

Butterfly Valve

TYPE: 2014, 2016, 2014A

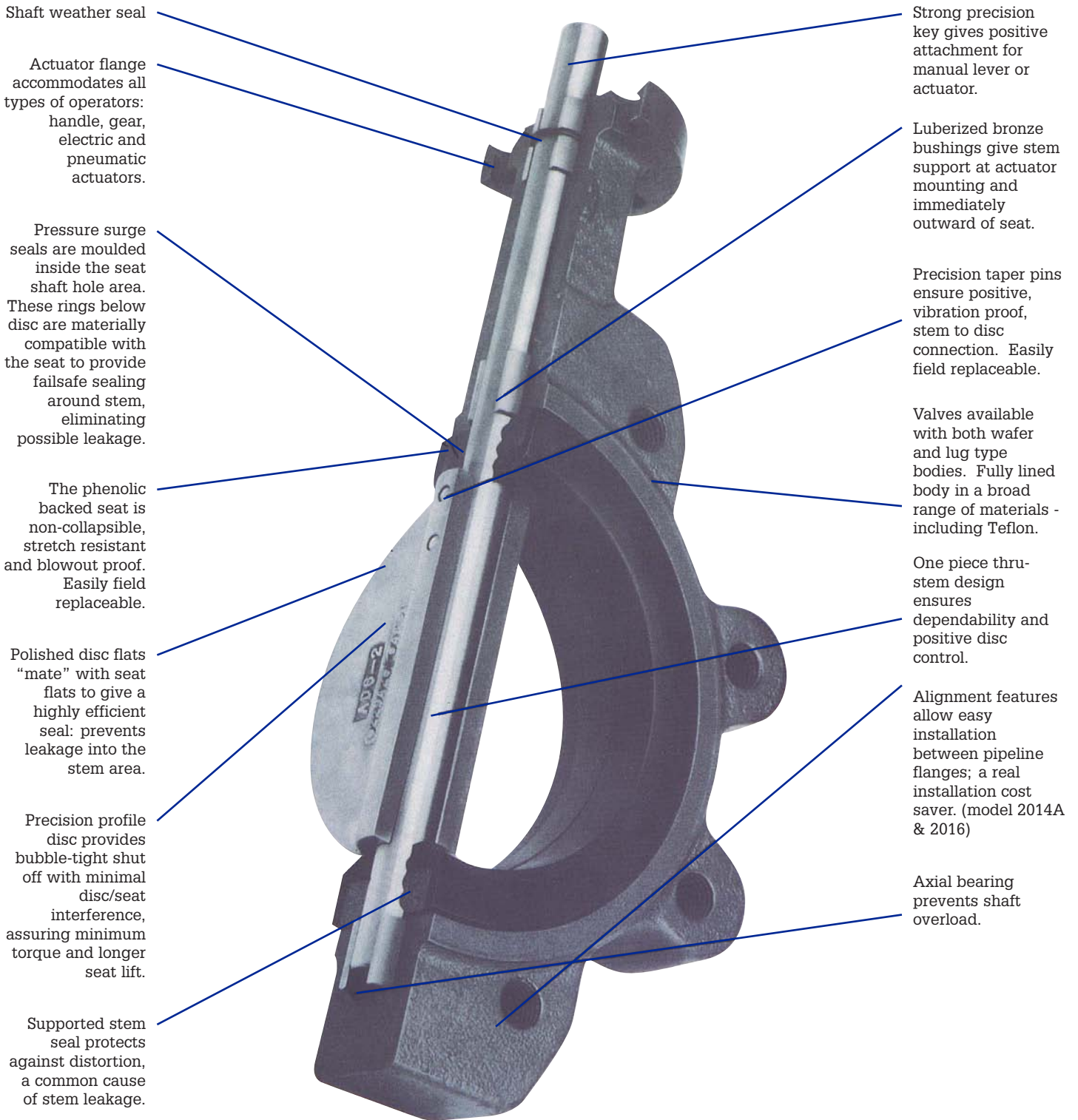
1000 KPA (TO 600NB) AND 1600 KPA RATED (TO 300NB)

SUPERSEAL BUTTERFLY VALVE 24/10/09

 **SUPERSEAL™**

SUIT BS TABLE D, E, ASA 125,
PN10, PN16 etc





Shaft weather seal

Actuator flange accommodates all types of operators: handle, gear, electric and pneumatic actuators.

Pressure surge seals are moulded inside the seat shaft hole area. These rings below disc are materially compatible with the seat to provide failsafe sealing around stem, eliminating possible leakage.

The phenolic backed seat is non-collapsible, stretch resistant and blowout proof. Easily field replaceable.

Polished disc flats "mate" with seat flats to give a highly efficient seal: prevents leakage into the stem area.

Precision profile disc provides bubble-tight shut off with minimal disc/seat interference, assuring minimum torque and longer seat lift.

Supported stem seal protects against distortion, a common cause of stem leakage.

Strong precision key gives positive attachment for manual lever or actuator.

Luberized bronze bushings give stem support at actuator mounting and immediately outward of seat.

Precision taper pins ensure positive, vibration proof, stem to disc connection. Easily field replaceable.

Valves available with both wafer and lug type bodies. Fully lined body in a broad range of materials - including Teflon.





One piece thru-stem design ensures dependability and positive disc control.

Alignment features allow easy installation between pipeline flanges; a real installation cost saver. (model 2014A & 2016)

Axial bearing prevents shaft overload.

SEAL CONSTRUCTION & FEATURES

(Benefits of Superseal design compared to traditional designs)

<p style="writing-mode: vertical-rl; transform: rotate(180deg);">SUPERSEAL CONSTRUCTION</p>	 <p>The disc is manufactured to close tolerances on the O.D. and the flats. Seating edge is a polished half ball for torque control.</p>	<p>The modern seat and disc design insures positive sealing while maintaining low seating torque. The Superseal design extends seat life by eliminating any bunching or tearing.</p>  <p>The Superseal seat design has a much smaller mass of elastomer which can swell, in turn torque is controlled to a reasonable degree.</p>	<ul style="list-style-type: none"> ▪ Precision machined disc edge and shaft flats. ▪ Bonded distortion proof seat, close tolerances. ▪ Positive shaft seals. ▪ Low potential of seat swell. ▪ Controlled torque by design superiority.
<p style="writing-mode: vertical-rl; transform: rotate(180deg);">TRADITIONAL CONSTRUCTION</p>	 <p>The conventional disc has only been sanded to remove rough area, precise dimensions are not maintained.</p>	<p>The conventional design relies on distortion and bunching of the seat to achieve a bubble tight shutoff. Seat life is decreased causing higher maintenance cost and increased down time.</p>  <p>Elastomers are subject to swelling from fluid absorption which can increase the mass of the seat. This increase can and often does cause excessively high seating torque. Seat life is shortened.</p>	<ul style="list-style-type: none"> ▪ Non-precision disc dimensions. ▪ Seat distorts during installation and operation.. ▪ Shorter seat life. ▪ Higher torque due to bunching and potential swelling.

This brochure is general in it's nature and design is subject to change at any time without notice.

SPECIFICATIONS

1. Available To Suit Following Flanging

ANSI (ASA) 125LB/150LB, B.S. Table E, B.S. Table D etc (most wafer pattern style will multi-fit 125 & BST-E). Face to face dimension generally in accordance with BS5155/ISO5752

2. Fluid Application

Water, seawater, sewage, air, oil, powder, petroleum, gas, chemicals, salts, alkalines etc.

3. Operation

Generally flow control lever & notch plate to 300NB, gear op over 300NB

4. Mounting

To ISO 5211 on request.

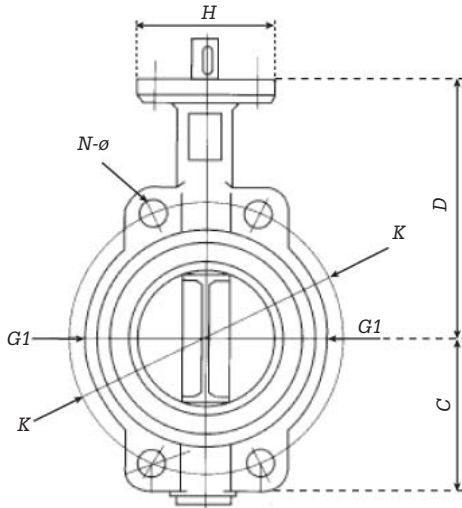
Long lasting, high performance American design.

PRESSURE RATING

Bi-directional bubble-tight shut off seat tested to 110% of full rating.

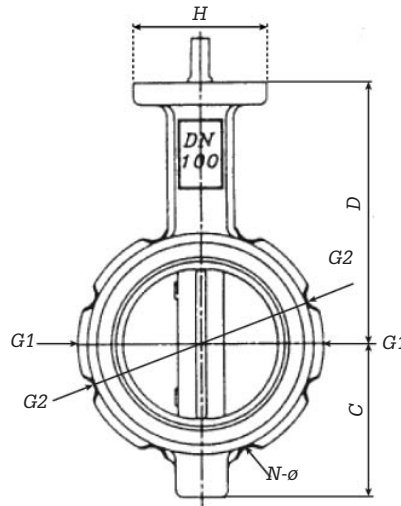
2 types available in this model: - Working pressure: 150 psig (1000kpa) and 232 psig (1600kpa). 1600kpa version only available up to 300NB in this model. See HP Version brochure if higher pressure required.

Over 600NB request pressure rating.

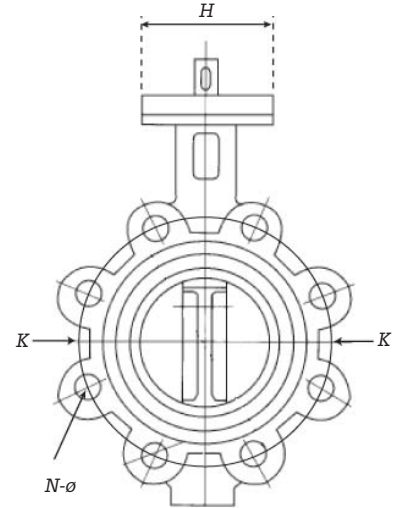


WAFER STYLE 2014A

(Semi-lugged with 2 or 4 lugs). PCD of Lug holes (K) supplied according to order i.e. ASA 125, BST D, E etc

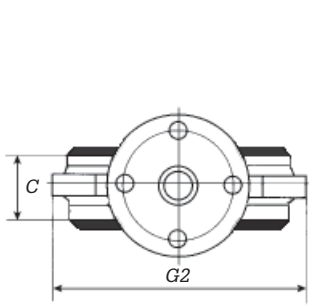


WAFER STYLE 2014

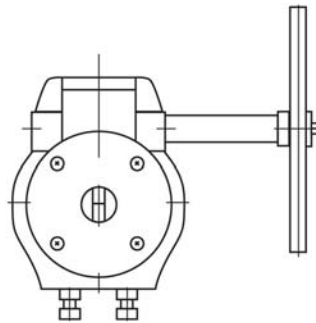


LUGGED STYLE 2016

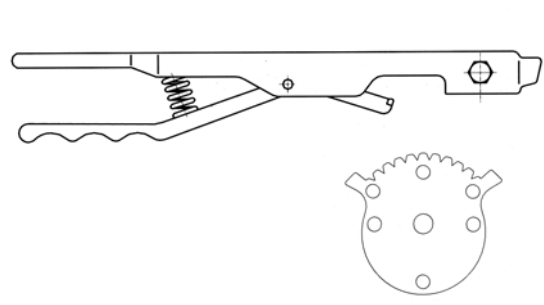
(Can be supplied ASA 125 BST D, E etc.)



SEMI LUG



GEAR OPERATED

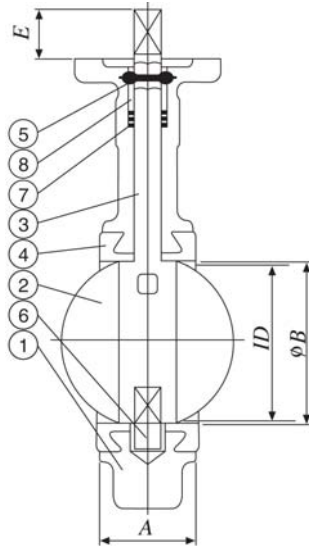


LEVER & NOTCH PLATE

GENERAL APPLICATIONS	CONTINUOUS WORKING TEMPERATURE RANGE	DISC MATERIAL	SEAT MATERIAL
Steam, Water, Hot Gases, Powders, Slurries and Aqueous Slurries of an abrasive nature	Liquids - 10°C to 120°C Dry Services - 10°C to 100°C	Stainless Steel	General Purpose EPDM
Brines, Sea Water, Estuary Water, Marine Bilge & Ballast Systems	- 10° to 90/100°C	Aluminium Bronze or ENP or S/S or Nylon coated	Black Nitrile or EPDM
Oils, Fuels, Water, Air, Gases, Powders, Pellets, Slurries etc.	Hydrocarbons (Except Aromatics) - 10°C to 90°C Other Liquids - 10°C to 90°C Dry Services - 10°C to 60°C	Teflon or Nylon Coated or SG Iron or ENP or stainless	Black Nitrile
Water, & other non erosive fluids	All -10° to 90/100°C (Solid PTFE will do up to 160°C)	S.G Iron or powder coated	ANY

MATERIALS

1. Body	Cast iron, stainless ductile iron, aluminium, carbon steel, stainless steel etc
2. Disc	316SS, 304SS, AL-Bronze, hard epoxy coated, hard rubber coated, nickel plated, PTFE coated, 410SS etc
3. Stem	316SS, 304SS, PTFE coated, AL-Bronze cl
4. Seat	NBR (90°-100°C), EPDM (90°C) teflon, food grade rubber, Buna-N, Viton, Hypalon etc
5. Retaining Pin/ Gland Ring	304SS/316SS/410SS
6. Bottom Bushing	Bronze/Nylon
7. O-Rings	NBR (nitrile)/EPDM
8. Upper Bush	Delrin/Nylon/Bronze

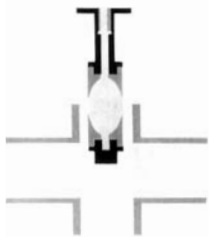


VALVE SIZE		DIMENSION							WEIGHT Kg	Suit Flanging			
in	mm	A	B	C	D	E	H	ID		G1*	G2*	K*	N-ø
1½	40	33		58	124		90	40	2				
2	50	43	57	55	143	30	90	52	2.3				
2½	65	46	70	64	155	30	90	65	2.7				
3	80	46	82	72	162	30	90	80	3.6				
4	100	52	104	90	181	30	90	100	5				
5	125	56	127	101	197	30	90	125	6.1				
6	150	56	150	114	210	30	90	148	7.1				
8	200	60	194	145	240	35	95	197	13.6				
10	250	68	247	178	286	35	110	247	21.3				
12	300	78	297	204	309	35	120	297	32.2				
14	350	76	330	266	355	55	125	327	85				
15	375	86	387	300	380	55	175	387					
16	400	86	387	300	380	55	175	387	106				
18	450	105	435	323	425	55	175	435	135				
20	500	130	489	350	430	90	210	477	170				
24	600	150	602	407	500	90	210	560	250				

650NB to 900NB refer separate Drawing

*G1, G2 & K available to suit: - BST-C, D, E, ASA 125, PN10, PN16, JIS etc.

Sizes shown are subject to variation at any time



INSTALLATION

(DO NOT USE GASKETS)

Pipework opened to allow valve free entry, disc in semi-closed position



Valve in semi-open to protect disc edge and reduce rubber interference during installation and start up, this helps reduce initial torque build up.



Disc should be turned to full open position after flange alignment and before doing up flange bolts.

OPERATING TORQUE (NM)

2014/2014A/2016

VALVE SIZE (ins)	Δ P (psi)			
	25	50	100	150
2	12	12	20	25
2½	12	12	25	30
3	18	19	30	35
4	32	33	40	50
5	49	51	60	70
6	72	76	70	90
8	127	139	160	190
10	196	219	240	300
12	289	323	400	500
14	439	481	554	830
16	568	636	762	1110
18	751	831	1005	1390
20	931	1052	1282	1730
24	1375	1559	1871	2020

▪ Torque shown is break/reseating (same)

TORQUE

Torques based on clean, wet fluids. 20% safety factor recommended. For oil/lubricated fluids torque can reduce from 20% to 50%.

For non lubricating dry gases torque can increase 35% to 80%. (see separate chart).

Dry or abrasive/dirty service, temperature variations as well as infrequent use can all dramatically increase torque.

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Actuation Sizing Chart

OPERATING TORQUE (IN/LBS) Required at valve stem at pressure differentials indicated.									
Fluid	Valve Size	25 psi	50 psi	75 psi	100 psi	125 psi	150 psi	175 psi	200 psi
For Oils and Similar Lubricating Liquids	2	50	51	52	53	55	56	58	60
	2½	60	61	63	65	68	69	70	73
	3	74	80	83	89	94	100	102	104
	4	120	130	145	156	168	180	190	200
	5	185	210	230	250	275	300	310	340
	6	280	320	360	400	445	485	530	580
	8	500	580	650	750	830	920	1000	1080
	10	800	900	1070	1200	1480	1600	1700	1800
	12	1200	1480	1700	1800	2190	2400	2650	2900
	14	1790	2190	2435	2670	3030	3340		
	16	2310	2970	3340	3670	4200	4755		
	18	3055	3790	4320	48.5	5620	6375		
	20	3805	4795	5410	6170	7275	8190		
	24	5615	6370	7980	9000	10635	11800		
For Water and Other Non-Lubricating Liquids	2	100	101	103	110	115	118	120	122
	2½	105	107	108	112	118	120	125	128
	3	160	166	172	180	183	186	190	195
	4	273	285	298	310	323	335	348	360
	5	420	40	465	485	510	530	550	575
	6	625	60	700	745	790	825	870	900
	8	1100	1200	1280	1350	1450	1520	1600	1690
	10	1700	1900	2000	2210	2390	2550	2700	2880
	12	2500	2800	3100	3300	3580	3800	4100	4360
	14	3804	4164	4428	4800	5160	5508		
	16	4920	5508	6000	6600	7152	7608		
	18	6504	7200	8004	8700	9552	10200		
	20	8064	9108	10008	11100	12000	13104		
	24	11904	13500	14760	16200	17544	18888		
For Gases Including Non-Lubricating of Dry Gases	2	170	171	173	174	176	178	181	183
	2½	240	245	248	250	253	257	260	263
	3	336	342	348	360	370	365	380	385
	4	570	585	595	610	620	635	645	660
	5	760	800	835	870	900	935	970	1000
	6	1250	1300	1350	1400	1440	1500	1540	1580
	8	2350	2440	2520	2600	2670	2700	2830	2900
	10	3700	3900	4000	4200	4400	4500	4700	4900
	12	5300	5580	5800	6100	6300	6600	6850	7100
	14	5706	6246	6642	7200	7740	8262		
	16	7380	8262	9000	9900	10700	11400		
	18	9756	10800	12000	13050	14328	15300		
	20	12096	13662	15012	16650	18000	19650		
	24	17856	20250	22146	24300	26300	28330		