



DUCTILE IRON BUTTERFLY VALVES

LD/WD 1000 AND 2000

APPLICATIONS

For use in Commercial Construction and General Utility Service:

- HVAC (Condenser, Chilled Water, Hot Water Heating)
- Hot and Cold Domestic Water
- Compressed Air (BUNA liner)
- Vacuum Service
- End of Line Service (Dead End)
- Modulating Control Services

MATERIALS & CONSTRUCTION

- Molded in Liner (2" - 12")
- Internal Stem/Disc Drive
- Ductile Iron Body
- Streamlined Spherical Disc
- Upper and Lower Bushings
- High Strength 416SS Stem
- Extended Neck
- Threaded Double Seal Collar Bushing (2" - 12")

DESIGN CRITERIA

- Meets or exceeds requirements of MSS SP-67.
- United States Coast Guard Approval.
- Suitable for use with ANSI Class 125 and 150 flanges.
- Pressure rating 200 psi (2"-12") and 150 psi (14"-24")
- Vacuum to 28" mercury
- Bubble tight shutoff at full pressure
- Wide choice of seat and disc combinations to suit customer application.

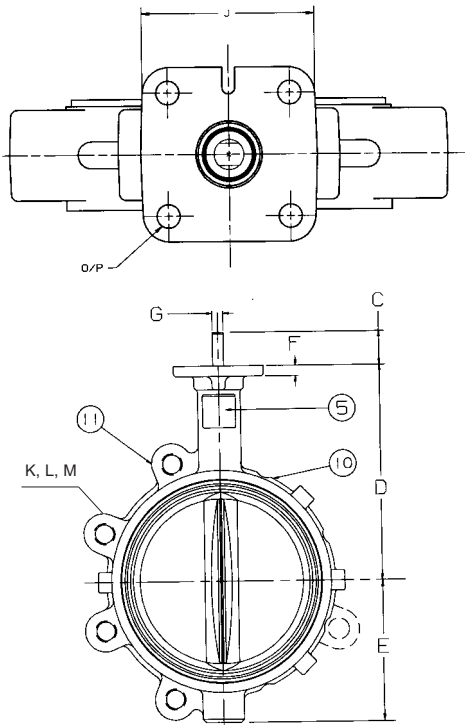
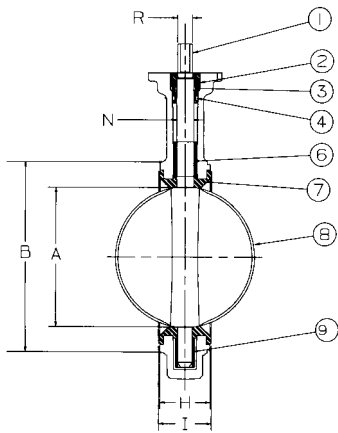
LD 1000-5
(150 psi)
14" - 24"



LD 2000-3
(200 psi)
2" - 12"

LD/WD 2000 SERIES 200 PSI

SPECIFICATIONS



LD/WD2000 SERIES		Material List
PART	SPECIFICATION	
1. Stem	Stainless Steel, ASTM A-582 type 416, ASTM A564 Type 17.4 PH*	
2. Collar Bushing	Brass, ASTM B-124	
3. Stem Seal	EPDM Ruber	
4. Body Seal	EPDM Rubber	
5. Nameplate	Aluminum	
6. Upper Bushing	Copper CDA 122	
7. Liner	EPDM Rubber, BUNA (NBR), Fluoroelastomer	
8. Disc	Aluminum, Bronze, ASTM B-148 Alloy 954/955	
	† Ductile Iron, ASTM A395 (Plated)	
	† Stainless Steel, ASTM A743 Grade CF8M	
9. Lower Bushing	Copper CDA 122	
10. Body (Wafer)	Ductile Iron, ASTM A-536	
11. Body (Lug)	Ductile Iron, ASTM A-536	

* Optional Stem Material

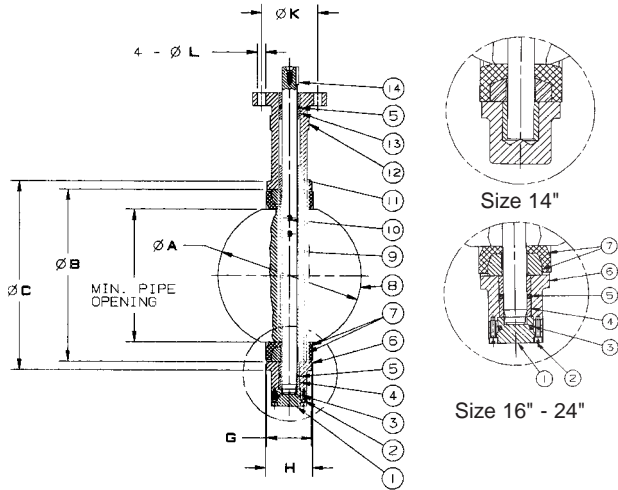
† LD 3000 Series only

LD/WD2000 SERIES		Dimensions									
SIZE	A	B	C	D	E	F	G Flat	METAL H	RUBBER I	J Square	
2"	2.53	4.00	1.25	5.38	2.62	.38	.312	1.688	1.812	3.25	
2.5"	2.90	4.75	1.25	5.88	3.12	.38	.370	1.812	1.938	3.25	
3"	3.15	5.25	1.25	6.12	3.38	.38	.370	1.812	1.938	3.25	
4"	4.15	6.75	1.25	6.88	4.00	.38	.403	2.062	2.188	3.25	
5"	5.15	7.62	1.25	7.38	4.75	.38	.496	2.188	2.312	3.25	
6"	6.15	8.62	1.25	8.00	5.25	.38	.496	2.188	2.312	3.25	
8"	8.15	10.87	1.25	9.25	6.50	.50	.560	2.375	2.500	3.25	
10"	10.15	13.25	1.25	10.50	8.00	.50	.686	2.688	2.812	4.75	
12"	12.15	16.00	1.25	12.00	9.25	.50	.748	3.000	3.125	4.75	

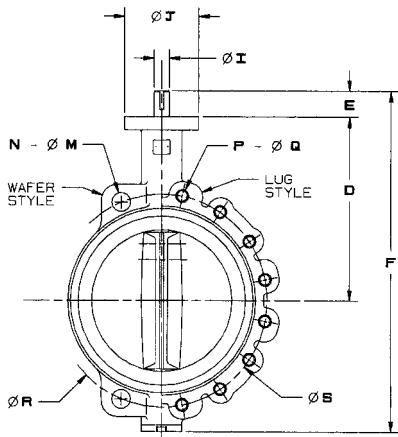
LD/WD2000 SERIES		Dimensions									
SIZE	N Dia.	O B. C.	P Dia.	R Dia.	Capscrew Data/Stud Data				M B. C.	Lug Approx. Net Wt. (lbs.)	Wafer Approx. Net Wt. (lbs.)
					K No.	L Dia.	Wafer Length	Lug Length			
2"	.500	3.25	.437	.437	4	5/8-11unc	4	1 1/2	4 3/4	7	6
2.5"	.562	3.25	.437	.500	4	5/8-11unc	4 1/4	1 1/2	5 1/2	9	8
3"	.562	3.25	.437	.500	4	5/8-11unc	4 1/4	1 5/8	6	9 1/2	8 1/2
4"	.625	3.25	.437	.562	8	5/8-11unc	5	1 7/8	7 1/2	15	12
5"	.750	3.25	.437	.656	8	3/4-10unc	5 1/4	2	8 1/2	19	15
6"	.750	3.25	.437	.656	8	3/4-10unc	5 1/4	2	9 1/2	24	18
8"	.875	3.25	.437	.781	8	3/4-10unc	5 3/4	2 1/4	11 3/4	35	29
10"	1.125	5.00	.562	1.000	12	7/8-9unc	6 1/4	2 1/4	14 1/4	56 1/2	45 1/2
12"	1.250	5.00	.562	1.062	12	7/8-9unc	6 3/4	2 1/2	17	87	72

SPECIFICATIONS

LD1000 SERIES 150 PSI

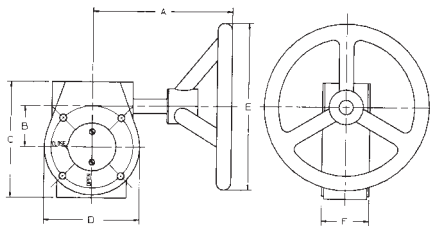


LD1000 SERIES Material List	
PART	SPECIFICATION
1. Bottom Plate	Steel, ASTM A 108 grade 1035
2. Bolt (2 for 14"-20"; 4 for 24")	Steel, ASTM A307
3. O-Ring	Nitrile (Buna-N) Rubber
4. Bushing	Bronze, ASTM B 584 grade C83600
5. O-Ring (2)	Nitrile (Buna-N) Rubber
6. Body	Ductile Iron, ASTM A 536
7. Seat	EPDM Rubber Nitrile (Buna-N) Rubber
8. Disc	Al. Bronze, ASTM B 148 Alloy C95400
	Ductile Iron, ASTM A 536 grade 65-45-12 (plated)
	Stainless Steel ASTM A351 Grade CF8M
9. Stem	Stainless Steel, ASTM A 582 Type 416
10. Taper Pin (2)	Stainless Steel, ASTM A 582 Type 416
11. Bushing	Bronze, ASTM B 584 grade C83600
12. Nameplate	Aluminum
13. Bushing	Bronze, ASTM B 584 grade C83600
14. Key	Steel, ASTM A 108 grade 1045



LD1000 SERIES Dimensions										
SIZE	A DIA	MIN. Pipe I.D.	B DIA	C DIA	D	E	F	G Body	H Seat	I DIA
14"	13.1	13.0	14.8	17.2	14.5	1.77	26.77	3.01	3.13	1.244
16"	15.3	15.2	17.3	19.2	15.7	2.02	29.94	3.38	3.54	1.305
18"	17.3	17.1	19.3	21.2	16.6	2.02	31.55	4.12	4.29	1.496
20"	19.4	18.9	21.1	23.3	18.9	2.53	35.65	5.14	5.31	1.632
24"	23.3	23.1	25.7	32.1	22.1	2.76	40.20	5.98	6.14	1.994

LD1000 SERIES Dimensions							
SIZE	J Dia.	K Dia.	L Dia.	P	Q Dia.	S Dia.	Lug Wt. Lbs.
14"	5.50	4.25	0.56	12	1-8UNC	18.75	121
16"	7.75	6.25	0.81	16	1-8UNC	21.25	211
18"	7.75	6.25	0.81	16	1 1/8-7UNC	22.75	268
20"	7.75	6.25	0.81	20	1 1/8-7UNC	25.00	444
24"	10.87	8.50	0.87	20	1 1/4-7UNC	29.50	594



GEAR OPERATOR DETAIL FOR SIZES 2" THRU 24"									
VALVE SIZE	OPERATOR NO.	RATIO	DIMENSIONS (IN)						WEIGHT LBS.
			A	B	C	D	E	F	
2 - 5"	46691	28:1	4.25	1.83	5.19	4.75	6	2.36	5.4
6"	T115971	28:1	7.88	1.83	5.19	4.75	6	2.36	5.7
8"	46692	28:1	7.88	1.83	5.19	4.75	9	2.36	8.4
10" - 12"	46693	40:1	7.88	2.36	5.93	5.25	9	2.36	9.3
14"	XJ50	50:1	8.94	3.15	7.83	6.38	12	3.25	33.0
16" - 20"	XJ80	80:1	11.82	4.72	11.42	10.24	12	4.53	70.0
24"	XJ300	290:1	13.78	4.72	12.32	10.87	12	6.26	110.0

2" - 12" Adapter Bushing Required

For other large diameter BFV configurations and sizes, see N150 or LC/WC series.

SPECIFICATIONS AND TECHNICAL DATA

TORQUE is the rotary effort required to operate a valve. This turning force in a Butterfly Valve is determined by three factors. (1) Friction of the disc to seat for sealing (2) bearing friction and (3) dynamic torque.

BREAKAWAY TORQUE is the total of the torques resulting from bearing friction and seat/disc interference friction at a given pressure differential. This value is normally the highest required torque to operate a valve and is used in sizing actuators. The torques listed are valid for water and lubricating fluids at ambient temperature.

LD/WD 2000 SERIES		Torque Data	
SIZE	100 PSI	200 PSI	
2"	140	180	
2 1/2"	190	235	
3"	250	300	
4"	430	530	
5"	590	760	
6"	795	1,035	
8"	1,850	2,350	
10"	2,350	2,900	
12"	3,875	5,390	

LD/WD 1000 SERIES		Torque Data	
SIZE	75 PSI	150 PSI	
14"	3,837	4,870	
16"	5,003	6,685	
18"	6,567	8,958	
20"	8,540	11,950	
24"	13,220	18,680	

NOTE: Torque data shown is for general service (clean water, ambient temperatures). For non-lubricating, high temperatures or aggressive media, consult NIBCO Technical Service. Torque listed for EPDM. When calculating torque for Buna or Fluorocarbon, multiply by 1.25

SAMPLE BUTTERFLY VALVE SPECIFICATION

Line Control Valves 2" and Larger:

BUTTERFLY VALVES: Valve shall be full lug or wafer body style. Valves to be manufactured in accordance with MSS SP-67. The valves shall be rated at least 200 psi (2" - 12") and 150 psi (14" - 36") bi-directional differential pressure. **Body** to have 2" extended neck for insulation and to be **shock resistant ductile iron**. Valves to have aluminum bronze disc and **molded in or cartridge seat** of EPDM rubber. Stem shall be 400 series stainless steel. Top and bottom stem bushings of dissimilar material are required with a positive stem retention mechanism. Sizes 2" to 6" shall be lever operated with 10 position throttling plate; sizes 8" and larger shall be gear operated. **Lug style valves shall be capable of providing bi-directional "Dead End Service" at full pressure without the need for a down stream blind flange.**

ACCEPTABLE VALVES:

NIBCO - LD2000 (2" - 12"), LD1000 (14" - 24") and N150235G0 (30" - 36").

Key to Butterfly Valve Figure Number System*

L	D	-	2	0	0	0	-	0
BODY TYPE	BODY MATERIAL	PRESSURE RATING	SEAT MATERIAL	DISC MATERIAL	STEM & BUSHING COMBINATIONS			OPERATING MECHANISM
					Stem	Upper & Lower	Collar	
L- Lug	D- Ductile Iron	L- Actuated	0- EPDM	0- Alum. Bronze	0- 416 S.S.	Copper Alloy	Brass	0- Bare Stem
W- Wafer	C- Cast Iron	1- 150 PSI	1- Buna-N (Nitrile)	1- Ductile Iron ¹	1- 416 S.S.	316 S.S.	Brass	3- L/Lock (Std.)
G- Grooved		2- 200 PSI	2- Fluoroelastomer	2- CF8M	2-17-4 PH	316 S.S.	316 S.S.	5- Gear op.
		3- 250 PSI	5- UL/FM	6- EPDM Coated	7- 416 S.S.	TFE	----	
		4- 300 PSI	7- Polymid	Brass or D.I. ²	8- 316 S.S.	TFE	----	
				7- Buna-N Coated				
				Brass or D.I. ²				

* This key is a guide only; it is not intended to infer that all combinations can or will be produced.
1. Electro Nickel Plated. 2. Grooved end only.

