



Valve Concepts, Inc.  
ISO Registered Company



## Model 3600

### Side-Mounted Vacuum Relief Vent

#### OBJECTIVE

The Model 3600 vacuum relief vents are intended for use on atmospheric and low pressure tanks, vapor recovery systems and process systems where vacuum relief is required. Built for dependable service and superior seat tightness, these durable vents are designed to be mounted to the tank structure or process piping.

#### TECHNIQUE

The weight 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 pallet closes. The model 3600 virtually eliminates the intake of air except during normal tank in breathing.

#### CONSTRUCTION

**Housing Material:** The Model 3600 is a rugged design made to last. Available in Aluminum, Carbon Steel, 316 Stainless Steel or Corrosion Resistance Fiberglass.

**Trim Material:** 316 SST - Standard on all metal vents. Fiberglass - Standard on all FRP vents.

**Pallet Diaphragm Material:** FEP TFE - Standard. Also available in FKM, EPDM and Buna-N.

#### SPECIAL FEATURES

**Modular.** The Model 3600 side mounted vacuum vent is part of the Valve Concepts, Inc. modular vent product line. The 3600 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 pallet is fabricated to the precise weight necessary to maintain an accurate vacuum setting. The minimum setting available is down to 0.25 oz/in<sup>2</sup> and the maximum vacuum setting is upwards to 1 psig on all sizes. 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 the leakage is less than 1 SCFH at 90% of set point.

**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 losses. The pallets have outer guiding and center stabilizing stem to provide self alignment and tight seating.

**Sizes - Connections.** Available in Sizes 2" thru 14". CS and SST vents have Raised Face Flange, Aluminum and FRP vents have Flat Face Flange to mate with standard ASME 150# flange connections. Ref to position 3 on coder for selection of DIN flanges.

MATERIALS OF CONSTRUCTION		
Series	Housing	Pallet *
3600CS	CS	316 SST
3600SST	316 SST	316 SST
3600D	Derakane® 470	Derakane® 470
3600F	Hetron® 800	Hetron® 800
3600A	Aluminum	Alum or 316 SST

\* For settings below 0.5 Oz/in<sup>2</sup> requires Polycarbonate Pallets; only with CS, SST, and Alum.  
Derakane, Furan and Hetron are Registered trademarks of Ashland Inc.  
Hetron is now offered as an equal replacement to Furan.

## 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):  
 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.

Size	VENT WEIGHT					
	Set Point Limits oz/in <sup>2</sup>					
	Standard Material			SST Material		
	Min	Max	Top Hat Max.	Min	Max	Top Hat Max.
2"	0.25	8.50	16.00	0.25	9.00	16.00
3"	0.25	11.50	16.00	0.25	12.00	16.00
4"	0.25	11.50	16.00	0.25	12.00	16.00
6"	0.25	10.00	16.00	0.25	10.00	16.00
8"	0.25	16.00	16.00	0.25	16.00	16.00
10"	0.25	8.50	16.00	0.25	9.00	16.00
12"	0.25	12.50	16.00	0.25	12.50	16.00

## 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.

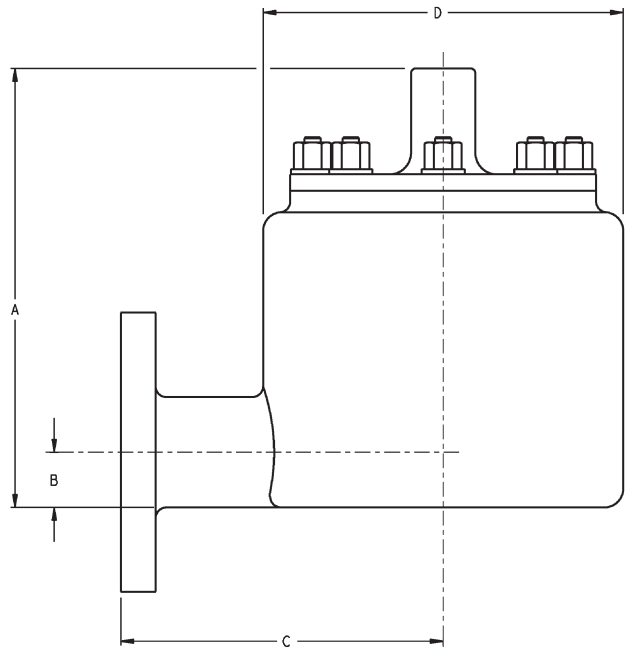
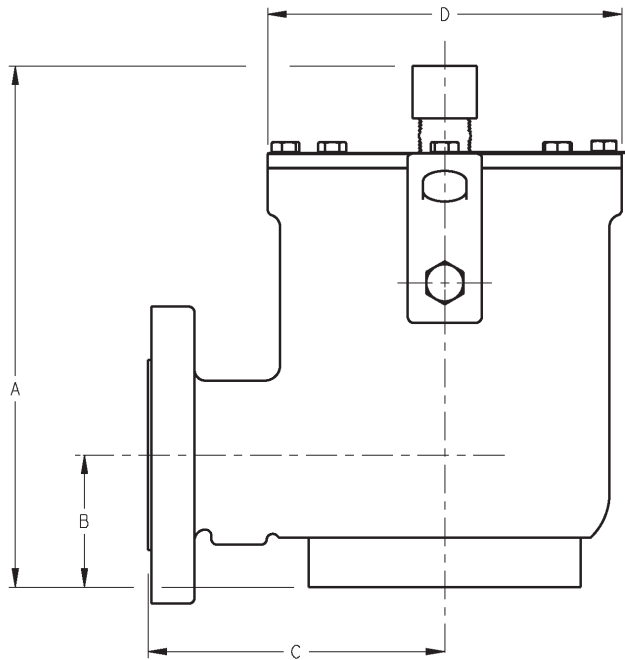
**STEAM TRACE** - Copper tubing is wrapped around the external surface of the vent body. A thermal insulation jacket is secured over the tubing and vent body to minimize heat loss. Commonly used to prevent the formation of ice during freezing conditions. See STEAM JACKETING if elevated process temperatures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

**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.

**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.

**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.

# 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
8"	15.90"	5.94"	9.00"	12.51"	50	141
10"	19.18"	7.12"	11.00"	15.25"	72	203
12"	21.31"	8.00"	12.25"	18.38"	93	256
14"	23.06"	8.59"	14.00"	19.12"	126	307

ENGLISH Units - in Corrosion Resistant Fiberglass (FRP) Body						
SIZE In	A	B	C	D (diam.)		
2"	10.23"	1.29"	7.50"	8.38"		
3"	10.29"	1.79"	7.50"	8.38"		
4"	13.12"	2.28"	9.00"	12.75"		
6"	13.77"	3.29"	9.50"	12.75"		
8"	13.77"	4.25"	9.50"	12.75"		
10"	17.50"	5.26"	12.00"	16.75"		
12"	19.13"	6.25"	12.00"	16.38"		
14"	21.54"	6.88"	13.00"	18.50"		

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
(200)	404	151	229	318	23	64
(250)	487	181	279	387	33	92
(300)	541	203	311	467	42	116
(350)	586	218	356	486	57	139

METRIC Units - (mm) Corrosion Resistant Fiberglass (FRP) Body						
SIZE (DN)	A	B	C	D (diam.)		
(50)	260	33	190	213		
(80)	261	45	190	213		
(100)	333	58	229	324		
(150)	350	84	241	324		
(200)	350	108	241	324		
(250)	444	134	305	425		
(300)	486	159	305	416		
(350)	547	175	330	470		

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# 3600 Series PRODUCT CODE

04/05/16

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	DN FLANGE DN (rating)	CODE
2"	2	50 (PN16)	H
3"	3	80 (PN16)	J
4"	4	100 (PN16)	K
6"	6	150 (PN16)	L
8"	8	200 (PN10)	M
		200 (PN16)	T
10"	A	250 (PN10)	N
		250 (PN16)	V
12"	B	300 (PN10)	P
		300 (PN16)	W
14"	C	350 (PN10)	R
		350 (PN16)	Y

POSITION 5 - BODY / TRIM MATERIALS			
MATERIAL	Std. W/O Flamescreen	W/ Flame Screen	W/ Bug Screen
	CODE	CODE	CODE
ALUM/ALUM	A	B	M
ALUM/SST	K	L	N
CS/SST *	C	D	P
SST/SST *	S	T	R
Derakane 470 w/SST Studs	F	-	-
Derakane 470 w/Hast C Studs	H	-	-
Hetron 800 w/SST Studs	G	-	-
Hetron 800 w/Hast C Studs	J	-	-

\* 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 9 - SIGHT GLASS	
	CODE
None (Std)	0
Slight Glass	1

POSITION 10 - WEIGHT MATERIAL	
Material	CODE
STD *	0
ALL SST	S
Encapsulated weight Option For FRP Body Material ONLY	E

See Vent Weight Table (pg.2) for set point limits.  
\* Steel or Steel / SST combination. For NACE application must select ALL SST weight material code.

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

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. Contact Cashco for Assistance.  
\*\* ATEX Cert not available for FRP Construction.

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