

Firesafe Design for Petroleum,
Chemical and Gas Pipeline Applications



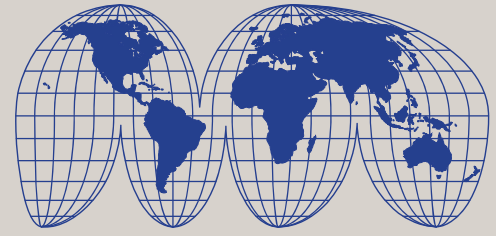
 AGFT COMPANY

Trunnion Supported Ball Valves

API 6D Classes 150, 300, 600, 900,
1500 and 2500. Sizes 2"-56"
5700 Series
6700 Series
6800 Series

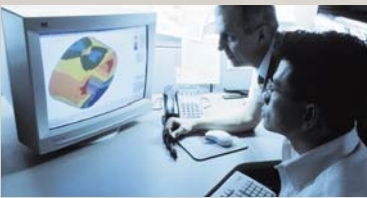


Their Options Are Our Standards



Manufacturer of Quality Valve Products Around the Globe

At Global Flow™ Technologies, formerly Zy-Tech, we are committed to improving our clients' operational and financial performance by supplying the most comprehensive range of valve products in the industry through our family of trusted valve brands.



Engineering Expertise

GFT utilizes the latest state of the art engineering software to provide custom design services for any application. Finite element analysis is just one of many Design Verification Tools GFT uses for designing valves to specific customer requirements.



CAD and NC capabilities

With GFT's fast and efficient workflow, CAD drawings can be released to the network for manufacturing and purchasing. All computer generated machine programs can be quickly changed for weld overlays or other processes. The result is faster deliveries.



Accurate Inventories

Daily cycle counting and order picking using wireless barcode guns and automated part delivery systems results in more accurate inventories and faster product delivery.



Quality Control

All GFT Companies manufacture quality products designed and tested to meet the standards of Qualifying Authorities around the world. Advanced engineering and our Quality Management System assure that our valve products continue to exceed your expectations for performance.



Customer Service

GFT's Customer Service Department is fully staffed with trained customer service representatives ready to help you with your ordering information, technical specifications and logistics.



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Due to upgrades in industry standards, material innovations, and PBV®’s constant commitment to product advancement, data presented in this brochure is subject to change. Please contact your PBV® sales person for updated and/or current drawings and material compliance. This information is available on our website at www.globalflowtech.com.



Product Range ■ Series 5700/6700 Three-Piece Trunnion ■ Forged

| Product Range, Series 5700/6700, Full & Reduced Port, Flanged Ends | | | | | | | | | | | | | | | | | |
|--------------------------------------------------------------------|--------|--------|----------------|------------|---|---|---|---|----|----|----|----|----|----|----|-------|---|
| Body Material | Class | | Port | Size (in.) | | | | | | | | | | | | | |
| | API 6D | API 6A | | 2* | 3 | 4 | 6 | 8 | 10 | 12 | 14 | 16 | 18 | 20 | 24 | 26-56 | |
| Carbon Steel & Stainless Steel & Special | 150 | — | Full & Reduced | X | X | X | X | X | X | X | X | X | X | X | X | X | X |
| | 300 | — | | X | X | X | X | X | X | X | X | X | X | X | X | X | X |
| 600 | — | X | | X | X | X | X | X | X | X | X | X | X | X | X | X | X |
| 900 | 2000 | X | | X | X | X | X | X | X | X | X | X | X | X | X | X | X |
| 1500 | 3000 | X | | X | X | X | X | X | X | X | X | — | — | — | — | — | — |
| 2500 | 5000 | X | | X | X | X | X | X | X | X | X | — | — | — | — | — | — |
| — | 10,000 | X | X | X | X | X | X | X | X | X | — | — | — | — | — | — | |

*Full Port only.
 Sizes and classes not listed are available upon special request.

Product Range ■ Series 6800 Two-Piece Trunnion ■ Cast

| Product Range, Series 6800, Full Port, Flanged Ends | | | | | | | | | | |
|-----------------------------------------------------|-------|----------------|--------------|------------|---|---|---|---|----|----|
| Shell Material | Class | Design Feature | End Connect. | Size (In.) | | | | | | |
| | | | | 2 | 3 | 4 | 6 | 8 | 10 | 12 |
| WCB LCC | 150 | End Entry | RF | X | X | X | X | X | X | X |
| | 300 | End Entry | RF | X | X | X | X | X | X | X |
| | 600 | End Entry | RF | X | X | X | X | X | — | — |

Specifying Series 5700/6700 Valve Figure Numbers

Example: 6" C-6710-71-2200-GV-NG ■ This number represents a 6" ANSI Class 150, Full Port, Three-Piece Trunnion Ball Valve, Fire Tested with Emergency Grease Seals, with Raised Face, Carbon Steel Body Material, Carbon Steel Trim, Glass Filled TFE Seats, Viton® Seals, for NACE MR0175/ISO 15156 Service and Gear Operated.

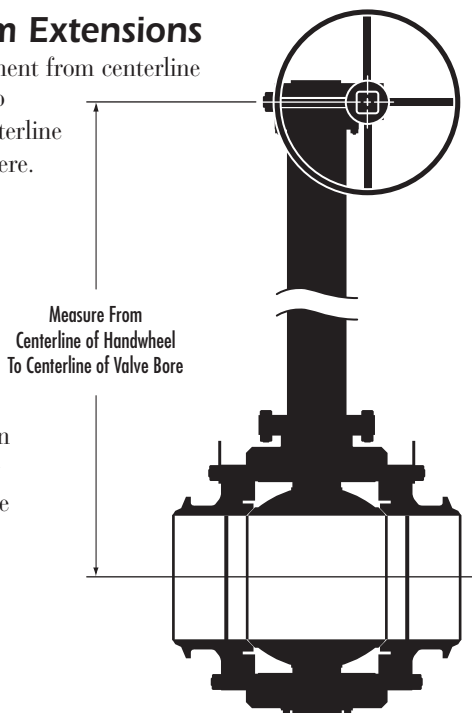
C - **6** **7** **10** - **7** **1** - **22** **00** - **G** **V** - **N** **G** -

| Material Code | Port Config. | Valve Type | Pressure Class | Fire Tested | End Connect. | Body Material | Trim Material | Seat Material | Seal Material | NACE Option | Operator | Modifier Code |
|-----------------------------|----------------------|----------------------------------------------------|-------------------------|-----------------------------------------------------|--------------------------|-------------------------------|--------------------------------------------|-------------------------------------------------|----------------------------------------------------|----------------------|-----------------------|-------------------------------------|
| C Carbon Steel | 5 Standard | 7 Three-Piece Trunnion Type | 10 150 Class | 3 Fire Tested w/No Emergency Grease Seals | 1 RF | 22 A105/A350 LF2 | 00 Same as Body | G Glass Filled PTFE | B Buna-N | N NACE | A Actuator | EXX Stem Extension inches |
| S Stainless Steel | 6 Full | 9 Bolted Body | 30 300 Class | 7 Fire Tested w/Emergency Grease Seals | 2 Non-Standard | 25 A105/A350 LF2 | 36⁽³⁾ Stainless Steel | D Devlon® | E EPDM | S Non NACE | B Bare Stem | XXX Modifier Code |
| | | 15 Three-Piece Trunnion Type Welded Body | 60 600 Class | | 3 RTJ | 34 304SS | 55 F55 Duplex | N Nylon | H⁽²⁾ HNBR | | G Gear | |
| | | | 90 900 Class | | 4 RF x WE | 36 316SS | 71 Monel® | P PEEK™ | R Low Temp Buna-N | | L Lever | |
| | | | 15 1500 Class | | 5 WE x WE | 55 316SS | | V Viton® A | T⁽¹⁾/I⁽²⁾ Lip Seal | | | |
| | | | 25 2500 Class | | 6 RTJ x WE | 81 F55 Duplex ENP | | Z Tungsten Carbide Coating or Special | V PTFE | | | |
| | | | | | | 82 CRA Weld Overlay | | | W⁽²⁾ Viton® A | | | |
| | | | | | | | | | Viton® B | | | |

- NOTES: 1) For Low Temperature Service & Severe Service.
 2) For Explosive Decompression Service. Other body, trim, seat and seal materials are available upon request.
 3) For "36" trim, large diameter and class 900 and higher, 17-4PH material is standard for ball and stem. All valves 6" and larger have 17-4PH stems when "36" trim is specified. Stronger material may be used to satisfy design requirements. Stems can be 316SS, S20910, 17-4PH, etc.

How To Measure For PBV® Stem Extensions

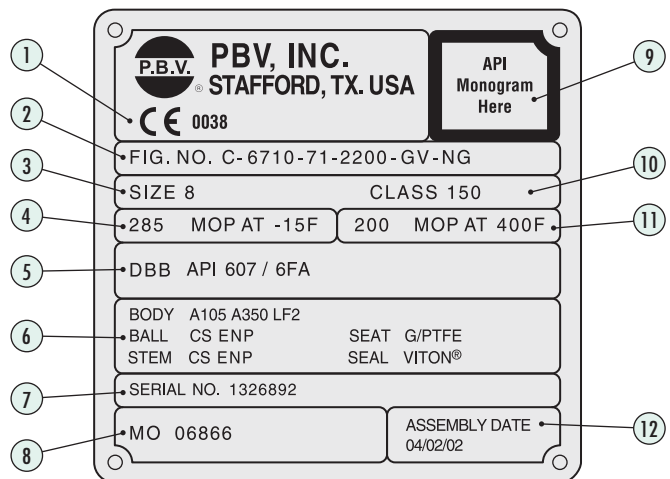
Take measurement from centerline of valve bore to handwheel centerline as illustrated here.



Body vent drain and emergency sealant lines are extended with the stem.

How to Read a PBV® Name Plate

| Item | Description |
|------|---------------------------------------------------------------------|
| 1 | CE mark and notified body required for delivery to EEC. |
| 2 | Figure number describes valve construction. |
| 3 | Nominal pipe size in inches |
| 4 | Maximum operating pressure at minimum valve design temp. |
| 5 | Valve features double block and bleed (DBB) and firesafe standards. |
| 6 | Body and trim materials |
| 7 | PBV® serial number |
| 8 | PBV® manufacturing order |
| 9 | API 6D or 6A monogram stamp |
| 10 | ANSI Pressure Class |
| 11 | Maximum operating pressure at maximum valve design temperature. |
| 12 | Date of assembly MM/DD/YY |



Typical Name Plate

Specifying Series 6800 Valve Figure Numbers

Example: 6" C-6830-71-2236-NV-NG ■ This number represents a 6" ANSI Class 300, Full Port, Two-Piece Trunnion Ball Valve, Fire Tested with Emergency Grease Seals, with Raised Face, WCB Body Material, 316SS Trim, Nylon Seats, HNBR Seals, for NACE MR0175 2002 Service and Gear Operated.

C - **6** **8** **30** - **7** **1** - **22** **36** - **N** **H** - **N** **G**

| Material Code | Port Config. | Valve Type | Pressure Class | Fire Tested | End Connect. | Body Material | Trim Material | Seat Material | Seal Material | NACE Option | Operator |
|--------------------------|------------------|-------------------------------------|----------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------|-----------------------------------|----------------------|------------------------------------|----------------------------------------------|------------------------------------------|------------------------------------------|-------------------------------------------------------------------------------------------------|
| C Carbon Steel | 6 Full | 8 Two-Piece Trunnion Type | 10 150 Class 30 300 Class 60 600 Class | 3 Fire Tested w/No Emergency Grease Seals 7 Fire Tested w/Emergency Grease Seals 6" And Larger | 1 RF 3 RTJ | 22 WCB/WCC | Same as Body 36 316SS | G Filled PTFE N Nylon | V Viton® A H HNBR | N NACE S Non NACE | A Actuator B Bare Stem G Gear Operator L Lever |

Series 5700/6700/6800 ■ Flow Coefficients (Cv) For PBV® Trunnion Ball Valves

C_v, by definition, is the volume of water in gallons per minute at 60°F that will flow through a given element with a pressure drop of 1 psi.

| Size | Flow Coefficients (Cv) Rating | | | | | |
|-------|-------------------------------|---------|---------|---------|----------|----------|
| | Cl. 150 | Cl. 300 | Cl. 600 | Cl. 900 | Cl. 1500 | Cl. 2500 |
| 2x2 | 500 | 460 | 400 | 330 | 330 | 300 |
| 3x2 | 180 | 195 | 180 | 187 | 187 | 150 |
| 3x3 | 1350 | 1150 | 1050 | 935 | 830 | 740 |
| 4x3 | 545 | 535 | 550 | 510 | 510 | 410 |
| 4x4 | 2500 | 2200 | 1850 | 1760 | 1660 | 1460 |
| 6x4 | 790 | 765 | 745 | 740 | 740 | 590 |
| 6x6 | 5300 | 5290 | 4460 | 4405 | 4100 | 2600 |
| 8x6 | 1945 | 1945 | 2220 | 2035 | 1930 | 1400 |
| 8x8 | 10,500 | 9600 | 8730 | 8475 | 8010 | 5370 |
| 10x8 | 4050 | 4040 | 4065 | 4050 | 3860 | 3050 |
| 10x10 | 17,500 | 16,750 | 14,250 | 14,205 | 13,310 | 8630 |
| 12x10 | 6900 | 7100 | 7050 | 7025 | 6670 | 5350 |
| 12x12 | 26,300 | 25,500 | 22,550 | 21,430 | 17,070 | 12,500 |
| 14x12 | 13,100 | 13,200 | 13,350 | 13,300 | 12,630 | — |
| 14x14 | 31,850 | 30,050 | 28,400 | 26,800 | 24,275 | — |
| 16x14 | 14,600 | 14,580 | 14,300 | 14,200 | 13,490 | — |
| 16x16 | 43,300 | 41,700 | 38,150 | 36,700 | 33,215 | — |
| 18x16 | 19,750 | 19,800 | 20,350 | 19,750 | 18,760 | — |
| 18x18 | 57,300 | 55,370 | 50,950 | 48,700 | 43,400 | — |
| 20x18 | 27,750 | 28,050 | 28,300 | 27,300 | 20,470 | — |
| 20x20 | 74,500 | 72,300 | 65,600 | 62,500 | 55,930 | — |
| 24x20 | 27,100 | 27,130 | 27,250 | 26,900 | 25,500 | — |
| 24x24 | 112,300 | 109,150 | 98,150 | 94,050 | 84,025 | — |
| 26x24 | 85,270 | 82,470 | 77,630 | 67,880 | 53,190 | — |

| Size | Flow Coefficients (Cv) Rating | | | | | |
|-------|-------------------------------|---------|---------|---------|----------|----------|
| | Cl. 150 | Cl. 300 | Cl. 600 | Cl. 900 | Cl. 1500 | Cl. 2500 |
| 26x26 | 116,800 | 111,900 | 103,750 | 93,240 | 71,670 | — |
| 28x24 | 62,590 | 61,470 | 59,380 | 53,880 | 43,750 | — |
| 28x28 | 136,850 | 131,600 | 122,650 | 112,200 | 84,220 | — |
| 30x24 | 49,980 | 49,390 | 48,030 | 44,540 | 37,130 | — |
| 30x30 | 161,700 | 155,650 | 143,200 | 131,500 | 98,390 | — |
| 32x30 | 143,600 | 137,400 | 128,600 | 116,950 | 90,690 | — |
| 32x32 | 182,650 | 173,300 | 160,450 | 151,250 | 113,800 | — |
| 34x30 | 109,950 | 107,050 | 101,950 | 94,300 | 76,200 | — |
| 34x34 | 207,800 | 197,800 | 181,550 | 172,950 | 129,550 | — |
| 36x30 | 90,830 | 88,660 | 85,210 | 78,690 | 65,010 | — |
| 36x32 | 127,750 | 123,350 | 116,650 | 112,150 | 88,850 | — |
| 36x36 | 233,600 | 219,450 | 199,800 | 197,600 | 145,950 | — |
| 40x36 | 160,850 | 160,850 | 157,250 | 148,650 | — | — |
| 40x40 | 282,300 | 282,300 | 271,550 | 248,400 | — | — |
| 42x40 | 265,250 | 265,250 | 253,450 | 232,050 | — | — |
| 42x42 | 312,350 | 312,350 | 297,100 | 275,550 | — | — |
| 44x40 | 218,100 | 218,100 | 209,800 | 196,700 | — | — |
| 44x44 | 351,600 | 351,600 | 331,000 | 306,400 | — | — |
| 46x46 | 379,700 | 379,700 | 358,450 | 352,400 | — | — |
| 48x42 | 201,050 | 201,050 | 196,400 | 187,150 | — | — |
| 48x44 | 275,950 | 275,950 | 266,850 | 248,200 | — | — |
| 48x48 | 412,500 | 412,500 | 393,150 | 373,200 | — | — |
| 56x56 | 605,150 | 605,150 | 587,750 | — | — | — |

PBV® Repair Kits

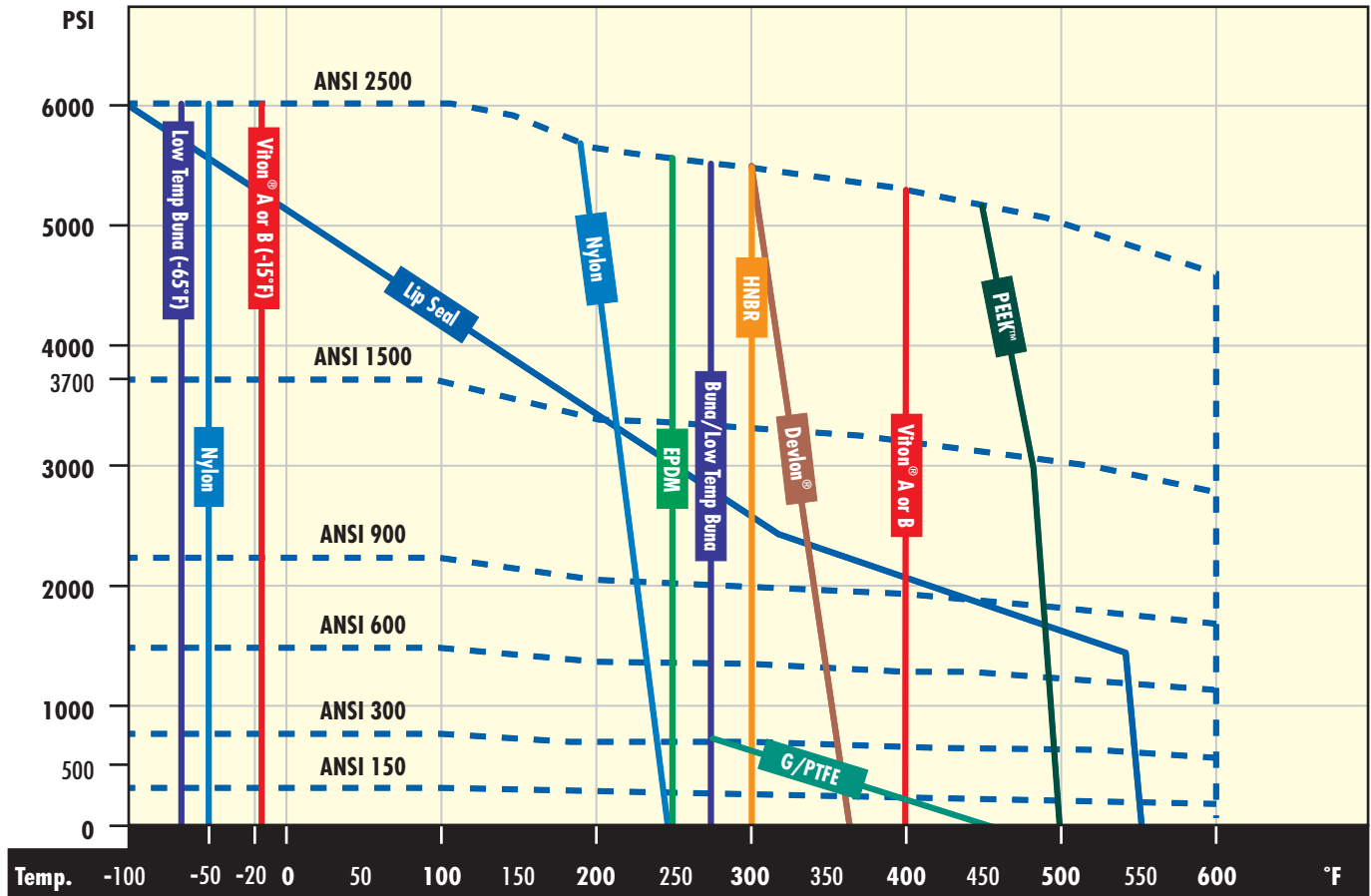
Spare parts are available for quick delivery. Orders with valve serial numbers will ensure the correct parts are shipped. Contact your PBV® salesperson for more information.

Our Quality Commitment...

Global Flow™ Technologies is dedicated to continually improving their state-of-the-art engineering and manufacturing capabilities to improve the overall quality of their products and customer service. GFT's entire global network of flow control experts consist of highly trained technicians, engineers, and superior testing laboratories to ensure that all products supplied to our customers are 100% in accordance with industry standards as well as our own Quality Management System.

Series 5700/6700 ■ Pressure Temperature

The chart below depicts pressure and temperature ratings for common plastics and elastomers used in PBV® ball valves. Other materials are available upon request.



Ball Valve Stem Torques (in.-lbs.)

To calculate torque at any pressure use the formula located under Class for each valve size.

Example: An 8" Class 600 at 1100 psi = 4471 + (9.1 x 1100) = 14,481 in.-lbs.

| Seat | G/PTFE | G/PTFE | G/PTFE | Nylon | Nylon | Nylon | Nylon | Nylon | Nylon | Nylon | Nylon |
|-----------|---------------------------------|---------------------|---------------------|-----------------------------|---------------------|-----------------------------|---------------------|------------------------------|----------------------|------------------------------|----------------------|
| Port Size | Cl. 150-300 Stem Torque Formula | Cl. 150 Stem Torque | Cl. 300 Stem Torque | Cl. 600 Stem Torque Formula | Cl. 600 Stem Torque | Cl. 900 Stem Torque Formula | Cl. 900 Stem Torque | Cl. 1500 Stem Torque Formula | Cl. 1500 Stem Torque | Cl. 2500 Stem Torque Formula | Cl. 2500 Stem Torque |
| | MOP (psi) | 285 | 740 | MOP (psi) | 1480 | 2220 | 2220 | 3705 | 3705 | 6170 | 6170 |
| 2 | 500 + 0.51 * ΔP | 650 | 880 | 640 + 0.62 * ΔP | 1,560 | 700 + 0.61 * ΔP | 2,050 | 849 + 0.61 * ΔP | 3,110 | 792 + 0.39 * ΔP | 3,200 |
| 3 | 1105 + 1.13 * ΔP | 1,430 | 1,940 | 1333 + 1.47 * ΔP | 3,510 | 1427 + 1.35 * ΔP | 4,420 | 1705 + 1.14 * ΔP | 5,930 | 1510 + 0.84 * ΔP | 6,690 |
| 4 | 1540 + 1.99 * ΔP | 2,110 | 3,010 | 1839 + 2.47 * ΔP | 5,490 | 1985 + 2.26 * ΔP | 7,000 | 2423 + 2.08 * ΔP | 10,130 | 2345 + 1.35 * ΔP | 10,670 |
| 6 | 1630 + 3.9 * ΔP | 2,740 | 4,520 | 2069 + 4.4 * ΔP | 8,580 | 2760 + 4.1 * ΔP | 11,860 | 4612 + 5.1 * ΔP | 23,510 | 5442 + 4.2 * ΔP | 31,360 |
| 8 | 3600 + 8.0 * ΔP | 5,880 | 9,520 | 4471 + 9.1 * ΔP | 17,940 | 4162 + 7.8 * ΔP | 21,480 | 6588 + 8.4 * ΔP | 37,710 | 8463 + 8.6 * ΔP | 61,530 |
| 10 | 4280 + 13 * ΔP | 7,990 | 13,900 | 5452 + 14 * ΔP | 26,170 | 6094 + 14 * ΔP | 37,170 | 6193 + 16 * ΔP | 65,470 | 10003 + 16 * ΔP | 108,720 |
| 12 | 5275 + 20 * ΔP | 10,980 | 20,080 | 7444 + 22 * ΔP | 40,000 | 6800 + 24 * ΔP | 60,080 | 9558 + 23 * ΔP | 94,770 | 18889 + 24 * ΔP | 166,970 |
| 14 | 6600 + 26 * ΔP | 14,010 | 25,840 | 8624 + 33 * ΔP | 57,460 | 12436 + 37 * ΔP | 94,580 | 15278 + 35 * ΔP | 144,950 | — | — |
| 16 | 8660 + 34 * ΔP | 18,350 | 33,820 | 11074 + 42 * ΔP | 73,230 | 16700 + 55 * ΔP | 138,800 | 19630 + 48 * ΔP | 197,470 | — | — |
| 18 | 13175 + 56 * ΔP | 29,140 | 54,620 | 18050 + 68 * ΔP | 118,690 | 17930 + 58 * ΔP | 146,690 | 20930 + 60 * ΔP | 243,230 | — | — |
| 20 | 16860 + 84 * ΔP | 40,800 | 79,020 | 18659 + 100 * ΔP | 166,660 | 25050 + 69 * ΔP | 178,230 | 35820 + 87 * ΔP | 358,165(*) | — | — |
| 24 | 22480 + 121 * ΔP | 56,970 | 112,020 | 30326 + 164 * ΔP | 273,050 | 47570 + 139 * ΔP | 356,150 | 60400 + 187 * ΔP | 753,235(**) | — | — |

(*) Bore = 18.69"

(**) Bore = 23.25"

Torque values are for new valves with clean water.

No additional safety factors have been added.

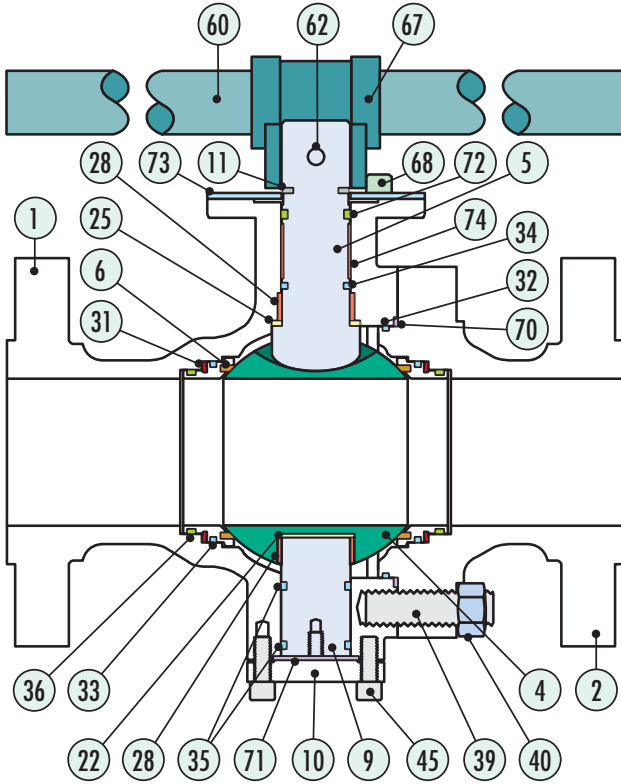
For powered actuators, it is recommended to add an additional 25% minimum.

For dirty service, add an additional 25% minimum.

For dry gas service, add 50% minimum.

To prevent stem side loading and eliminate potential stem galling, the following tolerances for mounting actuators are recommended.

- Actuator mounting bracket flanges must be parallel within .015".
- The max allowed runout on the stem coupling bores are .008".

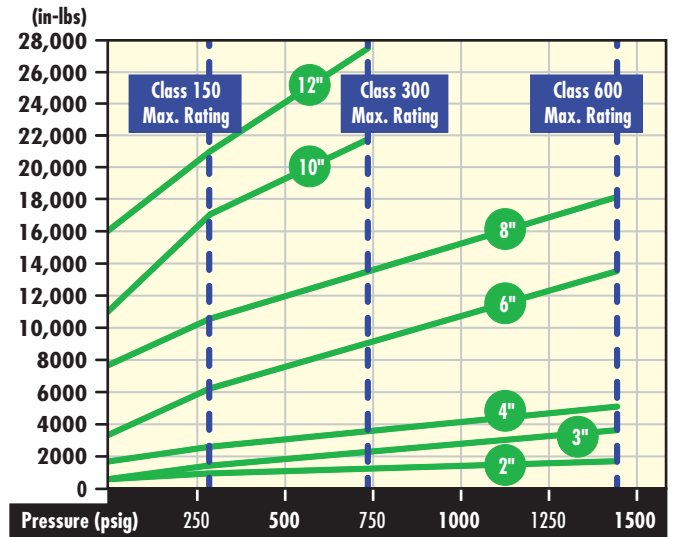


Parts & Materials Typical 4" Steel Valve

| No. | Qty. | Description | Material/Carb. Steel Std. | Spares |
|-----|---------|---------------------|---------------------------|--------|
| 1 | 1 | Body | A216-WCB/WCC | |
| 2 | 1 | Adapter Cap | A216-WCB/WCC | |
| 4 | 1 | Ball | A351-CF8M | |
| 5 | 1 | Stem | A276-316 | |
| 6 | 2 | Seat Assembly | Nylon/316 | S |
| 9 | 1 | Trunnion | A276-316 | |
| 10 | 1 | Trunnion Plate | A352-LCC | |
| 11 | 1 | Snap Ring | Stainless Steel | |
| 22 | 1 | Bearing | TFMC | S |
| 25 | 1 | Stem Thrust Bearing | TFMC | S |
| 28 | 2 | Bearing Washer | Steel/PTFE | S |
| 31 | 2 | Spring | Inconel X-750 | |
| 32 | 1 | O-ring, Body | HNBR | S |
| 33 | 2 | O-ring, Seat | HNBR | S |
| 34 | 2 | O-ring, Stem | HNBR | S |
| 35 | 2 | O-ring, Trunnion | HNBR | S |
| 36 | — | Packing | Graphite | S |
| 39 | SeeDim. | Stud | A193-B7M | |
| 40 | SeeDim. | Nut | A194-2HM | |
| 45 | 4 | Cap Screw, Trunnion | A574 | |
| 60 | 1 | Handle | Carbon Steel | |
| 62 | 1 | Handle Screw | F912 | |
| 67 | 1 | Handle Adapter | Ductile Iron | |
| 68 | 1 | Cap Screw, Stop | A574 | |
| 70 | 1 | Gasket, Body | Graphite | S |
| 71 | 1 | Gasket, Trunnion | Graphite | S |
| 72 | — | Packing, Stem | Graphite | S |
| 73 | 1 | Stop Plate | Carbon Steel | |
| 74 | 1 | Stem Bearing | PTFE | S |

NOTE: We reserve the right to change materials and specifications.

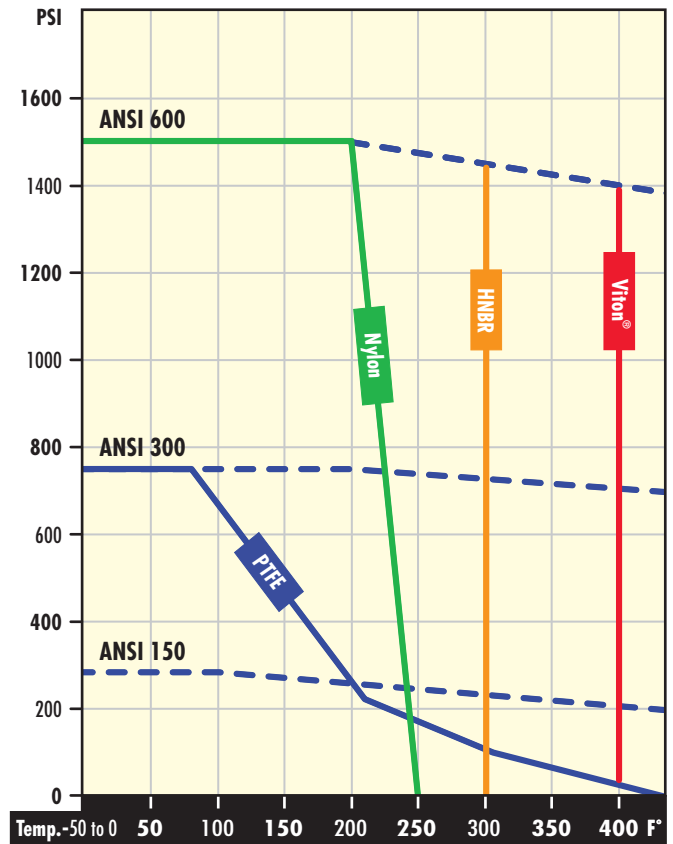
Stem Torque



Max Break Torques (in.-lbs.)

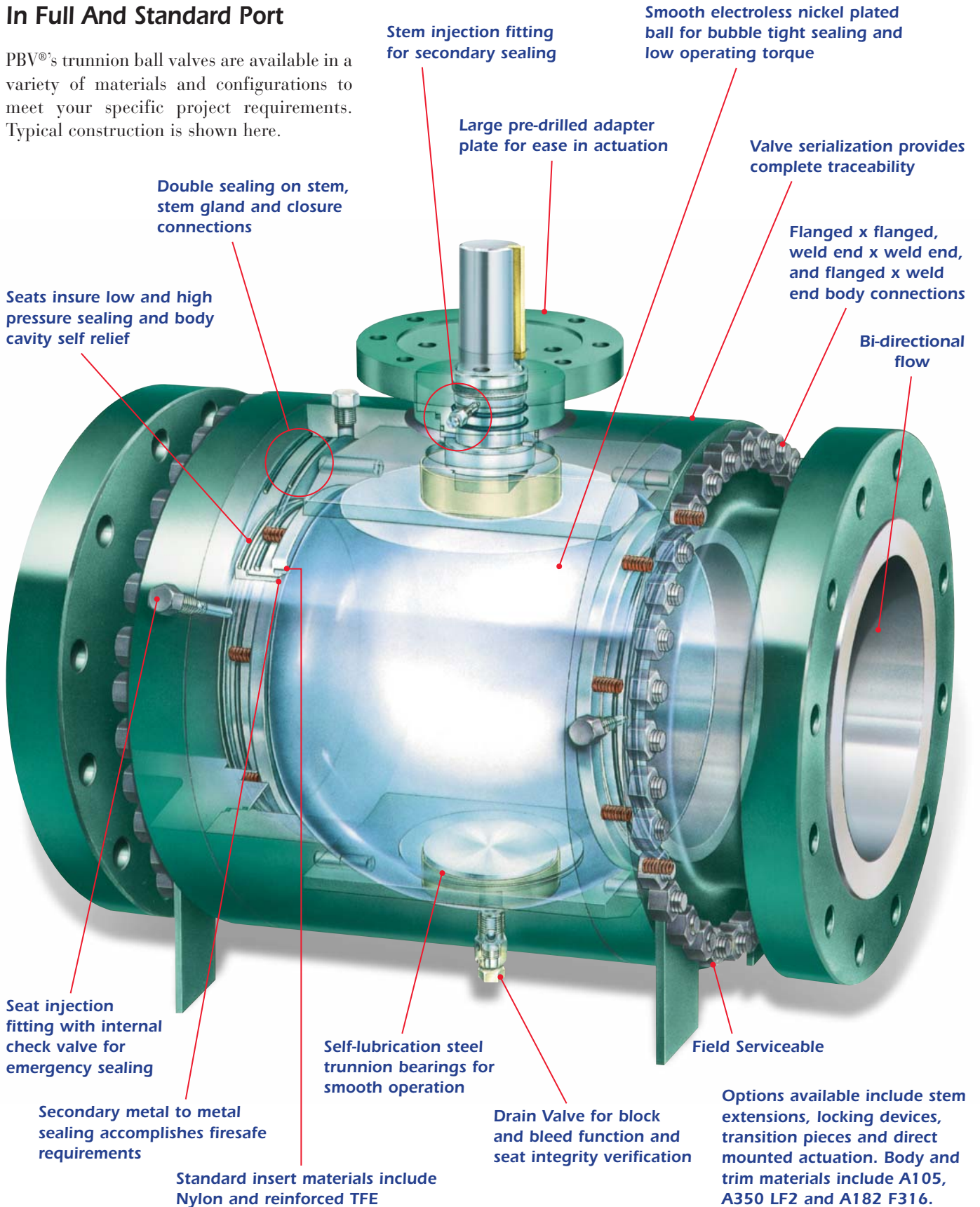
| Pressure psig | Torque (in.-lbs.) By Size | | | | | | |
|------------------|---------------------------|------|------|--------|--------|--------|--------|
| | 2 | 3 | 4 | 6 | 8 | 10 | 12 |
| 0 | 540 | 720 | 1560 | 3180 | 7560 | 9000 | 16,000 |
| 285 | 900 | 1440 | 2580 | 6120 | 10,560 | 15,700 | 21,000 |
| 740 | 1320 | 2460 | 3600 | 9540 | 13,560 | 21,600 | 27,200 |
| 1480 | 1620 | 3720 | 5220 | 13,800 | 18,180 | — | — |

Pressure Temperature



The PBV® Series 5700/6700 Three-Piece, Side-Entry, Trunnion Ball Valve 2"-56" ANSI Class 150/300,600,900,1500 & 2500 In Full And Standard Port

PBV's trunnion ball valves are available in a variety of materials and configurations to meet your specific project requirements. Typical construction is shown here.



Materials of Construction

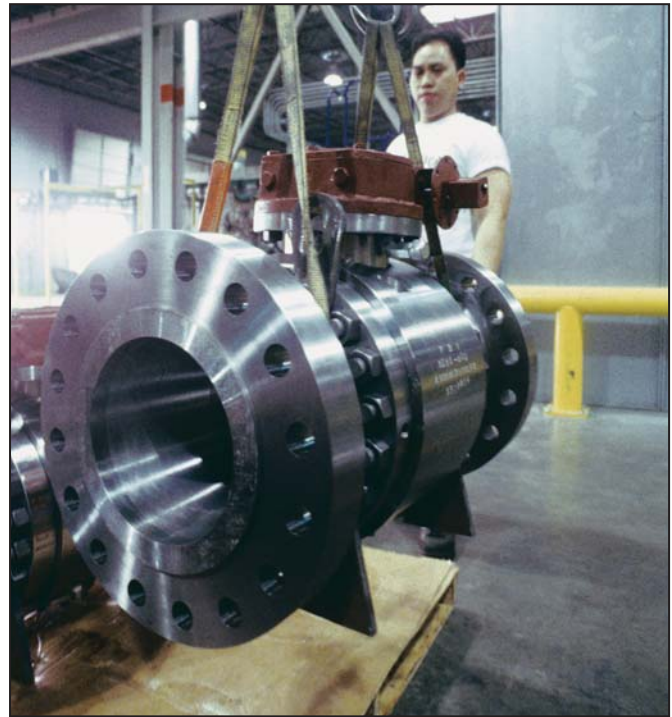
PBV® manufactures trunnion ball valves using a full range of carbon, alloy and stainless materials. Our commodity valves are manufactured using dual rated A105/A350 LF2 steel, B7M/2HM fasteners, and 3 mil ENP carbon steel trim on 6" and larger. Material test reports in accordance with EN10204 3.1b are available on each serialized valve.

NACE Compliance

The demand for valves to be resistant to sulfide stress cracking, and to perform in corrosive hydrocarbon environments, has become commonplace. Facilities handling H₂S bearing hydrocarbons have increased dramatically over recent years. Hydrogen sulfide concentration, total system pressure, application temperature, existence of elemental sulfur, and chloride content all have a bearing on appropriate material selection in this severe environment.

All materials used by PBV® are in accordance with the pre-qualified materials identified in NACE MR0175/ISO 15156. In order to ensure compliance customers must provide application specific operating conditions.

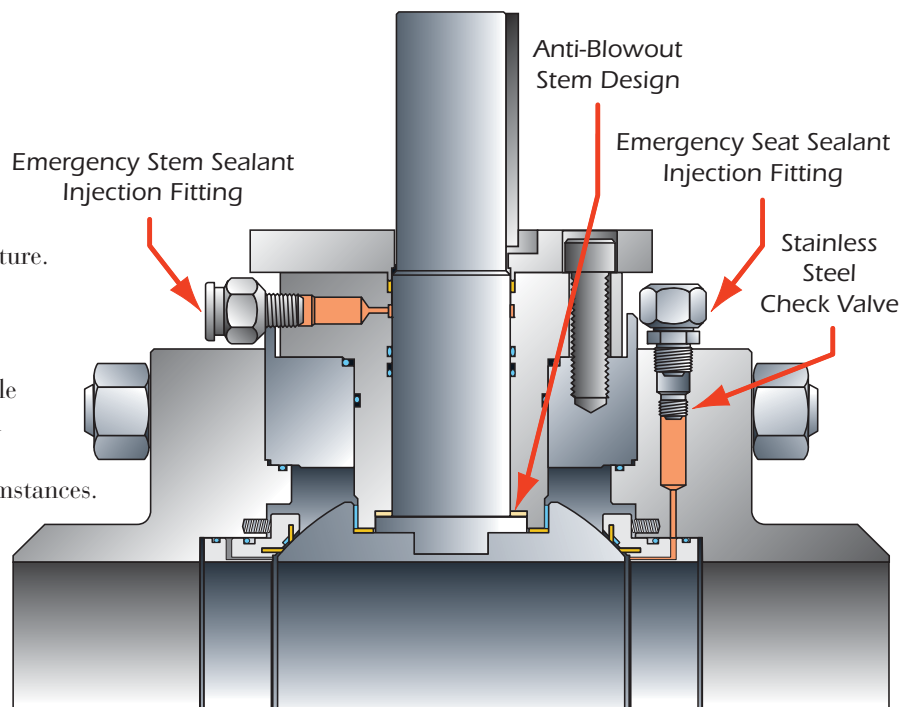
Inclusive to the above, valves with bore diameters 4" and smaller are supplied standard with Stainless Steel balls, seats and stems. Material type selected may vary depending on design requirements.



Emergency Sealant Injection

A secondary sealant injection system for stem seals is a standard feature on all PBV® trunnion ball valves. On valves 6" bore and larger, the seat emergency sealant system shown here is a standard feature. A similar system is available for sizes 2" thru 4" on request.

These systems are made available for the sole purpose of providing a temporary seal to an otherwise damaged area. PBV® ball valves require no lubrication under ordinary circumstances.



Anti-Blowout

Blowout proof stems are a standard feature of all PBV® ball valves.

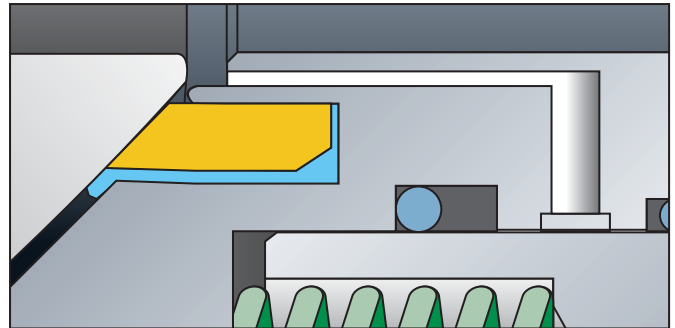
PBV®'s Patented Seat Technologies

PBV® provides the latest in valve seat technology, leading the industry with the patented Comp II seat. Other seat designs are also available to meet your application requirements. This makes PBV® one of the most flexible manufacturers in

terms of available seat configurations and designs. PBV®'s metal-to-metal seating technologies and manufacturing capabilities continue to lead the way in industry innovations where severe service applications are required.

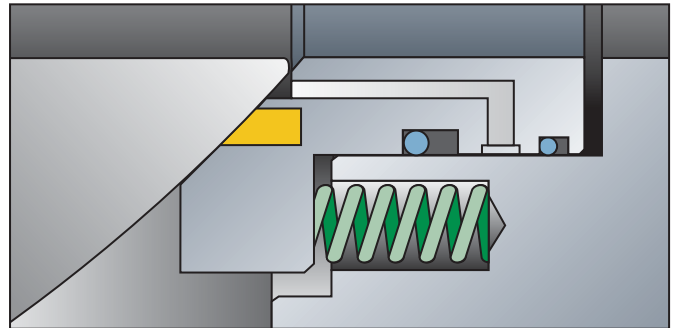
Compseal-II 2"-12" Standard, Class 150-1500

PBV® has a patented seat design called Compseal II. This seat combines the strength and durability of hard plastics while providing the low pressure sealing capabilities of elastomers. The illustration shows the Compseal II seat insert locked into the seat retainer. Compseal II may be supplied in a variety of combinations of elastomers and plastics.



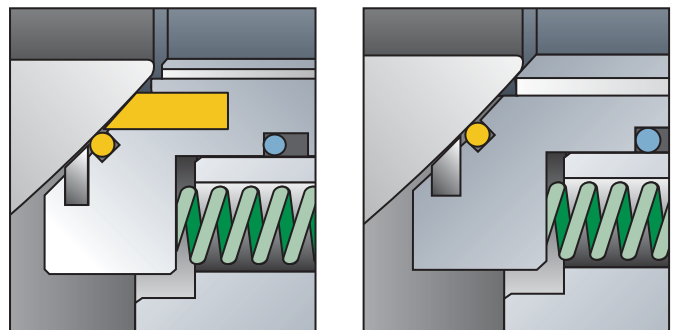
Compseal-0 14" and Larger Standard, Class 600 and Up 2" and Larger Standard, Class 2500

The PBV® Compseal-0 design is ideal for applications where non-standard seat materials are required for the service conditions. The different materials give added flexibility for faster delivery in demanding applications. The seat inserts allow for a variety of materials to be used while still complying to API seat test requirements for "bubble-tight shut-off". Nylon Compseal-0 designs are standard on sizes 14" and larger.



Compseal-1 14" and Larger Standard, Class 150-300

PBV® Compseal-1 seat designs are for applications that require redundant sealing when access to a valve is limited or start up conditions are known to have debris in the line. Lower torque and low pressure shut-off are often achieved utilizing this design while providing customers with zero leakage reliability at an affordable price.

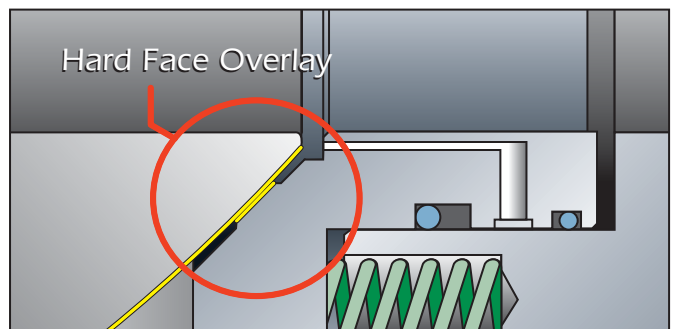


CMP-1

V-V

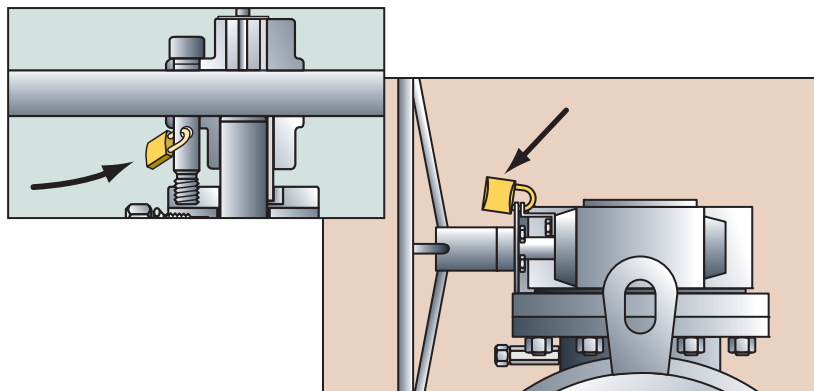
Metal-To-Metal Seats

There are a number of services that require metal-to-metal seat technology. PBV® has extensive experience in the supply of valves for applications such as high temperature cokers, control valve applications and in corrosive and/or erosive environments. PBV® achieves the metal-to-metal seating technology through the use of various hard face material on the ball and seat face.



Locking Devices

Locking devices are standard on all PBV® trunnion ball valves. The designs shown depict the locking feature for both lever-operated and gear-operated valves. In addition, a multiple lock template can accommodate safety requirements when more than one person needs reassurance of security. Special safety interlock devices are also available.

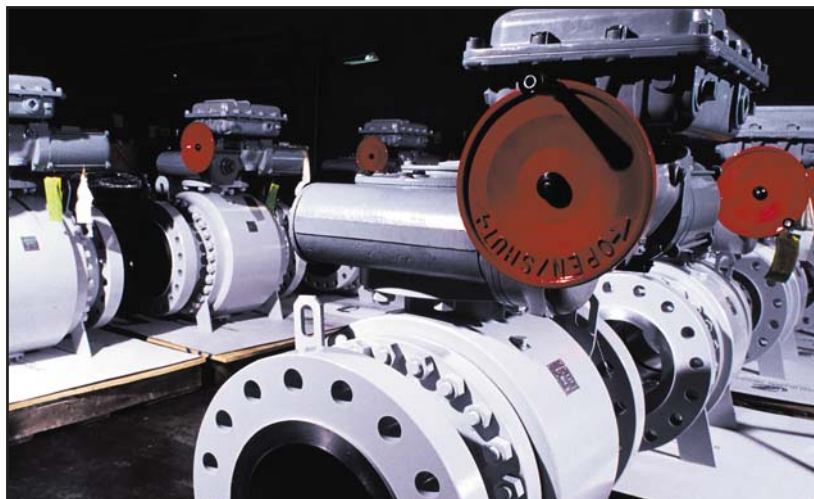


Actuation

PBV® ball valves are built to easily accept pneumatic, electric, hydraulic or gas-over-oil actuators. Break-away and run torque, which normally affect actuator sizing, are minimized to allow for economical actuator packages. Actuated ball valves may be supplied directly from PBV® under a single warranty.

Valve/Actuator assemblies can be tested to customer requirements at PBV® before shipment to the job site.

The valves shown at right are just a few of many severe service ball valves PBV® produced for the United States Department of Energy, Strategic Petroleum Reserves, complete with gear operators built and tested to DOE specifications.



Weld Overlay Technology

This technology is cost effective for ball valves in highly corrosive or erosive services. The life of a valve can be considerably extended at a fraction of the cost of a solid corrosion resistant alloy valve by the application of a weld overlay to valve internal surfaces.

If you are currently using solid stainless steel or other high alloy valves the use of this technology could result in considerable savings with no sacrifice to service life or performance. Offered on valves 6" and larger.

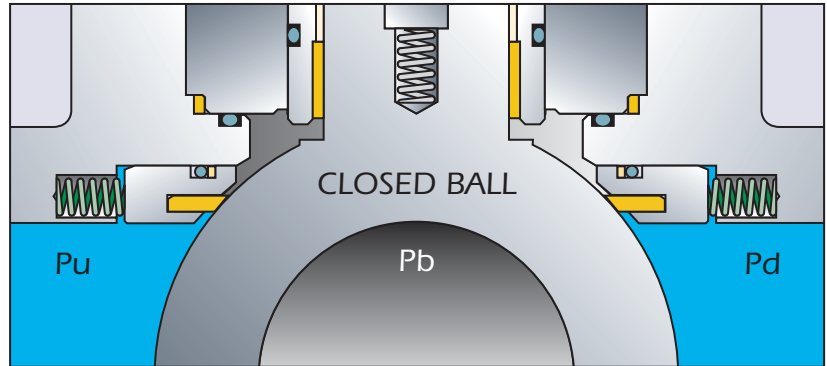
Welding is performed in accordance with ASME BPV Section 9.



Three-Piece Trunnion Series 5700/6700 Double Block and Bleed Valves

All PBV® trunnion mounted ball valves are designed and manufactured to facilitate block and bleed applications in the closed position only. In addition, valves 6" and larger can be completely flushed with the valve under pressure and in the closed position. This is achieved by utilizing the drain valve and vent hole in combination. The illustration shows both the upstream pressure (P_u) and the downstream pressure (P_d) being held independently from the body pressure (P_b). The piston effect principle illustrated assures bubble tight sealing simultaneously on both sides of the ball.

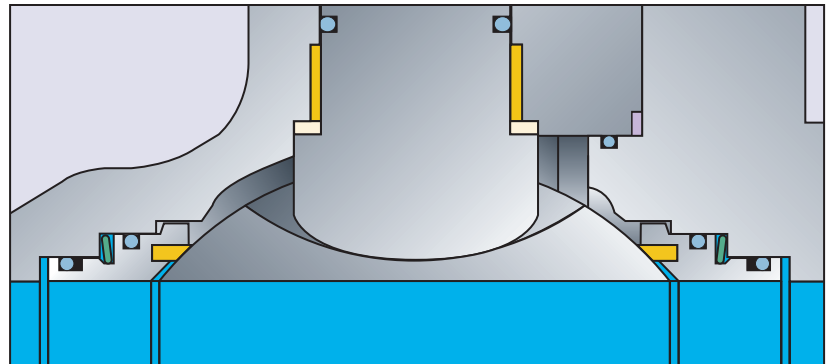
Shown In Closed Position



Two-Piece Trunnion Series 6800 Double Block and Bleed Valves

The PBV® two-piece cast series 6800 trunnion ball valve has complete body cavity isolation from the media in both the open and closed position. The operator can perform a double block & bleed in the open or closed position to check seat seal integrity. Body cavity vent and drain ports are provided as standard to perform this inspection. The seats are self-relieving to automatically prevent over pressurization of the body cavity due to thermal expansion of the trapped fluid. When the body cavity pressure increases above the net spring load the seat moves away from the ball venting pressure downstream.

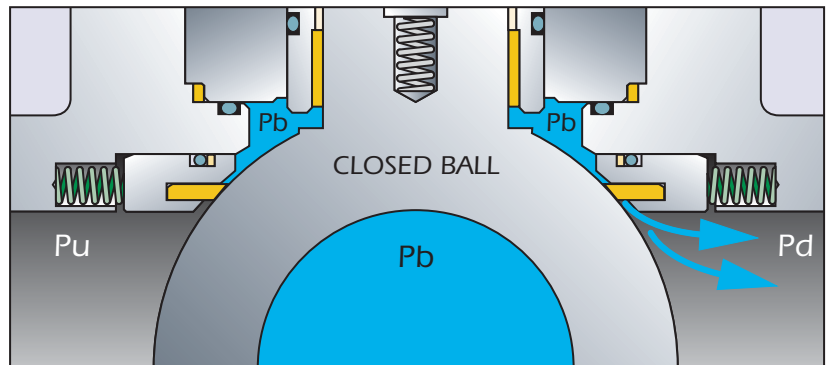
Shown In Open Position



Valve Cavity Pressure Relief

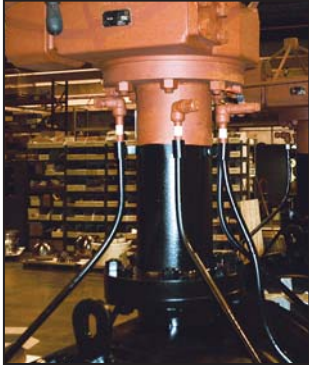
When a trunnion ball valve is in the closed position, media will be trapped in the body cavity. Unless this media is drained, it will be subjected to thermal expansion and contraction. As the temperature rises, the trapped media desires to expand and the pressure increases in the area shown as (P_b). In order to avoid excessive pressure build-up, the PBV® seats are designed to self-relieve, allowing the media in the body to escape to the pipeline. In this case, we have shown it to relieve to the downstream side (P_d). This self-relieving seat design feature is standard on all PBV® trunnion ball valves.

Shown In Closed Position



Buried Service

The photos and illustrations shown here typify the designs used for adapting a PBV® ball valve for buried service. PBV® manufactures hi-head extensions exactly in accordance with customer specifications or according to our own engineering and manufacturing designs.



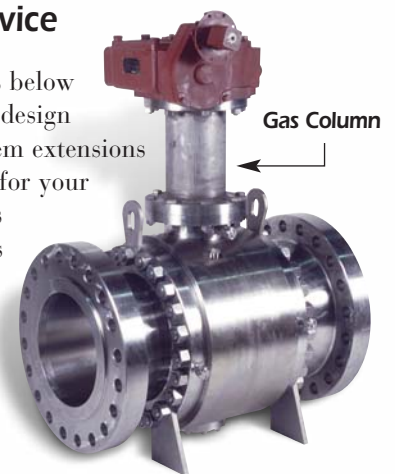
PBV® has the capabilities to produce giants like the one pictured at right. PBV® produced two 48" Class 600 ball valves with 96" extended stems for the Williams Energy; "Sundance Pipeline Project".



PBV® provides extended stems which are used in a variety of applications.

PBV® Ball Valves For Cryogenic Service

For service temperatures below -50°F , PBV®'s standard design includes lip seals and stem extensions using selected materials for your application. The 12" gas column shown at right is a standard feature to isolate the gear operator and stem seals from the cold media.



Subsea Valve



Splash Zone Valve

PBV® supplies subsea valves to individual customer requirements or to our own internal standards. Coatings, fastener protection, gear boxes with pressure equalizing devices, protected drive stems and customized ROV couplings are all components of design considered for PBV® ball valves being used in subsea service.

Seat Design

The necessary thrust required for proper sealing of the seat to the ball at low pressure is provided by spiral springs (See Illustration 1). At high pressure the thrust of the seat to the ball is increased by the pressure of service medium in the pipeline. Primary seat sealing is provided by a soft sealing ring of different rubber types. Alternatively, a PTFE hard sealing ring (or PTFE modifications) can be used for primary sealing. Secondary sealing is provided by metal-to-metal contact of the seat to the ball. Emergency sealant, which can be injected between the seat and ball, can be used as tertiary sealing. Seats with soft sealing rings are automatically supplied as DPE design (See Illustration 2). DPE design means, that if the upstream seat is damaged, function of a ball valve is still secured by a downstream seat.

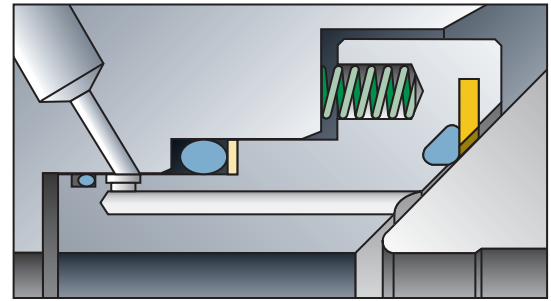
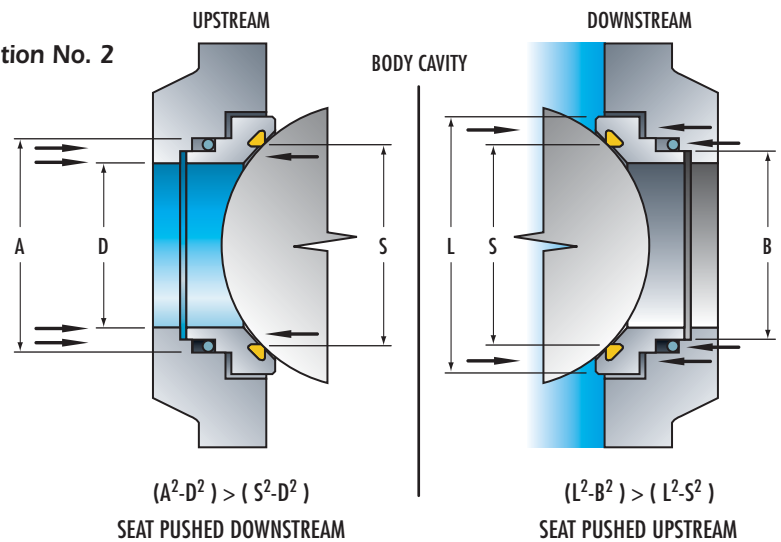


Illustration No. 1

Illustration No. 2



Two-Way Double Block and Bleed

To meet customers requirements, often times a two-way seat design is required. This design allows for downstream seat sealing in the case of an upstream seat failing to seal. This design also provides for the function of testing a valve in-line and in full open position with the drain or bleed valve open to the air.

Fully Welded Body Design

Fully welded three-piece body designs are available in larger sizes.

Special Under Water Gas Testing

Valves can be air or gas tested under water in a special chamber.



Valve designs covered in this catalog conform to the following industry standards and specifications.

American Petroleum Institute

- API 6D • Specifications for pipeline valves
- API 607 • Fire test for soft-seated ball valves (Div. of Refining)
- API 6FA • Fire test for valves (Div. of Production)
- API Q1 • Specifications for quality programs
- API 6A • Specifications for Wellhead and Christmas Tree Equipment.

Manufacturers Standardization Society

- MSS SP-25 • Standard marking system for valves
- MSS SP-55 • Quality Standard for Steel Castings

National Association of Corrosion Engineers

- NACE MR-01-75 2002 • Sulfide stress cracking resistant metallic materials for oilfield Equipment

American National Standard

- ASME/ANSI B 16.10 • Face-to-face and end-to-end dimensions on ferrous valves
- ASME/ANSI B 16.5 • Steel pipe flanges and flanged fittings
- ASME/ANSI B 16.34 • Steel valves-flanged and butt-weld end
- ASME/ANSI B 31.1 • Chemical plant and petroleum refinery piping
- ASME B 31.4 • Liquid petroleum transportation piping systems
- ASME B 31.8 • Gas transmission and distribution piping systems

Code of Federal Regulations

- Title 49-Part 192 • Transportation of natural and other gas by pipeline: Minimum federal safety standards

European Community

- Pressure Equipment Directive 97/23/EC **CE 0038**

Certification of Quality and Design

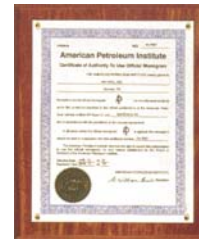
Quality systems are a way of life at PBV®. In addition, PBV® functions under the requirements of an API Q1 quality program. Our facilities and quality programs are always open to customer audits.

The complete PBV® trunnion ball valve line has been designed and tested to ensure that the external and through-bore maximum allowable leakage rates are maintained in the event of a fire. PBV® has equipment and facilities to fire-safe test our products to the edition of API 607 and API 6FA firesafe standards.

API 6D



API 6A



ISO 9001:2000



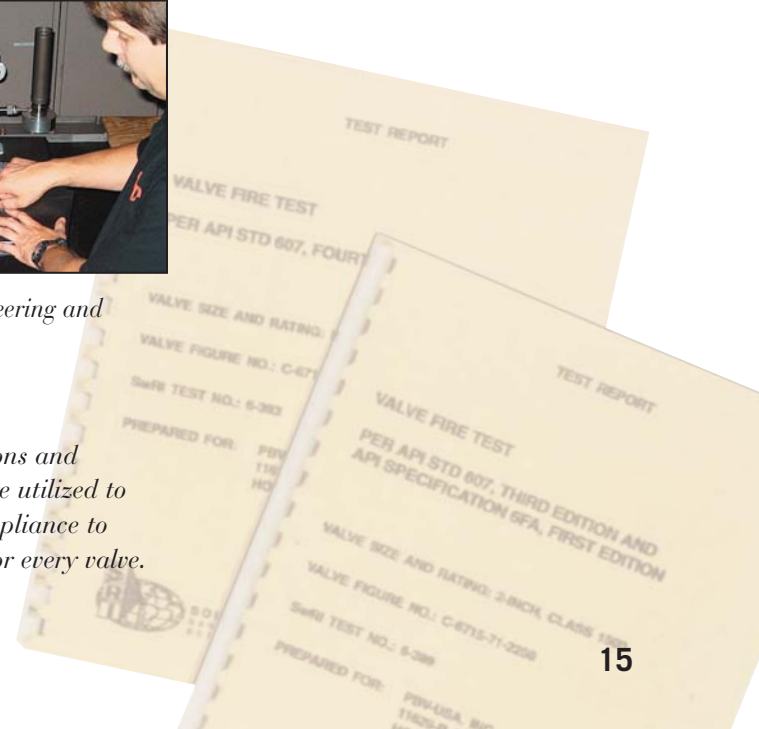
All API 6D, API 6A, CE PED and other licenses are maintained on a current basis. Each and every PBV® trunnion ball valve is monogrammed and serialized under our API 6D-0129 or our API 6A-0383 license numbers.



X-ray testing and evaluation of castings are performed at PBV®'s Engineering and Testing Facility in Stafford, Texas.



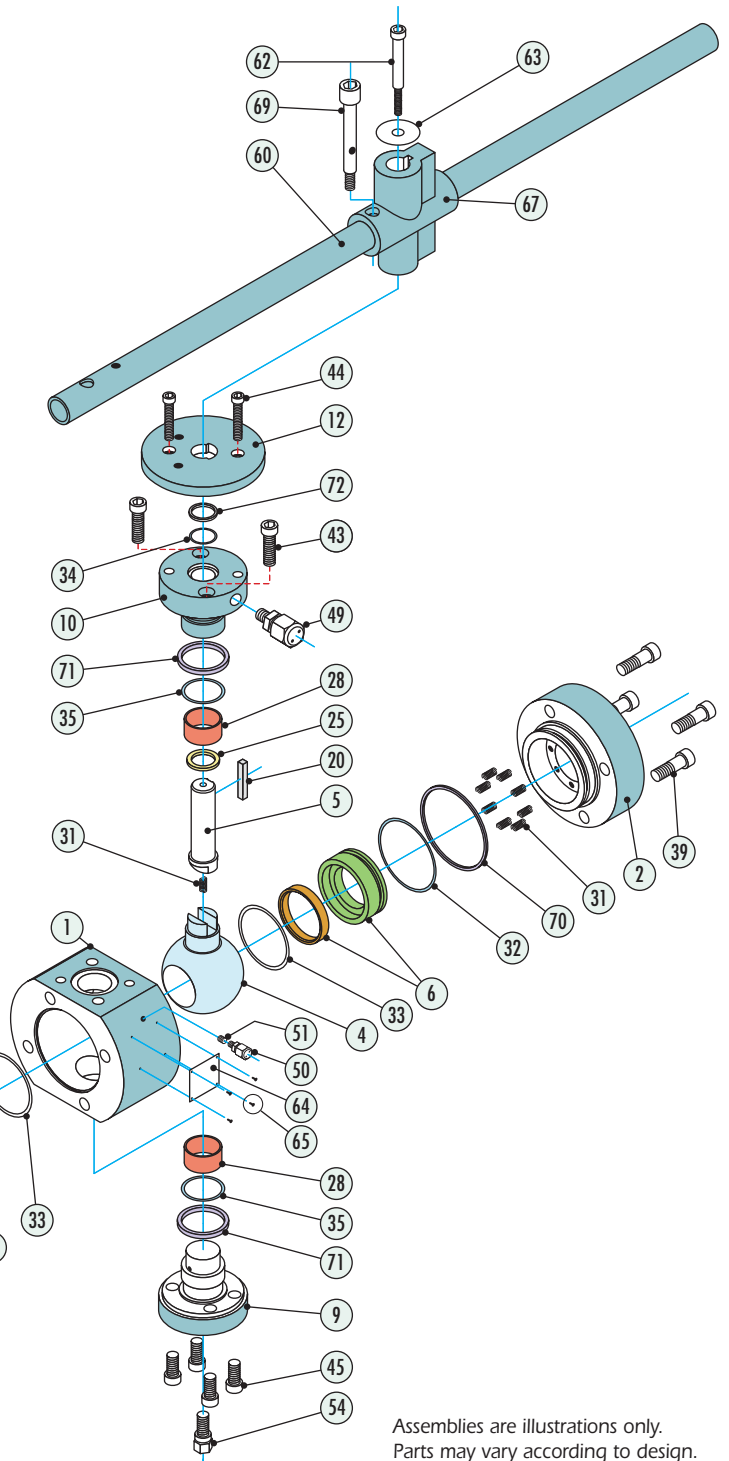
Pressure Testing Stations and Qualified Personnel are utilized to provide consistent compliance to industry test criteria for every valve.



Series 6700 ■ 2"-4" Class 150 ■ 2" Class 300

| No. | Description | Material | Spares |
|-----|-------------------------|-----------------|--------|
| 1 | Body | A105/A350 LF2 | |
| 2 | Closure/Flanged End | A105/A350 LF2 | |
| 4 | Ball | 316SS | |
| 5 | Stem | 316SS | |
| 6 | Seat Ring Sub Assembly | 316SS- G/PTFE | S |
| 9 | Trunnion | 4130 ENP | |
| 10 | Gland | 4130 ENP | |
| 12 | Adapter Plate | A36 | |
| 20 | Stem Key | Carbon Steel | |
| 25 | Stem Thrust Washer | Graphite | S |
| 28 | Ball Bearing | DU Dry Bearing | |
| 31 | Seat/Stem Spring | X-750 | |
| 32 | Body O-ring | Viton® | S |
| 33 | Seat O-ring | Viton® | S |
| 34 | Stem O-ring | Viton® | S |
| 35 | Gland & Trunnion O-ring | Viton® | S |
| 39 | Body Cap Screw | A574 Modified | |
| 43 | Gland Cap Screw | A574 Modified | |
| 44 | Adapter Plate Cap Screw | A574 Modified | |
| 45 | Trunnion Cap Screw | A574 Modified | |
| 46 | Stem Key Cap Screw | Carbon Steel | |
| 49 | Stem Grease Fitting | Carbon Steel | |
| 50 | Body Grease Fitting | Carbon Steel | |
| 51 | Check Valve | Stainless Steel | |
| 54 | Drain Valve | Carbon Steel | |
| 60 | Handle | Ductile Iron | |
| 62 | Indicator Screw | Carbon Steel | |
| 63 | Retainer Washer | Carbon Steel | |
| 64 | Name Plate | Stainless Steel | |
| 65 | Drive Screw | Stainless Steel | |
| 67 | Handle Adapter | Carbon Steel | |
| 69 | Lock Screw | Carbon Steel | |
| 70 | Body Gasket | Graphite | S |
| 71 | Gland & Trunnion Gasket | Graphite | S |
| 72 | Stem Packing | Graphite | S |

NOTE: Materials listed are typical for stainless steel trim valves. Stronger materials may be used to satisfy design requirements.



Small Bore Valve Design Utilizes Tapped Holes In The End Flanges To Maintain API 6D Face-to-Face Specifications

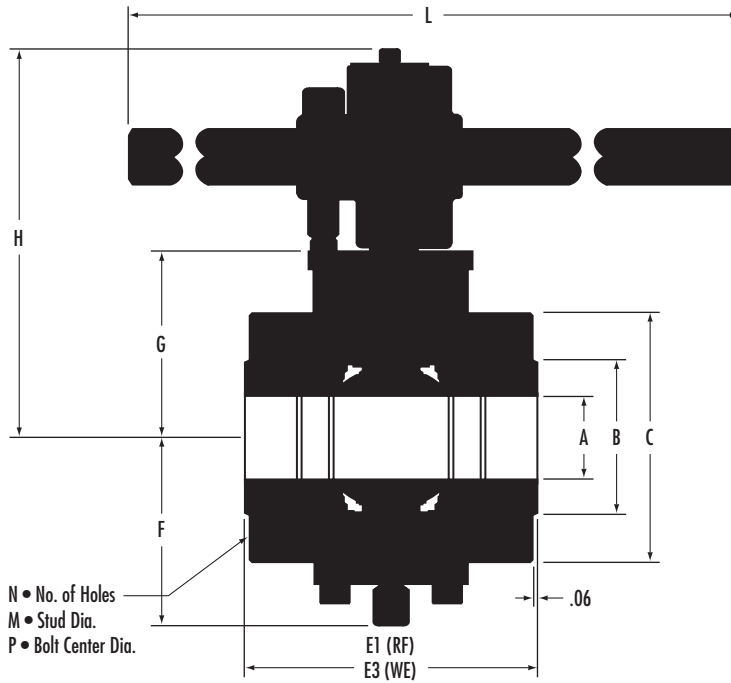
Small diameter trunnion ball valves often require tapped holes on the end flanges in order to maintain the face to face dimensions specified in API 6D. The following full bore valves have tapped holes in accordance with API 6D instead of straight holes on both ends. The recommended stud length is listed at right.

**For Reference Only
Stud Length To Install Valve**

| Bore Size | Stud Bolt Size | Quantity/Flange |
|-----------|------------------|-----------------|
| 2-150 | 5/8-11UNC X 2.25 | 4 |
| 3-150 | 5/8-11UNC X 2.38 | 4 |
| 4-150 | 5/8-11UNC X 2.50 | 8 |
| 2-300 | 5/8-11UNC X 2.50 | 8 |

Assemblies are illustrations only. Parts may vary according to design.

Series 6700 ■ 2"-4" Class 150 ■ 2" Class 300



Class 150 2"FP-4"FP (in.)

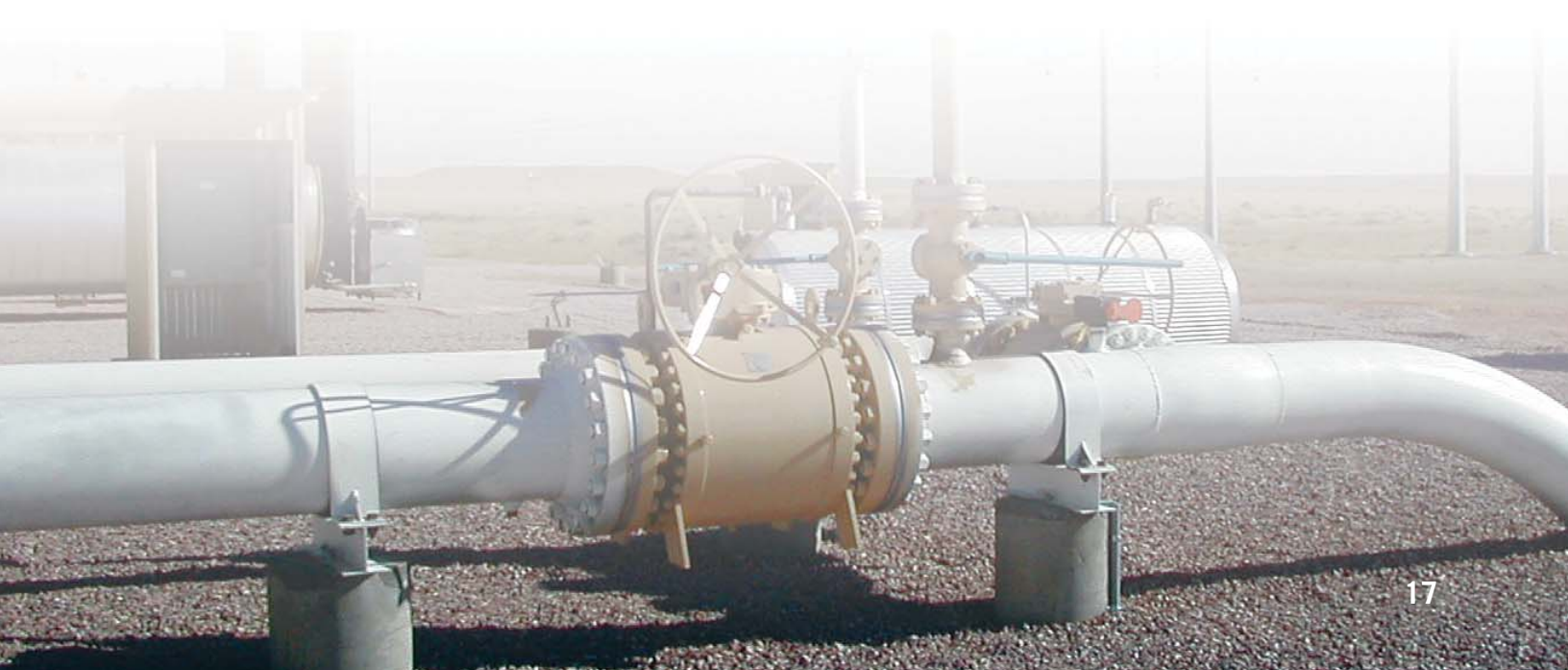
| Size | A | B | C | D1 | E1-RF | E3-WE | F | G | H | N | M | P | L |
|------|-------------|------|------|----|-------|-------|------|------|-------|---|-----------|------|----|
| 2x2 | 2.00 x 2.00 | 3.62 | 6.00 | NA | 7.00 | 8.50 | 4.89 | 4.87 | 9.55 | 4 | 5/8-11UNC | 4.75 | 30 |
| 3x3 | 3.00 x 3.00 | 5.00 | 7.87 | NA | 8.00 | 11.12 | 5.87 | 5.94 | 10.92 | 4 | 5/8-11UNC | 6.00 | 30 |
| 4x4 | 4.00 x 4.00 | 6.19 | 9.49 | NA | 9.00 | 12.00 | 7.30 | 7.35 | 12.93 | 8 | 5/8-11UNC | 7.50 | 48 |

NOTES: Sizes 6"x6" and larger are gear operated. Dimension "F" includes drain plug and support brackets.

Class 300 2"FP (in.)

| Size | A | B | C | D1 | E1-RF | E3-WE | F | G | H | N | M | P | L |
|------|-------------|------|------|----|-------|-------|------|------|------|---|-----------|------|----|
| 2x2 | 2.00 x 2.00 | 3.62 | 6.50 | NA | 8.50 | 8.50 | 4.89 | 4.87 | 9.55 | 8 | 5/8-11UNC | 5.00 | 30 |

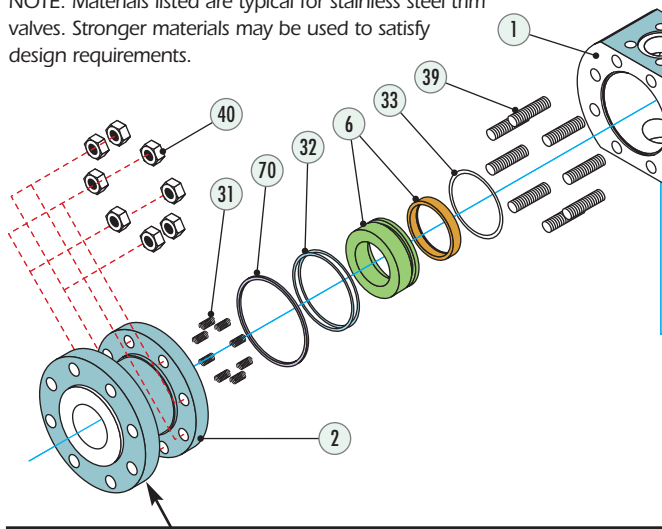
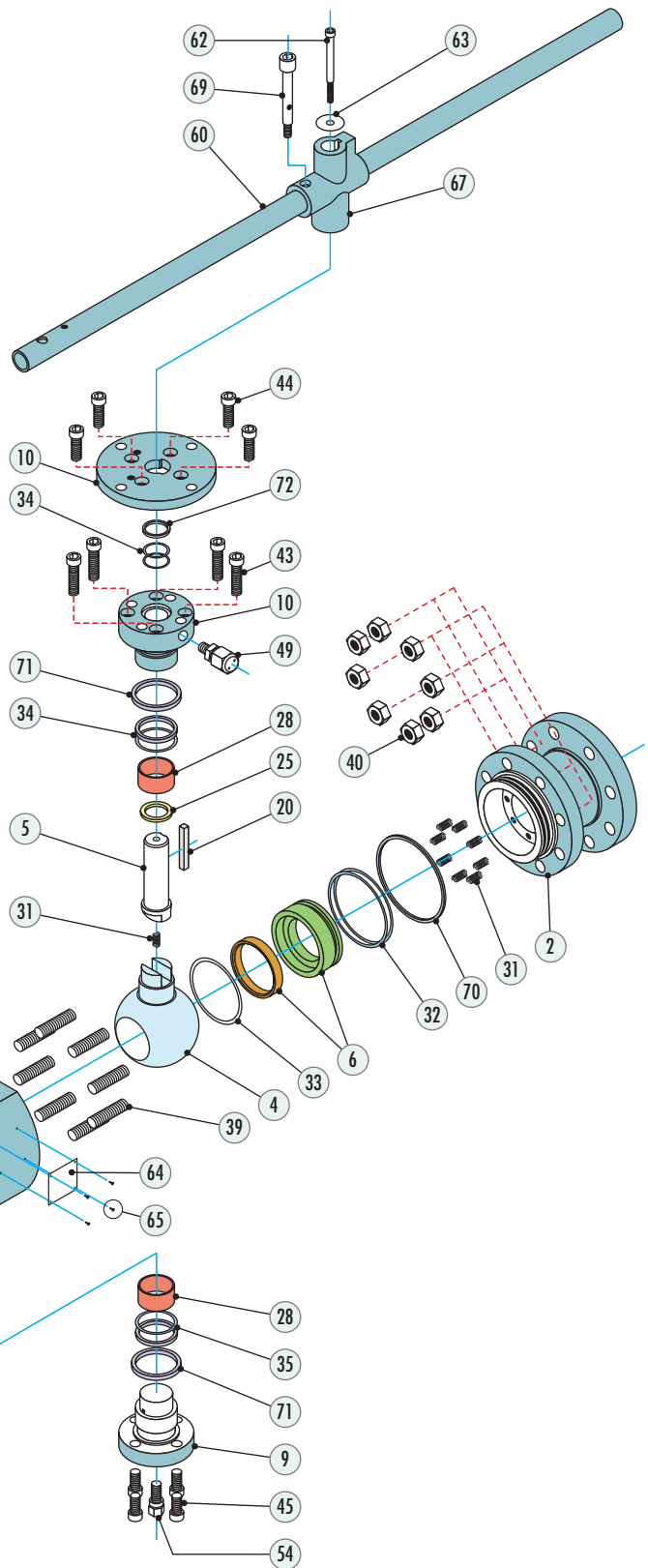
NOTES: Sizes 6"x6" and larger are gear operated. Dimension "F" includes drain plug and support brackets.



Series 5700/6700 ■ 3"-4" Class 300 ■ 2"-4" Class 600, 900, 1500 and 2500

| No. | Description | Material | Spares |
|-----|-------------------------|-------------------------------|--------|
| 1 | Body | A105/A350 LF2 | |
| 2 | Closure/Flanged End | A105/A350 LF2 | |
| 4 | Ball | 316SS | |
| 5 | Stem | 316SS | |
| 6 | Seat Ring Sub Assembly | 316SS- G/PTFE 316SS- Nylon | S |
| 9 | Trunnion | 4130 ENP | |
| 10 | Gland | 4130 ENP | |
| 12 | Adapter Plate | A36 | |
| 20 | Stem Key | Carbon Steel | |
| 25 | Stem Thrust Washer | Graphite | S |
| 28 | Ball Bearing | DU Dry Bearing | |
| 31 | Seat/Stem Spring | X-750 | |
| 32 | Body O-ring | Viton® | S |
| 33 | Seat O-ring | Viton® | S |
| 34 | Stem O-ring | Viton® | S |
| 35 | Gland & Trunnion O-ring | Viton® | S |
| 39 | Body Stud | A193 B7M | |
| 40 | Body Nut | A194 2HM | |
| 43 | Gland Cap Screw | A574 Modified | |
| 44 | Adapter Plate Cap Screw | A574 Modified | |
| 45 | Trunnion Cap Screw | A574 Modified | |
| 46 | Stem Key Cap Screw | Carbon Steel | |
| 49 | Stem Grease Fitting | Carbon Steel | |
| 50 | Body Grease Fitting | Carbon Steel | |
| 51 | Check Valve | Stainless Steel | |
| 54 | Drain Valve | Carbon Steel | |
| 60 | Handle | Ductile Iron | |
| 62 | Indicator Screw | Carbon Steel | |
| 63 | Retainer Washer | Carbon Steel | |
| 64 | Name Plate | Stainless Steel | |
| 65 | Drive Screw | Stainless Steel | |
| 67 | Handle Adapter | Carbon Steel | |
| 69 | Lock Screw | Carbon Steel | |
| 70 | Body Gasket | Graphite | S |
| 71 | Gland & Trunnion Gasket | Graphite | S |
| 72 | Stem Packing | Graphite | S |

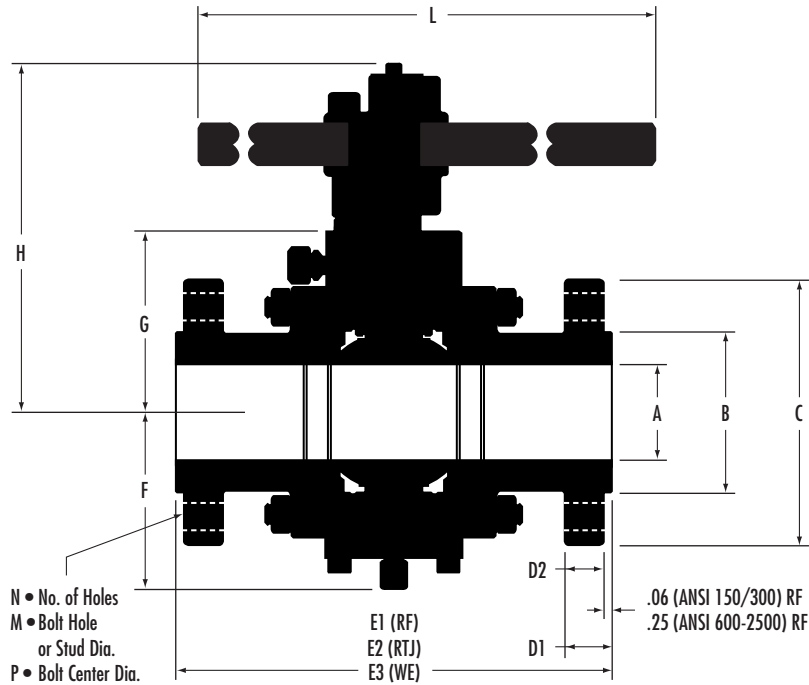
NOTE: Materials listed are typical for stainless steel trim valves. Stronger materials may be used to satisfy design requirements.



For Reference Only
3"-4" Class 300
 API flange drilled and tapped to maintain API 6D face to face dimension.
3"x3" Class 300 ■ Use 3/4"-10 UNC x 3.38" stud.
4"x4" Class 300 ■ Use 3/4"-10 UNC x 3.5" stud.

These items may also be supplied with a locking worm gear operator. Assemblies are illustrations only. Parts may vary according to design.

Series 5700/6700 ■ 2"FP-6" RP ■ Class 150, 300 and 600



Class 150 6"RP (in.)

| Size | A | B | C | D1 | E1-RF | E2-RTJ | E3-WE | F | G | H | N | M | P | L |
|------|-----------|------|-------|------|-------|--------|-------|------|------|-------|---|------|------|----|
| 6x4 | 6.00x4.00 | 8.50 | 11.00 | 1.00 | 15.50 | 16.00 | 18.00 | 7.30 | 7.35 | 12.93 | 8 | 0.88 | 9.50 | 48 |

NOTES: Sizes 6"x6" and larger are gear operated. Dimension "F" includes drain plug and support brackets.

Class 300 3"RP-6"RP (in.)

| Size | A | B | C | D1 | E1-RF | E2-RTJ | E3-WE | F | G | H | N | M | P | L |
|------|-----------|------|-------|------|-------|--------|-------|------|------|-------|----|-----------|-------|----|
| 3x2 | 3.00x2.00 | 5.00 | 8.25 | 1.12 | 11.12 | 11.75 | 11.12 | 4.89 | 4.87 | 9.55 | 8 | 0.88 | 6.62 | 30 |
| 3x3 | 3.00x3.00 | 5.00 | 8.25 | 1.12 | 11.12 | 11.75 | 11.12 | 5.87 | 5.94 | 10.92 | 8 | 3/4-10UNC | 6.62 | 30 |
| 4x3 | 4.00x3.00 | 6.19 | 10.00 | 1.25 | 12.00 | 12.62 | 12.00 | 5.87 | 5.94 | 10.92 | 8 | 0.88 | 7.88 | 30 |
| 4x4 | 4.00x4.00 | 6.19 | 10.00 | 1.25 | 12.00 | 12.62 | 12.00 | 7.30 | 7.35 | 12.93 | 8 | 3/4-10UNC | 7.88 | 48 |
| 6x4 | 6.00x4.00 | 8.50 | 12.50 | 1.44 | 15.88 | 16.50 | 18.00 | 7.30 | 7.35 | 12.93 | 12 | 0.88 | 10.62 | 48 |

NOTES: Sizes 6"x6" and larger are gear operated. Dimension "F" includes drain plug and support brackets.

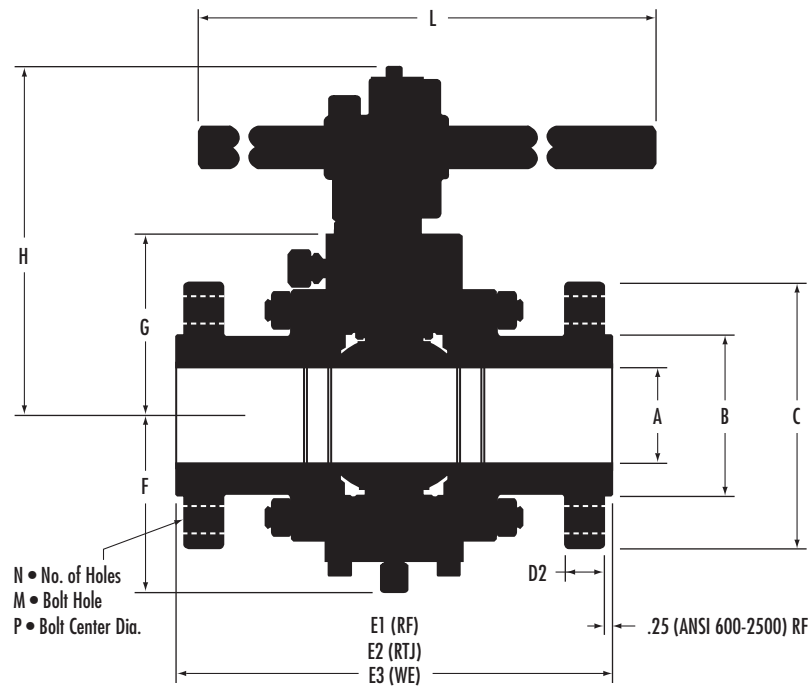
Class 600 2"FP-6"RP (in.)

| Size | A | B | C | D2 | E1-RF | E2-RTJ | E3-WE | F | G | H | N | M | P | L |
|------|-----------|------|-------|------|-------|--------|-------|------|------|-------|----|------|-------|----|
| 2x2 | 2.00x2.00 | 3.62 | 6.50 | 1.00 | 11.50 | 11.62 | 11.50 | 4.89 | 4.87 | 9.55 | 8 | .75 | 5.00 | 30 |
| 3x2 | 3.00x2.00 | 5.00 | 8.25 | 1.25 | 14.00 | 14.12 | 14.00 | 4.89 | 4.87 | 9.55 | 8 | 0.88 | 6.62 | 30 |
| 3x3 | 3.00x3.00 | 5.00 | 8.25 | 1.25 | 14.00 | 14.12 | 14.00 | 5.87 | 5.94 | 10.92 | 8 | 0.88 | 6.62 | 30 |
| 4x3 | 4.00x3.00 | 6.19 | 10.75 | 1.50 | 17.00 | 17.12 | 17.00 | 5.87 | 5.94 | 10.92 | 8 | 1.00 | 8.50 | 30 |
| 4x4 | 4.00x4.00 | 6.19 | 10.75 | 1.50 | 17.00 | 17.12 | 17.00 | 7.30 | 7.35 | 12.93 | 8 | 1.00 | 8.50 | 48 |
| 6x4 | 6.00x4.00 | 8.50 | 14.00 | 1.88 | 22.00 | 22.12 | 22.00 | 7.30 | 7.35 | 12.93 | 12 | 1.12 | 11.50 | 48 |

NOTES: Sizes 6"x6" and larger are gear operated. Dimension "F" includes drain plug and support brackets.

Dimensional Data for High Pressure Small Size Diameter Valves

Series 5700/6700 ■ 2"FP-6"RP ■ Class 900, 1500 and 2500



Class 900 2"FP-6"RP (in.)

| Size | A | B | C | D2 | E1-RF | E2-RTJ | E3-WE | F | G | H | N | M | P | L |
|------|-----------|------|-------|------|-------|--------|-------|------|------|-------|----|------|-------|----|
| 2x2 | 2.00x2.00 | 3.62 | 8.50 | 1.50 | 14.50 | 14.62 | 14.50 | 4.89 | 4.87 | 9.55 | 8 | 1.00 | 6.50 | 30 |
| 3x2 | 3.00x2.00 | 5.00 | 9.50 | 1.50 | 15.00 | 15.12 | 15.00 | 4.89 | 4.87 | 9.55 | 8 | 1.00 | 7.50 | 30 |
| 3x3 | 3.00x3.00 | 5.00 | 9.50 | 1.50 | 15.00 | 15.12 | 15.00 | 5.87 | 5.94 | 10.92 | 8 | 1.00 | 7.50 | 30 |
| 4x3 | 4.00x3.00 | 6.19 | 11.50 | 1.75 | 18.00 | 18.12 | 18.00 | 5.87 | 5.94 | 10.92 | 8 | 1.25 | 9.25 | 30 |
| 4x4 | 4.00x4.00 | 6.19 | 11.50 | 1.75 | 18.00 | 18.12 | 18.00 | 7.30 | 7.35 | 12.93 | 8 | 1.25 | 9.25 | 48 |
| 6x4 | 6.00x4.00 | 8.50 | 15.00 | 2.19 | 24.00 | 24.12 | 24.00 | 7.30 | 7.35 | 12.93 | 12 | 1.25 | 12.50 | 48 |

NOTES: Sizes 6"x6" and larger are gear operated. Dimension "F" includes drain plug and support brackets.

Class 1500 2"FP-6"RP (in.)

| Size | A | B | C | D2 | E1-RF | E2-RTJ | E3-WE | F | G | H | N | M | P | L |
|------|-----------|------|-------|------|-------|--------|-------|------|------|-------|----|------|-------|----|
| 2x2 | 2.00x2.00 | 3.62 | 8.50 | 1.50 | 14.50 | 14.62 | 14.50 | 5.32 | 5.47 | 10.30 | 8 | 1.00 | 6.50 | 30 |
| 3x2 | 3.00x2.00 | 5.00 | 10.50 | 1.88 | 18.50 | 18.62 | 18.50 | 5.32 | 5.47 | 10.30 | 8 | 1.25 | 8.00 | 30 |
| 3x3 | 3.00x3.00 | 5.00 | 10.50 | 1.88 | 18.50 | 18.62 | 18.50 | 6.89 | 6.42 | 11.60 | 8 | 1.25 | 8.00 | 30 |
| 4x3 | 4.00x3.00 | 6.19 | 12.25 | 2.12 | 21.50 | 21.62 | 21.50 | 6.89 | 6.42 | 11.60 | 8 | 1.38 | 9.50 | 30 |
| 4x4 | 4.00x4.00 | 6.19 | 12.25 | 2.12 | 21.50 | 21.62 | 21.50 | 8.14 | 7.88 | 13.75 | 8 | 1.38 | 9.50 | 48 |
| 6x4 | 5.75x4.00 | 8.50 | 15.50 | 3.25 | 27.75 | 28.00 | 27.75 | 8.14 | 7.88 | 13.75 | 12 | 1.50 | 12.50 | 48 |

NOTES: Sizes 6"x6" and larger are gear operated. Dimension "F" includes drain plug and support brackets.

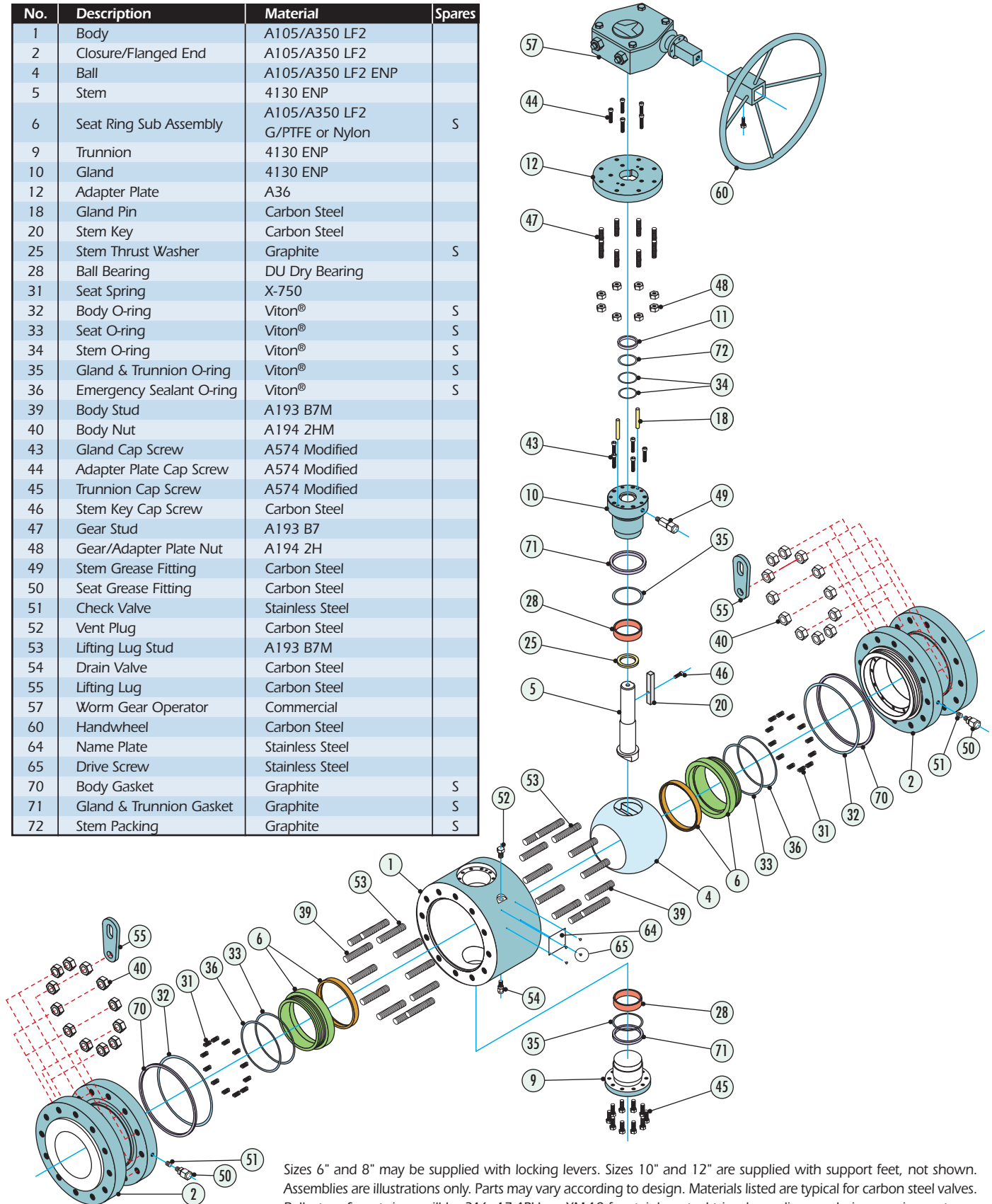
Class 2500 2"FP-6"RP (in.)

| Size | A | B | C | D2 | E1-RF | E2-RTJ | E3-WE | F | G | H | N | M | P | L |
|------|-----------|------|-------|------|-------|--------|-------|------|-------|-------|---|------|-------|----|
| 2x2 | 1.75x1.75 | 3.62 | 9.25 | 2.00 | 17.75 | 17.87 | 17.75 | 6.39 | 7.25 | 13.19 | 8 | 1.12 | 6.75 | 30 |
| 3x2 | 2.50x1.75 | 5.00 | 12.00 | 2.62 | 22.75 | 23.00 | 22.75 | 6.39 | 7.25 | 13.19 | 8 | 1.38 | 9.00 | 30 |
| 3x3 | 2.50x2.50 | 5.00 | 12.00 | 2.62 | 22.75 | 23.00 | 22.75 | 8.20 | 8.42 | 14.68 | 8 | 1.38 | 9.00 | 30 |
| 4x3 | 3.50x2.50 | 6.19 | 14.00 | 3.00 | 26.50 | 26.88 | 26.50 | 8.20 | 8.42 | 14.68 | 8 | 1.63 | 10.75 | 30 |
| 4x4 | 3.50x3.50 | 6.19 | 14.00 | 3.00 | 26.50 | 26.88 | 26.50 | 9.43 | 10.56 | 16.93 | 8 | 1.63 | 10.75 | 48 |
| 6x4 | 5.25x3.50 | 8.50 | 19.00 | 4.25 | 36.00 | 36.50 | 36.00 | 9.43 | 10.56 | 16.93 | 8 | 2.12 | 14.50 | 48 |

NOTES: Dimension "F" includes drain plug and support brackets.

Series 5700 ■ 8"-14"RP Class 150, 300, 600, 900 and 1500 ■ 6"-12"RP Class 2500
 Series 6700 ■ 6"-12"FP Class 150, 300, 600, 900 and 1500 ■ 6"-10"FP Class 2500

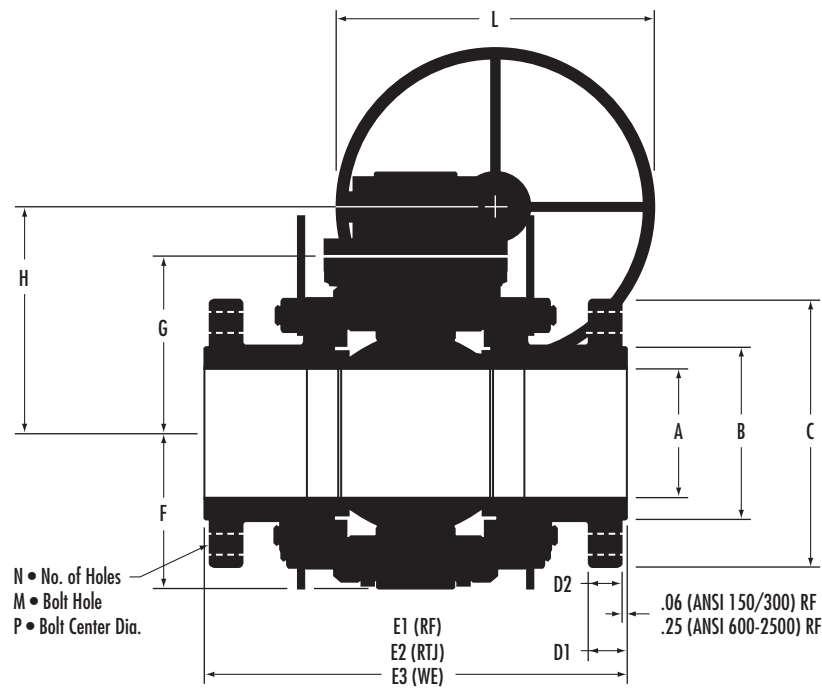
| No. | Description | Material | Spares |
|-----|--------------------------|----------------------------------|--------|
| 1 | Body | A105/A350 LF2 | |
| 2 | Closure/Flanged End | A105/A350 LF2 | |
| 4 | Ball | A105/A350 LF2 ENP | |
| 5 | Stem | 4130 ENP | |
| 6 | Seat Ring Sub Assembly | A105/A350 LF2 G/PTFE or Nylon | S |
| 9 | Trunnion | 4130 ENP | |
| 10 | Gland | 4130 ENP | |
| 12 | Adapter Plate | A36 | |
| 18 | Gland Pin | Carbon Steel | |
| 20 | Stem Key | Carbon Steel | |
| 25 | Stem Thrust Washer | Graphite | S |
| 28 | Ball Bearing | DU Dry Bearing | |
| 31 | Seat Spring | X-750 | |
| 32 | Body O-ring | Viton® | S |
| 33 | Seat O-ring | Viton® | S |
| 34 | Stem O-ring | Viton® | S |
| 35 | Gland & Trunnion O-ring | Viton® | S |
| 36 | Emergency Sealant O-ring | Viton® | S |
| 39 | Body Stud | A193 B7M | |
| 40 | Body Nut | A194 2HM | |
| 43 | Gland Cap Screw | A574 Modified | |
| 44 | Adapter Plate Cap Screw | A574 Modified | |
| 45 | Trunnion Cap Screw | A574 Modified | |
| 46 | Stem Key Cap Screw | Carbon Steel | |
| 47 | Gear Stud | A193 B7 | |
| 48 | Gear/Adapter Plate Nut | A194 2H | |
| 49 | Stem Grease Fitting | Carbon Steel | |
| 50 | Seat Grease Fitting | Carbon Steel | |
| 51 | Check Valve | Stainless Steel | |
| 52 | Vent Plug | Carbon Steel | |
| 53 | Lifting Lug Stud | A193 B7M | |
| 54 | Drain Valve | Carbon Steel | |
| 55 | Lifting Lug | Carbon Steel | |
| 57 | Worm Gear Operator | Commercial | |
| 60 | Handwheel | Carbon Steel | |
| 64 | Name Plate | Stainless Steel | |
| 65 | Drive Screw | Stainless Steel | |
| 70 | Body Gasket | Graphite | S |
| 71 | Gland & Trunnion Gasket | Graphite | S |
| 72 | Stem Packing | Graphite | S |



Sizes 6" and 8" may be supplied with locking levers. Sizes 10" and 12" are supplied with support feet, not shown. Assemblies are illustrations only. Parts may vary according to design. Materials listed are typical for carbon steel valves. Ball, stem & seat rings will be 316, 17-4PH, or XM-19 for stainless steel trim depending on design requirements.

Dimensional Data for Mid Size Diameter Valves

Series 5700/6700 ■ 6"FP-14"RP ■ Class 150, 300 and 600



Class 150 6"FP-14"RP (in.)

| Size | A | B | C | D1 | E1-RF | E2-RTJ | E3-WE | F | G | H | N | M | P | L |
|-------|-------------|-------|-------|------|-------|--------|-------|-------|-------|-------|----|------|-------|----|
| 6x6 | 6.00x6.00 | 8.50 | 11.00 | 1.00 | 15.50 | 16.00 | 18.00 | 7.25 | 8.48 | 10.63 | 8 | 0.88 | 9.50 | 24 |
| 8x6 | 8.00x6.00 | 10.62 | 13.50 | 1.12 | 18.00 | 18.50 | 20.50 | 7.25 | 8.48 | 10.63 | 8 | 0.88 | 11.75 | 24 |
| 8x8 | 8.00x8.00 | 10.62 | 13.50 | 1.12 | 18.00 | 18.50 | 20.50 | 8.72 | 10.13 | 12.26 | 8 | 0.88 | 11.75 | 24 |
| 10x8 | 10.00x8.00 | 12.75 | 16.00 | 1.19 | 21.00 | 21.50 | 22.00 | 8.72 | 10.13 | 12.26 | 12 | 1.00 | 14.25 | 24 |
| 10x10 | 10.00x10.00 | 12.75 | 16.00 | 1.19 | 21.00 | 21.50 | 22.00 | 10.56 | 11.96 | 14.09 | 12 | 1.00 | 14.25 | 24 |
| 12x10 | 12.00x10.00 | 15.00 | 19.00 | 1.25 | 24.00 | 24.50 | 25.00 | 10.56 | 11.96 | 14.09 | 12 | 1.00 | 17.00 | 24 |
| 12x12 | 12.00x12.00 | 15.00 | 19.00 | 1.25 | 24.00 | 24.50 | 25.00 | 12.26 | 13.75 | 15.88 | 12 | 1.00 | 17.00 | 24 |
| 14x12 | 13.25x12.00 | 16.25 | 21.00 | 1.38 | 27.00 | 27.50 | 30.00 | 12.26 | 13.75 | 15.88 | 12 | 1.12 | 18.75 | 24 |

NOTES: Sizes 6"x6" and larger are gear operated. Dimension "F" includes drain plug and support brackets.

Class 300 6"FP-14"RP (in.)

| Size | A | B | C | D1 | E1-RF | E2-RTJ | E3-WE | F | G | H | N | M | P | L |
|-------|-------------|-------|-------|------|-------|--------|-------|-------|-------|-------|----|------|-------|----|
| 6x6 | 6.00x6.00 | 8.50 | 12.50 | 1.44 | 15.88 | 16.50 | 18.00 | 7.25 | 8.48 | 10.63 | 12 | 0.88 | 10.62 | 24 |
| 8x6 | 8.00x6.00 | 10.62 | 15.00 | 1.62 | 19.75 | 20.38 | 20.50 | 7.25 | 8.48 | 10.63 | 12 | 1.00 | 13.00 | 24 |
| 8x8 | 8.00x8.00 | 10.62 | 15.00 | 1.62 | 19.75 | 20.38 | 20.50 | 8.72 | 10.13 | 12.26 | 12 | 1.00 | 13.00 | 24 |
| 10x8 | 10.00x8.00 | 12.75 | 17.50 | 1.88 | 22.38 | 23.00 | 22.00 | 8.72 | 10.13 | 12.26 | 16 | 1.12 | 15.25 | 24 |
| 10x10 | 10.00x10.00 | 12.75 | 17.50 | 1.88 | 22.38 | 23.00 | 22.00 | 10.56 | 11.96 | 14.09 | 16 | 1.12 | 15.25 | 24 |
| 12x10 | 12.00x10.00 | 15.00 | 20.50 | 2.00 | 25.50 | 26.12 | 25.00 | 10.56 | 11.96 | 14.09 | 16 | 1.25 | 17.75 | 24 |
| 12x12 | 12.00x12.00 | 15.00 | 20.50 | 2.00 | 25.50 | 26.12 | 25.00 | 12.26 | 13.75 | 15.88 | 16 | 1.25 | 17.75 | 24 |
| 14x12 | 13.25x12.00 | 16.25 | 23.00 | 2.12 | 30.00 | 30.62 | 30.00 | 12.26 | 13.75 | 15.88 | 20 | 1.25 | 20.25 | 30 |

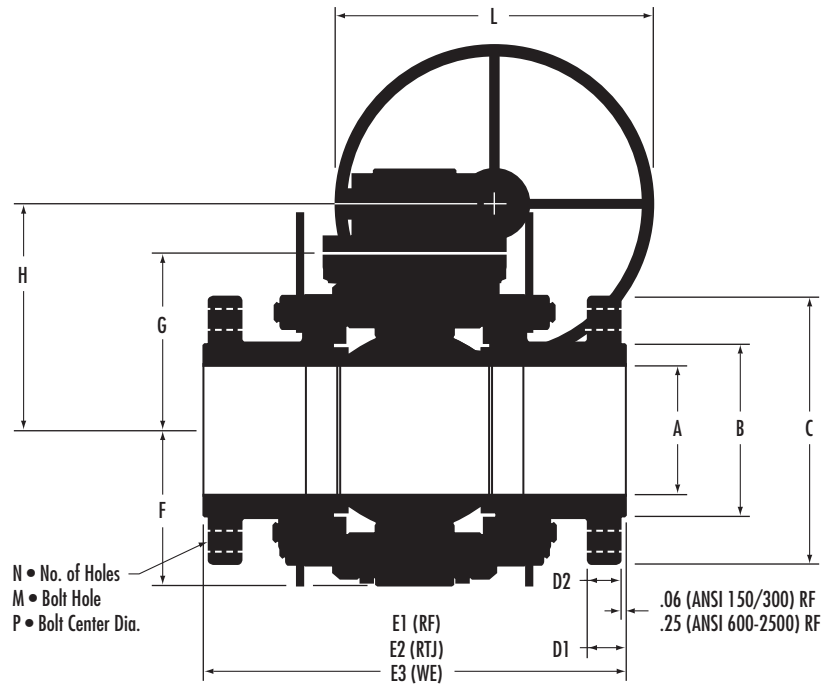
NOTES: Sizes 6"x6" and larger are gear operated. Dimension "F" includes drain plug and support brackets.

Class 600 6"FP-14"RP (in.)

| Size | A | B | C | D2 | E1-RF | E2-RTJ | E3-WE | F | G | H | N | M | P | L |
|-------|-------------|-------|-------|------|-------|--------|-------|-------|-------|-------|----|------|-------|----|
| 6x6 | 6.00x6.00 | 8.50 | 14.00 | 1.88 | 22.00 | 22.12 | 22.00 | 7.25 | 8.48 | 10.63 | 12 | 1.12 | 11.50 | 24 |
| 8x6 | 8.00x6.00 | 10.62 | 16.50 | 2.19 | 26.00 | 26.12 | 26.00 | 7.25 | 8.48 | 10.63 | 12 | 1.25 | 13.75 | 24 |
| 8x8 | 8.00x8.00 | 10.62 | 16.50 | 2.19 | 26.00 | 26.12 | 26.00 | 10.00 | 11.57 | 13.70 | 12 | 1.25 | 13.75 | 24 |
| 10x8 | 10.00x8.00 | 12.75 | 20.00 | 2.50 | 31.00 | 31.12 | 31.00 | 10.00 | 11.57 | 13.70 | 16 | 1.38 | 17.00 | 24 |
| 10x10 | 10.00x10.00 | 12.75 | 20.00 | 2.50 | 31.00 | 31.12 | 31.00 | 11.74 | 13.32 | 15.45 | 16 | 1.38 | 17.00 | 24 |
| 12x10 | 12.00x12.00 | 15.00 | 22.00 | 2.62 | 33.00 | 33.12 | 33.00 | 11.74 | 13.32 | 15.45 | 20 | 1.38 | 19.25 | 24 |
| 12x12 | 12.00x12.00 | 15.00 | 22.00 | 2.62 | 33.00 | 33.12 | 33.00 | 13.86 | 14.94 | 21.52 | 20 | 1.38 | 19.25 | 30 |
| 14x12 | 13.25x12.00 | 16.25 | 23.75 | 2.75 | 35.00 | 35.12 | 35.00 | 13.86 | 14.94 | 21.52 | 20 | 1.50 | 20.75 | 30 |

NOTES: Sizes 6"x6" and larger are gear operated. Dimension "F" includes drain plug and support brackets.

Series 5700/6700 ■ 6"FP-14"RP ■ Class 900 and 1500



Class 900 6"FP-14"RP (in.)

| Size | A | B | C | D2 | E1-RF | E2-RTJ | E3-WE | F | G | H | N | M | P | L |
|-------|-------------|-------|-------|------|-------|--------|-------|-------|-------|-------|----|------|-------|----|
| 6x6 | 6.00x6.00 | 8.50 | 15.00 | 2.19 | 24.00 | 24.12 | 24.00 | 8.62 | 10.01 | 12.14 | 12 | 1.25 | 12.50 | 24 |
| 8x6 | 8.00x6.00 | 10.62 | 18.50 | 2.50 | 29.00 | 29.12 | 29.00 | 8.62 | 10.01 | 12.14 | 12 | 1.50 | 15.50 | 24 |
| 8x8 | 8.00x8.00 | 10.62 | 18.50 | 2.50 | 29.00 | 29.12 | 29.00 | 10.00 | 11.57 | 13.70 | 12 | 1.50 | 15.50 | 24 |
| 10x8 | 10.00x8.00 | 12.75 | 21.50 | 2.75 | 33.00 | 33.12 | 33.00 | 10.00 | 11.57 | 13.70 | 16 | 1.50 | 18.50 | 24 |
| 10x10 | 10.00x10.00 | 12.75 | 21.50 | 2.75 | 33.00 | 33.12 | 33.00 | 11.74 | 13.32 | 19.90 | 16 | 1.50 | 18.50 | 30 |
| 12x10 | 12.00x12.00 | 15.00 | 24.00 | 3.12 | 38.00 | 38.12 | 38.00 | 11.74 | 13.32 | 19.90 | 20 | 1.50 | 21.00 | 30 |
| 12x12 | 12.00x12.00 | 15.00 | 24.00 | 3.12 | 38.00 | 38.12 | 38.00 | 13.86 | 14.94 | 21.52 | 20 | 1.50 | 21.00 | 30 |
| 14x12 | 12.75x12.00 | 16.25 | 25.25 | 3.38 | 40.50 | 40.88 | 40.50 | 13.86 | 14.94 | 21.52 | 20 | 1.62 | 22.00 | 30 |

NOTES: Sizes 6"x6" and larger are gear operated. Dimension "F" includes drain plug and support brackets.

Class 1500 6"FP-14"RP (in.)

| Size | A | B | C | D2 | E1-RF | E2-RTJ | E3-WE | F | G | H | N | M | P | L |
|-------|-------------|-------|-------|------|-------|--------|-------|-------|-------|-------|----|------|-------|----|
| 6x6 | 5.75x5.75 | 8.50 | 15.50 | 3.25 | 27.75 | 28.00 | 27.75 | 9.72 | 10.67 | 12.80 | 12 | 1.50 | 12.50 | 24 |
| 8x6 | 7.63x5.75 | 10.62 | 19.00 | 3.62 | 32.75 | 33.13 | 32.75 | 9.72 | 10.67 | 12.80 | 12 | 1.75 | 15.50 | 24 |
| 8x8 | 7.63x7.63 | 10.62 | 19.00 | 3.62 | 32.75 | 33.13 | 32.75 | 12.16 | 12.88 | 19.46 | 12 | 1.75 | 15.50 | 30 |
| 10x8 | 9.50x7.63 | 12.75 | 23.00 | 4.25 | 39.00 | 39.38 | 39.00 | 12.16 | 12.88 | 19.46 | 12 | 2.00 | 19.00 | 30 |
| 10x10 | 9.50x9.50 | 12.75 | 23.00 | 4.25 | 39.00 | 39.38 | 39.00 | 14.40 | 15.48 | 22.06 | 12 | 2.00 | 19.00 | 30 |
| 12x10 | 11.38x9.50 | 15.00 | 26.50 | 4.88 | 44.50 | 45.12 | 44.50 | 14.40 | 15.48 | 22.06 | 16 | 2.12 | 22.50 | 30 |
| 12x12 | 11.38x11.38 | 15.00 | 26.50 | 4.88 | 44.50 | 45.12 | 44.50 | 16.98 | 17.83 | 24.41 | 16 | 2.12 | 22.50 | 30 |
| 14x12 | 12.50x11.38 | 16.25 | 29.50 | 5.25 | 49.50 | 50.25 | 49.50 | 16.98 | 17.83 | 24.41 | 16 | 2.38 | 25.00 | 30 |

NOTES: Sizes 6"x6" and larger are gear operated. Dimension "F" includes drain plug and support brackets.

Class 2500 6"FP-12"RP (in.)

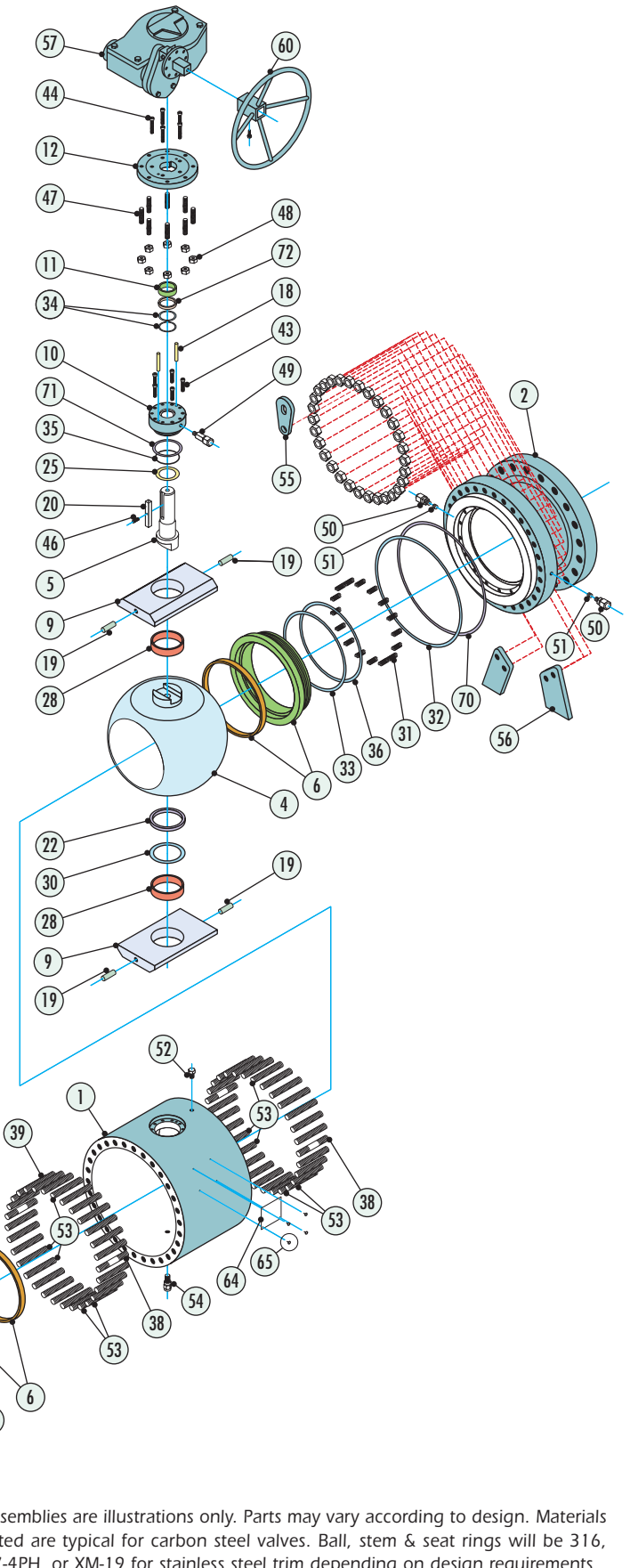
| Size | A | B | C | D2 | E1-RF | E2-RTJ | E3-WE | F | G | H | N | M | P | L |
|-------|-------------|-------|-------|------|-------|--------|-------|-------|-------|-------|----|------|-------|----|
| 6x6 | 5.25x5.25 | 8.50 | 19.00 | 4.25 | 36.00 | 36.50 | 36.00 | 12.74 | 12.70 | 19.28 | 8 | 2.12 | 14.50 | 30 |
| 8x6 | 7.14x5.25 | 10.62 | 21.75 | 5.00 | 40.25 | 40.87 | 40.25 | 12.74 | 12.70 | 19.28 | 12 | 2.12 | 17.25 | 30 |
| 8x8 | 7.14 x 7.14 | 10.62 | 21.75 | 5.00 | 40.25 | 40.87 | 40.25 | 15.22 | 16.63 | 18.76 | 12 | 2.12 | 17.25 | 30 |
| 10x8 | 8.88x7.14 | 12.75 | 26.50 | 6.50 | 50.00 | 50.88 | 50.00 | 15.22 | 16.63 | 18.76 | 12 | 2.62 | 21.25 | 30 |
| 10x10 | 8.88x8.88 | 12.75 | 26.50 | 6.50 | 50.00 | 50.88 | 50.00 | 19.73 | 18.25 | 24.83 | 12 | 2.62 | 21.25 | 30 |
| 12x10 | 10.50x8.88 | 15.00 | 30.00 | 7.25 | 56.00 | 56.88 | 56.00 | 19.73 | 18.25 | 24.83 | 12 | 2.88 | 24.38 | 30 |
| 12x12 | 10.50x10.50 | 15.00 | 30.00 | 7.25 | 56.00 | 56.88 | 56.00 | 22.06 | 20.79 | 27.69 | 12 | 2.88 | 24.38 | 30 |

NOTES: Dimension "F" includes drain plug and support brackets.

Parts for Large Size Diameter Valves

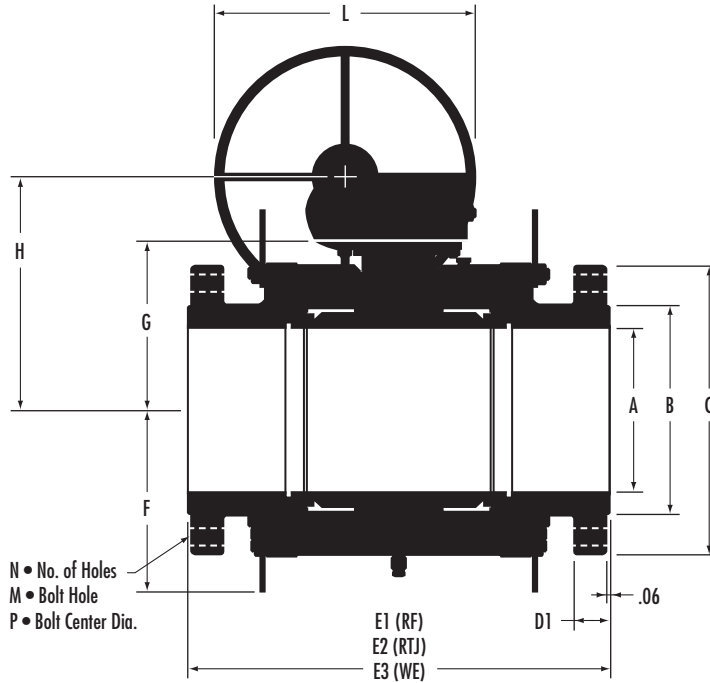
Series 5700/6700 ■ 14"FP-56"FP Class 150, 300, 600, 900 and 1500 ■ 12" Class 2500

| No. | Description | Material | Spares |
|-----|--------------------------|----------------------------------|--------|
| 1 | Body | A105/A350 LF2 | |
| 2 | Closure/Flanged End | A105/A350 LF2 | |
| 4 | Ball | A105/A350 LF2 ENP | |
| 5 | Stem | 4130 ENP | |
| 6 | Seat Ring Sub Assembly | A105/A350 LF2 G/PTFE or Nylon | S |
| 9 | Bearing Retainer | Carbon Steel | |
| 10 | Gland | 4130 ENP | |
| 11 | Bushing | Carbon Steel | |
| 12 | Adapter Plate | A36 | |
| 18 | Gland Pin | Carbon Steel | |
| 20 | Stem Key | Carbon Steel | |
| 22 | Ball Thrust Washer | Phenolic | S |
| 25 | Stem Thrust Washer | Phenolic | S |
| 28 | Ball Bearing | DU Dry Bearing | |
| 31 | Seat Spring | X-750 | |
| 32 | Body O-ring | Viton® | S |
| 33 | Seat O-ring | Viton® | S |
| 34 | Stem O-ring | Viton® | S |
| 35 | Gland & Trunnion O-ring | Viton® | S |
| 36 | Emergency Sealant O-ring | Viton® | S |
| 38 | Location Stud | A193 B7M | |
| 39 | Body Stud | A193 B7M | |
| 40 | Body Nut | A194 2HM | |
| 43 | Gland Cap Screw | A574 Modified | |
| 44 | Adapter Plate Cap Screw | A574 Modified | |
| 45 | Trunnion Cap Screw | A574 Modified | |
| 46 | Stem Key Cap Screw | Carbon Steel | |
| 47 | Gear Stud | A193 B7 | |
| 48 | Gear/Adapter Plate Nut | A194 2H | |
| 49 | Stem Grease Fitting | Carbon Steel | |
| 50 | Seat Grease Fitting | Carbon Steel | |
| 51 | Check Valve | Stainless Steel | |
| 52 | Vent Plug | Carbon Steel | |
| 53 | Lifting Lug Stud | A193 B7M | |
| 54 | Drain Valve | Carbon Steel | |
| 55 | Lifting Lug | Carbon Steel | |
| 56 | Support Leg | Carbon Steel | |
| 57 | Worm Gear Operator | Commercial | |
| 60 | Handwheel | Carbon Steel | |
| 64 | Name Plate | Stainless Steel | |
| 65 | Drive Screw | Stainless Steel | |
| 70 | Body Gasket | Graphite | S |
| 71 | Gland & Trunnion Gasket | Graphite | S |
| 72 | Stem Packing | Graphite | S |



Assemblies are illustrations only. Parts may vary according to design. Materials listed are typical for carbon steel valves. Ball, stem & seat rings will be 316, 17-4PH, or XM-19 for stainless steel trim depending on design requirements.

Series 5700/6700 ■ 14"FP-56"FP ■ Class 150



Class 150 14"FP-56"FP (in.)

| Size | A | B | C | D1 | E1-RF | E2-RTJ | E3-WE | F | G | H | N | M | P | L |
|-------|-------------|-------|-------|------|-------|--------|-------|-------|---------|-------|----|------|-------|----|
| 14x14 | 13.25x13.25 | 16.25 | 21.00 | 1.38 | 27.00 | 27.50 | 30.00 | 14.92 | 15.18** | 20.89 | 12 | 1.12 | 18.75 | 30 |
| 16x14 | 15.25x13.25 | 18.50 | 23.50 | 1.44 | 30.00 | 30.50 | 33.00 | 16.60 | 15.18** | 20.89 | 16 | 1.12 | 21.25 | 30 |
| 16x16 | 15.25x15.25 | 18.50 | 23.50 | 1.44 | 30.00 | 30.50 | 33.00 | 16.60 | 15.89 | 22.47 | 16 | 1.12 | 21.25 | 30 |
| 18x16 | 17.25x15.25 | 21.00 | 25.00 | 1.56 | 34.00 | 34.50 | 36.00 | 21.05 | 15.89 | 22.47 | 16 | 1.25 | 22.75 | 30 |
| 18x18 | 17.25x17.25 | 21.00 | 25.00 | 1.56 | 34.00 | 34.50 | 36.00 | 21.05 | 19.76 | 26.34 | 16 | 1.25 | 22.75 | 30 |
| 20x18 | 19.25x17.25 | 23.00 | 27.50 | 1.69 | 36.00 | 36.50 | 39.00 | 19.67 | 19.76 | 26.34 | 20 | 1.25 | 25.00 | 30 |
| 20x20 | 19.25x19.25 | 23.00 | 27.50 | 1.69 | 36.00 | 36.50 | 39.00 | 19.67 | 20.20 | 26.78 | 20 | 1.25 | 25.00 | 30 |
| 24x20 | 23.25x19.25 | 27.25 | 32.00 | 1.88 | 42.00 | 42.50 | 45.00 | 22.75 | 20.20 | 26.78 | 20 | 1.38 | 29.50 | 30 |
| 24x24 | 23.25x23.25 | 27.25 | 32.00 | 1.88 | 42.00 | 42.50 | 45.00 | 22.75 | 23.34 | 30.24 | 20 | 1.38 | 29.50 | 30 |
| 30x30 | 29.00x29.00 | 33.75 | 38.75 | 2.88 | 51.00 | * | 55.00 | 31.25 | 32.08 | 38.98 | 28 | 1.38 | 36.00 | 30 |
| 36x36 | 34.50x34.50 | 40.25 | 46.00 | 3.50 | 60.00 | * | 68.00 | 34.39 | 35.83 | 42.73 | 32 | 1.62 | 42.75 | 30 |
| 40x40 | 38.50x38.50 | 44.25 | 50.75 | 3.50 | 72.83 | * | 70.08 | 36.54 | 37.13 | * | * | * | * | * |
| 44x44 | 42.32x42.32 | 49.00 | 55.25 | 3.94 | 76.77 | * | 74.80 | 39.76 | 40.39 | * | * | * | * | * |
| 48x48 | 45.98x45.98 | 53.50 | 59.50 | 4.19 | 85.83 | * | 82.68 | 41.77 | 43.19 | * | * | * | * | * |
| 56x56 | 53.62x53.62 | 62.00 | 68.75 | 4.82 | 90.55 | * | 88.58 | 48.50 | 49.92 | * | * | * | * | * |

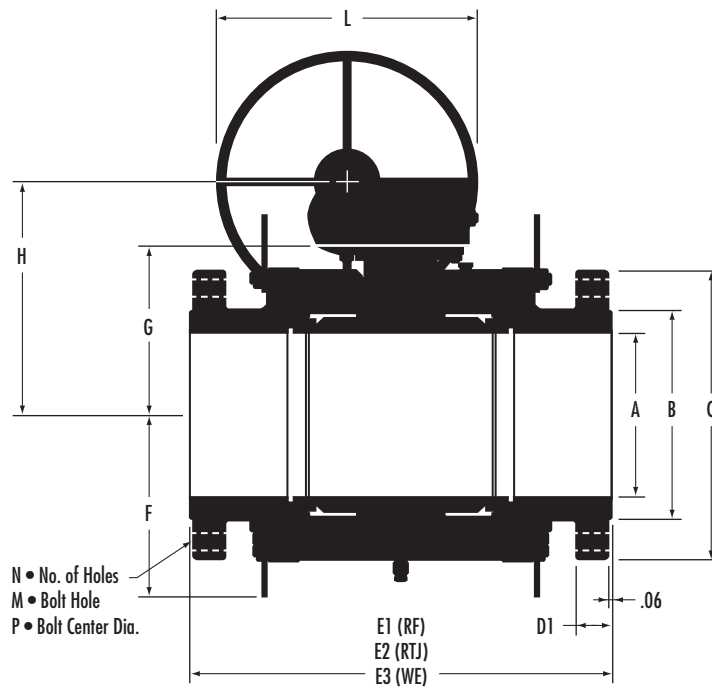
*Contact your PBV® salesperson for additional sizes and materials.

** Change introduced 2004

NOTES: Sizes 6"x6" and larger are gear operated. Dimension "F" includes drain plug and support brackets.

Dimensional Data for Large Size Diameter Valves

Series 5700/6700 ■ 14"FP-56"FP ■ Class 300



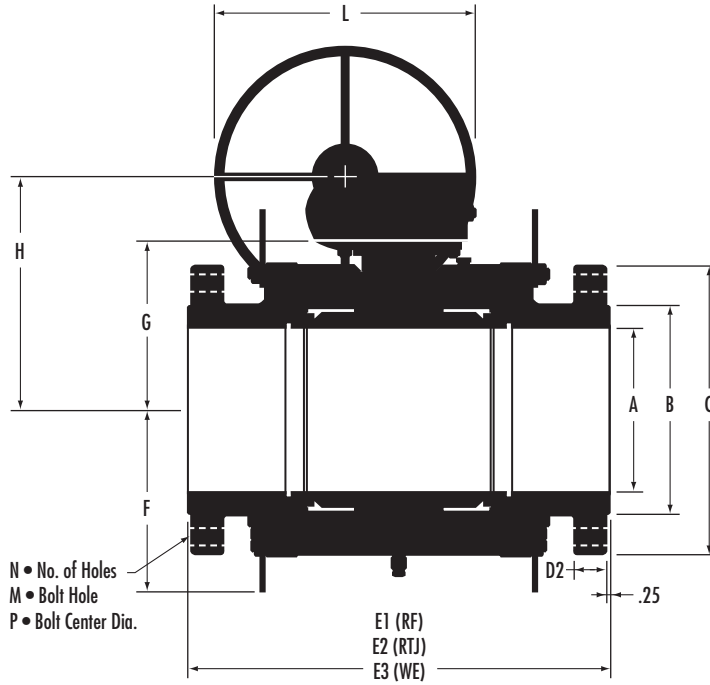
Class 300 14"FP-56"FP (in.)

| Size | A | B | C | D1 | E1-RF | E2-RTJ | E3-WE | F | G | H | N | M | P | L |
|-------|-------------|-------|-------|------|-------|--------|-------|-------|-------|-------|----|------|-------|----|
| 14x14 | 13.25x13.25 | 16.25 | 23.00 | 2.12 | 30.00 | 30.62 | 30.00 | 14.92 | 14.31 | 20.89 | 20 | 1.25 | 20.25 | 30 |
| 16x14 | 15.25x13.25 | 18.50 | 25.50 | 2.25 | 33.00 | 33.62 | 33.00 | 16.60 | 14.31 | 20.89 | 20 | 1.38 | 22.50 | 30 |
| 16x16 | 15.25x15.25 | 18.50 | 25.50 | 2.25 | 33.00 | 33.62 | 33.00 | 16.60 | 15.89 | 22.47 | 20 | 1.38 | 22.50 | 30 |
| 18x16 | 17.25x15.25 | 21.00 | 28.00 | 2.38 | 36.00 | 36.62 | 36.00 | 21.05 | 15.89 | 22.47 | 24 | 1.38 | 24.75 | 30 |
| 18x18 | 17.25x17.25 | 21.00 | 28.00 | 2.38 | 36.00 | 36.62 | 36.00 | 21.05 | 19.76 | 26.34 | 24 | 1.38 | 24.75 | 30 |
| 20x18 | 19.25x17.25 | 23.00 | 30.50 | 2.50 | 39.00 | 39.75 | 39.00 | 19.67 | 19.76 | 26.34 | 24 | 1.38 | 27.00 | 30 |
| 20x20 | 19.25x19.25 | 23.00 | 30.50 | 2.50 | 39.00 | 39.75 | 39.00 | 19.67 | 20.20 | 26.78 | 24 | 1.38 | 27.00 | 30 |
| 24x20 | 23.25x19.25 | 27.25 | 36.00 | 2.75 | 45.00 | 45.88 | 45.00 | 22.75 | 20.20 | 26.78 | 24 | 1.62 | 32.00 | 30 |
| 24x24 | 23.25x23.25 | 27.25 | 36.00 | 2.75 | 45.00 | 45.88 | 45.00 | 22.75 | 23.34 | 30.24 | 24 | 1.62 | 32.00 | 30 |
| 30x30 | 29.00x29.00 | 33.75 | 43.00 | 3.62 | 55.00 | 56.00 | 55.00 | 31.25 | 32.08 | 38.98 | 28 | 1.88 | 39.25 | 30 |
| 36x36 | 34.50x34.50 | 40.25 | 50.00 | 4.12 | 68.00 | 69.12 | 68.00 | 34.39 | 35.83 | 42.73 | 32 | 2.12 | 46.00 | 30 |
| 40x40 | 38.50x38.50 | 42.75 | 48.75 | 4.44 | 72.83 | * | 70.08 | 36.54 | 37.13 | * | * | * | * | * |
| 44x44 | 42.32x42.32 | 47.00 | 53.25 | 4.82 | 76.77 | * | 74.80 | 39.76 | 40.39 | * | * | * | * | * |
| 48x48 | 45.98x45.98 | 51.25 | 57.75 | 5.19 | 85.83 | * | 82.68 | 41.77 | 43.19 | * | * | * | * | * |
| 56x56 | 53.62x53.62 | 59.75 | 67.25 | 6.00 | 90.55 | * | 88.58 | 48.50 | 49.92 | * | * | * | * | * |

*Contact your PBV® salesperson for additional sizes and materials.

NOTES: Sizes 6"x6" and larger are gear operated. Dimension "F" includes drain plug and support brackets.

Series 5700/6700 ■ 14"FP-56"FP ■ Class 600



Class 600 14"FP-56"FP (in.)

| Size | A | B | C | D2 | E1-RF | E2-RTJ | E3-WE | F | G | H | N | M | P | L |
|-------|-------------|-------|-------|------|-------|--------|-------|-------|----------------------|-------|----|------|-------|----|
| 14x14 | 13.25x13.25 | 16.25 | 23.75 | 2.75 | 35.00 | 35.12 | 35.00 | 14.92 | 14.31 | 20.89 | 20 | 1.50 | 20.75 | 30 |
| 16x14 | 15.25x13.25 | 18.50 | 27.00 | 3.00 | 39.00 | 39.12 | 39.00 | 16.33 | 14.31 | 20.89 | 20 | 1.62 | 23.75 | 30 |
| 16x16 | 15.25x15.25 | 18.50 | 27.00 | 3.00 | 39.00 | 39.12 | 39.00 | 16.33 | 15.89 | 22.47 | 20 | 1.62 | 23.75 | 30 |
| 18x16 | 17.25x15.25 | 21.00 | 29.25 | 3.25 | 43.00 | 43.12 | 43.00 | 21.05 | 15.89 | 22.47 | 20 | 1.75 | 25.75 | 30 |
| 18x18 | 17.25x17.25 | 21.00 | 29.25 | 3.25 | 43.00 | 43.12 | 43.00 | 21.05 | 19.76 | 26.34 | 20 | 1.75 | 25.75 | 30 |
| 20x18 | 19.25x17.25 | 23.00 | 32.00 | 3.50 | 47.00 | 47.25 | 47.00 | 19.67 | 19.76 | 26.34 | 24 | 1.75 | 28.50 | 30 |
| 20x20 | 19.25x19.25 | 23.00 | 32.00 | 3.50 | 47.00 | 47.25 | 47.00 | 19.67 | 20.09 | 26.99 | 24 | 1.75 | 28.50 | 30 |
| 24x20 | 23.25x19.25 | 27.25 | 37.00 | 4.00 | 55.00 | 55.38 | 55.00 | 23.13 | 20.09 | 26.99 | 24 | 2.00 | 33.00 | 30 |
| 24x24 | 23.25x23.25 | 27.25 | 37.00 | 4.00 | 55.00 | 55.38 | 55.00 | 23.13 | 25.35 ⁽¹⁾ | 31.25 | 24 | 2.00 | 33.00 | 30 |
| 30x30 | 29.00x29.00 | 33.75 | 44.50 | 4.50 | 65.00 | 65.50 | 65.00 | 31.25 | 32.08 | 38.98 | 28 | 2.13 | 40.25 | 30 |
| 36x36 | 34.50x34.50 | 40.25 | 51.75 | 4.88 | 82.00 | 82.64 | 82.01 | 34.39 | 35.83 | 42.73 | 28 | 2.62 | 47.00 | 30 |
| 40x40 | 38.50x38.50 | 43.75 | 52.00 | 6.25 | 78.74 | * | 74.80 | 37.13 | 37.60 | * | * | * | * | * |
| 44x44 | 42.32x42.32 | 48.25 | 57.25 | 6.81 | 86.61 | * | 80.71 | 40.55 | 41.73 | * | * | * | * | * |
| 48x48 | 45.98x45.98 | 52.50 | 62.75 | 7.44 | 94.49 | * | 85.83 | 43.50 | 44.69 | * | * | * | * | * |
| 56x56 | 53.62x53.62 | 60.75 | 73.00 | 8.56 | * | * | 93.90 | 49.37 | 50.79 | * | * | * | * | * |

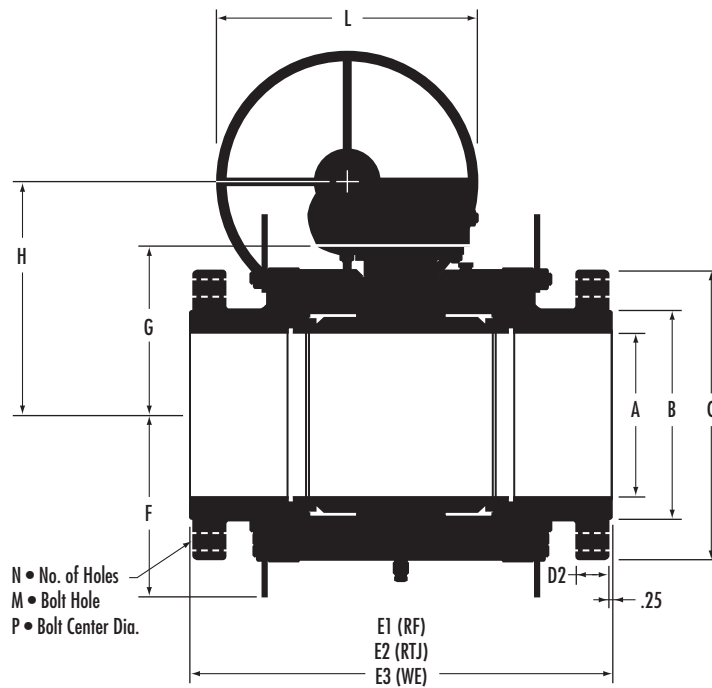
*Contact your PBV® salesperson for additional sizes and materials.

NOTES: Sizes 6"x6" and larger are gear operated. Dimension "F" includes drain plug and support brackets.

1) Change introduced 2007

Dimensional Data for Large Size Diameter Valves

Series 5700/6700 ■ 14"FP-48"FP Class 900 ■ 14"FP-24"FP Class 1500



Class 900 14"FP-24"FP (in.)

| Size | A | B | C | D2 | E1-RF | E2-RTJ | E3-WE | F | G | H | N | M | P | L |
|---------|---------------|-------|-------|------|-------|--------|-------|-------|-------|-------|----|------|-------|----|
| 14 x 14 | 12.75 x 12.75 | 16.25 | 25.25 | 3.38 | 40.50 | 40.88 | 40.50 | 18.61 | 16.76 | 23.34 | 20 | 1.62 | 22.00 | 30 |
| 16 x 14 | 14.75 x 12.75 | 18.50 | 27.75 | 3.50 | 44.50 | 44.88 | 44.50 | 20.63 | 16.76 | 23.34 | 20 | 1.75 | 24.25 | 30 |
| 16 x 16 | 14.75 x 14.75 | 18.50 | 27.75 | 3.50 | 44.50 | 44.88 | 44.50 | 20.63 | 18.87 | 25.77 | 20 | 1.75 | 24.25 | 30 |
| 18 x 16 | 16.75 x 14.75 | 21.00 | 31.00 | 4.00 | 48.00 | 48.50 | 48.00 | 23.39 | 18.87 | 25.77 | 20 | 2.00 | 27.00 | 30 |
| 18 x 18 | 16.75 x 16.75 | 21.00 | 31.00 | 4.00 | 48.00 | 48.50 | 48.00 | 23.39 | 24.91 | 31.81 | 20 | 2.00 | 27.00 | 30 |
| 20 x 18 | 18.63 x 16.75 | 23.00 | 33.75 | 4.25 | 52.00 | 52.50 | 52.00 | 24.30 | 24.91 | 31.81 | 20 | 2.12 | 29.50 | 30 |
| 20 x 20 | 18.63 x 18.63 | 23.00 | 33.75 | 4.25 | 52.00 | 52.50 | 52.00 | 24.30 | 26.18 | 33.08 | 20 | 2.12 | 29.50 | 30 |
| 24 x 20 | 22.50 x 18.63 | 27.25 | 41.00 | 5.50 | 61.00 | 61.75 | 61.00 | 21.70 | 24.20 | 28.90 | 20 | 2.62 | 35.50 | 30 |
| 24 x 24 | 22.50 x 22.50 | 27.25 | 41.00 | 5.50 | 61.00 | 61.75 | 61.00 | 23.80 | 29.80 | 30.90 | 20 | 2.62 | 35.50 | 30 |
| 30 x 30 | 28.11 x 28.11 | 33.75 | 48.50 | 5.88 | 69.29 | 70.16 | 65.35 | 30.94 | 31.42 | * | * | * | * | * |
| 36 x 36 | 33.74 x 33.74 | 40.25 | 57.50 | 6.75 | 80.71 | 81.89 | 74.80 | 36.38 | 36.14 | * | * | * | * | * |
| 40 x 40 | 37.56 x 37.56 | 45.75 | 59.50 | 7.75 | 85.83 | * | 82.68 | 39.88 | 39.65 | * | * | * | * | * |
| 44 x 44 | 41.26 x 41.26 | 50.00 | 64.88 | 8.44 | 93.70 | * | 88.58 | 41.26 | 45.28 | * | * | * | * | * |
| 48 x 48 | 45.00 x 45.00 | 54.50 | 70.25 | 9.19 | 96.46 | * | 93.70 | 47.64 | 47.72 | * | * | * | * | * |

*Contact your PBV® salesperson for additional sizes and materials.

NOTES: Sizes 6" x 6" and larger are gear operated. Dimension "F" includes drain plug and support brackets.

Class 1500 14"FP-24"FP (in.)

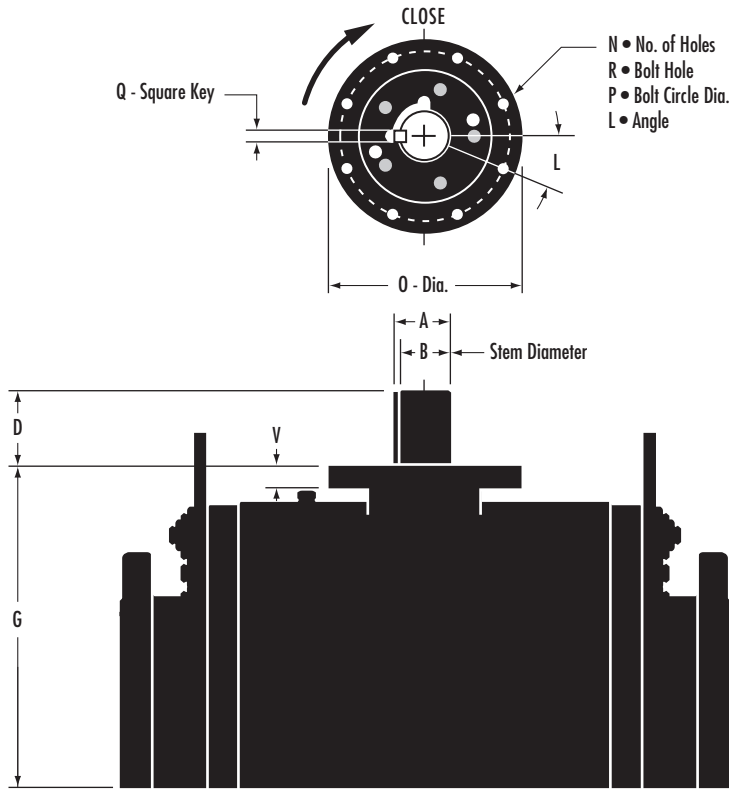
| Size | A | B | C | D2 | E1-RF | E2-RTJ | E3-WE | F | G | H | N | M | P | L |
|---------|---------------|-------|-------|------|-------|--------|-------|-------|-------|-------|----|------|-------|----|
| 14 x 14 | 12.50 x 12.50 | 16.25 | 29.50 | 5.25 | 49.50 | 50.25 | 49.50 | 20.60 | 18.83 | 25.73 | 16 | 2.38 | 25.00 | 30 |
| 16 x 14 | 14.25 x 12.50 | 18.50 | 32.50 | 5.75 | 54.50 | 55.38 | 54.50 | 22.27 | 18.83 | 25.73 | 16 | 2.62 | 27.75 | 30 |
| 16 x 16 | 14.25 x 14.25 | 18.50 | 32.50 | 5.75 | 54.50 | 55.38 | 54.50 | 22.27 | 20.50 | 27.40 | 16 | 2.62 | 27.75 | 30 |
| 18 x 16 | 16.75 x 14.25 | 21.00 | 36.00 | 6.38 | 60.50 | 61.38 | 60.50 | 23.39 | 20.50 | 27.40 | 16 | 2.88 | 30.50 | 30 |
| 18 x 18 | 16.75 x 16.75 | 21.00 | 36.00 | 6.38 | 60.50 | 61.38 | 60.50 | 23.39 | 24.91 | 31.81 | 16 | 2.88 | 30.50 | 30 |
| 20 x 18 | 18.63 x 16.75 | 23.00 | 38.75 | 7.00 | 65.50 | 66.38 | 65.50 | 23.39 | 24.96 | 31.81 | 16 | 3.12 | 32.75 | 30 |
| 20 x 20 | 18.63 x 18.63 | 23.00 | 38.75 | 7.00 | 65.50 | 66.38 | 65.50 | 21.70 | 27.50 | 28.90 | 16 | 3.12 | 32.75 | 30 |
| 24 x 20 | 22.50 x 18.63 | 27.25 | 46.00 | 8.00 | 80.50 | 81.63 | 80.50 | 21.70 | 27.50 | 28.90 | 16 | 3.62 | 39.00 | 30 |
| 24 x 24 | 22.50 x 22.50 | 27.25 | 46.00 | 8.00 | 80.50 | 81.63 | 80.50 | 23.80 | 33.70 | 30.90 | 16 | 3.62 | 39.00 | 30 |

Contact your PBV® salesperson for additional sizes and materials.

NOTES: Sizes 6" x 6" and larger are gear operated. Dimension "F" includes drain plug and support brackets.

Data contained below is based on ball bore size and not end flange bore sizes. All dimensions are given in inches.

Dimensions may be changed without notice. Contact PBV® with **valve serial numbers** for exact dimensions.



Class 150 And 300 (in.)

| Size | 2 | 3 | 4 | 6 | 8 | 10 | 12 | 14 | 16 | 18 | 20 | 24 |
|------|--------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| A | 1.142 | 1.595 | 1.791 | 1.997 | 2.630 | 2.633 | 2.633 | 3.264 | 3.264 | 3.882 | 3.882 | 3.879 |
| B | 0.979 | 1.373 | 1.570 | 1.765 | 2.362 | 2.362 | 2.362 | 2.950 | 2.950 | 3.540 | 3.540 | 3.540 |
| D | 1.53 | 1.83 | 1.80 | 3.64 | 3.49 | 3.56 | 3.51 | 4.36 | 4.36 | 5.30 | 5.29 | 5.49 |
| G | 4.87** | 5.94 | 7.35 | 8.48 | 10.13 | 11.96 | 13.75 | 14.31 | 15.89 | 19.76 | 20.20 | 23.34 |
| L | 45° | 45° | 22.5° | 22.5° | 22.5° | 22.5° | 22.5° | 22.5° | 22.5° | 22.5° | 22.5° | 22.5° |
| N | 4 | 4 | 4 | 8 | 8 | 8 | 8 | 8 | 8 | 8 | 8 | 8 |
| O | 6.90 | 8.00 | 8.75 | 10.00 | 11.22 | 11.22 | 11.22 | 11.40 | 11.40 | 11.40 | 11.40 | 16.00 |
| P | 5.50 | 6.50 | 7.50 | 8.86 | 9.84 | 9.84 | 9.84 | 10.00 | 10.00 | 10.00 | 10.00 | 14.02 |
| Q | 0.315 | 0.394 | 0.394 | 0.500 | 0.625 | 0.625 | 0.625 | 0.750 | 0.750 | 0.875 | 0.875 | 0.875 |
| R | 0.69 | 0.81 | 0.69 | 0.65 | 0.65 | 0.65 | 0.65 | 0.69 | 0.69 | 0.69 | 0.69 | 1.13 |
| V | 0.53 | 0.60 | 0.53 | 0.91 | 1.09 | 1.09 | 1.09 | 1.35 | 1.35 | 1.00 | 1.00 | 1.00 |

| Size | 30 | 36 | 40 | 44 | 48 | 52 | 56 |
|------|-------|-------|----|----|----|----|----|
| A | 6.554 | 6.554 | * | * | * | * | * |
| B | 5.900 | 5.900 | * | * | * | * | * |
| D | 7.90 | 7.90 | * | * | * | * | * |
| G | 30.08 | 33.83 | * | * | * | * | * |
| L | 22.5° | 22.5° | * | * | * | * | * |
| N | 8 | 8 | * | * | * | * | * |
| O | 22.62 | 22.62 | * | * | * | * | * |
| P | 20.31 | 20.31 | * | * | * | * | * |
| Q | 1.500 | 1.500 | * | * | * | * | * |
| R | 1.31 | 1.31 | * | * | * | * | * |
| V | 2.00 | 2.00 | * | * | * | * | * |

*Contact your PBV® salesperson for additional sizes and materials.

** Lipseal design may vary.

Class 600 (in.)

| Size | 2 | 3 | 4 | 6 | 8 | 10 | 12 | 14 | 16 | 18 | 20 | 24 |
|------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| A | 1.142 | 1.595 | 1.791 | 1.997 | 2.630 | 2.630 | 2.630 | 3.264 | 3.264 | 3.882 | 3.882 | 5.291 |
| B | 0.979 | 1.373 | 1.570 | 1.765 | 2.362 | 2.362 | 2.362 | 2.950 | 2.950 | 3.540 | 3.540 | 4.725 |
| D | 1.53 | 1.83 | 1.80 | 3.64 | 3.54 | 3.52 | 3.59 | 4.36 | 4.36 | 5.30 | 5.40 | 5.51 |
| G | 4.87 | 5.94 | 7.35 | 8.48 | 11.57 | 13.32 | 14.94 | 14.31 | 15.89 | 19.76 | 20.09 | 24.35 |
| L | 45° | 45° | 22.5° | 22.5° | 22.5° | 22.5° | 22.5° | 22.5° | 22.5° | 22.5° | 22.5° | 22.5° |
| N | 4 | 4 | 4 | 8 | 8 | 8 | 8 | 8 | 8 | 8 | 8 | 8 |
| O | 6.90 | 8.00 | 8.75 | 10.00 | 11.22 | 11.22 | 11.22 | 11.40 | 11.40 | 11.40 | 16.00 | 16.00 |
| P | 5.50 | 6.50 | 7.50 | 8.86 | 9.84 | 9.84 | 10.00 | 10.00 | 10.00 | 10.00 | 14.02 | 14.02 |
| Q | 0.315 | 0.394 | 0.394 | 0.500 | 0.625 | 0.625 | 0.625 | 0.750 | 0.750 | 0.875 | 0.875 | 1.250 |
| R | 0.69 | 0.81 | 0.69 | 0.65 | 0.65 | 0.65 | 0.69 | 0.69 | 0.69 | 0.69 | 1.13 | 1.13 |
| V | 0.53 | 0.60 | 0.53 | 0.91 | 1.09 | 1.09 | 1.09 | 1.35 | 1.35 | 1.00 | 1.00 | 2.00 |

| Size | 30 | 36 | 40 | 44 | 48 | 52 | 56 |
|------|-------|-------|----|----|----|----|----|
| A | 6.554 | 6.554 | * | * | * | * | * |
| B | 5.900 | 5.900 | * | * | * | * | * |
| D | 7.90 | 7.90 | * | * | * | * | * |
| G | 30.08 | 33.83 | * | * | * | * | * |
| L | 22.5° | 22.5° | * | * | * | * | * |
| N | 8 | 8 | * | * | * | * | * |
| O | 22.62 | 22.62 | * | * | * | * | * |
| P | 20.31 | 20.31 | * | * | * | * | * |
| Q | 1.500 | 1.500 | * | * | * | * | * |
| R | 1.31 | 1.31 | * | * | * | * | * |
| V | 2.00 | 2.00 | * | * | * | * | * |

*Contact your PBV® salesperson for additional sizes and materials.

Class 900 (in.)

| Size | 2 | 3 | 4 | 6 | 8 | 10 | 12* | 14 | 16 | 18 | 20 | 24 |
|------|--------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| A | 1.142 | 1.595 | 1.791 | 1.997 | 2.630 | 2.630 | 3.261 | 3.882 | 3.882 | 5.291 | 5.291 | 6.550 |
| B | 0.979 | 1.373 | 1.570 | 1.765 | 2.362 | 2.362 | 2.950 | 3.540 | 3.540 | 4.725 | 4.725 | 5.900 |
| D | 1.53 | 1.83 | 1.80 | 3.75 | 3.54 | 3.52 | 5.56 | 5.03 | 6.03 | 5.44 | 6.66 | 7.905 |
| G | 4.87** | 5.94 | 7.35 | 10.01 | 11.57 | 13.32 | 15.46 | 16.76 | 18.87 | 23.84 | 24.18 | 27.92 |
| L | 45° | 45° | 22.5° | 0° | 22.5° | 22.5° | 22.5° | 22.5° | 22.5° | 22.5° | 22.5° | 22.5° |
| N | 4 | 4 | 4 | 8 | 8 | 8 | 8 | 8 | 8 | 8 | 8 | 8 |
| O | 6.90 | 8.00 | 8.75 | 11.22 | 11.22 | 11.22 | 13.19 | 11.70 | 16.00 | 16.00 | 16.00 | 22.62 |
| P | 5.50 | 6.50 | 7.50 | 9.84 | 9.84 | 10.00 | 11.78 | 10.00 | 14.02 | 14.02 | 14.02 | 20.31 |
| Q | 0.315 | 0.394 | 0.394 | 0.500 | 0.625 | 0.625 | 0.750 | 0.875 | 0.875 | 1.250 | 1.250 | 1.50 |
| R | 0.69 | 0.81 | 0.69 | 0.69 | 0.65 | 0.69 | 0.81 | 0.69 | 1.12 | 1.12 | 1.12 | 1.31 |
| V | 0.53 | 0.60 | 0.53 | 1.25 | 1.09 | 1.09 | 1.35 | 1.54 | 1.54 | 2.00 | 1.50 | 2.25 |

Contact your PBV® salesperson for additional sizes and materials.

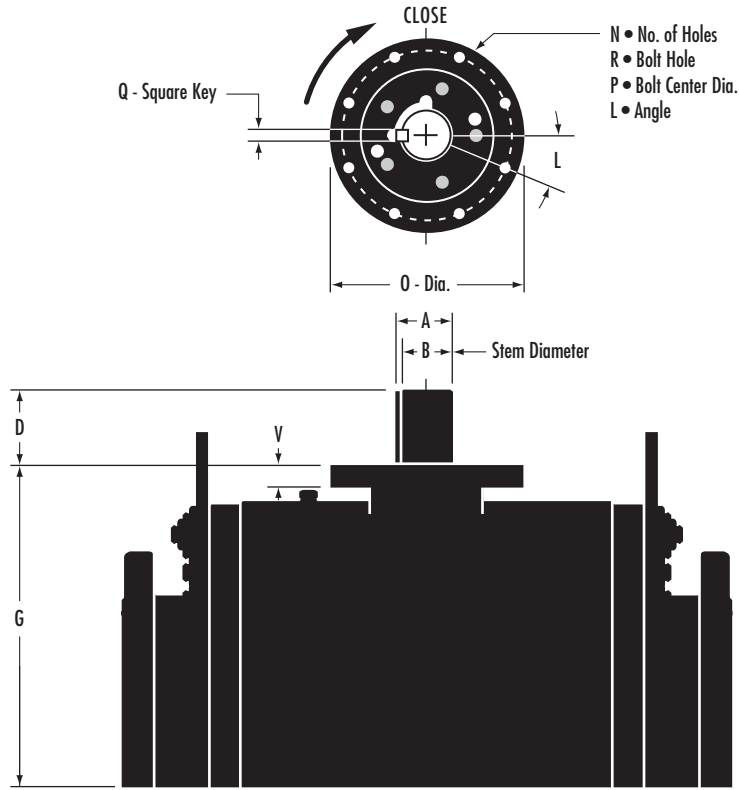
*Design change May 2004. Serial number required to verify design.

**Lip seal design may vary.



Data contained below is based on ball bore size and not end flange bore size. All dimensions are given in inches.

Dimensions may be changed without notice. Contact PBV® with **valve serial numbers** for exact dimensions.



Class 1500 (in.)

| Size | 2 | 3 | 4 | 6 | 8 | 10 | 12 | 14 | 16 | 18 | 20 | 24 |
|------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| A | 1.142 | 1.595 | 1.792 | 2.630 | 3.264 | 3.264 | 3.264 | 3.882 | 3.882 | 5.291 | 5.291 | 6.554 |
| B | .980 | 1.375 | 1.572 | 2.362 | 2.950 | 2.950 | 2.950 | 3.540 | 3.540 | 4.725 | 4.725 | 5.900 |
| D | 1.68 | 2.07 | 2.09 | 3.87 | 5.87 | 5.87 | 5.86 | 6.03 | 6.03 | 5.50 | 6.63 | 6.84 |
| G | 5.47 | 6.42 | 7.88 | 10.67 | 12.88 | 15.48 | 17.83 | 18.83 | 20.50 | 24.87 | 27.46 | 33.69 |
| L | 45° | 45° | 22.5° | 0° | 22.5° | 22.5° | 22.5° | 22.5° | 22.5° | 22.5° | 22.5° | 22.5° |
| N | 4 | 4 | 4 | 8 | 8 | 8 | 8 | 8 | 8 | 8 | 8 | 8 |
| O | 7.00 | 8.00 | 8.80 | 11.22 | 13.19 | 13.19 | 13.19 | 16.00 | 16.00 | 16.00 | 16.00 | 22.62 |
| P | 5.50 | 6.50 | 7.50 | 9.84 | 11.78 | 11.78 | 11.78 | 14.02 | 14.02 | 14.02 | 14.02 | 20.31 |
| Q | 0.315 | 0.394 | 0.394 | .615 | 0.750 | 0.750 | 0.750 | 0.875 | 0.875 | 1.250 | 1.250 | 1.250 |
| R | 0.69 | 0.81 | 0.69 | 0.65 | 0.78 | 0.78 | 0.78 | 1.12 | 1.12 | 1.12 | 1.12 | 1.31 |
| V | 0.49 | 0.60 | 1.00 | 1.25 | 1.35 | 1.35 | 1.35 | 1.54 | 1.54 | 2.00 | 1.50 | 2.00 |

Class 2500 (in.)

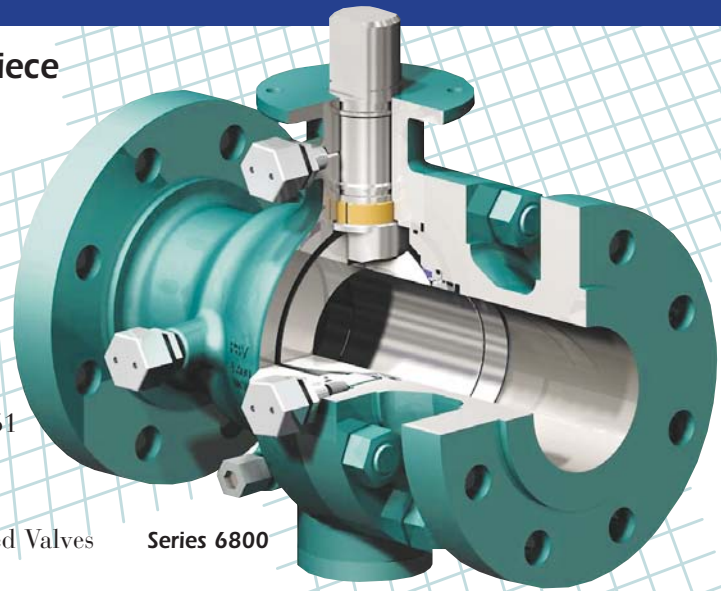
| Size | 2 | 3 | 4 | 6 | 8 | 10 | 12 |
|------|-------|-------|-------|-------|-------|-------|-------|
| A | 1.263 | 1.595 | 1.997 | 2.650 | 3.264 | 3.264 | 3.882 |
| B | 1.125 | 1.375 | 1.765 | 2.362 | 2.950 | 2.950 | 3.540 |
| D | 2.78 | 3.10 | 2.58 | 5.30 | 5.26 | 4.17 | 5.07 |
| G | 7.25 | 8.42 | 10.56 | 12.70 | 16.63 | 18.25 | 20.79 |
| L* | 22.5° | 22.5° | 22.5° | 22.5° | 22.5° | 22.5° | 22.5° |
| N | 4 | 8 | 8 | 8 | 8 | 8 | 8 |
| O | 8.00 | 10.00 | 8.80 | 11.22 | 13.19 | 11.70 | 16.50 |
| P | 6.75 | 8.86 | 7.50 | 10.00 | 11.78 | 10.00 | 14.02 |
| Q | 0.315 | 0.394 | 0.500 | 0.625 | 0.750 | 0.750 | 0.875 |
| R | 0.66 | 0.66 | 0.69 | 0.69 | 0.78 | 0.69 | 1.12 |
| V | 0.80 | 0.85 | 0.90 | 1.75 | 1.75 | 1.50 | 1.50 |

*Contact factory for mounting details.

The PBV® Series 6800 Flanged, Two-Piece Cast Trunnion Supported Ball Valves

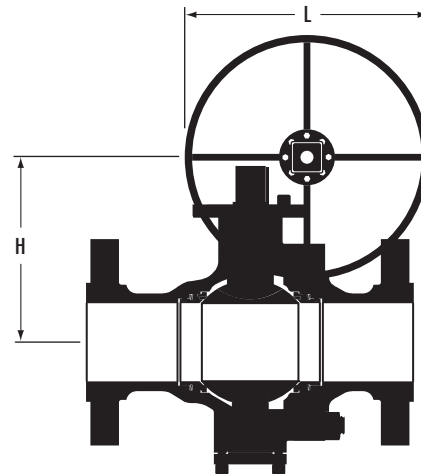
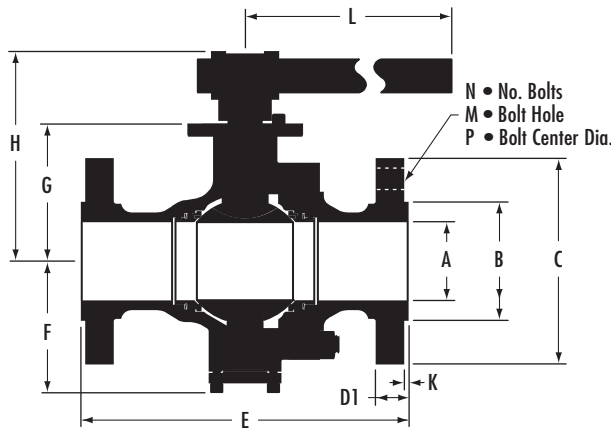
Standard Features

- WCB/WCC Cast Bodies and Adapters
- 316 Stainless Steel Standard on Internal Trim (Ball, Seat and Stems) 2" -150 thru 6" -600
- O-ring Stem Seal Design backed by Firesafe Seal
- Valves Built to API 6D
- Valves meet ASME B16.34, B16.10, B16.5 and BS 5351
- ISO 5211 Compatible Mounting Pads
- Fire tested to API 6FA
- Locking Devices Standard for Lever or Gear Operated Valves
- All Materials Meet NACE MR0175 2002
- Emergency Seat Sealant Injection Standard On 6" Bore And Larger



Series 6800

Dimensional Data (in.)

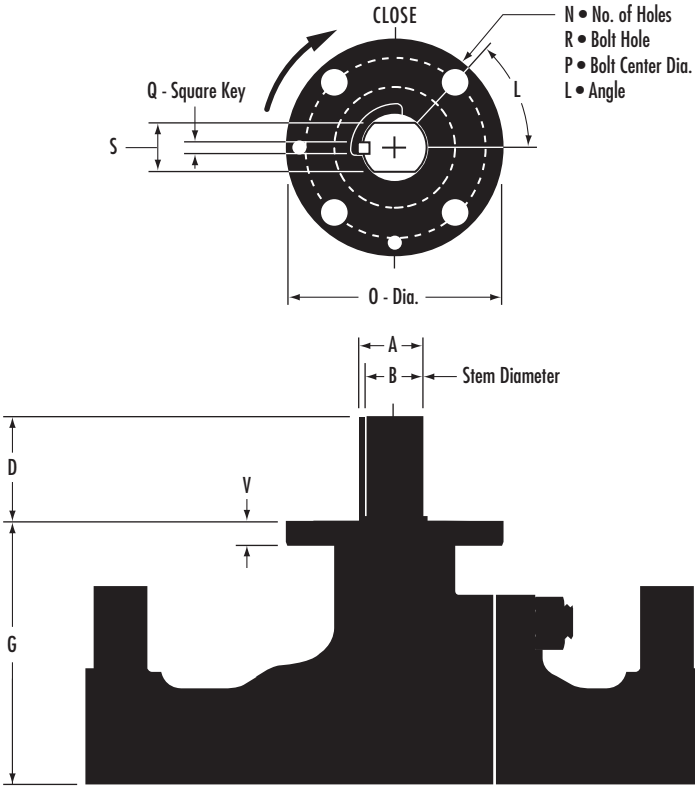


For valves 6" and above with gear operator

| 6800, Full Port | | | | | | | | | | | | | | | |
|-----------------|-------|-------|-------|-------|------|-------|-------|-------|-------|------|----|------|-------|-------|---------------|
| Valve Sz (in) | Class | A | B | C | D1 | E | F | G | H | K | N | M | P | L | Ship Wt (lbs) |
| 2 | 150 | 2.06 | 3.62 | 6.00 | 0.62 | 7.00 | 4.30 | 3.94 | 6.53 | 0.06 | 4 | 0.75 | 4.75 | 17.00 | 43 |
| | 300 | 2.06 | 3.62 | 6.50 | 0.88 | 8.50 | 4.30 | 3.94 | 6.53 | 0.06 | 8 | 0.75 | 5.00 | 17.00 | 49 |
| | 600 | 2.06 | 3.62 | 6.50 | 1.25 | 11.50 | 4.30 | 4.13 | 6.41 | 0.25 | 8 | 0.75 | 5.00 | 20.00 | 54 |
| 3 | 150 | 3.13 | 5.00 | 7.50 | 0.75 | 8.00 | 5.80 | 4.88 | 7.17 | 0.06 | 4 | 0.75 | 6.00 | 20.00 | 81 |
| | 300 | 3.13 | 5.00 | 8.25 | 1.12 | 11.12 | 5.80 | 4.88 | 7.17 | 0.06 | 8 | 0.88 | 6.62 | 20.00 | 104 |
| | 600 | 3.13 | 5.00 | 8.25 | 1.50 | 14.00 | 5.80 | 5.38 | 9.28 | 0.25 | 8 | 0.88 | 6.62 | 28.00 | 106 |
| 4 | 150 | 4.06 | 6.19 | 9.00 | 0.94 | 9.00 | 6.86 | 6.10 | 10.01 | 0.06 | 8 | 0.75 | 7.50 | 28.00 | 110 |
| | 300 | 4.06 | 6.19 | 10.00 | 1.25 | 12.00 | 6.86 | 7.06 | 10.97 | 0.06 | 8 | 0.88 | 7.88 | 28.00 | 149 |
| | 600 | 4.06 | 6.19 | 10.75 | 1.75 | 17.00 | 6.86 | 7.06 | 10.97 | 0.25 | 8 | 1.00 | 8.50 | 28.00 | 196 |
| 6 | 150 | 6.00 | 8.50 | 11.00 | 1.00 | 15.50 | 8.27 | 8.75 | 10.91 | 0.06 | 8 | 0.88 | 9.50 | 18.00 | 242 |
| | 300 | 6.00 | 8.50 | 12.50 | 1.44 | 15.87 | 8.27 | 8.75 | 10.91 | 0.06 | 12 | 0.88 | 10.62 | 18.00 | 286 |
| | 600 | 6.00 | 8.50 | 14.00 | 2.13 | 22.00 | 8.27 | 8.75 | 10.91 | 0.25 | 12 | 1.12 | 11.50 | 18.00 | 424 |
| 8 | 150 | 8.00 | 10.62 | 13.50 | 1.12 | 18.00 | 10.62 | 10.94 | 13.06 | 0.06 | 8 | 0.88 | 11.75 | 24.00 | 375 |
| | 300 | 8.00 | 10.62 | 15.00 | 1.62 | 19.75 | 10.62 | 10.94 | 13.06 | 0.06 | 12 | 1.00 | 13.00 | 24.00 | 492 |
| | 600 | 8.00 | 10.62 | 16.50 | 2.44 | 26.00 | 10.62 | 10.94 | 13.06 | 0.25 | 12 | 1.25 | 13.75 | 24.00 | 820 |
| 10 | 150 | 10.00 | 12.75 | 16.00 | 1.19 | 21.00 | 12.17 | 12.50 | 14.63 | 0.06 | 12 | 1.00 | 14.25 | 24.00 | 596 |
| | 300 | 10.00 | 12.75 | 17.50 | 1.88 | 22.38 | 12.17 | 12.50 | 14.63 | 0.06 | 16 | 1.12 | 15.25 | 24.00 | 772 |
| 12 | 150 | 12.00 | 15.00 | 19.00 | 1.25 | 24.00 | 13.74 | 14.13 | 16.25 | 0.06 | 12 | 1.00 | 17.00 | 24.00 | 874 |
| | 300 | 12.00 | 15.00 | 20.50 | 2.00 | 25.50 | 13.74 | 14.13 | 16.25 | 0.06 | 16 | 1.25 | 17.75 | 24.00 | 1137 |

Data contained below is based on ball bore size and not end flange bore size. All dimensions are given in inches.

Dimensions may be changed without notice. Contact PBV® with **valve serial numbers** for exact dimensions.



Class 150 (in.)

| Size | 2 | 3 | 4 | 6 | 8 | 10 | 12 |
|------|-------|-------|-------|-------|-------|-------|-------|
| A | — | — | — | 1.987 | 2.630 | 2.630 | 2.630 |
| B | 0.905 | 1.280 | 1.875 | 1.772 | 2.362 | 2.362 | 2.362 |
| D | 1.29 | 1.81 | 2.13 | 2.87 | 3.38 | 3.38 | 3.29 |
| G | 3.94 | 4.88 | 6.10 | 8.75 | 10.94 | 12.50 | 14.13 |
| L | 45° | 45° | 45° | 45° | 45° | 45° | 45° |
| N | 4 | 4 | 4 | 4 | 4 | 4 | 4 |
| O | 3.54 | 3.54 | 5.91 | 6.89 | 8.27 | 8.27 | 8.27 |
| P | 2.75 | 2.75 | 4.92 | 5.51 | 6.50 | 6.50 | 6.50 |
| Q | — | — | — | 0.500 | 0.625 | 0.625 | 0.625 |
| R | 0.39 | 0.39 | 0.57 | 0.81 | 0.81 | 0.81 | 0.81 |
| S | 0.669 | 0.906 | 1.250 | 1.376 | — | — | — |
| V | 0.39 | 0.35 | 0.51 | 0.72 | 0.78 | 0.69 | 0.78 |

Class 600 (in.)

| Size | 2 | 3 | 4 | 6 | 8 |
|------|-------|-------|-------|-------|-------|
| A | — | — | — | 1.987 | 2.630 |
| B | 1.280 | 1.870 | 1.870 | 1.772 | 2.362 |
| D | 1.84 | 2.13 | 2.13 | 2.87 | 3.37 |
| G | 4.12 | 5.38 | 7.03 | 8.75 | 10.93 |
| L | 45° | 45° | 45° | 45° | 45° |
| N | 4 | 4 | 4 | 4 | 4 |
| O | 3.54 | 5.00 | 5.91 | 6.89 | 8.26 |
| P | 2.75 | 4.02 | 4.92 | 5.51 | 6.50 |
| Q | — | — | — | 0.500 | 0.625 |
| R | 0.39 | 0.45 | 0.57 | 0.81 | 0.81 |
| S | 0.906 | 1.250 | 1.250 | 1.376 | — |
| V | 0.39 | 0.37 | 0.53 | 0.72 | 0.78 |

Class 300 (in.)

| Size | 2 | 3 | 4 | 6 | 8 | 10 | 12 |
|------|-------|-------|-------|-------|-------|-------|-------|
| A | — | — | — | 1.987 | 2.630 | 2.630 | 2.630 |
| B | 0.905 | 1.280 | 1.870 | 1.772 | 2.362 | 2.362 | 2.362 |
| D | 1.29 | 1.81 | 2.13 | 2.87 | 3.38 | 3.38 | 3.29 |
| G | 3.94 | 4.88 | 7.06 | 8.75 | 10.94 | 12.50 | 14.13 |
| L | 45° | 45° | 45° | 45° | 45° | 45° | 45° |
| N | 4 | 4 | 4 | 4 | 4 | 4 | 4 |
| O | 3.54 | 3.54 | 5.91 | 6.89 | 8.27 | 8.27 | 8.27 |
| P | 2.75 | 2.75 | 4.92 | 5.51 | 6.50 | 6.50 | 6.50 |
| Q | — | — | — | 0.500 | 0.625 | 0.625 | 0.625 |
| R | 0.39 | 0.39 | 0.57 | 0.81 | 0.81 | 0.81 | 0.81 |
| S | 0.669 | 0.906 | 1.250 | 1.376 | — | — | — |
| V | 0.35 | 0.35 | 0.53 | 0.72 | 0.78 | 0.69 | 0.78 |

Bore Sizes (in.)

Bore sizes in PBV® ball valves conform to API 6D. They present an unobstructed flow path ideally suited for pigging when ordered in the full bore configuration.

| Nominal Bore Size | Actual Bore Size | | | |
|-------------------|------------------|----------|-----------|-----------|
| | ANSI 150-600 | ANSI 900 | ANSI 1500 | ANSI 2500 |
| 2 | 2.00 | 2.00 | 2.00 | 1.75 |
| 3 | 3.00 | 3.00 | 3.00 | 2.50 |
| 4 | 4.00 | 4.00 | 4.00 | 3.50 |
| 6 | 6.00 | 6.00 | 5.75 | 5.25 |
| 8 | 8.00 | 8.00 | 7.63 | 7.13 |
| 10 | 10.00 | 10.00 | 9.50 | 8.88 |
| 12 | 12.00 | 12.00 | 11.38 | 10.50 |
| 14 | 13.25 | 12.75 | — | — |
| 16 | 15.25 | 14.75 | — | — |
| 18 | 17.25 | 16.75 | — | — |
| 20 | 19.25 | 18.63 | — | — |
| 24 | 23.25 | 22.50 | — | — |
| 26 | 25.00 | — | — | — |
| 28 | 27.00 | — | — | — |
| 30 | 29.00 | — | — | — |
| 32 | 30.75 | — | — | — |
| 34 | 32.75 | — | — | — |
| 36 | 34.50 | — | — | — |

Series 5700/6700 Weight (lbs.) And Shipping Dimensions (in.)



| Size | ANSI 150 | | ANSI 300 | | ANSI 600 | | ANSI 900 | | ANSI 1500 | | ANSI 2500 | |
|-------|----------|-----------|----------|-----------|----------|-----------|----------|-----------|-----------|-----------|-----------|-----------|
| | Wt. | Ship Dim. | Wt. | Ship Dim. | Wt. | Ship Dim. | Wt. | Ship Dim. | Wt. | Ship Dim. | Wt. | Ship Dim. |
| 2x2 | 60 | 7x8x14 | 65 | 9x7x14 | 70 | 12x7x14 | 115 | 15x11x16 | 120 | 15x10x17 | 385 | 18x11x18 |
| 3x2 | 75 | 8x10x14 | 90 | 11x9x14 | 100 | 14x9x14 | 130 | 15x12x16 | 175 | 19x13x17 | 480 | 23x14x18 |
| 3x3 | 110 | 8x10x17 | 125 | 11x9x16 | 140 | 14x9x17 | 175 | 15x12x16 | 230 | 19x13x18 | 605 | 23x14x20 |
| 4x3 | 140 | 9x12x17 | 150 | 12x11x16 | 200 | 17x12x17 | 240 | 18x15x16 | 260 | 22x15x18 | 770 | 27x17x20 |
| 4x4 | 190 | 9x12x19 | 220 | 12x11x19 | 270 | 17x12x19 | 330 | 18x15x22 | 385 | 22x15x20 | 880 | 27x17x20 |
| 6x4 | 270 | 16x14x19 | 285 | 16x14x19 | 395 | 22x15x19 | 550 | 24x20x22 | 700 | 27x19x20 | 1430 | 37x23x20 |
| 6x6 | 425 | 16x14x19 | 460 | 16x14x20 | 515 | 22x15x19 | 860 | 24x20x25 | 1155 | 28x19x25 | 2100 | 37x23x28 |
| 8x6 | 505 | 18x18x19 | 575 | 20x17x20 | 675 | 26x18x19 | 1070 | 29x24x25 | 1400 | 33x23x25 | 2580 | 41x26x28 |
| 8x8 | 565 | 18x18x22 | 715 | 20x17x22 | 1140 | 26x18x25 | 1410 | 29x24x30 | 1935 | 33x23x30 | 5500 | 41x26x36 |
| 10x8 | 640 | 21x21x22 | 820 | 22x19x22 | 1420 | 31x22x25 | 1760 | 33x28x30 | 2135 | 39x28x30 | 6710 | 51x32x36 |
| 10x10 | 960 | 21x21x26 | 1175 | 22x19x25 | 1700 | 31x22x28 | 2355 | 33x28x33 | 3430 | 39x28x33 | 7400 | 51x32x42 |
| 12x10 | 1100 | 24x25x26 | 1390 | 26x23x25 | 1895 | 33x24x28 | 2530 | 38x31x33 | 3930 | 45x32x33 | 9350 | 57x26x42 |
| 12x12 | 1310 | 27x25x29 | 1740 | 26x23x29 | 2310 | 33x24x34 | 3545 | 38x31x36 | 5180 | 45x32x36 | 10,500 | 57x36x46 |
| 14x12 | 1460 | 27x23x29 | 1970 | 30x25x29 | 2575 | 35x26x34 | 3740 | 41x33x36 | 5580 | 50x35x36 | — | — |
| 14x14 | 1870 | 27x23x35 | 2240 | 30x25x35 | 2505 | 35x26x36 | 4435 | 41x33x38 | 5300 | 50x35x38 | — | — |
| 16x14 | 2025 | 30x26x35 | 2480 | 33x28x35 | 3050 | 39x30x36 | 4650 | 45x36x38 | 6700 | 55x39x38 | — | — |
| 16x16 | 2520 | 34x28x39 | 3015 | 33x28x39 | 3505 | 39x30x40 | 6260 | 45x36x41 | 9120 | 55x39x41 | — | — |
| 18x16 | 2685 | 34x28x39 | 3225 | 36x31x39 | 3900 | 43x32x40 | 6450 | 49x40x41 | 9620 | 61x43x41 | — | — |
| 18x18 | 3300 | 34x28x43 | 3750 | 36x31x43 | 4550 | 43x32x44 | 8970 | 49x40x41 | 13,020 | 61x43x44 | — | — |
| 20x18 | 3482 | 36x30x43 | 3995 | 39x34x43 | 5095 | 47x35x44 | 9150 | 43x44x44 | 13,820 | 66x47x44 | — | — |
| 20x20 | 4465 | 36x30x47 | 5105 | 39x34x47 | 6100 | 47x35x47 | 11,380 | 53x44x51 | 16,500 | 66x47x51 | — | — |
| 24x20 | 4920 | 42x35x47 | 5730 | 45x40x47 | 7325 | 55x41x47 | 11,850 | 62x53x51 | 20,500 | 82x55x51 | — | — |
| 24x24 | 6910 | 42x35x58 | 8000 | 45x40x58 | 10,800 | 55x41x58 | 18,960 | 62x53x55 | 27,500 | 82x55x55 | — | — |

Contact your PBV® salesperson for additional weights and sizes larger than 24".
 NOTES: 1) Weights and dimensions given for flanged end valves only.
 2) Valves sizes 2"x2" through 6"x4" in all Classes are with Lever Operators.
 Valves sizes 6"x6" and larger in all Classes are with Gear Operators.
 3) Shipping dimensions do not include Lever or Handwheel for Gear Operator.

The above weights and dimensions are made available for the purpose of estimating shipping expenses. These numbers are near approximations for the valve only exclusive of crating or palletizing.

Conversion Directions

Locate temperature in center column. If in degrees Celsius, read Fahrenheit equivalent in right hand column. If in degrees Fahrenheit, read Celsius equivalent in left hand column.

These formulas may be used to convert from one scale to another:

Fahrenheit = $(1.8 \times TC) + 32$ Celsius = $(TF - 32) / 1.8$

| °C | | °F |
|-------|------|--------|
| -73.3 | -100 | -148.0 |
| -67.8 | -90 | -130.0 |
| -62.2 | -80 | -112.0 |
| -59.4 | -75 | -103.0 |
| -56.7 | -70 | -94.0 |
| -53.9 | -65 | -85.0 |
| -51.1 | -60 | -76.0 |
| -48.3 | -55 | -67.0 |
| -45.6 | -50 | -58.0 |
| -42.8 | -45 | -49.0 |
| -40.0 | -40 | -40.0 |
| -37.2 | -35 | -31.0 |
| -34.4 | -30 | -22.0 |
| -31.7 | -25 | -13.0 |
| -28.9 | -20 | -4.0 |
| -26.1 | -15 | 5.0 |
| -23.3 | -10 | 14.0 |
| -20.6 | -5 | 23.0 |
| -17.8 | 0 | 32.0 |
| -17.2 | 1 | 33.8 |
| -16.7 | 2 | 35.6 |
| -16.1 | 3 | 37.4 |
| -15.6 | 4 | 39.2 |
| -15.0 | 5 | 41.0 |
| -14.4 | 6 | 42.8 |
| -13.9 | 7 | 44.6 |
| -13.3 | 8 | 46.4 |
| -12.8 | 9 | 48.2 |
| -12.2 | 10 | 50.0 |
| -11.7 | 11 | 51.8 |
| -11.1 | 12 | 53.6 |
| -10.6 | 13 | 55.4 |
| -10.0 | 14 | 57.2 |
| -9.4 | 15 | 59.0 |
| -8.9 | 16 | 60.8 |
| -8.3 | 17 | 62.6 |
| -7.8 | 18 | 64.4 |
| -7.2 | 19 | 66.2 |
| -6.7 | 20 | 68.0 |
| -6.1 | 21 | 69.8 |
| -5.6 | 22 | 71.6 |
| -5.0 | 23 | 73.4 |
| -4.4 | 24 | 75.2 |
| -3.9 | 25 | 77.0 |
| -3.3 | 26 | 78.8 |
| -2.8 | 27 | 80.6 |
| -2.2 | 28 | 82.4 |
| -1.7 | 29 | 84.2 |
| -1.1 | 30 | 86.0 |
| -0.6 | 31 | 87.8 |
| 0.0 | 32 | 89.6 |
| 0.6 | 33 | 91.4 |
| 1.1 | 34 | 93.2 |
| 1.7 | 35 | 95.0 |
| 2.2 | 36 | 96.8 |

| °C | | °F |
|------|----|-------|
| 2.8 | 37 | 98.6 |
| 3.3 | 38 | 100.4 |
| 3.9 | 39 | 102.2 |
| 4.4 | 40 | 104.0 |
| 5.0 | 41 | 105.8 |
| 5.6 | 42 | 107.6 |
| 6.1 | 43 | 109.4 |
| 6.7 | 44 | 111.2 |
| 7.2 | 45 | 113.0 |
| 7.8 | 46 | 114.8 |
| 8.3 | 47 | 116.6 |
| 8.9 | 48 | 118.4 |
| 9.4 | 49 | 120.2 |
| 10.0 | 50 | 122.0 |
| 10.6 | 51 | 123.8 |
| 11.1 | 52 | 125.6 |
| 11.7 | 53 | 127.4 |
| 12.2 | 54 | 129.2 |
| 12.8 | 55 | 131.0 |
| 13.3 | 56 | 132.8 |
| 13.9 | 57 | 134.6 |
| 14.4 | 58 | 136.4 |
| 15.0 | 59 | 138.2 |
| 15.6 | 60 | 140.0 |
| 16.1 | 61 | 141.8 |
| 16.7 | 62 | 143.6 |
| 17.2 | 63 | 145.4 |
| 17.8 | 64 | 147.2 |
| 18.3 | 65 | 149.0 |
| 18.9 | 66 | 150.8 |
| 19.4 | 67 | 152.6 |
| 20.0 | 68 | 154.4 |
| 20.6 | 69 | 156.2 |
| 21.1 | 70 | 158.0 |
| 21.7 | 71 | 159.8 |
| 22.2 | 72 | 161.6 |
| 22.8 | 73 | 163.4 |
| 23.3 | 74 | 165.2 |
| 23.9 | 75 | 167.0 |
| 24.4 | 76 | 168.8 |
| 25.0 | 77 | 170.6 |
| 25.6 | 78 | 172.4 |
| 26.1 | 79 | 174.2 |
| 26.7 | 80 | 176.0 |
| 27.2 | 81 | 177.8 |
| 27.8 | 82 | 179.6 |
| 28.3 | 83 | 181.4 |
| 28.9 | 84 | 183.2 |
| 29.4 | 85 | 185.0 |
| 30.0 | 86 | 186.8 |
| 30.6 | 87 | 188.6 |
| 31.1 | 88 | 190.4 |
| 31.7 | 89 | 192.2 |
| 32.2 | 90 | 194.0 |
| 32.8 | 91 | 195.8 |

| °C | | °F |
|------|-----|-------|
| 33.3 | 92 | 197.6 |
| 33.9 | 93 | 199.4 |
| 44.4 | 94 | 201.2 |
| 35.0 | 95 | 203.0 |
| 35.6 | 96 | 204.8 |
| 36.1 | 97 | 206.6 |
| 36.7 | 98 | 208.4 |
| 37.2 | 99 | 210.2 |
| 37.8 | 100 | 212.0 |
| 43 | 110 | 230 |
| 49 | 120 | 248 |
| 54 | 130 | 266 |
| 60 | 140 | 284 |
| 66 | 150 | 302 |
| 71 | 160 | 320 |
| 77 | 170 | 338 |
| 82 | 180 | 356 |
| 88 | 190 | 374 |
| 93 | 200 | 392 |
| 99 | 210 | 410 |
| 100 | 212 | 414 |
| 104 | 220 | 428 |
| 110 | 230 | 446 |
| 116 | 240 | 464 |
| 121 | 250 | 482 |
| 127 | 260 | 500 |
| 132 | 270 | 518 |
| 138 | 280 | 536 |
| 143 | 290 | 554 |
| 149 | 300 | 572 |
| 154 | 310 | 590 |
| 160 | 320 | 608 |
| 166 | 330 | 626 |
| 171 | 340 | 644 |
| 177 | 350 | 662 |
| 182 | 360 | 680 |
| 188 | 370 | 698 |
| 193 | 380 | 716 |
| 199 | 390 | 734 |
| 204 | 400 | 752 |
| 210 | 410 | 770 |
| 216 | 420 | 788 |
| 221 | 430 | 806 |
| 227 | 440 | 824 |
| 232 | 450 | 842 |
| 238 | 460 | 860 |
| 243 | 470 | 878 |
| 249 | 480 | 896 |
| 254 | 490 | 914 |
| 260 | 500 | 932 |
| 266 | 510 | 950 |
| 271 | 520 | 968 |
| 277 | 530 | 986 |
| 282 | 540 | 1004 |
| 288 | 550 | 1022 |

| °C | | °F |
|-----|------|------|
| 293 | 560 | 1040 |
| 299 | 570 | 1058 |
| 304 | 580 | 1076 |
| 310 | 590 | 1094 |
| 316 | 600 | 1112 |
| 321 | 610 | 1130 |
| 327 | 620 | 1148 |
| 332 | 630 | 1166 |
| 338 | 640 | 1184 |
| 343 | 650 | 1202 |
| 349 | 660 | 1220 |
| 354 | 670 | 1238 |
| 360 | 680 | 1256 |
| 366 | 690 | 1274 |
| 371 | 700 | 1292 |
| 377 | 710 | 1310 |
| 382 | 720 | 1328 |
| 388 | 730 | 1346 |
| 393 | 740 | 1364 |
| 399 | 750 | 1382 |
| 404 | 760 | 1400 |
| 410 | 770 | 1418 |
| 416 | 780 | 1436 |
| 421 | 790 | 1454 |
| 427 | 800 | 1472 |
| 432 | 810 | 1490 |
| 438 | 820 | 1508 |
| 443 | 830 | 1526 |
| 449 | 840 | 1544 |
| 454 | 850 | 1562 |
| 460 | 860 | 1580 |
| 466 | 870 | 1598 |
| 471 | 880 | 1616 |
| 477 | 890 | 1634 |
| 482 | 900 | 1652 |
| 488 | 910 | 1670 |
| 493 | 920 | 1688 |
| 499 | 930 | 1706 |
| 504 | 940 | 1724 |
| 510 | 950 | 1742 |
| 516 | 960 | 1760 |
| 521 | 970 | 1778 |
| 527 | 980 | 1796 |
| 532 | 990 | 1814 |
| 538 | 1000 | 1832 |
| 566 | 1050 | 1922 |
| 593 | 1100 | 2012 |
| 621 | 1150 | 2102 |
| 649 | 1200 | 2192 |
| 677 | 1250 | 2282 |
| 704 | 1300 | 2372 |
| 732 | 1350 | 2462 |
| 760 | 1400 | 2552 |
| 788 | 1450 | 2642 |
| 816 | 1500 | 2732 |

PBV General Terms and Conditions of Sale

By acceptance of the goods described herein, the Purchaser expressly acknowledges and agrees as follows:

- 1. Warranty:** The warranty described below applies only to new or unused goods or goods reconditioned by Global Flow™ Technologies (Seller). The Seller specifically disclaims any warranty for used goods or goods sold as is. For a period of one (1) year after date of purchase of any of the goods described herein, Seller warrants such goods shall remain free from failure due to defects in workmanship and materials incorporated therein by or for Seller provided such failure shall not have been caused or contributed to by improper usage, service or application, improper installation or maintenance, repairs, alterations, or modifications effected by or for the user, misuse, negligence or accident. In the event of failure for which Seller has assumed warranty obligations hereunder, and provided written notification of such failure shall be immediately given to Seller, it agrees to repair, or at its option, to replace the goods sold at its sold expense. Apart from the warranty and undertaking above set forth, or unless otherwise specifically consented to in writing by Seller, Seller assumes no obligation or liability for losses, expense or damages, direct or consequential, suffered or incurred as a result of any failure of, or defect in, the goods described herein, including but not limited to, such costs, expenses or damages as may result of any failure of, or defect in, the goods described herein, including but not limited to, such costs, expenses or damages as may result from the necessity to remove, replace, restore or transport the goods from any location or service in which they may be used, regardless of the cause of such failure or defect. This warranty extends only to the original Purchaser of the goods and is the only warranty made by Seller in connection therewith. There are no other warranties, express or implied, of any kind given with respect to the goods, their merchantability, fitness for any particular purpose or usage, or otherwise, nor is any person authorized to extend on behalf of Seller any form of warranty other than that above set forth. The goods described herein are not sold or distributed by Seller for personal, family or household purposes, nor are they normally suited for use as such.
- 2. Prices:** Prices and other terms of sale where set forth in current price sheets are subject to change without notice. Stenographic or clerical errors are subject to correction.
- 3. Acceptance of Orders and Special Orders:** All orders are subject to acceptance by Seller at its home office, Stafford, Texas, only. No assignment of the Purchaser's rights may be made without the written consent of the Seller. Orders for special materials are subject to cancellation only upon agreement to make payment for the work performed, material used, and a reasonable profit.
- 4. Terms, Payment and Partial Shipment:** All accounts are payable net 30 days of invoice date. One percent (1%) per month interest charged on accounts after 30 days, or twelve percent (12%) annually. All accounts are payable in United States dollars, free of exchange, collection, or any other charges. If in the sole discretion of Seller, the financial condition of the Purchaser at any time so requires, Seller retains the right to require full or partial payment in advance, to set spending limits for credit accounts or to require other adequate assurances of financial responsibility. Seller reserves the right to make partial shipments from time to time and render invoices therefore, which shall be due and payable as provided in said invoices.
- 5. Freight Charges:** Unless otherwise specifically noted, standard shipping charges (calculated by product weight, not including packaging) shall be added or be in addition to the price quoted and Purchaser agrees to pay the same to Seller.
- 6. Taxes:** Unless otherwise specifically noted, the amount of any sales, use, occupancy, excise tax, or other tax, of any nature, federal, state, or local, for which Seller is legally liable, either initially or through failure of payment by Purchaser, shall be added or be in addition to the price quoted and Purchaser agrees to pay the same to Seller.
- 7. Unavoidable Conditions:** Seller shall not be liable for failure to deliver or delays in delivery occasioned by causes beyond its control, including, without limitation, strikes, lockouts, fires, embargoes, war or other outbreaks of hostilities, acts of God, inability to obtain shipping space, machinery, breakdowns, delays of carriers or suppliers, and governmental acts or regulations.
- 8. Returns and Cancellations:** No product may be returned without Seller's prior written consent. All goods returned are subject to a handling charge plus freight in both directions, restocking fees and charges for any required reconditioning, unless otherwise specified in writing by Seller. Overages, shortages and incorrect material claims must be made in writing within ten (10) days of receipt of goods. Cancellation of orders once placed with and accepted by Seller may be made only with its written consent.
- 9. No Waiver:** Seller's failure to insist upon any of the terms, covenants, or conditions listed herein or to exercise any right hereunder shall not be construed as a waiver or relinquishment of the future performances of any such term, covenant or condition, or the future exercise of such right or a waiver or relinquishment or waiver of any other term, covenant or condition or the exercise of any other rights hereunder.
- 10. Drawings, Data and Confidential Information:** The weights, dimensions, capacities, prices, performance ratings and other data included in catalogues, prospectuses, circulars, advertisements, illustrated matter and price lists constitute a guide. These data shall not be binding except to the extent that they are by reference expressly included in the purchase order. Any drawings or technical documents intended for use in the manufacture of machinery, equipment, plants, parts, or other material and any ancillary services associated therewith (Material), or a part thereof, and submitted to the Purchaser prior or subsequent to the formation of the purchase order, remain the exclusive property of the Seller. They shall not, without the Seller's consent, be utilized by the Purchaser or copied, reproduced, transmitted or communicated to an unauthorized third party, provided, however, that the said plans and documents shall be the property of the Purchaser if it is expressly so agreed in writing. Any drawings or technical documents intended for use in the construction of the Material or of part thereof and submitted to the Seller by the Purchaser prior or subsequent to the formation of the purchase order remain the exclusive property of the Purchaser. They shall not, without Purchaser's consent in writing, be utilized by the Seller or copied, reproduced, transmitted or communicated to an unauthorized third party.
- 11. Governing Law:** This contract shall be governed by, construed and enforced in accordance with the laws of the State of Texas.
- 12. Totality of Agreement, Special Provisions, Modifications:** This instrument constitutes the entire agreement of the parties with respect to all matters and things herein mentioned. Purchaser warrants, represents and agrees that it has inspected the goods and otherwise made inquiry and review, upon its own behalf, concerning the nature, characteristics and quality of the materials and workmanship incorporated therein at or prior to delivery, that it is fully contented and satisfied therewith and has independently determined that the goods are in all respects fit and usable for all purposes for which they are intended to be employed by Purchaser. It is expressly acknowledged and agreed by and between the parties that neither party has, nor is now, relying upon any collateral, prior or contemporaneous agreement, written or oral, assurance or assurances, representation or warranty, of any kind or nature as to or respecting the condition or capabilities of the goods and the other matters and things, rights and responsibilities herein fixed and described. No modification, waiver or discharge of any term or provision of this instrument shall be implied by law, nor shall any alteration, modification or acquittance of any such term or provision be effective for any purpose unless in writing signed by or upon behalf of the party charged therewith.
(1) Returns are accepted within 180 days of shipment. Restocking charges for returned standard materials is 15%. Cancellation of orders for standard materials prior to shipment may incur a 10% minimum cancellation charge. Cancellation of non-standard material may incur up to 100% cancellation charge depending on stage of work in progress. All material returned to Global Flow™ Technologies must be accompanied by a prior written Returned Goods Authorization (RGA) form and freight must be prepaid. All material is subject to inspection and final disposition by Global Flow™ Technologies quality department. A clean up and/or re-certification charge may apply to any returned materials. Special items, buyouts, and modified products are non-returnable. (2) All products are subject to prior sales. (3) All sales are subject to Global Flow™ Technologies standard [Terms & Conditions](#).
- 13. Export Regulations:** GFT products can only be exported in accordance with U.S. Export Administration Regulations and other U.S. legal requirements. Diversion contrary to U.S. law is prohibited.

Represented By:



10600 Corporate Drive
Stafford, Texas 77477
281.565.1010
Toll Free: 1.800.231.3530
Fax: 281.565.3171
www.globalflowtech.com