

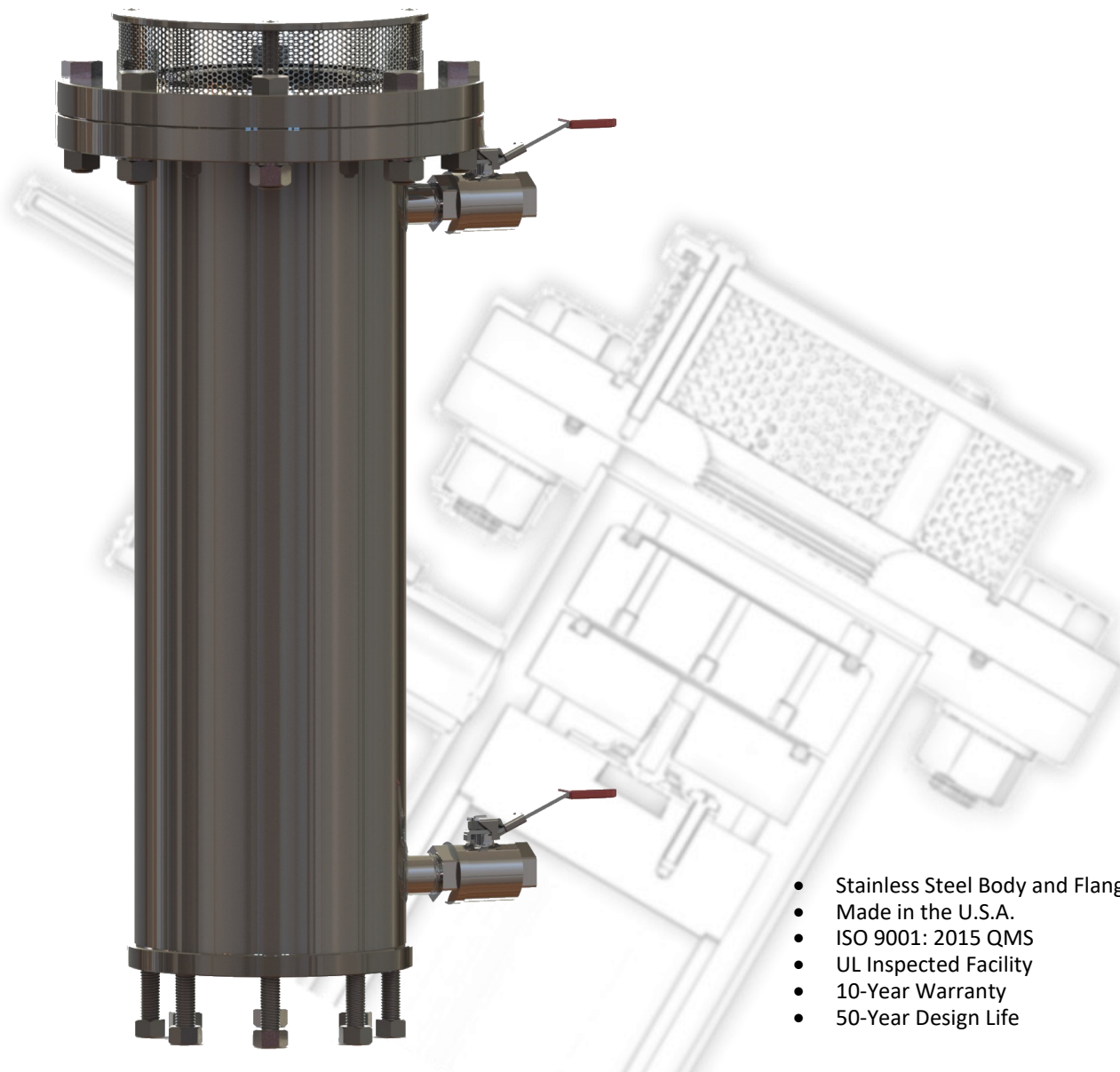
Vent-Tech Model SWG—145 psi (10 Bar)

Series C—Combination Air Valve for Wastewater



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.



- 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 SWG Standard Waste Water Valve—Overview

The **Vent-Tech Model SWG** sewer valve combines thirteen years of manufacturing experience with advanced Patented flow designs. The Model SWG was engineered to expand and improve the technological advances of the flat float air/vacuum valve.

APPLICATION

- Waste Water Systems
- Force Mains
- High Points
- Lift Stations

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 145psi (10 bar). Optionally 232 or 362 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 SWG: Series C—Materials of Construction

145 psi (10 Bar)

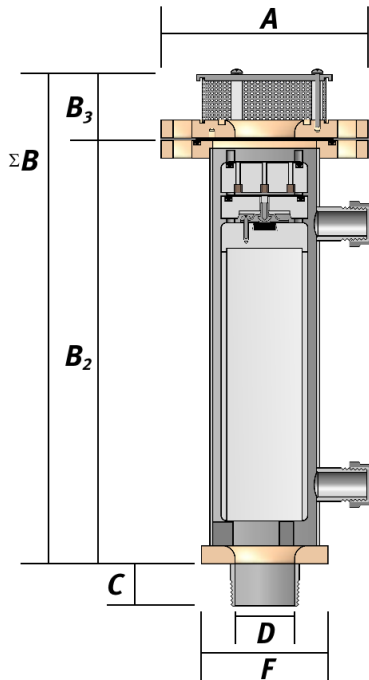
Male NPT Threaded Flange		Studded Flange		No.	Description	AISI 304L SS	AISI 316L SS
		1	Male NPT Threaded Nipple	304L SS	316L SS		
		2	ANSI B16.5 Stud Pattern	304L SS	316L SS		
		3	Streamlined Toroidal Base Flange	304L SS	316L SS		
		4	Control Float Stand-Offs	304L SS	316L SS		
		5	Valve Body	304L SS	316L SS		
		6	Control Float	UHMW-PE	UHMW-PE		
		7	Lower Side-Cap	304L SS	316L SS		
		8	Nozzle Button	Rubber	Rubber		
		9	Lower Side-Port Stem	304L SS	316L SS		
		10	Nozzle Assembly	316L SS	316L SS		
		11	Nozzle	316L SS	316L SS		
		12	Nozzle Float	UHMW-PE	UHMW-PE		
		13	Upper Side Port Cap	304L SS	316L SS		
		14	Protective Inserts	316L SS	316L SS		
		15	Upper Side-Port Stem	304L SS	316L SS		
		16	Multi-Orifice Anti-Surge Float	UHMW-PE	UHMW-PE		
		17	Dynamic O-ring Seal	Viton Rubber	Viton Rubber		
		18	Body Flange	304L SS	316L SS		
		19	Static O-ring Seal	Buna N Rubber	Buna N Rubber		
		20	Streamlined Toroidal Sealing Flange	304L SS	316L SS		
		21	Screen Assembly Fasteners	304L SS	316L SS		
		22	Screen	304L SS	316L SS		
		23	Adapter Plate O-Ring Groove				
		24	Screen Standoff	Plastic	Plastic		
25	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	145 psi (10 Bar)		
Maximum Temps	Test	200 %		
	Operating	Exceeds 145° F (62° C)		
Connections	Intermittent	180° F (82° C)		
	Upper	Streamlined toroidal sealing flange with SWG-CS perforated Screen Guard 2-inch with female NPT threaded connection 3 thru 12-inch with connection points for 'Top Hat' adapter.		
Orifices	Lower	Streamlined toroidal base flange transition 2-inch with Male NPT threaded connection 3 thru 12-inch with ANSI B16.5 Class 150 studded flange (Class 300 studded flange pattern available on request)		
	Large	Streamlined toroidal transition to valve body At minimum, equal to the nominal diameter of the valve		
Side Port Connections	Anti-Surge	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		
Isolation Valve	Upper	1-inch male NPT fitted with temporary dust cap. Full port ball valve recommended. (Available on request.)		
	Lower	1 to 6-inch valve: 1-inch male NPT fitted with cap. 6-inch and above: 1 1/2-inch male NPT fitted with cap. Full port ball valve recommended. (Available on request.)		
Certifications / Registrations		Full port ball valve recommended. (Available on request.) ISO 9001: 2015 Registered Quality Management System		
AIS Compliance		When specified, raw material is controlled for USA Country of Origin Machining, fabrication, assembly, and coating always in USA		
Options	Fused Epoxy Lining—Code G		Custom Orifices—Code X	Side Port Ball Valve (s)—Code N (NN)
	Full Port Isolation Valve—Code B		Class 300 Flange Pattern—Code K	Pressure Gage Assembly
	Back-Flush Assembly—Code M			
Valve Tests	Each Unit	Leak test to 1.5x rated pressure	Pressurized air release (Drop Test)	Low Pressure Seal test
	Each Model	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 304 SS, AISI 316 SS, HDPE, UHMW-PE, EPDM, Viton, PVC		

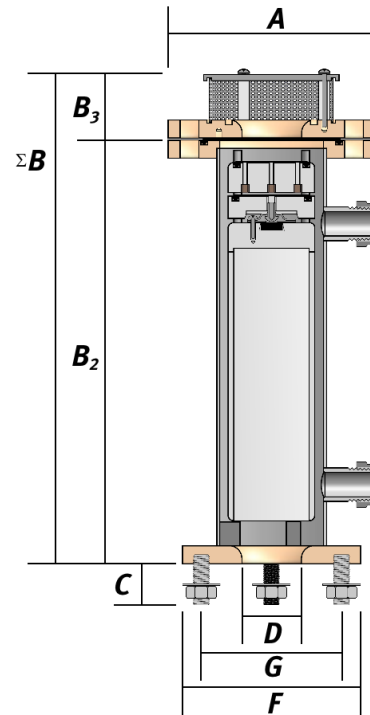
Model SWG: Series C—Dimensions

145 psi (10 Bar)

NPT Threaded Connection



ANSI B16.5 Studded Connection



Valve 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						
	inch	psi	inch	inch	inch	inch	inch	inch	inch	inch	inch	each	inch	lbs.
NPT Threaded Connection														
02SWG10TCS	2	145	7 3/8	-	29	2 1/2	31 1/2	-	2	5	-	0	-	31
03SWG10TCS	3	145	9 7/8	-	29 1/2	2 5/8	32 1/8	-	2 1/4	7 1/8	-	0	-	53
04SWG10TCS	4	145	9 7/8	-	29 5/8	3	32 5/8	-	2 1/4	7 1/8	-	0	-	52
ANSI B16.5 Studded Connection														
02SWG10SCS	2	145	7 3/8	-	29	2 1/2	31 1/2	-	2 1/4	5	4 3/4	4	5/8	31
03SWG10SCS	3	145	9 7/8	-	29 1/2	2 5/8	32 1/8	-	2 1/4	7 1/8	6	4	5/8	53
04SWG10SCS	4	145	9 7/8	-	29 5/8	3	32 5/8	-	2 1/4	9	7 1/2	8	5/8	58
54SWG10SCS	4	145	12	-	27 1/4	3 1/8	30 3/8	-	2 1/4	9	7 1/2	8	5/8	80
06SWG10SCS	6	145	14 1/4	-	39 1/4	3 3/4	43	-	2 1/2	11 3/8	9 1/2	8	3/4	141
08SWG10SCS	8	145	16 1/2	-	38 3/8	4 7/8	43 1/4	-	2 3/4	13 3/8	11 3/4	8	3/4	194
10SWG10SCS	10	145	21 1/2	-	49 1/4	6 1/8	55 3/8	-	2 3/4	17 1/2	14 1/4	12	7/8	378
12SWG10SCS	12	145	26	-	43 1/2	7	50 1/2	-	2 3/4	21	17	12	7/8	518

Model SWG: Series C—Flow Data

145 psi (10 Bar)

Valve Code	Pipe Connection*			Nom Valve Size	Operating Pressure Range	Nozzle Diameter	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
02SWG	T	S	R	2	< 3 - 145	1.5	4	4.5	9	271	586
03SWG	T	S	R	3	< 3 - 145	2	4	6.35	12.7	547	1,424
04SWG	T	S	R	4	< 3 - 145	2.5	7	6.3	16.7	942	1,891
54SWG		S	R	4	< 3 - 145	2.5	9	6.35	19.1	1,218	2,514
56SWG		S	R	6	< 3 - 145	3	3	12.5	21.7	1,603	3,622
06SWG		S	R	6	< 3 - 145	5	4	12.7	25.4	2,201	4,598
08SWG		S	R	6	< 3 - 145	6	7	12.7	33.6	3,834	7,964
10SWG		S	R	10	< 3 - 145	6	5	19.05	42.6	6,177	11,248
12SWG		S	R	12	< 3 - 145	6	4	25.4	50.8	8,822	17,308

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

† Quantity and sizes of orifices are customizable. Please contact factory for additional information

‡ At pressure of 145 psig

§ Cubic feet per minute (ft³/min) at 70° Fahrenheit, 14.7 psi absolute and 5.08 psi differential