



Valve Concepts, Inc.
ISO Registered Company



Model 3200

Pressure / Vacuum Vent with Pipe-Away

OBJECTIVE

The Model 3200 vent provides pressure and vacuum relief in applications that require vapors to be piped away.

TECHNIQUE

Weight loaded pallets on the pressure and vacuum sides of the vent open and close to allow the discharge of vapors to the outlet piping or the intake of air necessary to maintain the tank pressure within permissible limits to avoid damage to the tank. Virtually eliminates the intake of air and the escape of vapors, except during normal tank breathing, thus reducing product loss.

CONSTRUCTION

Housing Material: The Model 3200 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 3200 pipe-away conservation vent is part of the Valve Concepts, Inc. modular vent product line. The Model 3200 can easily be converted to a vacuum only vent or end-of-line pressure / vacuum vent and can either be direct acting or pilot operated. Only Valve Concepts, Inc. offers complete modularity throughout its complete vent product line.

Maintains Accurate Settings. The minimum setting available is down to 0.25 oz/in² for both pressure and vacuum. Maximum setting upwards to 2 psig for pressure and 1 psig for vacuum. See Vent Weight Table. If higher settings are required see Valve Concepts Series 4000 Spring Loaded Vents. 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 into the outlet piping, except under normal breathing conditions. The pallets have outer guiding and center stabilizing stem to provide self alignment and tight seating.

Sizes - Connections. Available in Sizes 2" thru 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. On sizes 2" thru 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 * |
| 3200CS | CS | 316 SST |
| 3200SST | 316 SST | 316 SST |
| 3200D | Derakane® 470 | Derakane® 470 |
| 3200F | Hetron® 800 | Hetron® 800 |
| 3200A | 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 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.

| Size | VENT WEIGHT Set Point Limits oz/in² | | | | | | | | | | |
|------|---|-------|--------------|-------|------|-------------------|--------------|------|--------------|--------------|--|
| | For Pressure * | | | | | For Vacuum * | | | | | |
| | Standard Material | | SST Material | | | Standard Material | | | SST Material | | |
| | Min | Max | Min | Max | Min | Max | Top Hat Max. | Min | Max | Top Hat Max. | |
| 2" | 0.25 | 30.50 | 0.25 | 28.50 | 0.25 | 8.50 | 16.00 | 0.25 | 9.00 | 16.00 | |
| 3" | 0.25 | 31.50 | 0.25 | 32.00 | 0.25 | 11.50 | 16.00 | 0.25 | 12.00 | 16.00 | |
| 4" | 0.25 | 32.50 | 0.25 | 33.00 | 0.25 | 11.50 | 16.00 | 0.25 | 12.00 | 16.00 | |
| 6" | 0.25 | 30.50 | 0.25 | 31.00 | 0.25 | 10.00 | 16.00 | 0.25 | 10.00 | 16.00 | |
| 8" | 0.25 | 30.00 | 0.25 | 30.50 | 0.25 | 16.00 | 16.00 | 0.25 | 16.00 | 16.00 | |
| 10" | 0.25 | 31.00 | 0.25 | 31.50 | 0.25 | 8.50 | 16.00 | 0.25 | 9.00 | 16.00 | |
| 12" | 0.25 | 29.50 | 0.25 | 30.50 | 0.25 | 12.50 | 16.00 | 0.25 | 12.50 | 16.00 | |

* Differential Pressures greater than 2 psid will limit the minimum vacuum set point to 2 oz/in².

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.

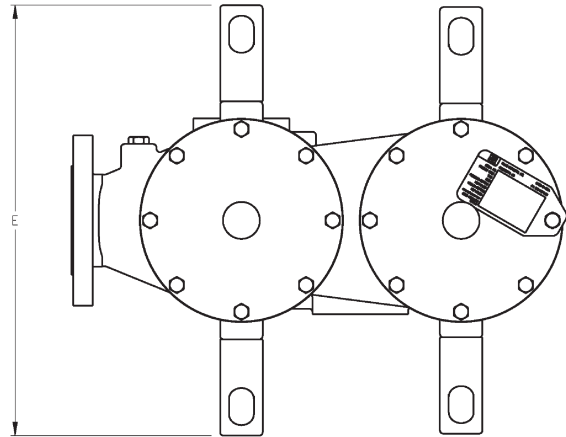
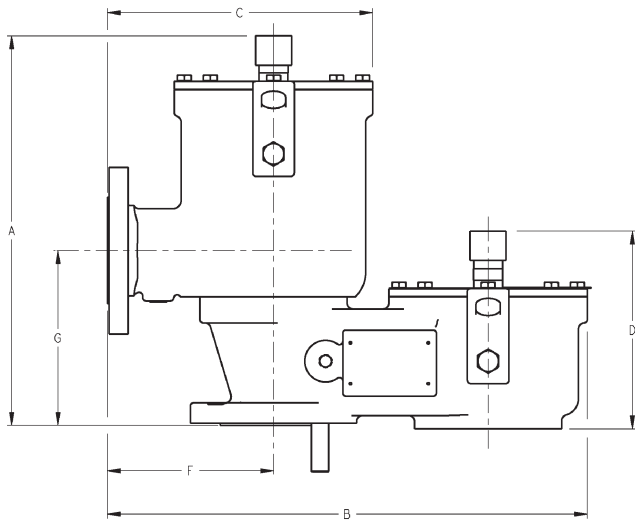
STEAM TRACE - Copper tubing is wrapped around the external surface of the vent body. A thermal insulation jacket is secured over the tubing and vent body to minimize heat loss. Commonly used to prevent the formation of ice during freezing conditions. See STEAM JACKETING if elevated process temperatures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



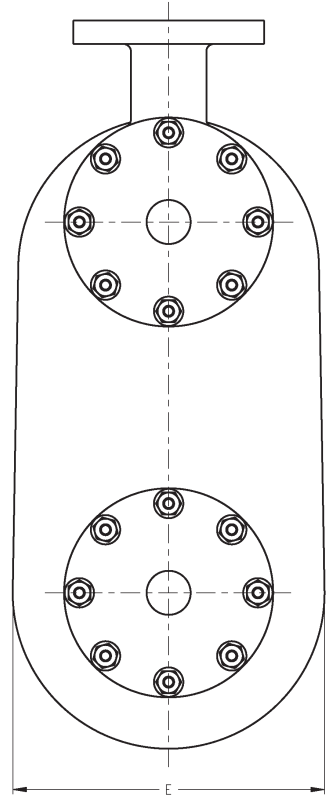
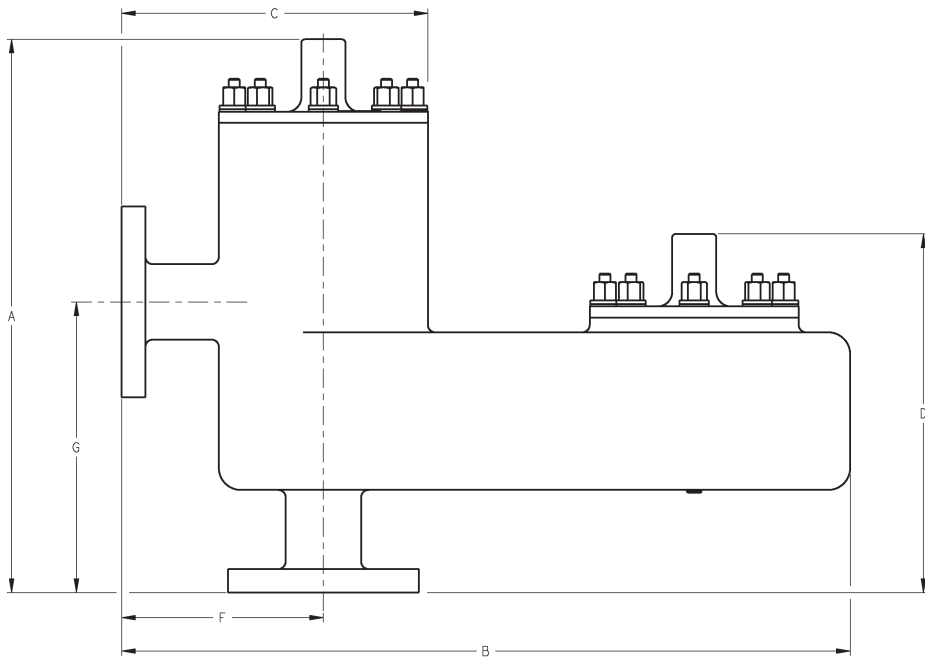
| ENGLISH Units - in Aluminum, Carbon Steel & Stainless Steel Body | | | | | | | | | |
|---|--------|--------|--------|--------|-------|--------|--------|--------------|----------|
| SIZE In | A | B | C | D | E | F | G | Weight lbs * | |
| | | | | | | | | Alum | CS / SST |
| 2" x 2" | 14.40" | 17.33" | 9.76" | 7.12" | 14.79 | 6.00" | 6.29" | 38 | 83 |
| 2" x 3" | 14.00" | 17.33" | 9.76" | 7.12" | 14.78 | 6.19" | 6.85" | 40 | 86 |
| 3" x 3" | 17.19" | 18.80" | 10.50" | 8.16" | 15.77 | 6.50" | 8.03" | 50 | 106 |
| 3" x 4" | 17.19" | 18.81" | 10.50" | 8.16" | 15.80 | 6.50" | 8.53" | 49 | 110 |
| 4" x 4" | 19.80" | 24.38" | 13.36" | 9.59" | 18.23 | 8.00" | 9.52" | 75 | 168 |
| 4" x 6" | 19.80" | 24.38" | 13.36" | 9.59" | 18.23 | 8.00" | 10.52" | 77 | 172 |
| 6" x 6" | 21.94" | 28.00" | 15.18" | 10.70" | 22.67 | 9.00" | 10.98" | 103 | 243 |
| 6" x 8" | 21.94" | 28.00" | 15.18" | 10.70" | 22.67 | 9.00" | 12.17" | 107 | 254 |
| 8" x 10" | 27.30" | 33.57" | 18.23" | 14.07" | 23.78 | 11.00" | 15.50" | 157 | 366 |
| 10" x 12" | 29.16" | 40.38" | 21.05" | 14.60" | 25.39 | 12.25" | 16.41" | 222 | 520 |
| 12" x 14" | 32.92" | 43.57" | 23.57" | 17.11" | 26.59 | 14.00" | 18.37" | 267 | 625 |

| METRIC Units - mm Aluminum Carbon Steel & Stainless Steel Body | | | | | | | | | |
|---|-----|------|-----|-----|-----|-----|-----|-------------|----------|
| SIZE (DN) | A | B | C | D | E | F | G | Weight kg * | |
| | | | | | | | | Alum | CS / SST |
| (50) x (50) | 356 | 440 | 248 | 181 | 378 | 152 | 160 | 17 | 38 |
| (50) x (80) | 356 | 440 | 248 | 181 | 376 | 157 | 174 | 18 | 39 |
| (80) x (80) | 437 | 478 | 267 | 207 | 401 | 165 | 204 | 22 | 48 |
| (80) x (100) | 437 | 478 | 267 | 207 | 401 | 165 | 217 | 22 | 50 |
| (100) x (100) | 503 | 619 | 339 | 244 | 463 | 203 | 242 | 34 | 76 |
| (100) x (150) | 503 | 619 | 339 | 244 | 463 | 203 | 267 | 35 | 78 |
| (150) x (150) | 557 | 711 | 386 | 272 | 576 | 229 | 279 | 47 | 110 |
| (150) x (200) | 557 | 711 | 386 | 272 | 576 | 229 | 309 | 49 | 115 |
| (200) x (250) | 692 | 853 | 463 | 357 | 604 | 279 | 394 | 72 | 166 |
| (250) x (300) | 741 | 1026 | 535 | 371 | 645 | 311 | 417 | 101 | 237 |
| (300) x (350) | 836 | 1107 | 599 | 435 | 675 | 356 | 467 | 121 | 284 |

* Estimated weight at minimum set points.

The contents of this publication are presented for informational purposes only, and while every effort has been made to ensure their accuracy, they are not to be construed as warranties or guarantees, express or implied, regarding the products or services described herein or their use or applicability. We reserve the right to modify or improve the designs or specifications of such product at any time without notice. Cashco, Inc. does not assume responsibility for the selection, use or maintenance of any product. Responsibility for proper selection, use and maintenance of any Cashco, Inc. product remains solely with the purchaser.

DIMENSIONS
Corrosion Resistant Fiberglass (FRP) Body



| SIZE | DIMENSIONAL DATA IN/[MM] | | | | | | | WEIGHT LBS/KG |
|--------------------------|--------------------------|-----------------|----------------|----------------|----------------|----------------|----------------|------------------|
| | "A" | "B" | "C" | "D" | "E" | "F" | "G" | |
| 2" X 2" DN50XDN50 | 18.91 [480] | 24.81 [630] | 10.43 [256] | 8.72 [221] | 10.62 [270] | 6.87 [175] | 9.91 [252] | 21 LBS 10 KG |
| 2" X 3" DN50XDN80 | 18.91 [480] | 24.81 [630] | 10.43 [256] | 8.72 [221] | 10.62 [270] | 6.87 [175] | 10.41 [264] | 21 LBS 10 KG |
| 3" X 3" DN80XDN80 | 18.91 [480] | 24.81 [630] | 11.43 [290] | 8.72 [221] | 10.62 [270] | 7.37 [187] | 10.41 [264] | 24 LBS 11 KG |
| 3" X 4" DN80XDN100 | 18.91 [480] | 24.81 [630] | 11.43 [290] | 8.72 [221] | 10.62 [270] | 7.37 [187] | 10.89 [277] | 24 LBS 11 KG |
| 4" X 4" DN100XDN100 | 22.77 [578] | 31.62 [803] | 13.12 [290] | 10.86 [276] | 14.24 [362] | 7.87 [200] | 12.27 [312] | 38 LBS 17 KG |
| 4" X 6" DN100XDN150 | 22.77 [578] | 31.62 [803] | 13.12 [290] | 10.86 [276] | 14.24 [362] | 7.87 [200] | 13.29 [338] | 38 LBS 17 KG |
| 6" X 6" DN150XDN150 | 24.91 [633] | 31.13 [791] | 15.38 [391] | 11.52 [293] | 14.24 [362] | 9.25 [235] | 13.29 [338] | 43 LBS 19 KG |
| 6" X 8" DN150XDN200 | 24.91 [633] | 31.13 [791] | 15.38 [391] | 11.52 [293] | 14.24 [362] | 9.25 [235] | 14.25 [362] | 43 LBS 19 KG |
| 8" X 10" DN200XDN250 | 29.81 [757] | 43.25 [1099] | 18.13 [461] | 13.75 [249] | 19.00 [483] | 10.88 [276] | 17.51 [445] | 63 LBS 28 KG |
| 10" X 12" DN250XDN300 | 31.89 [810] | 43.25 [1099] | 20.19 [513] | 14.64 [372] | 19.00 [483] | 12.00 [305] | 18.50 [470] | 77 LBS 34 KG |
| 12" X 14" DN300XDN350 | 33.94 [862] | 46.00 [1168] | 22.25 [565] | 15.43 [392] | 20.00 [508] | 13.00 [330] | 19.52 [496] | 93 LBS 42 KG |

Estimated weights based on minimum set points.

3200 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 |
| 12" * | B | 300 * (PN10) | P |
| | | 300 * (PN16) | W |

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

| 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 | 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 | | | |
|--------------------------|------------------|--------------------|---------------------|
| None (Std) | CODE | | |
| | 0 | | |
| Location | Vacuum Side Only | Pressure Side Only | Press & Vacuum Side |
| | 1 | 2 | 3 |

| 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.

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. 3200-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