

SJ-300N BUTTERFLY VALVE



For pressure rating, listing, and approval information, refer to data sheet or visit SHURJOINT website www.shurjoint.com for details or contact your SHURJOINT representatives.

The Model SJ-300N Butterfly Valve is a grooved-end tight shut-off valve designed, manufactured and tested to MSS SP-67. The valve can be shipped either with a 10-position lever handle with a locking device (SJ-300N-L) or with a worm gear operator (SJ-300N-W). The valve consists of epoxy powder coated ductile iron body and EPDM or Nitrile (NBR) rubber encapsulated dual-seal disc. The Model SJ-300N is rated up to + 200°F (+93°C) for general service use and is UL classified in accordance with NSF/ANSI 61 and NSF/ANSI 372 for potable water service up to temperature +180°F (+82°C).

End-to-end dimensions: MSS SP-67 Table 4

End connections: Grooved ends to ANSI/AWWA C-606

Pressure rating: 300 psi / 2.1 MPa (non-shock cold water)

Max. service temperature:

180°F / 82°C (EPDM) – Potable water service

200°F / 93°C (EPDM)* – General service

(*Please refer to the material's note on last page.)

material specification

- **Valve Body & Disc:**
Ductile Iron to ASTM A536, Gr. 65-45-12.
- **Valve Body Coating:**
Epoxy powder coating, black color, meets NSF/ANSI 61 and NSF/ANSI 372, for use in +180°F (+82°C) potable water system.

- **Disc Encapsulation:**
Grade E-pw EPDM (Color code: Double Green stripe) certified under NSF/ANSI 61 and NSF/ANSI 372 for potable water service to +180°F (+82°C). Also good for services for water with acid, water with chlorine or chloramines, deionized water, seawater and waste water, dilute acids, oil-free air and many chemicals. Not recommended for petroleum oils, minerals oils, solvents and aromatic hydrocarbons.

Other options: Grade T Nitrile

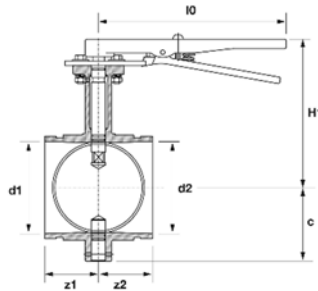
Grade "O" Fluoroelastomer.

Grade "V" - Neoprene.

For additional details contact Shurjoint.

- **Upper & Lower Shafts:**
Stainless steel Type 410.
- **Stem Seals:**
O-Ring, EPDM.
- **Lever Handle:**
Ductile Iron to ASTM A536, Gr. 65-45-12. Black epoxy.

MODEL SJ-300N-L BUTTERFLY VALVE WITH LEVER HANDLE



Model SJ-300N-L Butterfly Valve with Lever Handle

Nominal Size	Pipe O.D.	Max. Working Pressure (CWP)*	Dimensions					Operating Torque	Weight
			d1/d2	z1/z2	c	H1	l0		
in	in	PSI	in	in	in	in	in	lbs-in	lbs
mm	mm	Bar	mm	mm	mm	mm	mm	Nm	kg
2	2.375	300	2.38	1.61	2.48	5.55	7.56	80	6.8
50	60.3	20	60.3	41	63	141	192	9	3.1
2½	2.875	300	2.88	1.93	2.68	5.75	7.56	120	8.2
65	73.0	20	73.0	49	68	146	192	14	3.7
76.1	3.000	300	3.00	1.93	2.68	5.75	7.56	120	8.4
	76.1	20	76.1	49	68	146	192	14	3.8
3	3.500	300	3.50	1.93	2.99	6.34	7.56	160	9.0
80	88.9	20	88.9	49	76	161	192	18	4.1
4	4.500	300	4.50	2.28	3.50	6.69	10.24	450	11.4
100	114.3	20	114.3	58	89	170	260	51	5.2
139.7	5.500	300	5.50	2.91	4.02	7.99	10.24	700	16.9
	139.7	20	139.7	74	102	203	260	79	7.7
5	5.563	300	5.56	2.91	4.02	7.99	10.24	700	16.9
125	141.3	20	141.3	74	102	203	260	79	7.7
165.1	6.500	300	6.50	2.91	4.49	8.62	10.24	900	20.2
	165.1	20	165.1	74	114	219	260	102	9.2
6	6.625	300	6.63	2.91	4.49	8.62	10.24	900	20.2
150	168.3	20	168.3	74	114	219	260	102	9.2
200 JIS	8.516	300	8.52	2.64	5.51	9.57	10.24	1200	26.8
	216.3	20	216.3	67	140	243	260	136	12.2
8	8.625	300	8.63	2.64	5.51	9.57	10.24	1200	26.8
200	219.1	20	219.1	67	140	243	260	136	12.2
10	10.750	300	10.75	3.15	6.69	10.63	14.02	1800	48.4
250	273.0	20	273.0	80	170	270	356	204	22.0
12	12.750	300	12.75	3.27	8.07	11.61	14.02	2500	73.7
300	323.9	20	323.9	83	205	295	356	282	33.5

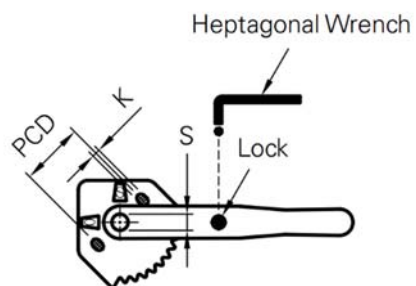
* Working pressure is based on connection with roll- or cut-grooved standard wall carbon steel pipe.

† The weight includes the lever handle.

Notes: The torque values are based on liquid applications. For dry or non-lubricating applications add a 25% service factor to the above values.

10 - POSITION INDICATOR AND LEVER

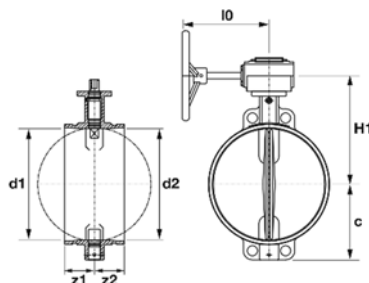
10-Position Indicator and Lever				
Nominal Size	PCD (dia.)	K (dia.)	S (square)	lever length
in	in	mm	in	in
mm	mm		mm	mm
2	2.75	M8	0.39	7.56
50	70		10	192
2½	2.75	M8	0.39	7.56
65	70		10	192
3	2.75	M8	0.39	7.56
80	70		10	192
4	2.75	M8	0.47	10.24
100	70		12	260
5	2.75	M8	0.47	10.24
125	70		12	260
6	2.75	M8	0.63	10.24
150	70		16	260
8	2.75	M8	0.63	10.24
200	70		16	260
10	4.00	M10	0.94	14.02
250	102		24	356
12	4.00	M10	0.94	14.02
300	102		24	356



MODEL SJ-300N-W BUTTERFLY VALVE WITH GEAR OPERATOR

The Model SJ-300N can be equipped with a worm gear operator.

The ISO 5211 mounting pad allows for the mounting of power actuators.



Model SJ-300N-W Butterfly Valve with Gear Operator

Nominal Size	Pipe O.D.	Max. Working Pressure (CWP)*	Dimensions						Weight†
			d1/d2	z1/z2	c	H1	IO	wheel Dia.	
in	in	PSI	in	in	in	in	in	in	lbs
mm	mm	Bar	mm	mm	mm	mm	mm	mm	kg
2	2.375	300	2.38	1.61	2.48	5.31	6.00	6.00	13.6
50	60.3	20	60.3	41	63	135	152	152	6.2
2½	2.875	300	2.88	1.93	2.68	5.51	6.00	6.00	14.3
65	73.0	20	73.0	49	68	140	152	152	6.5
76.1	3.000	300	3.00	1.93	2.68	5.51	6.00	6.00	14.3
	76.1	20	76.1	49	68	140	152	152	6.5
3	3.500	300	3.50	1.93	2.99	6.10	6.00	6.00	16.0
80	88.9	20	88.9	49	76	155	152	152	7.3
4	4.500	300	4.50	2.28	3.50	6.46	6.00	6.00	19.1
100	114.3	20	114.3	58	89	164	152	152	8.7
139.7	5.500	300	5.50	2.91	4.02	7.76	6.00	6.00	21.8
	139.7	20	139.7	74	102	197	152	152	9.9
5	5.563	300	5.56	2.91	4.02	7.76	6.00	6.00	21.8
125	141.3	20	141.3	74	102	197	152	152	9.9

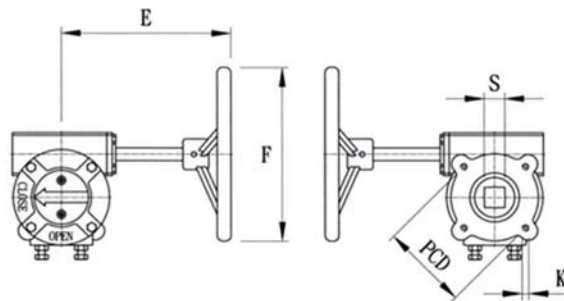
Model SJ-300N-W Butterfly Valve with Gear Operator

Nominal Size	Pipe O.D.	Max. Working Pressure (CWP)*	Dimensions						Weight†
			d1/d2	z1/z2	c	H1	l0	wheel Dia.	
in	in	PSI	In	in	in	in	in	in	lbs
mm	mm	Bar	Mm	mm	mm	mm	mm	mm	kg
165.1	6.500	300	6.50	2.91	4.49	8.39	6.00	6.00	25.0
	165.1	20	165.1	74	114	213	152	152	11.4
6	6.625	300	6.625	2.91	4.49	8.39	6.00	6.00	25.3
150	168.3	20	168.3	74	114	213	152	152	11.5
200 JIS	8.516	300	8.52	2.64	5.51	9.33	6.00	6.00	31.9
	216.3	20	216.3	67	140	237	152	152	14.5
8	8.625	300	8.63	2.64	5.51	9.33	6.00	6.00	32.0
200	219.1	20	219.1	67	140	237	152	152	14.5
10	10.750	300	10.75	3.15	6.69	10.57	8.00	8.00	59.4
250	273.0	20	273.0	80	170	268.5	203	203	27.0
12	12.750	300	12.75	3.27	8.07	11.56	8.00	8.00	73.7
300	323.9	20	323.9	83	205	293.5	203	203	33.5
14	14.000	300	14.00	3.50	8.82	12.40	9.53	12.00	130.0
350	355.6	20	355.6	89	224	315	242	306	59.0
16	16.000	300	16.00	3.50	9.76	13.43	9.53	12.00	147.4
400	406.4	20	406.4	89	248	341	242	306	67.0
18	18.000	300	18.000	4.02	11.14	15.31	9.53	12.00	189.2
450	457.2	20	457.2	102	283	389	242	306	86.0
20	20.000	300	20.00	4.25	12.36	17.36	11.40	16.20	292.6
500	508.0	20	508.0	108	314	441	290	412	133.0
22	22.000	300	22.00	4.65	13.48	19.09	11.40	16.20	324.1
550	559.0	20	559.0	118	343	485	290	412	147.0
24	24.000	300	24.00	5.00	14.49	20.12	11.40	16.20	352.0
600	609.6	20	609.6	127	368	511	290	412	160.0

* Working pressure is based on connection with roll- or cut-grooved standard wall carbon steel pipe.

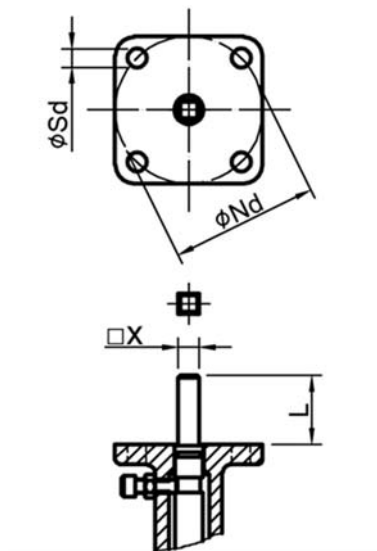
† The weight includes the worm gear operator.

WORM GEAR OPERATOR



Worm Gear Operator						
Nominal Size	E	F (dia.)	PCD (dia.)	K	S (square □ or round ○)	Wt.
in	in	in	in	mm	in	lbs
mm	mm	mm	mm		mm	Kg
2	6.00	6.00	2.75	M8	□ 0.39	9.0
50	152	152	70		10.0	4.1
2½	6.00	6.00	2.75	M8	□ 0.39	9.0
65	152	152	70		10.0	4.1
3	6.00	6.00	2.75	M8	□ 0.39	9.0
80	152	152	70		10.0	4.1
4	6.00	6.00	2.75	M8	□ 0.47	9.0
100	152	152	70		12.0	4.1
5	6.00	6.00	2.75	M8	□ 0.47	9.0
125	152	152	70		12.0	4.1
6	6.00	6.00	2.75	M8	□ 0.63	9.0
150	152	152	70		16.0	4.1
8	6.00	6.00	2.75	M8	□ 0.63	9.0
200	152	152	70		16.0	4.1
10	8.00	8.00	4.02	M10	□ 0.94	12.3
250	203	203	102		24.0	5.6
12	8.00	8.00	4.02	M10	□ 0.94	12.3
300	203	203	102		24.0	5.6
14	9.53	12.00	4.90	M12	□ 0.94	32.8
350	242	306	125		24.0	14.9
16	9.53	12.00	4.90	M16	○ 1.44	32.8
400	242	306	125		36.6	14.9
18	9.53	12.00	5.50	M16	○ 1.625	32.8
450	242	306	140		41.28	14.9
20	11.40	16.20	6.50	M20	○ 2.04	67.1
500	290	412	165		51.9	30.5
22	11.40	16.20	6.50	M20	○ 2.04	67.1
550	290	412	165		51.9	30.5
24	11.40	16.20	6.50	M20	○ 2.04	67.1
600	290	412	165		51.9	30.5

SHAFT CONNECTION DIMENSIONS

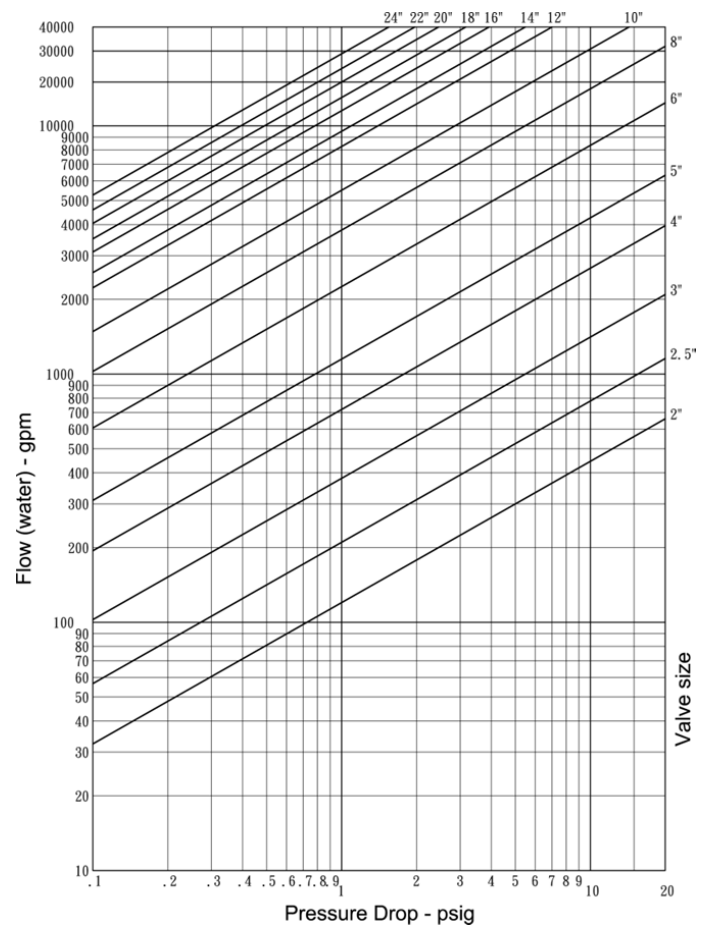


	L (mm)	□x (mm)	Nd (mm)	Sd (mm)
2	31.55	□1 0.0	70.0	9.0
2-1/2	32.05	□10.0	70.0	9.0
76.1 mm	32.05	□10.0	70.0	9.0
3	31.55	□10.0	70.0	9.0
4	31.65	□12.0	70.0	9.0
139.7 mm	31.55	□12.0	70.0	9.0
5	31.55	□12.0	70.0	9.0
165.1 mm	31.55	□16.0	70.0	9.0
6	31.55	□16.0	70.0	9.0
8	31.55	□16.0	70.0	9.0
10	34.1	□24.0	102.0	11.0
12	34.1	□24.0	102.0	11.0
14	34.1	□24.0	102.0	11.0
16	56.4	○36.55	125.0	14.0

Flow Data - Cv Values

Equivalent length and Cv values for flow of water are shown below (water temperature at +68°F or +20°C)

Nominal Size	Equivalent Length on Sch. 40 pipe*	Cv Values
in	Feet (Meter)	
2	4.7 (1.4)	120
2½	5.2 (1.6)	210
3	5.5 (1.7)	380
4	6.8 (2.1)	720
5	8.5 (2.6)	1150
6	7.4 (2.3)	2000
8	9.2 (2.8)	3800
10	13.5 (4.1)	5500
12	15.1 (4.6)	8250
14	19.6 (6.0)	9500
16	21.8 (6.6)	13000
18	23.8 (7.3)	16000
20	27.3 (8.3)	20000
22	30.5 (9.3)	24000
24	33.7 (10.3)	29000



Valve Torque Requirements

These torque values were derived from test data with non-lubricated valves in water, non-pressurized at ambient temperatures.

Model SJ-300N-W Torque Requirements					
Nominal Size	Torque	Nominal Size	Torque	Nominal Size	Torque
in	In-Lbs	in	In-Lbs	in	In-Lbs
mm	Nm	mm	Nm	mm	Nm
2	80	6	900	16	4000
50	9	150	102	400	452
2½	120	8	1200	18	5500
65	14	200	136	450	622
3	160	10	1800	20	8000
80	18	250	203	500	904
4	450	12	2500	22	8750
100	51	300	283	550	989
5	700	14	3000	24	9500
125	79	350	339	550	1074

General note

- Maximum Working Pressure (CWP) listed is the maximum cold water pressure for general piping services tested to ASTM F1476 and or AWWA C606 methods. Figures listed are based on roll- or cut-grooved standard wall carbon steel pipe. For other pipe schedules or pipe materials, contact Shurjoint for additional information.
- Listed and or Approved Pressures are pressure ratings for fire protection systems, tested and approved by various approval bodies. Please always refer to the latest approval data posted on the Shurjoint website.
- Field Joint Test: For one time only, the system may be tested hydrostatically at 1½ times the maximum working pressure listed (AWWA C606 5.2.3).
- Warning: Piping systems must always be depressurized and drained before attempting disassembly and or removal of any components.
- The 10 Year Limited Warranty applies to manufacturing defects only and does not cover severe service/temperature applications or wear parts.
- Shurjoint reserves the right to change specifications, designs and or standard without notice and without incurring any obligations.