



**Continental Disc®  
Corporation**

## Preparation and Installation of the (CPC) Composite Flat Circular Vent Panel

### WARNING

USER SHOULD READ AND THOROUGHLY UNDERSTAND THESE INSTRUCTIONS BEFORE INSTALLING VENT PANEL. THESE INSTRUCTIONS DO NOT PURPORT TO ADDRESS ALL OF THE SAFETY FACTORS ASSOCIATED WITH THE VENT PANEL'S USE IN SERVICE. IT IS THE RESPONSIBILITY OF THE USER TO ESTABLISH APPROPRIATE SAFETY, HEALTH, AND TRAINING MEASURES FOR THEIR PERSONNEL INSTALLING, SERVICING, OR WORKING IN AN AREA WHERE VENT PANEL ASSEMBLIES ARE IN USE. SERVICE AND/OR MAINTENANCE ON OR AROUND THE VENT PANEL DEVICE MUST NOT BE PERFORMED WHILE THE DEVICE IS SUBJECTED TO OPERATING PRESSURES AND/OR TEMPERATURES.

IT IS THE USER'S SOLE RESPONSIBILITY FOR DESIGN AND PLACEMENT OF VENT PANELS WITHIN THEIR FACILITY AND UPON THE EQUIPMENT UPON WHICH THE VENT PANEL OF USER'S SELECTION IS TO BE LOCATED. IT IS USER'S SOLE RESPONSIBILITY FOR THE DESIGN OF ADEQUATE VENTING AND INSTALLATION OF ADEQUATE VENT PIPING OR DIRECTIONAL FLOW AFTER RUPTURE OCCURS WITH THE VENT PANEL AS INTENDED. WHEN SIZE IS SPECIFIED, CONTINENTAL DISC CORPORATION ASSUMES THAT ADEQUATE PROVISIONS HAVE BEEN MADE BY PURCHASER FOR PROPER VENTING OF A SYSTEM TO RELIEVE THE SPECIFIC PRESSURE. LOCATE VENT PANEL WHERE PEOPLE OR PROPERTY WILL NOT BE EXPOSED TO THE SYSTEM DISCHARGE IN CASE OF RUPTURE. VENT TOXIC OR FLAMMABLE FUMES OR LIQUIDS TO A SAFE LOCATION TO PREVENT PERSONAL INJURY OR PROPERTY DAMAGE.

IT IS THE USER'S SOLE RESPONSIBILITY TO SPECIFY THE BURST PRESSURE RATING OF A VENT PANEL AT A COINCIDENT TEMPERATURE AT WHICH THE VENT PANEL IS TO BE USED. A VENT PANEL IS A TEMPERATURE SENSITIVE DEVICE. THE BURST PRESSURE OF THE VENT PANEL IS DIRECTLY AFFECTED BY ITS EXPOSURE TO THE COINCIDENT TEMPERATURE. GENERALLY, AS THE TEMPERATURE AT THE VENT PANEL INCREASES, THE BURST PRESSURE DECREASES; INVERSELY, AS THE TEMPERATURE AT THE VENT PANEL DECREASES, THE BURST PRESSURE MAY INCREASE. FAILURE TO PROPERLY UTILIZE A VENT PANEL AT THE SPECIFIED COINCIDENT TEMPERATURE COULD CAUSE PREMATURE FAILURE OR OVERPRESSURIZATION OF A SYSTEM.

THE INSTANTANEOUS RELEASE OF PRESSURE FROM THE VENT PANEL CAN CREATE VIOLENT NOISES DUE TO THE DISCHARGE AT SONIC VELOCITY. IT IS THE USER'S SOLE RESPONSIBILITY TO PROTECT AGAINST HEARING DAMAGE TO ANY BYSTANDERS.

VENT PANELS AND TAGS ARE MADE OF METAL FOILS OF VARYING THICKNESS. THE METAL EDGES MAY BE SHARP. PERSONNEL INSTALLING OR EXAMINING THE VENT PANELS SHOULD PROTECT AGAINST CUTS OR INJURY WHEN HANDLING THE VENT PANEL. DO NOT LIFT A VENT PANEL BY ITS ATTACHED TAG.

PARTICLES MAY BE DISCHARGED WHEN THE VENT PANEL RUPTURES. THESE PARTICLES MAY BE PART OF THE VENT PANEL ITSELF, OR OTHER ENVIRONMENTAL MATTER IN THE SYSTEM. IT IS THE USER'S SOLE RESPONSIBILITY TO ASSURE THAT THESE PARTICLES ARE DIRECTED TO A SAFE AREA TO PREVENT PERSONAL INJURY OR PROPERTY DAMAGE.

THERE IS NO GUARANTEE OF VENT PANEL LIFE. SUCH LIFE SPAN IS AFFECTED BY CORROSION, CREEP AND FATIGUE, AND PHYSICAL DAMAGE. THESE CONDITIONS WILL DERATE THE VENT PANEL TO A LOWER SET PRESSURE. THE CUSTOMER AND/OR USER SHOULD BE PREPARED TO HANDLE PREMATURE FAILURE OF THE VENT PANEL. THE MEDIA OR OTHER ENVIRONMENTAL CONDITIONS SHOULD NOT ALLOW ANY BUILDUP OR SOLIDIFICATION OF MEDIA TO OCCUR ON A VENT PANEL. THIS MAY INCREASE THE PRESSURE SETTING OF THE VENT PANEL.

CUSTOMER AND/OR ITS INSTALLER SHALL BE SOLELY RESPONSIBLE FOR THE PROPER INSTALLATION OF SELLER'S HOLDERS AND VENT PANELS INTO A SYSTEM. CUSTOMER AND/OR ITS INSTALLER SHALL BE SOLELY RESPONSIBLE FOR IMPROPER INSTALLATION AND PHYSICAL DAMAGE RESULTING THEREFROM, INCLUDING BUT NOT LIMITED TO, DAMAGE RESULTING FROM LEAKAGE, IMPROPER TORQUING OR SEATING OF A VENT PANEL OR FAILURE TO FOLLOW INSTALLATION INSTRUCTIONS WHERE PROVIDED.

VENT PANELS ARE PRECISION SAFETY DEVICES AND MUST BE INSTALLED PROPERLY. VENT PANELS MUST BE INSTALLED BY TRAINED, KNOWLEDGEABLE INSTALLERS AND ONLY WITHIN ENVIRONMENTS SUITABLE AND APPROPRIATE FOR A VENT PANEL. CARE MUST BE USED IN A FACILITY'S DESIGN TO PROTECT BOTH THE VENT PANEL FROM INADVERTENT DAMAGE WHICH COULD CAUSE ITS PREMATURE RELEASE AND TO PROTECT INDIVIDUALS EXPOSED TO HAZARDS CREATED BY SUCH SUDDEN RELEASE.

PROPER INSTALLATION OF A VENT PANEL IS CRITICAL TO PERFORMANCE AND TO SAFETY. FAILURE TO PROVIDE PROPER SEATING OF A VENT PANEL MAY AFFECT VENT PANEL PERFORMANCE, BURST PRESSURE ACCURACY AND MAY RESULT IN ITS PREMATURE FAILURE.

## I. Safety Precautions Before Installation

1. The Vent Panel is a precision instrument and must be handled with extreme care. Vent panels should be installed only by qualified personnel familiar with vent panel practices.
2. Do not install the vent panel if there is any damage evident. A damaged vent panel is any vent panel with visible nicks or dents.
3. The vent panel must be installed with the labeled side facing the venting direction.
4. Continental Disc Corporation does not recommend reinstalling a vent panel that has been removed from the vent frame as reinstallation may adversely affect the joint sealing capabilities and/or performance of the vent panel.
5. See vent panel label to verify set pressure, operating temperature, and all other operating parameters.

## II. Preparation of Vent Frames for Installation

### New Installation

Clean all foreign material from the vent panel sealing area of both the vent frame inlet and outlet.

### Replacement Installation

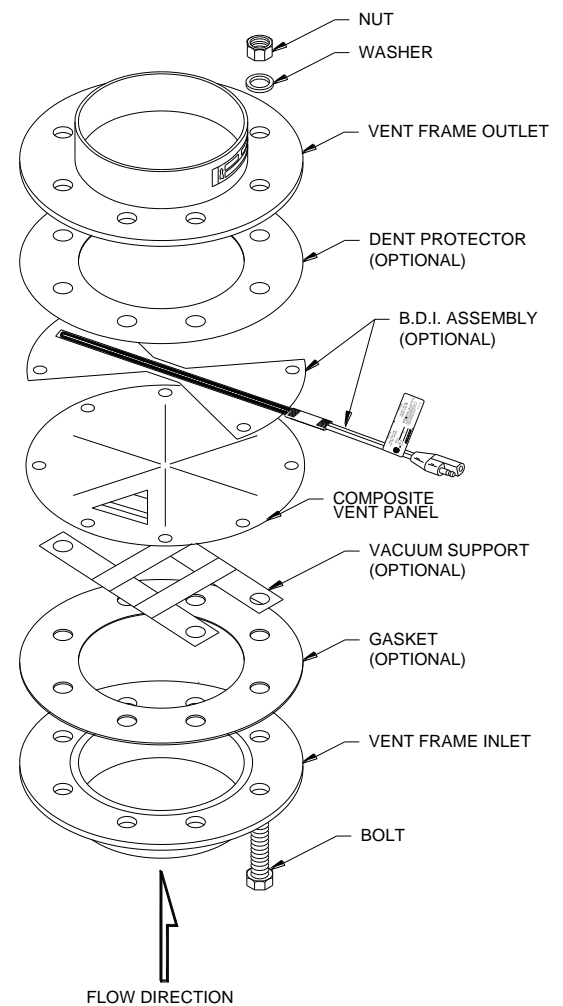
1. If the Burst Disc Indicator (B.D.I.®) Alarm System is used, disconnect the alarm strip from the monitor by unplugging the B.D.I. connector from the lead wire connector.
2. Disassemble the vent frame by removing all assembly bolts, nuts, and washers. Lift the vent frame outlet up and set aside; then remove the burst vent panel.
3. Clean the vent panel sealing area of both the vent frame inlet and outlet. These surfaces must be completely clean and free of all rust, corrosion, and foreign material to ensure a proper seal. Use of solvents, steel wool, or fine emery cloth is permissible. Do not re-machine. Do not use scraper or abrasives.
4. Inspect the vent panel sealing area for nicks, scratches, or pitting. If any of these conditions are present, consult the factory for repair.
5. Remove any adhered gasket material from previous installation.

## III. Assembly of the Vent Panel and Vent Frame (See Figure A)

Component parts of the vent panel assembly are illustrated in the proper installation sequence.

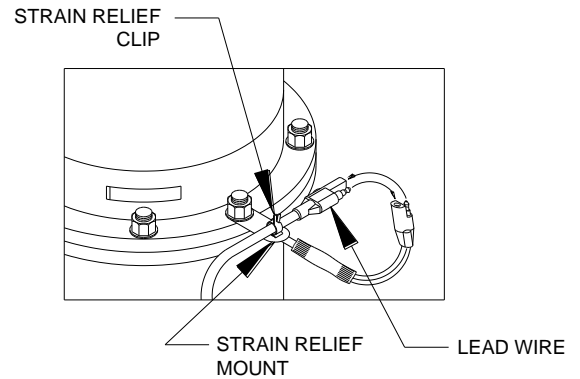
1. Place all vent panel components on the vent frame inlet with the labeled side up, aligning them with the bolt holes.
2. If the B.D.I. Alarm System is used, visually inspect the adhesion of the strip to the seal and the electrical circuit. If the strip has become detached or the circuit has been broken, **DO NOT INSTALL THE VENT PANEL**. Ensure that the B.D.I. strip extends straight and flat.
3. Align and lower the vent frame outlet onto the vent panel.

Figure 'A'



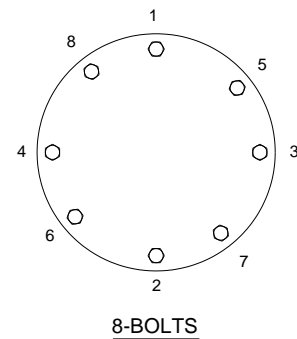
- If the B.D.I. Alarm System is used, installation of the strain relief device is necessary (see **Figure B**). Insert one assembly bolt into the vent frame near where the B.D.I. strip exits. Place the strain relief mount over the bolt and secure with a washer and nut. Hand-tighten only at this time. Insert the strain relief clip into the hole in the strain relief mount. Allowing sufficient slack for easy connection to the B.D.I. connector, secure the lead wire to the strain relief device by fastening the twist lock on the clip. Plug the B.D.I. connector into the leadwire connector using a slight twisting action.
- Install all remaining bolts, nuts and washers. Using a cross torquing pattern (see **Figure C**), torque all nuts with a calibrated torque wrench at 20% increments of the recommended torque value shown in the table below. Repeat 20% increments and cross torquing pattern until final torque value is achieved. Recheck all nuts in rotational sequence at final torque value. The torque values listed in the table below are based on using grade 5 bolts. The use of lower grade bolts may prove unsatisfactory.

**Figure 'B'**



**Figure 'C'**

EXAMPLE OF BOLT TORQUE SEQUENCE



RECOMMENDED TORQUE VALUE TABLE	
Size	Torque
8" - 10"	15 Ft•Lbs / (20 N•m)
12" - 24"	25 Ft•Lbs / (34 N•m)
30" - 44"	60 Ft•Lbs / (82 N•m)

#### IV. Preventative Maintenance

- Periodic visual inspection should be made to assure vent panel installation is free from structural damage and vent area is free of obstructions.
- Risk assessment and an annual vent panel replacement are recommended. Vent panel service life is determined by system operating conditions. The effects of severe pressure/vacuum cycles, corrosion, temperature variations, or other adverse conditions must be evaluated by the user through actual service experience to determine optimal service life.
- IF THE VENT PANEL IS NOT REPLACED PERIODICALLY WHEN EXPOSED TO THESE CONDITIONS, PREMATURE FAILURE OF THE VENT PANEL MAY OCCUR.**
- To avoid extended downtime, maintain two spare vent panels in stock at all times for each vent frame in use. The number of spares required ultimately will be determined by service conditions.

## V. Customer Service

If you wish to discuss your application, installation, or maintenance, please contact the Customer Service Department at our headquarters location.

### B.D.I. ALARM SYSTEM OPERATING LIMITS


TEMPERATURE:           -40° F to + 400° F  
                              (-40° C to + 204° C)

MAX CURRENT:           50 Milli Amps  
MAX VOLTAGE:           24 VDC

FULFILLS THE REQUIREMENTS OF DIRECTIVE 2014/34/EU (ATEX) FOR: Equipment or protective system intended for use in potentially explosive atmospheres.

Conformity assessment performed by Notified Body no. 0359,  
Intertek Testing and Certification Limited, Leatherhead, Surrey, UK.

BURST DISC INDICATOR (B.D.I.<sup>®</sup>): Sizes 25mm through 900mm (1 inch through 36 inches)

Marked:  II 1 G Ex ia IIC Tx Ga  
II 1 D Ex ia IIIC Tx Da  
I M1 Ex ia I Ma  
(Tamb = -40°C ≤ Ta ≤ +204°C)

EC Type Examination Certificate: ITS13ATEX27734X

THE MAXIMUM INTRINSICALLY SAFE INPUT PARAMETERS ARE AS FOLLOWS:

Ui = 24V dc  
Ii = 50 mA  
Pi = 0.3W

THE EQUIVALENT PARAMETERS ARE:

Ci = 0  
Li = 0

SPECIAL CONDITIONS FOR SAFE USE:

1. Temperature Class of the BDI sensor is marked as Tx, since the surface temperature is controlled by the process temperature being monitored. The sensor itself exhibits negligible temperature rise.
2. When located in an area requiring EPL Ga / Category 1G (e.g. Zone 0) hazardous area, the user shall ensure that electrostatic charging of the non-metallic parts cannot occur.
3. When provided with terminations by means of flying leads, these shall be terminated in an appropriately protected terminal box.
4. When installed, the BDI strip shall be provided with an IP rating of IP20 as a minimum.
5. For Group I applications, the BDI strip and terminations shall be protected to IP54 or better.



**Continental Disc<sup>®</sup>  
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*Performance Under Pressure<sup>®</sup>*

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