

World Class Clampseal® Valves

- *High Pressure*
- *High Temperature*
- *Ball*
- *Bellows*
- *Bonnetless*
- *Check*
- *Gate*
- *Globe*
- *Throttling*
- *Urea Service*



TABLE OF CONTENTS

- Why CLAMPSEAL® Valves are Top Performers in Their Class3
- A Wide Conval Product Line4
- Exploded View of CLAMPSEAL® Valve.....5
- The Most Advanced Forged Steel Valve Available.....6
- Conval Packing System.....7
- Y-Globe Stop, Check and Stop Check Valves8 & 9
- T-Pattern Stop, Check and Stop Check Valves.....10 & 11
- Angle Stop, Check and Stop Check Valves.....12 & 13
- Throttling Valve14 & 15
- CAMSEAL Ball Valves16 & 17
- CLAMPSEAL Swivldisc Gate Valve.....18 & 19
- Conval CLAMPSEAL® Valve.....20 & 21
- Strainers22
- Whisperjets23
- Bonnetless, B16.34 Process Valve24
- Bellows Seal Valve25
- Special Applications Valves26
- CLAMPSEAL® Extended End Valve & Clamp Connector Ends27
- Actuators28
- Service Tool Cross Reference29
- Conval Tool Kit30
- Standard Parts & Material List.....31
- Figure Number Description32
- Pressure/Temperature Charts.....33 - 36
- ASME Class and Ratings37
- Applications38

Why CLAMPSEAL® Valves are Top Performers in Their Class



Versatility

CLAMPSEAL® valves are tailored to the exact requirements of our customers. No other premium forged valve offers so many options. Conval provides three body styles in various pressure classes and three standard materials. Other materials are available to meet customer needs. The easy interchangeability of parts means that an entire plant installation can be supported with a very low parts inventory.

Performance

Our customers demand a valve that does the job well with little attention. The CLAMPSEAL® valve is that valve. Over 40 years of service in the most demanding applications have established the CLAMPSEAL® valve as the top performer in its class and the easiest to service.

Valve-Quality

The cost of plant shutdown time to repair or replace valves far exceeds the cost of equipment. Features such as electroless nickel plated finish

and complete material traceability of all wetted parts and yoke instantly establish the quality of the CLAMPSEAL® valve. In fact, parts for valves built 40 years ago are interchangeable with parts built today.

Service

The CLAMPSEAL® valve is only part of the service program which attends to the continued needs of our valued customers. Conval representatives and regional managers are selected and trained to provide the necessary support to assure complete satisfaction. Seminars are available at your plant at no cost.

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.

A Wide Conval Product Line

Standard Sizes

1/2" through 3" (4" reduced port)

Pressure Ratings(ASME)

Nominal: 900/1500/2500/4500

Intermediate: 1195/2155/3045

Blowdown / Letdown Valves

Five styles include single orifice continuous blowdown, unit tandem blowdown, Whisperjet blowdown, dual range valve for greater turndown and variable trim for fine control. Valves suitable for steam drains or any high pressure letdown service.

Gate Valves

Unique Swivdisc floating surface wedge gate for positive seat tightness. Anti-galling gate guiding, pressure seal bonnet, one piece gland with integral gland wrench.

Strainers

Simple and rugged with wide range of strainer element hole sizes. Socket blowoff connection or integral blowoff valve option available on all sizes.

Optional Valves

Adaptable to many on-line serviceable variations, including 3-way service, cryogenic service, bellows stem seal or leakoff features.

Standard Accessories

Actuators - electric, pneumatic or hydraulic

Locking Device - open, closed, or both

Limit Switch - single or dual

Stem Shroud

Position Indicator

Globe, Piston Check and Stop Check valves, Y, Angle and T pattern body styles all feature forged body and yoke; pressure seal bonnets with integral backseat and cartridge packing chambers; one piece packing gland with integral gland wrench; solid Stellite™ seat and disc/piston; and Electroless Nickel plate finish on Carbon Steel and Low Alloy valves.

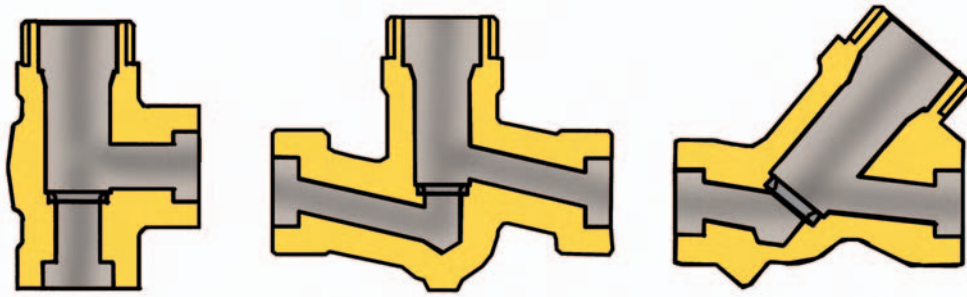
End Prep

| Type | Standard | Special |
|--------------|-------------|-------------|
| Sockets Weld | 1/2" - 2" | 2 1/2" |
| Butt Weld | 2 1/2" - 4" | 1/2" - 2" |
| Threaded | 1/2" - 1" | 1 1/2" - 2" |
| Clamp | 1/2" - 3" | 4" |
| Flanges | | All Sizes |

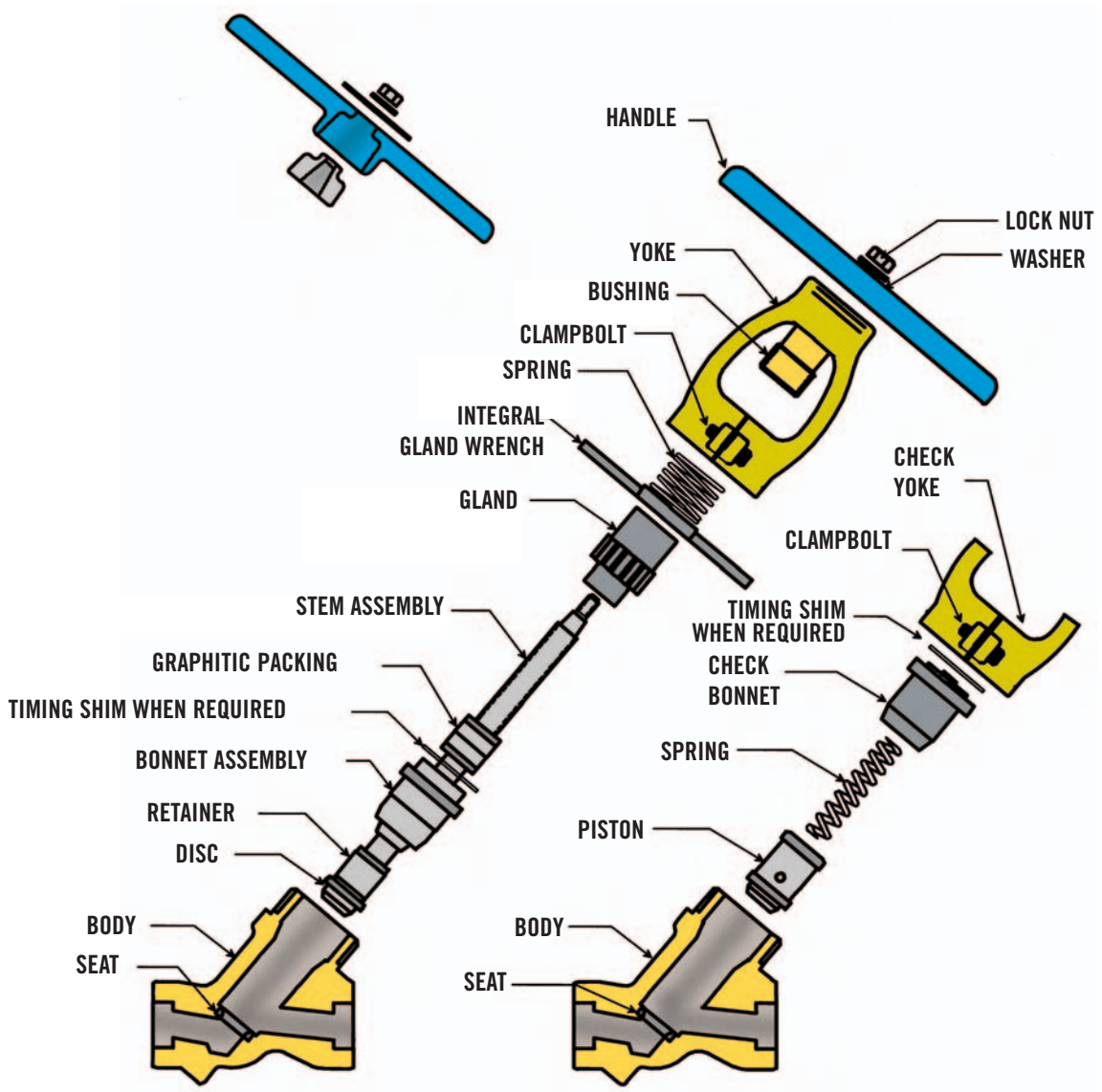
Materials (Body and Yoke)

| Type | Standard | Special |
|--------------|--|----------------------------|
| Carbon Steel | SA 105 WCB (Gate Valve) | A350-LF2 |
| Low Alloy | S182-F22 WC9 (Gate Valve) SA182-F91 C12A (Gate Valve) | SA182-F5 SA182-F11 |
| Stainless | SA182-F316 SA182-F316L CF8M (Gate Valve) | SA182-F347 |
| Other | | Monel™ 400 Inconel™ 600 |

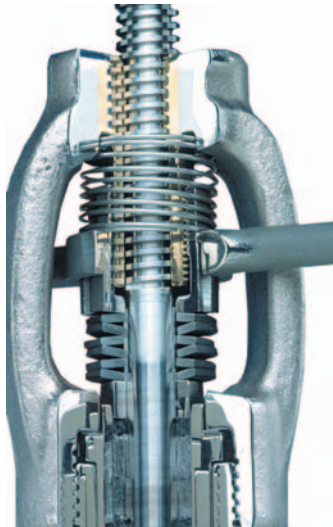
Exploded View of CLAMPSEAL® Valve



VALVES WITH SIZE CODE 8, 9 or 10
HAVE HANDWHEEL & ADAPTOR (IMPACT HANDWHEEL)



The Most Advanced Forged Steel Valve Available



Axial Design

The axial design of CLAMPSEAL® valves ensures tight concentricity. This feature is critical for superior valve performance. Concentricity eliminates side loading of the packing and minimizes wear forces on the trim components.

High Performance Packing System

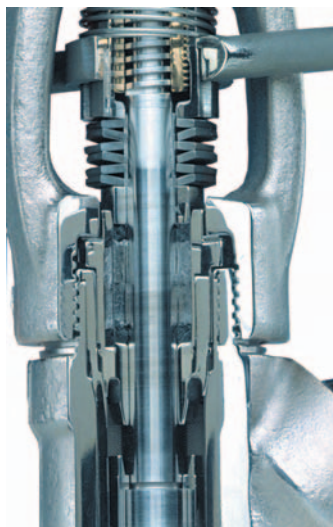
The CLAMPSEAL® packing system incorporates corrosion-inhibited, high density graphitic packing. An optional LIVE LOADED GLAND system maintains packing loads for long periods without routine maintenance adjustments. Uniform loading from the axial one-piece gland and the highly polished stainless steel stem and stuffing box ensure a tight seal between packing material and sealing surfaces.

Integral Gland Wrench – I.G.W.

The Integral Gland Wrench makes packing adjustments simple, no tools required.

Clampseal® Bonnet/Chamber

A secure, leak proof bonnet allows rapid access to valve trim for inspection and maintenance. The pressure boundary is sealed at the smallest diameter possible to ensure maximum strength, low stress and minimum weight.



Pressure Actuated Backseat

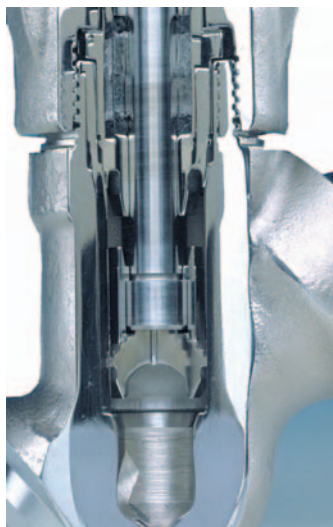
The pressure actuated backseat provides maximum valve integrity by ensuring a positive internal stop for the valve stem and disc assembly while extending packing life by securely isolating the packing from line pressure when the valve is fully open.

Modular Body Styles

Three interchangeable body styles, Y, ANGLE and T-PATTERN use identical replacement trim parts to lessen your tool and inventory costs. Solid cobalt alloy seats provide high erosion resistance and repeatable in-line resurfacing (Cobalt free alloys are also available).

Rapid In-Line Repairability

The CLAMPSEAL® Valve line provides a modular solution to rising maintenance expense. Rapid, reliable in-line repairs make for less down time. This feature cuts man hours and man-REM exposure in nuclear environments.



Conval Packing System

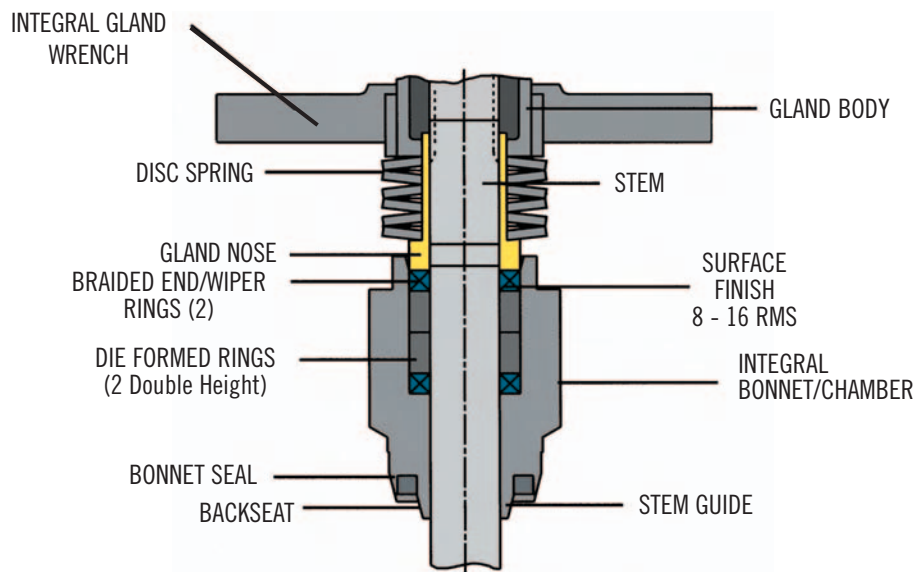
The CLAMPSEAL® packing system utilizes proven, corrosion-inhibited, graphite packing. The packing is uniformly loaded with a one-piece gland. The stuffing box and stem are burnished stainless steel to ensure a tight seal between the system fluids and sealing surfaces.

The packing seal in any valve is inherently vulnerable. Normal packing shrinkage, frictional and pressure forces, and improper or neglected adjustment all contribute to packing deterioration. In an effort to maximize packing life, several innovative features have been incorporated in the CLAMPSEAL® design.

- **Single Piece Gland** insures uniform packing compression and eliminates the potential for stem damage from gland cocking.

- **Surface Finishes and Close Tolerances** of stem and chamber provide optimal sealing surfaces and minimize wear.
- **Narrow Packing Rings** reduce the effect of packing shrinkage, thereby reducing the frequency of packing gland adjustment. Since force = pressure x area ($F = P \times A$), by keeping the packing area to a minimum, there is less force being exerted by the system fluid, making it easier to contain.
- **Integral Gland Wrench**, standard on all CLAMPSEAL® globe and gate valves, provides immediate gland/packing adjustment capability.

- **Pressure Seal Backseat** increases packing life and provides maximum valve integrity by ensuring a positive internal stop for the valve stem and disc assembly, securely isolating packing from line pressure when valve is fully open.
- **Cartridge Type Packing Chamber** with secure, leak-proof bonnet allows rapid access to valve trim for inspection and maintenance. Pressure boundary is sealed at the smallest diameter possible to ensure maximum strength and low stress.
- **Thermal Isolation** of the packing chamber increases packing life. The Stainless Steel packing chamber is a separate unit from the body and therefore, eliminates the need to remove or change packing after stress relieving.

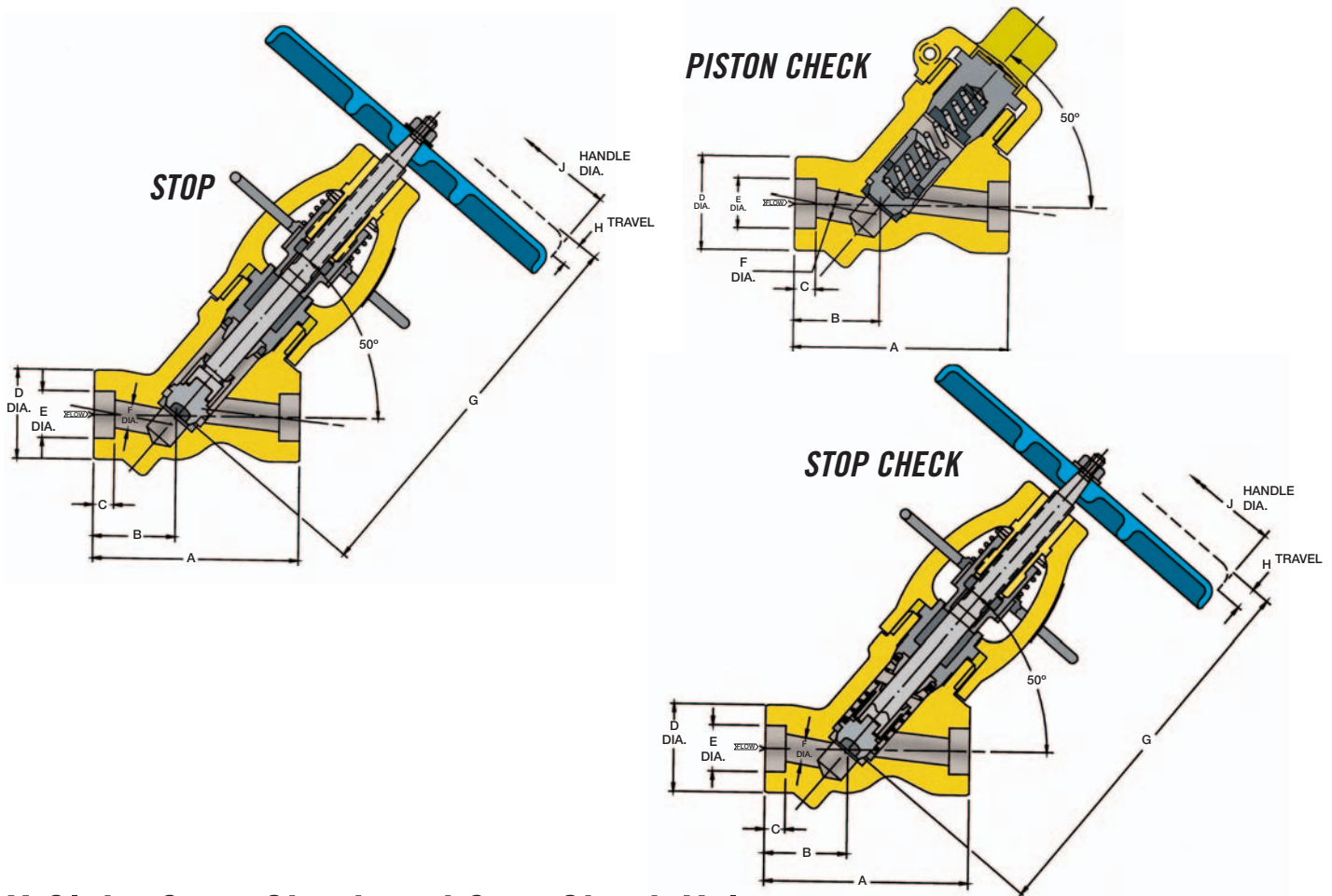


Optional Live Loaded Gland feature shown with the CLAMPSEAL® valve.

NOTE: TO ENSURE PROPER PACKING INTEGRITY, REFER TO CONVAL SERVICING INSTRUCTIONS FOR APPROPRIATE GLAND TORQUES BEFORE INSTALLING A REPAIRED VALVE IN-LINE.

Y-Globe Stop, Check and Stop Check Valves

Y-pattern globe valves provide the maximum Cv possible in a globe valve. All Y-pattern valves are rodable. Available in 1/2" to 4"; ASME pressure classes through 4500; A105, F22, F91, F316, F347, Inconel™, Monel™ and other materials.



Y-Globe Stop, Check and Stop Check Valves

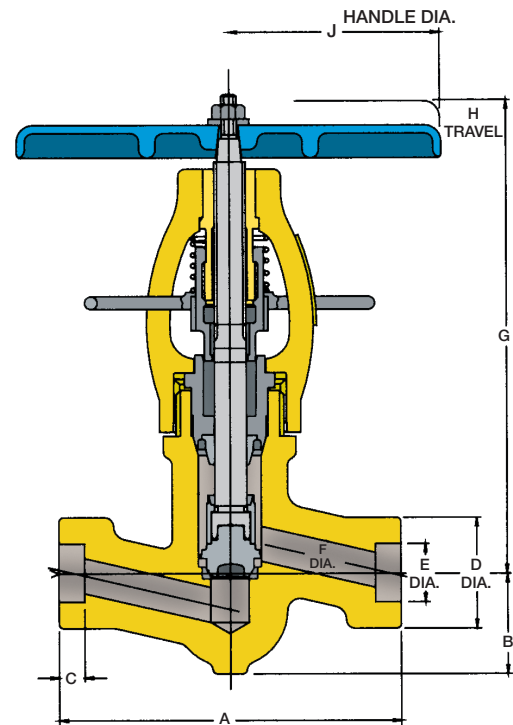
| PRESSURE CLASS | Size Code | Pipe Size | A | | B | | C* | D | E* | F | G | H | J | Cv | Wgt |
|----------------|-----------|-----------|-------|-------|---------|---------|-------|---------|--------|----------|----------|---------|-------|-----|-----|
| | | SW | BW | SW | BW | | | | | | | | | | |
| 900 | 3D | 1/2 | 3 3/4 | 3 3/4 | 1 1/2 | 1 1/2 | 3/8 | 1 5/8 | 0.855 | 1/2 | 7 3/8 | 9/16 | 6 1/2 | 6 | 5 |
| | | 15 | 95 | 95 | 40 | 40 | 10 | 41 | 22 | 15 | 187 | 14 | 165 | | 2 |
| | 5E | 3/4 | 4 1/2 | 4 3/4 | 1 3/4 | 1 3/4 | 1/2 | 2 5/16 | 1.065 | 5/8 | 8 13/16 | 11/16 | 8 | 10 | 11 |
| | | 20 | 115 | 120 | 45 | 45 | 15 | 59 | 27 | 16 | 224 | 17 | 200 | | 5 |
| | 1155 | 5F | 1 | 4 1/2 | 4 3/4 | 1 3/4 | 1 3/4 | 1/2 | 2 5/16 | 1.330 | 13/16 | 8 15/16 | 25/32 | 8 | 15 |
| 25 | | 115 | 120 | 45 | 45 | 15 | 59 | 34 | 21 | 227 | 20 | 200 | | 5 | |
| 5G | | 1 1/4 | 4 1/2 | 4 3/4 | 1 3/4 | 1 3/4 | 1/2 | 2 5/16 | 1.675 | 1 | 9 7/16 | 1 1/4 | 8 | 24 | 9 |
| INTERMEDIATE | 6H | 32 | 115 | 120 | 45 | 45 | 15 | 59 | 43 | 25 | 240 | 32 | 200 | | 4 |
| | | 40 | 140 | 156 | 54 | 62 | 15 | 68 | 49 | 32 | 249 | 30 | 200 | | 6 |
| | 7J | 1 1/2 | 5 1/2 | 6 1/8 | 2 1/8 | 2 7/16 | 1/2 | 2 11/16 | 1.915 | 1 1/4 | 9 13/16 | 1 3/16 | 8 | 36 | 14 |
| | | 2 | 6 1/4 | 6 1/2 | 2 9/16 | 2 9/16 | 5/8 | 3 1/4 | 2.406 | 1 1/2 | 12 7/8 | 1 1/4 | 12 | 61 | 21 |
| 1155 | 8K | 50 | 158 | 165 | 65 | 65 | 16 | 88 | 61 | 40 | 327 | 32 | 300 | | 10 |
| | | 65 | 184 | 184 | 68 | 68 | 16 | 100 | 74 | 48 | 373 | 43 | 300 | | 20 |
| | 9L | 2 1/2 | 7 1/4 | 7 1/4 | 2 11/16 | 2 11/16 | 5/8 | 3 15/16 | 2.906 | 1 7/8 | 14 11/16 | 1 11/16 | 12 | 86 | 43 |
| 1155 | 10M | 3 | - | 9 5/8 | - | 3 5/8 | - | 4 3/8 | - | 2 1/4 | 16 13/16 | 2 7/32 | 14 | 122 | 65 |
| | | 80 | - | 244 | - | 92 | - | 110 | - | 58 | 427 | 56 | 350 | | 30 |
| | 4 | - | 12 | - | 5 5/16 | - | 4 7/8 | - | 2 5/8 | 18 25/32 | 2 1/2 | 18 | 170 | 110 | |
| | | 100 | - | 300 | - | 135 | - | 124 | - | 67 | 477 | 65 | 450 | | 50 |

* Socket Weld dimensions shown; Consult factory for Butt Weld dimensions.
 Numbers shown in Black indicate dimensions in inches, weight in pounds. Numbers shown in blue indicate dimensions in mm, weights in kilograms.
 Threaded end valves are nominal ASME B16.34 rated. Consult factory for other ratings.
 NOTE: All weights are approximate for shipping purposes only. Information on Figure Number Variations can be found on page 32.

| PRESSURE CLASS | Size Code | Pipe Size | A | | B | | C* | D | E* | F | G | H | J | Cv | Wgt | |
|----------------|--------------|-----------|-------------|--------------|--------------|---------------|---------------|-------------|----------------|-------------|--------------|-----------------|---------------|----------------|-----------|--------------|
| | | SW | BW | SW | BW | | | | | | | | | | | |
| 1500 | NOMINAL | 3D | 1/2 15 | 3 3/4 95 | 3 3/4 95 | 1 1/2 40 | 1 1/2 40 | 3/8 10 | 1 5/8 41 | 0.855 22 | 1/2 15 | 7 3/8 187 | 9/16 14 | 6 1/2 165 | 6 | 5 2 |
| | | 5E | 3/4 20 | 4 1/2 115 | 4 3/4 120 | 1 3/4 45 | 1 3/4 45 | 1/2 15 | 2 5/16 59 | 1.065 27 | 5/8 16 | 8 13/16 224 | 11/16 17 | 8 200 | 10 | 11 5 |
| | INTERMEDIATE | 5F | 1 25 | 4 1/2 115 | 4 3/4 120 | 1 3/4 45 | 1 3/4 45 | 1/2 15 | 2 5/16 59 | 1.330 34 | 13/16 21 | 9 227 | 25/32 20 | 8 200 | 15 | 10 5 |
| | | 6G | 1 1/4 32 | 5 1/2 140 | 6 1/8 156 | 2 1/8 54 | 2 7/16 62 | 1/2 15 | 2 11/16 68 | 1.675 43 | 1 25 | 9 13/16 249 | 1 3/16 30 | 8 200 | 24 | 15 7 |
| | | 7H | 1 1/2 40 | 6 1/4 158 | 6 1/2 165 | 2 9/16 65 | 2 9/16 65 | 1/2 15 | 3 1/4 88 | 1.915 49 | 1 1/4 32 | 12 3/4 320 | 1 3/16 30 | 12 300 | 38 | 22 10 |
| | | 8J | 2 50 | 7 1/4 184 | 7 1/4 184 | 2 11/16 68 | 2 11/16 68 | 5/8 16 | 3 15/16 100 | 2.406 61 | 1 1/2 40 | 14 21/32 372 | 1 11/16 43 | 12 300 | 62 | 45 20 |
| | | 9K | 2 1/2 65 | 9 5/8 244 | 9 5/8 244 | 3 5/16 84 | 3 5/8 92 | 5/8 16 | 4 3/8 111 | 2.906 74 | 1 7/8 48 | 16 23/32 425 | 2 5/32 55 | 14 350 | 86 | 71 32 |
| | | 10L | 3 80 | - 300 | 12 300 | - 135 | 5 5/16 135 | - 135 | 4 7/8 124 | - 124 | 2 1/4 58 | 18 1/2 465 | 2 3/16 56 | 18 450 | 122 | 110 50 |
| | | 10L | 4 100 | - 300 | 12 300 | - 135 | 5 5/16 135 | - 135 | 4 7/8 124 | - 124 | 2 1/4 58 | 18 1/2 465 | 2 3/16 56 | 18 450 | 122 | 110 50 |
| | | 2500 | NOMINAL | 3C | 1/2 15 | 3 3/4 95 | 3 3/4 95 | 1 1/2 40 | 1 1/2 40 | 3/8 10 | 1 5/8 41 | 0.855 22 | 7/16 11 | 7 5/16 186 | 1/2 15 | 6 1/2 165 |
| 5E | 3/4 20 | | | 4 1/2 115 | 4 3/4 120 | 1 3/4 45 | 1 3/4 45 | 1/2 15 | 2 5/16 59 | 1.065 27 | 5/8 16 | 8 13/16 224 | 11/16 17 | 8 200 | 10 | 11 5 |
| INTERMEDIATE | 5E | | 1 25 | 4 1/2 115 | 4 3/4 120 | 1 3/4 45 | 1 3/4 45 | 1/2 15 | 2 5/16 59 | 1.330 34 | 5/8 16 | 8 13/16 224 | 11/16 17 | 8 200 | 10 | 11 5 |
| | 7G | | 1 1/4 32 | 6 1/4 158 | 6 1/2 165 | 2 9/16 65 | 2 9/16 65 | 1/2 15 | 3 1/4 88 | 1.675 43 | 1 25 | 12 3/4 320 | 1 3/16 30 | 12 300 | 24 | 23 10 |
| | 7G | | 1 1/2 40 | 6 1/4 158 | 6 1/2 165 | 2 9/16 65 | 2 9/16 65 | 1/2 15 | 3 1/4 88 | 1.915 49 | 1 25 | 12 3/4 320 | 1 3/16 30 | 12 300 | 24 | 23 10 |
| | 8H | | 2 50 | 7 1/4 184 | 7 1/4 184 | 2 11/16 68 | 2 11/16 68 | 5/8 16 | 3 15/16 100 | 2.406 61 | 1 1/4 32 | 14 1/4 358 | 1 5/16 33 | 12 300 | 38 | 47 21 |
| | 9J | | 2 1/2 65 | - 244 | 9 5/8 244 | - 92 | 3 5/8 92 | 5/8 16 | 4 3/8 111 | 2.906 74 | 1 1/2 40 | 16 11/32 415 | 1 5/8 41 | 14 350 | 62 | 74 34 |
| | 10K | | 3 80 | - 300 | 12 300 | 5 5/16 135 | 5 5/16 135 | - 135 | 4 7/8 124 | - 124 | 1 7/8 48 | 18 15/32 469 | 2 1/8 54 | 18 450 | 88 | 114 52 |
| | 10K | | 4 100 | - 300 | 12 300 | 5 5/16 135 | 5 5/16 135 | - 135 | 4 7/8 124 | - 124 | 1 7/8 48 | 18 15/32 469 | 2 1/8 54 | 18 450 | 88 | 114 52 |
| | 3500 | | NOMINAL | 5D | 1/2 15 | 4 1/2 115 | 4 3/4 120 | 1 3/4 45 | 1 3/4 45 | 3/8 10 | 2 5/16 59 | 0.855 22 | 1/2 15 | 8 11/16 221 | 5/8 16 | 6 1/2 165 |
| 5D | | 3/4 20 | | 4 1/2 115 | 2 5/16 59 | 1 3/4 45 | 1 3/4 45 | 1/2 15 | 2 5/16 59 | 1.065 27 | 1/2 15 | 8 11/16 221 | 5/8 16 | 6 1/2 165 | 6 | 10 5 |
| INTERMEDIATE | | 6E | 1 25 | 5 1/2 140 | 6 1/8 156 | 2 1/8 54 | 2 7/16 62 | 1/2 15 | 2 11/16 68 | 1.330 34 | 5/8 16 | 9 15/16 252 | 11/16 17 | 8 200 | 10 | 16 7 |
| | | 7F | 1 1/4 32 | 6 1/4 158 | 6 1/2 165 | 2 9/16 65 | 2 9/16 65 | 1/2 15 | 3 1/4 88 | 1.675 43 | 13/16 21 | 12 15/32 317 | 7/8 22 | 12 300 | 16 | 24 11 |
| | | 8G | 1 1/2 40 | 7 1/4 184 | 7 1/4 184 | 2 11/16 68 | 2 11/16 68 | 1/2 15 | 3 15/16 100 | 1.915 49 | 1 25 | 14 7/32 361 | 1 3/16 30 | 12 300 | 24 | 50 23 |
| | | 8G | 2 50 | - 184 | 7 1/4 184 | - 68 | 2 11/16 68 | - 68 | 3 15/16 100 | - 100 | 1 25 | 14 7/32 361 | 1 3/16 30 | 12 300 | 24 | 50 23 |
| | | 9H | 2 50 | 9 229 | - - | 3 5/16 84 | - - | 5/8 16 | 4 3/8 111 | 2.406 61 | 1 1/4 32 | 15 15/16 405 | 1 7/16 37 | 12 300 | 39 | 68 31 |
| | | 9H | 2 1/2 65 | - 244 | 9 5/8 244 | - 92 | 3 5/8 92 | - 92 | 4 3/8 111 | - 111 | 1 1/4 32 | 15 15/16 405 | 1 7/16 37 | 12 300 | 39 | 68 31 |
| | | 10J | 3 80 | - 300 | 12 300 | - 135 | 5 5/16 135 | - 135 | 4 7/8 124 | - 124 | 1 1/2 40 | 18 5/32 461 | 1 13/16 46 | 14 350 | 62 | 112 51 |
| | | 10J | 4 100 | - 300 | 12 300 | - 135 | 5 5/16 135 | - 135 | 4 7/8 124 | - 124 | 1 1/2 40 | 18 5/32 461 | 1 15/16 49 | 14 350 | 62 | 112 51 |
| 4500 | NOMINAL | 5C | 1/2 15 | 4 1/2 115 | 4 3/4 120 | 1 3/4 45 | 1 3/4 45 | 3/8 10 | 2 5/16 59 | 0.855 22 | 7/16 11 | 8 3/4 222 | 11/16 17 | 6 1/2 165 | 4 | 12 5 |
| | | 6E | 3/4 20 | 5 1/2 140 | 6 1/8 156 | 2 1/8 54 | 2 7/16 62 | 1/2 15 | 2 11/16 68 | 1.065 27 | 5/8 16 | 9 5/16 237 | 11/16 17 | 8 200 | 10 | 16 7 |
| | INTERMEDIATE | 6E | 1 25 | - 156 | 6 1/8 156 | - 62 | 2 7/16 62 | - 62 | 2 11/16 68 | - 68 | 5/8 16 | 9 5/16 237 | 11/16 17 | 8 200 | 10 | 16 7 |
| | | 7E | 1 25 | 6 1/4 158 | - - | 2 9/16 65 | - - | 1/2 15 | 3 1/4 83 | 1.330 34 | 5/8 16 | 12 1/8 308 | 7/8 22 | 8 200 | 10 | 25 11 |
| | | 7E | 1 1/2 40 | - 165 | 6 1/2 165 | - 65 | 2 9/16 65 | - 65 | 3 1/4 83 | - 83 | 5/8 16 | 12 1/8 308 | 7/8 22 | 12 300 | 10 | 25 11 |
| | | 8F | 1 1/2 40 | 7 1/4 184 | - - | 2 11/16 68 | - - | 1/2 15 | 3 15/16 100 | - 100 | 13/16 21 | 13 9/16 344 | 1 25 | 12 300 | 16 | 38 17 |
| | | 8F | 2 50 | - 184 | 7 1/4 184 | - 68 | 2 11/16 68 | - 68 | 3 15/16 100 | - 100 | 13/16 21 | 13 9/16 344 | 1 25 | 12 300 | 16 | 38 17 |
| | | 9G | 2 1/2 65 | - 244 | 9 5/8 244 | - 92 | 3 5/8 92 | - 92 | 4 3/8 111 | - 111 | 1 25 | 15 13/16 402 | 1 3/8 35 | 12 300 | 24 | 67 30 |
| | | 10H | 3 80 | - 300 | 12 300 | - 135 | 5 5/16 135 | - 135 | 4 7/8 124 | - 124 | 1 1/4 32 | 17 3/4 451 | 1 7/16 37 | 12 300 | 39 | 110 50 |
| | | 10H | 4 100 | - 300 | 12 300 | - 135 | 5 5/16 135 | - 135 | 4 7/8 124 | - 124 | 1 1/4 32 | 17 3/4 451 | 1 7/16 37 | 12 300 | 39 | 110 50 |

T-Pattern Stop, Check and Stop Check Valves

T-pattern, vertical stem globe valves provide easily accessible stems and extensions for remote manual operation. Available in 1/2" to 3"; ASME pressure classes through 4095; A105, F22, F91, F316, F347, Inconel™, Monel™ and other materials.



| PRESSURE CLASS | Size Code | Pipe Size | SW | BW | A | B | C* | D | E* | F | G | H | J | Cv | Wgt |
|----------------|-----------|-----------|-------|-------|---------|-----|--------|-------|-------|----------|--------|-------|----|----|-----|
| 900 | 3D | 1/2 | 5 | 5 | 1 1/2 | 3/8 | 1 5/8 | 0.855 | 1/2 | 7 1/4 | 9/16 | 6 1/2 | 5 | 6 | |
| | | 15 | 125 | 125 | 40 | 10 | 41 | 22 | 15 | 184 | 14 | 165 | 5 | 3 | |
| | 5E | 3/4 | 6 1/2 | 6 1/2 | 1 7/8 | 1/2 | 2 3/8 | 1.065 | 5/8 | 8 13/16 | 11/16 | 8 | 8 | 13 | |
| | | 20 | 165 | 165 | 48 | 15 | 60 | 27 | 16 | 224 | 17 | 200 | 8 | 6 | |
| INTERMEDIATE | 5F | 1 | 6 1/2 | 6 1/2 | 1 7/8 | 1/2 | 2 3/8 | 1.330 | 13/16 | 8 7/8 | 3/4 | 8 | 13 | 12 | |
| | | 25 | 165 | 165 | 48 | 15 | 60 | 34 | 21 | 225 | 20 | 200 | 8 | 5 | |
| | 7G | 1 1/4 | 8 1/2 | 8 1/2 | 2 13/16 | 1/2 | 3 3/16 | 1.675 | 1 | 12 11/16 | 1 3/16 | 12 | 19 | 25 | |
| | | 32 | 215 | 215 | 71 | 15 | 81 | 43 | 25 | 322 | 30 | 300 | 12 | 11 | |
| 1155 | 7H | 1 1/2 | 8 1/2 | 8 1/2 | 2 13/16 | 1/2 | 3 3/16 | 1.915 | 1 1/4 | 12 11/16 | 1 3/16 | 12 | 30 | 24 | |
| | | 40 | 215 | 215 | 71 | 15 | 81 | 49 | 32 | 322 | 30 | 300 | 12 | 11 | |
| | 8J | 2 | 10 | 10 | 3 3/4 | 5/8 | 3 7/8 | 2.406 | 1 1/2 | 15 | 1 5/8 | 12 | 51 | 55 | |
| | | 50 | 250 | 250 | 95 | 16 | 98 | 61 | 38 | 381 | 41 | 300 | 12 | 25 | |
| 2155 | 8J | 2 1/2 | - | 10 | 3 3/4 | - | 3 7/8 | - | 1 1/2 | 15 | 1 5/8 | 12 | 51 | 55 | |
| | | 65 | - | 250 | 95 | - | 98 | - | 40 | 381 | 41 | 300 | 12 | 25 | |
| | 8J | 3 | - | 10 | 3 3/4 | - | 3 7/8 | - | 1 1/2 | 15 | 1 5/8 | 12 | 51 | 55 | |
| | | 80 | - | 250 | 95 | - | 98 | - | 40 | 381 | 41 | 300 | 12 | 25 | |
| 1500 | 3D | 1/2 | 5 | 5 | 1 1/2 | 3/8 | 1 5/8 | 0.855 | 1/2 | 7 1/4 | 9/16 | 6 1/2 | 5 | 6 | |
| | | 15 | 127 | 127 | 40 | 10 | 41 | 22 | 15 | 184 | 14 | 165 | 5 | 3 | |
| | 5E | 3/4 | 6 1/2 | 6 1/2 | 1 7/8 | 1/2 | 2 3/8 | 1.065 | 5/8 | 8 13/16 | 11/16 | 8 | 8 | 13 | |
| | | 20 | 165 | 165 | 48 | 15 | 60 | 27 | 16 | 224 | 17 | 200 | 8 | 6 | |
| INTERMEDIATE | 5F | 1 | 6 1/2 | 6 1/2 | 1 7/8 | 1/2 | 2 3/8 | 1.330 | 3/16 | 8 7/8 | 3/4 | 8 | 13 | 12 | |
| | | 25 | 165 | 165 | 48 | 15 | 60 | 34 | 21 | 225 | 20 | 200 | 8 | 5 | |
| | 7G | 1 1/4 | 8 1/2 | 8 1/2 | 2 13/16 | 1/2 | 3 3/16 | 1.675 | 1 | 12 11/16 | 1 3/16 | 12 | 19 | 25 | |
| | | 32 | 215 | 215 | 71 | 15 | 81 | 43 | 25 | 322 | 30 | 300 | 12 | 11 | |
| 2155 | 7H | 1 1/2 | 8 1/2 | 8 1/2 | 2 13/16 | 1/2 | 3 3/16 | 1.915 | 1 1/4 | 12 11/16 | 1 3/16 | 12 | 30 | 24 | |
| | | 40 | 215 | 215 | 71 | 15 | 81 | 49 | 32 | 322 | 30 | 300 | 12 | 11 | |
| | 8J | 2 | 10 | 10 | 3 3/4 | 5/8 | 3 7/8 | 2.406 | 1 1/2 | 15 | 1 5/8 | 12 | 51 | 55 | |
| | | 50 | 250 | 250 | 95 | 16 | 98 | 61 | 40 | 381 | 41 | 300 | 12 | 25 | |
| 2155 | 8J | 2 1/2 | - | 10 | 3 3/4 | - | 3 7/8 | - | 1 1/2 | 15 | 1 5/8 | 12 | 51 | 55 | |
| | | 65 | - | 250 | 95 | - | 98 | - | 40 | 381 | 41 | 300 | 12 | 25 | |
| | 8J | 3 | - | 10 | 3 3/4 | - | 3 7/8 | - | 1 1/2 | 15 | 1 5/8 | 12 | 51 | 55 | |
| | | 80 | - | 250 | 95 | - | 98 | - | 40 | 381 | 41 | 300 | 12 | 25 | |

* Socket Weld dimensions shown; Consult factory for Butt Weld dimensions.
 Numbers shown in Black indicate dimensions in inches, weight in pounds. Numbers shown in blue indicate dimensions in mm, weights in kilograms.
 Threaded end valves are nominal ASME B16.34 rated. Consult factory for other ratings.
 NOTE: All weights are approximate for shipping purposes only. Information on Figure Number Variations can be found on page 32.

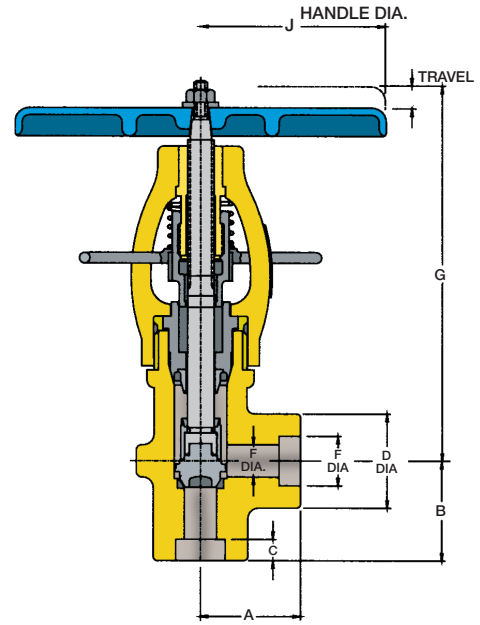
| PRESSURE CLASS | Size Code | Pipe Size | A | | B | C* | D | E* | F | G | H | J | Cv | Wgt |
|----------------|-----------|-----------|-------|---------|---------|--------|--------|-------|----------|----------|---------|-------|----|-----|
| | | | SW | BW | | | | | | | | | | |
| 2500 | 3C | 1/2 | 5 | 5 | 1 1/2 | 3/8 | 1 5/8 | 0.855 | 7/16 | 7 3/16 | 1/2 | 6 1/2 | 4 | 7 |
| | | 15 | 127 | 127 | 40 | 10 | 41 | 22 | 11 | 183 | 15 | 165 | 3 | |
| | 5E | 3/4 | 6 1/2 | 6 1/2 | 1 7/8 | 1/2 | 2 3/8 | 1.065 | 5/8 | 8 13/16 | 11/16 | 8 | 8 | 13 |
| | | 20 | 165 | 165 | 48 | 15 | 60 | 27 | 16 | 224 | 17 | 200 | 6 | |
| | 5E | 1 | 6 1/2 | 6 1/2 | 1 7/8 | 1/2 | 2 3/8 | 1.330 | 5/8 | 8 13/16 | 11/16 | 8 | 8 | 13 |
| | | 25 | 165 | 165 | 48 | 15 | 60 | 34 | 16 | 224 | 17 | 200 | 6 | |
| | 7G | 1 1/4 | 8 1/2 | 8 1/2 | 2 13/16 | 1/2 | 3 3/16 | 1.675 | 1 | 12 11/16 | 1 13/16 | 12 | 19 | 25 |
| | | 32 | 215 | 215 | 71 | 15 | 81 | 43 | 25 | 322 | 21 | 300 | 11 | |
| 7G | 1 1/2 | 8 1/2 | 8 1/2 | 2 13/16 | 1/2 | 3 3/16 | 1.915 | 1 | 12 11/16 | 1 13/16 | 12 | 19 | 25 | |
| | 40 | 215 | 215 | 71 | 15 | 81 | 49 | 25 | 322 | 21 | 300 | 11 | | |
| 3045 | 8H | 2 | 10 | 10 | 3 3/4 | 5/8 | 3 7/8 | 2.406 | 1 1/4 | 14 5/8 | 1 1/4 | 12 | 30 | 55 |
| | 50 | 250 | 250 | 95 | 16 | 98 | 61 | 32 | 371 | 32 | 300 | 25 | | |
| | 8H | 2 1/2 | - | 10 | 3 3/4 | - | 3 7/8 | - | 1 1/4 | 14 5/8 | 1 1/4 | 12 | 30 | 55 |
| | 65 | - | 250 | 95 | - | 98 | - | 32 | 371 | 32 | 300 | 25 | | |
| | 8H | 3 | - | 10 | 3 3/4 | - | 3 7/8 | - | 1 1/4 | 14 5/8 | 1 1/4 | 12 | 30 | 55 |
| | 80 | - | 250 | 95 | - | 98 | - | 32 | 371 | 32 | 300 | 25 | | |
| 3500 | 5D | 1/2 | 6 1/2 | 6 1/2 | 1 7/8 | 3/8 | 2 3/8 | 0.855 | 1/2 | 8 3/4 | 5/8 | 8 | 5 | 14 |
| | | 15 | 165 | 165 | 48 | 10 | 60 | 22 | 15 | 220 | 16 | 200 | 6 | |
| | 5D | 3/4 | 6 1/2 | 6 1/2 | 1 7/8 | 1/2 | 2 3/8 | 1.065 | 1/2 | 8 3/4 | 5/8 | 8 | 5 | 14 |
| | | 20 | 165 | 165 | 48 | 15 | 60 | 27 | 15 | 220 | 16 | 200 | 6 | |
| | 7F | 1 | 8 1/2 | 8 1/2 | 2 13/16 | 1/2 | 3 3/16 | 1.330 | 13/16 | 12 3/8 | 7/8 | 12 | 13 | 26 |
| | | 25 | 215 | 215 | 71 | 15 | 81 | 34 | 21 | 314 | 22 | 300 | 12 | |
| | 7F | 1 1/4 | - | 8 1/2 | 2 13/16 | - | 3 3/16 | - | 13/16 | 12 3/8 | 7/8 | 12 | 13 | 26 |
| | | 32 | - | 215 | 71 | - | 81 | - | 21 | 314 | 22 | 300 | 12 | |
| 7F | 1 1/2 | - | 8 1/2 | 2 13/16 | - | 3 3/16 | - | 13/16 | 12 3/8 | 7/8 | 12 | 13 | 26 | |
| | 40 | - | 215 | 71 | - | 81 | - | 21 | 314 | 22 | 300 | 12 | | |
| 4095 | 8G | 1 1/4 | 10 | - | 3 3/4 | 1/2 | 3 7/8 | 1.675 | 1 | 14 5/8 | 1 3/16 | 12 | 19 | 49 |
| | 32 | 250 | - | 95 | 15 | 98 | 43 | 25 | 371 | 30 | 300 | 22 | | |
| | 8G | 1 1/2 | 10 | - | 3 3/4 | 1/2 | 3 7/8 | 1.915 | 1 | 14 5/8 | 1 3/16 | 12 | 19 | 49 |
| | 40 | 250 | - | 95 | 15 | 98 | 49 | 25 | 371 | 30 | 300 | 22 | | |
| | 8G | 2 | - | 10 | 3 3/4 | - | 3 7/8 | - | 1 | 14 5/8 | 1 3/16 | 12 | 19 | 49 |
| | 50 | - | 250 | 95 | - | 98 | - | 25 | 371 | 30 | 300 | 22 | | |
| 8G | 2 1/2 | - | 10 | 3 3/4 | - | 3 7/8 | - | 1 | 14 5/8 | 1 3/16 | 12 | 19 | 49 | |
| | 65 | - | 250 | 95 | - | 98 | - | 25 | 371 | 30 | 300 | 22 | | |
| 8G | 3 | - | 10 | 3 3/4 | - | 3 7/8 | - | 1 | 14 5/8 | 1 3/16 | 12 | 19 | 49 | |
| | 80 | - | 250 | 95 | - | 98 | - | 25 | 371 | 30 | 300 | 22 | | |

* Socket Weld dimensions shown; Consult factory for Butt Weld dimensions.
Numbers shown in Black indicate dimensions in inches, weight in pounds. Numbers shown in blue indicate dimensions in mm, weights in kilograms.
Threaded end valves are nominal ASME B16.34 rated. Consult factory for other ratings.
NOTE: All weights are approximate for shipping purposes only. Information on Figure Number Variations can be found on page 32.

Angle Stop, Check and Stop Check Valves

Angle pattern globe valves economically eliminate the need for separate valves and 90° joints. They also reduce the number of installation welds.

Available in 1/2" to 4"; ASME pressure classes through 4095; A105, F22, F91, F316, F347, Inconel™, Monel™ and other materials.



| PRESSURE CLASS | Size Code | Pipe Size | A | | B | C* | D | E* | F | G | H | J | Cv | Wgt |
|----------------|-----------|-----------|--------|--------|--------|--------|---------|--------|--------|---------|---------|-------|-----|-----|
| | | | SW | BW | | | | | | | | | | |
| 900 | 3D | 1/2 | 1 3/4 | 1 3/4 | 1 3/4 | 3/8 | 1 21/32 | 0.855 | 9/16 | 6 7/8 | 9/16 | 6 1/2 | 5 | 5 |
| | | 15 | 45 | 45 | 45 | 10 | 42 | 22 | 14 | 175 | 14 | 165 | 5 | 2 |
| | 5E | 3/4 | 2 5/16 | 2 5/16 | 2 5/16 | 1/2 | 2 5/16 | 1.065 | 11/16 | 8 3/16 | 11/16 | 8 | 8 | 11 |
| | | 20 | 59 | 59 | 59 | 15 | 59 | 27 | 17 | 208 | 17 | 200 | 8 | 5 |
| | 5F | 1 | 2 5/16 | 2 5/16 | 2 5/16 | 1/2 | 2 5/16 | 1.330 | 27/32 | 8 1/4 | 3/4 | 8 | 13 | 10 |
| 25 | 59 | 59 | 59 | 59 | 15 | 59 | 34 | 21 | 200 | 20 | 200 | 8 | 5 | |
| 1195 | 5G | 1 1/4 | 2 5/16 | 2 5/16 | 2 5/16 | 1/2 | 2 5/16 | 1.675 | 1 1/16 | 8 1/4 | 3/4 | 8 | 20 | 9 |
| | | 32 | 59 | 59 | 59 | 15 | 59 | 43 | 27 | 200 | 20 | 200 | 8 | 4 |
| | 7H | 1 1/2 | 2 3/4 | 2 3/4 | 4 1/4 | 1/2 | 3 1/4 | 1.915 | 1 9/32 | 11 7/8 | 1 3/16 | 12 | 30 | 21 |
| 40 | 70 | 70 | 108 | 15 | 80 | 49 | 33 | 302 | 30 | 300 | 12 | 46 | 10 | |
| 1500 | 7J | 2 | - | 2 3/4 | 4 1/4 | - | 3 1/4 | - | 1 9/16 | 12 1/8 | 1 1/4 | 12 | 46 | 20 |
| | | 50 | - | 70 | 108 | - | 80 | - | 40 | 311 | 32 | 300 | 12 | 9 |
| | 7J | 2 1/2 | - | 2 3/4 | 4 1/4 | - | 3 1/4 | - | 1 9/16 | 12 1/8 | 1 1/4 | 12 | 46 | 20 |
| | | 65 | - | 70 | 108 | - | 80 | - | 40 | 311 | 32 | 300 | 12 | 9 |
| | 8J | 2 | 3 | - | 4 1/2 | 5/8 | 3 15/16 | 2.406 | 1 9/16 | 14 | 2 | 12 | 46 | 42 |
| 50 | 80 | - | 115 | 16 | 100 | 61 | 40 | 350 | 41 | 300 | 12 | 46 | 19 | |
| 2155 | 10M | 2 1/2 | 5 | - | 6 | 5/8 | 4 7/8 | 2.906 | 2 5/8 | 15 1/4 | 1 13/16 | 18 | 127 | 106 |
| | | 65 | 125 | - | 150 | 16 | 125 | 74 | 66 | 387 | 46 | 450 | 18 | 48 |
| | 10M | 3 | - | 5 | 6 | - | 4 7/8 | - | 2 5/8 | 15 1/4 | 1 13/16 | 18 | 127 | 106 |
| | | 80 | - | 125 | 150 | - | 125 | - | 66 | 387 | 46 | 450 | 18 | 48 |
| | 10M | 4 | - | 5 | 6 | - | 4 7/8 | - | 2 5/8 | 15 1/4 | 1 13/16 | 18 | 127 | 106 |
| 100 | - | 125 | 150 | - | 125 | - | 66 | 387 | 46 | 450 | 18 | 48 | | |
| 1500 | 3D | 1/2 | 1 3/4 | 1 3/4 | 1 3/4 | 3/8 | 1 21/32 | 0.855 | 9/16 | 6 7/8 | 9/16 | 6 1/2 | 5 | 5 |
| | | 15 | 45 | 45 | 45 | 10 | 42 | 22 | 14 | 175 | 14 | 165 | 5 | 2 |
| | 5E | 3/4 | 2 5/16 | 2 5/16 | 2 5/16 | 1/2 | 2 5/16 | 1.065 | 11/16 | 8 3/16 | 11/16 | 8 | 8 | 11 |
| | | 20 | 59 | 59 | 59 | 15 | 59 | 27 | 17 | 208 | 17 | 200 | 8 | 5 |
| | 2155 | 5F | 1 | 2 5/16 | 2 5/16 | 2 5/16 | 1/2 | 2 5/16 | 1.330 | 27/32 | 8 1/4 | 3/4 | 8 | 13 |
| 25 | | | 59 | 59 | 59 | 15 | 59 | 34 | 21 | 210 | 20 | 200 | 8 | 5 |
| 7G | | 1 1/4 | 2 3/4 | 2 3/4 | 4 1/4 | 1/2 | 3 1/4 | 1.675 | 1 1/16 | 11 7/8 | 1 3/16 | 12 | 20 | 23 |
| 32 | 70 | 70 | 108 | 15 | 83 | 43 | 27 | 302 | 30 | 300 | 12 | 46 | 10 | |
| 1500 | 7H | 1 1/2 | 2 3/4 | 2 3/4 | 4 1/4 | 1/2 | 3 1/4 | 1.915 | 1 9/32 | 11 7/8 | 1 3/16 | 12 | 30 | 21 |
| | | 40 | 70 | 70 | 108 | 15 | 83 | 49 | 33 | 302 | 30 | 300 | 12 | 10 |
| | 8J | 2 | 3 | 3 | 4 1/2 | 5/8 | 3 15/16 | 2.406 | 1 9/16 | 14 | 1 5/8 | 12 | 46 | 42 |
| | | 50 | 80 | 80 | 114 | 16 | 100 | 61 | 40 | 350 | 41 | 300 | 12 | 46 |
| | 8J | 2 1/2 | - | 3 | 4 1/2 | - | 3 15/16 | - | 1 9/16 | 14 | 1 5/8 | 12 | 46 | 42 |
| 65 | - | 80 | 114 | - | 100 | - | 40 | 350 | 41 | 300 | 12 | 46 | 19 | |
| 2155 | 10L | 2 1/2 | 5 | - | 6 | 5/8 | 4 7/8 | 2.906 | 2 1/4 | 15 1/4 | 1 13/16 | 18 | 91 | 107 |
| | | 65 | 125 | - | 150 | 16 | 124 | 74 | 57 | 387 | 46 | 450 | 18 | 49 |
| | 10L | 3 | - | 5 | 6 | - | 4 7/8 | - | 2 1/4 | 15 1/4 | 1 13/16 | 18 | 91 | 107 |
| 80 | - | 127 | 150 | - | 124 | - | 57 | 387 | 46 | 450 | 18 | 91 | 49 | |
| 10L | 4 | - | 5 | 6 | - | 4 7/8 | - | 2 1/4 | 15 1/4 | 1 13/16 | 18 | 91 | 107 | |
| 100 | - | 125 | 150 | - | 124 | - | 57 | 387 | 46 | 450 | 18 | 91 | 49 | |

* Socket Weld dimensions shown; Consult factory for Butt Weld dimensions.
 Numbers shown in Black indicate dimensions in inches, weight in pounds. Numbers shown in blue indicate dimensions in mm, weights in kilograms.
 Threaded end valves are nominal ASME B16.34 rated. Consult factory for other ratings.
 NOTE: All weights are approximate for shipping purposes only. Information on Figure Number Variations can be found on page 32.

| PRESSURE CLASS | Size Code | Pipe Size | A | | B | C* | D | E* | F | G | H | J | Cv | Wgt |
|----------------|-----------|-----------|--------|--------|--------|---------|---------|--------|--------|---------|---------|-------|-----|-----|
| | | | SW | BW | | | | | | | | | | |
| 2500 | 3C | 1/2 | 1 3/4 | 1 3/4 | 1 3/4 | 3/8 | 1 21/32 | 0.855 | 7/16 | 6 3/4 | 1/2 | 6 1/2 | 4 | 6 |
| | | 15 | 44 | 44 | 44 | 10 | 42 | 22 | 11 | 171 | 15 | 165 | | 3 |
| | 5E | 3/4 | 2 5/16 | 2 5/16 | 2 5/16 | 1/2 | 2 5/16 | 1.065 | 11/16 | 8 3/16 | 11/16 | 8 | 8 | 11 |
| | | 20 | 59 | 59 | 59 | 15 | 59 | 27 | 17 | 208 | 17 | 200 | | 5 |
| | 5E | 1 | 2 5/16 | 2 5/16 | 2 5/16 | 1/2 | 2 5/16 | 1.330 | 11/16 | 8 3/16 | 11/16 | 8 | 8 | 11 |
| | | 25 | 59 | 59 | 59 | 15 | 59 | 34 | 17 | 208 | 17 | 200 | | 5 |
| 7G | 1 1/4 | 2 3/4 | 2 3/4 | 4 1/4 | 1/2 | 3 1/4 | 1.675 | 1 1/16 | 11 7/8 | 1 3/16 | 12 | 20 | 23 | |
| | 32 | 70 | 70 | 108 | 15 | 83 | 43 | 27 | 302 | 30 | 300 | | 10 | |
| 7G | 1 1/2 | - | 2 3/4 | 4 1/4 | - | 3 1/4 | - | 1 1/16 | 11 7/8 | 1 3/16 | 12 | 20 | 23 | |
| | 40 | - | 70 | 108 | - | 83 | - | 27 | 302 | 30 | 300 | | 10 | |
| 3045 | 8H | 1 1/2 | 3 | - | 4 1/2 | 1/2 | 3 15/16 | 1.915 | 1 9/32 | 13 5/8 | 1 1/4 | 12 | 30 | 42 |
| | | 40 | 80 | - | 115 | 15 | 100 | 49 | 33 | 346 | 32 | 300 | | 19 |
| | 8H | 2 | 3 | 3 | 4 1/2 | 5/8 | 3 15/16 | 2.406 | 1 9/32 | 13 5/8 | 1 1/4 | 12 | 30 | 42 |
| | | 50 | 80 | 80 | 115 | 16 | 100 | 61 | 33 | 346 | 32 | 300 | | 19 |
| | 8H | 2 1/2 | - | 3 | 4 1/2 | - | 3 15/16 | - | 1 9/32 | 13 5/8 | 1 1/4 | 12 | 30 | 42 |
| | | 65 | - | 80 | 115 | - | 100 | - | 33 | 346 | 32 | 300 | | 19 |
| 10K | 2 1/2 | 5 | - | 6 | 5/8 | 4 7/8 | 2.906 | 1 7/8 | 15 1/4 | 1 13/16 | 18 | 65 | 108 | |
| | 65 | 125 | - | 152 | 16 | 124 | 74 | 48 | 387 | 46 | 450 | | 49 | |
| 10K | 3 | - | 5 | 6 | - | 4 7/8 | - | 1 7/8 | 15 1/4 | 1 13/16 | 18 | 65 | 108 | |
| | 80 | - | 125 | 152 | - | 124 | - | 48 | 387 | 46 | 450 | | 49 | |
| 10K | 4 | - | 5 | 6 | - | 4 7/8 | - | 1 7/8 | 15 1/4 | 1 13/16 | 18 | 65 | 108 | |
| | 100 | - | 125 | 152 | - | 124 | - | 48 | 387 | 46 | 450 | | 49 | |
| 3500 | 5D | 1/2 | 2 5/16 | 2 5/16 | 2 5/16 | 3/8 | 2 5/16 | 0.855 | 9/16 | 8 1/8 | 5/8 | 8 | 5 | 11 |
| | | 15 | 59 | 59 | 59 | 10 | 59 | 22 | 14 | 206 | 16 | 200 | | 5 |
| | 5D | 3/4 | 2 5/16 | 2 5/16 | 2 5/16 | 1/2 | 2 5/16 | 1.065 | 9/16 | 8 1/8 | 5/8 | 8 | 5 | 11 |
| | | 20 | 59 | 59 | 59 | 15 | 59 | 27 | 14 | 206 | 16 | 200 | | 5 |
| | 7F | 1 | 2 3/4 | 2 3/4 | 4 1/4 | 1/2 | 3 1/4 | 1.330 | 27/32 | 11 3/8 | 7/8 | 12 | 13 | 24 |
| | | 25 | 70 | 70 | 115 | 15 | 88 | 34 | 21 | 289 | 22 | 300 | | 11 |
| 7F | 1 1/4 | - | 2 3/4 | 4 1/4 | - | 3 1/4 | - | 27/32 | 11 3/8 | 7/8 | 12 | 13 | 24 | |
| | 32 | - | 70 | 115 | - | 88 | - | 21 | 289 | 22 | 300 | | 11 | |
| 8G | 1 1/4 | 3 | - | 4 1/2 | 1/2 | 3 15/16 | 1.675 | 1 1/16 | 13 1/4 | 1 3/16 | 12 | 20 | 45 | |
| | 32 | 80 | - | 115 | 15 | 100 | 43 | 27 | 337 | 30 | 300 | | 20 | |
| 8G | 1 1/2 | 3 | 3 | 4 1/2 | 1/2 | 3 15/16 | 1.915 | 1 1/16 | 13 1/4 | 1 3/16 | 12 | 20 | 45 | |
| | 40 | 80 | 80 | 115 | 15 | 100 | 49 | 27 | 337 | 30 | 300 | | 20 | |
| 8G | 2 | - | 3 | 4 1/2 | - | 3 15/16 | - | 1 1/16 | 13 1/4 | 1 3/16 | 12 | 20 | 45 | |
| | 50 | - | 80 | 115 | - | 100 | - | 27 | 337 | 30 | 300 | | 20 | |
| 8G | 2 1/2 | - | 3 | 4 1/2 | - | 3 15/16 | - | 1 1/16 | 13 1/4 | 1 3/16 | 12 | 20 | 45 | |
| | 65 | - | 80 | 115 | - | 100 | - | 27 | 337 | 30 | 300 | | 20 | |
| 4095 | 10J | 2 1/2 | 5 | - | 6 | 5/8 | 4 7/8 | 2.906 | 1 9/16 | 15 1/4 | 1 13/16 | 14 | 50 | 103 |
| | | 65 | 125 | - | 152 | 16 | 124 | 74 | 40 | 387 | 46 | 350 | | 47 |
| | 10J | 3 | - | 5 | 6 | - | 4 7/8 | - | 1 9/16 | 15 1/4 | 1 13/16 | 14 | 50 | 103 |
| | | 80 | - | 125 | 152 | - | 124 | - | 40 | 387 | 46 | 350 | | 47 |
| 10J | 4 | - | 5 | 6 | - | 4 7/8 | - | 1 9/16 | 15 1/4 | 1 13/16 | 14 | 50 | 103 | |
| | 100 | - | 125 | 152 | - | 124 | - | 40 | 387 | 46 | 350 | | 47 | |

* Socket Weld dimensions shown; Consult factory for Butt Weld dimensions.
Numbers shown in Black indicate dimensions in inches, weight in pounds. Numbers shown in blue indicate dimensions in mm, weights in kilograms.
Threaded end valves are nominal ASME B16.34 rated. Consult factory for other ratings.
NOTE: All weights are approximate for shipping purposes only. Information on Figure Number Variations can be found on page 32.

Throttling Valve

Pressure Class

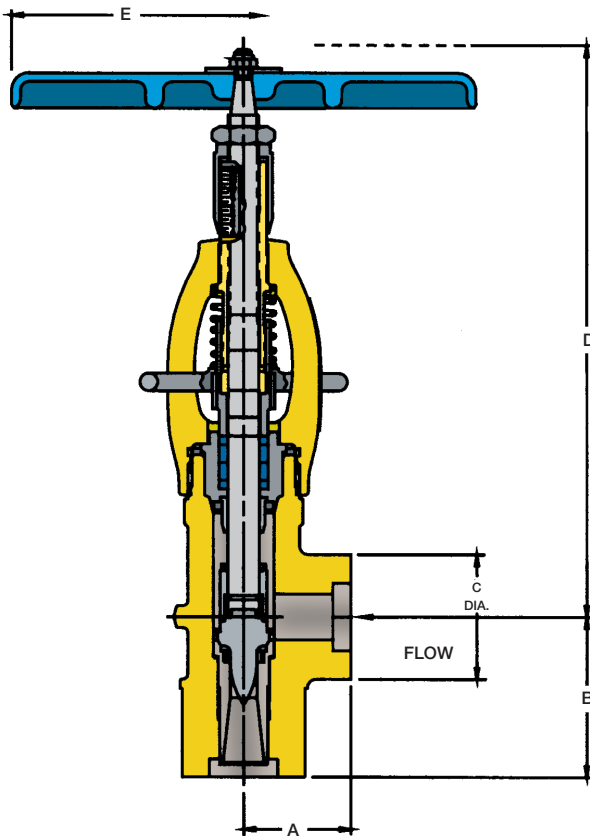
Full ASME rated through 3045. Higher intermediate and limited class ratings are available. Consult factory.

Features

- Replaceable 440C SS Seat/Venturi
- Low Velocity Across the Main Seat
- Precise Flow Control
- Position Indicator
- Pressure Seal Bonnet
- Superior Control Micrometer Dial
- Ease of Actuation:
Air Motor Hydraulic

To Specify

- 1.) Use "U" as the valve design modifier in the figure number. (e.g. 1.50-13U2J-F22)
- 2.) Indicate orifice size or inlet pressure and temperature and required maximum flow.

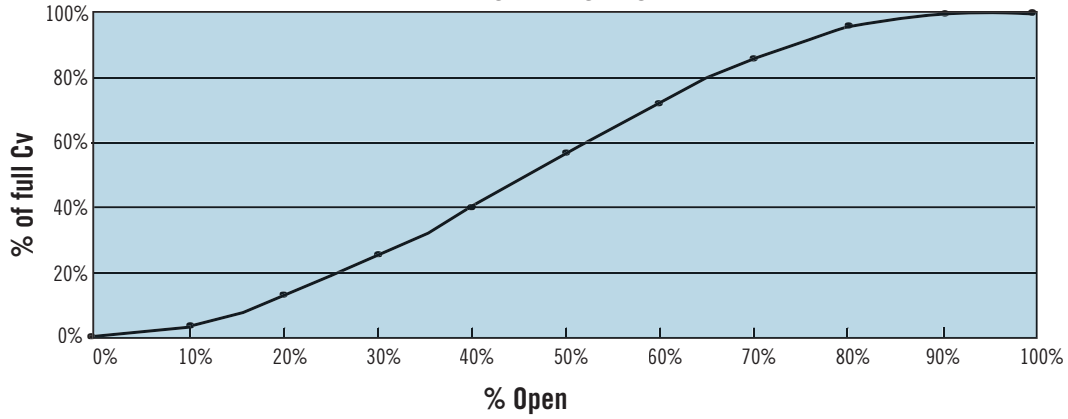


| PRESSURE CLASS | Size Code | Pipe Size | A | B | C | D | E | Wgt | | |
|----------------|--------------|--------------|-------------|--------------|--------------|--------------|----------------|---------------|-----------|-----------|
| 900 | NOMINAL | 5E | 1/2 15 | 2 5/16 59 | 4 100 | 3 5/16 84 | 9 3/4 248 | 8 200 | 13 59 | |
| | | 5E | 3/4 20 | 2 5/16 59 | 4 100 | 3 5/16 84 | 9 3/4 248 | 8 200 | 13 59 | |
| | | 5E | 1 25 | 2 5/16 59 | 4 100 | 3 5/16 84 | 9 3/4 248 | 8 200 | 13 59 | |
| | INTERMEDIATE | 7G | 1 25 | 2 3/4 70 | 4 1/4 108 | 3 1/4 88 | 13 3/8 340 | 12 300 | 26 118 | |
| | | 7G | 1 1/4 32 | 2 3/4 70 | 4 1/4 108 | 3 1/4 88 | 13 3/8 340 | 12 300 | 26 118 | |
| | | 7G | 1 1/2 40 | 2 3/4 70 | 4 1/4 108 | 3 1/4 88 | 13 3/8 340 | 12 300 | 26 118 | |
| | 1155 | INTERMEDIATE | 7G | 2 50 | 2 3/4 70 | 4 1/4 108 | 3 1/4 88 | 13 3/8 340 | 12 300 | 26 118 |
| | | | 8H | 2 50 | 3 80 | 4 1/2 114 | 3 15/16 100 | 15 1/8 384 | 12 300 | 40 182 |
| | | NOMINAL | 8H | 2 1/2 65 | 3 80 | 4 1/2 114 | 3 15/16 100 | 15 1/8 384 | 12 300 | 40 182 |
| | | | 10K | 3 80 | 5 125 | 6 152 | 4 7/8 124 | 18 5/8 473 | 18 450 | 86 390 |
| | | NOMINAL | 10K | 4 100 | 5 125 | 6 152 | 4 7/8 124 | 18 5/8 473 | 18 450 | 86 390 |
| | | | 10K | 4 100 | 5 125 | 6 152 | 4 7/8 124 | 18 5/8 473 | 18 450 | 86 390 |
| 1500 | NOMINAL | 5E | 1/2 15 | 2 5/16 59 | 4 100 | 3 5/16 84 | 9 3/4 248 | 8 200 | 13 59 | |
| | | 5E | 3/4 20 | 2 5/16 59 | 4 100 | 3 5/16 84 | 9 3/4 248 | 8 200 | 13 59 | |
| | | 5E | 1 25 | 2 5/16 59 | 4 100 | 3 5/16 84 | 9 3/4 248 | 8 200 | 13 59 | |
| | INTERMEDIATE | 7G | 1 25 | 2 3/4 70 | 4 1/4 108 | 3 1/4 88 | 13 3/8 340 | 12 300 | 26 118 | |
| | | 7G | 1 1/4 32 | 2 3/4 70 | 4 1/4 108 | 3 1/4 88 | 13 3/8 340 | 12 300 | 26 118 | |
| | | 7G | 1 1/2 40 | 2 3/4 70 | 4 1/4 108 | 3 1/4 88 | 13 3/8 340 | 12 300 | 26 118 | |
| | 2155 | INTERMEDIATE | 8H | 1 1/4 32 | 3 80 | 4 1/2 115 | 3 15/16 100 | 15 1/8 384 | 12 300 | 40 182 |
| | | | 8H | 1 1/2 40 | 3 80 | 4 1/2 115 | 4 7/8 124 | 15 1/8 384 | 12 300 | 40 182 |
| | | NOMINAL | 8H | 2 50 | 3 80 | 4 1/2 115 | 4 7/8 124 | 15 1/8 384 | 12 300 | 40 182 |
| | | | 10K | 2 1/2 65 | 5 125 | 6 152 | 4 7/8 124 | 18 5/8 473 | 18 450 | 86 390 |
| | | NOMINAL | 10K | 3 80 | 5 125 | 6 152 | 4 7/8 124 | 18 5/8 473 | 18 450 | 86 390 |
| | | | 10K | 4 100 | 5 125 | 6 152 | 4 7/8 124 | 18 5/8 473 | 18 450 | 86 390 |
| 2500 | NOMINAL | 5E | 1/2 15 | 2 5/16 59 | 4 100 | 3 5/16 84 | 9 3/4 248 | 8 200 | 13 59 | |
| | | 5E | 3/4 20 | 2 5/16 59 | 4 100 | 3 5/16 84 | 9 3/4 248 | 8 200 | 13 59 | |
| | | 5E | 1 25 | 2 5/16 59 | 4 100 | 3 5/16 84 | 9 3/4 248 | 8 200 | 13 59 | |
| | INTERMEDIATE | 7G | 1 25 | 2 3/4 70 | 4 1/4 108 | 3 1/4 88 | 13 3/8 340 | 12 300 | 26 118 | |
| | | 7G | 1 1/4 32 | 2 3/4 70 | 4 1/4 108 | 3 1/4 88 | 13 3/8 340 | 12 300 | 26 118 | |
| | | 7G | 1 1/2 40 | 2 3/4 70 | 4 1/4 108 | 3 1/4 88 | 13 3/8 340 | 12 300 | 26 118 | |
| | 3045 | INTERMEDIATE | 8H | 1 1/4 32 | 3 80 | 4 1/2 115 | 3 15/16 100 | 15 1/8 384 | 12 300 | 40 182 |
| | | | 8H | 1 1/2 40 | 3 80 | 4 1/2 115 | 4 7/8 124 | 15 1/8 384 | 12 300 | 40 182 |
| | | NOMINAL | 8H | 2 50 | 3 80 | 4 1/2 115 | 4 7/8 124 | 15 1/8 384 | 12 300 | 40 182 |
| | | | 10K | 2 1/2 65 | 5 125 | 6 152 | 4 7/8 124 | 18 5/8 473 | 18 450 | 86 390 |
| | | NOMINAL | 10K | 3 80 | 5 125 | 6 152 | 4 7/8 124 | 18 5/8 473 | 18 450 | 86 390 |
| | | | 10K | 4 100 | 5 125 | 6 152 | 4 7/8 124 | 18 5/8 473 | 18 450 | 86 390 |

* Socket Weld dimensions shown; Consult factory for Butt Weld dimensions.
 Numbers shown in Black indicate dimensions in inches, weight in pounds. Numbers shown in blue indicate dimensions in mm, weights in kilograms.
 Butt Weld dimensions determined by pipe schedule.
 NOTE: All weights are approximate for shipping purposes only. Information on Figure Number Variations can be found on page 32.

Throttling Valve

TYPICAL FLOW CHART



SPECIFICATIONS

| Size Code Fig. No. | Pipe Size (Inches) | Cv Standard Orifice Size | | | | | | | | | | | | | | Wt. (lbs.) | |
|-----------------------|--------------------------|-----------------------------|------|-----|------|-----|------|-----|------|-----|-------|-----|-------|-----|-------|---------------|----|
| | | 1/8 | 3/16 | 1/4 | 5/16 | 3/8 | 7/16 | 1/2 | 9/16 | 5/8 | 11/16 | 3/4 | 13/16 | 7/8 | 15/16 | | 1 |
| 5E | 1/2 3/4 1 | 0.3 | 0.6 | 1.1 | - | - | - | - | - | - | - | - | - | - | - | - | 12 |
| 7G | 1 1 1/4 1 1/2 2 | - | - | 1.1 | 1.7 | 2.5 | 3.3 | 4.3 | 5 | - | - | - | - | - | - | - | 26 |
| 8H | 1 1/4 1 1/2 2 | - | - | - | - | - | 3.5 | 4.6 | 6 | 7 | 9 | 10 | - | - | - | - | 40 |
| 10K | 2 2 1/2 3 4 | - | - | - | - | - | - | - | 6 | 7 | 9 | 10 | 12 | 14 | 16 | 19 | 86 |

-Socket Weld Specifications Shown. Butt Weld Available. Other orifices available upon request.

| Size Code Fig. No. | Pipe Size (mm) | Cv Standard Orifice Size | | | | | | | | | | | | | | Wt. (kg.) | |
|-----------------------|-----------------------|-----------------------------|-----|-----|-----|-----|-----|-----|----|----|----|----|----|----|----|--------------|------|
| | | 3 | 5 | 6 | 8 | 10 | 11 | 13 | 14 | 16 | 17 | 19 | 21 | 22 | 24 | | 25 |
| 5E | 13 19 25 | 0.3 | 0.6 | 1.1 | - | - | - | - | - | - | - | - | - | - | - | - | 5.4 |
| 7G | 25 32 38 51 | - | - | 1.1 | 1.7 | 2.5 | 3.3 | 4.3 | 5 | - | - | - | - | - | - | - | 11.8 |
| 8H | 32 38 51 | - | - | - | - | - | 3.3 | 4.6 | 6 | 7 | 9 | 10 | - | - | - | - | 18.2 |
| 10K | 51 64 76 102 | - | - | - | - | - | - | - | 6 | 7 | 9 | 10 | 12 | 14 | 16 | 19 | 39.0 |

Conval Camseal™ Ball Valves
are designed for the
world's most demanding
high-pressure,
high-temperature
applications.



STANDARD SIZES

1/2" through 4" Top Entry
SW, BW and FNPT Ends

PRESSURE RATING

ASME Class 900 through 4500

STANDARD MATERIALS

Carbon Steel WCB, WC9, and C12A
Stainless Steel Cast 316/316L
Other materials available upon request

STANDARD ACCESSORIES

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



DESIGN FEATURES

Conval Camseal Ball Valve Provides Zero Leakage

Zero Body Leakage: The body/bonnet joint is not subject to pipeline stresses. There is no in-line body bolting to loosen and fatigue, so the body remains leak-free.

Zero Seat Leakage: All valves are capable of meeting zero bubbles for 4 minutes @ 50 psi and 1,000 psi Nitrogen at final factory hydrotest, after field in-line welding, following post-weld heat treat, during and after process thermal excursions including thermal shocks. Modular internals isolate critical seal surfaces from thermal effects..

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.

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.

Chrome Carbide Coating System

Conval's highly-engineered flame spray Chrome Carbide coating system has superior bond strength and coating density to provide long-life, leak-free performance even in high temperature drop applications.

In-line Servicing

In-line renewability can be accomplished in 30 minutes and restores Zero Leakage performance in the event of process application abuse.

Integral Mounting Pad

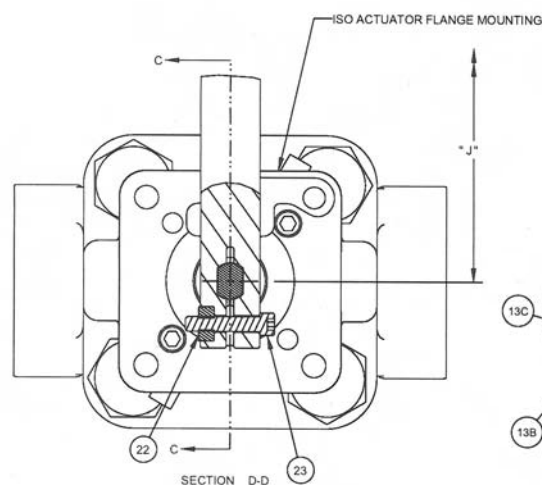
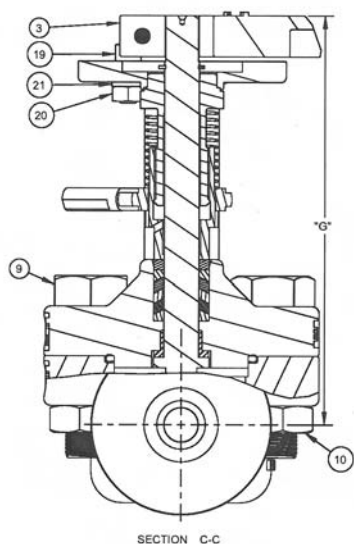
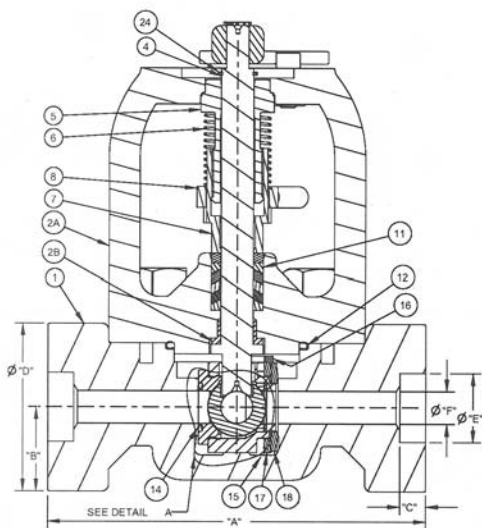
An ISO-5211 integral mounting pad facilitates error-free, air, motor and gear operator actuation due to superior rigidity, precise alignment and a fully-guided stem bearing system. Lockout capability is standard.

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.

United States Patent No. 7,267,323

CAMSEAL® BALL VALVE LIST OF MATERIALS



| NO. | NAME | QTY | MATERIAL | MATERIAL | MATERIAL | MATERIAL |
|-----|--------------------------|-----|--------------------------------|---------------------|----------------------|------------------------|
| 1 | BODY | 1 | ASME-SA-216 Gr. WCB | ASME-SA-217 Gr. WC9 | ASME-SA-217 Gr. C12A | ASME-SA-351-CF3M |
| 2 | BONNET ASSEMBLY | 1 | | | | |
| 2A | BONNET | 1 | ASME-SA-216 Gr. WCB | ASME-SA-217 Gr. WC9 | ASME-SA-217 Gr. C12A | ASME-SA-351-CF3M |
| 2B | BONNET STEM BEARING | 1 | ASME-SA479 TYPE 410 | ASME SA479 TYPE 410 | ASME SA479 TYPE 410 | ASME SA479 TYPE 316 |
| 3 | HANDLE | 1 | ASME-SA-216 Gr. WCB | ASME-SA-216 Gr. WCB | ASME-SA-216 Gr. WCB | ASME-SA-216 Gr. WCB |
| 4 | STEM | 1 | ASTM A582 TYPE 416 | ASTM A582 TYPE 416 | ASTM A582 TYPE 416 | ASME SA479 TYPE XM-19H |
| 5 | BUSHING GLAND | 1 | ASME SB150 | ASME SB150 | ASME SB150 | ASME SB150 |
| 6 | IGW SPRING | 1 | MFR STD STAINLESS | MFR STD STAINLESS | MFR STD STAINLESS | MFR STD STAINLESS |
| 7 | GLAND | 1 | ASTM A582 TYPE 416 | ASTM A582 TYPE 416 | ASTM A582 TYPE 416 | ASME SA479 TYPE 316 |
| 8 | IGW | 1 | AMS 5360, AMS 5370 | AMS 5360, AMS 5370 | AMS 5360, AMS 5370 | AMS 5360, AMS 5370 |
| 9 | BODY BOLT | SD | ASME SA193 B16 | ASME SA193 B16 | ASME SA193 B16 | ASME SA193 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 | 2 | GARLOCK QUICK SET 9001 PACKING | | | |
| 12 | C-RING BONNET/BODY | 1 | ASTM B670 | ASTM B670 | ASTM B670 | ASTM B670 |
| 13 | CARTRIDGE ASSY | 1 | | | | |
| 13A | CARTRIDGE | 1 | ASME SA479 TYPE 410 | ASME SA479 TYPE 410 | ASME SA479 TYPE 410 | ASME SA479 TYPE 316 |
| 13B | COATED SEAT | 1 | ASME SA479 TYPE 410 | ASME SA479 TYPE 410 | ASME SA479 TYPE 410 | ASME SFA5.14 |
| 13C | COATED BALL | 1 | ASME SA479 TYPE 410 | ASME SA479 TYPE 410 | ASME SA479 TYPE 410 | ASME SFA5.14 |
| 13D | UPSTREAM SEAT | 1 | ASME SA479 TYPE 410 | ASME SA479 TYPE 410 | ASME SA479 TYPE 410 | ASME SA479 TYPE 316 |
| 13E | UPSTREAM SEAT BELLEVILLE | 1 | ASTM B670, AMS 5596 | ASTM B670, AMS 5596 | ASTM B670, AMS 5596 | ASTM B670, AMS 5596 |
| 14 | C-RING SEAT TO BODY | 1 | ASTM B670 | ASTM B670 | ASTM B670 | ASTM B670 |
| 15 | CAM | 2 | ASME SA479 TYPE 410 | ASME SA479 TYPE 410 | ASME SA479 TYPE 410 | ASME SA479 TYPE XM-19H |
| 16 | CAM LOCK | 1 | ASME SA240 TYPE 316 | ASME SA240 TYPE 316 | ASME SA240 TYPE 316 | ASME SA240 TYPE 316 |
| 17 | SPACER | 1 | ASME SFA5.14 | ASME SFA5.14 | ASME SFA5.14 | ASME SFA5.14 |
| 18 | CAM BELLEVILLE | 1 | ASTM B670, AMS 5596 | ASTM B670, AMS 5596 | ASTM B670, AMS 5596 | ASTM B670, AMS 5596 |
| 19 | STOP BOLT | 2 | MFR STD STAINLESS | MFR STD STAINLESS | MFR STD STAINLESS | MFR STD STAINLESS |
| 20 | STOP NUT | 2 | MFR STD STAINLESS | MFR STD STAINLESS | MFR STD STAINLESS | MFR STD STAINLESS |
| 21 | STOP LOCK WASHER | 2 | MFR STD STAINLESS | MFR STD STAINLESS | MFR STD STAINLESS | MFR STD STAINLESS |
| 22 | HANDLE NUT | 1 | MFR STD STAINLESS | MFR STD STAINLESS | MFR STD STAINLESS | MFR STD STAINLESS |
| 23 | HANDLE BOLT | 1 | MFR STD STAINLESS | MFR STD STAINLESS | MFR STD STAINLESS | MFR STD STAINLESS |
| 24 | SNAP RING STEM RETAINER | 1 | MFR STD | MFR STD | MFR STD | MFR STD |

Note: Stainless Steel Item 23 – key material shown (Nitronic 50) supplied for Inconel 718 stems. Key material not shown (Nitronic 60) supplied for Nitronic 50 stems.

| SIZE | SIZE | ASME CODE | ASME CLASS | INCHES | | | | | | | LBS. WEIGHT | CV | |
|--------------|------|-----------|------------|--------|---------|---|---------|---|--------|---------|-------------|--------|---------|
| | | | | A | B | C | D | E | F | G | | | J |
| 1/2 THRU 1 | 1/2 | 5E | 1700# | 7 1/4 | 1 5/8 | | 3 1/4 | - | 5/8 | 7 3/8 | 15 3/16 | 30 1/4 | 14-42* |
| | | | 3100# | | | | | | | | | | |
| 1/2 THRU 1 | 1/4 | 7E | 4500# | 9 1/4 | 2 | | 4 | - | 5/8 | 10 5/32 | 24 3/16 | 60 | 37-71* |
| 2 THRU 2 | 1/2 | 7H | 1700# | 9 1/4 | 2 | | 4 | - | 1 1/16 | 10 5/32 | 24 3/16 | 62 | |
| | | | 3100# | | | | | | | | | | |
| 1 1/2 THRU 4 | | 9H | 4500# | 11 | 2 11/32 | - | 4 11/16 | - | 1 1/16 | 11 1/2 | 32 | 100 | 69-107* |
| 3 THRU 4 | | 9J | 1700# | 11 | 2 11/32 | | 4 11/16 | | 1 1/2 | 11 1/2 | 32 | 112 | |
| | | | 3100# | | | | | | | | | | |

| SIZE | SIZE | ASME CODE | ASME CLASS | MILLIMETERS | | | | | | | KG WEIGHT | CV | |
|--------------|------|-----------|------------|-------------|----|---|-----|---|----|-----|-----------|------|---------|
| | | | | A | B | C | D | E | F | G | | | J |
| 1/2 THRU 1 | 1/2 | 5E | 1700# | 184 | 41 | - | 83 | - | 16 | 187 | 386 | 13.7 | 14-42* |
| | | | 3100# | | | | | | | | | | |
| 1/2 THRU 1 | 1/4 | 7E | 4500# | 235 | 51 | - | 102 | - | 16 | 258 | 614 | 27.2 | 37-71* |
| 2 THRU 2 | 1/2 | 7H | 1700# | 235 | 51 | - | 102 | - | 27 | 258 | 614 | 28.1 | |
| | | | 3100# | | | | | | | | | | |
| 1 1/2 THRU 4 | | 9H | 4500# | 279 | 60 | - | 119 | - | 27 | 292 | 813 | 45.4 | 69-107* |
| 3 THRU 4 | | 9J | 1700# | 279 | 60 | - | 119 | - | 38 | 292 | 813 | 50.8 | |
| | | | 3100# | | | | | | | | | | |

*The first number represents the Practical Cv based on pipe ID, the second number represents the Max Cv of the valve.

CLAMPSEAL SWIVLDISC GATE VALVE

Swivldisc Gate Valve with bypass

- Integral Gland Wrench
- In Line Repairable
- Adaptable for Air or Motor Actuators

The Conval CLAMPSEAL® Swivldisc Gate Valve delivers performance at the standard set by the legendary CLAMPSEAL® Globe Valve.

The Swivldisc wedge gate design employs a floating disc face which permits the seating surfaces to achieve perfect alignment, establishing a leak tight seal not possible with standard wedge gates.

The simple and effective CLAMPSEAL® pressure seal bonnet provides ready access for servicing with no welds to cut or seal rings or gaskets to replace. The body-to-bonnet joint integrity is maintained through countless thermal cycles.

The Conval packing system delivers the best performance available. The one-piece gland with integral gland wrench is readily adjustable at anytime. Repacking can be accomplished by swapping the bonnet-chamber with the fresh pre-packed unit. The fine finish of the stem and chamber combines with high performance graphite packing to ensure long packing service life.

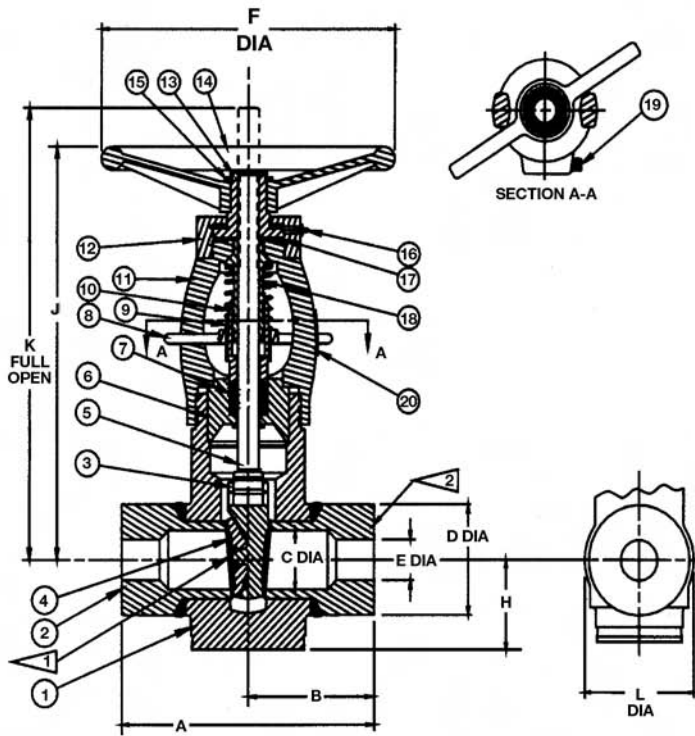
Selection of the CLAMPSEAL® Swivldisc is a commitment to quality at best value.

Conval's Swivldisc is the gate valve of choice when performance must be assured in the most demanding services.



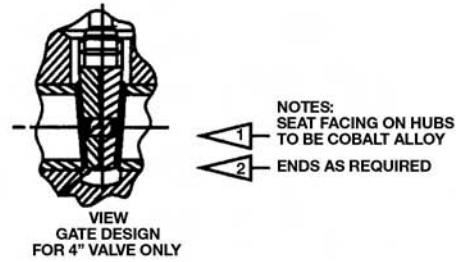
- *Swivldisc gate*
- *Pressure Seal Bonnet*
- *High Performance Graphite Packing*
- *One Piece Gland*
- *Unobstructed, Full Port Flow*

Materials List & Dimensions



MATERIALS

| No. | Name | Qty. | Material | Specification |
|-----|----------------|------|---------------------------------|---------------------------|
| 1 | Body | 1 | Carbon Steel | ASME SA-216 GR WCB |
| 2 | Hub | 2 | Carbon Steel | ASME SA-696 GR. C |
| 3 | Gate | 1 | Stainless Steel Cobalt Alloy | ASME SA-479 TYPE 410 |
| 4 | Disc | 1 | Cobalt Alloy | |
| 5 | Stem | 1 | Stainless Steel | ASTM A582-TYPE 416 |
| 6 | Bonnet | 1 | Stainless Steel | ASME SA-479 TYPE 410 |
| 7 | Packing | SET | Graphite Rings | HIGH DENSITY GRAPHITE |
| 8 | IGW | 1 | Cast Stainless | Stainless Steel |
| 9 | Spring | 1 | Stainless Steel | Mfg. Std. |
| 10 | Gland | 1 | Stainless Steel | ASTM A582-TYPE416 |
| 11 | Yoke | 1 | Carbon Steel | ASME SA-216 GR WCB/SA-105 |
| 12 | Bearing Cap | 1 | Carbon Steel | Mfg. Std. |
| 13 | Stem Nut | 1 | Aluminum Bronze | ASME SB-150 UNS C64200 |
| 14 | Handwheel | 1 | Iron/Steel | Mfg. Std. |
| 15 | Retaining Ring | 1 | Stainless Steel | Mfg. Std. |
| 16 | Grease Fitting | 1 | Stainless Steel | Mfg. Std. |
| 17 | Bearing Set | 2 | Commercial | Mfg. Std. |
| 18 | Yoke Bushing | 1 | Aluminum Bronze | ASME SB-150 UNS C64200 |
| 19 | Clampbolt | 1 | Stainless Steel | Mfg. Std. |
| 20 | ID Plate | 1 | Stainless Steel | Mfg. Std. |



OTHER MATERIALS AVAILABLE UPON REQUEST

| Pressure Class | Size Code | Pipe Size | Valve Outline Dimensions | | | | | | | | | | Flow Cv |
|----------------|-----------|-----------|--------------------------|---------|-------|--------|-------|-------|--------|--------|--------|-------|---------|
| | | | A | B | C | D | E | F | H | J | K | L | |
| 1500 | 2E | 1/2 | 5 1/2 | 2 3/4 | 0.815 | 2 1/16 | 0.466 | 6 | 1 3/4 | 9 | 9 1/4 | 2 7/8 | 15 |
| | | 15 | 140 | 70 | 21 | 52 | 12 | 152 | 45 | 229 | 235 | 73 | |
| | 2E | 3/4 | 5 1/2 | 2 3/4 | 0.815 | 2 1/16 | 0.612 | 6 | 1 3/4 | 9 | 9 1/4 | 2 7/8 | 25 |
| | | 20 | 140 | 70 | 21 | 52 | 16 | 152 | 45 | 229 | 235 | 73 | |
| | 2E | 1 | 5 1/2 | 2 3/4 | 0.815 | 2 1/16 | 0.815 | 6 | 1 3/4 | 9 | 9 1/4 | 2 7/8 | 45 |
| | | 25 | 140 | 70 | 21 | 52 | 21 | 152 | 45 | 229 | 235 | 73 | |
| | 3G | 1 1/2 | 7 | 3 1/2 | 1.338 | 3 | 1.338 | 8 | 2 1/8 | 12 7/8 | 13 5/8 | 3 1/2 | 131 |
| | | 40 | 178 | 95 | 34 | 80 | 34 | 203 | 54 | 327 | 346 | 95 | |
| 4J | 2 | 8 1/2 | 4 1/4 | 1.689 | 3 3/4 | 1.689 | 10 | 2 7/8 | 15 3/4 | 16 5/8 | 4 3/4 | 225 | |
| | 50 | 215 | 108 | 43 | 95 | 43 | 254 | 73 | 400 | 422 | 120 | | |
| 5L | 2 1/2 | 10 | 5 | 2.300 | 5 1/8 | 2.125 | 14 | 4 | 19 5/8 | 20 1/2 | 7 | 348 | |
| | 65 | 250 | 125 | 58 | 130 | 54 | 356 | 100 | 498 | 515 | 178 | | |
| 6N | 3 | 12 | 6 | 2.624 | 5 1/4 | 2.624 | 14 | 4 | 19 5/8 | 20 5/8 | 7 | 535 | |
| | 80 | 300 | 150 | 67 | 133 | 67 | 356 | 100 | 498 | 524 | 178 | | |
| 8R | 4 | 16 | 8 | 3.438 | 6 3/4 | 3.438 | 14 | 4 3/4 | 22 1/2 | 25 1/2 | 7 1/2 | 958 | |
| | 100 | 400 | 200 | 87 | 170 | 87 | 356 | 120 | 565 | 648 | 191 | | |
| 2500 | 2D | 1/2 | 7 5/16 | 3 21/32 | 0.599 | 2 5/32 | 0.252 | 6 | 1 3/4 | 9 | 9 1/4 | 2 7/8 | 4 |
| | | 15 | 186 | 93 | 15 | 55 | 6 | 152 | 45 | 229 | 235 | 73 | |
| | 2D | 3/4 | 7 5/16 | 3 21/32 | 0.599 | 2 5/32 | 0.434 | 6 | 1 3/4 | 9 | 9 1/4 | 2 7/8 | 12 |
| | | 20 | 186 | 93 | 15 | 55 | 11 | 152 | 45 | 229 | 235 | 73 | |
| | 2D | 1 | 7 5/16 | 3 21/32 | 0.599 | 2 5/32 | 0.599 | 6 | 1 3/4 | 9 | 9 1/4 | 2 7/8 | 23 |
| | | 25 | 186 | 93 | 15 | 55 | 15 | 152 | 45 | 229 | 235 | 73 | |
| | 3F | 1 1/2 | 9 1/8 | 4 9/16 | 1.100 | 3 | 1.100 | 8 | 2 1/8 | 12 7/8 | 13 5/8 | 3 1/2 | 81 |
| | | 40 | 232 | 116 | 28 | 80 | 28 | 203 | 54 | 327 | 346 | 95 | |
| 4H | 2 | 11 | 5 1/2 | 1.503 | 3 3/4 | 1.503 | 10 | 2 7/8 | 15 3/4 | 16 3/8 | 4 3/4 | 157 | |
| | 50 | 279 | 140 | 38 | 95 | 38 | 254 | 73 | 400 | 416 | 120 | | |
| 5K | 2 1/2 | 13 | 6 1/2 | 2.300 | 5 1/8 | 1.771 | 14 | 4 | 19 5/8 | 20 1/2 | 7 | 240 | |
| | 65 | 330 | 165 | 58 | 130 | 45 | 356 | 100 | 498 | 521 | 178 | | |
| 6M | 3 | 14 1/2 | 7 1/4 | 2.300 | 5 1/8 | 2.300 | 14 | 4 | 19 5/8 | 20 1/2 | 7 | 405 | |
| | 80 | 365 | 184 | 58 | 130 | 58 | 356 | 100 | 498 | 521 | 178 | | |
| 8P | 4 | 18 | 9 | 3.152 | 6 1/4 | 3.152 | 14 | 4 3/4 | 22 1/2 | 24 1/2 | 7 1/2 | 806 | |
| | 100 | 450 | 229 | 80 | 158 | 80 | 356 | 120 | 565 | 622 | 191 | | |

Numbers shown in Black indicate dimensions in inches, weight in pounds. Numbers shown in blue indicate dimensions in mm.

CLAMPSEAL® Valve

CARTRIDGE REPLACEABLE PACKING CHAMBER

Fastest repacking of any valve by swapping bonnet assembly. Minimum packing volume reduces shrinkage and repacking costs. Graphite packing standard on all valves. Other options are available.

ACME BODY - YOKE CONNECTION

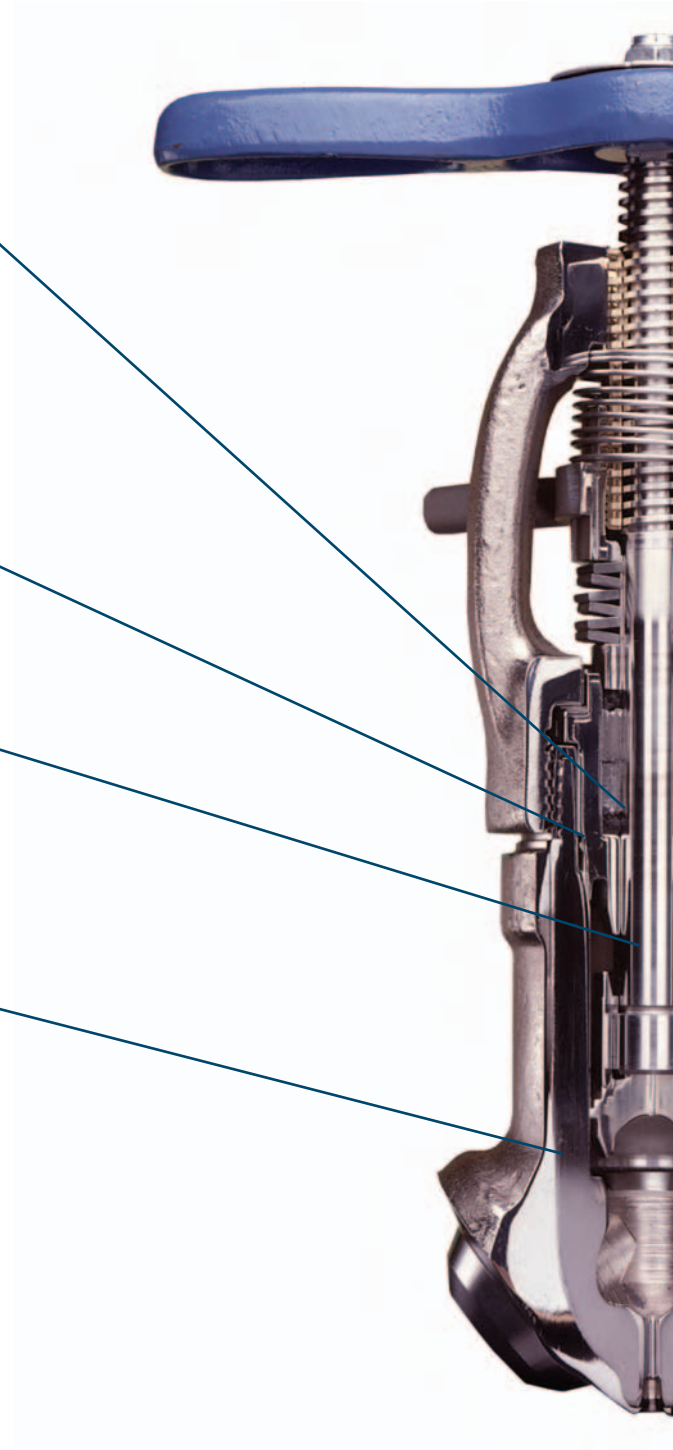
Strong and reliable for repeated valve maintenance.

PRESSURE ACTUATED BACKSEAT

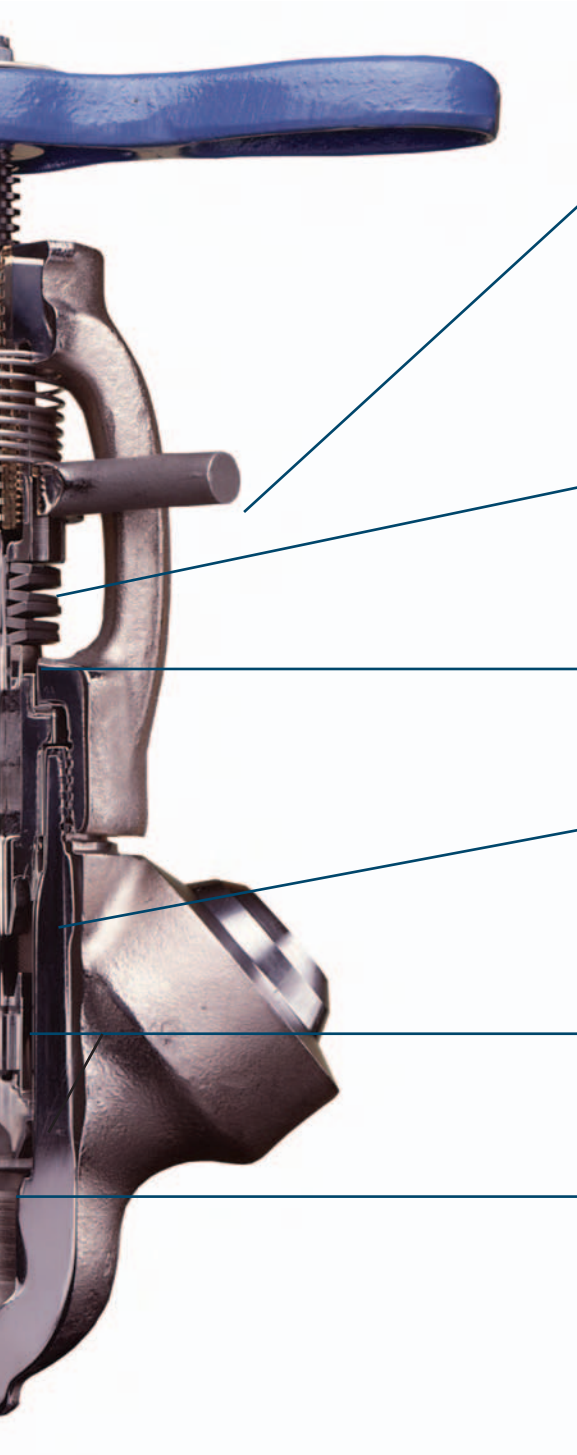
Backseat requires very low torque for total isolation of packing. Provides guide journal for stem, avoiding side load of packing.

ELECTROLESS - NICKEL PLATING

or stainless steel for wetted parts



The Most Advanced Forged Valve Available



INTEGRAL GLAND WRENCH

Makes packing adjustment simple. Provides lock on packing gland. Available on all size valves.

SINGLE PIECE PACKING GLAND

One step packing adjustment ensures concentric loading.

OPTIONAL LIVE LOADED GLAND

UNIQUE PRESSURE SEAL BONNET

Effective sealing accomplished without welds or gaskets.

SELF ALIGNING SEATING

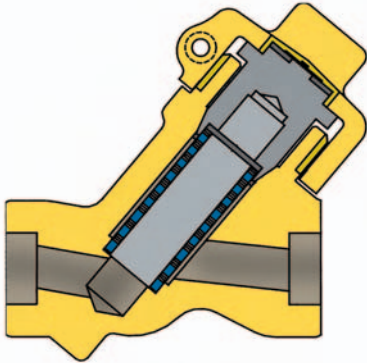
Disc-Retainer firmly engaged to stem yet free to align perfectly to seat. Made possible by advanced electron beam welding.

SOLID STELLITE™ SEAT AND DISC

Line contact seating for positive tight shutoff. Two stage pressure drop for reduced wear of seating surfaces. Abundant material for repeated refacing of seat surfaces.

Strainers

The CLAMPSEAL® design is available in a variety of in-line Y-strainer configurations. Supplied as either a simple strainer with blowoff socket connection or strainer with integral blowoff valve, the CLAMPSEAL® is easily disassembled for element cleaning or changeout. The CLAMPSEAL® offers a versatile economical alternative for strainer requirements.



CLAMPSEAL® Strainer

Specifications:

| | | |
|-----------|------------|----------|
| Size: | 1/2" - 4" | |
| Class: | 600 - 3500 | |
| Material: | SA | 105 |
| | SA | 182-F22 |
| | SA | 182-F91 |
| | SA | 182-F316 |

Standard Strainer

Element Hole Sizes: 1/32, 3/64, 1/16, 3/32, 1/8

Options: Mesh Lined Strainer Elements

Example: 0.75-11Y4-F22

CLAMPSEAL® Strainer W/Blowoff Valve

Specifications:

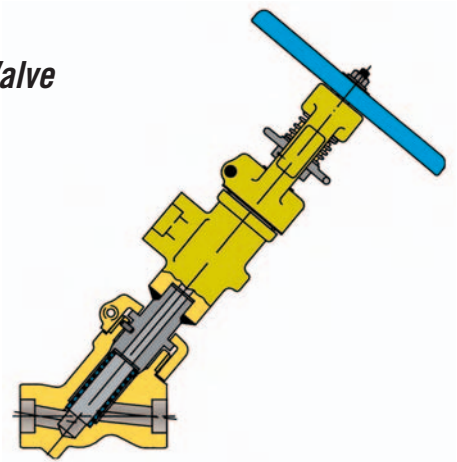
| | | |
|-----------|------------|----------|
| Size: | 1/2" - 4" | |
| Class: | 600 - 3500 | |
| Material: | SA | 105 |
| | SA | 182-F22 |
| | SA | 182-F91 |
| | SA | 182-F316 |

Standard Strainer

Element Hole Sizes: 1/32, 3/64, 1/16, 3/32, 1/8

Options: Mesh Lined Strainer Elements

Example: 0.50-13W2J-316



CLAMPSEAL® Strainer w/Blowoff Fitting

Specifications:

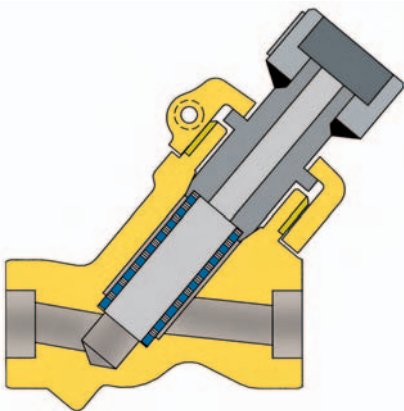
| | | |
|-----------|------------|----------|
| Size: | 1/2" - 4" | |
| Class: | 600 - 3500 | |
| Material: | SA | 105 |
| | SA | 182-F22 |
| | SA | 182-F91 |
| | SA | 182-F316 |

Standard Strainer

Element Hole Sizes: 1/32, 3/64, 1/16, 3/32, 1/8

Options: Mesh Lined Strainer Elements

Example: 0.50-13X2-316



Blowoff bonnet enables use of any CLAMPSEAL® Valve as a flush point.

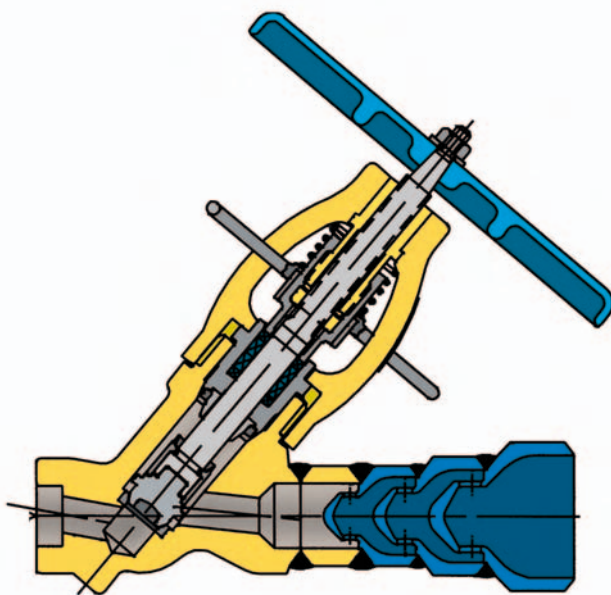
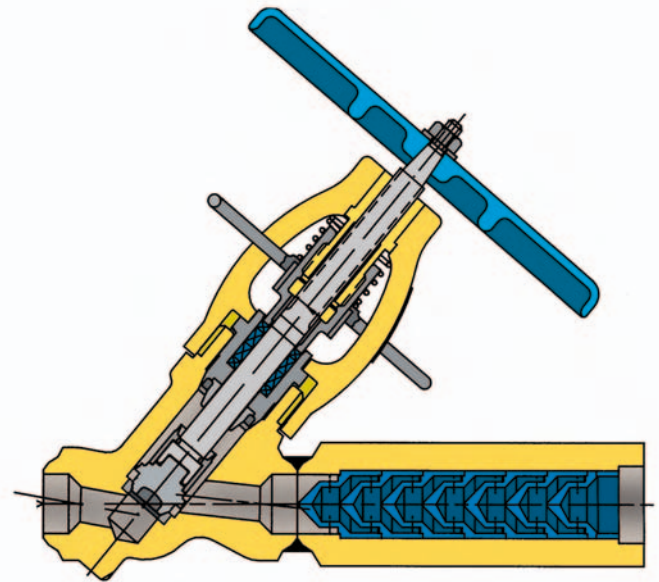
Whisperjets

High pressure drops introduce severe erosion and wear in normal service valves. The Conval globe valve receives the high pressure inlet stream. Discharge is through a series of multi pressure reduction stages called Whisperjets. Each Whisperjet section has four or six orifices around its perimeter. The orifices discharge inwardly, allowing the flow streams to impinge on each other rather than on the valve or sections themselves. These Whisperjets are designed to prevent sonic flow and critical pressure drops from occurring. By reducing the pressure in stages, cavitation, erosion, fluid velocity and sound level are minimized.

Water

Specifications:

| | |
|---------------|--|
| Type: | Angle, Y or T-pattern |
| Size: | 1/2" - 4" |
| Class: | ASME 600 - 4500 |
| End: | Socket Weld, Butt Weld |
| Material: | SA 182-F22, SA 182-F91, SA 105 |
| Actuation: | Air, Motor, Manual |
| Applications: | Feedwater Pump Recirculation Bypass, Steel Mill Descaling Processes |
| Example: | 1.00-22G2J-105 |



Steam

Specifications:

| | |
|---------------|--|
| Type: | Angle, Y or T-pattern |
| Size: | 1/2" - 4" |
| Class: | ASME 600 - 4500 |
| End: | Socket Weld, Butt Weld |
| Material: | SA 182-F22, SA 182-F91, SA 105 |
| Actuation: | Air, Motor, Manual |
| Applications: | Blowdown, Flash Tank Protection, Vents |
| Example: | 1.50-23G2J-F22 |

Whisperjets provide for the progressive increase in specific volume as pressure drops.

Bonnetless, B16.34 Process Valve

Outstanding Operating Features with Cost Effective Performance Benefits

- **OS&Y Design**— The outside screw and yoke design allows for trouble free operation because all operational threaded parts are outside of the system fluid.
- **Superior Axial Design**— provides tight concentricity to eliminate side loading and minimize wear forces on valve trim components.
- **Durable Materials of Construction**— available carbon steel (A105), low alloy (F22), and stainless steel (F316) materials offer excellent corrosion resistance. Special materials are available (consult factory).
- **Forged One Piece Body/Yoke**— has no welds or seams and provides excellent structural integrity over the life of the valve.
- **High Performance Packing System**— corrosion inhibited graphitic packing maintains packing loads at high temperatures for long periods. Uniform loading of the axial one-piece gland and a precisely machined stainless steel stem and stuffing box ensure a tight seal between packing material and sealing surfaces.
- **Easily Adjustable Integral Gland Wrench (IGW)**— one piece gland with integral wrench allows simple field adjustment of packing without special tools.
- **Stainless Steel Disc (plug) and Chrome Cobalt Seat**— provide excellent seating and ensure tight shut-off in the most demanding service.
- **Numerous End Configurations**— a choice of pipe or tube socket weld, butt weld, and female pipe threaded ends is available to suit any application.
- **Meets all requirements of ASME B16.34** pressure classes through 2500 lbs.

Versatility for a Wide Range of Process Applications

Conval Bonnetless Shut-Off Valves are suitable for use with high temperature, high pressure steam, chemicals, solvents, acids, gases and corrosive fluids. They can also be used in high purity systems, chemical processing, gauge, drain valve or vent shut-off, instrument isolation, hydraulics, pneumatics, sampling, test bench and feed line applications.

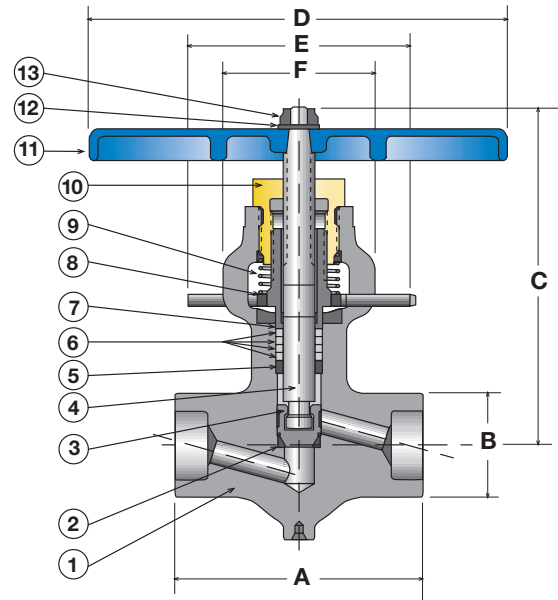
A Choice of Standard Sizes

Pressure Rating: Full ASME B16.34 rated through 2500. Limited class ratings are available (consult factory).

Temperature Range: -280 to 1,100 F, depending on material selection.

To Specify:

1. Use "1" in the product type modifier indicating it is a bonnetless valve (e.g.: .50-12103-105).



| No. | Name | Quantity | Material | Specification |
|-----|-----------------------|----------|---|------------------------------------|
| 1 | Body | 1 | A105 F22 F316 | SA105 SA 182-F22 SA 182-F316 |
| 2 | Seat Ring | 1 | CoCr | |
| 3 | Disc | 1 | 410/N60 | SS |
| 4 | Stem | 1 | 17-4PH/N50 | |
| 5 | Packing Retainer | 1 | SS | Mfg. Std. |
| 6 | Packing | 3 | Graphitic or Fluoroelastomer (Teflon®) | |
| 7 | Gland Bushing | 1 | SS | SA 479 T316 |
| 8 | Integral Gland Wrench | 1 | SS | Mfg. Std. |
| 9 | Spring | 1 | SS | Mfg. Std. |
| 10 | Yoke Nut | 1 | Aluminum Bronze | SB150 |
| 11 | Handle | 1 | Ductile Iron | Mfg. Std. |
| 12 | Washer | 1 | SS | Mfg. Std. |
| 13 | Locknut | 1 | SS | Mfg. Std. |

| Size Code | Pipe Size | A | B | Dimensions | | | | Pressure Class | Cv (Approx.) | Wt |
|-----------|-----------|------|------|------------|------|------|------|----------------|--------------|-----|
| | | | | C (open) | D | E | F | | | |
| 1A | 1/4-3/8 | 2.75 | 1.25 | 4.62 | 5.00 | 2.50 | 1.25 | 2500 | 1 | 1.5 |
| 1A | 6-10 | 70 | 32 | 117 | 125 | 64 | 32 | 2500 | | 0.7 |
| 2C | 1/2-3/4 | 3.75 | 1.63 | 5.75 | 6.50 | 4.00 | 1.75 | 2500 | 2 | 3.5 |
| 2C | 13-19 | 95 | 41 | 145 | 165 | 102 | 45 | 2500 | | 1.6 |

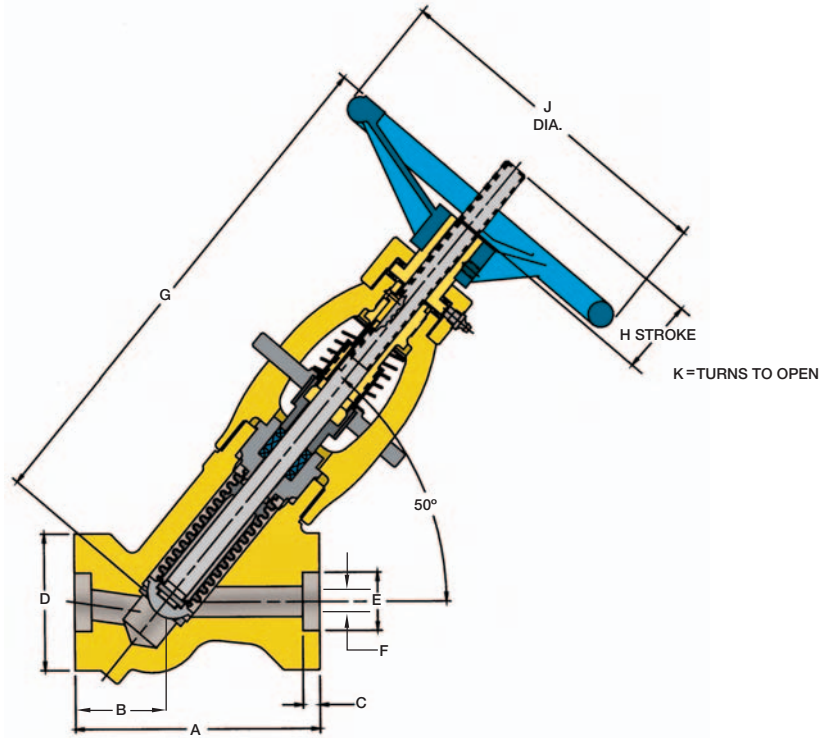
Numbers shown in Black indicate dimensions in inches, weight in pounds. Numbers shown in blue indicate dimensions in mm, weights in kilograms.

Bellows Seal Valve

Packed valves require two different seals: a 360° seal on the stem and a 360° seal on the stuffing box. The Conval Bellows Seal Valve removes these two leak paths.

Conval Bellows Seal Valves are used when packed valves may not reliably contain light gases or hazardous system fluids. The multi-ply Inconel™ static bellows stem seal is more reliable in most applications than sliding stem seals.

Conval Bellows Seal Valves have a secondary graphite packing and a pressure actuated backseat to contain system fluids in the unlikely event of a Bellows rupture.



| PRESSURE CLASS | Pipe Size | A | B | C | D | E | F | G | H | J | Flow CV | Wt. (LBs.)/(kgs) | Size CODE | |
|----------------|-----------|-------|---------|--------|---------|---------|-------|----------|--------|-------|---------|------------------|-----------|----|
| 1500 | 1/2 | 6 1/8 | 2 7/16 | 1/2 | 2 11/16 | 0.860 | 5/8 | 11 7/8 | 0.563 | 8 | 6.7 | 22.5 | 6E | |
| | 15 | 156 | 62 | 15 | 68 | 22 | 16 | 302 | 14 | 200 | 6.7 | 10.2 | 6E | |
| | 3/4 | 6 1/8 | 2 7/16 | 1/2 | 2 11/16 | 0.860 | 5/8 | 11 7/8 | 0.563 | 8 | 6.7 | 22.5 | 6E | |
| | 20 | 156 | 62 | 15 | 68 | 22 | 16 | 302 | 14 | 200 | 6.7 | 10.2 | 6E | |
| | 1 | 6 1/8 | 2 7/16 | 1/2 | 2 11/16 | 1.335 | 1 | 11 7/8 | 0.563 | 8 | 13.8 | 21 | 6G | |
| | 25 | 156 | 62 | 15 | 68 | 22 | 25 | 302 | 14 | 200 | 13.8 | 9.5 | 6G | |
| | 1 1/4 | 6 1/8 | 2 7/16 | 1/2 | 2 11/16 | 1.680 | 1 | 11 7/8 | 0.563 | 8 | 13.8 | 21 | 6G | |
| | 32 | 156 | 62 | 15 | 68 | 43 | 25 | 302 | 14 | 200 | 13.8 | 9.5 | 6G | |
| | 1 1/2 | 7 1/4 | 2 11/16 | 5/8 | 3 15/16 | 1.920 | 1 1/2 | 16 5/16 | 0.774 | 10 | 31.0 | 40 | 8J | |
| | 40 | 184 | 68 | 16 | 100 | 49 | 40 | 414 | 20 | 250 | 31.0 | 18.1 | 8J | |
| 2500 | 2 | 7 1/4 | 2 11/16 | 5/8 | 3 15/16 | 2.411 | 1 1/2 | 16 5/16 | 0.774 | 10 | 31.0 | 40 | 8J | |
| | 50 | 184 | 68 | 16 | 100 | 61 | 40 | 414 | 20 | 250 | 31.0 | 18.1 | 8J | |
| | 2 1/2 | 12 | 5-9/32 | 5/8 | 4 7/8 | 2.913 | 2 1/4 | 20 3/16 | 0.911 | 14 | 55.0 | 96 | 10L | |
| | 65 | 300 | 134 | 16 | 124 | 74 | 58 | 512 | 23 | 350 | 55.0 | 43.5 | 10L | |
| | 3 | 12 | 5 9/32 | * | 4 7/8 | * | 2 1/4 | 20 3/16 | 0.911 | 14 | 55.0 | 96 | 10L | |
| | 80 | 300 | 134 | | 124 | | 58 | 512 | 23 | 350 | 55.0 | 43.5 | 10L | |
| | 4 | 12 | 5 9/32 | * | 4 7/8 | * | 2 1/4 | 20 3/16 | 0.911 | 14 | 55.0 | 96 | 10L | |
| | 100 | 300 | 134 | | 124 | | 58 | 512 | 23 | 350 | 55.0 | 43.5 | 10L | |
| | 1500 | 1/2 | 6 1/8 | 2-7/16 | 1/2 | 2 11/16 | 0.860 | 5/8 | 11 5/8 | 0.350 | 8 | 4.8 | 22.5 | 6E |
| | | 15 | 156 | 62 | 15 | 68 | 22 | 16 | 295 | 9 | 200 | 4.8 | 10.2 | 6E |
| 3/4 | | 6 1/8 | 2 7/16 | 1/2 | 2 11/16 | 0.860 | 5/8 | 11 5/8 | 0.350 | 8 | 4.8 | 22.5 | 6E | |
| 20 | | 156 | 62 | 15 | 68 | 22 | 16 | 295 | 9 | 200 | 4.8 | 10.2 | 6E | |
| 1 | | 6 1/8 | 2 7/16 | 1/2 | 2 11/16 | 1.335 | 13/16 | 11 5/8 | 0.350 | 8 | 6.8 | 22 | 6F | |
| 25 | | 156 | 62 | 15 | 68 | 34 | 21 | 295 | 9 | 200 | 6.8 | 10 | 6F | |
| 1 1/4 | | 6 1/8 | 2 7/16 | 1/2 | 2 11/16 | 1.680 | 13/16 | 11 5/8 | 0.350 | 8 | 6.8 | 22 | 6F | |
| 32 | | 156 | 62 | 15 | 68 | 43 | 21 | 295 | 9 | 200 | 6.8 | 10 | 6F | |
| 1 1/2 | | 7 1/4 | 2 11/16 | 5/8 | 15/16 | 1.920 | 1 1/4 | 16 | 0.481 | 10 | 19.0 | 42 19 | 8H | |
| 40 | | 184 | 68 | 16 | 100 | 49 | 33 | 400 | 12 | 250 | 19.0 | 42 19 | 8H | |
| 2500 | 2 | 7 1/4 | 2 11/16 | 5/8 | 3 15/16 | 2.411 | 1 1/4 | 16 | 0.481 | 10 | 19.0 | 42 19 | 8H | |
| | 50 | 184 | 68 | 16 | 100 | 61 | 33 | 400 | 12 | 250 | 19.0 | 42 19 | 8H | |
| | 2 1/2 | 12 | 5 9/32 | 5/8 | 4 7/8 | 2.913 | 1 7/8 | 19 13/16 | 0.583 | 14 | 30.0 | 105 | 10K | |
| | 65 | 300 | 134 | 16 | 124 | 74 | 48 | 504 | 15 | 350 | 30.0 | 47.6 | 10K | |
| | 3 | 12 | 5 9/32 | * | 4 7/8 | * | 1 7/8 | 19 13/16 | 0.583 | 14 | 30.0 | 105 | 10K | |
| | 80 | 300 | 134 | | 124 | | 48 | 504 | 15 | 350 | 30.0 | 47.6 | 10K | |
| | 4 | 12 | 5 9/32 | * | 4 7/8 | * | 1 7/8 | 19 13/16 | 0.583 | 14 | 30.0 | 105 | 10K | |
| | 100 | 300 | 134 | | 124 | | 48 | 504 | 15 | 350 | 30.0 | 47.6 | 10K | |

BW dimensions supplied per customer requests. * All weights are approximate for shipping purposes only. Numbers shown in Black indicate dimensions in inches, weight in pounds. Numbers shown in blue indicate dimensions in mm, weights in kilograms.

Special Application Valves

The CLAMPSEAL® design is uniquely suited to a number of special applications where service demands require rugged construction while retaining easy in-line serviceability. No other forged valve offers this variety of applications.



Tandem Blowdown

Traditional bottom blowdown service requires a tandem valve. Unlike older massive designs with limited serviceability, the CLAMPSEAL® unit tandem valve offers compactness, lighter weight and easy maintainability as well as longevity of service.

Specifications:

| | | | |
|-------------|---|-----------|-----------------|
| Size/Style: | 1" - 2 1/2" | Material: | SA 105 |
| Class: | 1195, 2155, 3045 | | SA 182-F22 |
| End: | Socket Weld, Butt Weld, Clamp Connector | Example: | 1.00-12B8HJ-105 |



Cryogenic Service

High pressure cryogenic service demands special attention to design and quality of material and fabrication. The CLAMPSEAL® delivers tight shutoff and operability through a wide temperature range and meets ANSI B 31.3 requirements.

Specifications:

| | | | |
|--------|--------------------|--------------|----------------|
| Size: | 1/2" - 4" | Temperature: | To -320°F |
| Class: | ASME 1500 and 2500 | Material: | SA 182-316 |
| | | Example: | 1.00-12J2J-316 |



Three-Way Service

Conval has responded to the need for a high pressure, high temperature 3-way valve with easy serviceability for both seats. Excellent service history and versatility make the CLAMPSEAL® valve the choice for 3-way service.

Specifications:

| | | | |
|--------|--|-----------|---------------------|
| Size: | 1 1/2" - 3" | Material: | Carbon Steel: (WCB) |
| Class: | ASME 900 - 2500 | | Low Alloy: (WC9) |
| End: | Socket Weld, Butt Weld, Flanged, Clamp Connector | | Stainless: (CF8M) |
| | | Example: | 1.50-13Z4J-316 |

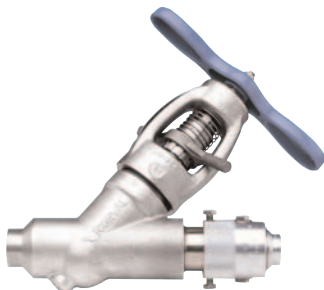


Naval Boiler Blowdown

The CLAMPSEAL® Naval Boiler Blowdown valve meets the requirements of MIL-V-17737 and other applicable specifications.

Specifications:

| | | | |
|--------|--------------------------------|-----------|-----------------------------|
| Size: | 1 1/2" | Material: | Carbon Steel or Alloy Steel |
| Type: | I (Handwheel) or II (T-handle) | Example: | 1.50-12G8CJ-N05 |
| Class: | 1 (600 lb) or 2 (1500 lb) | NSN: | 4820-01-124-3694, |
| Style: | Straightaway (Y) or Angle | | 4820-01-140-4834 |
| | | | 4820-01-018-3780, |
| | | | 4820-01-018-3781 |



SaVD Series Safe Vent Drain

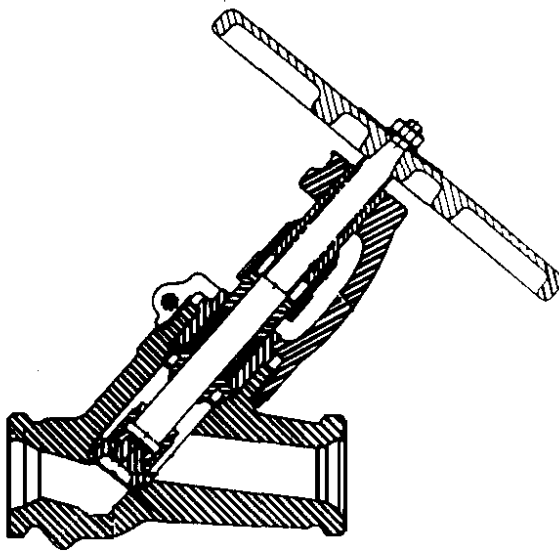
Now you can add a simple, single-weld, dual sealing system to Clampseal Y-pattern valves to enhance leak-free performance and allow for fast, safe, environmentally-friendly venting and draining of piping systems.

Specifications:

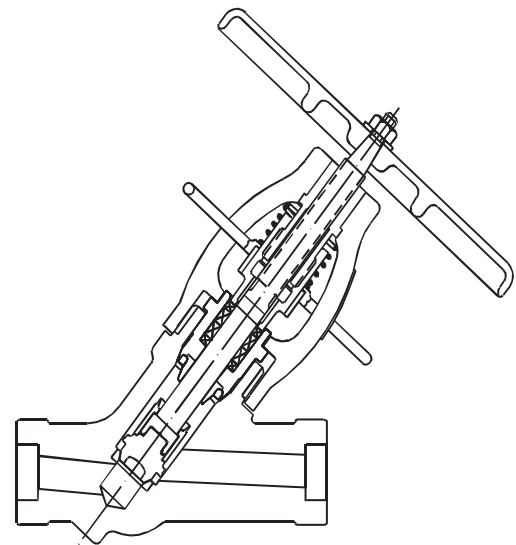
| | | | |
|--------|-----------------------------|-----------|---------------------------------------|
| Size: | 1/2" - 2" | Material: | Stainless Steel A479-F316, A105, |
| Type: | Y-Pattern; NPT, BW, SW Ends | | F22 and other materials upon request. |
| Class: | Thru ASME 2500# | Options: | Securing Chain, Rodable Cap |

CLAMPSEAL® Extended End Valve & Clamp Connector Ends

Whenever replacements of any manufacturer's Y-Pattern valve are made, Conval now provides a couple of options to simplify the replacement. Depending upon the particular replacement needs, Conval can supply an *Extended Body Valve* or a *Valve with Extensions*. Under normal circumstances, the *Extended Body Valve* will have sufficient end-to-end length to allow replacement of an existing valve without adding material. If further end-to-end length is required, the *Valve with Extensions* would be recommended.



Clamp Connector End



Extended Y-Pattern Body Valve

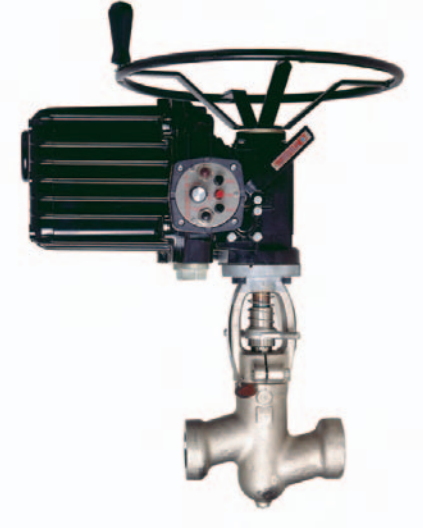
Socket Weld shown, Butt Weld also available

| Pressure Class | Size Code | Pipe Size | Conval Extended Y-Pattern Body Valve | Conval Extended Y Pattern Body Valve with Pipe Extensions | Competitor A | Competitro B | Competitor C |
|----------------|-----------|--------------------------|--------------------------------------|---|--------------|---------------------------|---------------------------|
| K | | | | | | | |
| 1500# | | 3/4 - 1 20 - 25 | 7.50 191 | 10.50 265 | 6.00 150 | 4.375 - 5.00 111 - 125 | 4.375 - 5.00 111 - 125 |
| 2500# | 5 | 3/4 - 1 20 - 25 | 7.50 191 | 10.50 265 | 6.00 150 | 5.00 125 | 4.375 - 5.00 111 - 125 |
| 4500# | | 1/2 15 | 7.50 191 | 10.50 265 | 8.20 208 | 7.25 184 | 5.75 146 |
| 1500# | | 1 1/2 40 | 9.50 241 | 12.00 300 | 6.70 170 | 6.25 158 | 7.25 184 |
| 2500# | 7 | 1 1/4 - 1 1/2 32 - 40 | 9.50 241 | 12.00 300 | 6.70 170 | 7.25 184 | 7.25 184 |
| 4500# | | 1 - 1 1/2 32 - 40 | 9.50 241 | 12.00 300 | 8.20 208 | 7.25 - 9.625 184 - 245 | 12.00 300 |
| 1500# | | 2 50 | 11.00 279 | 13.50 343 | 8.20 208 | 7.25 184 | 10.13 257 |
| 2500# | 8 | 2 50 | 11.00 279 | 13.50 343 | 10.70 272 | 9.63 244 | 10.13 257 |
| 4500# | | 2 50 | 11.00 279 | 13.50 343 | 12.80 325 | 9.63 244 | 12.00 300 |

Numbers shown in Black indicate dimensions in inches, weight in pounds. Numbers shown in blue indicate dimensions in mm.

Actuators

Conval CLAMPSEAL® valves are easily adapted to electric motor or pneumatic actuation. Valves ordered with actuators are assembled, functionally tested at Conval and shipped ready for installation. Where customers have existing actuators, the CLAMPSEAL® valve is provided with appropriate yoke flange and stem adaptor. All actuated valves are furnished with an integral gland wrench.



Electric Motor Actuated

Specifications:

Size: 1/2" - 4"
Class: thru 4500
Material: SA 105
SA 182-F22
SA 182-F91
SA 182-F316
Actuator: **Limitorque**
Rotork
EIM
AUMA
Options: Local Position Indicator

Pneumatic Actuated

Specifications:

Size: 1/2" - 4"
Class: thru 4500
Material: SA 105
SA 182-F22
SA 182-F91
SA 182-F316
Actuator: **Fisher**
Copes-Vulcan
Valtek
Options: Fail Open/Fail Closed
Manual Override
Limit Switches
AC or DC Solenoid



See Page 32 for Figure Number OPTION selection

Service Tool Cross Reference

| Size Code | Tool Kit | Stop | Lapping Tools Check | Bonnet | Repack Tool | Yoke Wrench* | Gland Torque Wrench | Refacing Tool |
|-----------|-------------|---------|------------------------|------------|----------------|-----------------|------------------------|------------------|
| 3C | TK3C-C-S-1 | T3C-L | T3C-LC | T3C-LB-1 | T3-RP-1 | T3/6-YW-1 | T3-GTW-1 | T3C-R |
| 3D | TK3D-C-S-1 | T3D-L | T3D-LC | T3D-LB-1 | T3-RP-1 | T3/6-YW-1 | T3-GTW-1 | T3D-R |
| 5C | TK5C-C-S-1 | T5C-L | T5C-LC | T5C-LB-1 | T3-RP-1 | T3/6-YW-1 | T3-GTW-1 | T5C-R |
| 5D | TK5D-C-S-1 | T5D-L | T5D-LC | T5C-LB-1 | T3-RP-1 | T3/6-YW-1 | T3-GTW-1 | T5D-R |
| 5E | TK5E-C-S-1 | T5EF-L | T5EF-LC | T5EF-LB-1 | T5-RP-1 | T3/6-YW-1 | T5-GTW-1 | T5E-R |
| 5F | TK5F-C-S-1 | T5EF-L | T5EF-LC | T5EF-LB-1 | T5-RP-1 | T3/6-YW-1 | T5-GTW-1 | T5F-R |
| 5G | TK5G-C-S-1 | T5G-L | T5G-LC | T5G-LB-1 | T5-RP-1 | T3/6-YW-1 | T5-GTW-1 | T5G-R |
| 6E | TK6E-C-S-1 | T6E-L | T6E-LC | T6E-LB-1 | T5-RP-1 | T3/6-YW-1 | T5-GTW-1 | T6E-R |
| 6G | TK6G-C-S-1 | T6GH-L | T6GH-LC | T6GH-LB-1 | T5-RP-1 | T3/6-YW-1 | T5-GTW-1 | T6G-R |
| 6H | TK6H-C-S-1 | T6GH-L | T6GH-LC | T6GH-LB-1 | T5-RP-1 | T3/6-YW-1 | T5-GTW-1 | T6H-R |
| 7E | TK7E-C-S-1 | T7E-L | T7E-LC | T7E-LB-1 | T5-RP-1 | T7/10-YW-1 | T5-GTW-1 | T7E-R |
| 7F | TK7F-C-S-1 | T7F-L | T7F-LC | T7F-LB-1 | T7-RP-1 | T7/10-YW-1 | T7-GTW-1 | T7F-R |
| 7G | TK7G-C-S-1 | T7GH-L | T7GH-LC | T7GH-LB-1 | T7-RP-1 | T7/10-YW-1 | T7-GTW-1 | T7G-R |
| 7H | TK7H-C-S-1 | T7GH-L | T7GH-LC | T7GH-LB-1 | T7-RP-1 | T7/10-YW-1 | T7-GTW-1 | T7H-R |
| 7J | TK7J-C-S-1 | T7J-L | T7J-LC | T7J-LB-1 | T7-RP-1 | T7/10-YW-1 | T7-GTW-1 | T7J-R |
| 8F | TK8F-C-S-1 | T8F-L | T8F-LC | T8F-LB-1 | T7-RP-1 | T7/10-YW-1 | T7-GTW-1 | T8F-R |
| 8G | TK8G-C-S-1 | T8G-L | T8G-LC | T8G-LB-1 | T8-RP-1 | T7/10-YW-1 | T8-GTW-1 | T8G-R |
| 8H | TK8H-C-S-1 | T8HJ-L | T8HJ-LC | T8HJ-LB-1 | T8-RP-1 | T7/10-YW-1 | T8-GTW-1 | T8H-R |
| 8J | TK8J-C-S-1 | T8HJ-L | T8HJ-LC | T8HJ-LB-1 | T8-RP-1 | T7/10-YW-1 | T8-GTW-1 | T8J-R |
| 8K | TK8K-C-S-1 | T8K-L | T8K-LC | T8K-LB-1 | T8-RP-1 | T7/10-YW-1 | T8-GTW-1 | T8K-R |
| 9G | TK9G-C-S-1 | T9G-L | T9G-LC | T9G-LB-1 | T8-RP-1 | T7/10-YW-1 | T8-GTW-1 | T9G-R |
| 9H | TK9H-C-S-1 | T9H-L | T9H-LC | T9H-LB-1 | T8-RP-1 | T7/10-YW-1 | T8-GTW-1 | T9H-R |
| 9J | TK9J-C-S-1 | T9JK-L | T9JK-LC | T9JK-LB-1 | T9-RP-1 | T7/10-YW-1 | T9-GTW-1 | T9J-R |
| 9K | TK9K-C-S-1 | T9JK-L | T9JK-LC | T9JK-LB-1 | T9-RP-1 | T7/10-YW-1 | T9-GTW-1 | T9K-R |
| 9L | TK9L-C-S-1 | T9L-L | T9L-LC | T9L-LB-1 | T9-RP-1 | T7/10-YW-1 | T9-GTW-1 | T9L-R |
| 10H | TK10H-C-S-1 | T10H-L | T10H-LC | T10H-LB-1 | T8-RP-1 | T7/10-YW-1 | T8-GTW-1 | T10H-R |
| 10J | TK10J-C-S-1 | T10J-L | T10J-LC | T10J-LB-1 | T9-RP-1 | T7/10-YW-1 | T9-GTW-1 | T10J-R |
| 10K | TK10K-C-S-1 | T10KL-L | T10KL-LC | T10KL-LB-1 | T10-RP-1 | T7/10-YW-1 | T10-GTW-1 | T10K-R |
| 10L | TK10L-C-S-1 | T10KL-L | T10KL-LC | T10KL-LB-1 | T10-RP-1 | T7/10-YW-1 | T10-GTW-1 | T10L-R |
| 10M | TK10M-C-S-1 | T10M-L | T10M-LC | T10M-LB-1 | T10-RP-1 | T7/10-YW-1 | T10-GTW-1 | T10M-R |



* Optional snap-on torque handle available through SNAP-ON™.

Conval Tool Kits

CLAMPSEAL® valves are designed to provide years of dependable service and to allow rapid in-line repair. Quick disconnect yoke and bonnet design provide fast access to valve trim for inspection and repair.

Conval's seat refacing tools cut through all types of seat damage leaving a smooth seat finish in minutes. Solid seats allow for repeated resurfacing.

Typical repair operations can be completed in under one hour making repair much more economical than replacement.

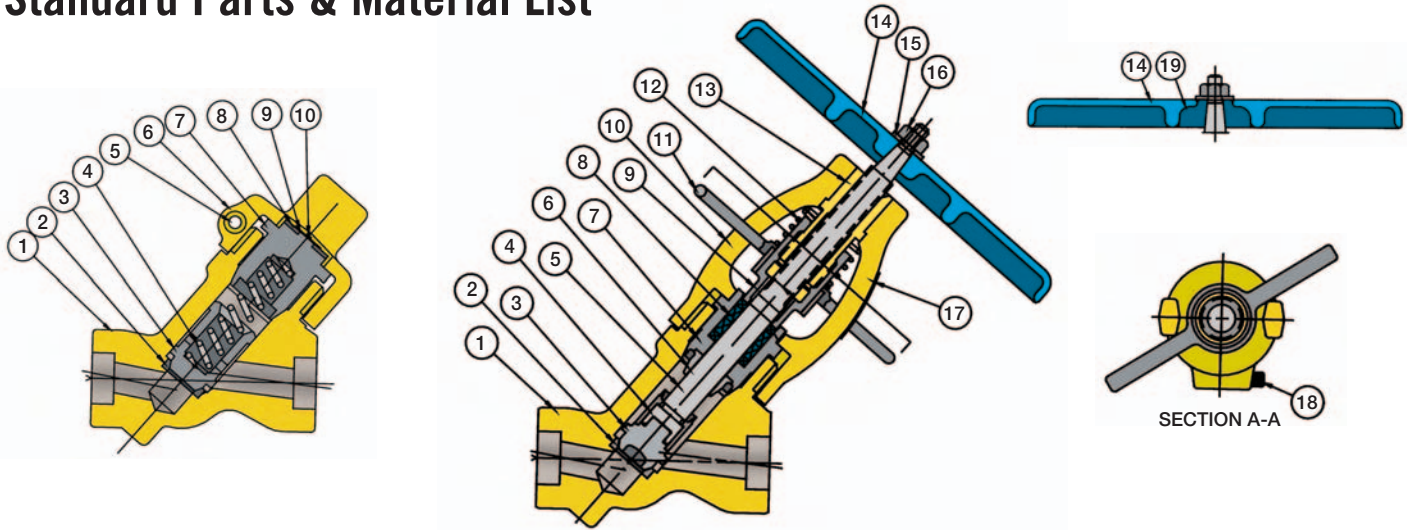
Conval's Tool Kits consist of:

Gland Wrench, Yoke Wrench, Seat Refacing Tool, Bonnet Lapping Tool, Repacking Tool, Lapping Compound, High Spot Blue No. 107, (2) Allen Wrenches and Servicing Instructions.



A Typical Conval Tool Kit

Standard Parts & Material List



Globe Valve

| No. | Name | Carbon Steel | Low Alloy | Stainless |
|-----|---------------------|--|--|--|
| 1 | Body | SA-105 | SA-182 F22 or SA-182 F91 | SA-182 F316 |
| 2 | Seat | Cobalt Alloy-AMS 5387A | Cobalt Alloy-AMS 5387A | Cobalt Alloy-AMS 5387A |
| 3 | Disc | Cobalt Alloy-AMS 5387A | Cobalt Alloy-AMS 5387A | Cobalt Alloy-AMS 5387A |
| 4 | Retainer | ASTM A 582 416 | ASTM A 582 416 | SA-479 316 |
| 5 | Stem | ASTM A 582 416 | ASTM A 582 416 | SA479-XM19H |
| 6 | Stem Guide | SA479-UNS S21800 | ASTM- A732-GR21 | SA479-UNS S21800 |
| 7 | Bonnet/Chamber | SA479-410 | SA479-410 | SA479-XM19H |
| 8 | Packing | Flexible Graphite Die Formed Packing Rings Braided Carbon Yarn Wiper Rings | Flexible Graphite Die Formed Packing Rings Braided Carbon Yarn Wiper Rings | Flexible Graphite Die Formed Packing Rings Braided Carbon Yarn Wiper Rings |
| 9 | Gland | ASTM A 582 416 | ASTM A 582 416 | ASME SA-479 316 |
| 10 | Yoke | SA-105 | SA-182 F22 | SA-182 F316 |
| 11 | I.G.W. ² | AMS 5370 | AMS 5370 | AMS 5370 |
| 12 | Spring ¹ | Stainless | Stainless | Stainless |
| 13 | Bushing | ASME SB-150-C64200 | ASME SB-150-C64200 | ASME SB-150-C64200 |
| 14 | Handle/Handwheel | Malleable Iron | Malleable Iron | Malleable Iron |
| 15 | Washer ³ | Steel | Steel | Steel |
| 16 | Locknut | Steel | Steel | Steel |
| 17 | ID Plate | Stainless Steel | Stainless Steel | Stainless Steel |
| 18 | Clampbolt | Stainless | Stainless | Stainless |
| 19 | Adaptor | Malleable Iron | Malleable Iron | Malleable Iron |

² Integral Gland Wrench

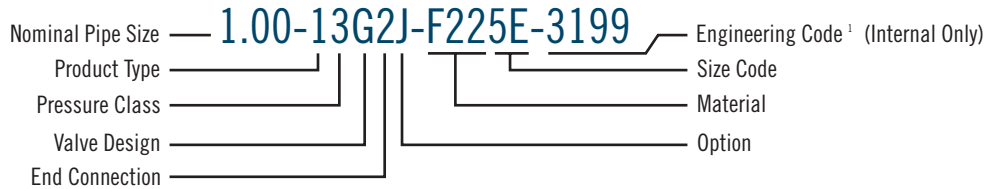
¹ Live Loaded Gland - Optional Accessory

³ Retainer Washer required with sizes 8, 9 and 10

Check Valve

| No. | Name | Carbon Steel | Low Alloy | Stainless |
|-----|-----------|------------------------|------------------------|------------------------|
| 1 | Body | SA-105 | SA-182 F22, SA-182 F91 | SA-182 F316 |
| 2 | Seat | Cobalt Alloy-AMS 5387A | Cobalt Alloy-AMS 5387A | Cobalt Alloy-AMS 5387A |
| 3 | Piston | Cobalt Alloy-AMS 5387A | Cobalt Alloy-AMS 5387A | Cobalt Alloy-AMS 5387A |
| 4 | Spring | Inconel X No. 1 Temper | Inconel X No. 1 Temper | Inconel X No. 1 Temper |
| 5 | Clampbolt | Stainless | Stainless | Stainless |
| 6 | Yoke | SA-105 | SA-182 F22 | SA-182 F316 |
| 7 | Bonnet | SA479-XM-19H | SA479-XM-19H | SA479-XM-19H |
| 8 | ID Plate | Stainless Steel | Stainless Steel | Stainless Steel |
| 9 | Washer | Steel | Steel | Steel |
| 10 | Rivet | Steel | Steel | Steel |

Figure Number Description



VALVE DESIGN

- A Angle Pattern Stop
- B Tandem Blowdown:
2 Angle Bodies
- C Y-Pattern Check
- D Angle Pattern Check
- E T-Pattern Check
- F Gate
- G Y-Pattern Stop
- H Bellows Seal
- J Cryogenic
- K Tandem Bowdown:
1 Angle Body, 1 Y-Pattern
Leak Off
- N Continuous Blowdown
- P T-Pattern Stop
- R Y-Pattern Stop Check
- S Angle Pattern Stop Check
- T T-Pattern Stop Check
- U Throttling
- V Tandem Blowdown:
2 Y-Pattern Bodies
- W Strainer W/Blowoff Valve
- X Strainer W/Blowoff Fitting
- Y Strainer
- Z 3-Way
- 1 Bonnetless
- 2 Tandem Blowdown:
1- Ball Valve
1-Throttling Valve
- 8 Hemiseal Ball Valve
- 9 Camseal Ball Valve

PRODUCT TYPE

- 1 Globe Valve
- 2 Whisperjet
- 3 Y-Body - Extended Body
- 4 Desuperheater
- 5 Gate
- 8 Ball

ASME PRESSURE CLASS

| | | |
|--------------|------|--|
| Nominal | | |
| Intermediate | | |
| 0 Under 900 | | |
| 1 900 | 1195 | |
| 2 1500 | 2155 | |
| 3 2500 | 3045 | |
| 4 3500 | 4095 | |
| 8 4500 | | |

END CONNECTIONS

- 1 Threaded
- 2 Socket Weld Full Port
- 3 Socket Weld Reduced Port
- 4 Butt Weld Full Port
- 5 Butt Weld Reduced Port
- 6 But Weld Double Reduced Port
- 7 Clamp Connector
- 8 Flanged - Standard
- 9 Flanged - Special
- 0 Other

OPTIONS

- A AUMA Actuator
- B EIM Actuator
- C Handwheel
- D Fisher Actuator
- E Orifice Port
- F Micrometer Dial
- G Bendix Actuator
- H Spinner Handle
- J I.G.W.
- K Drain Connection
- L Locking Handle
- M Stem Shroud
- N Copes Actuator
- P Limitorque Actuator
- Q L.L.G. W/I.G.W.
- R Rotork Actuator
- S Single Limitswitch
- T Ball Check
- U Double Limitswitch
- V Valtek Actuator
- W Needle Disc
- X Chain Wheel
- Y Conval Actuator
- Z Other

MATERIAL

Carbon

- 105 Standard
- A05 Stainless Steel Internals
- B05 Ductile Iron Bushing
- C05 17-4 PH Stem
- E05 Monel Trim
- N05 Navy Special
- S05 Cobalt Free
- P05 Polymer Trim
- R05 N60 Bushing

Alloy

- F22 Standard
- F91 Standard
- A22 Stainless Steel Internals
- B22 Ductile Iron Bushing
- C22 F22 Body /A105 Yoke
- E22 Monel Trim
- N22 Navy Special
- S22 Cobalt Free
- P22 Polymer Trim
- R22 N60 Bushing

Stainless

- 316 Standard
- B16 Ductile Iron Bushing
- D16 316 Body Only
- E16 Monel Trim
- L16 316L Body
- N16 Navy Special
- S16 Cobalt Free
- P16 Polymer Trim
- R16 N60 Bushing

¹ Engineering Code assigned by Conval is a key to Engineering Bill of Material and will appear on all packing lists and invoices. This code need not be supplied when ordering unless a specific configuration is being reordered.

Working Pressure by Class, PSIG

| NOMINAL INTERMEDIATE SA 182-F22 ¹ Temp F ^o | Limited Class 1/2 - 2 1/2" Socket Weld, Butt Weld ³ Pressure Ratings | | | | | Standard Class 1/2 - 4" Socket Weld, Butt Weld ³ Pressure Ratings | | | | | Special Class* 1/2 - 4" Socket Weld, Butt Weld ³ Pressure Ratings | | | | |
|---|---|------|------|-------|-------|--|------|------|-------|-------|--|------|------|-------|-------|
| | 900 | 1500 | 2500 | 3500 | 4500 | 900 | 1500 | 2500 | 3500 | 4500 | 900 | 1500 | 2500 | 3500 | 4500 |
| | 1195 | 2155 | 3045 | 4095 | 4500 | 1195 | 2155 | 3045 | 4095 | 4500 | 1195 | 2155 | 3045 | 4095 | 4500 |
| 100 | 2988 | 5388 | 7613 | 10238 | 11250 | 2988 | 5388 | 7613 | 10238 | 11250 | 2988 | 5388 | 7613 | 10238 | 11250 |
| 200 | 2988 | 5388 | 7613 | 10238 | 11250 | 2988 | 5388 | 7613 | 10238 | 11250 | 2988 | 5388 | 7613 | 10238 | 11250 |
| 300 | 2953 | 5326 | 7526 | 10120 | 11120 | 2900 | 5232 | 7393 | 9942 | 10925 | 2953 | 5326 | 7526 | 10120 | 11120 |
| 400 | 2886 | 5202 | 7351 | 9887 | 10865 | 2811 | 5069 | 7162 | 9632 | 10585 | 2886 | 5202 | 7351 | 9887 | 10865 |
| 500 | 2868 | 5172 | 7308 | 9828 | 10800 | 2649 | 4776 | 6746 | 9069 | 9965 | 2868 | 5172 | 7308 | 9828 | 10800 |
| 600 | 2868 | 5172 | 7308 | 9828 | 10800 | 2410 | 4345 | 6138 | 8254 | 9070 | 2868 | 5172 | 7308 | 9828 | 10800 |
| 650 | 2851 | 5142 | 7265 | 9769 | 10735 | 2343 | 4227 | 5973 | 8031 | 8825 | 2851 | 5142 | 7265 | 9769 | 10735 |
| 700 | 2833 | 5111 | 7222 | 9710 | 10670 | 2263 | 4078 | 5761 | 7749 | 8515 | 2833 | 5111 | 7222 | 9710 | 10670 |
| 750 | 2749 | 4957 | 7004 | 9419 | 10350 | 2119 | 3819 | 5395 | 7253 | 7970 | 2749 | 4957 | 7004 | 9419 | 10350 |
| 800 | 2681 | 4832 | 6829 | 9186 | 10095 | 2024 | 3647 | 5151 | 6926 | 7610 | 2681 | 4832 | 6829 | 9186 | 10095 |
| 850 | 2562 | 4617 | 6524 | 8776 | 9645 | 1939 | 3499 | 4944 | 6648 | 7305 | 2562 | 4617 | 6524 | 8776 | 9645 |
| 900 | 2390 | 4310 | 6090 | 8190 | 9000 | 1790 | 3228 | 4561 | 6134 | 6740 | 2390 | 4310 | 6090 | 8190 | 9000 |
| 950 | 1910 | 3495 | 5003 | 6834 | 7556 | 1501 | 2710 | 3832 | 5155 | 5665 | 1877 | 3387 | 4786 | 6434 | 7070 |
| 1000 | 1367 | 2579 | 3802 | 5392 | 6052 | 1038 | 1872 | 2644 | 3558 | 3910 | 1297 | 2341 | 3306 | 4446 | 4885 |
| 1050 | 918 | 1730 | 2550 | 3619 | 4064 | 697 | 1255 | 1774 | 2388 | 2625 | 871 | 1570 | 2217 | 2984 | 3280 |
| 1100 | 574 | 1086 | 1602 | 2269 | 2546 | 438 | 789 | 1114 | 1497 | 1645 | 545 | 986 | 1393 | 1871 | 2055 |
| SA 105 ² | | | | | | | | | | | | | | | |
| 100 | 2988 | 5388 | 7613 | 10238 | 11250 | 2958 | 5320 | 7516 | 10110 | 11110 | 2988 | 5388 | 7613 | 10238 | 11250 |
| 200 | 2988 | 5388 | 7613 | 10238 | 11250 | 2696 | 4849 | 6850 | 9210 | 10120 | 2988 | 5388 | 7613 | 10238 | 11250 |
| 300 | 2988 | 5388 | 7613 | 10238 | 11250 | 2621 | 4714 | 6662 | 8959 | 9845 | 2988 | 5388 | 7613 | 10238 | 11250 |
| 400 | 2988 | 5388 | 7613 | 10238 | 11250 | 2531 | 4552 | 6431 | 8649 | 9505 | 2988 | 5388 | 7613 | 10238 | 11250 |
| 500 | 2988 | 5388 | 7613 | 10238 | 11250 | 2391 | 4302 | 6077 | 8172 | 8980 | 2988 | 5388 | 7613 | 10238 | 11250 |
| 600 | 2841 | 5121 | 7234 | 9728 | 10690 | 2184 | 3930 | 5555 | 7471 | 8210 | 2841 | 5121 | 7234 | 9728 | 10690 |
| 650 | 2786 | 5021 | 7095 | 9541 | 10485 | 2144 | 3857 | 5451 | 7330 | 8055 | 2786 | 5021 | 7095 | 9541 | 10485 |
| 700 | 2763 | 4983 | 7040 | 9468 | 10405 | 2129 | 3828 | 5407 | 7271 | 7990 | 2763 | 4983 | 7040 | 9468 | 10405 |
| 750 | 2510 | 4526 | 6395 | 8600 | 9450 | 2012 | 3620 | 5116 | 6880 | 7560 | 2510 | 4526 | 6395 | 8600 | 9450 |
| 800 | 2049 | 3693 | 5220 | 7020 | 7715 | 1645 | 2957 | 4177 | 5615 | 6170 | 2049 | 3693 | 5220 | 7020 | 7715 |
| SA 182-F316 | | | | | | | | | | | | | | | |
| 100 | 2988 | 5388 | 7613 | 10238 | 11250 | 2868 | 5172 | 7308 | 9828 | 10800 | 2988 | 5388 | 7613 | 10238 | 11250 |
| 200 | 2749 | 4957 | 7004 | 9419 | 10350 | 2467 | 4448 | 6285 | 8454 | 9290 | 2749 | 4957 | 7004 | 9419 | 10350 |
| 300 | 2485 | 4482 | 6334 | 8518 | 9360 | 2228 | 4017 | 5676 | 7635 | 8390 | 2485 | 4482 | 6334 | 8518 | 9360 |
| 400 | 2271 | 4095 | 5786 | 7781 | 8550 | 2046 | 3690 | 5213 | 7011 | 7705 | 2271 | 4095 | 5786 | 7781 | 8550 |
| 500 | 2116 | 3818 | 5395 | 7253 | 7970 | 1904 | 3431 | 4848 | 6520 | 7165 | 2116 | 3818 | 5395 | 7253 | 7970 |
| 600 | 2007 | 3617 | 5111 | 6875 | 7555 | 1797 | 3241 | 4580 | 6160 | 6770 | 2007 | 3617 | 5111 | 6875 | 7555 |
| 650 | 1964 | 3539 | 5002 | 6729 | 7395 | 1767 | 3189 | 4507 | 6061 | 6660 | 1964 | 3539 | 5002 | 6729 | 7395 |
| 700 | 1929 | 3478 | 4915 | 6611 | 7265 | 1730 | 3120 | 4409 | 5929 | 6515 | 1929 | 3478 | 4915 | 6611 | 7265 |
| 750 | 1895 | 3418 | 4829 | 6493 | 7135 | 1700 | 3068 | 4337 | 5833 | 6410 | 1895 | 3418 | 4829 | 6493 | 7135 |
| 800 | 1877 | 3387 | 4786 | 6434 | 7070 | 1680 | 3034 | 4287 | 5765 | 6335 | 1877 | 3387 | 4786 | 6434 | 7070 |
| 850 | 1857 | 3349 | 4731 | 6361 | 6990 | 1665 | 3000 | 4239 | 5701 | 6265 | 1857 | 3349 | 4731 | 6361 | 6990 |
| 900 | 1845 | 3324 | 4697 | 6319 | 6945 | 1653 | 2982 | 4215 | 5669 | 6230 | 1845 | 3324 | 4697 | 6319 | 6945 |
| 950 | 1825 | 3289 | 4647 | 6251 | 6870 | 1538 | 2775 | 3922 | 5274 | 5795 | 1825 | 3289 | 4647 | 6251 | 6870 |
| ⁴ 1000 | 1675 | 3022 | 4269 | 5742 | 6310 | 1394 | 2513 | 3550 | 4773 | 5245 | 1675 | 3022 | 4269 | 5742 | 6310 |
| 1050 | 1675 | 3022 | 4269 | 5742 | 6310 | 1369 | 2470 | 3489 | 4691 | 5155 | 1675 | 3022 | 4269 | 5742 | 6310 |
| 1100 | 1544 | 2827 | 4048 | 5528 | 6113 | 1215 | 2193 | 3098 | 4164 | 4575 | 1519 | 2740 | 3872 | 5206 | 5720 |
| 1150 | 1241 | 2341 | 3451 | 4895 | 5495 | 944 | 1699 | 2401 | 3230 | 3550 | 1178 | 2125 | 3002 | 4036 | 4435 |
| 1200 | 971 | 1831 | 2702 | 3830 | 4299 | 736 | 1331 | 1880 | 2526 | 2775 | 921 | 1663 | 2350 | 3158 | 3470 |
| 1250 | 774 | 1458 | 2151 | 3050 | 3426 | 585 | 1059 | 1497 | 2012 | 2210 | 734 | 1323 | 1870 | 2516 | 2765 |

¹F22 not recommended for prolonged use above 1100°F.

²A105 not recommended for prolonged use above 800°F.

³Refer to class descriptions for other applications.

⁴Above 1000°F, consult factory.

Based on ASME B16.34 - 1996 with ANNEX G.

* NDE is required for special class ratings.

Threaded, flanged and gate valves nominally rated.

Working Pressure by Class, BARS

| NOMINAL INTERMEDIATE SA 182-F22 1 Temp C° | Limited Class 1/2 - 2 1/2" Socket Weld, Butt Weld3 Pressure Ratings | | | | | Standard Class 1/2 - 4" Socket Weld, Butt Weld3 Pressure Ratings | | | | | Special Class* 1/2 - 4" Socket Weld, Butt Weld3 Pressure Ratings | | | | |
|--|---|-------|-------|-------|-------|--|-------|-------|-------|-------|--|-------|-------|-------|-------|
| | PN150 | PN260 | PN420 | PN590 | PN760 | PN150 | PN260 | PN420 | PN590 | PN760 | PN150 | PN260 | PN420 | PN590 | PN760 |
| | PN204 | PN365 | PN513 | PN691 | | PN204 | PN365 | PN513 | PN691 | | PN204 | PN365 | PN513 | PN691 | |
| 38 | 206 | 372 | 525 | 706 | 776 | 206 | 372 | 525 | 706 | 776 | 206 | 372 | 525 | 706 | 776 |
| 93 | 206 | 372 | 525 | 706 | 776 | 206 | 372 | 525 | 706 | 776 | 206 | 372 | 525 | 706 | 776 |
| 149 | 204 | 367 | 519 | 698 | 767 | 200 | 361 | 510 | 686 | 754 | 204 | 367 | 519 | 698 | 767 |
| 204 | 199 | 359 | 507 | 682 | 750 | 194 | 350 | 494 | 665 | 730 | 199 | 359 | 507 | 682 | 750 |
| 260 | 198 | 357 | 504 | 678 | 745 | 183 | 330 | 465 | 626 | 688 | 198 | 357 | 504 | 678 | 745 |
| 316 | 198 | 357 | 504 | 678 | 745 | 166 | 300 | 424 | 570 | 626 | 198 | 357 | 504 | 678 | 745 |
| 343 | 197 | 355 | 501 | 674 | 741 | 162 | 292 | 412 | 554 | 609 | 197 | 355 | 501 | 674 | 741 |
| 371 | 195 | 353 | 498 | 670 | 736 | 156 | 281 | 398 | 535 | 588 | 195 | 353 | 498 | 670 | 736 |
| 399 | 190 | 342 | 483 | 650 | 714 | 146 | 264 | 372 | 500 | 550 | 190 | 342 | 483 | 650 | 714 |
| 427 | 185 | 333 | 471 | 634 | 697 | 140 | 252 | 355 | 478 | 525 | 185 | 333 | 471 | 634 | 697 |
| 454 | 177 | 319 | 450 | 606 | 666 | 134 | 241 | 341 | 459 | 504 | 177 | 319 | 450 | 606 | 666 |
| 482 | 165 | 297 | 420 | 565 | 621 | 124 | 223 | 315 | 423 | 465 | 165 | 297 | 420 | 565 | 621 |
| 510 | 132 | 241 | 345 | 472 | 521 | 104 | 187 | 264 | 356 | 391 | 130 | 234 | 330 | 444 | 488 |
| 538 | 94 | 178 | 262 | 372 | 418 | 72 | 129 | 182 | 246 | 270 | 89 | 162 | 228 | 307 | 337 |
| 566 | 63 | 119 | 176 | 250 | 280 | 48 | 87 | 122 | 165 | 181 | 60 | 108 | 153 | 206 | 226 |
| 593 | 40 | 75 | 111 | 157 | 176 | 30 | 54 | 77 | 103 | 114 | 38 | 68 | 96 | 129 | 142 |
| SA 105 2 | | | | | | | | | | | | | | | |
| 38 | 206 | 372 | 525 | 706 | 776 | 204 | 367 | 519 | 698 | 767 | 206 | 372 | 525 | 706 | 776 |
| 93 | 206 | 372 | 525 | 706 | 776 | 186 | 335 | 473 | 635 | 698 | 206 | 372 | 525 | 706 | 776 |
| 149 | 206 | 372 | 525 | 706 | 776 | 181 | 325 | 460 | 618 | 679 | 206 | 372 | 525 | 706 | 776 |
| 204 | 206 | 372 | 525 | 706 | 776 | 175 | 314 | 444 | 597 | 656 | 206 | 372 | 525 | 706 | 776 |
| 260 | 206 | 372 | 525 | 706 | 776 | 165 | 297 | 419 | 564 | 620 | 206 | 372 | 525 | 706 | 776 |
| 316 | 196 | 353 | 499 | 671 | 738 | 151 | 271 | 383 | 515 | 566 | 196 | 353 | 499 | 671 | 738 |
| 343 | 192 | 346 | 490 | 658 | 723 | 148 | 266 | 376 | 506 | 556 | 192 | 346 | 490 | 658 | 723 |
| 371 | 191 | 344 | 486 | 653 | 718 | 147 | 264 | 373 | 502 | 551 | 191 | 344 | 486 | 653 | 718 |
| 399 | 173 | 312 | 441 | 593 | 652 | 139 | 250 | 353 | 475 | 522 | 173 | 312 | 441 | 593 | 652 |
| 427 | 141 | 255 | 360 | 484 | 532 | 114 | 204 | 288 | 387 | 426 | 141 | 255 | 360 | 484 | 532 |
| SA 182-F316 | | | | | | | | | | | | | | | |
| 38 | 206 | 372 | 525 | 706 | 776 | 198 | 357 | 504 | 678 | 745 | 206 | 372 | 525 | 706 | 776 |
| 93 | 190 | 342 | 483 | 650 | 714 | 170 | 307 | 434 | 583 | 641 | 190 | 342 | 483 | 650 | 714 |
| 149 | 171 | 309 | 437 | 588 | 646 | 154 | 277 | 392 | 527 | 579 | 171 | 309 | 437 | 588 | 646 |
| 204 | 157 | 283 | 399 | 537 | 590 | 141 | 255 | 360 | 484 | 532 | 157 | 283 | 399 | 537 | 590 |
| 260 | 146 | 263 | 372 | 500 | 550 | 131 | 237 | 335 | 450 | 494 | 146 | 263 | 372 | 500 | 550 |
| 316 | 138 | 250 | 353 | 474 | 521 | 124 | 224 | 316 | 425 | 467 | 138 | 250 | 353 | 474 | 521 |
| 343 | 136 | 244 | 345 | 464 | 510 | 122 | 220 | 311 | 418 | 460 | 136 | 244 | 345 | 464 | 510 |
| 371 | 133 | 240 | 339 | 456 | 501 | 119 | 215 | 304 | 409 | 450 | 133 | 240 | 339 | 456 | 501 |
| 399 | 131 | 236 | 333 | 448 | 492 | 117 | 212 | 299 | 402 | 442 | 131 | 236 | 333 | 448 | 492 |
| 427 | 130 | 234 | 330 | 444 | 488 | 116 | 209 | 296 | 398 | 437 | 130 | 234 | 330 | 444 | 488 |
| 454 | 128 | 231 | 326 | 439 | 482 | 115 | 207 | 292 | 393 | 432 | 128 | 231 | 326 | 439 | 482 |
| 482 | 127 | 229 | 324 | 436 | 479 | 114 | 206 | 291 | 391 | 430 | 127 | 229 | 324 | 436 | 479 |
| 510 | 126 | 227 | 321 | 431 | 474 | 106 | 191 | 271 | 364 | 400 | 126 | 227 | 321 | 431 | 474 |
| 538 | 116 | 209 | 295 | 396 | 435 | 96 | 173 | 245 | 329 | 362 | 116 | 209 | 295 | 396 | 435 |
| 566 | 116 | 209 | 295 | 396 | 435 | 94 | 170 | 241 | 324 | 356 | 116 | 209 | 295 | 396 | 435 |
| 593 | 107 | 195 | 279 | 381 | 422 | 84 | 151 | 214 | 287 | 316 | 105 | 189 | 267 | 359 | 395 |
| 621 | 86 | 162 | 238 | 338 | 379 | 65 | 117 | 166 | 223 | 245 | 81 | 147 | 207 | 278 | 306 |
| 649 | 67 | 126 | 186 | 264 | 297 | 51 | 92 | 130 | 174 | 191 | 64 | 115 | 162 | 218 | 239 |
| 677 | 53 | 101 | 148 | 210 | 236 | 40 | 73 | 103 | 139 | 152 | 51 | 91 | 129 | 174 | 191 |

F22 not recommended for prolonged use above 593 C.
 2 A105 not recommended for prolonged use above 427 C.
 3 Refer to class descriptions for other applications.
 4 Above 538 consult factory.

Based on ASME B16.34 - 1996 with ANNEX G.
 * NDE is required for special class ratings.
 Threaded, flanged and gate valves nominally rated.

| F91 Forgings B16.34-2004 Limited Class (Table 2-1.15B) and Appendix V-2.1.3 (ferritic steel) | | | | | | F91 Forgings B16.34-2004 Standard Class (Table 2-1.15A) | | | | | | F91 Forgings B16.34-2004 Special Class (Table 2-1.15B) | | | | | |
|--|------|------|------|-------|-------|--|------|------|------|-------|-------|---|------|------|------|-------|-------|
| Working Pressures by Classes, psig | | | | | | Working Pressures by Classes, psig | | | | | | Working Pressures by Classes, psig | | | | | |
| Nominal | 900 | 1500 | 2500 | 3500 | 4500 | Nominal | 900 | 1500 | 2500 | 3500 | 4500 | Nominal | 900 | 1500 | 2500 | 3500 | 4500 |
| Intermediate | 1195 | 2155 | 3045 | 4095 | 4500 | Intermediate | 1195 | 2155 | 3045 | 4095 | 4500 | Intermediate | 1195 | 2155 | 3045 | 4095 | 4500 |
| Temp F° | | | | | | Temp F° | | | | | | Temp F° | | | | | |
| -20 to 100 | 2988 | 5388 | 7613 | 10238 | 11250 | -20 to 100 | 2988 | 5388 | 7613 | 10238 | 11250 | -20 to 100 | 2988 | 5388 | 7613 | 10238 | 11250 |
| 150 | 2988 | 5388 | 7613 | 10238 | 11250 | 150 | 2988 | 5388 | 7613 | 10238 | 11250 | 150 | 2988 | 5388 | 7613 | 10238 | 11250 |
| 200 | 2988 | 5388 | 7613 | 10238 | 11250 | 200 | 2988 | 5388 | 7613 | 10238 | 11250 | 200 | 2988 | 5388 | 7613 | 10238 | 11250 |
| 250 | 2988 | 5388 | 7613 | 10238 | 11250 | 250 | 2944 | 5310 | 7503 | 10090 | 11088 | 250 | 2988 | 5388 | 7613 | 10238 | 11250 |
| 300 | 2988 | 5388 | 7613 | 10238 | 11250 | 300 | 2900 | 5232 | 7393 | 9942 | 10925 | 300 | 2988 | 5388 | 7613 | 10238 | 11250 |
| 350 | 2988 | 5388 | 7613 | 10238 | 11250 | 350 | 2856 | 5150 | 7278 | 9787 | 10755 | 350 | 2988 | 5388 | 7613 | 10238 | 11250 |
| 400 | 2988 | 5388 | 7613 | 10238 | 11250 | 400 | 2811 | 5069 | 7162 | 9632 | 10585 | 400 | 2988 | 5388 | 7613 | 10238 | 11250 |
| 450 | 2988 | 5388 | 7613 | 10238 | 11250 | 450 | 2730 | 4923 | 6954 | 9351 | 10275 | 450 | 2988 | 5388 | 7613 | 10238 | 11250 |
| 500 | 2988 | 5388 | 7613 | 10238 | 11250 | 500 | 2649 | 4776 | 6746 | 9069 | 9965 | 500 | 2988 | 5388 | 7613 | 10238 | 11250 |
| 550 | 2988 | 5388 | 7613 | 10238 | 11250 | 550 | 2529 | 4560 | 6442 | 8661 | 9518 | 550 | 2988 | 5388 | 7613 | 10238 | 11250 |
| 600 | 2988 | 5388 | 7613 | 10238 | 11250 | 600 | 2410 | 4345 | 6138 | 8254 | 9070 | 600 | 2988 | 5388 | 7613 | 10238 | 11250 |
| 625 | 2988 | 5388 | 7613 | 10238 | 11250 | 625 | 2376 | 4286 | 6056 | 8143 | 8948 | 625 | 2988 | 5388 | 7613 | 10238 | 11250 |
| 650 | 2988 | 5388 | 7613 | 10238 | 11250 | 650 | 2343 | 4227 | 5973 | 8031 | 8825 | 650 | 2988 | 5388 | 7613 | 10238 | 11250 |
| 675 | 2954 | 5327 | 7527 | 10122 | 11123 | 675 | 2303 | 4153 | 5867 | 7890 | 8670 | 675 | 2954 | 5327 | 7527 | 10122 | 11123 |
| 700 | 2920 | 5266 | 7441 | 10006 | 10995 | 700 | 2263 | 4078 | 5761 | 7749 | 8515 | 700 | 2920 | 5266 | 7441 | 10006 | 10995 |
| 725 | 2912 | 5250 | 7418 | 9976 | 10963 | 725 | 2191 | 3949 | 5578 | 7501 | 8243 | 725 | 2912 | 5250 | 7418 | 9976 | 10963 |
| 750 | 2903 | 5233 | 7394 | 9946 | 10930 | 750 | 2119 | 3819 | 5395 | 7253 | 7970 | 750 | 2903 | 5233 | 7394 | 9946 | 10930 |
| 775 | 2885 | 5203 | 7351 | 9887 | 10865 | 775 | 2071 | 3733 | 5273 | 7089 | 7790 | 775 | 2885 | 5203 | 7351 | 9887 | 10865 |
| 800 | 2868 | 5172 | 7308 | 9828 | 10800 | 800 | 2024 | 3647 | 5151 | 6926 | 7610 | 800 | 2868 | 5172 | 7308 | 9828 | 10800 |
| 825 | 2782 | 5019 | 7092 | 9537 | 10480 | 825 | 1982 | 3573 | 5048 | 6787 | 7458 | 825 | 2782 | 5019 | 7092 | 9537 | 10480 |
| 850 | 2696 | 4865 | 6875 | 9246 | 10160 | 850 | 1939 | 3499 | 4944 | 6648 | 7305 | 850 | 2696 | 4865 | 6875 | 9246 | 10160 |
| 875 | 2543 | 4588 | 6483 | 8718 | 9580 | 875 | 1865 | 3363 | 4753 | 6391 | 7023 | 875 | 2543 | 4588 | 6483 | 8718 | 9580 |
| 900 | 2390 | 4310 | 6090 | 8190 | 9000 | 900 | 1790 | 3228 | 4561 | 6134 | 6740 | 900 | 2390 | 4310 | 6090 | 8190 | 9000 |
| 925 | 2152 | 3906 | 5557 | 7520 | 8278 | 925 | 1664 | 3001 | 4241 | 5704 | 6268 | 925 | 2135 | 3849 | 5438 | 7312 | 8035 |
| 950 | 1914 | 3502 | 5024 | 6851 | 7556 | 950 | 1539 | 2775 | 3922 | 5274 | 5795 | 950 | 1880 | 3388 | 4786 | 6434 | 7070 |
| 975 | 1843 | 3424 | 4969 | 6836 | 7556 | 975 | 1494 | 2694 | 3806 | 5117 | 5623 | 975 | 1778 | 3205 | 4528 | 6088 | 6690 |
| 1000 | 1772 | 3347 | 4915 | 6821 | 7556 | 1000 | 1449 | 2613 | 3689 | 4960 | 5450 | 1000 | 1675 | 3022 | 4269 | 5742 | 6310 |
| 1025 | 1772 | 3347 | 4915 | 6821 | 7556 | 1025 | 1441 | 2599 | 3672 | 4937 | 5425 | 1025 | 1675 | 3022 | 4269 | 5742 | 6310 |
| 1050 | 1772 | 3347 | 4915 | 6821 | 7556 | 1050 | 1434 | 2586 | 3654 | 4914 | 5400 | 1050 | 1675 | 3022 | 4269 | 5742 | 6310 |
| 1075 | 1680 | 3175 | 4693 | 6561 | 7281 | 1075 | 1318 | 2377 | 3358 | 4516 | 4963 | 1075 | 1588 | 2866 | 4049 | 5444 | 5983 |
| 1100 | 1588 | 3002 | 4472 | 6301 | 7006 | 1100 | 1202 | 2168 | 3063 | 4118 | 4525 | 1100 | 1501 | 2710 | 3829 | 5147 | 5655 |
| 1125 | 1381 | 2609 | 3887 | 5478 | 6092 | 1125 | 1046 | 1884 | 2662 | 3581 | 3935 | 1125 | 1306 | 2356 | 3328 | 4475 | 4918 |
| 1150 | 1174 | 2216 | 3302 | 4656 | 5179 | 1150 | 889 | 1600 | 2261 | 3043 | 3345 | 1150 | 1110 | 2001 | 2827 | 3803 | 4180 |
| 1175 | 966 | 1824 | 2718 | 3832 | 4262 | 1175 | 731 | 1317 | 1861 | 2504 | 2753 | 1175 | 914 | 1647 | 2327 | 3130 | 3440 |
| 1200 | 758 | 1432 | 2134 | 3008 | 3345 | 1200 | 573 | 1034 | 1462 | 1966 | 2160 | 1200 | 717 | 1293 | 1827 | 2457 | 2700 |

This chart shows the allowable pressure for any temperature within the range of this material. The temperatures in black are set by code. Simply cross reference the actual temperature of the service being considered for the temperature in red which is closest in value to it. The allowable pressures for each pressure class of valve will be shown on the chart.

| F92 Forgings Limited Class (Calculated per Appendix B, Appendix V-2.1.3 & Code case 2179-4) | | | | | | F92 Forgings Standard Class (Calculated per Appendix B & Code case 2179-4) | | | | | | F92 Forgings Special Class (Calculated per Appendix B & Code case 2179-4) | | | | | |
|---|------|------|------|-------|-------|---|------|------|------|-------|-------|--|------|------|------|-------|-------|
| Working Pressures by Classes, psig | | | | | | Working Pressures by Classes, psig | | | | | | Working Pressures by Classes, psig | | | | | |
| Nominal | 900 | 1500 | 2500 | 3500 | 4500 | Nominal | 900 | 1500 | 2500 | 3500 | 4500 | Nominal | 900 | 1500 | 2500 | 3500 | 4500 |
| Intermediate | 1195 | 2155 | 3045 | 4095 | 4500 | Intermediate | 1195 | 2155 | 3045 | 4095 | 4500 | Intermediate | 1195 | 2155 | 3045 | 4095 | 4500 |
| Temp F° | | | | | | Temp F° | | | | | | Temp F° | | | | | |
| -20 to 100 | 2988 | 5388 | 7613 | 10238 | 11250 | -20 to 100 | 2988 | 5388 | 7613 | 10238 | 11250 | -20 to 100 | 2988 | 5388 | 7613 | 10238 | 11250 |
| 150 | 2988 | 5388 | 7613 | 10238 | 11250 | 150 | 2988 | 5388 | 7613 | 10238 | 11250 | 150 | 2988 | 5388 | 7613 | 10238 | 11250 |
| 200 | 2988 | 5388 | 7613 | 10238 | 11250 | 200 | 2988 | 5388 | 7613 | 10238 | 11250 | 200 | 2988 | 5388 | 7613 | 10238 | 11250 |
| 250 | 2988 | 5388 | 7613 | 10238 | 11250 | 250 | 2944 | 5310 | 7503 | 10090 | 11088 | 250 | 2988 | 5388 | 7613 | 10238 | 11250 |
| 300 | 2988 | 5388 | 7613 | 10238 | 11250 | 300 | 2900 | 5232 | 7393 | 9942 | 10925 | 300 | 2988 | 5388 | 7613 | 10238 | 11250 |
| 350 | 2988 | 5388 | 7613 | 10238 | 11250 | 350 | 2856 | 5150 | 7278 | 9787 | 10755 | 350 | 2988 | 5388 | 7613 | 10238 | 11250 |
| 400 | 2988 | 5388 | 7613 | 10238 | 11250 | 400 | 2811 | 5069 | 7162 | 9632 | 10585 | 400 | 2988 | 5388 | 7613 | 10238 | 11250 |
| 450 | 2988 | 5388 | 7613 | 10238 | 11250 | 450 | 2730 | 4923 | 6954 | 9351 | 10275 | 450 | 2988 | 5388 | 7613 | 10238 | 11250 |
| 500 | 2988 | 5388 | 7613 | 10238 | 11250 | 500 | 2649 | 4776 | 6746 | 9069 | 9965 | 500 | 2988 | 5388 | 7613 | 10238 | 11250 |
| 550 | 2988 | 5388 | 7613 | 10238 | 11250 | 550 | 2529 | 4560 | 6442 | 8661 | 9518 | 550 | 2988 | 5388 | 7613 | 10238 | 11250 |
| 600 | 2988 | 5388 | 7613 | 10238 | 11250 | 600 | 2410 | 4345 | 6138 | 8254 | 9070 | 600 | 2988 | 5388 | 7613 | 10238 | 11250 |
| 625 | 2988 | 5388 | 7613 | 10238 | 11250 | 625 | 2376 | 4286 | 6056 | 8143 | 8948 | 625 | 2988 | 5388 | 7613 | 10238 | 11250 |
| 650 | 2988 | 5388 | 7613 | 10238 | 11250 | 650 | 2343 | 4227 | 5973 | 8031 | 8825 | 650 | 2988 | 5388 | 7613 | 10238 | 11250 |
| 675 | 2954 | 5327 | 7527 | 10122 | 11123 | 675 | 2303 | 4153 | 5867 | 7890 | 8670 | 675 | 2954 | 5327 | 7527 | 10122 | 11123 |
| 700 | 2920 | 5266 | 7441 | 10006 | 10995 | 700 | 2263 | 4078 | 5761 | 7749 | 8515 | 700 | 2920 | 5266 | 7441 | 10006 | 10995 |
| 725 | 2912 | 5250 | 7418 | 9976 | 10963 | 725 | 2191 | 3949 | 5578 | 7501 | 8243 | 725 | 2912 | 5250 | 7418 | 9976 | 10963 |
| 750 | 2903 | 5233 | 7394 | 9946 | 10930 | 750 | 2119 | 3819 | 5395 | 7253 | 7970 | 750 | 2903 | 5233 | 7394 | 9946 | 10930 |
| 775 | 2885 | 5203 | 7351 | 9887 | 10865 | 775 | 2071 | 3733 | 5273 | 7089 | 7790 | 775 | 2885 | 5203 | 7351 | 9887 | 10865 |
| 800 | 2868 | 5172 | 7308 | 9828 | 10800 | 800 | 2024 | 3647 | 5151 | 6926 | 7610 | 800 | 2868 | 5172 | 7308 | 9828 | 10800 |
| 825 | 2782 | 5019 | 7092 | 9537 | 10480 | 825 | 1982 | 3573 | 5048 | 6787 | 7458 | 825 | 2782 | 5019 | 7092 | 9537 | 10480 |
| 850 | 2696 | 4865 | 6875 | 9246 | 10160 | 850 | 1939 | 3499 | 4944 | 6648 | 7305 | 850 | 2696 | 4865 | 6875 | 9246 | 10160 |
| 875 | 2543 | 4588 | 6483 | 8718 | 9580 | 875 | 1865 | 3363 | 4753 | 6391 | 7023 | 875 | 2543 | 4588 | 6483 | 8718 | 9580 |
| 900 | 2390 | 4310 | 6090 | 8190 | 9000 | 900 | 1790 | 3228 | 4561 | 6134 | 6740 | 900 | 2390 | 4310 | 6090 | 8190 | 9000 |
| 925 | 2152 | 3906 | 5557 | 7520 | 8278 | 925 | 1664 | 3001 | 4241 | 5704 | 6268 | 925 | 2135 | 3849 | 5438 | 7312 | 8035 |
| 950 | 1914 | 3502 | 5024 | 6851 | 7556 | 950 | 1539 | 2775 | 3922 | 5274 | 5795 | 950 | 1880 | 3388 | 4786 | 6434 | 7070 |
| 975 | 1843 | 3424 | 4969 | 6836 | 7556 | 975 | 1494 | 2694 | 3806 | 5117 | 5623 | 975 | 1778 | 3205 | 4528 | 6088 | 6690 |
| 1000 | 1772 | 3347 | 4915 | 6821 | 7556 | 1000 | 1449 | 2613 | 3689 | 4960 | 5450 | 1000 | 1675 | 3022 | 4269 | 5742 | 6310 |
| 1025 | 1772 | 3347 | 4915 | 6821 | 7556 | 1025 | 1441 | 2599 | 3672 | 4937 | 5425 | 1025 | 1675 | 3022 | 4269 | 5742 | 6310 |
| 1050 | 1772 | 3347 | 4915 | 6821 | 7556 | 1050 | 1434 | 2586 | 3654 | 4914 | 5400 | 1050 | 1675 | 3022 | 4269 | 5742 | 6310 |
| 1075 | 1735 | 3278 | 4847 | 6778 | 7523 | 1075 | 1358 | 2450 | 3462 | 4657 | 5118 | 1075 | 1641 | 2959 | 4181 | 5622 | 6178 |
| 1100 | 1699 | 3208 | 4779 | 6735 | 7489 | 1100 | 1282 | | | | | | | | | | |

| F91 Forgings B16.34-2004 Limited Class (Table 2-1.15B) and Appendix V-2.1.3 (ferritic steel) | | | | | | F91 Forgings B16.34-2004 Standard Class (Table 2-1.15A) | | | | | | F91 Forgings B16.34-2004 Special Class (Table 2-1.15B) | | | | | |
|--|-------|-------|-------|-------|--------------|--|-------|-------|-------|--------------|-------|---|-------|-------|-------|-------|-------|
| Working Pressures by Classes, bar | | | | | | Working Pressures by Classes, bar | | | | | | Working Pressures by Classes, bar | | | | | |
| Nominal | PN150 | PN260 | PN420 | PN590 | PN760 | Nominal | PN150 | PN260 | PN420 | PN590 | PN760 | Nominal | PN150 | PN260 | PN420 | PN590 | PN760 |
| Intermediate | PN204 | PN365 | PN513 | PN691 | Intermediate | PN204 | PN365 | PN513 | PN691 | Intermediate | PN204 | PN365 | PN513 | PN691 | | | |
| Temp C° | | | | | Temp C° | | | | | Temp C° | | | | | | | |
| -29 to 38 | 206 | 372 | 525 | 604 | 776 | -29 to 38 | 206 | 372 | 525 | 604 | 776 | -29 to 38 | 206 | 372 | 525 | 604 | 776 |
| 66 | 206 | 372 | 525 | 604 | 776 | 66 | 206 | 372 | 525 | 604 | 776 | 66 | 206 | 372 | 525 | 604 | 776 |
| 93 | 206 | 372 | 525 | 604 | 776 | 93 | 206 | 372 | 525 | 604 | 776 | 93 | 206 | 372 | 525 | 604 | 776 |
| 121 | 206 | 372 | 525 | 604 | 776 | 121 | 203 | 366 | 518 | 595 | 765 | 121 | 206 | 372 | 525 | 604 | 776 |
| 149 | 206 | 372 | 525 | 604 | 776 | 149 | 200 | 361 | 510 | 586 | 754 | 149 | 206 | 372 | 525 | 604 | 776 |
| 177 | 206 | 372 | 525 | 604 | 776 | 177 | 197 | 355 | 502 | 577 | 742 | 177 | 206 | 372 | 525 | 604 | 776 |
| 204 | 206 | 372 | 525 | 604 | 776 | 204 | 194 | 350 | 494 | 568 | 730 | 204 | 206 | 372 | 525 | 604 | 776 |
| 232 | 206 | 372 | 525 | 604 | 776 | 232 | 188 | 340 | 480 | 551 | 709 | 232 | 206 | 372 | 525 | 604 | 776 |
| 260 | 206 | 372 | 525 | 604 | 776 | 260 | 183 | 330 | 465 | 535 | 688 | 260 | 206 | 372 | 525 | 604 | 776 |
| 288 | 206 | 372 | 525 | 604 | 776 | 288 | 175 | 315 | 444 | 511 | 657 | 288 | 206 | 372 | 525 | 604 | 776 |
| 316 | 206 | 372 | 525 | 604 | 776 | 316 | 166 | 300 | 424 | 487 | 626 | 316 | 206 | 372 | 525 | 604 | 776 |
| 329 | 206 | 372 | 525 | 604 | 776 | 329 | 164 | 296 | 418 | 480 | 617 | 329 | 206 | 372 | 525 | 604 | 776 |
| 343 | 206 | 372 | 525 | 604 | 776 | 343 | 162 | 292 | 412 | 474 | 609 | 343 | 206 | 372 | 525 | 604 | 776 |
| 357 | 204 | 368 | 519 | 597 | 767 | 357 | 159 | 287 | 405 | 465 | 598 | 357 | 204 | 368 | 519 | 597 | 767 |
| 371 | 202 | 363 | 513 | 590 | 759 | 371 | 156 | 281 | 398 | 457 | 588 | 371 | 202 | 363 | 513 | 590 | 759 |
| 385 | 201 | 362 | 512 | 588 | 756 | 385 | 151 | 272 | 385 | 442 | 569 | 385 | 201 | 362 | 512 | 588 | 756 |
| 399 | 200 | 361 | 510 | 587 | 754 | 399 | 146 | 264 | 372 | 428 | 550 | 399 | 200 | 361 | 510 | 587 | 754 |
| 413 | 199 | 359 | 507 | 583 | 750 | 413 | 143 | 258 | 364 | 418 | 538 | 413 | 199 | 359 | 507 | 583 | 750 |
| 427 | 198 | 357 | 504 | 580 | 745 | 427 | 140 | 252 | 355 | 408 | 525 | 427 | 198 | 357 | 504 | 580 | 745 |
| 441 | 192 | 346 | 489 | 562 | 723 | 441 | 137 | 247 | 348 | 400 | 515 | 441 | 192 | 346 | 489 | 562 | 723 |
| 454 | 186 | 336 | 474 | 545 | 701 | 454 | 134 | 241 | 341 | 392 | 504 | 454 | 186 | 336 | 474 | 545 | 701 |
| 468 | 175 | 317 | 447 | 514 | 661 | 468 | 129 | 232 | 328 | 377 | 485 | 468 | 175 | 317 | 447 | 514 | 661 |
| 482 | 165 | 297 | 420 | 483 | 621 | 482 | 124 | 223 | 315 | 362 | 465 | 482 | 165 | 297 | 420 | 483 | 621 |
| 496 | 149 | 269 | 383 | 442 | 571 | 496 | 115 | 207 | 293 | 336 | 432 | 496 | 147 | 266 | 375 | 431 | 554 |
| 510 | 132 | 242 | 347 | 401 | 521 | 510 | 106 | 191 | 271 | 311 | 400 | 510 | 130 | 234 | 330 | 380 | 488 |
| 524 | 127 | 236 | 343 | 399 | 521 | 524 | 103 | 186 | 263 | 302 | 388 | 524 | 123 | 221 | 312 | 359 | 462 |
| 538 | 122 | 231 | 339 | 396 | 521 | 538 | 100 | 180 | 255 | 293 | 376 | 538 | 116 | 209 | 295 | 339 | 435 |
| 552 | 122 | 231 | 339 | 396 | 521 | 552 | 99 | 179 | 253 | 291 | 374 | 552 | 116 | 209 | 295 | 339 | 435 |
| 566 | 122 | 231 | 339 | 396 | 521 | 566 | 99 | 178 | 252 | 290 | 373 | 566 | 116 | 209 | 295 | 339 | 435 |
| 579 | 116 | 219 | 324 | 380 | 502 | 579 | 91 | 164 | 232 | 266 | 342 | 579 | 110 | 198 | 279 | 321 | 413 |
| 593 | 110 | 207 | 309 | 363 | 483 | 593 | 83 | 150 | 211 | 243 | 312 | 593 | 104 | 187 | 264 | 304 | 390 |
| 607 | 95 | 180 | 268 | 316 | 420 | 607 | 72 | 130 | 184 | 211 | 272 | 607 | 90 | 163 | 230 | 264 | 339 |
| 621 | 81 | 153 | 228 | 268 | 357 | 621 | 61 | 110 | 156 | 179 | 231 | 621 | 77 | 138 | 195 | 224 | 288 |
| 635 | 67 | 126 | 188 | 221 | 294 | 635 | 50 | 91 | 128 | 148 | 190 | 635 | 63 | 114 | 161 | 185 | 237 |
| 649 | 52 | 99 | 147 | 173 | 231 | 649 | 40 | 71 | 101 | 116 | 149 | 649 | 49 | 89 | 126 | 145 | 186 |

| F92 Forgings Limited Class (Calculated per Appendix B, Appendix V-2.1.3 & Code case 2179-4) | | | | | | F92 Forgings Standard Class (Calculated per Appendix B & Code case 2179-4) | | | | | | F92 Forgings Special Class (Calculated per Appendix B & Code case 2179-4) | | | | | |
|---|-------|-------|-------|-------|--------------|---|-------|-------|-------|--------------|-------|--|-------|-------|-------|-------|-------|
| Working Pressures by Classes, psig | | | | | | Working Pressures by Classes, bar | | | | | | Working Pressures by Classes, psig | | | | | |
| Nominal | PN150 | PN260 | PN420 | PN590 | PN760 | Nominal | PN150 | PN260 | PN420 | PN590 | PN760 | Nominal | PN150 | PN260 | PN420 | PN590 | PN760 |
| Intermediate | PN204 | PN365 | PN513 | PN691 | Intermediate | PN204 | PN365 | PN513 | PN691 | Intermediate | PN204 | PN365 | PN513 | PN691 | | | |
| Temp C° | | | | | Temp C° | | | | | Temp C° | | | | | | | |
| -29 to 38 | 206 | 372 | 525 | 604 | 776 | -29 to 38 | 206 | 372 | 525 | 604 | 776 | -29 to 38 | 206 | 372 | 525 | 604 | 776 |
| 66 | 206 | 372 | 525 | 604 | 776 | 66 | 206 | 372 | 525 | 604 | 776 | 66 | 206 | 372 | 525 | 604 | 776 |
| 93 | 206 | 372 | 525 | 604 | 776 | 93 | 206 | 372 | 525 | 604 | 776 | 93 | 206 | 372 | 525 | 604 | 776 |
| 121 | 206 | 372 | 525 | 604 | 776 | 121 | 203 | 366 | 518 | 595 | 765 | 121 | 206 | 372 | 525 | 604 | 776 |
| 149 | 206 | 372 | 525 | 604 | 776 | 149 | 200 | 361 | 510 | 586 | 754 | 149 | 206 | 372 | 525 | 604 | 776 |
| 177 | 206 | 372 | 525 | 604 | 776 | 177 | 197 | 355 | 502 | 577 | 742 | 177 | 206 | 372 | 525 | 604 | 776 |
| 204 | 206 | 372 | 525 | 604 | 776 | 204 | 194 | 350 | 494 | 568 | 730 | 204 | 206 | 372 | 525 | 604 | 776 |
| 232 | 206 | 372 | 525 | 604 | 776 | 232 | 188 | 340 | 480 | 551 | 709 | 232 | 206 | 372 | 525 | 604 | 776 |
| 260 | 206 | 372 | 525 | 604 | 776 | 260 | 183 | 330 | 465 | 535 | 688 | 260 | 206 | 372 | 525 | 604 | 776 |
| 288 | 206 | 372 | 525 | 604 | 776 | 288 | 175 | 315 | 444 | 511 | 657 | 288 | 206 | 372 | 525 | 604 | 776 |
| 316 | 206 | 372 | 525 | 604 | 776 | 316 | 166 | 300 | 424 | 487 | 626 | 316 | 206 | 372 | 525 | 604 | 776 |
| 329 | 206 | 372 | 525 | 604 | 776 | 329 | 164 | 296 | 418 | 480 | 617 | 329 | 206 | 372 | 525 | 604 | 776 |
| 343 | 206 | 372 | 525 | 604 | 776 | 343 | 162 | 292 | 412 | 474 | 609 | 343 | 206 | 372 | 525 | 604 | 776 |
| 357 | 204 | 368 | 519 | 597 | 767 | 357 | 159 | 287 | 405 | 465 | 598 | 357 | 204 | 368 | 519 | 597 | 767 |
| 371 | 202 | 363 | 513 | 590 | 759 | 371 | 156 | 281 | 398 | 457 | 588 | 371 | 202 | 363 | 513 | 590 | 759 |
| 385 | 201 | 362 | 512 | 588 | 756 | 385 | 151 | 272 | 385 | 442 | 569 | 385 | 201 | 362 | 512 | 588 | 756 |
| 399 | 200 | 361 | 510 | 587 | 754 | 399 | 146 | 264 | 372 | 428 | 550 | 399 | 200 | 361 | 510 | 587 | 754 |
| 413 | 199 | 359 | 507 | 583 | 750 | 413 | 143 | 258 | 364 | 418 | 538 | 413 | 199 | 359 | 507 | 583 | 750 |
| 427 | 198 | 357 | 504 | 580 | 745 | 427 | 140 | 252 | 355 | 408 | 525 | 427 | 198 | 357 | 504 | 580 | 745 |
| 441 | 192 | 346 | 489 | 562 | 723 | 441 | 137 | 247 | 348 | 400 | 515 | 441 | 192 | 346 | 489 | 562 | 723 |
| 454 | 186 | 336 | 474 | 545 | 701 | 454 | 134 | 241 | 341 | 392 | 504 | 454 | 186 | 336 | 474 | 545 | 701 |
| 468 | 175 | 317 | 447 | 514 | 661 | 468 | 129 | 232 | 328 | 377 | 485 | 468 | 175 | 317 | 447 | 514 | 661 |
| 482 | 165 | 297 | 420 | 483 | 621 | 482 | 124 | 223 | 315 | 362 | 465 | 482 | 165 | 297 | 420 | 483 | 621 |
| 496 | 149 | 269 | 383 | 442 | 571 | 496 | 115 | 207 | 293 | 336 | 432 | 496 | 147 | 266 | 375 | 431 | 554 |
| 510 | 132 | 242 | 347 | 401 | 521 | 510 | 106 | 191 | 271 | 311 | 400 | 510 | 130 | 234 | 330 | 380 | 488 |
| 524 | 127 | 236 | 343 | 399 | 521 | 524 | 103 | 186 | 263 | 302 | 388 | 524 | 123 | 221 | 312 | 359 | 462 |
| 538 | 122 | 231 | 339 | 396 | 521 | 538 | 100 | 180 | 255 | 293 | 376 | 538 | 116 | 209 | 295 | 339 | 435 |
| 552 | 122 | 231 | 339 | 396 | 521 | 552 | 99 | 179 | 253 | 291 | 374 | 552 | 116 | 209 | 295 | 339 | 435 |
| 566 | 122 | 231 | 339 | 396 | 521 | 566 | 99 | 178 | 252 | 290 | 373 | 566 | 116 | 209 | 295 | 339 | 435 |
| 579 | 120 | 226 | 334 | 392 | 519 | 579 | 94 | 169 | 239 | 275 | 353 | 579 | 113 | 204 | 288 | 332 | 426 |
| 593 | 117 | 221 | 330 | 388 | 517 | 593 | 88 | 160 | 226 | 259 | 334 | 593 | 111 | 200 | 282 | 324 | 417 |
| 607 | 108 | 205 | 305 | 359 | 478 | 607 | 82 | 148 | 209 | 240 | 309 | 607 | 103 | 185 | 261 | 300 | 386 |
| 621 | 100 | 188 | 281 | 330 | 440 | 621 | 75 | 136 | 192 | 221 | 284 | 621 | 94 | 170 | 240 | 276 | 355 |

This chart shows the allowable pressure for any temperature within the range of this material. The temperatures in black are set by code. Simply cross reference the actual temperature of the service being considered for the temperature in red which is closest in value to it. The allowable pressures for each pressure class of valve will be shown on the chart.

Note: F92 is not listed in ASME B16.34. It is covered in the ASME Boiler and Pressure Vessel Code under Code Case 2179-4. Mechanical properties and SA values at temperature are listed in the Code Case and have been used to derive the above pressure-temperature ratings. Due to the extremely high strength of F92 at temperature, these ratings are identical to the ceiling values defined in Appendix B of B16.34

ASME Class and Ratings

ASME B16.34 incorporates socket weld end valves and butt weld end valves with Limited Class ratings. Conval offers the industry's finest forged steel globe valve with the highest ratings available. ASME Limited Class Rating applies to 2 1/2" and smaller valves only and allows use of ASME Special Class Tables without NDE.

Standard Class

Standard class is a general use classification which uses the ASME Standard Class pressure temperature tables from B16.34. No NDE or special analysis is required. Standard Class provides the lowest (most conservative) ratings.

- Application: Socket Weld, Butt Weld, Threaded End & Flanged valves (Flanged and Threaded End ratings terminate at 1000°F).
 - NPS 1/2 to 4"
 - No NDE Required
- Valve Marking: B16.34 STD

Limited Class

Limited class is a rating which allows small (NPS 2 1/2" or smaller) socket weld valves to be rated to the higher ASME Special Class pressure-temperature tables as well as Annex G from B16.34.

No NDE is required but special engineering analysis must be completed prior to assigning this rating (This has been completed for all CLAMPSEAL® valves). Limited Class provides ratings which are much higher than Standard Class, and in some cases above 900°F are slightly higher than Special Class ratings.

- Application: Socket Weld and Butt Weld End Valves
 - NPS 1/2 to 2 1/2"
 - No NDE Required
- Valve Marking: B16.34 LTD

Special Class

Special class ratings using the tables from ASME B16.34 can be applied to any forged steel valve.

- Application: Socket Weld, Butt Weld, and Threaded End valves
 - NPS 1/2 to 4"
- NDE Requirements Body and Bonnet:
 - Volumetric Exam: Radiographic or Ultrasonic Testing
 - Surface Exam: Liquid Penetrant or Magnetic Particle
- Valve Marking: B16.34 SPL

Nominal Ratings

The ASME B16.34 tables list nominal ratings, i.e., 1500, 2500, 4500. The actual class number (1500) leads to a table or graph of pressure-temperature rating pairs.

To meet nominal rating requirements, valves must satisfy certain wall and hub thickness requirements which are derived from the maximum stress allowed in a given material. These requirements have been met for all CLAMPSEAL® valves.

CLAMPSEAL® valves which exceed the wall thickness requirements may use the excess wall thickness to increase their service rating. These enhanced ratings are called intermediate ratings. Interpolating between the wall required for a class 1500 and a class 2500 valve allows Conval to intermediate rate its 1500 nominal valves to 2155.

Example: an F22 ASME 2155 LTD valve is rated for 1086 PSIG at 1100°F but only 550 PSIG for 1500 Standard class.

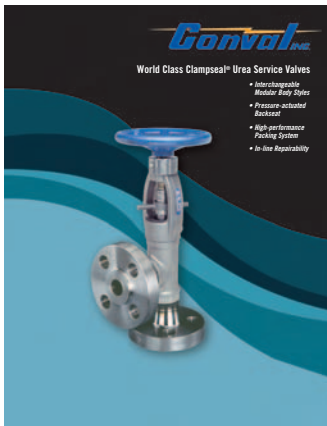
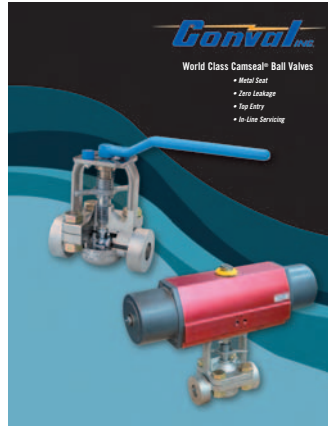
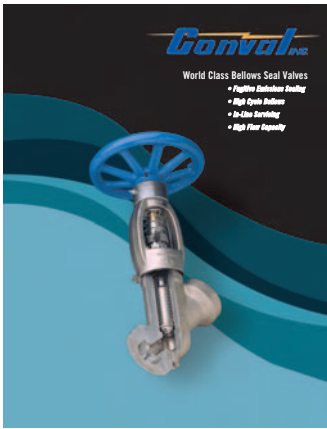
Standard, Limited, or Special Class valves may be rated to either Nominal or Intermediate Ratings.

Ball valves, Gate Valves and Threaded End Valves are nominal ASME B16.34 rated. Consult factory for other ratings.

Note: Flanged valves may not be intermediate rated. Maximum flanged and threaded valve rating is 2500.

Applications

- The modular design of the Clampseal valve family allows for easy customization to provide a wide range of special materials, design options and accessories to match your service requirements.
 - Valve configurations are available for many plants and applications including those listed here:
 - Fossil power
 - Nuclear power
 - Refineries
 - Petro chemical plants
 - Chemical plants
 - Gas separation
 - Pulp and paper plants
 - Recovery boilers
 - Marine boilers
 - Cryogenic systems
 - Oil patch steam injection
 - Thin gas service
 - Water treatment
 - Hydraulic systems
 - Conval's QA program ensures that every component receives the same control as our ASME III nuclear equipment.
 - Each order is reviewed by sales engineers to ensure compatibility with your application.
- Main Steam Lines
 - Instrumentation
 - Vents
 - Drains
 - Boiler Drums
 - Superheaters—Steam Header
 - Desuperheaters
 - Turbine Generators
 - Compressors
 - Steam Condensers
 - Chemical Fuel Lines
 - Economizer
 - Gauge Shut-off
 - Blow-down (Continuous)
 - Reheater – Inlet Header Drain
 - Reheater – Outlet Header Drain
 - Auxiliary Steam Main
 - Water Column Shut-off
 - Water Sampling
 - Steam Sampling
 - Steam Gauge Test
 - Test Loop



Ask about our growing line of product brochures, available in hard copy or electronic pdf file format.

The Conval Story

In 1962, Mr. Chester Siver completed designs for a revolutionary line of high-pressure, forged steel valves. Hamilton Standard (now Hamilton Sunstrand), a division of United Technologies Corporation, was asked to use their then-new Electron Beam Welding technology for joining of parts into valves for subassemblies. Hamilton Standard became intrigued with the valve as an ideal application of the Electron Beam Welding technique, and negotiated a contract for the rights to manufacture and sell the valve. Mr. Siver served as manager of the valve project.



The first CLAMPSEAL® valves were introduced to the market by Hamilton Standard in 1964. However, in the mid-1960's, growing demand for the firm's popular aerospace products forced Hamilton Standard to make the decision to abandon its industrial products projects. The rights to the CLAMPSEAL valve reverted back to Mr. Siver. Since CLAMPSEAL valves were born in Connecticut, Mr. Siver founded "Conval" (short for Connecticut Valve) in 1967. Today, the valves are still manufactured in Connecticut, a state with a longstanding reputation for technological innovation and manufacturing excellence.

Conval is celebrating its 40th anniversary in 2007 with the launch of the new Camseal Ball Valve. Conval has grown into a leader in valves for the world's most demanding applications. We have a global team of experts to help to meet your most challenging needs. We invite you to contact us today.

High-pressure, high-temperature ball, bellows, bonnetless, check, gate, globe, throttling, and urea service valves for the world's most demanding applications.



1967-2007

***Celebrating 40+ years of excellence!
Thank you for your business.***



MADE IN USA

***ISO 9001 certified since
September 11, 1992***

***Conval* INC.**

World Headquarters: 265 Field Road P.O. Box 1049, Somers, CT 06071-1049 USA

Phone (860) 749-0761 Fax (860) 763-3557

e-mail: sales@Conval.com www.Conval.com

Conval's policy is one of continuous development and improvement. Every effort is made to produce up-to-date literature but this catalog should not be regarded as an infallible guide to current specifications and does not form part of any contract. Conval reserves the right to make product improvements and changes without prior notice.