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Vent-Tech Model WTW—275psi (19 Bar), 363psi (25 Bar)

Series C—Combination Valve for Water

WATER

GENERAL SPECIFICATION

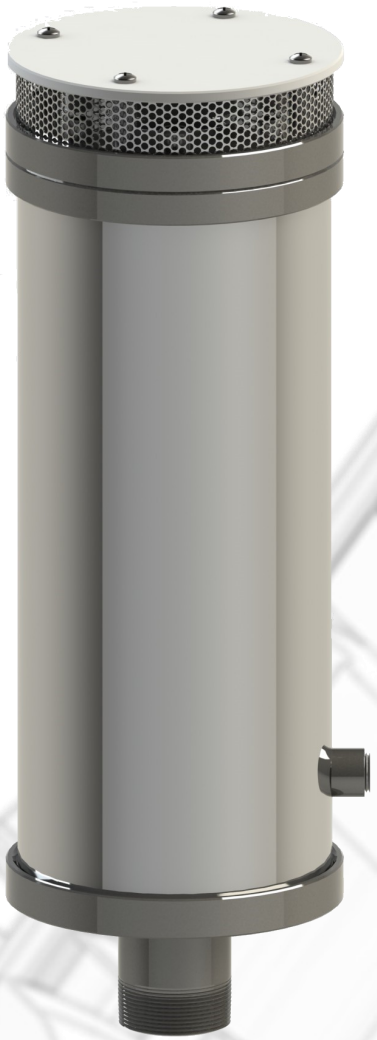
- The Original Flat Float Design—with over 30 improvements.
- Integral protection from water hammer and surge.
- Optimized for Low Pressure Sealing. Less than 3 psi.
- Full Port Vacuum Relief.
- Pressurized Air Release.

ISO 9001: 2015 CERTIFIED

CLASSIFIED C UL US WATER QUALITY

VALVES ANSI/NSF 61 ALSO CLASSIFIED IN ACCORDANCE WITH ANSI/NSF 372 MH61807

NSF



- Stainless Steel Body and Flanges
- Made in the U.S.A.
- ISO 9001: 2015 QMS
- UL Inspected Facility
- 10-Year Warranty
- 50-Year Design Life

Model WTW Standard Water Valve—Overview

The **Vent-Tech Model WTW** clean water valve combines thirteen years of manufacturing experience with advanced Patent Pending flow designs. The Model WTW was engineered to expand and improve the technological advances of the Model WTR flat float air/vacuum valve. The Vent-Tech Model WTW welded construction provides improved functional valve area in the same or smaller valve footprint. For valve sizes 3-inch and larger, we recommend using the Model WTW. Now available thru 16-inch.

APPLICATION

- Municipal Water Systems
- Water Mains
- High Points
- Pump Stations
- Wells

FUNCTION

	Market Usage	Large Air Release at Start-Up	Controlled Air Release at Start-Up	Air Release Under Pressure	Full Port Vacuum Relief	Surge Control
Series C	**95%**	**X**		**X**	**X**	**X**
Series B	**5%**		**X**	**X**	**X**	**X**
Series V	**< 1%**	**X**		**X**		**X**
Series N	**< 1%**				**X**	

PURPOSE

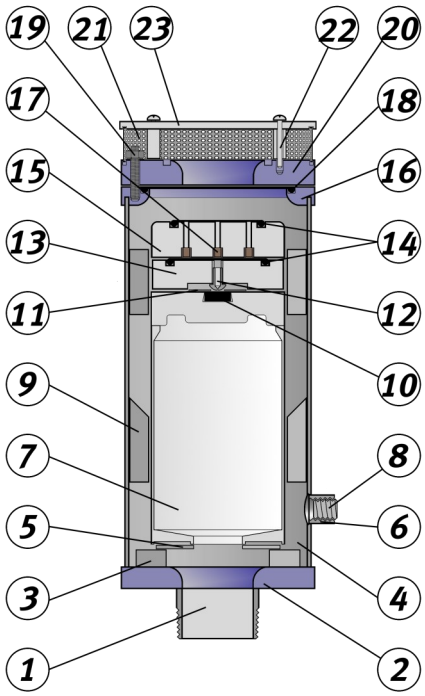
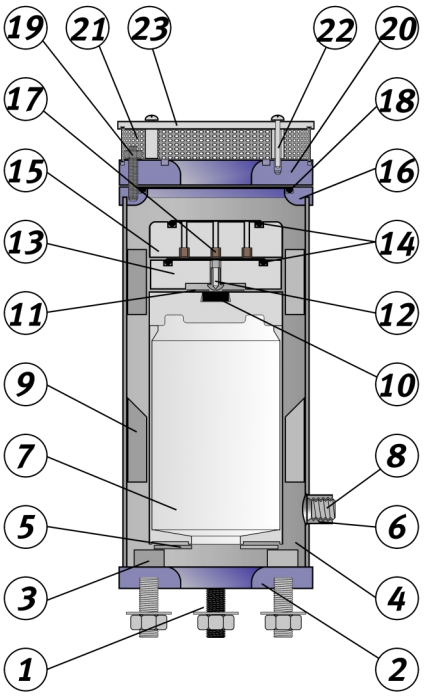
- Minimize pumping energy by removing air plugs
- Protect from pipeline collapse due to vacuum
- Control water hammer velocity
- Manage water column rejoining transients
- Internal anti-surge device

FEATURES

- Integral anti-shock/surge floats limit surge pressure.
- Recommended minimum sealing pressure at 3 psi.
- Rated for working pressures of 363 psi (25 bar). Optionally 232 or 580 psi.
- Inlets, outlets, and internal clearances have a cross-sectional area at least equal to that of the valve's nominal size.
- Orifices fitted with inserts protect from heat softening and abrasive wear.
- Multi-orifice anti-shock/surge floats to increase durability.
- Floats respond directly to negative pressure by fully opening the large orifice of the valve.
- Valve flanges are designed to minimize air flow energy losses.
- 304 and 316 Stainless Steel models.
- Tubular design with direct acting floats and two side ports
- Self-flushing at pump shut-down and valve emptying.
- High efficiency screens prevent ingression of airborne debris and bugs.
- Inter-changeability of valve inlet components allows for efficient conversion between valve and connection to ancillary pipework.
- Flow verification by independent testing facility.

Model WTW: Series C—Materials of Construction

275 psi (19 Bar) 363 psi (25 Bar)

NPT Threaded Flange	ANSI B16.5 Stud Pattern
	

No.	Description	Standard AISI 304L SS -4	Upgraded AISI 316L SS -6
1	Male NPT Nipple	304L SS	316 SS
	ANSI B16.5 Stud Pattern	304L SS	316 SS
2	Toroidal Base Flange	304L SS	316 SS
3	Control Float Stand-Offs	304L SS	316 SS
4	Tubular Valve Body	304L SS	304L SS
5	Baffle Plate	304L SS	316 SS
6	Bleed Port	304L SS	316 SS
7	Control Float	UHMW-PE	UHMW-PE
8	Hex Socket Plug	304L SS	316 SS
9	Guide Rail	304L SS	316 SS
10	Nozzle Button	EPDM	EPDM
11	Button Retaining Plate	304L SS	316 SS
12	Air Release Nozzle	316 SS	316 SS
13	Nozzle Float	UHMW-PE	UHMW-PE
14	Dynamic O-ring Seal	EPDM	EPDM
15	Anti-Surge Float	UHMW-PE	UHMW-PE
16	Body Flange	304L SS	316L SS
17	Protected Orifice Insert	316 SS	316 SS
18	Static O-ring Seal	Buna-N	Buna-N
19	Sealing Flange Bolt	304L SS	316L SS
20	Sealing Flange	304L SS	316L SS
21	Screen	304L SS	316L SS
22	Screen Lid Fasteners	304L SS	316L SS
23	Screen Lid	UHMW-PE	UHMW-PE

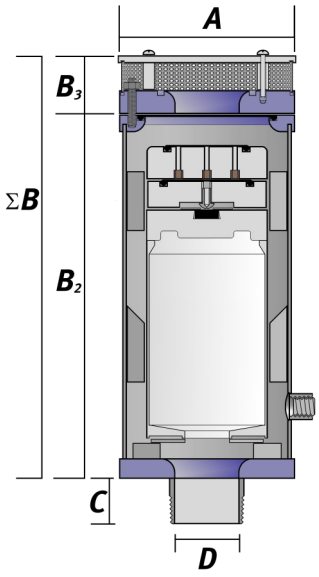
Information Subject to Change without Notice

Body		Tubular elongated body, sized to provide a passageway with a cross sectional area which exceeds that of the valve's inlet and outlet connections for the unobstructed flow of air. Certified to twice the valves rated pressure.		
Operating Pressure	**Minimum**	< 3 psi (< 0.2 Bar)		
	Design	275 psi (19 Bar); 363 psi (25 Bar)		
	Test	200 %		
Maximum Temps	**Operating**	Exceeds 145° F (62° C)		
	Intermittent	180° F (82° C)		
Connections	**Upper**	Streamlined toroidal sealing flange with WTR-CS perforated Screen Guard 1-inch and 2-inch see Model WTR 3 thru 16-inch with connection points for 'Top Hat' adapter.		
	Lower	Streamlined toroidal base flange transition 1 thru 2-inch see Model WTR 3 thru 16-inch with ANSI B16.5 Class 150 studded flange (Class 300 studded flange pattern available on request)		
Orifices	**Large**	Streamlined toroidal transition to valve body At minimum, equal to the nominal diameter of the valve		
	Small	Multiple tubular orifices to evenly distribute pressurized air across the face of the float 316 SS wear-resistant inserts in tubular orifices to protect against heat softening and abrasive wear		
	Nozzle	See Flow Data Table		
Bleed Port Connections		Full port ball valve recommended. (Available on request.)		
Isolation Valve		Supplied by others (Full port ball valve recommended and available on request)		
Certifications / Registrations		ISO 9001: 2015 QMS; NSF 61; NSF 372		
AIS Compliant		When specified, raw material is controlled for USA Country of Origin Machining, fabrication, assembly, and coating always in USA		
Options		Side Port Ball Valve—(Code N)	Custom Orifices—(Code X)	Pressure Gage Assembly
		Full Port Isolation Valve—(Code B)	AIS Compliant—(Code A)	All 316L SS—(Code 6)
		Class 300 Flange Pattern (Code K)		
Valve Tests	**Each Unit**	Leak test to 1.5x rated pressure	Pressurized air release (Drop Test)	Low Pressure Seal test
	Each Design	Certified — Air Release	Certified - Pressurized Air-Release	Certified - Vacuum Relief
		Nozzle Orifice Flow Tested	Anti-Surge Activation (Switch Point)	CFD & Physically Flow Tested
Material Specs		AISI 304L SS, AISI 316L SS, HDPE, UHMW-PE, EPDM (Peroxide Cured)		

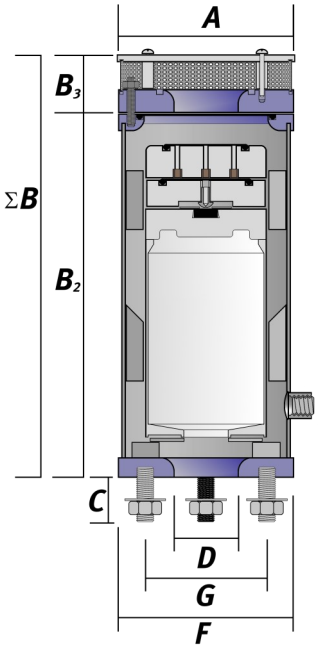
Model WTW: Series C—Dimensions

275 psi (19 Bar); 363 psi (25 Bar)

Male NPT Threaded



ANSI B16.5 Stud Pattern



Base Part Number	Valve Size	Pressure Rating	Top Flange Dia.	Valve Height					Nipple or Stud Length	Base Flange Dia.	Stud Circle Dia.	# of Studs	Stud Size	Weight
	D		A	B[1]	B[2]	B[3]	ΣB	H	C	F	G			
	inch	psi	inch	inch	inch	inch	inch	inch	inch	inch	inch		inch	lbs.
Male NPT Threaded														
01WTW25TCS	See Model WTR													
02WTW25TCS														
03WTW25TCS	3	3-363	7 1/2	—	9 1/4	2 1/2	11 3/4	—	2	7 1/2	—	—	—	42
34WTW25TCS	3	3-363	7 1/2	—	9 1/4	2 1/2	11 3/4	—	2	7 1/2	—	—	—	45
04WTW25TCS	4	3-363	9 1/8	—	11 5/8	3 1/8	14 3/4	—	2	9 1/8	—	—	—	59
ANSI B16.5 ANSI Class 150 Stud Pattern														
01WTW25SCS	See Model WTR													
02WTW25SCS														
03WTW25SCS	3	3-363	7 1/2	—	9 1/4	2 1/2	11 3/4	—	2	7 1/2	6	4	5/8	42
34WTW25SCS	4	3-363	7 1/2	—	9 1/4	2 1/2	11 3/4	—	2	9 1/8	7 1/2	4	5/8	45
04WTW25SCS	4	3-363	9 1/8	—	11 5/8	3 1/8	14 3/4	—	2	9 1/8	7 1/2	8	5/8	59
06WTW25SCS	6	3-363	11 1/2	—	13 5/8	3 5/8	17 1/4	—	2 1/4	11 1/2	9 1/2	8	3/4	91
08WTW19SCS	8	3-275	14 3/4	—	19 1/4	4 7/8	24 1/4	—	2 1/4	14 3/4	11 3/4	8	3/4	162
10WTW19SCS	10	3-275	17 1/2	—	23 1/8	6 5/8	29 3/4	—	2 1/2	17 1/2	14 1/4	12	7/8	297
12WTW19SCS	12	3-275	22 1/2	—	27	6 1/4	33 1/4	—	2 1/2	22 1/2	17	12	7/8	
14WTW19SCS	14	3-275	27	—	31 3/8	6 1/2	37 7/8	—	2 3/4	27	18 3/4	12	1	
16WTW10SCS	16	3-150	27	—	36 7/8	7	43 7/8	—	3	27	21 1/4	16	1	

Model WTW: Series C—Flow Data

275 psi (19 Bar); 363 psi (25 Bar)

Valve Code	Pipe Connection*			Nominal Valve Size	Operating Pressure Range	Small Nozzle Orifice Dia.	Anti-Surge Orifices†			Controlled Air Release thru Anti-Surge Orifices ‡	Vacuum Relief Capacity§
							Count	Size	Single Hole Equivalent		
	code			inch	psi	mm	each	mm	mm	max. cfm	min. cfm
01WTW	See Model WTR										
02WTW											
03WTW	T	S	R	3	< 3.0 - 363	1.5	4	6.35	12.6	544	1,408
04WTW	T	S	R	4	< 3.0 - 363	1.5	7	6.35	16.7	951	2,251
06WTW		S	R	6	< 3.0 - 363	2.4	4	12.7	25.4	2,208	4,740
08WTW		S	R	8	< 3.0 - 275	2.4	7	12.7	33.6	3,854	8,333
10WTW		S	R	10	< 3.0 - 275	3.0	5	19.05	42.6	6,177	12,565
12WTW		S	R	12	< 3.0 - 275	3.0	4	25.4	50.8	8,822	19,060
14WTW		S	R	14	< 3.0 - 275	Tailored to Application					23,376
16WTW		S	R	16	< 3.0 - 150						36,100

* T = Male NPT Thread, S = Studded Flange, R = Trophy Connection

† A minimum of 3 separate wear protected orifices. Quantity and sizes of orifices are customizable. Please contact factory for additional information. Not applicable to Series N valves.

‡ At pressure of 145 psig. Not applicable to Series N valves.

§ Cubic feet per minute (ft3/min) at 70° Fahrenheit,14.7 psi absolute and 5.08 psi differential. Not applicable to Series V valves.