

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.

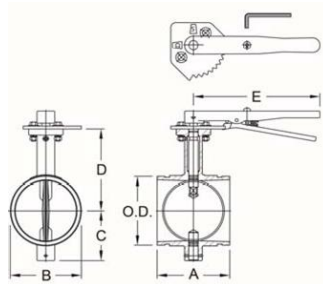
- **Disc Encapsulation:**
Grade E-pw EPDM (Color code: Double Green stripe) certified under NSF/ANSI 61 and NSF/ANSI 372 for potable water service to +180°F (+82°C). Also good for services for water with acid, water with chlorine or chloramines, deionized water, seawater and waste water, dilute acids, 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
			A	B	C	D	E		
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	3.19	2.52	2.48	4.17	7.56	80	6.8
50	60.3	20	81	64	63	106	192	9	3.1
2½	2.875	300	3.82	3.11	2.68	4.37	7.56	120	8.2
65	73.0	20	97	79	68	111	192	14	3.7
76.1	3.000	300	3.82	3.11	2.68	4.37	7.56	120	8.4
	76.1	20	97	79	68	111	192	14	3.8
3	3.500	300	3.82	3.62	2.99	4.96	7.56	160	9.0
80	88.9	20	97	92	76	126	192	18	4.1
4	4.500	300	4.57	4.65	3.50	5.32	10.24	450	11.4
100	114.3	20	116	118	89	135	260	51	5.2
139.7	5.500	300	5.83	5.71	4.02	6.61	10.24	700	16.9
	139.7	20	148	145	102	168	260	79	7.7
5	5.563	300	5.83	5.71	4.02	6.61	10.24	700	16.9
125	141.3	20	148	145	102	168	260	79	7.7
165.1	6.500	300	5.83	6.77	4.49	7.24	10.24	900	20.2
	165.1	20	148	172	114	184	260	102	9.2
6	6.625	300	5.83	6.77	4.49	7.24	10.24	900	20.2
150	168.3	20	148	172	114	184	260	102	9.2
200 JIS	8.516	300	5.24	8.74	5.51	8.19	10.24	1200	26.8
	216.3	20	133	222	140	208	260	136	12.2
8	8.625	300	5.24	8.74	5.51	8.19	10.24	1200	26.8
200	219.1	20	133	222	140	208	260	136	12.2
10	10.750	300	6.25	10.86	6.69	9.25	14.02	1800	48.4
250	273.0	20	159	276	170	235	356	204	22.0
12	12.750	300	6.53	12.87	8.07	10.24	14.02	2500	73.7
300	323.9	20	165	327	205	260	356	282	33.5

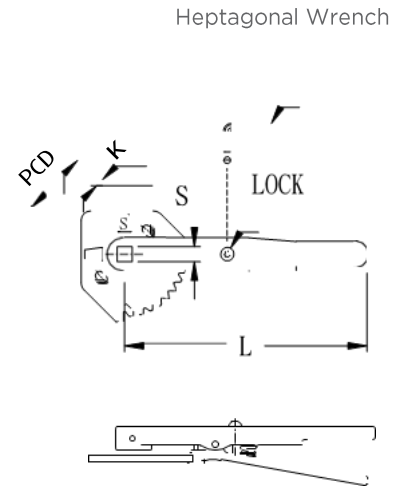
* Working pressure is based on connection with roll- or cut-grooved standard wall carbon steel pipe.

† 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)	L
in	in	mm	in	in
mm	mm		mm	mm
2	2.75	M8	0.39	7.56
50	70		10	192
2½	2.75		0.39	7.56
65	70	M8	10	192
3	2.75		0.39	7.56
80	70		10	192
4	2.75	M8	0.47	10.24
100	70		12	260
5	2.75		0.47	10.24
125	70	M8	12	260
6	2.75		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
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†
			A	B	C	D	E	F	
in	in	PSI	in	in	in	in	in	in	lbs
mm	mm	Bar	mm	mm	mm	mm	mm	mm	kg
2	2.375	300	3.19	2.52	2.48	4.17	6.00	6.00	13.6
50	60.3	20	81	64	63	106	152	152	6.2
2½	2.875	300	3.82	3.11	2.68	4.37	6.00	6.00	14.3
65	73.0	20	97	79	68	111	152	152	6.5
76.1	3.000	300	3.82	3.11	2.68	4.37	6.00	6.00	14.3
	76.1	20	97	79	68	111	152	152	6.5
3	3.500	300	3.82	3.62	2.99	4.96	6.00	6.00	16.0
80	88.9	20	97	92	76	126	152	152	7.3
4	4.500	300	4.57	4.65	3.50	5.32	6.00	6.00	19.1
100	114.3	20	116	118	89	135	152	152	8.7
139.7	5.500	300	5.83	5.71	4.02	6.61	6.00	6.00	21.8
	139.7	20	148	145	102	168	152	152	9.9
5	5.563	300	5.83	5.71	4.02	6.61	6.00	6.00	21.8
125	141.3	20	148	145	102	168	152	152	9.9

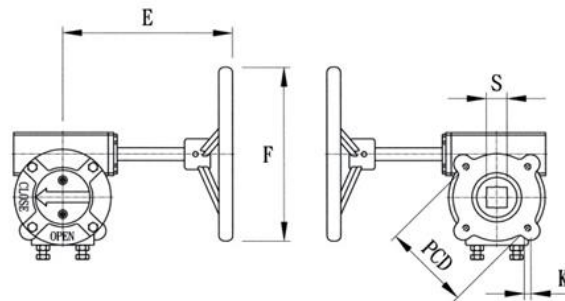
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Model SJ-300N-W Butterfly Valve with Gear Operator									
Nominal Size	Pipe O.D.	Max. Working Pressure (CWP)*	Dimensions						Weight†
			A	B	C	D	E	F	
in	in	PSI	in	in	in	in	in	in	lbs
mm	mm	Bar	mm	mm	mm	mm	mm	mm	kg
165.1	6.500	300	5.83	6.77	4.49	7.24	6.00	6.00	25.0
	165.1	20	148	172	114	184	152	152	11.4
6	6.625	300	5.83	6.77	4.49	7.24	6.00	6.00	25.3
150	168.3	20	148	172	114	184	152	152	11.5
200 JIS	8.516	300	5.24	8.74	5.51	8.19	6.00	6.00	31.9
	216.3	20	133	222	140	208	152	152	14.5
8	8.625	300	5.24	8.74	5.51	8.19	6.00	6.00	32.0
200	219.1	20	133	222	140	208	152	152	14.5
10	10.750	300	6.25	10.86	6.69	9.25	8.00	8.00	59.4
250	273.0	20	159	276	170	235	203	203	27.0
12	12.750	300	6.53	12.87	8.07	10.24	8.00	8.00	73.7
300	323.9	20	165	327	205	260	203	203	33.5
14	14.000	300	7.00	14.37	8.82	10.86	9.53	12.00	130.0
350	355.6	20	178	365	224	276	242	306	59.0
16	16.000	300	7.00	16.38	9.76	11.89	9.53	12.00	147.4
400	406.4	20	178	416	248	302	242	306	67.0
18	18.000	300	8.00	18.50	11.14	13.78	9.53	12.00	189.2
450	457.2	20	203	470	283	350	242	306	86.0
20	20.000	300	8.50	20.75	12.36	15.08	11.40	16.20	292.6
500	508.0	20	216	527	314	383	290	412	133.0
22	22.000	300	9.25	22.75	13.48	16.81	11.40	16.20	324.1
550	559.0	20	235	578	343	427	290	412	147.0
24	24.000	300	10.00	24.76	14.49	17.83	11.40	16.20	352.0
600	609.6	20	254	629	368	453	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.

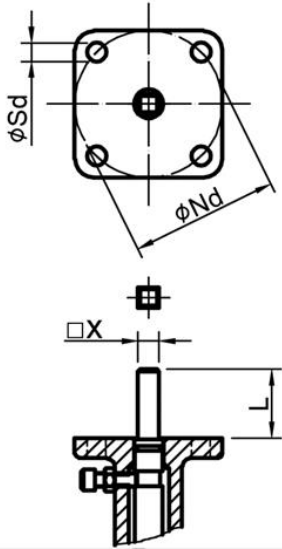
WORM GEAR OPERATOR



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

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SHAFT CONNECTION DIMENSIONS

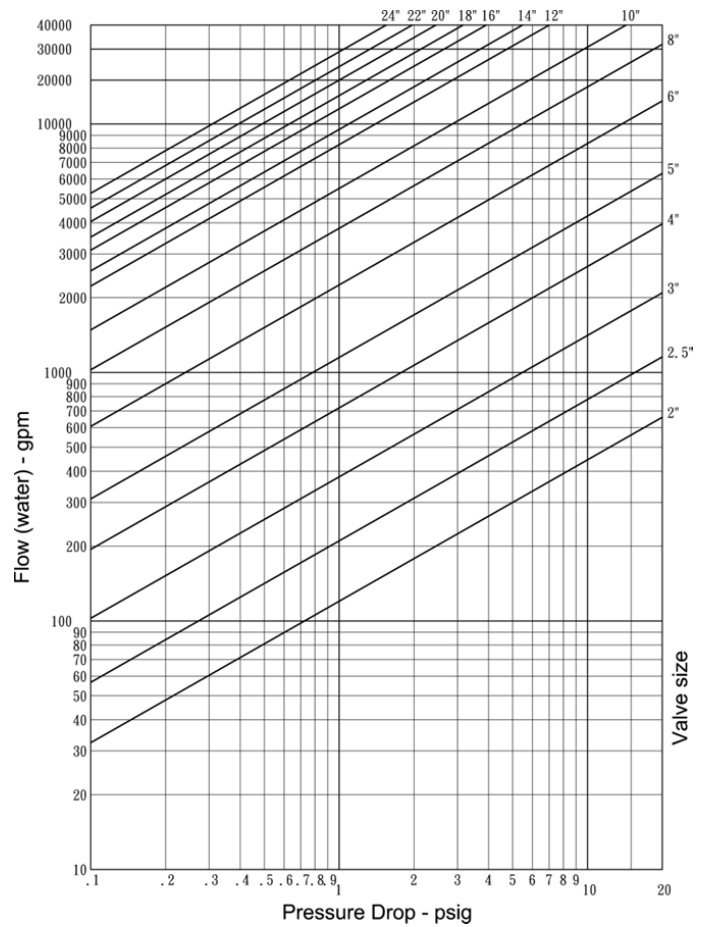


	L (mm)	X (mm)	Nd (mm)	Sd (mm)
3"	32.6	10.0	70.0	9.0
4"	33.1	12.0	70.0	9.0
5"	33.0	12.0	70.0	9.0
6"	32.0	16.0	70.0	9.0

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



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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.