



SEWER

International Valve Marketing, LLC 483 Heartland Drive, Unit C Sugar Grove, IL 60554

Telephone: (630)-466-0300 Facsimile: (630)-466-0302

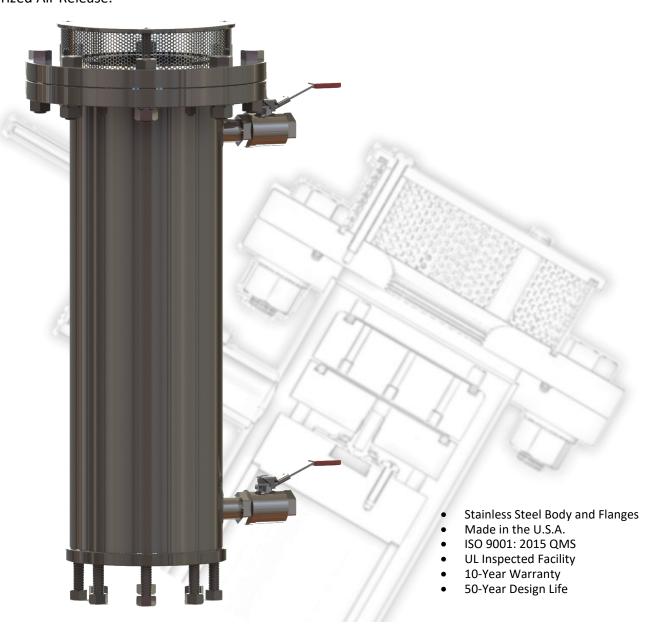
Website: www.internationalvalve.com

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.



Model SWG Standard Waste Water Valve—Overview

The <u>Vent-Tech Model SWG</u> 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 Re- lease at Start-Up	Air Release Under Pressure	Full Port Vacuum Relief	Surge Control
Series C	95%	X		Χ	Χ	Χ
Series B	5%		Х	Х	X	X
Series V	< 1%	Х		Х		Х
Series N	< 1%				Х	

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 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.

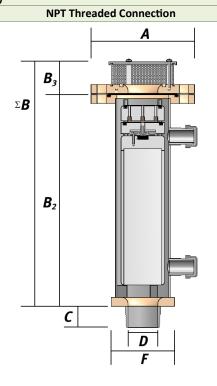


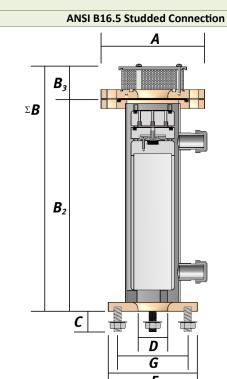
International Valve / Vent-Tech General Specification—SWG-C Series

145 psi (10 Bar)					Standard	Upgraded
	hreaded Flange	Studded Flange	No.	Description	AISI 304L SS	AISI 316L SS
IVIAIC IVI I	in educu i lange	Studued Hange	140.	Male NPT Threaded Nipple	304L SS	316L SS
			1	ANSI B16.5 Stud Pattern	304L SS	316L SS
			2	Streamlined Toroidal Base Flange	304L SS	316L SS
			3	Control Float Stand-Offs	304L SS	316L SS
			4	Valve Body	304L SS	316L SS
19 21 23	3) (24) (22) (2	20 19 21 23 24 22 20	5	Control Float	UHMW-PE	UHMW-PE
		20 21 23 24 22 20	6	Lower Side-Cap	304L SS	316L SS
17		8 17 \	7	Nozzle Button	Rubber	Rubber
17\\\\		8 17 \	8	Lower Side-Port Stem	304L SS	316L SS
			9	Nozzle Assembly	316L SS	316L SS
15		16 15	10	Nozzle	316L SS	316L SS
			11	Nozzle Float	UHMW-PE	UHMW-PE
13		14) 13	12	Upper Side Port Cap	304L SS	316L SS
			13	Protective Inserts	316L SS	316L SS
11		12) (11)	14	Upper Side-Port Stem	304L SS	316LL SS
\sim / \parallel			15	Multi-Orifice Anti-Surge Float	UHMW-PE	UHMW-PE
(9)/		(10) (9) -(10)	16	Dynamic O-ring Seal	Viton Rubber	Viton Rubber
			17	Body Flange	304L SS	316 LSS
7)		8) (7) (8)	18	Static O-ring Seal	Buna N Rubber	Buna N Rubb
			19	Streamlined Toroidal Sealing Flange		316L SS
5		6) (5)	20	Screen Assembly Fasteners	304L SS	316L SS
<u> </u>			21	Screen Screen	304L SS	316L SS
3		4) (3)	22	Adapter Plate O-Ring Groove	JUTL JJ	310533
			23	Screen Standoff	Plastic	Plastic
1		2) (1)	24	Screen Lid	UHMW-PE	UHMW-PE
				lafarrantian Cubicatas Ch		
ody		Tubular elongated body, sized to provide inlet and outlet connections for the unob-	a pass	Information Subject to Ch sageway with a cross sectional area w	hich exceeds that	of the valve's
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Operating Pressure Maximum Pemps Connections Orifices ide Port Connections Solation Valve Pertifications	Design Test Operating Intermittent Upper Lower Large Anti-Surge Nozzle Upper Lower Registrations	inlet and outlet connections for the unobe < 3 psi (< 0.2 Bar) 145 psi (10 Bar) 200 % Exceeds 145° F (62° C) 180° F (82° C) Streamlined toroidal sealing flange with S 2-inch with female NPT threaded connects 3 thru 12-inch with connection points for Streamlined toroidal base flange transitio 2-inch with Male NPT threaded connects 3 thru 12-inch with ANSI B16.5 Class 150 s Streamlined toroidal transition to valve be At minimum, equal to the nominal diame Multiple tubular orifices to evenly distribut 316 SS wear-resistant inserts in tubular or See Flow Data Table 1-inch male NPT fitted with temporary du Full port ball valve recommended. (Availa 1 to 6-inch valve: 1-inch male NPT fitted v 6-inch and above: 1 1/2-inch m	WG-Coon from the structure of the struct	Sageway with a cross sectional area weed flow of air. Certified to twice the veed flow of air. Certified to twice the veed flow of air. Certified to twice the veed flange (Class 300 studded flange paths valve essurized air across the face of the flot to protect against heat softening and to protect against heat softening agains	ettern available on lat labrasive wear	request))—Code N (NN)
perating Pressure Maximum Pemps Connections Orifices ide Port Connections Solation Valve Pertifications / MIS Compliance Options	Design Test Operating Intermittent Upper Lower Large Anti-Surge Nozzle Upper Lower	inlet and outlet connections for the unobe < 3 psi (< 0.2 Bar) 145 psi (10 Bar) 200 % Exceeds 145° F (62° C) 180° F (82° C) Streamlined toroidal sealing flange with S 2-inch with female NPT threaded connect 3 thru 12-inch with connection points for Streamlined toroidal base flange transitio 2-inch with Male NPT threaded connectio 3 thru 12-inch with ANSI B16.5 Class 150 s Streamlined toroidal transition to valve be At minimum, equal to the nominal diame Multiple tubular orifices to evenly distribut 316 SS wear-resistant inserts in tubular or See Flow Data Table 1-inch male NPT fitted with temporary dur Full port ball valve recommended. (Availa 1 to 6-inch valve: 1-inch male NPT fitted v 6-inch and above: 1 1/2-inch male NPT fitted v 6-inch and above: 1 1/2-inch male NPT fitted v 6-inch and above: 1 1/2-inch male NPT fitted v 6-inch and above: 1 1/2-inch male NPT fitted v 6-inch and above: 1 1/2-inch male NPT fitted v 6-inch and above: 1 1/2-inch male NPT fitted v 6-inch and above: 1 1/2-inch male NPT fitted v 6-inch and above: 1 1/2-inch male NPT fitted v 6-inch sale valve recommended. (Availa ISO 9001: 2015 Registered Quality Manag When specified, raw material is controlled Machining, fabrication, assembly, and coa Fused Epoxy Lining—Code G Full Port Isolation Valve—Code B Back-Flush Assembly—Code M Leak test to 1.5x rated pressure	WG-C ion 'Top I n n studde ter of ite pro iffices sst cap ble or vith ca ted w ble or ble or emen d for U ating a custon	Sageway with a cross sectional area weed flow of air. Certified to twice the veed flow of air. Certified to twice the veed flow of air. Certified to twice the veed flange (Class 300 studded flange paths valve essurized air across the face of the flot to protect against heat softening and to protect against heat softening agains	e Port Ball Valve (s) ssure Gage Asseml	request) —Code N (NN) oly
Operating Pressure Maximum Pemps Connections Orifices ide Port Connections Solation Valve Pertifications	Design Test Operating Intermittent Upper Lower Large Anti-Surge Nozzle Upper Lower Registrations	inlet and outlet connections for the unobe < 3 psi (< 0.2 Bar) 145 psi (10 Bar) 200 % Exceeds 145° F (62° C) 180° F (82° C) Streamlined toroidal sealing flange with S 2-inch with female NPT threaded connect 3 thru 12-inch with connection points for Streamlined toroidal base flange transitio 2-inch with Male NPT threaded connectio 3 thru 12-inch with ANSI B16.5 Class 150 s Streamlined toroidal transition to valve be At minimum, equal to the nominal diame Multiple tubular orifices to evenly distribut 316 SS wear-resistant inserts in tubular or See Flow Data Table 1-inch male NPT fitted with temporary dur Full port ball valve recommended. (Availa 1 to 6-inch valve: 1-inch male NPT fitted v 6-inch and above: 1 1/2-inch male NPT fitted v 6-inch and above: 1 1/2-inch male NPT fitted v 6-inch and above: 1 1/2-inch male NPT fitted v 6-inch and above: 1 1/2-inch male NPT fitted v 6-inch and above: 1 1/2-inch male NPT fitted v 6-inch and above: 1 1/2-inch male NPT fitted v 6-inch and above: 1 1/2-inch male NPT fitted v 6-inch and above: 1 1/2-inch male NPT fitted v 6-inch and above: 1 1/2-inch male NPT fitted v 6-inch sale value recommended. (Availa ISO 9001: 2015 Registered Quality Manag When specified, raw material is controlled Machining, fabrication, assembly, and coa Fused Epoxy Lining—Code G Full Port Isolation Valve—Code B Back-Flush Assembly—Code M Leak test to 1.5x rated pressure	WG-Coion 'Top In n n studde ody ter of tifices st cap ble or vith ca ted w ble or ble or emen d for U ating a fuston custon cust	Sageway with a cross sectional area weed flow of air. Certified to twice the veed flow of air. Certified to twice the veed flow of air. Certified to twice the veed flange (Class 300 studded flange paths and the valve essurized air across the face of the flow to protect against heat softening and to protect against heat softening and the cap. In request.) In request.) In request.) It System JSA Country of Origin always in USA In Orifices—Code X OO Flange Pattern—Code K Prevized air release (Drop Test) Lowed - Pressurized Air-Release Certification of twice the veet of the flow to protect against heat softening and the control of the flow to protect against heat softening and the control of the flow to protect against heat softening and the control of the flow to protect against heat softening and the control of the flow to protect against heat softening and the control of the flow to protect against heat softening and the control of the flow to protect against heat softening and the control of the flow to protect against heat softening and the control of the flow to protect against heat softening and the control of the flow to protect against heat softening and the control of the flow the control of the flow to protect against heat softening and the control of the flow to protect against heat softening and the control of the flow to protect against heat softening and the control of the flow to protect against heat softening and the control of the flow to protect against heat softening and the control of the flow to protect against heat softening and the control of the flow to protect against heat softening and the control of the flow to protect against heat softening and the control of the flow the control of the cont	e Port Ball Valve (s)	request) —Code N (NN) oly t

Model SWG: Series C—Dimensions

145 psi (10 Bar)





Valve Part	Valve Size	Pres-	Top Flange Dia.	Valve Height					Nipple or Stud Length	Base Flange Dia.	Stud Circle Dia.	# of Studs	Stud Size	Weight
Number		Rating	Α	B ¹	B ²	B ³	ΣΒ	Н	С	F	G			
	inch	psi	inch	inch	inch	inch	inch	inch	inch	inch	inch	each	inch	lbs.
NPT Threaded (Connectio	n												
02SWG10TCS	2	145	7 3/8	-	28 3/8	2 1/2	30 7/8	-	2	5	-	0	-	31
03SWG10TCS	3	145	9 7/8	-	28 7/8	2 5/8	31 1/2	-	2 1/4	7 1/8	-	0	-	53
04SWG10TCS	4	145	9 7/8	-	28 7/8	3	31 7/8	-	2 1/4	7 1/8	-	0	-	53
ANSI B16.5 Clas	s 150 Stu	dded Co	nnection				·							
02SWG10SCS	2	145	7 3/8	-	28 3/8	2 1/2	30 7/8	-	2 1/4	5	4 3/4	4	5/8	31
03SWG10SCS	3	145	9 7/8	-	28 7/8	2 5/8	31 1/2	-	2 1/4	7 1/8	6	4	5/8	53
04SWG10SCS	4	145	9 7/8	-	28 7/8	3	31 7/8	-	2 1/4	9	7 1/2	8	5/8	58
54SWG10SCS	4	145	12	-	26 1/2	3 1/8	29 5/8	-	2 1/4	9	7 1/2	8	5/8	80
56SWG10SCS	6	145	12	-	27 1/8	3 1/8	30 1/4	-	2 1/2	11 3/8	9 1/2	8	3/4	85
06SWG10SCS	6	145	14 1/4	-	38 3/8	3 3/4	42 1/8	-	2 1/2	11 3/8	9 1/2	8	3/4	141
08SWG10SCS	8	145	16 1/2	-	37 3/8	4 7/8	42 1/4	-	2 3/4	13 3/8	11 3/4	8	3/4	194
10SWG10SCS	10	145	21 1/2	-	48	6 1/8	54 1/8	-	2 3/4	17 1/2	14 1/4	12	7/8	378
12SWG10SCS	12	145	26	-	48	7	55	-	2 3/4	21	17	12	7/8	541

Table 2: Model SWG Series C—Flow Data

145 psi (10 Bar)

143 psi (10 bai)												
	Pipe			Nom Valve	Operating	Nozzle	μ.	Anti-Surge Orifi	ices†	Controlled Air Re-	Vacuum Relief Ca-	
Valve Code	Connection*			Size	Pressure Range	Diameter	Count	Size	Single Hole Equivalent	lease Thru Anti- Surge Orifices ‡	pacity §	
	code		!	inch	psi	mm	each	mm	mm	max. cfm	min. cfm	
02SWG-C	Т	S	R	2	< 3 - 145	1.5	4	4.5	9	271	609	
03SWG-C	Т	S	R	3	< 3 - 145	2	4	6.35	12.7	547	1,424	
04SWG-C	Т	S	R	4	< 3 - 145	2.5	7	6.3	16.7	942	1,745	
54SWG-C		S	R	4	< 3 - 145	2.5	9	6.35	19.1	1,218	2,560	
56SWG-C		S	R	6	< 3 - 145	3	3	12.5	21.7	1,603	3,622	
06SWG-C		S	R	6	< 3 - 145	5	4	12.7	25.4	2,201	4,380	
08SWG-C		S	R	6	< 3 - 145	6	7	12.7	33.6	3,834	8,181	
10SWG-C		S	R	10	< 3 - 145	6	5	19.05	42.6	6,177	11,248	
12SWG-C		S	R	12	< 3 - 145	6	4	25.4	50.8	8,822	17,657	

^{*} 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