

Through pursuit of functions required for butterfly valves. Variety of product range 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 to 14		
	W-2: Size 16 to 24		
	EN 558 basic series 20, ISO 5752 20 Series, 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		

### Feature

#### Non-peeling Seat-to-body Construction

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

\*1 Maximum 4 meters/second for on-off service for valves up to size 12, and 3 meters/second for size 14 and larger.

\*2 Up to 30 Torr. Vacuum service is option for size 14 and larger.

#### Spherical Design for Discs and Seats

Rubber seats are spherically designed where they contact top and bottom stems. This protects widely designed rubber seats from peeling or deformation for prolonged service life of valves. Thinly streamlined metal discs are the results of elaborate laboratory study to ultimately minimize the pressure loss.

#### Choice of Materials and Operating Devices

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

#### Integral ISO 5211 Actuator Mounting Flange

Any pneumatic or electric valve actuators provided with ISO 5211 valve mounting flanges can be easily mounted for actuation of valves in the field.

#### Low Valve Operating Torque

Low operating torques are designed low for extension of valve service life and economic consideration in selection of valve operating devices.

#### Light-designed for Operation Efficiency

Designed much lighter than our conventional series for operation efficiency in piping

#### Emission-free Stem Sealing Mechanism

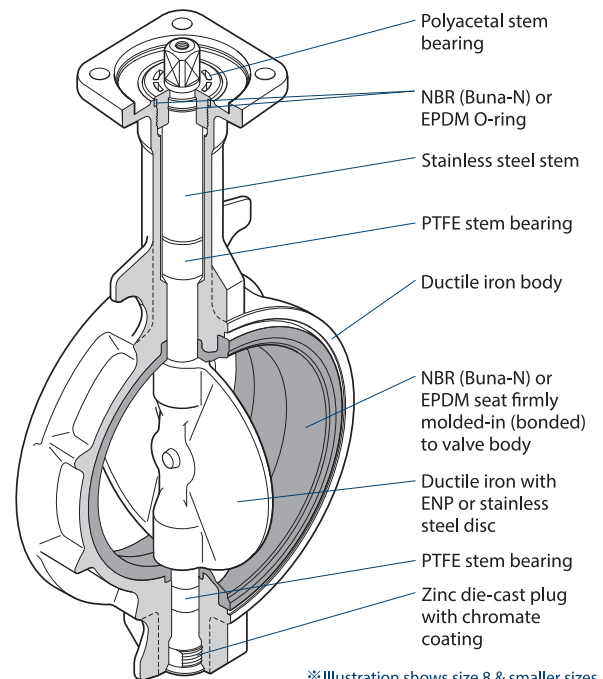
Prevention of external fluid leakage is maximized with a rubber O-ring assembled around the top stem and tight contact between spherically designed rubber seat and spherically designed top and bottom end of the disc.

#### Dew Condensation Prevention

Dew condensation prevention type is optionally available with heat insulating plate (size 2 to 6) or stainless steel stand (size 8 to 24).

### Molded-in (bonded) seat structure

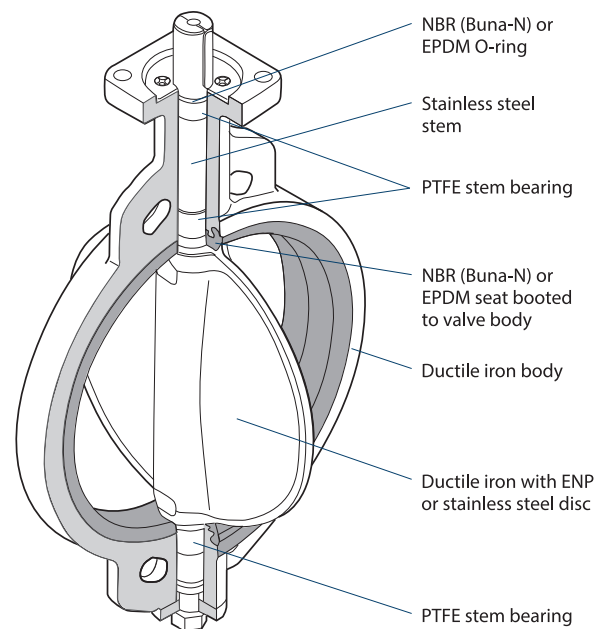
(Size 2 to 12)\*1



※ Illustration shows size 8 & smaller sizes

### Replaceable seat structure

(Size 14 to 24)\*2

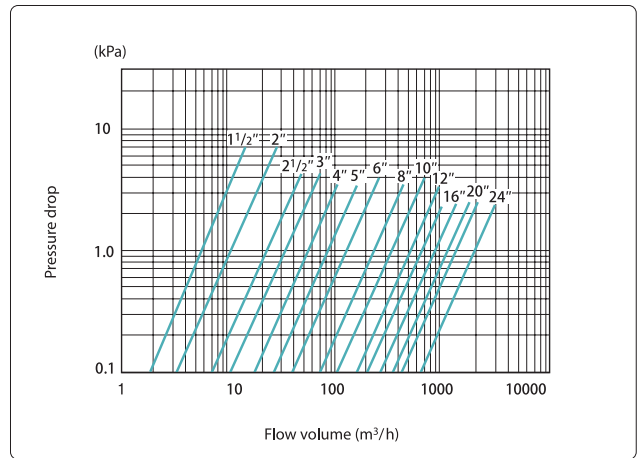


## Flow Coefficient (Cv)

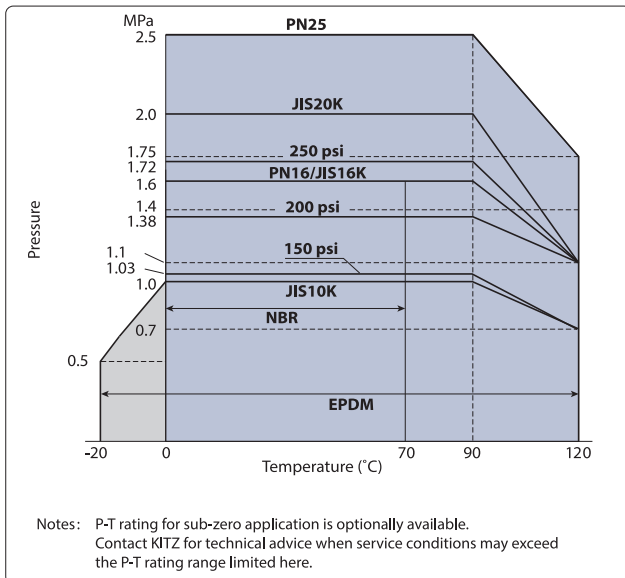
Size		Cv value	Size		Cv value
NPS	DN		NPS	DN	
1 1/2	40	77	10	250	4025
2	50	124	12	300	6010
2 1/2	65	270	14	350	7525
3	80	397	16	400	10080
4	100	671	18	450	13120
5	125	1013	20	500	15990
6	150	1532	24	600	23690
8	200	2792			

## Pressure Loss

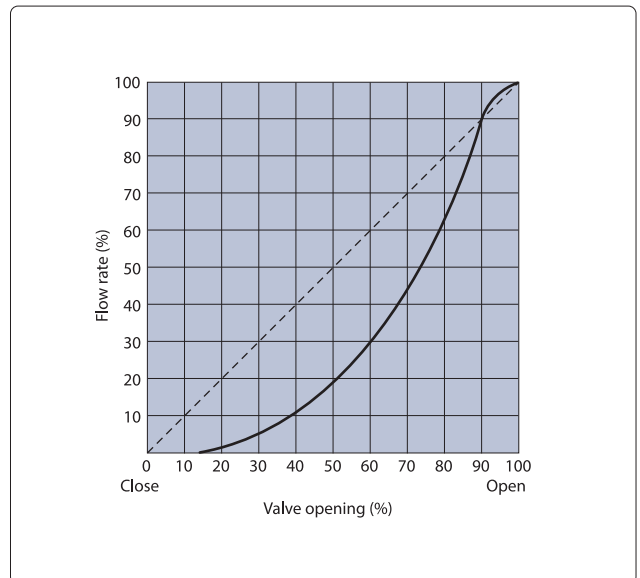
(for handling static clean water with valve fully open)



## P-T Rating



## Flow Characteristics



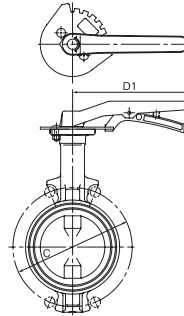
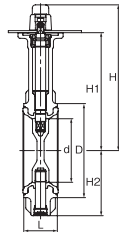
## Standard Materials

Parts	Material	
Body	Ductile Iron	
	Cast Iron (JIS 10K design Size 14" to 24")	
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 2" to 8")	Zinc die-cast (Chromate Coating)	
Operator	Lever	Aluminum Die-cast
	Gear	Aluminum Die-cast (Size 2" to 12") Cast-Iron (Size 14" to 24")
	Vertical gear	Cast-Iron

### Wafer Type

### ASME 200/250 psi Design - Lever Operated

200DJ    
 250DJ



#### Dimensions

unit: mm

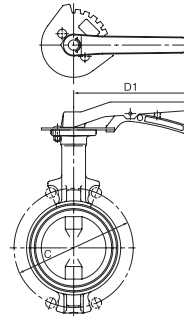
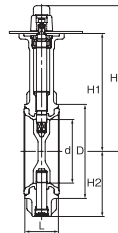
Size		d	H	H1	H2	L	D	C	D1
DN	NPS								
50	2	50	191	147	67	42.9	90	120.5	180
65	2½	65	199	155	75	46	104	139.5	180
80	3	80	217	173	91	46	124	152.5	180
100	4	100	227	183	101	52.3	146	190.5	180
125	5	125	265	211	127	55.6	176	216	230
150	6	150	277	223	139	55.6	206	241.5	230
200	8	197	295	248	169	60.5	257	298.5	350

Disc and seat material coding. Please refer to page 1.

### Wafer Type

### EN PN16/25 Design - Lever Operated

PN16DJ    
 PN25DJ  E



#### Dimensions

unit: mm

Size		d	H	H1	H2	L	D	C		D1
DN	NPS							PN16	PN25	
50	2	50	191	147	67	43	90	125	125	180
65	2½	65	199	155	75	46	104	145	145	180
80	3	80	217	173	91	46	124	160	160	180
100	4	100	227	183	101	52	146	180	190	180
125	5	125	265	211	127	56	176	210	220	230
150	6	150	277	223	139	56	206	240	250	230
200	8	197	295	248	169	60	257	295	—	350

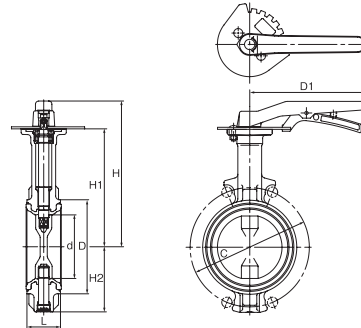
Disc and seat material coding. Please refer to page 1.

# Ductile Iron Butterfly Valves

DJ series

## Wafer Type JIS 10K/16K/20K Design - Lever Operated

10DJ    
 16DJ    
 20DJ  E



Dimensions unit: mm

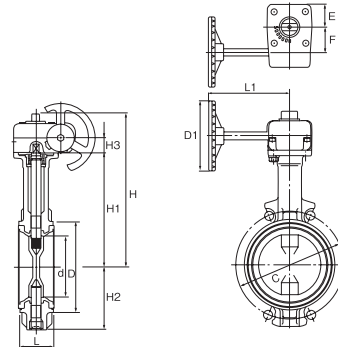
Size		d	H	H1	H2	L	D	C		D1
A	B							10DJ	16/20DJ	
40	1½	40	172	128	37	33	74	105	—	180
50	2	50	191	147	67	43	90	120	120	180
65	2½	65	199	155	75	46	104	140	140	180
80	3	80	217	173	91	46	124	150	160	180
100	4	100	227	183	101	52	146	175	185	180
125	5	125	265	211	127	56	176	210	225	230
150	6	150	277	223	139	56	206	240	260	230

Disc and seat material coding. Please refer to page 1.

## Wafer Type ASME 150/200/250 psi Design - Gear Operated

G-150DJ    
 G-200DJ  \*  
 G-250DJ  \*

\* Available up to size 300<sup>A</sup>



Dimensions unit: mm

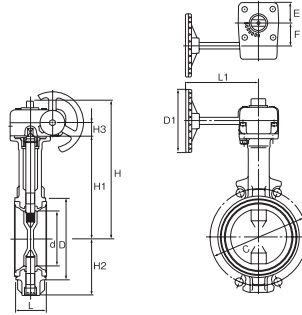
Size		d	H	H1	H2	L	D	C	H3	D1			L1			E	F	Gear type
DN	NPS									150	200	250	150	200	250			
50	2	50	194	147	67	42.9	90	120.5	18.5	80	80	80	122	122	122	29	28	No. 0
65	2½	65	202	155	75	46	104	139.5	18.5	80	80	80	122	122	122			
80	3	80	236	173	91	46	124	152.5	24	110	110	110	135	135	135			
100	4	100	246	183	101	52.3	146	190.5	24	110	110	110	135	135	135	36.5	40.5	No. 1
125	5	125	274	211	127	55.6	176	216	24	110	110	110	150	150	150			
150	6	150	286	223	139	55.6	206	241.5	24	110	110	110	150	150	150			
200	8	197	325	248	169	60.5	257	298.5	32	170	170	170	180	180	180	51	63	No. 2
250	10	246	381	304	219	68.3	312	362	32	170	170	250	180	180	250			
300	12	295	406	329	244	77.7	364	432	32	170	170	250	180	180	250			
350	14	334	447	360	309	77.7	407	476.5	47	310	—	—	220	—	—	54	66.5	No. FC-3
400	16	385	502	415	348	101.6	466	539.5	47	310	—	—	220	—	—			
450	18	434	526	439	365	114.3	522	578	47	310	—	—	220	—	—			
500	20	482	587	468	414	127	575	635	60	500	—	—	360	—	—	68	88.5	No. FC-4
600	24	579	635	536	463	153.9	680	749.5	60	500	—	—	360	—	—			

Disc and seat material coding. Please refer to page 1.

### Wafer Type

### EN 16/25 JIS 10K/16K/20K Design - Gear Operated

- G-PN16DJ
- G-PN25DJ  E
- G-10DJ
- G-16DJ
- G-20DJUE



Dimensions (PN16/PN25)

unit : mm

DN	Size		d	H	H1	H2	H3	L	D	C		D1		L1		E	F	Gear type
	NPS									PN16	PN25	PN16	PN25	PN16	PN25			
50	2		50	194	147	67	19	43	90	125	125	80	80	122	122	29	28	No. 0
65	2½		65	202	155	75	19	46	104	145	145	80	80	122	122	29	28	
80	3		80	236	173	91	24	46	124	160	160	110	110	135	135	36	40	
100	4		100	246	183	101	24	52	146	180	190	110	110	135	135	36	40	No. 1
125	5		125	274	211	127	24	56	176	210	220	110	110	150	150	36	40	
150	6		150	286	223	139	24	56	206	240	250	110	110	150	150	36	40	
200	8		197	325	248	169	32	60	257	295	310	170	250	180	250	51	63	No. 2
250	10		246	381	304	219	32	68	312	355	370	250	250	250	250	51	63	
300	12		295	406	329	244	32	78	364	410	430	250	250	250	250	51	63	
350	14		333	461	360	309	60	78	407	470	—	360	—	350	—	68	89	No. FC-4
400	16		385	516	415	348	60	102	466	525	—	360	—	350	—	68	89	
450	18		434	540	439	372	60	114	522	585	—	360	—	350	—	68	89	
500	20		482	623	488	423	65	127	575	650	—	500	—	400	—	90	134	No. FC-6
600	24		579	671	536	472	65	154	680	770	—	500	—	400	—	90	134	

Dimensions (10DJ)

unit : mm

A	Size		d	H	H1	H2	H3	L	D	C	D1	L1	E	F	Gear type
	B														
40	1½		40	175	128	37	19	33	74	105	80	122	29	28	No. 0
50	2		50	194	147	67	19	43	90	120	80	122	29	28	
65	2½		65	202	155	75	19	46	104	140	80	122	29	28	
80	3		80	236	173	91	24	46	124	150	110	135	36	40	No. 1
100	4		100	246	183	101	24	52	146	175	110	135	36	40	
125	5		125	274	211	127	24	56	176	210	110	150	36	40	
150	6		150	286	223	139	24	56	206	240	110	150	36	40	No. 2
200	8		197	325	248	169	32	60	257	290	170	180	51	63	
250	10		247	381	304	219	32	68	312	355	250	250	60	63	
300	12		296	406	329	244	32	78	364	400	250	250	60	63	No. FC-3
350	14		333	445	360	309	47	78	407	445	310	220	54	66	
400	16		385	500	415	341	47	102	466	510	310	220	54	66	
450	18		434	524	439	365	47	114	522	565	310	220	54	66	No. FC-4
500	20		482	589	488	414	60	127	575	620	360	350	68	89	
600	24		579	637	536	463	60	154	680	730	360	350	68	89	
650	26		632	710	575	488	65	165	743	780	600	413	130	134	No. FC-6
700	28		682	735	600	513	65	165	793	840	600	413	130	134	
750	30		732	836	669	542	137	190	847	900	500	365	165	213	No. FC-7
800	32		782	862	695	568	137	190	897	950	500	365	165	213	

□ 650 to 800A: Gear operation/EPDM seat only.

Dimensions (16DJ/20DJ)

unit : mm

A	Size		d	H		H1	H2		H3		L	D		C	D1		L1		E		F		Gear type
	B			16K	20K		16K	20K	16K	20K		16K	20K		16K	20K	16K	20K	16K	20K	16K	20K	
50	2		50	194	194	147	67	67	19	19	43	90	90	120	80	80	122	122	29	29	28	28	No. 0
65	2½		65	202	202	155	75	75	19	19	46	104	104	140	80	80	122	122	29	29	28	28	
80	3		80	236	236	173	91	91	24	24	46	124	124	160	110	110	135	135	36	36	40	40	
100	4		100	246	246	183	101	101	24	24	52	146	146	185	110	110	135	135	36	36	40	40	No. 1
125	5		125	274	274	211	127	127	24	24	56	176	176	225	110	110	150	150	36	36	40	40	
150	6		150	286	286	223	139	139	24	24	56	206	206	260	110	110	150	150	36	36	40	40	
200	8		197	325	325	248	169	169	32	32	60	257	257	305	170	170	180	180	51	51	63	63	No. 2
250	10		247	381	381	304	219	219	32	32	68	312	312	380	250	250	250	250	60	60	63	63	
300	12		296	406	406	329	244	244	32	32	78	364	364	430	250	250	250	250	60	60	63	63	
350	14		333	461	—	360	309	—	60	—	78	407	—	480	360	—	350	—	68	—	89	—	No. FC-4
400	16		385	516	—	415	348	—	60	—	102	466	—	540	360	—	350	—	68	—	89	—	
450	18		434	540	—	439	372	—	60	—	114	522	—	605	360	—	350	—	68	—	89	—	
500	20		482	623	—	488	423	—	65	—	127	575	—	660	500	—	400	—	90	—	134	—	No. FC-6
600	24		579	671	—	536	472	—	65	—	154	680	—	770	500	—	400	—	90	—	134	—	

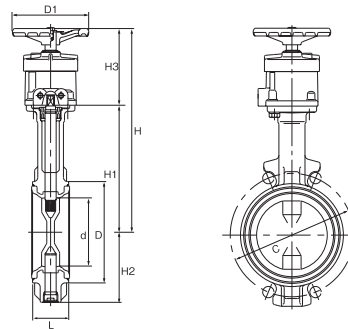
□ Disc and seat material coding. Please refer to page 1.

# Ductile Iron Butterfly Valves

DJ series

## Wafer Type JIS 10K/16K - Vertical Gear Operated

VG-10DJ



### Dimensions

unit: mm

Size		d	H	H1	H2	H3	L	D	C	D1	Gear type
A	B										
40	1½	40	251	128	37	123	33	74	105	110	No. VG-1
50	2	50	270	147	67	123	43	90	120	110	
65	2½	65	278	155	75	123	46	104	140	110	
80	3	80	285	173	91	112	46	124	150	110	
100	4	100	295	183	101	112	52	146	175	110	
125	5	125	325	211	127	114	56	176	210	170	
150	6	150	337	223	139	114	56	206	240	170	No. VG-2
200	8	197	404	248	169	156	60	257	290	200	
250	10	247	461	304	219	157	68	312	355	310	
300	12	296	486	329	244	157	78	364	400	310	No. RVA-03
350	14	333	569	360	309	209	78	407	445	360	
400	16	385	624	415	341	209	102	466	510	360	
450	18	434	648	439	365	209	114	522	565	360	No. RVA-04
500	20	482	741	488	414	253	127	575	620	500	
600	24	579	789	536	463	253	154	680	730	500	

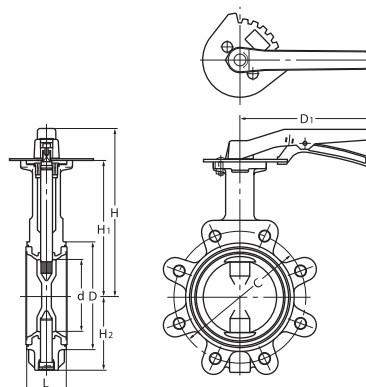
Disc and seat material coding. Please refer to page 1.

## Lugged Type ASME 150/200/250 psi Design - Lever Operated

150DJL

200DJL

250DJL



### Dimensions

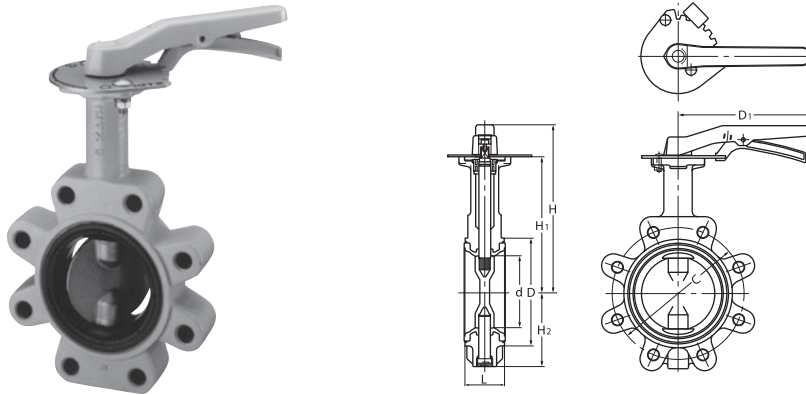
unit: mm

Size		d	H	H1	H2	L	D	C	D1
DN	NPS								
50	2	50	191	147	67	42.9	90	120.5	180
65	2½	65	199	155	75	46	104	139.5	180
80	3	80	217	173	91	46	124	152.5	180
100	4	100	227	183	104	52.3	146	190.5	180
125	5	125	265	211	127	55.6	176	216	230
150	6	150	277	223	139	55.6	206	241.5	230
200	8	197	295	248	169	60.5	257	298.5	350

Disc and seat material coding. Please refer to page 1.

### Lugged Type EN PN16/PN25 Design - Lever Operated

PN16DJL □ □  
 PN25DJL □ E



Dimensions unit: mm

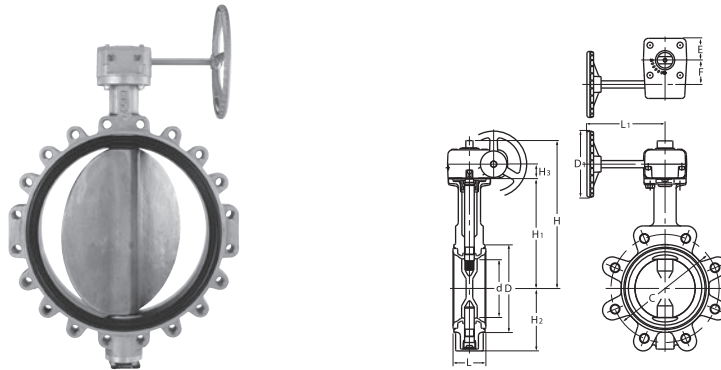
Size		d	H	H1	H2	L	D	C		D1
DN	NPS							PN16	PN25	
50	2	50	191	147	67	43	90	125	125	180
65	2½	65	199	155	75	46	104	145	145	180
80	3	80	217	173	91	46	124	160	160	180
100	4	100	227	183	104	52	146	180	190	180
125	5	125	265	211	127	56	176	210	220	230
150	6	150	277	223	139	56	206	240	250	230
200	8	197	295	248	169	60	257	295	—	350

□ Disc and seat material coding. Please refer to page 1.

### Lugged Type ASME 150/200/250 psi Design - Gear Operated

G-150DJL □ □  
 G-200DJL □ □\*  
 G-250DJL □ □\*

\* Available up to size 300<sup>A</sup>



Dimensions unit: mm

Size		d	H	H1	H2	H3	L	D	C	D1		L1		E	F	Gear type
DN	NPS									150/200	250	150/200	250			
50	2	50	194	147	67	18.5	42.9	90	120.5	80	80	122	122	29	28	No. 0
65	2½	65	202	155	75	18.5	46	104	139.5	80	80	122	122	29	28	
80	3	80	236	173	91	24	46	124	152.5	110	110	135	135	36.5	40.5	
100	4	100	246	183	103	24	52.3	146	190.5	110	110	135	135	36.5	40.5	No. 1
125	5	125	274	211	127	24	55.6	176	216	110	110	150	150	36.5	40.5	
150	6	150	286	223	139	24	55.6	206	241.5	110	110	150	150	36.5	40.5	
200	8	197	325	248	169	32	60.5	257	298.5	170	170	180	180	51	63	No. 2
250	10	247	381	304	219	32	68.3	312	362	170	250	180	250	51	63	
300	12	296	406	329	244	32	77.7	364	432	170	250	180	250	51	63	
350	14	334	447	360	309	47	77.7	407	476.5	310	—	220	—	54	66.5	No. FC-3
400	16	385	502	415	341	47	101.6	466	539.5	310	—	220	—	54	66.5	
450	18	434	526	439	365	47	114.3	522	578	310	—	220	—	54	66.5	
500	20	482	587	488	414	60	127	575	635	500	—	360	—	68	88.5	No. FC-4
600	24	579	635	536	463	60	153.9	680	749.5	500	—	360	—	68	88.5	

□ Disc and seat material coding. Please refer to page 1.

# Ductile Iron Butterfly Valves

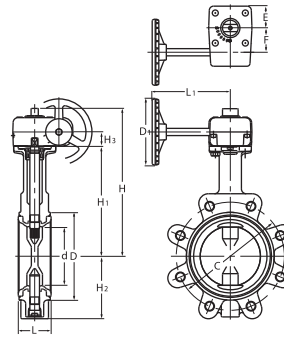
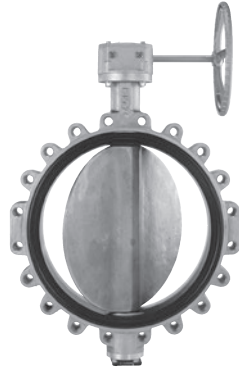
DJ series

## Lugged Type

## EN PN16/PN25 Design - Gear Operated

G-PN16DJL

G-PN25DJL  E



### Dimensions

unit : mm

Size		d	H	H1	H2	H3	L	D	C		D1		L1		E		F	Gear type
DN	NPS								PN16	PN25	PN16	PN25	PN16	PN25	PN16	PN25		
50	2	50	194	147	67	19	43	90	125	125	80	80	122	122	29	29	28	No. 0
65	2½	65	202	155	75	19	46	104	145	145	80	80	122	122	29	29	28	
80	3	80	236	173	91	24	46	124	160	160	110	110	135	135	36	36	40	
100	4	100	246	183	101	24	52	146	180	190	110	110	135	135	36	36	40	No. 1
125	5	125	274	211	127	24	56	176	210	220	110	110	150	150	36	36	40	
150	6	150	286	223	139	24	56	206	240	250	110	110	150	150	36	36	40	
200	8	197	325	248	169	32	60	257	295	310	170	250	180	250	51	51	63	No. 2
250	10	<b>246</b>	381	304	219	32	68	312	355	370	250	250	250	250	51	60	63	
300	12	<b>295</b>	406	329	244	32	78	364	410	430	250	250	250	250	51	60	63	
350	14	333	461	360	309	60	78	407	470	—	360	—	350	—	68	—	89	No. FC-4
400	16	385	516	415	348	60	102	466	525	—	360	—	350	—	68	—	89	
450	18	434	540	439	372	60	114	522	585	—	360	—	350	—	68	—	89	
500	20	482	623	488	423	65	127	575	650	—	500	—	400	—	90	—	134	No. FC-6
600	24	579	671	536	472	65	154	680	770	—	500	—	400	—	90	—	134	

Disc and seat material coding. Please refer to page 1.