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VALVES



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HIGH TEMPERATURE VALVES



RP&C Valve[®]

SAFETY RELIEF
VALVES
STAINLESS
STEEL
PLUMBING
& HEATING
PRODUCTS
IN-LINE
CHECK VALVES



**forged steel
valves**

A Full Range Of Products Offering You The Benefits Of Single-Source Convenience And Accountability.

Whether you're a specifying engineer, a purchasing manager or responsible for maintenance, you'll appreciate the value and performance you get in every RP&C valve.

RP&C products from Conbraco are your smart choice for several reasons. First, they meet the industry's highest standards for quality and performance. RP&C gate, globe, Y-pattern and check valves are manufactured to comply with the applicable sections of the following standards:

API	ASME/ANSI	MSS
591	B31.1	SP-25
598	B31.3	SP-61
602	B16.10	SP-82
	B16.11	
	B16.34	
	B1.20.2	

RP&C offers one of the broadest lines of forged steel valves you'll find anywhere. Finally, you'll appreciate RP&C's 100-year history of designing and building products for ease of operation and extended service life.

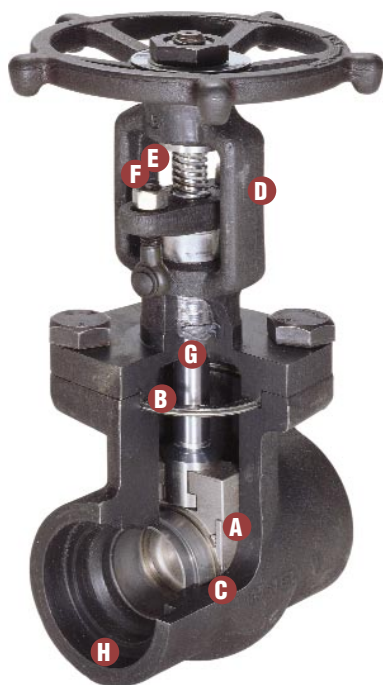
Conbraco is dedicated to vertically-integrated manufacturing to assure our customers of consistent high quality

and performance. Our four U.S. plants are ISO 9001 registered, while our Quality Assurance Program is among the most exacting in the industry.

Every RP&C valve must pass hydrostatic shell and seat leakage testing before it is authorized for shipment. Cv values listed for RP&C valves reflect actual flow testing. For all pressure retaining parts, RP&C valves feature ASTM materials to assure extended service life and reliable performance.

For nearly a century, Conbraco has crafted a record of leadership in the manufacturing of industrial ball valves; gate, globe and check valves; boiler trimmings; pop safety and relief valves; gauges; and other flow-control devices and accessories. The company's products number in the hundreds. Sold under the Conbraco, Apollo and RP&C brand names, all are industry leaders in domestic and international markets.

The Conbraco line continues to expand – with new products, designs and advanced materials – to better serve the needs of our customers in chemical processing, pulp and paper, petroleum, power, residential and commercial construction, manufacturing and other markets.



Gate Valves - Class 800

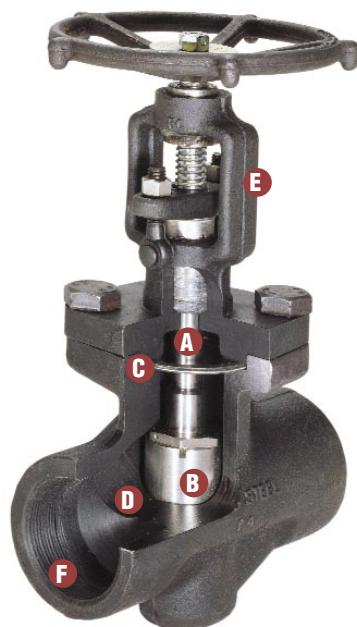
Our forged steel gate valves are designed to API 602 requirements for reliable, high-efficiency performance in refinery, chemical and process industries. They can also be built to meet NACE Specification MR-01-75. They are designed to deliver extended, trouble-free service with little or no costly maintenance.

Available in sizes 1/4" to 2", RP&C Class 800 gate valves feature forged body and bonnet for maximum strength and safety.

- A Gate:** Available in 410 SST, 316 SST, CoCr-A and Monel materials. The sealing surfaces are accurately ground to an 8 RMS finish. Each is mated with the seats in the valve for a custom fit. The result: perfect seating.
- B Gasket:** Spiral-wound stainless steel with carbon graphite filler. Flexible and long-wearing, our gaskets adjust easily to changes in pressure and temperature. Body and bonnet surfaces are machined to a 125 to 200 RMS finish; gasket interior and exterior diameters are captured by the body and bonnet for positive sealing and extended gasket life.

- C Seat:** Each seat ring facing is CoCr-A deposited and lapped to an 8 RMS finish. The seat ring is hydraulically swedged in the body to seal and lock in position.
- D Bonnet:** Bolted bonnet ensures an extremely tight joint. Also available in a weld bonnet design.
- E Operating nut:** Nut features molydisulfide lubricated double-lead Acme threads for ease of operation.
- F Washers:** Hardened steel washers eliminate seizing and galling.
- G Stem:** Unique design of stem and gate attachment ensures full compliance to API 602 and API 591. Specially designed broaching in body accurately guides gate in all directions.
- H End connections:** Available in screwed, socket weld, or ANSI 150, 300, 600# flanges.

Globe Valves - Class 800

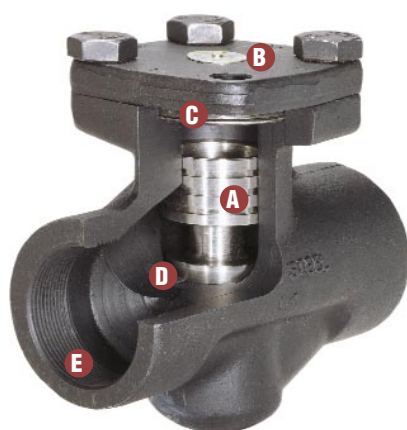


RP&C forged steel globe valves are designed and manufactured for extended service life under severe temperature and pressure conditions common to refinery, chemical and processing applications. Available in sizes from 1/4" to 2", these valves are designed with an integral CoCr-A body seat. CoCr-A seat rings are brazed into the valve body. Our globe valves use a Type 420 HT&H (500 Brinell) stainless steel disc.

- A Stem:** Stub-acme threads offer superior strength; stem is centerless ground to an extra-smooth finish for enhanced packing life and efficiency. Its backseat shoulder is machined to a fine finish to assure a tight seal with bonnet.
- B Disc:** Locked onto the stem to better regulate flow.

- C Gasket:** Spiral-wound stainless steel with carbon graphite filler. Flexible and long-wearing, our gaskets adjust easily to changes in pressure and temperature. Body and bonnet surfaces are machined to a 125 to 200 RMS finish; gasket interior and exterior diameters are captured by the body and bonnet for positive sealing and extended gasket life.
- D Seats:** The integral CoCr-A seat is accurately machined in the body. The disc is guided inside the valve body to provide accurate seating alignment.
- E Bonnet:** Bolted bonnet ensures an extremely tight joint. Also available in a weld bonnet design.
- F End connections:** Available in screwed, socket weld, or ANSI 150, 300, 600# flanges.

Check Valves - Lift Check Valves - Class 800



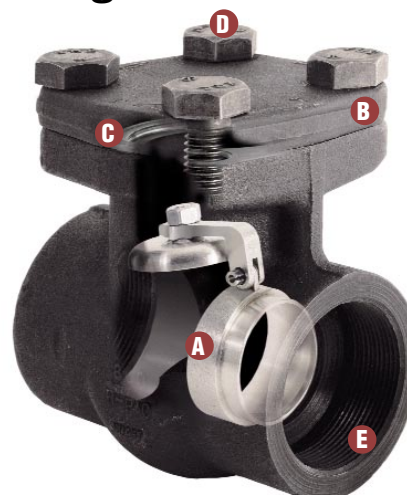
RP&C general purpose lift check valves are designed and built to handle severe high temperature and pressure conditions in refinery, chemical, and processing applications. The forged steel body and cap offer maximum strength and safety. Sizes 1/4" to 2".

- A Disc:** Our piston-type disc offers better performance than other disc designs. The disc is guided inside the valve body to provide accurate seating alignment.
- B Cover:** Bolted bonnet ensures an extremely tight joint.
- C Gasket:** Spiral-wound stainless steel with carbon graphite filler.

Flexible and long-wearing, our gaskets adjust easily to changes in pressure and temperature. Body and bonnet surfaces are machined to a 125 to 200 RMS finish; gasket interior and exterior diameters are captured by the body and bonnet for positive sealing and extended gasket life.

- D Seats:** The integral CoCr-A seat is accurately machined in body.
- E End connections:** Available in screwed, socket weld, or ANSI 150, 300, 600# flanges.

Swing Check Valves - Class 800



Innovative swing check design allows for full opening and highest Cv values possible, from 5.1 to 91.6. Available in sizes 1/4" to 2", standard 316 stainless steel swing unit and B7M bolting meets requirements of NACE MR 01-75.

- A Disc/seal assembly:** Exclusive 316 SS Swing Disc Unit offers highest flow and meets NACE MR 01-75 requirements.
- B Cover:** Bolted bonnet ensures an extremely tight joint.

- C Gasket:** Spiral-wound stainless steel with carbon graphite filler. Flexible and long-wearing, our gaskets adjust easily to changes in pressure and temperature. Body and bonnet surfaces are machined to a 125 to 200 RMS finish; gasket interior and exterior diameters are captured by the body and bonnet for positive sealing and extended gasket life.
- D Bolts:** B7M bolts meet NACE MR 01-75 requirements.
- E End connections:** Available in screwed, socket weld, or ANSI 150, 300, 600# flanges.

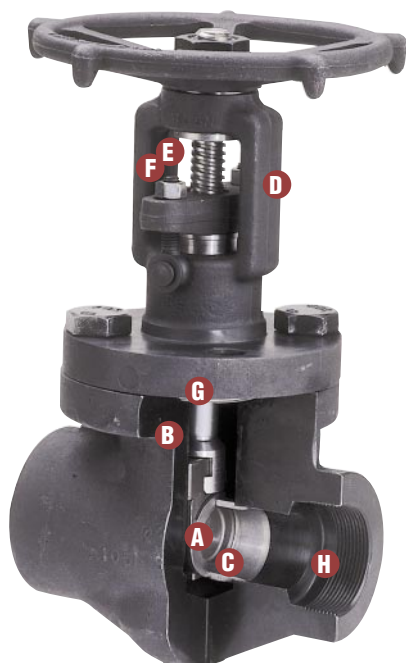
ASME/ANSI Class 1500— Gates, Globes & Checks

Conbraco, RP&C Division offers a full line of ASME/ANSI B16.34, Class 1500, bolted bonnet and weld bonnet, gate, globe and check valves. This product was designed specifically for Class 1500 service. Unlike some competitive products, the RP&C forged steel gate,

globe and check valves utilize dedicated body and bonnet forgings in lieu of downsized Class 800 components. To obtain more technical information on this product, please contact Conbraco Industries customer service or your local RP&C representative.



Gate Valves - Class 1500



The Class 1500 forged steel gate valves are designed to the applicable requirements of ASME/ANSI Class 1500 and API 602. All body and bonnet forgings are fully traceable to provide reliability and design integrity for the power generation, refinery, petro-chemical and process industries. Like all RP&C products, they are designed to deliver extended service life without costly repairs.

Valves are available in sizes 1/2" - 2", with socket weld and threaded end connections. Available materials of construction: A105N, A182-F22 and A182-F316/316L.

- A Gate:** Each CoCr-A sealing surface is accurately ground to an 8 RMS finish and is mated with the seats in the valve for a custom fit. The result: perfect seating.
- B Gasket:** Spiral-wound stainless steel with carbon graphite filler. Flexible and long-wearing, our gaskets adjust easily to changes in pressure and temperature. Body and bonnet surfaces are machined to a 125 to 200 RMS finish; gasket interior and exterior diameters are captured by the body and bonnet for positive sealing and extended gasket life.

- C Seat:** Each seat ring facing is CoCr-A hard faced and ground to an 8 RMS finish. The seat ring is hydraulically swedged in the body to seal and lock in position.
- D Bonnet:** Bolted bonnet ensures an extremely tight joint. Also available in a weld bonnet design.
- E Operating nut:** Nut features moly-disulfide lubricated double-lead ACME threads for ease of operation.
- F Washers:** Hardened steel washers eliminate seizing and galling.
- G Stem:** Unique design of stem and gate attachment ensures full compliance to API 602 and API 591. Specially designed broaching in body accurately guides gate in all directions.
- H End connections:** Available in screwed, socket weld, or ANSI 900# and 1500# weld-on flanges.

Globe Valves - Class 1500



RP&C forged steel globe valves are designed and manufactured for extended service life under severe temperature and pressure conditions common to refinery, chemical and processing applications. Available in sizes from 1/2" to 2", these valves are designed with an integral CoCr-A body seat. CoCr-A seat rings are brazed into the valve body.

- A Stem:** Stub-acme threads offer superior strength. Stem is centerless ground to an extra-smooth finish for enhanced packing life and efficiency. Backseat shoulder is machined to a fine finish to assure a tight seal with bonnet.
- B Disc:** Locked on to the stem to better regulate flow. CoCr-A investment cast.

- C Gasket:** Spiral-wound stainless steel with carbon graphite filler. Flexible and long-wearing, our gaskets adjust easily to changes in pressure and temperature. Body and bonnet surfaces are machined to a 125 to 200 RMS finish; gasket interior and exterior diameters are captured by the body and bonnet for positive sealing and extended gasket life.
- D Seats:** The integral CoCr-A seat is accurately machined in the body. The disc is guided inside the valve body to provide accurate seating alignment.
- E Bonnet:** Bolted bonnet ensures an extremely tight joint. Also available in a weld bonnet design.
- F End connections:** Available in screwed, socket weld, or ANSI 900# and 1500# weld-on flanges.

Check Valves - Lift Check Valves - Class 1500



RP&C general purpose lift check valves are designed and built to handle severe high temperature and pressure conditions. The forged steel body and cover offer maximum strength and safety. Sizes 1/2" to 2".

- A Disc:** Our piston-type disc offers better performance than other disc designs. The disc is guided inside the valve body to provide accurate seating alignment.
- B Cover:** Bolted bonnet ensures an extremely tight joint. Also available in a welded cover design.

- C Gasket:** Spiral-wound stainless steel with carbon graphite filler. Flexible and long-wearing, our gaskets adjust easily to changes in pressure and temperature. Body and bonnet surfaces are machined to a 125 to 200 RMS finish; gasket interior and exterior diameters are captured by the body and bonnet for positive sealing and extended gasket life.
- D Spring:** Provides mechanical assist during closure.
- E Seats:** The integral CoCr-A seat is accurately machined in body.
- F End connections:** Available in screwed, socket weld or ANSI 900# and 1500# weld-on flanges.

Class 1690 & 2690 Y-Pattern Valves



RP&C high-reliability Y-pattern globe and check valves are designed to efficiently handle critical high pressure conditions of power and process industries.

Spring-loaded RP&C check valves prevent reverse flow; they can be mounted in vertical or horizontal position, regardless of vibration and shock.

The proven Y-pattern flow shape enhances

Cv values. The guided disc configuration eliminates vibration and assures smooth disc/seat alignment for use in intermittent throttling service.

RP&C Y-pattern globe valves are ruggedly built for long service, with sturdy eye bolts, strong acme threaded stem, cobalt-base material seating surfaces, and carbon graphite packing.

- A Body:** Y-pattern design reduces directional flow changes and enhances Cv values.
- B Disc:** Guided disc eliminates vibration and assures smooth disc/seat alignment.
- C Stem:** Acme threaded stem for superior strength.

- D Seat:** Cobalt based seating surfaces for smooth, positive seating.
- E Packing:** Carbon graphite packing provides extended service.
- F Backseat:** Both integral and loose backseat designs are available.
- G Eye Bolts:** Sturdy eye bolts ensure longest life and durability.

Y-Pattern Valve Options

- **Body Material:** Forged carbon steel A105 or F22 chrome moly.
- **End Connections:** Socket weld, butt weld and screwed.
- **Control Device:** Round hand wheels standard on models up to 1". Impactor handles are standard on 1-1/4" models and larger.
- **Actuation:** Valves can be supplied with a variety of actuation packages and accessories.

Globe Valves

Our Class 1690 and 2690* globe valves, in sizes 1/4" to 4", offer both integral and loose backseat designs. Typical Cv values for these high-performance and high-reliability models range from 3.5 to 95.0, though butt welded models factors may be affected by pipe schedule requirements.

Check Valves

Available in sizes from 1/4" to 4", RP&C check valves with welded covers offer Cv factors from 3.5 to 46.

*interpolated ANSI ratings

RP&C Bar Stock Valves



Through innovative design and a manufacturing process that complies with ISO 9001 quality requirements, Conbraco can produce RP&C valves capable of delivering peak performance and

extended service under even the toughest conditions.

RP&C bar stock valves are available in brass, carbon steel, and two versions of stainless steel (416 and 316) in globe and angle configurations. They are rated for operating pressures to 10,000 PSI and temperatures as high as 550°F. Sizes range from 1/8" to 1".

All RP&C valves are designed to backseat when fully opened. This allows the valve to relieve pressure off the packing and prevents gross leakage in the event of a packing failure. Our backseating design also eliminates stem blowout problems.

RP&C bar stock valves feature an integral metal-to-metal seat and disc design.

Handle Options Available

- Cross handle on 1/4" - 1/2"
- "T" handle on 3/4" & 1"

Packing Options

RP&C bar stock valves come standard with a high-grade molded Grafoil® packing. Teflon packing – recommended for high pressure air and gas

applications – is an available option, and comes standard on 316 stainless steel valves.

End connection options

Female NPT connections are standard on all RP&C bar stock valves. Optional connections are male by female NPT and weld end connections for ASTM A108 carbon steel body valves.

Fully Threaded Bonnets

Bonnets on RP&C bar stock valves are fully threaded to accommodate easy panel mounting using an optional panel mount nut. Once mounted, the packing gland is easy to reach for repacking later.

Special Options

LOCK BONNET: A lock bonnet consisting of a locking device attached to the valve body is an available option.

LOCK SHIELD & KEY: Key operation prevents unauthorized opening or closing of the valve.

PANEL MOUNTING: RP&C bar stock valves can be supplied ready for panel mounting, with mounting hole diameters ranging from 11/16" to 15/16".

Boiler Blowdown Valves



These heavy-duty valves are used for continuous boiler surface blowdown, water column blowdown, soot boilers, boiler sampling service; and for controlling the flow of volatile liquids.

They feature an unusually heavy design with extra thickness at all wear points and special profiled, wear-resistant disc for any seat from 5/16" to full valve size. Seat and disc are hard chrome plated to reduce wire drawing, cutting, or scoring. A wide selection of seat sizes are available so the valve can be accurately fitted to application requirements. The bolted body permits a non-threaded seat and allows easy inspection or replacement, even after years of service.

Available in connecting pipe sizes from 3/8" to 1" (with 1 1/4", 1 1/2" and 2" on special order). The special seat and disc are treated to 750 Brinell (Rc70) surface hardness. The body is machined from ASTM A108 Type 1018 material.

Maximum temperature and pressure for these heavy duty-valves are 839°F at 1500 psig.



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