

GV-PB Flanged

Globe Valve, Pressure Balanced, ANSI 125#

Series 23/24

24 VAC Non-Spring / Spring

Description

The GV pressure balanced Series 23/24 electric assemblies are available in non-spring return and spring return two-way configurations 2½" - 6". Two-way assemblies are complete with cast iron body, bronze plug, PTFE packing, and mounted with a electric NEMA 2 actuator.

Operation

Valve assemblies with NEMA 2 electric actuators are powered by 24 VAC voltage (120 VAC spring return type). Each actuator is controlled by either on/off, floating or modulating commands. All actuators contain current limiting circuitry, or microprocessor overload protection. These brush-less DC motors give continuous rotary power for accurate, automatic, valve positioning. Factory mounted, tested, and calibrated these assemblies provide reliable valve positioning for temperature control.

Actuator Performance

Housing protection NEMA 2, indoor applications only

Agency approved listings C.S.A., CE, UL and ISO 9001

Power supply 24 VAC 50/60 Hz

Controls available are on/off, floating, or modulating

Manual override capabilities standard on each actuator

Visual position indicator which confirms valve travel

Approximate running time: 90/150 sec. open, 15 sec. spring close

Noise level: .45 DB maximum / Operating Temp: -40°F to +120°F

Electrical connection: 3 FT, 18 gauge plenum cable

Series 23 non-spring, Series 24 spring

2 year warranty



Standard Valve Construction

- 1 Body: Cast Iron
- 2 Connection: Flanged 125#
- 3 Seat: Forged Brass
- 4 Plug: Forged Brass
- 5 Stem: Stainless Steel
- 6 Packing: TFE / EPDM

Standard Valve Specifications

Service: Chilled or Hot Water, 50% Glycol, Steam

Flow Type: Equal Percentage

Contoured Seat Allows Maximum Flow Control

Stem Up Open Port A to AB

ANSI Class: 125 (up to 200 psi below 150°F)

Leakage ANSI Class IV

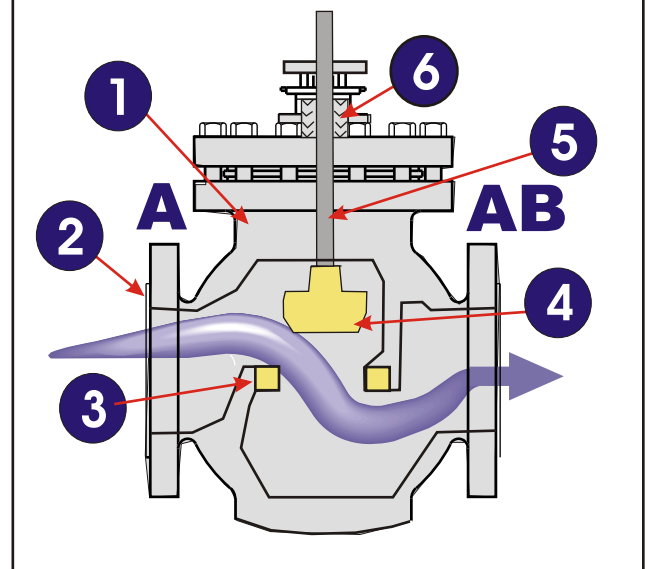
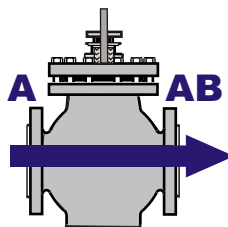
Maximum Inlet Pressure Steam: 35 psi

Media Temp. Range: 20°F to 281°F (-7°C to 138°C)

Pressure Balanced Trim for Higher Close Off

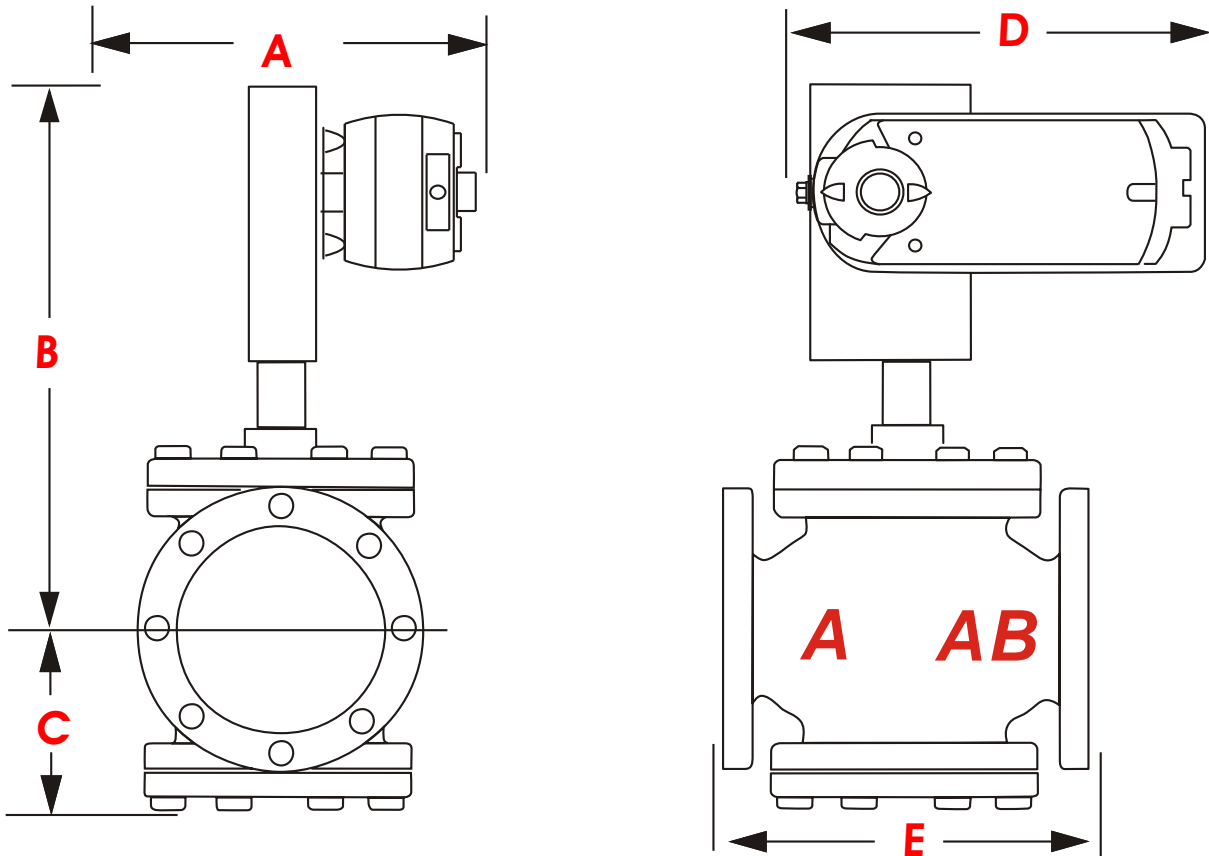
Flow Arrangement

Two-Way



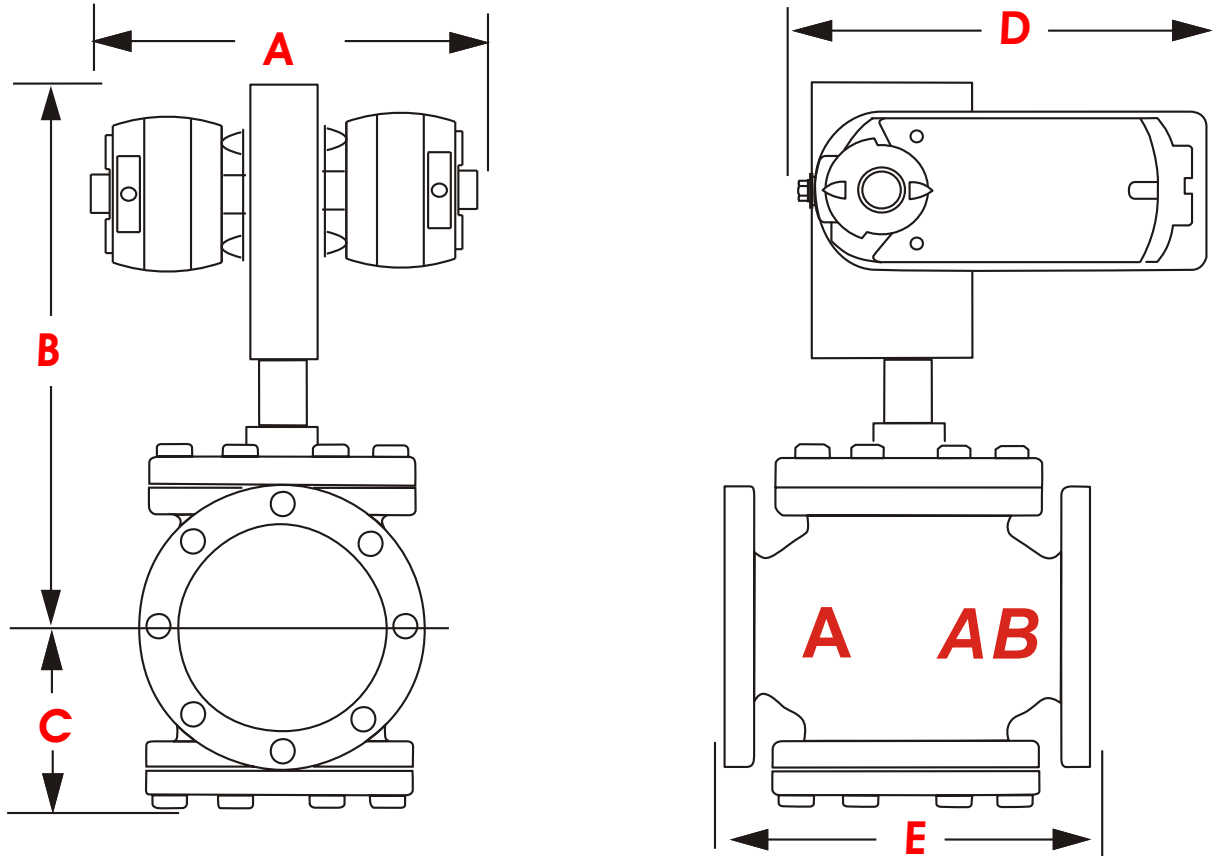
2-Way Non-Spring Return
Cast Iron Flanged 125# Body, Brass Trim

Dimensional Data



2-Way Standard Assembly, Cast Iron Body, Brass Plug, On/Off.
Modulating Service Change Last O to E in Model Number, For Accessories See page 4, Wiring under "Electrical Section" Series 23

Assembly Specification					Speed		VA Rating		23 Series Operator		Assembly Dimensions (Inches)				
Size in	C _v	Model Number	Close Psi	Wt. lb	Open (sec.)	Close (sec.)	on/off	mod.	on/off	mod.	A	B	C	D	E
2½"	56	GV2AHPX23O	125	91	150	150	6.0	6.0	GIB131	GIB161	8.0	20.0	4 ³ / ₈	14.0	8 ⁹ / ₁₆
3"	85	GV2BHPX23O	125	118	150	150	6.0	6.0	GIB131	GIB161	8.0	21.0	5.0	14.0	9½
4"	145	GV2CHPX23O	125	161	150	150	6.0	6.0	GIB131	GIB161	8.0	23.0	5¾	14.0	11½
5"	240	GV2DHPX23O	125	210	150	150	6.0	6.0	GIB131	GIB161	8.0	24.0	6.0	14.0	13.0
6"	370	GV2EHPX23O	125	290	150	150	6.0	6.0	GIB131	GIB161	8.0	26.0	6½	14.0	14.0

**2-Way Spring Return
Cast Iron Flanged 125# Body, Brass Trim**
Dimensional Data


2-Way Standard Assembly, Cast Iron Body, Brass Plug, On/Off.
Modulating Service Change Last O to E in Model Number, For Accessories See page 4, Wiring under "Electrical Section" Series 24

Assembly Specification					Speed		VA Rating		24 Series operator		Assembly Dimensions (Inches)				
Size in	C _v	Model Number	Close Psi	Wt. lb	Open (sec.)	Close (sec.)	on/off	mod.	on/off	mod.	A	B	C	D	E
2½"	56	GV2AHPX24O	125	100	90	15	16.6	19.0	(2)GCA121	(2)GCA151	11.0	20.0	4¾	14.0	8⅞
3"	85	GV2BHPX24O	125	127	90	15	16.6	19.0	(2)GCA121	(2)GCA151	11.0	21.0	5.0	14.0	9½
4"	145	GV2CHPX24O	125	170	90	15	16.6	19.0	(2)GCA121	(2)GCA151	11.0	23.0	5¾	14.0	11½
5"	240	GV2DHPX24O	125	225	90	15	16.6	19.0	(2)GCA121	(2)GCA151	11.0	24.0	6.0	14.0	13.0
6"	370	GV2EHPX24O	125	297	90	15	16.6	19.0	(2)GCA121	(2)GCA151	11.0	26.0	6½	14.0	14.0

GV-PB Flanged Series 23/24



Engineering / Order Code

Water Capacity Sizing Table in Gallons Per Minute, GPM

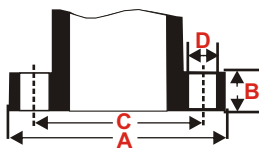
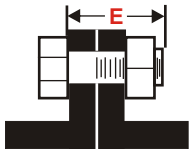
C _v	Size		Pressure Drop Across Valve									
	In	Config.	1 psi	2 psi	3 psi	4 psi	5 psi	6 psi	7 psi	8 psi	9 psi	10 psi
56	2-1/2"	2-way	56	79	97	112	125	137	148	158	168	177
85	3"	2-way	85	120	147	170	190	208	225	241	255	269
145	4"	2-way	145	204	251	290	325	355	384	410	435	458
240	5"	2-way	240	338	415	480	538	588	636	679	720	758
370	6"	2-way	370	521	640	740	829	907	981	1047	1110	1169

Saturated Steam Capacity Sizing Table in Pounds Per Hour (2-Way valves only)

Inlet pressure	3#		6#		9#		12#		15#	
	On/Off	Mod.	On/Off	Mod.	On/Off	Mod.	On/Off	Mod.	On/Off	Mod.
C _v	10% of P1 ΔP=0.3	80% of P1 ΔP=2	10% of P1 ΔP=0.6	80% of P1 ΔP=0.9	10% of P1 ΔP=0.9	80% of P1 ΔP=1.0	10% of P1 ΔP=1.2	80% of P1 ΔP=1.1	10% of P1 ΔP=1.5	80% of P1 ΔP=1.2
56	384	941	583	1488	761	1816	929	2171	1093	2463
85	583	1429	886	2259	1155	2757	1411	3295	1658	3738
145	994	2438	1511	3854	1971	4703	2406	5621	2829	5377
240	1645	4035	2500	6379	3262	7785	3983	9304	4683	10554
370	2536	6220	3855	9835	5028	12001	6140	14344	7219	16271

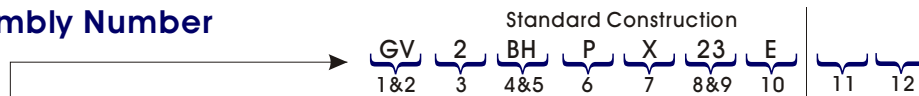
When sizing steam valves, different pressure drops are used depending on if the control valve is on/off or modulating. All inlet pressure columns have two sub columns. The left sub column is for on/off control and the right sub column is for modulating control. For on/off control, always use a minimum of 10% of inlet pressure (psig). The modulating control pressure drop takes into account the compressibility of high or low pressure steam for precision control. For modulating with less than 15 psig steam, it is best to use 80% of gauge inlet pressure. For higher pressure steam greater than 15 psig, it is best to use 42% of the absolute inlet pressure. To size the steam valve, determine the inlet steam pressure. If it falls between two numbers select the larger of the two. Follow either the on/off or modulating sub columns down until you see the closest number to the required #/hr of steam. Again, if it falls between two numbers pick the larger of the two. Follow the row to the far left to obtain the C_v of the valve that will pass the desired #/hr of steam.

Flange Dimensions ANSI 125#



Size	Flange Diameter A	Flange Thickness B	Diameter of Bolt circle C	Diameter of Bolt holes D	Number of Bolts	Diameter of Bolts	Length of Bolt E
2 1/2"	7"	1 1/16"	5 1/2"	3/4"	4	5/8"	2 1/2"
3"	7 1/2"	3/4"	6"	3/4"	4	5/8"	2 1/2"
4"	9"	15/16"	7 1/2"	3/4"	8	5/8"	3"
5"	10"	15/16"	8 1/2"	7/8"	8	3/4"	3"
6"	11"	1"	9 1/2"	7/8"	8	3/4"	3 1/4"

Assembly Number



Globe Valve Assembly, 2-Way, 3" C_v=85, High Close Off, 125# Flanged Ends, Cast Iron Iron Body, Brass Plug, Non-Spring Return, 24 VAC, NEMA 2 Actuator, Modulating Control (0-10 VDC)

#	ITEM	CODE	DESCRIPTION	#	ITEM	CODE	DESCRIPTION		
1 & 2	Series	GV	Globe Valve	6	Valve Type	P	125# Pressure Balanced		
3	Assembly	2	2-Way Configuration	7	Construction	X Y	Cast Iron Body-Brass Plug Cast Iron Body-Stainless Plug		
4 & 5	Size	A ■	2 1/2" ■ H	10	Control	O	On/Off		
		B ■	3" ■ H			E	Modulating 0-10 or 4-20		
		C ■	4" ■ H			11 & 12	Accessories	A	Auxiliary 2-SPDT
		D ■	5" ■ H					F	Floating
		E ■	6" ■ H					v	120 VAC Power

3-way Stem Arrangements Are Located On Front Of Brochure