"Apollo"® Valves | INDUSTRIAL PRODUCTS

HIGHPERFORMANCE BUTTERFLY VALVES

"Apollo"® DOUBLE OFFSET HIGH PERFORMANCE BUTTERFLY VALVES

CLASS & SIZES RANGE
- Class 150 - 2" thru 24", 30", 36"
- Class 300 - 2" thru 24"
- Class 600 - 3" thru 12"

SEAT OPTIONS
- Soft Seat
- Metal Seat
- Fire-Safe Seat

STANDARD COMPLIANCE
- ASME B16.10 "Face-to-Face and End-to-End Dimensions of Valves"
- ASME B16.34 "Valves - Flanged, Threaded, and Welding End"
- ASME B16.5 "Pipe Flanges and Flanged Fittings"
- ANSI/FCI 70-2 "For Control Valve Seat Leakage"
- MSS SP-25 "Standard Marking System for Valves"
- MSS SP-44 "Steel Pipe Line Flanges"
- MSS SP-55 "Quality Standards for Steel Castings"
- MSS SP-61 "Pressure Testing of Steel Valves"
- MSS SP-68 "High Pressure Butterfly Valves with Offset Design"
- API 598 American Petroleum Institute - "Valve Inspection and Testing"
- API 607 - 6th Edition American Petroleum Institute - "Fire Test for Soft Seated Valves"
- API 609 American Petroleum Institute - "Butterfly Valves: Double Flanged, Lug and Wafer Type"
- NSF/ANSI 61 "Drinking Water System Components - Health Effects" (2" - 24", Stainless 215 & 230)
- NSF/ANSI 372 "Drinking Water System Components – Lead Content" (2" - 24", Stainless 215 & 230)

CERTIFICATIONS
- CE Marking and documented valves that conform to the European Pressure Equipment Directive (PED) 97/23/EC are available in ANSI Class 150/300/600 including soft, fire safe and metal seat configurations (sizes 2"-24" only).
- CRN No. 0C17459.5CL

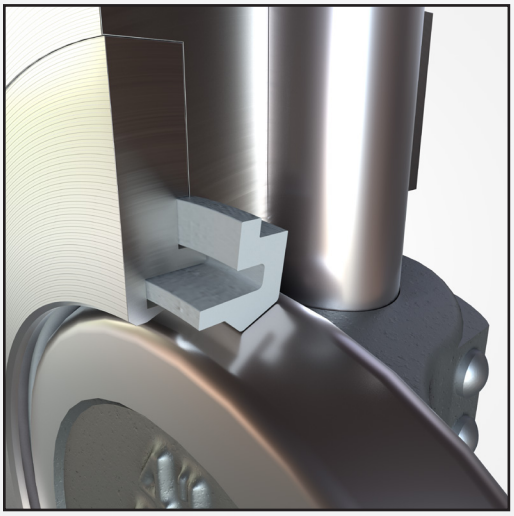
SERVICES
BI-DIRECTIONAL
- Valves are suitable for flow in either direction.

END-OF-LINE (DEAD END)
- Full lug type valves suitable for bi-directional end of line service (dead end) at full rated pressure, without the need of a downstream flange.

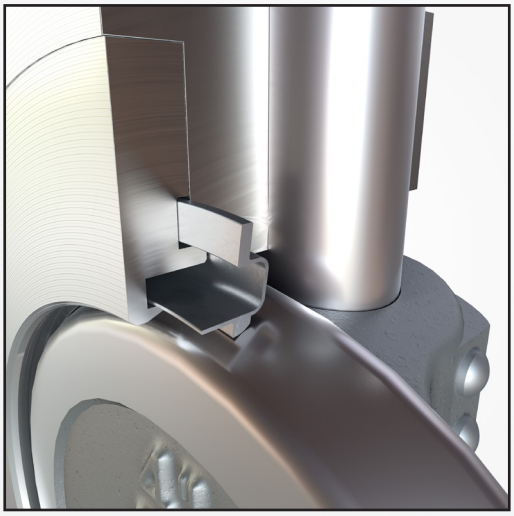
VACUUM
- Standard valves are rated for 29" Hg vacuum.

STEAM
- Valves are well-suited for a wide range of steam applications. The application range is defined in the high performance butterfly valve pressure-temperature charts.

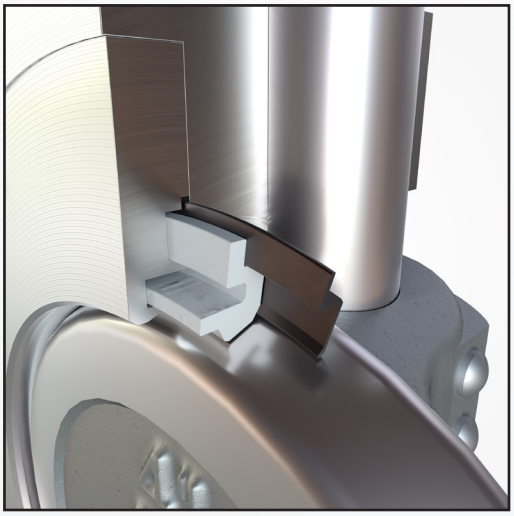
SEAT OPTIONS
SOFT SEAT (-8T)

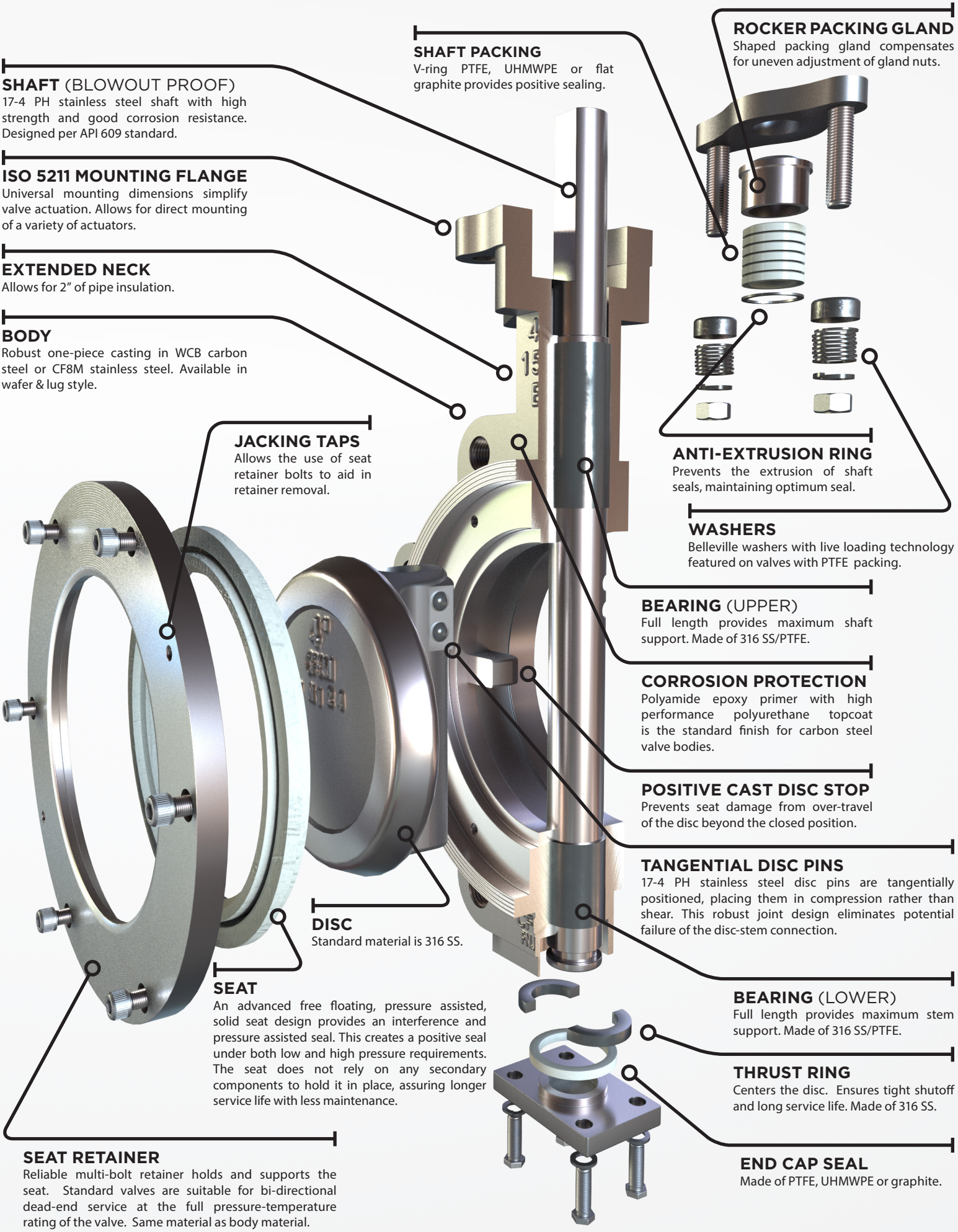


METAL SEAT (-2M)



FIRE-SAFE SEAT (-2F)





SHAFT (BLOWOUT PROOF)
17-4 PH stainless steel shaft with high strength and good corrosion resistance. Designed per API 609 standard.

ISO 5211 MOUNTING FLANGE
Universal mounting dimensions simplify valve actuation. Allows for direct mounting of a variety of actuators.

EXTENDED NECK
Allows for 2" of pipe insulation.

BODY
Robust one-piece casting in WCB carbon steel or CF8M stainless steel. Available in wafer & lug style.

SHAFT PACKING
V-ring PTFE, UHMWPE or flat graphite provides positive sealing.

ROCKER PACKING GLAND
Shaped packing gland compensates for uneven adjustment of gland nuts.

JACKING TAPS
Allows the use of seat retainer bolts to aid in retainer removal.

ANTI-EXTRUSION RING
Prevents the extrusion of shaft seals, maintaining optimum seal.

WASHERS
Belleville washers with live loading technology featured on valves with PTFE packing.

BEARING (UPPER)
Full length provides maximum shaft support. Made of 316 SS/PTFE.

CORROSION PROTECTION
Polyamide epoxy primer with high performance polyurethane topcoat is the standard finish for carbon steel valve bodies.

POSITIVE CAST DISC STOP
Prevents seat damage from over-travel of the disc beyond the closed position.

TANGENTIAL DISC PINS
17-4 PH stainless steel disc pins are tangentially positioned, placing them in compression rather than shear. This robust joint design eliminates potential failure of the disc-stem connection.

DISC
Standard material is 316 SS.

SEAT
An advanced free floating, pressure assisted, solid seat design provides an interference and pressure assisted seal. This creates a positive seal under both low and high pressure requirements. The seat does not rely on any secondary components to hold it in place, assuring longer service life with less maintenance.

BEARING (LOWER)
Full length provides maximum stem support. Made of 316 SS/PTFE.

THRUST RING
Centers the disc. Ensures tight shutoff and long service life. Made of 316 SS.

SEAT RETAINER
Reliable multi-bolt retainer holds and supports the seat. Standard valves are suitable for bi-directional dead-end service at the full pressure-temperature rating of the valve. Same material as body material.

END CAP SEAL
Made of PTFE, UHMWPE or graphite.

HOW TO SPECIFY

2	15	L	06	C	S	P	8T	A	0
VALVE TYPE	CLASS	VALVE STYLE	SIZE	BODY MATERIAL	DISC MATERIAL	SHAFT & PIN MATERIAL	SEAT MATERIAL	SPECIAL SERVICE	OPERATOR
2 - DOUBLE OFFSET	15 (150)	L - LUG	02 (2")	CARBON STEEL	STAINLESS STEEL	P - 17-4 PH SS	8T - RTFM (TFM 1700 W/GLASS)	A - STANDARD APOLLO	0 - BARE SHAFT
	30 (300)	W - WAFER	25 (2.5")	C - A216 WCB	S - A351 CF8M (316 SS)				1 - LEVER OPERATOR[4]
	60 (600)[1]		03 (3")						2 - WORM GEAR OPERATOR
			04 (4")			A - ALLOY 20	2F - TFM/INCONEL, GRAPHITE SEALS (FIRE SAFE)		
			05 (5")	STAINLESS STEEL	A - A351 CN7M (ALLOY 20)	B - 317 SS			5 - WORM GEAR OPERATOR W/ CHAIN WHEEL
			06 (6")	S - A351 CF8M (316 SS)		H - HASTELLOY® C			
			08 (8")		B - A351 CG8M (317 SS)	J - DUPLEX	2M - 316SS (METAL SEATED)		
			10 (10")			K - SUPER DUPLEX			7 - LOCKING WORM GEAR OPERATOR
			12 (12")	A - A351 CN7M (ALLOY 20)	J - A995 CD3MN (2205 DUPLEX)		21 - UHMWPE[3]		
			14 (14")			M - MONEL®			8 - LOCKING WORM GEAR OPERATOR W/ CHAIN WHEEL
			16 (16")	B - A351 CG8M (317 SS)	K - A995 CD3MWCUN (2507 SUPER DUPLEX)	S - 316 SS			
			18 (18")						
			20 (20")	J - A995 CD3MN (2205 DUPLEX)					
			24 (24")						
			30 (30")[2]	K - A995 CD3MWCUN (2507 SUPER DUPLEX)	NICKEL ALLOYS				
			36 (36")[2]		H - A494 CW12MW (HASTELLOY® C)				
					M - A494 M-35-1 (MONEL®)				
				NICKEL ALLOYS					
				H - A494 CW12MW (HASTELLOY® C)					
				M - A494 M-35-1 (MONEL®)					

EXAMPLE:
215L06CSP8TA0 = 6" Class 150 Lug, Carbon Steel Body, SS Disc, 17-4 PH Shaft, TFM 1700 Seats, Standard Service, Bare Shaft

( ) Represents close wrought equivalent
[1] Class 600 valves available in sizes 3" through 12" (excluding 5" size)
[2] 215L Only
[3] UHMWPE not available in Class 600
[4] Standard handle can be locked in the full open or fully closed position.
Lever operators are available with 2"-12" class 150 valves (215), and 2"-10" class 300 valves (230)

Safety Warning:

Gear operators are normally specified for larger high performance butterfly valves because the force of the pipeline flow on the disc can be too great to safely use a handle.

HANDLE & OPERATOR OPTIONS

CHAIN WHEEL

WORM GEAR

LEVER

Lever operators are available with 2"-12" class 150 valves (215), and 2"-10" class 300 valves (230)

PNEUMATIC & ELECTRIC ACTUATORS