

Building connections that last™



# ABZ 090/929

## Resilient Seated Butterfly Valves Datasheet



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**Fig. 929**  
Full lug style body



**Fig. 090**  
Wafer style body

### Standard Construction Specification

#### Body

Cast Iron, 316 Stainless Steel and Aluminum (Wafer)

#### Disc/Stem

316 Stainless Steel, 17-4 Stainless Steel, and 17-4 Stainless Steel / Elastomer Covered Disc

#### Resilient Seat

EPDM, Buna-N, Viton, Natural Rubber, White Buna, White Neoprene

#### Stem Bushing

Teflon® - Graphite Impregnated

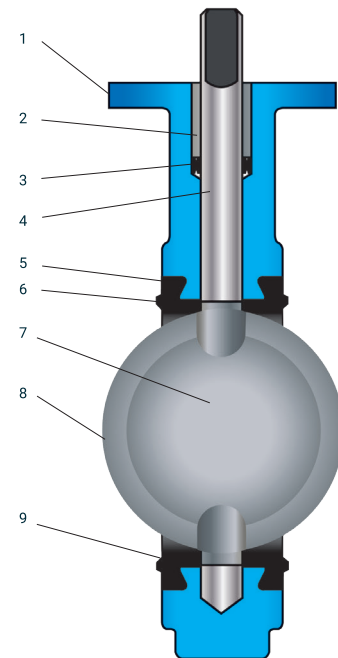
#### Stem Packing

Buna-N and Viton

Additional materials are available for a wide selection of applications.

### Features and Benefits

1. Bodies are machined to high tolerances. Guaranteed standard dimensions for interchangeability of parts and operators
2. Top bushings protects the stem from side thrust of operators. They are made of impact and corrosion resistant materials
3. Special double V-shape of stem seal self-adjusts to protect the stem area for either vacuum or pressure use
4. Two-piece body and one-piece disc/stem makes field replacement of seat and disc/stem 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. Stem and body are isolated from line media by the interference fit of the primary seal created between the disc and seat
7. Specially designed disc/stem prevents distortion of disc under high pressure. Thin disc allows for maximum open flow
8. Disc edge is individually processed through machining for a smooth edge, providing a bubble tight shut-off and maximum seat life
9. Resil-O-Seat™ forms a seal against all standard ANSI 125/150 flanges. Gasketing requirements are eliminated



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### Torque Chart – Fig. 090/929

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

### Rated Flow Coefficient (Cv) – Fig. 090/929

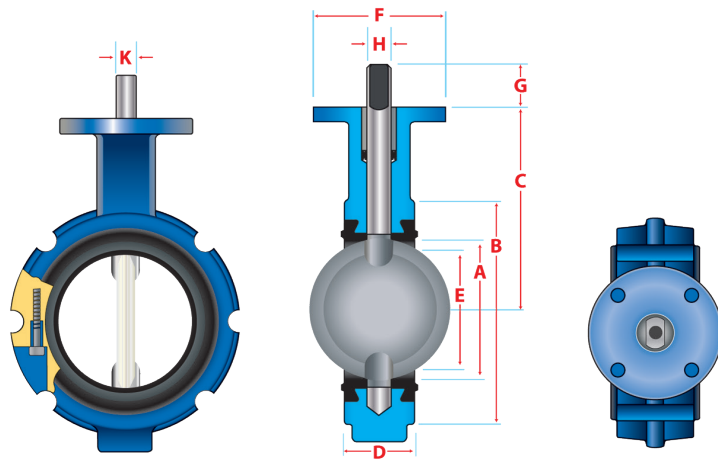
Valve Size	Angle of Disc Opening								
	10°	20°	30°	40°	50°	60°	70°	80°	90°
2	1.67	7.7	17	29	49	76	121	184	263
2½	2.50	11.0	25	44	70	112	186	321	445
3	3.33	15.7	37	64	107	170	290	492	701
4	5.00	27.7	63	111	180	286	499	926	1,321
5	8.33	43.7	99	178	280	456	794	1,473	2,123
6	13.33	58.7	136	243	391	634	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. Dimension "K" not applicable to 10" or 12" size. The 10" and 12" stem is round with 3/4" Key.
2. The figures 090 and 929 cannot be used on pipe or flange with an inside diameter less than the "E" dimension.
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. Elastomer covered disc rated to 100 PSI bi-directional service, 50 PSI end of line rating and not available in undercut.
4. 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.
5. Compatible with ANSI Class 125/150 flange standards.

### Dimensional Chart – Fig. 090/929

Valve Size	Dimensions									Top Plate Drilling			Fig. 929 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	090	929
2	2 1/8	4 1/8	3 15/16	1 5/8	11 1/16	4	1 1/4	9/16	3/8	3 3/4	4	7/16	4 3/4	4	5/8 -11 UNC	5	8
* 2 1/2	2 9/16	4 7/8	4 1/2	1 3/4	2 3/16	4	1 1/4	9/16	3/8	3 3/4	4	7/16	5 1/2	4	5/8 -11 UNC	7	9
3	3 1/8	5 3/8	4 7/8	1 3/4	2 7/8	4	1 1/4	9/16	3/8	3 3/4	4	7/16	6	4	5/8 -11 UNC	8	11
4	4 1/8	6 7/8	6	2	3 7/8	4	1 1/4	5/8	7/16	3 3/4	4	7/16	7 1/2	8	5/8 -11 UNC	13	20
* 5	5 3/16	7 5/8	6	2 1/8	5	4	1 1/4	3/4	1/2	3 3/4	4	7/16	8 1/2	8	3/4 -10 UNC	15	24
6	6 1/8	8 3/4	6 1/2	2 1/8	6	4	1 1/4	3/4	1/2	3 3/4	4	7/16	9 1/2	8	3/4 -10 UNC	17	27
8	8 1/8	11	8 5/16	2 1/2	8	6	1 1/4	7/8	5/8	5	4	9/16	1 13/4	8	3/4 -10 UNC	33	44
10	10 1/8	13 3/8	9	2 1/2	10 1/16	6	2	1 1/8	1/4	5	4	9/16	14 1/4	12	7/8 -9 UNC	42	61
12	12 1/8	16 1/8	10 5/16	3	11 15/16	6	2	1 1/8	1/4	5	4	9/16	17	12	7/8 -9 UNC	67	93

\* The 2 1/2" and 5" sizes are not available with elastomer covered discs.

### **About ASC Engineered Solutions**

ASC Engineered Solutions is defined by quality—in its products, services and support. With more than 1,400 employees, the company's portfolio of precision-engineered piping support, valves and connections provides products to more than 4,000 customers across industries, such as mechanical, industrial, fire protection, oil and gas, and commercial and residential construction. Its portfolio of leading brands includes ABZ Valve®, AFCON®, Anvil®, Anvil EPS, Anvil Services, Basic-PSA, Beck®, Catawissa, Cooplet®, FlexHead®, FPPI®, Gruklok®, J.B. Smith, Merit®, North Alabama Pipe, Quadrant®, SCI®, Sharpe®, SlideLOK®, SPF® and SprinkFLEX®. With headquarters in Commerce, CA, and Exeter, NH, ASC also has ISO 9001:2015 certified production facilities in PA, TN, IL, TX, AL, LA, KS, and RI.



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