Globe Valve Selection Guide

- These straight-pattern (globe), angle-pattern, and three-way valves offer a broad range of types, sizes, and materials—from 1/4-inch low-flow valves to DN 500 and larger for demanding high-pressure steam and hydrocarbon service.
- FIELDVUE® digital valve controllers offer digital control and remote diagnostics. The traditional proven line of Fisher Controls positioners, controllers, transmitters, and switches also is available.
- ENVIRO-SEAL® and HIGH-SEAL™ packing systems are available on many designs to ensure compliance with environmental emissions requirements.
- Whisper Trim® and Cavitrol® anti-noise and anti-cavitation trims are available for most designs.
- FloVue™ final control system, spring-return pneumatic diaphragm, double-acting piston, electrohydraulic, or electric actuators.
- These products deliver superior dynamic performance to minimize process variability, providing opportunities to improve your financial performance.
## Low-Flow and Utility Valves

<table>
<thead>
<tr>
<th>Product</th>
<th>H.D. Baumann 51000 SERIES</th>
<th>H.D. Baumann 24000 SERIES Little Scotty</th>
<th>H.D. Baumann 24000S SERIES</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Applications</strong></td>
<td></td>
<td></td>
<td>Stainless steel version of the H.D. Baumann Little Scotty valve for corrosive service.</td>
</tr>
<tr>
<td>Throttling control of high-pressure low flow rates</td>
<td>Bronze utility valve for pressure, flow, or temperature service in the textile, pharmaceutical, semiconductor, heating, air conditioning, and other industries</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Style</strong></td>
<td></td>
<td>Single-seated, stem-guided globe valve with unbalanced characteristics.</td>
<td>Single-seated, stem-guided globe valve with unbalanced characteristics.</td>
</tr>
<tr>
<td></td>
<td>Single-seated, stem-guided globe valve with unbalanced characteristics.</td>
<td></td>
<td>Single-seated, stem-guided globe valve with unbalanced characteristics.</td>
</tr>
<tr>
<td></td>
<td>Screwed-in seat ring</td>
<td>Metal or soft seats</td>
<td>Metal or soft seats</td>
</tr>
<tr>
<td><strong>Sizes</strong></td>
<td>1/4 and 1/2 inches</td>
<td>1/2 through 2 inches</td>
<td>1/2 through 3 inches</td>
</tr>
<tr>
<td><strong>Ratings</strong></td>
<td>207 Bar (3000 psig)</td>
<td>ANSI B16.24</td>
<td>ANSI Class 300 (Class 150 for 3-inch size)</td>
</tr>
<tr>
<td><strong>End Connections</strong></td>
<td>Threaded G (metric) or NPT female</td>
<td>Screwed NPT female</td>
<td>24000S: Screwed NPT (can be installed between pipeline flanges) 24000SF: ANSI Class 150 or 300 raised-face flanges (3 inch is Class 150 only)</td>
</tr>
<tr>
<td><strong>Body Materials</strong></td>
<td>CF8M (316 stainless steel)</td>
<td>ASTM B62 bronze</td>
<td>316 stainless steel</td>
</tr>
<tr>
<td><strong>Valve Plug and Seat Ring (Trim) Materials</strong></td>
<td>316 stainless steel with PTFE seat</td>
<td>316 Stainless steel Soft seat is PTFE</td>
<td>316 Stainless steel Soft seat is PTFE</td>
</tr>
<tr>
<td><strong>Flow Characteristics and Maximum Flow Coefficients</strong></td>
<td>Modified equal percentage</td>
<td>Linear or equal percentage</td>
<td>Linear or equal percentage</td>
</tr>
<tr>
<td>Maximum $C_v$ from 0.00013 to 2.5</td>
<td>Maximum $C_v$ from 0.200 to 50.0</td>
<td>Maximum $C_v$ from 0.005 to 61.0</td>
<td></td>
</tr>
<tr>
<td><strong>Shutoff Class (IEC 534-4 and ANSI/FCI 70-2-1991)</strong></td>
<td>Class IV or VI</td>
<td>Class IV (standard with metal seats), Class V (optional with metal seats), or Class VI (with optional soft seats)</td>
<td>Class IV (standard with metal seats), Class V (optional with metal seats), Class VI (with optional soft seats)</td>
</tr>
<tr>
<td><strong>Available Actuator Types (Refer to Pages 8 and 9)</strong></td>
<td>H.D. Baumann 6in², or 16in² pneumatic actuator</td>
<td>H.D. Baumann 32in², 54in², or 70in² spring and diaphragm</td>
<td>H.D. Baumann 32in², 54in², or 70in² spring and diaphragm</td>
</tr>
</tbody>
</table>
# General-Service and Heavy-Duty Valves

<table>
<thead>
<tr>
<th>DESIGN 1018S</th>
<th>DESIGN EZ</th>
<th>DESIGN ES</th>
</tr>
</thead>
</table>

## Applications
- **General service**: Heavy-duty general service for controlling liquids and gases, including viscous and other hard-to-handle fluids. UOP applications.
- **Heavy-duty, general-service valve**: Heavy-duty, general-service valve for clean liquids and gases. Positive shutoff at seat.

## Style
- **Single-seated, stem-guided globe valve**
  - Unbalanced
  - Screwed-in seat ring
  - Metal or soft seats
- **Single-seated, post-guided globe or angle valve**
  - Unbalanced
  - Seat ring retained by spacer
  - Metal or soft seats
- **Cage-guided globe or angle valve**
  - Unbalanced
  - Cage-retained seat

## Sizes
- **DN 15 through 100 and 1/2 through 4 inches**
- **DN 15 through 100 and 1/2 through 4 inches**
- **DN 15 through 200 and 1/2 through 8 (ES)**
  - DN 100 x 50 through 600 x 500 and 4 x 2 through 24 x 20 inches (EWS)

## Ratings
- **DIN PN 16, 25, or 40 and ANSI Class 150 or 300**
- **DIN PN 16, 25, 40, 64 and 100 and ANSI Class 125, 300, and 600**
- **DIN PN 10, 16, 25, 40, 64, or 100 and ANSI Class 150, 300, or 600**

## End Connections
- **Raised-face flanged or raised-face flanged with groove**
  - Screwed NPT female, flat- or raised-face flanged, ring-type joint, socket-weld, and buttwelding ends
  - Screwed NPT female, flat- or raised-face flanged, ring-type joint, socket-weld and buttwelding ends

## Body Materials
- **Steel and stainless steel (to DIN, ASME, or ASTM specifications)**
- **Cast iron, steel, alloy steel, stainless steel (to DIN, ASME, or ASTM specifications)**
- **Cast iron, steel, alloy steel, stainless steel (to DIN, ASME, or ASTM specifications)**

## Valve Plug and Seat Ring (Trim) Materials
- **Stainless steel with or without alloy 6 on seating surfaces**
  - Soft seat is PTFE
- **Stainless steel with or without alloy 6 on seat or seat and guide**
  - Soft seat is PTFE
- **Stainless steel with or without alloy 6 on seat or seat and guide**
  - Soft seat is PTFE

## Flow Characteristics and Maximum Flow Coefficients
- **Linear or equal percentage**
  - Maximum $C_v$ from 1.3 to 185
- **Quick opening, linear, or equal percentage**
  - Maximum $C_v$ from 4.47 to 190
- **Quick opening, linear, or equal percentage**
  - Maximum $C_v$ from 6.53 to 1110

## Shutoff Class (IEC 534-4 and ANSI/FCI 70-2-1991)
- **Class IV (standard with metal seats), Class V (optional with metal seats), or Class VI (with optional soft seats)**
- **Class IV (standard with metal seats), Class V (optional with metal seats), or Class VI (with optional soft seats)**
- **Class IV (standard with metal seats), Class V (optional with metal seats), or Class VI (with optional soft seats)**

## Available Actuator Types (Refer to Pages 8 and 9)
- **Type 3024S, Type 657, or Type 667 spring and diaphragm; System 9000 FloVue™ final control system**
- **Type 657 or Type 667 spring and diaphragm; Type 585C or 585CR piston; System 9000 FloVue final control system**
- **Type 657 or Type 667 spring and diaphragm; Type 585C or 585CR piston; System 9000 FloVue final control system**
# Heavy-Duty and Severe-Service Valves

<table>
<thead>
<tr>
<th>Applications</th>
<th><strong>easy-e®</strong> heavy-duty, general- and severe-service valve for clean liquids and gases with higher pressure drops but where tight shutoff is not required.</th>
<th><strong>easy-e®</strong> heavy-duty, general- and severe-service valve for tight shutoff with clean liquids and gases with higher pressure drops and temperatures to 232°C (to 316°C with optional seal materials)</th>
<th>For high-pressure and severe-service applications. Available with special trim to combat noise and cavitation. Often used in power generation applications.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cage-guided globe or angle valve</td>
<td>Cage-guided globe or angle valve</td>
<td>Cage-guided globe or angle valve</td>
<td>Cage-guided globe or angle valve</td>
</tr>
<tr>
<td>Balanced trim</td>
<td>Balanced trim</td>
<td>Balanced trim</td>
<td>Balanced or unbalanced trim</td>
</tr>
<tr>
<td>Cage-retained seat</td>
<td>Cage-retained seat</td>
<td>Cage-retained seat</td>
<td>Cage-retained seat</td>
</tr>
<tr>
<td><strong>Sizes</strong></td>
<td><strong>Sizes</strong></td>
<td><strong>Sizes</strong></td>
<td><strong>Sizes</strong></td>
</tr>
<tr>
<td>DN 25 through 200 and 1/2 through 8 (ED) DN 100 x 50 through 600 x 500 and 4 x 2 through 24 x 20 inches (EWD)</td>
<td>DN 25 through 200 and 1/2 through 8 (ET) DN 100 x 50 through 600 x 500 and 4 x 2 through 24 x 20 inches (EWT)</td>
<td>DN 25 through 500 and 1 through 20 inches (EWU)</td>
<td><strong>End Connections</strong></td>
</tr>
<tr>
<td><strong>Ratings</strong></td>
<td><strong>Ratings</strong></td>
<td><strong>Ratings</strong></td>
<td><strong>Ratings</strong></td>
</tr>
<tr>
<td>DIN PN 10, 16, 25, 40, 64, or 100, and ANSI Class 150, 300, or 600</td>
<td>DIN PN 10, 16, 25, 40, 64, or 100 and ANSI Class 150, 300, or 600</td>
<td>DIN PN 160, 250, 420 and ANSI Class 900, 1500, 2500, or intermediate ANSI ratings</td>
<td><strong>Body Materials</strong></td>
</tr>
<tr>
<td><strong>Screwed NPT female, flat- or raised-face flanged, ring-type joint, socket-weld and buttwelding ends</strong></td>
<td><strong>Screwed NPT female, flat- or raised-face flanged, ring-type joint, socket-weld and buttwelding ends</strong></td>
<td><strong>Raised-face flanged, ring-type joint, socket-weld and buttwelding ends</strong></td>
<td><strong>Body Materials</strong></td>
</tr>
<tr>
<td><strong>Valve Plug and Seal Ring (Trim) Materials</strong></td>
<td><strong>Valve Plug and Seal Ring (Trim) Materials</strong></td>
<td><strong>Valve Plug and Seal Ring (Trim) Materials</strong></td>
<td><strong>Valve Plug and Seal Ring (Trim) Materials</strong></td>
</tr>
<tr>
<td>Stainless steel with or without alloy 6 on seat or seat and guide</td>
<td>Stainless steel with or without alloy 6 on seat or seat and guide. Soft seat is PTFE</td>
<td>Stainless steel with or without alloy 6 on seat or seat and guide</td>
<td><strong>Flow Characteristics and Maximum Flow Coefficients</strong></td>
</tr>
<tr>
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<td><strong>Flow Characteristics and Maximum Flow Coefficients</strong></td>
</tr>
<tr>
<td><strong>Quick opening, linear, or equal percentage</strong></td>
<td><strong>Quick opening, linear, or equal percentage</strong></td>
<td><strong>Quick opening, linear, or equal percentage</strong></td>
<td><strong>Quick opening, linear, or equal percentage, or characterized</strong></td>
</tr>
<tr>
<td>Maximum C&lt;sub&gt;90&lt;/sub&gt; from 17.2 to 6500</td>
<td>Maximum C&lt;sub&gt;90&lt;/sub&gt; from 17.2 to 6500</td>
<td>Maximum C&lt;sub&gt;90&lt;/sub&gt; from 0.394 to 2600</td>
<td><strong>Shutoff Class (IEC 534-4 and ANSI/FCI 70-2-1991)</strong></td>
</tr>
<tr>
<td><strong>Class II (standard)</strong></td>
<td><strong>Class III or IV (optional depending on size)</strong></td>
<td><strong>Class II, III, IV or V (depending on size and construction)</strong></td>
<td><strong>Available Actuator Types (Refer to Pages 8 and 9)</strong></td>
</tr>
<tr>
<td>Type 657 or Type 667 spring and diaphragm; Type 585C or 585CR piston; System 9000 FloVue final control system</td>
<td>Type 657 or Type 667 spring and diaphragm; Type 585C or 585CR piston; System 9000 FloVue final control system</td>
<td>Type 657 or Type 667 spring and diaphragm; Type 470, 490, 585C, or 585CR piston</td>
<td><strong>Available Actuator Types (Refer to Pages 8 and 9)</strong></td>
</tr>
</tbody>
</table>
Three-Way Valves, Cryogenic, and Lined Valve

### Applications

- **easy-e® stainless steel cryogenic valves** for liquefied natural gas and other special chemical and hydrocarbon applications with temperatures to -198°C
- **Lined valve** for severely corrosive or toxic process fluids. An economic alternative to alloy bodies. Limited in pressure and temperature.

### Style

- **Cage-guided three-way globe valves**
  - Balanced or unbalanced trim
- **Easy-Lined valve** for severely corrosive or toxic process fluids. An economic alternative to alloy bodies. Limited in pressure and temperature.

### Sizes

- **1/2 through 6 inches**
  - DN 80 through 200 x 3 through 10 x 8 inches (ET-C)
  - DN 15 through 100 or 1 through 4 inches (EZ-C)

### Ratings

- **Class 125, 150, 250, 300, or 600**
  - DIN PN 10, 16, 25, 40, 64, 100 and Class 150, 300, 600
  - Class 150 or 300 (bellows ratings to DIN PN 10 or 16)

### End Connections

- **NPT female** (through 2-inch), ANSI Class 125, 150, 250, 300, or 600 flat- or raised-face flanged, and ring-type joint
  - Raised-face flanges

### Body Materials

- **Stainless steel** (to ASME, or ASTM specifications)
- **Ductile iron, steel, or stainless steel with PFA liner**

### Valve Plug and Seat Ring (Trim) Materials

- **Stainless steel**
- **Carbon-filled PTFE, glass-filled PTFE, PTFE bellows, or Hastelloy C276 bellows**

### Flow Characteristics and Maximum Flow Coefficients

- **Linear**
  - Maximum CV from 8.42 to 567
- **Quick opening, linear, or equal percentage**
  - Equal percentage
  - Maximum CV from 13.2 to 924
  - Maximum CV from 0.212 to 145

### Shutoff Class (IEC 534-4 and ANSI/FCI 70-2-1991)

- **Class II or IV (Design YD)**
- **Class IV or V (Design YS)**
  - Class IV (standard)
  - Class V (optional for EZ-C)
  - Class VI (soft seat)

### Available Actuator Types (Refer to Pages 8 and 9)

- **Type 657 or 667 spring and diaphragm; System 9000 FloVue final control system; and Type 585C and 585CR piston**
- **Type 657 or 667 spring and diaphragm; System 9000 FloVue final control system; and Type 585C and 585CR piston**
- **Type 657 or 667 spring and diaphragm; System 9000 FloVue final control system; and Type 585C and 585CR piston**
Cavitating Liquids... Cavitrol® trim is available in many of these valves and in other severe-service valves. Cavitrol trim can eliminate cavitation noise and damage in a properly sized valve.

Noisy Gases... Whisper Trim® cages can substantially reduce noise in gas, vapor, and steam applications. Whisper Trim is available in several performance levels in many of these valves.

Materials for Sour Service... Fisher Controls offers materials and manufacturing procedures for compliance with NACE (National Association of Corrosion Engineers) standard MR0175.

Protection Against Process Fluid Emissions... Optional ENVIRO-SEAL® and HIGH-SEAL™ packing systems provide a superior stem seal to prevent the loss of valuable or hazardous process fluids. These live-loaded systems provide longer packing life and reliability.

Cavitrol® Trim for Control of Liquid Cavitation

Whisper Trim® III Cage for Reduction of Noise in Gas and Vapor Applications

PTFE ENVIRO-SEAL® Packing System
Steam Conditioning Service...CON-TEK® steam conditioning products accurately control steam for high efficiency in power generation, industrial processing, space heating, and auxiliary steam applications. Steam conditioning valves, desuperheaters, and turbine bypass systems are available.

For a broad range of process control valves--beyond those mentioned here--contact your nearest sales office or sales representative.

CON-TEK® Steam Conditioning Valve

CON-TEK® Design DVI Desuperheater
## Globe Valve Actuators

<table>
<thead>
<tr>
<th>System</th>
<th>Type 3024S</th>
<th>H.D. BAUMANN 32IN², 54IN², OR 70IN² ACTUATOR</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Features</strong></td>
<td>Compact, light-weight actuator designed for use with the Design 1018S valve</td>
<td>Compact, light-weight actuator designed for use with the 24000 Series valves</td>
</tr>
<tr>
<td><strong>Style</strong></td>
<td>High-pressure, spring-return actuator with integrated controller and accessories</td>
<td>High-pressure, spring-return pneumatic diaphragm</td>
</tr>
<tr>
<td><strong>Typical Maximum Thrust, Newtons (Varies with Operating Pressure, Spring, and Construction)</strong></td>
<td>6500</td>
<td>16 000</td>
</tr>
<tr>
<td><strong>Accessories</strong></td>
<td>Integrated limit switches or position transmitter, and exhaust valve, supply pressure filter-regulator; System 9000 actuator also is available with Type 4000 pneumatic valve positioner</td>
<td>Pneumatic or electro-pneumatic valve positioners, FIELDVUE® digital valve controller, limit switch box, supply pressure filter-regulator</td>
</tr>
</tbody>
</table>
# Globe Valve Actuators

<table>
<thead>
<tr>
<th>TYPES 657 AND 667</th>
<th>TYPE 585C, 585CR, 585, AND 585R</th>
<th>TYPE 470 and 490</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Features</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Heavy-duty actuators</td>
<td>Heavy-duty actuators</td>
<td>Heavy-duty actuators for large valves and valves with long travel</td>
</tr>
<tr>
<td><strong>Style</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Spring-return pneumatic diaphragm</td>
<td>Double-acting piston or spring-bias piston</td>
<td>Double-acting piston</td>
</tr>
<tr>
<td>Typical Maximum Thrust, Newtons (Varies with Operating Pressure, Spring, and Construction)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>169 000</td>
<td>70 300 at 10.3 bar operating pressure</td>
<td>100 000 at 8.6 bar operating pressure</td>
</tr>
<tr>
<td><strong>Accessories</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pneumatic or electro-pneumatic valve positioners, FIELDVUE® digital valve controller, limit switches, position transmitters, handwheels, travel stops, and supply pressure filter-regulator</td>
<td>Pneumatic or electro-pneumatic valve positioners, FIELDVUE® digital valve controller, limit switches, position transmitters, handwheels, travel stops, and supply pressure filter-regulator</td>
<td>Pneumatic valve positioners, limit switches, position transmitters, handwheels, travel stops, and supply pressure filter-regulator</td>
</tr>
</tbody>
</table>

Other actuators available are...

- Electrohydraulic actuator with or without integral pump and motor
- Ball float actuators
- Full range of self-operated control valves
- Manual handwheel actuator
Valve Controllers and Positioners

**FIELDVUE® Digital Valve Controller**
FIELDVUE digital valve controllers are communicating, microprocessor-based controllers that convert a current signal to a pressure signal to operate the actuators. Through the HART® communications protocol, the controller gives easy access to critical actuator-valve information. ValveLink™ software allows easy access to valve information. It provides diagnostic information such as dynamic error band and step response on easy-to-interpret screens.

**Pneumatic and Electro-Pneumatic Valve Positioners**
Pneumatic and electro-pneumatic valve positioners are available. These and other electronic accessories are available with the CE Mark to EMC directive and with hazardous-area certifications.
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