

Vent-Tech Model SXG - Series C

235 psi (16 Bar) - Combination Air Valve for Wastewater



GENERAL SPECIFICATION

- Optimized for Low Pressure Sealing. Less than 1 psi
- Compact Design
- Rapid Anti-Surge Activation
- Patented technology designed for Vent-Tech Z-Valves™



03 SXG 16 SCS

- Stainless Steel 316L Body and Flanges
- Made in the U.S.A.
- ISO 9001: 2015 QMS
- UL Inspected Facility
- 10-Year Warranty
- 50-Year Design Life

Model SXG Standard Wastewater Valve—Overview

The **Vent-Tech Model SXG** is our best 3 thru 12-Inch, compact low pressure sealing CARV. It is essentially a shorter version of the Flanged SWG air/vacuum relief valve with improved flow performance and sealing characteristics. In applications where clearance height is ample, valve weight is not a factor and you require 0 psi sealing pressure, specify the “Z-Valve™” and for 3 psi applications, use Model SWG. For less than 1 psi applications and where height is limited, we recommend specifying the Model SXG. Refer to Model SDG for 2-inch size.

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

- Designed and manufactured for wastewater applications.
- Reduced height versus full height flat float designs
- Manufactured in 316 Stainless Steel.
- Working Pressures of 16 bar (235 psi). Max ASME burst pressure rating of 2,400 psi.
- Minimum sealing pressure at < one (1) psi.
- Self-flushing at pump shut-down and valve emptying.
- Perforated Screens to minimize maintenance
- Inlets, outlets, and internal clearances have a cross-sectional area at least equal to that of the valve’s nominal size.
- Valve flanges are designed to minimize energy losses.
- The anti-shock/surge floats automatically limit surge and transient pressure.
- Wear-protected multi-orifice anti-shock/surge floats provide customizable surge orifice characteristics
- Performance verification by 3rd party testing. Customer witness testing is available.

Made in USA

Model SXG: Series C—Materials of Construction

235 psi (16 Bar)

NPT Threaded Nipple		ANSI B16.5 Stud Pattern		No.	Description	Standard 316L SS -6
				1	Male NPT Threaded Connection ANSI B16.5 Studded Flange Pattern	316 SS
				2	Streamlined Toroidal Base Flange	316 SS
				3	Flow Insert	Epoxy
				4	Valve Body	316 SS
				5	Control Float Stand-Offs	316 SS
				6	Lower Side-Port Cap	316 SS
				7	Control Float	UHMW-PE
				8	Lower Side-Port	316 SS
				9	Float Guide Rails	316 SS
				10	Nozzle Seat	EPDM Rubber
				11	Nozzle Assembly Screw	316 SS
				12	Nozzle Assembly	316 SS
				13	Nozzle Float	UHMW
				14	Upper Side-Port Cap (Temporary)	Plastic (Temporary)
				15	Dynamic O-ring Seal	Viton
				16	Upper Side Port	316 SS
				17	Body Flange	316 SS
				18	Alignment Bolt	316 SS
				19	Streamlined Sealing Flange	316 SS
				20	Static O-ring Seal	EPDM Rubber/ Buna N
				21	Debris Screen	316 SS
				22	Anti Surge Float / Spacer	UHMW-PE / Nylon
				23	Screen Stand-off / Fasteners	Polypropylene
				24	Protective Insert	316 SS
				25	Spring	316 SS
				26	Debris Screen Lid	UHMW-PE

Information Subject to Change without Notice

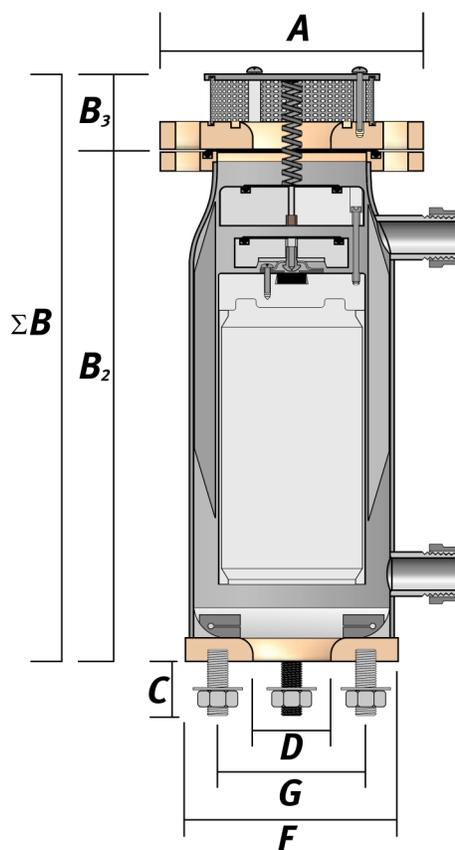
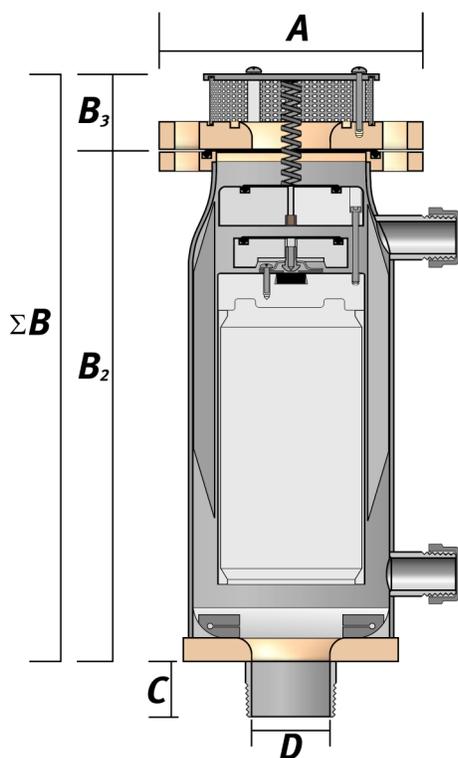
Body	The valve body shall be a tubular, single chamber, short body capable of accepting a smooth bonded low density lining to minimize adhesion of fats and debris and manufactured of Type 316L (or optionally Type 304L) Stainless Steel. The valve body shall be internally constructed to provide an unobstructed circular space between the UHMW floats and inner valve body wall. Valves shall include an upper gauge port and lower flushing port and these ports shall be of the same material as the valve body. Designed with a minimum 6x safety factor per AWWA and ASME		
Operating Pressure	Minimum Design	< 1 psi (< 0.1 Bar)	
	Test	235 psi (16 Bar)	
	Maximum Temp	150 %	
Maximum Temps	Operating Intermittent	Exceeds 145° F (62° C)	
		180° F (82° C)	
Connections	Inlet (Upper)	Streamlined sealing flange with perforated Screen Guard 3 thru 12-inch with connection points for 'Top Hat' adapter	
	Inlet (Lower)	3 thru 12-inch with ANSI B16.5 Class 150 studded flange (Class 300 studded flange pattern available on request)	
Orifices	Large	Streamlined air flow design At minimum, equal to the nominal diameter of the valve	
	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	2.0 mm to 6.0 mm to match operating pressures	
Side Port Connections	Full port ball valves recommended. (Available on request.)		
Isolation Valve	Supplied by others (Full port ball valve recommended and available on request)		
Certifications / Registrations	ISO 9001: 2015 Registered Quality Management System		
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 (S)—Code N (NN)	Custom Orifices—Code X	
	Full Port Isolation Valve—Code B	AIS Compliant—Code A	304L SS—Code 4
	Basic valve body can be pressure rated to 145 psi without changing the valve dimensions. Modified internal components may be required.		
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 316L SS, HDPE, UHMW-PE, Viton		

Model SXG: Series C—Dimensions

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NPT Threaded Nipple

ANSI B16.5 Stud Pattern



Base Part Number	Valve Size D inch	Pressure Rating psi	Top Flange Dia. A inch	Valve Height					Stud Length C inch	Base Flange Dia. F inch	Stud Circle Dia. G inch	# of Studs	Stud Size inch	Weight lbs.
				B ¹ inch	B ² inch	B ³ inch	ΣB inch	H inch						
Male NPT Threaded														
03SXG16TCS	3	235	11 1/4	-	19 5/8	2 3/8	22	-	1 3/4	7 1/8	7 1/2	4	5/8	59
04SXG16TCS	4	235	11 1/4	-	19 5/8	2 3/8	22	-	1 3/4	9	7 1/2	8	5/8	62
ANSI B16.5 ANSI Class 150 Stud Pattern														
03SXG16SCS	3	235	11 1/4	-	19 5/8	2 3/8	22	-	1 3/4	7 1/8	7 1/2	4	5/8	59
04SXG16SCS	4	235	11 1/4	-	19 5/8	2 3/8	22	-	1 3/4	9	7 1/2	8	5/8	62
06SXG16SCS	6	235	14 1/4	-	24 1/4	3 3/4	28	-	2 1/2	11 1/4	9 1/2	8	3/4	87
08SXG16SCS	8	235	16 1/2	-	27 1/8	4 7/8	32	-	2 3/4	13 1/4	11 1/2	8	3/4	128
10SXG16SCS	10	235	21 1/2	-	29 5/8	7 3/8	37	-	2 3/4	17 1/2	14 1/4	12	7/8	257

Table 2: Model SXG Series C —Flow Data

235 psi (16 Bar)

Valve Code	Pipe Connection*		Nominal Valve Size inch	Operating Pressure Range psi	Small Nozzle Orifice Dia. mm	Anti-Surge Orifices [†] mm (dia.)	Controlled Air Release thru Anti-Surge Orifices [‡] max. scfm.	Vacuum Relief Capacity [§] min. scfm.
	code							
03SXG	S	R	3	< 1 - 235	2.0	12.7	547	1,509
04SXG	S	R	4	< 1 - 235	2.5	16.7	942	2,146
06SXG	S	R	6	< 1 - 235	5.0	25.4	2,201	4,380**
08SXG	S	R	8	< 1 - 235	6.0	31.1	3,286	8,181
10SXG	S	R	10	< 1 - 235	6.0	42.6	6,177	11,248**

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

† 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

** Best estimated flow based on related valve models. Test results TBA.