



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 EXA 15.0006X

Issue No: 1

Certificate history:

Issue No. 1 (2017-10-30)

Issue No. 0 (2015-08-10)

Status: **Current**

Page 1 of 4

Date of Issue: **2017-10-30**

Applicant: **Cemp Srl**
Via Piemonte, 16
I - 20030 Senago (MI)
Italy

Equipment: **Three-phase asynchronous motors type: AB/AC...; frame size 355**

Optional accessory:

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

Marking:
Ex db IIB T3...T6 Gb or Ex db eb IIB T3...T6 Gb
Ex db IIC T3...T6 Gb or Ex db eb IIC T3...T6 Gb
Ex tb IIIC T150°C...T85°C Db

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

Stipo Đerek

Position:

Head of Certification Body

*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:

**Agencija za prostore ugrožene eksplozivnom atmosferom (Ex-
Agencija)
Industrijska 25
HR-10431 Sveta Nedelja
Croatia**





IECEX Certificate of Conformity

Certificate No: IECEX EXA 15.0006X

Issue No: 1

Date of Issue: 2017-10-30

Page 2 of 4

Manufacturer: **Cemp Srl**
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 : 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" |
| 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:

[HR/EXA/ExTR15.0014/00](#)

[HR/EXA/ExTR15.0014/01](#)

Quality Assessment Report:

[IT/CES/QAR07.0002/10](#)



IECEX Certificate of Conformity

Certificate No: IECEx EXA 15.0006X

Issue No: 1

Date of Issue: 2017-10-30

Page 3 of 4

Schedule

EQUIPMENT:

Equipment and systems covered by this certificate are as follows:

The three-phase asynchronous motors type:AB/AC...: frame size 355 are made of cast iron with separate compartments: motor enclosure and terminal box. The motors can be supplied by mains or by inverter.

See annex to IECEx EXA 15.0006X for further description.

SPECIFIC CONDITIONS OF USE: YES as shown below:

The flame paths are specified in the manufacturer's drawings. For information regarding the dimensions of the flameproof joints the manufacturer shall be contacted.

In special cases the suitable paint system is not in compliance to thickness limit indicated for gas group IIC. In order to minimize risk of hazards caused by electrostatic charges, clean the motor only with a wet rag or by non-frictional means.

For use with non-sinusoidal or variable frequency supplies the motor is fitted with thermal protection in the form of one PTO, PTC or PT100 thermal probe per phase in the drive end stator winding overhang. These are to be connected to a protection circuit so as to limit the stator temperature to:

- 130°C for T3 / T150°C
- 120°C for T4 / T135°C
- 75°C for T6 / T85°C.

The cable temperature in motors intended for maximum ambient temperatures $T_{amb\ max} = +50^{\circ}C / +80^{\circ}C$ at the entry point is greater than 70 °C, and at the branching point is greater than 80°C, therefore connection for those motors shall be provided with cable of thermal stability not less than 90°C / 100°C.



IECEX Certificate of Conformity

Certificate No: IECEX EXA 15.0006X

Issue No: 1

Date of Issue: 2017-10-30

Page 4 of 4

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

- Motor type AC30 355MB6 for temperature class T6 and maximum surface temperature T85°C at $T_{amax} = 40$ °C added.
- Updating the latest edition of International standard: IEC 60079-1:2014, 7th edition.

Annex:

[Annex to IECEX_EXA_15_0006X_issue_01.pdf](#)

ANNEX to **IECEX EXA 15.0006X**Issue No. **1**Date: **2017-10-30**Page: **1 of 3**

Electrical Apparatus: **Three-phase asynchronous motors type AB/AC ... ; size 355**
Applicant: **Cemp Srl Via Piemonte, 16 – I 20030 SENAGO (MI)**

Description of equipment:

The three-phase asynchronous motors size 355 are made of cast iron with separate compartments: motor enclosure and terminal box for supply and auxiliary circuits connection. Motor enclosure is designed in Ex d type of protection, while terminal box can be Ex d or Ex e type of protection. The motor with terminal box satisfy also Ex tb type of protection, mechanical protection IP6X.

The motors can be equiped with auxiliary devices: heaters, thermal detectors, drain valve etc. The anticondensation heaters installed inside the motor enclosure have maximum power of 400 W and are allowed to be in operation only when motor is not powered.

The motor supplied by inverter is equiped inside of stator winding and on bearings with PTC or PT100 thermal detectors for temperature control. Rating data are specified on supplementary plate. The presence of the thermal detectors inside the motor is shown by appropriate warning label. PTC or PT100 are intended or calibrated for an operation of:

- 130°C for temperature class T3/ T150°C and
- 120°C for temperature class T4/ T135°C and
- 75 °C for temperature class T6/ T85°C.

According to IEC 60034-6 standard, the cooling is achived by one of the following methods:

- Self-cooled motor by metal fan fitted on shaft IC 411
- Totally enclosed not ventilated IC 410
- Forced ventilation by means of auxiliary motor IC 416

The accessories used for cable entry and for unused holes shall be separately certified according to following standards: IEC 60079-1; IEC 60079-7 and IEC 60079-31 as applicable.

Ambient temperature:

- temperature class T3 (T 150 °C)
 - 20 +80 °C or
 - 55 +80 °C
- temperature class T4 (T 135 °C)
 - 20 +60 °C or
 - 55 +60 °C
- temperature class T6 (T 135 °C)
 - 20 +40 °C or
 - 55 +40 °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.

ANNEX to **IECEX EXA 15.0006X**Issue No. **1**Date: **2017-10-30**Page: **2 of 3**

| | | | | | | | | | |
|---|--------------------------|----|----|----|----|--------|----|----|----|
| Ambient temperature [°C] | 40 | 45 | 50 | 55 | 60 | 65 | 70 | 75 | 80 |
| $\Delta\theta$ limit [K] (Insulation class B) | 80 | 75 | 70 | 65 | 60 | 53 | 45 | 38 | 30 |
| Temperature class | T3 - T4 | | | | | T3 | | | |
| Max. surface temperature | T150°C – T135°C – T125°C | | | | | T150°C | | | |

Identification codes:

A _____
Pos.1 Pos.2 Pos.3 Pos.4. Pos.5. Pos.6 Pos.7

Explanation of codes:

Pos.1: Series

- **A** Flame proof electric motors

Pos. 2: Enclosure execution type

- **B** Motor for gas group IIB
- **C** Motor for gas group IIC

Pos. 3: Motor typology (electrical features)

- **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

Pos. 4: Terminal box version

- **0** Terminal box in Ex d version
- **5** Terminal box in Ex e version

Pos. 5: Size

- **355** Motor size 355 according to IEC 60072

Pos. 6: Stator core length

- **M** Short
- **MA** Short
- **MB** Short
- **MC** Short
- **MD** Short
- **ML** Short
- **LA** Long
- **LB** Long
- **LC** Long
- **LD** Long

Pos. 7: Polarity number

- **2** 2 pole
- **4** 4 pole
- **6** 6 pole
- **8** 8 pole
- **10** 10 pole
- **12** 12 pole
- **16** 16 pole
- **24** Double polarity: 2/4 pole
- **48** Double polarity: 4/8 pole
- **46** Double polarity: 4/6 pole
- **68** Double polarity: 6/8 pole
- **41** Double polarity: 4/12 pole
- **43** Double polarity: 4/16 pole

Ratings:

Mains supply:

| | |
|------------------------|------------------------|
| Maximum rated voltage: | 1000 V |
| Maximum rated power: | 450 kW |
| Maximum rated current: | 630 A |
| Rated frequency: | 50/60 Hz |
| Insulation class: | F/H |
| Duty: | S1, S2, S3, S4, S6, S9 |
| Maximum rated speed: | 3600 rpm |

Inverter supply:

| | | |
|--------------------------|--|----------------|
| Maximum working voltage: | 880 V (Ex d) | 800 V (Ex de) |
| Maximum peak voltage: | 1250 V (Ex d) | 1130 V (Ex de) |
| Frequency range: | 5 – 87 Hz or 5-60 Hz for 2 pole motors | |
| Maximum rated speed: | 3600 rpm | |
| Duty: | S9 | |