

## 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, Nitrile (NBR) or Neoprene rubber encapsulated dual-seal disc. The SJ-300N is UL classified in accordance with ANSI/NSF 61 and Annex G for potable water use.

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  
 230° F / 110° C (EPDM) – General service

### Pressure-Temperature Rating

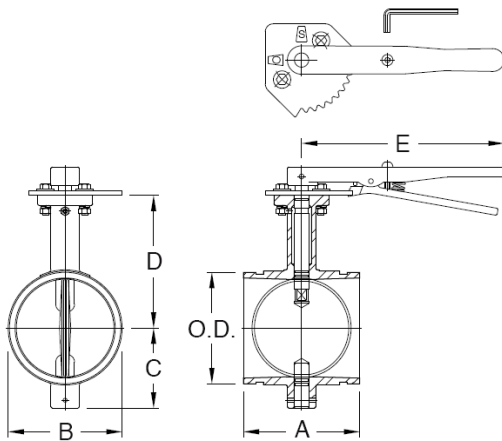
Nom. Rating	Working Pressure	Shell Test	Max. Service Temperature
Class 150	300 psi @100°F 20 Bar @38°C	450 psi 30 Bar	EPDM: 230°F / 110°C Nitrile: 180°F / 82°C

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

\*Seat test: 110% the working pressure.



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



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

Nominal Size	Pipe O.D.	Dimensions					Operating Torque	Weight
		A	B	C	D	E		
mm in	mm in	mm in	mm in	mm in	mm in	mm in	N - m In - Lb	Kgs Lbs
50 2	60.3 2.375	81 3.19	64 2.52	63 2.48	106 4.17	260 10.24	9 80	3.1 6.8
65 2½	73.0 2.875	97 3.82	79 3.11	68 2.68	111 4.37	260 10.24	14 120	3.6 7.9
76.1 mm	76.1 3.000	97 3.82	79 3.11	68 2.68	111 4.37	260 10.24	14 120	3.8 8.4
80 3	88.9 3.500	97 3.82	92 3.62	76 2.99	126 4.96	260 10.24	18 160	4.2 9.2

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

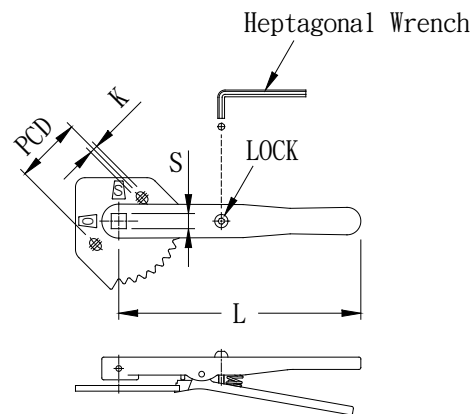
Nominal Size	Pipe O.D.	Dimensions					Operating Torque	Weight
		A	B	C	D	E		
mm <i>in</i>	mm <i>in</i>	mm <i>in</i>	mm <i>in</i>	mm <i>in</i>	mm <i>in</i>	mm <i>in</i>	N - m <i>In - Lb</i>	Kgs <i>Lbs</i>
100 <i>4</i>	114.3 <i>4.500</i>	116 <i>4.57</i>	118 <i>4.65</i>	89 <i>3.50</i>	135 <i>5.32</i>	260 <i>10.24</i>	51 <i>450</i>	5.7 <i>12.5</i>
139.7 mm	139.7 <i>5.500</i>	148 <i>5.83</i>	145 <i>5.71</i>	102 <i>4.02</i>	168 <i>6.61</i>	260 <i>10.24</i>	79 <i>700</i>	8.9 <i>19.6</i>
125 <i>5</i>	141.3 <i>5.563</i>	148 <i>5.83</i>	145 <i>5.71</i>	102 <i>4.02</i>	168 <i>6.61</i>	260 <i>10.24</i>	79 <i>700</i>	9.2 <i>20.2</i>
165.1 mm	165.1 <i>6.500</i>	148 <i>5.83</i>	172 <i>6.77</i>	114 <i>4.49</i>	184 <i>7.24</i>	260 <i>10.24</i>	102 <i>900</i>	10.9 <i>24.0</i>
150 <i>6</i>	168.3 <i>6.625</i>	148 <i>5.83</i>	172 <i>6.77</i>	114 <i>4.49</i>	184 <i>7.24</i>	260 <i>10.24</i>	102 <i>900</i>	11.3 <i>25.0</i>
200JIS	216.3 <i>8.516</i>	133 <i>5.24</i>	222 <i>8.74</i>	140 <i>5.51</i>	208 <i>8.19</i>	260 <i>10.24</i>	136 <i>1200</i>	16.7 <i>36.7</i>
200 <i>8</i>	219.1 <i>8.625</i>	133 <i>5.24</i>	222 <i>8.74</i>	140 <i>5.51</i>	208 <i>8.19</i>	260 <i>10.24</i>	136 <i>1200</i>	16.8 <i>37.0</i>
250 <i>10</i>	273.0 <i>10.750</i>	159 <i>6.25</i>	276 <i>10.86</i>	170 <i>6.69</i>	235 <i>9.25</i>	356 <i>14.02</i>	204 <i>1800</i>	28.3 <i>62.2</i>
300 <i>12</i>	323.9 <i>12.750</i>	165 <i>6.53</i>	327 <i>12.87</i>	205 <i>8.07</i>	260 <i>10.24</i>	356 <i>14.02</i>	282 <i>2500</i>	36.4 <i>80.1</i>

\* 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
mm <i>in</i>	mm <i>in</i>	mm <i>in</i>	mm <i>in</i>	mm <i>in</i>
50 <i>2</i>	70 <i>2.75</i>	M8	10 <i>0.39</i>	260 <i>10.24</i>
65 <i>2 1/2</i>	70 <i>2.75</i>	M8	10 <i>0.39</i>	260 <i>10.24</i>
80 <i>3</i>	70 <i>2.75</i>	M8	10 <i>0.39</i>	260 <i>10.24</i>
100 <i>4</i>	70 <i>2.75</i>	M8	12 <i>0.47</i>	260 <i>10.24</i>
125 <i>5</i>	70 <i>2.75</i>	M8	12 <i>0.47</i>	260 <i>10.24</i>
150 <i>6</i>	70 <i>2.75</i>	M8	16 <i>0.63</i>	260 <i>10.24</i>
200 <i>8</i>	70 <i>2.75</i>	M8	16 <i>0.63</i>	260 <i>10.24</i>
250 <i>10</i>	102 <i>4.00</i>	M10	24 <i>0.94</i>	356 <i>14.02</i>
300 <i>12</i>	102 <i>4.00</i>	M10	24 <i>0.94</i>	356 <i>14.02</i>



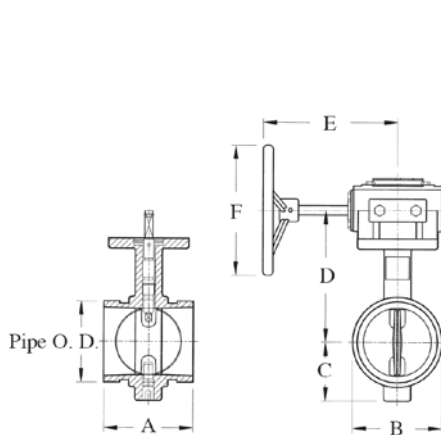
### MODEL SJ-300N-W BUTTERFLY VALVE WITH GEAR OPERATOR

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

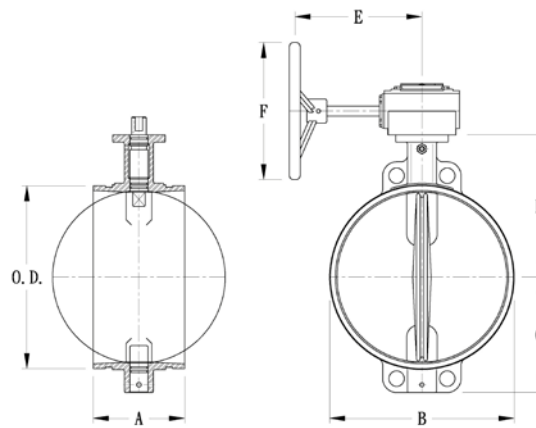
The ISO 5211 mounting pad allows for the mounting of power actuators.



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.	Dimensions							Weight*
		A	B	C	D	E	F		
mm	mm	mm	mm	mm	mm	mm	mm	mm	Kgs
in	in	in	in	in	in	in	in	in	Lbs
50	60.3	81	64	63	106	152	152	8.1	
2	2.375	3.19	2.52	2.48	4.17	6.0	6.0	13.6	
65	73.0	97	79	68	111	152	152	6.5	
2½	2.875	3.82	3.11	2.68	4.37	6.0	6.0	14.3	
76.1 mm	76.1	97	79	68	111	152	152	6.5	
	3.000	3.82	3.11	2.68	4.37	6.0	6.0	14.3	
80	88.9	97	92	76	126	152	152	7.3	
3	3.500	3.82	3.62	2.99	4.96	6.0	6.0	16.0	
100	114.3	116	118	89	135	152	152	8.7	
4	4.500	4.57	4.65	3.50	5.32	6.0	6.0	19.1	
139.7 mm	139.7	148	145	102	168	152	152	9.9	
	5.500	5.83	5.71	4.02	6.61	6.0	6.0	21.8	
125	141.3	148	145	102	168	152	152	9.9	
5	5.563	5.83	5.71	4.02	6.61	6.0	6.0	21.8	
165.1 mm	165.1	148	172	114	184	152	152	11.4	
	6.500	5.83	6.77	4.49	7.24	6.0	6.0	25.0	
150	168.3	148	172	114	184	152	152	11.5	
6	6.625	5.83	6.77	4.49	7.24	6.0	6.0	25.3	
8 JIS	216.3	133	222	140	208	152	152	14.5	
	8.516	5.236	8.740	5.51	8.19	6.0	6.0	31.9	
200	219.1	133	222	140	208	152	152	14.5	
8	8.625	5.24	8.74	5.51	8.19	6.0	6.0	32.0	

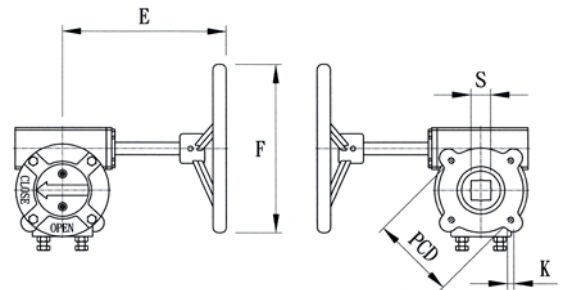
**Model SJ-300N-W Butterfly Valve with Gear Operator**

Nominal Size	Pipe O.D.	Dimensions						Weight*
		A	B	C	D	E	F	
mm in	mm in	mm in	mm in	mm in	mm in	mm in	mm in	Kgs Lbs
250 10	273.0 10.750	159 6.25	276 10.86	170 6.69	235 9.25	203 8.0	203 8.0	27.0 59.4
300 12	323.9 12.750	165 6.53	327 12.87	205 8.07	260 10.24	203 8.0	203 8.0	33.5 73.7
350 14	355.6 14.000	178 7.00	365 14.37	224 8.82	276 10.86	203 8.0	203 8.0	59.0 130.0
400 16	406.4 16.000	178 7.00	416 16.38	248 9.76	302 11.89	242 9.5	305 12.0	67.0 147.4
450 18	457.2 18.000	203 8.00	470 18.50	283 11.14	350 13.78	242 9.5	305 12.0	86.0 189.2
500 20	508.0 20.000	216 8.50	527 20.75	314 12.36	383 15.08	290 11.4	412 16.2	133.0 292.6
600 24	609.6 24.000	254 10.00	629 24.76	368 14.49	453 17.83	290 11.4	412 16.2	160.0 352.0

\* 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
mm in	mm in	mm in	mm in	mm	mm in	Kgs lbs
50 2	152 6	152 6	70 2.75	M8	□ 10 0.39	4.1 9.0
65 2 ½	152 6	152 6	70 2.75	M8	□ 10 0.39	4.1 9.0
80 3	152 6	152 6	70 2.75	M8	□ 10 0.39	4.1 9.0
100 4	152 6	152 6	70 2.75	M8	□ 12 0.47	4.1 9.0
125 5	152 6	152 6	70 2.75	M8	□ 12 0.47	4.1 9.0
150 6	152 6	152 6	70 2.75	M8	□ 16 0.63	4.1 9.0
200 8	203 8	152 6	102 4.00	M8	□ 16 0.63	4.1 9.0
250 10	203 8	254 10	102 4.00	M10	□ 24 0.94	5.6 12.3
300 12	203 8	254 10	102 4.00	M10	□ 24 0.94	5.6 12.3
350 14	203 9.580	254 10	125 4.90	M10	□ 24 0.94	5.6 12.3
400 16	242 9.50	305 12	125 4.90	M12	○ 36.6 1.44	14.9 32.8
450 18	242 9.50	305 12	140 5.50	M16	○ 41.3 1.625	14.9 32.8
500 20	280 11.02	457 18.00	165 6.50	M20	○ 51.9 2.04	30.5 67.1
600 24	280 11.02	457 18.00	165 6.50	M20	○ 51.9 2.04	30.5 67.1

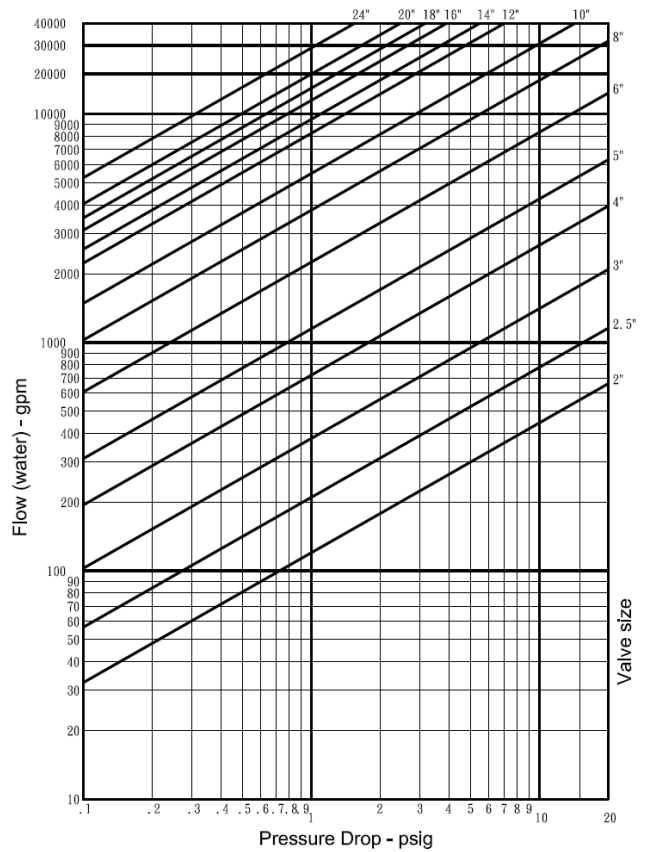


## Flow Data

Equivalent length and Cv values for flow of water are shown below (water temperature at +20°C or +86°F)

Nominal Size	Equivalent Length on Sch. 40 pipe*	Cv Values
in	Feet (Meter)	
2	8.1 (2.48)	120
2½	8.1 (2.48)	210
3	8.4 (2.56)	380
4	8.3 (2.53)	720
5	9.8 (2.99)	1150
6	7.4 (2.26)	2250
8	11.0 (3.35)	3800
10	10.5 (3.20)	5500
12	12.0 (3.66)	8250
14	25.0 (7.62)	9500
16	26.0 (7.92)	13000
18	32.0 (9.75)	16000
20	37.3 (11.37)	20000
24	43.7 (13.32)	29000

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



## 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 NSF61, for use in cold +86°F (+30°C) and hot +180°F (+82°C) potable water system.

- **Disc Encapsulation:**

- Grade E-pw EPDM** (Color code: Green stripe) certified under ANSI / NSF 61 for potable water use. Good for cold & hot water up to +180°F (+82°C). Also good for water services 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.**

**EPDM Rubber is certified under NSF61 for use in potable water systems.**

- Grade T Nitrile (NBR):** Grade T Nitrile is recommended for petroleum products, vegetable oils, mineral oils and air with vapors.
- For size 20"-24" #SJ-300N-W, the standard disc encapsulation rubber is grade "V" Neoprene.

- **Upper & Lower Shafts:**  
Stainless steel Type 410.

- **Shaft Bearing:**  
Teflon.

- **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:

- Pressure ratings listed are CWP (cold water pressure) or maximum working pressure within the service temperature range of the gasket used in the coupling. For additional information contact **Shurjoint**.
- Maximum working pressures and end loads listed are total of internal and external pressures and loads based on Sch. 40 steel pipe with roll grooves to ANSI/AWWA C606-07 specifications. For information on other pipe schedules contact **Shurjoint**.
- **For one time field test only** the maximum joint working pressure may be increased 1½ times the figures shown.
- **Warning:** Piping systems must always be depressurized and drained before attempting disassembly and or removal of any components.
- **Shurjoint** reserves the right to change specifications, designs and or standard equipment without notice and without incurring any obligations.

Job Name:	System No.	Location:
Contractor:	Approved:	Date:
Engineer:	Approved:	Date:

**Shurjoint** product specifications in U.S. customary units and metric are approximate and are provided for reference only. For precise measurements, please contact **Shurjoint** Technical Service. **Shurjoint** reserves the right to change or modify product design, construction, specifications, or materials without prior notice and without incurring any obligations to make such changes and modifications on **Shurjoint** products previously subsequently sold.