

GLX[®]

**GLOBE
CONTROL VALVE
EXPANDED BODY**



VALTEK[™]
SULAMERICANA

GLx[®] Globe Control Valve Body Subassembly

Introduction

GLx globe control valve from ValtekSul was developed as an economical solution when, due to operating conditions, the valve trim size is much smaller than the nominal diameter of the pipeline where the valve is to be installed. The use of the GLx valve, initially designed for thermal plants where oversized pipes are used as a way to reduce fluid speed, has been extended to numerous applications in process control, allowing the use of the valve in the nominal diameter of the pipe with a significant reduction of the trims.

The installation of the GLx valve does not require the use of: reduction and expansion cones, reduction counter-flanges, field welds, radiographs, tests with penetrating

liquids, etc., causing a significant reduction in direct and indirect installation costs.

For example, a 10x4 GLx valve consists of a 10 in. body, though the entire trim and actuator assembly corresponds to a 4 in. diameter valve. This solution provides a significant cost benefit compared to using a 4 in. control valve installed in a pipe of 10 in. nominal diameter.

The GLx design incorporates all components of ValtekSul's renowned GLs and GLH Series control valves, with the exception of the body.

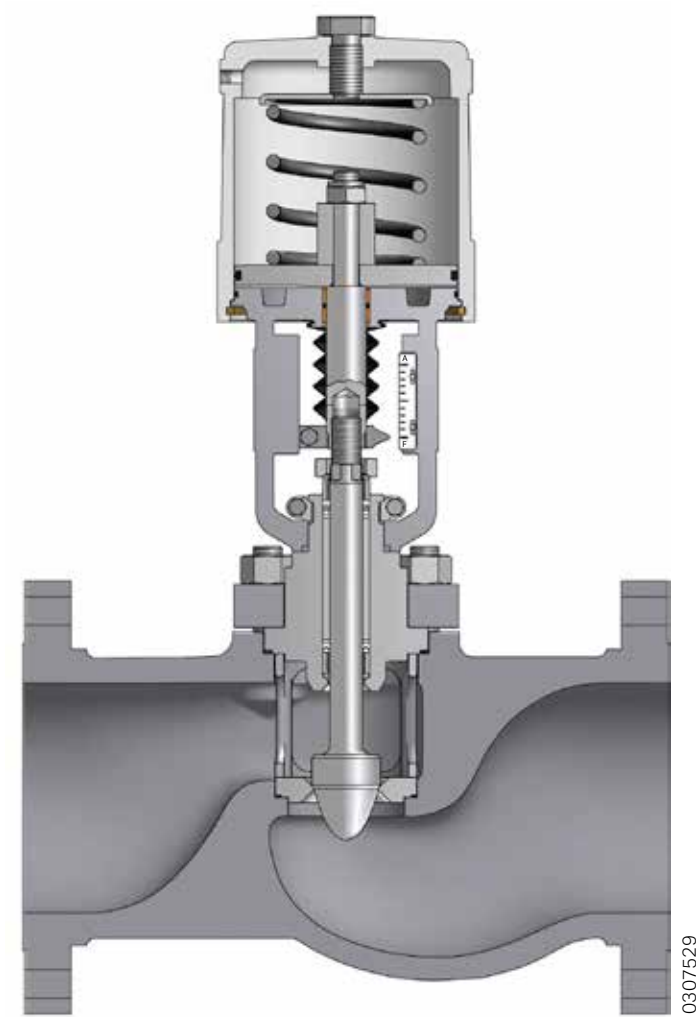
This interchangeability permits a reduction in spare parts inventory.



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GLx Series - Body Subassembly

GLx Control Valve Body Subassembly Additional Advantages



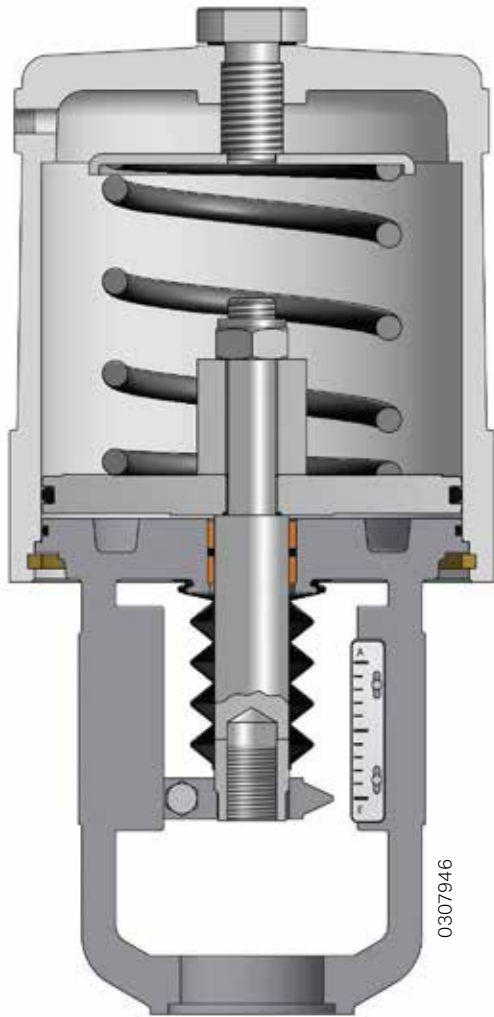
GLx Control Valve

Advantages:

- » Light weight:
By using a set of reduced trims and actuators;
- » Cost reduction:
By using trims with reduced nominal dimension;
- » Easy installation:
Eliminates the need to build pipe ends with reduction, expansion and welded cones;
- » Eliminates additional expenses with hydrostatic tests, radiographs, liquid penetrating tests, etc.;
- » High interchangeability with all GLs & GL_H Series valve components;
- » Standard packing and gaskets of GLs & GL_H globe valves in line with the Clean Air Act;
- » Tightness classification
ANSI/FCI 70-2, IEC 60534-4
- » Meets NACE MRO 175-3003, NACE MRO 103 and NACE MRO 175/ISO 15156⁽¹⁾ regulations
- » Use of ValtekSul standard cylinder and spring actuators

Notas: ⁽¹⁾ Devido às frequentes mudanças nesta normativa, consultar a Engenharia da ValtekSul.

GLx Control Valve Body Subassembly Additional Advantages - Actuator



Piston-cylinder actuator - Advantages:

- » High actuating thrust and pneumatic stiffness;
- » Field reversible, no need for spare parts;
- » Trustworthy operation;
- » Smaller than spring-diaphragm actuators of similar force;
- » Controlled high speed;
- » Accurate positioning, with faithful response;
- » High repeatability;
- » Permits the assembly of various types of positioners and parts;
- » Optionally it can be supplied with various types of manual handwheels and limit stops;
- » Admits supply air pressure of up to 150 psi (10.3 Bar), not requiring a pressure regulator.

LA Series Linear Actuator

GLx Control Valve Body Subassembly Connections, Flanges, Bolts

The GLx Series valve bodies are supplied with raised face, for either the versions equipped with separable flanges as well as the versions with integral flanges. To achieve a better seal with adjacent piping flanges, the faces of the valve flanges are machined with spiral grooves. Other types of surface finish are available as option, such as: smooth face; flat face, RTJ types, large male and female and small male and female.

Separable Flanges

Connection to the process via separable flanges is a standard supply for ValtekSul globe control valves, in ANSI classes 150 or 300. With the use of separable flanges, an ANSI class 600 body can be adapted for operation in ANSI classes 150, 300 or 600 by simply changing the flanges.

Separable flanges are generally supplied in carbon steel, aiming further cost savings, although stainless steel can be specified if the process temperature or aggressive atmosphere so requires.

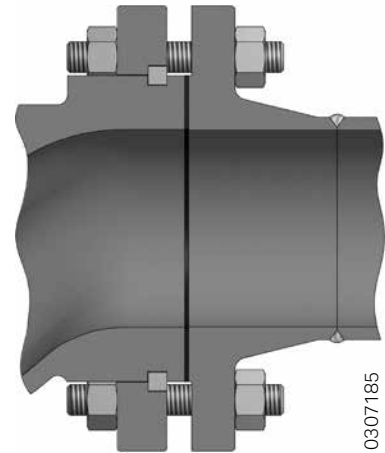
Bonnet Flanges

The bonnet flange design follows the same concept as the separable flanges of the GLx valve body. The bonnet flange is usually manufactured of carbon steel but can be supplied in stainless steel when required.

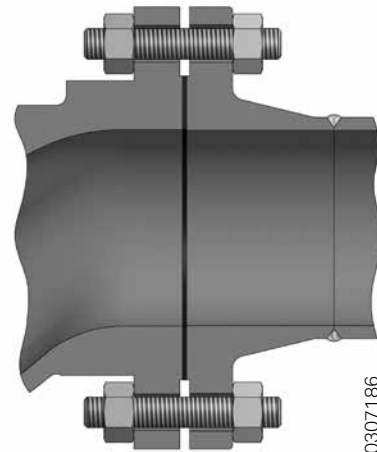
Bonnet Flange Assembly

The GLx Series standard bonnet is assembled to the valve body using studs and nuts. The standard stud material is ASTM A193 Gr. B7 and the nut material is ASTM A194 Gr. 2H, suitable for operating temperatures from -20 to 800°F (-28 to 426°C).

Optionally, the studs and nuts can also be supplied in stainless steel, meeting a temperature range that goes from -425 to 1500°F (-253 to 815°C). These temperature limits are valid for the maximum operating pressures established in the latest revision of ANSI B 16.34.



Separable Flanges



Integral Flanges

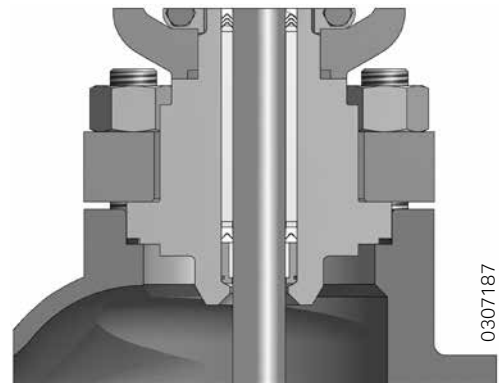
Body Connections

Connection Type	Valve Nominal Diameter (in.)	ANSI Class	Face-to-Face (ANSI/ISA)
Separable Flanges	4 to 8	300-600	75.08.07
RF Integral Flanges	4 to 12	150-1500	75.08.01
RTJ Integral Flanges ⁽¹⁾	4 to 12	150-1500	75.08.01
Buttweld (BW) ⁽²⁾	4 to 12	600-1500	75.08.05

⁽¹⁾ ASME B 16.5

⁽²⁾ ASME B 16.34 Sch 80 (ANSI 600)

ASME B 16.34 Sch XXS (ANSI 900 & 1500)

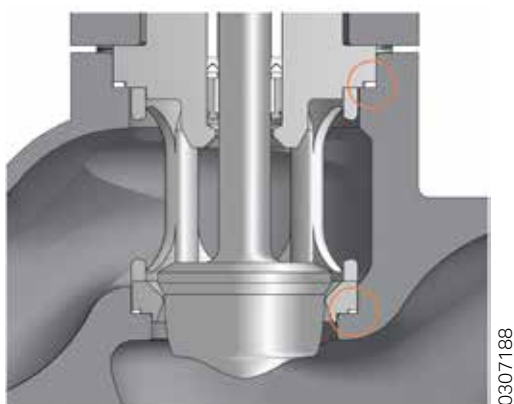


Bonnet Separable Flange

GLx Control Valve Body Subassembly Gaskets, Clamps

Gaskets

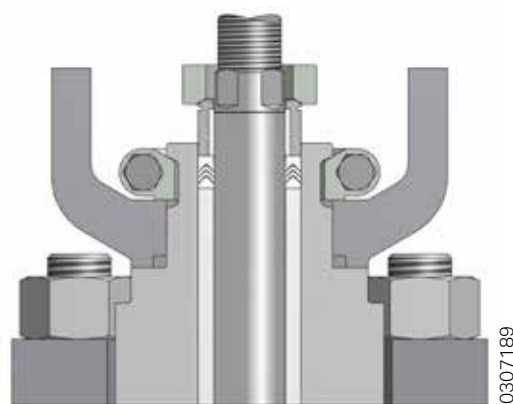
The GLx Series was designed with fully enclosed bonnet and seat gaskets. The GLx Series valve bonnet has a step that acts as a mechanical stop and limits gasket compression. In this way, the bonnet gasket remains completely sealed and its compression is determined by the depth of the existing bonnet step. The body, seat retainer and the seat itself are machined to close tolerances to ensure proper gasket compression. Unlike the bonnet, the seat does not come into direct contact with the body (metal-to-metal), keeping an adequate clearance to compensate for mechanical tolerances and thermal expansion.



Body Gaskets

Clamps

The GLx Series actuator is usually attached to the body with two precision-cast, stainless steel yoke clamps. Each clamp has an inclined flat surface which, when bolted together, securely fastens the actuator yoke to the bonnet. Unlike conventional threaded clamps, the clamp design of the GLx valve permits easy removal, even under extremely corrosive conditions. In bigger valves with higher pressure classes, the yoke is directly fixed to the bonnet using bolts.



Yoke Clamp

Standard Gaskets Temperature and Pressure Limits - 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	Stainless Steel 304/AFG ⁽²⁾	-20 to 750	-30 to 400	6250 psi (431 Bar)
	Spiral-wound	Stainless Steel 316/AFG-HT ⁽²⁾	-20 to 1000	-30 to 540	6250 psi (431 Bar)
Alternate Gaskets	Flat	AFG ⁽²⁾	-20 to 600	-30 to 315	CF ⁽³⁾
	Flat	KEL-F	-320 ⁽⁴⁾ to 350	-30 ⁽⁴⁾ to 177	6000 psi @ -320°F (415 Bar @ -196°C) / 1000 psi @ 350°F (69 Bar @ 177°C)
	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	Stainless Steel 316/Graf. ⁽¹⁾	-320 to 1500 ⁽¹⁾	-196 to 815 ⁽¹⁾	6250 psi (431 Bar)
	O-Ring	Inconel X-750	-20 to 1500	-30 to 815	15000 psi (1034 Bar)

(1) Limited to 800°F (426°C) for oxidizing service.

(2) Gasket filling material asbestos free.

(3) Contact ValtekSul for information on pressure limits according to material.

(4) Lower temperatures available upon request.

(*) For more information, consult www.literature.valteksul.com - Bulletin number 13 of the catalogue Valve Sizing and Selection.

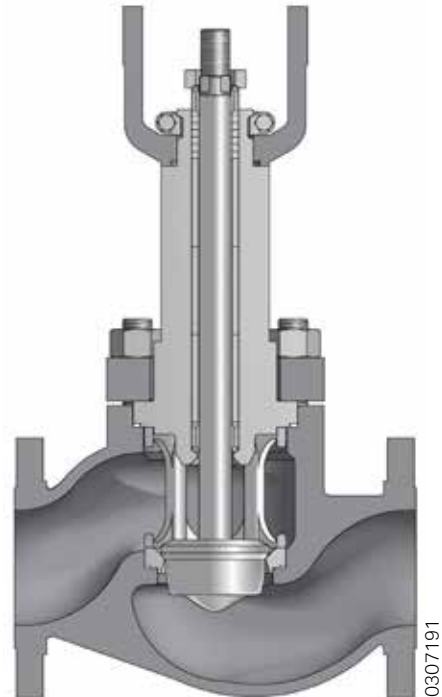
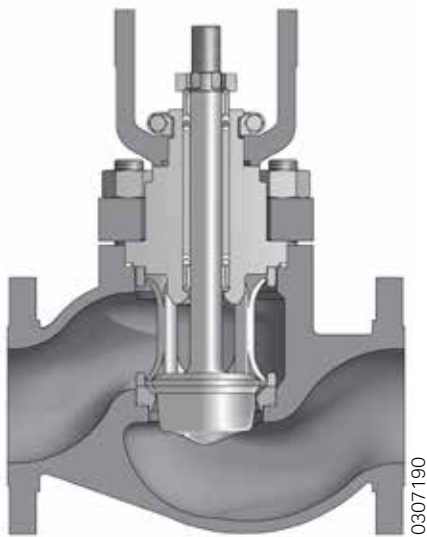
GLx Control Valve Body Subassembly Bonnet Types

Standard Bonnet

The GLX Series standard bonnet is usually built of the same material as the body and handles temperatures from -20 to 750°F (-28 to 400°C), depending on the packing material. (See page 9 for temperature limits of different packing materials.)

Extended Bonnet

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



Options of Available Bonnets for the GLx Series

Bonnet Flange and Studs Materials

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

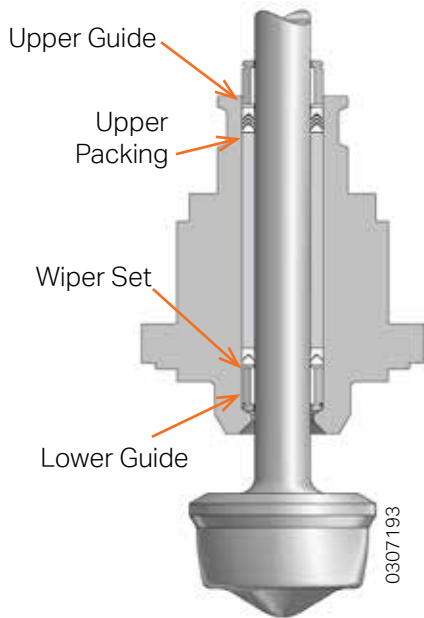
(1) The optional materials for the flange and the bonnet assembly elements are required when the temperature and pressure limits of the carbon steel and the assembly elements in B7/2H are exceeded. (2) Temperatures from -20 to 800°F (-28 to 426°C), provided that the body class pressure is complied. (3)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

GLx Control Valve Body Subassembly Packing and Guides

Packing Box

The GLX valve packing box is deep and presents perfect superficial finishing, which supports the installation of all packing options, with the following additional advantages:

1. The spacing between the wiper set and the main upper packing set, responsible for the sealing, prevents contact with the wet parts of the plug stem and upper packing.
2. Two widely spaced guides, placed out of the flow stream, combined to the plug robust stem, form the advanced guiding system of the GLX series. The upper guide also acts as gland packing, and the lower guide is situated close to the plug head, ensuring accurate plug and seat ring alignment.
3. The guide options cover all application range and eliminate galling between the metal parts.



**Guides and Packing Set
Typical Arrangement**

Packing Set Temperature Limits

Bonnet Type	Packing Material	Temperature Limits ⁽²⁾	
		°F	°C
Standard ⁽¹⁾	PTFE "V" Rings	-20 to 450	-28 to 232
	PT and PTG	-20 to 450	-28 to 232
	Braided PTFE	-20 to 500	-28 to 260
	PTFE w/ fiber glass (PTFEG)	-20 to 500	-28 to 260
	PTG XT	-20 to 550	-28 to 288
	Graphite/AFP ⁽³⁾	-20 to 750	-28 to 400
	Graphite/AFP ⁽³⁾ with Inconel wire	-20 to 750 ⁽⁴⁾	-28 to 400 ⁽⁴⁾
	Graphite ⁽⁵⁾	-20 to 750 ⁽⁴⁾	-28 to 400 ⁽⁴⁾
Extended ⁽¹⁾	PTFE "V" Rings	-150 to 600	-100 to 316
	PT and PTG	-20 to 600	-28 to 316
	Braided PTFE	-150 to 600	-100 to 316
	PTFE w/ fiber glass (PTFEG)	-150 to 600	-100 to 316
	PTG XT	-20 to 700	-28 to 371
	Graphite/AFP ⁽³⁾	-20 to 1200	-28 to 650
	Graphite/AFP ⁽³⁾ with Inconel wire	-20 to 1200	-28 to 650
	Graphite ⁽⁵⁾	-20 to 1500	-28 to 815
Criogenics ⁽¹⁾	PTFE, with 15 or 18 inches extension	-320	-196
	PTFE, with 24 or 27 inches extension	-425	-253

1) The ANSI B16.34 standard specifies acceptable pressure and temperature limits for pressure retaining materials. Contact the manufacturer 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 8 to 12 inches diameters, 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.

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 815 ⁽³⁾	Up to 1000 psi (69.0 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	-20 to 300	-28 to 150	850 psi @ 100°F (58.6 Bar @ 38°C); 100 psi @ 300°F (6.9 Bar @ 150°C)
Bronze (Solid Guide) ⁽⁴⁾	-425 to 500 ⁽⁵⁾	-253 to 260 ⁽⁵⁾	Same as Body
Alloy #6 (Solid Guide) ⁽⁶⁾	-425 to 1500	-253 to 815	Same as Body

(1) For any diameter, the valve DP admissible limit should be complied. Contact the manufacturer. (2) Do not use in oxygen rich services. When using in cavitation regime, the use of graphite 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 300 series stainless steel trims and Alloy #6 lower guide, the plug stem must be hardened with Alloy #6 application at the area in contact with the guide.

GLx Control Valve Body Subassembly Fugitive Emissions Control

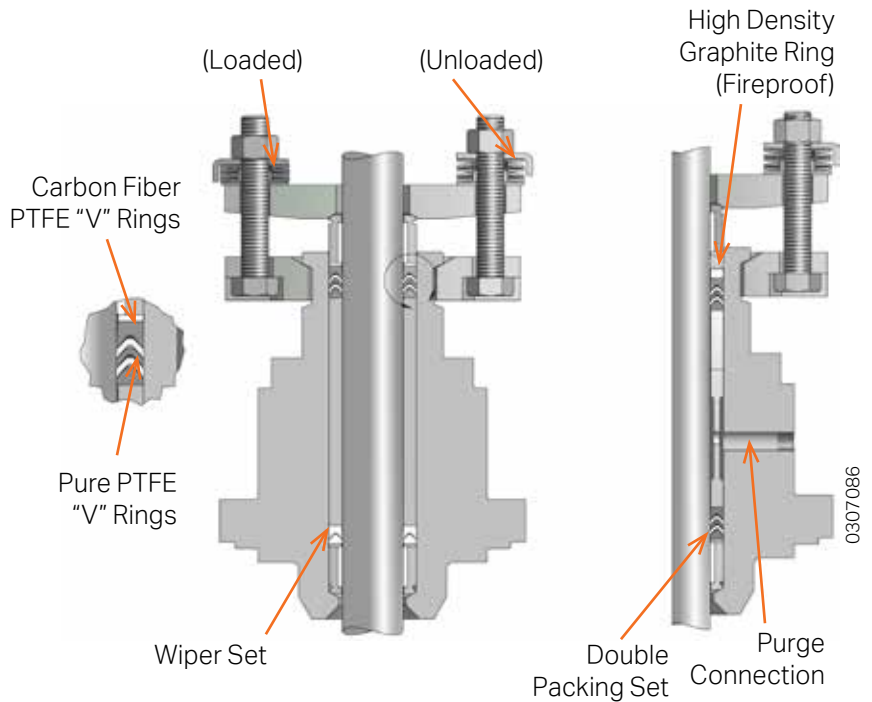
PT Packing set

The GLX Series PT packing set meets EPA* regulations regarding fugitive emissions.

Composed of pure PTFE "V" rings combined with carbon fiber PTFE "V" rings, the PT packing set is compressed by a set of spring washers that causes a "live-loaded effect" and it is available for most of ValtekSul control valves, ensuring emissions levels lower than 500 ppm.

With a simple and easy to replace setting, the PT packing reduces the need for packing retighten caused by process temperature and pressure variations.

A fireproof version of the PT packing set is available as option, which ensures stem tightness even facing the damages that the excess heat can cause to the "V" rings.



Standard Assembly

Options

PT Packing Set

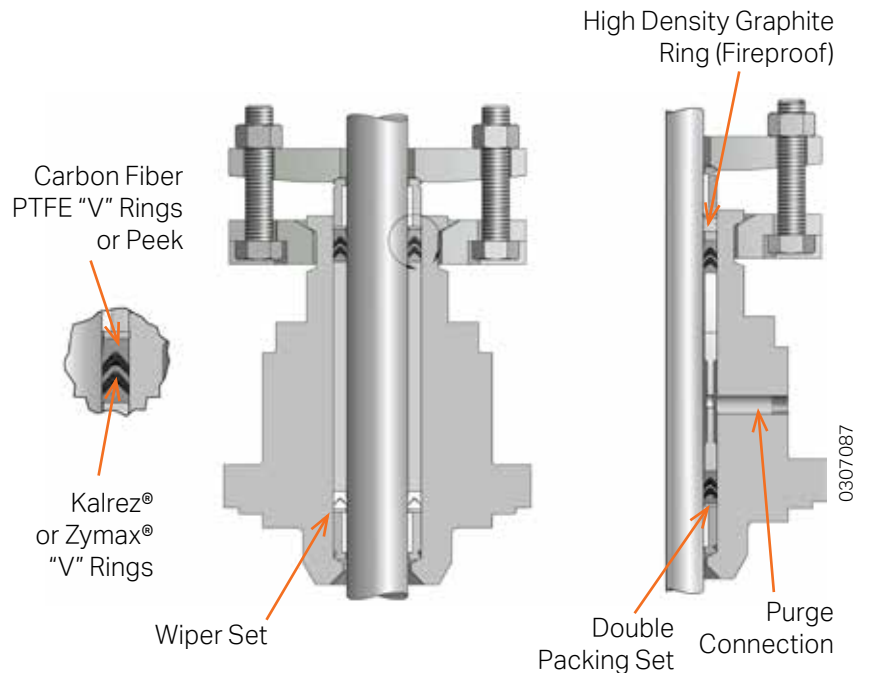
PTG and PTG-XT Packing Set

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 retightening.

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.



Standard Assembly

Options

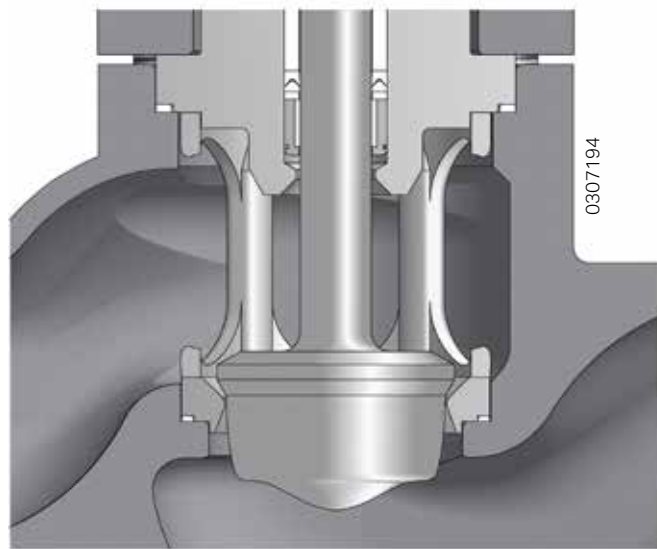
PTG & PTG XT Packing Set

* EPA = Environmental Protection Agency

GLx Control Valve Body Subassembly Trims

The GLx Series trims are designed to avoid the problems associated with threaded seats and plug cage-guiding. The seat ring is not threaded but clamped into the body by the bonnet and seat retainer; thus its removal is simple, even when the valve is under extremely corrosive conditions.

Unlike cage-guided trims that easily gall and stick, GLx trims are guided by an upper double guide system, avoiding contact between the seat retainer and plug; allowing the retainer to be built of stainless steel, rather than other hardened materials of high cost. In the GLx Series, the flow characteristic is determined by the plug shape, rather than by the openings located in the seat retainer.



Unbalanced Trims - GLx

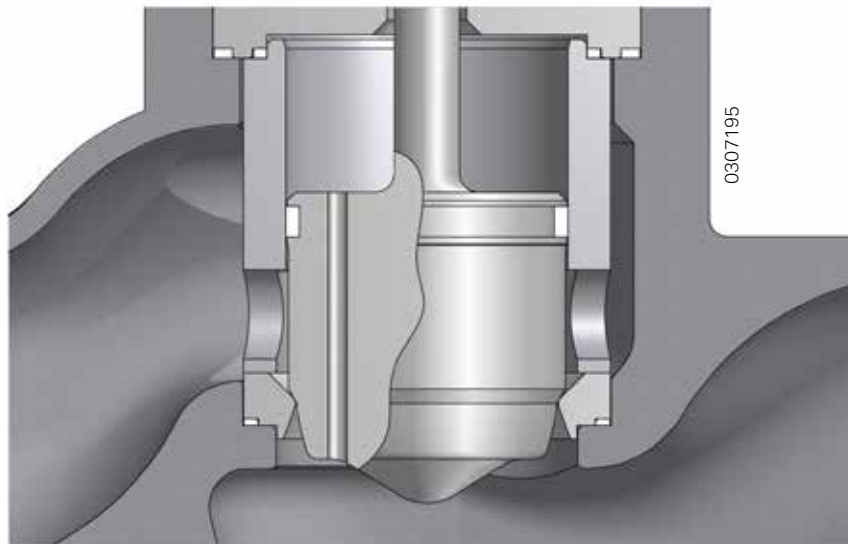
Standard Materials - Unbalanced Trims

Body Material ASTM	Plug	Seat Ring	Retainer	Operational Temperature			
				Minimum		Maximum	
				°F	°C	°F	°C
A 216 WCC	UNS S 31600	UNS S 31600	A 351 - CF8M	-20	-29	800	427
	UNS S 31600/Alloy #6	UNS S 31600/Alloy #6	A 351 - CF8M	-20	-29	650	343
	UNS S 31600/LGA/Alloy #6	UNS S 31600/Alloy #6	A 351 - CF8M	-20	-29	800	427
	UNS S 41600 HT	UNS S 41600 HT	A 351 - CF8M	-20	-29	650	343
A 217 Gr. WC5 A 217 Gr. WC 9	UNS S 31600/Alloy #6	UNS S 31600/Alloy #6	A 351 - CF8M	-20	-29	650	343
	UNS S 31600/LGA/Alloy #6	UNS S 31600/Alloy #6	A 351 - CF8M	-20	-29	650	343
	UNS S 41600 HT	UNS S 41600 HT	A 351 - CF8M	-20	-29	650	343
A 995 CD3M (Duplex 25% Cr)	UNS S 32760	UNS S 32760	UNS S 32760	-20	-29	750	400
	UNS S 32760/Alloy #6	UNS S 32760/Alloy #6	UNS S 32760	-20	-29	750	400
A 351 - CF8M	UNS S 31600	UNS S 31600	A 351 - CF8M	-325	-198	600	315

GLx Control Valve Body Subassembly Trims

For services with high-pressure drops, balanced trims are used to reduce the thrust necessary to stroke the plug by reducing the trim unbalanced areas. The balanced trims can only be used in clean services; as the flow direction for fail-closed is under-the-plug and for failopen is over-the-plug.

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

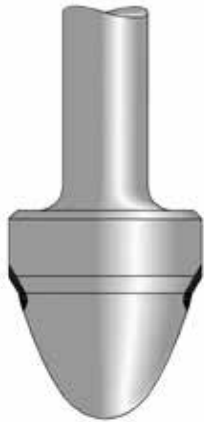


Balanced Trims - GLx

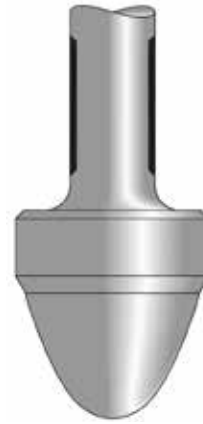
Standard Materials - Balanced Trims

Body Material ASTM	Plug	Seat Ring	Retainer	Operational Temperature			
				Minimum		Maximum	
				°F	°C	°F	°C
A 216 WCC	UNS S 31600	UNS S 31600	ASTM A 182	-20	-29	800	427
	UNS S 31600/Alloy #6	UNS S 31600/Alloy #6	ASTM A 182	-20	-29	600	315
	UNS S 31600/LGA/Alloy #6	UNS S 31600/Alloy #6	ASTM A 182/Alloy #6	-20	-29	600	315
	UNS S 41600 HT	UNS S 41600 HT	SS 17-4PH HT UNS S 41600 HT	-20	-29	650	343
A 217 Gr. WC5 A 217 Gr. WC 9	UNS S 31600/Alloy #6	UNS S 31600/Alloy #6	UNS S 31603/Alloy #6	-20	-29	600	315
	UNS S 31600/LGA/Alloy #6	UNS S 31600/Alloy #6	UNS S 31603/Alloy #6	-20	-29	425	218
	UNS S 41600 HT	UNS S 41600 HT	SS 17-4PH HT UNS S 41600 HT	-20	-29	650	343
A 995 CD3M (Duplex 25% Cr)	UNS S 32760	UNS S 32760	UNS S 32760	-20	-29	750	400
	UNS S 32750/Alloy #6	UNS S 32760/Alloy #6	UNS S 32750/Alloy #6	-20	-29	750	400
A 351 - CF8M	UNS S 31600	UNS S 31600	A 351 - CF8M/ENC.	-325	-198	600	315

GLx Control Valve Body Subassembly Trims



Seating Surface



Lower Guide Area



Full Contour



**Full Contour /
Lower Guide**

0307090

Plug Hard-facing Options

Trim Materials Characteristics

Trim Materials	Hardness (R _c)	Impact Resistance	Corrosion Resistance	Erosion Resistance	Abrasion Resistance
Stainless Steel 316	8	Excellent	Excellent	Reasonable	Reasonable
Alloy #6	44	Excellent	Excellent	Good	Good
Stainless Steel 416	40	Good	Reasonable	Good	Good
17-4 PH (H900)	44	Good	Good to Excellent	Good	Good
Stainless Steel 440C	55-60	Reasonable	Reasonable	Excellent	Excellent
Monel K-500	32	Good	Good to Excellent	Reasonable to Good	Good
Tungsten	72	Reasonable	Good with bases, Poor with acids	Excellent	Excellent
Colmonoy #5	45-50	Good	Reasonable	Good	Good

GLx Control Valve Body Subassembly Special Trim

Gamma® Trim

The Gamma® trims of ValtekSul prevent damage from cavitation and minimize hydrodynamic noise, even under the most severe conditions. In the Gamma® trim, the holes inside the cartridge are used as fluid expansion areas.

As the fluid passes through the holes, coming from the restriction channels and expansion holes, which are mechanized on the outside of each cartridge forming successive intersections, it generates controlled pressure drops that prevent cavitation.

Alpha® Trim

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

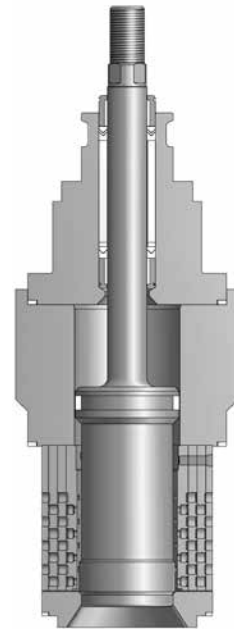
Beta® Trim

The Beta® trims were designed to effectively reduce noise levels in gaseous services. They eliminate the valve noise problem acting on the reduction of gas pressure, as well as controlling the turbulence in the downstream pipeline.

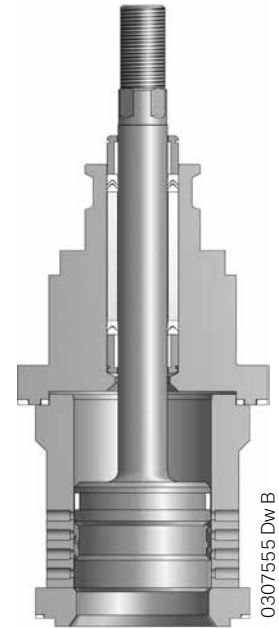
The noise in a control valve is mainly a result of the turbulence generated inside the valve. The various stages of the Beta trim effectively limit most part of the sound vibration generated in the internal throttling region, providing resistance to the additional incident sound energy transmissions.

Delta® Trim

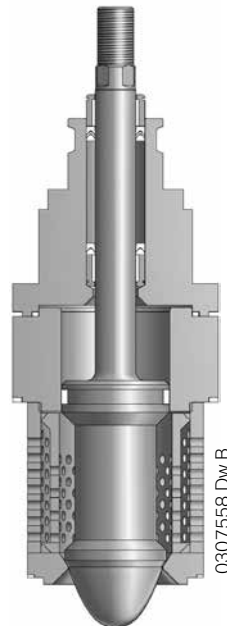
The Delta® trim of ValtekSul presents an effective noise reduction superior to 30 dBA. It can also be used on conditions of high pressure drops in liquids, eliminating the effects of cavitation. Its exclusive design combined with the tough intrinsic characteristics of ValtekSul globe valves form a control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



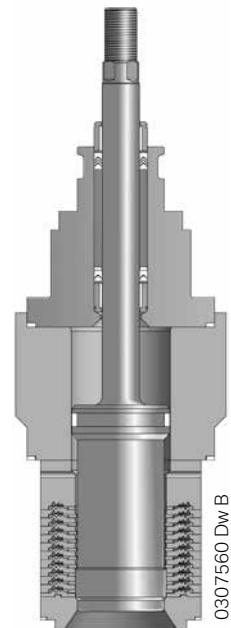
Gamma® Trim



Alpha® Trim



Beta® Trim



Delta® Trim

GLx Control Valve Body Subassembly General Specification Chart

GLx Series - Specification & Manufacturing Materials

Body	Diameter ⁽¹⁾		4x2; 6x3; 6x4; 8x4; 8x6; 10x4; 10x6; 12x6; 12x8
	ANSI Class		300; 600 ⁽²⁾
	Style		Globe with expanded inlet and outlet
	Materials		Carbon steel; Alloy steels, Stainless steel; Duplex; Super-duplex; Alloy 20; Monel; Hastelloy B; Hastelloy C; Titanium and other cast alloys under request.
	Ends		Separable Flanges: 4, 6 and 8 in. Integral Flanges: all sizes Welded connection BW: all sizes Sch.40 or 80 ANS B 16.25
	Gaskets	Flat	PTFE, PTFEG*
	Spiral	AISI-316 or 304 with graphite filling ⁽²⁾ or AFG ⁽³⁾	
Bonnet	Types		Plain; Standard extended
	Materials		Same body options
	Bonnet flange		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 with "V" rings or square rings, Double packing. Vacuum packing.
Materials		PTFE with "V" rings; PTFEG; Braided PTFE ; AFP with inconel wire, graphite and other materials under request.	
Trim	Types		Unbalanced Balanced: Trim size from 4 to 8 inches
	Flow Characteristics		Equal Percent, Linear or Quick Open
	Materials		AISI-316 (standard), AISI-304, AISI-347, AISI-416, AISI-420, AISI-440C, Duplex, Super-Duplex, Alloy 20, Monel, Hastelloy B, Hastelloy C, 17-4PH, Nickel, Titanium and others.
	Superficial Hardening	Materials	Alloy #6; Colmonoy #5; and other materials under request
		Types	Plug Hardening: Seat surface Full surface Plug stem in contact with the lower area guide
	Soft seats	Materials	PTFE, PTFEG*, FEP, PEEK
Actuator	Types	Pneumatic	Double acting piston/cylinder, with spring for failure position. Field reversible Options: manual handwheel
Positioner	Types		Pneumatics: HPP 2000 Electro-pneumatics: HPP 2000 Digital: Chronos

Notes: (1) The first number indicates the valve body nominal size. The second number indicates the trim set nominal size.

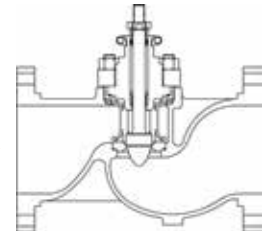
(2) ANSI 900 & 1500 under request.

(3) AFG: Asbestos free packing

GLx Control Valve Body Subassembly Flow Coefficient - C_v

ANSI Class: 300 - 600
Flow Direction: Flow Over
Flow Coefficient (C_v) - Equal Percentage

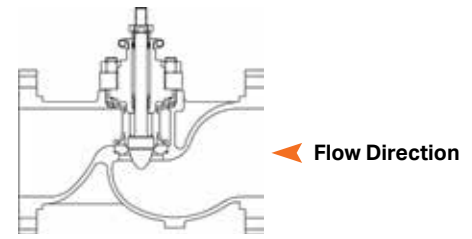
Flow Direction 



Valve Nominal Diameter ⁽¹⁾ (in.)	Nominal Trims Size (T.N.)	Stroke		Opening Percentage									
		in.	mm	100	90	80	70	60	50	40	30	20	10
4x2	41 (1.63)	1.50	38.10	54	47	33	23	16	11	7.2	4.9	3.3	2.2
	32 (1.25)	1.00	25.40	35	30	21	14	9.3	6.3	4.2	2.9	1.9	1.3
	25 (1.00)	0.75	19.05	25	21	15	9.4	5.9	4.0	2.7	1.8	1.2	0.83
6x3	67 (2.63)	2.00	50.80	120	101	88	58	35	23	16	11	7.4	4.9
	50 (2.00)	1.50	38.10	90	75	58	36	22	17	11	7.7	5.2	3.6
	41 (1.63)	1.50	38.10	60	50	38	22	15	11	7.6	5.1	3.5	2.4
6x4	90 (3.50)	2.50	63.50	215	185	154	122	75	49	33	23	16	11
	67 (2.63)	2.00	50.80	145	122	106	70	43	28	19	13	8.8	5.9
	55 (2.25)	2.00	50.80	110	92	70	41	28	21	14	9.5	6.4	4.4
8x4	90 (3.50)	2.50	63.50	210	185	151	119	73	48	33	23	15	10
	67 (2.63)	2.00	50.80	140	118	103	67	41	28	19	13	8.8	5.8
	55 (2.25)	2.00	50.80	107	90	68	40	27	20	14	9.3	6.2	4.3
10x4	90 (3.50)	2.50	63.50	210	180	150	119	73	48	33	22	15	10
	67 (2.63)	2.00	50.80	135	113	100	65	39	27	19	12	8.4	5.7
	55 (2.25)	2.00	50.80	105	89	67	40	27	20	14	9.2	6.2	4.3
8x6	125 (5.00)	3.00	76.20	455	397	327	250	187	106	70	48	32	22
	90 (3.50)	2.50	63.50	250	234	206	163	109	59	34	21	14	8.2
	75 (3.00)	2.00	50.80	200	158	123	104	60	38	25	17	12	7.8
10x6	125 (5.00)	3.00	76.20	445	389	319	245	184	103	69	47	31	22
	90 (3.50)	2.50	63.50	270	216	167	130	76	50	34	23	15	10
	75 (3.00)	2.00	50.80	198	158	123	103	60	37	25	17	11	7.7
12x6	125 (5.00)	3.00	76.20	440	384	315	242	181	102	68	46	31	21
	90 (3.50)	2.50	63.50	265	212	163	127	75	49	33	22	15	10
	75 (3.00)	2.00	50.80	195	155	122	102	59	36	24	17	11	7.6
12x8	160 (6.25)	4.00	101.60	715	621	501	384	259	161	109	74	50	34
	125 (5.00)	3.00	76.20	530	439	344	262	190	105	70	47	32	22
	90 (3.50)	2.50	63.50	280	221	174	131	77	51	34	23	15	11

Notes: (1) The first number indicates the valve body nominal size. The second number represents the trim nominal size.

GLx Control Valve Body Subassembly Flow Coefficient - C_v



ANSI Class: 300 - 600

Flow Direction: Flow Under

Flow Coefficient (C_v) - Equal Percentage

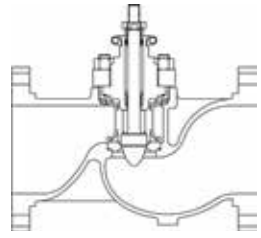
Valve Nominal Diameter ⁽¹⁾ (in.)	Nominal Trims Size (T.N.)	Stroke		Opening Percentage									
		in.	mm	100	90	80	70	60	50	40	30	20	10
4x2	41 (1.63)	1.50	38.10	52	45	31	22	15	10	6.9	4.7	3.2	2.2
	32 (1.25)	1.00	25.40	33	29	20	13	9.1	6.1	4.1	2.8	1.9	1.3
	25 (1.00)	0.75	19.05	24	20	14	8.7	5.8	3.9	2.6	1.8	1.2	0.82
6x3	67 (2.63)	2.00	50.80	115	97	85	56	34	22	16	11	7.0	4.8
	50 (2.00)	1.50	38.10	88	74	56	34	22	17	12	7.7	5.1	3.5
	41 (1.63)	1.50	38.10	58	48	35	25	17	11	7.6	5.4	3.6	2.5
6x4	90 (3.50)	2.50	63.50	205	177	147	117	72	47	33	22	15	10
	67 (2.63)	2.00	50.80	139	117	103	68	41	27	19	13	8.5	5.8
	55 (2.25)	2.00	50.80	106	89	68	41	27	20	14	9.3	6.2	4.3
8x4	90 (3.50)	2.50	63.50	202	173	143	115	70	47	32	22	15	10
	67 (2.63)	2.00	50.80	135	113	99	66	39	27	18	12	8.3	5.7
	55 (2.25)	2.00	50.80	103	87	66	38	27	20	13	9.0	6.1	4.2
10x4	90 (3.50)	2.50	63.50	434	380	311	240	179	101	68	46	15	9.9
	67 (2.63)	2.00	50.80	240	224	198	157	105	57	33	23	8.2	5.6
	55 (2.25)	2.00	50.80	193	155	121	100	58	36	25	17	6.2	4.2
8x6	125 (5.00)	3.00	76.20	200	172	143	114	70	47	32	22	31	22
	90 (3.50)	2.50	63.50	130	108	95	63	38	26	18	12	15	10
	75 (3.00)	2.00	50.80	102	86	65	38	26	19	13	8.9	11	7.7
10x6	125 (5.00)	3.00	76.20	425	372	305	234	176	99	66	45	31	21
	90 (3.50)	2.50	63.50	260	208	161	125	74	48	33	22	15	10
	75 (3.00)	2.00	50.80	191	152	119	100	58	36	24	16	11	7.5
12x6	125 (5.00)	3.00	76.20	420	367	302	232	174	98	65	45	30	21
	90 (3.50)	2.50	63.50	255	204	157	122	73	48	32	22	15	10
	75 (3.00)	2.00	50.80	190	151	113	98	58	35	24	16	11	7.4
12x8	160 (6.25)	4.00	101.60	684	593	479	366	248	155	105	72	48	33
	125 (5.00)	3.00	76.20	509	422	331	252	183	101	67	46	31	21
	90 (3.50)	2.50	63.50	271	213	168	127	75	49	33	22	15	10

Notes: (1) The first number indicates the valve body nominal size. The second number represents the trim nominal size.

GLx Control Valve Body Subassembly Flow Coefficient - C_v

ANSI Class: 300 - 600
Flow Direction: Flow Over
Flow Coefficient (C_v) - Linear

Flow Direction 

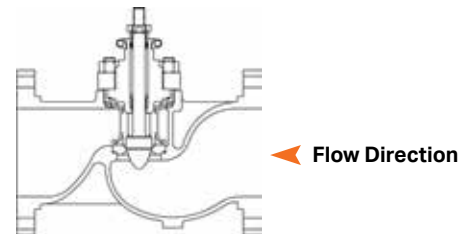


Valve Nominal Diameter ⁽¹⁾ (in.)	Nominal Trims Size (T.N.)	Stroke		Opening Percentage									
		in.	mm	100	90	80	70	60	50	40	30	20	10
4x2	41 (1.63)	1.50	38.10	57	53	49	44	39	34	28	22	15	7.5
	32 (1.25)	1.00	25.40	39	35	31	29	25	21	16	12	8.8	4.4
	25 (1.00)	0.75	19.05	28	25	22	20	17	14	11	8.5	5.6	2.8
6x3	67 (2.63)	2.00	50.80	144	132	120	108	93	79	65	50	33	16
	50 (2.00)	1.50	38.10	111	100	96	80	68	58	47	36	24	12
	41 (1.63)	1.50	38.10	64	59	55	49	44	38	31	25	17	8.4
6x4	90 (3.50)	2.50	63.50	230	218	206	190	172	151	126	99	68	34
	67 (2.63)	2.00	50.80	174	160	145	131	113	96	79	60	40	20
	55 (2.25)	2.00	50.80	136	123	111	98	84	71	58	44	29	15
8x4	90 (3.50)	2.50	63.50	226	214	201	187	169	148	124	97	67	33
	67 (2.63)	2.00	50.80	162	149	135	121	106	90	73	55	37	19
	55 (2.25)	2.00	50.80	133	120	108	95	82	70	56	43	29	14
10x4	90 (3.50)	2.50	63.50	486	463	436	402	365	319	268	208	143	34
	67 (2.63)	2.00	50.80	325	297	268	239	208	176	142	107	72	19
	55 (2.25)	2.00	50.80	250	226	202	179	154	128	104	78	52	14
8x6	125 (5.00)	3.00	76.20	224	213	201	186	168	147	123	97	67	73
	90 (3.50)	2.50	63.50	163	150	136	121	107	91	74	56	38	36
	75 (3.00)	2.00	50.80	131	118	106	94	81	68	55	42	28	26
10x6	125 (5.00)	3.00	76.20	476	453	427	394	357	312	261	205	140	72
	90 (3.50)	2.50	63.50	317	289	261	232	202	171	138	105	70	35
	75 (3.00)	2.00	50.80	248	225	201	170	153	128	103	77	51	26
12x6	125 (5.00)	3.00	76.20	470	447	421	389	353	309	258	202	138	70
	90 (3.50)	2.50	63.50	311	284	256	228	198	167	136	103	69	34
	75 (3.00)	2.00	50.80	245	222	198	175	151	127	101	76	51	25
12x8	160 (6.25)	4.00	101.60	751	722	678	628	567	497	416	323	222	112
	125 (5.00)	3.00	76.20	601	558	512	460	406	345	282	214	144	73
	90 (3.50)	2.50	63.50	347	312	278	244	210	175	140	106	71	35

Notes: (1) The first number indicates the valve body nominal size. The second number represents the trim nominal size.

GLx Control Valve Body Subassembly Flow Coefficient - C_v

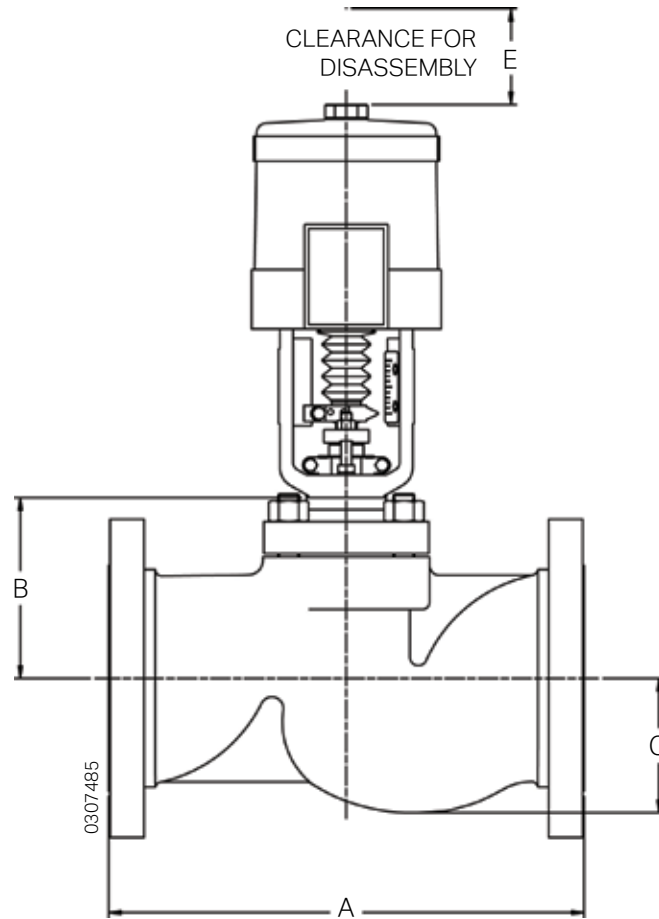
ANSI Class: 300 - 600
Flow Direction: Flow Under
Flow Coefficient (C_v) - Linear



Valve Nominal Diameter ⁽¹⁾ (in.)	Nominal Trims Size (T.N.)	Stroke		Opening Percentage									
		in.	mm	100	90	80	70	60	50	40	30	20	10
4x2	41 (1.63)	1.50	38.10	54	51	47	42	38	32	27	21	14	7.3
	32 (1.25)	1.00	25.40	37	34	30	26	24	20	16	12	8.8	4.5
	25 (1.00)	0.75	19.05	27	24	22	19	16	14	11	8.3	5.5	2.8
6x3	67 (2.63)	2.00	50.80	135	124	113	102	88	75	61	47	32	16
	50 (2.00)	1.50	38.10	104	94	85	75	65	55	44	33	22	11
	41 (1.63)	1.50	38.10	60	57	52	47	42	36	30	23	16	8.1
6x4	90 (3.50)	2.50	63.50	219	208	197	182	165	146	122	96	66	33
	67 (2.63)	2.00	50.80	167	154	140	126	109	93	76	58	40	20
	55 (2.25)	2.00	50.80	131	119	107	94	82	69	56	42	28	14
8x4	90 (3.50)	2.50	63.50	215	205	193	179	163	143	120	93	65	32
	67 (2.63)	2.00	50.80	155	143	130	117	102	87	70	54	36	18
	55 (2.25)	2.00	50.80	128	116	104	92	79	67	55	41	28	14
10x4	90 (3.50)	2.50	63.50	464	442	417	385	350	307	258	202	140	33
	67 (2.63)	2.00	50.80	313	286	259	230	201	170	137	104	70	19
	55 (2.25)	2.00	50.80	241	218	196	173	149	125	101	76	51	14
8x6	125 (5.00)	3.00	76.20	214	204	192	178	162	142	119	94	65	71
	90 (3.50)	2.50	63.50	157	144	131	117	103	88	71	55	37	35
	75 (3.00)	2.00	50.80	126	114	102	91	78	66	54	41	27	21
10x6	125 (5.00)	3.00	76.20	455	433	408	378	343	301	252	198	136	70
	90 (3.50)	2.50	63.50	305	278	252	224	195	165	134	102	68	34
	75 (3.00)	2.00	50.80	240	217	194	172	148	125	100	75	50	25
12x6	125 (5.00)	3.00	76.20	449	428	403	373	339	297	249	195	134	69
	90 (3.50)	2.50	63.50	299	273	247	220	191	162	132	100	67	34
	75 (3.00)	2.00	50.80	236	214	191	169	146	123	98	74	49	25
12x8	160 (6.25)	4.00	101.60	724	690	649	601	544	479	402	312	216	109
	125 (5.00)	3.00	76.20	577	536	492	443	391	333	273	209	140	71
	90 (3.50)	2.50	63.50	336	301	269	236	203	170	136	104	69	35

Notes: (1) The first number indicates the valve body nominal size. The second number represents the trim nominal size.

GLx Control Valve Body Subassembly Dimensions



Valve Nominal Diameter ⁽¹⁾ (in.)	A				B		C		E	
	ANSI/ISA				in.	mm	in.	mm	in.	mm
	300		600							
	in.	mm	in.	mm	in.	mm	in.	mm	in.	mm
4 x 2	14.5	368	15.5	394	5.4	138	2.5	64	5.5	140
6 x 3	18.6	473	20.0	508	6.8	172	5.5	140	7.0	178
6 x 4	18.6	473	20.0	508	8.4	214	5.5	140	10.8	275
8 x 4	22.4	568	24.0	610	8.4	214	6.5	165	13.0	330
8 x 6	22.4	568	24.0	610	12.3	311	8.0	203	13.0	330
10 x 4	27.9	708	29.6	752	8.4	214	6.0	153	14.4	365
10 x 6	27.9	708	29.6	752	12.3	311	7.5	191	14.4	365
12 x 6	30.5	775	32.3	819	12.3	311	14.5	368	14.8	375
12 x 8	30.5	775	32.3	819	14.4	365	14.5	368	14.8	375

Notes: (1) The first number indicates the valve body nominal size. The second number represents the trim nominal size.

Quality Management System



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

ValtekSul Brasil

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