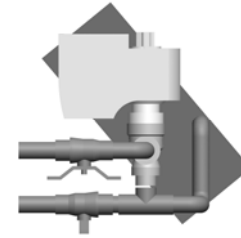


599 Series Zone Valves and Actuators— Modulating, On/Off Spring Return, 2-Position Control



Description

Typical hot and chilled water applications include: radiators, floor heating via manifolds, fan coil units, unit ventilators, and VAV terminal boxes.

- Actuator determines valve action: normally-open (NO) and normally-closed (NC) installations utilize the same valve body.
- No piping mix-ups, simpler designs, and less chance for errors.
- SSA/SSP model actuators and SFA/SFP model actuators have a manual override feature.
- All actuators are interchangeable: Any valve can be used with any actuator.
- All valves have metal-to-metal seats, more reliable than rubber paddle valves.
- Three-way valve porting is designed to simplify OEM piping packages.
- Three-way valve has a flow restrictor for balancing purposes, which saves the cost of a balancing valve.
- Factory leak testing easily accomplished with actuator removed.
- Low ANSI Class III leakage.
- Cold working pressure: 800 psi.

Table 1. Zone Valve Actuators.

Model Descriptions	Voltage					Control Signal				96-inch (2.4 m) Lead	Orderable in Multiples of	
	24 Vac	120 Vac	208 Vac	277 Vac	230 Vac	0 to 10 Vdc	2P	PWM	3P		10	1*
Normally Closed SR	SFA11UG	—	•	—	—	—	•	—	—	—	•	•
	SFA11U/25G	—	•	—	—	—	•	—	—	•	•	—
	SFA208U/25G	—	—	•	—	—	•	—	—	•	•	—
	SFA21U/25G*	—	—	—	—	•	•	—	—	•	•	—
	SFA277U/25G	—	—	—	•	—	•	—	—	•	•	—
	SFA71UG	•	—	—	—	—	•	—	—	—	•	•
	SFA71U/25G	•	—	—	—	—	•	—	—	•	•	—
	STA73U**	•	—	—	—	—	•	•	—	—	—	•
Normally Open SR	SFP11UG	—	•	—	—	—	•	—	—	—	•	•
	SFP11U/25G	—	•	—	—	—	•	—	—	•	•	—
	SFP208U/25G	—	—	•	—	—	•	—	—	•	•	—
	SFP21U/25G**	—	—	—	—	•	•	—	—	•	•	—
	SFP277U/25G	—	—	—	•	—	•	—	—	•	•	—
	SFP71UG	•	—	—	—	—	•	—	—	—	•	•
	SFP71U/25G	•	—	—	—	—	•	—	—	•	•	—
	STP73U**	•	—	—	—	—	•	•	—	—	—	•
NSR	SSA61UG	•	—	—	—	—	•	—	—	—	•	•
	SSA81UG	•	—	—	—	—	—	—	•	—	•	•
	SSP61UG	•	—	—	—	—	•	—	—	—	•	•

NOTE: U/25G Actuators are only orderable in multiples of 10.

* Remove the "G" suffix from part numbers to order individually packaged actuators (for example, SFA11U).

** CE compliant only.

Table 2. 2-Way Zone Valve Body.

Connection	Product Number	Line Size In (mm)			Flow Rate CV (Kvs)					Qty 20 Pack
		.50 (15)	.75 (20)	1 (25)	1.0 (0.85)	2.5 (2.0)	4.0 (3.4)	4.1 (3.5)	7.0 (6.0)	
Threaded	599-00210G	●	—	—	●	—	—	—	—	●
	599-00211G	●	—	—	—	●	—	—	—	●
	599-00214G	●	—	—	—	—	●	—	—	●
	599-00212G	—	●	—	—	—	—	●	—	●
	599-00213G	—	—	●	—	—	—	—	●	●
Sweat	599-00510G	●	—	—	●	—	—	—	—	●
	599-00511G	●	—	—	—	●	—	—	—	●
	599-00514G	●	—	—	—	—	●	—	—	●
	599-00512G	—	●	—	—	—	—	●	—	●
	599-00513G	—	—	●	—	—	—	—	●	●

NOTE: Remove "G" to order individual valve body.

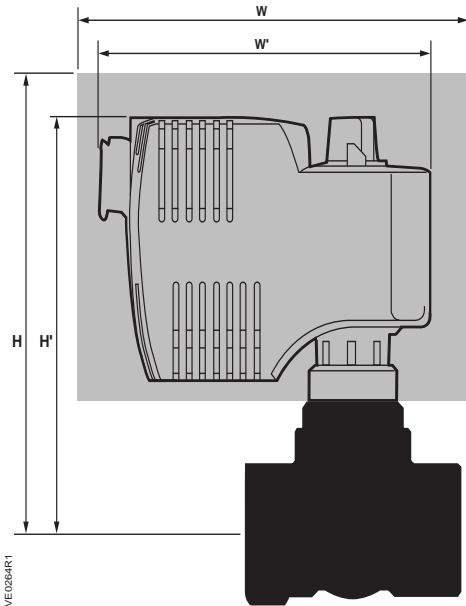
Table 3. 3-Way Zone Valve Body.

Connection	Product Number	Line Size In (mm)			Flow Rate CV (Kvs)					Qty 20 Pack
		.50 (15)	.75 (20)	1 (25)	1.0 (0.85)	2.5 (2.0)	4.0 (3.4)	4.1 (3.5)	7.0 (6.0)	
Threaded	599-00230G	●	—	—	●	—	—	—	—	●
	599-00231G	●	—	—	—	●	—	—	—	●
	599-00234G	●	—	—	—	—	●	—	—	●
	599-00232G	—	●	—	—	—	—	●	—	●
	599-00233G	—	—	●	—	—	—	—	●	●
Sweat	599-00530G	●	—	—	●	—	—	—	—	●
	599-00531G	●	—	—	—	●	—	—	—	●
	599-00534G	●	—	—	—	—	●	—	—	●
	599-00532G	—	●	—	—	—	—	●	—	●
	599-00533G	—	—	●	—	—	—	—	●	●

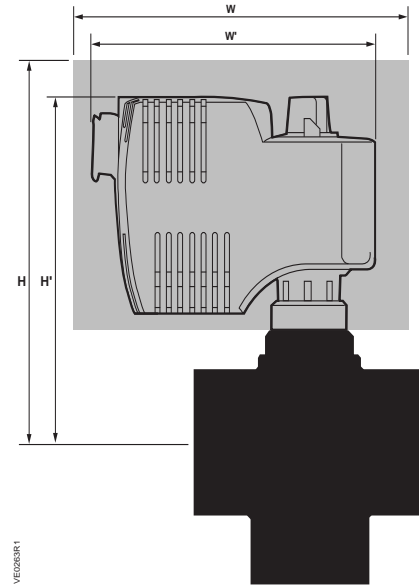
NOTE: Remove "G" to order individual valve body.

Table 4.
599 Series Zone Valve Body Maximum Close-Off Pressures (PSI).

Line Size Inch (mm)	Cv	STA/STP	SFA	SFP	SSA/SSP
.50 (15)	1	29	87	80	94
	2.5 and 4	29	51	44	65
.75 (20)	4.1	29	51	44	65
1.00 (25)	7	22	29	25	36



**Figure 1. SFA/SFP Series Actuator:
 Service Envelope for 2-Way Valve Assembly.
 (See Table 5).**

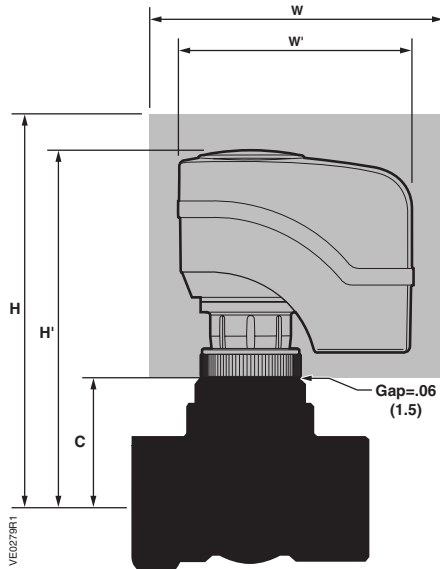


**Figure 2. SFA/SFP Series Actuator:
 Service Envelope for 3-Way Valve Assembly.
 (See Table 5).**

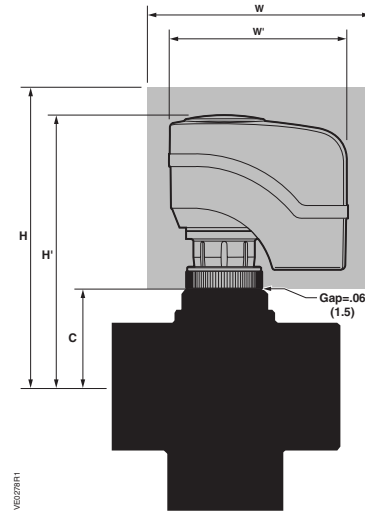
**Table 5.
 SFA/SFP Actuator Dimensions and Recommended Service Envelope in Inches (Millimeters).**

Actuator Prefix Codes	Valve Line Size	Valve Centerline to Top of Actuator H1		Service Height H		Width or Diameter of Actuator W1		Service Width W	
		2-Way	3-Way	2-Way	3-Way	2-Way	3-Way	2-Way	3-Way
240	.50 (15)	4.38 (112)	4.38 (112)	12.38 (315)	12.38 (315)	4.38 (112)	4.38 (112)	12.38 (315)	12.38 (315)
241	.75 (20)								
242	1.00 (25)								
243									

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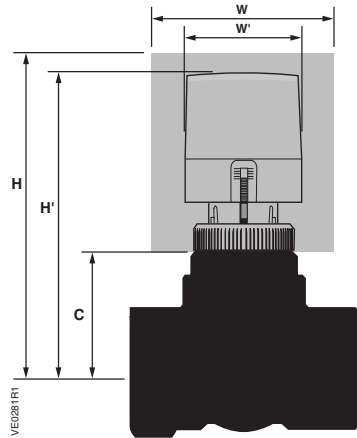
**Figure 3. SSA/SSP Series Actuator:
 Service Envelope for 2-Way Valve Assembly.
 (See Table 6).**



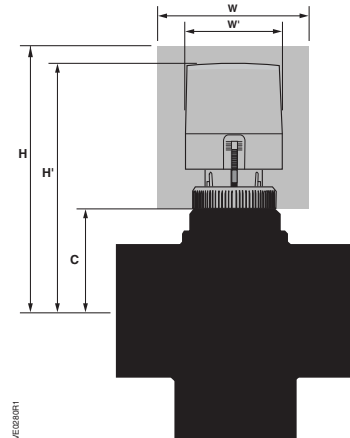
**Figure 4. SSA/SSP Series Actuator:
 Service Envelope for 3-Way Valve Assembly.
 (See Table 6).**

**Table 6.
 SSA/SSP Actuator Dimensions and Recommended Service Envelope in Inches (Millimeters).**

Actuator Prefix Codes	Valve Line Size	Valve Centerline to Top of Actuator H1		Service Height H		Valve Centerline to Actuator Coupling C		Width or Diameter of Actuator W1		Service Width W	
		2-Way	3-Way	2-Way	3-Way	2-Way	3-Way	2-Way	3-Way	2-Way	3-Way
244	.50 (15)	4.26 (108)	4.26 (108)	12.26 (311)	12.26 (311)	1.00 (25)	1.00 (25)	3.26 (83)	3.26 (83)	11.26 (286)	11.26 (286)
245	.75 (20)										
248	1.00 (25)										



**Figure 5. STA/STP Series Actuator:
 Service Envelope for 2-Way Valve Assembly.
 (See Table 7).**



**Figure 6. STA/STP Series Actuator:
 Service Envelope for 3-Way Valve Assembly.
 (See Table 7).**

**Table 7.
 STA/STP Actuator Dimensions and Recommended Service Envelope in Inches (Millimeters).**

Actuator Prefix Codes	Valve Line Size	Valve Centerline to Top of Actuator H ¹		Service Height H		Valve Centerline to Actuator Coupling C		Width or Diameter of Actuator W ¹		Service Width W	
		2-Way	3-Way	2-Way	3-Way	2-Way	3-Way	2-Way	3-Way	2-Way	3-Way
346 347	.50 (15)	3.90 (99)	3.90 (99)	8.20 (200)	8.20 (200)	1.00 (25)	1.00 (25)	1.75 (44)	1.75 (44)	9.86 (251)	9.86 (251)
	.75 (20)										
	1.00 (25)										

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