

Building connections that last™



# ABZ 909/919

## Resilient Seated Butterfly Valves Datasheet



# Resilient Seated Butterfly Valves ABZ 909/919



**Fig. 909**  
Wafer style body



**Fig. 919**  
Full lug style body

## Standard Construction Specification

### Body

Cast Iron, 316 Stainless Steel and Aluminum

### Stem/Disc

316 Stainless Steel, 17-4 Stainless Steel, and 17-4 Stainless Steel/PFA® covered Disc

### Resilient Seat

EPDM, Buna-N, Viton, Teflon/EPDM, Teflon/Buna, Teflon/Viton

### Stem Bushing

Teflon – Graphite Impregnated

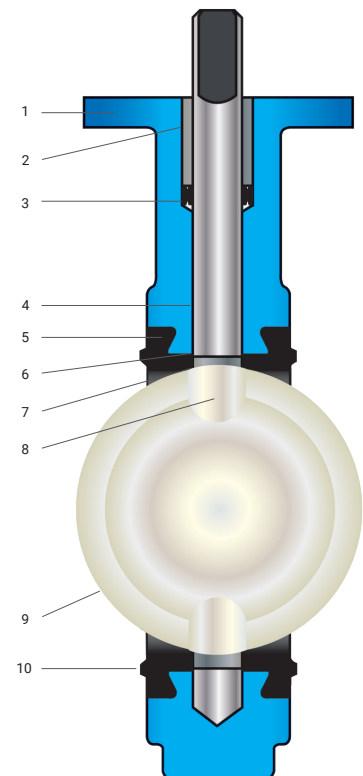
### Stem Packing

Buna-N or Viton

Additional materials are available for a wide selection of applications.

## Features and Benefits

1. All bodies are machined to tight tolerances which guarantees standard dimensions for interchangeability of parts and operators.
2. Top bushing protects the stem from side thrust of operators. They are made of impact and corrosion resistant materials.
3. Special double V-shape of stem packing seal self-adjusts to protect the stem area.
4. Two-piece body and one-piece stem/disc makes field replacement of seat and stem/disc quick and easy.
5. The special snap-in Resil-O-Seat™ design secures seat in place without bonding. The Resil-O-Seat is 100% field replaceable – no special tools required. All standard seats are Food Grade with the exception of Viton™.
6. The ABZ Ring Seal on the Teflon® seat is a molded part of the seat. It is a special design containing an o-ring which creates a positive seal around the stem as well as between the seat and valve body. This positive secondary seal eliminates leakage into the stem journal as well as migration of line media behind the seat.
7. Stem and body are isolated from line media by the interference fit of the primary seal created between the disc and seat.
8. Specially designed stem/disc prevents distortion of disc under high pressure. Thin disc profile allows for maximum flow.
9. Disc edge is individually processed through machining and buffing for a smooth edge. This provides a bubble tight shut-off and maximizes the life of the seat.
10. Resil-O-Seat forms a seal against all standard ANSI 125/150 flanges. Gasketing requirements are eliminated.



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**Torque Chart – Fig. 909/919**

Valve Size	Normal Conditions				Severe Conditions			
	$\Delta P=0$	$\Delta P=50$	$\Delta P=100$	$\Delta P=150$	$\Delta P=0$	$\Delta P=50$	$\Delta P=100$	$\Delta P=150$
2"	221	230	240	250	373	384	400	406
2½"	269	283	288	302	454	464	475	486
3"	322	341	365	379	540	568	589	611
4"	480	514	542	576	816	848	886	918
5"	653	706	754	806	1,102	1,162	1,220	1,274
6"	907	1,008	1,109	1,210	1,529	1,642	1,756	1,868
8"	1,512	1,714	1,915	2,112	2,549	2,776	3,002	3,229
10"	2,318	2,621	2,900	3,224	3,910	4,250	4,590	4,931
12"	3,125	3,629	4,138	4,637	5,270	5,838	6,404	6,971

Undercut disc chart available.  
All torques shown in inch lbs.  
20% Safety factor already included.

**Rated Flow Coefficient (Cv) – Fig. 909/919**

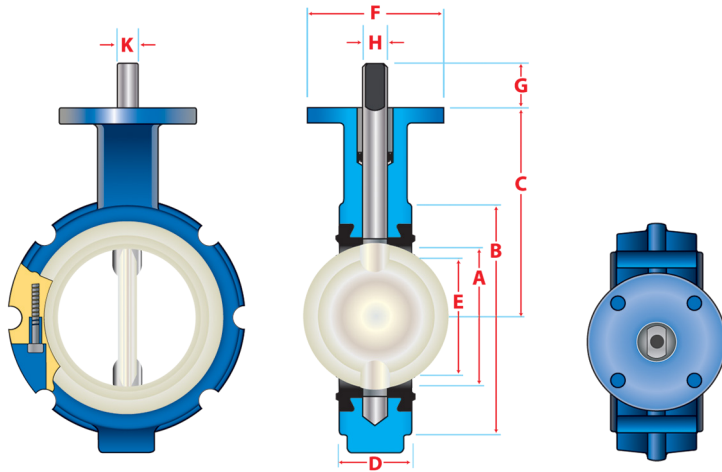
Valve Size	Angle of Disc Opening								
	10°	20°	30°	40°	50°	60°	70°	80°	90°
2"	1.67	7.7	17	29	49	76	121	184	263
2½"	2.50	11.0	25	44	70	112	186	321	445
3"	3.33	15.7	37	64	107	170	290	492	701
4"	5.00	27.7	63	111	180	286	499	926	1,321
5"	8.33	43.7	99	178	280	456	794	1,473	2,123
6"	13.33	58.7	136	243	391	634	1,129	1,950	2,826
8"	20.00	107.3	247	436	697	1,127	1,940	3,604	5,272
10"	31.67	174.0	394	699	1,108	1,823	3,132	5,733	8,395
12"	47.00	251.7	578	1,007	1,690	2,734	4,618	8,309	12,214

Sized for stainless disc, does not cover encapsulated disc trims.

Cv is defined as the volume of water in U.S.G.P.M. that will flow through a given restriction or valve opening with a pressure drop of one (1) p.s.i. at room temperature. Recommended control angles are between 20°–75° open.

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### Notes

1. The figures 909 and 919 cannot be used on pipe or flange with an inside diameter less than "E" dimension.
2. Dimension "K" not applicable to 10" or 12" size. The 10" and 12" stem is round with 1/4" Key.
3. Valves are rated up to 150 PSI bi-directional service and 75 PSI end of line rating. Undercut disc is rated up to 50 PSI bi-directional service and 25 PSI end of line rating. PFA® covered disc rated to 100 PSI bi-directional service, 50 PSI end of line rating and not available in undercut. Teflon seats are not recommended with an undercut disc.
4. 2" & 3" Teflon seat design does not use ring seals.
5. Designed in accordance with sections of API 609 Category A, ASME 16.1/16.5, ASME 16.34 and MSS SP67. Design tested in accordance with API 598.
6. Compatible with ANSI Class 125/150 flange standards.

**Dimensional Chart – Fig. 909/919**

Valve Size	Dimensions									Top Plate Drilling			Fig. 919 Tapped Lug Data			Weight (Pounds)	
	A	B	C	D	E	F	G	H	K	Bolt Circle	No. Holes	Hole Dia.	Bolt Circle	No. Holes	Tap	909	919
2"	2	4 1/8	3 15/16	1 5/8	1 3/8	4	1 1/4	9/16	3/8	3 1/4	4	7/16	4 3/4	4	5/8"-11 UNC	6	8
*2 1/2"	2 1/2	4 3/16	4 1/2	1 3/4	2 1/16	4	1 1/4	9/16	3/8	3 1/4	4	7/16	5 1/2	4	5/8"-11 UNC	7	10
3"	3	5 3/8	4 7/8	1 3/4	2 9/16	4	1 1/4	9/16	3/8	3 1/4	4	7/16	6	4	5/8"-11 UNC	8	11
4"	4	6 3/4	6	2	3 5/8	4	1 1/4	5/8	7/16	3 1/4	4	7/16	7 1/2	8	5/8"-11 UNC	13	20
*5"	5	7 3/4	6	2 1/8	4 3/4	4	1 1/4	3/4	1/2	3 1/4	4	7/16	8 1/2	8	3/4"-10 UNC	15	24
6"	5 3/4	8 3/4	6 1/2	2 1/8	5 1/2	4	1 1/4	3/4	1/2	3 1/4	4	7/16	9 1/2	8	3/4"-10 UNC	17	27
8"	7 3/4	10 7/8	8 5/16	2 1/2	7 1/2	6	1 1/4	7/8	5/8	5	4	9/16	11 3/4	2	3/4"-10 UNC	33	44
10"	9 3/4	13 1/4	9	2 1/2	9 5/8	6	2	1 1/8	1/4 key	5	4	9/16	14 1/4	12	7/8"-9 UNC	42	61
12"	11 3/4	16 1/16	10 3/4	3	11 9/16	6	2	1 1/8	1/4 key	5	4	9/16	17	12	7/8"-9 UNC	67	93

\*Not available with PFA disc.

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