



Valve Concepts, Inc.
ISO Registered Company

TECHNICAL BULLETIN

3500 - TB

04-16

Represented
by:

DUNCAN CO

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Model 3500 Pressure Vent with Pipe-Away

OBJECTIVE

The Model 3500 conservation pressure vent with pipe-away is intended for use where pressure relief is required and the relieving vapors must be piped away and not emitted into the atmosphere. May also be used for in-line vacuum relief.

TECHNIQUE

A weight loaded pallet opens and closes allowing the discharge of vapors to the outlet piping to maintain the tank pressure within permissible limits to avoid damage to the tank. A flanged side outlet connection is provided for easy pipe-away of vapors, eliminating their emission into the atmosphere, and allowing compliance with applicable regulations.

CONSTRUCTION

Housing Material: The Model 3500 is a rugged design made to last. Available in Aluminum, Carbon Steel, 316 Stainless Steel 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 3500 pressure only vent with pipe-away is part of the Valve Concepts, Inc. modular vent product line. The Model 3500 is used in the 3200, 4200, and 5200 pressure/vacuum vents with pipeaway and the Model 3600 side mounted vacuum vent.

Maintains Accurate Settings. The minimum setting available is down to 0.25 oz/in². Maximum pressure setting upwards to 2 psig. See Vent Weight Table (pg.2). If higher settings are required see Valve Concepts Series 4500 Spring Loaded Vent or Valve Concepts Series 5500 Pilot Operated Vent. All vents are tested to Valve Concepts, Inc. high standard for leakage and set point prior to shipment. A certified test certificate is included with each vent verifying the accuracy. A leakage rate of less than 1 SCFH at 90% of set point is verified.

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

Sizes - Connections. Available in Sizes 2" through 12". CS and SST vents mate with standard ASME150# RF flange connections. Aluminum and FRP vents are flat face and mate with standard ASME 150# RF flange connections. On sizes 2" through 6", connections are available with the same size inlet and outlet to reduce outlet piping cost. Ref to positions 3 & 4 on coder for selection of DIN flanges.

MATERIALS OF CONSTRUCTION		
Series	Housing	Pallet *
3500CS	CS	316 SST
3500SST	316 SST	316 SST
3500D	Derakane® 470	Derakane® 470
3500F	Hetron® 800	Hetron® 800
3500A	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 - corrosion resistant parts excluded.

Diaphragm FEP-TFE:
Temperature -400° to 400° F (-240° to 204°C)
Limits: 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	Min	Max
2"	0.25	30.50	0.25	28.50
3"	0.25	31.50	0.25	32.00
4"	0.25	32.50	0.25	33.00
6"	0.25	30.50	0.25	31.00
8"	0.25	30.00	0.25	30.50
10"	0.25	31.00	0.25	31.50
12"	0.25	29.50	0.25	30.50

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 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.

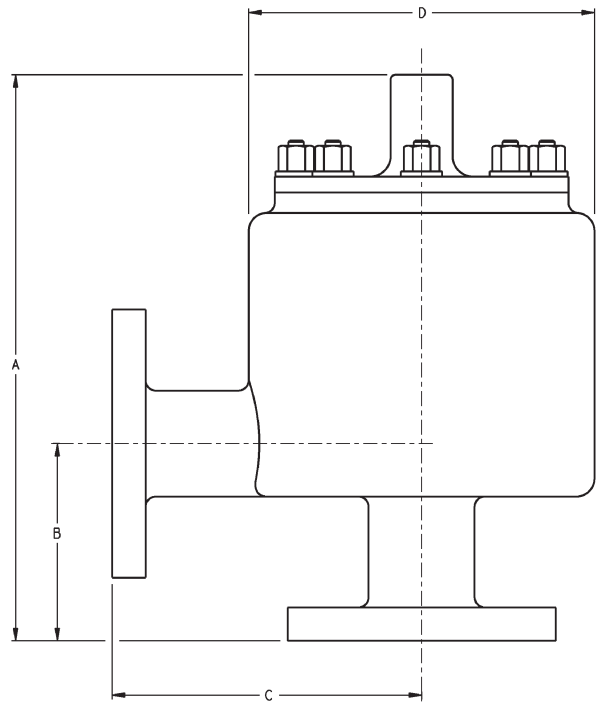
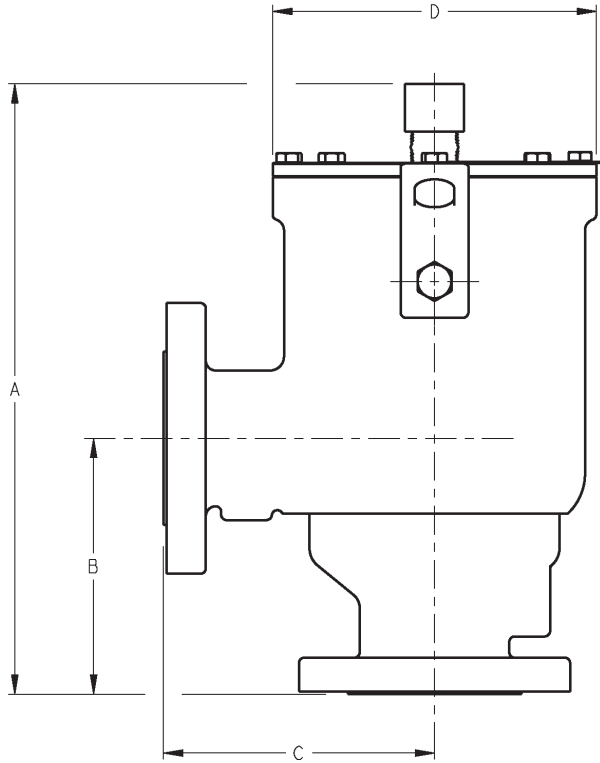
STEAM TRACE - Copper tubing is wrapped around the external surface of the vent body. A thermal insulation jacket is secured over the tubing and vent body to minimize heat loss. Commonly used to prevent the formation of ice during freezing conditions. See STEAM JACKETING if elevated process temperatures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

Option -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.

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DIMENSIONS



ENGLISH Units - in Aluminum, Carbon Steel & Stainless Steel Body					Weight lbs.	
SIZE In	A	B	C	D (diam.)	Alum	CS/SST
2" x 2"	13.53"	5.71"	6.00"	7.28"	21	55
2" x 3"	13.53"	6.26"	6.19"	7.28"	22	60
3" x 3"	15.67"	6.91"	6.50"	8.12"	28	76
3" x 4"	15.67"	7.41"	6.50"	8.12"	29	80
4" x 4"	19.34"	8.78"	8.00"	10.88"	44	123
4" x 6"	19.34"	9.78"	8.00"	10.88"	46	128
6" x 6"	21.05"	10.34"	9.00"	12.51"	64	178
6" x 8"	21.46"	11.53"	9.00"	12.51"	68	191
8" x 10"	25.74"	13.72"	11.00"	15.25"	86	241
10" x 12"	28.74"	15.59"	12.25"	18.38"	116	324
12" x 14"	35.62"	21.18"	14.00"	19.12"	148	421

ENGLISH Units - in Corrosion Resistant Fiberglass (FRP) Body				
SIZE In	A	B	C	D (diam.)
2" x 2"	13.73"	4.79"	7.50"	8.38"
2" x 3"	13.73"	5.29"	7.50"	8.38"
3" x 3"	13.79"	5.29"	7.50"	8.38"
3" x 4"	13.79"	5.78"	7.50"	8.38"
4" x 4"	16.61"	5.78"	9.00"	12.75"
4" x 6"	16.61"	6.79"	9.00"	12.75"
6" x 6"	17.27"	6.79"	9.50"	12.75"
6" x 8"	17.27"	7.75"	9.50"	12.75"
8" x 10"	21.75"	9.51"	12.00"	16.75"
10" x 12"	23.13"	10.25"	12.00"	16.38"
12" x 14"	25.81"	11.13"	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) x (50)	344	145	152	185	10	25
(50) x (80)	344	159	157	185	10	27
(80) x (80)	398	176	165	206	13	34
(80) x (100)	398	188	165	206	13	36
(100) x (100)	491	223	203	276	20	56
(100) x (150)	491	248	203	276	21	58
(150) x (150)	535	263	229	318	29	81
(150) x (200)	545	293	229	318	31	87
(200) x (250)	654	349	279	387	39	109
(250) x (300)	733	396	311	467	53	147
(300) x (350)	905	538	356	486	67	191

METRIC Units - (mm) Corrosion Resistant Fiberglass (FRP) Body				
SIZE (DN)	A	B	C	D (diam.)
(50) x (50)	349	122	190	213
(50) x (80)	349	134	190	213
(80) x (80)	350	134	190	213
(80) x (100)	350	147	190	213
(100) x (100)	422	147	229	324
(100) x (150)	422	172	229	324
(150) x (150)	439	172	241	324
(150) x (200)	439	197	241	324
(200) x (250)	552	241	305	425
(250) x (300)	588	260	305	416
(300) x (350)	656	283	330	470

3500 Series PRODUCT CODE

04/05/16

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



POSITION 3 - FLANGE - INLET SIZE			
ASME INCH	CODE	DIN 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
		300 * (PN10)	P
12" *	B	300 * (PN16)	W

POSITION 4 - FLANGE - OUTLET SIZE			
ASME INCH	CODE	DIN 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	Standard	W/ Flame-screen
	CODE	CODE
CS/SST *	C	D
SST/SST *	S	T
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	-
ALUM/ALUM	A	B
ALUM/SST	K	L

* Select for NACE Construction.

* 8" inlet only available w/10" outlet.
* 10" inlet only available w/12" outlet.
* 12" inlet only available w/14" outlet.

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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