

KEYSTONE

Resilient Seated Butterfly Valves Sizes 2 thru 12-inch to 175 psi Sizes 14 thru 36-inch to 150 psi

Features and Benefits

- Triple function resilient seat provides bi-directional drop-tight shutoff and totally isolates the valve body and stem from the line media.
- Molded-in O-ring seat design serves as flange seals, totally eliminating the need for gaskets between the flanges and the valve.
- Unique dovetail seat retention design allows convenient and economical field replacement.
- Superior one-piece thru-shaft design provides high strength and positive disc control.
- Internal shaft seal prevents external media from entering valve and also adjusts for pressure and shaft rotation.
- Heavy-duty, corrosion resistant top bushing provides upper stem support, absorbs actuator side-loading and extends valve cycle life.
- Polished disc edge ensures optimal performance and maximum seat life.
- Stainless steel torque plug (2 thru 12-inch), disc screws (14 thru 20-inch) and taper pins (24 thru 36-inch) provide positive leak-proof connections while allowing for quick and easy disassembly.
- One-piece body with extended neck allows clearance for flanges and insulation.
- Each valve is factory-tested to 110 percent of manufacturer's pressure rating.



General Application

Ideally suited for many high performance applications, such as fire protection, water treatment, cooling systems, food and beverage and bulk product handling. Consult factory for appropriate materials for specific services.

Technical Data

Size Range :

Figure AR1 (wafer style) 2 thru 36-inch
Figure AR2 (lugged style) 2 thru 24-inch

Flange Standard :

ANSI Class 125/150

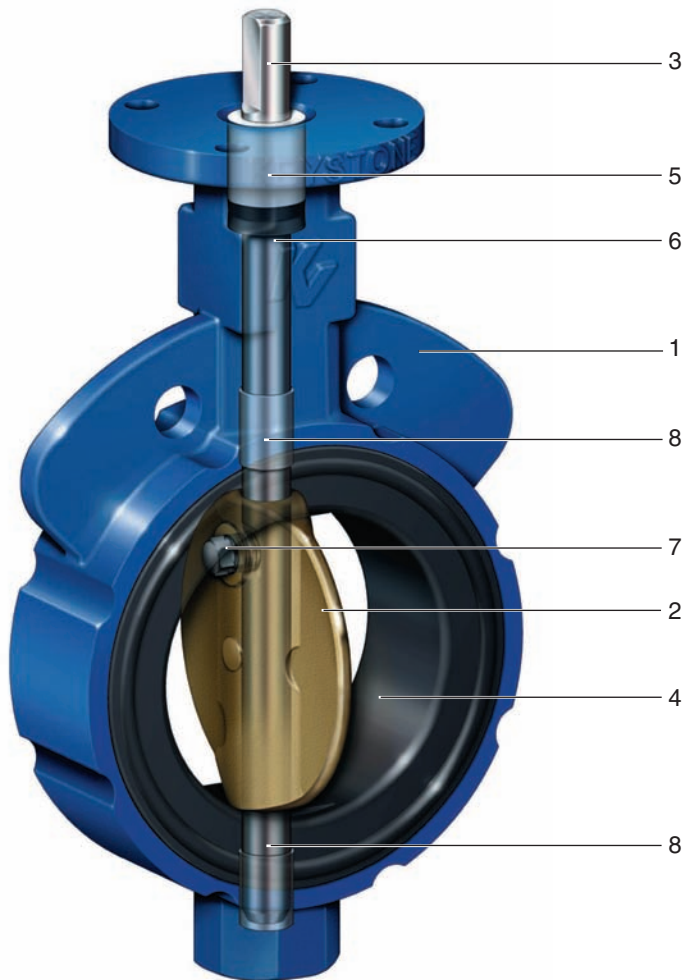
(Consult factory for additional drilling standards.)

tyco / Flow Control

Total Flow Control Solutions™

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Parts and Materials



Materials

Part	Standard Material	Material Specification	Optional Material
1. Body	Cast iron Ductile iron	ASTM A-126, Class B ASTM A-395 GR 60/40/18	Carbon steel Stainless steel
2. Disc	Ductile iron Aluminum bronze 316 Stainless steel	ASTM A-536 GR 65/45/12 ASTM B-148, UNS C95200 Grade A ASTM A-743, CF8M	
3. Stem	316 Stainless steel (2 thru 12-inch) 18-8 Stainless steel (14 thru 20-inch) 17-4 PH Stainless steel (24 thru 36-inch) (2 thru 20-inch)	ASTM A-276 UNS S31600 ASTM A-276 UNS S30400 ASTM A-564 UNS S17400 ASTM A-108 UNS G10450	Phosphate treated steel
4. Seat	NBR food grade (0°F thru 212°F) EPDM food grade (-40°F thru 250°F)		Fluoroelastomer (FKM) White NBR
5. Upper stem bushing	Polyester (2 thru 20-inch) Bronze (24 thru 36-inch)		
6. Stem packing	NBR		
7. Torque plug (2 thru 12-inch)	316 Stainless steel	ASTM A-276 UNS S31600 condition A	
7. Disc screws (14 thru 20-inch)	316 Stainless steel	ASTM F-593 Group 2 condition CW1	
7. Taper pins (24 thru 36-inch)	17-4 PH Stainless steel	ASTM A564 UNS S17400 H1075	
8. Bearings (2 thru 12-inch)	Sintered metal		

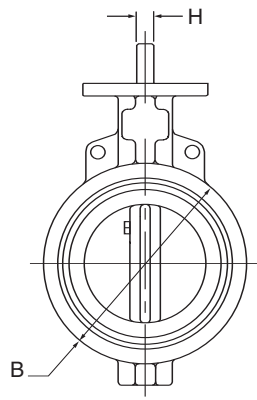


Figure AR1 Wafer

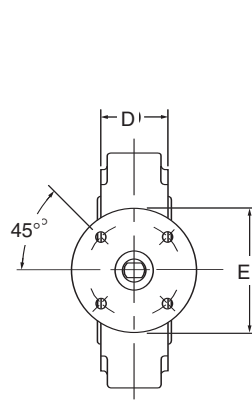
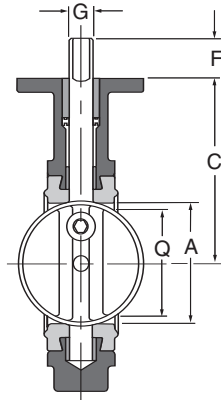


Figure AR2 Lugged

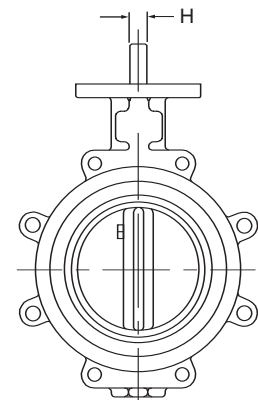


Figure AR1 - Dimensions (inches)

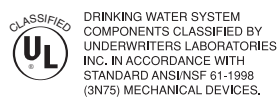
Size	A	B	C	D	E	F	G	H	Q	Key	Top Plate Drilling			Weight (lbs)	Adapt. Code
											Bolt Circle	No. Holes	Hole Dia.		
2	2	4 ¹ / ₈	5 ¹ / ₂	1 ⁵ / ₈	4	1 ¹ / ₄	9 ¹ / ₁₆	3 ³ / ₈	1 ³ / ₈	N/A	3 ¹ / ₄	4	7 ¹ / ₁₆	6.3	BAB
2 ¹ / ₂	2 ¹ / ₂	4 ⁵ / ₈	6	1 ³ / ₄	4	1 ¹ / ₄	9 ¹ / ₁₆	3 ³ / ₈	2 ¹ / ₁₆	N/A	3 ¹ / ₄	4	7 ¹ / ₁₆	8.5	BAB
3	3	5 ¹ / ₈	6 ¹ / ₄	1 ³ / ₄	4	1 ¹ / ₄	9 ¹ / ₁₆	3 ³ / ₈	2 ⁹ / ₁₆	N/A	3 ¹ / ₄	4	7 ¹ / ₁₆	10.0	BAB
4	4	6 ³ / ₈	7	2	4	1 ¹ / ₄	5 ⁵ / ₈	7 ¹ / ₁₆	3 ⁵ / ₈	N/A	3 ¹ / ₄	4	7 ¹ / ₁₆	14.0	BAC
5	5	7 ³ / ₈	7 ¹ / ₂	2 ¹ / ₈	4	1 ¹ / ₄	3 ³ / ₄	1 ¹ / ₂	4 ³ / ₄	N/A	3 ¹ / ₄	4	7 ¹ / ₁₆	18.0	BAD
6	5 ³ / ₄	8 ¹ / ₂	8	2 ¹ / ₈	4	1 ¹ / ₄	3 ³ / ₄	1 ¹ / ₂	5 ¹ / ₂	N/A	3 ¹ / ₄	4	7 ¹ / ₁₆	22.0	BAD
8	7 ³ / ₄	10 ¹¹ / ₁₆	9 ¹ / ₂	2 ¹ / ₂	6	1 ¹ / ₄	7 ⁷ / ₈	5 ⁵ / ₈	7 ¹ / ₂	N/A	5	4	9 ¹ / ₁₆	38.0	CAE
10	9 ³ / ₄	13	10 ³ / ₄	2 ¹ / ₂	6	2	1 ¹ / ₈	N/A	9 ¹⁹ / ₃₂	1 ¹ / ₄ x 1 ¹ / ₄	5	4	9 ¹ / ₁₆	51.0	CAF
12	11 ³ / ₄	14 ¹³ / ₁₆	12 ¹ / ₄	3	6	2	1 ¹ / ₈	N/A	11 ⁹ / ₁₆	1 ¹ / ₄ x 1 ¹ / ₄	5	4	9 ¹ / ₁₆	71.0	CAF
14	13 ¹ / ₄	16 ³ / ₄	12	3	6	3	1 ³ / ₈	N/A	13 ¹ / ₈	5 ⁵ / ₁₆ x 5 ⁵ / ₁₆	5	4	9 ¹ / ₁₆	114.0	CAG
16	15 ¹ / ₄	19 ¹ / ₄	12 ⁶ / ₁₆	4	6	3	1 ⁵ / ₈	N/A	15	3 ³ / ₈ x 3 ³ / ₈	5	4	9 ¹ / ₁₆	193.0	CAH
18	17 ¹ / ₄	21 ¹ / ₂	14 ¹ / ₂	4 ¹ / ₄	8	4 ¹ / ₄	1 ⁷ / ₈	N/A	16 ⁷ / ₈	1 ¹ / ₂ x 3 ³ / ₈	6 ¹ / ₂	4	1 ³ / ₁₆	222.0	DAJ
20	19 ¹ / ₄	23 ³ / ₄	15 ⁷ / ₈	5	8	4 ¹ / ₄	1 ⁷ / ₈	N/A	18 ³ / ₄	1 ¹ / ₂ x 3 ³ / ₈	6 ¹ / ₂	4	1 ³ / ₁₆	315.0	DAJ
24	23 ¹ / ₄	28 ¹ / ₄	19 ¹ / ₂	5 ¹⁵ / ₁₆	8	4 ¹ / ₄	1 ⁷ / ₈	N/A	22 ⁵ / ₈	1 ¹ / ₂ x 3 ³ / ₈	6 ¹ / ₂	4	1 ³ / ₁₆	506.0	DAJ
30	29 ¹ / ₄	34 ⁵ / ₈	23	6 ⁹ / ₁₆	8	4 ¹ / ₄	2 ¹ / ₄	N/A	28 ¹¹ / ₁₆	1 ¹ / ₂ x 3 ³ / ₈	6 ¹ / ₂	4	1 ³ / ₁₆	610.0	DAK
36	35 ¹ / ₄	41 ¹ / ₄	27 ³ / ₄	7 ⁷ / ₈	8	5 ¹ / ₄	2 ⁷ / ₈	N/A	34 ¹ / ₂	3 ³ / ₄ x 1 ¹ / ₂	6 ¹ / ₂	4	1 ³ / ₁₆	1,185.0	DAV

Figure AR2 - Dimensions (inches)

Size	A	B	C	D	E	F	G	H	Q	Key	Top Plate Drilling			Tapped Lug Data			Weight (lbs)	Adapt. Code
											Bolt Circle	No. Holes	Hole Dia.	Hole Circle	Bolt Holes	No. Tap		
2	2	4 ¹ / ₈	5 ¹ / ₂	1 ⁵ / ₈	4	1 ¹ / ₄	9 ¹ / ₁₆	3 ³ / ₈	1 ³ / ₈	N/A	3 ¹ / ₄	4	7 ¹ / ₁₆	4 ³ / ₄	4	5 ⁵ / ₈ - 11 UNC	7.0	BAB
2 ¹ / ₂	2 ¹ / ₂	4 ⁵ / ₈	6	1 ³ / ₄	4	1 ¹ / ₄	9 ¹ / ₁₆	3 ³ / ₈	2 ¹ / ₁₆	N/A	3 ¹ / ₄	4	7 ¹ / ₁₆	5 ¹ / ₂	4	5 ⁵ / ₈ - 11 UNC	10.0	BAB
3	3	5 ³ / ₁₆	6 ¹ / ₄	1 ³ / ₄	4	1 ¹ / ₄	9 ¹ / ₁₆	3 ³ / ₈	2 ⁹ / ₁₆	N/A	3 ¹ / ₄	4	7 ¹ / ₁₆	6	4	5 ⁵ / ₈ - 11 UNC	11.5	BAB
4	4	6 ³ / ₈	7	2	4	1 ¹ / ₄	5 ⁵ / ₈	7 ¹ / ₁₆	3 ⁵ / ₈	N/A	3 ¹ / ₄	4	7 ¹ / ₁₆	7 ¹ / ₂	8	5 ⁵ / ₈ - 11 UNC	18.0	BAC
5	5	7 ³ / ₈	7 ¹ / ₂	2 ¹ / ₈	4	1 ¹ / ₄	3 ³ / ₄	1 ¹ / ₂	4 ³ / ₄	N/A	3 ¹ / ₄	4	7 ¹ / ₁₆	8 ¹ / ₂	8	3 ³ / ₄ - 10 UNC	22.5	BAD
6	5 ³ / ₄	8 ¹ / ₂	8	2 ¹ / ₈	4	1 ¹ / ₄	3 ³ / ₄	1 ¹ / ₂	5 ¹ / ₂	N/A	3 ¹ / ₄	4	7 ¹ / ₁₆	9 ¹ / ₂	8	3 ³ / ₄ - 10 UNC	28.5	BAD
8	7 ³ / ₄	10 ¹¹ / ₁₆	9 ¹ / ₂	2 ¹ / ₂	6	1 ¹ / ₄	7 ⁷ / ₈	5 ⁵ / ₈	7 ¹ / ₂	N/A	5	4	9 ¹ / ₁₆	11 ³ / ₄	8	3 ³ / ₄ - 10 UNC	49.0	CAE
10	9 ³ / ₄	13	10 ³ / ₄	2 ¹ / ₂	6	2	1 ¹ / ₈	N/A	9 ¹⁹ / ₃₂	1 ¹ / ₄ x 1 ¹ / ₄	5	4	9 ¹ / ₁₆	14 ¹ / ₄	12	7 ⁷ / ₈ - 9 UNC	69.0	CAF
12	11 ³ / ₄	14 ¹³ / ₁₆	12 ¹ / ₄	3	6	2	1 ¹ / ₈	N/A	11 ⁹ / ₁₆	1 ¹ / ₄ x 1 ¹ / ₄	5	4	9 ¹ / ₁₆	17	12	7 ⁷ / ₈ - 9 UNC	107.0	CAF
14	13 ¹ / ₄	16 ³ / ₄	12	3	6	3	1 ³ / ₈	N/A	13 ¹ / ₈	5 ⁵ / ₁₆ x 5 ⁵ / ₁₆	5	4	9 ¹ / ₁₆	18 ³ / ₄	12	1 - 8 NC	143.0	CAG
16	15 ¹ / ₄	19	12 ⁶ / ₁₆	4	6	3	1 ⁵ / ₈	N/A	15	3 ³ / ₈ x 3 ³ / ₈	5	4	9 ¹ / ₁₆	21 ¹ / ₄	16	1 - 8 NC	238.0	CAH
18	17 ¹ / ₄	21 ³ / ₈	14 ¹ / ₂	4 ¹ / ₄	8	4 ¹ / ₄	1 ⁷ / ₈	N/A	16 ⁷ / ₈	1 ¹ / ₂ x 3 ³ / ₈	6 ¹ / ₂	4	1 ³ / ₁₆	22 ³ / ₄	16	1 ¹ / ₈ - 7 NC	261.0	DAJ
20	19 ¹ / ₄	23 ¹ / ₂	15 ⁷ / ₈	5	8	4 ¹ / ₄	1 ⁷ / ₈	N/A	18 ³ / ₄	1 ¹ / ₂ x 3 ³ / ₈	6 ¹ / ₂	4	1 ³ / ₁₆	25	20	1 ¹ / ₈ - 7 NC	366.0	DAJ
24	23 ¹ / ₄	28 ¹ / ₄	19 ¹ / ₂	5 ¹⁵ / ₁₆	8	4 ¹ / ₄	1 ⁷ / ₈	N/A	22 ⁵ / ₈	1 ¹ / ₂ x 3 ³ / ₈	6 ¹ / ₂	4	1 ³ / ₁₆	29 ¹ / ₂	20	1 ¹ / ₄ - 7 NC	576.0	DAJ

Notes

- 'H' Dimension refers to flat on stem.
- 'Q' dimension is the minimum allowable pipe or flange inside diameter at the centered body face to protect the disc sealing edge against damage when opening the valve.



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