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Sezione Ordinaria
N. R.E.A. 429222
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Schema di certificazione CESI ATEX

CERTIFICATE

[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 02 ATEX 123

[4] Equipment: Three-phase asynchronous motors series AC 112, AC 132, AC 160 supplied by mains or inverter

[5] Manufacturer: **Cemp International S.p.A.**

[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-A2/035583.

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

EN 50014: 1997 + A1.. A2; EN 50018: 2000; EN 50019: 2000; EN 50281-1-1: 1998

[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:

Ex II 2 G EEx d IIC T6, T5, T4, T3 **Ex II 2 G EEx de IIC T6, T5, T4, T3**

Ex II 2 GD EEx d IIC T6, T5, T4, T3 IP 65 T 85, T 100, T 135, T 150 °C

Ex II 2 GD EEx de IIC T6, T5, T4, T3 IP 65 T 85, T 100, T 135, T 150 °C

Date 11 November 2002 - Translation issued the 25th November 2003

Prepared	**Verified**	**Approved**
Bruno Pavanati	Mirko Balaz	Ulisse Colombo

CESI
CENTRO ELETTROTECNICO SPERIMENTALE ITALIANO
Business Unit Certificazione
Il Responsabile

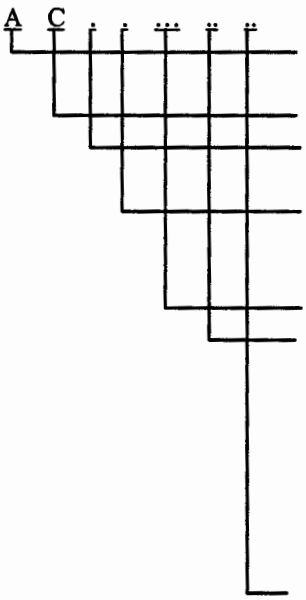
Il CESI è stato autorizzato dal governo italiano ad operare quale organismo di certificazione di apparecchi e sistemi destinati a essere utilizzati in atmosfera potenzialmente esplosiva con D.M. 1/3/1983, D.M. 19/6/1990, D.M. 20/7/1998 e D.M. 27/9/2000

[13] # Schedule

[14] **EC-TYPE EXAMINATION CERTIFICATE n. CESI 02 ATEX 123**

[15] **Description of equipment**

The three-phase asynchronous motors series AC 112, AC 132, AC 160, are identified by a code as follows:



Series of motor:
- A flameproof ATEX series

Type of protection: motor enclosure group IIC

2; 3; 4; 5; 7 code of motor electrical characteristics: see technical note annexed to this Certificate

Type of terminal box:
- 0 for terminal box EEx-d
- 5 for terminal box EEx-e

Center height: 112, 132, 160

Stator winding length:
- M medium winding for center height 112
- L long winding for center height 112 and 160
- SA short winding for center height 132
- SB medium short winding for center height 132
- MA short winding for center height 160
- MB medium winding for center height 132 and 160
- ML long winding for center height 132

Number of poles:
- 2 ÷ 16 poles
- 24 ÷ 43 double polarity: 2/4 ÷ 4/16 poles

Electrical characteristics

mains supply:

-	Maximum voltage:	750	V
-	Maximum rated power:	22	kW
-	Maximum current:	60	A
-	Rated frequency:	50 / 60	Hz
-	Insulation class:	B-F-H	(with Δt B)
-	Duty:	S1 ÷ S9	
-	Rated speed:	370 ÷ 3600	rpm
-	Ambient temperature:	-20 ÷ +60	°C
-	Degree of protection:	IP 65 (EN 60034-5 and EN 60529)	

For the other electrical characteristics see the technical note n° NT/AM/0251/C annexed to this EC-type examination certificate.

Temperature class for motors of category 2 G:

T6, T5, T4, T3 as a function of the ambient temperature and of the electrical characteristics as indicated in the technical note n° NT/AM/0251/C annexed to this EC-type examination certificate.

Maximum surface temperature for motors of category 2D:

T 85 °C; T 100 °C; T 135 °C; T 150 °C as a function of the ambient temperature and of the electrical characteristics as indicated in the technical note n° NT/AM/0251/C annexed to this EC-type examination certificate.

Prot. A3/039865 P: 5
Keywords 13010R 22853N 48010M 54250O 66540E

[13] **Schedule**

[14] **EC-TYPE EXAMINATION CERTIFICATE n. CESI 02 ATEX 123**

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

The accessories used for cable entries and for unused holes shall be certified according the following standards:

motor of category 2 G: EN 50014 and EN 50018 for terminal box EEx d;
EN 50014 and EN 50019 for terminal box EEx de.

motor of category 2 GD: EN 50014, EN 50018 and EN 50281-1-1 for terminal box EEx d;
EN 50014, EN 50019 and EN 50281-1-1 for terminal box EEx de.
In both cases a minimum degree of protection IP 65 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.

Inverter supply:
Type of protection: EEx d IIC T4, T3; EEx de IIC T4, T3
EEx d IIC T4, T3 IP 65 T 135, T 150 °C; EEx de IIC T4, T3 IP 65 T 135, T 150 °C

In alternative, the three-phase asynchronous motors can be supplied by inverter. In this case the electrical characteristics are indicated on a suitable label. 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 155 °C for the 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 operation temperature of 155 °C for the temperature class T3 (T 150 °C) and at 120 °C for the temperature class T4 (T 135 °C) according to IEC 61508 standard.
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:
Type of protection: EEx d IIC T4, T3; EEx de IIC T4, T3
EEx d IIC T4, T3 IP 65 T 135, T 150 °C; EEx de IIC T4, T3 IP 65 T 135, T 150 °C

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

[13] **Schedule**

[14] **EC-TYPE EXAMINATION CERTIFICATE n. CESI 02 ATEX 123**

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

Warning label

"Restore silicone grease at every opening"

"Use screws quality 8.8 UNI EN 20898"

For temperature class T4 (T 135 °C):
"The supply cable must be suitable for an operating temperature not less than 90 °C"
For temperature class T3 (T 150 °C):
"The supply cable must be suitable for an operating temperature not less than 100 °C"

For motor supplied by inverter:
"Winding protected with PTC thermistors"
or
"Winding protected with PT 100 detectors. Calibrate at 155 °C" **for temperature class T3 (T 150 °C)**
"Winding protected with PT 100 detectors. Calibrate at 120 °C" **for temperature class T4 (T 135 °C)**

In case of use of anticondensate heaters:
"Attention – energized resistors".

[16] **Report n.** EX-A2/035583

Routine tests

The manufacturer shall carry out the routine tests prescribed at paragraph 24 of the EN 50014 standard and at paragraph 7 of the EN 50019 standard.

The manufacturer is exempted from the overpressure test on the motor enclosure and on the terminal box, since they have been submitted to an overpressure test at a pressure corresponding to 4 times the reference pressure and respectively:
- 38.4 bar on the motor enclosure
- 26.5 bar on the terminal box

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 EEx e terminal box .

Descriptive documents (prot. EX-A2/035598)

- Technical note n. NT/AM/0251/C (19 pg.)	dated	08.11.2002
- Drawing n. C280716/2 Rev. 1	dated	15.03.2002
- Drawing n. C280716/4 Rev. 1	dated	15.03.2002
- Drawing n. C280715	dated	18.05.2001
- Drawing n. C283123	dated	05.10.2000

[13] **Schedule**

[14] **EC-TYPE EXAMINATION CERTIFICATE n. CESI 02 ATEX 123**

[16] **Report n.** EX-A2/035583 *(follows)*

Descriptive documents (prot. EX-A2/035598) *follows*

- Drawing n. C281602	dated	23.10.2002
- Drawing n. C281603	dated	24.10.2002
- Drawing n. C281601	dated	23.10.2002
- Drawing n. C281623	dated	23.10.2002
- Drawing n. C281604	dated	24.10.2002
- Drawing n. C281625	dated	24.10.2002
- Drawing n. C281616	dated	31.10.2002
- Drawing n. C281619	dated	04.11.2002
- Drawing n. C281605	dated	25.10.2002
- Drawing n. C281618	dated	04.11.2002
- Drawing n. C281606	dated	24.10.2002
- Drawing n. C281607	dated	28.10.2002
- Drawing n. C283112	dated	28.10.2002
- Drawing n. C281624	dated	25.10.2002
- Drawing n. C281608	dated	28.10.2002
- Drawing n. C281615	dated	31.10.2002
- Drawing n. C50118080	dated	31.10.2002
- Drawing n. ADE690.00	dated	15.03.2002
- Drawing n. C71111001	dated	31.10.2002
- Drawing n. C7111_TAB	dated	31.10.2002
- Drawing n. C71165021	dated	31.10.2002
- Drawing n. C72111001	dated	31.10.2002
- Drawing n. C72131001	dated	31.10.2002
- Drawing n. C72161021	dated	31.10.2002
- Drawing n. C72111041	dated	20.09.2002
- Drawing n. C72131041	dated	20.09.2002
- Drawing n. C281620	dated	04.11.2002
- Document AL/BL	dated	22.11.2001
- Document GR SILIC 23	dated	22.11.2001
- Safety instructions n. ISTR007 (12 pg.)	dated	15.03.2002
- Declaration of conformity	dated	08.11.2002
- Declaration of conformity	dated	08.11.2002

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.