

EU TYPE-EXAMINATION CERTIFICATE

1. **EU type-examination Certificate (Module B)**

2. **Equipment or Protective System intended for use in potentially explosive atmospheres (Directive 2014/34/EU)**



3. **EU type examination certificate Nr** **ITS13ATEX27734X R.2**

4. **Product:** BDI Burst Disc Indicator

5. **Manufacturer:** Continental Disc Corporation, LLC

Applicant: Continental Disc Corporation, LLC

6. **Address:** 3160 West Heartland Drive
Liberty, MO 64068
USA

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7. This product and any acceptable variation thereto are specified in the schedule to this certificate and therein referred to.

8. INTERTEK ITALIA S.p.A., Notified Body n° 2575 in accordance with article 17 of the Directive 2014/34/EU of the European Parliament and Council of the 26 February 2014, certifies that the equipment or protective system has been found to comply with the essential Health and Safety Requirements relating to the design and construction of equipment and protective system intended for use in potentially explosive atmosphere, given in Annex II of the Directive.

The examination and tests results are recorded in confidential technical evaluation Intertek Report Nr. 101585709LHD-002A issue 1, dated August 2015, 102872137DAL-001 dated March 2017, 104302656CRT-001b dated 21-May-2020 and 104646863CRT-002b dated 01 June 2021.

9. Compliance with the Essential Health and Safety Requirements has been assured by compliance with standards EN IEC 60079-0:2018, EN 60079-11:2012 and EN 50303:2000 except in respect of those requirements referred to at item 16 of the Schedule.

10. If the sign X is placed after the certificate number, it indicates that the product is subject to Special Conditions for Safe Use specified in the schedule to this certificate.

11. This EU-Type Examination Certificate relates only to the design and construction of the specified product. Further requirements of the Directive apply to the manufacturing process and supply of this product. These are not covered by this certificate.

12. The marking of the product shall include the following:



II 1 G Ex ia IIC Tx Ga
II 1 D Ex ia IIIC Tx Da
I M1 Ex ia I Ma

Certificate issue date

23 June 2021



Todd L. Relyea
Certification Officer
Intertek Italia S.p.A. (NB 2575)



PDR N° 277B

Membro degli Accordi di Mutuo Riconoscimento EA, IAF e ILAC

Signatory of EA, IAF and ILAC Mutual Recognition Agreements



This Certificate is for the exclusive use of Intertek's client and is provided pursuant to the agreement between Intertek and its Client. Intertek's responsibility and liability are limited to the terms and conditions of the agreement. Intertek assumes no liability to any party, other than to the Client in accordance with the agreement, for any loss, expense or damage occasioned by the use of this Certificate. Only the Client is authorized to permit copying or distribution of this Certificate and then only in its entirety. Any use of the Intertek name or one of its marks for the sale or advertisement of the tested material, product or service must first be approved in writing by Intertek.

Intertek Italia S.p.A. Via Miglioli, 2/A - 20063 Cernusco sul Naviglio, Milano - Italy



SCHEDULE

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13. DESCRIPTION OF THE EQUIPMENT OR PROTECTIVE SYSTEM

The Continental Disc Corporation, LLC BDI BURST DISC INDICATOR consists essentially of two parallel flexible copper or tantalum strips located between layers of Kapton film. The strips are linked at the end remote from the electrical connections. The centre section of each strip is reduced in width.

The copper or tantalum strip assembly may be mounted on a Teflon membrane and installed between pipeline flanges. The assembly may be integral with a bursting disc or mounted separately from, but adjacent to, a bursting disc.

The maximum intrinsically safe input parameters are as follows:

$U_i = 24\text{VDC}$
 $I_i = 50\text{ mA}$
 $P_i = 0.3\text{W}$

The equivalent parameters are:

$C_i = 0$
 $L_i = 0$

The temperature class of the equipment is marked Tx, since the temperature rise within the BDI Strip is negligible. The surface temperature is dependent on the process temperature or the ambient temperature at the installation position.

CE Marking shall be accompanied by the identification number of the Notified Body responsible for surveillance of production.

14. DRAWINGS AND DOCUMENTS

TITLE	DOCUMENT Nr	LEVEL	DATE
Special B.D.I. Assembly – Schedule Drawing	CD31720-63-SD	B	4/15/2020
Burst Disc Indicator Strip Label	LMD-BSL-1001-01-SD	AK	4/30/2021
Burst Disc Indicator Strip Schedule Drawing	STPSD	B	4/15/2020
Tantalum Low Pressure Universal Burst Disc Indicator Schedule Drawing	TLPUBDSD	B	4/15/2020
Tantalum Universal or Integral Burst Disc Indicator Schedule Drawing	TUBDSD	B	4/15/2020
Universal or Integral Burst Disc Indicator Schedule Drawing	UBDSD	D	4/30/2021
Special Dual B.D.I. Strip – Schedule Drawing	DBSSD	C	4/15/2020

Copies of the above listed documents are kept at Intertek Italia S.p.A. archive.



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15. SPECIAL CONDITIONS FOR SAFE USE

- Ambient temperature range of the BDI comprise of a Kapton fil membrane: $-40^{\circ}\text{C} \leq T_a \leq +204^{\circ}\text{C}$
- Ambient temperature range of the BDI comprise of Tantalum: $-40^{\circ}\text{C} \leq T_a \leq +288^{\circ}\text{C}$
- 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.
- 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.
- When provided with terminations by means of flying leads, these shall be terminated in an appropriately protected terminal box.
- When installed, the BDI strip shall be provided with an IP rating of IP20 as a minimum.
- For Group I applications, the BDI strip and terminations shall be protected to IP54 or better.
- The BDI does not meet the 500V dielectric strength requirement of EN 60079-11:2012 Clause 6.3.13. The user shall take this into consideration in the installation, for example by the provision of equipotential bonding throughout the installation, additional earth bonding or the provision of Galvanic Isolation at the supply.

16. ESSENTIAL HEALTH AND SAFETY REQUIREMENTS

The relevant essential Health and Safety Requirements have been identified and assessed in Intertek Report Nr. 101585709LHD-002A issue 1, dated August 2015, 102872137DAL-001 dated March 2017, report Nr. 104302656CRT-001b dated 21-May-2020 and report Nr. 104646863CRT-002b dated 01 June 2021.

17. ROUTINE (FACTORY) TESTS

None

18. DETAIL OF CERTIFICATE CHANGES

R.1 (28 May 2020):

- Revised drawing CD31720-63-SD from revision N/R date 03.05.2014 to B date 4/15/2020.
- Revised drawing DBSSD from revision A date 03.16.2017 to C date 4/15/2020.
- Revised drawing LMD-BSL-1001-01 from revision AE date 05.27.2015 to AJ date 4/15/2020.
- Revised drawing STPSD from revision N/R date 03.05.2014 to B date 4/15/2020.
- Revised drawing TLPUBDSD from revision N/R date 03.05.2014 to B date 4/15/2020.
- Revised drawing TUBDSD from revision N/R date 03.05.2014 to B date 4/15/2020.
- Revised drawing UBDS from revision A date 01.21.2014 to C date 4/15/2020.
- Updated standard from EN 60079-0: 2012 to EN 60079-0: 2012+A11: 2013.

R.2 (23 June 2021):

- Change Applicant and Manufacturer Name from Continental Disc Corporation to Continental Disc Corporation, LLC
- Updated standard from EN 60079-0:2012 +A11:2013 to EN IEC 60079-0:2018.
- Drawing LMD-BSL-1001-01 replace with drawing LMD-BSL-1001-01-SD revision AK date 4/30/2021.
- Revised drawing UBDS from revision C date 4/15/2020 to D date 4/30/2021.