

# MODEL 4100

## SPRING LOADED PRESSURE/VACUUM VENT END-OF-LINE

### OVERVIEW

The Model 4100 end-of-line spring loaded conservation vent provides pressure and vacuum relief in applications where higher pressure settings are required.

### SPECIAL FEATURES

**Modular:** The Model 4100 spring loaded end-of-line conservation vent is part of the Valve Concepts, Inc. modular vent product line. The Model 4100 can easily be field converted to a vacuum only vent, a pressure/vacuum vent with pipe away and can either be direct acting or pilot operated. Only Valve Concepts offer complete modularity throughout its complete vent product line.

**Maintains Accurate Settings:** The minimum pressure setting is .5 oz./in<sup>2</sup> and the minimum vacuum setting is .5 oz./in<sup>2</sup>. Maximum pressure setting is 15 psig and maximum vacuum setting is 15 psig. Lower settings may require weights instead of springs on the vacuum side. All vents are tested to Valve Concepts, Inc. high standards for both leakage and set point prior to shipment. A certified test certificate is included with each vent verifying the accuracy of both the pressure and vacuum setting and leakage. A leakage rate of less than 1 SCFH at 90% of set point is verified for both pressure and vacuum.

**Condensate Drainage:** Self-draining housing body and drip rings keep condensate away from seating surfaces, preventing freezing, binding and clogging.

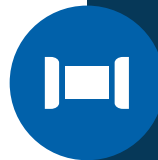
**Air-Cushioned Seating:** Air-cushion seating provides tight sealing to reduce evaporation losses and the release of toxic vapors to the atmosphere, except under normal breathing conditions. The pallets have outer guiding and center stabilizing stem to provide self alignment and tight seating.

### TECHNIQUE

A spring loaded pallet on the pressure side of the vent allows the discharge of vapors to the atmosphere when the tank pressure exceeds the set point and a weight loaded/spring pallet on the vacuum side of the vent allows the intake of air when the tank vacuum exceeds the set point. The pallets open and close to regulate the tank pressure within permissible limits to avoid damage to the low pressure tank as the tank normally breathes due to thermal changes or product movement. Virtually eliminates the intake of air and the escape of vapors, except during normal tank breathing, thus reducing product loss.



MODEL 4100



### LINE SIZES AVAILABLE

2" (DN50), 3" (DN80), 4" (DN100),  
6" (DN150)



### END CONNECTIONS

FLANGED



### COMMON APPLICATIONS

WHERE HIGHER PRESSURE SETTINGS  
ARE REQUIRED



### DESIGN PRESSURE

MULTIPLE SET PRESSURE & VACUUM  
RANGES AVAILABLE

## CONSTRUCTION

**Housing Material:** The Model 4100 vent is a rugged design made to last. Available in Aluminum, Carbon Steel or 316 SST.

**Sizes - Connections.** Available in Sizes 2" through 6". CS and SST vents have Raised Face Flange, Aluminum vents have Flat Face Flange to mate with standard ASME 150# flange connections.

MATERIALS OF CONSTRUCTION		
Series	Housing	Pallet
4100CS	CS	316 SST
4100SST	316 SST	316 SST
4100A	Aluminum	316 SST

**Pallet Diaphragm Material:** FEP TFE is Standard. Also available Buna-N, EPDM or Fluorocarbon Elastomer (FKM).

## STANDARD/GENERAL SPECIFICATIONS

**Gaskets:** Standard: TFE/TFE Rope

**Painting:** Standard: Exterior coating will be a combination of Cashco Paint Specs #S-1777 epoxy and #S-1743 powder coated. Fasteners, seat surfaces and corrosion resistant parts excluded.

**Diaphragm Temperature Limits:**  
FEP-TFE:  
 -400° to 400° F (-240° to 204°C)  
Fluorocarbon Elastomer – (FKM):  
 -20° to 400° F (-28° to 204°C)  
Buna-N (Nitrile-NBR):  
 -30° to 200° F (-34° to 93°C)  
EPDM (Ethylenepropylene):  
 -40° to 225° F (-40° to 107°C)

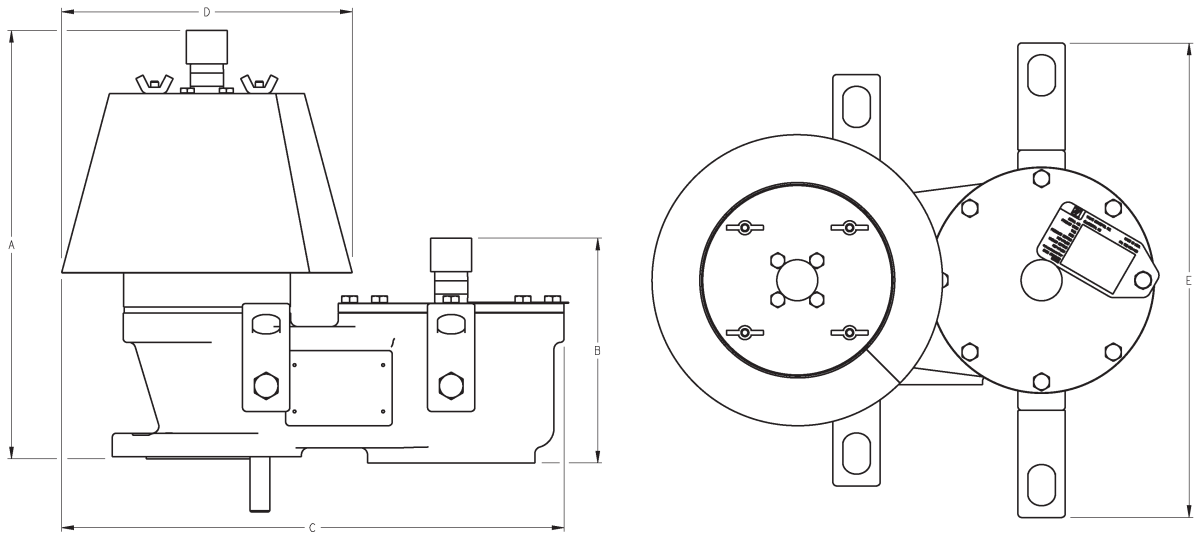
**Pressure & Vacuum Ranges:** See Table 4 and Table 6 on the coder. Differential Pressures greater than 2 psid will limit the minimum vacuum set point to 2 oz/in<sup>2</sup>.

## OPTION SPECIFICATIONS

**BUG SCREEN** - 304 stainless steel, 4x4 welded mesh.

**FLAME SCREEN** - 304 stainless steel, 30x30 woven mesh

## DIMENSIONS



ENGLISH Units – in Aluminum, Carbon Steel & Stainless Steel Body							
SIZE	A	B	C	D	E	Wt. Alum lbs.	Wt. CS/ SST lbs.
2"	13.56"	7.12"	15.97"	9.22"	14.83"	26	49
3"	15.84"	8.16"	17.19"	9.74"	15.59"	32	65
4"	18.64"	9.59"	22.90"	13.04"	18.23"	51	104
6"	20.71"	10.69"	28.13"	16.05"	22.71"	72	152

METRIC Units - mm Aluminum, Carbon Steel & Stainless Steel Body							
SIZE (DN)	A	B	C	D	E	Wt. Alum kg.	Wt. CS/ SST kg.
(50)	344	181	406	234	377	11	22
(80)	402	207	436	247	396	14	29
(100)	473	244	582	331	463	23	47
(150)	526	272	714	408	577	32	69

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# 4100 Series PRODUCT CODE

02/07/20

Last 6 Characters reserved for SPQ drawing numbers assigned by Cashco Inc.  
(Format as - # # # # #)

**4** **1** **0** **POS 4** **POS 5** **B** **POS 7** **POS 8** **POS 9** **POS 10** **0** **0** **0** **0** **0** **0**

POSITION 4 - FLANGE - SIZE			
ASME INCH	CODE	DIN FLANGES DN (rating)	CODE
2"	2	50 (PN16)	H
3"	3	80 (PN16)	J
4"	4	100 (PN16)	K
6"	6	150 (PN16)	L

POSITION 5 - BODY / TRIM / WEATHER HOOD MATERIALS			
MATERIAL	Std. W/O Flamescreen	W/ Flame Screen	W/ Bug Screen
	CODE	CODE	CODE
ALUM/SST/SST	A	B	N
CS/SST/CS	C	D	P
SST/SST/SST	S	T	R

POSITION 7 - DIAPHRAGM MATERIALS	
Diaphragm	CODE
FEP TFE (Std.)	A
Buna-N	B
EPDM	D
FKM	F

POSITION 8 - PRESSURE SET POINT			
Weight Loaded Range		WEIGHT MATERIAL	
		STD *	SST
psig	barg	CODE	CODE
< 1.25	< .08	1	A
Spring Loaded Range		CODE	
psig	barg		
1.25 - 4	.08 - .27	2	
> 4 - 6	> .27 - .41	3	
> 6 - 8	> .41 - .55	4	
> 8 - 10	> .55 - .68	5	
> 10 - 12	> .68 - .83	6	
> 12 - 13	> .83 - .89	7	
> 13 - 15	> .89 - 1.03	8	

\* Lead or Lead / SST combination.

POSITION 9 - SIGHT GLASS		
None (Std)	CODE	
	0	
Location	Vacuum Side Only	Pressure Side Only
	1	2
Weight loaded range only.		

POSITION 10 - VACUUM SET POINT			
Weight Loaded Range		WEIGHT MATERIAL	
		STD *	SST
psig	barg	CODE	CODE
< 1.0	< .06	1	A
Spring Loaded Range		CODE	
psig	barg		
1 - 4	.06 - .27	2	
> 4 - 6	> .27 - .41	3	
> 6 - 8	> .41 - .55	4	
> 8 - 10	> .55 - .68	5	
> 10 - 12	> .68 - .83	6	
> 12 - 13	> .83 - .89	7	
> 13 - 15	> .89 - 1.03	8	

\* Lead or Lead / SST combination.

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