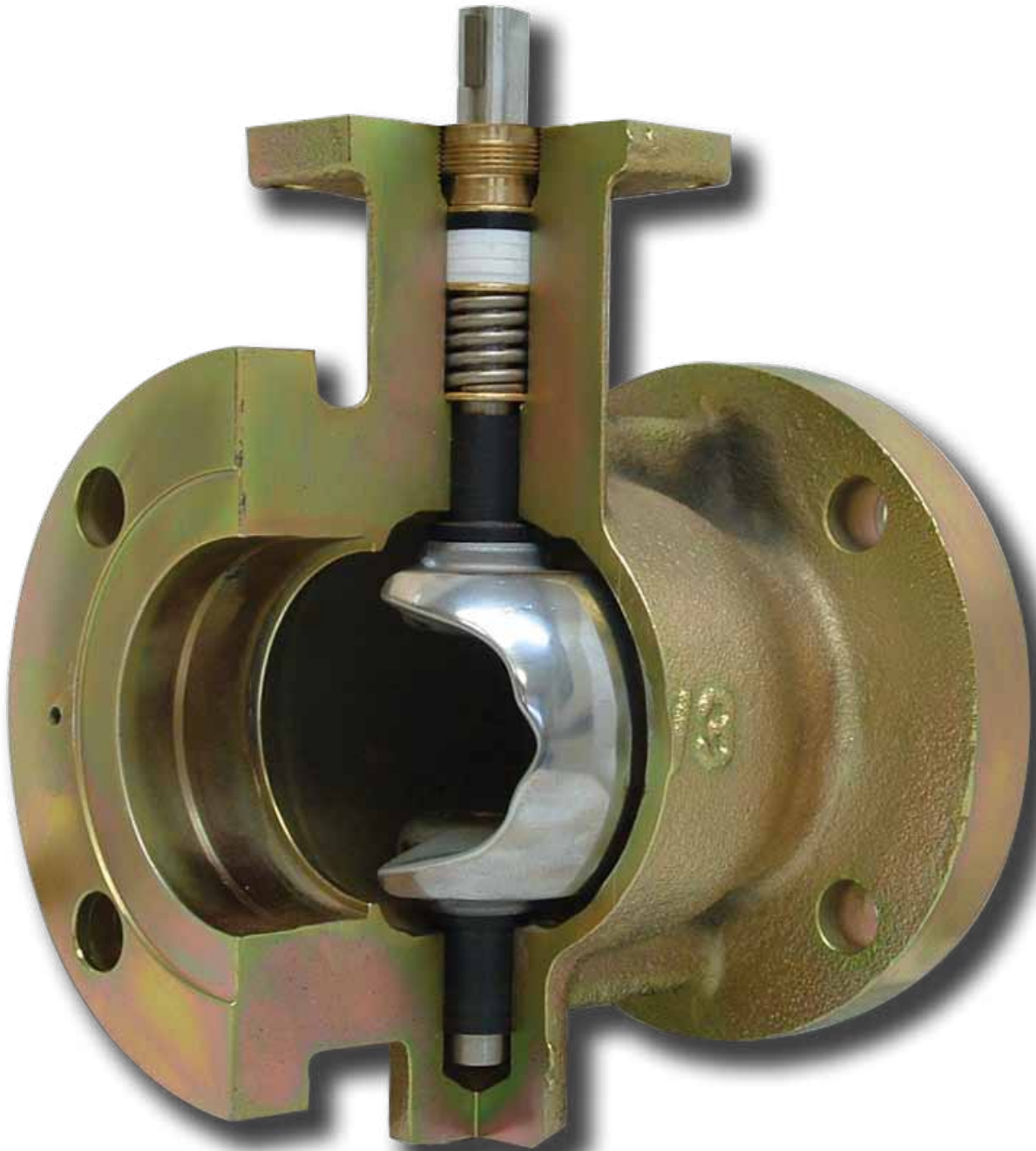


VSI

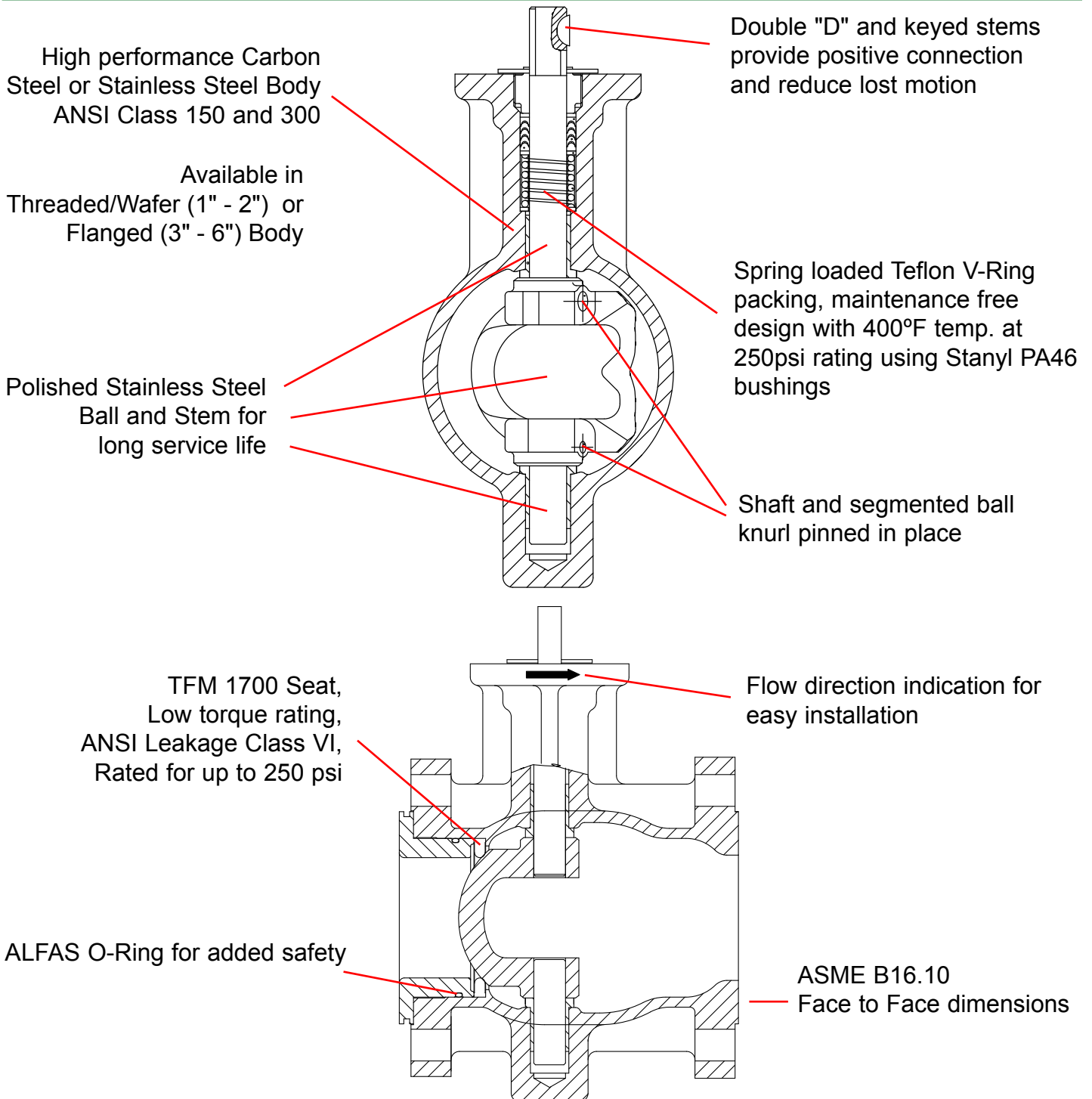
HIGH PERFORMANCE SEGMENTED V-BALL CONTROL VALVE



SERIES V

GENERAL INFORMATION

- High Rangeability: 300:1 Turn down ratio
- Flow Characteristic: Equal Percentage
- Low Pressure Recovery Rate: minimizes cavitation and excessive noise
- Body Rating: Multi-Rated ANSI 150/300
- Face to Face Dimension: ASME B16.10
- Leakage Class: ANSI Class VI

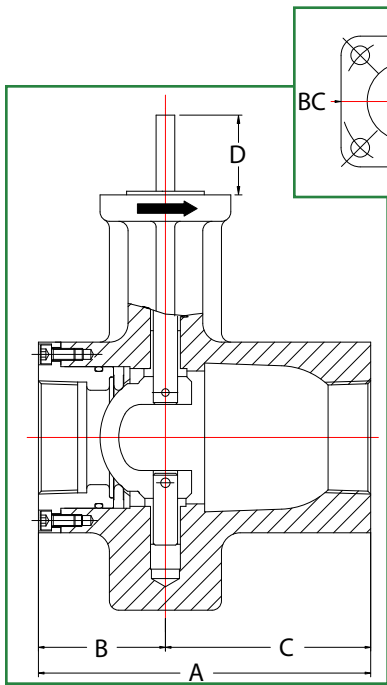


FLOW AND DIMENSIONAL INFORMATION

C_V Values - Valve Sizing Coefficients (C_V)

Flow Coefficients (C _V) for V-Series Ball Valves 1" - 6"												Torque Required @ 250 psi Close Off in-lb
Flow Coefficient	Valve Size, Inches	Valve Rotation in Degrees										
		10	20	30	40	50	60	70	75*	80	90	
C _V	V-1 (1")	0.04	0.5	3	5	8	12	17	24	29	31	40
	V-1.5 (1.5")	0.07	3	7	12	21	29	40	55	68	73	80
	V-2 (2")	0.09	4	10	21	34	43	65	77	85	96	130
	V-3 (3")	1	12	29	49	68	117	157	207	215	270	200
	V-4 (4")	4	22	46	86	130	195	279	350	421	529	400
	V-6 (6")	5	33	79	148	230	330	440	507	575	850	650

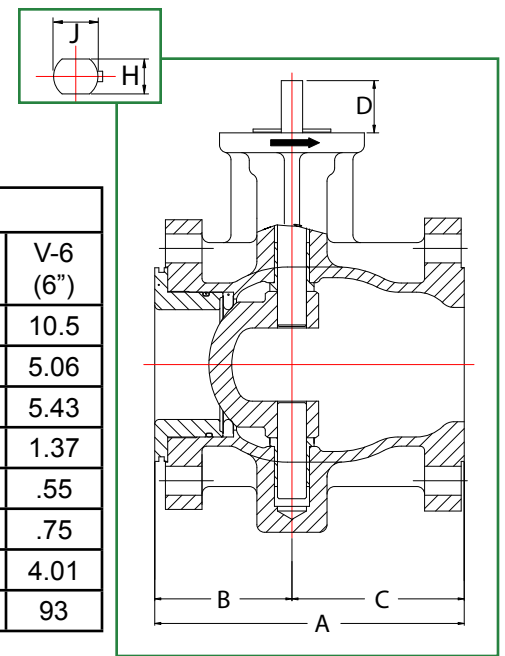
*Maximum Recommended Controllable C_V



V-1, V-1.5, V-2

Valve Dimensions - Inches						
Dimension	V-1 (1")	V-1.5 (1 1/2")	V-2 (2")	V-3 (3")	V-4 (4")	V-6 (6")
A	5	6.5	7	8	9	10.5
B	1.81	2.13	2.68	3.54	4.33	5.06
C	3.19	4.37	4.33	4.45	4.69	5.43
D	1.33	1.33	1.33	1.37	1.37	1.37
H	.39	.39	.39	.55	.55	.55
J	.5	.5	.5	.75	.75	.75
BC	2.75	2.75	2.75	4.01	4.01	4.01
Weight (lb)	9	15	19	38	56	93

Dimension A has a tolerance of ± .0625 (2mm)



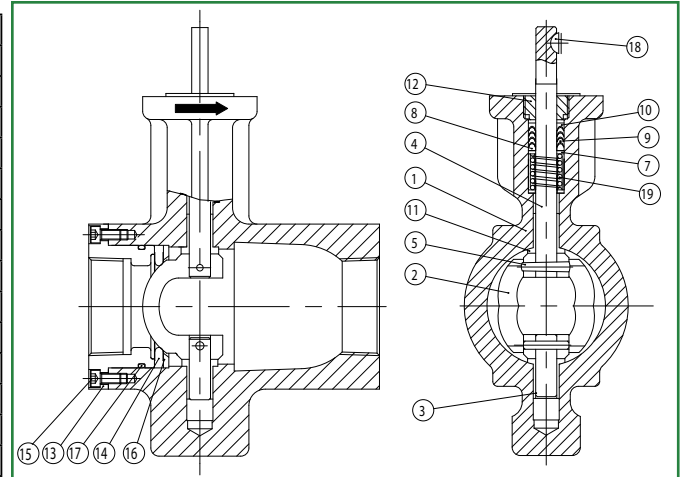
V-3, V-4, V-6

CONSTRUCTION MATERIALS

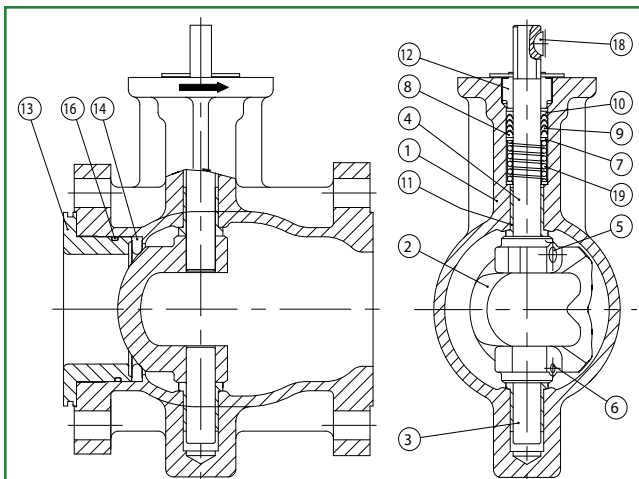
VSI Threaded/Wafer V-Series Segmented Ball Control Valves

NO	PART NAME	Q'TY	MATERIAL	OPTION
1	VALVE BODY	1	WCC	SUS304
2	SEGMENTED BALL	1	SUS304	
3	FOLLOWER SHAFT	1	SUS304	
4	DRIVE SHAFT	1	SUS304	
5	TAPER PIN	1	SUS304	
6	TAPER PIN	1	SUS304	
7	PACKING WASHER	1	SUS304	
8	PACKING RINGS	1	TEFLON	
9	PACKING RINGS	1	TEFLON	
10	PACKING FOLLOWER	1	GRAPHITE	
11	SHAFT BEARING	2	STANYL PA46	PTFE
12	PACKING FLANGE	1	C3604	
13	SEAT RETAINER	1	S45C	
14	BALL SEAT	1	TFM 1700	GRAPHITE
15	SEAT RETAINER SCREW	8	SUS304	
16	SEAT SPACER	1	SUS304	
17	SEAT RETAINER SEAL	1	ALFAS	
18	WOODUFF KEY	1	SM45C	
19	PACKING SPRING	1	SUS304	

Threaded/Wafer (sizes 1,1.5,2)



Flanged (sizes 3,4,6)

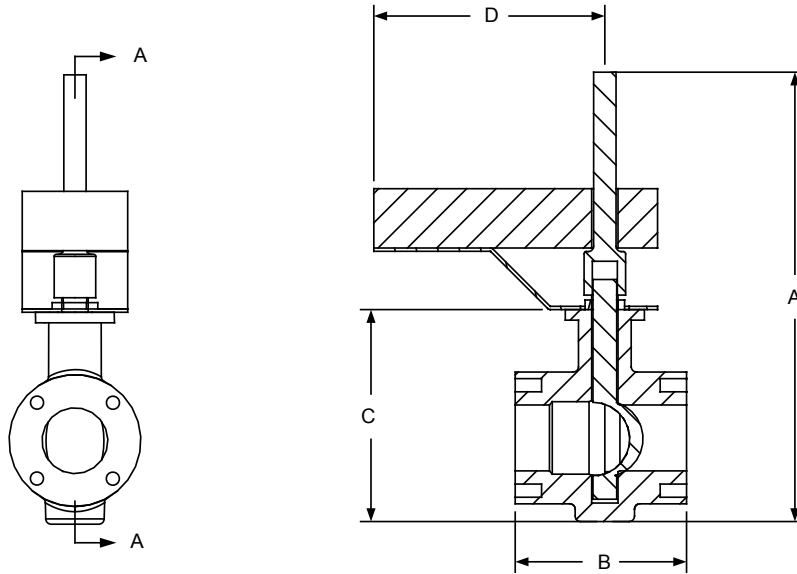


VSI Flanged V-Series Segmented Ball Control Valves

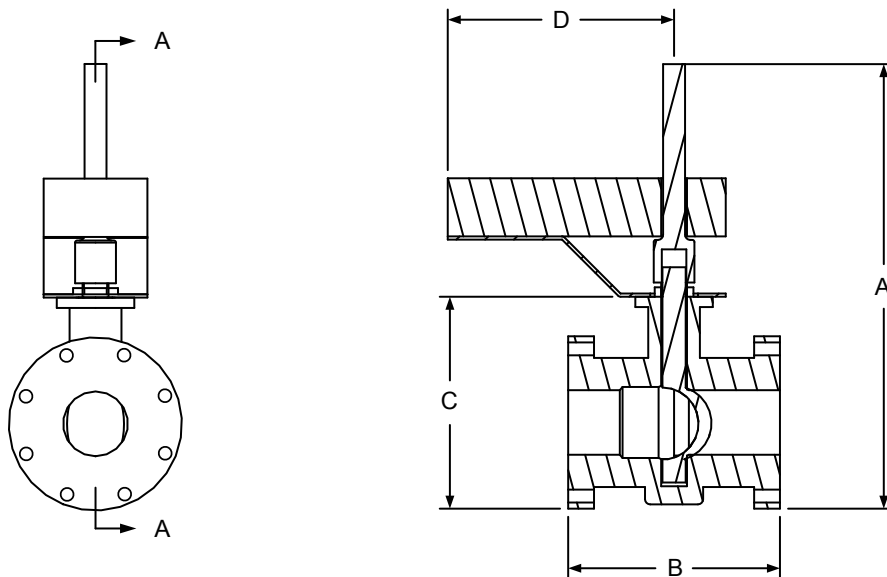
NO	PART NAME	Q'TY	MATERIAL	OPTION
1	VALVE BODY	1	WCC	SUS304
2	SEGMENTED BALL	1	SUS304	
3	FOLLOWER SHAFT	1	SUS304	
4	DRIVE SHAFT	1	SUS304	
5	TAPER PIN	1	SUS304	
6	TAPER PIN	1	SUS304	
7	PACKING WASHER	1	SUS304	
8	PACKING RINGS	1	TEFLON	
9	PACKING RINGS	1	TEFLON	
10	PACKING FOLLOWER	1	GRAPHITE	
11	SHAFT BEARING	2	STANYL PA46	PTFE
12	PACKING FLANGE	1	C3604	
13	SEAT RETAINER	1	S45C OR WCC	
14	BALL SEAT	1	TFM 1700	GRAPHITE
16	SEAT RETAINER SEAL	1	ALFAS	
18	WOODUFF KEY	1	SM45C	
19	PACKING SPRING	1	SUS304	

ASSEMBLY DIMENSIONS

2 WAY VALVE ASSEMBLY DIMENSIONS



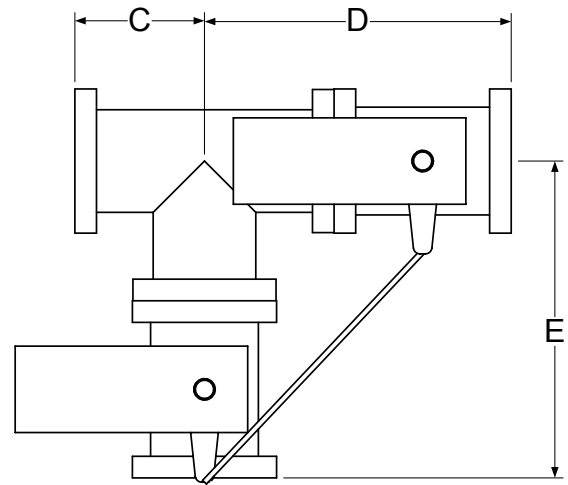
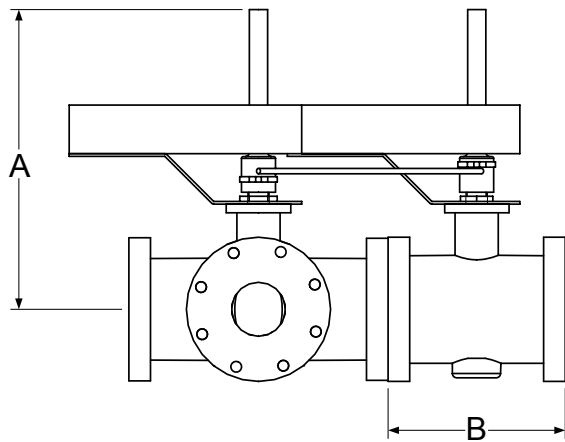
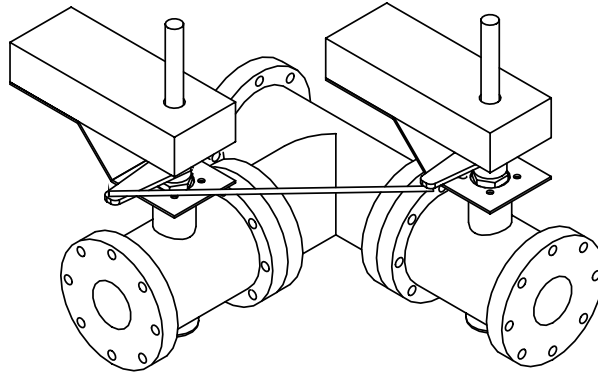
VALVE SIZE	SERIES V 2-WAY THREADED/WAFERED			
	A	B	C	D
1"	15	5	7	10
1.5"	17	6.5	8	10
2"	19	7	9	10



VALVE SIZE	SERIES V 2-WAY FLANGED			
	A	B	C	D
3"	22.5	8	10.5	10
4"	24	9	12	10
6"	26.5	10.5	14.5	10

ASSEMBLY DIMENSIONS

3 WAY VALVE ASSEMBLY DIMENSIONS



VALVE SIZE	SERIES V 3-WAY FLANGED			
	A	B	C	D/E
3"	18	8	5.5	13.5
4"	19	9	6.5	15.5
6"	21	10.5	8	18.5

ENGINEERING SPECIFICATIONS

Engineering Specification for Actuated HVAC Control Valves

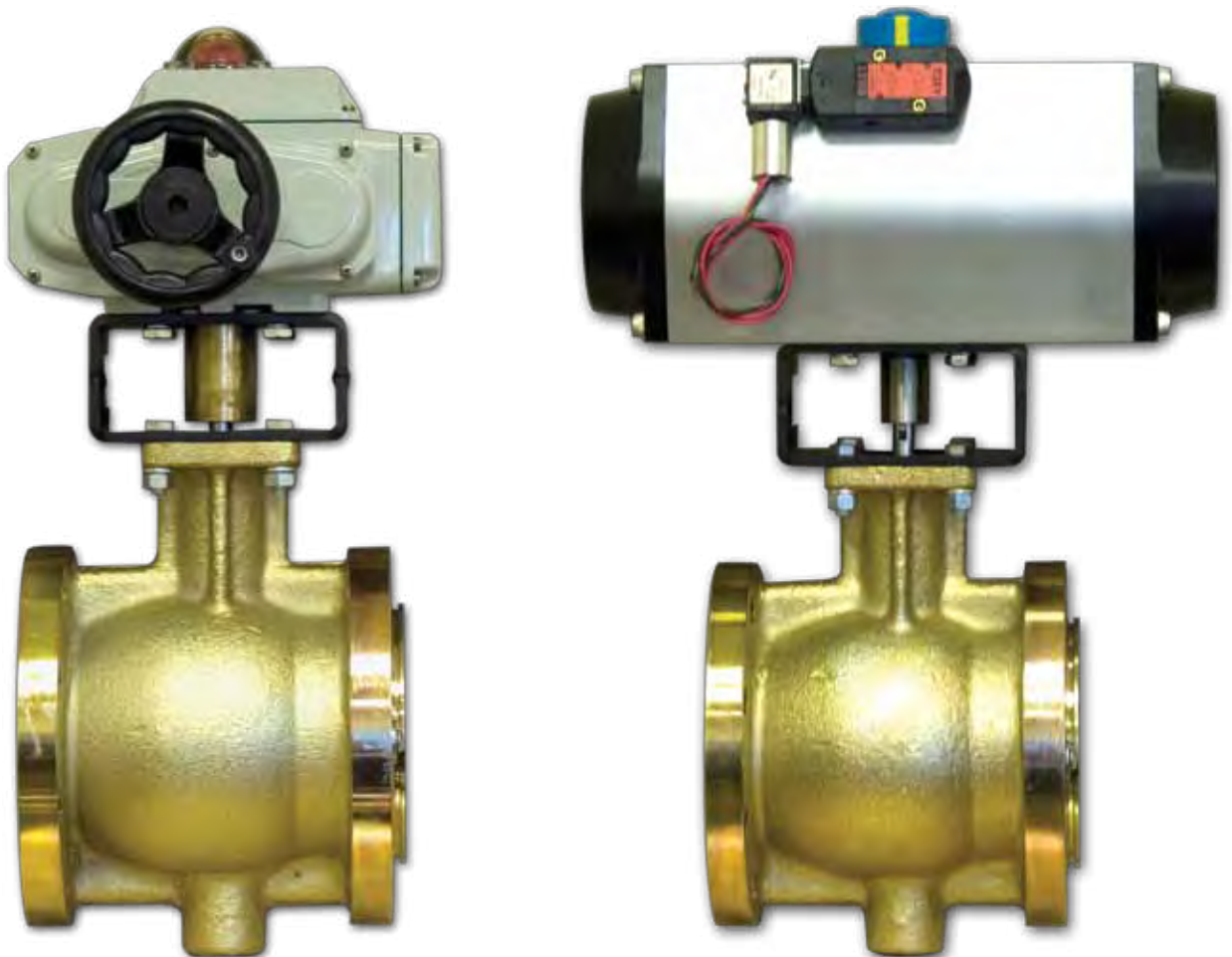
Automatic control valves for HVAC control shall be constructed of a carbon steel body, stainless steel V-notch ball and shaft, low friction bearings and a TFM 1700 ball seat. Valve sizes 1, 1.5 & 2 inches shall be ANSI Class 150/300 multi-rated and have Universal End Connections for use with NPT or ANSI Class 150/300 wafer connections.

Valve sizes 3, 4, 6 inch shall have ANSI Class 150 or 300 flanges as required by application. Control valves shall be rated ANSI Class VI leakage rate, -20°F to 400°F temperature range and maximum 250 PSI allowable shutoff pressure.

Valves are for use with water, steam and percentage glycol water mixes. Valves have 90 degree rotation, 300:1 rangeability with equal percentage control characteristic.

Standard actuators as well as low pressure industry standard pneumatic actuators are acceptable. Valve and linkage shall carry a 3 year warranty from the date of installation.

Valve shall be a Valve Solutions Series V segmented ball control valve or approved equal.





Municipal, Industrial & Commercial Valve Automation

Partners



WARRANTY INFORMATION

VSI Limited Product Warranty

This limited warranty applies in the United States to products manufactured by Valve Solutions, Inc. Valve Solutions, Inc. warrants the product purchased from it or its authorized reseller to be free from defects in material and workmanship under normal use during the three year warranty period from the date of its purchase. Other products not manufactured by Valve Solutions, Inc. which are provided as part of an assembly may carry additional warranties from that manufacturer or supplier.

During the warranty period, Valve Solutions, Inc. will repair or replace defective parts of the product, or, at Valve Solutions, Inc. sole option, issue a credit for the original purchase price of the product. Repaired or replaced product will be warranted hereunder only for the remaining portion of the original warranty period. All exchanged products under this Limited Warranty will become the property of Valve Solutions, Inc. A proper Return Material Authorization (RMA) number will have to be obtained for all products to be returned under this Limited Warranty. Any claim under this Limited Warranty must include a description of the problem encountered and any relevant information that may assist Valve Solutions, Inc. in the replication or resolution of the problem.

This Limited Warranty is transferable during its term to the end user of the product. Any transfer shall not extend or alter the terms of this Limited Warranty.

This Limited Warranty extends only to products purchased from Valve Solutions, Inc. or its authorized reseller and does not extend to any product that has been damaged or rendered defective as a result of (a) modification, repair, alteration or improper installation by any person other than Valve Solutions, Inc. or its authorized representative; (b) unreasonable or improper use or storage, use beyond rated conditions, operation other than per Valve Solutions, Inc. or the manufacturer's instructions, or being otherwise subjected to improper maintenance, negligence or accident; or (c) any use of the product after purchaser has knowledge of any defect in the product.

The warranties provided above are in lieu of and exclude all other warranties, statutory, express or implied, including without limitation any warranty or merchantability or fitness for a particular purpose. Valve Solutions, Inc. expressly disclaims all warranties not stated in this limited warranty. Any implied warranties that may be imposed by law are limited to the terms of this limited warranty.

Valve Solutions, Inc. warranty liability shall not exceed the original purchase price of the defective product. Valve Solutions, Inc. is not liable for any damages caused by the product or other products or the failure of the product or other products to perform, including any lost profits, lost savings, incidental or consequential damages. Valve Solutions, Inc. is not responsible for charges resulting from the removal and/or replacement of the product. Valve Solutions, Inc. is not liable for any claims made by third parties or by the purchaser for a third party. This limitation applies whether damages are sought, or a claim is made, under the Limited Warranty or as a tort claim, product liability claim, contract claim, or any other claim. This limitation cannot be waived by any person. This limitation of liability will be effective even if Valve Solutions, Inc. or its authorized representative has been advised by the purchaser of the possibility of such damages.

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