



- (2) Equipment and protective systems intended for use in potentially explosive atmospheres
Directive 94/9/EC

(1) **EC-TYPE EXAMINATION CERTIFICATE**

- (3) Number of the EC type examination certificate: **INERIS 08ATEX0005X**

- (4) Equipment or protective system:

ASYNCHRONOUS MOTORS TYPE RLM...

- (5) Manufacturer: **RAEL MOTORI ELETTRICI**

- (6) Address: **Via Alessandria, 73
I - 15077 Predosa (AL)**

- (7) This equipment or protective system and any other acceptable alternative of this one are described in the annex of this certificate and the descriptive documents quoted in this annex.

- (8) INERIS, notified body and identified under number 0080, in accordance with article 9 of Council Directive 94/9/EC of the 23rd March 1994, certifies that this equipment or protective system fulfils the Essential of Health and Safety Requirements relating to the design and construction of equipment and protective systems intended for use in potentially explosive atmospheres, described in annex II of the Directive.

The examinations and the tests are consigned in report No 022131/09.



- (9) The respect of the Essential Health and Safety Requirements is ensured by:

- conformity with:

EN 60079-0	:	2006	EN 61241-0	:	2006
EN 60079-1	:	2004	EN 61241-1	:	2004

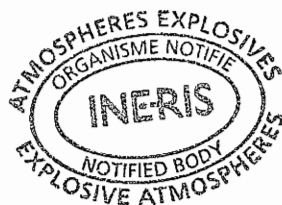
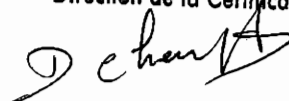
- specific solutions adopted by the manufacturer to meet the Essential Health and Safety Requirements described in the descriptive documents.

- (10) Sign X, when it is placed following the Number of the EC type examination certificate, indicates that this equipment and protective system is subjected to the special conditions for safe use, mentioned in the annex of 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 the protective system will have to contain:

 II 2 G or  II 2 GD

Verneuil-en-Halatte, 2009 06 04

Dominique CHARPENTIER
Directeur Adjoint
Direction de la Certification



Director of the Certifying Body,
By delegation
T.HOUEIX
Certification Officer
Certification Division

(13)

ANNEX

(14)

EC TYPE EXAMINATION CERTIFICATE N° INERIS 08ATEX0005X

(15)

DESCRIPTION OF THE EQUIPMENT OR THE PROTECTIVE SYSTEM

The electrical asynchronous motors serial RL are made in light alloy ; The shaft heights are 56, 71, 80, 90, 100 and 112 mm.

The motors with frequency inverter, double speed quadratic or constant torque and single-phase are fitted with two or three internal thermal probes put in winding.

Eventually heating dispositifs can be fitted in the winding. Motors can be supplied through a frequency converter.

The motor and terminal box enclosures gets the international protection IP55 or IP56 in standard version (version II2G) or IP65 or IP66 (version II2GD) according to the European standards EN 60034-5 and EN 60 529.

PARAMETERS RELATING TO THE SAFETY

Electrical characteristic :

Maximum supply voltage	:	690 V
Frequencies	:	50/60 Hz
Power of motors	:	from 0.06 kW to 5.5 kW
Isolation class	:	F

Frequency variation :

Range of variable frequencies : 1 to 200 Hz

The maximum power of motors varies according to the type of the motor and the electric characteristics.

The various powers are specified in the descriptive documents.

Characteristic of the thermal probes fitting on the motors, with frequency inverter, double speed quadratic or constant torque and single-phase :

Threshold of release :

- 70°C ± 5°C for temperature class T6 or T85°C.
- 90°C ± 5°C for temperature class T5 or T100°C.
- 120°C ± 5°C for temperature class T4 or T135°C.

Heating device :

Maximum supply voltage	:	550 V
Maximum power	:	50 W

MARKING

Marking has to be readable and indelible; it has to include the following indications:

I - MOTOR CATEGORY II 2 G :

RAEL MOTORI ELETTRICI


I - 15077 Predosa (AL)

RLM..... (*)

INERIS 08ATEX0005X

(Serial number)

(Year of construction)

 II 2 G

Ex d IIB (**)

T_{amb} : (***)

T.Cable : (****)

WARNINGS : DO NOT OPEN WHEN ENERGIZED

DO NOT OPEN IF AN EXPLOSIVE ATMOSPHERE MAY BE PRESENT

Temperature class (**)	Range of ambient temperature (***)	Cable temperature (****)
T6	-20°C to 40°C	NC
T5	-20°C to 50°C	NC
T4	-20°C to 60°C	90°C

(*) Type is completed by numbers and/or letters corresponding to manufacturing variation.

(***) Indication of ambient temperature ranges only if it is different from -20°C to 40°C.

II - MOTOR CATEGORY II 2 GD

RAEL MOTORI ELETTRICI


I - 15077 Predosa (AL)

RLM..... (*)

INERIS 08ATEX0005X

(Serial number)

(Year of construction)

 II 2 GD

Ex d IIB (**)

Ex tD A21 IP(****) T(**)

T_{amb} : (***)

T.Cable : (****)

WARNINGS : DO NOT OPEN WHEN ENERGIZED

DO NOT OPEN IF AN EXPLOSIVE ATMOSPHERE MAY BE PRESENT

Temperature class (**)		Range of ambient temperature (***)	Cable temperature (****)
Gas	Dust		
T6	T55°C	-20°C to 40°C	NC
T5	T100°C	-20°C to 50°C	NC
T4	T135°C	-20°C to 60°C	90°C

(*) Type is completed by numbers and/or letters corresponding to manufacturing variation.

(***) Indication of ambient temperature ranges only if it is different from -20°C to 40°C.

(****) IP65 or IP66.

Marking may be carried out in the language of the country of use.

The protective system or equipment has also to carry the marking normally stipulated by its construction standards.

ROUTINE EXAMINATIONS AND TESTS

In accordance with clause 16.2 of the EN 60079-1 standard, the motor and the terminal box type A defined above are exempted of routine test in owing to the fact that it has undergone a static type test at 4 times the reference pressure.

In accordance with clause 16.1 of the EN 60079-1 standard each apparatus defined above has to have successfully passed, before delivery, an overpressure test of a period comprised between 10 and 60 seconds under:

- 10.4 bar for the terminal box type C.
- 8.4 bar for the terminal box type B.

(16) DESCRIPTIVE DOCUMENTS

The descriptive documents quoted hereafter constitutes the technical documentation of the equipment, subject of this certificate.

- Certification file n°RAEL-006 of 2009.04.15 (14 rubrics) signed on 2009.04.15

(17) SPECIAL CONDITIONS FOR SAFE USE

The diametral clearance of the shaft, for motore RL 56, is less than the value indicated on the table 2 of the standard EN 60079-1 (0.20 mm).

In the case of replacement of the screws of the fastener elements of each part of the flameproof enclosure the user will have to choose:

- For the screws to the closing enclosure : steel or stainless steel with quality higher or equal to 8.8.
- For the tie rods : steel or stainless steel with quality higher or equal to 4.6.

The other conditions are stipulated in the instructions.

(18) ESSENTIAL SAFETY AND HEALTH REQUIREMENTS

The respect of the Essential Health and Safety Requirements is ensured by:

- Conformity to the standards quoted in clause (9).
- All provisions adopted by the manufacturer and defined in the descriptive documents.