GXL®

GLOBE
CONTROL VALVE

VALTEK™
SULAMERICANA

GXL® Globe Control Valve

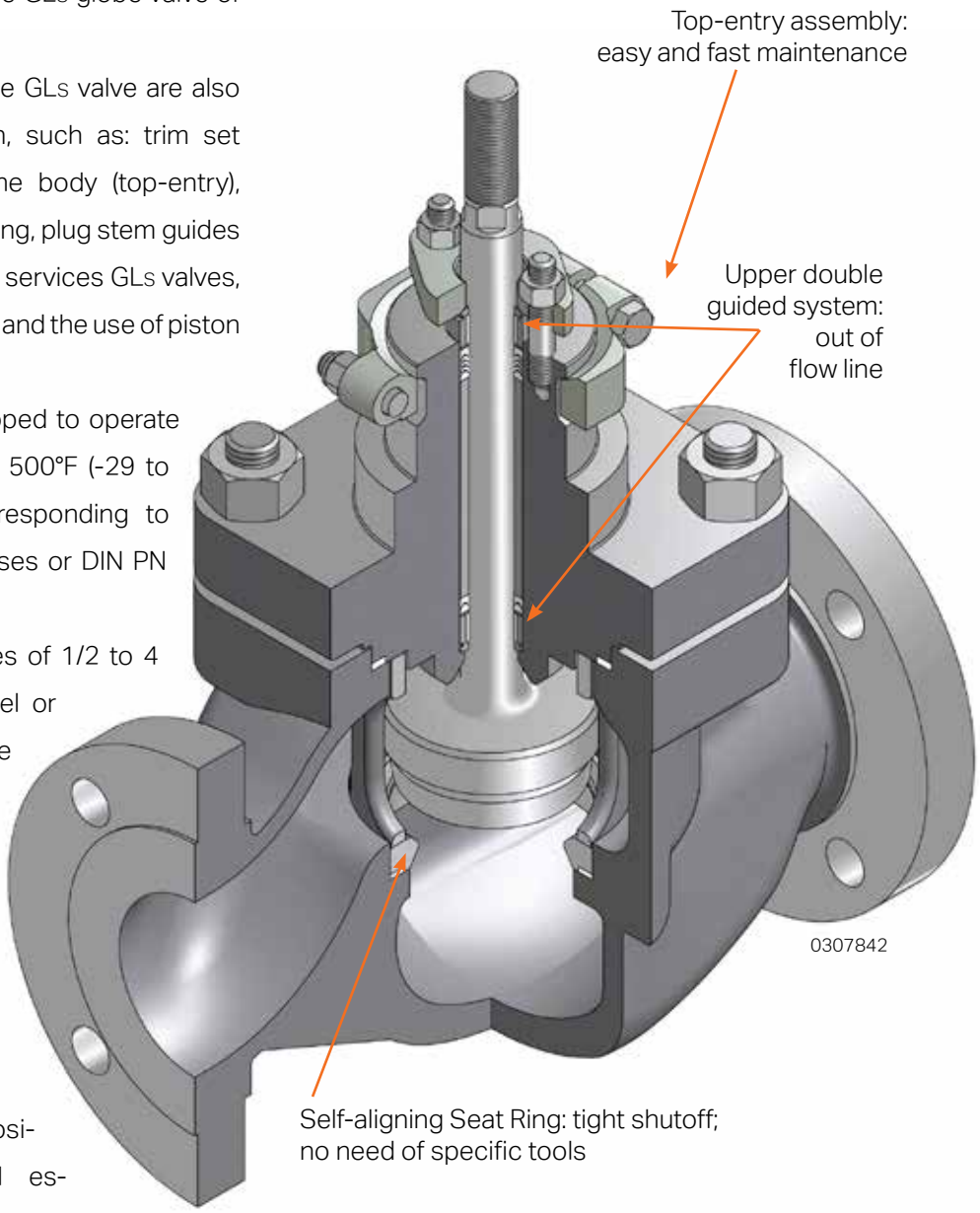
The GXL globe control valve was designed as a simpler, lighter and more economic alternative to the well known and modern concept of the GLS globe valve of ValtekSul.

Many of the main attributes of the GLS valve are also present at the GXL valve design, such as: trim set assembly through the top of the body (top-entry), selfaligning plug-orientated seat ring, plug stem guides similar to the ones used in severe services GLS valves, fugitive emissions control packing and the use of piston cylinder actuators.

The GXL control valve was developed to operate with fluids temperature of -20 to 500°F (-29 to 260°C) and pressure rates corresponding to ANSI 150 and 300 pressure classes or DIN PN 16 - 40.

Manufactured with integral flanges of 1/2 to 4 inches diameter and carbon steel or stainless steel bodies, the GXL valve offers various options of trim sizes and materials, permitting its use in diverse applications of fluid control in industrial processes.

The employment of piston-cylinder actuators in addition to the analogical or digital positioners selection of ValtekSul establish the GXL as the best option in the market when considering a globe valve that is simple, compact, economic and with a long service life.

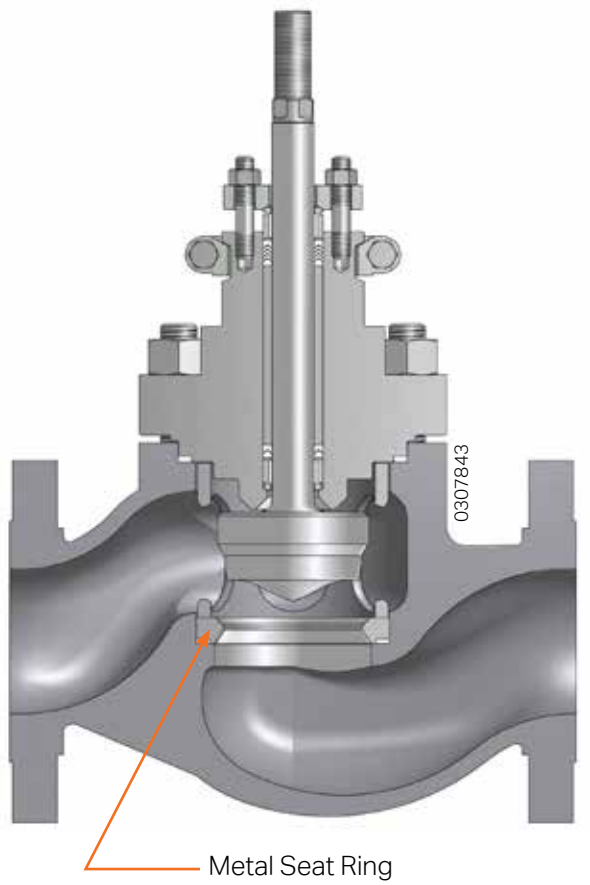


GXL Series – Body Subassembly

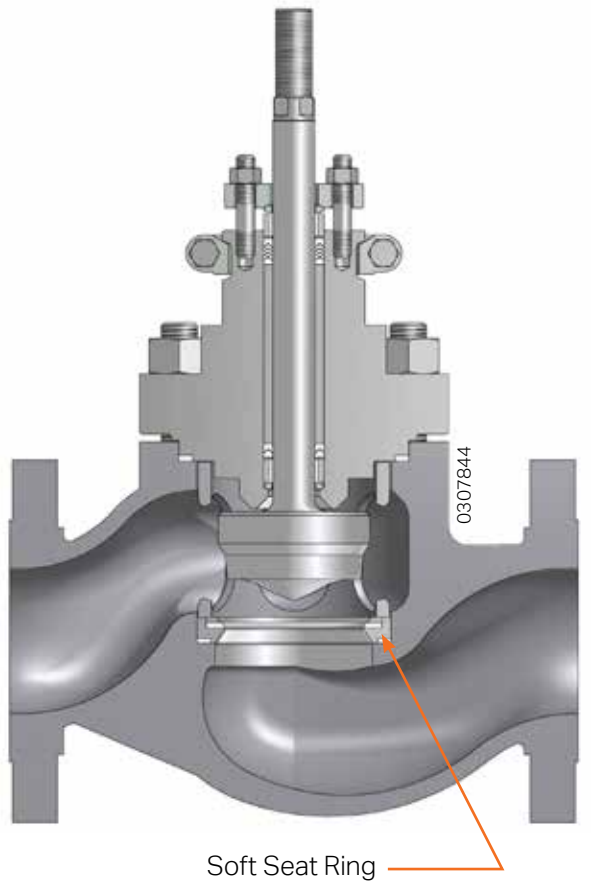
Typical Rangeability 30:1

ANSI Classe IV Tightness — Metal Seat Ring
ANSI Classe VI Tightness — Soft Seat Ring

GXL Control Valve Assembly/Characteristics



Metal Seat Ring Trims



Soft Seat Ring Trims

Reliability

Adopting many of the attributes of the severe services valves produced by ValtekSul, the GXL valve has reduced dimensions, which facilitates its employment in equipments or installations with limited space.

GXL trims set, designed with generous dimensions, provides bigger C_V´s than the C_V´s achieved in globe valves of other manufacturers. The trims assembly is performed through the top of the body (top-entry) and the seat ring is plug-orientated, assuring perfect positioning and high shutoff, without the need of lapping. The seat ring removal is a simple task, even in corrosive processes, and do not require specific tools.

The plug is manufactured as an unique piece and is orientated by an upper double guided advanced system, placed out of the flow line, which avoids in this way the typical valve problems concerning plugs guided by seat retainer.

The bonnet and seat ring are fitted in the body with an uniform and fully retained gasket system, which eliminates leaks and do not require special care with the tightening torque.

The great depth of the packing box permits the use of a variety of packing options, in accordance to EPA´s* requirements. The GXL valve contains a wide range of trims to answer to diverse flow rates. These characteristics in addition to the piston-cylinder actuators (with a lifespan of over a million cycles) and high performance Chronos digital positioners (providing an accurate control of the process) result in a modern valve, of advanced design and long service life.

Low cost and great operational performance, the GXL valve provides precise fluid control in the most advanced industrial processes.

*EPA = U. S. Environmental Protection Agency

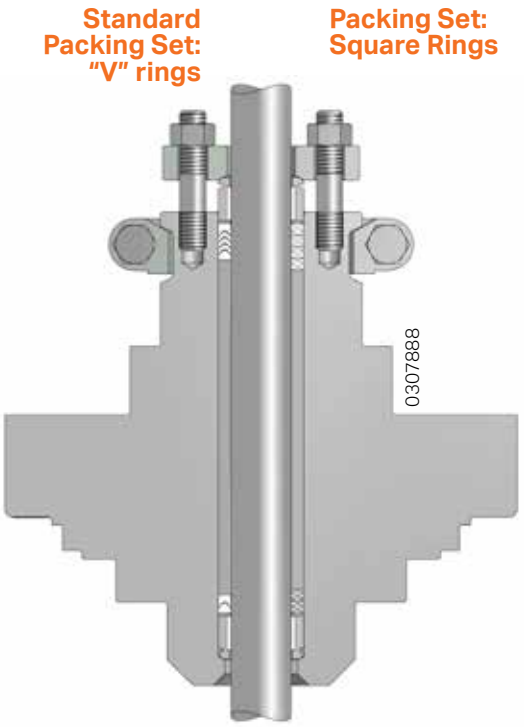
GXL Control Valve Packing Box

The GXL valve packing box is very deep and presents perfect superficial finishing, providing longer lifespan for all packing set.
The GXL valve packing box design permits the use of a variety of packing systems, attending to the most demanding standards for fugitive emissions in modern industrial processes.

Standard Packing Box

The standard packing box of the GXL valve is formed by PTFE "V" rings. The PTFE "V" rings represent the most used packing system for years, with excellent tightness results. They present lower friction coefficient, good mechanical resistance and excellent corrosion resistance, what makes them the most usual material employed for packing sets.
At the GXL valve, the PTFE "V" rings are used on temperature services of -20 to 400°F (-29 to 204°C).

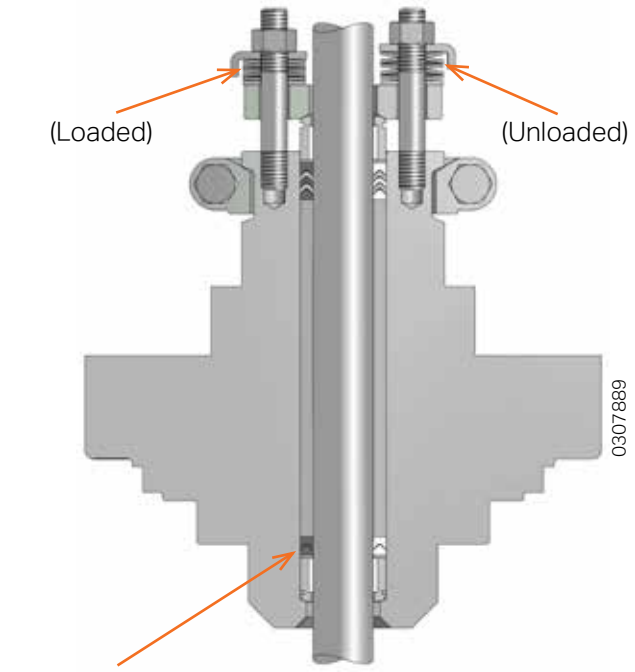
Standard Packing



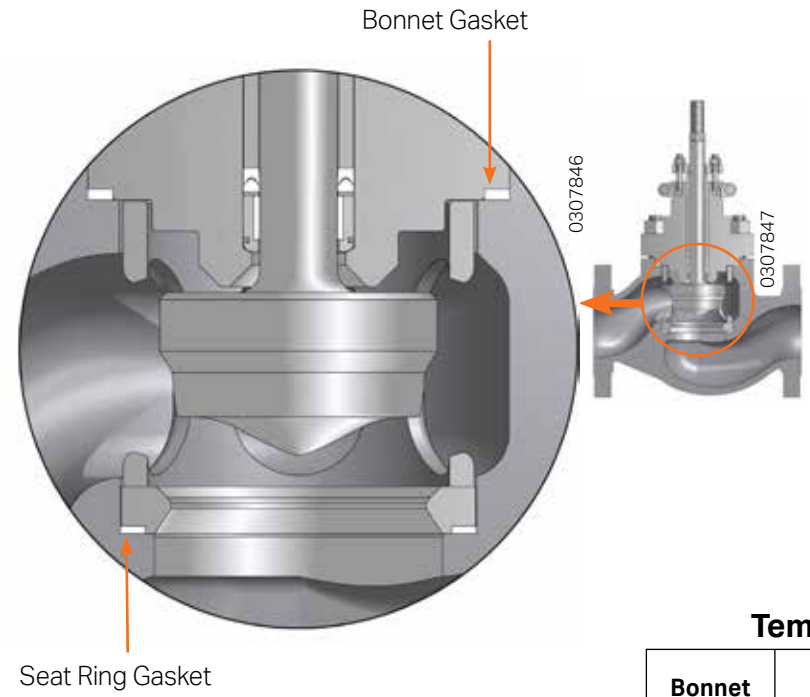
PT Premium Packing Set

The GXL valve PT packing set meets ISO 15848-1 regulations in reference to fugitive emissions. Composed of virgin 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", ensuring emissions levels lower than 300 ppm.
With a simple and easy to replace setting, the PT packing reduces the need for packing retighten caused by temperature and pressure variations.

Packing - Premium PT



GXL Control Valve Manufacturing - Materials



Seat Ring and Bonnet Gaskets

The GXL globe valve for general services 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 step depth 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 directly touch the body (metal-to-metal), allowing this small clearance to compensate for manufacturing tolerances and thermal expansion.

Body Specifications

Type	■ Globe - Simple Seat Ring
Nominal Diameter	■ 0.50; 0.75; 1; 1.5; 2; 3; 4 (in.) ■ DN 15; 20; 25; 40; 50; 80; 100
Pressure Class	■ ANSI Class 150-300 ■ DIN PN 16-40
Connections	■ Integral Flanges ■ Socketweld Connections* ■ Screwed (NPT)*
Flange Finishing	■ Standard 125-250 Ra ■ Optional: 250-500 Ra
Face-to-Face Dimension	■ ANSI/ISA S75.08.01
Bonnet	■ Plain
Sealing	■ ANSI Class IV with Metal Seat ■ ANSI Class VI with Soft Seat
Flow Characteristics	■ Linear ■ Equal Percentage ■ Quick-Open

* Diameters of 0. 50 to 2 in.

Temperature Limits for Packing

Bonnet Type	Packing Type	Temperature	
		˚F	˚C
Plain	■ PTFE "V" Rings	-20 to 400	-29 to 204
	■ Braided PTFE	-20 to 500	-29 to 260
	■ PT	-20 to 450	-29 to 232

Temperature Limits Seat Ring and Bonnet Gaskets

Gasket Type	Material	Temperature Limits	
		˚F	˚C
Flat	■ PTFE	350	176
Spiral- wound	■ 316L/AFG**	500	260

Temperature Limits for Lining / Guides

Materials Guide/Lining	Max. Temperature		Maximum Pressure
	˚F	˚C	
Stainless Steel/PTFEG	300	150	6,9 Bar @ 150˚ C*
Stainless Steel/Graphite	500	260	Same as body

* Check the pressure/temperature guide at the Valve Sizing catalogue of ValtekSul

GXL Control Valve
Specifications - Materials

Standard Manufacturing Materials
Carbon Steel Subassembly

Component	Material Classification	Specifications		
		ASTM Code	UNS Code	Hardness R_c
Body	Cast Carbon Steel	A 216 WCC	J 03002	
Bonnet	Cast Carbon Steel	A 216 WCC	J 03002	
Plug	316 Barstock	A 479 Gr 316	S 31600	8
	420 Barstock	A 276 Gr 420	S 42000	38-45
	316/Alloy #6*	A479 Gr 316/AMS 5387	S 31600/R 30006	40-42
Metal Seat Ring	316 Barstock	A 479 Gr 316	S 31600	8
	420 Barstock	A 276 Gr 420	S 42000	38-45
	316/Alloy #6*	A479 Gr 316/AMS 5387	S 31600/R 30006	40-42
Soft Seat Ring	316 Barstock / PTFE	A 479 Gr 316	S 31600	
Seat Retainer	316 Cast	A 351 Gr CF8M	J 92900	
Packing Flange	316 Cast	A 351 Gr CF8M	J 92900	
Gland Flange	316 Barstock	A 479 Gr 316	S 31600	
Packing Spacer	316 Barstock	A 479 Gr 316	S 31600	

Standard Manufacturing Materials
Stainless Steel Subassembly

Component	Material Classification	Specifications		
		ASTM Code	UNS Code	Hardness R_c
Body	316 Cast	A 351 CF8M	J 92900	
Bonnet	316 Cast	A 351 CF8M	J 92900	
Plug	316 Barstock	A 479 Gr 316	S 31600	8
	17-4 PH	A 564 Gr 630	S 17400	35
	316/Alloy #6*	A479 Gr 316/AMS 5387	S 31600/R 30006	40-42
Metal Seat Ring	316 Barstock	A 479 Gr 316	S 31600	8
	17-4 PH	A 564 Gr 630	S 17400	35
	316/Alloy #6*	A479 Gr 316/AMS 5387	S 31600/R 30006	40-42
Soft Seat Ring	316 // PTFE	A 479 Gr 316	S 31600	
Seat Retainer	316 Cast	A 351 CF8M	J 92900	
Packing Flange	316 Cast	A 351 CF8M	J 92900	
Gland Flange	316 Barstock	A 479 Gr 316	S 31600	
Packing Spacer	316 Barstock	A 479 Gr 316	S 31600	

* Valves with nominal diameter of 0.50 to 2 in.: Plug and seat ring in solid Alloy #6, investment casting
Valves with diameter of 3 to 4 in.: Seat ring in solid Alloy #6 and plug in stainless steel with Alloy #6 coating

GXL Control Valve
Specifications - Materials

Body Pressure and Temperature Limits – ANSI B 16.34

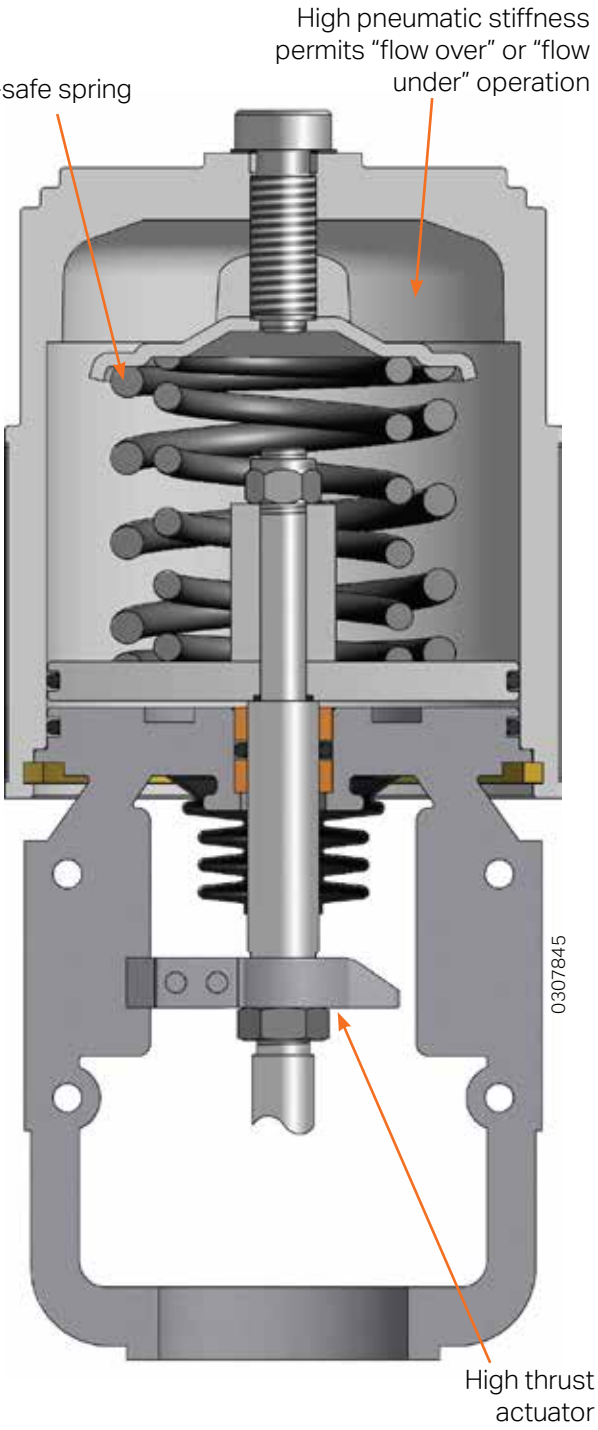
Material	End Class	Pressure		Temperature	
		PSI	Bar	˚F	˚C
Carbon Steel ASTM A 216 Gr. WCC	**ANSI 150**	287	19.8	-20 to 100	-29 to 38
		257	17.7	212	100
		217	15.8	302	150
		200	13.8	392	200
		175	12.1	482	250
		148	10.2	572	300
		120	8.3	650	345
	ANSI 300	750	51.7	-20 to 100	-29 to 38
		747	51.5	212	100
		728	50.2	302	150
		705	48.6	392	200
		671	46.3	482	250
		622	42.9	572	300
		580	40.0	650	345
Stainless Steel ASTM A 351 Gr. CF8M	**ANSI 150**	275	19.0	-20 to 100	-29 to 38
		235	16.2	212	100
		215	14.8	302	150
		199	13.7	392	200
		175	12.1	482	250
		148	10.2	572	300
		120	8.3	650	345
	ANSI 300	719	49.6	-20 to 100	-29 to 38
		612	42.2	212	100
		558	38.5	302	150
		518	35.7	392	200
		484	33.4	482	250
		458	31.6	572	300
		438	30.2	650	345

Maximum Differential Pressures [1][2][3]

Valve Nominal Diameter		Actuator Size					
		15		25		50	
In.	**DN**	PSI	Bar	PSI	Bar	PSI	Bar
0.50 & 0.75	20	595	41.0				
1.0	25	470	32.4				
1.5	40	120	8.2	740	51.0		
2.0	50	120*	8.2*	590	40.6		
3.0	80			110**	7.5**	740	51.0
4.0	100					740	51.0

[1] Maximum differential pressure based on full area trims, PTFE packing, air-to-open setting, flow over and air pressure supply of 60 PSI (4.1 Bar).
[2] For throttling control applications, the actuator stiffness must be considered.
[3] Do not exceed the valve pressure class limits.
* With 1.38" trim. **With 1.80" trim

GXL Control Valve
Actuators, Specifications



Linear Actuator, LA-XL Series

High interchangeability - Reduces the need of spare parts.

Compact and light design - Facilitates handling and occupies less space.

Actuators

The piston-cylinder linear actuators with LA-XL Series failsafe spring are characterized by high performance, actuator power and great control response. Designed to operate with supply pressure of up to 150 psi (10.3 bar), they are provided with inner springs for air failure action and are field reversible, for either Air-to-Open or Air-to-Close, without the need of additional parts. The positioner directs air to both cylinder chambers simultaneously, maintaining exceptional stiffness. This pneumatic stiffness of the piston-cylinder actuator is incomparable when a precise control of the valve is required, even in positions close to shutdown.

The piston-cylinder actuators present various advantages in relation to traditional diaphragm actuators, such as: High frequency response; Dynamic positioning response due to the air in both sides of the piston; Great actuator thrust due to the use of air pressure of up to 150 psi (10.3 bar); Compact, light, easy maintenance and high durability; No use of diaphragms bound to fatigue and/or rupture.

Actuator Specifications

Type	■ Double-acting piston-cylinder with fail-safe spring. ■ Field reversible
Sizes	■ 15, 25, 50
Action	■ Air-to-Open ■ Air-to-Close ■ Fixed at last position
Supplier Pressure	■ Maximum 150 psi ■ Maximum 10.3 Bar
Service Temperature	■ -40˚ to 350˚F ■ (-40˚ to 175˚C)
Positioner	■ Chronos Digital IDP7600 ■ Electro-pneumatic HPP 2000/ IP 100 ■ Pneumatic HPP 2000
Auxiliary handwheels	■ Top mounted

GXL Control Valve
Chronos™ IDP7600 Digital Positioner

Chronos IDP7600

The Chronos IDP7600 Digital Positioner is an advanced electro-pneumatic industrial valve positioning device with HART® (Highway Addressable Remote Transducer) protocol for remote communication.
The superior control technology is provided by a high-speed microprocessor, proven control algorithms and robust relay, and guarantees that the Chronos IDP7600 positioner will give high responsiveness and precise control.

The modular architecture of the Chronos positioner separates the pneumatic and electronic components. Robust and compact, it allows for quick assembly, and easy configuration and calibration using a local interface or software tools based on EDDL® and FDT/DTM® open technologies.

GXL Control Valve
Chronos IDP7600 Digital Positioner

The Chronos positioner was designed for harsh environments with internal, encapsulated components and positive pneumatic bleed pressure. It is assembled with a high strength explosion proof housing, the standard model manufactured in copper-free aluminum alloy with electrostatic-resistant paint. Or choose the 300 series stainless steel housing for the ultimate protection against the most corrosive environments.

The dual pneumatic relay system is equipped with a high flow capacity (CV) pilot valve for fast filling and exhausting of the actuator. This technology, in combination with advanced positioning algorithms, allows efficient control of both small and large set-point adjustment changes, leading to optimal process control efficiency.

Local Interface

The local interface of the Chronos positioner consists of an LCD (Liquid Crystal Display) and 4 pushbuttons for navigation. This interface is simple and user-friendly. It allows for quick access to calibrate, configure, monitor status, and view alarms.

This local interface is explosion proof to function even in hazardous areas. A sophisticated detection mechanism prevents any button failure or sticking from causing any false inputs.

Buttons cover closed

Buttons cover open

GXL Control Valve
Chronos IDP7600 Digital Positioner

Characteristics

The Chronos positioner main features are:

- HART® communication protocol, version 7.
- Temperature and pressure sensors.
- Large and backlit graphical LCD display.
- High bright warning LEDs.
- Quick setup assistant menu.
- Local interface with protected setup buttons.
- DTM with diverse setup parameters, graphics and diagnosis.
- Configurable characterization curve.
- Autocalibration and autotune.
- Automatic or manual gain adjustment of the local PID control.
- Execution of diverse signatures tests, such as ramp test (with friction analysis), step test, multi step test and the valve partial stroke test.
- RFI and EMI immune.
- Explosion proof housing Exd IIC T5/T6 (IECEx/ATEX/ INMETRO), IP66.
- Advanced technology two-stage relay.
- Modular design, with the electronic part separated from the pneumatic part.

Advantages and Benefits

The Chronos positioner main advantages and benefits are:

- Multilingual texts and messages in plain language.
- Precise control.
- Allows reading in dimly lit places.
- High responsiveness.
- Easy to assemble on a wide range of linear and rotary actuators.
- Fast setup and calibration processes.
- Upgradeable firmware.
- Excellent value for money.
- The setup does not require the use of personal computers or handhelds in most cases.
- When needed, maintenance tasks are simplified.
- Cut-off function.
- Assembly on ValtekSul actuators does not require additional manifolds.
- Robust, resistant.
- Manufacturing in metallic structure.

On-site Operation

On-site operations, such as setting parameters and executing automatic commands, can be performed on the Chronos positioner through its local interface. This interface consists of a generously sized graphical and multilingual LCD display. The display is back-lit for easy viewing even in dimly lit areas.
A set of bright green, yellow and red LEDs complement the information on the display and show operating alerts even from a distance.

Status information can be observed locally and is presented in plain language that does not require decoding.
All interface menu items can be accessed via four pushbuttons that operate with the positioner front cover closed. This allows access to the positioner without the use of a handheld calibrator or a personal computer.

Screen examples of the Chronos positioner local interface graphic display

GXL Control Valve
Chronos IDP7600 Digital Positioner

HART and DTM Communication

Each year, the number of field devices that are connected to control systems through various types of digital communication increases greatly. As these devices acquire more intelligence, the tasks of adjustment, configuration, commissioning, fault diagnostics, maintenance, among others, become increasingly complex for control systems, management tools, and users.

The FDT Group, formed by several manufacturers of control systems and field devices, has developed a software architecture where field devices can be managed on an open software platform, independent of specific control systems.

This software architecture, called FDT (Field Device Tool), allows a specific software component of a field device, called DTM (Device Type Manager), to be integrated with the control systems and management tools.

Chronos Positioner DTM

ValtekSul supplies the Chronos positioner DTM to be integrated into any open system that supports FDT/DTM® technology and HART® digital communication.

The well-organized and intuitive DTM page structure allows the user access to all of the Chronos positioner configuration parameters and its diagnostic and alert information. Additionally, the user can execute automatic commands such as signature tests and autocalibration.

The available DTM pages are:

- Dashboard
- Alert
- Configuration
- Gain control (Tuning)
- Signature tests
- Diagnostics
- Calibration
- Positioner setup
- Device information

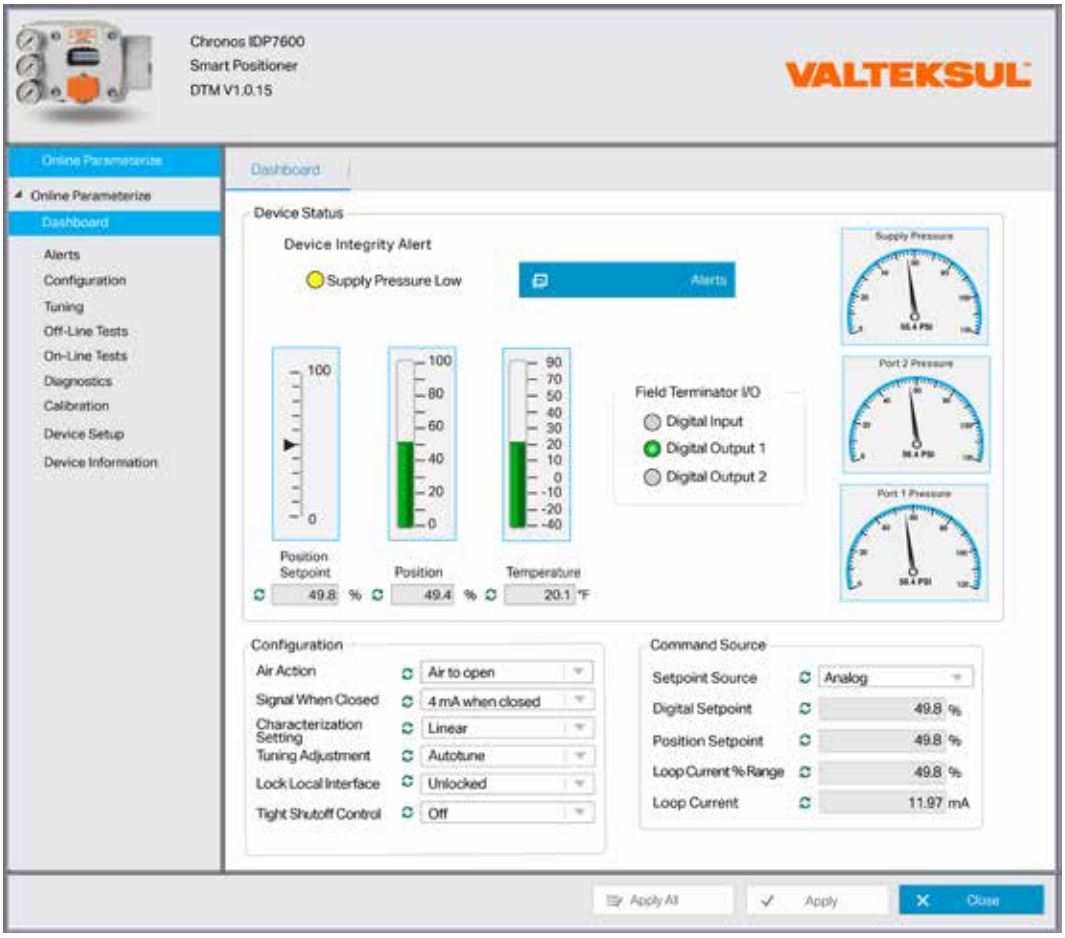
Dashboard

The Dashboard page presents general information about the valve and positioner. The page includes the status of the position set-point, current position, actuator pressure readings, main board temperature, I/O terminals, and the overall equipment integrity information including any activated error messages.

The page also presents the most relevant settings, such as air action, signal when closed, and characterization, and command source among others.

The following image represents the Chronos positioner DTM Dashboard page:

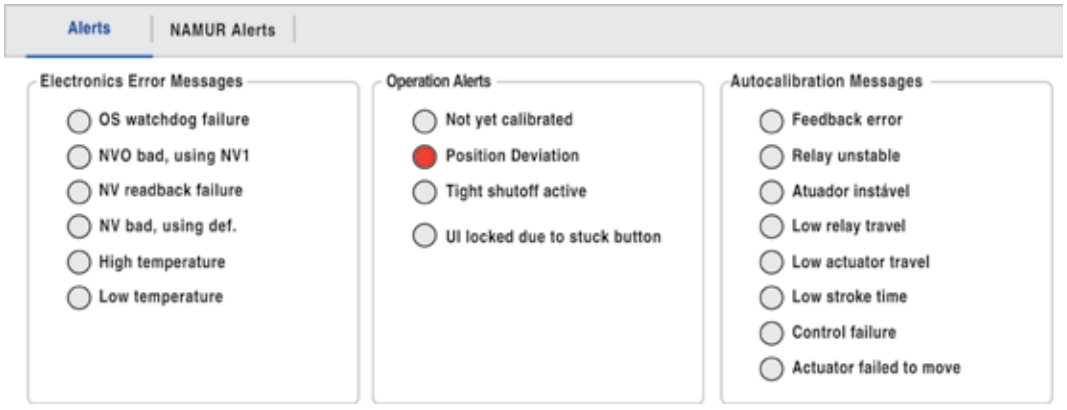
GXL Control Valve
Chronos IDP7600 Digital Positioner



Chronos positioner DTM Dashboard page

Alert

This page displays the status of alerts related to electronic board errors, operation and calibration alerts, as represented by the image:

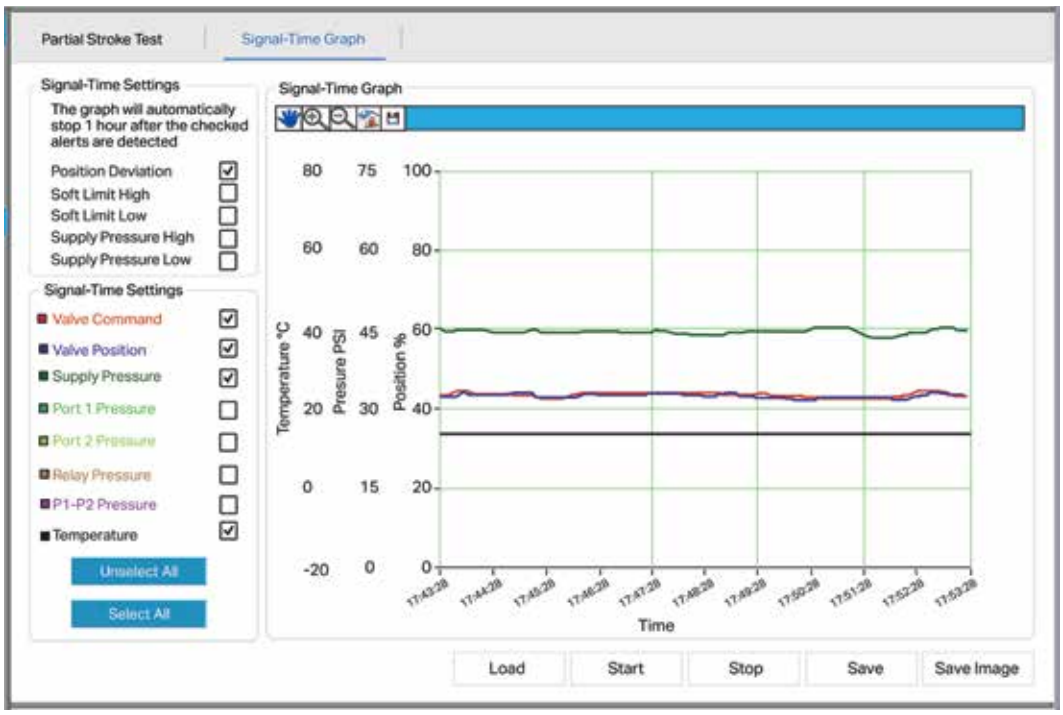


Chronos positioner DTM Alert page

GXL Control Valve
Chronos IDP7600 Digital Positioner

On-line Signature Tests

These pages allow for performing the partial stroke test (PST) and for monitoring the positioner signals while the valve is in service using the Signal-Time Graph. Each page collects position set-point, current position, pressure signals and other positioner signals. The Signal-Time Graph is represented by the following image:



Chronos IDP 7600 positioner DTM Signal x Time Graphic page

Diagnostics

This page features diagnostic information such as counters, offset configuration and stroke times.

Calibration

This page features auto-calibration performance, loop current calibration, and pressure sensor calibration, as well as counting information (zero current, null spool, MIN stem, and MAX stem).

Device Setup

This page features various Chronos positioner setup parameters, such as interface-related parameters (language, LCD orientation, etc.), date and time, and HART.

Device Information

This page displays Chronos positioner information parameters, such as HART network related parameters, optional features (licensed features, hardware options and main board revision) and version information (universal, field device, software and hardware).

Please consult the ValtekSul's Sales Engineering Department regarding the availability of the Chronos positioner enabled with pressure sensors.

For more information on the Chronos positioner, visit the website:

positioners.valteksul.com

or contact ValtekSul's Sales Engineering Department.

GXL Control Valve
Chronos IDP7600 Digital Positioner

HART and EDD Communication

EDDL (Electronic Device Description Language) is governed by an international standard (IEC-61804). It describes available features of a field device (such as a positioner) via an encoded EDD (Electronic Device Description) file.

The EDD file can describe any type of product (controllers, transmitters, positioners, among others). Its content differs based on the communication protocol and the product type. A control system can load the EDD file to present the user readable and organized data received from a product.

Chronos Positioner EDD

In addition to the DTM, ValtekSul supplies the Chronos positioner EDD file to be integrated into any system that supports the EDDL standard and the HART® digital communication.

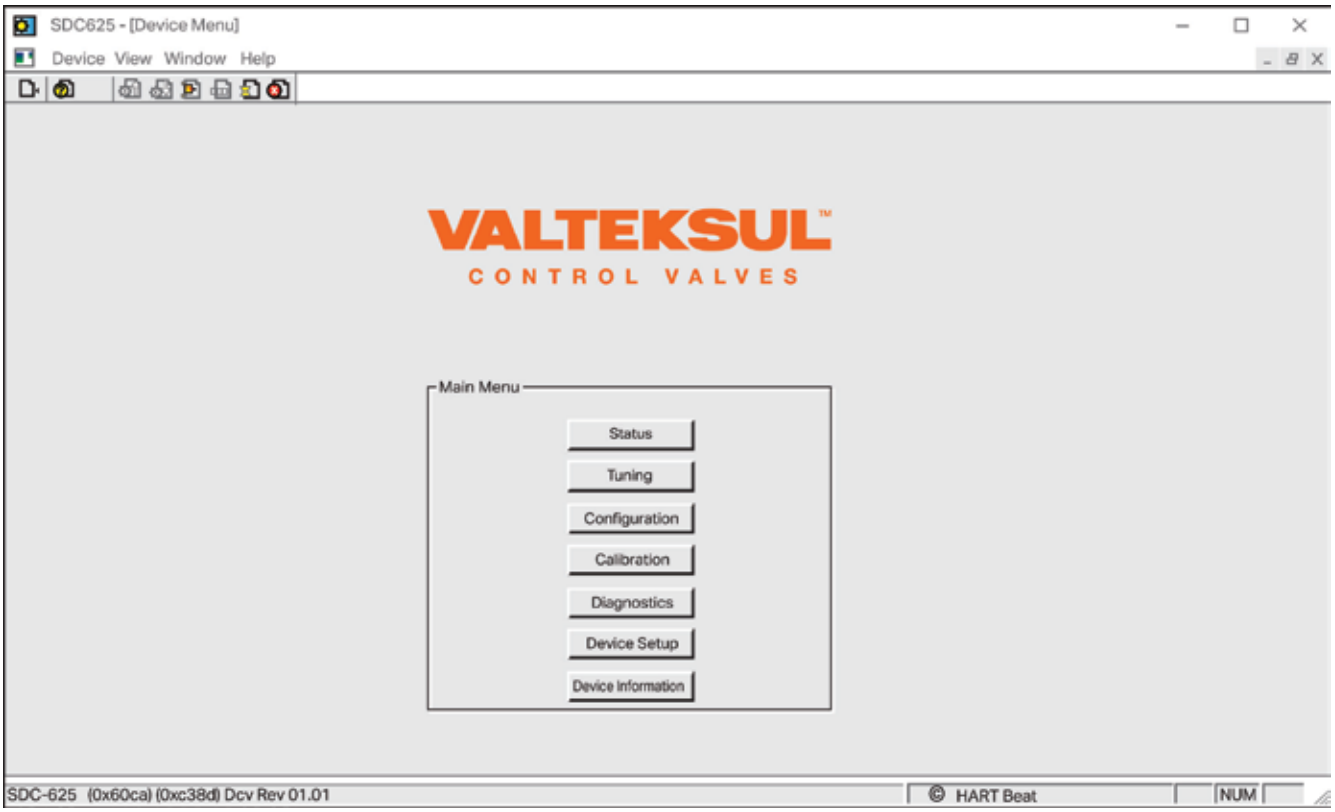
The page structure provided by the EDD file allows the user to access all Chronos positioner configuration parameters, and diagnostic and alert information. With it the user can execute automatic commands such as Autocalibration.

The pages provided by the Chronos positioner EDD file are:

- Main Menu
- Status
- Tuning
- Configuration
- Calibration
- Diagnostics
- Device Setup
- Device Information

Main Menu

The main menu presents links to the other available pages, as shown by the following image:



Chronos positioner EDD file Main Menu page

GXL Control Valve
Chronos IDP7600 Digital Positioner

General Information

The following table presents information on technical specifications and materials of construction for the Chronos positioner, while the subsequent table presents its performance data.

Chronos positioner technical specifications and manufacturing materials

Communication Protocol	■ HART®, version 7
Supply	■ 2 wires, loop powered, 4-20 mA, reverse polarity protected
Operating Current	■ 4-20 mA (3.8 mA minimum)
Load Voltage	■ 10.4 Vcc @ 20 mA (typical)
Equivalent Resistance	■ 520 Ω @ 20 mA (typical)
Characteristic	■ Linear, equal percentage or user defined curve by 21 points
Assembly	■ Linear actuator ■ Rotary actuator
Pneumatic Supply	■ Compressed air according to the ISA 7.0.01(1) standard or nitrogen
Supply Pressure	■ 30 to 120 psig (2.1 to 8.3 bar)
Operating Temperature	■ -4 to 185°F (-20 to 85˚C)
Humidity Range	■ 0 to 95% U. R. non-condensing

Housing Material	■ Injected aluminum with low copper content and polyester-based powder coating (standard) ■ 300 series stainless steel (optional)
Internal Components	■ Aluminum and 300 series stainless steel
Soft Parts	■ Buna-N, silicone
Hazardous Areas Certification	■ Explosion proof, flameproof and nonincendive housing - IECEx / ATEX / INMETRO
Housing Protection Class	■ IP66
Electrical Connections	■ 1/2" - 14 NPT (standard) ■ M20 x 1.5 (optional)
Pneumatic Connections	■ 1/4" - 18 NPT ■ 1/8" - 27 NPT (manometer)
Weight	■ Aluminum version: 9.6 pounds (4. kg) ■ Stainless version: 20.6 pounds (9.4 kg)
Dimensions	■ 8.4 x 5.7 x 65 in. (22 x 15 x 17 cm)

(1) Supply air dew point must be at least 18°F (10°C) below ambient temperature, the amount of oil must not exceed one part per million, and solid particle size should be less than 5 microns (1 micron is recommended).

Chronos positioner performance data

Air Flow	■ 14 scfm @ 60 psig (22.5 Nm^3/h @ 4.1 barg)
Constant Air Consumption	■ 0.6 scfm @ 60 psig (< 1.0 Nm^3/h @ 4.1 barg)
Dead Band	■ < 0.2% S.F. (1)

Repeatability	■ < 0.05% F.S.
Linearity	■ < 0.8% F.S. (linear actuators) ■ < 0.5% F.S. (rotary actuators)
Temperature Effects	■ ± 0.04% F.S./˚F (± 0.08% F.S. / ˚C)
Maximum Vibration	■ 4G (5 to 15 Hz) / 2G (15 to 2000 Hz)
Assembly Orientation Effect	■ Negligible

(1) S.F. = Scale Factor

GXL Control Valve
Chronos IDP7600 Digital Positioner

Model Encoding

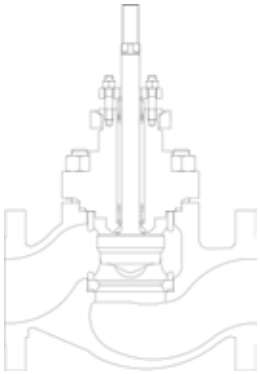
PROTOCOL		
6	HART® 7	
DIAGNOSTICS		
0	Standard	
1	Advanced diagnosis (with pressure sensors)	
HOUSING		
0	Aluminum with gray polyester-based paint (ValtekSul standard) and LCD display	
1	Aluminum with gray polyester-based paint (ValtekSul standard) and blind cover	
–	**CERTIFICATION**	
G	General Use	
E	Explosion Proof	
SHAFT		
D	Standard D in stainless steel AISI-316 (UNS S 31600)	
ELECTRICAL CONNECTION		
I	1/2" NPT	
M	M20	
–	**ACTION**	
40	4-ways (double action)	
4V	4- ways with vent (double action)	
TEMPERATURE		
S	Standard Operating Temperature (-20°C to +85°C)	
GAUGES		
SB	Stainless steel with brass inner (psi/bar)	
SS	Stainless steel with stainless steel inner (psi/bar)	
–	**SPECIAL CIRCUITS**	
00	No special options	

IDP7	6	0	0	-	G	D	I	-	40	S	SB	-	00

DTM Page	Functionality	Chronos IDP7600
Dashboard	Device Status	✓
	Configuration	✓
	Command Source	✓
	Alerts Shortcuts	✓
	Device Integrity	✓
Alerts	Electronics Error Messages	✓
	Operation Alerts	✓
	Autocalibration Messages	✓
Configuration	Air Action	✓
	Setpoint Source	✓
	Feedback Direction	✓
	Tight Shutoff	✓
	Soft Limits	✓
	Digital Output Switch 1	✓
	Digital Output Switch 2	✓
	Analog Output (4-20 mA)	✓
	Characterization Setting	✓
	Custom Characterization	✓
	Characterization Graph	✓
Tuning	Tuning Adjustment	✓
	PID Gains	✓

DTM Page	Functionality	Chronos IDP7600
Signature Tests	Ramp Test	✓
	Step Test	✓
	Multi-Step Test	✓
	Partial Stroke Test	✓
	HDRL Test	✓
Diagnostics	Time Near Extremes	✓
	Operating Hours	✓
	Travel Statistics	✓
	Position Deviation	✓
	Counter Setup	✓
	Signal-Time Graph	✓
	Temperature Graph	✓
	Stroke Times	✓
	Supply Pressure	✓
Calibration	Autocalibration	✓
	Pressure and Friction Calibration	✓
Device Setup	Interface	✓
	Time and Date	✓
	HART®	✓
Device Information	HART® Information	✓
	Optional Features	✓
	Revision Numbers	✓

GXL Control Valve
Flow Coefficients: C_V

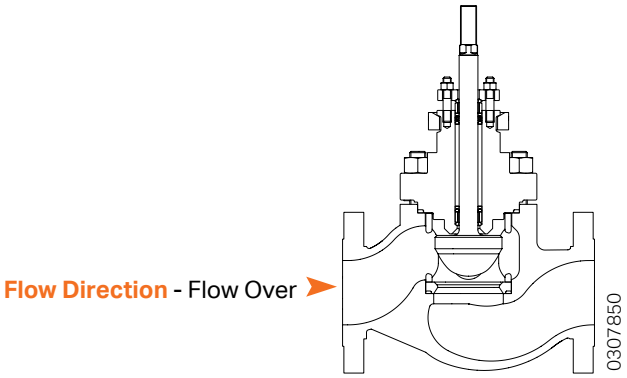


Flow Coefficient (C_v) - Equal Percentage

Valve Nominal Diameter (in.)	Nominal Trims Size T.N.	Stroke		Opening Percentage									
		in.	mm	100	90	80	70	60	50	40	30	20	10
0.50 (1) & 0.75 (1) & 1.0	16 (0.63)	0.75	19.05	9.1	8.4	6.6	4.6	3.0	2.3	1.58	0.95	0.59	0.32
	13 (0.51)	0.75	19.05	6.7	6.1	4.8	3.2	2.0	1.60	1.02	0.65	0.39	0.25
	10 (0.38)	0.75	19.05	4.1	3.6	2.8	1.70	1.34	0.85	0.45	0.28	0.160	0.103
	8 (0.30)	0.75	19.05	2.3	2.0	1.26	0.94	0.68	0.45	0.24	0.155	0.116	0.071
	6.5-16 (0.25-16)	0.75	19.05	1.89	1.75	1.16	0.87	0.55	0.33	0.198	0.133	0.083	0.057
	6.5-14 (0.25-14)	0.75	19.05	1.19	1.17	0.89	0.59	0.35	0.22	0.122	0.081	0.048	0.022
	6.5-12 (0.25-12)	0.75	19.05	0.65	0.65	0.51	0.33	0.21	0.122	0.078	0.050	0.025	0.008
	6.5-10 (0.25-10)	0.75	19.05	0.31	0.28	0.22	0.155	0.101	0.077	0.053	0.032	0.020	0.007
1.0	21 (0.83)	0.75	19.05	14.7	13.4	10.6	7.6	4.6	3.1	2.7	1.99	1.52	1.00
	18 (0.71)	0.75	19.05	11.4	10.0	7.6	5.2	3.3	2.6	1.96	1.40	0.95	0.60
1.5	35 (1.38)	0.75	19.05	36	33	28	20	13.3	8.7	6.5	4.6	3.0	2.0
	27 (1.07)	0.75	19.05	19.9	18.0	15.1	11.3	7.4	4.7	3.4	2.5	1.63	1.10
	21 (0.83)	0.75	19.05	11.8	10.5	8.2	5.8	3.7	2.4	1.62	0.97	0.63	0.30
	18 (0.71)	0.75	19.05	9.9	8.7	6.8	4.8	3.1	2.0	1.35	0.81	0.53	0.25
	16 (0.63)	0.75	19.05	8.3	7.2	5.6	3.9	2.7	1.79	1.22	0.68	0.42	0.23
	13 (0.51)	0.75	19.05	6.0	5.2	4.0	2.9	1.95	1.30	0.88	0.49	0.31	0.169
	10 (0.38)	0.75	19.05	3.6	2.8	1.89	1.39	1.21	0.85	0.57	0.30	0.178	0.107
	8 (0.30)	0.75	19.05	1.99	1.55	1.06	0.78	0.68	0.48	0.32	0.166	0.100	0.060
2.0	46 (1.80)	0.75	19.05	48	43	35	26	16.9	11.8	9.4	6.2	4.0	2.7
	35 (1.38)	0.75	19.05	35	31	25	18.0	11.6	7.5	5.9	4.1	2.6	1.76
	27 (1.07)	0.75	19.05	21	18.6	15.4	11.3	7.5	4.7	3.3	2.5	1.59	1.07
	21 (0.83)	0.75	19.05	13.1	11.8	9.4	6.7	4.2	2.7	2.1	1.40	0.90	0.62
	18 (0.71)	0.75	19.05	9.4	8.4	6.5	4.5	2.8	2.1	1.50	0.93	0.55	0.33
3.0	72 (2.83)	1.50	38.10	117	106	95	85	67	43	25	18.1	11.4	6.5
	56 (2.20)	1.50	38.10	84	78	71	59	43	26	14.3	9.4	6.8	4.0
	46 (1.80)	1.50	38.10	62	54	43	28	18.7	12.4	9.9	6.7	4.3	3.0
4.0	94 (3.70)	1.50	38.10	185	174	159	134	99	59	36	27	20	13.3
	72 (2.83)	1.50	38.10	142	132	119	95	67	42	26	17.5	12.2	7.9
	56 (2.20)	1.50	38.10	101	93	80	61	39	23	14.5	11.3	7.2	4.5

(1) For valves with nominal diameter of 0.5 in., the largest trim size available is T/N 13 (0.51)
(2) For valves with nominal diameter of 0.75 in., the largest trim size available is T/N 16 (0.63)
(3) For further information on flow coefficients (C_v) consult www.literature.valteksul.com

GXL Control Valve
Flow Coefficients: C_V

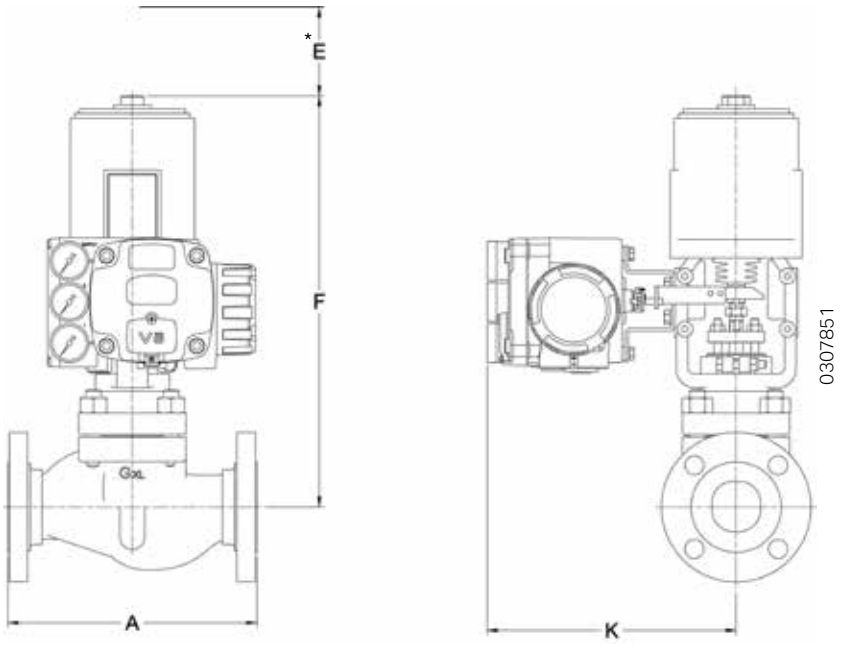


Flow Coefficient (C_v) - Linear

Valve Nominal Diameter (in.)	Nominal Trims Size T.N.	Stroke		Opening Percentage									
		in.	mm	100	90	80	70	60	50	40	30	20	10
0.50 (1) & 0.75 (1) & 1.0	16 (0.63)	0.75	19.05	9.4	9.2	8.8	8.5	7.9	6.4	5.1	3.9	2.5	1.34
	13 (0.51)	0.75	19.05	7.6	7.3	6.7	6.1	5.3	4.4	3.6	2.6	1.85	0.82
	10 (0.38)	0.75	19.05	4.6	4.5	4.3	3.7	3.3	2.9	2.2	1.74	1.13	0.52
	8 (0,30)	0.75	19.05	2.4	2.3	2.1	1.89	1.73	1.46	1.13	0.87	0.57	0.29
	6.5-58 (0.25-58)	0.75	19.05	1.87	1.84	1.79	1.60	1.38	1.17	0.92	0.66	0.42	0.176
	6.5-56 (0.25-56)	0.75	19.05	1.45	1.36	1.22	1.11	0.95	0.82	0.68	0.50	0.35	0.189
	6.5-46 (0.25-46)	0.75	19.05	0.49	0.47	0.43	0.38	0.31	0.26	0.21	0.149	0.092	0.050
	6.5-42 (0.25-42)	0.75	19.05	0.30	0.27	0.25	0.22	0.191	0.164	0.134	0.101	0.068	0.035
	6.5-34 (0.25-34)	0.75	19.05	0.150	0.140	0.120	0.110	0.098	0.085	0.072	0.059	0.046	0.032
	6.5-26 (0.25-26)	0.75	19.05	0.053	0.045	0.038	0.031	0.025	0.019	0.013	0.008	0.004	0.001
	6.5-12 (0.25-12)	0.75	19.05	0.014	0.012	0.010	0.008	0.006	0.005	0.003	0.002	0.001	0.000
1.0	21 (0.83)	0.75	19.05	17.4	16.8	16.1	15.1	13.5	10.8	8.3	6.1	3.6	1.87
	18 (0.71)	0.75	19.05	13.4	13.0	12.2	10.8	9.0	7.3	5.7	4.3	2.7	1.22
1.5	35 (1.38)	0.75	19.05	32	31	29	26	24	20	16.5	12.6	8.2	3.8
	27 (1.07)	0.75	19.05	23	23	21	19.7	17.6	15.1	12.3	9.3	6.0	2.8
	21 (0.83)	0.75	19.05	16.1	15.7	15.0	13.9	12.3	10.4	8.3	6.2	4.0	2.1
	18 (0.71)	0.75	19.05	12.1	11.6	10.7	9.1	7.7	6.2	4.9	3.8	2.4	1.31
	16 (0.63)	0.75	19.05	10.9	10.5	9.6	8.2	7.0	5.6	4.5	3.5	2.2	1.18
	13 (0.51)	0.75	19.05	7.5	7.4	6.5	5.6	5.0	4.4	3.6	2.8	1.92	0.96
	10 (0.38)	0.75	19.05	4.6	4.5	4.0	3.5	3.0	2.7	2.2	1.70	1.17	0.59
	8 (0.30)	0.75	19.05	2.4	2.3	2.1	1.90	1.75	1.48	1.22	0.93	0.61	0.28
2.0	46 (1.80)	0.75	19.05	54	52	49	46	41	35	28	21	13.4	6.2
	35 (1.38)	0.75	19.05	36	34	32	30	26	23	17.9	13.4	8.6	4.2
	27 (1.07)	0.75	19.05	25	24	23	21	18.8	15.9	12.7	9.4	6.0	2.8
	21 (0.83)	0.75	19.05	16.7	16.1	15.3	14.0	12.4	10.4	8.3	6.2	4.0	2.1
	18 (0.71)	0.75	19.05	11.9	11.4	10.5	8.9	7.6	6.2	4.9	3.8	2.4	1.29
3.0	72 (2.83)	1.50	38.10	126	123	120	114	106	90	77	61	41	19.0
	56 (2.20)	1.50	38.10	84	82	77	73	66	57	47	35	23	13.5
	46 (1.80)	1.50	38.10	64	61	57	52	46	38	30	23	15.3	7.2
4.0	94 (3.70)	1.50	38.10	203	193	185	173	161	139	107	70	32	16.8
	72 (2.83)	1.50	38.10	146	142	134	123	110	93	74	53	35	17.0
	56 (2.20)	1.50	38.10	115	106	97	87	76	65	53	40	27	13.7

(1) For valves with nominal diameter of 0.5 in., the largest trim size available is T/N 13 (0.51)
(2) For valves with nominal diameter of 0.75 in., the largest trim size available is T/N 16 (0.63)
(3) For further information on flow coefficients (C_v) consult www.literature.valteksul.com

GXL Control Valve
Dimensions - Valves with Actuator and Chronos Positioner



Dimensions

Valve Nominal Diameter (in.)	A				F						K						E*	
	ANSI Standard				Actuator Size						Actuator Size						Clearance for Disassembly	
	150		300		15		25		50		15		25		50			
	mm	in.	mm	in.	mm	in.	mm	in.	mm	in.	mm	in.	mm	in.	mm	in.	mm	in.
1/2 & 3/4	184	7.3	194	7.6	410	16.1					175	6.9					97	3.8
1.0	184	7.3	197	7.8	410	16.1					175	6.9					97	3.8
1.5	222	8.8	235	9.3	420	16.5					175	6.9					152	6.0
2.0	254	10.0	267	10.5	420	16.5	445	17.5			175	6.9	203	8.0			152	6.0
3.0	298	11.8	318	12.5			518	20.4	597	23.5			203	8.0	206	8.1	203	8.0
4.0	353	13.9	368	14.5					628	24.7					206	8.1	203	8.0

* Clear space for disassembly of standard actuator. ** For HPP2000 pneumatic positioner, reduce 6mm of K dimension.

The information and specifications contained in this literature are considered accurate. However, they are supplied for informative purposes and should not be considered certified. The products of Valtek Sulamericana are continually being improved and the specifications, dimensions and information contained in this catalogue are subject to change without notice. For additional information, please consult your Valtek Sulamericana representative. Specific assembly, operation and maintenance instructions for GXL Control Valves can be found at the Maintenance Catalogue nº 02.

Quality Management System

ISO 9001-2015

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THE CONTROL VALVES COMPANY

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