

**FLOW-TEK**

# **BALL VALVE SELECTION GUIDE**

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**BRAY.COM/FLOW-TEK**

**Flow-Tek<sup>®</sup>**  
Subsidiary of BRAY INTERNATIONAL, Inc.

### TRIAD

|                  |                                                                                      |
|------------------|--------------------------------------------------------------------------------------|
| Full Port        | ¼" through 4"                                                                        |
| Standard Port    | ¾" through 2½"                                                                       |
| Materials        | Stainless Steel & Carbon Steel                                                       |
| Pressure Ratings | Full Port: 2200 psi WOG<br>Standard Port: 2200 psi WOG<br>FP & SP: up to 425 psi WSP |

- Firesafe – API 607
- Designed in accordance with ASME B16.34
- ISO 5211 Secure Mount actuator top flange



Features include live loaded Smart Stem seals through 2", a redundant body seal design, anti-static protection and locking safety handles. Hex head cap screws join end connections to the tapped center section. Special body and trim materials available.



### SERIES 7000 & 8000

|                  |                                                |
|------------------|------------------------------------------------|
| Full Port        | ¼" through 12"                                 |
| Materials        | 7000 Stainless Steel<br>8000 Carbon Steel      |
| Pressure Ratings | ¼" - 4": 1000 psi WOG<br>6" - 12": 400 psi WOG |

- ISO 5211 Secure Mount actuator top flange



Features include live loaded Smart Stem seals through 2½", anti-static protection and locking safety handles. These valves are also available with cavity filler seats for special service requirements. Special body and trim materials available.



### SERIES 7500 & 7700

|                  |                       |
|------------------|-----------------------|
| Tube Bore Port   | ¼" through 2"         |
| Valve Sizes      | ½" through 4"         |
| Materials        | Stainless Steel       |
| Pressure Ratings | ¼" - 4": 1000 psi WOG |

- Comply with ASME BPE
- USP Class IV soft goods
- ISO 5211 (½" - 2") Secure Mount actuator top flange

Specifically designed for high purity applications. The ball and end connections have the same I.D. as the tube piping system. Valves come standard with 20 RA maximum (SFV-1) surface finishes and all are solution cleaned and bagged. Features include live loaded Smart Stem seals through 2½" and locking safety handles



### SERIES 5000 & 6000

|                  |                                                |
|------------------|------------------------------------------------|
| Full Port        | ¼" through 4"                                  |
| Materials        | 5000 Stainless Steel<br>6000 Carbon Steel      |
| Pressure Ratings | ¼" - 2": 1000 psi WOG<br>2½" - 4": 800 psi WOG |

- ISO 5211 Secure Mount actuator top flange

All the benefits of a 3 Piece body design at an economical price. Features include a swing out center section for ease of installation and maintenance, adjustable stem packing, heavy duty internal entry stems and stainless steel safety locking handles.



### 3 PIECE – STANDARD END CONNECTIONS For custom end connections contact your Flow-Tek representative.

|               | Threaded | Butt Weld | Extended Weld | Socket Weld | Flanged | Weld Tube | Quick Clamp | Optional Cavity Fillers |
|---------------|----------|-----------|---------------|-------------|---------|-----------|-------------|-------------------------|
| TRIAD         | •        | •         | •             | •           | •       | –         | –           | •                       |
| 7000 & 8000   | •        | •         | •             | •           | •       | –         | –           | •                       |
| 5000 & 6000   | •        | –         | –             | •           | –       | –         | –           | –                       |
| S7500 & S7700 | –        | –         | –             | –           | –       | •         | •           | •                       |





### SERIES F15 & F30

|                  |                                            |                                             |
|------------------|--------------------------------------------|---------------------------------------------|
| Body             | 2 Piece                                    | • Firesafe – API 607 (Optional)             |
| Full Port        | ½" through 12"                             | • Designed in accordance with ASME B16.34   |
| Materials        | Stainless Steel & Carbon Steel             | • Face to face ASME B16.10 long pattern     |
| Pressure Ratings | F15: ASME Class 150<br>F30: ASME Class 300 | • ISO 5211 Secure Mount actuator top flange |

Features include live loaded Smart Stem seals through 2", anti-static protection and locking safety handles. Larger sized valves feature trunnion-type ball support. Special body and trim materials available.



### SERIES RF15 & RF30

|                  |                                              |                                             |
|------------------|----------------------------------------------|---------------------------------------------|
| Body             | 1 Piece                                      | • Firesafe – API 607 (Optional)             |
| Standard Port    | 1" through 12"                               | • Designed in accordance with ASME B16.34   |
| Materials        | Stainless Steel & Carbon Steel               | • Face to face ASME B16.10 short pattern    |
| Pressure Ratings | RF15: ASME Class 150<br>RF30: ASME Class 300 | • ISO 5211 Secure Mount actuator top flange |

These end entry flanged valves feature live loaded Smart Stem seals through 2", anti-static protection and locking safety handles. Special body and trim materials available.



### SERIES F15/30 METAL SEATED

|                         |                       |
|-------------------------|-----------------------|
| Full Port               | ½" - 12"              |
| <b>Pressure Ratings</b> |                       |
| Carbon Steel            | Up to 505 psi @ 750°F |
| Stainless Steel         | Up to 425 psi @ 750°F |

Available with a solid seat ring design. Using hardened metal seats and balls, the valves can be used in applications exceeding the limits of soft seated ball valves. Each valve is tested to meet or exceed FCI 70-2 Class V shutoff requirements as standard and class VI shutoff requirements as an option. These metal seated valves are ideal for abrasive and high temperature applications.



### SERIES M1

|                  |                                                                                                                                                  |
|------------------|--------------------------------------------------------------------------------------------------------------------------------------------------|
| Design Standards | ASME B16.34                                                                                                                                      |
| Sizes            | ½ - 36 in. (DN 15 - 900), custom and larger sizes upon request                                                                                   |
| Pressure Ratings | ASME 150 - 4500, custom higher pressures upon request                                                                                            |
| End Connections  | Raised Face and Ring Type Joint (ASME B16.5 and DIN 2501)<br>Butt welds (ASME B16.25), Socket weld (ASME B16.11)<br>Hubs & Custom Ends Available |
| Temperature      | Standard design rated up to 1100 °F (593 °C), can be customized for higher temperatures                                                          |
| End-To-End       | ASME B16.10 (Long Pattern)                                                                                                                       |



### SERIES M4

|                  |                                                                             |
|------------------|-----------------------------------------------------------------------------|
| Design Standards | ASME B16.34, Bore sizes per ASME TDP-1                                      |
| Size Range       | NPS ½ - 2½ SW or BW , DN 15 - 65, NPS 3 & 4 BW, DN 80 & 100                 |
| Bore Sizes       | 0.63", 1.03", 1.56"                                                         |
| Pressure Ratings | ASME 1700, 3100, 4500 ½" thru 2½"<br>Limited Class 3" and 4" Standard Class |
| End Connections  | SW per ASME B16.11, BW per ASME B16.25                                      |
| Temperature      | Up to 1100°F (593°C)                                                        |
| Body Materials   | A105, A182-F22 Cl.3, A182-F91                                               |
| Ball Materials   | 410 SS/HVOF Chromium Carbide, Inconel® 718/Fused Chromium Carbide           |
| Seat Materials   | 410 SS/HVOF Chromium Carbide, Inconel® 718/HVOF Chromium Carbide            |



## V-CONTROL CHARACTERIZED V-PORT BALLS

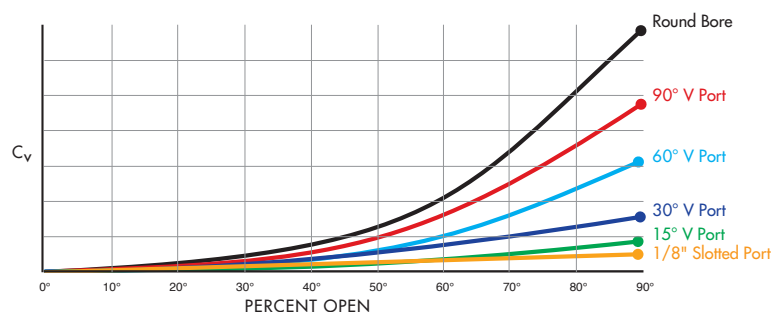
| Valves Series   | 7000/8000 | Triad | F15/F30 | RF15/RF30 |
|-----------------|-----------|-------|---------|-----------|
| Sizes Available | ¼"-12"    | ½"-4" | ½"-12"  | 1"-12"    |

When combined with Flow-Tek's line of pneumatic and electric actuators and controls, the V-Control delivers exceptional performance.

With characterized V-ports, slotted ports or custom ports, V-Control ball valves provide accurate flow control. Available in 3-Piece and flanged bodies, V-Control valves offer superior rangeability, repeatability and high flow capacity. These quarter turn valves are easily automated and make an ideal control element in process piping systems.



### Characterized Control





### TRUNNION

|                      |                                     |
|----------------------|-------------------------------------|
| Body                 | 2 Piece Cast or 3 Piece Forged      |
| Full & Standard Port | 2" through 24"                      |
| Materials            | Stainless Steel & Carbon Steel      |
| Pressure Ratings     | ASME Class 150, 300, 600, 900, 1500 |

- Firesafe – API 607
- Designed in accordance with API 6D

Trunnion Series valves are ideal for heavy duty applications such as oil and gas production, power and waste water industries. Standard design features include double block & bleed, stem & seat grease fittings, body cavity drain, vent ports and self relieving spring energized seats. Special body and trim materials available.



### CRYOGENIC SERVICE

|                     |                    |
|---------------------|--------------------|
| Full Port Flanged   | ½" - 12"           |
| Full Port Triad     | ¼" - 4"            |
| Standard Port Triad | ¾" - 2½"           |
| Temperature         | Service to -260° F |

- All valves are permanently marked with a flow direction arrow.
- Available in a shorter stem/bonnet, low temperature version.
- ISO 5211 (½"-2") actuator top flange

Used in the production, transportation and storage of liquefied gases, these specially designed valves have extended stems and bonnets that position the packing above the cryogenic fluid. Some key features include high-density TFM 1600 seat and seals and live loaded stem packing. Valves are unidirectional with vent holes in the stem slot and upstream face of the ball.



### SERIES 19 SEGMENTED

|              |                                |
|--------------|--------------------------------|
| 1 Piece Body | 1" - 12"                       |
| Materials    | Stainless Steel & Carbon Steel |
| ASME Class   | 150, 300 & 600                 |



A versatile Segmented Ball Valve designed for throttling or on-off applications in various industries including pulp & paper, chemical, power, oil & gas, and mining.

The valve features a characterized ball segment for high rangeability with splined stem connection for precise control, maintenance friendly segment-stem assembly, low friction shaft and thrust bearings for longer life, integral actuator mounting pads, and interchangeable seats. Special body and trim materials available.



### MEDIA CONTAINMENT UNIT

|               |                                               |
|---------------|-----------------------------------------------|
| Valve Sizes   | ¼" - 10"                                      |
| Available For | Triad, 7/8000, S85, F15/F30, RF15/RF30, S7000 |

Media Containment Units are designed to prevent costly downtime and provide double stem sealing. Button-head check valve for injection of a sealing agent can be added. Designed for both automated and manual service, the MCU is easily installed in the field onto existing Flow-Tek ball valves.



### STEAM ISOLATION

|             |          |
|-------------|----------|
| Valve Sizes | ½" - 12" |
|-------------|----------|

Full port flanged ball valves are available for low temperature steam distribution and isolation service. Carbon steel, ASME Class 300 valve sizes 4" and larger are offered with optional bypass, feature quarter turn operation, positive shutoff and live loaded packing.

Multi-Port ball valves offer a wide range of flow patterns: 90° and 180° T & L port 3-way balls, and 90°, 180° and 270° 4-way balls. Features include a 4th seat to prevent leakage and maintain proper ball alignment, live loaded stem seal and locking handles.

Ported 3 & 4-way ball valves offering excellent versatility for mixing and diverting applications.

- ISO 5211 Secure Mount actuator top flange



### SERIES 130

|                               |                                                         |
|-------------------------------|---------------------------------------------------------|
| 1/4" through 2" Standard Port | 3 Way                                                   |
| Materials                     | Stainless Steel                                         |
| Pressure Ratings              | 1/4" - 1 1/4": 1000 psi WOG<br>1 1/2" - 2": 800 psi WOG |



### SERIES 230 & 240

|                           |                                                     |
|---------------------------|-----------------------------------------------------|
| 1/4" through 4" Full Port | 230 - 3 Way<br>240 - 4 Way                          |
| Materials                 | Stainless Steel & Carbon Steel                      |
| Pressure Ratings          | 1/4" - 1": 1000 psi WOG<br>1 1/4" - 4": 800 psi WOG |



### MULTI-PORT FLANGED

|                  |                                                  |
|------------------|--------------------------------------------------|
| Full Port        | MPF150 up to 10"<br>MPF300 up to 6"              |
| Materials        | Stainless Steel & Carbon Steel                   |
| Pressure Ratings | MPF150: ASME Class 150<br>MPF300: ASME Class 300 |

- End connections designed to ASME 16.5



### MULTI-PORT – STANDARD END CONNECTIONS For custom end connections contact your Flow-Tek representative.

|           | Threaded | Butt Weld | Socket Weld | Flanged | Quick Clamp | Optional Cavity Fillers |
|-----------|----------|-----------|-------------|---------|-------------|-------------------------|
| 130       | •        | –         | –           | –       | •           | –                       |
| 230 & 240 | •        | •         | •           | •       | •           | •                       |
| FLANGED   | –        | –         | –           | •       | –           | •                       |





### SERIES 85

|                  |                                |
|------------------|--------------------------------|
| Body             | 2 Piece                        |
| Full Port        | ½" through 3"                  |
| Materials        | Stainless Steel                |
| Pressure Ratings | ½"-3": 1000 psi WOG/150psi WSG |

- ISO 5211 Secure Mount actuator top flange

Designed for ease of automation, features include live loaded Smart Stem seals through 2", anti-static protection, replaceable seats and seals, and safety latch handles.



### SERIES 80

|                  |                                |
|------------------|--------------------------------|
| Body             | 2 Piece                        |
| Full Port        | ¼" through 4"                  |
| Materials        | Stainless Steel                |
| Pressure Ratings | ¼"-4": 1000 psi WOG/150psi WSG |

- Optional seal welded body

Series S80 ball valves have been designed to meet the needs of the chemical, textile and process industries. An economical full port valve featuring adjustable stem packing, safety latch handles, and optional oval handles.



### SERIES 70 & 90

|                  |                                             |                                    |
|------------------|---------------------------------------------|------------------------------------|
| Body             | 2 Piece                                     |                                    |
| Standard Port    | ¼" through 3"                               |                                    |
| Materials        | S70 Stainless Steel<br>S90 Carbon Steel     |                                    |
| Pressure Ratings | ¼"-1": 2000 psi WOG<br>1¼"-2": 1500 psi WOG | 2½"-3": 1000 psi WOG<br>150psi WSG |

An economical solution for high pressure applications in the process industry. Features include adjustable stem packing, integrally cast actuator mounting pad, safety latch handles, and optional oval handles.



### SERIES 20

|                  |                                |
|------------------|--------------------------------|
| Body             | 1 Piece                        |
| Reduced Port     | ¼" through 2"                  |
| Materials        | Stainless Steel                |
| Pressure Ratings | ¼"-2": 2000 psi WOG/150psi WSG |

- Firesafe – API 607 (Optional)

One piece body design supplies maximum structural strength while reducing leak paths. Features include live loaded stem seals, safety latch handles, and optional oval handles.



### SERIES 40

|                  |                                |
|------------------|--------------------------------|
| Body             | 1 Piece                        |
| Reduced Port     | ¼" through 2"                  |
| Materials        | Stainless Steel                |
| Pressure Ratings | ¼"-2": 1000 psi WOG/150psi WSG |

An economical, compact, one piece body design that supplies maximum structural strength while reducing leak paths. Features include low operating torque and safety latch handles. Optional oval and wing handles are available.





### SERIES HP, 3HP, & HX INSTRUMENTATION VALVES

|                  |                                                             |
|------------------|-------------------------------------------------------------|
| 3 Piece Body     | ¼" through 1"                                               |
| Materials        | Stainless Steel                                             |
| Pressure Ratings | HP: 6000 psi WOG<br>HX: 10,000 psi WOG<br>3HP: 6000 psi WOG |
| End Connections  | NPT Threaded                                                |



Panel Mount

### SERIES 51 COMMERCIAL UTILITY VALVES

|                  |                                                                 |
|------------------|-----------------------------------------------------------------|
| 2 Piece Body     | ¼" through 4"                                                   |
| Materials        | Brass                                                           |
| Pressure Ratings | ¼"-2": 600 psi WOG<br>2½"-4": 400 psi WOG<br>¼"-4": 150 psi WSP |
| End Connections  | NPT Threaded                                                    |



## ELECTRIC AND PNEUMATIC ACTUATORS



**Output Torque**  
50 to 44,130 lb-in at 80 psi



**Output Torque**  
300 to 18,000 lb-in



**Output Torque**  
5,310 to 70,000 lb-in



### SERIES 92/93 PNEUMATIC – DOUBLE ACTING & SPRING RETURN

Rack & pinion, opposed-piston pneumatic actuators are self contained with integral internal porting. Units are suitable for both on/off and throttling applications.

- Double Acting Rotation: 90°, 135°, 180°
- Spring Return Rotation: 90°
- Supply pressure up to 145 psi (10 bar)
- Temperature Range: -20°F (-29°C) to +200°F (+95°C)

### SERIES 70 ELECTRIC ACTUATOR

This design offers greatly reduced space requirements, lighter weight and ease of installation and maintenance.

- Designed to meet NEMA 4, 4x (IP 65) or NEMA 4,4x,7,9
- 120 or 220 VAC single phase permanent split-capacitor reversible induction UL listed motor, 24 VDC motor optional
- 90° reversible rotation
- Temperature Range: -40°F (-40°C) to +150°F (+65°C)

### FTG SERIES WORM GEAR OPERATORS

¼" through 12" Ball Valves

Options: Locking Device, Chain Wheels, Horizontal Flag Indicator, 2" Square Input Drive Nut, Grease Fitting & Flow Pattern Indicators for Multipoint Valves

Feature a ductile iron housing, aluminum bronze gear segment and one piece steel worm gear input shaft with tapered roller bearings on both ends. Adjustable travel stops provide precise adjustment in both open and closed positions. Housings are sealed and weather proof to fully isolate internal parts from atmospheric conditions.

### SRH SERIES SPRING RETURN HANDLES

(Deadman Handle) for ¼" through 2" Ball Valves

Manufactured from heavy duty stainless steel components to withstand frequent daily use in refueling, sampling, drains, and other OSHA applications that require positive safety closure of a manual valve. Each SRH Handle has a standard locking device.

Available in three sizes that mount directly to the rugged investment cast ISO 5211 mounting pads on compatible Flow-Tek full or standard port ball valves.