

MADE IN THE USA

**"Apollo" valves**  
Manufactured by Conbraco Industries, Inc.



**BALL VALVES**

# Ball Valves

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# Ball Valves

## DESCRIPTION

- Zinc plated steel lever handle with securely attached vinyl grip, hole for tagging
- Blowout-proof stem
- Chrome plated brass ball
- RPTFE seats, seals, stem bearing
- 90-degree (quarter-turn) operation
- Rated 600 psig WOG cold, non-shock; 150 psig saturated steam (except for 3-way and Saturn valves)

## Standard Bronze Ball Valves

Conbraco's most versatile, most used ball valve. Reliable shutoff, easy operation. Available with above features and ratings, or with choice of nearly 30 options. Sizes 1/4" to 4".

### 70-100 SERIES



Same as 70-100 but with optional latch-lock handle. Latch secures handle in open or closed position, reducing risk of mishap. Satisfies OSHA requirements. Sizes 1/4" to 3".

### 70-100-27 SERIES



Solder-end valve designed for soft-soldering into lines without disassembly so valve can be installed without disturbing seats and seals. Many options available. Sizes 3/8" to 3".

### 70-200 SERIES



Same as 70-100 but with single union end. Fluorocarbon O-Ring sealed union requires only light torque for proper seal; threaded or solder end. Sizes 1/4" to 2". Many options available.

### 70-300 SERIES



3-way diverter valve; perfect for tank selection or fluid transfer applications. Large ports; 400 psig WOG rated. Threaded or solder ends. Sizes 1/4" to 2".

### 70-600/900 SERIES



Same as 70-100 but with mounting pad for optional spring-return handle, actuator or panel mounting. Sizes 3/4" to 3".

### 71-100 SERIES



Full-port design for full flow, minimum pressure drop. Cast-in mounting pad. Threaded or solder ends. Sizes 1/4" to 2-1/2".

### 77-100/200 SERIES



Full-port bronze ball valve with solid chrome-plated ball for better flow characteristics. American-made cast bronze body and end-cap. NPT and ANSI B16.18 solder end connections available. Sizes 1/4" – 2-1/2".

### 77C SERIES



# Ball Valves

## Standard Bronze Ball Valves

### 70-140-64 SERIES



Threaded 250 lb. steam valve with 316 SS ball and stem. Multi-fill seats and stuffing box ring. Yellow vinyl grip with red lettering. Sizes 1/4" to 3".

### 75-100 SERIES



Padlocking valve; threaded, 600 psig WOG, cold non-shock, 150 psig saturated steam. Stainless steel lever and nut optional; automatic drain available. Sizes 1/4" to 2"

### 71/77 AR SERIES



**71 AR Series** Bronze standard port ball valve with threaded ends; ISO mounting pad, advanced live loaded packing design, latch lock handle available. Sizes 3/4" to 3".

**77 AR Series** Bronze full-port ball valve with threaded ends; ISO mounting pad, advanced live loaded packing design, latch lock handle available. Sizes 1/4" to 2".

### HANDLE OPTIONS

Handle Options are available on most Apollo® ball valves: Tee handle; stainless steel lever and nut; wheel handle; stainless steel latch lock handle and stainless steel nut; stainless steel high-rise round handle and nut, stainless steel high-rise locking wheel handle; Cyl-Loc; stainless steel latch-lock oval handle, padlocking devices (for 72 Series); CAM-LOCK handle.

## Bronze Ball Valves [Specialty]

### 77C-200-A0 SERIES



Full-port valves with two-inch copper tube extensions especially designed for solderless pipe joining with the Viega Propress® system. Sizes 1/2" to 2"

### 71-500 SERIES



Ball valve with spring return handle. Choose return to close (-01) or return to open (-08). Sizes 1/4" to 2".

### 77-900 SERIES



Full-port valves designed to fully comply to SAE [ISO 11926] specifications to reduce fluid leakage and energy loss. Cast-in mounting pad. Sizes 1/4" to 2".

### 78-100/200 SERIES



Bronze ball valve with dust cover and chain. Blowout-proof stem design, adjustable packing gland, chromium-plated ball. -100: threaded x 3/4" hose connection; -200: soft-solder end x 3/4" hose connection. Sizes 1/2" and 3/4" NPT or solder end.

# Ball Valves

## Bronze Ball Valves [Specialty]

### 78-257/267 SERIES

Brass or bronze instrumentation valve with male and female threading. Micro-finish ball, nitrile stem seal, PTFE seats. Options: mixed end fittings; tee handle, lever handle or screw slot.



### 78-621 SERIES

Threaded irrigation valve; 600 psig water, cold non-shock; curb stop top works. Temperature range from +50°F to +400°F. For use where drained liquid will not cause damage. Sizes 3/4" to 2".



### 80-100 SERIES

UL® listed shutoff valve for use with LP gas, natural gas, flammable liquids and heated oil. Large ports reduce pressure drop; easy quarter-turn ON/OFF. RPTFE seats, seals. Sizes 1/4" to 3". Available with latch-lock -27.



### 82-100/200 SERIES

3-piece full-port ball valve; in-line repairable, adjustable packing gland. Sizes 1/4" to 4". (-100: threaded ends.) Shown with -19 locking plate option. (-200: solder ends.)



### 9A/90/91 SERIES

Compact Apollo® ball valve; One piece body with threaded ends for fuel, inert gas, flammable liquids; tee or lever handles. 9A: heavy pattern, 600 psig WOG. Sizes 1/4" to 2". 90: UL® Listed, 300 psig, Sizes 1/2" to 2". 91: 400 psig WOG, sizes 1/4" to 2".



## DESCRIPTION

- Standard Carbon Steel Valve Ratings [89 and 93 Series]
- 1/4" - 1": 2,000 psig WOG
- 1-1/4" - 2": 1,500 psig WOG
- 73A Series: 1/4" - 1": 2,000 psig WOG, 1-1/4"-2": 1500 psig WOG
- 72 Series: 1/4" - 2": 3,000 psig WOG

Note: Pressure ratings refer to body only. Seat material determine practical working pressure.

## Carbon Steel [Threaded, Socket Weld & Butt Weld Ball Valves]

### 72-100 SERIES

High-pressure valve with heavy-duty lever, body rated 3000 psig WOG, cold non-shock, 150 psig saturated steam. Sizes 1/2" to 2"; all models except 2" feature full-port. Shown with optional tee handle.



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### Carbon Steel [Threaded, Socket Weld & Butt Weld Ball Valves]

#### 72-900 SERIES



Straight-thread, O-Ring boss valves meet SAE 11926 specs. Ideal for reducing fluid leakage and energy loss in automotive applications and machining and hydraulic systems. Sizes 1/4" to 1-1/2" are full-port; 2" is standard port; optional locking kit available.

#### 73A SERIES



Forged A105 Low Carbon Steel valve with adjustable packing gland, blow-out proof stem. Two-piece design, NACE compliant when ordered with SS trim (73A-140 series). Standard handle options. Sizes 1/4" – 2".

#### 73-300 SERIES



UL listed double union end valves. Rated 3000 psig. For natural and manufactured gas, LP gas and flammable liquids. Heavy-duty quarter-turn lever; easy to install and maintain. Sizes 1/4" to 2". Round handle shown. Only -01 is UL listed.

#### 7A-130-26



Dry chlorine ball valve with Ni-Cu ball and stem. Investment cast components. Chevron style stem packing, bolted, adjustable gland. Sizes 1/4" to 2".

#### 83A SERIES



Carbon steel, full port three piece ball valve, 1500 psig CWP; stainless ball and stem, ISO 5211 mounting pad, stainless enclosed fasteners and topworks, multi-piece V-ring packing, gland plate style packing adjustment and lockable. Available with threaded, socket weld and butt weld ends. Sizes: 3/8" to 2". Limited options.

#### 83B SERIES



Carbon steel, full-port three piece ball valve, class 600 (all sizes): stainless ball & stem, ASME B16.34, ISO 5211 mounting pad, enclosed B8M fasteners, stainless topworks, multi-piece V-ring packing, gland plate style packing adjustment, static grounding, spiral gaskets and lockable. Available with threaded, socket weld and butt weld ends. Sizes: 3/8" to 2". Numerous options: including live-loading or tested to API 607, 5th edition.

#### 83R-100/200 SERIES



3 Piece full-port #1000 CWP valves with ISO 5211 mounting pad, advanced packing design. Threaded (-100), socket weld (-200). Many options, including -AR actuator-ready with live-loading. Sizes 2" and 3" only.

# Ball Valves

## Carbon Steel [Threaded, Socket Weld & Butt Weld Ball Valves]

### 89-100 SERIES

Cast valves with threaded ends; up to 2000 psig WOG cold non-shock. Easy actuator mounting; 316 SS ball and stem, NACE trim available options. Sizes 1/4" to 3".



### 89-500 SERIES

Valves with stainless steel spring return handle. Choose return to close (-01) or return to open (-08). Sizes 1/4" to 2".



### 92-100 SERIES

Compact Apollo® bar stock steel unibody ball valve with cast body. Certified fire safe with graphite packing; RPTFE seats and seals, blowout proof stem design. Sizes 1/4" to 2".



### 93-100 SERIES

Compact Apollo® bar stock steel unibody ball valve with forged body. Certified fire safe with graphite packing; RPTFE seats and seals, blowout proof stem design. Sizes 1/4" to 2".



### 89 AR SERIES

Carbon steel standard port ball valve; investment cast components; ISO mounting pad; advanced live loaded packing design; latch lock handle available. Sizes 1/4" to 3".



#### DESCRIPTION

- Standard Stainless Steel Valve Ratings [76 and 96 Series]
- 1/4" - 1": 2,000 psig WOG
- 1-1/4" - 2": 1,500 psig WOG
- 2-1/2" - 3": 1,000 psig WOG

## Stainless Steel [Threaded, Socket Weld & Butt Weld Ball Valves]

### 76-100 SERIES

Stainless steel valves with threaded ends, blowout-proof stem design and investment cast components, RPTFE seats, stuffing box ring. Meets NACE MR-01-75. Sizes 1/4" to 3".



### 76-300 SERIES

Double union end stainless steel ball valve; meets NACE MR-01-75. Heavy-duty quarter-turn 304 SS handle with vinyl. Sizes 1/2" to 2".



## Ball Valves

### Stainless Steel [Threaded, Socket Weld & Butt Weld Ball Valves]

#### 76-500 SERIES



Stainless steel ball valve with spring return handle. MPTFE seats, stuffing box ring. Specify (-01) suffix for return to close or (-08) suffix for return to open. Sizes 1/4" to 2".

#### 76-600 SERIES



Threaded 3-way diverter 316 SS ball valve with investment cast components; rated 800 psig WOG, cold non-shock. Meets NACE MR-01-75. Sizes 1/4" to 2". Shown with option -27, latch lock handle.

#### 76F SERIES



Economy stainless steel full-port valve, 1000# CWP rating. Threaded ends, blowout proof stem, investment cast body, 316 SS components, including stainless handle. RPTFE seats and long-life MPTFE packing. Sizes 1/4" – 2".

#### 76AR SERIES



Stainless steel standard port ball valve; investment cast components; ISO mounting pad; advanced live loaded packing design; latch lock handle available. Sizes 1/4" to 3

#### 86A SERIES



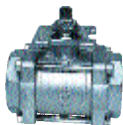
Stainless steel, full-port three piece ball valve, 1500 psig CWP; ISO 5211 mounting pad, enclosed fasteners, multi-piece V-ring packing, gland plate style packing adjustment and lockable. Available with threaded, socket weld and butt weld ends. Sizes: 3/8" to 2". Limited options.

#### 86B SERIES



Stainless steel, full-port three piece ball valve, class 600; ASME B16.34, (all sizes), ISO 5211 mounting pad, enclosed B8M fasteners, multi-piece V-ring packing, gland plate style packing adjustment, static grounding, spiral gaskets and lockable. Available with threaded, socket weld and butt weld ends. Sizes: 3/8" to 2". Numerous options: including live-loading or tested to API 607, 5th edition.

#### 86R-100/200/700 SERIES



3 Piece full-port 1000# CWP valves with ISO 5211 mounting pad, advanced packing design. Threaded (-100), socket weld (-200) and butt weld (-700) versions. Many options, including -AR actuator-ready with live-loading. Sizes 1/4" – 2".



# Ball Valves

## Stainless Steel [Threaded, Socket Weld & Butt Weld Ball Valves]

### 86R-108-23 SERIES

Full-port SS tank bottom valve. Corrosion-resistant 316 SS tank flange. Compact design operates manually or with pneumatic or electric actuators. Threaded, socket weld, butt weld or solder connections. 2" only.



### 96-100 SERIES

Apollo® stainless steel unibody ball valves; meets NACE MR-01-75. Investment cast body, adjustable packing gland. Sizes 1/4" to 2".



## Flanged Ball Valves [ANSI]

### 87A SERIES

(Full-port Shown)

#### 87A-100 Series

Stainless Steel class 150 Flanged, Regular Port Valves. Unibody to 2", easily-repaired split body 3" and larger. (87B series is unibody design 3" -10"). Standard stem grounding and locking device. Includes ISO 5211 mounting pad. Meets many standards, including NACE, and API 607 4th Ed. when ordered as -24. Available in 1-1/2"-10". (87B-100 Series 3" - 10" Regular Port, Unibody Design, ANSI Short Pattern)

#### 87A-200 Series

Class 150 full-port stainless valves. Split body design for easy repair, includes grounding, locking device, and ISO 5211 actuator mounting pad. Available in sizes 1/2" - 12", with a broad standards compliance. A true engineered design with every desirable feature addressed.

#### 87A-700 Series

Class 300 standard port flanged valve with features identical to 87A-100 above.

#### 87A-900 Series

Class 300 full-port stainless valve, with features of 87A-200 above.



#### 88A-100 Series

Carbon Steel Class 150 Flanged, regular port valves. Unibody to 2", easily-repaired split body 2-1/2" and larger. (88B series is unibody design 3"-10"). Standard stem grounding and locking device. Includes ISO 5211 mounting pad. Meets all standards, including NACE when ordered with SS trim, and API 607 4th Ed, when ordered as -24. Available in 1-1/2"-10". (88B-100 Series 3" - 10" Regular Port, Unibody Design, ANSI Short Pattern)

#### 88A-200 Series

Class 150 full-port carbon valves. Split body design for easy repair, includes grounding, locking device, and ISO 5211 actuator mounting pad. Available in sizes 1/2" - 12", with full standards compliance. A true engineered design with every desirable feature addressed.

#### 88A-700 Series

Class 300 standard port carbon steel flanged valve with features identical to 88A-100 above.

#### 88A-900 Series

Class 300 full-port carbon steel valve, with features of 88A-200 shown above.

### 88A SERIES

(Regular Port Shown)



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*Apollo*® Valves

# Ball Valves

## Alloy Ball Valves

### DESCRIPTION

In addition to stainless and carbon steel, Conbraco routinely pours special alloys such as Alloy 20, Hastelloy®, Ni-Cu and nickel at its state-of-the-art investment-casting foundry in Conway, SC. Hastelloy, Ni-Cu and titanium are primarily used in the company's top entry ball valve line but can be used for end entry valves on special orders. The valves shown on this page are standard Apollo alloy ball valves.

### 74-100 SERIES



Chemical resistant nickel ball valve, threaded end, blowout-proof stem, 304 SS lever and grip. Investment cast components. Sizes 1/2" to 2".

### 399-100 SERIES



Alloy 20 2-piece threaded valve with 304 SS and vinyl lever and grip. Investment cast with blowout-proof stem, adjustable packing gland; many options. Sizes 1/4" to 2". Shown with option -27, latch lock handle.

### 87A-400/500/600/800 SERIES



- 87A-400 Series** —Alloy 20 class 150 flanged standard port ball valve. Unibody design 1/2" – 2", easy repair split body on 3" and 4" sizes. Unibody available as 87B-400 on 3" and 4".
- 87A-500 Series** —Alloy 20 class 150 flanged full-port ball valves.
- 87A-600 Series** —Alloy 20 class 300 flanged full-port ball valves.
- 87A-800 Series** —Alloy 20 class 300 flanged standard port ball valves.

The most advanced design for the most demanding applications.

### 86C-100/200 SERIES



Alloy 20 3-piece full-port valve with RPTFE seats and seal, investment cast parts. -100: threaded; -200: socket weld. Sizes 1/2" to 2".

### SEAT OPTIONS

Seal Style Designation	Temp Range	Application/Special Capabilities
PTFE	to 400°F	For general applications. Lowest torque. Excellent chemical resistance.
RPTFE	to 450°F	Most commonly used. Basis for published torque values. Reinforced for longer life.
Multifill PTFE	to 500°F	Carbon graphite reinforced RPTFE; 30% lower torque than RPTFE. Ideal for steam applications.
UHMPWE	to 165°F	For high solids/slurry applications, or to prevent fluorine off-gassing. 30% higher torque than RPTFE.
PEEK	to 600°F	High strength, abrasion resistant, but higher cost. Torque 40% higher than RPTFE.

# Ball Valves

## Specialty Valves

### 87A-380/390 SERIES

**87A-380 Series** —Stainless steel full-port threaded x flanged valve. AAR approval numbers: E009007, E009008 and E009009. Includes ISO 5211 mounting pad, advanced packing design. sizes 1", 2", 3".

**87A-390 Series** —Stainless steel full-port threaded valve. AAR approval numbers: E009003 and E009004. Bolted body design for ease of maintenance and repair. Includes ISO 5211 mounting pad, advanced packing design. Sizes 1", 2".



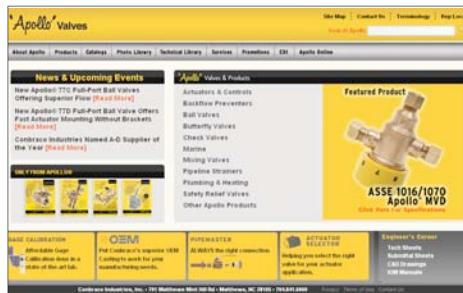
### 82-200 SERIES

Bronze 3-piece full-port solder end ball valve for installation without disassembly. Type K tubing is brazed on both ends, in sizes 3/8" to 3-1/8" O.D. tube. Full-port through 2-1/8". Also available with solder cup tube ends, and with purge ports.



### 78-664 SERIES

Bronze center tapped ball valves with drain feature. Ideal for marine applications. Brass bonding screw standard. Sizes 3/4" through 2".



For more complete information on the valves you've seen in this catalog, including schematic drawings, materials tables, dimensions, options and flow curves, visit [www.conbranco.com](http://www.conbranco.com). You'll find all of the detailed information you need to specify the right Apollo product for your application. Printed data sheets are also available through your Apollo representative.



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**"Apollo" Valves**

## Complete Product Information