ISO Registered Company

Model 1100
Sanitary Vent

SECTION I

I. DESCRIPTION AND SCOPE

The Model 1100 is a stainless steel sanitary vent designed to operate at multiple set points as a breather valve to avoid vacuum or over pressurization inside a tank or piping system. This unit comes with a true sanitary blanketing connection, and is designed so that it can be used with our sanitary blanketing valve; VCI model 1088. Refer to Technical Bulletin 1100 TB for design conditions and selection recommendations.

SECTION II

II. INSPECTION AND STORAGE:

The sanitary vent is carefully packaged to prevent damage or contamination during shipping. Inspect the equipment when it is received and report any damage to the carrier immediately. This device should be stored with all protective covers in place.

⚠ CAUTION

Follow your company's safety procedures to avoid injury to personnel or damage to equipment.

SECTION III

III. INSTALLATION

Before installing the 1100 sanitary vent, remove all packing material.

Inspect the gasket seating surface of the tank nozzle flange. It must be clean, free of scratches, corrosion, and tool marks.

When applicable, center the gasket on the nozzle face. Carefully set the sanitary vent on the gasket.

Check proper alignment before installing the clamp.

⚠ WARNING

The sanitary vent must be installed in a vertical position. The tank nozzle on which the vent is mounted should have the same nominal diameter as the vent.

SECTION IV

IV. MAINTENANCE:

A. General:

1. Tank or system protection is the primary function of the XXX Pressure / Vacuum Relief Vent. As a safety device, it is very important that maintenance/inspection be done on a regular interval. Maintenance should only be done by a qualified technician. Cashco recommends that all service be performed at the factory or a factory authorized repair center. For information on repair centers in your area, please contact factory.

2. Maintenance procedures hereinafter are based upon removal of the sanitary vent from the tank where installed.

3. The 1100 sanitary vent is cleaned per Cashco Spec. #S-1576. Owner should refer to Owner's procedures for removal, handling, and cleaning.

B. Disassembly:

1. Remove acorn nuts (18) from the top of the weather hood (17), by rotating counterclockwise (CCW) and remove the weather hood, nameplate (99), and weather screen (16).

2. Record the length from the top of the upper pressure spring button (12) to the top of the pressure pallet (3).

Measurement: _____

NOTE: *This measurement should be equal on all three guide posts (11) and will be required during reassembly to ensure the approximate original set point is achieved once re-installed.*

3. Loosen and remove pressure hex nuts (15) on top of the guide posts (11). ***NOTE:*** *Use two wrenches when loosening and removing the pressure hex nuts (15) to prevent the guide posts (11) from loosening.*

4. Remove upper pressure spring button (12) and pressure springs (14).

5. Remove pressure retaining clips (13) from guide posts (11), then remove the lower pressure spring button (12) over the top of the guide posts.

6. Lift the pressure pallet (3), with vacuum pallet (5) still assembled, over the guide posts (11). Lay the pallet assembly on a clean, soft surface.

   a. ***Caution:*** *Do not attempt to remove the vacuum pallet assembly (5) with unit still installed. There is no way to remove the vacuum pallet assembly with the pressure pallet (3) still installed. This could result in dropping the vacuum pallet assembly in the tank.*

7. Record the length from the top of the upper vacuum spring button (8) to the top of the pressure pallet (3).

Measurement: _____

NOTE: *This measurement will be required during reassembly to ensure the approximate original set point is achieved once re-installed.*

8. Remove vacuum hex nuts (7)) from the vacuum guide post (5, 6) and remove the upper vacuum spring button (8) and vacuum spring (10).

9. Remove vacuum retaining clip (9) from vacuum stem (5, 6) and lower vacuum spring button (8).

10. Lift pressure pallet (3) up and over the vacuum stem (5, 6), exposing the pressure o-ring (2) and vacuum o-ring (4). ***NOTE:*** *4" and 6" 1100 sanitary vents utilize a two-piece vacuum pallet design. There should not be a reason to dis-assemble this pallet assembly other than cleaning.*

11. Inspect all parts for damage and clean with a suitable solvent.

C. To Replace O-Rings:

1. Carefully remove the pressure o-ring (2) and vacuum o-ring (4), ensuring not to scratch the o-ring groove.

2. Clean the pressure pallet (3) and both o-ring grooves to remove any debris.

3. Clean the vacuum pallet assembly (5, #).

4. Place new pressure o-ring (2) and vacuum o-ring (4) in their respective o-ring grooves. ***NOTE:*** *A compatible lubricate can be used during installation of the o-rings but should be wiped completely off before reassembly of the pallet assembly to the body. This is done to prevent particles or debris from sticking to the o-ring surface.*

D. Reassembly:

1. With the new o-rings in place, place the pressure pallet over the vacuum stem (5, 6).

2. Place the lower vacuum spring button (8) over the vacuum stem (5, 6), and install the vacuum retaining clip (9).

3. Place the vacuum spring (10) over the vacuum stem (5, 6), followed by the upper vacuum spring button (8), and vacuum hex nuts (7).

4. Thread the first vacuum hex nut (7) down against the upper vacuum spring button (8), until the measurement from Step B.7. is achieved. Tighten vacuum hex nuts together ensuring no additional compression is added to the spring. Double check measurement.

5. Thoroughly clean the body (1) with a suitable cleaning solution and a lint free cloth. ***NOTE:*** *The body (1) comes from the factory with a 15 Ra surface finish. Do not use abrasives to clean the body as with will degrade the surface finish and damaging the seating surface.*

6. Place the pressure / vacuum pallet assembly over the pressure guide post (11) and gently lower on to the body (1).

7. Place the lower pressure spring buttons (12) over the pressure guide posts (11) and install the pressure retaining clip (13).

8. Place the pressure range spring (14) over the pressure guide posts (11) followed by the upper spring button (12) and a single pressure hex nut (15).

9. Thread the first pressure hex nut (15) down against the upper pressure spring button (12), until the measurement from Step B.2. is achieved. Tighten pressure hex nuts together ensuring no additional compression is added to the spring. Double check measurement.

10. Install weather screen (16) and top cover (17) over the pressure guide posts (11) and secure with acorn nuts (18).

NOTE: *If ordered with sanitary blanketing valve, VCI Model 1088, please refer to the 1088 IOM Manual, found under the heading Tank Blanketing Valves on the Cashco website, for dis-assembly and maintenance instructions and parts list.*

Return to SECTION III for re-installation procedures.

SECTION V

V. ORDERING INFORMATION

NEW REPLACEMENT UNIT vs PARTS "KIT" FOR FIELD REPAIR

To obtain a quotation or place an order, please retrieve the Serial Number and Product Code that was stamped on the metal name plate, attached to the unit. This information can also be found on the Bill of Material ("BOM"), a parts list that was provided when unit was originally shipped. (Serial Number typically 6 digits).

Product Code ☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐

NEW REPLACEMENT UNIT:

Contact your local Cashco Sales Representative with the Serial Number, Product code and the pressure/vacuum settings. With this information they can provide a quotation for a new unit including a complete description, price and availability.

⚠ CAUTION

Do not attempt to alter the original construction of any unit without assistance and approval from the factory. All proposed changes will require a new name plate with appropriate ratings and new product code to accommodate the recommended part(s) changes.

PARTS "KIT" for FIELD REPAIR:

Contact your local Cashco Sales Representative with the Serial Number and Product code. Identify the parts and the quantity required to repair the unit from the "BOM" sheet that was provided when unit was originally shipped.

NOTE: If the "BOM" is not available, refer to the cross-sectional drawings included in this manual for part identification and selection.

A Local Sales Representative will provide quotation for appropriate Kit Number, Price and Availability.

Model 1100

ATEX 2014/34/EU: Explosive Atmospheres and Cashco Products

Cashco declares that the products listed in the table below has been found to comply with the Essential Health and Safety Requirements relating to the design and construction of products intended for use in potentially explosive atmospheres given in Annex II of the ATEX Directive 2014/34/EU. Compliance with the Essential Health and Safety Requirements has been assured by compliance with EN ISO 80079-36:2016 and EN ISO 80079-37:2016. The product will be marked as follows:


Ex h IIB T6... T1 Gb
1000ATEXR1 X

The 'X' placed after the technical file number indicates that the product is subject to specific conditions of use as follows:

1. The maximum surface temperature depends entirely on the operating conditions and not the equipment itself. The combination of the maximum ambient and the maximum process medium temperature shall be used to determine the maximum surface temperature and corresponding temperature classification, considering the safety margins described prescribed in EN ISO 80079-36:2016, Clause 8.2. Additionally, the system designer and users must take precautions to prevent rapid system pressurization which may raise the surface temperature of system components and tubing due to adiabatic compression of the system gas. Furthermore, the Joule-Thomson effect may cause process gases to rise in temperature as they expand going through a regulator. This could raise the external surface temperature of the regulator body and the downstream piping creating a potential source of ignition. Whether the Joule-Thomson effect leads to heating or cooling of the process gas depends on the process gas and the inlet and outlet pressures. The system designer is responsible for determining whether the process gas temperature may raise under any operating conditions.

2. Where the process medium is a liquid or semi-solid material with a surface resistance in excess of 1GΩ, special precautions shall be taken to ensure the process does not generate electrostatic discharge.

3. Special consideration shall be made regarding the filtration of the process medium if there is a potential for the process medium to contain solid particles. Where particles are present, the process flow shall be <1m/s (<3.3 ft/s) in order to prevent friction between the process medium and internal surfaces.

4. Effective earthing (grounding) of the product shall be ensured during installation.

5. The valve body/housing shall be regularly cleaned to prevent build up of dust deposits.

6. Regulators must be ordered with the non-relieving option (instead of the self-relieving option) if the process gas they are to be used with is hazardous (flammable, toxic, etc.). The self-relieving option vents process gas through the regulator cap directly into the atmosphere while the non-relieving option does not. Using regulators with the self-relieving option in a flammable gas system could create an explosive atmosphere in the vicinity of the regulator.

7. Tied diaphragm regulators with outlet ranges greater than 7 barg (100 psig) should be preset to minimize the risk that improper operation might lead to an outboard leak and a potentially explosive atmosphere.

8. All equipment must only be fitted with manufacturer's original spare parts.

9. Ensure that only non-sparking tools are used, as per EN 1127-1, Annex A.

	PRODUCT
REGULATORS	31-B, 31-N
	1164, 1164(OPT-45)
	1171, 1171(OPT-45), 1171(CRYO)
	2171, 2171(OPT-45), 2171(CRYO), 3171
	1465, 3381, 3381(OPT-45), 3381(OPT-40)
	4381, 4381(OPT-37), 4381(CRYO), 4381(OPT-45), 5381
	MPRV-H, MPRV-L
	PBE, PBE-L, PBE-H
	CA-1, CA-2
	CA1, SA1, CA4, SA4, CA5, SA5
	DA2, DA4, DA5, DA6, DA8
	DA0, DA1, DAP, SAP
	SLR-1, SLR-2, PTR-1
	ALR-1, ULR-1, PGR-1
	BQ, BQ(OPT-45), BQ(CRYO)
	123, 123(CRYO), 123(OPT-45), 123(OPT-46G)
	123-1+6, 123-1+6(OPT-45), 123-1+6(OPT-46G), 123-1+6+S, 123-1+6+S(OPT-40)
	1000HP, 1000HP(OPT-37), 1000HP(OPT-45), 1000HP(OPT-45G), 1000HP(CRYO)
	1000HP-1+6, 1000HP-1+8, 1000LP, 1000LP(OPT-45), 1000LP(OPT-46G)
	6987
	8310HP, 8310HP-1+6, 8310HP-1+8, 8310LP, 8311HP, 8311LP
	345, 345(OPT-45)
	BA1/BL1, PA1/PL1
	C-BPV, C-PRV, C-CS
	D, D(CRYO), D(OPT-37), D(OPT-20), D(OPT-45)
	DL, DL(LCC), DL(OPT-45)
	BR, BR(CRYO)
	HP, HP(LCC), HP(OPT-45), HP(OPT46G), HP-1+6+S(OPT-40), HP-1+6+S
	P1, P2, P3, P4, P5, P7
	B2, B7
	POSR-1, POSR-2
	5200P, 5300P
	135
	NW-PL, NW-SO
	CG-PILOT
	FG1
CONTROL VALVES	RANGER, 987, PREMIER
	964, 521, 988, 988-MB, 989
	2296/2296HF
	SCV-30, SCV-S
TANK BLANKETING	8700, 8910, 8920, 8930, 8940
	2100, 2199
	3100, 3200, 3300, 3400, 3500, 3600, 3700
	1078, 1088, 1100, 1049
	5100, 5200, 5400 ,5500
	4100, 4200, 4300, 4400, 4500, 4600
MISC	764P/PD, 764-37, 764T

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