

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

Series C—Combination Valve for Water



GENERAL SPECIFICATION

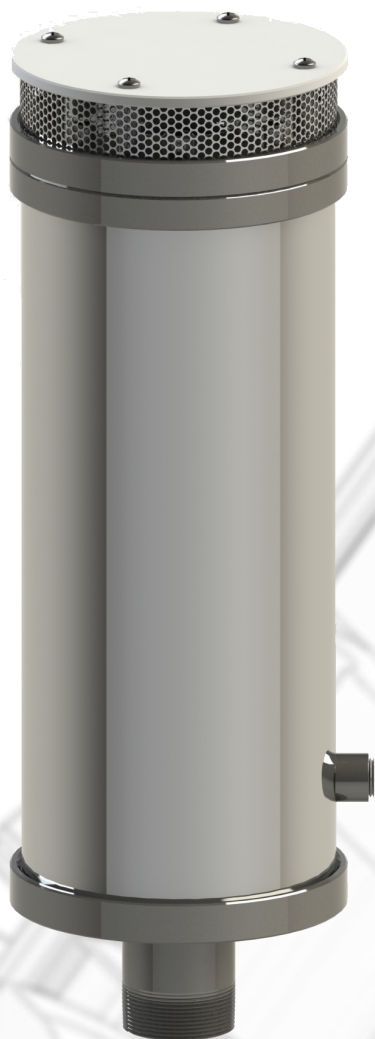
- The Original Flat Float Design—with over 30 improvements.
- Integral protection from water hammer and surge.
- Optimized for Zero Pressure Sealing.
- Full Port Vacuum Relief.
- Pressurized Air Release.

ISO 9001: 2015 CERTIFIED



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 WZW Standard Water Valve—Overview

The **Vent-Tech Model WZW** clean water valve combines thirteen years of manufacturing experience with advanced Patent Pending flow designs. The Model WZW was engineered to provide surge protection and seal at zero hydraulic head (i.e. no reliance on a minimum pipeline pressure to achieve seal). If the HGL is expected to be consistently maintained above 3 psi then use a Model WTW valve, otherwise for valve sizes 2-inch and larger, we recommend using the Model WZW. 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

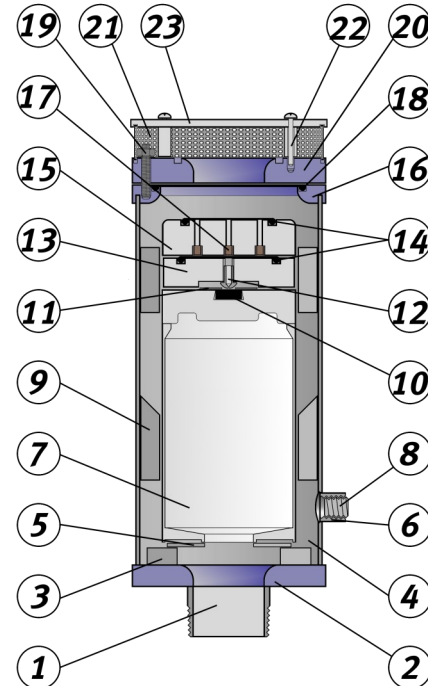
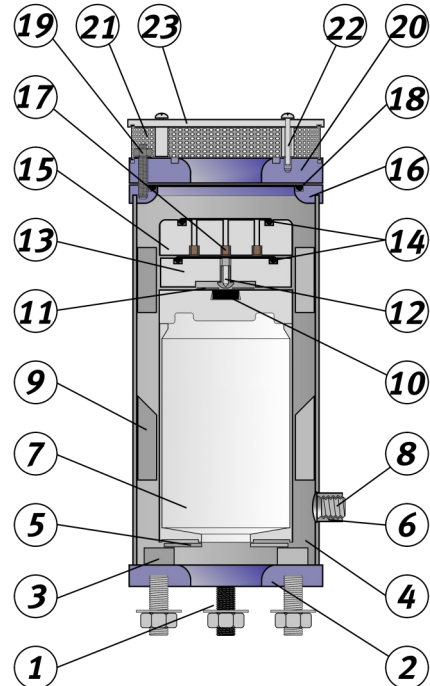
FEATURES

- Integral anti-shock/surge floats limit surge pressure.
- Minimum sealing pressure at 0 psi.
- Rated for working pressures of 275 psi (19 Bar) or 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 ingress 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.

Made in USA

Model WZW: Series C—Materials of Construction

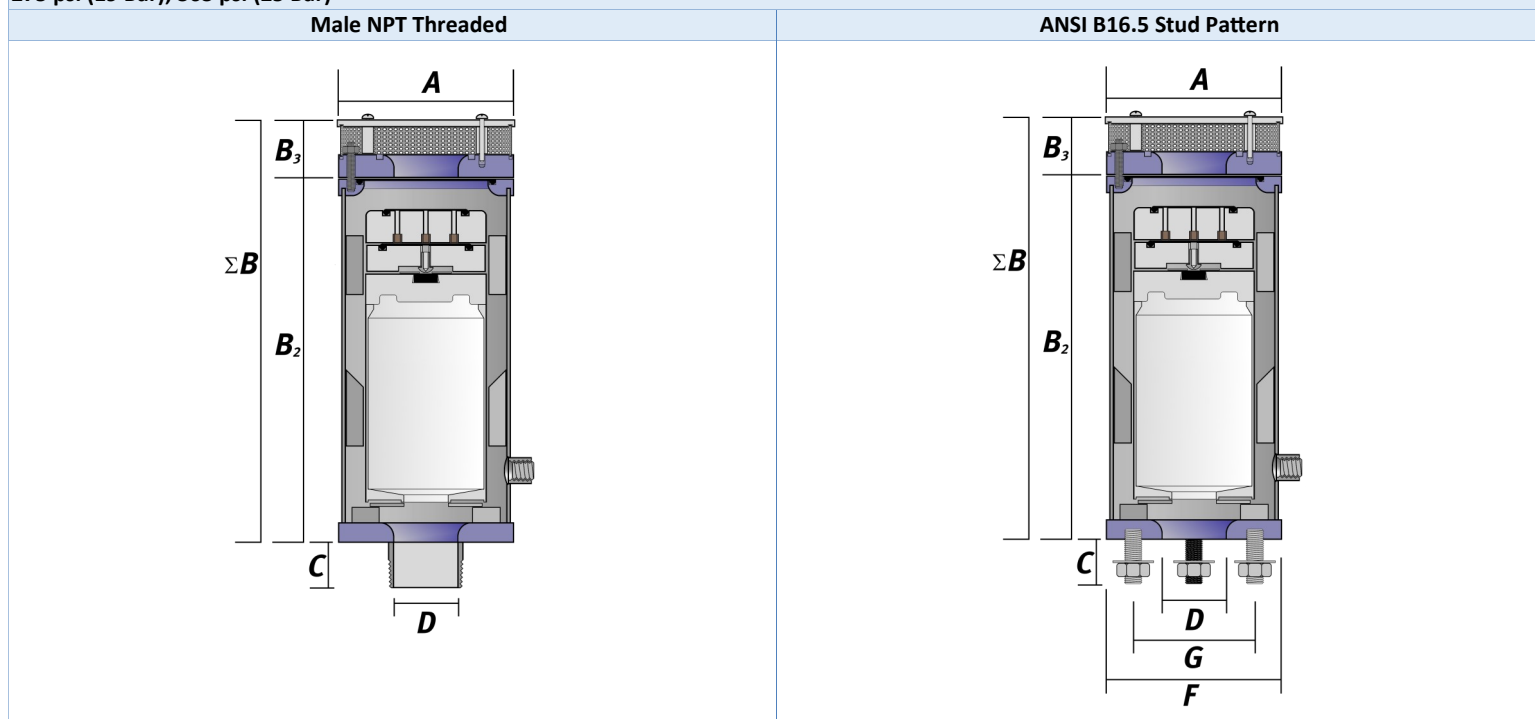
275 psi (19 Bar) 363 psi (25 Bar)

		Standard		Upgraded	
NPT Threaded Flange	ANSI B16.5 Stud Pattern	No.	Description	AISI 304L SS	AISI 316L SS
				-4	-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 Design	0 psi		
	Test	275 psi (19 Bar); 363 psi (25 Bar)		
Maximum Temps	Operating	200 %		
	Intermittent	Exceeds 145° F (62° C) 180° F (82° C)		
Connections	Upper	Streamlined toroidal sealing flange with WTR-CS perforated Screen Guard 1-inch—see Model WTR 2 thru 16-inch with connection points for 'Top Hat' adapter.		
	Lower	Streamlined toroidal base flange transition 1 –inch— see Model WTR; 2-inch with Male NPT threaded connection 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 Nozzle Orifice Flow Tested	Certified - Pressurized Air-Release Anti-Surge Activation (Switch Point)	Certified - Vacuum Relief CFD & Physically Flow Tested
Material Specs		AISI 304L SS, AISI 316L SS, HDPE, UHMW-PE, EPDM (Peroxide Cured)		

Model WZW: Series C—Dimensions

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



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	psi	A	B ¹	B ²	B ³	ΣB	H	C	F	G		inch	lbs.
	inch		inch	inch	inch	inch	inch	inch	inch	inch	inch		inch	

Male NPT Threaded

01WZW25TCS	See Model WZR													
02WZW25TCS	2	3-363	7 1/4	—	16 1/8	2 1/4	18 3/8	—	2	7 1/4	—	—	—	43
03WZW25TCS	3	3-363	7 1/4	—	21 1/4	2 1/8	23 3/8	—	2	7 1/2	—	—	—	44
04WZW25TCS	4	3-363	9 1/8	—	—	—	—	—	2	9 1/8	—	—	—	64

ANSI B16.5 ANSI Class 150 Stud Pattern

01WZW25SCS	See Model WZR													
02WZW25SCS	2	3-363	—	—	16 1/8	2 1/4	18 3/8	—	2	7 1/4	4 3/4	4	1/2	43
03WZW25SCS	3	3-363	7 1/4	—	21 1/4	2 1/8	23 3/8	—	2	7 1/4	6	4	5/8	44
04WZW25SCS	4	3-363	9 1/8	—	18 1/4	3 1/8	21 3/8	—	2	9 1/8	7 1/2	8	5/8	64
06WZW25SCS	6	3-363	11 1/2	—	20 7/8	3 5/8	24 1/2	—	2 1/4	11 1/2	9 1/2	8	3/4	112
08WZW19SCS	8	3-275	14 3/4	—	23 1/4	4 7/8	23 1/8	—	2 1/2	14 3/4	11 3/4	8	3/4	181
10WZW19SCS	10	3-275	17 1/2	—	28 3/8	6 5/8	35	—	2 1/2	17 1/2	14 1/4	12	7/8	337
12WZW19SCS	12	3-275	22 1/2	—	32 1/2	6 1/4	38 3/4	—	2 1/2	22 1/2	17	12	7/8	
14WZW19SCS	14	3-275	27	—	38 3/8	6 1/2	44 7/8	—	2 3/4	27	18 3/4	12	1	
16WZW10SCS	16	3-150	27	—	44 7/8	7	51 7/8	—	3	27	21 1/4	16	1	

Model WZW: 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 [§]
	code						Count	Size	Single Hole Equivalent		
				inch	psi	mm	each	mm	mm	max. cfm	min. cfm
01WZW	See Model WZR										
02WZW	T	S	R	3	< 3.0 - 363	1.5	4	4.5	9	271	655
03WZW	T	S	R	3	< 3.0 - 363	1.5	4	6.35	12.6	544	1,333
04WZW	T	S	R	4	< 3.0 - 363	1.5	7	6.35	16.7	951	2,124
06WZW		S	R	6	< 3.0 - 363	2.4	4	12.7	25.4	2,208	4,550
08WZW		S	R	8	< 3.0 - 275	2.4	7	12.7	33.6	3,854	7,861
10WZW		S	R	10	< 3.0 - 275	3.0	5	19.05	42.6	6,177	11,854
12WZW		S	R	12	< 3.0 - 275	3.0	4	25.4	50.8	8,822	17,981
14WZW		S	R	14	< 3.0 - 275		Tailored to Application				22,052
16WZW		S	R	16	< 3.0 - 150						34,057

* 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.