



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 CML 17.0147X Issue No: 1 Certificate history:
Status: **Current** Issue No. 1 (2019-01-25)
Date of Issue: **2019-01-25** Issue No. 0 (2017-10-03)
Page 1 of 4
Applicant: **Pneumatrol Limited**
West End Business Park, Blackburn Road, Oswaldtwistle, Lancashire, BB5 4WZ
United Kingdom
Equipment: **Type EP000/d/TB Solenoid Assembly**
Optional accessory:
Type of Protection: **Flameproof "db", Dust Ignition "tb"**
Marking:
Ex db IIC T6...T3 Gb
Ex tb IIIC T85°C...T200°C Db
 $T_{amb} = -65^{\circ}\text{C to }+^{**}\text{C}$
Refer to Annex for full marking and ambient ranges

Approved for issue on behalf of the IECEx
Certification Body:

R C Marshall

Position:

Certification Officer

Signature:
(for printed version)

Date:

2019-01-25

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](http://www.iecex.com).

Certificate issued by:

Certification Management Limited
Unit 1, Newport Business Park
New Port Road
Ellesmere Port, CH65 4LZ
United Kingdom





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Manufacturer: **Pneumatrol Limited**
West End Business Park, Blackburn Road, Oswaldtwistle, Lancashire, BB5 4WZ
United Kingdom

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 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 : 2014-06 Edition:7.0	Explosive atmospheres - Part 1: Equipment protection by flameproof enclosures "d"
IEC 60079-31 : 2013 Edition:2	Explosive atmospheres - Part 31: Equipment dust ignition protection by enclosure "t"

*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:

[GB/CML/ExTR17.0181/00](#) [GB/CML/ExTR18.0056/00](#)

Quality Assessment Report:

[GB/CML/QAR16.0014/01](#)



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Schedule

EQUIPMENT:

Equipment and systems covered by this certificate are as follows:

A Type EP000/d/TB Solenoid Assembly comprises a cast housing with an integral terminal enclosure and a threaded cover; all manufactured from grade ANC1B stainless steel to BS3146. The enclosure contains a coil rated at up to 3.2 W dc or 9.5 VA ac which is retained by a threaded end cap. The cap also positions and retains a centre tube which locates the pole piece and armature. Alternative coils may be fitted for 12 V to 440 V ac 50/60 Hz, or 6 V to 240 V dc supplies.

Refer to Annex for full description and Conditions of Manufacture.

SPECIFIC CONDITIONS OF USE: YES as shown below:

Refer to Annex for Specific Condition of Use.



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DETAILS OF CERTIFICATE CHANGES (for issues 1 and above):

Issue 1

This issue introduces the following modifications:

- i. To allow the option of partially encapsulating the rectifier assembly within the flameproof enclosure.
- ii. To allow the option of supplying the equipment with a cable gland and cable attached, and fully encapsulating the terminal chamber.

Annex:

[IECEX CML 17.0147X Iss. 1 Certificate Annex.pdf](#)

Annexe to: IECEx CML 17.0147X Issue 1
Applicant: Pneumatrol Limited
Apparatus: Type EP000/d/TB Solenoid Assembly



Description

A Type EP000/d/TB Solenoid Assembly comprises a cast housing with an integral terminal enclosure and a threaded cover; all manufactured from grade ANC1B stainless steel to BS3146. The enclosure contains a coil rated at up to 3.2 W dc or 9.5 VA ac which is retained by a threaded end cap. The cap also positions and retains a centre tube which locates the pole piece and armature. Alternative coils may be fitted for 12 V to 440 V ac 50/60 Hz, or 6 V to 240 V dc supplies.

A two, or three-way terminal block is fitted within the terminal compartment. A bridge rectifier may also be fitted so that the 3 W dc coil can be operated from an appropriate ac or dc supply.

Internal and external earthing facilities are provided.

The temperature classifications, assigned maximum surface temperatures and ambient temperature range for each coil type are listed below:

Supply	Coil Rating (max)	Marking	Cable temperature
dc	3 W	Ex db IIC T6 Gb Ex tb IIIC T85°C Db (T _{amb} = -65°C to +40°C)	-
dc	3 W	Ex db IIC T5 Gb Ex tb IIIC T100°C Db (T _{amb} = -65°C to +55°C)	-
dc	3 W	Ex db IIC T4 Gb Ex tb IIIC T135°C Db (T _{amb} = -65°C to +60°C)	85°C
dc	3 W	Ex db IIC T4 Gb Ex tb IIIC T135°C Db (T _{amb} = -65°C to +80°C)	105°C
ac/dc (rectified)	3 W	Ex db IIC T5 Gb Ex tb IIIC T100°C Db (T _{amb} = -65°C to +55°C)	-
ac/dc (rectified)	3 W	Ex db IIC T6 Gb Ex tb IIIC T85°C Db (T _{amb} = -65°C to +40°C)	-
ac	9.5 VA	Ex db IIC T4 Gb Ex tb IIIC T135°C Db (T _{amb} = -65°C to +40°C)	90°C
ac	9.5 VA	Ex db IIC T3 Gb Ex tb IIIC T200°C Db (T _{amb} = -65°C to +55°C)	105°C

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Cable entry holes are provided as specified on the approved drawings for the accommodation of flameproof cable entry devices, with or without the interposition of a flameproof thread adapter. Unused entries are to be fitted with suitable certified flameproof stopping plugs.

The cable entry devices, thread adapters and stopping plugs shall be suitable for the equipment, the cable and the conditions of use and shall be certified as Equipment (not a Component).

When used in dust atmospheres, the flameproof cable entries or stopping plugs shall be selected and installed so that the dust tight (IP66) integrity of the enclosure is maintained.

The equipment may alternatively be supplied with an integral cable and gland.

Conditions of Manufacture

The following are conditions of manufacture:

- i. Where the product incorporates certified parts or safety critical components the manufacturer shall ensure that any changes to those parts or components do not affect the compliance of the certified product that is the subject of this certificate.
- ii. The inside of the centre tube assembly shall be subjected to a routine test of 1.5 times the defined/marked maximum working pressure. It shall be shown that the flameproof enclosure cannot become pressurised as a result of leakage of the pressurised medium from the centre tube assembly. The end-user shall be informed of the maximum working pressure of the centre tube assembly.
- iii. If supplied with integral cable and cable gland, the manufacturer shall ensure that the cable meets all the applicable requirements of EN60079-14 and that the cable gland is certified to EN60079-0 and EN60079-1 and provides a minimum degree of protection of IP6X. The cable gland and cable shall be suitable for an operating temperature as defined on Table A of drawing CV5358 sheet 3.

Specific Conditions of Use

The following are specific conditions of use:

- i. The dimensions of the flamepaths shall not be modified. In the event that the unit requires repair, it must be returned to the manufacturer.
- ii. The non-metallic paint/coating on the enclosure is considered to be a potential electrostatic charging hazard. The equipment shall be cleaned only with a damp cloth.
- i. To allow the option of supplying the equipment with a cable gland and cable attached, and fully encapsulating the terminal chamber.