



Electric Motors - www.felm.it

FLAMEPROOF MOTORS



CESI NOTIFICATION

ISMES

IPH

EGH

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- (1) **PRODUCT QUALITY ASSURANCE NOTIFICATION**
- (2) **Equipment or Protective System or Component intended for use in potentially explosive atmospheres Directive 2014/34/EU**
- (3) **Notification number:**
CESI 22 ATEX 005 Q
- (4) **Equipment or component type:** Three-phase asynchronous motors series 5AT 71-80-90-100-112
EU type examination certificate CESI 22 ATEX 001 X
Three-phase asynchronous motors series 7AT 71-80-90-100-112-132-160-180-200-225-250-280-315
EU type examination certificate CESI 22 ATEX 002 X
Protection concepts: Flameproof enclosures "d"
Increased safety "e" for terminal boxes
Dust ignition protection by enclosure "t"
- (5) **Applicant:** FELM s.r.l.
Via Varese 17
20001 Inveruno - MI
- (6) **Manufacturer:** FELM s.r.l.
Via Varese 17
20001 Inveruno - MI
- (7) CESI, notified body n. 0722 in accordance with Articles 17 and 21 of the Directive of the European Parliament and of the Council of 26 February 2014, notifies to the applicant that the actual manufacturer has a production quality system which complies to Annex VII of the Directive.
- (8) This notification is based on the audit report n. EX C2003868.
This notification can be withdrawn if the manufacturer no longer satisfies the requirement of Annex VII.
Results of periodical re-assessment of the quality system are a part of this notification.
- (9) This notification is valid until 3/07/2025 and can be withdrawn if the Manufacturer does not satisfy the product quality assurance re-assessment.
- (10) According to Article 16 [3] of the Directive 2014/34/EU the CE marking shall be followed by the identification n. 0722 identifying the notified body involved in the production control stage.

This notification may only be reproduced in its entirety and without any change.
Date of issue 9th March 2022 - Translation issued on 9th March 2022

Prepared Elena Bregoli <i>Elena Bregoli</i>	Verified Sergio G. Guagno <i>Sergio G. Guagno</i>	Approved Roberto Piccin <i>Roberto Piccin</i>
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Prot. C2003871 P: 1 Issue: 0

IE3 – series H

II 2G Ex db eb IIB or IIC T3/T4/T5/T6 Gb
II 2G Ex db IIB or IIC T3/T4/T5/T6 Gb
II 2D Ex tb IIIC T100°C/T130°C/T160°C Db IP6x

Series: H5AT 71-112 - aluminium frame
Series: H7AT 71-315 - cast iron frame



Schema di certificazione
CESI-ATEX



GENERAL INFORMATION

This catalogue contains basic technical data for low voltage three phase squirrel cage asynchronous motors in explosion-proof design.

Explosion proof motors are distinguished by high material quality, robust design, high index of IP protection, bearings greased for life, weather and corrosion resistant final coating and high dielectric strength insulation system intended to be fed by a static frequency converter.

Danger of explosion is always present in mining and many other sectors of industry.

A risk of explosion is always present when gases, vapours, mists or dusts mix with air in explosive ratio near ignition source. Then there is possibility of releasing a minimum ignition energy.

Explosion proof equipment is designed in various types of protection in such a way that it can, if properly used, prevent an explosion.

Local conditions must be divided into danger zones defined by the end user while cooperating with appropriate establishment.

according to frequency and duration of appearance of an explosive gas atmosphere.

FELM® Explosion-proof motors offer various advantages:

- motors are designed according to Directive 2014/34/EU
- high efficiency and power factor
- low noise level
- modern design
- adaptability to different demands of electric motor drives (special mechanical and electrical designs)
- insulation system in F class with temperature rise in B class
- safety in operation
- recyclable parts and components
- simple maintenance

- Notify body: CESI Italy
- *ATEX Certificate according to directive 2014/34/EU:*
- Harmonized with last edition of standards:
 - EN 60079-0: 2018
 - EN 60079-1: 2014
 - EN 60079-7: 2015/A1:2018
 - EN 60079-31: 2014
- Fulfill other directive: EMC Directive 2014/30/EU, Low Voltage 2014/35/EU,
- Machine Directive 2006/42/EC, Hazardous substance 2011/65/EU and ErP 2009/125/EC

- Series: H5AT 71-112 - aluminium frame - CESI 22 ATEX 001 X
- Series: H7AT 71-315 - cast iron frame - CESI 22 ATEX 002 X



1) Series: H5AT 71-112 aluminium housing

Main product description:

Product: Three phase cage Induction motors with aluminum frame Design: Explosion proof motors

Marking for ambient temperature: -20°C to +40°C:

II 2G Ex db eb IIC T3/T4/T5/T6 Gb

II 2G Ex db IIC T3/T4/T5/T6 Gb

II 2D Ex tb IIIC T100°C/T130°C/T160°C Db IP6x

Type: H5AT

IEC sizes: 71-80-90-100-112

Rated frequency: 50/60 Hz

Number of poles: 2 to 8 Duty type: S1- S10

Insulation class: F-H (with temperature rise: B class) Ambient temperature: -20°C to +40°C

Rated power: at S1 duty to 4,5 kW

Degree of protection for motors and for terminals boxes: IP55

Corrosion protection painting system and color tone: RAL 7031 C4-M

Main additional design options

Other or multi-range voltages and frequencies

Motors efficiency class IE2 and IE3 acc. To EN 60034-30

Other number of poles (poles 10,12,16, ..) and multi-speed motors

Design for work through frequency converter

Other mounting arrangements

Thermal protection (PTC - thermistors or thermo-switches or RTDs)

Double shaft extension

Special flanges and shaft ends

Terminal box on right or left side

Other color tones and/or surface paints

Non ventilated (cooling method IC 410)

Windings for tropical environments

Space heaters fitted to the windings

Marine use design (ABT design)

Index of protection: IP55, IP56, IP65, IP66

Drain holes

Series: H5AT 71-112**aluminium housing**

Roller bearings

Preparation for SPM vibration monitoring on DE and NDE (4mm non-threaded hole, SPM device sealed)

For duty type S2-S10 according to IEC standard

Other temperature classes T3 and T5, T6

Other painting systems (C5M-M, C5M-H) and color tones

For other environment temperatures (-20°C to +50°C and -20°C to +60°C)

Explosive class mark II B and temperature class T3 - environment temperatures (-20°C to +80°C)

Marking for ambient temperature: -20°C to +80°C:

II 2G Ex db eb IIB T3 Gb

II 2G Ex db IIB T3 Gb

II 2D Ex tb IIIC T160°C Db IP6x

Main mountings

with ATEX Ex db (e) protected brake

with ATEX Ex db (e) encoder (Scancon)

2) Series: H7AT 71-315**cast iron****Main product description:**

Product: Three phase cage induction motors with cast iron frame Design:

Explosion proof motors, flameproof enclosure

Marking for ambient temperature: -20°C to +40°C:

II 2G Ex db eb IIC T3/T4/T5/T6 Gb

II 2G Ex db IIC T3/T4/T5/T6 Gb

II 2D Ex tb IIIC T100°C/T130°C/T160°C Db IP6x

I M2 Ex db eb I Mb I M2 Ex db I Mb

Type: H7AT

IEC sizes: 90-100-112-132-160-180-200-225-250-280-315

Rated frequency: 50/60 Hz

Number of poles: 2 to 8

Duty type: S1- S10

Insulation class: F-H (with temperature rise: B class)

Ambient temperature: -20°C to +40°C

Rated power: at S1 duty to 225 kW

Degree of protection for motors and for terminals boxes: IP55

Corrosion protection painting system and color tone: RAL 7031 C4-M



Series: H7AT 71-315 cast iron

Main additional design options

Other or multi-range voltages and frequencies

Motors efficiency class IE2 and IE3 acc. To EN 60034-30

Other number of poles (poles 10,12,16, ...) and multi-speed motors

Design for work with frequency converter

Other mounting arrangements

Thermal protection (PTC - thermistors or thermos - switches)

Double shaft extension

Special flanges and shaft ends

Terminal box on right or left side

Other color tones and/or surface paints

Non ventilated (cooling method IC 410)

Windings for tropical environments

Space heaters fitted to the windings

Marine use design (ABT design)

Index of protection: IP55, IP56, IP65, IP66, IP67

Drain holes

Roller bearings - not for motors IEC sizes: 71-80-90-100-112

Preparation for SPM vibration monitoring on DE and NDE for 71-112 (4mm non-threaded hole, SPM device sealed)

Preparation for M8 SPM vibration monitoring on DE and NDE for 132-315 (8mm threaded hole, SPM device screwed in)

For duty type S2-S10 according to IEC standard

Other temperature classes T3, T5 and T6

Other painting systems (C5M-M, C5M-H) and color tones

For other environment temperatures (-20°C to +50°C and -20°C to +60°C)

Explosive class mark IIB and temperature class T3 - environment temperatures (-20°C to +80°C)

Marking for ambient temperature: -20°C to +80°C:

II 2G Ex db eb IIB T3 Gb II 2G Ex db IIB T3 Gb

II 2D Ex tb IIIC T160°C Db IP6x

Main mountings

with ATEX Ex db (eb) protected brake

with ATEX Ex db (eb) protected forced ventilation (cooling method IC416) - not for motors IEC sizes: 71-80-90-100- 112

with ATEX Ex db (eb) encoder (Scancon)



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