverables for details.

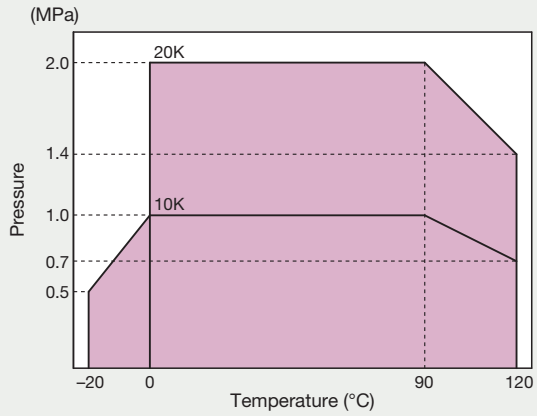
Flow Characteristic Curve



Cv

Nominal Size		Valve Opening Angle (%)										
A	B	5	10	20	30	40	50	60	70	80	90	100
50	2	0.2	0.7	1.8	4.0	7.5	14.3	23.9	35.9	49.3	62.6	74.2
65	2½	0.3	1.0	2.0	4.6	10.0	24.6	44.0	68.9	99.2	132.8	167.0
80	3	0.3	1.6	4.5	10.0	25.3	47.0	71.9	106.4	149.5	201.9	258.5
100	4	0.4	1.9	6.0	13.3	29.4	55.3	94.2	149.6	225.4	325.6	454.2
125	5	0.5	4.3	9.8	29.0	75.0	128.2	208.2	308.9	429.2	566.4	713.9
150	6	2.5	12.0	29.0	77.0	141.2	209.8	289.5	290.2	528.3	726.8	1015.7
200	8	5.3	18.8	45.9	138.2	244.5	382.5	553.7	827.7	1175.3	1618.6	1986.6
250	10	7.8	32.1	131.4	306.5	496.2	744.3	1080.0	1488.7	1955.7	2452.0	2919.0
300	12	12.4	51.1	208.4	487.4	789.1	1183.7	1717.5	2367.4	3110.1	3899.3	4642.0

P-T Rating of Seats



Note 1 : Contact KITZ for technical advice when service conditions may exceed above PT-Rating range. Take appropriate measures to prevent valves from freezing.
Note 2 : Valve can continuously be used at temperature range of 0°C to 100°C.
Note 3 : EPDM Seats are not suitable for oil service.
Note 4 : Contact KITZ when valves are used in how water supply system.

⚠ CAUTION

- THROTTROL is a unidirectional valve. THROTTROL must be installed with the direction of flow in accordance with to an arrow marked on the body during installation.
- THROTTROL cannot be used with rubber lining pipes. THROTTROL is constructed to seal flanges by pressing rubber seat with compressive force exerted by the flange, where compressive force becomes too large or too small if rubber lining is applied to flange joint surface, thereby causing an increase in operating torque of the valve, deterioration of sealing member or external leakage.

Damper | Cast Iron Dampers

Suitable for High Temperature Service

Specification

Maximum Service Pressure
0.5 MPa

Service Temperature Range
0°C to +230°C

Maximum Allowable Leakage
3% of Normal Cv Values (D Type) 2% of Normal Cv Values (A Type)

Coupling Flange
JIS 5K/10K

Features

Type D

For High Temperature

Type D Damper enables flow volume control of high temperature fluid up to 230°C by metal disc and metals seat (hard chrome coating).

Type A

For High Temperature Fluid

Angle bar of Type A Damper is shaped in oval to have the disc contact with inner surface of the body with certain angle when the valve is closed. Therefore, valve can be used for the same application of Type D Damper with even less leakage volume than Type D.

Flow Coefficient (Cv)

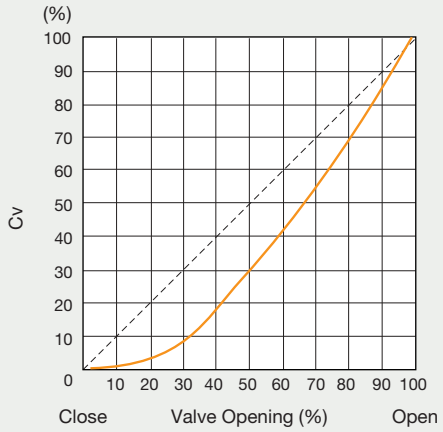
Size		Cv
A	B	
50	2	104
65	2 1/2	174
80	3	348
100	4	557
125	5	905
150	6	1183
200	8	2575
250	10	4037
300	12	6264

Standard Materials

Parts	Materials
Body	FC250+HCr
Stem	403SS
Disc	SUS430
Gland	C3604
Gland Packing	Flexible Graphite
Dics Nut	304SS
Disc Bolt	304SS
Index Plate	Carbon Steel
Set Bolt	Carbon Steel
Bottom Stem	403SS

* Please refer to the drawing of deliverables for details.
Gasket is required to pipe this product.

Flow Characteristics



KITZ BUTTER Series

KITZ Threaded Compact Butterfly Valves

Compact Butterfly Valves for Threaded Piping Connection

Specification

Size
1/2B ~ 2B
Product Code
FV・UV
Connection Type
Threaded Type (JIS B 0203)
Maximum Pressure
1.21 MPa
Service Temperature Range
0℃ to + 70℃
Face to Face Dimensions
KITZ Standard

Features

Clean Design with Pocketless to prevent standing fluid
Full-port structure prevents fluid in pocket in ball valves and rubber seat is adopted to clear Food Sanitation Act.

Threaded Type is the first in Butterfly Valve
Screw-in type for simple pipe connection enables adoption to various small sizes of piping used in vast range of application.

Compact/Light Weight Design
Compact design with weight approximately 1/4, dimension between faces to approx. 2/3 and height of valve to approx. 3/4 compared to same size ball valves. (Compared to KITZ products)

W-NBR Seat with High Sealing Characteristics
By adopting W-NBR with high elasticity for seat to improve sealing characteristics is ideal for fluid line such as air/gas where high sealing is required.

Self Cleaning Feature for Sealing Section
Equipped with self cleaning feature to remove dirt at sealing section during open/close with elastic effect.

Flow Volume Control Capability
Butter Series is equipped with balancing stop mechanism fixed at intermediate opening degree and is capable of stable flow volume control with help of opening scale.

Accurate Lost-Wax Casting
Stainless steel body products employ accurate lost-wax casting to configure clean and dust-free piping line with smooth surface.

Standard Materials

Parts	Materials	
	FV	UV
Body	C3771BE	SCS13A
Stem	SUS304	
Disc	SUS304+W-NBR	
Gland	C3771BD	SUS304
O-ring	NBR	

* Please refer to the drawing of deliverables for details

W-NBR No.NF81W Test Results

Test Item		Test Result	Criteria
Material Test	Lead	Applicable (7.00ppm)	100ppm or less
	Cadmium	Applicable (not detected [0.2ppm or less])	100ppm or less
Dissolution Test	Potassium Permanganate Consumption	Applicable (2.4ppm)	10 ppm or less
	Heavy Metal	Applicable	Must be thinner than color presented by standard fluid for comparison
Vaporization Residue	Water	Applicable (0 ppm)	30 ppm or less
	4% Acetic Acid	Applicable (1.5 ppm)	30 ppm or less
	n-heptane	Applicable (16.5 ppm)	30 ppm or less
	20% Ethanol	Applicable (1.5 ppm)	30 ppm or less

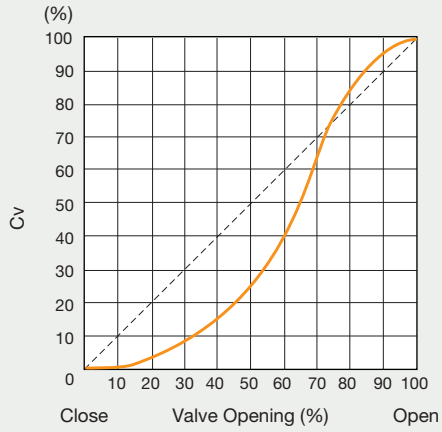
Cv

Size		Cv
A	B	
15	1/2	8.7
20	3/4	21
25	1	39
32	1 1/4	66
40	1 1/2	94
50	2	176

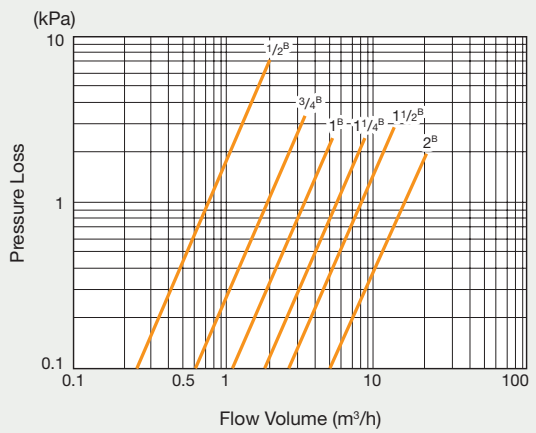
⚠ CAUTION

This product is not applicable for combustible gas or toxic gas.

Flow Rate



Pressure Loss



Precautions for Trouble-free Operation of KITZ Butterfly Valves

Valve Selection

- Make sure to select a valve with design specification which are appropriate in fluid type, pressure and temperature conditions expected.
- Lubricants are applied to discs and rubber seats to protect its surfaces.
  Oil-free treated types are also available. Contact KITZ or its local distributors for details.
- Consult KITZ or its local distributors for services with fine particles.

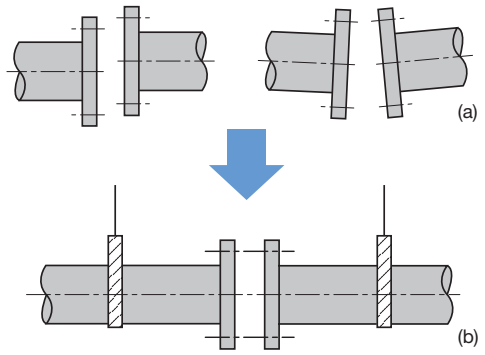
Storage and Handling

- Valves must be stored in clean, dry, corrosion-free environment with no direct exposure to the sunlight. Valves should be left open 10° to prevent permanent distortion of resilient seats. Refrain from overloading valves and actuators by storing in piles or placing other objects.

Mounting to Pipelines

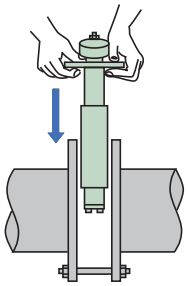
- Valves must be mounted to flanges only after flanges have been welded to pipes and cooled down to ambient temperature. Otherwise, welding heat may affect quality of resilient seats.
- Edges of welded flanges must be machined to achieve smooth surface finish not to damage resilient seats during valve installation. Flange faces must be free of damage or deformation and must be cleaned to remove rust and any foreign objects to prevent leakage through the valve and flange connections. Gaskets are not required to install KITZ XJ Series Butterfly Valves.
- Flanges and pipe bores must be cleaned thoroughly to remove welding spatters, scales and foreign objects which may have been left inside.
- Accurate centering of each pair of upstream and downstream pipe is essential for trouble-free operation of the valve mounted in between. Incorrect centering shown in Fig. 1 must be avoided.

Fig.1



- When mounting a butterfly valve, set jack bolts under the pipe to provide support at consistent height and adjust flange-to-flange distance to allow 6 to 10 mm of space on each side of the body. Remember to have a valve 10°open from fully closed position (Fig. 2).
- Set two (2) bolts into lower mounting guides of a valve and mount carefully in order to avoid flange faces to damage resilient seats.
- Next, set another two bolts into upper mounting guides of the valve, ensuring correct centering between pipes and the valve.
- Try opening the valve to check if there is no obstructing contact between the valve disc and flanges.
- Remove jack bolts, set all bolts around the body tighten the bolts alternately and diagonally until the flanges come into contact with the valve body (Fig. 3). Refer to table shown below for recommended torque values.

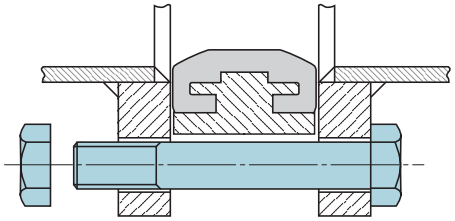
Fig.2



Recommended Torque Values

DN	N·m (kgf·m)
40	49 (5)
50	
65	
80	
100	
125	88 (9)
150	
200	
250	118 (12)
300	

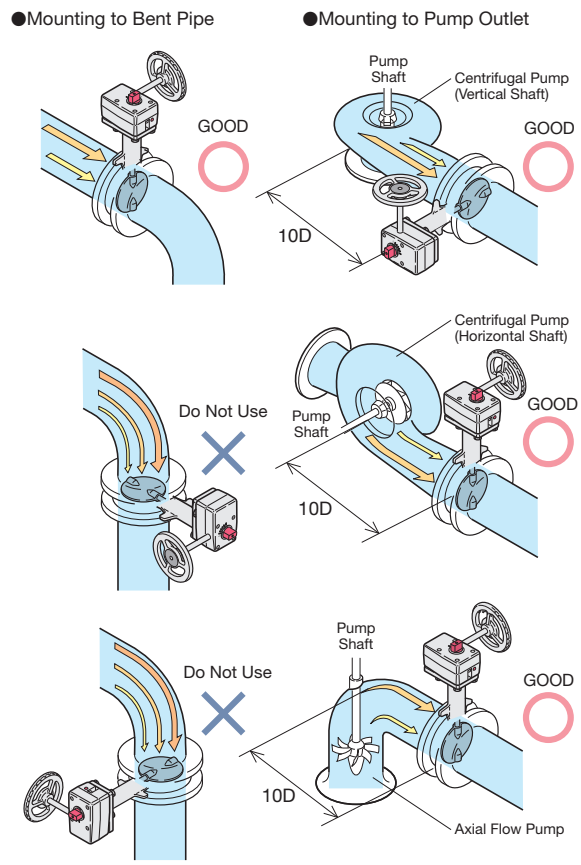
Fig.3



- For mounting actuated valves, provide valve supports to prevent bending valve necks and reduce valve and pipe vibration.
- Do not step on the valve neck or valve lever/handwheel.
- Do not mount butterfly valves directly to check valves or pumps; this may create damages caused by disc contacts.
- Do not mount valves to the downstream side of elbows, reducers or regulating valves where fluid velocity changes. It is recommended for valves to be installed with distance of approximately 10 times the nominal size.

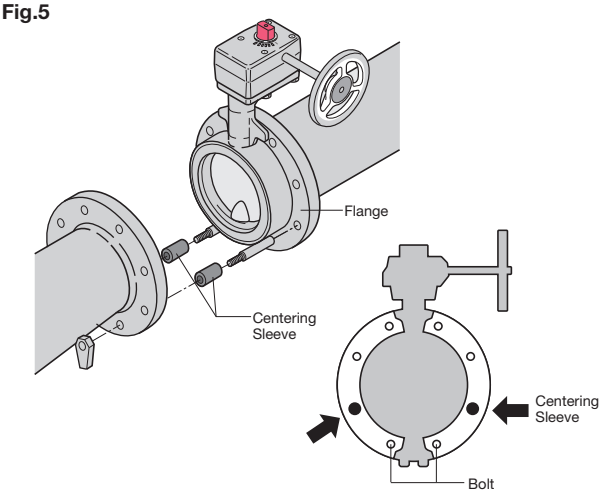
- Consider the effects to discs in fluid velocity or pressure changes to the piping when mounting valves. Please refer to illustrations in Fig. 4.
- Contact KITZ or one of its local distributors for details.

Fig.4



Note:
For accurate centering, use of centering sleeve is required for valves equipped with sleeves as shown in Fig. 5. Kindly refer Page 3 for applicable sizes.

Fig.5



Valve Operation

- Valves equipped with manual operators, such as levers, handles and gears, must be MANUALLY OPERATED ONLY. Application of excessive external force to operate valves may result malfunctioning of the valve and its operators.
- Make sure to full open the valve before conducting loop test of piping system at a line pressure higher than the nominal pressure of tested valves. Never use closed valves in place of blind flanges.
- When valve needs to be removed from pipe for maintenance or any other reasons, make sure to thoroughly relieve line pressure beforehand. Loosening piping bolts under line pressure is dangerous. Any residual fluid left inside pipeline must be drained completely.
- Users should contact KITZ representative or its local distributors for technical advice when valves need to continuously pressured while left open at 30° or less.
- Do not use position indicators to operate valves or overload position indicators. These action may damage the indicators.
- Make sure to use blind flanges when butterfly valves are mounted at the end of pipeline.
- Standard actuators are referenced in this catalogue for actuated valve operation. Contact KITZ representative or its local distributors for information on mounting optional actuators.
- Contact KITZ for service or pump outlets.
- Avoid touching gear operators and actuator stopper bolts accidentally.
- Following Periodic Inspection is recommended
  - Check valve opening
  - Check for loosened bolts and leakage at each connection
  - Check for vibration and noise
- Refer to operation manual for other precautions. Also refer to actuator catalog and operation manual for actuated valves.

⚠ WARNING

To prevent stem blow-out, do not disassemble neck while a valve is pressurized. Do not dismantle valve operating device, since it may cause valve disc to rotate which may result in valve malfunction.

Disclaimer

- KITZ will not take any responsibilities for damages caused by result of natural disasters, accidents or fire which KITZ is not liable for, conduct of a third party, intentional act, misuse or used under abnormal conditions by a customer.
- KITZ will not take any responsibilities for damages arise from negligence or prohibitions, cautions, installation and usage beyond specification range mentioned in the catalogs and operation manuals.
- KITZ will not take any responsibility for damages caused by product modification not entrusted by KITZ or usage under load applied from other devices.

MEMO