



# IECEX Certificate of Conformity

## INTERNATIONAL ELECTROTECHNICAL COMMISSION IEC Certification System for Explosive Atmospheres

for rules and details of the IECEx Scheme visit [www.iecex.com](http://www.iecex.com)

Certificate No.:	<b>IECEX UL 13.0086X</b>	Page 1 of 4	<u>Certificate history:</u>
Status:	<b>Current</b>	Issue No: 12	Issue 11 (2022-11-08) Issue 10 (2022-08-18) Issue 9 (2020-08-25) Issue 8 (2020-04-30) Issue 7 (2019-07-31) Issue 6 (2018-09-27) Issue 5 (2016-10-31) Issue 4 (2016-08-29) Issue 3 (2015-03-18) Issue 2 (2014-07-14)
Date of Issue:	2024-08-28		
Applicant:	<b>Derrick Mfg. Corporation</b> 590 Duke Road Buffalo, NY 14225 <b>United States of America</b>		
Equipment:	<b>Electric Vibrating Motors - Series EX, SGX, SG2X, SG3X, SG4X, SG5X, SG5HDX.</b>		
Optional accessory:			
Type of Protection:	<b>Flameproof "db", Dust Ignition Protection by Enclosure "tb"</b>		
Marking:	EX, SGX, SG2X, SG3X, SG4X, SG5X, SG5HDX:  Ex db IIB T3 Gb  SGX, SG2X, SG3X, SG4X, SG5X, SG5HDX:  Ex tb IIIC T200°C Db  -20°C to +40°C; -20°C to +55°C		

Approved for issue on behalf of the IECEx  
Certification Body:

**Katy A. Holdredge**

Position:

**Senior Staff Engineer**

Signature:  
(for printed version)

Date:  
(for printed version)

2024-08-28

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Certificate issued by:

**UL Solutions (US)**  
333 Pfingsten Road  
Northbrook IL 60062-2096  
**United States of America**





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Manufacturer: **Derrick Mfg. Corporation**  
590 Duke Road  
Buffalo, NY 14225  
**United States of America**

Manufacturing locations: **Derrick Mfg. Corporation**  
590 Duke Road  
Buffalo, NY 14225  
**United States of America**

This certificate is issued as verification that a sample(s), representative of production, was assessed and tested and found to comply with the IEC Standard list below and that the manufacturer's quality system, relating to the Ex products covered by this certificate, was assessed and found to comply with the IECEX Quality system requirements. This certificate is granted subject to the conditions as set out in IECEX Scheme Rules, IECEX 02 and Operational Documents as amended

#### STANDARDS :

The equipment and any acceptable variations to it specified in the schedule of this certificate and the identified documents, was found to comply with the following standards

[IEC 60079-0:2017](#) Explosive atmospheres - Part 0: Equipment - General requirements  
Edition:7.0

[IEC 60079-1:2014](#) Explosive atmospheres - Part 1: Equipment protection by flameproof enclosures "d"  
Edition:7.0

[IEC 60079-31:2013](#) Explosive atmospheres - Part 31: Equipment dust ignition protection by enclosure "t"  
Edition:2

This Certificate **does not** indicate compliance with safety and performance requirements other than those expressly included in the Standards listed above.

#### TEST & ASSESSMENT REPORTS:

A sample(s) of the equipment listed has successfully met the examination and test requirements as recorded in:

#### Test Reports:

[US/UL/ExTR13.0098/00](#)  
[US/UL/ExTR13.0098/03](#)  
[US/UL/ExTR13.0098/06](#)  
[US/UL/ExTR13.0098/09](#)  
[US/UL/ExTR13.0098/12](#)

[US/UL/ExTR13.0098/01](#)  
[US/UL/ExTR13.0098/04](#)  
[US/UL/ExTR13.0098/07](#)  
[US/UL/ExTR13.0098/10](#)

[US/UL/ExTR13.0098/02](#)  
[US/UL/ExTR13.0098/05](#)  
[US/UL/ExTR13.0098/08](#)  
[US/UL/ExTR13.0098/11](#)

#### Quality Assessment Report:

[US/UL/QAR14.0003/07](#)



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## **EQUIPMENT:**

Equipment and systems covered by this Certificate are as follows:

The series EX, SGX, SG2X, SG3X, SG4X, SG5X, and SG5HDX motors are totally enclosed non-ventilated industrial flameproof vibrating motor intended for continuous operation. Optionally, the series SGX, SG2X, SG3X, SG4X, SG5X, and SG5HDX motors are totally enclosed non-ventilated industrial flameproof and dust ignition protection by enclosure vibrating motors intended for continuous operation. The motors are provided with integral mounting pads and self-contained eccentric weights which cause the motor to produce the desired vibration of the equipment to which the motor is mounted.

Please note that the vibrators marked with 'tb' shall not utilize or rely upon windows for protection.

**Please see Annex for additional information.**

## **SPECIFIC CONDITIONS OF USE: YES as shown below:**

### **Specific Conditions of Use:**

- Flameproof joints are other than those specified in Table 1 of IEC 60079-1. Contact Derrick for joint dimensions.
- Warning - To minimize the risk of electrostatic discharge, adequate grounding must be maintained.
- For motors for use with a frequency converter, use of the  $145 \pm 5^{\circ}\text{C}$  thermostat is mandatory for appropriate direct thermal protection and marking of T3 temperature code.
- Vibrators with dust ignition protection by enclosure, 'tb', protection shall not be opened for installation and are to be marked "Warning – Do not open".

### **Installation Instructions:**

- Before opening the enclosure in a flammable atmosphere the circuits must be interrupted.
- The certification applies to equipment with and without cable glands and cables. All cable entry devices, elbows, and blanking elements shall be IECEx certified in type of explosion protection flameproof enclosure "db" and dust ignition protection by enclosure 'tb', suitable for the conditions of use and correctly installed.
- Unused apertures shall be closed with IECEx certified suitable blanking elements.
- Vibrators having IECEx Certification may be repaired only to the extent that the repair does not compromise the flameproof safety aspects of the enclosure.
- Consequently, repair is limited to parts external to the flameproof enclosure. All other repairs shall be performed at Derrick Corporation or a Derrick approved IECEx authorized repair facility.
- Vibrators with dust igniton protection by enclosure, 'tb', protection shall not be opened for installation and are to be marked "Warning – Do not open".



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## **DETAILS OF CERTIFICATE CHANGES (for issues 1 and above)**

Issue 1: Nomenclature and minor drawing changes not affecting the safety of the device.

Issue 2: Revisions to drawings not affecting the safety of the device.

Issue 3: Minor drawing corrections and additional cover bolts added.

Issue 4: Addition of variable frequency rating from 30 Hz through 60 Hz and revised IP rating from IP56 to IP66.

Issue 5: Minor drawing revisions. No construction changes made as a part of this revision.

Issue 6: Updated to the latest edition of IEC 60079-1 and drawing revisions.

Issue 7: Drawing revisions and alternate construction.

Issue 8: Evaluated already certified equipment for dust ignition protection by enclosure 'tb' protection.

Issue 9: Update to drawing that does not affect the protection upon which the equipment relies; correction to typos.

Issue 10: Addition of the SG4X motor; IEC 60079-0 standard edition update; minor schedule drawing revisions; and removal of 'tb' protection from the EX series motor.

Issue 11: Drawing updates.

Issue 12: Addition of new motor models SG5X and SG5HDX.

## **Annex:**

[Annex to IECEx UL 13.0086X Issue 12.pdf](#)



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## TYPE DESIGNATION AND PARAMETERS RELATING TO THE SAFETY

Nomenclature for type EX, SGX, SG2X, SG3X, SG4X, SG5X, and SG5HDX are as follows:

EX                      -230/460                      -5                      -003  
I                                      II                                      III                                      IV

### I – Series Designation

**EX** - EX series  
**SGX** - SGX series  
**SG2X** - SG2X series  
**SG3X** – SG3X series  
**SG4X** – SG4X series  
**SG5X** – SG5X series  
**SG5HDX** – SG5HDX series

### II – Supply Voltage Rating

**-215/220** - 215/220 VAC  
**-230** – 215/220/230/240 VAC  
**-230/240** -230/240 VAC  
**-380/400** -380/400 VAC  
**-400** – 380/400/415 VAC  
**-415** - 415 VAC  
**-440** - 440 VAC  
**-460** – 440/460/480 VAC  
**-460/480** - 460/480 VAC  
**-500/525** – 500/525 VAC  
**-575/600** - 575/600 VAC  
**-690** - 690/700 VAC

### III – Frequency Rating (50 Hz or 60 Hz or variable frequency)

**-5** – 50 Hertz Sinusoidal Power or 30-60 Hz Constant Torque, Frequency Converter Use  
**-6** – 60 Hertz Sinusoidal Power or 30-60 Hz Constant Torque, Frequency Converter Use

### IV - Certified Designation

**-003** - ATEX Constant  
**-014** – NEC/ATEX/IECEX Constant (Explosionproof and flameproof only)  
**-016** – NEC/CEC/ATEX/IECEX Constant (Explosionproof, flameproof, and dust ignition by enclosure protection)

### Temperature range

Ambient Temperature Range, °C	Current, A	Temperature Class
-20°C to 55°C	5.2	T3, T200°C
-20°C to 40°C	8.7	T3, T200°C



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## Electrical data

215/220 VAC, 8.7 A Max  
 215/220/230/240 VAC, 8.7 A Max  
 230/240 VAC, 8.7 A Max  
 380/400 VAC, 8.7 A Max  
 380/400/415 VAC, 8.7 Max  
 415 VAC, 8.7 A Max  
 440 VAC, 8.7 A Max  
 440/460/480 VAC, 8.7 Max  
 460/480 VAC, 8.7 A Max  
 500/525 VAC, 8.7 A Max  
 575/600 VAC, 8.7 A Max  
 690/700 VAC, 8.7 A Max

## IP Code (Ingress Protection)

IP66\*

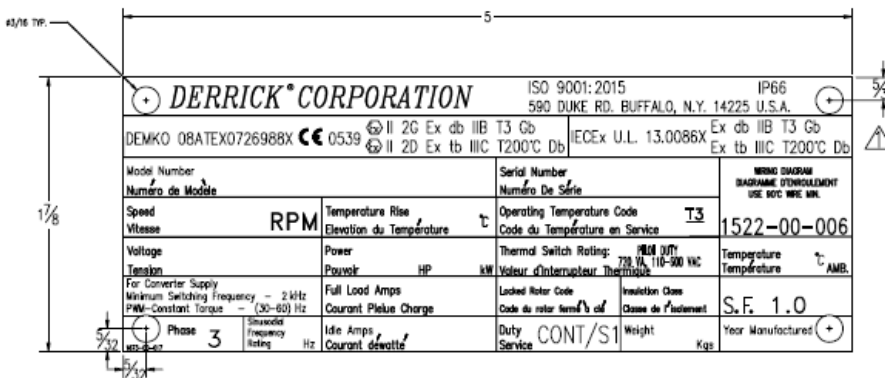
6 = Dust Protection – No ingress of dust; complete protection against contact.

6 = Water Protection – Water projected in powerful jets (12.5 mm nozzle) against the enclosure from any direction shall have no harmful effects.

\*Please note that while not 'tb,' the EX motor can be marked for unclassified IP66.

## MARKING

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



- MATERIAL: 304 SS x 0.018 THICK
- NOTES: 1) ALL DIMENSIONS TYP. U.O.N.  
 2) PROTECTIVE PAPER  
 3) HELVETICA RED BOLD TEXT



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43/64 TYP. <span style="float: right;">5</span>		(+) <b>DERRICK CORPORATION</b> ISO 9001 : 2015 580 DUKE RD. BUFFALO, N.Y. 14225 U.S.A. (+)		5/32
		DEMKO 08ATEX0726988X <b>CE</b> 0539 <b>II 2 G Ex db IIB T3 Gb IP66</b> IECEX U.L. 13.0086X Ex db IIB T3 Gb IP66		
Model Number Numéro de Modèle		Serial Number Numéro De Série		WIND DIAGRAM DIAGRAMME D'ENROULEMENT USE 90°C WIRE MIN.
Speed Vitesse <b>RPM</b>	Temperature Rise Elevation de Température $^{\circ}$ C	Operating Temperature Code Code de Température en Service <b>T3</b>	<b>1522-00-006</b>	
Voltage Tension	Power Pouvoir <b>HP</b> <b>KW</b>	Thermal Switch Rating: Valeur d'Interrupteur Thermique <b>700 VA 115-240 VAC</b>	Temperature Température $^{\circ}$ AMB.	
For Converter Supply Minimum Switching Frequency - 2 Hz PWM-Constant Torque - (30-60) Hz		Full Load Amps Courant Pleine Charge	Locked Rotor Code Code du rotor fermé à dé	Insulation Class Classe de l'isolement <b>S.F. 1.0</b>
Phase <b>3</b>	Stator Frequency Fréquence Hz	Idle Amps Courant décharge	Duty Service <b>CONT/S1</b>	Weight Poids
5/32		5/32		Year Manufactured (+)

MATERIAL: 304 SS x 0.018 THICK  
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