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IECEx Certificate of Conformity

INTERNATIONAL ELECTROTECHNICAL COMMISSION
IEC Certification Scheme for Explosive Atmospheres

for rules and details of the IECEx Scheme visit www.iecex.com

Certificate No.:	IECEx CES 14.0016U	issue No.:0	Certificate history:
Status:	**Current**		
Date of Issue:	**2014-10-09**	Page 1 of 3	

Applicant: **CORTEM S.p.A.**
Via Aquileia 10
I - 34070 Villesse (GO)
Italy

Electrical Apparatus: **Breathing and Draining valves series ECD..**
Optional accessory:

Type of Protection: **Flameproof enclosures 'd'; increased safety 'e'; Dust ignition protection 't'**

Marking: **Ex d IIB Gb or Ex d IIC Gb for ECD-1.. types;**
Ex d IIB Gb and Ex e IIB Gb and Ex tb IIIC Db IP66 or
Ex d IIC Gb and Ex e IIC Gb and Ex tb IIIC Db IP66 for ECD-2 types.

Approved for issue on behalf of the IECEx Certification Body: Mirko Balaz

Position: Head of IECEx CB

Signature:
(for printed version)

Date: 9-10-2014

1. This certificate and schedule may only be reproduced in full.
2. This certificate is not transferable and remains the property of the issuing body.
3. The Status and authenticity of this certificate may be verified by visiting the Official IECEx Website.

Certificate issued by:

CESI
Centro Elettrotecnico
Sperimentale Italiano S.p.A.
Via Rubattino 54
20134 Milano
Italy

CESI
CESI S.p.A.
Testing & Certification Division
Business Area Certification
Il Responsabile
Fiorenzo Bregani

IECEx Certificate of Conformity

Certificate No.: IECEx CES 14.0016U

Date of Issue: **2014-10-09** Issue No.: **0**

Manufacturer: **CORTEM S.p.A.**
Via Aquileia 10
I - 34070 Villesse (GO)
Italy

Additional Manufacturing location (s):

This certificate is issued as verification that a sample(s), representative of production, was assessed and tested and found to comply with the IEC Standard list below and that the manufacturer's quality system, relating to the Ex products covered by this certificate, was assessed and found to comply with the IECEx Quality system requirements. This certificate is granted subject to the conditions as set out in IECEx Scheme Rules, IECEx 02 and Operational Documents as amended.

STANDARDS:
The electrical apparatus and any acceptable variations to it specified in the schedule of this certificate and the identified documents, was found to comply with the following standards:

IEC 60079-0 : 2011 Edition: 6.0	Explosive atmospheres - Part 0: General requirements
IEC 60079-1 : 2007-04 Edition: 6	Explosive atmospheres - Part 1: Equipment protection by flameproof enclosures "d"
IEC 60079-31 : 2008 Edition: 1	Explosive atmospheres – Part 31: Equipment dust ignition protection by enclosure 't'
IEC 60079-7 : 2006-07 Edition: 4	Explosive atmospheres - Part 7: Equipment protection by increased safety "e"

*This Certificate **does not** indicate compliance with electrical safety and performance requirements other than those expressly included in the Standards listed above.*

TEST & ASSESSMENT REPORTS:
A sample(s) of the equipment listed has successfully met the examination and test requirements as recorded in

Test Report:
IT/CES/ExTR14.0019/00

Quality Assessment Report:

IT/CES/QAR06.0002/08

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Certificate No.: IECEx CES 14.0016U

Date of Issue: **2014-10-09** Issue No.: **0**

Schedule

EQUIPMENT:
Equipment and systems covered by this certificate are as follows:

The ECD.. series of Breathing and Draining valves are designed to be fitted into threaded entries of flameproof Ex-d or increased safety Ex-e enclosures, depending on the type, to avoid the formation of moisture and water condensation. The valves are made of Stainless steel or Aluminium alloy and consisting of a male threaded external body containing a pin internally retained to the assembly by a retaining ring. The ECD-2.. type is characterized by sealing gaskets which guarantee a degree of protection IP66.
The ECD-1.. type of Breathing and Draining valves are available in the following executions:

- Ex d IIC Gb for an ambient temperature up to +60℃.
- Ex d IIB Gb when intended for use with an ambient temperature up to +150℃.

The ECD-2.. type of Breathing and Draining valves are available in the following executions:

- Ex d IIC Gb and Ex e IIC Gb and Ex tb IIIC Db, IP66 for an ambient temperature up to +60℃.
- Ex d IIB Gb and Ex e IIB Gb and Ex tb IIIC Db, IP66 when intended for use with an ambient temperature up to +150℃.

The Breathing and Draining valves series ECD.. characteristics and a Schedule of Limitations are further described in the Annexe of this certificate.

CONDITIONS OF CERTIFICATION: NO

Annex: Cortem IECEx CES 14.0016U ANNEX - ECD1_ECD2.pdf

IECEx Certificate of Conformity

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Prot: B4025966

Annex to certificate: **IECEx CES 14.0016U Issue No.:0** of 2014-10-09
Applicant: **COR.TEM S.p.A.**
Via Aquileia 10, I - 34070 Villesse (GO), Italy
Electrical Apparatus: **Breathing and Draining valves series ECD..**

General product information:
The **ECD..** series of Breathing and Draining valves are designed to be fitted into threaded entries of flameproof Ex-d or increased safety Ex-e enclosures, depending on the type, to avoid the formation of moisture and water condensation. The valves are made of Stainless steel or Aluminium alloy and consisting of a male threaded external body containing a pin internally retained to the assembly by a retaining ring. The **ECD-2..** type is characterized by sealing gaskets which guarantee a degree of protection IP66.

The **ECD-1..** type of Breathing and Draining valves are available in the following executions:

- **Ex d IIC Gb** for an ambient temperature up to +60°C.
- **Ex d IIB Gb** when intended for use with an ambient temperature up to +150°C.

The **ECD-2..** type of Breathing and Draining valves are available in the following executions:

- **Ex d IIC Gb** and **Ex e IIC Gb** and **Ex tb IIIC Db, IP66** for an ambient temperature up to +60°C.
- **Ex d IIB Gb** and **Ex e IIB Gb** and **Ex tb IIIC Db, IP66** when intended for use with an ambient temperature up to +150°C.

The coupling between the Breathing and Draining valves and the apparatus enclosures is made by means of male threaded joints. The standard available thread are tapered 3/8" or 1/2" NPT ANSI/ASME B1.20.1 or cylindrical ISO Metric 965/1 and ISO 965/3 M16x1.5 or M20x1.5. Other available thread types are NPSM ANSI/ASME B1.20.1, PG DIN 40430 and GAS EN ISO 228-1.

To guarantee the IP 66 degree of protection the **ECD-2..** series of Breathing and Draining valves have fitted a silicon O-ring in-between the body and the pin and a plain gasket on the mounting thread.

Identification of Breathing and Draining valves:

ECD-* ** ** *

Types of model:
- **1**: Ex d (execution for gas only)
- **2**: Ex d, Ex e, Ex tb (execution for gas and dusts)

Size of thread:
- **10**: 3/8" (or M16)
- **15**: 1/2" (or M20)

Type of thread:
- **N**: NPT ANSI/ASME B1.20.1
- **I**: ISO metric pitch 1,5mm
- **NC**: NPSM ANSI/ASME B1.20.1
- **P**: PG DIN 40430
- **C**: GAS EN ISO 228-1
- **Blank**: Gk CEI EN 60079-1 Annex 1.

Type of material:
- **Blank**: aluminium alloy
- **S**: stainless steel

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Applicant: **COR.TEM S.p.A.**
Via Aquileia 10, I - 34070 Villesse (GO), Italy

Electrical Apparatus: **Breathing and Draining valves series ECD..**

"Scheduled of Limitations" for Ex Components:

- The coupling of the Breathing and Draining valves with the enclosures shall be made as indicated by the manufacturer in the documents annexed to this certificate in order to respect the type of protection of the electrical apparatus on which Breathing and Draining valves are mounted.
- The Breathing and Draining valves shall be mounted at the electrical apparatus in such a way that accidental rotation and loosening will be prevented.
- The Breathing and Draining valves shall be installed in such a way that the temperature at the mounting point will remain within the following service temperature ranges:

Type	Exec.	Materials	Gaskets	Operating temperature range	
				Min. Temp.	Max. Temp.
ECD-1..	**Ex d IIC Gb**	Stainless steel, Aluminium alloy	Silicon	-50 °C	+60 °C
ECD-1..	**Ex d IIB Gb**	Stainless steel, Aluminium alloy	Silicon	-50 °C	+150 °C
ECD-2..	**Ex d IIC Gb** **Ex e IIC Gb** **Ex tb IIIC Db**	Stainless steel, Aluminium alloy	Silicon	-50 °C	+60 °C
ECD-2..	**Ex d IIB Gb** **Ex e IIB Gb** **Ex tb IIIC Db**	Stainless steel, Aluminium alloy	Silicon	-50 °C	+150 °C

- The IP 66 mechanical protection of the Breathing and Draining valves type **ECD-2** is obtained by inserting an O-ring made of silicon rubber in-between the body and the pin and furthermore when the pin is completely screwed as shown into the mounting instruction.
- If the Breathing and Draining valves type **ECD-2** are intended for use with dust protection "Ex tb" the holes into which Breathing and Draining valves are mounted shall maintain the ingress protection rating of the enclosure. To this scope the correct positioning of the gaskets, shall be done as indicated in the manufacturer instruction.
- The Breathing and Draining valves were mounted and tested for use on:
  - enclosures with internal volume up to 157 liters for gas groups IIB and IIB + H_2;
  - enclosures with internal volume up to 100 liters for gas group IIC;
  - motors with 900 mm of center high for gas group IIB;
  - motors with 500 mm of center high for gas group IIC.

  Furthermore the overpressure tests were conducted according to IEC 60079-1, section 15.1.3 with a test pressure up to 160 bars.
- It is the final assemblers/users responsibility to ensure the threaded joint between the Breathing and Draining valves and the associated enclosure meet all the requirements of the applicable standards for the assembly.