# GLS®

# &

# GLH®

## GLOBE
## CONTROL VALVES
## LARGE SIZES
### BODY SUBASSEMBLY


VALTEKSUL™

# GLS® & GLH®

# Globe Control Valve Large Sizes Body Subassembly

The modern design of ValtekSul Globe Valve is also adopted by the large size valves. To maintain design uniformity is not common practice among the well-known international manufacturers, who instead make products with actuators and bodies with different configurations of their smaller valves.

ValtekSul presents the uniformity of the entire control valve as a highlight of its technological design.

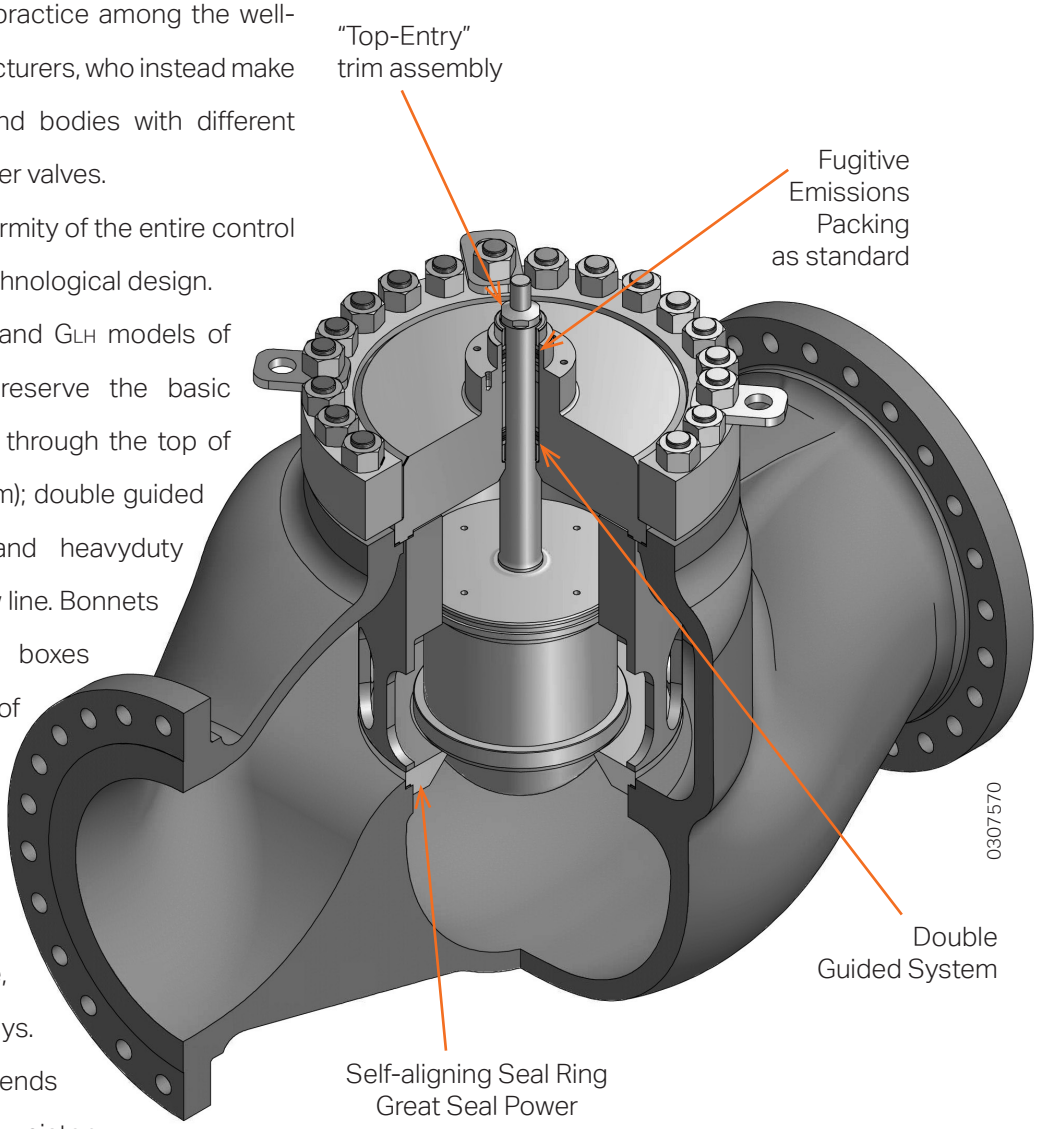
The large dimensions GLS and GLH models of ValtekSul Globe Valves preserve the basic concepts of trim assembly through the top of the body ("top-entry" system); double guided plug-orientation system and heavyduty stem located out of the flow line. Bonnets with great depth packing boxes allow the use of all options of standard ValtekSul packing sets, which comply to EPA´s* strict regulations.

Body configurations can be of diverse types: In-line, Angle-style and Three-ways.

The design conformity extends also to the double-acting piston-cylinder actuators, with fail-safe spring, which maintains high pneumatic stiffness with fast and reliable replies to command signal variations.

The actuator technology combined with the digital Chronos positioners complete the technological package of high operational performance.

* EPA= U. S. Environmental Protection Agency




## GLS & GLH Series Body Subassembly

**Typical Rangeability 30:1**

**Tightness ANSI Class IV — Metal Seat Ring***
**Tightness ANSI Class VI — Soft Seal Ring**

* Unbalanced trims standard

# Globe Valves - Large Sizes
# Body Subassembly
# Body Styles

## Standard Globe Body

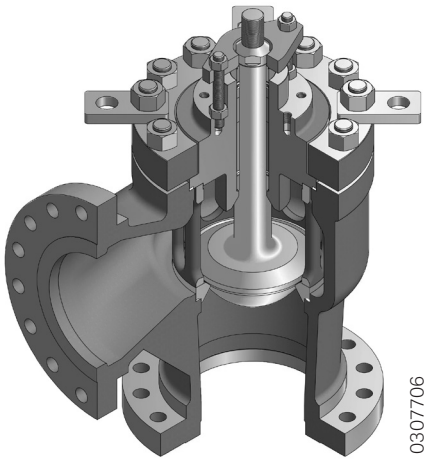
Globe style bodies present smooth and controlled flow. The internal area enables constant passages with no pockets, permitting high capacity with minimum turbulence.
These bodies are manufactured with more uniform wall thickness, providing lower weight and cost especially when the body is manufactured in stainless steel or special expensive alloys.

## Angle-style Body

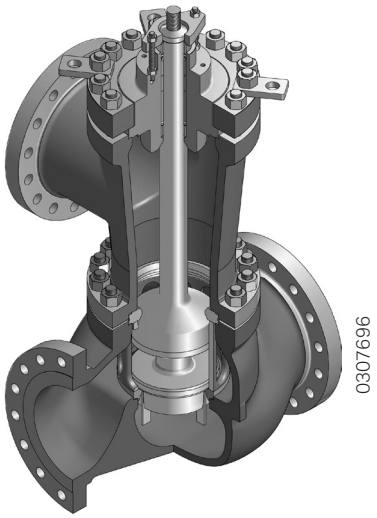
The angle-style body is completely interchangeable with the conventional globe style; apart from the body itself, all other valve components remain the same.
Depending on the application it will be used for, the angle-style body valve can be supplied with a special Venturi seat ring, which extends to the outlet flange providing additional protection against erosive flow.

## Three-way Body

Three-way bodies are used for either combining or diverting services. Due to the great interchangeability of the project design, a standard globe valve can easily be converted to a three-way, by simply adding a three-way adaptor, an upper seat ring, two gaskets and a special three-way plug.




**Angle-style Valve**




**Three-way Valve**

### Body Styles and Connections

| Body Style | Valve Size (in.) | ANSI Class | Connection Type | Connection |
|---|---|---|---|---|
| **In-line** | 14 to 36 | 150-600 | Flanged<br>Buttweld | RF; RTJ [1]<br>BW [2] |
| | 14 to 24 | 900-1500 | Flanged<br>Buttweld | RF; RTJ [1]<br>BW [2] |
| | 14 to 24 | 2500 | Flanged<br>Buttweld | RF; RTJ [1]<br>BW [2] |
| **Angle** | 14 to 32 | 150-600 | Flanged<br>Buttweld | RF; RTJ [1]<br>BW [2] |
| | 14 to 24 | 900-1500 | Flanged<br>Buttweld | RF; RTJ [1]<br>BW [2] |
| | 14 to 24 | 2500 | Flanged<br>Buttweld | RF; RTJ [1]<br>BW [2] |
| **Three-ways** | 14 to 30 | 150-600 | Flanged<br>Buttweld | RF; RTJ [1]<br>BW [2] |
| | 14 to 24 | 900-1500 | Flanged<br>Buttweld | RF; RTJ [1]<br>BW [2] |
| | 14 to 24 | 2500 | Flanged<br>Buttweld | RF; RTJ [1]<br>BW [2] |

Notes: [1] According to ASME B 16.5; Sizes 30 & 36 ASME B 16.47
[2] According to ASME B 16.25 Schedule 120
[3] Other connection types: contact ValtekSul.

# Globe Valves - Large Sizes
# Body Subassembly
# Special Trim

## Gamma® Trim

The Gamma® trim of ValtekSul prevent damage from cavitation and minimize hydrodynamic noise, even under severe conditions. In Gamma® trim, the holes inside the cartridge are used as fluid expansion areas. As the fluid passes through the holes, coming from the restriction channels and expansion holes, which are mechanized on the outside of each cartridge forming successive intersections, generates controlled pressure drops that prevent cavitation.

## Alpha® Trim

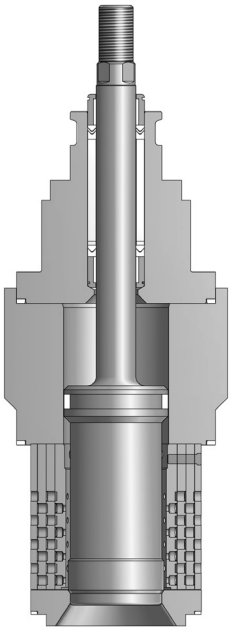
The anti-cavitation Alpha® trim minimizes the damage caused by cavitation to the valve internal components. The anti-cavitation Alpha® trim displays a certain number of small holes, through the retainer cartridge, through which the fluid is passed. The impact of the jets of fluid forms a pressure recovery region and fluid pressure damping, all this away from the metal parts. The *vena contracta* is formed outside the retainer instead of in its interior. The flow turbulence during impact causes the vapor bubbles to collapse right in the center of the retainer cartridge.

## Beta® Trim

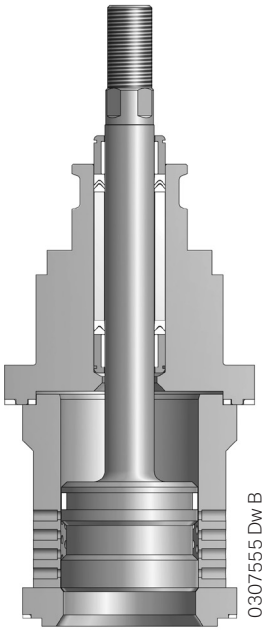
The Beta® trim was designed to effectively reduce noise levels in gaseous services. The Beta® trim eliminates the valve noise problem acting on the reduction of gas pressure, as well as controlling the turbulence in the downstream pipeline. The noise of a control valve is mainly a result of the turbulence generated inside the valve. The various stages of the Beta trim effectively limit most part of the sound vibration generated in the internal throttling region, providing resistance to the additional incident sound energy transmissions.

## Delta® Trim

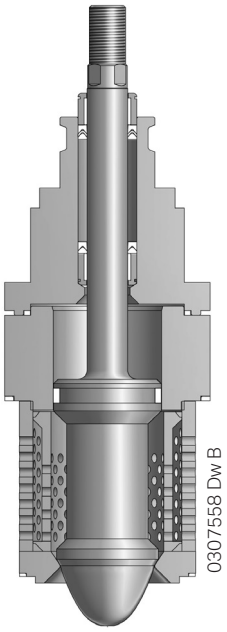
The Delta® trim of ValtekSul displays an effective noise reduction superior to 30 dBA. The Delta® trim can also be used on conditions of high pressure drops in liquids, eliminating the effects of cavitation. Its exclusive design combined with the tough intrinsic characteristics of ValtekSul globe valves form a control valve assembly proven effective to reduce or eliminate gaseous and hydrodynamic noise, as well as the cavitation causes.



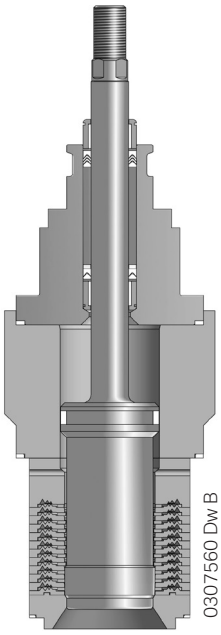

**Gamma® Trim**




**Alpha® Trim**

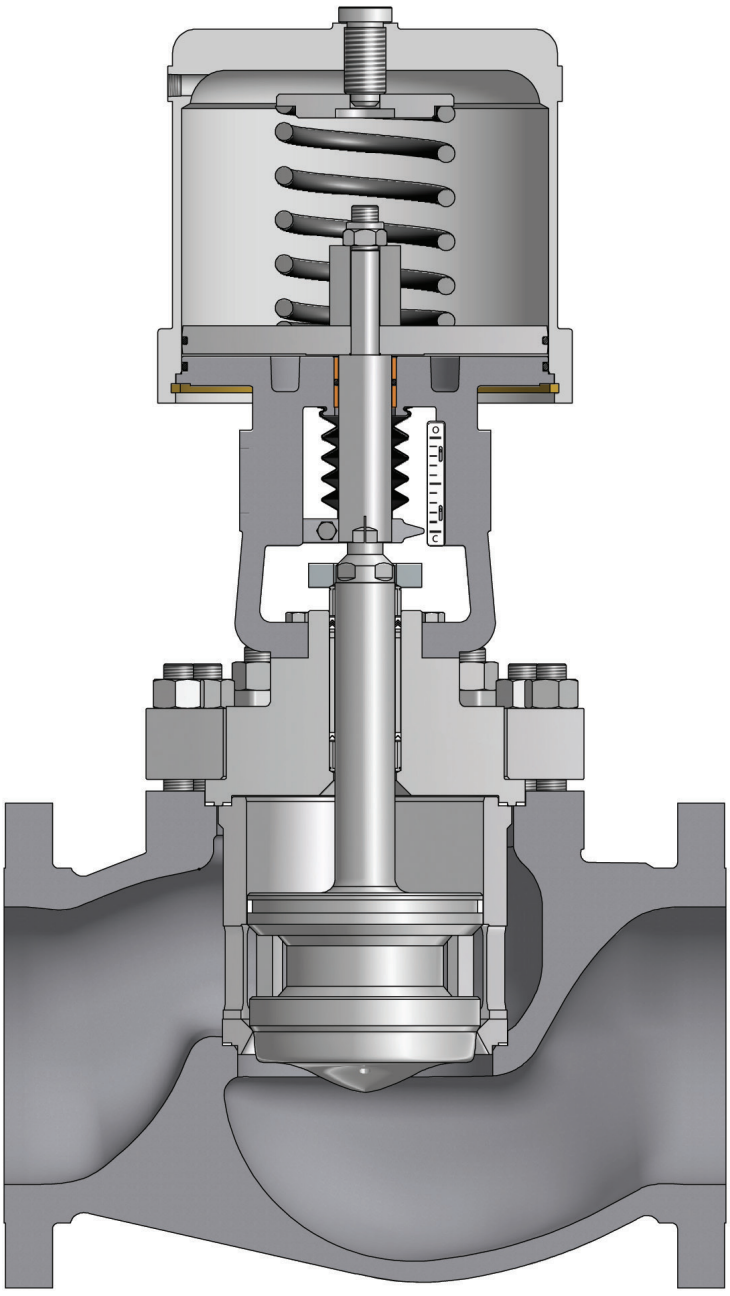



**Beta® Trim**




**Delta® Trim**

# Globe Valves - Large Sizes
# Body Subassembly
# Characteristics - Actuator




**Globe Control Valve**
**Large Sizes**

## Piston-Cylinder Actuator – Advantages:

- High thrust cylinder actuator and pneumatic stiffness;
- Field reversible, no need for spare parts;
- Trustworthy operation;
- Smaller than spring diaphragm actuators of similar force;
- Controlled movement, high speed course;
- Accurate positioning, with faithful response;
- High repeatability;
- Allows the assembly of various types of positioners and parts;
- Optionally can be supplied with various types of manual handwheels and limit stops;
- Admits air supply pressure of up to 150 psi (10.3 Bar), without the need of a pressure regulator.

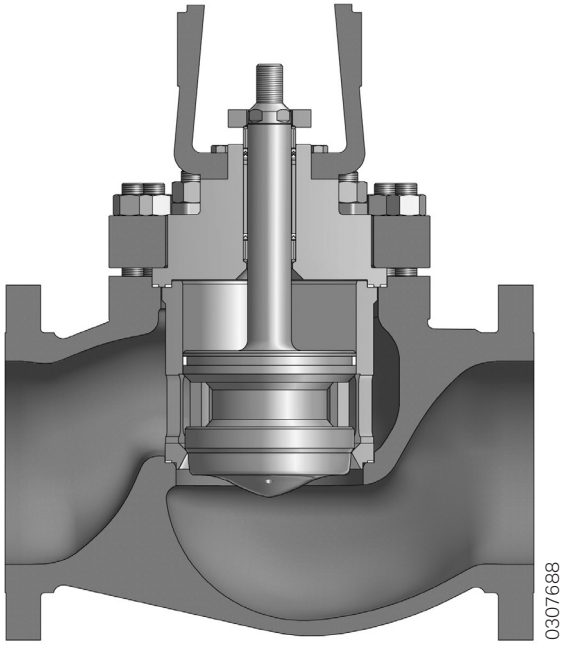
# Globe Valves - Large Sizes
# Body Subassembly
# Bonnet Types

## Standard bonnet

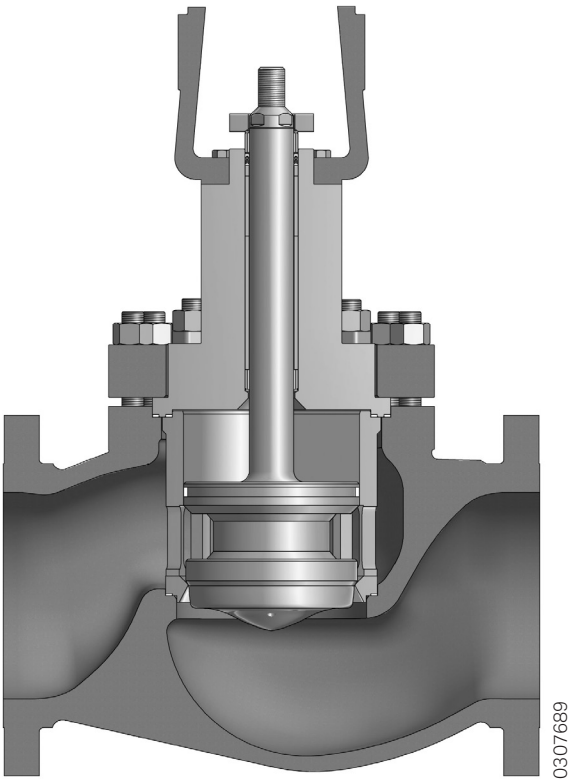
The standard bonnet is manufactured with the same material as the body and handles temperatures from -20 to 800ºF (-29 to 426ºC), depending on the packing material (See page 18 for temperature limits for different packing materials).
Cryogenic temperatures of up to -325ºF (-198ºC) can be supplied with special bonnet extensions.

## Extended Bonnet

The extended bonnet protects the packing from excessive heat or cold, which may compromise valve performance. The bonnet is constructed of carbon steel for temperatures from -20 to 800ºF (-28 to 426ºC), while the extended bonnet of 304 or 316 stainless steel can handle temperatures from -150 to 1500ºF (-100 to 815ºC).




**Standard Bonnet**




**Extended Bonnet**

### Bonnet Flange and Studs Materials

| Bonnet Flange (Standard) | Bonnet Flange (Optional) | Studs and Bolts (Standard) | Studs and Bolts (Optional) |
|---|---|---|---|
| Carbon Steel | Stainless Steel [1] or the same body material | ASTM A193 Gr. B7 / ASTM A194 Gr. 2H [2] | 304 Stainless Steel or 316 Stainless Steel [1] [3] [4] |

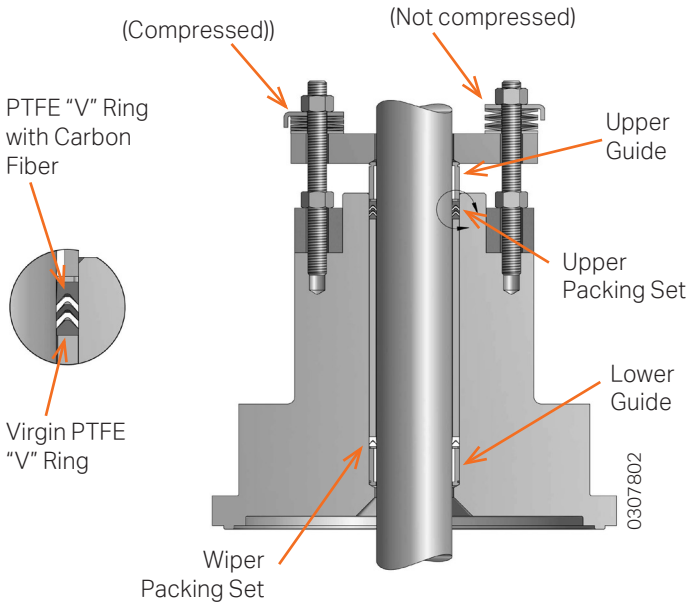
[1] The optional materials for the flange and the bonnet assembly elements are required when the temperature and pressure limits of the carbon steel and the assembly elements in B7/2H are exceeded. [2] Temperatures from -20 to 800ºF (-28 to 426ºC), provided that the body class pressure is complied. [3] Temperatures from -425 to 1500ºF (-253 to 815ºC), provided that the body class pressure is complied. [4] Other materials under request, depending on the project specification

# Globe Valves - Large Sizes
# Body Subassembly
# Packing - Guides

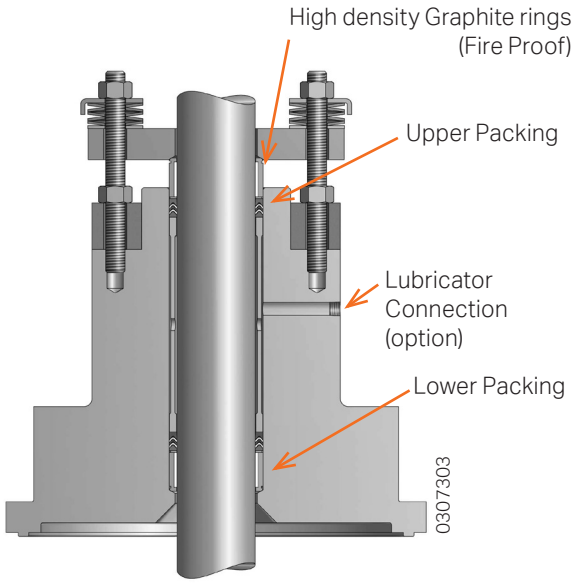
## Packing Box

The packing box is deep and presents perfect superficial finishing, allowing the assembly of all ValtekSul standard packing options, with the following additional advantages:

1. The fugitive emissions safe packing PT type comes as standard for the Large Sizes valves.
2. The spacing between the wiper set and the main upper packing set prevents contact with the wet parts of the plug stem and the upper packing.
3. Eliminates the problems caused by galling and wear generally associated to the guide system at the seat retainer (cage).
4. Two widely spaced guides, placed out of the flow stream, combined to the plug stem, form the advanced guiding system. The upper packing also acts as gland packing, and the lower guide is situated close to the plug head, ensuring accurate alignment of plug and seat ring.
5. The variety of available guides cover all applications referred to in this catalogue.




**Standard Assembly**




**Options**

**Guides and Standard Packing Set Typical Arrangement**

## Temperature and Pressure Guides Limitation

| Guide Materials | Temperature Limits | | Pressure Limits |
|---|---|---|---|
| | ºF | ºC | |
| **Stainless Steel Graphite Lined** [1] [2] | -320 to 1500 [3] | -196 to 816 [3] | Up to 1000 psi (69 bar) up to 2 in. |
| | | | Up to 600 psi (41.4 bar) to 3 and 4 in. |
| | | | Up to 500 psi (34.5 bar) to 6 in. and bigger |
| **Stainless Steel PTFEG Lined** | -423 to 350 | -253 to 177 | 850 psi @ 100ºF (58.6 bar @ 38ºC); 100 psi @ 300ºF (6.9 bar @ 150ºC) |
| **Bronze (Solid Guide)** [4] | -423 to 500 [5] | -253 to 260 [5] | Same as Body |
| **Alloy #6 (Solid Guide)** [6] | -423 to 1500 | -253 to 816 | Same as Body |

[1] For any diameter, the valve DP admissible limit should be complied. Contact the manufacturer. [2] Do not use in oxygen rich services. When using in cavitation regime, the use of graphite linning lower guides is not recommended. [3] For oxidizing or air services, the maximum service temperature is 800ºF (426ºC). [4] Bronze solid guides should not be used in corrosive applications or where the NACE certification is required. [5] For the upper guide, the temperature limit is 900ºF (482ºC). [6] Valves assembled with 300 series stainless steel trim and lower guide in Alloy #6, the plug stem must be hardened with Alloy #6 application at the area in contact with the guide.

# Globe Valves - Large Sizes
# Body Subassembly
# Fugitive Emissions Control

## PTG and PTG-XT Packing Set

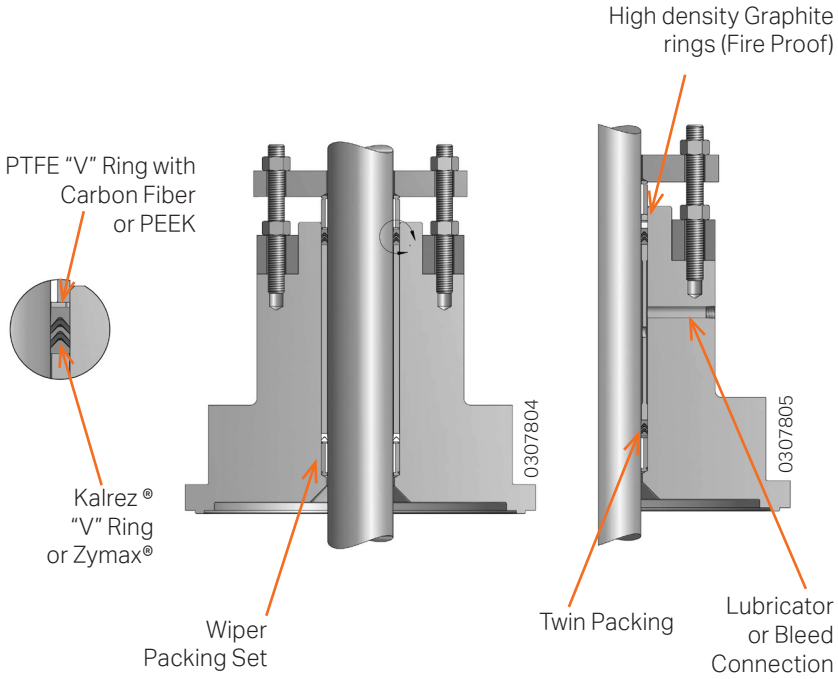
When the service temperature exceeds the required limits for PT packing or when it is expected greater reliability, the PTG packing is the ideal choice.

In response to EPA´s regulations*, the PTG packing ensures emissions even lower than 500 ppm (usually 10 ppm), making it a highly reliable and economic option to the use of metal sealed bellows. The PTG packing set can be assembled in all ValtekSul valves, providing longer service life with reduced need for packing retighten.

Optionally, the PTG packing can be supplied in a fireproof version, according to the API 607 standards.

For higher service temperatures, the PTG- XT version is indicated, the application limits are recorded in table IV.

*EPA = Environmental Protection Agency




**PTG & PTG XT Packing**

### Packing Set Temperature Limitation

| Bonnet Type | Packing Material | Temperature | |
|---|---|---|---|
| | | ºF | ºC |
| **Standard[1]** | PTFE "V" Ring | -20 to 500 | -29 to 260 |
| | PT and PTG | -20 to 500 | -29 to 260 |
| | Braided PTFE | -20 to 500 | -29 to 260 |
| | PTFE w/ fiber glass (PTFEG) | -20 to 500 | -29 to 260 |
| | PTG XT | -20 to 550 | -29 to 288 |
| | Graphite/AFP [3] | -20 to 800 | -29 to 427 |
| | Graphite/AFP [3] with Inconel wire | -20 to 800 [4] | -29 to 427 |
| | Graphite[5] | -20 to 800 [4] | -29 to 427 |
| **Extended[1]** | PTFE "V" Ring | -150 to 600 | -100 to 315 |
| | PT and PTG | -20 to 600 | -29 to 315 |
| | Braided PTFE | -150 to 600 | -100 to 315 |
| | PTFE w/ fiber glass (PTFEG) | -150 to 600 | -100 to 315 |
| | PTG XT | -20 to 800 | -29 to 427 |
| | Graphite/AFP [3] | -20 to 1200 | -29 to 650 |
| | Graphite/AFP [3] with Inconel wire | -20 to 1200 | -29 to 650 |
| | Graphite[4] | -20 to 1500 | -29 to 816 |

[1] The ANSI B16.34 standard specifies acceptable pressure and temperature limits for pressure retaining materials. Contact ValtekSul for additional information on pressure/temperature limits of the packing materials. [2] Acceptable limits once the pressure/temperature limits of the valve body, bonnet and components are respected. [3] Asbestus free packing. [4] Do not use graphite above 750ºF (400ºC) in oxidizing service such as air or oxygen. The use of graphite packing may require oversize actuators or heavier springs due to added friction.

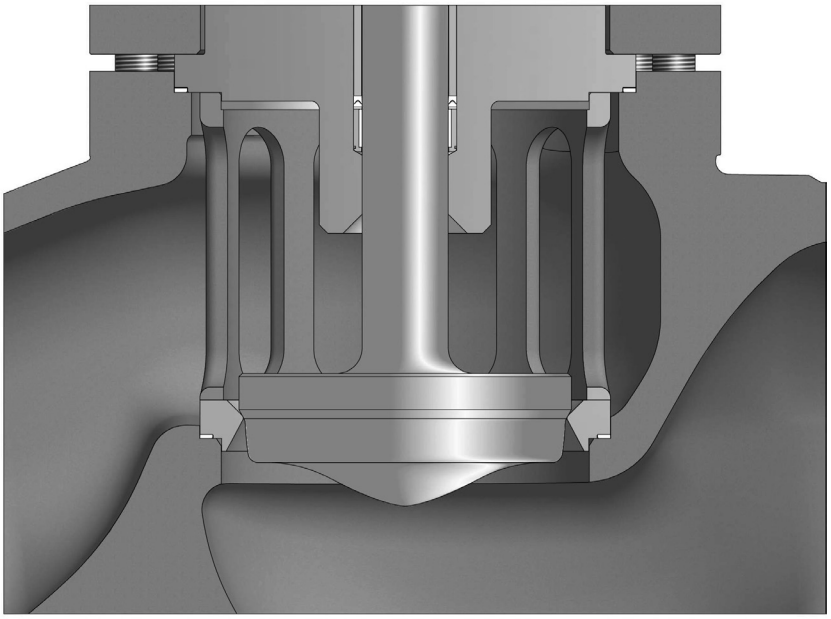
# Globe Valves - Large Sizes
# Body Subassembly
# Trim, Seat Rings

## Trim

Trims are designed to avoid the difficulties associated with screwed-in seats or guided plugs in seat retainers. The seat ring is not screwed-in but clamped into the body by the bonnet and seat retainer, thus its removal is easy, even when the valve is under extremely corrosive conditions.
Unlike trim guided by seat retainer that easily gall and stick, these are guided by a double top guide system, avoiding contact between the seat retainer and plug, allowing the retainer to be manufactured of stainless steel, rather than other hardened materials of high cost.
In these globe valves, the flow characteristic is determined by the plug contour, rather than by the openings in the seat retainer.

## Materials

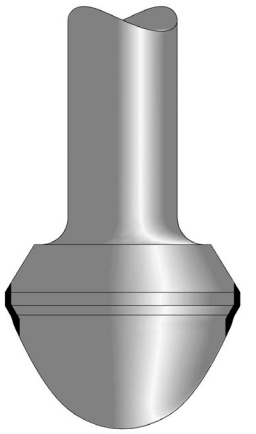
The standard material for plug, seat ring and seat retainer manufacturing is 316 stainless steel, except for special alloys valves where trims are manufactured with the same material as the body. A wide variety of fluid is compatible with the 316 stainless steel trims. Still, the general rule is that hardened trim should be employed for all conditions of critical flow or for temperatures above 600ºF (316ºC). For these cases, ValtekSul holds a large variety of Alloy #6 trims, a material that offers a good combination of hardness and corrosion resistance. Special alloys, such as Alloy #20, Monel, Hastelloy C, Hastelloy B and others are also available under request.



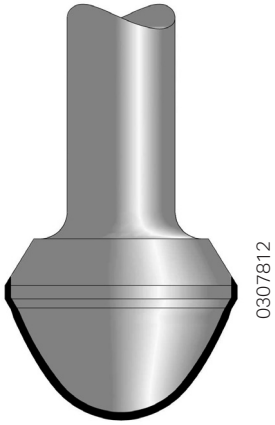

**Unbalanced Trim**

# Globe Valves - Large Sizes
# Body Subassembly
# Unbalanced Trim - Materials

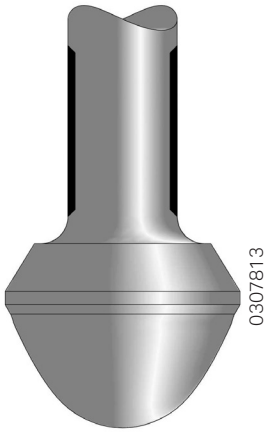
## Plug Hard-facing Options



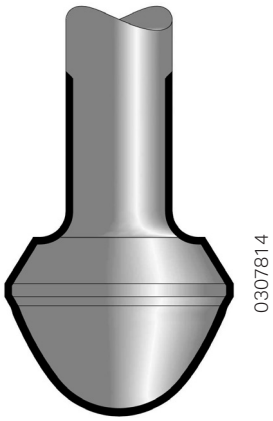

Seating Surface




Full Contour Surface




Lower Guide Area LGA



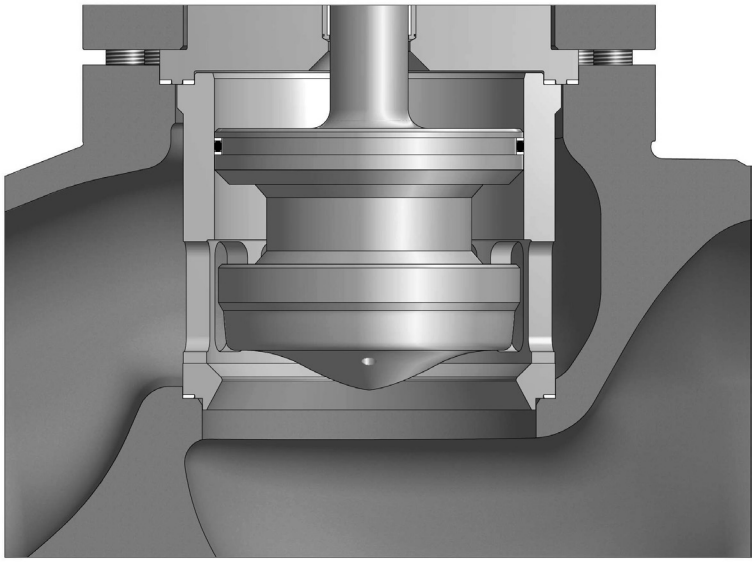

Full Contour Lower Guide

## Trim Materials Characteristics

| Trim Materials | Hardness ($R_c$) | Temperature Limitation | | Impact Resistance | Corrosion Resistance | Erosion Resistance | Abrasion Resistance |
|---|---|---|---|---|---|---|---|
| | | °F | °C | | | | |
| **316 Stainless Steel** | 8 | 600 | 315 | Excellent | Excellent | Reasonable | Reasonable |
| **Duplex (UNS S 32205)** | 30 | 600 | 315 | Excellent | Excellent | Good | Good |
| **Super-Duplex (UNS S 32760)** | 32 | 600 | 315 | Excellent | Excellent | Good | Good |
| **Alloy #6** | 44 | 1500 | 815 | Excellent | Excellent | Good | Good |
| **416 Stainless Steel** | 40 | 800 | 426 | Good | Razoável | Good | Good |
| **17-4 PH (H900)** | 44 | 800 | 426 | Good | Good to Excellent | Good | Good |
| **440C Stainless Steel** | 55-60 | 800 | 426 | Reasonable | Reasonable | Excellent | Excellent |
| **Monel K-500** | 32 | 600 | 315 | Good | Good to Excellent | Reasonable to Good | Good |
| **Tungsten** | 72 | 1200 | 650 | Reasonable | Good with Bases, Poor with Acids | Excellent | Excellent |
| **Colmonoy #5** | 45-50 | 1200 | 650 | Good | Reasonable | Good | Good |

# Globe Valves - Large Sizes
# Body Subassembly
# Balanced Trim

For services with high differential pressure, pressure-balanced trims are used to reduce the thrust necessary to stroke the plug by reducing the trim off-balance area. The pressure balanced trims can only be used in clean services, as the flow direction for fail-closed is under-the-plug and for fail-open is over-the-plug. Special trims for noise reduction and for cavitation regime services can be supplied as an option.




**Balanced Trim**

## Pressure Balanced Trim and Standard Actuator Specification

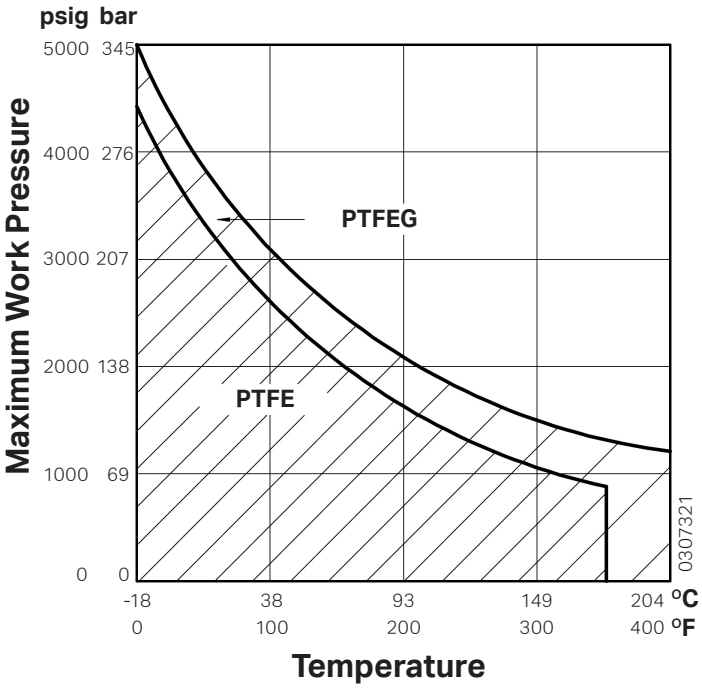
| Valve Nominal Diameter (in.) | ANSI Class | Full Area Trim Size T/N | | Seat Area | | Stem Diameter [1] | | Stem Area | | Stroke | | Standard Actuator Size |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | in. | mm | in.² | cm² | in. | mm | in.² | cm² | in. | mm | |
| 14 | 150-600 | 11.00 | 280 | 95 | 613 | 2.52 | 64.1 | 5.0 | 32.3 | 4.0 | 101.6 | 100 |
| | 900-1500 | 9.00 | 230 | 64 | 413 | 3.02 | 76.8 | 7.2 | 46.3 | 4.0 | 101.6 | 100 |
| | 2500 | 8.50 | 215 | 57 | 368 | 3.02 | 76.8 | 7.2 | 46.3 | 4.0 | 101.6 | 100 |
| 16 | 150-600 | 13.00 | 330 | 132 | 851 | 3.02 | 76.8 | 7.2 | 46.3 | 6.0 | 152.4 | 200 |
| | 900-1500 | 12.00 | 305 | 113 | 729 | 3.02 | 76.8 | 7.2 | 46.3 | 6.0 | 152.4 | 200 |
| | 2500 | 9.50 | 240 | 71 | 458 | 3.02 | 76.8 | 7.2 | 46.3 | 4.0 | 101.6 | 200 |
| 18 | 150-600 | 15.50 | 390 | 189 | 1219 | 3.02 | 76.8 | 7.2 | 46.3 | 6.0 | 152.4 | 200 |
| | 900-1500 | 13.50 | 345 | 143 | 922 | 3.02 | 76.8 | 7.2 | 46.3 | 6.0 | 152.4 | 200 |
| | 2500 | 11.00 | 280 | 95 | 613 | 3.02 | 76.8 | 7.2 | 46.3 | 6.0 | 152.4 | 200 |
| 20 | 150-600 | 16.25 | 410 | 207 | 1335 | 3.02 | 76.8 | 7.2 | 46.3 | 8.0 | 203 | 200 |
| | 900-1500 | 15.00 | 380 | 177 | 1142 | 3.02 | 76.8 | 7.2 | 46.3 | 8.0 | 203 | 200 |
| | 2500 | 12.00 | 305 | 113 | 729 | 3.02 | 76.8 | 7.2 | 46.3 | 8.0 | 152.4 | 200 |
| 24 | 150-600 | 20.00 | 500 | 314 | 2025 | S/C | S/C[1] | S/C | S/C | 8.0 | 203 | 300 |
| | 900-1500 | 19.00 | 480 | 284 | 1832 | S/C | S/C[1] | S/C | S/C | 8.0 | 203 | 300 |
| | 2500 | 13.50 | 345 | 143 | 922 | S/C | S/C[1] | S/C | S/C | 6.0 | 152.4 | 300 |
| 30 | 150-600 | 24.00 | 610 | 452 | 2915 | S/C | S/C[1] | S/C | S/C | 12.0 | 305 | S/C |
| 36 | 150-600 | 29.50 | 750 | 683 | 4405 | S/C | S/C[1] | S/C | S/C | 12.0 | 305 | S/C |

Notes: S/C: Under request

[1] In respect to alternative trim materials: consult ValtekSul Engineering.

# Globe Valves - Large Sizes
# Body Subassembly
# Balanced Trim - Materials

For services with high-pressure drops, balanced trims may be required as way of reducing the thrust needed to shift the plug, reducing the unbalanced area. However, the use of piston-cylinder actuators, a ValtekSul standard, reduces the need for balanced trims.
Often, the employement of a oversized piston-cylinder actuator may be the most economical choice.
Since the plug is guided by the seat retainer, it may be used in relatively clean services.
In the balanced plugs, the flow direction for fail-closed is under-the-plug. For fail-open operation, the flow direction is over-the-plug.
The seat retainer internal area minus the plug stem area was designed to be slightly bigger than the seat ring area, thus creating an off-balance area that allows the fluid to contribute for the closing thrust with flowunder.
The balanced force is possible due to the vent holes in the plug head. The leakage between the plug and the retainer is controlled by the sealing rings around the plug upper surface.




**Pressure/Temperature Limitation**
**Teflon Rings**

## Plug seal types for pressure-balance service

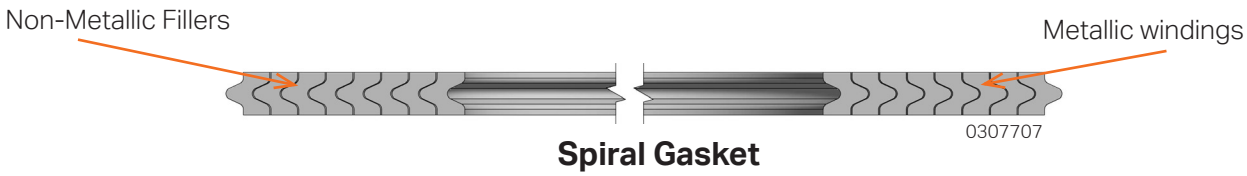
| Model | Maximum Operational Temperature | | ANSI Class ANSI/FCI-70.0 IEC 60534-4 |
|---|---|---|---|
| | °F | °C | |
| **N-Resist Rings** | 1600 | 871 | Class III |
| **Multi-Seal Rings** | 1600 | 871 | Class IV |
| **PTFE Rings** | 400 | 204 | Up to 10% of Class V |
| **O - Buna N Ring** | 250 | 121 | Class V |
| **O - Buna N Ring** | 400 | 204 | Class V |
| **O - Buna N Ring** | 350 | 177 | Class V |
| **PTFEG** | 400 | 204 | Class IV |

# Globe Valves - Large Sizes
# Body Subassembly
# Gaskets

## Gaskets

One of the important characteristics of the manufacturing technology of ValtekSul globe control valves is the use of retained gaskets.
These spiral gaskets, formed by concentric metal "V" rings with soft materials filling, responsible for the gasket´s high tightness capacity, represent the most advanced sealing technology, supporting temperature and pressure variations.
The metal spiral is usually manufactured in austenitic stainless steel, provided its great resistance characteristics. These gaskets are assembled in the male-female cavity between the bonnet and the valve body, as well as in the seat ring.

The male-female assembly technology is standard for all ANSI pressure classes from 150 to 2500.
To avoid the breakdown of the gasket on its compression, there is a step in the bonnet that limits gasket compression. This technology, which is formed by metallic elastic rings with soft materials filling, is capable of absorbing all fluctuations provoked by the process pressure and temperature variations.
This tough gasket assembly system comply to the ASME B 16.20 regulations, as well as the EPA[1] emissions requirements.




**Spiral Gasket**

### Temperature Range of Standard Gaskets - ASME B 16.20

| Model | Type | Gasket Material | Temperature Range | |
|---|---|---|---|---|
| | | | ºF | ºC |
| **Standard Gaskets** | Plain | PTFE | -200 to 350 | -130 to 177 |
| | Spiral | Stainless Steel AISI 304L AFG [3] | -20 to 750 | -29 to 400 |
| | Spiral | Stainless Steel AISI 316L/AFG-HT | -20 to 1000 | -29 to 540 |
| **Optional Gaskets** | Plain | AFG [3] | -20 to 600 | -29 to 315 |
| | Plain | Kel-F | -320 [5] to 350 | -196 [5] to 177 |
| | Plain | PTFEG | -200 to 450 | -130 to 232 |
| | Spiral | Stainless Steel AISI 316L/Graphite [2] | -20 to 1500 | -29 to 815 |
| | Spiral | Inconel X-750 [4] | -20 to 1500 | -29 to 815 |

[1] EPA: Environmental Protection Agency
[2] Gasket with Elastic Graphite filaments
[3] Asbestus free gasket
[4] High resistance spiral gasket used in high cycling, expansion and contraction conditions due to thermal differentials.

# Globe Valves - Large Sizes
# Body Subassembly
# General Specifications Chart

## Manufacturing Materials & Specifications

| | | | |
|---|---|---|---|
| **Body** | **Sizes** | | 14; 16; 18; 20; 24; 30 and 36 inches |
| | **ANSI Standard** | | 150-300-600: 14 to 36 in.<br>900-1500: 14 to 24 in.<br>2500: 14 to 20 in. (larger sizes under request) |
| | **Styles** | | Globe, Angle, Three-ways, special versions |
| | **Manufacturing Materials** | | Carbon steel, Stainless steel, Chrome-Moly and other castable alloys under request. |
| | **Connections** | | Integral flanges (all sizes)<br>Buttweld, BW (all sizes) |
| | **Gaskets** | **Flat** | PTFE, PTFEG*, KEL-F |
| | | **Spiral** | AISI-316 or 304 with graphite filling or others materials Asbestos free (AFG) |
| | | **O-Rings** | Inconel X-750 Metal O-Ring |
| **Bonnet** | **Types** | | Plain; Standard extended |
| | **Materials** | | Same body options |
| | **Bonnet flanges** | | Carbon steel or 316 Stainless steel separable flanges |
| | **Guides** | **Types** | Double upper guide on the valve stem, out of flow stream |
| | | **Materials** | AISI-316 with PTFEG* lining or graphite, Bronze, Alloy #6 or other materials under request |
| | **Packing set** | **Types** | Standard, "V" type or square rings, Double packing. Vacuum packing; Fugitive Emissions. |
| | | **Materials** | PTFE , PTFEG* "V" rings, Braided PTFE , AFP** with inconel wire, graphite and other materials under request. |
| **Trim** | **Types** | | Unbalanced<br>Balanced: with metal sealing rings.<br>Balanced: with elastomers or polymers rings. |
| | **Flow Characteristics** | | Equal Percentage, Linear or Quick Open |
| | **Materials** | | AISI-316 (standard), AISI-304, AISI-347, AISI-416, AISI-420, AISI-440C, 17-4PH; Duplex; and other materials under request |
| | **Superficial Hardening** | **Materials** | Alloy #6 (Stellite #6), Colmonoy #5 or other materials under request. |
| | | **Types** | Seat surface hardening,<br>Full seat surface and plug head hardening ,<br>Valve stem hardening in the lower area guide |
| | **Soft seats** | **Materials** | PTFE, PTFEG*, FEP, KEL-F, Polyurethane, PEEK |
| **Actuator** | **Types** | **Pneumatic** | Double acting piston/cylinder, with spring for failure position.<br>Field reversible and available in sizes 100, 150, 200, 300, 400, 500 and 600.<br>Options: manual handwheel, stroke limits and others (See actuators catalog). |
| | | **Others** | Manuals. Electro-mechanical or Electro-Hydraulic under request |
| **Positioner** | **Types** | | Pneumatics: HPP-2000<br>Electro-pneumatics: HPP-2000<br>Digital: Chronos |

* Reinforced PTFEG: PTFE with fiber glass. **AFP: Asbestos free packing.

# Globe Valves - Large Sizes
# Body Subassembly - Standard Manufacturing Materials Technology

## Carbon Steel: ASTM A 216 Gr. WCC, DIN 1.0619

| Component | Materials | Temperature Range | | | |
|---|---|---|---|---|---|
| | | GLS | | GLH | |
| | | °F | °C | °F | °C |
| **Body** | ASTM A 216 Gr. WCC [2] | -20 to 800 | -29 to 427 | -20 to 800 | -29 to 427 |
| **Bonnet** | Plain: ASTM A 105 / ASTM A 675-70 | -20 to 750 | -29 to 400 | -20 to 750 | -29 to 400 |
| | Extended: ASTM A 105 / ASTM A 675-70 | -20 to 800 | -29 to 427 | -20 to 800 | -29 to 427 |
| **Bonnet Flange** | ASTM A 216 Gr. WCC or ASTM A 105 | -20 to 800 | -29 to 427 | -20 to 800 | -29 to 427 |
| **Seat Ring** | Stainless Steel AISI 316 (UNS S 31600) | -20 to 600 | -29 to 315 | -20 to 600 | -29 to 315 |
| | Stainless Steel AISI 410 (UNS S 41000) | -20 to 650 | -29 to 343 | -20 to 650 | -29 to 343 |
| | Stainless Steel AISI 316 w/Alloy 6 (Stellite #6) | -20 to 800 | -29 to 427 | -20 to 800 | -29 to 427 |
| | Stainless Steel AISI 316 w/PTFE (Soft Seat) | -20 to 450 | -29 to 232 | -20 to 450 | -29 to 232 |
| **Plug** | Stainless Steel AISI 316 (UNS S 31600) | -20 to 600 | -29 to 315 | -20 to 600 | -29 to 315 |
| | Stainless Steel AISI 410 (UNS S 41000) | -20 to 650 | -29 to 343 | -20 to 650 | -29 to 343 |
| | Stainless Steel AISI 316 w/Alloy 6 (Stellite #6) | -20 to 650 | -29 to 343 | -20 to 650 | -29 to 343 |
| | Stainless Steel AISI 316 w/Alloy 6 (Stellite #6) inside Guide[4] | -20 to 800 | -29 to 427 | -20 to 800 | -29 to 427 |
| **Seat Retainer** | Stainless Steel AISI 316 - ASTM A 351 - CF8M | -20 to 800 | -29 to 427 | -20 to 800 | -29 to 427 |
| **Plug Guides** | Stainless Steel AISI 316 (UNS S 31603) with PTFEG lining | -20 to 350 | -29 to 177 | -20 to 350 | -29 to 177 |
| | Stainless Steel AISI 316 (UNS S 31603) with Grafoil lining [3] | -20 to 800 | -29 to 427 | -20 to 800 | -29 to 427 |
| | Solid Bronze | -20 to 500 | -29 to 260 | -20 to 500 | -29 to 260 |
| | Solid Stellite #6 [4] | -20 to 800 | -29 to 427 | -20 to 800 | -29 to 427 |
| **Body Gaskets and Bonnet Gaskets** | Flat: PTFE | -20 to 350 | -29 to 177 | -20 to 350 | -29 to 177 |
| | Flat: with AFG | -20 to 600 | -29 to 315 | -20 to 600 | -29 to 315 |
| | Spiral: Stainless Steel AISI 316 with AFG | -20 to 750 | -29 to 400 | -20 to 750 | -29 to 400 |
| | Spiral: Stainless Steel AISI 316 with Graphite [3] | -20 to 800 | -29 to 427 | -20 to 800 | -29 to 427 |
| **Packing Set** | PTFE "V" ring with plain bonnet | -20 to 450 | -29 to 232 | -20 to 450 | -29 to 232 |
| | PTFE "V" ring with extended bonnet | -20 to 600 | -29 to 315 | -20 to 600 | -29 to 315 |
| | Braided PTFE with plain bonnet | -20 to 500 | -29 to 260 | -20 to 500 | -29 to 260 |
| | Braided PTFE with extended bonnet | -20 to 600 | -29 to 315 | -20 to 600 | -29 to 315 |
| | Graphite / AFP [3] with plain bonnet | -20 to 750 | -29 to 400 | -20 to 750 | -29 to 400 |
| | Graphite / AFP [3] with extended bonnet | -20 to 800 | -29 to 427 | -20 to 800 | -29 to 427 |
| | PT and PTG with plain bonnet | -20 to 450 | -29 to 232 | -20 to 450 | -29 to 232 |
| | PT and PTG with extended bonnet | -20 to 600 | -29 to 315 | -20 to 600 | -29 to 315 |
| | PTG XT with plain bonnet | -20 to 550 | -29 to 282 | -20 to 550 | -29 to 282 |
| | PTG XT with extended bonnet | -20 to 700 | -29 to 371 | -20 to 700 | -29 to 371 |
| **Packing Spacer** | Stainless Steel AISI 316 (UNS S 31600) | -20 to 800 | -29 to 427 | -20 to 800 | -29 to 427 |
| **Gland Flange** | Stainless Steel AISI 316 - ASTM A 351 - CF8M | -20 to 800 | -29 to 427 | -20 to 800 | -29 to 427 |
| **Gland Flange Bolting** | ASTM A 193 Grade B8 Class 1/ ASTM A 194 Grade 8 | -20 to 800 | -29 to 427 | -20 to 800 | -29 to 427 |
| **Bonnet Flange Bolting** | ASTM A 193 Grade B7/ ASTM A 194 Grade 2H | -20 to 800 | -29 to 427 | -20 to 800 | -29 to 427 |

Notes: (2): Do not use flanged connection with temperatures above 653°F (345°C)
(3): Do not use graphite above 750ºF (400ºC) in oxidizing service such as air or oxygen.
(4): When using Alloy 6 (Stellite #6) guides, the plug stem should be hardened with Stellite #6 at the area in contact with the guide.

# Globe Valves - Large Sizes
# Body Subassembly - Standard Manufacturing Materials Technology

## Carbon Steel Alloy: Chrome-Moly ASTM A 217 Gr. C5 / ASTM A 217 Gr. WC9

| Component | Materials | Temperature Range | | | |
|---|---|---|---|---|---|
| | | GLS | | GLH | |
| | | °F | °C | °F | °C |
| **Body** | ASTM A 217 Gr. C5 (1) | -20 to 1067 | -29 to 575 | -20 to 1067 | -29 to 575 |
| | ASTM A 217 Gr. WC9 (2) Class 3 | | | | |
| **Bonnet** | Stainless Steel AISI 316 (UNS S 31600) | -20 to 800 | -29 to 427 | -20 to 800 | -29 to 427 |
| **Bonnet Flange** | ASTMA 105 | -20 to 600 | -29 to 315 | -20 to 800 | -29 to 427 |
| **Seat Ring** | Stainless Steel AISI 316 (UNS S 31600) | -20 to 600 | -29 to 315 | -20 to 600 | -29 to 315 |
| | Stainless Steel AISI 410 (UNS S 41000) | -20 to 650 | -29 to 343 | -20 to 650 | -29 to 343 |
| | Stainless Steel AISI 316 w/Alloy 6 (Stellite #6) | -20 to 800 | -29 to 427 | -20 to 800 | -29 to 427 |
| | Stainless Steel AISI 316 w/PTFE (Soft Seat) | -20 to 450 | -29 to 232 | -20 to 450 | -29 to 232 |
| **Plug** | Stainless Steel AISI 316 (UNS S 31600) | -20 to 600 | -29 to 315 | -20 to 600 | -29 to 315 |
| | Stainless Steel AISI 410 (UNS S 41000) | -20 to 650 | -29 to 343 | -20 to 650 | -29 to 343 |
| | Stainless Steel AISI 410 (UNS S 41000) | -20 to 650 | -29 to 343 | -20 to 650 | -29 to 343 |
| | Stainless Steel AISI 316 w/Alloy 6 (Stellite #6) inside guide(4) | -20 to 800 | -29 to 427 | -20 to 800 | -29 to 427 |
| **Seat Retainer** | Stainless Steel AISI 316 - ASTM A 351 - CF8M | -20 to 800 | -29 to 427 | -20 to 800 | -29 to 427 |
| **Plug Guides** | Stainless Steel AISI 316 (UNS S 31600) with PTFEG lining | -20 to 350 | -29 to 177 | -20 to 350 | -29 to 177 |
| | Stainless Steel AISI 316 (UNS S 31600) with Grafoil lining (3) | -20 to 800 | -29 to 427 | -20 to 800 | -29 to 427 |
| | Solid Bronze | -20 to 500 | -29 to 260 | -20 to 500 | -29 to 260 |
| | Solid Stellite #6 (4) | -20 to 800 | -29 to 427 | -20 to 800 | -29 to 427 |
| **Body Gaskets and Bonnet Gaskets** | Spiral: Stainless Steel AISI 316 with AFG | -20 to 750 | -29 to 400 | -20 to 750 | -29 to 400 |
| | Spiral: Stainless Steel AISI 316 with Graphite (3) | -20 to 800 | -29 to 427 | -20 to 800 | -29 to 427 |
| **Packing Set** | PTFE "V" ring with plain bonnet | -20 to 450 | -29 to 232 | -20 to 450 | -29 to 232 |
| | PTFE "V" ring with extended bonnet | -20 to 600 | -29 to 315 | -20 to 600 | -29 to 315 |
| | Braided PTFE with plain bonnet | -20 to 500 | -29 to 260 | -20 to 500 | -29 to 260 |
| | Braided PTFE with extended bonnet | -20 to 600 | -29 to 315 | -20 to 600 | -29 to 315 |
| | Graphite / AFP (3) with plain bon | -20 to 750 | -29 to 400 | -20 to 750 | -29 to 400 |
| | Graphite / AFP (3) with extended bonnet | -20 to 800 | -29 to 427 | -20 to 800 | -29 to 427 |
| | PT and PTG with plain bonnet | -20 to 450 | -29 to 232 | -20 to 450 | -29 to 232 |
| | PT and PTG with extended bonnet | -20 to 600 | -29 to 315 | -20 to 600 | -29 to 315 |
| | PTG XT with plain bonnet | -20 to 550 | -29 to 282 | -20 to 550 | -29 to 282 |
| | PTG XT with extended bonnet | -20 to 700 | -29 to 371 | -20 to 700 | -29 to 371 |
| **Packing Spacer** | Stainless Steel AISI 316 (UNS 31600) | -20 to 800 | -29 to 427 | -20 to 800 | -29 to 427 |
| **Gland Flanges** | Stainless Steel AISI 316 - ASTM A 351 - CF8M | -20 to 800 | -29 to 427 | -20 to 800 | -29 to 427 |
| **Gland Flange Bolting** | ASTM A 193 Grade B8 Class 1<br>ASTM A 194 Grade 8 | -20 to 800 | -29 to 427 | -20 to 800 | -29 to 427 |
| **Bonnet Flange Bolting** | ASTM A 193 Grade B7N<br>ASTM A 194 Grade 2HN | -20 to 800 | -29 to 427 | -20 to 800 | -29 to 427 |
| | ASTM B 16 / Nuts Grade 7 | -20 to 1000 | -29 to 538 | -20 to 1000 | -29 to 538 |

Notes: (1): Do not use flanged connection with temperatures above 1000°F (538°C).
(2): Do not use flanged connection with temperatures above 896°F (480°C).
(3): Do not use graphite above 750ºF (400ºC) in oxidizing service such as air or oxygen.
(4): When using Alloy 6 (Stellite #6) guides, the plug stem should be hardened with Stellite #6 at the area in contact with the guide.

# Globe Valves - Large Sizes
# Body Subassembly - NACE Manufacturing Materials Technology

## Carbon Steel ASTM A 216 Gr. WCC-NACE

| Component | Materials | Temperature Range | | | |
|---|---|---|---|---|---|
| | | GLS | | GLH | |
| | | °F | °C | °F | °C |
| **Body** | ASTM A 216 Gr. WCC-NACE | -20 to 800 | -29 to 427 | -20 to 800 | -29 to 427 |
| **Bonnet** | Plain: ASTM A 105 or ASTM A 675-70 | -20 to 750 | -29 to 400 | -20 to 750 | -29 to 400 |
| | Extended: ASTM A 105 / A 675-70 | -20 to 800 | -29 to 427 | -20 to 800 | -29 to 427 |
| **Bonnet Flange** | ASTM A 516-70 | -20 to 800 | -29 to 427 | -20 to 800 | -29 to 427 |
| **Seat Ring** [1] | Stainless Steel AISI 316 (UNS S 31600) | -20 to 600 | -29 to 315 | -20 to 600 | -29 to 315 |
| | Stainless Steel AISI 316 w/Alloy 6 (Stellite #6) | -20 to 800 | -29 to 427 | -20 to 800 | -29 to 427 |
| **Plug** [2] | Stainless Steel AISI 316 (UNS S 31600) | -20 to 600 | -29 to 315 | -20 to 600 | -29 to 315 |
| | Stainless Steel AISI 316 w/Alloy 6 (Stellite #6) | -20 to 650 | -29 to 343 | -20 to 650 | -29 to 343 |
| | Stainless Steel AISI 316 w/Alloy 6 (Stellite #6) inside Guide[4] | -20 to 800 | -29 to 427 | -20 to 800 | -29 to 427 |
| **Seat Retainer** | Stainless Steel AISI 316 - ASTM A 351 - CF8M | -20 to 800 | -29 to 427 | -20 to 800 | -29 to 427 |
| **Plug Guides** | Stainless SteelAISI 316 (UNS S 31600) with PTFEG lining | -20 to 350 | -29 to 177 | -20 to 350 | -29 to 177 |
| | Stainless Steel AISI 316 (UNS S 31600) with Graphite lining [3] | -20 to 800 | -29 to 427 | -20 to 800 | -29 to 427 |
| | Solid Stellite #6 [4] (UNS S 30006) | -20 to 800 | -29 to 427 | -20 to 800 | -29 to 427 |
| **Body Gaskets and Bonnet Gaskets** | Plain: PTFE | -20 to 350 | -29 to 177 | -20 to 350 | -29 to 177 |
| | Plain: with AFG | -20 to 600 | -29 to 315 | -20 to 600 | -29 to 315 |
| | Spiral Stainless Steel AISI 316 (UNS S 31600) with AFG | -20 to 750 | -29 to 400 | -20 to 750 | -29 to 400 |
| | Spiral Stainless Steel AISI 316 (UNS S 31600) with Graphite [3] | -20 to 800 | -29 to 427 | -20 to 800 | -29 to 427 |
| **Packing Set** | PTFE "V" ring with plain bonnet | -20 to 450 | -29 to 232 | -20 to 450 | -29 to 232 |
| | PTFE "V" ring with extended bonnet | -20 to 600 | -29 to 315 | -20 to 600 | -29 to 315 |
| | Braided PTFE with plain bonnet | -20 to 500 | -29 to 260 | -20 to 500 | -29 to 260 |
| | Braided PTFE with extended bonnet | -20 to 600 | -29 to 315 | -20 to 600 | -29 to 315 |
| | Graphite / AFP [3] with plain bonnet | -20 to 750 | -29 to 400 | -20 to 750 | -29 to 400 |
| | Graphite / AFP [3] with extended bonnet | -20 to 800 | -29 to 427 | -20 to 800 | -29 to 427 |
| | PT and PTG with plain bonnet | -20 to 450 | -29 to 232 | -20 to 450 | -29 to 232 |
| | PT and PTG with extended bonnet | -20 to 600 | -29 to 315 | -20 to 600 | -29 to 315 |
| | PTG XT with plain bonnet | -20 to 550 | -29 to 282 | -20 to 550 | -29 to 282 |
| | PTG XT with extended bonnet | -20 to 700 | -29 to 371 | -20 to 700 | -29 to 371 |
| **Packing Spacer** | Stainless Steel AISI 316 (UNS S 31600) | -20 to 800 | -29 to 427 | -20 to 800 | -29 to 427 |
| **Gland Flanges** | Stainless Steel AISI 316 - ASTM A 351 - CF8M | -20 to 800 | -29 to 427 | -20 to 800 | -29 to 427 |
| **Gland Flange Bolting** | ASTM A 193 Gr. B8 Class 1<br>ASTM A 193 Gr. B7M Zinc Plated | -20 to 800 | -29 to 427 | -20 to 800 | -29 to 427 |
| **Bonnet Flange Bolting** | ASTM A 193 Gr. B7M<br>ASTM A 194 Gr. 2HM | -20 to 800 | -29 to 427 | -20 to 800 | -29 to 427 |

Notes: (3): Do not use graphite above 750ºF (400ºC) in oxidizing service such as air or oxygen.
(4): When using Alloy 6 (Stellite #6) guides, the plug stem should be hardened with Stellite #6 at the area in contact with the guide.
(5) Materials in accordance with NACE - MR0175-2003 Rev.; MRO 175/ISO 15156 and MRO 103.

# Globe Valves - Large Sizes
# Body Subassembly
# Materials Technology

## Stainless Steel ASTM A 351 - CF8M

| Component | Materials | Temperature Range | | | |
|---|---|---|---|---|---|
| | | GLS | | GLH | |
| | | °F | °C | °F | °C |
| **Body** | ASTM A 351 - CF8M [1][2] | -100 to 1000 | -73 to 538 | -100 to 1000 | -73 to 538 |
| **Bonnet** | Plain: ASTM A 182 F 316 / A 351-CF8M [1] | -100 to 600 | -73 to 315 | -100 to 600 | -73 to 315 |
| | Extended: ASTM A 182 F 316 [2] | -100 to 1000 | -73 to 538 | -100 to 1000 | -73 to 538 |
| **Bonnet Flange** | ASTM A 105 | -20 to 800 | -29 to 427 | -20 to 800 | -29 to 427 |
| | ASTM A 182 F 316 | -100 to 1000 | -73 to 538 | -100 to 1000 | -73 to 538 |
| **Seat Retainer** | Stainless Steel AISI 316 - ASTM A 351-CF8M | -20 to 800 | -29 to 427 | -20 to 800 | -29 to 427 |
| **Seat Ring** | Stainless Steel AISI 316 (UNS S 31600) | -100 to 600 | -73 to 315 | -100 to 600 | -73 to 315 |
| | Stainless Steel AISI 316L (UNS S31600) / Alloy #6 | -100 to 1000 | -73 to 538 | -100 to 1000 | -73 to 538 |
| **Plug** | Stainless Steel AISI 316 (UNS S 31600) | -20 to 600 | -29 to 315 | -20 to 600 | -29 to 315 |
| | Stainless Steel AISI 316L (UNS S 31603) / Alloy #6 | -100 to 1000 | -73 to 538 | -100 to 1000 | -73 to 538 |
| **Plug Guides** | Stainless Steel AISI 316 (UNS S 31600) / PTFEG lining | -20 to 350 | -29 to 177 | -20 to 350 | -29 to 177 |
| | Stainless Steel AISI 316 (UNS S 31600) / Grafite lining [3] | -20 to 800 | -29 to 427 | -20 to 800 | -29 to 427 |
| | Solid Alloy #6 (UNS S 31006) | -20 to 800 | -29 to 427 | -20 to 800 | -29 to 427 |
| **Body Gaskets and Bonnet Gaskets** | Flat: PTFE | -20 to 350 | -29 to 177 | -20 to 350 | -29 to 177 |
| | Flat: PTFE/AFG | -20 to 600 | -29 to 315 | -20 to 600 | -29 to 315 |
| | Spiral: Stainless Steel AISI 316 (UNS S 31600)/AFG | -20 to 750 | -29 to 400 | -20 to 750 | -29 to 400 |
| | Spiral: Stainless SteelAISI 316 (UNS S 31600)/Gr. | -20 to 800 | -29 to 427 | -20 to 800 | -29 to 427 |
| **Packing Set** | PTFE "V" ring with plain bonnet | -20 to 450 | -29 to 232 | -20 to 450 | -29 to 232 |
| | PTFE "V" ring with extended bonnet | -20 to 600 | -29 to 315 | -20 to 600 | -29 to 315 |
| | Braided PTFE with plain bonnet | -20 to 500 | -29 to 260 | -20 to 500 | -29 to 260 |
| | Braided PTFE with extended bonnet | -20 to 600 | -29 to 315 | -20 to 600 | -29 to 315 |
| | Graphite / AFP [3] with plain bonnet | -20 to 750 | -29 to 400 | -20 to 750 | -29 to 400 |
| | Graphite / AFP [3] with extended bonnet | -20 to 800 | -29 to 427 | -20 to 800 | -29 to 427 |
| | PT and PTG with plain bonnet | -20 to 450 | -29 to 232 | -20 to 450 | -29 to 232 |
| | PT and PTG with extended bonnet | -20 to 600 | -29 to 315 | -20 to 600 | -29 to 315 |
| | PTG XT with plain bonnet | -20 to 550 | -29 to 282 | -20 to 550 | -29 to 282 |
| | PTG XT with extended bonnet | -20 to 700 | -29 to 371 | -20 to 700 | -29 to 371 |
| **Packing Spacer** | Stainless Steel AISI 316 (UNS S 31600) | -20 to 800 | -29 to 427 | -20 to 800 | -29 to 427 |
| **Gland Flange** | Carbon Steel [4]<br>Stainless Steel ASTM A 351 CF8M (316 SST) | -20 to 800 | -29 to 427 | -20 to 800 | -29 to 427 |
| **Bonnet Flange Bolting** | ASTM A 193 - B8M / A 194 - 8M | -325 to 800 | -198 to 427 | -325 to 800 | -198 to 427 |
| | ASTM A 479 (UNS S 20910) [1][2][3] /<br>ASTM A 479 (UNS S 20910) [3] | -325 to 1100 | -198 to 593 | -325 to 1100 | -198 to 593 |

Notes: [1] For flanged bodies temperature limit of up to 1000°F (538°C).
[2] For welded connection, use above 1000°F (538°C) when the carbon content is more than 0.04%.
[3] In accordance with NACE MR0103

# Globe Valves - Large Sizes
# Body Subassembly
# Materials Technology

## Duplex ASTM A 995 - CD3M

| Component | Materials | Temperature Range | | | |
|---|---|---|---|---|---|
| | | GLS | | GLH | |
| | | °F | °C | °F | °C |
| **Body** | ASTM A 995 - CD3M | -50 to 600 | -46 to 316 | -50 to 600 | -46 to 316 |
| **Bonnet** | ASTM A 182 F51 / A 995-CD3M | -50 to 600 | -46 to 316 | -50 to 600 | -46 to 316 |
| **Bonnet Flange** | ASTM A 216 WCC or ASTM A 351-CF8M | -20 to 800 | -29 to 427 | -20 to 800 | -29 to 427 |
| **Seat Ring** | Duplex ASTM A 182-F51 (UNS S 31803) | -50 to 600 | -46 to 316 | -50 to 600 | -46 to 316 |
| | Duplex ASTM A 182-F51 (UNS S 31803) / Alloy #6 | -50 to 600 | -46 to 316 | -50 to 600 | -46 to 316 |
| **Plug** | Duplex ASTM A 182-F51 (UNS S 31803) | -50 to 600 | -46 to 316 | -50 to 600 | -46 to 316 |
| | Duplex ASTM A 182-F51 (UNS S 31803) / Alloy #6 | -50 to 600 | -46 to 316 | -50 to 600 | -46 to 316 |
| **Seat Retainer** | Duplex ASTM A 182-F51 (UNS S 31803) | -50 to 600 | -46 to 316 | -50 to 600 | -46 to 316 |
| **Packing Spacer** | Duplex ASTM A 182-F51 (UNS S 31803) | -50 to 600 | -46 to 316 | -50 to 600 | -46 to 316 |
| **Gland Flange** | Stainless Steel AISI 316 / ASTM A 351-CF8M (316 SST) | -20 to 800 | -29 to 427 | -20 to 800 | -29 to 427 |
| **Bonnet Flange Bolting** | ASTM A 193 Gr B7 / 194 Gr 2H | -20 to 800 | -29 to 427 | -20 to 800 | -29 to 427 |
| | ASTM A 182-F55 (UNS J 93404/S 32760) (1) | -20 to 800 | -29 to 427 | -20 to 800 | -29 to 427 |

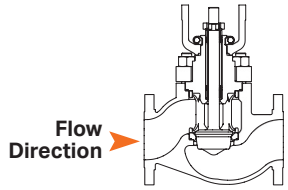
Notes: (1): Compatible with NACE MR0175-2003

## Super-Duplex ASTM A 995 - CD3MWCuN

| Component | Materials | Temperature Range | | | |
|---|---|---|---|---|---|
| | | GLS | | GLH | |
| | | °F | °C | °F | °C |
| **Body** | ASTM A 995 - CD3MWCuN | -50 to 600 | -46 to 316 | -50 to 600 | -46 to 316 |
| **Bonnet** | ASTM A 182-F55/ A 995-CD3MWCuN | -50 to 600 | -46 to 316 | -50 to 600 | -46 to 316 |
| **Bonnet Flange** | ASTM A 216 WCC or ASTM A 351-CF8M | -20 to 800 | -29 to 427 | -20 to 800 | -29 to 427 |
| **Seat Ring** | Super-Duplex A 182-F55 (UNS S 32760) | -50 to 600 | -46 to 316 | -50 to 600 | -46 to 316 |
| | Super-Duplex A 182-F55 (UNS S 32760) / Alloy #6 | -50 to 600 | -46 to 316 | -50 to 600 | -46 to 316 |
| **Plug** | Super-Duplex A 182-F55 (UNS S 32760) | -50 to 600 | -46 to 316 | -50 to 600 | -46 to 316 |
| | Super-Duplex A 182-F55 (UNS S 32760) / Alloy #6 | -50 to 600 | -46 to 316 | -50 to 600 | -46 to 316 |
| **Seat Retainer** | Super-Duplex ASTM A 182-F55 (UNS S 32760) | -50 to 600 | -46 to 316 | -50 to 600 | -46 to 316 |
| **Packing Spacer** | Super-Duplex ASTM A 182-F55 (UNS S 32760) | -50 to 600 | -46 to 316 | -50 to 600 | -46 to 316 |
| **Gland Flange** | Stainless Steel AISI 316 / ASTM A 351-CF8M (316 SST) | -20 to 800 | -29 to 427 | -20 to 800 | -29 to 427 |
| **Bonnet Flange Bolting** | ASTM A 193 Gr B7 / 194 Gr 2H | -20 to 800 | -29 to 427 | -20 to 800 | -29 to 427 |
| | ASTM A 182-F55 (UNS J 93404/S 32760) (1) | -20 to 800 | -29 to 427 | -20 to 800 | -29 to 427 |

Notes: (1): Compatible with NACE MR0175-2003

# Globe Valves - Large Sizes
# Body Subassembly
# Flow Coefficient - $C_V$: Unbalanced



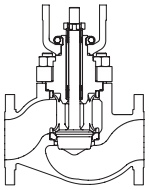

## Flow Coefficient ( Cv ) - Equal Percentage
## Flow Direction: Flow Over

| Valve Nominal Diameter (in.) | ANSI Class | Nominal Trims Size T/N | Stroke | | Opening Percentage | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | in. | mm | 100 | 90 | 80 | 70 | 60 | 50 | 40 | 30 | 20 | 10 |
| 14 | 150 & 600 | 280 (11.00) | 4.00 | 101.60 | 1700 | 1582 | 1444 | 1244 | 1026 | 761 | 463 | 216 | 145 | 98 |
| | | 203 (8.00) | 4.00 | 101.60 | 1150 | 1069 | 976 | 841 | 615 | 371 | 192 | 99 | 60 | 42 |
| | | 160 (6.25) | 4.00 | 101.60 | 800 | 736 | 613 | 461 | 305 | 181 | 107 | 73 | 49 | 34 |
| | 900 & 1500 | 240 (9.50) | 4.00 | 101.60 | 1550 | 1048 | 709 | 479 | 324 | 219 | 148 | 100 | 68 | 46 |
| | | 203 (8.00) | 4.00 | 101.60 | 1240 | 1157 | 1057 | 910 | 666 | 402 | 208 | 107 | 65 | 45 |
| | 2500 | 215 (8.50) | 4.00 | 101.60 | 1200 | 811 | 549 | 371 | 251 | 170 | 115 | 78 | 52 | 35 |
| 16 | 150 & 600 | 330 (13.00) | 6.00 | 152.40 | 2350 | 1589 | 1075 | 727 | 491 | 332 | 225 | 152 | 103 | 70 |
| | | 280 (11.00) | 4.00 | 101.60 | 2000 | 1867 | 1704 | 1468 | 1211 | 898 | 546 | 255 | 171 | 116 |
| | | 203 (8.00) | 4.00 | 101.60 | 1360 | 1261 | 1152 | 992 | 726 | 438 | 227 | 117 | 71 | 50 |
| | 900 & 1500 | 305 (12.00) | 6.00 | 152.40 | 2100 | 1420 | 960 | 649 | 439 | 297 | 201 | 136 | 92 | 62 |
| | | 240 (9.50) | 4.00 | 101.60 | 1530 | 1035 | 699 | 473 | 320 | 216 | 146 | 99 | 67 | 45 |
| | 2500 | 240 (9.50) | 4.00 | 101.60 | 1500 | 1014 | 686 | 464 | 314 | 212 | 143 | 97 | 66 | 44 |
| 18 | 150 & 600 | 390 (15.50) | 6.00 | 152.40 | 2950 | 1995 | 1349 | 912 | 617 | 417 | 282 | 191 | 129 | 87 |
| | | 330 (13.00) | 6.00 | 152.40 | 2610 | 1810 | 1223 | 827 | 560 | 378 | 256 | 173 | 117 | 79 |
| | | 280 (11.00) | 4.00 | 101.60 | 1750 | 1212 | 819 | 554 | 375 | 253 | 171 | 116 | 78 | 53 |
| | 900 & 1500 | 345 (13.50) | 6.00 | 152.40 | 2500 | 1691 | 1143 | 773 | 523 | 354 | 239 | 162 | 109 | 74 |
| | | 305 (12.00) | 6.00 | 152.40 | 2330 | 1576 | 1065 | 720 | 487 | 330 | 223 | 151 | 101 | 69 |
| | 2500 | 280 (11.00) | 4.00 | 101.60 | 1850 | 1251 | 846 | 572 | 387 | 262 | 177 | 120 | 81 | 55 |
| 20 | 150 & 600 | 410 (16.25) | 8.00 | 200.0 | 3500 | 2367 | 1601 | 1082 | 732 | 495 | 335 | 226 | 153 | 104 |
| | | 390 (15.50) | 6.00 | 152.40 | 3050 | 2115 | 1430 | 967 | 653 | 442 | 299 | 202 | 136 | 90 |
| | | 330 (13.00) | 6.00 | 152.40 | 2800 | 1939 | 1312 | 887 | 601 | 405 | 275 | 186 | 126 | 85 |
| | 900 & 1500 | 380 (15.00) | 8.00 | 203.0 | 3100 | 2096 | 1418 | 959 | 648 | 438 | 296 | 200 | 136 | 92 |
| | | 345 (13.50) | 6.00 | 152.40 | 2720 | 1840 | 1243 | 841 | 569 | 385 | 260 | 176 | 119 | 80 |
| | 2500 | 305 (12.00) | 6.00 | 152.40 | 2150 | 1454 | 983 | 665 | 450 | 304 | 206 | 139 | 94 | 64 |
| 24 | 150 & 600 | 500 (20.00) | 8.00 | 203.0 | 5500 | 3719 | 2515 | 1701 | 1150 | 778 | 526 | 356 | 241 | 163 |
| | | 410 (16.25) | 8.00 | 203.0 | 3780 | 2556 | 1729 | 1168 | 790 | 534 | 362 | 244 | 165 | 112 |
| | | 390 (15.50) | 6.00 | 152.40 | 3360 | 2328 | 1574 | 1065 | 720 | 486 | 329 | 223 | 150 | 102 |
| | 900 & 1500 | 480 (19.00) | 8.00 | 203.0 | 4000 | 2705 | 1829 | 1237 | 837 | 566 | 383 | 259 | 175 | 118 |
| | | 380 (15.00) | 8.00 | 203.0 | 3350 | 2265 | 1532 | 1036 | 700 | 473 | 320 | 216 | 147 | 99 |
| | 2500 | 345 (13.50) | 6.00 | 152.40 | 3000 | 2029 | 1372 | 928 | 627 | 424 | 287 | 194 | 131 | 89 |
| 30 | 150 & 300 & 600 | 610 (24.00) | 12.00 | 305 | 8200 | 5678 | 3840 | 2597 | 1756 | 1202 | 803 | 543 | 367 | 248 |
| | | 470 (18.50) | 8.00 | 203 | 4680 | 3240 | 2191 | 1482 | 1002 | 686 | 458 | 310 | 209 | 141 |
| | | S/C* | | | | | | | | | | | | |
| 36 | 150 & 300 & 600 | 750 (29.50) | 12.00 | 305 | 11000 | 7617 | 5151 | 3483 | 2356 | 1596 | 1077 | 728 | 493 | 333 |
| | | S/C* | | | | | | | | | | | | |

Notes: * Other TN under request.

[1] For further information on flow coefficients ($C_V$) consult www.literature.valteksul.com

# Globe Valves - Large Sizes
# Body Subassembly
# Flow Coefficient - $C_V$: Unbalanced



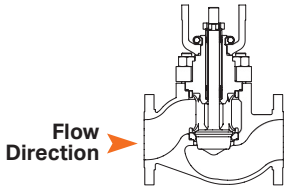

## Flow Coefficient ( Cv ) - Equal Percentage
## Flow Direction: Flow Under

| Valve Nominal Diameter (in.) | ANSI Class | Nominal Trims Size T/N | Stroke | | Opening Percentage | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | in. | mm | 100 | 90 | 80 | 70 | 60 | 50 | 40 | 30 | 20 | 10 |
| 14 | 150 & 600 | 280 (11.00) | 4.00 | 101.60 | 1790 | 1700 | 1540 | 1340 | 1100 | 840 | 529 | 295 | 145 | 98 |
| | | 203 (8.00) | 4.00 | 101.60 | 1150 | 1040 | 921 | 789 | 643 | 424 | 191 | 112 | 70 | 41 |
| | | 160 (6.25) | 4.00 | 101.60 | 800 | 720 | 629 | 525 | 334 | 184 | 115 | 76 | 46 | 28 |
| | 900 & 1500 | 240 (9.50) | 4.00 | 101.60 | 1550 | 1048 | 709 | 479 | 324 | 219 | 148 | 100 | 68 | 46 |
| | | 203 (8.00) | 4.00 | 101.60 | 1240 | 1157 | 1057 | 910 | 666 | 402 | 208 | 107 | 65 | 45 |
| | 2500 | 215 (8.50) | 4.00 | 101.60 | 1200 | 811 | 549 | 371 | 251 | 170 | 115 | 78 | 52 | 35 |
| 16 | 150 & 600 | 330 (13.00) | 6.00 | 152.40 | 2350 | 1589 | 1075 | 727 | 491 | 332 | 225 | 152 | 103 | 70 |
| | | 280 (11.00) | 4.00 | 101.60 | 2000 | 1867 | 1704 | 1468 | 1211 | 898 | 546 | 255 | 171 | 116 |
| | | 203 (8.00) | 4.00 | 101.60 | 1360 | 1261 | 1152 | 992 | 726 | 438 | 227 | 117 | 71 | 50 |
| | 900 & 1500 | 305 (12.00) | 6.00 | 152.40 | 2100 | 1420 | 960 | 649 | 439 | 297 | 201 | 136 | 92 | 62 |
| | | 240 (9.50) | 4.00 | 101.60 | 1530 | 1035 | 699 | 473 | 320 | 216 | 146 | 99 | 67 | 45 |
| | 2500 | 240 (9.50) | 4.00 | 101.60 | 1500 | 1014 | 686 | 464 | 314 | 212 | 143 | 97 | 66 | 44 |
| 18 | 150 & 600 | 390 (15.50) | 6.00 | 152.40 | 2950 | 1995 | 1349 | 912 | 617 | 417 | 282 | 191 | 129 | 87 |
| | | 330 (13.00) | 6.00 | 152.40 | 2610 | 1810 | 1223 | 827 | 560 | 378 | 256 | 173 | 117 | 79 |
| | | 280 (11.00) | 4.00 | 101.60 | 1750 | 1212 | 819 | 554 | 375 | 253 | 171 | 116 | 78 | 53 |
| | 900 & 1500 | 345 (13.50) | 6.00 | 152.40 | 2500 | 1691 | 1143 | 773 | 523 | 354 | 239 | 162 | 109 | 74 |
| | | 305 (12.00) | 6.00 | 152.40 | 2330 | 1576 | 1055 | 720 | 487 | 330 | 223 | 151 | 101 | 69 |
| | 2500 | 280 (11.00) | 4.00 | 101.60 | 1850 | 1251 | 846 | 572 | 387 | 262 | 177 | 120 | 81 | 55 |
| 20 | 150 & 600 | 410 (16.25) | 8.00 | 200.0 | 3500 | 2367 | 1601 | 1082 | 732 | 495 | 335 | 226 | 153 | 104 |
| | | 390 (15.50) | 6.00 | 152.40 | 3050 | 2115 | 1430 | 967 | 653 | 442 | 299 | 202 | 136 | 90 |
| | | 330 (13.00) | 6.00 | 152.40 | 2800 | 1939 | 1312 | 887 | 601 | 405 | 275 | 186 | 126 | 85 |
| | 900 & 1500 | 380 (15.00) | 8.00 | 203 | 3100 | 2096 | 1418 | 959 | 648 | 438 | 296 | 200 | 136 | 92 |
| | | 345 (13.50) | 6.00 | 152.40 | 2720 | 1840 | 1243 | 841 | 569 | 385 | 260 | 176 | 119 | 80 |
| | 2500 | 305 (12.00) | 6.00 | 152.40 | 2150 | 1454 | 983 | 665 | 450 | 304 | 206 | 139 | 94 | 64 |
| 24 | 150 & 600 | 500 (20.00) | 8.00 | 203.0 | 5500 | 3719 | 2515 | 1701 | 1150 | 778 | 526 | 356 | 241 | 163 |
| | | 410 (16.25) | 8.00 | 203.0 | 3780 | 2556 | 1729 | 1168 | 790 | 534 | 362 | 244 | 165 | 112 |
| | | 390 (15.50) | 6.00 | 152.40 | 3360 | 2328 | 1574 | 1065 | 720 | 486 | 329 | 223 | 150 | 102 |
| | 900 & 1500 | 480 (19.00) | 8.00 | 203.0 | 4000 | 2705 | 1829 | 1237 | 837 | 566 | 383 | 259 | 175 | 118 |
| | | 380 (15.00) | 8.00 | 203.0 | 3350 | 2265 | 1532 | 1036 | 700 | 473 | 320 | 216 | 147 | 99 |
| | 2500 | 345 (13.50) | 6.00 | 152.40 | 3000 | 2029 | 1372 | 928 | 627 | 424 | 287 | 194 | 131 | 89 |
| 30 | 150 & 300 & 600 | 610 (24.00) | 12.00 | 305 | 8200 | 5678 | 3840 | 2597 | 1756 | 1202 | 803 | 543 | 367 | 248 |
| | | 470 (18.50) | 8.00 | 203 | 4680 | 3240 | 2191 | 1482 | 1002 | 686 | 458 | 310 | 209 | 141 |
| | | S/C* | | | | | | | | | | | | |
| 36 | 150 & 300 & 600 | 750 (29.50) | 12.00 | 305 | 11000 | 7617 | 5151 | 3483 | 2356 | 1596 | 1077 | 728 | 493 | 333 |
| | | S/C* | | | | | | | | | | | | |

Notes: * Other TN under request.

[1] For further information on flow coefficients ($C_V$) consult www.literature.valteksul.com

# Globe Valves - Large Sizes
# Body Subassembly
# Flow Coefficient - $C_V$: Unbalanced



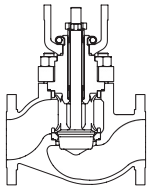

## Flow Coefficient ( Cv ) - Linear
## Flow Direction: Flow Over

| Valve Nominal Diameter (in.) | ANSI Class | Nominal Trims Size T/N | Stroke | | Opening Percentage | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | in. | mm | 100 | 90 | 80 | 70 | 60 | 50 | 40 | 30 | 20 | 10 |
| 14 | 150 & 600 | 280 (11.00) | 4.00 | 101.60 | 1970 | 1910 | 1820 | 1690 | 1520 | 1320 | 1080 | 920 | 610 | 344 |
| | | 203 (8.00) | 4.00 | 101.60 | 1185 | 1126 | 1058 | 977 | 882 | 772 | 645 | 501 | 344 | 175 |
| | | 160 (6.25) | 4.00 | 101.60 | 880 | 816 | 746 | 670 | 587 | 500 | 405 | 306 | 202 | 99 |
| | 900 & 1500 | 240 (9.50) | 4.00 | 101.60 | 1550 | 1395 | 1240 | 1085 | 930 | 775 | 620 | 465 | 310 | 155 |
| | | 203 (8.00) | 4.00 | 101.60 | 1250 | 1188 | 1116 | 1030 | 938 | 814 | 680 | 528 | 363 | 185 |
| | 2500 | 215 (8.50) | 4.00 | 101.60 | 1200 | 1080 | 960 | 840 | 720 | 600 | 480 | 360 | 240 | 120 |
| 16 | 150 & 600 | 330 (13.00) | 6.00 | 152.40 | 2305 | 2115 | 1880 | 1645 | 1410 | 1175 | 940 | 705 | 470 | 235 |
| | | 280 (11.00) | 4.00 | 101.60 | 2040 | 1978 | 1885 | 1750 | 1574 | 1367 | 1118 | 953 | 632 | 356 |
| | | 203 (8.00) | 4.00 | 101.60 | 1380 | 1311 | 1232 | 1137 | 1035 | 899 | 751 | 583 | 401 | 204 |
| | 900 & 1500 | 305 (12.00) | 6.00 | 152.40 | 2100 | 1890 | 1680 | 1470 | 1260 | 1050 | 840 | 630 | 420 | 210 |
| | | 240 (9.50) | 4.00 | 101.60 | 1550 | 1395 | 1240 | 1085 | 930 | 775 | 620 | 465 | 310 | 155 |
| | 2500 | 240 (9.50) | 4.00 | 101.60 | 1500 | 1350 | 1200 | 1050 | 900 | 750 | 600 | 450 | 300 | 150 |
| 18 | 150 & 600 | 390 (15.50) | 6.00 | 152.40 | 2950 | 2655 | 2360 | 2065 | 1770 | 1475 | 1180 | 885 | 590 | 295 |
| | | 330 (13.00) | 6.00 | 152.40 | 2610 | 2395 | 2129 | 1863 | 1596 | 1330 | 1064 | 798 | 532 | 266 |
| | | 280 (11.00) | 4.00 | 101.60 | 1750 | 1697 | 1617 | 1501 | 1350 | 1170 | 952 | 817 | 542 | 305 |
| | 900 & 1500 | 345 (13.50) | 6.00 | 152.40 | 2500 | 2250 | 2000 | 1750 | 1500 | 1250 | 1000 | 750 | 500 | 250 |
| | | 305 (12.00) | 6.00 | 152.40 | 2350 | 2115 | 1880 | 1645 | 1410 | 1175 | 940 | 705 | 470 | 235 |
| | 2500 | 280 (11.00) | 6.00 | 152.40 | 1850 | 1665 | 1480 | 1295 | 1110 | 925 | 740 | 555 | 370 | 185 |
| 20 | 150 & 600 | 410 (16.25) | 8.00 | 200.0 | 3500 | 3150 | 2800 | 2450 | 2100 | 1750 | 1400 | 1050 | 700 | 350 |
| | | 390 (15.50) | 6.00 | 152.40 | 3050 | 2745 | 2440 | 2135 | 1830 | 1525 | 1220 | 915 | 610 | 305 |
| | | 330 (13.00) | 6.00 | 152.40 | 2800 | 2569 | 2284 | 1998 | 1712 | 1427 | 1141 | 856 | 371 | 285 |
| | 900 & 1500 | 380 (15.00) | 8.00 | 200.0 | 3100 | 2790 | 2450 | 2170 | 1860 | 1550 | 1240 | 930 | 620 | 310 |
| | | 345 (13.50) | 6.00 | 152.40 | 2750 | 2475 | 2200 | 1925 | 1650 | 1375 | 1100 | 825 | 550 | 275 |
| | 2500 | 305 (12.00) | 6.00 | 152.40 | 2150 | 1935 | 1720 | 1505 | 1290 | 1075 | 860 | 645 | 430 | 215 |
| 24 | 150 & 600 | 500 (20.00) | 8.00 | 203.0 | 5500 | 4950 | 4400 | 3850 | 3300 | 2750 | 2200 | 1650 | 1100 | 550 |
| | | 410 (16.25) | 8.00 | 203.0 | 3780 | 3402 | 3024 | 2646 | 2268 | 1890 | 1512 | 1134 | 756 | 378 |
| | | 390 (15.50) | 6.00 | 152.40 | 3360 | 3024 | 2688 | 2352 | 2016 | 1680 | 1344 | 1008 | 672 | 336 |
| | 900 & 1500 | 480 (19.00) | 8.00 | 203.0 | 4000 | 3600 | 3200 | 2800 | 2400 | 2000 | 1600 | 1200 | 800 | 400 |
| | | 380 (15.00) | 8.00 | 203.0 | 3400 | 3060 | 2720 | 2380 | 2040 | 1700 | 1360 | 1020 | 680 | 340 |
| | 2500 | 345 (13.50) | 6.00 | 152.40 | 3000 | 2700 | 2400 | 2100 | 1800 | 1500 | 1200 | 900 | 600 | 300 |
| 30 | 150 & 300 & 600 | 610 (24.00) | 12.00 | 305 | 8200 | 7380 | 6560 | 5740 | 4920 | 4100 | 3280 | 2460 | 1640 | 820 |
| | | 470 (18.50) | 8.00 | 203 | 4680 | 4212 | 3744 | 3276 | 2806 | 2340 | 1872 | 1404 | 936 | 468 |
| | | S/C* | | | | | | | | | | | | |
| 36 | 150 & 300 & 600 | 750 (29.50) | 12.00 | 305 | 11000 | 9900 | 8800 | 7700 | 6600 | 5500 | 4400 | 3300 | 2200 | 1100 |
| | | S/C* | | | | | | | | | | | | |

Notes: * Other TN under request.

[1] For further information on flow coefficients ($C_V$) consult www.literature.valteksul.com

# Globe Valves - Large Sizes
# Body Subassembly
# Flow Coefficient - $C_V$: Unbalanced




## Flow Coefficient ( Cv ) - Linear
## Flow Direction: Flow Under

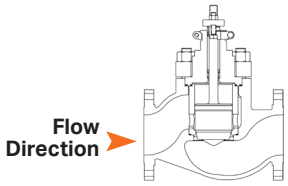
| Valve Nominal Diameter (in.) | ANSI Class | Nominal Trims Size T/N | Stroke | | Opening Percentage | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | in. | mm | 100 | 90 | 80 | 70 | 60 | 50 | 40 | 30 | 20 | 10 |
| 14 | 150 & 600 | 280 (11.00) | 4.00 | 101.60 | 1880 | 1830 | 1740 | 1610 | 1460 | 1270 | 1050 | 790 | 642 | 336 |
| | | 203 (8.00) | 4.00 | 101.60 | 1238 | 1153 | 1058 | 955 | 842 | 720 | 589 | 448 | 303 | 175 |
| | | 160 (6.25) | 4.00 | 101.60 | 882 | 822 | 742 | 652 | 557 | 451 | 346 | 251 | 165 | 107 |
| | 900 & 1500 | 240 (9.50) | 4.00 | 101.60 | 1550 | 1395 | 1240 | 1085 | 930 | 775 | 620 | 465 | 310 | 155 |
| | | 203 (8.00) | 4.00 | 101.60 | 1250 | 1188 | 1116 | 1030 | 938 | 814 | 680 | 528 | 363 | 185 |
| | 2500 | 215 (8.50) | 4.00 | 101.60 | 1200 | 1120 | 1023 | 801 | 645 | 389 | 201 | 104 | 63 | 44 |
| 16 | 150 & 600 | 330 (13.00) | 6.00 | 152.40 | 2350 | 2115 | 1880 | 1645 | 1410 | 1175 | 940 | 705 | 470 | 235 |
| | | 280 (11.00) | 4.00 | 101.60 | 2030 | 1827 | 1624 | 1421 | 1218 | 1015 | 812 | 609 | 406 | 203 |
| | | 203 (8.00) | 4.00 | 101.60 | 1380 | 1311 | 1232 | 1137 | 1035 | 899 | 751 | 583 | 401 | 204 |
| | 900 & 1500 | 305 (12.00) | 6.00 | 152.40 | 2100 | 1890 | 1680 | 1470 | 1260 | 1050 | 840 | 630 | 420 | 210 |
| | | 240 (9.50) | 4.00 | 101.60 | 1550 | 1395 | 1240 | 1085 | 930 | 775 | 620 | 465 | 310 | 155 |
| | 2500 | 240 (9.50) | 4.00 | 101.60 | 1500 | 1350 | 1200 | 1050 | 900 | 750 | 600 | 450 | 300 | 150 |
| 18 | 150 & 600 | 390 (15.50) | 6.00 | 152.40 | 2950 | 2655 | 2360 | 2065 | 1770 | 1475 | 1180 | 885 | 590 | 295 |
| | | 330 (13.00) | 6.00 | 152.40 | 2610 | 2395 | 2129 | 1863 | 1596 | 1330 | 1064 | 798 | 532 | 266 |
| | | 280 (11.00) | 4.00 | 101.60 | 1750 | 1697 | 1617 | 1501 | 1350 | 1170 | 952 | 817 | 542 | 305 |
| | 900 & 1500 | 345 (13.50) | 6.00 | 152.40 | 2500 | 2250 | 2000 | 1750 | 1500 | 1250 | 1000 | 750 | 500 | 250 |
| | | 305 (12.00) | 6.00 | 152.40 | 2350 | 2115 | 1880 | 1645 | 1410 | 1175 | 940 | 705 | 470 | 235 |
| | 2500 | 280 (11.00) | 4.00 | 101.60 | 1850 | 1665 | 1480 | 1295 | 1110 | 925 | 740 | 555 | 370 | 185 |
| 20 | 150 & 600 | 410 (16.25) | 8.00 | 203.0 | 3500 | 3150 | 2800 | 2450 | 2100 | 1750 | 1400 | 1050 | 700 | 350 |
| | | 390 (15.50) | 6.00 | 152.40 | 3050 | 2745 | 2440 | 2135 | 1830 | 1525 | 1220 | 915 | 610 | 305 |
| | | 330 (13.00) | 6.00 | 152.40 | 2800 | 2569 | 2284 | 1998 | 1712 | 1427 | 1141 | 856 | 371 | 285 |
| | 900 & 1500 | 380 (15.00) | 8.00 | 200.0 | 3100 | 2790 | 2450 | 2170 | 1860 | 1550 | 1240 | 930 | 620 | 310 |
| | | 345 (13.50) | 6.00 | 152.40 | 2750 | 2475 | 2200 | 1925 | 1650 | 1375 | 1100 | 825 | 550 | 275 |
| | 2500 | 305 (12.00) | 6.00 | 152.40 | 2150 | 1935 | 1720 | 1505 | 1290 | 1075 | 860 | 645 | 430 | 215 |
| 24 | 150 & 600 | 500 (20.00) | 8.00 | 203.0 | 5500 | 4950 | 4400 | 3850 | 3300 | 2750 | 2200 | 1650 | 1100 | 550 |
| | | 410 (16.25) | 8.00 | 203.0 | 3780 | 3402 | 3024 | 2646 | 2268 | 1890 | 1512 | 1134 | 756 | 378 |
| | | 390 (15.50) | 6.00 | 152.40 | 3360 | 3024 | 2688 | 2352 | 2016 | 1680 | 1344 | 1008 | 672 | 336 |
| | 900 & 1500 | 480 (19.00) | 8.00 | 203.0 | 4000 | 3600 | 3200 | 2800 | 2400 | 2000 | 1600 | 1200 | 800 | 400 |
| | | 380 (15.00) | 8.00 | 203.0 | 3400 | 3060 | 2720 | 2380 | 2040 | 1700 | 1360 | 1020 | 680 | 340 |
| | 2500 | 345 (13.50) | 6.00 | 152.40 | 3000 | 2700 | 2400 | 2100 | 1800 | 1500 | 1200 | 900 | 600 | 300 |
| 30 | 150 & 300 & 600 | 610 (24.00) | 12.00 | 305 | 8200 | 7380 | 6560 | 5740 | 4920 | 4100 | 3280 | 2460 | 1640 | 820 |
| | | 470 (18.50) | 8.00 | 203 | 4680 | 4212 | 3744 | 3276 | 2806 | 2340 | 1872 | 1404 | 936 | 468 |
| | | S/C* | | | | | | | | | | | | |
| 36 | 150 & 300 & 600 | 750 (29.50) | 12.00 | 305 | 11000 | 9900 | 8800 | 7700 | 6600 | 5500 | 4400 | 3300 | 2200 | 1100 |
| | | S/C* | | | | | | | | | | | | |

Notes: * Other TN under request.

[1] For further information on flow coefficients ($C_V$) consult www.literature.valteksul.com

# Globe Valves - Large Sizes
# Body Subassembly
# Flow Coefficient - $C_V$: Balanced

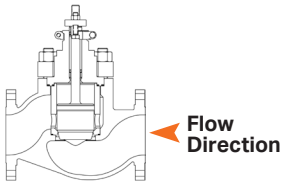
## Flow Coefficient ( Cv ) - Equal Percentage
## Flow Direction: Flow Over




| Valve Nominal Diameter (in.) | ANSI Class | Nominal Trims Size T/N | Stroke | | Opening Percentage | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | in. | mm | 100 | 90 | 80 | 70 | 60 | 50 | 40 | 30 | 20 | 10 |
| 14 | 150 & 600 | 280 (11.00) | 4.00 | 101.60 | 1337 | 1317 | 1268 | 1188 | 1060 | 872 | 660 | 503 | 204 | 113 |
| | | 200 (7.90) | 4.00 | 101.60 | 1139 | 1040 | 901 | 738 | 559 | 432 | 215 | 138 | 91 | 61 |
| | | 160 (6.25) | 4.00 | 101.60 | 882 | 753 | 606 | 464 | 338 | 192 | 128 | 85 | 56 | 37 |
| | 900-1500 | 230 (9.00) | 4.00 | 101.60 | 1450 | 981 | 663 | 448 | 303 | 205 | 139 | 94 | 63 | 43 |
| | 2500 | 215 (8.50) | 4.00 | 101.60 | 1100 | 744 | 503 | 340 | 230 | 156 | 105 | 71 | 48 | 33 |
| 16 | 150-600 | 330 (13.00) | 6.00 | 152.40 | 2200 | 1488 | 1006 | 680 | 460 | 311 | 210 | 142 | 96 | 65 |
| | 900-1500 | 305 (12.00) | 6.00 | 152.40 | 2000 | 1352 | 915 | 618 | 418 | 283 | 191 | 129 | 87 | 59 |
| | 2500 | 240 (9.50) | 4.00 | 101.60 | 1400 | 947 | 640 | 433 | 293 | 198 | 134 | 91 | 61 | 41 |
| 18 | 150-600 | 390 (15.50) | 6.00 | 152.40 | 2750 | 1860 | 1258 | 850 | 575 | 389 | 263 | 178 | 120 | 81 |
| | 900-1500 | 345 (13.50) | 6.00 | 152.40 | 2350 | 1589 | 1075 | 727 | 491 | 332 | 225 | 152 | 103 | 70 |
| | 2500 | 280 (11.00) | 4.00 | 101.60 | 1750 | 1150 | 777 | 526 | 356 | 240 | 163 | 110 | 74 | 50 |
| 20 | 150-600 | 410 (16.25) | 8.00 | 203.0 | 3250 | 2198 | 1486 | 1005 | 680 | 460 | 311 | 210 | 142 | 96 |
| | 900-1500 | 380 (15.00) | 8.00 | 203.0 | 2900 | 1961 | 1326 | 897 | 606 | 410 | 277 | 188 | 127 | 86 |
| | 2500 | 305 (12.00) | 6.00 | 152.40 | 2000 | 1352 | 915 | 618 | 418 | 283 | 191 | 129 | 87 | 59 |
| 24 | 150-600 | 500 (20.00) | 8.00 | 203.0 | 5000 | 3381 | 2287 | 1546 | 1046 | 707 | 478 | 323 | 219 | 148 |
| | 900-1500 | 480 (19.00) | 8.00 | 203.0 | 3700 | 2502 | 1692 | 1144 | 774 | 523 | 354 | 239 | 162 | 109 |
| | 2500 | 345 (13.50) | 6.00 | 152.40 | 2800 | 1893 | 1280 | 866 | 586 | 396 | 268 | 181 | 122 | 63 |
| 30 | 150-600 | 610 (24.00) | 12.00 | 305 | 7500 | 5072 | 3430 | 2319 | 1568 | 1061 | 717 | 485 | 328 | 222 |
| 36 | 150-600 | 750 (29.50) | 12.00 | 305 | 10000 | 6762 | 4573 | 3092 | 2091 | 1414 | 956 | 647 | 437 | 296 |

Note: (1) For further information on flow coefficients ($C_V$) consult www.literature.valteksul.com

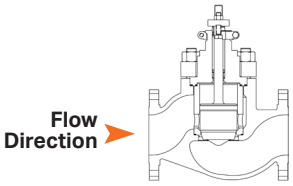
## Flow Coefficient ( Cv ) - Equal Percentage
## Flow Direction: Flow Under




| Valve Nominal Diameter (in.) | ANSI Class | Nominal Trims Size T/N | Stroke | | Opening Percentage | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | in. | mm | 100 | 90 | 80 | 70 | 60 | 50 | 40 | 30 | 20 | 10 |
| 14 | 150 & 600 | 280 (11.00) | 4.00 | 101.60 | 1280 | 1260 | 1210 | 1131 | 1012 | 843 | 638 | 488 | 199 | 110 |
| | | 200 (7.90) | 4.00 | 101.60 | 1100 | 1000 | 872 | 712 | 539 | 418 | 208 | 134 | 89 | 59 |
| | | 160 (6.25) | 4.00 | 101.60 | 850 | 729 | 584 | 478 | 326 | 196 | 124 | 82 | 55 | 36 |
| | 900-1500 | 230 (9.00) | 4.00 | 101.60 | 1450 | 981 | 663 | 448 | 303 | 205 | 139 | 94 | 63 | 43 |
| | 2500 | 215 (8.50) | 4.00 | 101.60 | 1110 | 744 | 503 | 340 | 230 | 156 | 105 | 71 | 48 | 33 |
| 16 | 150-600 | 330 (13.00) | 6.00 | 152.40 | 2200 | 1488 | 1006 | 680 | 460 | 311 | 210 | 142 | 96 | 65 |
| | 900-1500 | 305 (12.00) | 6.00 | 152.40 | 2000 | 1352 | 915 | 618 | 418 | 283 | 191 | 129 | 87 | 59 |
| | 2500 | 240 (9.50) | 4.00 | 101.60 | 1400 | 947 | 640 | 433 | 293 | 198 | 134 | 91 | 61 | 41 |
| 18 | 150-600 | 390 (15.50) | 6.00 | 152.40 | 2750 | 1860 | 1258 | 850 | 575 | 389 | 263 | 178 | 120 | 81 |
| | 900-1500 | 345 (13.50) | 6.00 | 152.40 | 2350 | 1589 | 1075 | 727 | 491 | 332 | 225 | 152 | 103 | 70 |
| | 2500 | 280 (11.00) | 4.00 | 101.60 | 1700 | 1150 | 777 | 526 | 356 | 240 | 163 | 110 | 74 | 50 |
| 20 | 150-600 | 410 (16.25) | 8.00 | 203.0 | 3250 | 2198 | 1486 | 1005 | 680 | 460 | 311 | 210 | 142 | 96 |
| | 900-1500 | 380 (15.00) | 8.00 | 203.0 | 2900 | 1961 | 1326 | 897 | 606 | 410 | 277 | 188 | 127 | 86 |
| | 2500 | 305 (12.00) | 6.00 | 152.40 | 2000 | 1352 | 915 | 618 | 418 | 283 | 191 | 129 | 87 | 59 |
| 24 | 150-600 | 500 (20.00) | 8.00 | 203.0 | 5000 | 3381 | 2287 | 1546 | 1046 | 707 | 478 | 323 | 219 | 148 |
| | 900-1500 | 480 (19.00) | 8.00 | 203.0 | 3700 | 2502 | 1692 | 1144 | 774 | 523 | 354 | 239 | 162 | 109 |
| | 2500 | 345 (13.50) | 6.00 | 152.40 | 2800 | 1893 | 1280 | 866 | 586 | 396 | 268 | 181 | 122 | 83 |
| 30 | 150-600 | 610 (24.00) | 12.00 | 305 | 7500 | 5072 | 3430 | 2319 | 1568 | 1061 | 717 | 485 | 328 | 222 |
| 36 | 150-600 | 750 (29.50) | 12.00 | 305 | 10000 | 6762 | 4573 | 3092 | 2091 | 1414 | 956 | 647 | 437 | 296 |

# Globe Valves - Large Sizes
# Body Subassembly
# Flow Coefficient - $C_V$: Balanced

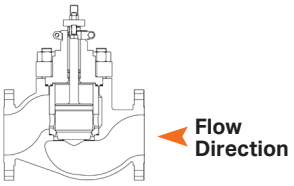
## Flow Coefficient ( Cv ) - Linear
## Flow Direction: Flow Over




| Valve Nominal Diameter (in.) | ANSI Class | Nominal Trims Size T/N | Stroke | | Opening Percentage | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | in. | mm | 100 | 90 | 80 | 70 | 60 | 50 | 40 | 30 | 20 | 10 |
| 14 | 150 & 600 | 280 (11.00) | 4.00 | 101.60 | 1340 | 1330 | 1300 | 1251 | 1181 | 1082 | 953 | 764 | 641 | 351 |
| | | 200 (7.90) | 4.00 | 101.60 | 1170 | 1120 | 1050 | 982 | 892 | 783 | 673 | 532 | 374 | 193 |
| | | 160 (6.25) | 4.00 | 101.60 | 912 | 853 | 783 | 752 | 629 | 542 | 446 | 344 | 235 | 119 |
| | 900-1500 | 230 (9.00) | 4.00 | 101.60 | 1450 | 1305 | 1160 | 1015 | 870 | 725 | 580 | 435 | 290 | 145 |
| | 2500 | 215 (8.50) | 4.00 | 101.60 | 1100 | 990 | 880 | 770 | 660 | 550 | 440 | 330 | 220 | 110 |
| 16 | 150-600 | 330 (13.00) | 6.00 | 152.40 | 2200 | 1980 | 1760 | 1540 | 1320 | 1100 | 880 | 660 | 440 | 220 |
| | 900-1500 | 305 (12.00) | 6.00 | 152.40 | 2000 | 1800 | 1600 | 1400 | 1200 | 1000 | 800 | 600 | 400 | 200 |
| | 2500 | 240 (9.50) | 4.00 | 101.60 | 1400 | 1260 | 1120 | 980 | 840 | 700 | 560 | 420 | 280 | 140 |
| 18 | 150-600 | 390 (15.50) | 6.00 | 152.40 | 2750 | 2475 | 2200 | 1925 | 1650 | 1375 | 1100 | 825 | 550 | 275 |
| | 900-1500 | 345 (13.50) | 6.00 | 152.40 | 2350 | 2115 | 1880 | 1645 | 1410 | 1175 | 940 | 705 | 470 | 235 |
| | 2500 | 280 (11.00) | 4.00 | 101.60 | 1700 | 1530 | 1360 | 1170 | 1020 | 850 | 680 | 510 | 340 | 170 |
| 20 | 150-600 | 410 (16.25) | 8.00 | 203.0 | 3250 | 2925 | 2600 | 2275 | 1950 | 1625 | 1300 | 975 | 650 | 325 |
| | 900-1500 | 380 (15.00) | 8.00 | 203.0 | 2900 | 2610 | 2320 | 2030 | 1740 | 1450 | 1160 | 870 | 580 | 290 |
| | 2500 | 305 (12.00) | 6.00 | 152.40 | 2000 | 1800 | 1600 | 1400 | 1200 | 1000 | 800 | 600 | 400 | 200 |
| 24 | 150-600 | 500 (20.00) | 8.00 | 203.0 | 5000 | 4500 | 4000 | 3500 | 3000 | 2500 | 2000 | 1500 | 1000 | 500 |
| | 900-1500 | 480 (19.00) | 8.00 | 203.0 | 3700 | 3330 | 2960 | 2590 | 2220 | 1850 | 1480 | 1110 | 740 | 370 |
| | 2500 | 345 (13.50) | 6.00 | 152.40 | 2800 | 2520 | 2240 | 1960 | 1680 | 1400 | 1120 | 840 | 560 | 280 |
| 30 | 150-600 | 610 (24.00) | 12.00 | 305 | 7500 | 6750 | 6000 | 5250 | 4500 | 3750 | 3000 | 2250 | 1500 | 750 |
| 36 | 150-600 | 750 (29.50) | 12.00 | 305 | 10000 | 9000 | 8000 | 7000 | 6000 | 5000 | 4000 | 3000 | 2000 | 1000 |

Note: (1) For further information on flow coefficients ($C_V$) consult www.literature.valteksul.com

## Flow Coefficient ( Cv ) - Linear
## Flow Direction: Flow Under




| Valve Nominal Diameter (in.) | ANSI Class | Nominal Trims Size T/N | Stroke | | Opening Percentage | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | in. | mm | 100 | 90 | 80 | 70 | 60 | 50 | 40 | 30 | 20 | 10 |
| 14 | 150 & 600 | 280 (11.00) | 4.00 | 101.60 | 1280 | 1270 | 1240 | 1201 | 1131 | 1042 | 913 | 744 | 623 | 342 |
| | | 200 (7.90) | 4.00 | 101.60 | 1120 | 1070 | 1011 | 942 | 862 | 763 | 652 | 516 | 364 | 188 |
| | | 160 (6.25) | 4.00 | 101.60 | 882 | 823 | 703 | 688 | 609 | 525 | 433 | 334 | 229 | 116 |
| | 900-1500 | 230 (9.00) | 4.00 | 101.60 | 1450 | 1305 | 1160 | 1015 | 870 | 725 | 580 | 435 | 290 | 145 |
| | 2500 | 215 (8.50) | 4.00 | 101.60 | 1100 | 990 | 880 | 770 | 660 | 550 | 440 | 330 | 220 | 110 |
| 16 | 150-600 | 330 (13.00) | 6.00 | 152.40 | 2200 | 1980 | 1760 | 1540 | 1320 | 1100 | 880 | 660 | 440 | 220 |
| | 900-1500 | 305 (12.00) | 6.00 | 152.40 | 2000 | 1800 | 1600 | 1400 | 1200 | 1000 | 800 | 600 | 400 | 200 |
| | 2500 | 240 (9.50) | 4.00 | 101.60 | 1400 | 1260 | 1120 | 980 | 840 | 700 | 560 | 420 | 280 | 140 |
| 18 | 150-600 | 390 (15.50) | 6.00 | 152.40 | 2750 | 2475 | 2200 | 1925 | 1650 | 1375 | 1100 | 825 | 550 | 275 |
| | 900-1500 | 345 (13.50) | 6.00 | 152.40 | 2350 | 2115 | 1880 | 1645 | 1410 | 1175 | 940 | 705 | 470 | 235 |
| | 2500 | 280 (11.00) | 4.00 | 101.60 | 1700 | 1530 | 1360 | 1190 | 1020 | 850 | 680 | 510 | 340 | 170 |
| 20 | 150-600 | 410 (16.25) | 8.00 | 203.0 | 3250 | 2925 | 2600 | 2275 | 1950 | 1625 | 1300 | 975 | 650 | 325 |
| | 900-1500 | 380 (15.00) | 8.00 | 203.0 | 2900 | 2610 | 2320 | 2030 | 1740 | 1450 | 1160 | 870 | 550 | 290 |
| | 2500 | 305 (12.00) | 6.00 | 152.40 | 2000 | 1800 | 1600 | 1400 | 1200 | 1000 | 800 | 600 | 400 | 200 |
| 24 | 150-600 | 500 (20.00) | 8.00 | 203.0 | 5000 | 4500 | 4000 | 3500 | 3000 | 2500 | 2000 | 1500 | 1000 | 500 |
| | 900-1500 | 480 (19.00) | 8.00 | 203.0 | 3700 | 3330 | 2960 | 2590 | 2220 | 1850 | 1480 | 1110 | 740 | 370 |
| | 2500 | 345 (13.50) | 6.00 | 152.40 | 2800 | 2520 | 2240 | 1960 | 1680 | 1400 | 1120 | 840 | 560 | 280 |
| 30 | 150-600 | 610 (24.00) | 12.00 | 305 | 7500 | 6750 | 6000 | 5250 | 4500 | 3750 | 3000 | 2250 | 1500 | 750 |
| 36 | 150-600 | 750 (29.50) | 12.00 | 305 | 10000 | 9000 | 8000 | 7000 | 6000 | 5000 | 4000 | 3000 | 2000 | 1000 |

# Globe Valves - Large Sizes
# Body Subassembly - Pressure Class: 150-300-600
# Flow Coefficient - $C_V$

## Beta Trim - 1 & 2 Stages - Unbalanced Trims
## Flow Coefficient ( $C_v$ ) - Linear
## Flow Direction: Flow Under

| Valve Nominal Diameter (in.) | Nominal Trims Size T/N | Stroke | | Nº of Stages | Opening Percentage | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | in. | mm | | 100 | 90 | 80 | 70 | 60 | 50 | 40 | 30 | 20 | 10 |
| 14 | 255 (10.00) | 6.00 | 152.40 | 1 | 1480 | 1402 | 1319 | 1226 | 1122 | 1002 | 862 | 697 | 502 | 271 |
| | 240 (9.50) | 6.00 | 152.40 | 1 | 1400 | 1325 | 1244 | 1153 | 1051 | 934 | 798 | 641 | 458 | 245 |
| | 200 (7.90) | 6.00 | 152.40 | 2 | 1010 | 963 | 909 | 846 | 773 | 688 | 588 | 470 | 335 | 177 |
| | 190 (7.40) | 4.00 | 101.60 | 2 | 940 | 892 | 836 | 773 | 700 | 617 | 522 | 414 | 291 | 153 |
| 16 | 300 (12.00) | 6.00 | 152.40 | 1 | 2040 | 1934 | 1820 | 1697 | 1557 | 1397 | 1208 | 983 | 714 | 388 |
| | 270 (10.50) | 6.00 | 152.40 | 1 | 1775 | 1678 | 1572 | 1454 | 1321 | 1170 | 997 | 797 | 567 | 302 |
| | 230 (9.00) | 6.00 | 152.40 | 2 | 1310 | 1247 | 1175 | 1093 | 996 | 884 | 754 | 602 | 427 | 226 |
| | 200 (7.90) | 6.00 | 152.40 | 2 | 1165 | 1100 | 1026 | 944 | 851 | 745 | 627 | 493 | 345 | 180 |
| 18 | 335 (13.20) | 8.00 | 203 | 1 | 2515 | 2384 | 2243 | 2090 | 1916 | 1717 | 1483 | 1204 | 872 | 473 |
| | 305 (12.00) | 6.00 | 152.40 | 1 | 2270 | 2147 | 2013 | 1865 | 1697 | 1507 | 1286 | 1031 | 735 | 393 |
| | 255 (10.00) | 6.00 | 152.40 | 2 | 1625 | 1547 | 1457 | 1353 | 1233 | 1094 | 932 | 744 | 526 | 278 |
| | 230 (9.00) | 6.00 | 152.40 | 2 | 1465 | 1384 | 1292 | 1189 | 1072 | 940 | 790 | 623 | 436 | 227 |
| 20 | 375 (14.75) | 8.00 | 203 | 1 | 3100 | 2938 | 2766 | 2576 | 2364 | 2119 | 1832 | 1490 | 1080 | 588 |
| | 330 (13.00) | 8.00 | 203 | 1 | 2720 | 2571 | 2409 | 2228 | 2024 | 1793 | 1527 | 1222 | 869 | 463 |
| | 280 (11.00) | 6.00 | 152.40 | 2 | 1980 | 1881 | 1774 | 1647 | 1501 | 1330 | 1133 | 903 | 639 | 338 |
| | 255 (10.00) | 6.00 | 152.40 | 2 | 1800 | 1701 | 1589 | 1462 | 1320 | 1158 | 974 | 768 | 536 | 280 |
| 24 | 450 (17.75) | 8.00 | 203 | 1 | 4490 | 4255 | 4005 | 3731 | 3423 | 3068 | 2651 | 2155 | 1561 | 848 |
| | 405 (16.00) | 8.00 | 203 | 1 | 4040 | 3822 | 3584 | 3320 | 3022 | 2681 | 2290 | 1835 | 1309 | 700 |
| | 335 (13.20) | 8.00 | 203 | 2 | 2870 | 2730 | 2569 | 2385 | 2173 | 1926 | 1639 | 1308 | 924 | 487 |
| | 305 (12.00) | 6.00 | 152.40 | 2 | 2610 | 2465 | 2302 | 2118 | 1910 | 1674 | 1409 | 1110 | 775 | 405 |
| 30 | 560 (22.00) | 8.00 | 203 | 1 | 6920 | 6560 | 6173 | 5750 | 5273 | 4726 | 4082 | 3317 | 2400 | 1302 |
| | 510 (20.00) | 8.00 | 203 | 1 | 6280 | 5942 | 5573 | 5163 | 4700 | 4174 | 3566 | 2862 | 2042 | 1093 |
| | 420 (16.50) | 8.00 | 203 | 2 | 4450 | 4233 | 3986 | 3701 | 3371 | 2989 | 2544 | 2029 | 1434 | 757 |
| | 380 (15.00) | 8.00 | 203 | 2 | 4050 | 3827 | 3575 | 3291 | 2969 | 2604 | 2194 | 1727 | 1207 | 630 |
| 36 | 670 (26.50) | 8.00 | 203 | 1 | 10050 | 9525 | 8964 | 8343 | 7657 | 6860 | 5925 | 4813 | 3482 | 1890 |
| | 560 (22.00) | 8.00 | 203 | 1 | 8285 | 7811 | 7290 | 6712 | 6066 | 5339 | 4516 | 3585 | 2529 | 1338 |
| | 510 (20.00) | 8.00 | 203 | 2 | 6500 | 6185 | 5826 | 5412 | 4933 | 4376 | 3727 | 2975 | 2105 | 1112 |
| | 470 (18.50) | 8.00 | 203 | 2 | 6030 | 5706 | 5340 | 4925 | 4453 | 3916 | 3305 | 2611 | 1830 | 958 |

Note: [1] For further information on flow coefficients ($C_V$) consult www.literature.valteksul.com

# Globe Valves - Large Sizes
# Body Subassembly - Pressure Class: 900 & 1500
# Flow Coefficient - $C_V$

## Beta Trim - Stages 1 & 2 - Unbalanced Trims
## Flow Coefficient ( $C_V$ ) - Equal Percentage
## Flow Direction: Flow Under

| Valve Nominal Diameter (in.) | Nominal Trims Size T/N | Stroke | | Nº of Stages | Opening Percentage | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | in. | mm | | 100 | 90 | 80 | 70 | 60 | 50 | 40 | 30 | 20 | 10 |
| 14 | 235 (9.25) | 6.00 | 152.40 | 1 | 1210 | 1183 | 1149 | 1105 | 1045 | 964 | 853 | 705 | 511 | 271 |
| | 230 (9.00) | 6.00 | 152.40 | 1 | 1145 | 1122 | 1093 | 1054 | 1001 | 928 | 829 | 691 | 504 | 268 |
| | 190 (7.48) | 6.00 | 152.40 | 2 | 820 | 794 | 762 | 721 | 669 | 603 | 520 | 417 | 293 | 152 |
| | 165 (6.50) | 6.00 | 152.40 | 2 | 750 | 730 | 704 | 671 | 629 | 573 | 501 | 407 | 290 | 151 |
| 16 | 265 (10.45)) | 8.00 | 203 | 1 | 1530 | 1499 | 1459 | 1405 | 1333 | 1233 | 1098 | 912 | 664 | 354 |
| | 255 10.00) | 8.00 | 203 | 1 | 1460 | 1432 | 1397 | 1349 | 1284 | 1194 | 1069 | 894 | 655 | 351 |
| | 200 (7.90) | 6.00 | 152.40 | 2 | 1040 | 1010 | 967 | 917 | 854 | 773 | 671 | 541 | 382 | 198 |
| | 190 (7.48) | 6.00 | 152.40 | 2 | 975 | 949 | 917 | 874 | 819 | 747 | 653 | 531 | 379 | 196 |
| 18 | 290 (11.50) | 8.00 | 203 | 1 | 1885 | 1849 | 1801 | 1737 | 1651 | 1533 | 1369 | 1141 | 835 | 445 |
| | 280 (11.00) | 8.00 | 203 | 1 | 1815 | 1782 | 1739 | 1681 | 1603 | 1494 | 1341 | 1125 | 828 | 444 |
| | 255 (10.00) | 6.00 | 152.40 | 2 | 1315 | 1276 | 1226 | 1164 | 1084 | 982 | 851 | 686 | 484 | 252 |
| | 240 (9.50) | 6.00 | 152.40 | 2 | 1200 | 1170 | 1132 | 1083 | 1018 | 932 | 817 | 668 | 479 | 250 |
| 20 | 330 (13.00) | 8.00 | 203 | 1 | 2385 | 2338 | 2276 | 2195 | 2085 | 1934 | 1725 | 1436 | 1048 | 559 |
| | 315 (12.50) | 8.00 | 203 | 1 | 2305 | 2263 | 2207 | 2132 | 2031 | 1891 | 1693 | 1418 | 1042 | 558 |
| | 255 (10.00) | 8.00 | 203 | 2 | 1640 | 1592 | 1531 | 1454 | 1355 | 1228 | 1064 | 859 | 608 | 317 |
| | 240 (9.50) | 6.00 | 152.40 | 2 | 1575 | 1532 | 1477 | 1407 | 1316 | 1198 | 1045 | 848 | 603 | 314 |
| 24 | 390 (15.35) | 8.00 | 203 | 1 | 3410 | 3340 | 3252 | 3137 | 2980 | 2765 | 2471 | 2057 | 1503 | 801 |
| | 380 (15.00) | 8.00 | 203 | 1 | 3310 | 3249 | 3165 | 3061 | 2915 | 2713 | 2431 | 2036 | 1495 | 800 |
| | 305 (12,00) | 8.00 | 203 | 2 | 2355 | 2286 | 2198 | 2087 | 1945 | 1762 | 1527 | 1232 | 872 | 454 |
| | 280 (11.00) | 6.00 | 152.40 | 2 | 2205 | 2148 | 2075 | 1981 | 1859 | 1697 | 1485 | 1210 | 865 | 453 |

Note: [1] For further information on flow coefficients ($C_V$) consult www.literature.valteksul.com

# Globe Valves - Large Sizes
# Body Subassembly - Pressure Class: 900 & 1500
# Flow Coefficient - $C_v$

## Beta Trim - 1 & 2 Stages - Unbalanced Trims
## Flow Coefficient ( $C_v$ ) - Linear
## Flow Direction: Flow Under

| Valve Nominal Diameter (in.) | Nominal Trims Size T/N | Stroke | | Nº of Stages | Opening Percentage | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | mm | in. | | 100 | 90 | 80 | 70 | 60 | 50 | 40 | 30 | 20 | 10 |
| 14 | 235 (9.25) | 152.40 | 6.00 | 1 | 1245 | 1218 | 1183 | 1137 | 1075 | 992 | 879 | 726 | 526 | 278 |
| | 230 (9.00) | 152.40 | 6.00 | 1 | 1180 | 1157 | 1127 | 1086 | 1032 | 957 | 855 | 712 | 520 | 277 |
| | 190 (7.48) | 152.40 | 6.00 | 2 | 850 | 823 | 789 | 747 | 693 | 625 | 539 | 432 | 303 | 157 |
| | 165 (6.50) | 152.40 | 6.00 | 2 | 775 | 754 | 728 | 694 | 650 | 593 | 517 | 421 | 300 | 156 |
| 16 | 265 (10.45)) | 203 | 8.00 | 1 | 1575 | 1543 | 1502 | 1446 | 1372 | 1270 | 1131 | 939 | 683 | 363 |
| | 255 10.00) | 203 | 8.00 | 1 | 1510 | 1482 | 1445 | 1396 | 1329 | 1235 | 1106 | 926 | 679 | 364 |
| | 200 (7.90) | 152.40 | 6.00 | 2 | 1070 | 1039 | 999 | 948 | 883 | 799 | 693 | 558 | 395 | 205 |
| | 190 (7.48) | 152.40 | 6.00 | 2 | 1005 | 979 | 945 | 901 | 844 | 770 | 674 | 548 | 390 | 204 |
| 18 | 290 (11.50) | 203 | 8.00 | 1 | 1944 | 1906 | 1856 | 1791 | 1702 | 1580 | 1411 | 1177 | 860 | 459 |
| | 280 (11.00) | 203 | 8.00 | 1 | 1871 | 1837 | 1793 | 1733 | 1652 | 1540 | 1382 | 1160 | 854 | 458 |
| | 255 (10.00) | 152.40 | 6.00 | 2 | 1355 | 1315 | 1264 | 1200 | 1118 | 1012 | 877 | 707 | 499 | 260 |
| | 240 (9.50) | 152.40 | 6.00 | 2 | 1235 | 1204 | 1165 | 1114 | 1047 | 958 | 841 | 688 | 493 | 259 |
| 20 | 330 (13.00) | 203 | 8.00 | 1 | 2460 | 2411 | 2348 | 2264 | 2150 | 1994 | 1778 | 1481 | 1081 | 577 |
| | 315 (12.50) | 203 | 8.00 | 1 | 2375 | 2331 | 2273 | 2196 | 2092 | 1947 | 1745 | 1461 | 1073 | 575 |
| | 255 (10.00) | 203 | 8.00 | 2 | 1690 | 1640 | 1578 | 1498 | 1396 | 1265 | 1097 | 885 | 626 | 325 |
| | 240 (9.50) | 152.40 | 6.00 | 2 | 1625 | 1580 | 1524 | 1452 | 1358 | 1236 | 1077 | 874 | 621 | 324 |
| 24 | 390 (15.35) | 203 | 8.00 | 1 | 3515 | 3446 | 3356 | 3237 | 3075 | 2854 | 2547 | 2123 | 1551 | 827 |
| | 380 (15.00) | 203 | 8.00 | 1 | 3415 | 3351 | 3268 | 3158 | 3007 | 2799 | 2508 | 2100 | 1542 | 826 |
| | 305 (12,00) | 203 | 8.00 | 2 | 2430 | 2358 | 2268 | 2154 | 2007 | 1818 | 1576 | 1271 | 900 | 469 |
| | 280 (11.00) | 152.40 | 6.00 | 2 | 2270 | 2211 | 2136 | 2039 | 1913 | 1747 | 1528 | 1245 | 890 | 466 |

Note: [1] For further information on flow coefficients ($C_v$) consult www.literature.valteksul.com

# Globe Valves - Large Sizes
# Body Subassembly - Pressure Class: 150-300-600
# Flow Coefficient - $C_V$

## Beta Trim - Multiple Stages - Unbalanced Trims
## Flow Coefficient ( $C_V$ ) - Equal Percentage
## Flow Direction: Flow Under

| Valve Nominal Diameter (in.) | Nominal Trims Size T/N | Stroke | | Nº of Stages | Optimum $P_1/P_2$ | Opening Percentage | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | mm | in. | | | 100 | 90 | 80 | 70 | 60 | 50 | 40 | 30 | 20 | 10 |
| 14 | 165 (6.50) | 101.60 | 4.00 | 3 | 4.3 | 690 | 564 | 436 | 321 | 230 | 160 | 111 | 76 | 52 | 35 |
| | 125 (5.00) | 76.20 | 3.00 | 4 | 6.4 | 450 | 361 | 276 | 201 | 139 | 96 | 65 | 45 | 31 | 21 |
| | 102 (4.00) | 63.50 | 2.50 | 5 | 9.6 | 300 | 239 | 178 | 128 | 89 | 61 | 42 | 29 | 20 | 13 |
| | 90 (3.50) | 63.50 | 2.50 | 6 | 14.5 | 220 | 178 | 136 | 98 | 69 | 48 | 33 | 22 | 15 | 10 |
| | 67 (2.63) | 50.80 | 2.00 | 7 | 32.0 | 135 | 106 | 78 | 55 | 38 | 26 | 17 | 13 | 8.4 | 5.6 |
| 16 | 185(7.25) | 101.60 | 4.00 | 3 | 4.3 | 890 | 722 | 554 | 407 | 288 | 199 | 139 | 94 | 64 | 44 |
| | 150 (6.00) | 101.60 | 4.00 | 4 | 6.4 | 620 | 504 | 386 | 281 | 200 | 139 | 95 | 65 | 44 | 30 |
| | 125 (5.00) | 76.20 | 3.00 | 5 | 9.6 | 430 | 352 | 270 | 197 | 139 | 96 | 66 | 45 | 31 | 21 |
| | 102 (4.00) | 63.50 | 2.50 | 6 | 14.5 | 290 | 236 | 180 | 130 | 91 | 63 | 43 | 29 | 20 | 13 |
| | 85 (3.25) | 63.50 | 2.50 | 7 | 32.0 | 195 | 158 | 119 | 86 | 60 | 41 | 28 | 19 | 13 | 8.8 |
| 18 | 210 (8.25) | 152.40 | 6.00 | 3 | 4.3 | 1125 | 918 | 707 | 520 | 371 | 259 | 178 | 122 | 83 | 56 |
| | 170 (6.75) | 101.60 | 4.00 | 4 | 6.4 | 780 | 636 | 488 | 357 | 253 | 175 | 120 | 82 | 56 | 38 |
| | 140 (5.50) | 76.20 | 3.00 | 5 | 9.6 | 535 | 435 | 333 | 242 | 170 | 117 | 80 | 55 | 37 | 25 |
| | 115 (4.50) | 76.20 | 3.00 | 6 | 14.5 | 365 | 297 | 226 | 164 | 115 | 79 | 54 | 37 | 25 | 17 |
| | 95 (3.75) | 63.50 | 2.50 | 7 | 32.0 | 250 | 204 | 156 | 113 | 80 | 55 | 38 | 26 | 17 | 12 |
| 20 | 230 (9.00) | 152.40 | 6.00 | 3 | 4.3 | 1360 | 1105 | 848 | 622 | 442 | 308 | 212 | 145 | 99 | 67 |
| | 190 (7.50) | 101.60 | 4.00 | 4 | 6.4 | 960 | 784 | 602 | 441 | 312 | 216 | 149 | 101 | 69 | 47 |
| | 150 (6.00) | 101.60 | 4.00 | 5 | 9.6 | 645 | 523 | 397 | 288 | 203 | 140 | 96 | 65 | 44 | 30 |
| | 125 (5.00) | 76.20 | 3.00 | 6 | 14.5 | 450 | 366 | 280 | 203 | 142 | 99 | 68 | 45 | 31 | 21 |
| | 110 (4.25) | 63.50 | 2.50 | 7 | 32.0 | 315 | 260 | 201 | 147 | 103 | 72 | 49 | 33 | 22 | 15 |
| 24 | 280 (11.00) | 152.40 | 6.00 | 3 | 4.3 | 2000 | 1632 | 1258 | 925 | 659 | 460 | 317 | 217 | 148 | 100 |
| | 230 (9.00) | 152.40 | 6.00 | 4 | 6.4 | 1390 | 1133 | 870 | 636 | 450 | 313 | 214 | 146 | 99 | 67 |
| | 185 (7.25) | 101.60 | 4.00 | 5 | 9.6 | 940 | 762 | 579 | 420 | 296 | 204 | 140 | 95 | 65 | 44 |
| | 150 (6.00) | 101.60 | 4.00 | 6 | 14.5 | 645 | 524 | 400 | 289 | 203 | 141 | 96 | 64 | 44 | 30 |
| | 125 (5.00) | 76.20 | 3.00 | 7 | 32.0 | 445 | 365 | 279 | 202 | 142 | 98 | 67 | 45 | 31 | 21 |
| 30 | 340 (13.50) | 203 | 8.00 | 3 | 4.3 | 3060 | 2486 | 1909 | 1399 | 995 | 694 | 478 | 327 | 223 | 151 |
| | 280 (11.00) | 152.40 | 6.00 | 4 | 6.4 | 2115 | 1714 | 1309 | 952 | 673 | 466 | 320 | 218 | 148 | 101 |
| | 230 (9.00) | 152.40 | 6.00 | 5 | 9.6 | 1450 | 1174 | 893 | 648 | 456 | 315 | 216 | 147 | 100 | 68 |
| | 190 (7.50) | 101.60 | 4.00 | 6 | 14.5 | 1005 | 819 | 625 | 453 | 318 | 220 | 150 | 102 | 69 | 47 |
| | 160 (6.25) | 101.60 | 4.00 | 7 | 32.0 | 690 | 565 | 432 | 315 | 221 | 152 | 105 | 71 | 48 | 33 |
| 36 | 410 (16.25) | 203 | 8.00 | 3 | 4.3 | 4440 | 3606 | 2767 | 2029 | 1442 | 1005 | 692 | 474 | 323 | 219 |
| | 335 (13.25) | 203 | 8.00 | 4 | 6.4 | 3070 | 2488 | 1898 | 1382 | 976 | 677 | 464 | 317 | 215 | 146 |
| | 280 (11.00) | 152.40 | 6.00 | 5 | 9.6 | 2135 | 1737 | 1326 | 965 | 679 | 470 | 322 | 219 | 149 | 101 |
| | 230 (9.00) | 152.40 | 6.00 | 6 | 14.5 | 1455 | 1184 | 901 | 653 | 459 | 316 | 216 | 147 | 100 | 68 |
| | 190 (7.50) | 101.60 | 4.00 | 7 | 32.0 | 1000 | 818 | 626 | 454 | 319 | 220 | 151 | 102 | 69 | 47 |

Note: (1) For further information on flow coefficients ($C_V$) consult www.literature.valteksul.com

# Globe Valves - Large Sizes
# Body Subassembly - Pressure Class: 150-300-600
# Flow Coefficient - $C_V$

## Beta Trim - Multiple Stages - Unbalanced Trims
## Flow Coefficient ( $C_v$ ) - Linear
## Flow Direction: Flow Under

| Valve Nominal Diameter (in.) | Nominal Trims Size T/N | Stroke | | Nº of Stages | Optimum $P_1/P_2$ | Opening Percentage | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | mm | in. | | | 100 | 90 | 80 | 70 | 60 | 50 | 40 | 30 | 20 | 10 |
| 14 | 165 (6.50) | 101.60 | 4.00 | 3 | 4.3 | 702 | 670 | 632 | 588 | 536 | 476 | 405 | 323 | 227 | 119 |
| | 125 (5.00) | 76.20 | 3.00 | 4 | 6.4 | 460 | 436 | 409 | 378 | 342 | 300 | 252 | 199 | 138 | 71 |
| | 102 (4.00) | 63.50 | 2.50 | 5 | 9.6 | 307 | 291 | 272 | 250 | 226 | 198 | 165 | 129 | 90 | 46 |
| | 90 (3.50) | 63.50 | 2.50 | 6 | 14.5 | 223 | 213 | 200 | 186 | 169 | 148 | 125 | 99 | 68 | 35 |
| | 67 (2.63) | 50.80 | 2.00 | 7 | 32.0 | 138 | 130 | 121 | 111 | 100 | 87 | 72 | 56 | 39 | 20 |
| 16 | 185(7.25) | 101.60 | 4.00 | 3 | 4.3 | 905 | 861 | 811 | 752 | 684 | 605 | 513 | 406 | 285 | 148 |
| | 150 (6.00) | 101.60 | 4.00 | 4 | 6.4 | 630 | 601 | 567 | 526 | 479 | 423 | 358 | 283 | 197 | 102 |
| | 125 (5.00) | 76.20 | 3.00 | 5 | 9.6 | 437 | 417 | 394 | 367 | 334 | 296 | 250 | 197 | 138 | 71 |
| | 102 (4.00) | 63.50 | 2.50 | 6 | 14.5 | 294 | 281 | 265 | 245 | 223 | 196 | 166 | 129 | 89 | 46 |
| | 85 (3.25) | 63.50 | 2.50 | 7 | 32.0 | 198 | 188 | 177 | 164 | 149 | 131 | 110 | 86 | 59 | 30 |
| 18 | 210 (8.25) | 152.40 | 6.00 | 3 | 4.3 | 1145 | 1092 | 1030 | 957 | 872 | 773 | 656 | 521 | 366 | 192 |
| | 170 (6.75) | 101.60 | 4.00 | 4 | 6.4 | 793 | 756 | 713 | 663 | 603 | 533 | 452 | 357 | 249 | 130 |
| | 140 (5.50) | 76.20 | 3.00 | 5 | 9.6 | 543 | 518 | 488 | 453 | 412 | 364 | 307 | 241 | 168 | 87 |
| | 115 (4.50) | 76.20 | 3.00 | 6 | 14.5 | 370 | 353 | 333 | 309 | 281 | 248 | 209 | 163 | 113 | 58 |
| | 95 (3.75) | 63.50 | 2.50 | 7 | 32.0 | 253 | 242 | 228 | 212 | 193 | 170 | 144 | 114 | 79 | 40 |
| 20 | 230 (9.00) | 152.40 | 6.00 | 3 | 4.3 | 1385 | 1319 | 1243 | 1154 | 1050 | 928 | 787 | 623 | 437 | 228 |
| | 190 (7.50) | 101.60 | 4.00 | 4 | 6.4 | 975 | 930 | 878 | 816 | 743 | 658 | 558 | 440 | 308 | 160 |
| | 150 (6.00) | 101.60 | 4.00 | 5 | 9.6 | 655 | 624 | 587 | 544 | 494 | 435 | 367 | 288 | 200 | 103 |
| | 125 (5.00) | 76.20 | 3.00 | 6 | 14.5 | 455 | 434 | 410 | 381 | 346 | 305 | 257 | 202 | 141 | 73 |
| | 110 (4.25) | 63.50 | 2.50 | 7 | 32.0 | 320 | 306 | 290 | 271 | 247 | 219 | 186 | 146 | 102 | 53 |
| 24 | 280 (11.00) | 152.40 | 6.00 | 3 | 4.3 | 2035 | 1940 | 1830 | 1701 | 1550 | 1373 | 1166 | 927 | 651 | 341 |
| | 230 (9.00) | 152.40 | 6.00 | 4 | 6.4 | 1410 | 1345 | 1269 | 1179 | 1074 | 949 | 804 | 635 | 443 | 230 |
| | 185 (7.25) | 101.60 | 4.00 | 5 | 9.6 | 955 | 910 | 857 | 794 | 721 | 635 | 536 | 421 | 292 | 150 |
| | 150 (6.00) | 101.60 | 4.00 | 6 | 14.5 | 655 | 625 | 589 | 546 | 496 | 437 | 369 | 290 | 201 | 103 |
| | 125 (5.00) | 76.20 | 3.00 | 7 | 32.0 | 450 | 430 | 406 | 378 | 344 | 304 | 256 | 202 | 140 | 72 |
| 30 | 340 (13.50) | 203 | 8.00 | 3 | 4.3 | 3115 | 2967 | 2794 | 2594 | 2360 | 2087 | 1770 | 1402 | 983 | 514 |
| | 280 (11.00) | 152.40 | 6.00 | 4 | 6.4 | 2150 | 2048 | 1928 | 1788 | 1624 | 1432 | 1210 | 954 | 664 | 344 |
| | 230 (9.00) | 152.40 | 6.00 | 5 | 9.6 | 1470 | 1400 | 1318 | 1222 | 1109 | 977 | 823 | 647 | 449 | 232 |
| | 190 (7.50) | 101.60 | 4.00 | 6 | 14.5 | 1020 | 974 | 918 | 853 | 776 | 684 | 577 | 453 | 314 | 162 |
| | 160 (5.90) | 101.60 | 4.00 | 7 | 32.0 | 700 | 669 | 632 | 589 | 536 | 474 | 400 | 316 | 219 | 112 |
| 36 | 410 (16.25) | 203 | 8.00 | 3 | 4.3 | 4520 | 4304 | 4053 | 3762 | 3422 | 3026 | 2565 | 2033 | 1425 | 745 |
| | 335 (13.25) | 203 | 8.00 | 4 | 6.4 | 3120 | 2971 | 2797 | 2593 | 2355 | 2077 | 1755 | 1384 | 964 | 500 |
| | 280 (11.00) | 152.40 | 6.00 | 5 | 9.6 | 2165 | 2065 | 1947 | 1807 | 1643 | 1450 | 1224 | 964 | 670 | 346 |
| | 230 (9.00) | 152.40 | 6.00 | 6 | 14.5 | 1475 | 1407 | 1326 | 1231 | 1118 | 985 | 830 | 653 | 453 | 233 |
| | 190 (7.50) | 101.60 | 4.00 | 7 | 32.0 | 1015 | 970 | 916 | 852 | 776 | 685 | 579 | 455 | 315 | 162 |

Note: [1] For further information on flow coefficients ($C_v$) consult www.literature.valteksul.com

# Globe Valves - Large Sizes
# Body Subassembly - Pressure Class: 900 & 1500
# Flow Coefficient - $C_V$

## Beta Trim - Multiple Stages - Unbalanced Trims
## Flow Coefficient ( $C_v$ ) - Equal Percentage
## Flow Direction: Flow Under

| Valve Nominal Diameter (in.) | Nominal Trims Size T/N | Stroke | | Nº of Stages | Optimum $P_1/P_2$ | Opening Percentage | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | mm | in. | | | 100 | 90 | 80 | 70 | 60 | 50 | 40 | 30 | 20 | 10 |
| 14 | 140 (5.50) | 152.40 | 6.00 | 3 | 4.3 | 545 | 528 | 507 | 480 | 446 | 403 | 348 | 279 | 197 | 102 |
| | 115 (4.50) | 101.60 | 4.00 | 4 | 6.4 | 375 | 363 | 347 | 328 | 304 | 273 | 235 | 188 | 132 | 69 |
| | 102 (4.00) | 76.20 | 3.00 | 5 | 9.6 | 270 | 260 | 247 | 231 | 213 | 189 | 161 | 128 | 89 | 45 |
| | 75 (3.00) | 63.50 | 2.50 | 6 | 14.5 | 170 | 164 | 157 | 148 | 137 | 123 | 105 | 84 | 59 | 30 |
| | 67 (2.63) | 63.50 | 2.50 | 7 | 32.0 | 122 | 117 | 111 | 104 | 96 | 85 | 72 | 58 | 40 | 21 |
| 16 | 165(6.50) | 152.40 | 6.00 | 3 | 4.3 | 730 | 706 | 676 | 639 | 592 | 533 | 458 | 367 | 257 | 134 |
| | 140 (5.50) | 152.40 | 6.00 | 4 | 6.4 | 515 | 497 | 475 | 445 | 410 | 367 | 313 | 249 | 173 | 90 |
| | 102 (4.00) | 76.20 | 3.00 | 5 | 9.6 | 320 | 310 | 297 | 281 | 261 | 236 | 203 | 163 | 116 | 60 |
| | 90 (43.50) | 76.20 | 3.00 | 6 | 14.5 | 230 | 222 | 212 | 199 | 184 | 164 | 141 | 112 | 78 | 40 |
| | 75 (3.00) | 63.50 | 2.50 | 7 | 32.0 | 160 | 154 | 146 | 137 | 125 | 111 | 95 | 76 | 53 | 27 |
| 18 | 185 (7.30) | 152.40 | 6.00 | 3 | 4.3 | 930 | 899 | 861 | 813 | 752 | 676 | 581 | 465 | 327 | 169 |
| | 150 (6.00) | 152.40 | 6.00 | 4 | 6.4 | 640 | 618 | 590 | 556 | 513 | 460 | 394 | 314 | 220 | 113 |
| | 125 (5.00) | 101.60 | 4.00 | 5 | 9.6 | 440 | 424 | 404 | 379 | 349 | 312 | 266 | 211 | 147 | 76 |
| | 102 (4.00) | 76.20 | 3.00 | 6 | 14.5 | 295 | 284 | 271 | 254 | 234 | 209 | 179 | 142 | 99 | 51 |
| | 75 (3.0) | 63.50 | 2.50 | 7 | 32.0 | 185 | 179 | 171 | 162 | 150 | 135 | 117 | 93 | 66 | 34 |
| 20 | 203 (8.00) | 152.40 | 6.00 | 3 | 4.3 | 1140 | 1104 | 1059 | 1002 | 930 | 839 | 724 | 580 | 409 | 212 |
| | 165 (6.50) | 152.40 | 6.00 | 4 | 6.4 | 780 | 754 | 722 | 682 | 631 | 568 | 488 | 390 | 274 | 142 |
| | 140 (5.50) | 101.60 | 4.00 | 5 | 9.6 | 545 | 526 | 502 | 471 | 434 | 389 | 331 | 264 | 184 | 95 |
| | 115 (4.50) | 76.20 | 3.00 | 6 | 14.5 | 370 | 356 | 339 | 319 | 293 | 262 | 223 | 176 | 124 | 64 |
| | 90 (3.50) | 63.50 | 2.50 | 7 | 32.0 | 240 | 232 | 222 | 209 | 193 | 173 | 148 | 118 | 83 | 43 |
| 24 | 240 (9.50) | 152.40 | 6.00 | 3 | 4.3 | 1625 | 1575 | 1511 | 1431 | 1330 | 1200 | 1037 | 833 | 586 | 304 |
| | 203 (8.00) | 152.40 | 6.00 | 4 | 6.4 | 1145 | 1105 | 1057 | 996 | 920 | 824 | 707 | 564 | 395 | 204 |
| | 165 (6.50) | 152.40 | 6.00 | 5 | 9.6 | 780 | 753 | 720 | 678 | 624 | 559 | 478 | 381 | 266 | 137 |
| | 140 (5.50) | 101.60 | 4.00 | 6 | 14.5 | 540 | 520 | 495 | 464 | 427 | 380 | 324 | 256 | 179 | 92 |
| | 115 (4.50) | 76.20 | 3.00 | 7 | 32.0 | 365 | 352 | 335 | 314 | 288 | 257 | 218 | 172 | 120 | 62 |

Note: [1] For further information on flow coefficients ($C_v$) consult www.literature.valteksul.com

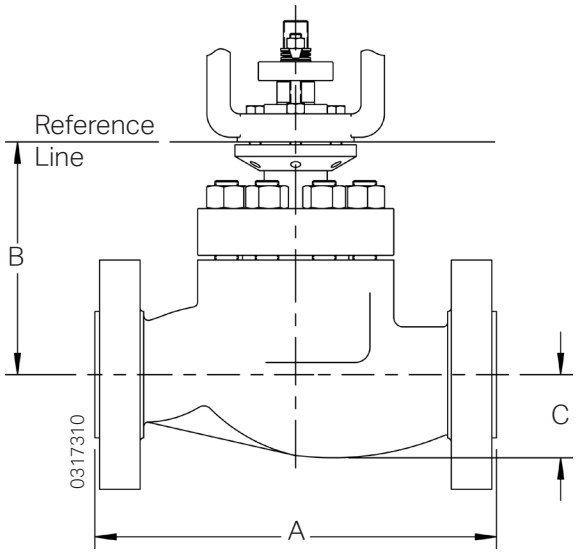
# Globe Valves - Large Sizes
# Body Subassembly - Pressure Class: 900 & 1500
# Flow Coefficient - $C_V$

## Beta Trim - Multiple Stages - Unbalanced Trims
## Flow Coefficient ( $C_V$ ) - Linear
## Flow Direction: Flow Under

| Valve Nominal Diam-eter (in.) | Nominal Trims Size T/N | Stroke | | Nº of Stages | Optimum $P_1/P_2$ | Opening Percentage | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | mm | in. | | | 100 | 90 | 80 | 70 | 60 | 50 | 40 | 30 | 20 | 10 |
| 14 | 140 (5.50) | 152.40 | 6.00 | 3 | 4.3 | 562 | 544 | 523 | 495 | 460 | 415 | 358 | 288 | 203 | 105 |
| | 115 (4.50) | 101.60 | 4.00 | 4 | 6.4 | 386 | 373 | 357 | 337 | 312 | 282 | 242 | 193 | 136 | 71 |
| | 102 (4.00) | 76.20 | 3.00 | 5 | 9.6 | 280 | 270 | 256 | 240 | 220 | 196 | 167 | 133 | 92 | 47 |
| | 75 (3.00) | 63.50 | 2.50 | 6 | 14.5 | 176 | 170 | 163 | 153 | 141 | 128 | 109 | 87 | 60 | 32 |
| | 67 (2.63) | 63.50 | 2.50 | 7 | 32.0 | 125 | 120 | 114 | 107 | 98 | 87 | 74 | 59 | 40 | 21 |
| 16 | 165(6.50) | 152.40 | 6.00 | 3 | 4.3 | 752 | 728 | 697 | 659 | 610 | 549 | 472 | 378 | 266 | 138 |
| | 140 (5.50) | 152.40 | 6.00 | 4 | 6.4 | 530 | 511 | 487 | 458 | 422 | 377 | 322 | 256 | 179 | 91 |
| | 102 (4.00) | 76.20 | 3.00 | 5 | 9.6 | 330 | 319 | 306 | 290 | 269 | 243 | 210 | 168 | 119 | 62 |
| | 90 (3.50) | 76.20 | 3.00 | 6 | 14.5 | 237 | 229 | 218 | 205 | 189 | 169 | 145 | 115 | 81 | 42 |
| | 75 (3.00) | 63.50 | 2.50 | 7 | 32.0 | 165 | 158 | 151 | 141 | 129 | 115 | 98 | 78 | 54 | 28 |
| 18 | 185 (7.30) | 152.40 | 6.00 | 3 | 4.3 | 958 | 927 | 887 | 838 | 776 | 697 | 599 | 479 | 337 | 174 |
| | 150 (6.00) | 152.40 | 6.00 | 4 | 6.4 | 660 | 637 | 609 | 573 | 529 | 474 | 406 | 324 | 227 | 117 |
| | 125 (5.00) | 101.60 | 4.00 | 5 | 9.6 | 455 | 438 | 418 | 392 | 361 | 322 | 274 | 219 | 152 | 78 |
| | 102 (4.00) | 76.20 | 3.00 | 6 | 14.5 | 304 | 293 | 279 | 262 | 241 | 216 | 184 | 146 | 102 | 53 |
| | 75 (3.0) | 63.50 | 2.50 | 7 | 32.0 | 190 | 184 | 177 | 167 | 155 | 140 | 120 | 96 | 68 | 35 |
| 20 | 203 (8.00) | 152.40 | 6.00 | 3 | 4.3 | 1175 | 1138 | 1092 | 1033 | 959 | 865 | 746 | 599 | 421 | 218 |
| | 165 (6.50) | 152.40 | 6.00 | 4 | 6.4 | 805 | 778 | 745 | 704 | 651 | 586 | 503 | 403 | 283 | 146 |
| | 140 (5.50) | 101.60 | 4.00 | 5 | 9.6 | 562 | 542 | 517 | 486 | 448 | 401 | 343 | 272 | 190 | 98 |
| | 115 (4.50) | 76.20 | 3.00 | 6 | 14.5 | 380 | 366 | 349 | 328 | 301 | 270 | 230 | 182 | 127 | 66 |
| | 90 (3.50) | 63.50 | 2.50 | 7 | 32.0 | 247 | 239 | 228 | 215 | 199 | 178 | 153 | 122 | 85 | 44 |
| 24 | 240 (9.50) | 152.40 | 6.00 | 3 | 4.3 | 1675 | 1623 | 1558 | 1476 | 1371 | 1237 | 1069 | 859 | 605 | 314 |
| | 203 (8.00) | 152.40 | 6.00 | 4 | 6.4 | 1180 | 1140 | 1089 | 1027 | 948 | 851 | 729 | 581 | 407 | 210 |
| | 165 (6.50) | 152.40 | 6.00 | 5 | 9.6 | 804 | 776 | 741 | 698 | 644 | 575 | 493 | 392 | 275 | 141 |
| | 140 (5.50) | 101.60 | 4.00 | 6 | 14.5 | 557 | 536 | 510 | 479 | 440 | 392 | 334 | 264 | 184 | 95 |
| | 115 (4.50) | 76.20 | 3.00 | 7 | 32.0 | 377 | 362 | 345 | 323 | 297 | 264 | 225 | 177 | 123 | 63 |

Note: [1] For further information on flow coefficients ($C_V$) consult www.literature.valteksul.com

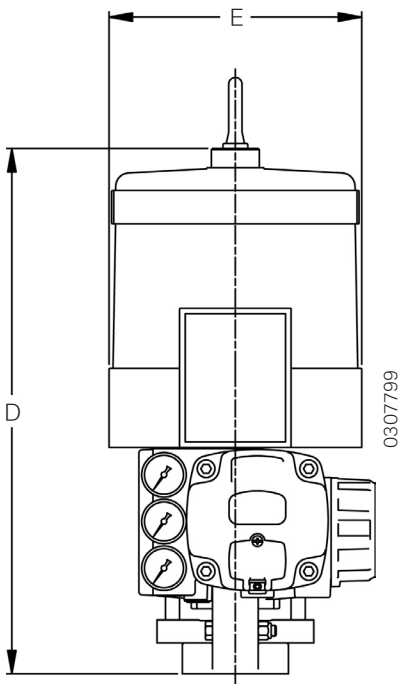
# Globe Valves - Large Sizes
# Body Subassembly
# Dimensions




## Dimensions

| Valve Nominal Diameter (in.) | Connection Type | A | | | | | | | | | | B | | C | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Pressure Class | | | | | | | | | | | | | |
| | | 150 | | 300 | | 600 | | 900 | | 1500 | | | | | |
| | | in. | mm | in. | mm | in. | mm | in. | mm | in. | mm | in. | mm | in. | mm |
| 14 | RF | 35.0 | 889 | 36.5 | 927 | 38.2 | 970 | 49.5 | 1258 | 49.5 | 1258 | 23.5 | 597 | 12.7 | 322 |
| | RTJ | 35.5 | 902 | 37.2 | 945 | 38.4 | 975 | 50.0 | 1270 | 50.0 | 1270 | | | | |
| | BW | | | | | 38.2 | 970 | | | 49.5 | 1258 | | | | |
| 16 | RF | 40.0 | 1016 | 41.6 | 1057 | 43.6 | 1107 | 56.0 | 1422 | 56.9 | 1445 | 25.6 | 650 | 15.7 | 400 |
| | RTJ | 40.5 | 1029 | 42.3 | 1074 | 43.8 | 1113 | 56.5 | 1435 | 57.5 | 1460 | | | | |
| | BW | | | | | 43.6 | 1107 | | | 56.9 | 1445 | | | | |
| 18 | RF | 45.2 | 1148 | 46.6 | 1184 | 49.5 | 1257 | 68.0 | 1727 | 68.0 | 1727 | 30.0 | 762 | 17.5 | 445 |
| | RTJ | 45.6 | 1158 | 47.2 | 1199 | 49.6 | 1260 | 68.5 | 1740 | 68.5 | 1740 | | | | |
| | BW | | | | | 49.5 | 1257 | | | 68.0 | 1727 | | | | |
| 20 | RF | 49.9 | 1267 | 51.5 | 1308 | 54.0 | 1372 | 72.0 | 1829 | 72.0 | 1829 | 32.5 | 825 | 22.0 | 559 |
| | RTJ | 50.4 | 1280 | 52.3 | 1328 | 54.3 | 1379 | 72.5 | 1842 | 72.5 | 1842 | | | | |
| | BW | | | | | 54.0 | 1372 | | | 72.0 | 1829 | | | | |
| 24 | RF | 61.2 | 1554 | 63.0 | 1600 | 66.0 | 1676 | 84.0 | 2134 | 84.0 | 2134 | 36.0 | 915 | 23.0 | 585 |
| | RTJ | 61.6 | 1565 | 64.0 | 1626 | 66.4 | 1687 | 84.5 | 2146 | 84.5 | 2146 | | | | |
| | BW | | | | | 66.0 | 1676 | | | 84.0 | 2134 | | | | |
| 30 | RF | 84.0 | 2134 | 84.0 | 2134 | 92.0 | 2337 | S/C | S/C | S/C | S/C | 45.5 | 1156 | 28.0 | 711 |
| | RTJ | S/C | S/C | 85.0 | 2159 | 92.0 | 2337 | S/C | S/C | S/C | S/C | | | | |
| | BW | | | | | 92.0 | 2337 | S/C | S/C | S/C | S/C | | | | |
| 36 | RF | | Consult ValtekSul | | | | | | | | | | | | |
| | RTJ | | Consult ValtekSul | | | | | | | | | | | | |
| | BW | | Consult ValtekSul | | | | | | | | | | | | |

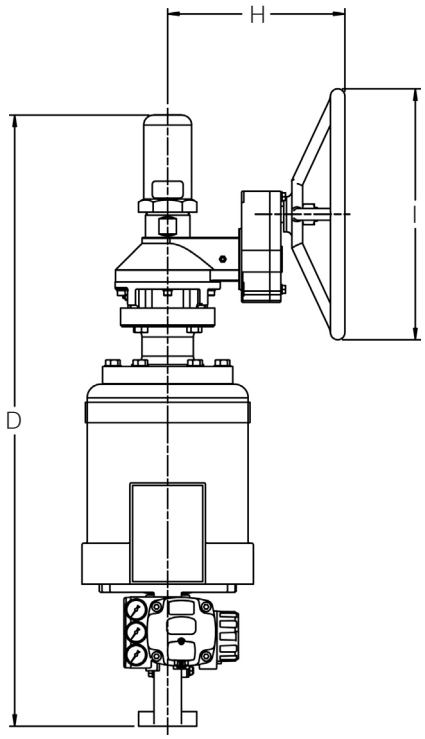
# Globe Valves - Large Sizes
# Linear Actuators
# Dimensions




**Dimensions: Standard Linear Actuator**

| Actuator Size | Spud Diameter | | D | | E | |
|---|---|---|---|---|---|---|
| | | | Standard Actuator | | | |
| | in. | mm | in. | mm | in. | mm |
| **100** | 4.75 | 122 | 27.4 | 696 | 12.8 | 325 |
| **200** | 4.75 | 122 | 27.8 | 705 | 17.7 | 450 |
| **300** | 4.75 | 122 | 30.5 | 775 | 22.0 | 560 |
| **400** | 4.75 | 122 | 37.0 | 940 | 18.2 | 463 |
| **500** | 4.75 | 122 | 31.0 | 787 | 28.3 | 720 |
| **600** | 4.75 | 122 | 48.0 | 1220 | 17.9 | 455 |

# Globe Valves - Large Sizes
# Linear Actuators
# Dimensions - Side Handwheels




**Dimensions: Top-mounted Side Handwheel**

| Actuator Size | D | | H | | I | |
|---|---|---|---|---|---|---|
| | in. | mm | in. | mm | in. | mm |
| **100** | 46.0 | 1170 | 16.1 | 409 | 18.0 | 457 |
| **200** | 46.4 | 1179 | 16.1 | 409 | 18.0 | 457 |
| **300** | 54.1 | 1374 | 16.1 | 409 | 18.0 | 457 |
| **400** | 56.9 | 1445 | 16.1 | 409 | 18.0 | 457 |

Note: (1) The wheel diameter is subject to change according to torque requirements.

## Quality Management System


**ISO 9001-2015**
**Certificate nº 31001 QM 15**
**DQS GmbH**
**DQS Brazil**
**ISO 14001™ Certified**

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Specific assembly, operation and maintenance instructions for GLS and GLH Control Valves can be found at the Maintenance Catalogue nº 01.



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