



(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 12ATEX0045X**

(4) Equipment or protective system:

ELECTROMAGNETIC BRAKE TYPE BY...

(5) Manufacturer:

ARIET

(6) Address:

Via Monza, 13
I- 20060 Bussero (MI)

(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 026267/12.


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

- conformity with:

EN 60079-0	:	2009	IEC 60079-0	:	2011
EN 60079-18	:	2009	IEC 60079-18:		2009

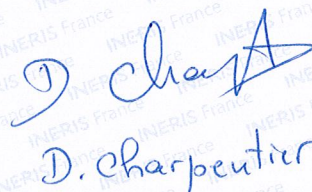
- specific solutions adopted by the manufacturer to meet the Essential Health and Safety Requirements described in the descriptive documents.

- (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 GD

Verneuil-en-Halatte, 2012.08.07

Dominique CHARPENTIER
Directeur Adjoint
Direction de la Certification



D. Charpentier



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

(13)

ANNEX

(14)

EC TYPE EXAMINATION CERTIFICATE N° INERIS 12ATEX0045X

(15)

DESCRIPTION OF THE EQUIPMENT OR THE PROTECTIVE SYSTEM

The equipment is an electromagnetic brake encapsulated in a metallic enclosure. It exists four different types BY71, BY80, BY 90 and BY100.

In alternative, the brake is fitted with a ventilator or self ventilated motor on all the sizes of brake.

This electromagnetic brake gets the degrees of protection IP6X in accordance with EN/IEC 60529.

PARAMETERS RELATING TO THE SAFETY

The apparatus is powered by a source of continuous voltage comprised between:

- For each type BY71, BY80, BY90 and BY100: $U_{max} = 12V$ to $415 Vdc$ $I_{max} = 4kA$.

Functional cycles:

- S1 : $2/3 \times U_n$
- S3 : 4 min. ON / 6 min. OFF
- S4 : 4 sec. ON / 9 sec. OFF

This equipment can be use in range of ambient temperatures from $-50^{\circ}C$ to $+40^{\circ}C$ or $+55^{\circ}C$.

- The use of the material must respect the following specifications according to the temperature class, ambient temperature and/or the maximum surface temperature:

Service	Brake type BY71, BY80 and BY90 with ventilation				
	N rotation speed				T. Ambient max.
	$145 \leq N < 1450$ rpm		$N \geq 1450$ rpm		
	Gas	Dust	Gas	Dust	
S3	T4	T135°C	T6	T85°C	40°C
S4	T5	T100°C	T6	T85°C	40°C
S1	T5	T100°C	T6	T85°C	40°C
S3	T4	T135°C	T5	T100°C	55°C
S4	T4	T135°C	T5	T100°C	55°C
S1	T4	T135°C	T6	T85°C	55°C

Service	Brake type BY71, BY80, BY90 without ventilation		
	Gas	Dust	T. Ambient max.
S3	T4	T135°C	40°C
S4	T4	T135°C	40°C
S1	T4	T135°C	40°C
S3	T4	T135°C	55°C
S4	T4	T135°C	55°C
S1	T4	T135°C	55°C

Service	Brake type BY100 with ventilation				T. Ambient max.
	N rotation speed				
	145 ≤ N < 1450 rpm		N ≥ 1450 rpm		
	Gas	Dust	Gas	Dust	
S3	T4	T135°C	T5	T100°C	40°C
S4	T4	T135°C	T5	T100°C	40°C
S1	T4	T135°C	T5	T100°C	40°C
S3	T4	T135°C	T4	T135°C	55°C
S4	T4	T135°C	T4	T135°C	55°C
S1	T3	T200°C	T4	T135°C	55°C

Service	Brake type BY100 without ventilation		
	Gas	Dust	T. Ambient max.
S3	T3	T200°C	40°C
S4	T4	T135°C	40°C
S1	T5	T100°C	40°C
S3	T3	T200°C	55°C
S4	T3	T200°C	55°C
S1	T4	T135°C	55°C

For each service, the temperature class or the maximum surface temperature of the motor must be lower or equal to those of the brake.

MARKING

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

ARIET


I- 20060 Bussero (MI)

BY...(*)

INERIS 12ATEX0045X

(Serial number)

(Year of construction)

 II 2 GD

Ex mb IIC T(**) Gb

Ex mb IIIC T(**) Db IP6X

... °C < Tamb < ... °C (**)

WARNING: DO NOT OPEN WHEN ENERGIZED

(*) One of the following types: BY71, BY80, BY90 and BY100.

(**) See table above.

(**) Range of temperature ambient if different from -20°C to 40°C (see table above).

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

Each apparatus defined above has to have successfully passed; before delivery:

- In accordance with clause 9.1 from the EN/IEC 60079-18 standard, a visual examination of encapsulation.
- In accordance with clause 9.2 from the EN/IEC 60079-18 standard, a test of dielectric strength performed according to the relevant standards, between active and metallic mass, the potential test being applied for a minimum period of one second must be equal to 1800Vrms for each type.

(16) DESCRIPTIVE DOCUMENTS

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

- Certification file BY/DC/IECEx/ATEX rev.0 (4 rubrics) dated and signed on 2012.02.25

(17) SPECIAL CONDITIONS FOR SAFE USE

The user will have to carry out a regular cleaning of the device in order to avoid the deposits of dust.

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.