

GLH[®]

**HIGH PRESSURE
GLOBE CONTROL VALVE
BODY SUBASSEMBLY**



**VALTEK[™]
SULAMERICANA**

GLH[®] Globe Control Valve Body Subassembly

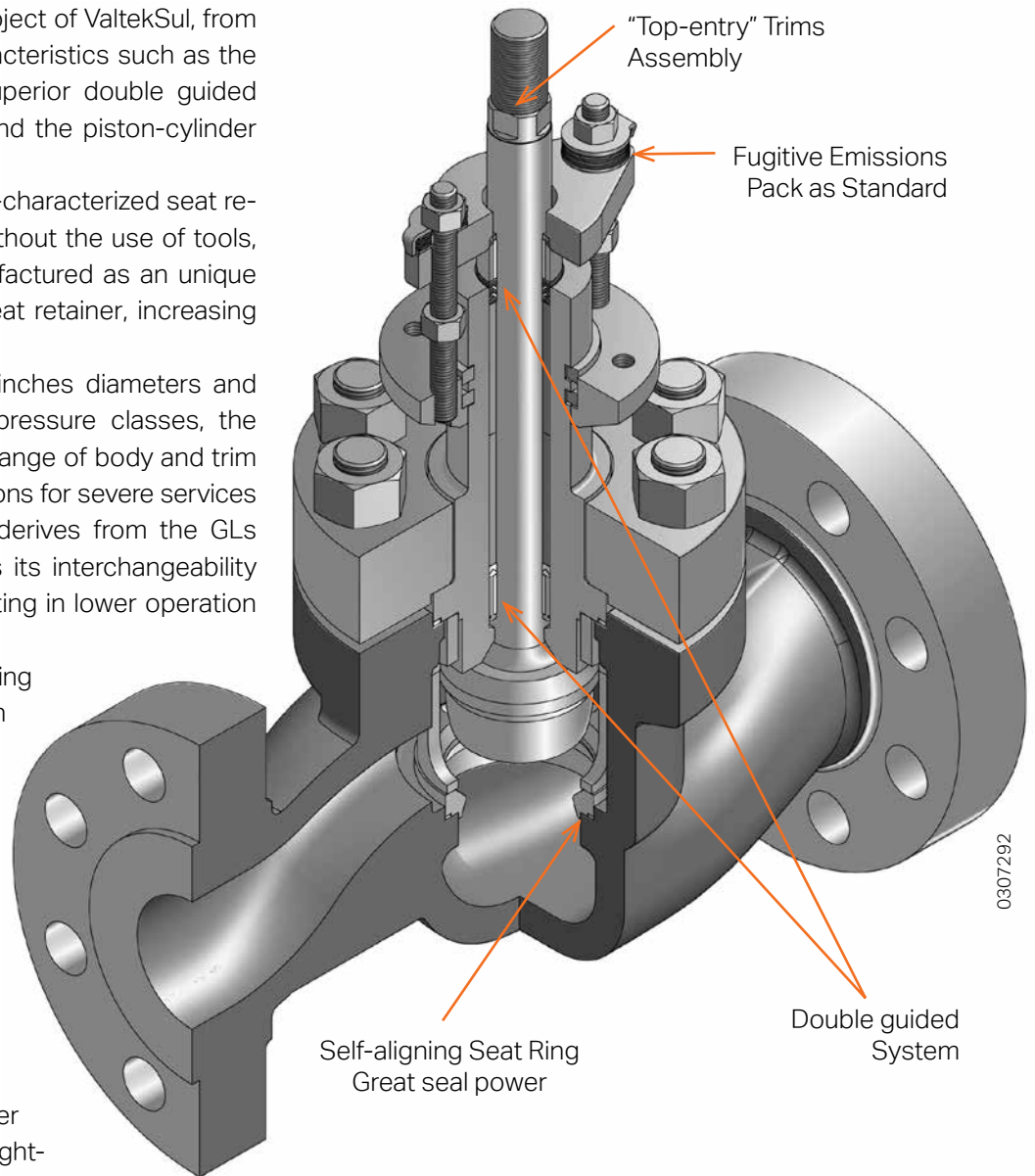
The GLH Series globe control valve was designed to be used in high pressure industrial processes. The GLH Series was developed as an extension of the wellknown GLs control valve project of ValtekSul, from which inherits advanced characteristics such as the self-aligning seat ring, the superior double guided system, the top-entry trims and the piston-cylinder actuators, among others.

The seat ring is fixed by a non-characterized seat retainer and can be removed without the use of tools, while the plug, which is manufactured as a unique piece, is not guided by the seat retainer, increasing the trims lifespan.

Manufactured with 1 to 24 inches diameters and ANSI 900, 1500 and 2500 pressure classes, the GLH Series is available with a range of body and trim settings, and also special versions for severe services application. The GLH design derives from the GLs Series advantages, as well as its interchangeability and maintenance facility resulting in lower operation costs.

The GLH Series uses doubleacting piston-cylinder actuators, with a fail-safe spring, which provides additional pneumatic stiffness, excellent alignment precision, in throttling control, and fast and reliable replies to command signal variation.

The GLH Series actuators operate with supply air pressure of up to 150 psi (10.3 Bar), presenting an extra power rating to ensure the desired tightness, even when the valve operates with high pressure drop applications. The options with Chronos digital positioners complete the high performance technological pack, establishing the GLH Series as the most renowned high-pressure control valve at the global market.



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GLH Series - Body Sub-Assembly

Typical Rangeability 30:1

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

* Unbalanced trims standard

GLH - Body Subassembly Body Styles

The GLH Series globe bodies provide a smooth flow stream. Globe-style bodies feature smooth, streamlined, constant-area internal passages with no pockets, permitting high capacity with minimum turbulence. They are designed with nearly constant wall thickness, providing lower weight and cost when manufactured in expensive stainless or alloy steels.

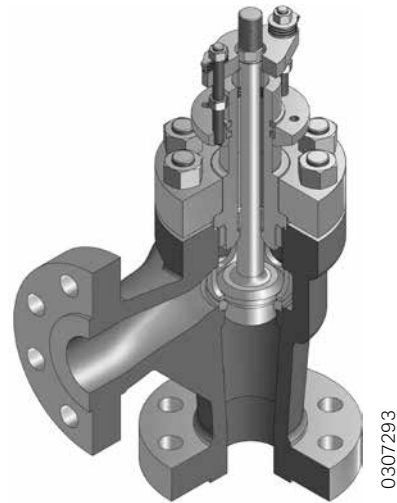
Angle-style Body

The angle-style body of the GLH Series Valve is completely interchangeable with the conventional globe style, all other valve parts remain the same. Depending on the application it will be used for, the GLH angle-style body valve can be supplied with a special Venturi seat ring, which extends to the outlet flange providing additional protection against corrosive flow.

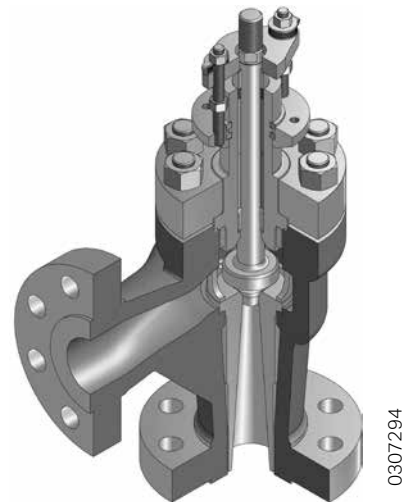
Special Versions

In addition to the globe and angle-style bodies, the GLH Series valves can be supplied with special configuration, such as:

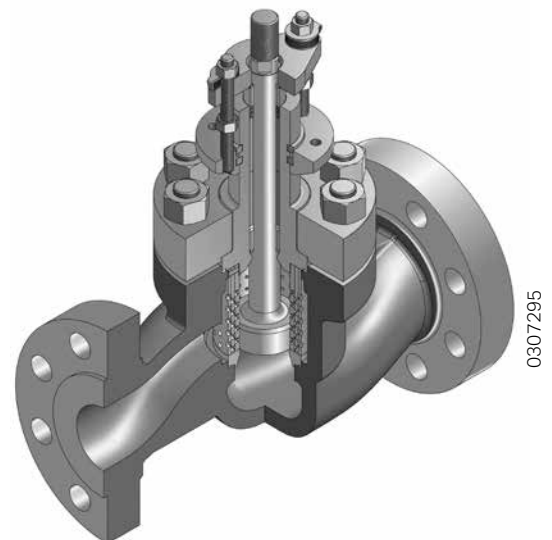
- Three-way bodies: used for either converging or diverging flow.
- Alpha Trim®: Anti-cavitation trims for incipient or medium intensity cavitation.
- Beta Low dB Trim®: Special low noise trims.
- Gamma Trim®: Special anti-cavitation trims for severe cavitation use.
- Delta Trim®: Special trims for severe cavitation jobs or for processes that require lower noise on gaseous or liquid services.



Angle-style Valve



Angle-style valve with Venturi seat ring



Special Trims Valve

GL_H - Body Subassembly

Advantages and Features

In the GL_H Series, intelligent project design translates into performance and greater operational advantages:

Strength

The GL_H valve is more resistant to fluid corrosion when compared to conventional globe valves.

The heavy-duty plug stem, as well as the other valve components, was designed for severe services and can operate on high-pressure drops.

When required, the valves can be supplied with anti-cavitation and noise-trim options.

Sealing

Besides providing precise control, the GL_H valve design with self-aligning seat ring also provide exceptional sealing, which is reinforced by the flow pressure. With normal air supply, the piston-cylinder actuator guarantees tight shutoff, while in airless condition the actuator spring and the flow thrust drive the plug into desired fail position.

Easy, fast and inexpensive maintenance

Top-entry trims service. Once the bonnet flange nuts are taken out, the bonnet and plug can be removed from the valve, clearing the access to other internal components.

The seat ring, fitted and fixed by the retainer, can be dismantled and reassembled without the use of tools, as well as all the other valve and actuator components.

Guiding and Packing

The GL_H Series guiding system deserves a special mention. In addition to eliminating the disadvantages of the guiding system at the seat retainer, the GL_H Series guides are widely spaced and display a large supporting surface, eliminating vibration related problems in control valves.

As a result of using this advanced guiding system, the heavy duty GL_H valve plug stem can be submitted to twice the force produced by the oversized actuators available, without the risk of buckling.

The GL_H Series packing box great depth allows the use of all packing available at ValtekSul, while the perfect finishing of the bonnet's inner area and plug stem provides longer service life of the packing, without leaks.

Trims that do not stick

The superior double-stem guiding system, located out of flow stream, ensures perfect alignment of the plug stem, at the same time that provides a generous clearance between plughead and seat retainer, eliminating galling associated with cage-guiding.

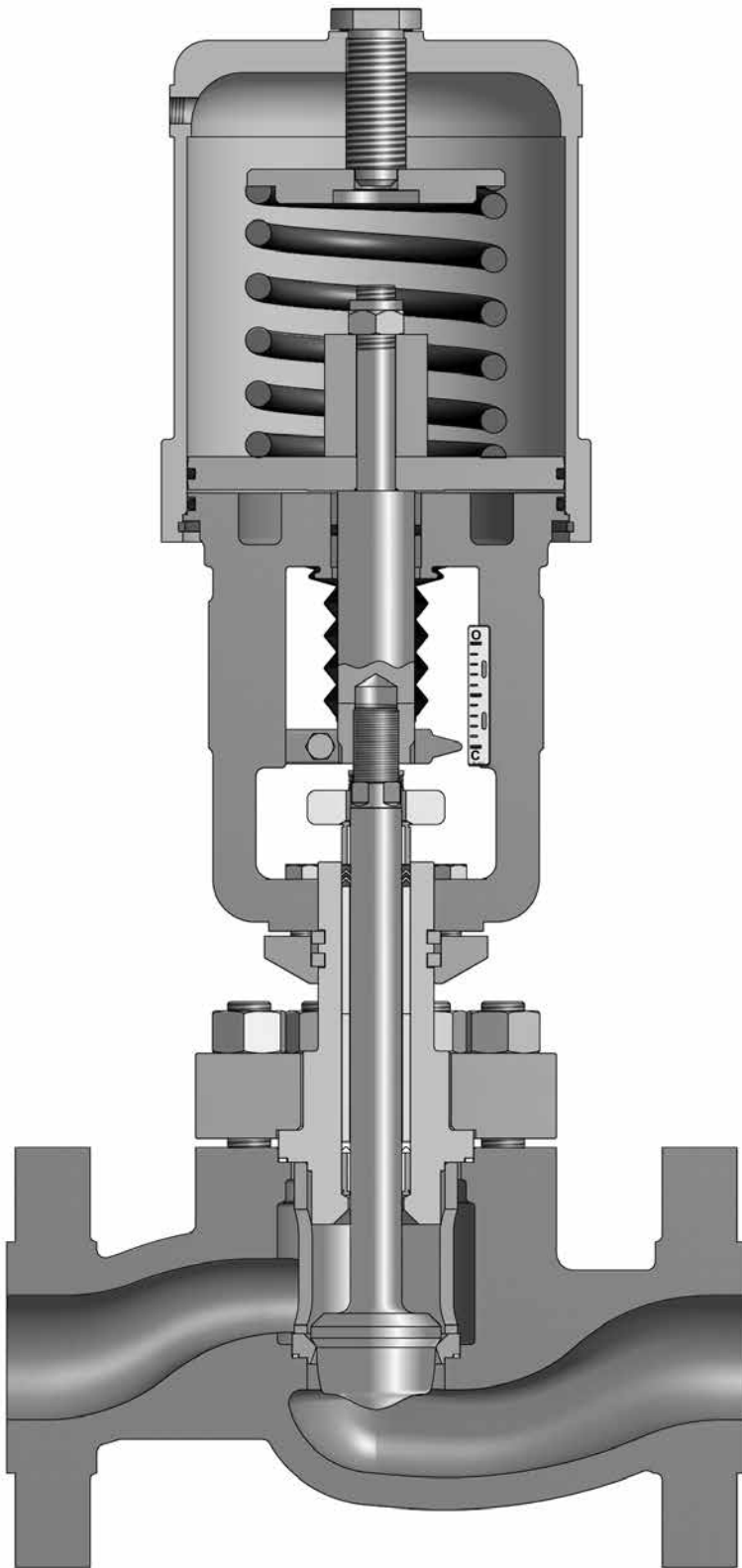
Versatile

Besides the conventional globe bodies, angle-style and special version bodies are available to meet all needs of the continuous process industries.

The modular concept of the design ensures high degree of interchangeability between the different versions and diameters, substantially reducing the need of spare parts.

The GL_H valve has the largest diameter among the ones available on the market.

GL_H - Body Subassembly Additional Advantages



GL_H Control Valve

Piston-cylinder actuators – Advantages:

- » High thrust cylinder actuator and pneumatic stiffness
- » Field reversible, no need for spare parts
- » Trustworthy operation
- » Smaller than spring-cylinder actuators of similar force
- » Controlled high speed
- » 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 supply air pressure of up to 150 psi (10.3 Bar), without the need of a pressure regulator

GLH - Body Subassembly Connections, Flanges, Bolts

As standard, the GLH Series valves are supplied with integral flanges and raised face. To achieve better sealing with mating piping, the flange face is machined with spiral grooved serration. Other optional facings include smooth face, flat face, ring-joint, large and small tongue and large and small groove. End connections as the Socketweld, Buttweld and Screwed (NPT) are available as option.

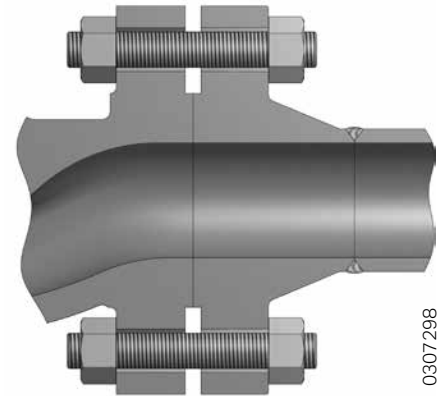
Bonnet flange

The GLH Series bonnet flange is separable, that means, it is not connected to the bonnet. As the operation fluid does not get in contact with the bonnet flange, it is normally manufactured in carbon steel; however, it can be specified in stainless steel when the operation temperature or pressure requires.

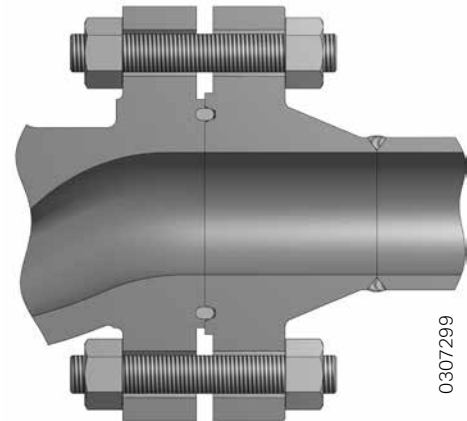
Bonnet Flange Assembly

The GLH Series standard bonnet is assembled to the body using stud bolts and nuts. The studs standard material is the ASTM A193 Gr. B7 and the nuts material is the ASTM A 194 Gr. 2H, suitable for -20 to 800°F (-28 to 426°C).

Optionally, the stud bolts and nuts can be furnished in stainless steel, supporting temperatures of -425 to 1500°F (-253 to 815°C). These temperature limits are for maximum pressure permitted by ANSI B16.34, latest edition.



Integral Flanges



RTJ Flange

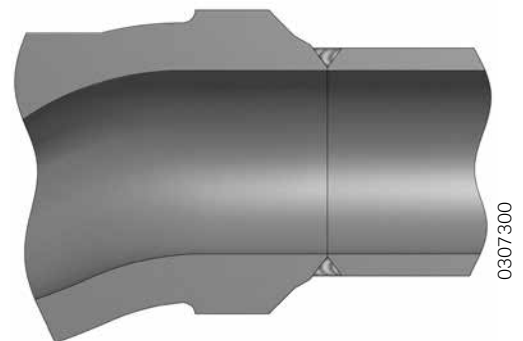
End Connections

End Connection	Valve Nominal Diameter (in.)	ANSI Standard	(ANSI/ISA) Face-to-Face Standard
Integral Flange	1 to 24	900-2500	75.08.01 ⁽¹⁾
Screwed (NPT)	1 to 2	900-2500	75.08.03 ⁽²⁾
Socketweld	1 to 4	900-2500	75.08.03 ⁽²⁾
Buttweld	1 to 24	900-2500	75.08.05 ⁽²⁾⁽³⁾

⁽¹⁾ For diameters larger than 16 in., face-to-face dimension will follow Valtek Sulamericana standard.

⁽²⁾ Long pattern.

⁽³⁾ For diameters larger than 16 in., face-to-face dimension will follow Valtek Sulamericana standard.



Buttweld

GLH - Body Subassembly

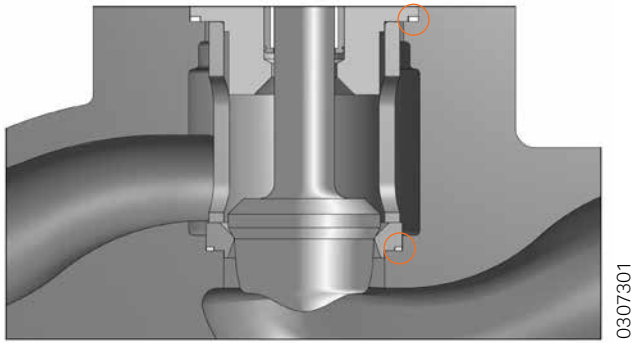
Gaskets, Clamps

Gaskets

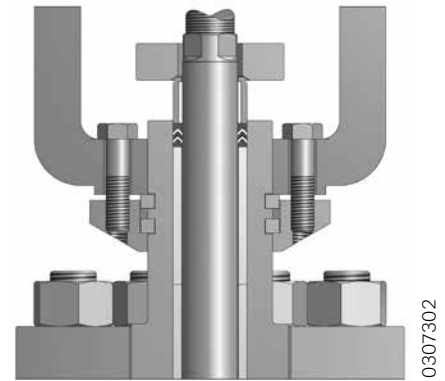
The GLH Series was designed with the bonnet and the seat ring gaskets fully retained. The valve bonnet has a step that acts as mechanic stop and limits gasket compression. In this way, the bonnet gasket remains completely sealed and its compression is determined by the gasket step on the bonnet. The body, seat retainer and seat ring are all machined with close tolerances to provide proper gasket compression. Unlike the bonnet, the seat ring does not always bottom in the body (metal-to-metal), allowing this small clearance to compensate for manufacturing tolerances and thermal expansion.

Clamps

The GLH Series actuator is usually attached to the valve with clamps that fix the yoke to the bonnet. For smaller diameters, the yoke is attached to the bonnet with two precision-cast stainless steel yoke clamps. Each clamp has an inclined plain surface which, when bolted together, securely fastens the actuator yoke to the bonnet. Unlike conventional threaded clamps, the clamp design of the GLH valve permits easy removal, even under extremely corrosive conditions.



Body Gaskets



Yoke Bolts

Gasket Specifications - ASME B 16.20

	Type	Gasket Material	Temperature Limits		Pressure Limits
			°F	°C	
Standard Gaskets	Flat	PTFE	-200 to 350	-130 to 177	6000 psi @ -200°F (415 bar @ -130°C) / 1000 psi @ 350°F (69 bar @ 177°C)
	Spiral-wound	SS 304/AFG ⁽²⁾	-20 to 750	-29 to 400	6250 psi (430 bar)
	Spiral-wound	SS 316/AFG ⁽²⁾	-320 to 1000 ⁽¹⁾	-196 to 538 ⁽¹⁾	6250 psi (430 bar)
Alternate Gaskets	Flat	AFG ⁽²⁾	-20 to 600	-29 to 315	CF ⁽³⁾
	Flat	KEL-F ⁽⁴⁾	-320 ⁽⁴⁾ to 350	-196 ⁽⁴⁾ to 177	CF ⁽³⁾
	Flat	PTFEG	-200 to 450	-130 to 232	6000 psi @ -200°F (415 bar @ -130°C) / 500 psi @ 450°F (35 bar @ 232°C)
	Spiral-wound	SS 316/Graf. ⁽¹⁾	-320 ⁽⁴⁾ to 1500 ⁽¹⁾	-196 to 815 ⁽¹⁾	6250 psi (431 bar)
	O-Ring Oco	Inconel X-750	-20 to 1500	-29 to 815	15000 psi (1034 bar)

⁽¹⁾ Limited to 800°F (426°C) for oxidizing service. ⁽²⁾ Gasket material asbestos free. ⁽³⁾ Contact ValtekSul for information on pressure limits according to material.

⁽⁴⁾ Lower temperatures available upon request.

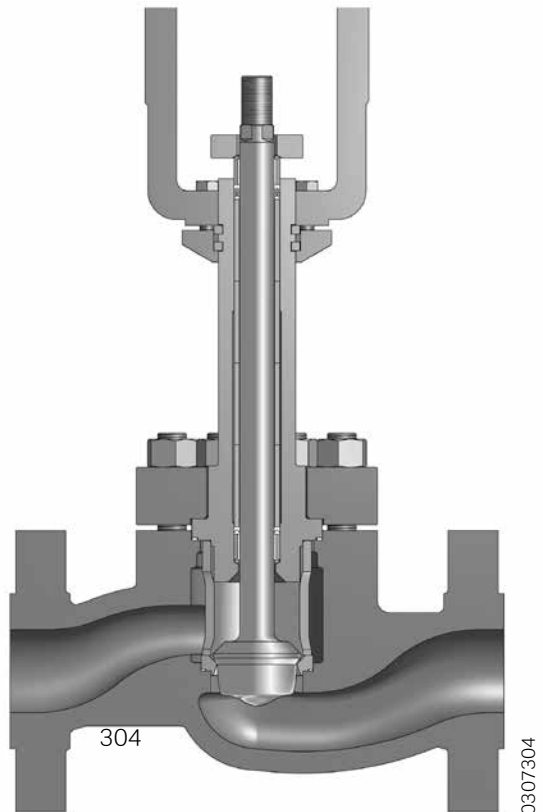
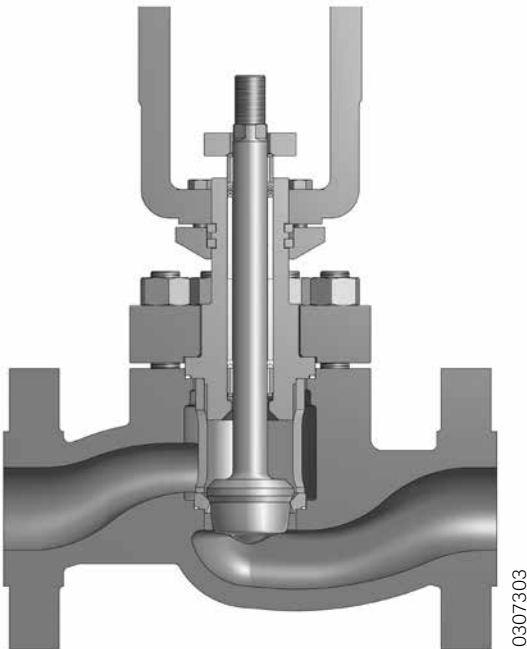
GLH - Body Subassembly Bonnet Types

Standard bonnet

The GLH Series standard bonnet is usually constructed of the same material as the body and handles temperatures from -20 to 800°F (-28 to 426°C), depending on the packing material (See page 10 for temperature limits for different materials).

Extended Bonnet

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



GLH Series Bonnet Types

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 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 800°F (-28 to 426°C), provided that the body class pressure is complied. ⁽³⁾ Temperatures from -425 to 1500°F (-253 to 815°C), provided that the body class pressure is complied.

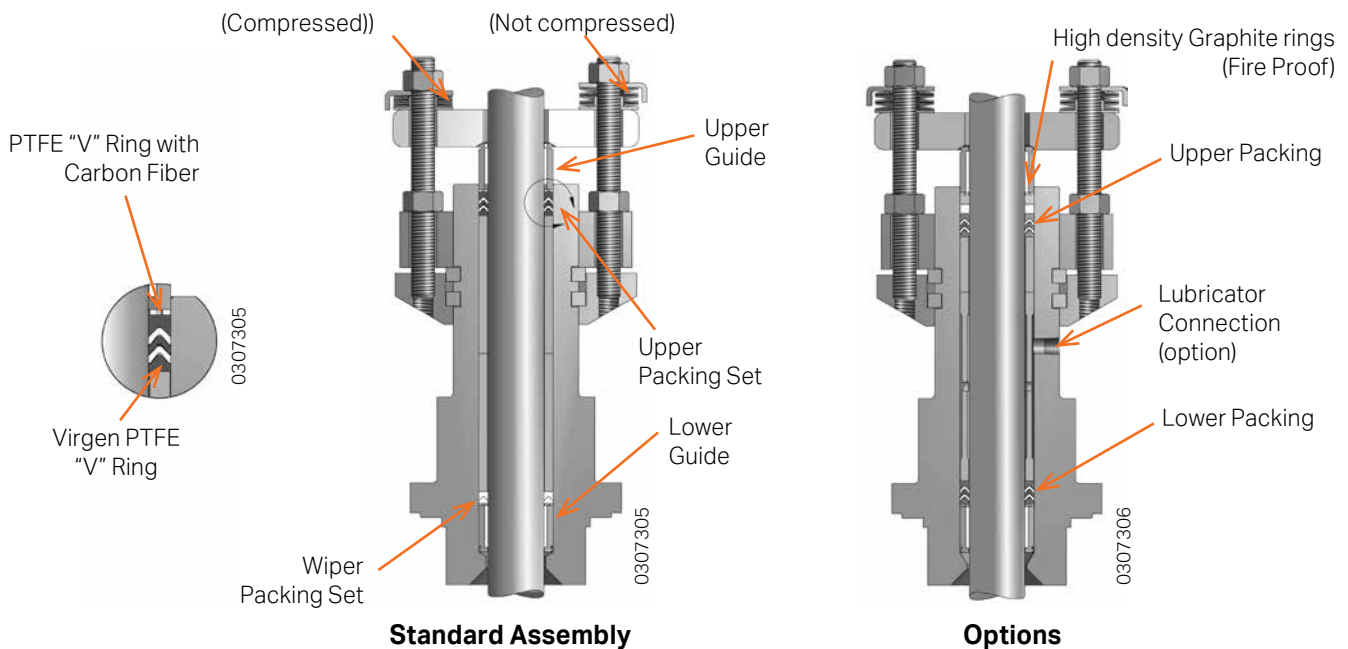
GLH - Body Subassembly Packing and Guides

Packing Box

The GLH valve 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 type PT comes as standard for the GLH valve.
2. The spacing between the wiper set and the main upper packing set prevents contact with the wet parts of the plug stem.
3. Eliminate galling generally associated to the guide system at the seat retainer (cage).
4. Two widely spaced guides, placed out of the flow

5. The variety of available guides cover all applications of the GLH valves.



GLH - Guides and Standard Packing Set Typical Arrangement

Temperature and Pressure Guides Limitation

Guide Materials	Temperature Limits		Pressure Limits
	°F	°C	
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 @ 100°F (58.6 bar @ 38°C); 100 psi @ 300°F (6.9 bar @ 150°C)
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 ΔP admissible limit should be complied. Contact ValtekSul ⁽²⁾ Do not use in oxygen rich services. When using in cavitation regime, the use of graphite lining lower guides is not recommended. ⁽³⁾ For oxidizing or air services, the maximum service temperature is 800°F (426°C). ⁽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 900°F (482°C). ⁽⁶⁾ Valves assembled with stainless steel trims of 300 series and inferior guide in Alloy #6, the plug stem must be hardened with Alloy #6 application at the area in contact with the guide.

GLH - 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.

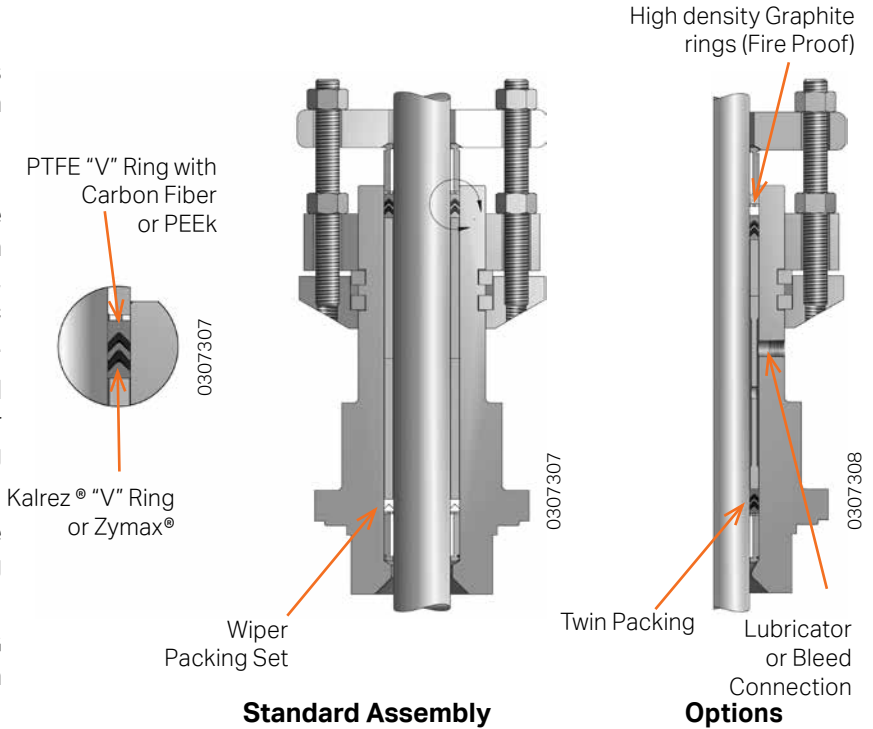
In response to EPA's regulations*, the PTG packing ensures emissions even lower than 500 ppm (usually 10 ppm), making it a highly reliable and economic option to the use of metal sealed bellows.

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	Fluid Temperature Limitation ⁽²⁾	
		°F	°C
Standard ⁽¹⁾	PTFE "V" Ring	-20 to 450	-29 to 232
	PT and PTG	-20 to 450	-29 to 232
	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 ⁽⁴⁾
	Graphite ⁽⁵⁾	-20 to 800 ⁽⁴⁾	-29 to 427 ⁽⁴⁾
Extended ⁽¹⁾	PTFE "V" Ring	-150 to 700	-101 to 371
	PT and PTG	-20 to 600	-29 to 315
	Braided PTFE	-150 to 600	-101 to 315
	PTFE w/ fiber glass (PTFEG)	-150 to 700	-101 to 371
	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 ⁽⁵⁾	-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⁾ Asbestos free packing. ⁽⁴⁾ For diameters of 3 to 12 inches, the maximum temperature limit is 850°F (454°C). ⁽⁵⁾ Do not use graphite above 750°F (400°C) in oxidizing service such as air or oxygen. The use of graphite packing may require oversize actuators or heavier springs due to added friction.

GLH - Subassembly Seat Rings, Trim

Trim

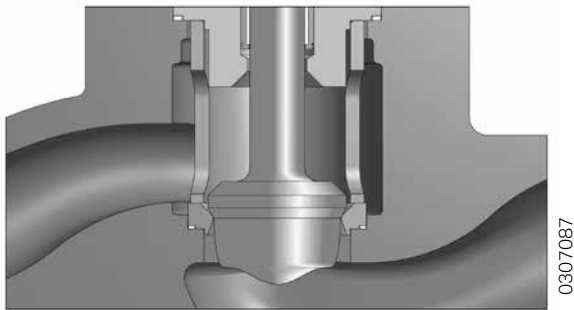
The GLH Series trims are designed to avoid the difficulties associated with screwed-in seats and cage-guiding. The seat ring is not screwed-in but clamped into the body by the bonnet and seat retainer, thus its removal is easy, even when the valve is under extremely corrosive conditions.

Unlike cage-guided trims that easily gall and stick, GLH plugs are guided by a double-stem system, avoiding contact between the seat retainer and plug, allowing the retainer to be constructed of stainless steel, rather than other hardened materials of high cost.

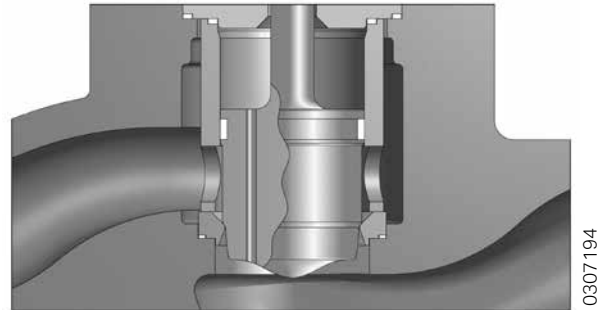
In the GLH Series, the flow characteristic is determined by the plug contour, rather than by the opening in the retainer.

For services with high-pressure drops, 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.

As an option, the GLH Series can be supplied with special trims for noise reductions and for cavitation regime services.



Unbalanced Trim



Pressure Balanced Trim

Pressure Balanced Plugs Seal Rings Materials Specification

Plugs ⁽¹⁾	Temperature Limits		Sealing		
	°F	°C	Metal Seat	Soft Seat	
PTFE Rings	0 to 350	-18 to 176	Up to 10% of Class IV	Up to 1% of Class IV	
Reinforced PTFE O-Ring	0 to 400	-18 to 204	Up to 10% of Class IV	Up to 1% of Class IV	
Buna N , O-Ring	-40 to 200	-40 to 93	Class IV or V	Class VI	
Viton A , O-Ring	-40 to 437	-40 to 225	Class IV or V	Class VI	
VMG	from 2 to 4 inches	300 to 1600	149 to 871	Class III	N/A
	6 inches and bigger	300 to 1600	149 to 871	Class IV	N/A

⁽¹⁾ When using VMG seal rings, the balanced retainer should be manufactured in hardened material. ⁽²⁾ Temperatures above are for guidance only. Contact ValtekSul to confirm the higher admitted temperature in relation to the service pressure.

Metal Seat Rings

The standard GLH valve setting, with unbalanced trims and metal seat ring, handles Class IV shutoff (ANSI B16.104/FCI 70.2), which calls for maximum permissible seat leakage of 0.01% of rated valve capacity. The exceptional tightness of the GLH Series is achieved due to the self-aligning seat ring design. As an option, metal seat valves can be supplied for additional seat tightness.

Soft Seat Rings

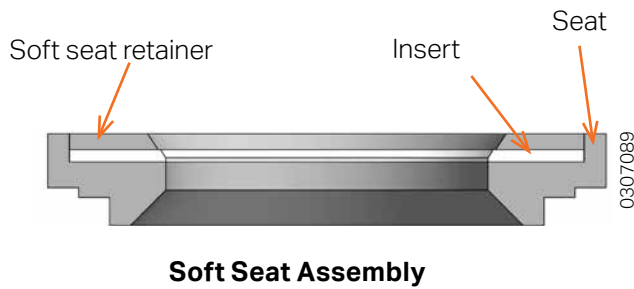
Soft seats are used in applications that require extra tightness, according to ANSI Class VI B16.104/FCI 70.2. GLH Series soft seat set consists of an elastomer placed between two metal pieces, and it is interchangeable with the metal seat. Inserts are often manufactured of PTFE, therefore, the maximum temperature and pressure should be 300°F @ 290 psi (150°C @ 20 Bar). For temperatures below -85°F (-65°C), soft seats can be used in highpressure applications.

GLH Body Subassembly Seat Rings, Trim

Standard material for GLH Series plug, seat ring and seat retainer is 316 stainless steel, except for special alloy valves where trims are manufactured with the same material as the body. A wide variety of fluid is suitable to 316 stainless steel trims. Still, the general rule is that hardened trims should be employed for all conditions of critical flow or for temperatures above 600°F (316°C).

For this cases, ValtekSul keeps a large stock of Alloy #6 trims, a material that offers a good combination of hardness and corrosion resistance. Special alloys, such as Alloy #6, Monel, Hastelloy C, Hastelloy B and others are also available.

Seat Rings



GLH Series - Seat Rings Options

Differential Pressure Values that Require the Use of Hardened Trim

Valve Nominal Diameter (in.)	Water				Saturated Steam				Superheated Steam				General Process Fluids				Clean Gases			
	Control		On-Off		Control		On-Off		Control		On-Off		Control		On-Off		Control		On-Off	
	psi	bar	psi	bar	psi	bar	psi	bar	psi	bar	psi	bar	psi	bar	psi	bar	psi	bar	psi	bar
1 e 1.5	175	12.1	250	17.2	100	6.9	200	13.8	300	20.7	600	41.4	175	12.1	250	17.2	600	41.4	900	62.1
2 e 3	150	10.3	200	13.8	25	1.7	50	3.4	200	13.8	300	20.7	150	10.3	200	13.8	350	24.1	600	41.4
4 e 6	100	6.9	125	8.6	All		25	1.7	100	6.9	150	10.3	75	5.2	125	8.6	200	13.8	300	20.7
8 a 12	50	3.4	100	6.9	All		All		50	3.4	100	6.9	50	3.4	100	6.9	125	8.6	175	12.1

Unbalanced Trim and Standard Actuator Data

Valve Nominal Diameter (in.)	ANSI Class	Full Area Trim Size		Seat Area		Stem Diameter		Stem Area		Stroke		Standard Actuator
		in.	mm	in. ²	cm ²	in.	mm	in. ²	cm ²	in.	mm	
1.0	900-1500	0.81	20	0.518	3.345	0.575	14.6	0.259	1.674	0.75	19.05	25
	2500	0.71	18	0.405	2.613	0.575	14.6	0.259	1.674	0.75	19.05	25
1.5	900-1500	1.25	32	1.227	7.917	0.890	22.6	0.622	4.011	1.00	25.40	50
	2500	1.00	25	0.785	5.067	0.890	22.6	0.622	4.011	0.75	19.05	50
2.0	900-1500	1.63	41	2.074	13.38	0.890	22.6	0.622	4.011	1.50	38.10	50
	2500	1.25	32	1.227	7.917	0.890	22.6	0.622	4.011	1.00	25.40	50
3.0	900-1500	2.63	67	5.412	34.92	1.520	38.6	1.814	11.70	2.00	50.80	100
	2500	2.00	50	3.142	20.27	1.138	28.9	1.017	6.560	1.50	38.10	100
4.0	900-1500	3.50	90	9.621	62.07	1.520	38.6	1.814	11.70	2.50	63.50	100
	2500	2.63	67	5.412	34.92	1.520	38.6	1.814	11.70	2.00	50.80	100
6.0	900-1500	5.00	125	19.63	126.7	2.024	51.4	3.216	20.75	3.00	76.20	100
	2500	4.00	102	12.57	81.07	2.024	51.4	3.216	20.75	3.00	76.20	100
8.0	900-1500	6.25	160	30.68	198.0	2.524	64.1	5.002	32.27	4.00	101.6	100
	2500	5.00	125	19.63	126.7	2.524	64.1	5.002	32.27	3.00	76.20	100
10	900-1500	8.00	203	50.27	324.3	3.024	76.8	7.180	46.32	4.00	101.6	100
	2500	6.25	160	30.68	198.0	3.024	76.8	7.180	46.32	4.00	101.6	100
12	900-1500	9.00	230	70.88	457.3	3.024	76.8	7.180	46.32	4.00	101.6	100
	2500	8.00	203	50.27	324.3	3.024	76.8	7.180	46.32	4.00	101.6	100

GLH Body Subassembly Trim Materials

Plug Hard-facing Options



Seating Surface



Lower Guide Area



Full Seat Surface



Full Contour Lower Guide

0307090

Trim Materials Characteristics

Trim Materials	Hardness (R _C)	Temperature Limitation		Impact Resistance	Corrosion Resistance	Erosion Resistance	Abrasion Resistance
		°F	°C				
Stainless Steel 316	8	600	316	Excellent	Excellent	Reasonable	Razoável
Alloy #6	44	1500	815	Excellent	Excellent	Good	Good
Stainless Steel 416	40	800	426	Good	Reasonable	Good	Good
17-4 PH (H900)	44	800	426	Good	Good to Excellent	Good	Good
Stainless Steel 440C	55-60	800	426	Reasonable	Reasonable	Excellent	Excellent
Monel K-500	32	600	316	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

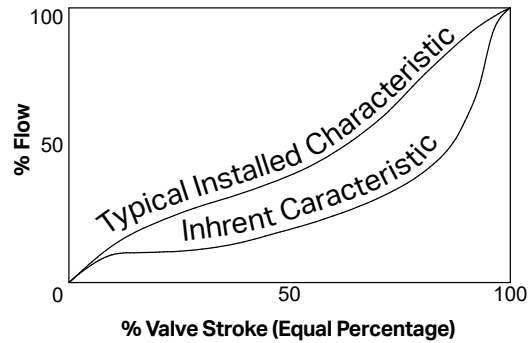
Pressure Balanced Trim and Standard Actuator Data

Valve Size (in.)	ANSI Class	Full Trim Size (T/N)		Seat Area		Stem Diameter		Stem Area		Retainer Area		Unbalanced Area				Stroke		Standard Actuator
		in.	mm	in. ²	cm ²	in.	mm	in. ²	cm ²	in. ²	cm ²	Flow-under to Close		Flow-over to Open		in.	cm ²	
												cm ²	in. ²	in. ²	cm ²			
2.0	900-1500	1.63	41	2.074	13.38	0.575	14.6	0.259	1.674	2.41	15.5	0.58	0.09	0.35	2.25	1.00	25.4	50
	2500	1.25	32	1.227	7.92	0.575	14.6	0.259	1.674	1.55	10.0	0.45	0.07	0.33	2.12	1.00	25.4	50
3.0	900-1500	2.63	67	5.412	34.92	0.890	22.6	0.622	4.011	6.49	41.9	3.10	0.48	1.10	7.11	2.00	50.8	100
	2500	2.00	50	3.142	20.27	0.890	22.6	0.622	4.011	3.86	24.9	0.77	0.12	0.74	4.78	1.50	38.1	100
4.0	900-1500	3.50	90	9.621	62.07	1.138	28.9	1.017	6.560	11.41	73.61	5.16	0.80	1.82	11.7	2.00	50.8	100
	2500	2.63	67	5.412	34.92	1.138	28.9	1.017	6.560	6.77	43.7	2.39	0.37	1.39	8.95	2.00	50.8	100
6.0	900-1500	5.00	125	19.63	126.7	1.520	38.6	1.814	11.70	22.69	146.4	8.32	1.29	3.10	20.0	2.50	63.5	100
	2500	4.00	102	12.57	81.07	1.520	38.6	1.814	11.70	15.03	97.0	4.45	0.69	2.50	16.2	2.50	63.5	100
8.0	900-1500	6.25	160	30.68	198.0	2.024	51.4	3.216	20.75	35.78	230.8	12.6	1.96	5.18	33.4	4.00	101.6	100
	2500	5.00	125	19.63	126.7	2.024	51.4	3.216	20.75	23.76	153.3	6.38	0.99	4.21	27.1	3.00	76.2	100
10	900-1500	7.90	200	50.27	324.3	2.524	64.1	5.002	32.27	58.36	376.5	20.5	3.18	8.18	52.8	4.00	101.6	100
	2500	6.25	160	30.68	198.0	2.524	64.1	5.002	32.27	37.12	239.5	9.87	1.53	6.53	42.1	4.00	101.6	100
12	900-1500	9.50	240	70.88	457.3	2.524	64.1	5.002	32.27	79.53	513.1	24.1	3.74	8.74	56.4	4.00	101.6	100
	2500	7.90	200	50.27	324.3	2.524	64.1	5.002	32.27	56.75	366.1	10.1	1.57	6.57	42.4	4.00	101.6	100

GLH Body Subassembly Flow Characteristics

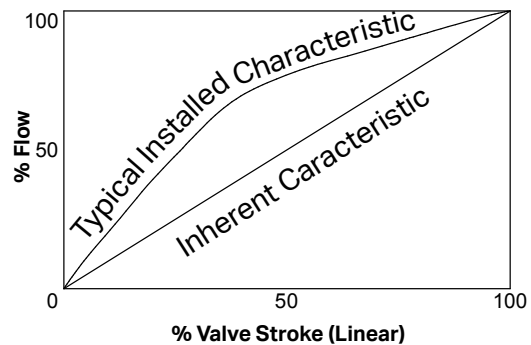
Equal Percentage

Equal Percentage is the characteristic most commonly used in process control. The change in flow per unit of valve stroke is directly proportional to the flow occurring just before the change is made. When installed, a valve with Equal Percentage characteristic will produce in most control loops a characteristic that approaches Linear when the overall system pressure drop is large in relation to that of the valve.



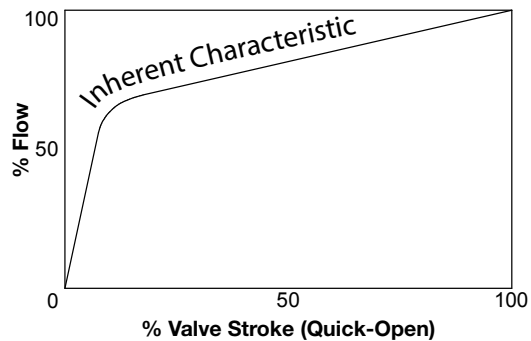
Linear

The Linear characteristic produces equal changes in flow per unit of valve stroke, despite of the plug position. Linear plugs are used on those systems where the valve pressure drop is a major portion of the total system pressure drop.



Quick-open

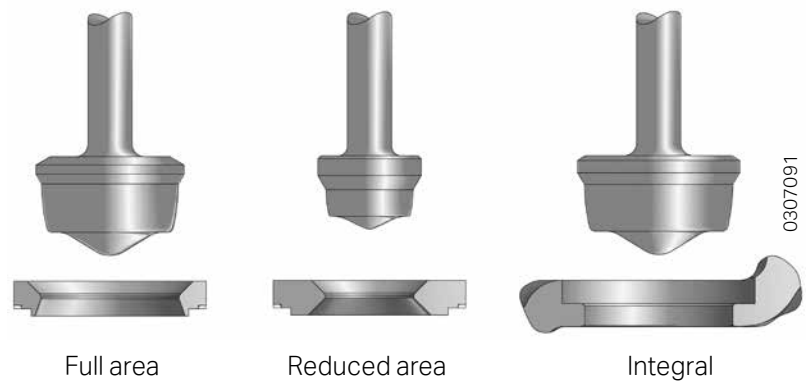
Quick-open plugs are used for on-off service and are designed to produce maximum flow increase, as earlier as the small opening percentage.



Trims size

Two trim options are normally available: the standard, with full passage area, and another with reduced passage, available in a variety of sizes, and requested when Cv values are relatively lower for a specific body size that will be used. Besides these options, an Integral trim can be supplied, which uses a special seat machined to the valve body and an oversized plug to provide higher Cv than the one provided by the full-area trim.

As the GLH trims are completely interchangeable for a determined body diameter and pressure class, trim size and nominal Cv alteration is a simple operation.



Trims Size

GLH Body Subassembly General Specification Chart

GLH Series - Specification & Manufacturing Materials

Body	Diameter		1 to 24 inches
	ANSI Class		900, 1500 and 2500
	Styles		Globe, Angle, 3-way, special versions
	Manufacturing Materials		Carbon steel, Stainless steel, Chrome-Moly and other castable materials under request.
	Connections		Integral flanges (all sizes) NPT (1 to 2 inches) Socketweld, SW (1 to 4 inches) Buttweld, BW (all sizes) Grayloc (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 with silver coating	
Bonnet	Types		Plain; Standard extended; Cryogenic
	Materials		Same body options
	Bonnet flanges		Carbon steel or Stainless steel 316 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 Balanced: with metal sealing rings. 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, Colmonoy #5 and other materials under request
		Types	Seat surface hardening, Full seat surface and plug head hardening , 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. Field reversible and available in sizes 25, 50, 100, 200, 300, 400, 500 and 600. Options: manual handwheel, stroke limits and others (See actuators catalog).
		Others	Manuals. Electro-mechanical or Electro-Hydraulic under request
Positioner	Types		Pneumatics: HPP-2000 Electro-pneumatics: HPP-2000 Digital: Chronos

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

GLH Body Subassembly Standard Manufacturing Materials Technology

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

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

Notes: ⁽¹⁾ Alloy 6 seat ring (Stellite #6) solid manufactured until T/N: 41 (1.63)

⁽²⁾ Alloy 6 plug (Stellite #6) solid manufactured until T/N: 41 (1.63)

⁽³⁾ Do not use graphite above 750°F (400°C) 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.

GLH Body Subassembly Standard Manufacturing Materials Technology

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

Component	Materials	Temperature Range	
		°F	°C
Body	ASTM A 217 Gr. C5	-20 to 800	-29 to 427
	ASTM A 217 Gr. WC9 Class 3		
Bonnet	Stainless Steel AISI 316 (UNS S 31600)	-20 to 800	-29 to 427
Bonnet Flange	ASTM A 105	-20 to 800	-29 to 427
Seat Ring ⁽¹⁾	Stainless Steel AISI 316 (UNS S 31600)	-20 to 600	-29 to 315
	Stainless Steel AISI 410 (UNS S 41000)	-20 to 650	-29 to 343
	Stainless Steel AISI 316 w/Alloy 6 (Stellite #6)	-20 to 800	-29 to 427
	Stainless Steel AISI 316 w/PTFE (Soft Seat)	-20 to 450	-29 to 232
Plug ⁽²⁾	Stainless Steel AISI 316 (UNS S 31600)	-20 to 600	-29 to 315
	Stainless Steel AISI 410 (UNS S 41000)	-20 to 650	-29 to 343
	Stainless Steel AISI 316 w/Alloy 6 (Stellite #6)	-20 to 650	-29 to 343
	Stainless Steel AISI 316 w/Alloy 6 (Stellite #6) inside guide ⁽⁴⁾	-20 to 800	-29 to 427
Seat Retainer	Stainless Steel AISI 316 - ASTM A 351 - CF8M	-20 to 800	-29 to 427
Plug Guides	Stainless Steel AISI 316 (UNS S 31600) with PTFEG lining	-20 to 350	-29 to 177
	Stainless Steel AISI 316 (UNS S 31600) with Grafoil ⁽³⁾	-20 to 800	-29 to 427
	Solid Bronze	-20 to 500	-29 to 260
	Solid Stellite #6 ⁽⁴⁾	-20 to 800	-29 to 427
Body Gaskets and Bonnet Gaskets	Spiral: Stainless Steel AISI 316 with AFG	-20 to 750	-29 to 400
	Spiral: Stainless Steel AISI 316 with Graphite ⁽³⁾	-20 to 800	-29 to 427
Packing Set	PTFE Vee ring with plain bonnet	-20 to 450	-29 to 232
	PTFE Vee ring with extended bonnet	-20 to 600	-29 to 315
	Braided PTFE with plain bonnet	-20 to 500	-29 to 260
	Braided PTFE with extended bonnet	-20 to 600	-29 to 315
	Graphite / AFP ⁽³⁾ with plain bonnet	-20 to 750	-29 to 400
	Graphite / AFP ⁽³⁾ with extended bonnet	-20 to 800	-29 to 427
	PT and PTG with plain bonnet	-20 to 450	-29 to 232
	PT and PTG with extended bonnet	-20 to 600	-29 to 315
	PTG XT with plain bonnet	-20 to 550	-29 to 282
	PTG XT with extended bonnet	-20 to 700	-29 to 371
Packing Spacer	Stainless Steel AISI 316 (UNS 31600)	-20 to 800	-29 to 427
Gland Flanges	Stainless Steel AISI 316 - ASTM A 351 - CF8M	-20 to 800	-29 to 427
Gland Flange Bolting	ASTM A 193 Grade B8 Class 1	-20 to 800	-29 to 427
	ASTM A 194 Grade 8		
Bonnet Flange Bolting	ASTM A 193 Grade B7 ASTM A 194 Grade 2H	-20 to 800	-29 to 427

Notes: ⁽¹⁾ Alloy 6 seat ring (Stellite #6) solid manufactured until T/N: 41 (1.63)

⁽²⁾ Alloy 6 plug (Stellite #6) solid manufactured until T/N: 41 (1.63)

⁽³⁾ Do not use graphite above 750°F (400°C) 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.

GLH Body Subassembly Standard Manufacturing Materials Technology

Stainless Steel ASTM A 351-CF8M (316 SST)

Component	Materials	Temperature Range	
		°F	°C
Body	ASTM A 351-CF8M	-20 a 800	-29 a 427
Bonnet	Stainless Steel AISI 316 (UNS S 31600)	-20 a 800	-29 a 427
Bonnet Flange	Carbon Steel ASTM A 105	-20 a 800	-29 a 427
	Stainless Steel AISI 316 - ASTM A351-CF8M	-20 a 800	-29 a 427
Seat Ring⁽¹⁾	Stainless Steel AISI 316 (UNS S 31600)	-20 a 600	-29 a 315
	Stainless Steel AISI 316 w/PTFE (Soft Seat)	-20 a 450	-29 a 232
	Stainless Steel AISI 316 w/Alloy 6 (Stellite #6)	-20 a 800	-29 a 427
Plug⁽²⁾	Stainless Steel AISI 316 (UNS S 31600)	-20 a 600	-29 a 315
	Stainless Steel AISI 316 w/Alloy 6 (Stellite #6)	-20 a 650	-29 a 343
	Stainless Steel AISI 316 w/Alloy 6 (Stellite #6) inside Guide ⁽⁴⁾	-20 a 800	-29 a 427
Seat Retainer	Stainless Steel ASTM A 351 - CF8M (AISI 316)	-20 a 800	-29 a 427
Plug Guides	Stainless Steel AISI 316 (UNS S 31600) with PTFEG lining	-20 a 350	-29 a 177
	Stainless Steel AISI 316 (UNS S 31600) with Graphite ⁽³⁾	-20 a 800	-29 a 427
	Solid Stellite #6 ⁽⁴⁾	-20 a 800	-29 a 427
Body Gaskets and Bonnet Gaskets	Flat: PTFE	-20 a 350	-29 a 177
	Flat: with AFG	-20 a 600	-29 a 315
	Spiral Stainless Steel AISI 316 with AFG	-20 a 750	-29 a 400
	Spiral Stainless Steel AISI 316 with Graphite ⁽³⁾	-20 a 800	-29 a 427
Packing Set	PTFE Vee ring with plain bonnet	-20 a 450	-29 a 232
	PTFE Vee ring with extended bonnet	-20 a 600	-29 a 315
	Braided PTFE with plain bonnet	-20 a 500	-29 a 260
	Braided PTFE with extended bonnet	-20 a 600	-29 a 315
	Graphite / AFP ⁽³⁾ with plain bonnet	-20 a 750	-29 a 400
	Graphite / AFP ⁽³⁾ with extended bonnet	-20 a 800	-29 a 427
	PT and PTG with plain bonnet	-20 a 450	-29 a 232
	PT and PTG with extended bonnet	-20 a 600	-29 a 315
	PTG XT with plain bonnet	-20 a 550	-29 a 282
	PTG XT with extended bonnet	-20 a 700	-29 a 371
Packing Spacer	Stainless Steel AISI 316 (UNS S 31600)	-20 a 800	-29 a 427
Gland Flange	Stainless Steel ASTM A 351 - CF8M (316 SST)	-20 a 800	-29 a 427
Gland Flange Bolting	ASTM A 193 Grade B8 Class 1 ASTM A 194 Grade 8	-20 a 800	-29 a 427
Bonnet Flange Bolting	ASTM A 193 Grade B7 ASTM A 194 Grade 2H	-20 a 800	-29 a 427

Notes: ⁽¹⁾ Alloy 6 seat ring (Stellite #6) solid manufactured until T/N: 41 (1.63)

⁽²⁾ Alloy 6 plug (Stellite #6) solid manufactured until T/N: 41 (1.63)

⁽³⁾ Do not use graphite above 750°F (400°C) 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.

GL_H Body Subassembly NACE Manufacturing Materials Technology

Stainless Steel ASTM A 216 Gr. WCC-NACE

Component	Materials	Temperature Range	
		°F	°C
Body	ASTM A 216 Gr. WCC-NACE	-20 a 800	-29 a 427
Bonnet	Plain:: ASTM A 105 ou ASTM A 675-70	-20 a 750	-29 a 400
	Extended:: ASTM A 105 / A 675-70	-20 a 800	-29 a 427
Bonnet Flange	ASTM A 516-70	-20 a 800	-29 a 427
Seat Ring ⁽¹⁾	Stainless Steel AISI 316 (UNS S 31600)	-20 a 600	-29 a 315
	Stainless Steel AISI 316 w/Alloy 6 (Stellite #6)	-20 a 800	-29 a 427
Plug ⁽²⁾	Stainless Steel AISI 316 (UNS S 31600)	-20 a 600	-29 a 315
	Stainless Steel AISI 316 w/Alloy 6 (Stellite #6)	-20 a 650	-29 a 343
	Stainless Steel AISI 316 w/Alloy 6 (Stellite #6) inside Guide ⁽⁴⁾	-20 a 800	-29 a 427
Seat Retainer	Stainless Steel AISI 316 - ASTM A 351 - CF8M	-20 a 800	-29 a 427
Plug Guides	Stainless Steel AISI 316 (UNS S 31600) with PTFEG lining	-20 a 350	-29 a 177
	Stainless Steel AISI 316 (UNS S 31600) with Graphite ⁽³⁾	-20 a 800	-29 a 427
	Solid Stellite #6 ⁽⁴⁾	-20 a 800	-29 a 427
Body Gaskets and Bonnet Gaskets	Plain: PTFE	-20 a 350	-29 a 177
	Plain: with AFG	-20 a 600	-29 a 315
	Spiral Stainless Steel AISI 316 with AFG	-20 a 750	-29 a 400
	piral Stainless Steel AISI 316 (UNS S 31600) with Graphite ⁽³⁾	-20 a 800	-29 a 427
Packing Set	PTFE Vee ring with plain bonnet	-20 a 450	-29 a 232
	PTFE Vee ring with extended bonnet	-20 a 600	-29 a 315
	Braided PTFE with plain bonnet	-20 a 500	-29 a 260
	Braided PTFE with extended bonnet	-20 a 600	-29 a 315
	Graphite / AFP (3) with plain bonnet	-20 a 750	-29 a 400
	Graphite / AFP (3) with extended bonnet	-20 a 800	-29 a 427
	PT and PTG with plain bonnet	-20 a 450	-29 a 232
	PT and PTG with extended bonnet	-20 a 600	-29 a 315
	PTG XT with plain bonnet o	-20 a 550	-29 a 282
	PTG XT with extended bonnet	-20 a 700	-29 a 371
Packing Spacer	Stainless Steel AISI 316 ((UNS S 31600)	-20 a 800	-29 a 427
Gland Flange	Stainless Steel AISI 316 - ASTM A 351 - CF8M	-20 a 800	-29 a 427
Gland Flange Bolting	ASTM A 193 Gr. B8 Class 1	-20 a 800	-29 a 427
	ASTM A 193 Gr. B7M Zinc Plated		
Bonnet Flange Bolting	ASTM A 193 Gr. B7 ASTM A 193 Gr. B7M ASTM A 194 Gr. 2H ASTM A 194 Gr. 2HM	-20 a 800	-29 a 427

Notes: ⁽¹⁾ Alloy 6 seat ring (Stellite #6) solid manufactured until T/N: 41 (1.63)

⁽²⁾ Alloy 6 plug (Stellite #6) solid manufactured until T/N: 41 (1.63)

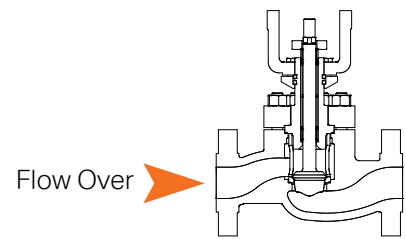
⁽³⁾ Do not use graphite above 750°F (400°C) in oxidizing service such as air or oxygen.

⁽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. or ISO 15156

GLH Body Subassembly Flow Coefficient - C_v

Class 900/1500 - Unbalanced Trims



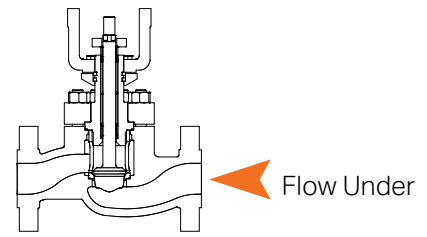
Flow Coefficient (C_v) - Equal Percentage

Valve Nominal Diameter (in.)	Nominal Trims Size T.N.	Stroke		F_L	Opening Percentage									
		in.	mm		100	90	80	70	60	50	40	30	20	10
1.0	20 (0.81)	0.75	19.05	0.87	9.8	8.7	7.3	5.4	3.9	2.7	1.9	1.3	0.85	0.58
	18 (0.71)	0.75	19.05	0.85	9.2	7.9	6.1	4.5	3.2	2.2	1.5	0.99	0.68	0.46
	16 (0.63)	0.75	19.05	0.83	8.4	6.6	4.9	3.5	2.4	1.7	1.1	0.76	0.51	0.35
	13 (0.50)	0.75	19.05	0.82	6.3	4.5	3.3	2.3	1.6	1.1	0.71	0.48	0.33	0.22
	10 (0.38)	0.75	19.05	0.82	4.1	2.8	1.9	1.3	0.90	0.61	0.42	0.27	0.182	0.132
	8 (0.31)	0.75	19.05	0.81	2.8	2.0	1.3	0.89	0.60	0.40	0.27	0.186	0.127	0.088
	6.5-06 (0.25-06)	0.75	19.05	0.81	1.9	1.3	0.87	0.59	0.39	0.27	0.192	0.121	0.083	0.057
	6.5-12 (0.25-12)	0.75	19.05	0.81	1.1	0.83	0.60	0.36	0.23	0.159	0.100	0.074	0.060	0.045
3.2-00 (0.12-00)	0.50	12.70	0.81	0.57	0.36	0.22	0.15	0.110	0.072	0.054	0.038	0.027	0.019	
1.5	32 (1.25)	1.00	25.40	0.86	24	22	18.4	13.3	9.6	6.6	4.6	3.1	2.1	1.4
	25 (1.00)	0.75	19.05	0.85	19.4	18.4	14.3	9.3	6.3	4.3	3.0	1.9	1.3	0.91
	20 (0.81)	0.75	19.05	0.82	15.9	12.9	8.7	6.0	4.1	2.8	1.9	1.3	0.85	0.59
	16 (0.63)	0.75	19.05	0.83	11.2	7.8	5.4	3.7	2.5	1.7	1.1	0.77	0.52	0.36
	10 (0.38)	0.75	19.05	0.79	4.2	2.9	1.9	1.3	0.87	0.59	0.41	0.27	0.178	0.128
2.0	41 (1.63)	1.50	38.10	0.89	37	35	29	22	15.7	10.8	7.4	5.0	3.4	2.3
	32 (1.25)	1.00	25.40	0.87	31	28	21	14.2	9.9	6.7	4.6	3.1	2.1	1.4
	25 (1.00)	0.75	19.05	0.83	24	19.8	14.9	9.3	6.2	4.3	2.9	1.9	1.3	0.88
	20 (0.81)	0.75	19.05	0.82	17.7	13.8	8.9	6.0	4.0	2.8	1.9	1.3	0.85	0.57
	16 (0.63)	0.75	19.05	0.79	11.1	8.0	5.3	3.6	2.5	1.7	1.1	0.77	0.51	0.35
	10 (0.38)	0.75	19.05	0.79	4.3	2.9	1.9	1.3	0.87	0.59	0.41	0.27	0.178	0.128
3.0	67 (2.63)	2.00	50.80	0.87	98	88	77	63	41	29	20	12.9	9.0	6.1
	50 (2.00)	1.50	38.10	0.83	75	64	55	42	25	17.1	11.1	7.9	5.2	3.5
	41 (1.63)	1.50	38.10	0.81	60	52	36	24	16.9	10.9	7.5	5.1	3.5	2.3
	32 (1.25)	1.00	25.40	0.78	38	34	23	14.1	9.9	6.8	4.5	3.0	2.1	1.4
4.0	90 (3.50)	2.50	63.50	0.86	176	160	141	118	76	51	35	24	16.1	11.1
	67 (2.63)	2.00	50.80	0.82	131	114	102	69	43	29	20	13.1	9.1	6.1
	55 (2.25)	2.00	50.80	0.83	105	90	70	42	29	22	14.9	9.7	6.6	4.6
	41 (1.63)	1.50	38.10	0.79	71	55	37	25	16.9	10.9	7.5	5.1	3.5	2.3
6.0	125 (5.00)	3.00	76.20	0.85	366	335	291	236	182	106	71	49	33	23
	90 (3.50)	2.50	63.50	0.83	254	210	167	132	79	52	35	24	16.0	11.0
	75 (3.00)	2.00	50.80	0.81	193	157	124	104	62	38	26	17.9	11.9	8.0
	67 (2.63)	2.00	50.80	0.78	155	124	103	72	43	29	20	12.9	9.1	6.1
8.0	160 (6.25)	4.00	101.6	0.86	570	521	447	361	256	164	112	76	51	35
	125 (5.00)	3.00	76.20	0.80	468	406	330	259	192	108	72	49	33	23
	90 (3.50)	2.50	63.50	0.83	276	222	177	135	80	52	35	24	16.0	11.0
	67 (2.63)	2.00	50.80	0.82	157	128	111	72	43	29	20	12.9	9.0	6.1
10	203 (8.00)	4.00	101.60		950	642	434	294	199	134	91	61	42	28
12	230 (9.00)	4.00	101.60		1250	845	572	387	261	177	120	81	55	37

* For information on larger sizes C_v 's, consult www.literature.valteksul.com - Bulletin number 5 of the catalogue Valve Sizing and Selection or Large Globe Valves catalogue, of ValtekSul.

GLH Body Subassembly Flow Coefficient - C_v

Class 900/1500 - Unbalanced Trims



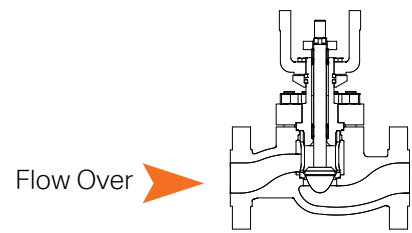
Flow Coefficient (C_v) - Equal Percentage

Valve Nominal Diameter (in.)	Nominal Trims Size T.N.	Stroke		F_L	Opening Percentage									
		in.	mm		100	90	80	70	60	50	40	30	20	10
1.0	20 (0.81)	0.75	19.05	0.89	9.3	8.3	7.0	5.2	3.8	2.6	1.8	1.2	0.83	0.57
	18 (0.71)	0.75	19.05	0.90	8.9	7.6	5.8	4.3	3.1	2.1	1.4	0.97	0.66	0.45
	16 (0.63)	0.75	19.05	0.91	7.8	6.4	4.7	3.4	2.3	1.6	1.1	0.73	0.50	0.34
	13 (0.50)	0.75	19.05	0.89	6.2	4.5	3.2	2.2	1.5	1.0	0.71	0.47	0.32	0.22
	10 (0.38)	0.75	19.05	0.92	3.8	2.7	1.9	1.3	0.85	0.57	0.39	0.27	0.177	0.118
	8 (0.31)	0.75	19.05	0.89	2.9	1.9	1.3	0.89	0.61	0.41	0.27	0.193	0.122	0.089
	6.5-06 (0.25-06)	0.75	19.05	0.91	1.9	1.2	0.83	0.56	0.37	0.26	0.177	0.118	0.079	0.053
	6.5-12 (0.25-12)	0.75	19.05	0.92	1.1	0.81	0.58	0.35	0.23	0.161	0.100	0.072	0.058	0.044
	3.2-00 (0.12-00)	0.50	12.70	0.91	0.55	0.35	0.21	0.150	0.100	0.070	0.053	0.037	0.026	0.019
1.5	32 (1.25)	1.00	25.40	0.89	22	21	17.2	12.2	9.1	6.4	4.4	2.9	2.0	1.4
	25 (1.00)	0.75	19.05	0.92	18.7	16.7	12.8	8.6	5.9	4.0	2.8	1.9	1.3	0.85
	20 (0.81)	0.75	19.05	0.91	16.3	12.2	8.7	5.9	4.1	2.8	1.8	1.2	0.86	0.59
	16 (0.63)	0.75	19.05	0.88	10.8	7.4	5.0	3.4	2.4	1.6	1.1	0.73	0.49	0.33
	10 (0.38)	0.75	19.05	0.90	4.1	2.8	1.9	1.3	0.85	0.57	0.40	0.27	0.178	0.119
2.0	41 (1.63)	1.50	38.10	0.91	36	33	28	21	14.8	10.8	7.2	4.9	3.3	2.3
	32 (1.25)	1.00	25.40	0.89	29	27	20	13.2	9.5	6.5	4.4	3.0	2.0	1.4
	25 (1.00)	0.75	19.05	0.92	24	20	14.3	9.2	6.2	4.2	2.9	1.9	1.3	0.88
	20 (0.81)	0.75	19.05	0.91	17.7	12.8	8.7	5.8	3.9	2.7	1.8	1.2	0.83	0.56
	16 (0.63)	0.75	19.05	0.90	11.0	7.7	5.2	3.5	2.4	1.6	1.1	0.74	0.50	0.34
	10 (0.38)	0.75	19.05	0.90	4.2	2.8	1.9	1.3	0.85	0.57	0.40	0.27	0.178	0.119
3.0	67 (2.63)	2.00	50.80	0.89	94	85	74	60	40	28	19.1	13.0	8.8	6.0
	50 (2.00)	1.50	38.10	0.90	71	61	53	41	25	15.9	10.9	7.5	5.1	3.5
	41 (1.63)	1.50	38.10	0.92	59	50	35	23	16.1	11.1	7.5	5.0	3.4	2.3
	32 (1.25)	1.00	25.40	0.88	37	32	22	14.2	9.7	6.6	4.4	3.0	2.0	1.4
4.0	90 (3.50)	2.50	63.50	0.91	166	151	134	112	72	49	34	23	15.9	11.0
	67 (2.63)	2.00	50.80	0.90	125	108	97	67	41	28	19.1	13.0	8.8	6.0
	55 (2.25)	2.00	50.80	0.89	101	87	68	41	28	21	13.9	9.5	6.4	4.5
	41 (1.63)	1.50	38.10	0.90	69	54	36	24	16.0	11.0	7.4	5.0	3.4	2.3
6.0	125 (5.00)	3.00	76.20	0.90	347	319	277	224	174	102	69	47	32	22
	90 (3.50)	2.50	63.50	0.89	245	203	161	127	76	50	34	23	16.0	11.0
	75 (3.00)	2.00	50.80	0.91	188	153	122	103	60	37	25	17.1	11.1	7.8
	67 (2.63)	2.00	50.80	0.90	150	120	100	69	42	28	18.9	12.9	8.8	6.0
8.0	160 (6.25)	4.00	101.6	0.91	545	498	428	346	246	157	108	74	50	34
	125 (5.00)	3.00	76.20	0.89	448	389	317	249	185	104	69	47	32	22
	90 (3.50)	2.50	63.50	0.90	268	215	171	131	77	51	34	23	16.0	11.0
	67 (2.63)	2.00	50.80	0.90	154	126	109	70	42	28	19.1	13.1	8.8	6.0
10	203 (8.00)	4.00	101.60		950	642	434	294	199	134	91	61	42	28
12	230 (9.00)	4.00	101.60		1250	845	572	387	261	177	120	81	55	37

* For information on larger sizes C_v 's, consult www.literaturevalteksul.com - Bulletin number 5 of the catalogue Valve Sizing and Selection or Large Globe Valves catalogue, of ValtekSul

GLH Body Subassembly Flow Coefficient - C_v

Class 900/1500 - Unbalanced Trims



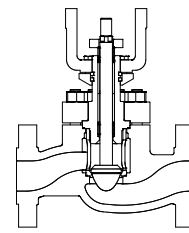
Flow Coefficient (C_v) - Linear

Valve Nominal Diameter (in.)	Nominal Trims Size T.N.	Stroke		F_L	Opening Percentage									
		in.	mm		100	90	80	70	60	50	40	30	20	10
1.0	20 (0.81)	0.75	19.05	0.87	9.9	9.7	9.3	8.8	8.3	7.5	6.5	5.3	3.7	1.9
	18 (0.71)	0.75	19.05	0.85	9.3	8.8	8.4	7.9	7.3	6.5	5.5	4.3	3.0	1.5
	16 (0.63)	0.75	19.05	0.83	8.5	7.9	7.4	6.8	6.1	5.3	4.4	3.4	2.3	1.2
	13 (0.50)	0.75	19.05	0.84	6.4	5.8	5.4	4.8	4.2	3.6	2.9	2.2	1.5	0.73
	10 (0.38)	0.75	19.05	0.83	4.1	3.6	3.3	2.9	2.5	2.1	1.7	1.3	0.83	0.42
	8 (0.31)	0.75	19.05	0.81	2.9	2.6	2.3	2.0	1.7	1.5	1.2	0.86	0.57	0.29
	6.5-30 (0.25-30)	0.75	19.05	0.82	1.9	1.7	1.5	1.3	1.1	0.92	0.74	0.55	0.36	0.187
	6.5-36 (0.25-36)	0.75	19.05	0.83	1.1	0.99	0.93	0.83	0.72	0.61	0.51	0.39	0.26	0.129
	3.2-00 (0.12-00)	0.50	12.70	0.83	0.49	0.43	0.38	0.33	0.28	0.24	0.190	0.140	0.095	0.048
	3.2-06 (0.12-06)	0.50	12.70	0.81	0.22	0.20	0.180	0.160	0.140	0.120	0.098	0.074	0.050	0.026
	3.2-12 (0.12-12)	0.50	12.70	0.78	0.150	0.140	0.120	0.110	0.098	0.086	0.073	0.059	0.046	0.032
3.2-18 (0.12-18)	0.50	12.70	0.80	0.053	0.045	0.038	0.031	0.025	0.019	0.013	0.008	0.004	0.001	
3.2-24 (0.12-24)	0.50	12.70	0.79	0.014	0.012	0.010	0.008	0.006	0.005	0.003	0.002	0.001	0.000	
1.5	32 (1.25)	1.00	25.40	0.85	24	23	22	21	20	18.3	16.3	13.2	9.0	4.7
	25 (1.00)	0.75	19.05	0.82	21	20	17.7	16.7	14.7	12.8	10.8	8.3	5.8	2.9
	20 (0.81)	0.75	19.05	0.80	16.2	15.2	14.2	12.2	11.1	9.5	7.8	5.9	3.9	2.0
	18 (0.71)	0.75	19.05	0.81	14.0	13.0	11.0	10.0	8.9	7.5	6.1	4.6	3.1	1.6
	16 (0.63)	0.75	19.05	0.79	10.8	9.8	8.8	7.8	6.8	5.7	4.5	3.4	2.3	1.2
	10 (0.38)	0.75	19.05	0.80	4.3	3.8	3.4	3.0	2.5	2.1	1.7	1.3	0.83	0.42
2.0	41 (1.63)	1.50	38.10	0.87	41	39	37	36	33	30	26	21	15.2	7.9
	32 (1.25)	1.00	25.40	0.83	33	32	29	27	24	21	17.2	13.2	9.3	4.8
	25 (1.00)	0.75	19.05	0.82	26	24	22	19.1	17.1	14.1	12.1	9.0	6.0	3.0
	20 (0.81)	0.75	19.05	0.84	18.7	16.7	14.8	12.8	11.8	9.5	7.7	5.8	3.8	2.0
	18 (0.71)	0.75	19.05	0.81	14.8	13.8	11.8	10.9	9.1	7.6	6.1	4.5	3.1	1.6
	16 (0.63)	0.75	19.05	0.79	12.2	11.2	9.5	7.3	7.1	6.0	4.8	3.6	2.3	1.2
	10 (0.38)	0.75	19.05	0.80	4.3	3.8	3.4	3.0	2.5	2.1	1.7	1.3	0.83	0.42
3.0	67 (2.63)	2.00	50.80	0.86	104	101	97	92	86	78	67	54	39	19.8
	50 (2.00)	1.50	38.10	0.84	88	83	77	71	62	54	45	35	24	12.1
	41 (1.63)	1.50	38.10	0.81	68	63	57	51	45	38	31	23	15.9	7.8
	32 (1.25)	1.00	25.40	0.82	45	41	36	32	28	23	19.2	14.1	9.4	4.7
4.0	90 (3.50)	2.50	63.50	0.87	186	180	174	165	154	139	121	97	70	36
	67 (2.63)	2.00	50.80	0.84	153	144	133	122	108	93	77	60	41	21
	55 (2.25)	2.00	50.80	0.81	128	119	108	97	84	72	59	45	30	15.1
	41 (1.63)	1.50	38.10	0.82	77	69	62	54	47	39	31	24	15.9	7.8
6.0	125 (5.00)	3.00	76.20	0.85	381	370	357	339	316	286	248	201	142	74
	90 (3.50)	2.50	63.50	0.83	289	270	249	224	199	171	140	107	72	36
	75 (3.00)	2.00	50.80	0.81	236	216	196	175	153	130	105	80	54	27
	67 (2.63)	2.00	50.80	0.82	193	176	157	139	120	101	82	61	41	21
8.0	160 (6.25)	4.00	101.6	0.86	596	579	557	529	493	447	388	314	222	115
	125 (5.00)	3.00	76.20	0.83	515	488	458	422	381	332	277	215	147	75
	90 (3.50)	2.50	63.50	0.81	334	304	275	244	212	179	144	109	73	37
	67 (2.63)	2.00	50.80	0.82	206	185	163	143	123	103	83	62	41	21
10	203 (8.00)	4.00	101.60		950	855	760	665	570	475	380	285	190	95
12	230 (9.00)	4.00	101.60		1250	1125	1000	875	750	625	500	375	250	125

* For information on larger sizes C_v 's, consult www.literature.valtek.com - Bulletin number 5 of the catalogue Valve Sizing and Selection or Large Globe Valves catalogue, of ValtekSu

GLH Body Subassembly Flow Coefficient - C_v

Class 900/1500 - Unbalanced Trims



Flow Under

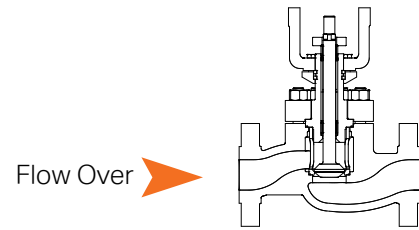
Flow Coefficient (C_v) - Linear

Valve Nominal Diameter (in.)	Nominal Trims Size T.N.	Stroke		F_L	Opening Percentage									
		in.	mm		100	90	80	70	60	50	40	30	20	10
1.0	20 (0.81)	0.75	19.05	0.91	9.5	9.2	8.9	8.4	8.0	7.2	6.3	5.1	3.6	1.9
	18 (0.71)	0.75	19.05	0.93	9.0	8.6	8.2	7.7	7.0	6.3	5.3	4.2	2.9	1.5
	16 (0.63)	0.75	19.05	0.93	8.1	7.6	7.1	6.5	5.8	5.1	4.2	3.3	2.2	1.1
	13 (0.50)	0.75	19.05	0.90	6.2	5.6	5.2	4.7	4.1	3.5	2.8	2.2	1.5	0.72
	10 (0.38)	0.75	19.05	0.91	4.0	3.5	3.2	2.8	2.4	2.0	1.6	1.2	0.83	0.41
	8 (0.31)	0.75	19.05	0.90	2.9	2.5	2.2	2.0	1.7	1.4	1.1	0.87	0.58	0.28
	6.5-30 (0.25-30)	0.75	19.05	0.90	1.9	1.6	1.5	1.3	1.1	0.90	0.72	0.54	0.36	0.177
	6.5-36 (0.25-36)	0.75	19.05	0.88	1.1	1.0	0.92	0.82	0.72	0.62	0.50	0.38	0.26	0.131
	3.2-00 (0.12-00)	0.50	12.70	0.92	0.47	0.42	0.37	0.32	0.28	0.23	0.180	0.140	0.093	0.047
	3.2-06 (0.12-06)	0.50	12.70	0.87	0.22	0.20	0.180	0.160	0.140	0.120	0.096	0.073	0.049	0.031
	3.2-12 (0.12-12)	0.50	12.70	0.92	0.140	0.130	0.120	0.110	0.096	0.084	0.071	0.058	0.045	0.025
3.2-18 (0.12-18)	0.50	12.70	0.85	0.052	0.044	0.037	0.030	0.024	0.018	0.013	0.008	0.004	0.001	
3.2-24 (0.12-24)	0.50	12.70	0.85	0.014	0.012	0.010	0.008	0.006	0.005	0.003	0.002	0.001	0.000	
1.5	32 (1.25)	1.00	25.40	0.89	23	22	21	20	19.3	17.3	15.3	12.2	8.7	4.6
	25 (1.00)	0.75	19.05	0.91	20	18.8	17.8	15.8	14.9	12.9	10.9	8.3	5.6	2.9
	20 (0.81)	0.75	19.05	0.92	16.2	15.2	13.2	12.2	11.1	9.2	7.5	5.8	3.8	1.9
	18 (0.71)	0.75	19.05	0.91	12.8	11.8	10.8	9.7	8.5	7.2	5.8	4.4	3.0	1.5
	16 (0.63)	0.75	19.05	0.88	11.1	9.8	8.8	7.8	6.8	5.7	4.5	3.4	2.3	1.1
	10 (0.38)	0.75	19.05	0.90	4.2	3.7	3.3	2.9	2.5	2.1	1.6	1.2	0.81	0.41
2.0	41 (1.63)	1.50	38.10	0.91	38	37	36	34	32	29	25	20	14.8	7.5
	32 (1.25)	1.00	25.40	0.88	33	30	28	26	23	20	17.3	13.2	9.0	4.7
	25 (1.00)	0.75	19.05	0.92	25	23	21	18.7	15.7	13.8	10.8	8.5	5.7	2.9
	20 (0.81)	0.75	19.05	0.80	17.7	15.7	14.8	12.8	10.8	9.2	7.5	5.6	3.7	1.9
	18 (0.71)	0.75	19.05	0.90	14.9	12.9	11.9	9.9	8.8	7.5	6.0	4.5	3.0	1.5
	16 (0.63)	0.75	19.05	0.90	10.8	9.8	8.8	7.8	6.7	5.5	4.5	3.3	2.3	1.1
	10 (0.38)	0.75	19.05	0.90	4.2	3.7	3.3	2.9	2.5	2.1	1.6	1.2	0.81	0.41
3.0	67 (2.63)	2.00	50.80	0.91	99	96	93	88	82	75	66	53	38	19.9
	50 (2.00)	1.50	38.10	0.90	84	79	74	67	60	52	43	34	23	12.1
	41 (1.63)	1.50	38.10	0.89	66	60	55	49	43	37	30	23	15.0	7.7
	32 (1.25)	1.00	25.40	0.90	43	39	34	31	27	22	17.7	13.8	9.0	4.5
4.0	90 (3.50)	2.50	63.50	0.90	178	172	166	158	147	134	116	94	68	35
	67 (2.63)	2.00	50.80	0.92	147	137	127	117	104	90	75	58	40	20
	55 (2.25)	2.00	50.80	0.89	124	114	104	94	82	70	57	43	29	15.1
	41 (1.63)	1.50	38.10	0.88	74	66	59	52	44	37	31	23	14.8	7.7
6.0	125 (5.00)	3.00	76.20	0.90	363	353	340	323	302	274	239	193	138	72
	90 (3.50)	2.50	63.50	0.89	279	260	240	217	192	165	136	104	71	36
	75 (3.00)	2.00	50.80	0.91	228	210	190	170	148	126	102	78	52	26
	67 (2.63)	2.00	50.80	0.90	185	169	151	134	116	97	78	59	40	20
8.0	160 (6.25)	4.00	101.6	0.90	567	551	531	506	472	429	374	303	215	112
	125 (5.00)	3.00	76.20	0.91	495	469	440	406	367	321	268	209	143	73
	90 (3.50)	2.50	63.50	0.90	323	295	266	236	205	173	140	106	71	36
	67 (2.63)	2.00	50.80	0.90	198	178	158	139	119	100	80	60	40	20
10	203 (8.00)	4.00	101.60		950	855	760	665	570	475	380	285	190	95
12	230 (9.00)	4.00	101.60		1250	1125	1000	875	750	625	500	375	250	125

* For information on larger sizes C_v 's, consult www.literature.valteksul.com - Bulletin number 5 of the catalogue Valve Sizing and Selection or Large Globe Valves catalogue, of ValtekSul.

GLH Body Subassembly Flow Coefficient - C_v

Class 900/1500 - Unbalanced Trims

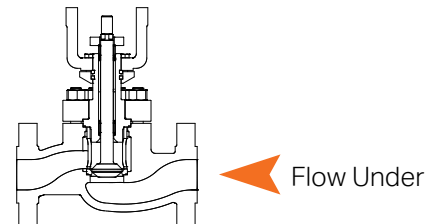


Flow Coefficient (C_v) - Quick-Open

Valve Nominal Diameter (in.)	Nominal Trims Size T.N.	Stroke		F_L	Opening Percentage									
		in.	mm		100	90	80	70	60	50	40	30	20	10
1.0	20 (0.81)	0.75	19.05	0.87	9.9	9.9	9.8	9.6	9.4	9.3	8.0	5.9	3.6	1.88
1.5	32 (1.25)	1.00	25.40	0.85	27	27	26	26	26	23	18.8	13.8	8.7	4.8
2.0	41 (1.63)	1.50	38.10	0.87	45	45	44	44	43	43	37	28	15.0	8.2
3.0	67 (2.63)	2.00	50.80	0.86	118	118	116	115	114	102	86	64	39	22
4.0	90 (3.50)	2.50	63.50	0.87	204	204	201	198	195	174	146	107	69	37
6.0	125 (5.00)	3.00	76.20	0.85	422	422	421	420	386	339	283	215	142	76
8.0	160 (6.25)	4.00	101.6	0.86	656	648	641	631	621	551	455	349	218	116

* For information on larger sizes C_v 's, consult www.literature.valteksul.com - Bulletin number 5 of the catalogue Valve Sizing and Selection or Large Globe Valves catalogue, of ValtekSul.

Class 900/1500 - Unbalanced Trims



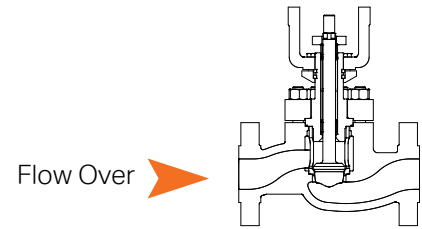
Flow Coefficient (C_v) - Quick-Open

Valve Nominal Diameter (in.)	Nominal Trims Size T.N.	Stroke		F_L	Opening Percentage									
		in.	mm		100	90	80	70	60	50	40	30	20	10
1.0	20 (0.81)	0.75	19.05	0.91	9.5	9.4	9.3	9.2	9.1	8.9	7.7	5.7	3.5	1.88
1.5	32 (1.25)	1.00	25.40	0.89	27	25	25	25	25	22	19.4	13.3	8.8	4.9
2.0	41 (1.63)	1.50	38.10	0.91	43	43	42	42	42	41	35	27	15.0	8.0
3.0	67 (2.63)	2.00	50.80	0.91	111	111	110	109	109	97	83	62	38	21
4.0	90 (3.50)	2.50	63.50	0.90	195	195	192	190	187	167	142	105	67	36
6.0	125 (5.00)	3.00	76.20	0.90	406	406	404	403	372	328	274	209	138	74
8.0	160 (6.25)	4.00	101.6	0.90	628	620	614	605	597	531	440	339	212	114

* For information on larger sizes C_v 's, consult www.literature.valteksul.com - Bulletin number 5 of the catalogue Valve Sizing and Selection or Large Globe Valves catalogue, of ValtekSul.

GLH Body Subassembly Flow Coefficient - C_v

Class 2500 - Unbalanced Trims



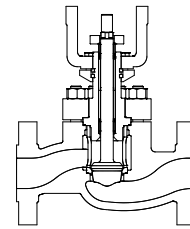
Flow Coefficient (C_v) - Equal Percentage

Valve Nominal Diameter (in.)	Nominal Trims Size T.N.	Stroke		F_L	Opening Percentage									
		pol.	mm		100	90	80	70	60	50	40	30	20	10
1.0	18 (0.71)	0.75	19.05	0.85	8.3	7.3	5.8	4.4	3.1	2.2	1.5	0.99	0.68	0.46
	16 (0.63)	0.75	19.05	0.83	7.6	6.3	4.8	3.5	2.4	1.7	1.1	0.76	0.51	0.35
	13 (0.50)	0.75	19.05	0.82	6.0	4.5	3.3	2.3	1.6	1.1	0.71	0.49	0.33	0.22
	10 (0.38)	0.75	19.05	0.82	4.0	2.8	1.9	1.3	0.90	0.61	0.41	0.27	0.182	0.131
	8 (0.31)	0.75	19.05	0.81	2.9	2.0	1.3	0.90	0.60	0.41	0.28	0.188	0.129	0.089
	6.5-09 (0.25-09)	0.75	19.05	0.81	1.9	1.3	0.87	0.59	0.39	0.27	0.192	0.121	0.083	0.057
	6.5-15 (0.25-15)	0.75	19.05	0.81	1.1	0.83	0.60	0.36	0.23	0.159	0.100	0.074	0.060	0.045
3.2-03 (0.12-03)	0.50	12.70	0.81	0.57	0.36	0.22	0.150	0.110	0.072	0.054	0.038	0.027	0.019	
1.5	25 (1.00)	0.75	19.05	0.85	15.8	14.8	11.9	8.5	5.9	4.1	2.9	1.9	1.3	0.88
	20 (0.81)	0.75	19.05	0.82	14.2	12.2	8.5	6.0	4.2	2.8	1.9	1.3	0.87	0.60
	16 (0.63)	0.75	19.05	0.83	10.0	7.4	5.2	3.6	2.5	1.7	1.1	0.76	0.51	0.35
	10 (0.38)	0.75	19.05	0.79	4.3	2.9	1.9	1.3	0.89	0.61	0.41	0.27	0.182	0.132
2.0	32 (1.25)	1.00	25.40	0.87	23	22	18.5	12.7	9.3	6.4	4.4	2.9	2.0	1.4
	25 (1.00)	0.75	19.05	0.83	20	18.4	14.3	9.3	6.3	4.3	3.0	1.9	1.3	0.91
	20 (0.81)	0.75	19.05	0.82	16.8	12.8	8.8	5.9	4.1	2.8	1.9	1.3	0.85	0.57
	16 (0.63)	0.75	19.05	0.79	10.9	7.7	5.3	3.6	2.5	1.7	1.1	0.75	0.51	0.35
	10 (0.38)	0.75	19.05	0.79	4.2	2.9	1.9	1.3	0.87	0.59	0.40	0.27	0.177	0.128
3.0	50 (2.00)	1.50	38.10	0.83	59	53	48	39	25	16.8	10.9	7.7	5.2	3.5
	41 (1.63)	1.50	38.10	0.81	53	46	34	24	16.2	11.1	7.7	5.1	3.5	2.3
	32 (1.25)	1.00	25.40	0.78	35	31	22	13.8	9.6	6.6	4.4	3.0	2.1	1.4
4.0	67 (2.63)	2.00	50.80	0.82	104	94	86	64	42	29	20	13.1	9.1	6.1
	55 (2.25)	2.00	50.80	0.83	88	79	65	41	29	21	14.9	9.8	6.6	4.6
	41 (1.63)	1.50	38.10	0.79	65	53	36	24	16.8	10.9	7.5	5.1	3.5	2.3
6.0	102 (4.00)	2.50	63.50	0.85	261	242	215	181	136	83	52	33	21	15.0
	90 (3.50)	2.50	63.50	0.83	218	188	156	126	78	52	35	24	16.0	11.0
	75 (3.00)	2.00	50.80	0.81	176	147	120	102	62	38	26	17.9	12.0	8.0
	67 (2.63)	2.00	50.80	0.78	147	120	100	71	43	29	20	13.0	9.1	6.1
8.0	125 (5.00)	4.00	101.60		450	304	206	139	94	64	43	29	20	13
10	160 (6.25)	4.00	101.60		700	473	320	216	146	99	67	45	31	21
12	203 (8.00)	4.00	101.60		1000	676	457	309	209	141	96	65	44	30

* For information on larger sizes C_v 's, consult www.literature.valteksul.com - Bulletin number 5 of the catalogue Valve Sizing and Selection or Large Globe Valves catalogue, of ValtekSul.

GLH Body Subassembly Flow Coefficient - C_v

Class 2500 - Unbalanced Trims



Flow Under

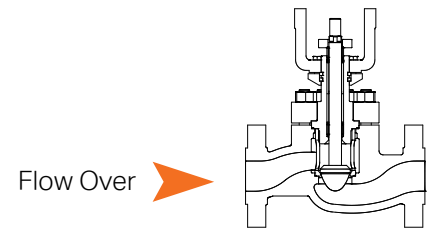
Flow Coefficient (C_v) - Equal Percentage

Valve Nominal Diameter (in.)	Nominal Trims Size T.N.	Stroke		F_L	Opening Percentage									
		in.	mm		100	90	80	70	60	50	40	30	20	10
1.0	18 (0.71)	0.75	19.05	0.90	8.0	7.0	5.6	4.2	3.0	2.1	1.4	0.97	0.66	0.45
	16 (0.63)	0.75	19.05	0.91	7.3	6.0	4.6	3.3	2.3	1.6	1.1	0.74	0.50	0.34
	13 (0.50)	0.75	19.05	0.89	5.7	4.3	3.2	2.2	1.5	0.99	0.69	0.47	0.32	0.22
	10 (0.38)	0.75	19.05	0.92	3.9	2.7	1.9	1.3	0.87	0.59	0.40	0.27	0.182	0.122
	8 (0.31)	0.75	19.05	0.89	2.8	1.9	1.3	0.89	0.60	0.40	0.27	0.191	0.121	0.089
	6.5-09 (0.25-09)	0.75	19.05	0.91	1.8	1.2	0.84	0.57	0.38	0.26	0.179	0.119	0.080	0.054
	6.5-15 (0.25-15)	0.75	19.05	0.92	1.1	0.81	0.58	0.35	0.23	0.159	0.100	0.072	0.058	0.044
	3.2-03 (0.12-03)	0.50	12.70	0.91	0.55	0.35	0.21	0.150	0.100	0.070	0.053	0.037	0.026	0.019
1.5	25 (1.00)	0.75	19.05	0.92	15.2	14.2	12.2	8.4	5.9	4.1	2.8	1.9	1.3	0.87
	20 (0.81)	0.75	19.05	0.91	12.8	10.8	8.0	5.6	3.8	2.7	1.8	1.2	0.83	0.57
	16 (0.63)	0.75	19.05	0.88	9.8	7.2	5.0	3.5	2.4	1.6	1.1	0.74	0.50	0.34
	10 (0.38)	0.75	19.05	0.90	4.1	2.8	1.9	1.3	0.85	0.57	0.40	0.27	0.178	0.119
2.0	32 (1.25)	1.00	25.40	0.89	23	22	17.8	12.8	9.0	6.2	4.2	2.9	2.0	1.4
	25 (1.00)	0.75	19.05	0.92	19.2	17.2	13.1	8.9	6.1	4.1	2.8	1.9	1.3	0.87
	20 (0.81)	0.75	19.05	0.91	16.1	12.1	8.7	5.8	4.0	2.7	1.8	1.2	0.85	0.57
	16 (0.63)	0.75	19.05	0.90	10.8	7.4	5.0	3.4	2.4	1.6	1.1	0.73	0.49	0.33
	10 (0.38)	0.75	19.05	0.90	4.1	2.8	1.9	1.3	0.85	0.57	0.40	0.27	0.178	0.119
3.0	50 (2.00)	1.50	38.10	0.90	58	51	46	37	24	16.1	11.1	7.6	5.1	3.5
	41 (1.63)	1.50	38.10	0.92	48	43	32	23	15.8	10.9	7.2	4.9	3.4	2.3
	32 (1.25)	1.00	25.40	0.88	34	31	22	14.1	9.6	6.6	4.4	3.0	2.0	1.4
4.0	67 (2.63)	2.00	50.80	0.90	97	88	82	61	40	28	18.9	12.9	8.7	6.0
	55 (2.25)	2.00	50.80	0.89	86	77	63	39	28	21	13.9	9.5	6.4	4.5
	41 (1.63)	1.50	38.10	0.90	63	50	35	24	15.8	10.9	7.3	4.9	3.4	2.3
6.0	102 (4.00)	2.50	63.50	0.90	248	230	205	174	131	80	50	32	20	15.0
	90 (3.50)	2.50	63.50	0.89	211	181	149	121	75	50	34	23	16.0	11.0
	75 (3.00)	2.00	50.80	0.91	171	143	116	99	60	37	25	17.1	11.0	7.8
	67 (2.63)	2.00	50.80	0.90	140	115	97	69	42	28	18.9	12.9	8.8	6.0
8.0	125 (5.00)	4.00	101.60		450	304	206	139	94	64	43	29	20	13
10	160 (6.25)	4.00	101.60		700	473	320	216	146	99	67	45	31	21
12	203 (8.00)	4.00	101.60		1000	676	457	309	209	141	96	65	44	30

* For information on larger sizes C_v 's, consult www.literature.valteksul.com - Bulletin number 5 of the catalogue Valve Sizing and Selection or Large Globe Valves catalogue, of ValtekSul

GLH Body Subassembly Flow Coefficient - C_v

Class 2500 - Unbalanced Trims



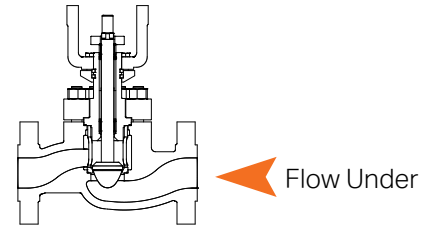
Flow Coefficient (C_v) - Linear

Valve Nominal Diameter (in.)	Nominal Trims Size T.N.	Stroke		F_L	Opening Percentage									
		pol.	mm		100	90	80	70	60	50	40	30	20	10
1.0	18 (0.71)	0.75	19.05	0.85	8.4	8.0	7.8	7.3	6.9	6.2	5.3	4.2	3.0	1.5
	16 (0.63)	0.75	19.05	0.83	7.6	7.2	6.8	6.4	5.8	5.1	4.3	3.3	2.3	1.2
	13 (0.50)	0.75	19.05	0.84	6.3	5.8	5.3	4.7	4.1	3.5	2.9	2.2	1.5	0.75
	10 (0.38)	0.75	19.05	0.83	4.0	3.6	3.2	2.9	2.5	2.1	1.7	1.3	0.85	0.42
	8 (0.31)	0.75	19.05	0.81	2.9	2.6	2.3	2.0	1.7	1.5	1.2	0.87	0.57	0.29
	6.5-33 (0.25-33)	0.75	19.05	0.82	1.9	1.7	1.5	1.3	1.1	0.92	0.74	0.55	0.37	0.188
	6.5-39 (0.25-39)	0.75	19.05	0.83	1.1	0.99	0.93	0.83	0.72	0.61	0.51	0.39	0.26	0.129
	3.2-03 (0.12-03)	0.50	12.70	0.83	0.49	0.43	0.38	0.33	0.28	0.24	0.190	0.140	0.095	0.048
	3.2-09 (0.12-09)	0.50	12.70	0.81	0.22	0.20	0.180	0.160	0.140	0.120	0.098	0.074	0.050	0.026
	3.2-15 (0.12-15)	0.50	12.70	0.78	0.150	0.140	0.120	0.110	0.098	0.086	0.073	0.059	0.046	0.032
3.2-21 (0.12-21)	0.50	12.70	0.80	0.053	0.045	0.038	0.031	0.025	0.019	0.013	0.008	0.004	0.001	
3.2-27 (0.12-27)	0.50	12.70	0.79	0.014	0.012	0.010	0.008	0.006	0.005	0.003	0.002	0.001	0.000	
1.5	25 (1.00)	0.75	19.05	0.82	16.1	16.1	15.1	14.1	13.1	12.1	12.1	12.1	5.7	3.0
	20 (0.81)	0.75	19.05	0.80	13.8	12.8	11.8	10.8	9.9	8.8	7.3	5.6	3.8	2.0
	18 (0.71)	0.75	19.05	0.81	12.1	12.1	11.1	9.7	8.6	7.4	6.1	4.5	3.1	1.5
	16 (0.63)	0.75	19.05	0.79	10.0	9.4	8.6	7.6	6.7	5.7	4.6	3.5	2.3	1.2
	10 (0.38)	0.75	19.05	0.80	4.3	3.8	3.4	2.9	2.5	2.1	1.7	1.3	0.83	0.42
2.0	32 (1.25)	1.00	25.40	0.83	26	25	24	22	21	18.8	15.8	12.9	8.9	4.5
	25 (1.00)	0.75	19.05	0.82	22	20	19.2	17.2	16.1	14.1	11.1	8.8	5.8	3.0
	20 (0.81)	0.75	19.05	0.84	16.9	15.9	13.9	12.9	10.9	9.3	7.5	5.7	3.9	2.0
	18 (0.71)	0.75	19.05	0.81	14.1	13.1	12.1	10.1	9.1	7.7	6.1	4.6	3.1	1.6
	16 (0.63)	0.75	19.05	0.79	11.2	10.2	9.3	8.1	7.0	5.9	4.8	3.6	2.3	1.2
	10 (0.38)	0.75	19.05	0.80	4.3	3.8	3.4	3.0	2.5	2.1	1.7	1.3	0.83	0.42
3.0	50 (2.00)	1.50	38.10	0.84	64	62	59	56	53	47	41	33	23	11.9
	41 (1.63)	1.50	38.10	0.81	56	53	49	45	41	35	29	23	16.1	8.0
	32 (1.25)	1.00	25.40	0.82	41	38	34	31	27	23	17.8	13.9	9.2	4.7
4.0	67 (2.63)	2.00	50.80	0.84	111	107	103	97	91	81	70	56	39	19.9
	55 (2.25)	2.00	50.80	0.81	102	96	90	83	75	66	55	43	30	15.1
	41 (1.63)	1.50	38.10	0.82	71	64	58	52	45	38	31	23	16.1	8.0
6.0	102 (4.00)	2.50	63.50	0.85	263	257	248	232	209	187	159	126	86	41
	90 (3.50)	2.50	63.50	0.83	241	229	216	200	181	159	133	104	71	36
	75 (3.00)	2.00	50.80	0.81	205	193	178	162	144	123	101	78	53	27
	67 (2.63)	2.00	50.80	0.82	177	164	149	133	116	99	80	61	41	21
8.0	125 (5.00)	4.00	101.60		450	405	360	315	270	225	180	135	90	45
10	160 (6.25)	4.00	101.60		700	630	560	490	420	350	280	210	140	70
12	203 (8.00)	4.00	101.60		1000	900	800	700	600	500	400	300	200	100

* For information on larger sizes C_v 's, consult www.literature.valteksul.com - Bulletin number 5 of the catalogue Valve Sizing and Selection or Large Globe Valves catalogue, of ValtekSul.

GLH Body Subassembly Flow Coefficient - C_v

Class 2500 - Unbalanced Trims



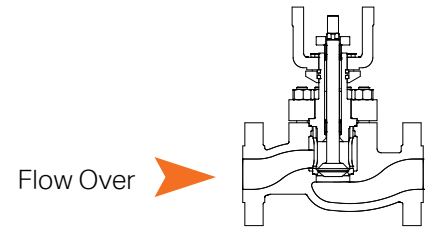
Flow Coefficient (C_v) - Linear

Valve Nominal Diameter (in.)	Nominal Trims Size T.N.	Stroke		F_L	Opening Percentage									
		in.	mm		100	90	80	70	60	50	40	30	20	10
1.0	18 (0.71)	0.75	19.05	0.93	8.0	7.7	7.4	7.0	6.6	5.9	5.1	4.1	2.9	1.5
	16 (0.63)	0.75	19.05	0.93	7.4	7.0	6.6	6.1	5.6	4.9	4.1	3.2	2.2	1.1
	13 (0.50)	0.75	19.05	0.90	6.0	5.5	5.0	4.5	4.0	3.4	2.8	2.1	1.4	0.74
	10 (0.38)	0.75	19.05	0.91	3.9	3.5	3.1	2.8	2.4	2.0	1.6	1.2	0.82	0.41
	8 (0.31)	0.75	19.05	0.90	2.8	2.5	2.2	2.0	1.7	1.4	1.1	0.84	0.57	0.28
	6.5-33 (0.25-33)	0.75	19.05	0.90	1.9	1.6	1.5	1.3	1.1	0.90	0.72	0.54	0.36	0.177
	6.5-39 (0.25-39)	0.75	19.05	0.88	1.1	1.0	0.91	0.81	0.71	0.61	0.50	0.38	0.26	0.130
	3.2-03 (0.12-03)	0.50	12.70	0.92	0.47	0.42	0.37	0.32	0.28	0.23	0.180	0.140	0.093	0.047
	3.2-09 (0.12-09)	0.50	12.70	0.87	0.22	0.20	0.180	0.160	0.140	0.120	0.096	0.073	0.049	0.031
	3.2-15 (0.12-15)	0.50	12.70	0.92	0.140	0.130	0.120	0.110	0.096	0.084	0.071	0.058	0.045	0.025
3.2-21 (0.12-21)	0.50	12.70	0.85	0.052	0.044	0.037	0.030	0.024	0.018	0.013	0.008	0.004	0.001	
3.2-27 (0.12-27)	0.50	12.70	0.85	0.014	0.012	0.010	0.008	0.006	0.005	0.003	0.002	0.001	0.000	
1.5	25 (1.00)	0.75	19.05	0.91	16.2	15.2	14.2	14.2	13.2	11.1	11.1	11.1	5.7	2.9
	20 (0.81)	0.75	19.05	0.92	13.9	12.9	11.9	10.9	9.7	8.5	7.0	5.5	3.8	1.9
	18 (0.71)	0.75	19.05	0.91	12.2	11.2	10.2	9.4	8.3	7.1	5.9	4.5	3.1	1.5
	16 (0.63)	0.75	19.05	0.88	9.9	9.0	8.2	7.3	6.4	5.4	4.4	3.4	2.3	1.1
	10 (0.38)	0.75	19.05	0.90	4.1	3.7	3.3	2.9	2.5	2.0	1.6	1.2	0.81	0.41
2.0	32 (1.25)	1.00	25.40	0.88	24	24	23	21	19.8	18	14.8	11.9	8.6	4.4
	25 (1.00)	0.75	19.05	0.92	21	20	18	17.3	15.3	13.2	11.2	8.6	5.8	3.0
	20 (0.81)	0.75	19.05	0.80	15.9	14.9	13.9	11.9	10.9	9.0	7.4	5.7	3.8	1.9
	18 (0.71)	0.75	19.05	0.90	13.9	12.9	10.9	9.9	8.6	7.3	5.9	4.5	3.0	1.5
	16 (0.63)	0.75	19.05	0.90	11.0	9.8	8.8	7.8	6.7	5.6	4.5	3.4	2.3	1.1
	10 (0.38)	0.75	19.05	0.90	4.2	3.7	3.3	2.9	2.5	2.1	1.6	1.2	0.81	0.41
3.0	50 (2.00)	1.50	38.10	0.90	61	59	57	54	51	46	39	32	22	11.9
	41 (1.63)	1.50	38.10	0.89	55	51	47	44	39	34	28	22	15.1	7.8
	32 (1.25)	1.00	25.40	0.90	40	36	33	30	26	22	18.1	13.1	9.2	4.6
4.0	67 (2.63)	2.00	50.80	0.92	106	103	98	93	87	78	68	54	38	19.9
	55 (2.25)	2.00	50.80	0.89	97	92	87	80	73	64	54	42	29	15.1
	41 (1.63)	1.50	38.10	0.88	68	62	56	50	44	37	30	23	15.1	7.8
6.0	102 (4.00)	2.50	63.50	0.90	252	245	237	222	200	180	154	122	84	40
	90 (3.50)	2.50	63.50	0.89	231	219	207	191	174	153	129	101	70	35
	75 (3.00)	2.00	50.80	0.91	199	187	172	157	139	120	99	76	52	26
	67 (2.63)	2.00	50.80	0.90	168	156	141	127	111	94	77	58	40	19.8
8.0	125 (5.00)	4.00	101.60		450	405	360	315	270	225	180	135	90	45
10	160 (6.25)	4.00	101.60		700	630	560	490	420	350	280	210	140	70
12	203 (8.00)	4.00	101.60		1000	900	800	700	600	500	400	300	200	100

* For information on larger sizes C_v 's, consult www.literature.valteksul.com - Bulletin number 5 of the catalogue Valve Sizing and Selection or Large Globe Valves catalogue, of ValtekSul.

GLH Body Subassembly Flow Coefficient - C_v

Class 2500 - Unbalanced Trims

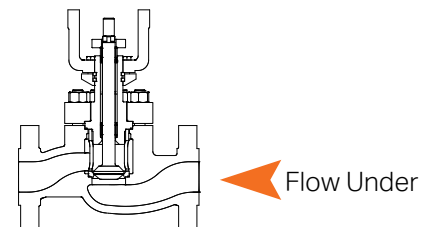


Flow Coefficient (C_v) - Quick-Open

Valve Nominal Diameter (in.)	Nominal Trims Size T.N.	Stroke		F_L	Opening Percentage									
		pol.	mm		100	90	80	70	60	50	40	30	20	10
1.0	18 (0.71)	0.75	19.05	0.85	8.8	8.8	8.7	8.6	8.4	7.8	6.8	5.2	3.3	1.79
1.5	25 (1.00)	0.75	19.05	0.82	17.9	17.9	17.9	16.9	16.9	15.9	13.9	10.9	6.7	3.6
2.0	32 (1.25)	1.00	25.40	0.83	28	28	28	27	27	25	22	17.2	11.2	5.7
3.0	50 (2.00)	1.50	38.10	0.84	70	70	69	69	67	62	53	41	26	14.1
4.0	67 (2.63)	2.00	50.80	0.84	114	114	113	111	109	99	88	68	43	23
6.0	102 (4.00)	2.50	63.50	0.85	269	269	266	263	259	229	199	159	100	45

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Class 2500 - Unbalanced Trims



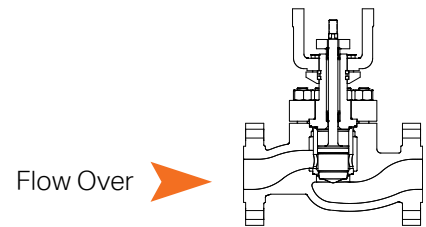
Flow Coefficient (C_v) - Quick-Open

Valve Nominal Diameter (in.)	Nominal Trims Size T.N.	Stroke		F_L	Opening Percentage									
		in.	mm		100	90	80	70	60	50	40	30	20	10
1.0	18 (0.71)	0.75	19.05	0.93	8.3	8.3	8.2	8.1	8.1	7.5	6.6	5.0	3.2	1.79
1.5	25 (1.00)	0.75	19.05	0.91	17.8	17.8	17.8	16.8	16.8	15.8	13.8	10.9	6.9	3.8
2.0	32 (1.25)	1.00	25.40	0.88	27	27	27	26	26	24	21	16.2	10.1	6.1
3.0	50 (2.00)	1.50	38.10	0.90	65	65	64	64	63	58	50	40	25	12.9
4.0	67 (2.63)	2.00	50.80	0.92	109	109	108	107	104	99	85	65	40	22
6.0	102 (4.00)	2.50	63.50	0.90	261	261	257	255	250	235	205	155	100	55

* For information on larger sizes C_v 's, consult www.literature.valtek.sul.com - Bulletin number 5 of the catalogue Valve Sizing and Selection or Large Globe Valves catalogue, of ValtekSul.

GLH Body Subassembly Flow Coefficient - C_v

Class 900-1500 - Balanced Trims



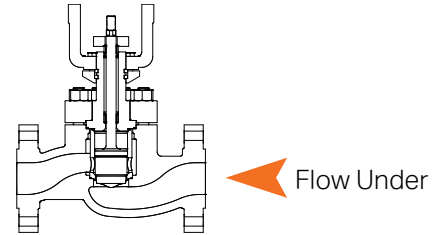
Flow Coefficient (C_v) - Equal Percentage

Valve Nominal Diameter (in.)	Nominal Trims Size (T.N.)	Stroke		F_L	Opening Percentage									
		in.	mm		100	90	80	70	60	50	40	30	20	10
2.0	41 (1.63)	1.00	25.40	0.87	36	32	30	24	16	11	7.6	5.2	3.6	2.4
	32 (1.25)	1.00	25.40	0.87	28	26	20	14	9.7	6.7	4.6	3.1	2.1	1.5
3.0	67 (2.63)	2.00	50.8	0.89	101	100	90	77	58	37	25	16	10	6.7
	50 (2.00)	1.50	38.10	0.86	83	75	65	54	44	25	16	10	6.4	4.0
	41 (1.63)	1.50	38.10	0.88	56	49	35	24	17	11	7.8	5.3	3.6	2.4
	32 (1.25)	1.00	25.40	0.87	37	33	23	15	10	6.9	4.7	3.2	2.1	1.5
4.0	90 (3.50)	2.00	50.8	0.95	159	154	142	125	109	81	42	28	18	12
	67 (2.63)	2.00	50.8	0.95	138	123	106	94	63	38	25	16	11	6.8
	55 (2.25)	2.00	50.8	0.95	98	87	77	63	38	28	19	12	7.7	5.0
	32 (1.25)	1.00	25.40	0.97	42	33	23	15	10	6.9	4.7	3.2	2.1	1.5
6.0	125 (5.00)	2.50	63.5	0.97	343	336	313	273	219	170	99	56	37	24
	102 (4.00)	2.50	63.5	0.97	312	283	241	192	150	92	56	36	24	15
	75 (3.00)	2.00	50.8	0.89	225	192	156	122	97	54	33	21	14	8.9
8.0	160 (6.25)	4.00	101.6	0.89	546	526	471	386	301	183	125	84	55	37
	125 (5.00)	3.00	76.2	0.93	426	391	341	277	221	138	84	56	37	24
	102 (4.00)	2.50	63.5	0.91	354	309	256	202	166	94	56	37	24	16
10	200 (7.90)	4.00	101.6	0.89	820	790	737	636	507	406	211	136	91	61
	160 (6.25)	4.00	101.6	0.87	709	633	533	427	322	189	127	85	56	37
	125 (5.00)	3.00	76.2	0.85	561	481	393	313	255	143	86	56	37	24
12	240 (9.50)	4.00	101.6	0.86	1200	1170	1090	970	800	610	474	215	129	85
	187 (7.38)	4.00	101.6	0.89	900	830	727	593	459	315	176	118	78	52
	160 (6.25)	4.00	101.6	0.86	790	692	569	448	332	192	128	85	56	37

* For information on larger sizes C_v 's , consult www.literature.valtek.sul.com - Bulletin number 5 of the catalogue Valve Sizing and Selection or Large Globe Valves catalogue, of ValtekSul.

GLH Body Subassembly Flow Coefficient - C_v

Class 900-1500 - Balanced Trims



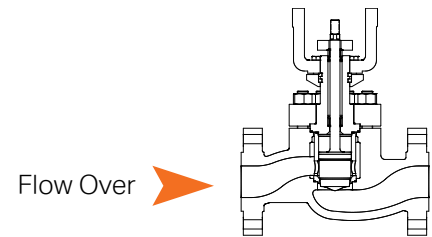
Flow Coefficient (C_v) - Equal Percentage

Valve Nominal Diameter (in.)	Nominal Trims Size (T.N.)	Stroke		F_L	Opening Percentage									
		in.	mm		100	90	80	70	60	50	40	30	20	10
2.0	41 (1.63)	1.00	25.40	0.86	33	31	29	23	15	11	7.3	5.1	3.5	2.4
	32 (1.25)	1.00	25.40	0.86	27	25	19	13	9.3	6.5	4.4	3.0	2.1	1.4
3.0	67 (2.63)	2.00	50.8	0.84	97	95	86	73	56	35	24	16	10	6.6
	50 (2.00)	1.50	38.10	0.88	79	72	62	52	42	24	15	9.8	6.2	3.9
	41 (1.63)	1.50	38.10	0.86	54	47	34	23	16	11	7.6	5.2	3.5	2.4
	32 (1.25)	1.00	25.40	0.86	36	32	22	14	9.8	6.7	4.5	3.1	2.1	1.4
4.0	90 (3.50)	2.00	50.8	0.97	152	148	136	119	105	77	40	28	18	12
	67 (2.63)	2.00	50.8	0.97	133	118	102	90	60	37	24	16	10	6.6
	57 (2.25)	2.00	50.8	0.95	94	84	74	61	36	27	18	12	7.5	4.9
	32 (1.25)	1.00	25.40	0.96	41	32	22	14	9.9	6.7	4.6	3.1	2.1	1.4
6.0	125 (5.00)	2.50	63.5	0.95	327	321	299	261	210	164	96	55	36	24
	102 (4.00)	2.50	63.5	0.95	300	271	231	184	145	89	54	35	23	15
	75 (3.00)	2.00	50.8	0.92	217	185	150	118	94	52	32	21	13	8.7
8.0	160 (6.25)	4.00	101.6	0.90	521	503	450	370	288	176	120	81	54	36
	125 (5.00)	3.00	76.2	0.91	409	376	328	267	213	133	82	54	36	24
	102 (4.00)	2.50	63.5	0.92	341	298	247	195	161	91	55	36	23	15
10	200 (7.90)	4.00	101.6	0.87	780	760	705	609	487	390	204	132	89	60
	160 (6.25)	4.00	101.6	0.88	681	608	512	411	310	183	123	82	54	36
	125 (5.00)	3.00	76.2	0.86	541	464	379	302	247	138	83	55	36	24
12	240 (9.50)	4.00	101.6	0.84	1140	1110	1040	930	770	587	457	208	125	83
	187 (7.38)	4.00	101.6	0.86	870	800	699	571	443	305	170	114	76	50
	160 (6.25)	4.00	101.6	0.85	760	667	549	432	321	186	124	83	55	36

* For information on larger sizes C_v 's, consult www.literature.valtek.sul.com - Bulletin number 5 of the catalogue Valve Sizing and Selection or Large Globe Valves catalogue, of ValtekSul.

GLH Body Subassembly Flow Coefficient - C_v

Class 900-1500 - Balanced Trims



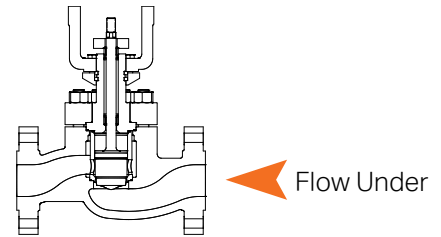
Flow Coefficient (C_v) - Linear

Valve Nominal Diameter (in.)	Nominal Trims Size (T.N.)	Stroke		F_L	Opening Percentage									
		in.	mm		100	90	80	70	60	50	40	30	20	10
2.0	41 (1.63)	1.00	25.40	0.86	36	36	35	34	32	29	25	20	15	7.9
	32 (1.25)	1.00	25.40	0.84	30	29	27	25	23	20	17	13	9.2	4.8
3.0	67 (2.63)	2.00	50.8	0.88	101	100	98	93	87	78	67	54	39	21
	50 (2.00)	1.50	38.10	0.89	94	87	80	72	64	55	45	35	24	12
	41 (1.63)	1.50	38.10	0.86	63	58	54	48	43	37	30	23	16	8.2
	32 (1.25)	1.00	25.40	0.84	43	39	35	31	27	23	19	14	9.6	4.9
4.0	90 (3.50)	2.00	50.8	0.87	159	158	154	149	140	128	113	93	68	36
	67 (2.63)	2.00	50.8	0.97	136	129	121	111	101	88	74	58	40	21
	55 (2.25)	2.00	50.8	0.95	95	91	86	79	72	64	54	43	30	16
	32 (1.25)	1.00	25.40	0.89	43	39	35	32	27	23	19	14	9.7	4.9
6.0	125 (5.00)	2.50	63.5	0.97	343	340	332	318	299	271	237	193	139	75
	102 (4.00)	2.50	63.5	0.97	310	295	277	256	231	203	171	134	94	49
	75 (3.00)	2.00	50.8	0.89	219	203	186	168	148	126	104	80	54	28
8.0	160 (6.25)	4.00	101.6	0.86	546	542	528	505	472	429	373	303	218	116
	125 (5.00)	3.00	76.2	0.84	428	412	392	367	337	300	257	205	145	76
	102 (4.00)	2.50	63.5	0.82	354	332	307	280	250	217	180	140	96	49
10	200 (7.90)	4.00	101.6	0.85	820	810	790	750	710	654	583	492	376	230
	160 (6.25)	4.00	101.6	0.89	722	691	651	605	550	487	412	326	228	118
	125 (5.00)	3.00	76.2	0.86	592	561	507	457	406	347	286	221	151	77
12	240 (9.50)	4.00	101.6	0.89	1200	1190	1160	1100	1030	940	810	652	500	269
	187 (7.38)	4.00	101.6	0.85	920	890	840	790	730	651	567	445	315	165
	160 (6.25)	4.00	101.6	0.88	810	760	715	657	590	516	431	337	233	119

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GLH Body Subassembly Flow Coefficient - C_v

Class 900-1500 - Balanced Trims



Flow Coefficient (C_v) - Linear

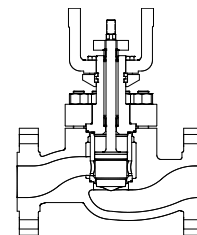
Valve Nominal Diameter (in.)	Nominal Trims Size (T.N.)	Stroke		F_L	Opening Percentage									
		in.	mm		100	90	80	70	60	50	40	30	20	10
2.0	41 (1.63)	1.00	25.40	0.87	35	34	34	32	30	28	24	20	14	7.7
	32 (1.25)	1.00	25.40	0.85	29	28	26	24	22	19	16	13	8.9	4.7
3.0	67 (2.63)	2.00	50.8	0.87	97	96	93	89	83	75	65	53	38	20
	50 (2.00)	1.50	38.10	0.87	90	83	77	69	61	53	44	34	23	12
	41 (1.63)	1.50	38.10	0.87	61	56	52	47	41	36	29	23	16	8.0
	32 (1.25)	1.00	25.40	0.85	42	38	34	30	27	22	18	14	9.4	4.8
4.0	90 (3.50)	2.00	50.8	0.88	152	151	148	142	134	123	109	90	66	35
	67 (2.63)	2.00	50.8	0.94	131	124	116	107	97	85	72	57	39	21
	55 (2.25)	2.00	50.8	0.97	92	88	82	77	70	62	53	42	29	15
	32 (1.25)	1.00	25.40	0.92	42	38	34	31	27	23	18	14	9.4	4.8
6.0	125 (5.00)	2.50	63.5	0.95	327	325	318	305	287	261	229	187	135	73
	102 (4.00)	2.50	63.5	0.95	297	283	266	246	223	196	166	131	91	48
	75 (3.00)	2.00	50.8	0.94	212	196	179	162	143	122	101	78	53	27
8.0	160 (6.25)	4.00	101.6	0.89	521	518	505	484	453	413	360	294	212	113
	125 (5.00)	3.00	76.2	0.95	411	396	377	353	325	290	248	199	141	74
	102 (4.00)	2.50	63.5	0.84	341	320	296	270	242	210	175	136	93	48
10	200 (7.90)	4.00	101.6	0.88	790	770	760	721	681	629	562	476	366	224
	160 (6.25)	4.00	101.6	0.88	693	664	626	583	531	470	399	316	222	115
	125 (5.00)	3.00	76.2	0.76	571	531	489	442	392	337	278	215	147	76
12	240 (9.50)	4.00	101.6	0.85	1150	1130	1100	1060	990	900	780	632	486	262
	187 (7.38)	4.00	101.6	0.84	880	850	810	760	704	629	540	432	306	161
	160 (6.25)	4.00	101.6	0.87	780	740	690	634	571	499	418	327	227	117

* For information on larger sizes C_v 's , consult www.literature.valteksul.com - Bulletin number 5 of the catalogue Valve Sizing and Selection or Large Globe Valves catalogue, of ValtekSul.

GLH Body Subassembly Flow Coefficient - C_v

Class 2500 - Balanced Trims

Flow Over 



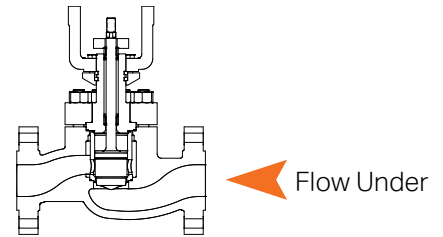
Flow Coefficient (C_v) - Equal Percentage

Valve Nominal Diameter (in.)	Nominal Trims Size (T.N.)	Stroke		F_L	Opening Percentage									
		in.	mm		100	90	80	70	60	50	40	30	20	10
2.0	32 (1.25)	1.00	25.40	0.87	22	21	18	13	9.4	6.6	4.6	3.1	2.1	1.5
3.0	50 (2.00)	1.50	38.10	0.86	72	67	60	51	42	25	16	10	6.4	4.0
	41 (1.63)	1.50	38.10	0.88	50	45	33	24	17	11	7.8	5.3	3.6	2.4
	32 (1.25)	1.00	25.40	0.87	35	32	23	15	10	6.9	4.7	3.2	2.1	1.5
4.0	67 (2.63)	2.00	50.8	0.95	123	112	99	89	61	38	25	16	11	6.8
	55 (2.25)	2.00	50.8	0.95	96	87	76	63	38	28	19	12	7.7	5.0
	32 (1.25)	1.00	25.40	0.97	42	33	23	15	10	6.9	4.7	3.2	2.1	1.5
6.0	102 (4.00)	2.50	63.5	0.97	306	278	238	191	150	92	56	37	24	16
	67 (2.63)	2.00	50.8	0.89	164	149	123	101	62	38	25	16	10	7.1
	50 (2.00)	1.50	38.1	0.86	123	102	82	69	50	27	16	10	6.4	4.0
8.0	125 (5.00)	3.00	76.2	0.93	414	382	335	274	220	138	85	56	37	24
	90 (3.50)	2.50	63.5	0.91	270	235	195	159	112	65	43	28	24	12
	67 (2.63)	2.00	50.8	0.89	192	161	133	106	63	38	25	16	10	7.1
10	160 (6.25)	4.00	101.6	0.89	700	633	539	425	321	189	127	85	56	37
	125 (5.00)	3.00	76.2	0.88	553	483	400	309	238	143	86	56	37	24
	90 (3.50)	2.50	63.5	0.89	347	283	221	172	111	67	43	28	24	12
12	200 (7.90)	4.00	101.6	0.85	1100	1020	900	748	564	404	216	138	92	62
	160 (6.25)	4.00	101.6	0.85	860	745	605	457	336	193	129	85	56	37
	127 (5.00)	3.00	76.2	0.86	646	544	435	326	246	145	87	57	37	24

* For information on larger sizes C_v 's, consult www.literature.valteksul.com - Bulletin number 5 of the catalogue Valve Sizing and Selection or Large Globe Valves catalogue, of ValtekSul.

GLH Body Subassembly Flow Coefficient - C_v

Class 2500 - Balanced Trims



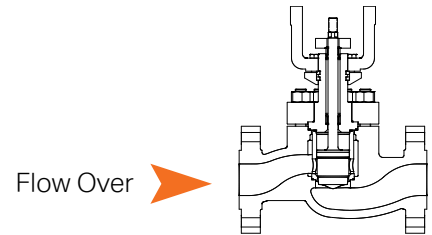
Flow Coefficient (C_v) - Equal Percentage

Valve Nominal Diameter (in.)	Nominal Trims Size (T.N.)	Stroke		F_L	Opening Percentage									
		in.	mm		100	90	80	70	60	50	40	30	20	10
2.0	32 (1.25)	1.00	25.40	0.86	21	20	17	12	9.0	6.4	4.4	3.0	2.1	1.4
	50 (2.00)	1.50	38.10	0.88	69	64	57	49	41	24	15	9.8	6.2	3.9
3.0	41 (1.63)	1.50	38.10	0.86	48	43	32	23	16	11	7.6	5.2	3.5	2.4
	32 (1.25)	1.00	25.40	0.86	34	30	22	14	9.8	6.7	4.5	3.1	2.1	1.4
4.0	67 (2.63)	2.00	50.8	0.97	117	107	95	85	59	37	24	16	10	6.6
	55 (2.25)	2.00	50.8	0.95	92	83	73	61	36	27	18	12	7.5	4.9
	32 (1.25)	1.00	25.40	0.96	40	32	22	14	9.9	6.7	4.5	3.1	2.1	1.4
6.0	102 (4.00)	2.50	63.5	0.95	293	266	228	183	144	89	54	35	23	15
	67 (2.63)	2.00	50.8	0.92	158	143	118	98	60	37	24	15	10	6.9
	50 (2.00)	1.50	38.1	0.87	119	98	79	67	48	26	16	10	6.3	3.9
8.0	125 (5.00)	3.00	76.2	0.91	395	365	321	263	211	133	82	54	36	24
	90 (3.50)	2.50	63.5	0.92	260	226	188	153	108	63	42	27	23	12
	67 (2.63)	2.00	50.8	0.88	186	155	129	102	62	37	24	15	10	6.9
10	160 (6.25)	4.00	101.6	0.88	669	605	516	407	308	182	123	82	54	36
	125 (5.00)	3.00	76.2	0.84	531	464	385	298	230	138	83	55	36	24
	90 (3.50)	2.50	63.5	0.87	336	273	213	167	114	65	42	28	24	12
12	200 (7.90)	4.00	101.6	0.91	1050	970	860	716	541	389	208	134	89	60
	160 (6.25)	4.00	101.6	0.89	820	715	582	440	324	186	124	83	55	36
	125 (5.00)	3.00	76.2	0.87	623	525	420	315	238	140	84	56	36	24

* For information on larger sizes C_v 's , consult www.literature.valteksul.com - Bulletin number 5 of the catalogue Valve Sizing and Selection or Large Globe Valves catalogue, of ValtekSul.

GLH Body Subassembly Flow Coefficient - C_v

Class 2500 - Balanced Trims



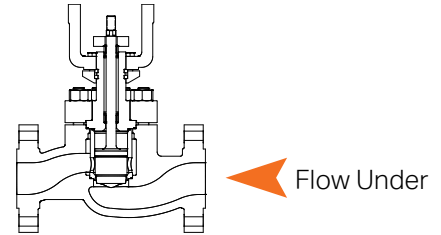
Flow Coefficient (C_v) - Linear

Valve Nominal Diameter (in.)	Nominal Trims Size (T.N.)	Stroke		F_L	Opening Percentage									
		in.	mm		100	90	80	70	60	50	40	30	20	10
2.0	32 (1.25)	1.00	25.40	0.84	23	23	22	21	19	18	15	12	8.9	4.7
3.0	50 (2.00)	1.50	38.10	0.89	69	67	63	59	54	48	41	33	23	12
	41 (1.63)	1.50	38.10	0.86	55	52	48	44	40	35	29	23	16	8.2
	32 (1.25)	1.00	25.40	0.84	40	37	34	30	27	23	18	14	9.6	4.9
4.0	67 (2.63)	2.00	50.8	0.97	121	116	110	103	94	84	72	57	40	21
	55 (2.25)	2.00	50.8	0.95	103	97	91	84	75	66	55	43	30	16
	32 (1.25)	1.00	25.40	0.89	43	39	35	31	27	23	19	14	9.7	4.9
6.0	102 (4.00)	2.50	63.5	0.97	304	290	273	253	229	202	170	134	94	49
	67 (2.63)	2.00	50.8	0.89	168	156	143	129	114	98	80	62	42	21
	50 (2.00)	1.50	38.1	0.87	114	103	93	82	71	60	49	37	25	4.2
8.0	125 (5.00)	3.00	76.2	0.84	416	401	382	359	331	296	254	204	144	76
	90 (3.50)	2.50	63.5	0.82	268	252	234	214	191	166	138	108	74	38
	67 (2.63)	2.00	50.8	0.88	187	171	154	138	120	102	83	63	42	21
10	160 (6.25)	4.00	101.6	0.85	704	674	638	595	542	481	409	325	228	118
	125 (5.00)	3.00	76.2	0.86	557	523	485	441	394	340	282	219	150	77
	90 (3.50)	2.50	63.5	0.86	344	313	281	249	216	183	148	112	75	38
12	200 (7.90)	4.00	101.6	0.85	1100	1030	980	900	830	750	651	534	397	236
	160 (6.25)	4.00	101.6	0.87	860	810	750	686	611	530	439	341	234	119
	125 (5.00)	3.00	76.2	0.85	653	601	546	488	428	362	296	226	153	78

* For information on larger sizes C_v 's , consult www.literature.valteksul.com - Bulletin number 5 of the catalogue Valve Sizing and Selection or Large Globe Valves catalogue, of ValtekSul.

GLH Body Subassembly Flow Coefficient - C_v

Class 2500 - Balanced Trims

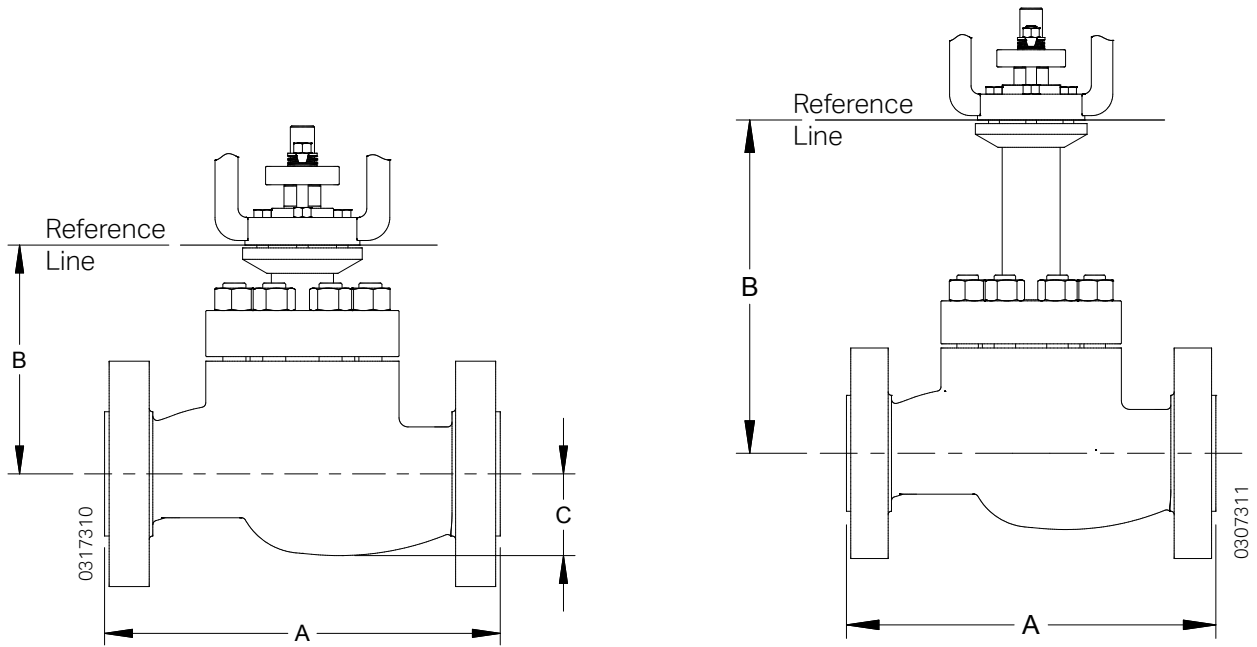


Flow Coefficient (C_v) - Linear

Valve Nominal Diameter (in.)	Nominal Trims Size (T.N.)	Stroke		F_L	Opening Percentage									
		in.	mm		100	90	80	70	60	50	40	30	20	10
2.0	32 (1.25)	1.00	25.40	0.85	22	22	21	20	19	17	15	12	8.6	4.6
3.0	50 (2.00)	1.50	38.10	0.87	66	64	60	57	52	46	40	32	23	12
	41 (1.63)	1.50	38.10	0.87	53	50	46	43	39	34	28	22	15	8.0
	32 (1.25)	1.00	25.40	0.85	39	36	33	29	26	22	18	14	9.3	4.8
4.0	67 (2.63)	2.00	50.8	0.94	116	111	105	99	91	81	69	55	39	20
	55 (2.25)	2.00	50.8	0.97	98	93	87	80	73	64	54	42	29	15
	32 (1.25)	1.00	25.40	0.92	41	38	34	30	27	23	18	14	9.4	4.8
6.0	102 (4.00)	2.50	63.5	0.95	290	277	261	242	220	194	164	130	91	48
	67 (2.63)	2.00	50.8	0.94	162	150	138	124	110	94	78	60	41	21
	50 (2.00)	1.50	38.1	0.85	110	100	90	79	69	58	47	36	24	4.1
8.0	125 (5.00)	3.00	76.2	0.95	397	383	366	344	318	285	245	197	140	74
	90 (3.50)	2.50	63.5	0.84	258	243	225	206	185	161	134	105	72	37
	67 (2.63)	2.00	50.8	0.88	180	165	149	133	116	99	81	61	41	21
10	160 (6.25)	4.00	101.6	0.86	673	644	6410	570	521	463	395	314	215	115
	125 (5.00)	3.00	76.2	0.76	535	502	466	425	380	329	273	213	146	75
	90 (3.50)	2.50	63.5	0.89	332	302	272	241	209	177	144	109	74	37
12	200 (7.90)	4.00	101.6	0.88	1050	990	940	870	800	722	628	517	386	230
	160 (6.25)	4.00	101.6	0.89	830	780	723	660	589	512	425	331	228	117
	125 (5.00)	3.00	76.2	0.87	630	579	527	471	414	351	287	220	149	76

* For information on larger sizes C_v 's , consult www.literature.valteksul.com - Bulletin number 5 of the catalogue Valve Sizing and Selection or Large Globe Valves catalogue, of ValtekSul.

GLH Body Subassembly Estimated Shipping Weight and Dimensions

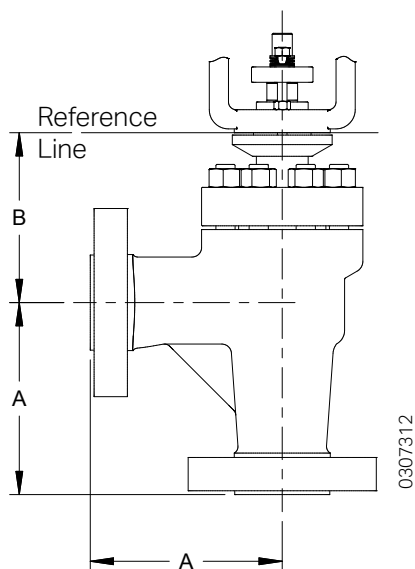


Dimensions - Globe Valves - Classes 900, 1500 & 2500

Valve Nominal Diameter (in.)	A						B								C				Clearance for Disassembly, Above the Actuator			
	Face-to-Face ⁽¹⁾						Standard Bonnet				Extended Bonnet											
	Class 900		Class 1500		Class 2500		Class 900-1500		Class 2500		Class 900-1500		Class 2500		Class 900-1500		Class 2500				Class 900-2500	
	in.	mm	in.	mm	in.	mm	in.	mm	in.	mm	in.	mm	in.	mm	in.	mm	in.	mm			in.	mm
1.0	11.5	292	11.5	292	12.5	318	5.6	143	6.8	173	10.1	257	11.3	286	1.8	44	1.8	44	3.6	90		
1.5	13.1	333	13.1	333	15.0	381	8.7	221	8.7	221	13.2	334	13.2	334	2.7	68	2.4	60	5.6	141		
2.0	14.8	375	14.8	375	16.3	413	8.7	221	8.7	221	13.2	334	13.2	334	2.8	71	3.0	77	6.1	154		
3.0	17.4	441	18.1	460	26.0	660	11.4	289	12.9	328	18.4	467	19.9	506	4.2	106	3.7	94	8.4	214		
4.0	20.1	511	20.9	530	29.0	737	12.4	316	14.6	371	19.4	493	21.6	549	4.4	113	5.4	138	10.7	272		
6.0	28.1	714	30.3	768	34.0	864	19.4	493	17.4	442	26.4	671	27.3	692	7.2	183	7.3	185	13.6	345		
8.0	36.0	914	38.3	972	40.3	1022	18.6	473	24.3	616	24.2	613	31.3	794	9.4	240	10.3	262	17.8	451		
10	39.0	991	42.0	1067	54.0	1372	21.9	556	26.0	660	28.9	734	33.0	838	11.2	284	10.0	254	19.5	495		
12	44.5	1130	48.0	1219	62.0	1575	26.6	675	28.0	711	33.6	852	35.0	889	14.0	356	12.9	327	20.5	512		

⁽¹⁾ Dimensions above are in accordance to the latest edition of the ANSI/ISA-75.08.06 norm (long model) and apply to raised face connection valves. For valves of RTJ flange or other type of connections, consult ValtekSul.

GLH Body Subassembly Estimated Shipping Weight and Dimensions



Dimensions - Globe Valves - Classes 900, 1500 & 2500

Valve Nominal Diameter (in.)	ANSI Pressure Class	A ⁽¹⁾		B				Clearance for Disassembly, Above Actuator	
				Standard Bonnet		Extended Bonnet			
		in.	mm	in.	mm	in.	mm	in.	mm
1.0	900-1500	5.5	140	4.7	119	9.2	234	3.6	90
	2500	6.0	152	5.8	147	10.3	262	3.6	90
1.5	900-1500	6.5	165	6.5	165	11.0	279	5.6	142
	2500	7.5	191	7.0	178	11.5	292	5.6	142
2.0	900-1500	7.3	185	7.1	180	11.6	295	6.1	155
	2500	8.9	226	7.9	201	12.4	315	6.1	155
3.0	900-1500	9.3	236	9.8	249	16.8	427	8.4	213
	2500	13.0	330	11.2	284	18.2	462	8.3	211
4.0	900-1500	12.5	318	11.1	282	18.1	460	9.7	246
	2500	14.5	368	12.6	320	19.6	498	10.7	272
6.0	900-1500	13.9	353	13.3	338	20.3	516	12.2	310
	2500	17.0	432	16.1	409	23.1	587	13.6	345
8.0	900-1500	16.4	417	14.5	368	21.5	547	16.7	424
	2500	20.1	511	20.8	528	27.8	706	17.8	452
10	900-1500	19.5	495	15.6	396	22.6	574	18.3	465
	2500	25.0	635	21.1	536	28.1	714	19.7	500

⁽¹⁾ "A" dimension in accordance to ValtekSul standards

Estimated Shipping Weight*

Valve Nominal Diameter (in.)	Class 900		Class 1500		Class 2500		Additional for Extended Bonnet	
	lbs.	kg	lbs.	kg	lbs.	kg	lbs.	kg
1.0	100	45	120	54	150	68	5	2
1.5	170	77	180	82	210	95	5	2
2.0	200	91	220	100	300	136	5	2
3.0	400	182	430	195	500	227	15	7
4.0	590	268	610	277	940	427	20	9
6.0	1000	454	1170	531	1400	636	40	18
8.0	1100	499	1320	599	1740	790	65	30
10	2050	931	2200	999	2600	1180	90	41

Weight additional for Oversized Actuators

Standard Original Size	Required Oversize Dimension	Additional Weight	
		lbs.	kg
25	50	30	14
50	100	90	41
100	200	125	57

* Globe valves, equipped with standard size actuators and Chronos digital positioner.

Quality Management System



ISO 9001-2015

Certificate nº 31001 QM 15

DQS GmbH

DQS Brazil

ISO 14001™ Certified

ValtekSul Brasil

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SULAMERICANA

THE CONTROL VALVES COMPANY

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