



# Figure # 938

## Ductile Iron Lug Style Butterfly Valve

### Product Features

- 200 PSI Sizes 2"-12"
- 150 PSI Sizes 14" - UP
- Ductile Iron Body
- Lug Style Body
- Cartridge Seat
- ISO 5211 Mounting Flange
- MSS-SP-67



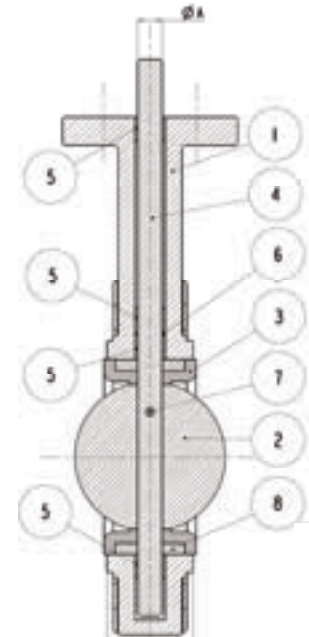
### Figure Number Breakdown (Example 938DNSL)

Disc Matl.	Seat Matl.	Stem Matl.	Topworks
B = Aluminum Bronze	E = EPDM	M = 316 SS.	L = Lever
D = Ductile Iron w/ Nickel plating	N = Buna N	S = 416 SS.	G = Gear
M = 316 Stainless Steel	-----	-----	X = Bare Stem

### Materials & Specifications

Item	Description	Material
1	Body	Ductile Iron
2	Disc	Alum. Bronze, Ductile Iron or 316 SS.
3	Seat	Buna or EPDM
4	Stem	416 or 316 Stainless Steel
5	Bushings	PTFE
6	O-Ring	NBR
7	Taper Pin	Stainless Steel
8	Seat Support	Plastic

Note: Ductile Iron Disc are electroless Nickel plated



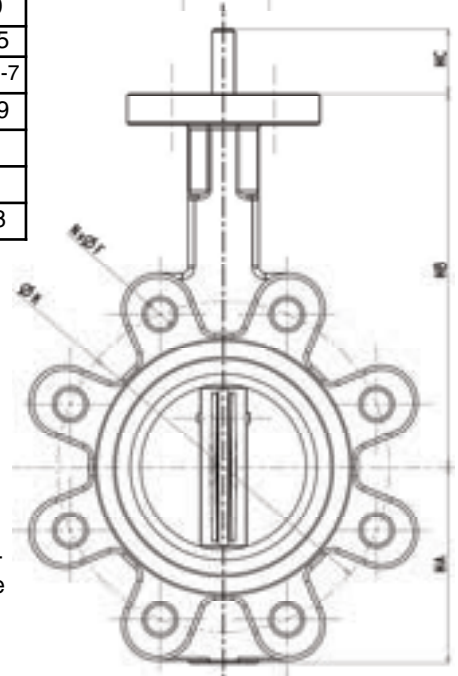
### Dimensions, Weights (inches-lbs.) & Valve Data

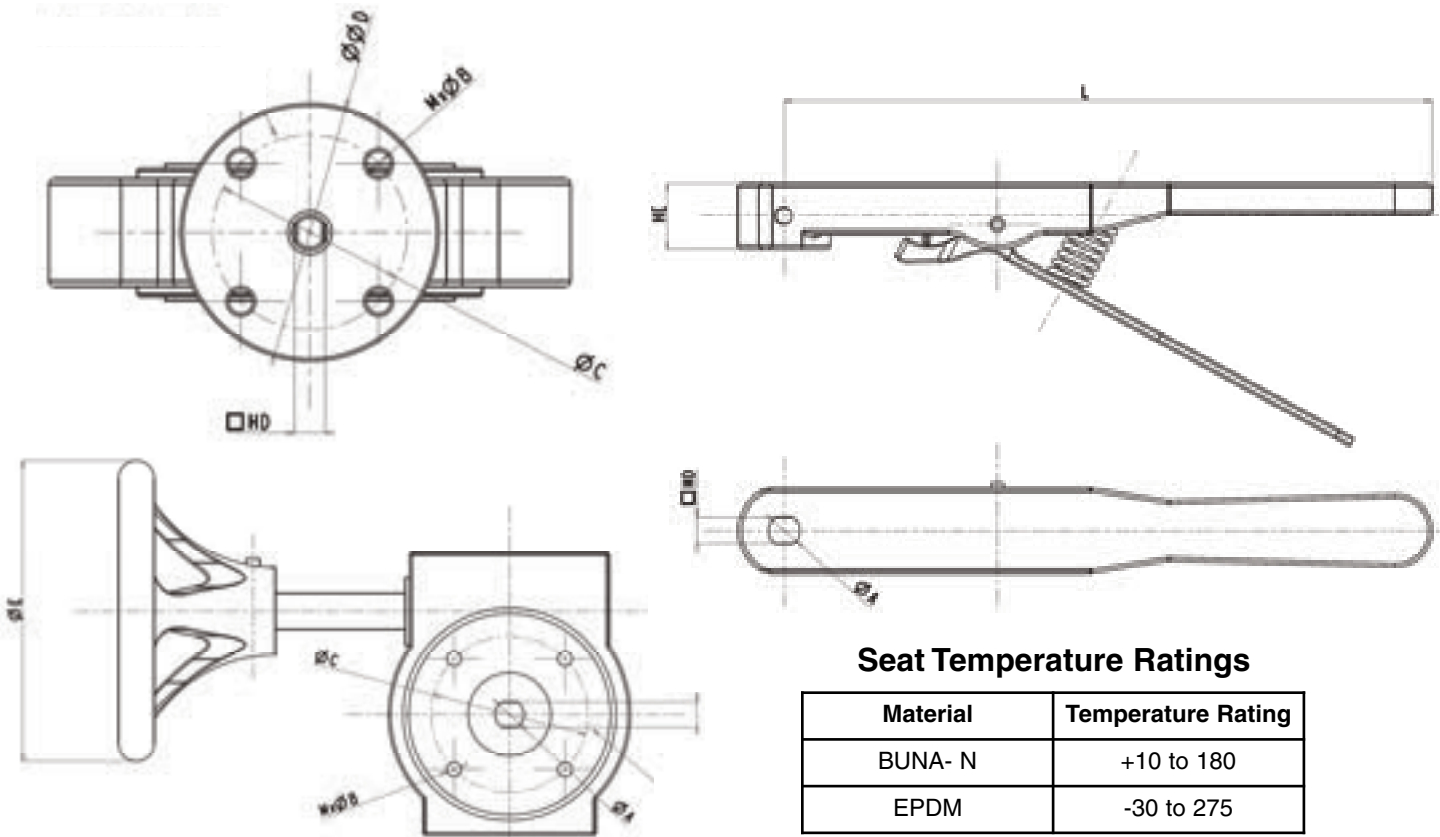
Size	2"	2-1/2"	3"	4"	5"	6"	8"	10"	12"	14"	16"	18"	20"	24"
HA	2.99	3.5	3.74	4.49	5.0	5.51	6.81	7.99	9.33	10.98	11.97	14.25	14.49	17.48
HB	6.38	6.89	7.13	7.87	8.39	8.86	10.24	11.5	13.27	14.49	15.75	16.61	18.86	22.13
HC	1.26	1.26	1.26	1.26	1.26	1.26	1.77	1.77	1.77	1.77	2.01	2.01	2.52	2.8
L	1.69	1.81	1.81	2.05	2.2	2.2	2.36	2.68	3.07	3.07	4.02	4.49	5.0	6.0
ØK	4.75	5.5	6.0	7.5	8.5	9.5	11.75	14.25	17.0	18.75	21.25	22.75	25.0	29.5
ØF	5/8-11	5/8-11	5/8-11	5/8-11	3/4-10	3/4-10	3/4-10	7/8-9	7/8-9	1"-8	1"-8	1-1/8-8	1-1/8-8	1-1/4-7
ØA	.5	.5	.5	.63	.75	.75	.87	1.13	1.25	1.25	1.31	1.5	1.62	1.99
N # holes	4	4	4	8	8	8	8	12	12	12	16	16	20	20
Wt. lever	9	10	16	28	30	33	53	76	109	-	-	-	-	-
Wt. Gear	25	26	32	44	46	49	72	95	128	178	255	290	494	708

### Seating torques (inch/lbs.)

PSI	2"	2-1/2"	3"	4"	5"	6"	8"	10"	12"	14"	16"	18"	20"	24"
50	100	150	207	290	423	599	1060	1671	2568	2640	4260	6287	8360	15427
100	106	163	220	323	481	691	1183	1872	2795	3070	4880	7243	9180	16813
150	111	176	232	357	540	783	1307	2074	3023	3500	5500	8200	10000	18200
200	117	189	244	390	598	875	1430	2275	3250	-	-	-	-	-

All torque values shown are for wet (water and other non-lubricating media) on-off service. For dry services (dry gas, etc.) multiply values by 1.15. For lubed service (clean, non-abrasive lubricating media) multiply values by .85. These values do not include a safety factor. An appropriate safety factor should be used when sizing any actuator.





### Seat Temperature Ratings

Material	Temperature Rating
BUNA- N	+10 to 180
EPDM	-30 to 275

### Dimensions (inches) of Stem, Lever and Gear Mounting Information

Size	2"	2-1/2"	3"	4"	5"	6"	8"	10"	12"	14"	16"	18"	20"	24"
ØA	.5	.5	.5	.63	.75	.75	.87	1.13	1.25	1.25	1.31	1.5	1.62	1.99
HD	.39	.39	.39	.47	.55	.55	.67	.87	.94	.94	1.06	1.06	1.26	1.42
HE	1.06	1.06	1.06	1.06	1.06	1.06	1.22	1.22	1.22	-	-	-	-	-
L	10.51	10.51	10.51	10.51	10.51	10.51	14.13	14.13	14.13	-	-	-	-	-
E	5.91	5.91	5.91	5.91	5.91	5.91	11.81	11.81	11.81	11.81	11.81	11.81	15.75	15.75
ØC	2.76	2.76	2.76	2.76	2.76	2.76	4.02	4.02	4.92	4.92	6.5	6.5	6.50	10.0
ØD	3.62	3.62	3.62	3.62	3.62	3.62	4.92	4.92	5.91	5.91	8.27	8.27	8.27	11.81
ISO	F07	F07	F07	F07	F07	F07	F10	F10	F12	F12	F16	F16	F16	F25

### Cv Values - Valve Sizing (US Gallons/minute at 1PSI drop)

Size	Degrees Open									
	10	20	30	40	50	60	70	80	90	
2"	.06	3	7	15	27	44	70	105	115	
2-1/2"	.1	6	12	25	45	75	119	178	196	
3"	.2	9	18	39	70	116	183	275	302	
4"	.3	17	36	78	139	230	364	546	600	
5"	.5	29	61	133	237	392	620	930	1022	
6"	.8	34	94	153	257	422	706	1154	1320	
8"	2	56	154	251	422	693	1158	1892	2165	
10"	3	87	238	385	654	1073	1794	2931	3353	
12"	4	153	417	681	1145	189	3142	5132	5827	
14"	6	183	500	816	1372	2252	3765	6150	7037	
16"	8	271	740	1208	2031	3333	5573	9104	10416	
18"	11	318	867	1417	2382	3909	6535	10676	12215	
20"	14	415	1133	1851	3112	5107	8538	13948	15959	
24"	22	543	1482	2421	4069	668	11165	18240	20869	