



GV Series Precision Globe Valves for Flow Control, Mixing, and Diverting



GV Precision Globe Control Valves

Assured Automation's GV Series Precision Globe Valves are constructed with rugged bronze or stainless steel bodies. They are available with a variety of plug styles and trim materials to suit nearly any application. These valves provide excellent modulating control for pressure, temperature, level, and flow of a wide variety of fluids in from -20 to 500°F.

MATERIALS

Body: Stainless Steel (CF8M) or Bronze

Seal and Trim: 316 SS, TFE, PEEK

Cage, Stem, & Seat Ring: 316 SS

Stem Packing: Teflon, Graphite, EPDM, Vacuum Service

END CONNECTIONS

- NPT 1/2" to 2"
- Butt Weld 1/2" to 2"

ACTUATORS

- Pneumatic Diaphragm
- Pneumatic Cylinder (*special order*)
- Electric
- Manual (*special order*)

SPECIFICATIONS

Temperature Range: -20°F to 500°F

Pressure Rating: see chart next page

TYPICAL APPLICATIONS

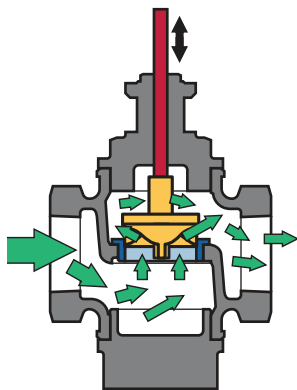
- Industrial process piping systems
- Chemical Processing
- Acid waste and wastewater systems
- Food and beverage
- Municipal pressure and gravity piping systems
- Power generation
- Oil refining
- Pharmaceutical
- Radiant heating systems

VALVE ASSEMBLIES

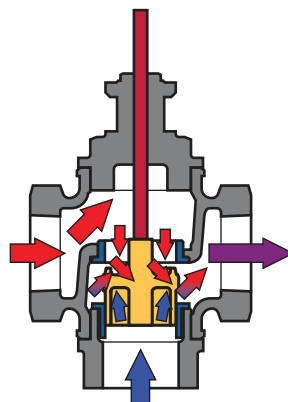
All GV control valves are shipped as complete valve assemblies including the valve, actuator, positioner (if selected), and solenoid valve (if selected). They are assembled and tested by qualified valve technicians before shipping.

3 DISTINCT FUNCTIONS

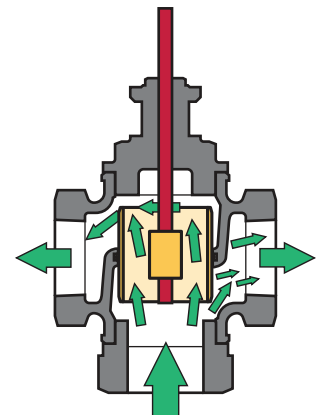
GV2F 2-way Flow Control



GV3M 3-way Mixing



GV3D 3-way Diverting





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Precision Globe Control Valves

FEATURES AND BENEFITS

Dual Point Bearing Stem Guiding provides both stability and low friction, resulting in the low hysteresis and precise control.

Threaded Bonnet provides easy access for inspection and maintenance

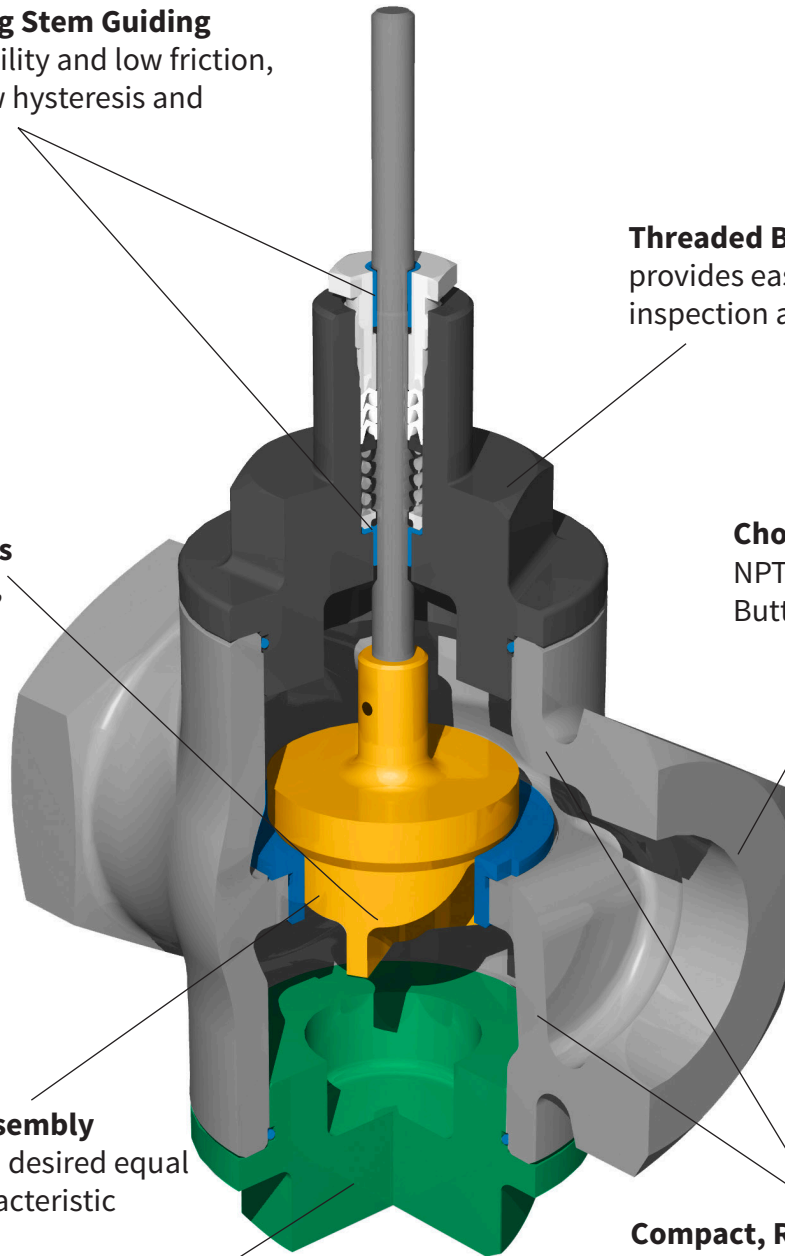
Standard Trim Choices
316SS, 17-4 pH, Alloy 6,
PEEK, and PTFE

Choice of Connections
NPT According to ANSI B16.15 or
Butt Weld Schedule 40

Port Guided Plug Assembly
provides stability and desired equal
percentage flow characteristic

Lower Plug
fills lower port on 2-way versions
yet still provides easy access for
inspection and maintenance

Compact, Rugged, Cast Body
made bronze or stainless steel
with a selection of port reductions to
provide precise control for a wide range
of flow rates





GV2F

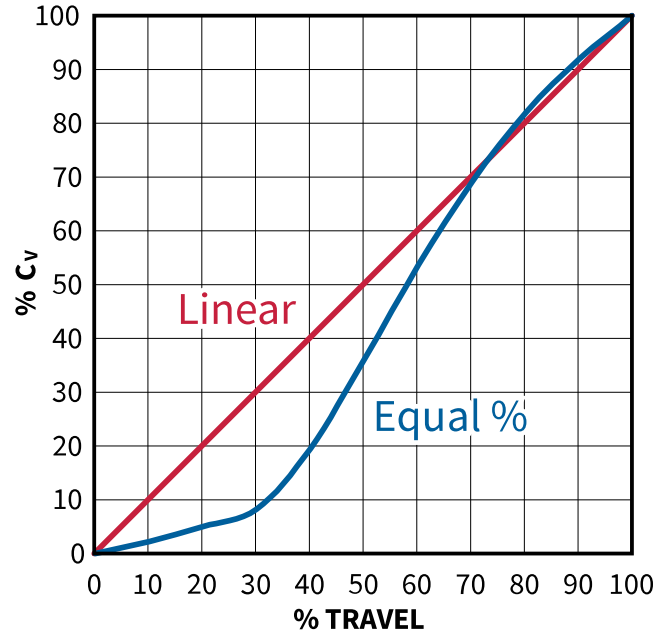


Precision 2-way Flow Control Globe Valves

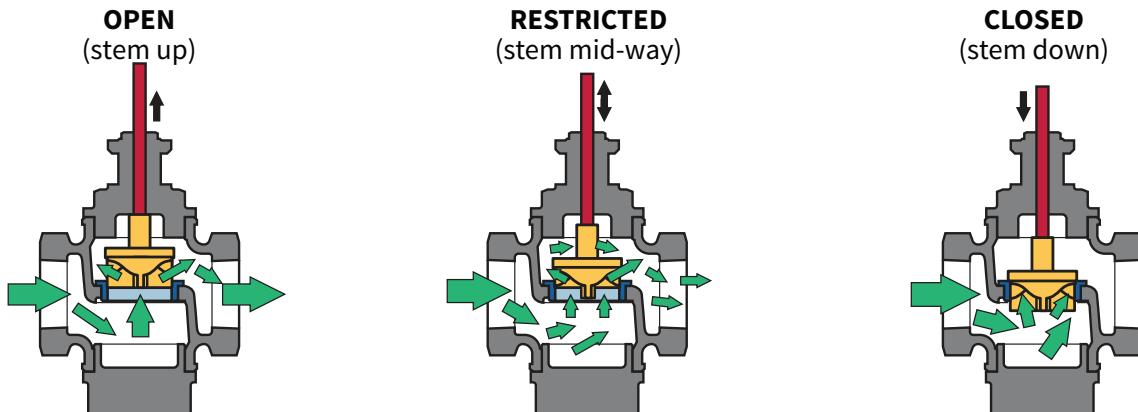
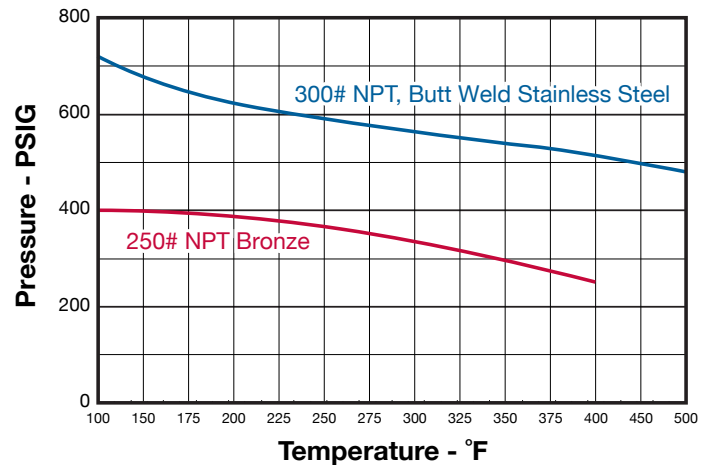
MAX. Cv VALUES

Valve Size	Trim Size	Cv
1/2"	=% Full	4.9
	=% 1st Reduction	3.2
	=% 2nd Reduction	1.5
	Linear	6.0
3/4"	=% Full	7.2
	=% 1st Reduction	5.5
	=% 2nd Reduction	3.3
	=% 3rd Reduction	1.5
1"	Linear	7.2
	=% Full	10.0
	=% 1st Reduction	8.6
	=% 2nd Reduction	6.0
	=% 3rd Reduction	3.4
	=% 4th Reduction	1.5
1 1/4"	Linear	10.0
	=% Full	16.0
	=% 1st Reduction	10.0
	=% 2nd Reduction	8.6
	=% 3rd Reduction	6.0
	=% 4th Reduction	3.4
1 1/2"	Linear	17.2
	=% Full	24.0
	=% 1st Reduction	16.0
	=% 2nd Reduction	10.0
	=% 3rd Reduction	8.6
	=% 4th Reduction	6.0
2"	Linear	18.0
	=% Full	40.0
	=% 1st Reduction	24.0
	=% 2nd Reduction	16.0
	=% 3rd Reduction	10.0
	=% 4th Reduction	8.6

TYPICAL FLOW CURVES



PRESSURE / TEMPERATURE CURVES





GV3M

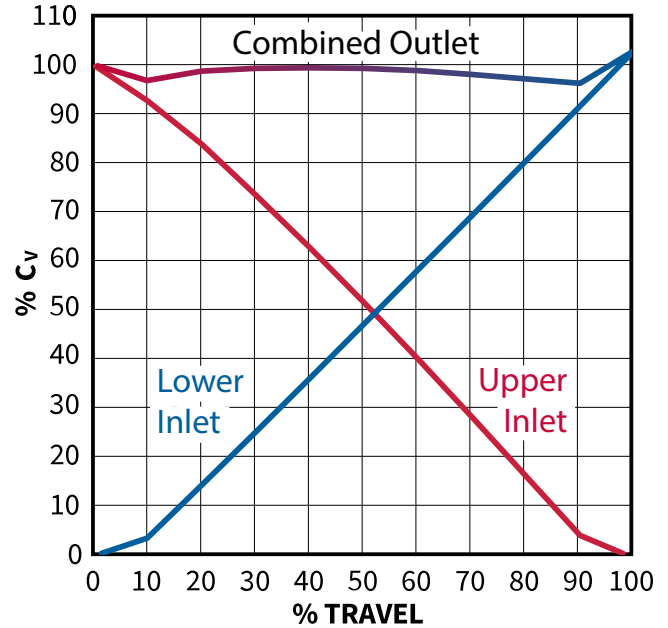


Precision 3-way Mixing Globe Valves

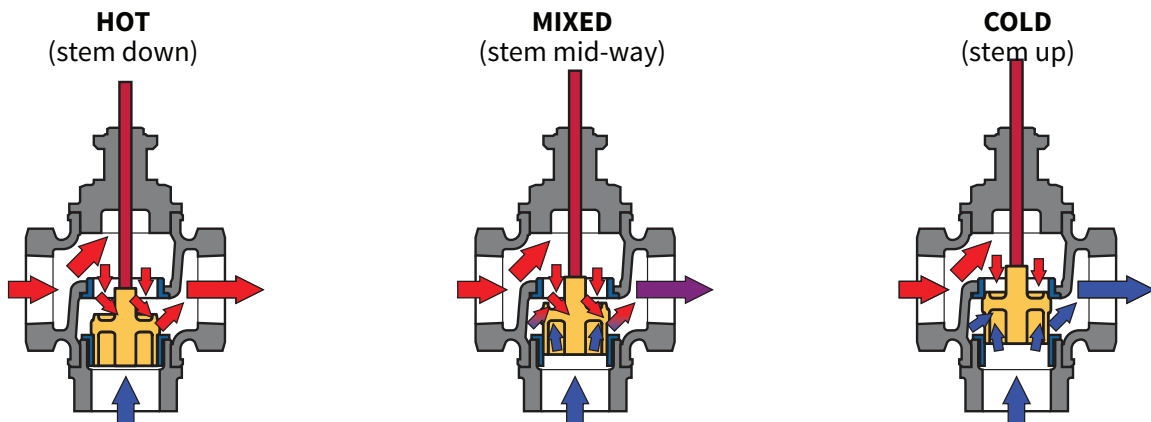
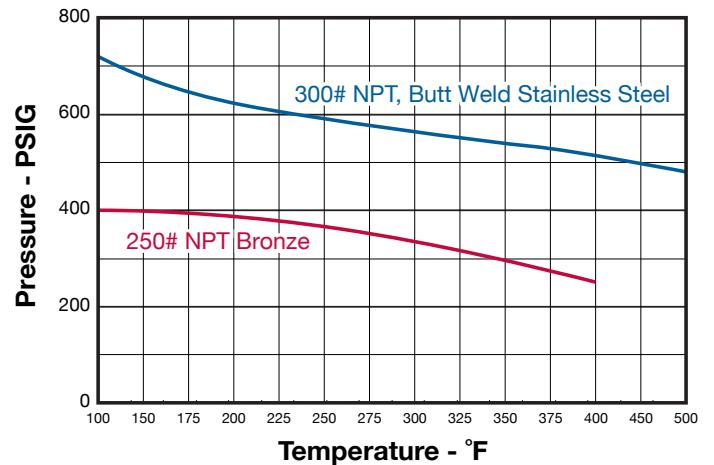
MAX. Cv VALUES

Valve Size	Trim Size	Cv
1/2"	=% Full	6.3
	=% 1st Reduction	4.0
	=% 2nd Reduction	2.0
	=% 3rd Reduction	1.0
3/4"	=% Full	8.2
	=% 1st Reduction	4.0
	=% 2nd Reduction	2.0
	=% 3rd Reduction	1.0
1"	=% Full	10.0
	=% 1st Reduction	4.0
	=% 2nd Reduction	2.0
	=% 3rd Reduction	1.0
1 1/4"	=% Full	18.5
1 1/2"	=% Full	20.0
	=% 1st Reduction	10.0
2"	=% Full	40.0
	=% 1st Reduction	20.0

TYPICAL FLOW CURVES



PRESSURE / TEMPERATURE CURVES





GV3D

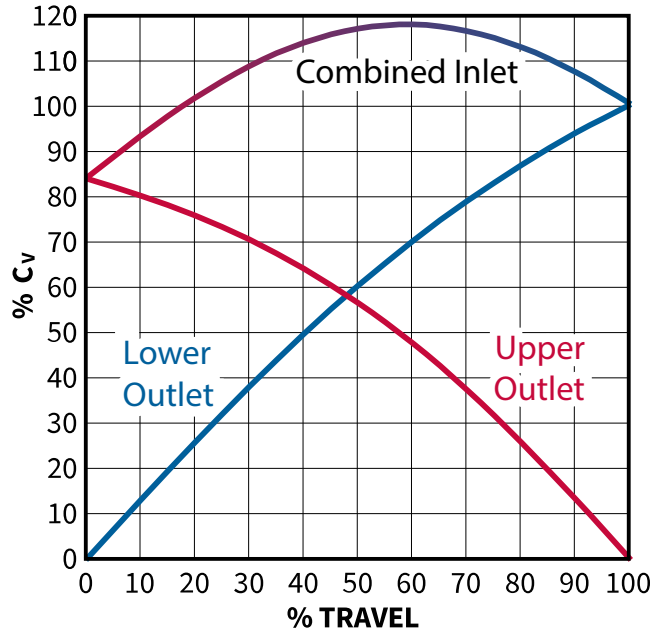


Precision 3-way Diverting Globe Valves

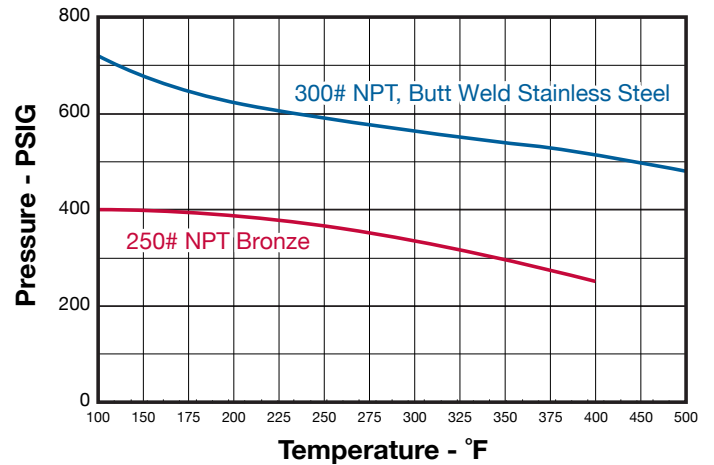
MAX. Cv VALUES

Valve Size	Trim Size	Cv (upper)	Cv (lower)
1"	Linear	12	15
1 1/2"	Linear	22	26
2"	Linear	40	47

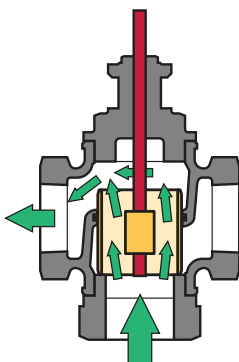
TYPICAL FLOW CURVES



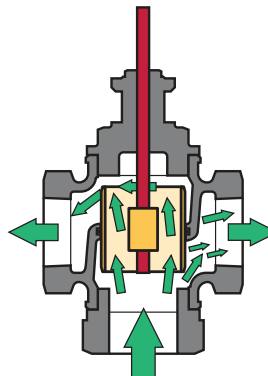
PRESSURE / TEMPERATURE CURVES



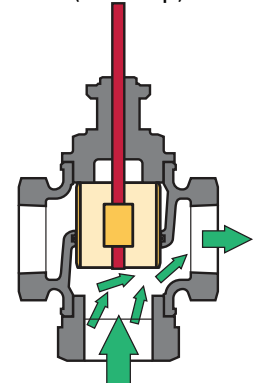
OUTLET 1
(stem down)



SPLIT
(stem mid-way)



OUTLET 2
(stem up)





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Precision Globe Control Valves

ACTUATORS

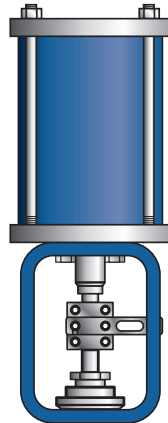
Pneumatic Diaphragm

Three sizes available in fail open or fail closed: 49 in² or 84 in². Hand wheel for manual override optional. Positioners and solenoid valves available.



Pneumatic Cylinder (special order)

3 sizes available in fail open or fail closed: 4" Ø, 6" Ø, and 8" Ø. Hand wheel for manual override optional. Positioners and solenoid valves available.



Electric Actuators

2 sizes available in fail-in-place, fail open, or fail closed: small frame, medium frame. IP65 enclosure standard and IP67 available. Manual override standard.



If you need assistance selecting the best actuator for your application, please call us at 1-800-899-0553

ACCESSORIES

Positioners

A variety of positioners are available. Choose from weatherproof, intrinsically safe, and explosion proof. Options include switches, 4-20mA, or both as feedback.

Solenoid Valves

Pneumatic actuators require a solenoid valve to control the air supply that drives the actuator. These can be ordered with the globe valve and will come installed and tested on the assembly.

Manual Overrides

These overrides allow the manual operation of the valve in case of an emergency, malfunction, or for any reason it may be required. They consist of a hand wheel and are mounted to the top of the actuator on the stem's centerline.

Limit Switches and Feedback Signals

Choose from switches, 4-20mA, or both when selecting a positioner.

Heaters

Available on electric actuators to prevent condensation.

Local Control Stations

Switch between the system control signal and a signal generated by the local control station to use up and down buttons to control the valve. Valve position is shown on a display.

Thermal and Acoustic Blankets

Custom fit jackets are available to retain heat and prevent it from radiating to the actuator which has a lower temperature rating than the valve. In many cases, this allows for installation with the actuator above the valve where it would otherwise not be possible due to heat. These blankets are also available with an additional layer for reducing the ambient noise.

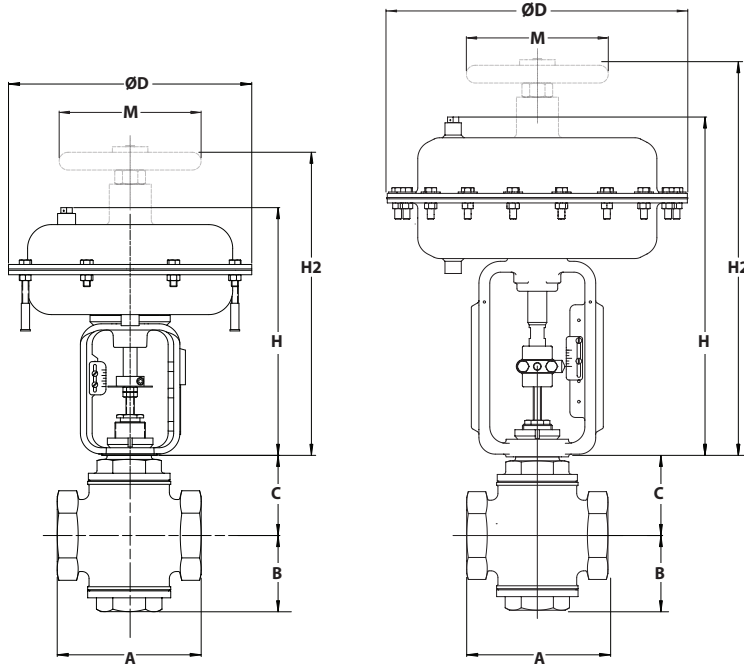


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Precision Globe Control Valves

DIMENSIONS with Pneumatic Actuators



Valve Weights (lbs.)

Size	250# NPT	300# NPT	300# BW
1/2" to 1"	8.5	8	9.5
1 1/4" to 1 1/2"	14.5	15.5	18
2"	18.5	19	22.5

Valve Dimensions (inches)

Dim.	Conn.	GV2F			GV3M			GV3D		
		1/2" to 1"	1 1/4" to 1 1/2"	2"	1/2" to 1"	1 1/4" to 1 1/2"	2 1/2"	1"	1 1/2"	2"
A	250# NPT	4.875	5.75	6.50	4.875	5.75	6.50	4.875	5.75	6.50
	300# NPT	5.00	6.125	6.50	5.00	6.125	6.50	5.00	6.125	6.50
	300# BW	15.375	16.875	17	15.375	16.875	17	15.375	16.875	17
B	250# NPT	2.75	3.25	3.625	2.72	3.81	4	3.47	3.813	3.75
	300# NPT	3.00	3.50	3.875	2.72	3.375	3.75	2.72	3.375	3.75
	300# BW	3.00	3.50	3.875	2.72	3.375	3.75	8.00	8.75	9.00
C	All	2.875	3.50	3.75	2.875	3.50	3.75	2.875	3.50	3.75

Actuator Dimensions (inches and lbs.)

Dim.	D4 (48 sq in.)		D8 (84 sq in.)	
	Fail Closed	Fail Open	Fail Closed	Fail Open
ØD	11	11	13.875	13.875
M	6.375	6.375	8.125	8.125
H	12.25	11.25	16.75	15.75
H2	16	13.75	24.125	24
Weight	25	25	48.5	48.5

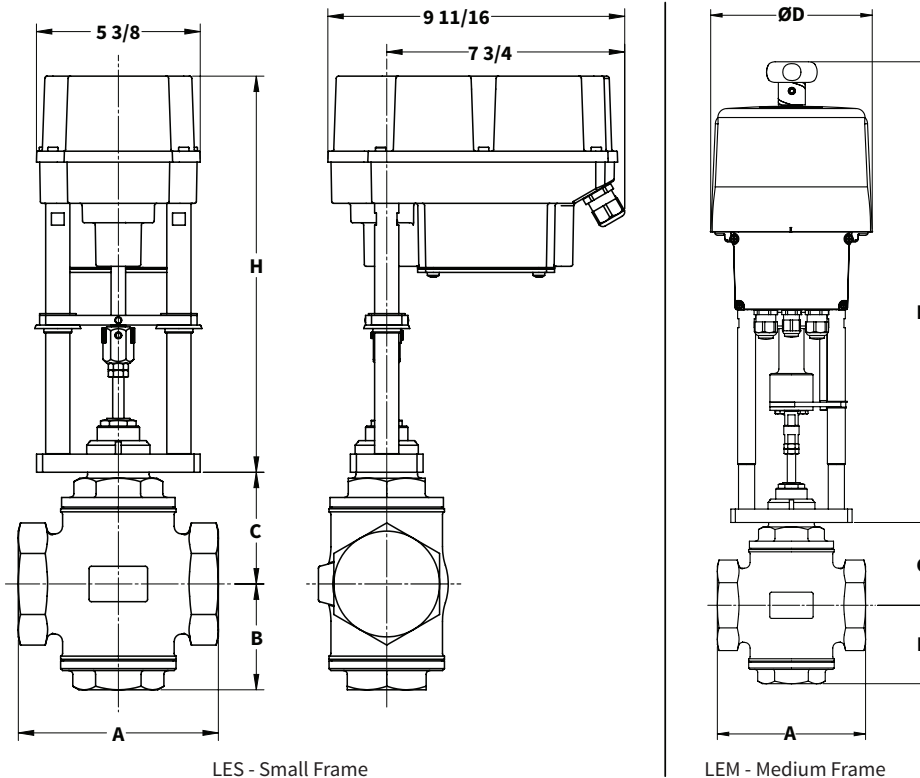


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Precision Globe Control Valves

DIMENSIONS with Electric Actuators



LES - Small Frame

LEM - Medium Frame

Valve Weights (lbs.)

Size	250# NPT	300# NPT	300# BW
1/2" to 1"	8.5	8	9.5
1 1/4" to 1 1/2"	14.5	15.5	18
2"	18.5	19	22.5

Valve Dimensions (inches)

Dim.	Conn.	GV2F			GV3M			GV3D		
		1/2" to 1"	1 1/4" to 1 1/2"	2"	1/2" to 1"	1 1/4" to 1 1/2"	2 1/2"	1"	1 1/2"	2"
A	250# NPT	4.875	5.75	6.50	4.875	5.75	6.50	4.875	5.75	6.50
	300# NPT	5.00	6.125	6.50	5.00	6.125	6.50	5.00	6.125	6.50
	300# BW	15.375	16.875	17	15.375	16.875	17	15.375	16.875	17
B	250# NPT	2.75	3.25	3.625	2.72	3.81	4	3.47	3.813	3.75
	300# NPT	3.00	3.50	3.875	2.72	3.375	3.75	2.72	3.375	3.75
	300# BW	3.00	3.50	3.875	2.72	3.375	3.75	8.00	8.75	9.00
C	All	2.875	3.50	3.75	2.875	3.50	3.75	2.875	3.50	3.75

Actuator Dimensions (inches and lbs.)

Dim.	LES (small frame)	LEM (medium frame)
ØD	not applicable - see drawing	7.125
H	13	20.25
Weight	12.5 lbs.	17.6 lbs.



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Precision Globe Control Valves

This is the complete specification for the VALVE BODY. Continue on next page to specify the actuator.

CONTROL VALVE ORDERING

To easily create a complete and correct model code, please visit our web site and use the configurator.

C	GV	2F	N	S	S	L	F	T
Size	Series	Func.	Conn.	Body	Trim Mat.	Trim Style	Flow Cap.	Packing

Line Size:

- C = 1/2"
- D = 3/4"
- E = 1"
- F = 1 1/4"
- G = 1 1/2"
- H = 2"

Series:

GV = Precision Globe Control Valve

Function:

- 2F = 2-way Flow Control
- 3M = 3-way Mixing
- 3D = 3-way Diverting

Connection:

- N = NPT (female)
- B = Butt weld

Body Material:

- B = Bronze
- C = Carbon Steel (WCB)

Trim & Seat Material:

- P = PEEK
- S = 316 Stainless Steel
- T = TFE

Flow Profile (trim style):

- E = Equal Percentage
- L = Linear

Flow Capacity: (chart values are Cv at 100% travel)

	2-way Flow Control	1/2"	3/4"	1"	1 1/4"	1 1/2"	2"
F =	=% Full	4.9	7.2	10.0	16.0	24.0	40.0
1 =	=% 1st Reduction	3.2	5.5	8.6	10.0	16.0	24.0
2 =	=% 2nd Reduction	1.5	3.3	6.0	8.6	10.0	16.0
3 =	=% 3rd Reduction	-	1.5	3.4	6.0	8.6	10.0
4 =	=% 4th Reduction	-	-	1.5	3.4	6.0	8.6
F =	Linear Full	6.0	7.2	10.0	17.2	18.0	37.0

	3-way Mixing	1/2"	3/4"	1"	1 1/4"	1 1/2"	2"
F =	Linear Full	6.3	8.2	10.0	18.5	20.0	40.0
1 =	Linear 1st Reduction	4.0	4.0	4.0	10.0	10.0	20.0
2 =	Linear 2nd Reduction	2.0	2.0	2.0	-	-	-
3 =	Linear 3rd Reduction	1.0	1.0	1.0	-	-	-

	1"		1 1/2"		2"	
	Upper	Lower	Upper	Lower	Upper	Lower
F =	12	15	22	26	40	47

Packing Type:

- E = EPDM
- G = Graphite
- T = Teflon
- V = Vacuum Service



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Precision Globe Control Valves

This is the complete specification for the ACTUATOR. Add this to the end of the code for the VALVE BODY on the page 9.

PNEUMATIC ACTUATOR ORDERING

To easily create a complete and correct model code, please visit our web site and use the configurator.

D4 C H - B4 M - R5/30 - A - H S

Actuator	Fail Pos	Springs	Pos.	Feedback	Air Filter	Sol.	Hand	Special
----------	----------	---------	------	----------	------------	------	------	---------

Pneumatic Actuator: _____

- D4** = 49 square inch Diaphragm
- D8** = 84 square inch Diaphragm

Fail Position: _____

- C** = Closed (*stem down on 3-ways*)
- O** = Open (*stem up on 3-ways*)

Spring Range: _____

- L** = Low (*standard on fail Open*)
- F** = Full (*consult factory*)
- H** = High (*standard on fail Closed*)
- (*Extra High Ranges are also available - consult factory*)

Positioner: _____

- 00** = none
- B0** = BLX pneumatic
- B4** = BLX Electro-pneumatic NEMA 4 weatherproof
- B1** = BLX Electro-pneumatic Intrinsically Safe
- B7** = BLX Electro-pneumatic NEMA 7 explosion proof
- S0** = Seimens pneumatic
- SI** = Seimens Electro-pneumatic Intrinsically Safe

Positioner Feedback: (*Positioner required... not available on B1 or B7 positioners*) _____

- (*omit*) = none
- M** = mechanical switches
- 420** = 4-20 mA signal
- M420** = mechanical switches and 4-20 mA signal

Air Filter Regulator: _____

- R5/30** = 5 micron, 0-30 psi
- R5/60** = 5 micron, 0-60 psi
- R5/120** = 5 micron, 0-120 psi
- R25/100** = 5 micron, 0-100 psi

Solenoid Valve: _____

- A** = 120VAC, 3-way, Brass, NEMA 4 weatherproof
- B** = 120VAC, 3-way, SS, NEMA 4 weatherproof
- J** = 120VAC, 4-way, Brass, NEMA 4 weatherproof
- K** = 120VAC, 4-way, SS, NEMA 4 weatherproof
- L** = 120VAC, 3-way, Brass, NEMA 7 explosion proof
- M** = 120VAC, 3-way, SS, NEMA 7 explosion proof
- V** = 120VAC, 4-way, Brass, NEMA 7 explosion proof
- W** = 120VAC, 4-way, SS, NEMA 7 explosion proof
- Z** = 24VDC, 3-way, Brass, NEMA 4 weatherproof

Hand Wheel Manual Override: _____

- (*omit*) = none
- H** = include a top-mounted hand wheel

Special Options: _____

- (*omit*) = none
- S** = SS tubing

This is the complete specification for the ACTUATOR. For the complete VALVE ASSEMBLY simply add this code to the VALVE BODY code generated on the previous page with a dash between them.

Example: (using selections from the top of BOTH pages)

CGV2FNSSLFT-D4CH-B4M-R5/30-A-HS



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Precision Globe Control Valves

This is the complete specification for the ACTUATOR. Add this to the end of the code for the VALVE BODY on the page 9.

ELECTRIC ACTUATOR ORDERING

To easily create a complete and correct model code, please visit our web site and use the configurator.

LES 12 U A
 Actuator Speed Fail Pos Voltage

Electric Actuator:

- LES** = Linear Electric Small frame
- LEM** = Linear Electric Medium frame

Speed:

- 06** = 6 seconds
- 12** = 12 seconds
- 21** = 21 seconds
- 85** = 85 seconds

Fail Position:

- L** = in place
- U** = up
- D** = down
- C** = capacitive - fail down
- C** = capacitive - fail up

Voltage:

- A** = 120 VAC
- B** = 24 VDC
- C** = 230 VAC
- E** = 24 VAC

This is the complete specification for the ACTUATOR. For the complete VALVE ASSEMBLY simply add this code to the VALVE BODY code generated on the previous page with a dash between them.

Example: (using selections from the top of BOTH pages)

CGV2FNSSLFT-LES12UA

Try it the Easy Way!

Use our online configurator to specify a complete valve assembly, get instant pricing, and purchase right then and there.

assuredautomation.com

