



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.: issue No.:

Status:

Date of Issue: **2015-03-13** Page 1 of 3

Applicant: **Cemp S.r.l.**
Via Piemonte, 16
I – 20030 Senago (MI)
Italy

Electrical Apparatus: **Three-phase asynchronous motors supplied by mains or inverter, series AB 315 L**
Optional accessory:

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

Marking: **Ex d IIB T4, T3 Gb or
Ex de IIB T4, T3 Gb
Ex tb IIIC T 135 °C, T 150 °C Db
IP 65**

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

Position: Head of IECEx CB

*Signature:
(for printed version)*

Date:

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:

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



IECEx Certificate of Conformity

Certificate No.: IECEx CES 15.0004X

Date of Issue: **2015-03-13**

Issue No.: **0**

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Manufacturer: **Cemp S.r.l.**
Via Piemonte, 16
I – 20030 Senago (MI)
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/ExTR15.0003/00](#)

Quality Assessment Report:

[IT/CES/QAR07.0002/08](#)



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Schedule

EQUIPMENT:

Equipment and systems covered by this certificate are as follows:

Three-phase asynchronous motors series AB 315 L supplied by mains or by inverter.
The motors are made of grey cast iron with separate compartments: motor enclosure and terminal box for supply and for auxiliary circuits connection.
The motors of group IIB have the type of protection Ex d when both motor enclosure and terminal box are in Ex d execution. Type of protection Ex de is achieved by motor enclosure in Ex d execution and terminal box in Ex e execution.

See annex for further description.

CONDITIONS OF CERTIFICATION: YES as shown below:

- The flamepaths are specified in the manufacturer drawings. For information regarding the dimensions of the flameproof joints the manufacturer shall be contacted.
- For the installation in places with presence of dust shall be taken into account the risk of electrostatic charges able to activate propagating brush discharges.
- For installation in places with presence of dust, when the motors are made without flange, the D-end sealing ring shall be protected from light by a device supplied by the manufacturer.

Annex: IECEx CES 15.0004X ANNEX-Cemp motors AB 315L.pdf

Prot: B5007160

Annex to certificate: IECEx CES 15.0004X Issue No.0 of 2015-03-13

Applicant: CEMP S.r.l.

Via Piemonte, 16 – 20030 Senago (MI) - Italy

Electrical Apparatus: Three-phase asynchronous motors supplied by mains or inverter, series AB 315 L

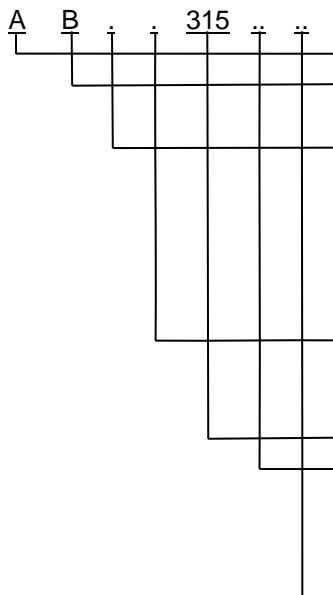
Description of equipment

Three-phase asynchronous motors series AB 315 L supplied by mains or by inverter.

The motors are made of grey cast iron with separate compartments: motor enclosure and terminal box for supply and for auxiliary circuits connection.

The motors of group IIB have the type of protection Ex d when both motor enclosure and terminal box are in Ex d execution. Type of protection Ex de is achieved by motor enclosure in Ex d execution and terminal box in Ex e execution.

The three-phase asynchronous motors series AB 315 L are identified by a code as follows:



Series of motor: A flameproof electric motors

Type of protection:

B motor for gas group IIB

Code of motor electrical characteristics:

2 three phase motor double polarity constant torque

3 three phase motor one polarity

4 three phase motor double polarity quadratic torque

5 three phase motor for hoist

7 three phase motor inverter use

Terminal box version:

0 terminal box Ex-d

5 terminal box Ex-e

Center height

Stator winding length:

LA short winding

LB medium winding

LC long winding

Number of poles:

2 ÷ 16 pole

24, 48, 46, 68, 41, 43 double polarity,
respectively 2/4, 4/8, 4/6, 6/8, 4/12, 4/16 pole

The motors can be equipped with auxiliary devices (heaters, thermal detectors, etc.).

The anticondensate heaters installed inside the motor can have a maximum power of 220 W.

The motors supplied by inverter shown the rating data on a supplementary plate and shall be provided, inside the stator winding, with PTC or PT 100 thermal detectors for temperature control.

The PTC thermal detectors are calibrated for cut off the supply at 130 °C for temperature class T3 (T 150 °C) and at 120 °C for the temperature class T4 (T 135 °C); the protection circuit connected with the PT 100 thermal detectors shall be calibrated for an intervention of 130 °C for the temperature class T3 (T 150 °C) and at 120 °C for the temperature class T4 (T 135 °C).

The intervention of the thermal detector shall guarantee the disconnection of the supply; the resetting of the supply shall not be automatic.

Forced ventilation by auxiliary motor (allowed only for Group IIB):

The operation of the primary motor shall be interlocked to the correct operation of the forced ventilation.



IECEx Certificate of Conformity



Prot: B5007160

Annex to certificate: IECEx CES 15.0004X Issue No.0 of 2015-03-13

Applicant: CEMP S.r.l.
Electrical Apparatus: Via Piemonte, 16 – 20030 Senago (MI) - Italy
Three-phase asynchronous motors supplied by mains or inverter, series AB 315 L

Electrical characteristics

Mains supply:

- Maximum rated voltage: 1000 V
- Maximum rated power: 240 kW
- Maximum current: 520 A
- Rated frequency: 50 / 60 Hz
- Insulation class: F / H (with t. B)
- Duty: S1, S2, S4, S6
- Rated speed: 375 ÷ 3600 rpm
- Degree of protection: IP 55 for Group II (IEC 60034-5 and IEC 60529)
IP 65 for Group III (IEC 60034-5 and IEC 60529)
- Ambient temperature:
 - temperature class T4 (T 135 °C)
 - 20 ÷ +60 °C (+40 °C; +45 °C; +50 °C; +55 °C and +60 °C)
 - 55 ÷ +60 °C (+40 °C; +45 °C; +50 °C; +55 °C and +60 °C)
 - temperature class T3 (T 150 °C)
 - 20 ÷ +80 °C (+40 °C; +45 °C; +50 °C; +55 °C; +65 °C; +70 °C; +75 °C and +80 °C)
 - 55 ÷ +80 °C (+40 °C; +45 °C; +50 °C; +55 °C; +65 °C; +70 °C; +75 °C and +80 °C)

The minimum ambient temperature is in function of the motor constructional characteristics as indicated in the manufacturer documentation.

The motors with the ambient temperature above +40°C up to +80°C are made in compliance with the power de-rating according to the following table as indicated in the manufacturer documentation.

Ambient temperature [°C]	40	45	50	55	60	65	70	75	80
Δ T limit [K] (Insulation Class B)	80	75	70	65	60	53	45	38	30
Temperature class Max surface temperature	T4 or T3 T 135°C or T 150°C						T3 T 150°C		

Inverter supply:

- Maximum rated voltage: 880 V (Ex d)
800 V (Ex d e)
- Frequency range: 5 ÷ 87 Hz
- Maximum peak voltage: 1250 V
- Maximum rated speed: 3600 rpm
- Duty: S3, S9



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Applicant: CEMP S.r.l.

Via Piemonte, 16 – 20030 Senago (MI) - Italy

Electrical Apparatus: Three-phase asynchronous motors supplied by mains or inverter, series AB 315 L

Cable entries

The cable entry devices used on the enclosure shall be suitably certified and shall guarantee the minimum degree of protection as indicated on motor plate.

The accessories used for cable entries and for the unused holes shall be subject of a separate certification according to the applicable standards:

- in execution Ex d IIB or Ex e IIB for the terminal box in execution Ex d IIB or Ex de IIB respectively;
- in execution Ex tb IIIC for the terminal box in execution Ex tb IIIC.

Warning label

- “Restore the greasing on the joints at every opening”
- “Use supply cables suitable for temperature $\geq 90^{\circ}\text{C}$.”

For ambient temperature $-20 \div +40^{\circ}\text{C}$ ($+80^{\circ}\text{C}$)

- “Use fasteners quality 8.8 ISO 898-1”

For ambient temperature $-55 \div +40^{\circ}\text{C}$ ($+80^{\circ}\text{C}$)

- “Use fasteners quality A4-80 UNI EN ISO 3506-1”

For motors supplied by inverter:

- “Winding protected with PTC thermistors”
- or
- “Winding protected with PT 100 detectors. Calibrate at 120°C ” for temperature class T4 (T 135°C)
 - “Winding protected with PT 100 detectors. Calibrate at 130°C ” for temperature class T3 (T 150°C)

In case of use of anticondensate heaters:

- “Warning – energized resistors”.