

## ST2-Series – Submittal/Technical Data

1/28/19

### Application

The Soft Touch 2 (ST2) series characterized ball valves provide accurate and cost effective control of a wide range of equipment in HVAC applications. The ST2 series features a forged brass 2-piece body with Stainless Steel balls and stems for water temperature up to 284°F (140°C) and saturated steam up to 15 PSI.

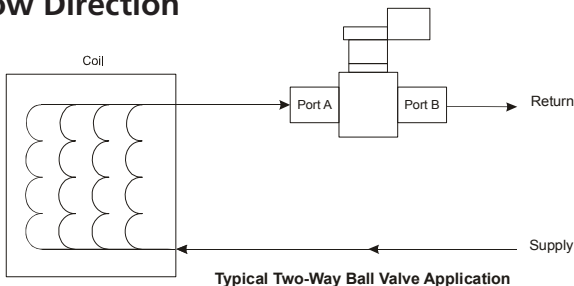


### Technical Specifications

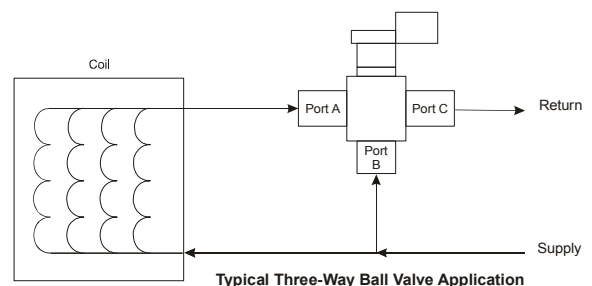
<b>Service</b>		Hot Water, Chilled Water, 50/50 Glycol Solutions 15 psig (103 kPa) Saturated Steam for HVAC Systems
<b>Valve Body Pressure/ Temperature Rating</b>	Cold Working Pressure (CWP)	580 PSI (PN 40)
	Water (with Standard Mounting)	-22°F to 203°F (-30°C to 95°C)
	Water (with "High Temp" Mounting)	-22°F to 284°F (-30°C to 140°C)
	Steam (with "High Temp" Mounting)	15 PSIG (103 kPa) at 284°F (140°C)
<b>Maximum Recommended Operating Pressure Drop</b>		50 psi Maximum Differential Pressure for Valves with Characterized Flow Control Disk and 30 psi Maximum for Quiet Service Ball Valves
<b>Flow Characteristics</b>	<b>Two-Way</b>	Equal Percentage
	<b>Three-Way</b>	Equal Percentage Port A, Linear Port B (Bypass)
<b>Rangeability</b>		Greater than 500:1
<b>Minimum Ambient Operating</b>		See Actuator Specifications
<b>Leakage</b>		.01% of Maximum Flow per ANSI/FCI 70-2, Class 4 1% of Maximum Flow for Three-Way Bypass Port
<b>End Connections</b>		NPT or BSP
<b>Materials</b>	<b>Body</b>	Forged Brass
	<b>Ball</b>	300 Series Stainless Steel
	<b>Stem</b>	300 Series Stainless Steel
	<b>Seats</b>	Graphite-Reinforced PTFE with EPDM O-ring backing
	<b>Stem Seals</b>	EPDM Double O-rings
	<b>Characterizing Disk</b>	Amodel®
<b>Close-Off</b>		200 PSI
<b>Compliance CRN</b>		OC16910.5

Disclaimer - The performance specifications are nominal and conform to acceptable industry standards. For application at conditions beyond these specifications, consult the local Bray office. Bray, Inc. shall not be liable for damages resulting from misapplication or misuse of its products.

### Flow Direction



Note: Mount the valve downstream from the coil to minimize heat transfer to the actuator.

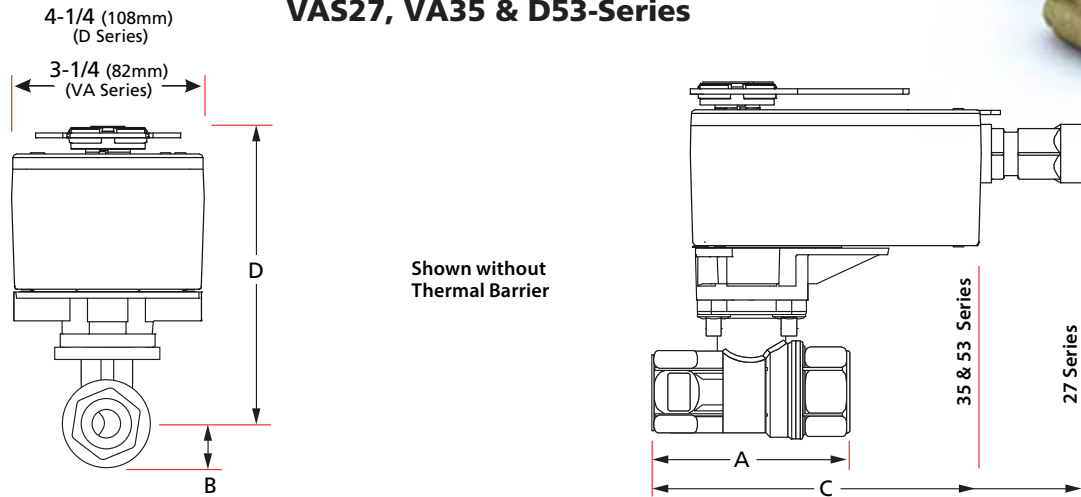


Note: Mount the valve downstream from the coil to minimize heat transfer to the actuator. For pure diverting applications (one inlet/two outlets), only the standard port (no characterization disc) versions will work.

# SoftTouch 2 - 2-Way Dimensions



## VAS27, VA35 & D53-Series



### ST2 Dimensions - 2-Way - VAS 27 Series

Direct Mount	ST2 VALVE MODEL # PREFIX ST2 Size-Way-Cv	Connection		Available Cv's	Please reference the illustration									
					A		B		C		D*		Weight	
		in.	mm		in.	mm	in.	mm	in.	mm	in.	mm	lb	kg
	ST2-05-2-...	1/2	15	0.46, 0.73, 1.2, 1.9, 2.9, 4.7, 11.7	2-1/2	64	5/8	17	6-31/32	177	4-5/8	117.3	3.0	1.4
	ST2-75-2-...	3/4	20	4.7, 7.4, 11.7	2-13/16	71	5/8	17	7-1/8	181	4-5/8	117.3	3.1	1.4
	ST2-1-2-...	1	25	7.4, 11.7, 18.7	3-7/16	87	3/4	19	7-31/64	190	4-11/16	119.0	3.4	1.5
	ST2-125-2-...	1-1/4	32	11.7, 18.7, 29.2	3-15/16	101	1	26	7-3/4	197	5-9/64	130.3	5.7	2.6
	ST2-150-2-...	1-1/2	40	18.7, 29.2, 46.8	4-5/16	109	1-1/8	29	7-21/23	201	5-19/64	134.3	6.4	2.9
	ST2-2-2-...	2	50	29.2, 46.8, 73.7	4-7/8	124	1-1/2	37	8-1/4	209	5-17/32	140.3	8.1	3.7

### ST2 Dimensions - 2-Way - VA 35 Series

Direct Mount	ST2 VALVE MODEL # PREFIX ST2 Size-Way-Cv	Connection		Available Cv's	Please reference the illustration									
					A		B		C		D*		Weight	
		in.	mm		in.	mm	in.	mm	in.	mm	in.	mm	lb	kg
	ST2-05-2-...	1/2	15	0.46, 0.73, 1.2, 1.9, 2.9, 4.7, 11.7	2-1/2	64	5/8	17	5-7/64	129	3-7/8	98	3.0	1.4
	ST2-75-2-...	3/4	20	4.7, 7.4, 11.7	2-13/16	71	5/8	17	5-7/32	133	3-7/8	98	3.1	1.4
	ST2-1-2-...	1	25	7.4, 11.7, 18.7	3-7/16	87	3/4	19	5-9/16	141	3-11/16	100	3.4	1.5
	ST2-125-2-...	1-1/4	32	11.7, 18.7, 29.2	3-15/16	101	1	26	5-13/16	148	4-3/8	111	5.7	2.6
	ST2-150-2-...	1-1/2	40	18.7, 29.2, 46.8	4-5/16	109	1-1/8	29	6-1/2	152	4-9/17	115	6.4	2.9
	ST2-2-2-...	2	50	29.2, 46.8, 73.7	4-7/8	124	1-1/2	37	6-1/3	160	4-3/4	121	8.1	3.7

### ST2 Dimensions - 2-Way - D 53 Series

Universal Mount	ST2 VALVE MODEL # PREFIX ST2 Size-Way-Cv	Connection		Available Cv's	Please reference the illustration									
					A		B		C		D*		Weight	
		in.	mm		in.	mm	in.	mm	in.	mm	in.	mm	lb	kg
	ST2-125-2-...	1-1/4	32	11.7, 18.7, 29.2	3-15/16	100	1	26	7-7/8	175	6-7/16	164	5.7	2.6
	ST2-150-2-...	1-1/2	40	18.7, 29.2, 46.8	4-5/16	110	1-1/8	29	8-1/16	180	6-5/8	168	6.4	2.9
	ST2-2-2-...	2	50	29.2, 46.8, 73.7	4-13/16	123	1-1/2	38	8-5/16	186	6-3/4	171	8.1	3.7

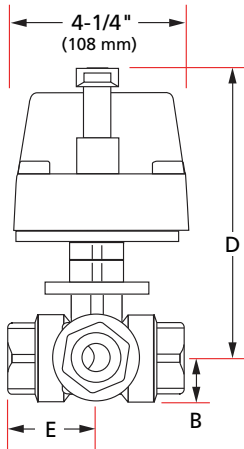
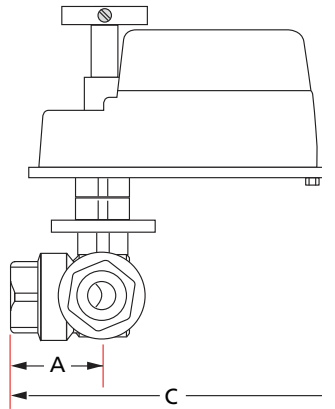
Dimensions may vary, depending on the actuator.  
Weights shown are for valve bodies only.  
Allow 3.5" clearance for actuator removal.

Dimensions are shown in inches and are approximate.  
\* Add .5" additional height for High Temp mounting kit. (-HT)

# SoftTouch 2 - 3-Way Dimensions

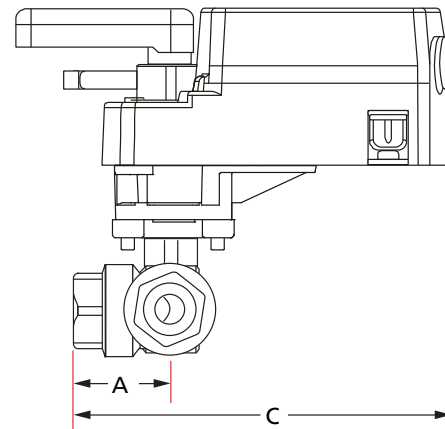
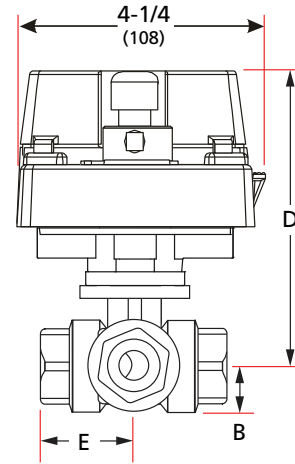


**Universal Mount  
D-Series**



Shown without  
Thermal Barrier

**Direct Mount  
VA-Series**



## ST2 Dimensions - 3-Way

	ST2 VALVE MODEL # PREFIX ST2 Size-Way-Cv	Connection		Available Cv's	Please reference the illustration											
		in.	mm		A		B		C		D*		E		Weight	
					in.	mm	in.	mm	in.	mm	in.	mm	in.	mm	lb	kg
Direct Mount	ST2-05-3-...	1/2	15	1.2, 1.9, 2.9, 4.7, 11.7	1-1/4	32	5/8	16	6-3/4	172	4-5/8	118	1-1/4	32	3.0	1.4
	ST2-75-3-...	3/4	20	4.7, 7.4, 11.7	1-13/32	36	5/8	16	6-15/16	176	4-5/8	118	1-3/8	36	3.2	1.5
	ST2-1-3-...	1	25	7.4, 11.7, 18.7	1-11/16	43	3/4	19	7-3/16	183	4-11/16	119	1-11/16	43	3.3	1.5
	ST2-125-3-...	1-1/4	32	11.7, 18.7, 29.2	1-15/16	49	1	26	7-1/2	191	5-1/8	130	1-15/16	50	6.1	2.8
	ST2-150-3-...	1-1/2	40	18.7, 29.2, 46.8	2-1/4	57	1-1/8	29	7-13/16	198	5-3/16	148	2-3/16	55	6.9	3.1
	ST2-2-3-...	2	50	29.2, 46.8, 73.7	2-5/8	67	1-3/8	35	8-3/8	213	5-3/8	137	2-7/16	62	9.5	4.3
Universal Mount	ST2-125-3-...	1-1/4	32	11.7, 18.7, 29.2	2	51	1	26	7-7/8	175	6-7/16	164	1-15/16	50	5.0	2.3
	ST2-150-3-...	1-1/2	40	18.7, 29.2, 46.8	2-1/8	54	1-1/8	29	8-1/16	180	6-5/8	168	2-3/16	55	5.8	2.6
	ST2-2-3-...	2	50	29.2, 46.8, 73.7	2-9/16	65	1-1/2	38	8-5/16	186	6-3/4	171	2-7/16	62	7.7	3.5

Dimensions may vary, depending on the actuator.  
Weights shown are for valve bodies only.  
Allow 3.5" clearance for actuator removal.

Dimensions are shown in inches and are approximate.  
\* Add .5" additional height for High Temp mounting kit. (-HT)  
Dimensions are shown for the largest spring return actuator currently available.