



TYPE EXAMINATION STATEMENT CATEGORY 3 EQUIPMENT

[1]

[2]

Component intended for use in potentially explosive atmospheres - ATEX

[3]

Type Examination Statement number: **IMQ 20 ATEX 030 U**

[4]

COMPONENT: **Permanent magnet motor**
TYPE/SERIES: **EC072.12 XY Series and EC072.20 XY Series**
(As specified in § 15.1)

[5]

MANUFACTURER: **Olmo Motors Srl**

[6]

ADDRESS: **via Marconi, 1 – 20065 Inzago (MI) - Italy**

[7]

This component and any acceptable variation thereto are specified in the annex to this Statement and the documents therein referred to.

[8]

IMQ states that this component 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 2014/34/EU with reference to the requirements covered by the standards below defined.

The examination and test results are recorded in Report No.: **AT19-0044379-01**

[9]

Compliance with Essential Health and Safety Requirement given in the Directive, and covered by the following standard, except for those listed at item 18 of the annex, has been assured by compliance with the requirements of the following standard:

EN IEC 60079-0:2018; EN IEC 60079-7:2015+A1:2018

[10]

The sign "U" placed after the statement number indicates that this statement must not be mistaken for a statement intended for an equipment or protective system. This partial certification may be used as a basis for certification of an equipment or protective system.

[11]

This TYPE EXAMINATION STATEMENT relates only to the design, examination and tests of the specified component. Further requirements of the Directive 2014/34/UE are not covered by this statement.

[12]

The marking of the component shall include the following:



II 3 G Ex ec IIA T5 Gc

This document is composed of 6 pages including 1 annex

**B.U. PRODUCT CONFORMITY ASSESSMENT
CERTIFICATION SECTOR – MANAGER**

FIRST ISSUE: 2020 | 08 | 05

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PREVIOUS ISSUE: ---

This Test Statement is the result of testing a sample of the product submitted, in accordance with the provisions of the specified Technical Specifications/Standards. It is issued according to product certification scheme type 1 of EN ISO/IEC 17067; therefore, it does not imply any judgment on the production and it does not permit the use of a mark of conformity. Only full reproductions of this Statement are allowed without written permission of IMQ.

[13] **ANNEX**

[14] Type Examination Statement number: **IMQ 20 ATEX 030 U**

[15] **Component description:**

The EC072 motor belongs to the category of permanent magnet motors, the induction flow is produced through a special excitation circuit called inverter whose static switches are switched by a control system based on the logic signals provided by a sensor hall that reads the "position", that is the polarity of the magnet.

The EC 072 motor essentially consists of a stator, a rotor and an electronic board. The stator is made of laminated ferromagnetic material while the rotor is made of plastoferrite.

The electronic board is the heart of the motor. It allows a wide range of personalization and guarantee high energy efficiency. It acts as electronic protection during the locked rotor condition.

The supply voltage of the motor is an alternate-square voltage. Controlling the switches it is possible to increase or reduce the frequency. In this way the couple is changed, and hence the Rpm.

The use of the machinery lies within the application for electrical devices assigned to removing heat from evaporators of commercial refrigerator system through ventilation.

Such motors are subordinated to the pre-requirements of the norm for professional refrigerator devices (EN 60335-2-89 art. 22.106 e 22.107) and to EN 60079-7 for group IIA gases or for the refrigerating gas that has been used.

[15.1] **Model identification**

- EC072.12 XY Series: EC072.12 ERXXX12AYYYYY
- EC072.20 XY Series: EC072.20 ERXXX20AYYYYY

Where XY:

SF = Single Speed

VS = Variable Speed- Full Control in Frequency

DS = 2 Speeds

RS = Reverse

RDS = Reverse / Double Speeds

VD = Full Control Vdc

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Key code:

PART NUMBER														
ERB2012														
Product Family														
E = EC072 SERIES														
Mechanical execution														
I = Integrated System R = System Bracket Revolution V = Evolution System														
Fittings														
A = Front for ring and grills B = Bracket Screw Rect. - T4 - C = Integrated ring (COMPACT) P = Back mounting E = Both A + P														
Power output														
10 = 10 W out 12 = 12 W out 15 = 15 W out 20 = 20 W out 25 = 25 W out 30 = 30 W out														
Stack Lamination														
12 = 12 mm 20 = 20 mm														

PART NUMBER														
AC0001														
Agencies														
N = CE C = CCC e VDE A = ATEX V = VDE T = TUV														
Accessories *														
N = None A = Ring + integrated fan blade B = Ring + standard fan blade C = Fan holder only M = Mixer + Agitator + Pomp P = Feet R = Grill + fan blade S = Bracket V = Fan blade only														
Motor Customization ID Nr *														
XXXX = Custom ID number														
Electronic type														
(Empty) = If necessary														

* = Part of motor coding not pertaining ATEX safety
The 8th digit of motor coding will always be "A" for ATEX applications.

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[15.2] **Ratings:**

SPECIFICATIONS EC072.12 ERXXX12AYYYYY	
Voltage supply:	220V±240V
Frequency:	50/60 Hz
Output power range	From 5 to 20W
Max input power	20W
Max input current	150 mA
Poles:	4
Lamination:	Ø72
Stack lamination:	12
Electronic Board:	Half-bridge current regulated pwm driver Half-bridge frequency controlled pwm driver (Only for variable speed version)
Rotor:	Plastoferrite
Efficiency peak:	60%
Insulation class:	B
Protection degree:	IP64 according to EN60079-0
Electrical Protection:	Hardware & Software
Ambient operating Temp:	-30°C +50°C
Features:	ATEX
Cover Material:	Plastic
Electrical connection:	Mains cable
Rotation:	EC072 is reversible, the direction of rotation can be either CCWE SE (Standard) or CW SE (upon request) as seen when facing the motor from end.

SPECIFICATIONS EC072.20 ERXXX20AYYYYY	
Voltage supply:	220V±240V
Frequency:	50/60 Hz
Output power range	From 13 to 30W
Max input power	30W
Max input current	220 mA
Poles:	4
Lamination:	Ø72
Stack lamination:	20
Electronic Board:	Half-bridge current regulated pwm driver Half-bridge frequency controlled pwm driver (Only for variable speed version)
Rotor:	Plastoferrite
Efficiency peak:	60%
Insulation class:	B
Protection degree:	IP64 according to EN60079-0
Electrical Protection:	Hardware & Software
Ambient operating Temp:	-30°C +50°C
Features:	ATEX
Cover Material:	Plastic
Electrical connection:	Mains cable
Rotation:	EC072 is reversible, the direction of rotation can be either CCWE SE (Standard) or CW SE (upon request) as seen when facing the motor from end.

The motor can work with single speed, at a fixed value (i.e 1300 rpm), with 2 speeds (fixed or variable selected trough an external switch).

The range of speed is between 900 and 1850 max. As a function of speed and load (diameter and pitch of the blade), the motor consumption will change, within the limit of the specification.

[15.3] **Safety Ratings:**
N/A

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[15.4] **Ambient temperature and temperature classes:**

The ambient temperature range is $-30^{\circ}\text{C} \div +50^{\circ}\text{C}$.

Temperature T5 class is referred to maximum admitted power, and shall be confirmed when the component is incorporated in a complete equipment.

[15.5] **Degree of protection (IP code):**

IP64

[15.6] **Warnings:**

None applicable.

[16] **Report:** AT19-0044379-01

[16.1] **Routine (factory) tests:**

The manufacturer shall carry out the routine test prescribed at clause 27 of the EN 60079-0.

The manufacturer must carry out the routine test of dielectric strength test at the following test voltages for 60 s at 1480 Vrms, as prescribed at clause 7.1 of EN 60079-7.

[16.2] **Conformity with the documentation:**

The manufacturer shall carry out the verifications or tests necessary to ensure that the product complies with the documentation.

Marking the equipment in accordance with Clause 29 of EN 60079-0, the manufacturer attests on his own responsibility that:

- the equipment has been constructed in accordance with the applicable safety requirements of the relevant industrial product safety standards;
- the routine verifications and routine tests in 28.1 of EN 60079-0 have been successfully completed with positive results.

[16.3] **Installation conditions:**

- Equipment is intended to be installed/incorporated/combined in locations where there are environmental conditions, as clearly specified at clause 1, par. 2 of EN 60079-0. Installation and use in atmospheric and environmental conditions that are out of above mentioned intervals request special considerations and additional measures by the side of installer or user. These should be specified to the manufacturer by the user.
- The motor coupled and combined with the fan shall be certified according to EN ISO 80079-36, EN ISO 80079-37 standards, with EPL Gc, and installed according EN 60079-14.

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[17] **Schedule of limitations**

- The motors shall be coupled/combined with the fans as indicated by the manufacturer in the documents and subject to separate complete certification and assessment. It is responsibility of the assembler/user to guarantee all the measures to preserve the integrity of the products against the hazard of accidental contacts with moving parts and protect against solar and artificial illumination as the plastic material of motor must be protected against solar and artificial illumination UV according EN 60079-0 clause 26.10.
- The equipment is designed for fixed installations: the installation must minimize the risk of electrostatic discharge.
- The end-user or the installer will also have to prepare the ground circuit connections to avoid the formation or accumulation of electrostatic charges and clean the fan and motor with a damp cloth in order to prevent accumulation of electrostatic charges and dust.

[18] **Essential Health and safety Requirements:**

This statement does not indicate compliance with electrical safety and performance requirements other than those expressly included in the Standards listed in [9].

This statement does not cover hazards coming from environmental conditions different from those clearly and precisely indicated and covered in clause 1 of EN 60079-0.

ESHR 1.2.7 According Annex VIII of the Directive

ESHR 1.4 Not verified.

ESHR 1.5 Not verified.

ESHR 3 Not applied.

In addition to the Essential Health and Safety Requirements (EHSRs) covered by the standards listed at [9], the following are considered relevant to this product, and conformity is demonstrated in the report: n/a

[19] **Descriptive documents:** DL-AT19-0044379-01 dated 2020-07-22.

[20] **Statement Validity Conditions:**

The present Statement is not referred to IMQ certification activities as Notified Body according to 2014/34/EU Directive. The validity of this Statement is subject to the condition that the manufacturer complies with the results of the document review and of the pertinent requirement if any included, recorded in the relevant copy of documentation as per 19.

[21] **Variations:**

First Issue.