



Valve Concepts, Inc.
ISO Registered Company

TECHNICAL BULLETIN

3300 -TB

04-16



Model 3300

End-of-Line Vacuum Relief Vent

OBJECTIVE

The Model 3300 vacuum relief vent is intended for use on storage tanks, vapor recovery systems and process systems where vacuum relief is required.

TECHNIQUE

Weight loaded pallet on the vacuum side of the vent allows the intake of air necessary to maintain the tank pressure within the permissible vacuum limit to avoid damage to the tank. The model 3300 virtually eliminates the intake of air except during normal tank inbreathing.

CONSTRUCTION

Housing Material: The Model 3300 is a rugged design made to last. Available in Aluminum, Carbon Steel, 316 SST or Corrosion Resistant 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 3300 vacuum vent is part of Valve Concepts, Inc. modular vent product line. The vacuum vent can easily be converted to a pressure / vacuum vent, venting to atmosphere or with a pipeaway, which can either be weight loaded, spring loaded or pilot operated depending on the application requirements.

Maintains Accurate Vacuum Settings. The pallet assembly is fabricated to the precise weight necessary to maintain an accurate vacuum setting. The minimum setting available is down to 0.25 oz/in² with a maximum setting upwards to 1 psig. See Vent Weight Table. If a higher set point is needed see Valve Concepts Series 4300 Spring Loaded Vacuum Vent. 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. As with 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 pallet drip ring keep condensate away from the seating surface, preventing freezing, binding and clogging.

Air-Cushioned Seating. Air-cushion seating provides tight sealing to reduce the unnecessary intake of air. The pallet has outer guiding and a center stabilizing stem to insure proper alignment.

Sizes - Connections. Available in Sizes 2" through 12". 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 *
3300CS	CS	316 SST
3300SST	316 SST	316 SST
3300D	Derakane® 470	Derakane® 470
3300F	Hetron® 800	Hetron® 800
3300A	Aluminum	Alum or 316 SST

* For settings below 0.5 oz/in², 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):
 -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)

Alternate Paint: See Opt-95OS.

Size	VENT WEIGHT					
	Set Point Limits oz/in ²					
	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

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

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

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.

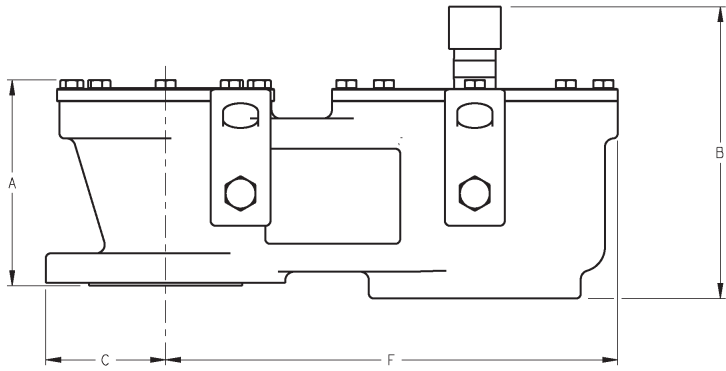
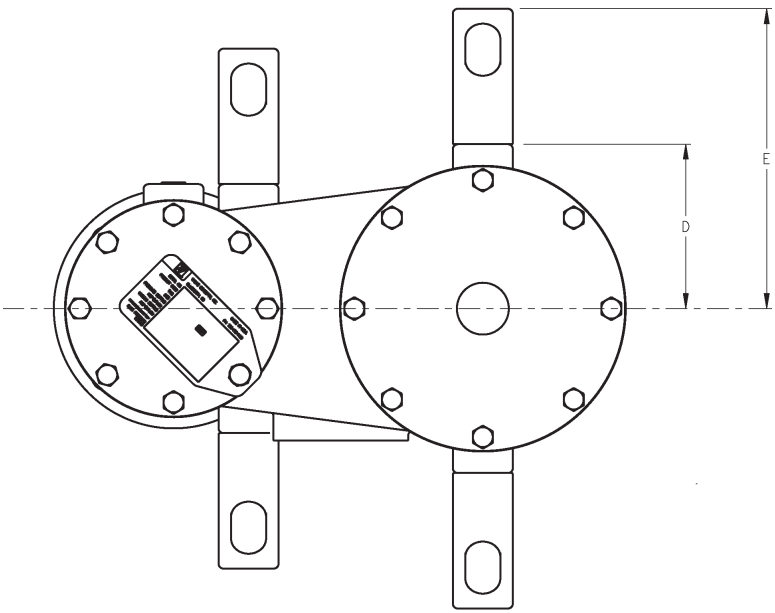
STEAM TRACE - Copper tubing is wrapped around the external surface of the vent body. A thermal insulation jacket is secured over the tubing and vent body to minimize heat loss. Commonly used to prevent the formation of ice during freezing conditions. See STEAM JACKETING if elevated process temperatures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

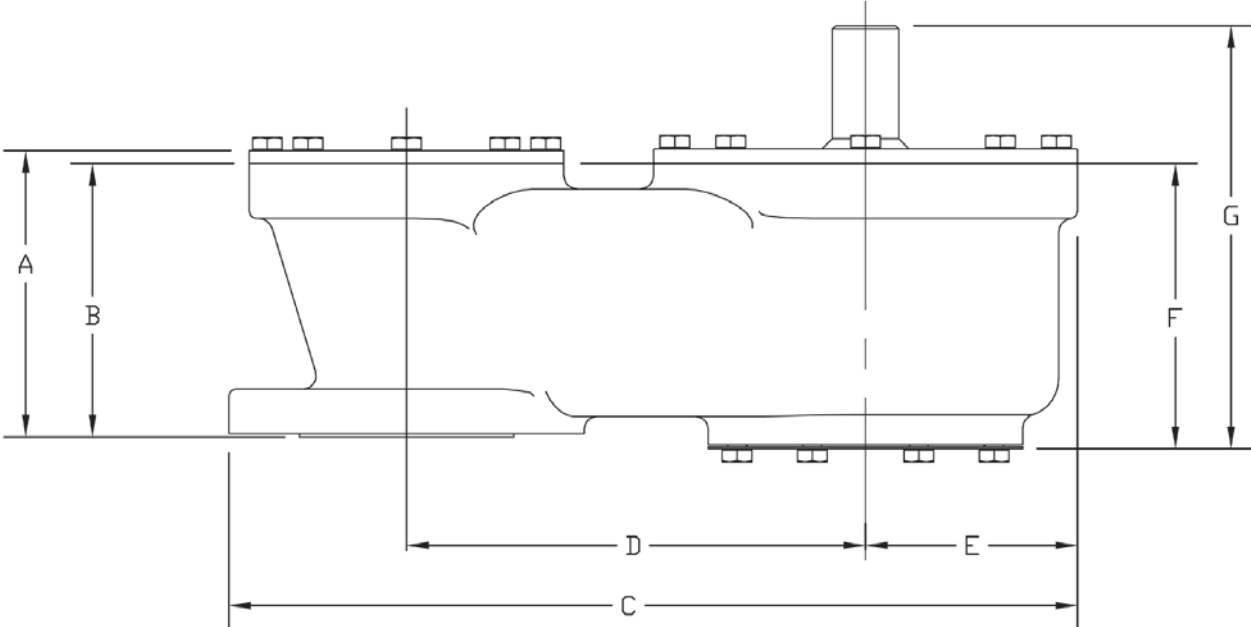
DIMENSIONS
Aluminum, Carbon Steel & Stainless Steel Body



ENGLISH Units - in							Weight lbs.	
SIZE In	A	B	C	D	E	F	Alum	CS/SST
2"	5.24	6.69	3.00	4.18	7.51	9.48	16	47
3"	6.34	7.60	3.75	4.55	7.89	12.31	20	65
4"	7.27	9.68	4.50	5.84	9.23	16.38	32	95
6"	7.85	8.94	5.50	7.91	11.27	20.00	45	141
8"	9.74	14.43	6.75	8.12	11.54	22.84	64	199
10"	10.03	15.19	8.00	9.34	12.67	28.13	97	311
12"	11.40	17.7	9.50	9.81	13.13	29.57	137	378
METRIC Units - mm							Weight kg.	
2"	132	170	77	106	191	241	8	21
3"	161	193	96	115	200	313	9	28
4"	184	245	115	148	234	416	14	41
6"	199	227	140	201	286	508	20	61
8"	247	366	172	206	291	580	28	86
10"	254	385	203	237	321	712	43	135
12"	289	449	242	249	333	751	59	164

Estimated weights based on minimum set points.

DIMENSIONS
Corrosion Resistant Fiberglass (FRP) Body



ENGLISH Units - in							
SIZE In	A	B	C	D	E (rad.)	F	G
2"	N/A	8.87"	22.37"	11.00"	5.31"	5.37"	8.76"
3"	N/A	8.87"	22.37"	11.00"	5.31"	5.37"	8.76"
4"	N/A	10.25"	30.37"	15.03"	7.12"	6.75"	10.90"
6"	N/A	10.25"	30.65"	15.03"	7.12"	6.75"	11.56"
8"	N/A	12.72"	41.91"	20.75"	9.50"	8.22"	13.88"
10"	N/A	12.72"	42.13"	20.75"	9.50"	8.22"	14.56"
12"	N/A	13.41"	46.44"	23.00"	10.00"	8.64"	15.45"

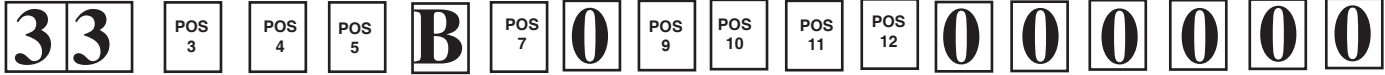
METRIC Units - (mm)							
SIZE (DN)	A	B	C	D	E (rad.)	F	G
(50)	N/A	225	568	279	135	136	222
(80)	N/A	225	568	279	135	136	222
(100)	N/A	260	771	382	181	171	277
(150)	N/A	260	778	382	181	171	294
(200)	N/A	323	1064	527	241	209	353
(250)	N/A	323	1070	527	241	209	370
(300)	N/A	341	1180	584	254	219	392

Estimated weights based on minimum set points.

3300 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	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
8"	8	200 (PN10)	M
		200 (PN16)	T
		250 (PN10)	N
10"	A	250 (PN16)	V
		300 (PN10)	P
12"	B	300 (PN16)	W

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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Cashco, Inc.
P.O. Box 6
Ellsworth, KS 67439-0006
PH (785) 472-4461
Fax. # (785) 472-3539
www.cashco.com
email: sales@cashco.com
Printed in U.S.A. 3300-TB

Cashco GmbH
Handwerkerstrasse 15
15366 Hoppegarten, Germany
PH +49 3342 30968 0
Fax. No. +49 3342 30968 29
www.cashco.com
email: germany@cashco.com

Cashco do Brasil, Ltda.
Al.Venus, 340
Indaiatuba - Sao Paulo, Brazil
PH +55 11 99677 7177
Fax. No.
www.cashco.com
email: brazil@cashco.com