

NIBCO® SURE SEAL®

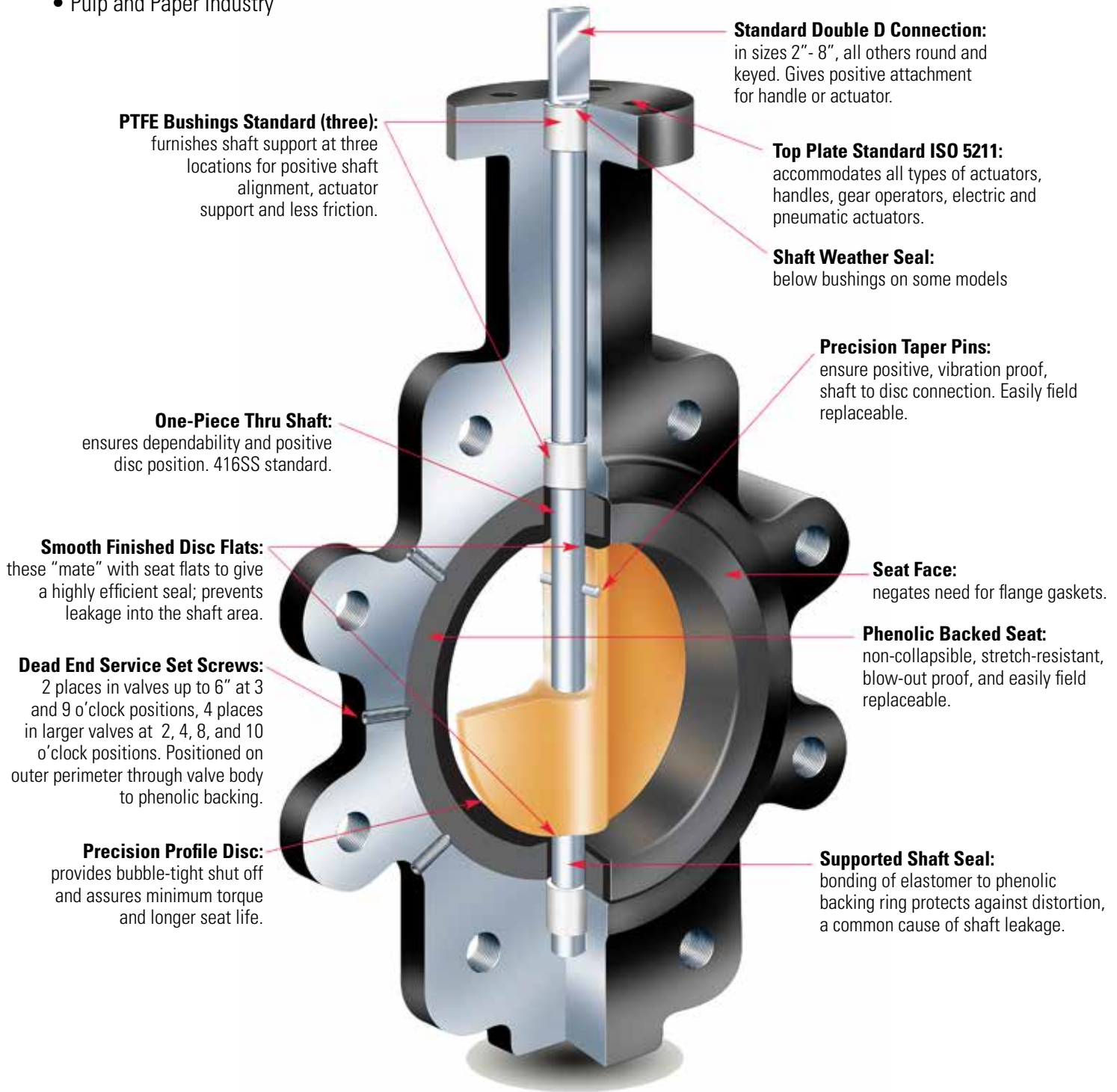
SERIES 600-622 BUTTERFLY VALVES



NIBCO offers a comprehensive selection of butterfly valves for industrial and commercial applications that are available in a broad range of materials, sizes, and pressures. Sure Seal® valves will exceed your application expectations and, like all NIBCO products, guarantee superior quality, performance, and service.

NIBCO® Sure Seal® Series 600-622 Butterfly Valves

- HVAC/ATC
- Chemical/Petrochemical Processing
- Food and Beverage Industry
- Power and Utilities
- Pulp and Paper Industry



Standard Double D Connection:
in sizes 2" - 8", all others round and keyed. Gives positive attachment for handle or actuator.

PTFE Bushings Standard (three):
furnishes shaft support at three locations for positive shaft alignment, actuator support and less friction.

Top Plate Standard ISO 5211:
accommodates all types of actuators, handles, gear operators, electric and pneumatic actuators.

Shaft Weather Seal:
below bushings on some models

One-Piece Thru Shaft:
ensures dependability and positive disc position. 416SS standard.

Precision Taper Pins:
ensure positive, vibration proof, shaft to disc connection. Easily field replaceable.

Smooth Finished Disc Flats:
these "mate" with seat flats to give a highly efficient seal; prevents leakage into the shaft area.

Seat Face:
negates need for flange gaskets.

Dead End Service Set Screws:
2 places in valves up to 6" at 3 and 9 o'clock positions, 4 places in larger valves at 2, 4, 8, and 10 o'clock positions. Positioned on outer perimeter through valve body to phenolic backing.

Phenolic Backed Seat:
non-collapsible, stretch-resistant, blow-out proof, and easily field replaceable.

Precision Profile Disc:
provides bubble-tight shut off and assures minimum torque and longer seat life.

Supported Shaft Seal:
bonding of elastomer to phenolic backing ring protects against distortion, a common cause of shaft leakage.

Visit our website for the most current information.

Materials 2" - 30"

Item	Description	Materials	Optional Materials
1	Body	Cast Iron	Ductile Iron
2	Disc	Nylon Coated Ductile Iron	Aluminum Bronze, 316 Stainless Steel, Monel
3*	Seat	Buna-N or EPDM	Hypalon, FKM
4	Shaft	416 Stainless Steel	316 Stainless Steel, Monel
5*	TaperPin	316 Stainless Steel	Monel
6	Key	Carbon Steel	No option available
7*	O - Ring	Buna-N	No option available
8	Bushing	PTFE	Luberized Bronze
9	Bushing	PTFE	Luberized Bronze
10	Bushing	PTFE	Luberized Bronze

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Material	Temperature Rating °F
Buna-N	+10 to 180
EPDM	-30 to 275
High Temperature FKM	+10 to 400

Seat materials are capable of withstanding lower temperatures without damage. However, the elastomer becomes hard and torques increase. Some flow media may further restrict the published temperature limits and/or significantly reduce seat life.

Valve Seating Torques (in lbs)

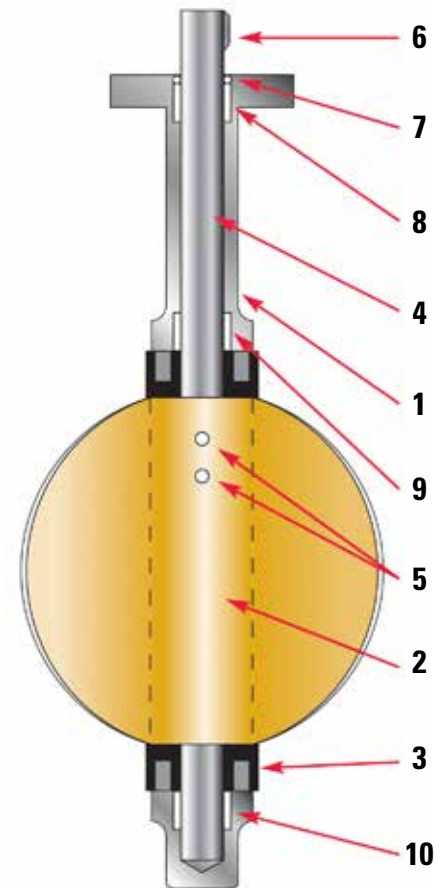
Value Size	Standard Disc Differential Pressure							
	50PSI Δ P Bushing		100PSI Δ P Bushing		150PSI Δ P Bushing		200PSI Δ Bushing	
	Bronze	PTFE	Bronze	PTFE	Bronze	PTFE	Bronze	PTFE
2"	106	100	117	106	129	111	140	117
2 1/2"	152	150	166	163	181	176	195	189
3"	213	207	230	220	248	232	265	244
4"	321	290	386	323	450	357	515	390
5"	481	423	598	481	715	540	832	598
6"	692	599	878	691	1,063	783	1,248	875
8"	1,326	1,060	1,716	1,183	2,106	1,307	2,496	1,430
10"	2,239	1,671	3,010	1,872	3,780	2,074	4,550	2,275
12"	3,959	2,568	4,953	2,795	5,948	3,023	6,942	3,250
14"	4,881	2,640	6,226	3,070	7,570	3,500	-	-
16"	7,020	4,260	8,580	4,880	10,140	5,500	-	-
18"	10,105	6,287	12,202	7,243	14,300	8,200	-	-
20"	13,923	8,360	16,582	9,180	19,240	10,000	-	-
24"	23,617	15,427	26,953	16,813	30,290	18,200	-	-
30"	39,721	27,313	43,391	29,407	47,060	31,500	-	-

All torque values shown on chart are for "wet" (water and other non-lubricating media) on-off service. For "dry" service (non-lubricating, dry gas media) multiply values by 1.15. For "lubed" service (clean, non-abrasive lubricating media), multiply values by 0.85. When sizing actuators for single valve applications, use PTFE bushings/200PSI torque values and multiply by 1.25. When sizing actuators for three-way "tee" applications, use PTFE bushings/200PSI torque values and multiply by 1.5. Under certain conditions, hydrodynamic torque can meet or exceed seating and unseating torques. When designing valve systems, hydrodynamic torque must be considered to help ensure correct selection of actuation.

Cv Valves-Valve Sizing Coefficients (us-GPM@1 Δ P)

Size	10°	20°	30°	40°	50°	60°	70°	80°	90°
2"	0.06	3	7	15	27	44	70	105	115
2 1/2"	0.10	6	12	25	45	75	119	178	196
3"	0.20	9	18	39	70	116	183	275	302
4"	0.30	17	36	78	139	230	364	546	600
5"	0.50	29	61	133	237	392	620	930	1022
6"	0.80	45	95	205	366	605	958	1437	1579
8"	2	89	188	408	727	1202	1903	2854	3136
10"	3	151	320	694	1237	2047	3240	4859	5340
12"	4	234	495	1072	1911	3162	5005	7507	8250
14"	6	338	715	1549	2761	4568	7230	10844	11917
16"	8	464	983	2130	3797	6282	9942	14913	16388
18"	11	615	1302	2822	5028	8320	13168	19752	21705
20"	14	791	1674	3628	6465	10698	16931	25396	27908
24"	22	1222	2587	5605	9989	16528	26157	39236	43116
30"	37	2080	4406	9545	17010	28147	44545	66818	73426

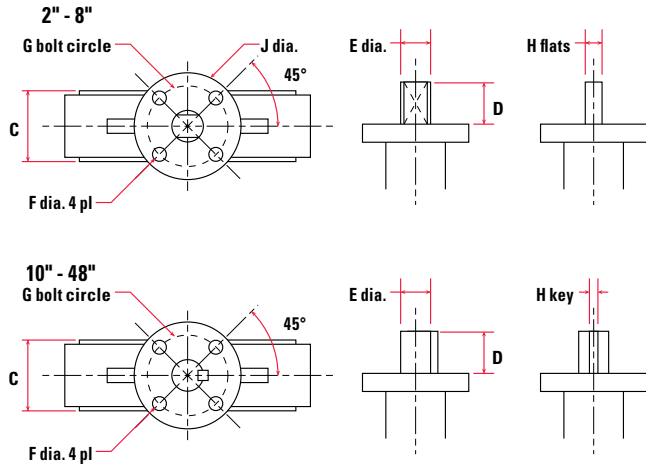
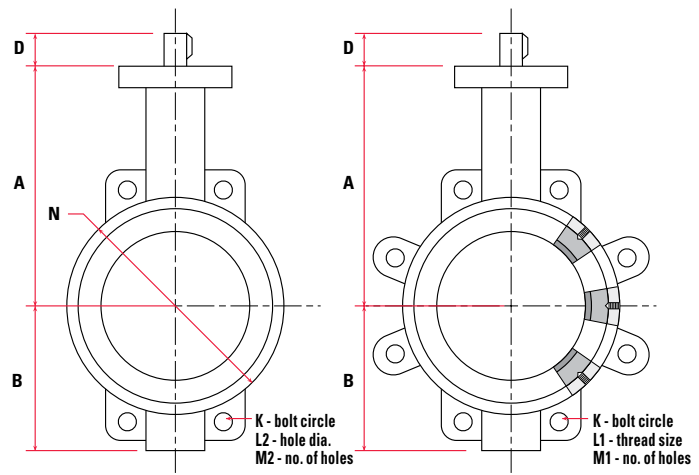
Nylon coated for 2" - 12" valves. *Recommended spare parts.



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NIBCO® Sure Seal® Series 600-622 Butterfly Valves

- Available in wafer or lug style body (2" to 48")
- Wafer body features four alignment holes
- Pressure ratings for tight shut-off at temperatures up to the maximum limit of the seat material:
 - 2" to 12" - 200psi
 - 14" to 48" - 150psi
- Ideal for on-off or throttling services
- Available with handles (2" to 12"), manual gear operators (2" to 48"), and electric or pneumatic actuators (2" to 48")
- Operator can be mounted parallel or perpendicular to pipeline
- Designed to comply with MSS SP-67 and API609. For exact valve measurements, see dimension table
- Compatible with ANSI125/150 flanges



Dimensions 2" - 30"

Value Size	A	B	C	D	E	F	G	H	J	K	L1*	L2*	M1*	M2*	N
2"	6 3/8	3 1/4	1 3/4	1 1/4	1/2	3/8	2 3/4	3/8	3 9/16	4 3/4	5/8 - 11	11/16	4	4	4
2 1/2"	6 7/8	3 3/4	1 7/8	1 1/4	1/2	3/8	2 3/4	3/8	3 9/16	5 1/2	5/8 - 11	11/16	4	4	4 3/4
3"	7 1/8	4	1 7/8	1 1/4	1/2	3/8	2 3/4	3/8	3 9/16	6	5/8 - 11	11/16	4	4	5 1/8
4"	7 7/8	4 7/8	2 1/8	1 1/4	5/8	3/8	2 3/4	7/16	3 9/16	7 1/2	5/8 - 11	11/16	8	4	6 3/4
5"	8 3/8	5 3/8	2 1/4	1 1/4	5/8	3/8	2 3/4	7/16	3 9/16	8 1/2	3/4 - 10	13/16	8	4	7 3/4
6"	8 7/8	5 7/8	2 1/4	1 1/4	3/4	3/8	2 3/4	1/2	3 9/16	9 1/2	3/4 - 10	13/16	8	4	8 5/8
8"	10 1/4	7 1/8	2 1/2	1 3/4	7/8	9/16	4 15/16	5/8	5 7/8	11 3/4	3/4 - 10	13/16	8	4	10 9/16
10"	11 1/2	8 1/4	2 3/4	2	1 1/8	9/16	4 15/16	1/4 x 1/4	5 7/8	14 1/4	7/8 - 9	15/16	12	4	13 1/16
12"	13 1/4	9 3/4	3 1/8	2	1 1/8	9/16	4 15/16	1/4 x 1/4	5 7/8	17	7/8 - 9	15/16	12	4	16
14"	14 1/2	11	3 1/8	3	1 1/4	9/16	4 15/16	5/16 x 5/16	5 7/8	18 3/4	1 - 8	11/16	12	4	17 1/8
16"	13 3/4	12	3 1/2	3	1 5/16	9/16	4 15/16	3/8 x 3/8	5 7/8	21 3/4	1 - 8	11/16	16	4	20
18"	16 5/8	14 3/8	4 1/4	4 1/4	1 1/2	13/16	6 1/2	3/8 x 3/8	8 1/4	22 3/4	1 1/8 - 7	1 1/4	16	4	21 3/8
20"	18 7/8	14 5/8	5 1/4	4 1/4	1 5/8	13/16	6 1/2	3/8 x 3/8	8 1/4	25	1 1/8 - 7	1 1/4	20	4	23 5/16
24"	22 1/8	18	6 1/8	4 1/4	2	13/16	6 1/2	1/2 x 1/2	8 1/4	29 1/2	1 1/4 - 7	1 3/8	20	4	27 7/8
30"	25 1/2	24 1/4	6 3/4	4 1/4	2 1/2	13/16	6 1/2	5/8 x 5/8	8 1/4	36	1 1/4 - 7	1 3/8	28	4	34 3/8

*L1 and M1 refer to Lug style valve, L2 and M2 refer to wafer style. "C" Dimension is listed with elastomer in the relaxed condition. Approximately 1/8" total compression is required for proper sealing with the pipe flanges. Valves are designed for installation between ANSI B16.1 Class 125 (iron) and B16.5 Class (steel) flanges. Gaskets are not needed and should not be used since the seat face seals against the mating flange. If the valve is to be installed in plastic or fiberglass flanges, flange rings, or Van Stone style flanges, consult the company or the factory for additional information.

Purchasers are expected to make their own test to determine the suitability of these products for their particular purposes. Data represented in this flyer is for general information only. Manufacturer is not responsible for acceptability of these products in regard to individual system requirements. For specific performance data and correct materials selection, please contact your NIBCO salesperson.



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