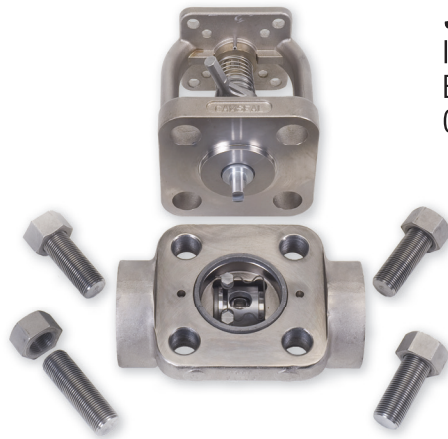


# Camseal® Metal-Seated, Cartridge-Style, Top Entry, Zero Leakage Ball Valves save significant time and money on installation, maintenance, replacement and downtime.



## STANDARD SIZES

1/2" through 4" Top Entry  
SW, BW, FNPT and a variety of ends TDP-1-2013  
compliant and full port valves available

## PRESSURE RATING

ASME Class up to 4500

## STANDARD MATERIALS

Carbon Steel SA-105  
Stainless Steel SA-182-F316/F316L  
Alloy SA-182-F22 Cl.3, SA-182-F91  
Other materials available upon request

## STANDARD ACCESSORIES

ISO-5211 Integral Mounting Pad Actuators -  
Electric, Pneumatic or Hydraulic,  
Gear Operator



See product brochure  
for more details.

## DESIGN FEATURES

### Conval Camseal Ball Valve Provides Zero Leakage

**Zero Body Leakage:** The body/bonnet bolting for the top entry design is not susceptible to pipeline stresses – precluding the potential for leakage.

**Zero Seat Leakage:** Conval's Camseal has been type-tested using high pressure Nitrogen gas, achieving zero bubbles in four minutes. The result is industry leading performance with every valve and the longest in-service life compared to competitive brands.

**Zero Stem Seal Leakage:** Conval's exclusive Integral Gland Wrench concentrically loads the stem packing without tools, eliminating stem leaks and extending packing life. Live loading is available as an option.

### Cartridge-style Top Entry

With top entry access, maintenance and replacement of the cartridge internals are very convenient, with no effect on existing piping and welds.

### Robust Stem-Ball Engagement

Reliable, accurate ball alignment is achieved due to the robust engagement between the one-piece stem and the ball.

### Superior Bearing Support

Superior bearing support of the blowout-proof stem ensures proper axial alignment and Zero Seat Leakage even on actuated valves.

### Stem-Ball Alignment

The easy to read Position Indicator Disc (patent pending) increases the visibility and accuracy of stem and ball alignment into the valve seat. This is especially important when adding an actuator to a valve or resetting valve actuation. It is also critical in severe applications such as steam where positive, sustainable shutoff is critical and even slight misalignments will compromise the ball/seat sealing band. This indicator eliminates the need for costly and multiple manufacturing features that have traditionally been used with less accuracy.

The indicator is self-securing to the stem; no set screws are required.

### In-line Servicing

In-line renewability can be accomplished in 30 minutes and restores Zero Leakage performance.

### Integral Mounting Pad

An ISO-5211 integral mounting pad facilitates error-free, air, motor and gear operator actuation due to superior rigidity, precise alignment and a fully-guided stem bearing system. Lockout capability is standard.

### Two-Year Warranty

Conval is committed to unsurpassed quality. We are so confident of the quality of our product, that we offer a two-year warranty.

Camseal® is a registered trademark of Conval, Inc.  
United States Patent No. 7,267,323

**LIST OF MATERIALS FOR 1700# AND 3100# VALVES**

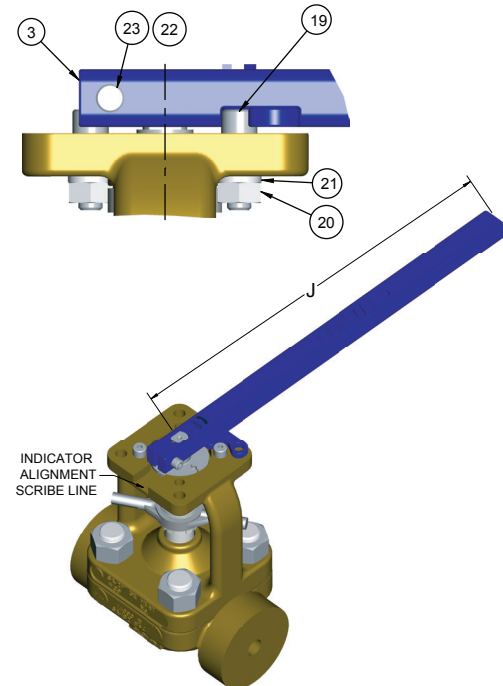
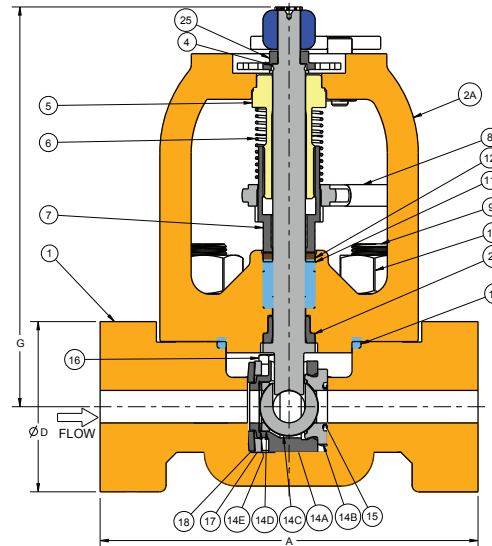
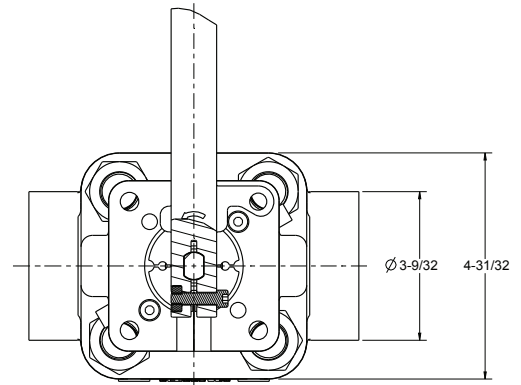
NO.	NAME	QTY	MATERIAL			
1	BODY	1	ASME SA-105	ASME SA-182 F22	ASME SA-182 F91	ASME SA-182 F316
2	BONNET ASSEMBLY	1	SEE MATERIALS BELOW			
2A	BONNET	1	ASME SA-216 Gr WCB	ASME SA-217 Gr WC9	ASME SA-217 Gr C12A	ASME SA-351 Gr CF3M
2B	BONNET STEM BUSHING****	1	ASME SA-479 TYPE 410	ASME SA-479 TYPE 410	ASME SA-479 TYPE 410	AMS 5387 STELLITE #6
3	HANDLE*	1	ASME SA-216 Gr WCB			
4	STEM**	1	ASTM A582 TYPE 416	ASME SB637 UNS N07718	ASME SB637 UNS N07718	ASME SB637 UNS N07718
5	BUSHING	1	ASME SB150 ALUMINUM BRONZE			
6	IGW SPRING	1	MFR STANDARD STAINLESS			
7	GLAND	1	ASTM A582 TYPE 416	ASTM A582 TYPE 416	ASTM A582 TYPE 416	ASME SA-479 TYPE 316
8	INTEGRAL GLAND WRENCH (IGW)	1	MFR STANDARD STAINLESS			
9	BODY STUD*	SD	ASME SA193 Gr B16	ASME SA193 Gr B16	ASME SA193 Gr B16	ASME SA193 Gr B8M
10	BODY FLANGE NUT*	SD	ASME SA194 Gr 4	ASME SA194 Gr 4	ASME SA194 Gr 4	ASME SA194 Gr 8M
11	PACKING SET	1	BRAIDED & DIE-MOLDED FLEXIBLE GRAPHITE			
12	PACKING SPACER	1	ASME SA-479 UNS S21800 (NITRONIC 60)			
13	BODY/BONNET SEAL***	1	316 SST/FLEXIBLE GRAPHITE LAMINATE			
14	CARTRIDGE ASSEMBLY	1	SEE MATERIALS BELOW			
14A	CARTRIDGE	1	ASME SA-479 TYPE 410	ASME SA-479 TYPE 410	ASME SA-479 TYPE 410	ASME SA-479 TYPE 316
14B	COATED SEAT	1	ASME SB637 UNS N07718/CHROME CARBIDE			
14C	COATED BALL	1	ASME SB637 UNS N07718/CHROME CARBIDE			
14D	UPSTREAM SEAT	1	ASME SA-479 TYPE 410	ASME SA-479 TYPE 410	ASME SA-479 TYPE 410	AMS 5387 STELLITE #6
14E	UPSTREAM SEAT BELLEVILLE	1	ASME SB637 UNS N07718			
15	SEAT/BODY SEAL (C-RING)	1	ASTM B670 PLATED			
16	CAM	1	ASME SA-479 TYPE 410	ASME SA-479 TYPE 410	ASME SA-479 TYPE 410	ASME SA-479 UNS S20910
17	SPACER	1	ASME SB637 UNS N07718			
18	CAM BELLEVILLE	1	ASME SB637 UNS N07718			
19	STOP BOLT*	1	MFR STANDARD STAINLESS			
20	STOP NUT*	1	MFR STANDARD STAINLESS			
21	STOP LOCK WASHER*	1	MFR STANDARD STAINLESS			
22	HANDLE NUT*	1	MFR STANDARD CARBON STEEL			
23	HANDLE BOLT*	1	MFR STANDARD ALLOY STEEL			
24	SNAP RING STEM RETAINER*	1	MFR STANDARD			
25	POSITION INDICATOR DISC	1	ANODIZED ALUMINUM ALLOY T6061			

\* SD = SIZE DEPENDENT

\*\*\* FOR 4500#, BODY/BONNET SEAL IS ASTM B670 PLATED

\*\* FOR 4500#, STEM IS ASME SB637 UNS N07718 (INCONEL 718)

\*\*\*\* FOR 4500#, STEM BUSHING IS AMS 5387 STELLITE #6



PIPE SIZE(S)	CODE	ASME CLASS	INCHES							LBS WEIGHT
			A	B	D	F	G	J		
1/2 THRU 1-1/2	5E	1700# 3100#	7 1/4	1 5/8	3 1/4	5/8	7 3/8	15 3/16	30 1/4	
1/2 THRU 1-1/4	7E	4500#	9 1/4	2	4	5/8	10 5/32	24 3/16	62	
1/2 THRU 1-1/2	5F	2700#	7 1/4	1 5/8	3 1/4	3/4	10 5/16	24 3/16	30	
2 THRU 2-1/2	7H	1700# 3100#	9 1/4	2	4	1 1/16	10 5/32	31 5/8	62	
1-1/2 THRU 4	9H	4500#	11	2 11/32	4 11/16	1 1/16	11 1/2	32	100	
3 THRU 4 (BW ONLY)	9J	1700# 3100#	11	2 11/32	4 11/16	1 1/2	11 1/2	32	112	
3 THRU 4 (BW ONLY)	9K	1700#	11	2 11/32	4 11/16	1 15/16	11 1/2	32	180	
2-1/2 & 3 THRU 4" (BW ONLY)	10K	3100#	17 3/4	3 1/8	4 3/4	1 15/16	13 1/2	(2)	233	
2-1/2 & 3 THRU 4" (BW ONLY)	10L	1700#	17 3/4	3 1/8	4 3/4	2 1/4	13 1/2	(2)	250	
2-1/2 & 3 THRU 4" (BW ONLY)	10N	600#	14	4	4 3/4	2 29/32	20 3/8	(2)	261	

PIPE SIZE(S)	CODE	ASME CLASS	MILLIMETERS							KG WEIGHT
			A	B	D	F	G	J		
DN15 THRU DN40	5E	1700# 3100#	184	42	83	16	187	386	13.7	
DN15 THRU DN32	7E	4500#	235	51	102	16	258	614	28.1	
DN15 THRU DN40	5F	2700#	184	42	83	19	262	614	13.6	
DN50 THRU DN65	7H	1700# 3100#	235	51	102	27	258	803	28.1	
DN40 THRU DN100	9H	4500#	279	60	119	27	292	813	45.4	
DN80 THRU DN100 (BW ONLY)	9J	1700# 3100#	279	60	119	38	292	813	50.8	
DN80 THRU DN100 (BW ONLY)	9K	1700#	279	60	119	49	292	813	81.6	
DN65 & DN80 THRU DN100 (BW ONLY)	10K	3100#	451	79	121	49	342	(2)	105.7	
DN65 & DN80 THRU DN100 (BW ONLY)	10L	1700#	451	79	121	59	342	(2)	113.4	
DN65 & DN80 THRU DN100 (BW ONLY)	10N	600#	356	102	121	74	517	(2)	118.4	

(1) 9J and 9K standard offering has a gear box with a handwheel, and as an option can be ordered with the handle and its associated hardware.  
 (2) 10K, 10L and 10N must be supplied with a gear box with handwheel to operate.