

[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 01 ATEX 102**

[4] **Equipment:** Three-phase and single-phase asynchronous motors series AB 63, AB 71, AB 80, AB 90, AB 100 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-A1/039452.

[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:

II 2 G EEx d IIB T6, T5, T4, T3      II 2 G EEx de IIB T6, T5, T4, T3

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

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

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

**date** December 21, 2001 - translation issued on November 20, 2002

**prepared** CERT - D. Parazzoli

**verified** CERT - M. Balaz

**approved** CERT - U. Colombo

**CESI**

CENTRO ELETTROTECNICO SPERIMENTALE ITALIANO  
Business Unit Certificazione

SA Responsabilita

page 1/5

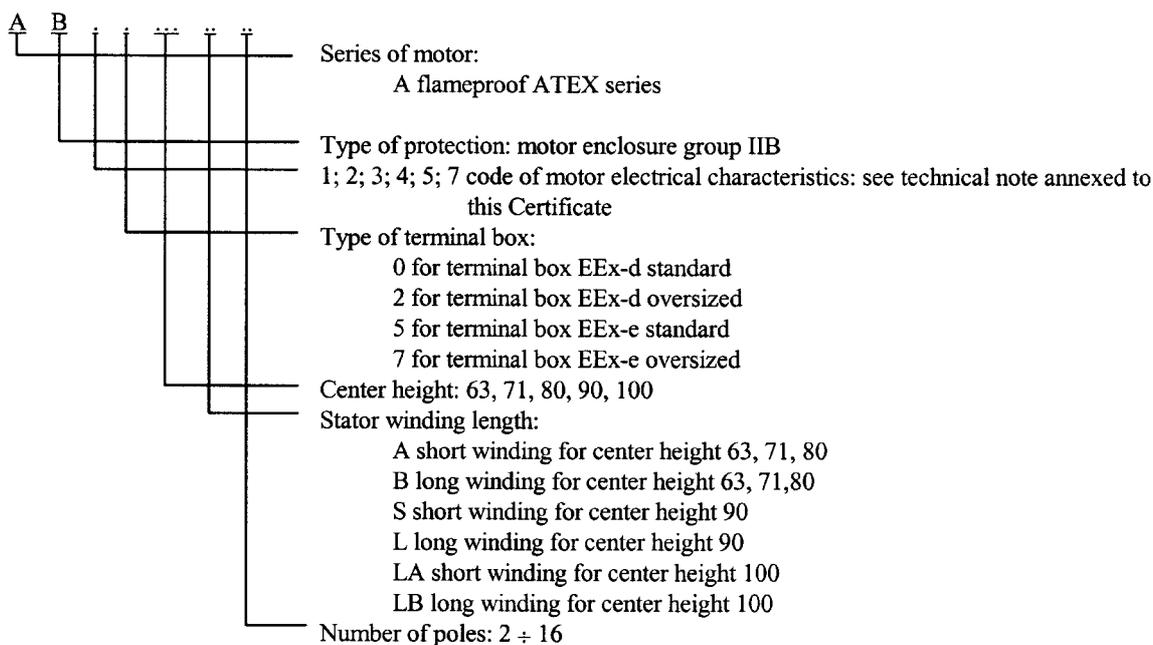
[13]

## Schedule

[14] **EC-TYPE EXAMINATION CERTIFICATE n. CESI 01 ATEX 102**

[15] **Description of equipment**

The three-phase and single-phase asynchronous motors series AB 63, AB 71, AB 80, AB 90, AB 100, are identified by a code as follows:



### Electrical characteristics

mains supply:

- Maximum rated voltage:	690	V
- Rated power:	0,05 ÷ 3,6	kW
- Rated current:	0,44 ÷ 30	A
- Rated frequency:	50 / 60	Hz
- Insulation class:	B-F-H	(with $\Delta t$ B)
- Duty:	S1 ÷ S9	
- Rated speed:	350 ÷ 3600	rpm
- Ambient temperature:	-20 ÷ +80	°C
- Degree of protection:	IP 65 (EN 60034-5 and EN 60529)	

For the other electrical characteristics see the technical note NT/AM/0105/B 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/0105/B 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/0105/B annexed to this EC-type examination certificate.

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

[13]

## Schedule

[14] **EC-TYPE EXAMINATION CERTIFICATE n. CESI 01 ATEX 102**

[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 IIB T4, T3; EEx de IIB T4, T3*

*EEx d IIB T4, T3 IP 65 T 135, T 150 °C; EEx de IIB 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 IIB T4, T3; EEx de IIB T4, T3*

*EEx d IIB T4, T3 IP 65 T 135, T 150 °C; EEx de IIB 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.

### **Warning label**

“Restore silicone grease at every opening”

“Use screws quality 8.8 UNI EN 20898”

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

[13] **Schedule**

[14] **EC-TYPE EXAMINATION CERTIFICATE n. CESI 01 ATEX 102**

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

**For temperature class T4 (135 °C):**

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

**For temperature class T3 (150 °C):**

“The supply cable must be suitable for an operating temperature not less than 100 °C”

**For motor supply 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-A1/039452**

## **Individual 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:

- 36 bar on the motors with center height 71, 80, 90
- 30 bar on the motors with center height 100
- 27,5 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 .

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

[13]

## Schedule

[14] **EC-TYPE EXAMINATION CERTIFICATE n. CESI 01 ATEX 102**

[16] **Report n. EX-A1/039452 (follows)**

**Descriptive documents (prot. EX-A1/039454)**

- Technical note n° NT/AM/0105/B (17 pg.)	dated	22.11.2001
- Drawing n° C280716/1	dated	18.05.2001
- Drawing n° C280715	dated	18.05.2001
- Drawing n° C283123	dated	05.10.2000
- Drawing n° C280700	dated	02.04.2001
- Drawing n° C280701	dated	02.04.2001
- Drawing n° C280710	dated	17.04.2001
- Drawing n° C280704	dated	11.04.2001
- Drawing n° C280709	dated	17.04.2001
- Drawing n° C280707	dated	13.04.2001
- Drawing n° C280702	dated	09.04.2001
- Drawing n° C280703	dated	09.04.2001
- Drawing n° C280714	dated	17.05.2001
- Drawing n° C50068080	dated	09.04.2001
- Drawing n° ADE690.00	dated	01.09.1999
- Drawing n° C71061001	dated	06.04.2001
- Drawing n° C72061001	dated	06.04.2001
- Document AL/BL	dated	22.11.2001
- Document GR SILIC 23	dated	22.11.2001
- Safety instructions n° ISTR006 (13 pg.)	dated	22.11.2001
- EC declaration of conformity	dated	22.11.2001
- EC declaration of conformity	dated	22.11.2001

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.

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