



## Model 4600 Spring-Loaded Side-Mounted Vacuum Relief Vent

### **OBJECTIVE**

The Model 4600 spring-loaded vacuum relief vents are intended for use on low pressure tanks, vapor recovery systems and process systems where higher vacuum relief is required.

### **TECHNIQUE**

The spring-loaded pallet in the vent housing allows the intake of air necessary to maintain the tank pressure within the permissible vacuum limit to avoid damage to the tank. Once the vacuum condition is satisfied and the pressure is within the permissible limits the spring-loaded pallet closes. The Model 4600 virtually eliminates the intake of air except during normal tank in breathing.

### **CONSTRUCTION**

**Housing Material:** The Model 4600 vent is a rugged design made to last. Available in Aluminum, Carbon Steel, or 316 SST.

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

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

### **SPECIAL FEATURES**

**Modular.** The Model 4600 spring-loaded side mounted vacuum vent is part of the Valve Concepts, Inc. modular vent product line. The 4600 is used in the pressure / vacuum vent with pipe-away and the pressure only vent with pipe-away. These vents can either be direct acting (weight-loaded or spring-loaded) or pilot operated.

**Maintains Accurate Vacuum Settings.** The minimum vacuum setting available is 1.0 psig. Maximum vacuum setting is 15 psig. As with every vent supplied by Valve Concepts, Inc. a Certified Test Certificate is included verifying the accuracy of both set point and leakage rate. On all direct acting vents supplied by Valve Concepts, Inc. the leakage is less than 1 SCFH at 90% of the customer specified set point. The standard unit is suitable for intermittent back pressures of 50 psig. Higher back pressure ratings are available on request.

**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 for low evaporation loss. The pallets have outer guiding and center stabilizing stem to provide self alignment and tight seating.

MATERIALS OF CONSTRUCTION		
Series	Housing	Pallet
4600CS	CS	316 SST
4600SST	316 SST	316 SST
4600A	Aluminum	316 SST

## 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** FEP-TFE:  
**Temperature** -400° to 400° F (-240° to 204°C)  
**Limits:** Fluorocarbon Elastomer – (FKM):  
0° to 400° F (0° 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)

Alternate Paint: See Opt-95OS.

## OPTION SPECIFICATIONS

**ELECTRIC TRACE** - Electric heat tape is wrapped around external surface of the vent body. A thermal insulation jacket is secured over the tape and vent body to minimize heat loss. Commonly used to prevent the formation of ice during freezing conditions. See STEAM JACKETING if elevated process temperatures are desired.

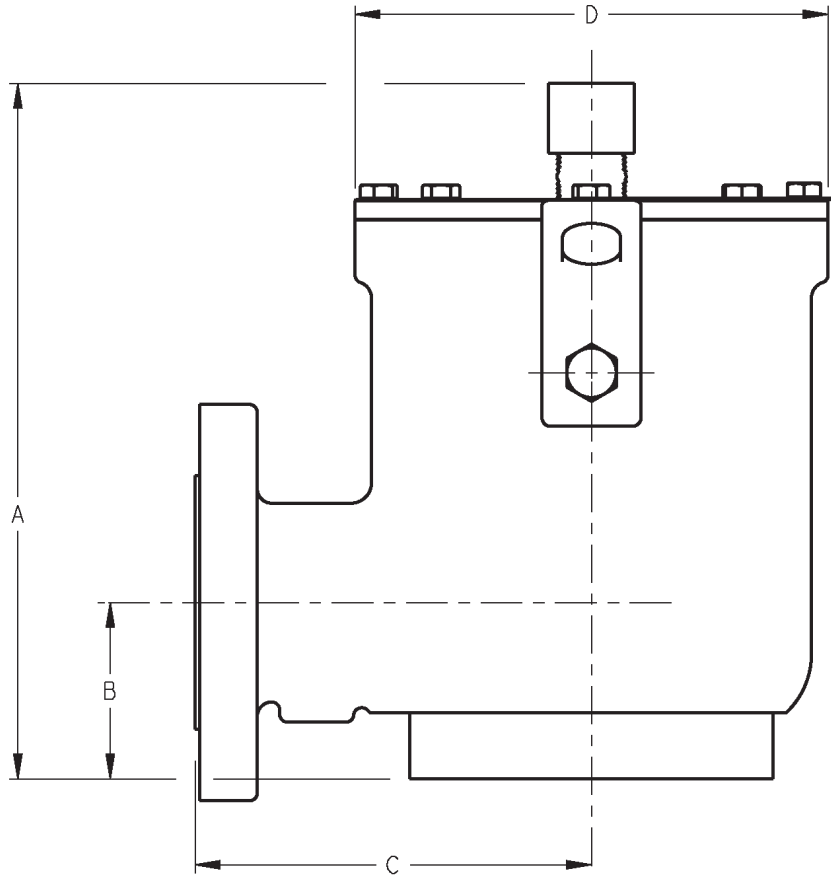
**Option -40:** NACE CONSTRUCTION. Internal wetted portions meet NACE standard MR0175, when exterior of the vent is not directly exposed to a sour gas environment, buried, insulated or otherwise denied direct atmospheric exposure.

**STEAM TRACE** - Copper tubing is wrapped around the external surface of the vent body. A thermal insulation jacket is secured over the tubing and vent body to minimize heat loss. Commonly used to prevent the formation of ice during freezing conditions. See STEAM JACKETING if elevated process temperatures are desired.

**Option -95OS:** OFFSHORE installations. Coating of all exterior surfaces will be per Cashco Paint Specs #S-1777 epoxy. Fasteners, seat surfaces and corrosion resistant parts excluded. Painting of fasteners optional upon special request.

**STEAM JACKETING** - Cast aluminum jacket with integrated carbon steel steam chambers are bolted around the vent body. Vent valve and jacket are shipped unassembled as vent valve must first be installed. Commonly used to prevent stored media vapors from crystallizing at ambient temperatures.

**DIMENSIONS**



ENGLISH Units - in Aluminum, Carbon Steel & Stainless Steel Body					Weight lbs.	
SIZE In	A	B	C	D (diam.)	Alum	CS/SST
2"	10.53"	2.67"	6.00"	7.28"	19	47
3"	12.10"	3.31"	6.50"	8.12"	21	57
4"	14.16"	3.87"	8.00"	10.88"	33	91
6"	15.52"	4.75"	9.00"	12.51"	46	129

METRIC Units - (mm) Aluminum, Carbon Steel & Stainless Steel Body					Weight kg.	
SIZE (DN)	A	B	C	D (diam.)	Alum	CS/SST
(50)	267	68	152	185	9	21
(80)	307	84	165	206	10	26
(100)	367	98	203	276	15	41
(150)	394	121	229	318	21	59

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# 4600 Series PRODUCT CODE

04/07/16

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



POSITION 3 - PALLET DESIGN	
Material	CODE
STD	0
Intermittent Back Pressure 50 psig Max.	B

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 MATERIALS		
MATERIAL	W/O Flame-screen	W/ Flame-screen
	CODE	CODE
ALUM/SST	A	B
CS/SST *	C	D
SST/SST *	S	T

\* Select for NACE Construction.

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

\* Select for NACE Construction.

POSITION 8 - VACUUM SET POINT		
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

POSITION 11 - OPTION		
DESCRIPTION	OPTION	CODE
No Option	-	0
NACE Constr.	-40	N
Offshore Paint	-95OS	Y

POSITION 12 - ACCESSORY / CERTS			
OPTION	Certification		
	Std	ATEX *	PED *
	CODE	CODE	CODE
None	0	A	E
Electric Trace	H	B	F
Steam Jacket	J	C	G
Steam Trace	S	D	K

\* Forward Completed "EU" Application Recorder prior to quotation. (Without Recorder- Processing of Purchase Order will be delayed).  
"PED" Compliance - Ref to Directive 97/23/EC.  
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