



Flow-Tek®

A Subsidiary of BRAY INTERNATIONAL, Inc.

1 Piece Flanged Standard Port Ball Valves: 1" - 12"

ASME Class 150 & Class 300



Flow-Tek's Series RF15 & RF30 ball valves feature a compact, one piece body design with threaded insert. The one piece body supplies maximum structural strength while minimizing the number of potential leak paths. A floating ball design offers low torque and increases valve cycle life. These rugged, economical, end entry flanged ball valves are ideal for industrial applications.

Non-Fire Safe and API 607 4th Edition Fire Safe Valves Series RF15/RF30 valves are available as non-fire safe with standard stem seals or fire safe to API 607 4th Edition with graphite stem seals.

Secure Mount Series RF15/RF30 valves offer ease of automation due to an integrally cast actuator mounting pad that complies with ISO 5211 through 2" valve sizes.

Pressure Ratings

Model RF15: ASME Class 150
Model RF30: ASME Class 300

Body Materials

Stainless Steel
Carbon Steel
Special Alloys upon request



Stem Seals Series RF15/RF30 1"– 2" valves feature live-loaded, self-adjusting primary and secondary sealing. Utilizing belleville washers, the stem seal automatically adjusts to compensate for changes in temperature and normal wear. 3"– 12" valves utilize an independent packing gland which can be easily adjusted without removing mounting hardware or operator. The packing gland is contoured to more uniformly distribute the load across the packing.

The primary seal is a combination of a thrust washer and thrust washer protector. An adjustable stem packing creates a secondary seal between the stem and body. The stem packing is composed of RPTFE V-rings as standard – graphite stem packing is standard on all Fire Safe valves.

Ball Flow-Tek balls are precision machined and mirror finished for bubble-tight shut off and less operating torque. As an added safety feature, a hole in the stem slot of each ball equalizes pressure between the body cavity and the line media flow.

Body 1"–4" valve bodies are investment cast and all valve size castings are solution annealed/normalized for the highest quality and added strength. All body castings are marked with a foundry heat number for full traceability.

Seat Flow-Tek's seat design ensures bi-directional, bubble-tight sealing with low operating torque. All resilient seats feature relief slots or seat O.D. clearance to relieve pressure past the upstream seat and provide positive preloading to ensure low pressure/vacuum sealing.

Anti-Static Devices All RF15/RF30 valves have Anti-Static Devices as standard. These devices positively ground ball and stem.

Seat Selection

A wide range of seat materials are available to meet most applications. The standard seat is TFM 1600. Optional seats include RPTFE, Stainless Steel/PTFE (50/50), UHMWPE, Virgin PTFE, PEEK, Tek-Fil® (carbon/graphite filled TFM), and full metal seats and Cavity Fillers. PEEK seats offer high pressure/temperature capability. Tek-Fil seats offer reduced torque in high temperature, high cycle, and steam service applications. TFM1600 seats offer the exceptional chemical resistance of PTFE plus lower porosity and permeability, improved temperature range and reduced valve torques.

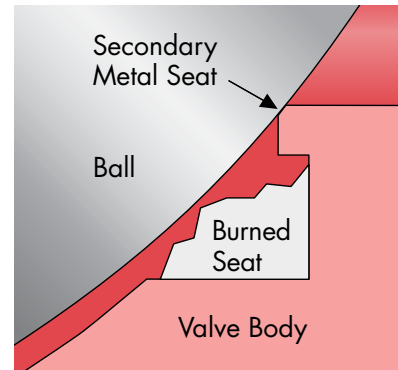
Options

Flow-Tek Series RF15/RF30 valves are available as V-Control valves. For more information please see Flow-Tek VC brochure and Technical Bulletin 1006. A safety exhaust is available for downstream venting. Tri-Port balls for self draining and additional options are available upon request. For more information please consult the Flow-Tek factory.

Features

Fire Safe: API 607-4 Certified

Flow-Tek's Series RF15/RF30 valves with graphite stem packing meet the highest fire safety standards under extreme conditions. In the event of a fire, after heat destroys the primary resilient seat, the ball makes contact with the secondary metal seat, forming a secure seal.



Flow-Tek offers a **Media Containment Unit** as an option. This unit easily mounts to standard valves through 10" and adds an additional stem packing seal for difficult services.



All manually operated valves feature a **Locking Device** to prevent accidental movement of ball position. 1"– 2" valves feature a Safety Trigger that locks the handle in the open or closed position. The handle lock can be bypassed, if needed, with a small bolt through the handle in the release position. On all sizes a **Padlock** can be added to secure the handle in position, preventing unwanted movement of the ball.

3" through 6" valves feature a NAMUR stem slot for ease of limit switch mounting.

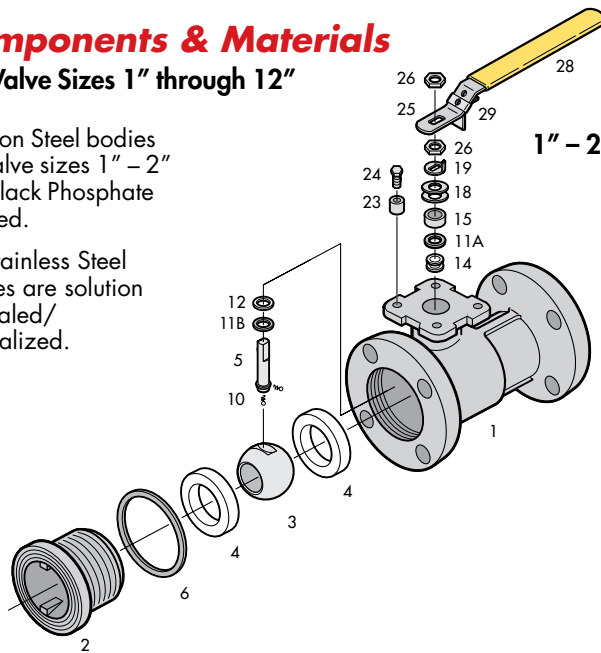
Technical Data

Components & Materials

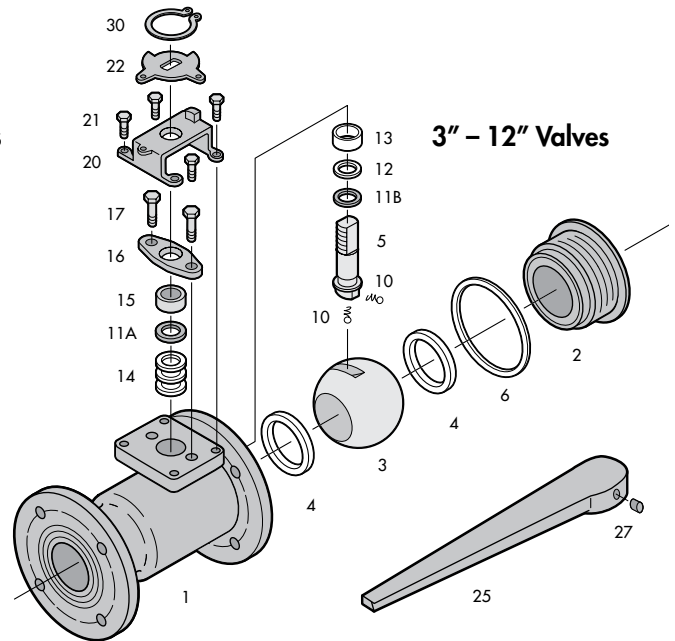
For Valve Sizes 1" through 12"

Carbon Steel bodies on Valve sizes 1" – 2" are Black Phosphate Coated.

All Stainless Steel bodies are solution annealed/normalized.



1" – 2" Valves



3" – 12" Valves

Specifications

Flanged End Connections meet ASME Class 150/300.

Flanges meet ASME B16.5.

Face to Face Dimensions meet ASME B16.10 short pattern.

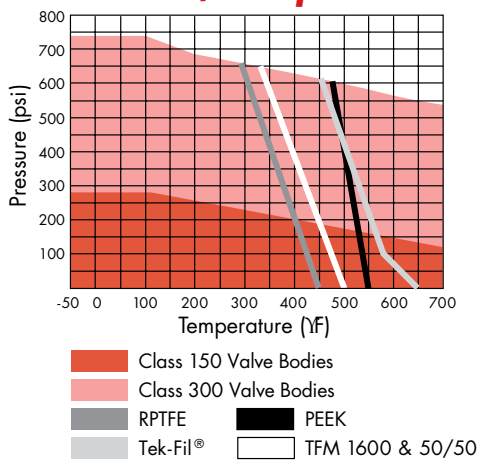
All valves meet ASME B16.34, MSS-SP-72 and API 608.

Fire Safe Valves with graphite Stem Packing are certified to API 607 4th Edition.

NACE MR0175 - All internal wetted parts.

All Valves are Hydrostatically Pressure Tested (Shell) and Air Pressure Tested (Seat) to the following in psi:
 Class 150: Shell 450 [CS] 425 [SS] Seat 80
 Class 300: Shell 1125 [CS] 1100 [SS] Seat 80

Pressure / Temperature



Note: Carbon Steel valves limited to -20°F.

Steam Service Pressure Ratings: WSP

| Valve | TFM Seats | | Tek-Fil Seats | | PEEK Seats | |
|-----------|-----------|-----|---------------|-----|------------|-----|
| | PSI | °F | PSI | °F | PSI | °F |
| Class 150 | 150 | 365 | 200 | 450 | 200 | 500 |
| Class 300 | 150 | 365 | 425 | 450 | 425 | 500 |

Vacuum Service to 29 inches Hg. gauge.

| Item | Name | Stainless Steel | Carbon Steel | Qty. |
|------|--------------------------|----------------------------|----------------------------|------|
| 1 | Body | ASTM A351 Gr CF8M | ASTM A216 Gr WCB | 1 |
| 2 | End Cap | ASTM A351 Gr CF8M | ASTM A216 Gr WCB | 1 |
| 3 | Ball | ASTM A351 Gr CF8M | ASTM A351 Gr CF8M | 1 |
| 4 | Seat* | TFM 1600 | TFM 1600 | 2 |
| 5 | Stem | ASTM A479 Gr 316 | ASTM A479 Gr 316 | 1 |
| 6 | Body Seal* | RPTFE | RPTFE | 1 |
| 10 | Anti-Static Device | SS316 | SS316 | 2 |
| 11A | Packing Protector* | PEEK | PEEK | 1 |
| 11B | Thrust Washer Protector* | PEEK | PEEK | 1 |
| 12 | Thrust Washer* | 50% SS316 + 50% PTFE | 50% SS316 + 50% PTFE | 1 |
| 13 | Stem Bearing* | 15% RPTFE | 15% RPTFE | 1 |
| 14 | Stem Packing* | RPTFE/Graphite | RPTFE/Graphite | 3/1 |
| 15 | Packing Gland Sleeve | SS304 | Carbon Steel ¹ | 1 |
| 16 | Packing Gland Plate | ASTM A351 Gr CF8 | ASTM A216 Gr WCB | 1 |
| 17 | Gland Bolt | SS304 | Carbon Steel | 2 |
| 18 | Belleville Washer | SS301 | SS301 | 2 |
| 19 | Tab Washer | SS304 | SS304 | 1 |
| 20 | Travel Stop Housing | ASTM A351 Gr CF8M | ASTM A216 Gr WCB | 1 |
| 21 | Housing Bolt | SS304 | Carbon Steel | 4 |
| 22 | Travel Stop | SS304 | Zinc Plated Carbon Steel | 1 |
| 23 | Travel Stop Set Sleeve | SS304 | SS304 | 1 |
| 24 | Travel Stop Bolt | SS304 | SS304 | 1 |
| 25 | Handle | Ductile Iron ² | Ductile Iron ² | 1 |
| 26 | Lock Nut | SS304 | SS304 | 2 |
| 27 | Handle Bolt | Carbon Steel | Carbon Steel | 1 |
| 28 | Handle Sleeve | Vinyl | Vinyl | 1 |
| 29 | Locking Device | SS304 | SS304 | 1 |
| 30 | Snap Ring | Nickel Plated Carbon Steel | Nickel Plated Carbon Steel | 2 |

* Parts included in the repair kits.

¹ For 1"–2" RF15/RF30, this material is SS304.

² For 1"–2" RF15/RF30, this material is SS304.

MODEL RF15 – Class 150

| SIZE ins | A | øB | C | C1 | D | E | øF | N | øS | øT | Cv | TORQUE * lbs-in | WEIGHT lbs. |
|----------|-------|------|-------|------|-------|------|-------|----|-------|------|-------|-----------------|-------------|
| 1 | 5.00 | 0.79 | 2.91 | 1.67 | 6.50 | 2.00 | 4.25 | 4 | 3.12 | 0.63 | 32 | 65 | 6 |
| 1 1/2 | 6.50 | 1.26 | 3.62 | 2.20 | 7.87 | 2.17 | 5.00 | 4 | 3.88 | 0.63 | 82 | 155 | 11 |
| 2 | 7.00 | 1.50 | 4.20 | 2.61 | 10.43 | 2.56 | 6.00 | 4 | 4.75 | 0.75 | 120 | 230 | 18 |
| 3 | 8.00 | 2.56 | 5.98 | 3.09 | 15.35 | 3.27 | 7.50 | 4 | 6.00 | 0.75 | 350 | 390 | 39 |
| 4 | 9.00 | 3.00 | 6.53 | 3.66 | 15.35 | 3.86 | 9.00 | 8 | 7.50 | 0.75 | 720 | 650 | 54 |
| 6 | 10.50 | 4.00 | 7.20 | 4.33 | 38.98 | 4.61 | 11.00 | 8 | 9.50 | 0.87 | 1,020 | 1,505 | 90 |
| 8 | 11.50 | 6.00 | 10.83 | 6.85 | 38.98 | 5.85 | 13.50 | 8 | 11.75 | 0.87 | 1,880 | 3,225 | 170 |
| 10 | 13.00 | 7.87 | 11.61 | 7.62 | 38.98 | 6.85 | 16.00 | 12 | 14.25 | 1.00 | 4,000 | 4,750 | 350 |
| 12 | 14.00 | 9.53 | 12.76 | 8.92 | 38.98 | 7.00 | 19.00 | 12 | 17.00 | 1.00 | 7,700 | 13,700 | 550 |

Face to Face dimensions meet ASME B16.10 short pattern.

*Torque at maximum rated pressure, clean water, TFM 1600 seating material. Other seat materials exhibit different torques. Please refer to TB 1005 for specific torques.

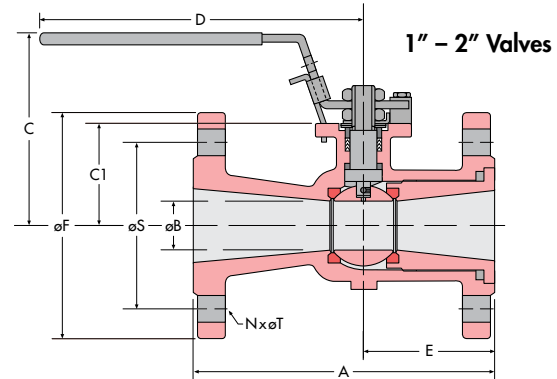
MODEL RF30 – Class 300

| SIZE ins | A | øB | C | C1 | D | E | øF | N | øS | øT | Cv | TORQUE * lbs-in | WEIGHT lbs. |
|----------|-------|------|-------|------|-------|------|-------|----|-------|------|-------|-----------------|-------------|
| 1 | 6.50 | 0.79 | 2.98 | 1.67 | 6.34 | 2.18 | 4.88 | 4 | 3.50 | 0.75 | 32 | 70 | 8.5 |
| 1 1/2 | 7.48 | 1.25 | 3.65 | 2.20 | 7.72 | 2.60 | 6.14 | 4 | 4.51 | 0.87 | 82 | 175 | 17 |
| 2 | 8.50 | 1.50 | 4.17 | 2.61 | 9.69 | 2.92 | 6.50 | 8 | 5.00 | 0.75 | 120 | 270 | 24 |
| 3 | 11.14 | 2.50 | 5.98 | 3.00 | 15.35 | 3.75 | 8.28 | 8 | 6.62 | 0.87 | 350 | 600 | 55 |
| 4 | 12.00 | 3.00 | 6.53 | 3.66 | 15.35 | 3.86 | 10.00 | 8 | 7.88 | 0.87 | 720 | 850 | 74 |
| 6 | 15.88 | 4.00 | 7.21 | 4.33 | 15.35 | 4.61 | 12.52 | 12 | 10.62 | 0.87 | 1,020 | 2,600 | 132 |
| 8 | 16.50 | 6.00 | 11.22 | 6.85 | 38.98 | 5.85 | 15.00 | 12 | 13.00 | 1.00 | 1,880 | 5,300 | 300 |
| 10 | 18.00 | 8.00 | 12.72 | 7.62 | 38.98 | 6.85 | 17.50 | 16 | 15.25 | 1.13 | 4,000 | 7,600 | 460 |
| 12 | 19.75 | 9.53 | 13.70 | 8.92 | 38.98 | 7.00 | 20.50 | 16 | 17.75 | 1.25 | 7,700 | 17,800 | 800 |

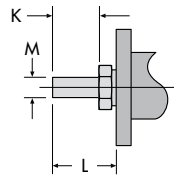
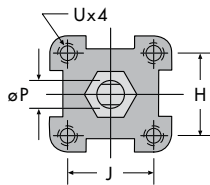
SECURE MOUNT

| SIZE ins | H | J | F0 | BC DIA. | K | L | M | øP | U UNC |
|------------------|------|------|-----|---------|------|-------------------|------|------|---------|
| 1 | 1.17 | 1.17 | F04 | 1.65 | 0.31 | 0.55 | 0.25 | 0.37 | #10-24 |
| 1 1/2 | 1.39 | 1.39 | F05 | 1.97 | 0.43 | 0.75 | 0.31 | 0.43 | 1/4-20 |
| 2 | 1.95 | 1.95 | F07 | 2.76 | 0.55 | 0.91 | 0.37 | 0.62 | 5/16-18 |
| 3-4 ¹ | 3.54 | 1.87 | — | — | 1.75 | 2.97 ¹ | 0.67 | 1.10 | 1/2-13 |
| 6 | 3.54 | 1.87 | — | — | 1.75 | 3.07 | 0.67 | 1.71 | 1/2-13 |
| 8 | 3.37 | 3.37 | — | 4.77 | 1.61 | 3.42 | 1.02 | 1.71 | 1/2-13 |
| 10 | 3.37 | 3.37 | — | 4.77 | 2.13 | 3.86 | 1.02 | 1.71 | 1/2-13 |
| 12 | 4.53 | 4.53 | — | 6.40 | 2.16 | 3.74 | 1.38 | 1.97 | 5/8-11 |

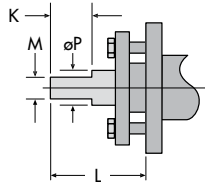
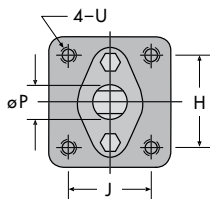
¹ For 4": L=3.07



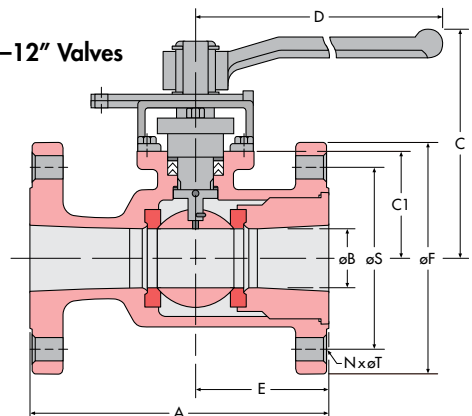
1" – 2" Valves



3" – 12" Valves



3"–12" Valves



NOTE: Gear Operators are suggested on size 10" and 12" valves.

NOTE: A trunnion-like Ball Support is included on size 12" valves.



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