

MODEL SJ-300N BUTTERFLY VALVE

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:

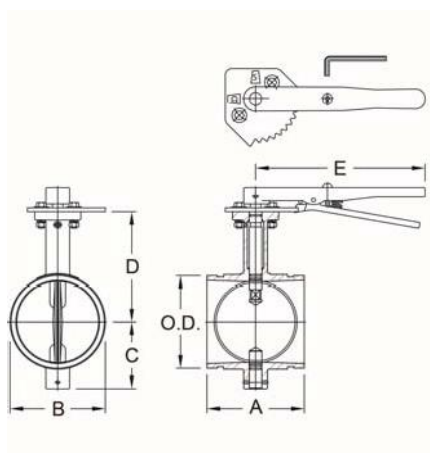
180°F / 82°C (EPDM) – Potable water service

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

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



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	Kgs
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 mm	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 mm	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

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	Kgs
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 mm	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.

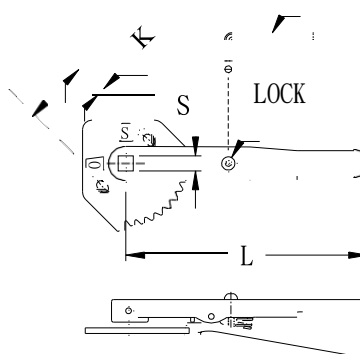
‡ The weight includes the lever handle.

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	in	in	in
mm	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

Heptagonal Wrench

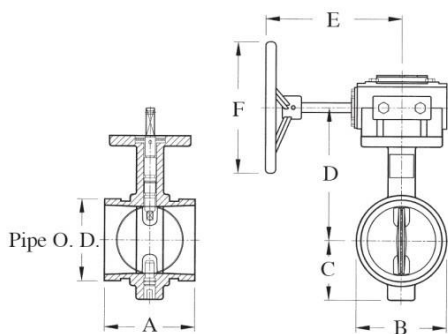


MODEL SJ-300N-W BUTTERFLY VALVE WITH GEAR OPERATOR

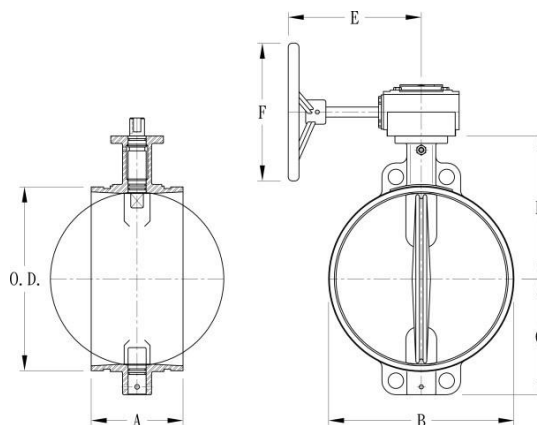
The Model SJ-300N can be equipped with a worm gear operator. The ISO 5211 mounting pad allows for the mounting of power actuators.



SJ-300N-W
w/gear operator



Size: 2" ~ 12"



Size: 14" ~ 24"

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	Kgs
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 mm	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 mm	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
165.1 mm	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

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

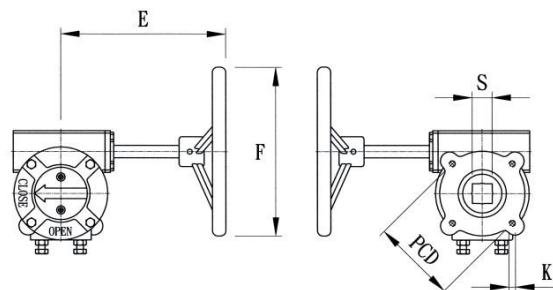
Nominal Size	Pipe O.D.	Max. Working Pressure (CWP)*	Dimensions						Weight†
			A	B	C	D	E	F	
			in mm	in mm	in mm	in mm	in mm	in mm	
200 JIS	8.516 216.3	300 20	5.24 133	8.74 222	5.51 140	8.19 208	6.00 152	6.00 152	31.9 14.5
8	8.625 219.1	300 20	5.24 133	8.74 222	5.51 140	8.19 208	6.00 152	6.00 152	32.0 14.5
10	10.750 273.0	300 20	6.25 159	10.86 276	6.69 170	9.25 235	8.00 203	8.00 203	59.4 27.0
12	12.750 323.9	300 20	6.53 165	12.87 327	8.07 205	10.24 260	8.00 203	8.00 203	73.7 33.5
14	14.000 355.6	300 20	7.00 178	14.37 365	8.82 224	10.86 276	9.53 242	12.00 306	130.0 59.0
16	16.000 406.4	300 20	7.00 178	16.38 416	9.76 248	11.89 302	9.53 242	12.00 306	147.4 67.0
18	18.000 457.2	300 20	8.00 203	18.50 470	11.14 283	13.78 350	9.53 242	12.00 306	189.2 86.0
20	20.000 508.0	300 20	8.50 216	20.75 527	12.36 314	15.08 383	11.40 290	16.20 412	292.6 133.0
22	22.000 559.0	300 20	9.25 235	22.75 578	13.48 343	16.81 427	11.40 290	16.20 412	324.1 147.0
24	24.000 609.6	300 20	10.00 254	24.76 629	14.49 368	17.83 453	11.40 290	16.20 412	352.0 160.0

* 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 mm	in mm	in mm	in mm	mm	in mm	Lbs Kgs
2 50	6.00 152	6.00 152	2.75 70	M8	□ 0.39 10.0	9.0 4.1
2½ 65	6.00 152	6.00 152	2.75 70	M8	□ 0.39 10.0	9.0 4.1
3 80	6.00 152	6.00 152	2.75 70	M8	□ 0.39 10.0	9.0 4.1
4 100	6.00 152	6.00 152	2.75 70	M8	□ 0.47 12.0	9.0 4.1
5 125	6.00 152	6.00 152	2.75 70	M8	□ 0.47 12.0	9.0 4.1
6 150	6.00 152	6.00 152	2.75 70	M8	□ 0.63 16.0	9.0 4.1
8 200	6.00 152	6.00 152	2.75 70	M8	□ 0.63 16.0	9.0 4.1
10 250	8.00 203	8.00 203	4.02 102	M10	□ 0.94 24.0	12.3 5.6
12 300	8.00 203	8.00 203	4.02 102	M10	□ 0.94 24.0	12.3 5.6
14 350	9.53 242	12.00 306	4.90 125	M12	□ 0.94 24.0	32.8 14.9
16 400	9.53 242	12.00 306	4.90 125	M16	○ 1.44 36.6	32.8 14.9
18 450	9.53 242	12.00 306	5.50 140	M16	○ 1.625 41.28	32.8 14.9
20 500	11.40 290	16.20 412	6.50 165	M20	○ 2.04 51.9	67.1 30.5
22 550	11.40 290	16.20 412	6.50 165	M20	○ 2.04 51.9	67.1 30.5
24 600	11.40 290	16.20 412	6.50 165	M20	○ 2.04 51.9	67.1 30.5

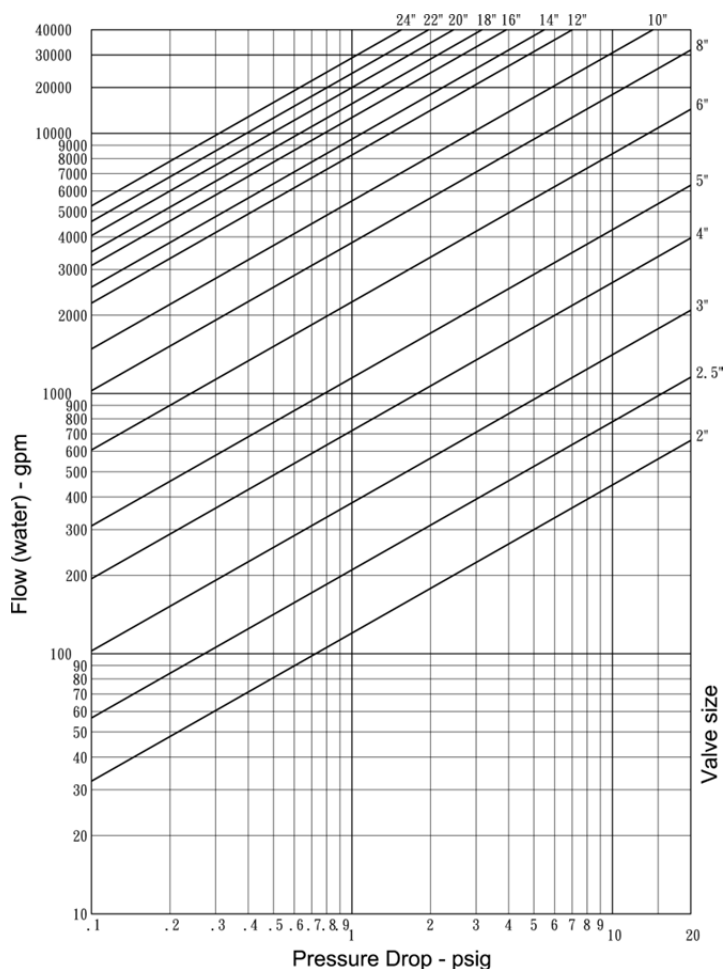


Flow Data

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

Nominal Size	Equivalent Length on Sch. 40 pipe*	C_v 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

*At 15 feet/sec. (4.6m/s) velocity of water.



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

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

MATERIAL SPECIFICATIONS

• Valve Body & Disc:

Ductile Iron to ASTM A536, Gr. 65-45-12 and or to ASTM A395, Gr. 65-45-15.

• 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, 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.

- **Grade "E" EPDM** (Color code: Green stripe) Good for cold & hot water up to +200°F (+93°C). Also good for services for water with acid, water with chlorine, 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.**

Maximum Temperature Range: -30°F (-34°C) to +200°F (+93°C)*.

*EPDM seat for water services are not recommended for steam services unless valves or components are accessible for frequent replacement.

- **Grade T Nitrile (NBR):** (Color code: Orange stripe) Grade T Nitrile is recommended for petroleum products, vegetable oils, mineral oils and air with vapors. Maximum Temperature Range: -20°F (-29°C) to +180°F (+82°C).
- Other options: 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 and or to ASTM A395 Gr. 65-45-15. Black painted.

General Notes:

- **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.