



[1] **EC-TYPE EXAMINATION CERTIFICATE**

[2] **Equipment or Protective System intended for use  
in potentially explosive atmospheres  
Directive 94/9/EC**

[3] EC-Type Examination Certificate number:

**CESI 10 ATEX 005**

[4] Equipment: Three-phase asynchronous motors series AM 315 L supplied by mains or inverter

[5] Manufacturer: **Cemp S.r.l.**

[6] Address: Via Piemonte, 16 – 20030 Senago (MI) - Italy

[7] This equipment or protective system and any acceptable variation thereto is specified in the schedule to this certificate and the documents therein referred to.

[8] CESI, notified body n. 0722 in accordance with Article 9 of the Council Directive 94/9/EC of 23 March 1994, certifies that this 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 systems intended for use in potentially explosive atmospheres given in Annex II to the Directive.

The examination and test results are recorded in confidential report n. EX-B0003088.

[9] Compliance with the Essential Health and Safety Requirements has been assured by compliance with:

**EN 60079-0: 2006; EN 60079-1: 2007; EN 60079-7: 2007**

[10] If the sign "X" is placed after the certificate number, it indicates that the equipment or protective system is subject to special conditions for safe use specified in the schedule to this certificate.

[11] This EC-TYPE EXAMINATION CERTIFICATE relates only to the design, examination and tests of the specified equipment or protective system in accordance to the Directive 94/9/EC. Further requirements of the Directive apply to the manufacturing process and supply of this equipment or protective system. These are not covered by this certificate.

[12] The marking of the equipment or protective system shall include the following:

**IM2 Ex d I** or **IM2 Ex de I**

This certificate may only be reproduced in its entirety and without any change, schedule included.

Date 4 February 2010 - Translation issued the 4<sup>th</sup> February 2010

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**CESI S.p.A.**  
Divisione Energia  
"Area Tecnica Certificazione"  
Il Responsabile

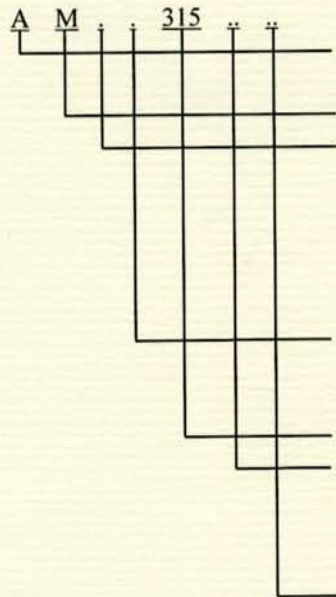
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## Schedule

[14] EC-TYPE EXAMINATION CERTIFICATE n. CESI 10 ATEX 005

[15] **Description of equipment**

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



- Series of motor:
  - A flameproof ATEX series
- Type of protection: motor enclosure for group I
- 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
- Type of terminal box:
  - 0 for terminal box Ex-d
  - 5 for terminal box Ex-e
- Center height
- Stator winding length:
  - LA short winding
  - LB medium winding
  - LC long winding
- Number of poles:
  - 2 ÷ 16 poles
  - 24 ÷ 43 double polarity 2/4 ÷ 4/16 poles

### Electrical characteristics

*mains supply:*

- Maximum rated voltage: 1000 V
- Maximum rated power: 200 kW
- Maximum rated current: 365 A
- Rated frequency: 50 / 60 Hz
- Insulation class: F-H (with t. B)
- Duty: S1 ÷ S9
- Rated speed: 375 ÷ 3600 rpm
- Ambient temperature: -20 ÷ +60 °C

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

In alternative, the three-phase asynchronous motors can be supplied by inverter. In this case the electrical characteristics are indicated on a suitable label.

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## Schedule

[14] **EC-TYPE EXAMINATION CERTIFICATE n. CESI 10 ATEX 005**

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[15] **Description of equipment (follows)**

*Inverter supply:*

- |                          |        |     |
|--------------------------|--------|-----|
| - Maximum rated voltage: | 800    | V   |
| - Frequency range:       | 5 ÷ 87 | Hz  |
| - Maximum peak voltage:  | 1130   | V   |
| - Maximum rated speed:   | 3600   | rpm |

For the other electrical characteristics see the technical note annexed to this certificate.

The motors supplied by inverter shall be provided, inside the stator winding, with PTC or PT 100 thermal detectors.

The PTC thermal detectors are calibrated for an operation temperature of 120 °C the protection circuit connected with the PT 100 thermal detectors shall be calibrated for an operation temperature of 120 °C.

The operation 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:*

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

*Cable entries*

The accessories used for cable entries and for the unused holes shall be subject of separate certification and with type of protection:

- Ex d I according to EN 60079-0 and EN 60079-1 standards for terminal box Ex d;
  - Ex e I according to EN 60079-0 and EN 60079-9 standards for terminal box Ex de
- In both cases a minimum degree of protection IP 55 shall be guaranteed according to EN 60034-5 and EN 60529 standards.

- If cylindrical threads are used, the coupling between the cable entry and the terminal box shall be made according to the requirements indicated in the documents annexed to this certificate.
- The anticondensate heaters installed inside the motor can have a maximum power of 440 W.

**Warning label**

“Restore silicone grease at every opening”

“Use screws quality 8.8 UNI EN ISO 898-1”

“The supply cable must be suitable for an operating temperature not less than 90 °C”

**For motors supplied by inverter:**

“Winding protected with PTC thermistors”

or

“Winding protected with PT 100 detectors. Calibrate at 120 °C”

**In case of use of anticondensate heaters:**

“Warning – energized resistors”

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## Schedule

[14] **EC-TYPE EXAMINATION CERTIFICATE n. CESI 10 ATEX 005**

[16] **Report n. EX-B0003088**

### Routine tests

The manufacturer shall carry out the routine tests prescribed at the following paragraphs:

- paragraph 27 of the EN 60079-0 standard
- paragraph 16 of the EN 60079-1 standard
- paragraph 7 of the EN 60079-7 standard

The routine overpressure test on the motor enclosure shall be carried out at 35,5 bar with the static method according to the paragraph 15.1.3.1 of the EN 60079-1 standard.

The manufacturer is exempted from the overpressure test on the terminal box, since the terminal box has been submitted to an overpressure test at 34 bar, corresponding to 4 times the reference pressure.

The dielectric test with applied voltage shall be performed at  $2U + 1000$  V with a minimum value of 1500 V between the supply terminals and earth ( $U$  = rated voltage) on the Ex e terminal box .

### Descriptive documents (prot. EX-B0003092)

|   |       |            |
|---|-------|------------|
| - Technical note n. NT/AM/9/0315/M (10 pg.) | dated | 10.12.2009 |
| - Drawing n. C90315/M                       | dated | 10.12.2009 |
| - Drawing n. C280715 Rev. 2                 | dated | 10.12.2009 |
| - Drawing n. M313105                        | dated | 10.12.2009 |
| - Drawing n. M313116                        | dated | 10.12.2009 |
| - Drawing n. M72311031                      | dated | 10.12.2009 |
| - Drawing n. M72311041                      | dated | 10.12.2009 |
| - Drawing n. M71315021                      | dated | 10.12.2009 |
| - Drawing n. M71310021                      | dated | 10.12.2009 |
| - Drawing n. M313114                        | dated | 10.12.2009 |
| - Drawing n. M313115                        | dated | 10.12.2009 |
| - Drawing n. M283128                        | dated | 10.12.2009 |
| - Safety instructions n. SM-2 (9 pg.)       | dated | 01.2008    |
| - Declaration of conformity                 | dated | 02.01.2010 |

One copy of all documents is kept in CESI files.

[17] **Special conditions for safe use**

None.

[18] **Essential Health and Safety Requirements**

Covered by standards.