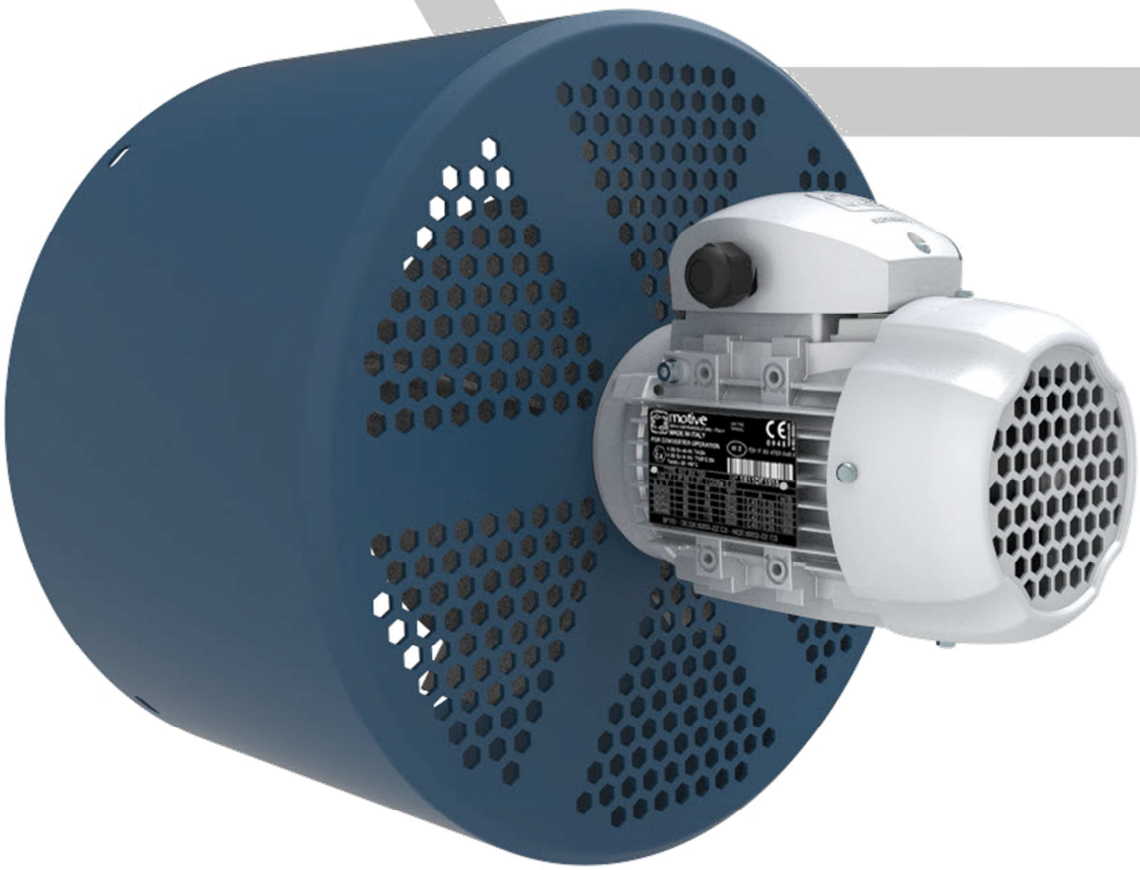
motive®

manual addendum

SV Ex



II 2G Ex h IIC T4 Gb
II 2D Ex h IIIC T135°C Db
Tamb=-20 +40 °C

II 2G Ex eb IIC T4 Gb
II 2D Ex tb IIIC T135°C Db
Tamb=-20 +40 °C

Reference list:

Norma (ult. ediz.)	Titolo
Dir. 2014/34/UE	**Equipment and Protective systems intended for use in Potentially Explosive Atmospheres. Safety requirements**
IEC 60034-5:2020	Rotating electrical machines – Part 5: Degrees of protection provided by the integral design of rotating electrical machines (IP code) – Classification Internal methods Tests not related to standards, developed by laboratory or under client's specification
EN IEC 60079-0:2018	Explosive atmospheres – Part 0: Equipment – General requirements
EN 14986:2017	Design of fans working in potentially explosive atmospheres
EN IEC 80079-36:2016	Explosive atmospheres – Part 36: Non-electrical equipment for explosive atmospheres – Basic method and requirements
EN IEC 60079-7:2015/A1:2018	Explosive atmospheres – Part 7: Equipment protection by increased safety "e"
EN 60079-31:2014	Explosive atmospheres – Part 31: Equipment dust ignition protection by enclosure "t"
IEC 60204-1:2018	Safety of machinery – Electrical equipment of machines – Part 1: General requirements

Field of application
The person authorized to do the work is responsible for the zones sharing. He must follow the norms EN 60079-31, EN60079-14, EN 60079-17 and EN 60079-19 (whenever their application is possible).
The eventual dust deposits mustn't have a thickness > 5mm.

Conformity declaration
The conformity declaration reported in this addendum, is the document that testifies the product conformity to the Directive 2014/34/UE.
The validity of such certificate is related to the respect of the instructions specified in the use and maintenance manual, together with the following additional instructions.

Additional instructions
The person authorized to do the work in an ambient exposed to explosion risk must be instructed about the right procedure for the use of the motor, respecting all norms related to safety, installation and use.
Motors must be protected against over-heating by suitable control means that must be chosen, considering the working conditions, according to the norm EN60079-15, EN60079-0 and EN60079-31.
All Motive Power cooling fans SV Ex are standard equipped with 3 PTO 130°C temperature probes to be connected to a suitable release device as reported in EN 50495 standard.
It is forbidden to open the terminal box to connect electric wires or make any intervention in presence of explosive atmosphere. Before any of such operations, disconnect the motor from the electric power supply and avoid the possibility of any accidental switching on of the motor.

Ground connection must be done (with galvanized screw and spring washer supplied) inside the terminal box (fig.1) and by using the screw on the frame (fig.2).
The section of the ground wire connected to the motor frame must have a minimum section of 4 mmq.

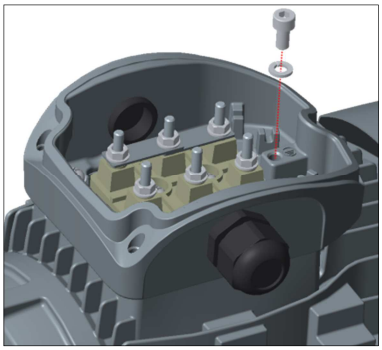


fig.1

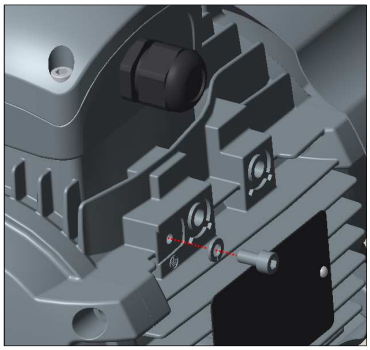


fig.2

For correct tightening of the grounding screws, please refer to the table below.

	M4	M5	M6
Nm	2	3,2	5

Installation precautions
For the installation of the Power cooling please consider the following:

- make sure that no damages have occurred during transport.
- remove carefully the components of the plant from the wrapping material and any other protective devices.
- make sure that the value of the voltage on the motor plate is the same as the voltage of mains.
- surfaces in contact with the electric bonding and the rating plate must not be varnished.
- make sure that the fan cover is well tightened to the motor body.
- rotate the rotor manually in order to verify the absence of any dragging.
- check that the direction of rotation is the same as that indicated on the fan cover.
- do not hinder the ventilation. The discharged air, together with the air coming from other groups, must not be immediately re-aspirated.
- verify the correct grounding of the motor.

Electrical and thermal protections

Protections must be chosen based on the specific running conditions, according to standards EN60079-14 and EN61241-14.

External protections:

- Protection against overcurrent and short-circuits; this protection can be made with the magnetothermic circuit breaker or with fuses; these must be calibrated on the motor current.
- Protection against overload by thermal relay that controls a power line contactor upstream the motor.
- If special conditions or synchronised operation with other machines or parts of machines require it, protection against power failures or dips by means of a minimum voltage relay that controls an automatic power knife switch.

Internal protections:

The electrical protections on the motor power supply may not be sufficient to protect against overloads.
Connecting built-in protections on the windings solves this problem:

- PTO bimetallic probe (normally-closed electromechanical device that becomes open when the threshold temperature is reached).
  The reset of this cut-out must be performed manually only, and not automatically. The user, in compliance with the norms, must use a tripping relay out in compliance with IEC 61508 standard (Fail Safe type).

Bearings lubrication

Motors with shielded self-lubricating bearings “ZZ” do not require any periodic lubrication.
Bearings life ranges from 3 up to 5 years according to the axial and radial loads that are charged on the shaft and to environmental conditions the motor is used in.

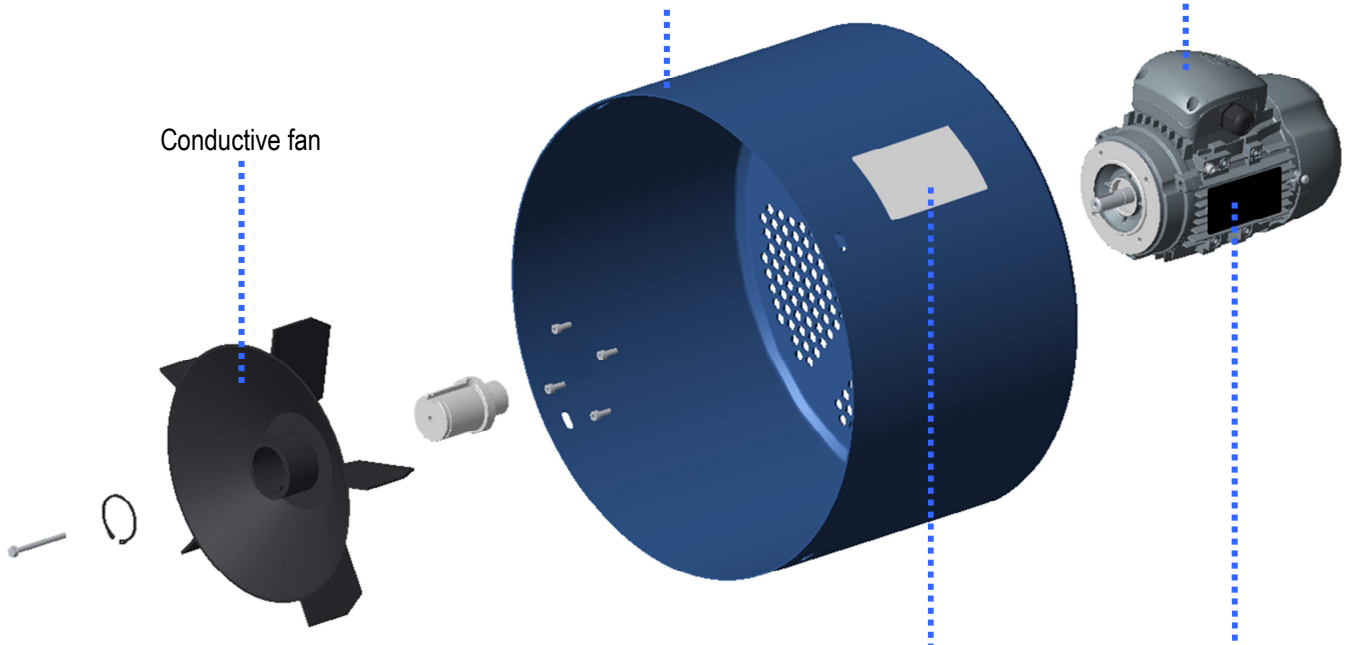
PECULIAR FEATURES OF SV Ex POWER COOLING

Manual Addendum

Reinforced fan cover with increased thickness

Motive DELPHI 2GD ***Ex e*** motor

Conductive fan



Manufacturer's mark

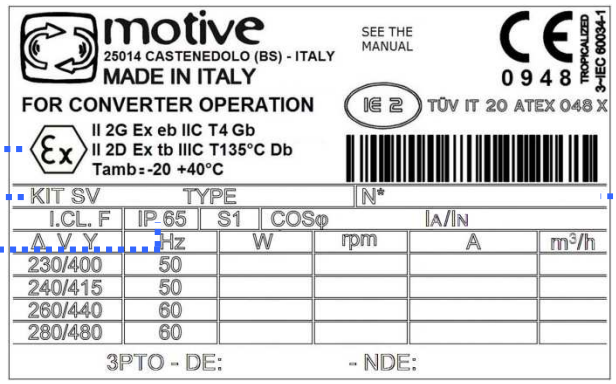
motive
25014 CASTENEDOLO (BS) - ITALY
DES. & MADE IN ITALY

CE 0948 — Notified body number

KIT SV Ex 2GD

II 2G Ex h IIC T4 Gb
II 2D Ex h IIIC T135°C Db
Tamb= -20 +40°C

TÜV IT 21 ATEX 112 AR — ATEX certificate number



Protection against explosion

Power cooling type

IP Protection index

YYMM production date
Serial number

SV Ex POWER COOLING CLASSIFICATION

For GAS G

CE	Ex	II	2	G	Ex	h	IIC	T4	Gb
①	②	③	④	⑤	⑥	⑦	⑧	⑨	⑩

①	CE marking
②	ATEX code for prevention of explosion
③	Surface industries
④	An area where explosive atmospheres may be present during normal operations (Zone 1)
⑤	Protection against gas combustion
⑥	Explosion protection: International
⑦	Non-electrical equipment
⑧	For instance, for Hydrogen. Equipment marked as suitable for Group IIC is also suitable for IIB and IIA
⑨	T4 for maximum surface temperature of 135°C
⑩	Extended level of protection in hazardous zones with explosive gas mixtures

For DUST D

CE	Ex	II	2	D	Ex	h	IIIC	T135°C	Db
①	②	③	④	⑤	⑥	⑦	⑧	⑨	⑩

①	CE marking
②	ATEX code for prevention of explosion
③	Surface industries
④	An area where explosive atmospheres may be present, in the form of a flammable cloud of dust in the air, during normal operations (Zone 21)
⑤	Protection against dust combustion
⑥	Explosion protection: International
⑦	Non-electrical equipment
⑧	For conductive dust. Equipment marked as suitable for Group IIIC is also suitable for IIIB and IIIA
⑨	Maximum surface temperature of 135°C
⑩	Extended level of protection in flammable dust atmospheres

Fan motor marking

For GAS G

CE	Ex	II	2	G	Ex	eb	IIC	T4	Gb
①	②	③	④	⑤	⑥	⑦	⑧	⑨	⑩

①	CE marking
②	ATEX code for prevention of explosion
③	Surface industries
④	An area where explosive atmospheres may be present during normal operations (Zone 1)
⑤	Protection against gas combustion
⑥	Explosion protection: International
⑦	Increased safety
⑧	For instance, for Hydrogen. Equipment marked as suitable for Group IIC is also suitable for IIB and IIA
⑨	T4 for maximum surface temperature of 135°C
⑩	Extended level of protection in hazardous zones with explosive gas mixtures

For DUST D

CE	Ex	II	2	D	Ex	tb	IIIC	T135°C	Db
①	②	③	④	⑤	⑥	⑦	⑧	⑨	⑩

①	CE marking
②	ATEX code for prevention of explosion
③	Surface industries
④	An area where explosive atmospheres may be present, in the form of a flammable cloud of dust in the air, during normal operations (Zone 21)
⑤	Protection against dust combustion
⑥	Explosion protection: International
⑦	Enclosure protection
⑧	For conductive dust. Equipment marked as suitable for Group IIIC is also suitable for IIIB and IIIA
⑨	Maximum surface temperature of 135°C
⑩	Extended level of protection in flammable dust atmospheres

Motive s.r.l.
Via Le Ghiselle, 20
25014 Castenedolo (BS)
Tel.: +39 030 2677087
Fax: +39 030 2677125
motive@motive.it
www.motive.it

Declaration of EU Conformity

Motive srl based in Castenedolo (BS) - Italy

declares as manufacturer, under its own exclusive responsibility, that its range of

Three phase power cooling fans of the series "SV Ex"

complies with the following directives and standards:

- EC Directive **2014/34/EU**: concerning "*equipment and Protective systems intended for use in Potentially Explosive Atmospheres*"

Marking: **II 2G Ex h IIC T4 Gb**
II 2D Ex h IIIC T135°C Db
Tamb=-20 +40 °C

Voluntary type examination certificate number
(edit by TÜV Italia, Notified Body Number 0948): TÜV IT 21 ATEX 112 AR

as in accordance to the European Standards:

- **IEC 60034-5:2020** Rotating electrical machines – Part 5: Degrees of protection provided by the integral design of rotating electrical machines (IP code) – Classification Internal methods Tests not related to standards, developed by laboratory or under client's specification
- **EN IEC 60079-0:2018** Explosive atmospheres – Part 0: Equipment – General requirements
- **EN 14986:2017** Design of fans working in potentially explosive atmospheres
- **EN ISO/IEC 80079-36:2016** Explosive atmospheres – Part 36: Non-electrical equipment for explosive atmospheres – Basic method and requirements
- **EN IEC 60079-7:2015/A1:2018** Explosive atmospheres – Part 7: Equipment protection by increased safety "e"
- **EN 60079-31:2014** Explosive atmospheres – Part 31: Equipment dust ignition protection by enclosure "t"
- **IEC 60204-1:2018** Safety of machinery – Electrical equipment of machines – Part 1: General requirements

The machines are supplied without electrical connections to the control panels or any pneumatic and hydraulic supply connections.
It is therefore forbidden to use them until the plant into which they are incorporated has been declared as compliant with the provisions of the Machinery Directive **2006/42/EC** and Directive **2014/34/EU** and plant's analysis was not done as compliant with Directive **99/92/EC**.

Castenedolo, 10th September 2021
The legal Representative

ZERTIFIKAT ◆ CERTIFICATE ◆ 認證證書 ◆ СЕРТИФИКАТ ◆ CERTIFICADO ◆ CERTIFICAT

TÜV SÜD Italia

DICHIARAZIONE
DECLARATION

[1] ***AVVISO DI RICEVIMENTO***
ACKNOWLEDGEMENT OF RECEIPT

[2] **Apparecchiature o Sistemi di Protezione destinati ad essere utilizzati in atmosfere potenzialmente esplosive Direttiva 2014/34/UE**
Equipment or Protective System or Component intended for use in potentially explosive atmospheres Directive 2014/34/EU

[3] Numero dell'avviso di ricevimento: **TÜV IT 21 ATEX 112 AR**
Acknowledgement of receipt number:

[4] Apparecchiatura o sistema di protezione:
Equipment or protective system:
Servoventilazione trifase per motori elettrici serie SV Ex
Three-phase power cooling for electric motors series SV Ex

[5] Identificazione del fascicolo tecnico data dal richiedente:
Technical file reference given by applicant:

FASCICOLO TECNICO SERVOVENTILAZIONI ATEX 2GD FT_SVEX2GD
ATEX 2GD POWER COOLING TECHNICAL FILE FT_SVEX2GD

II 2G Ex h IIC T4 Gb
II 2D Ex h IIIC T135°C Db
Tamb=-20 +40 °C

[6] Richiedente / *Applicant*: **MOTIVE S.r.l.**
Via Le Ghiselle 20
IT - 25014 CASTENEDOLO, BS

[7] Costruttore / *Manufacturer*: **MOTIVE S.r.l.**
Via Le Ghiselle 20
IT - 25014 CASTENEDOLO, BS

[8] Il TÜV Italia, organismo notificato n° 0948 in conformità Direttiva 2014/34/UE del Consiglio dell'Unione Europea del 26 Febbraio 2014, avvisa il richiedente di aver ricevuto il fascicolo tecnico relativo all'apparecchiatura o sistema di protezione sopra citato in accordo alla procedura definita all'articolo 13 paragrafo 1-b-ii della Direttiva 2014/34/UE.
TÜV Italia, notified body n° 0948 in accordance with the Council Directive 2014/34/EU of 26 February 2014*, notifies to the applicant to have received the technical file relates to the equipment or protective system above mentioned according to procedure defined to Article 13 paragraph 1-b-ii of the Directive 2014/34/EU.*

Data prima emissione / *First issue date:* **29/10/2021**
Data emissione / *Issue date:* **29/10/2021**
Data scadenza / *Expiry date*: **28/10/2031**

TÜV ITALIA Srl
Organismo Notificato No. 0948
Notified Body, No. 0948

ACCREDIA
L'ENTE ITALIANO DI ACCREDITAMENTO
PRD N° 081B
Membro degli Accordi di Mutuo Riconoscimento EA, IAF e ILAC
Signatory of EA, IAF and ILAC Mutual Recognition Agreements

TÜV Italia Srl Industrie Service 09 48 Notified Body

Questa dichiarazione può essere riprodotta solo integralmente e senza alcuna variazione.
This declaration may only be reproduced in its entirety and without any change.

Motive s.r.l.
Via Le Ghiselle, 20
25014 Castenedolo (BS)
Tel.: +39 030 2677087
Fax: +39 030 2677125
motive@motive.it
www.motive.it

Declaration of EU Conformity

Motive srl based in Castenedolo (BS) - Italy

declares as manufacturer, under its own exclusive responsibility, that its range of

asynchronous electric motors of the series "DELPHI"

complies with the following directives and standards:

- EC Directive **2014/34/EU**: concerning "*equipment and Protective systems intended for use in Potentially Explosive Atmospheres*"

Marking: **II 2G Ex eb IIC T4 Gb**
II 2D Ex tb IIIC T135°C Db
Tamb=-20 +40 °C

Marking*: **II 2G Ex eb IIC T3 Gb**
II 2D Ex tb IIIC T135°C Db
Tamb=-20 +50 °C

** Marking applicable only on DELPHI Ex IE3 motors*

Certificate Number (edit by TÜV Italia, Notified Body Number 0948): TÜV IT 20 ATEX 048 X
System Certificate Number (edit by TÜV Italia, Notified Body Number 0948): TÜV IT 21 ATEX 021 Q

as in accordance to the European Standards:

- **IEC 60034-5:2020** Rotating electrical machines – Part 5: Degrees of protection provided by the integral design of rotating electrical machines (IP code) – Classification Internal methods Tests not related to standards, developed by laboratory or under client's specification
- **EN IEC 60079-0:2018** Explosive atmospheres – Part 0: Equipment – General requirements
- **EN IEC 60079-7:2015/A1:2018** Explosive atmospheres – Part 7: Equipment protection by increased safety "e"
- **EN 60079-31:2014** Explosive atmospheres – Part 31: Equipment dust ignition protection by enclosure "t"
- **IEC 60204-1:2018** Safety of machinery – Electrical equipment of machines – Part 1: General requirements

The machines are supplied without electrical connections to the control panels or any pneumatic and hydraulic supply connections.
It is therefore forbidden to use them until the plant into which they are incorporated has been declared as compliant with the provisions of the Machinery Directive **2006/42/EC** and Directive **2014/34/EU** and plant's analysis was not done as compliant with Directive **99/92/EC**.

Castenedolo, 19th March 2021
The legal Representative

ZERTIFIKAT ◆ CERTIFICATE ◆ 認證證書 ◆ СЕРТИФИКАТ ◆ CERTIFICADO ◆ CERTIFICAT

CERTIFICATE

Italia

[1] **EU-TYPE EXAMINATION CERTIFICATE**

[2] **Equipment or Protective System intended for use in potentially explosive atmospheres Directive 2014/34/EU**

[3] EU-Type Examination Certificate number:

TÜV IT 20 ATEX 048 X

[4] Equipment: Three-phase asynchronous electric motors DELPHI series

[5] Manufacturer: MOTIVE S.r.l.

[6] Address: Via Le Ghiselle 20
25014 CASTENEDOLO (BS) Italia

[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] TÜV Italia, notified body no. 0948 in accordance with Article 17 of Directive 2014/34/EU of the European Parliament and of the Council, dated 26 February 2014, certifies that this product has been found to comply with the Essential Health and Safety Requirements relating to the design and construction of products intended for use in potentially explosive atmospheres given in Annex II to the Directive.

The examination and test results are recorded in confidential report no. R 20 EX 046

[9] Compliance with the Essential Health and Safety Requirements has been assured by compliance with:

EN IEC 60079-0:2018 EN IEC 60079-7:2015/A1:2018 EN 60079-31:2014

[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 EU - TYPE EXAMINATION CERTIFICATE relates only to the design and construction of the specified product. Further requirements of the Directive apply to the manufacturing process and supply of this product. These are not covered by this certificate.

[12] The marking of the product shall include the following:

II 2G Ex eb IIC T4 Gb
II 2D Ex tb IIIC T135°C Db

Tamb: -20° +40 °C

Alternative marking for IE3 series
II 2G Ex eb IIC T3 Gb
II 2D Ex tb IIIC T135°C Db

Tamb -20 +50 °C

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

Issue date: 17th February 2021

ACCREDIA L'ENTE ITALIANO DI ACCREDITAMENTO
PRD N° 081B
Membro degli Accordi di Mutuo Riconoscimento EA, IAF e ILAC
Signatory of EA, IAF and ILAC Mutual Recognition Agreements

TÜV Italia Srl Industrie Service 09 48 Notified Body

TÜV Italia S.r.l.
Notified body N° 0948
Alberto Carelli
Industry Service - Real Estate & Infrastructure
Managing Director

TÜV Italia has been authorized by Italian government to operate as notified body for the certification of equipment or protective system intended for use in potentially explosive atmospheres. This document is not valid without official signature and logo. The internal reference code is 722228711.

page 1 of 6

PEX-01-M002_r07 del 29/03/2018

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ZERTIFIKAT ◆ CERTIFICATE ◆ 認證證書 ◆ СЕРТИФИКАТ ◆ CERTIFICADO ◆ CERTIFICAT

NOTIFICATION

TÜV SÜD Italia

PRODUCT QUALITY ASSURANCE NOTIFICATION

[1]

[2] **Equipment or Protective System or Component intended for use in potentially explosive atmospheres Directive 2014/34/EU**

[3] Notification number:

TÜV IT 21 ATEX 021 Q

[4] Equipment or Component as listed: Electric Motor, Frequency Converter

Protection concepts: "e" and "t"

[5] Manufacturer: MOTIVE S.r.l.
Via Le Ghiselle, 20
I-25014 Castenedolo (BS) - ITALIA

[6] Sites audited: identical

[7] TÜV Italia, notified body no. 0948 in accordance with the Council Directive 2014/34/EU of 26 February 2014, notifies that the manufacturer has a product quality assurance system which complies to Annex VII of the Directive.

[8] This notification is based on audit report no. R 21 EX 015 issued on 02.03.2021

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 <01.03.2024> and can be withdrawn if the Manufacturer does not satisfy the production quality assurance re-assessment.

[10] According to Article 16 paragraph 3 of the Directive 2014/34/EU the CE marking shall be followed by the identification no. 0948 identifying the notified body involved in the production control stage.

This notification may only be reproduced in its entirety and without any change.

First issue date: 26.03.2021
Issue date: 26.03.2021

ACCREDIA L'ENTE ITALIANO DI ACCREDITAMENTO
PRD N° 081B
Membro degli Accordi di Mutuo Riconoscimento EA, IAF e ILAC
Signatory of EA, IAF and ILAC Mutual Recognition Agreements

TÜV Italia Srl Industrie Service 09 48 Notified Body

TÜV Italia S.r.l.
Notified Body N° 0948

Alberto Carelli
Industry Service - Real Estate & Infrastructure
Managing Director

TÜV Italia has been authorized by Italian government to operate as notified body for the certification of equipment or protective system intended for use in potentially explosive atmospheres. This document is not valid without official signature and logo. The internal reference code is 722223318

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