



# IECEX Certificate of Conformity

## INTERNATIONAL ELECTROTECHNICAL COMMISSION IEC Certification Scheme for Explosive Atmospheres

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

Certificate No.: IECEx LCIE 17.0055X

Issue No: 0

Certificate history:

Issue No. 0 (2018-03-23)

Status: **Current**

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Date of Issue: **2018-03-23**

Applicant: **BEVI AB**

Bevivägen 1, SE-384 30 Blomstermåla

**Sweden**

Equipment: **Three-Phase Asynchronous Motor type 3DX-180\*\*-\* or 3DX-160\*\*-\***

*Optional accessory:*

Type of Protection: **Ex db**

Marking:

Ex db IIB or IIC T4 Gb

Refer to the annex of the certificate for the complete marking

*Approved for issue on behalf of the IECEx*

Julien Gauthier

*Certification Body:*

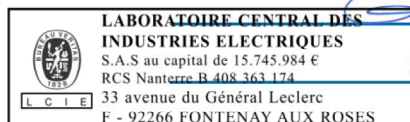
*Position:*

Certification Officer

*Signature:*

*(for printed version)*

*Date:*



2018-03-23

1. This certificate and schedule may only be reproduced in full.
2. This certificate is not transferable and remains the property of the issuing body.
3. The Status and authenticity of this certificate may be verified by visiting the [Official IECEx Website](http://www.iecex.com).

Certificate issued by:

**Laboratoire Central des Industries Electriques (LCIE)**

**33 Avenue du General Leclerc**

**FR-92260 Fontenay-aux-Roses**

**France**





# IECEX Certificate of Conformity

Certificate No: IECEx LCIE 17.0055X Issue No: 0  
Date of Issue: 2018-03-23 Page 2 of 3  
Manufacturer: BEVI AB  
Bevivägen 1, SE-384 30 Blomstermåla  
Sweden

Additional Manufacturing location(s):

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 apparatus 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 : 2011** Explosive atmospheres - Part 0: General requirements  
Edition:6.0

**IEC 60079-1 : 2014-06** Explosive atmospheres - Part 1: Equipment protection by flameproof enclosures "d"  
Edition:7.0

*This Certificate **does not** indicate compliance with electrical 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 Report:

[FR/LCIE/ExTR18.0012/00](#)

Quality Assessment Report:

[FR/LCIE/QAR16.0010/00](#)



# IECEx Certificate of Conformity

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## Schedule

### EQUIPMENT:

*Equipment and systems covered by this certificate are as follows:*

Type 3DX motor is three-phase asynchronous motor. It comprises a main enclosure and a terminal box. The protection type for both the main enclosure and the terminal box is Ex db (flameproof). The material is grey cast iron minimum quality grade 250. Flameproof bushings are used between the frame and the terminal box. The cooling system is IC411 (according to IEC 60034-6). Forced ventilation IC416 can be achieved by means of a certified auxiliary motor. Motors supplied by converters are equipped inside of stator winding with thermal detectors per phase for temperature control. The lead cables are connected to the main terminal box. As a variant the motors can be connected by power supply cable permanently connected (flying leads). The motors may be fitted with anti-condensation heaters. The lead cables of heaters are connected to the main terminal box. Refer to the annex of the certificate for the complete description

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

- a) Field repairs of flameproof joints should not be undertaken by the end user. In the event that flameproof joint must be repaired, contact the manufacturer. Repairs of flameproof joints must be made in compliance with the structural specifications in manufacturer's drawings. Repairs must NOT be made on the basis of values specified in tables 2 and 3 of IEC 60079-1.
  - b) The anti-condensate heaters installed inside of stator winding have maximum power of 110W and are allowed to be in operation only when the motors are not powered.
- Refer to the annex of the certificate for the complete SPECIFIC CONDITIONS OF USE

### Annex:

[Annex LCIE 17.0055X issue 00.pdf](#)



## Annex 01 to Certificate IECEx LCIE 17.0055X issue 00



### FULL EQUIPMENT DESCRIPTION

Type 3DX motor is three-phase asynchronous motor. It comprises a main enclosure and a terminal box. The protection type for both the main enclosure and the terminal box is Ex db (flameproof). The material is grey cast iron minimum quality grade 250. Flameproof bushings are used between the frame and the terminal box.

The cooling system is IC411 (according to IEC 60034-6). Forced ventilation IC416 can be achieved by means of a certified auxiliary motor.

Motors supplied by converters are equipped inside of stator winding with thermal detectors per phase for temperature control. The lead cables are connected to the main terminal box.

As a variant the motors can be connected by power supply cable permanently connected (flying leads).

The motors may be fitted with anti-condensation heaters. The lead cables of heaters are connected to the main terminal box.

### MARKING

The marking of the product shall include the following :

**BEVI AB**

Address : ...

Type : 3DX-180 \*\*. \* or 3DX-160 \*\*. \*

Serial number : ...

Year of construction : ...

Ex db IIB or IIC T4 Gb

IECEx LCIE 17.0055 X

For Gas Group IIB: IP55 or IP65

For Gas Group IIC: IP56 or IP66

TAmb : -20°C to +40°C or +60°C

WARNINGS:

DO NOT OPEN WHEN ENERGIZED

DO NOT OPEN WHEN AN EXPLOSIVE ATMOSPHERE IS PRESENT

For the motors driven by converters a second name plate will be fixed on the motors will mention the WARNING: "FOR CONVERTER SUPPLY", and mention the voltage, current speed range or frequency range, the type of torque application and relevant converter characteristics.

For IIC Gas Group applications when the paint thickness > 0.2 mm

WARNING – POTENTIAL ELECTROSTATIC CHARGING HAZARD-clean the motor with a wet rag or by non-fractional means

For the motor equipped with space heater:

CAUTION: HEATER ENERGIZED

For the motor equipped by PTC Thermistors:

CAUTION: WINDING PROTECTED WITH PTC THERMISTORS.

## RANGE DETAILS

Range details							
3DX	-	*	*	*	-	*	Description
							Number of poles 2= 2 poles 4= 4 poles 6= 6 poles 8= 8 poles
							Code of length of stator (Type 3DX -180M-2) = 195 mm (Type 3DX -180M-4) = 195 mm (Type 3DX -180L-4) = 240 mm (Type 3DX -180L-6) = 205 mm (Type 3DX -180L-8) = 170 mm (Type 3DX -160M1-2) = 145 mm (Type 3DX -160M2-2) = 185 mm (Type 3DX -160M-4) = 165 mm (Type 3DX -160M-6) = 150 mm (Type 3DX -160M1-8) = 85 mm (Type 3DX -160M2-8) = 120 mm (Type 3DX -160L-2) = 215 mm (Type 3DX -160L-4) = 200 mm (Type 3DX -160L-6) = 200 mm (Type 3DX -160L-8) = 170 mm
							Code of Frame length: S (Small) M (Medium) L (Large)
							Height of shaft (mm) 160 or 180
							Motor Type

## RATINGS

Number of poles : 2, 4, 6 or 8

Duty : S1 to S9

Electrical parameters :

Rated voltage supply: 220/380V, 230/400V, 240/415V, 255/440V, 265/460V, 277/480V, 525V, 575V, 600V, 380/660V, 400/690V, 415/720V, 660/1140V,

Rated frequency: 50 or 60Hz or variable (with frequency converter)

Frame Size	<i>Synchronous Speed (r/min)</i>				
	50Hz	3000	1500	1000	750
	60Hz	3600	1800	1200	900
	<i>Power Output (kW)</i>				
160L		18.5	15.0	11.0	7.5
160M		-	11.0	7.5	-
160M1		11.0	-	-	4.0
160M2		15.0	-	-	5.5
180M		22.0	18.5	-	-
180L		-	22.0	15	11

The motor output motor could be derated according to manufacturer's instructions when:

- Maximum ambient temperatures between +40°C to +60°C
- Altitude above 1000m



## Annex 01 to Certificate IECEx LCIE 17.0055X issue 00



### FULL CONDITIONS OF CERTIFICATION

- a) Field repairs of flameproof joints should not be undertaken by the end user. In the event that flameproof joint must be repaired, contact the manufacturer. Repairs of flameproof joints must be made in compliance with the structural specifications in manufacturer's drawings. Repairs must NOT be made on the basis of values specified in tables 2 and 3 of IEC 60079-1.
- b) The anti-condensate heaters installed inside of stator winding have maximum power of 110W and are allowed to be in operation only when the motors are not powered.
- c) Motors supplied by converters are equipped inside of stator winding with PTC thermal detectors per phase for temperature control. These are to be connected to a protection circuit so as to limit the stator temperature to maximum 120°C for temperature class T4.
- d) Motors intended for use with ambient temperature > 50°C shall be fed with cable of thermal stability not less than 95°C.
- e) The motors when provided with cables permanently connected shall have these cables protected against the risk of damage due to mechanical stresses. The end connection shall be made according to one of the types of protection indicated in the IEC 60079-0 standard, certified for the intended use and in accordance with the installation rules in force in the site of installation.
- f) When the flying leads are adopted, the IECEx certified cable glands certified for the intended use shall be adopted.
- g) For Group IIC motors intended for marine application, the paint thickness might exceed 0.2mm. In this case clean the motor with a wet rag or by non-fractional means.

### ROUTINE TESTS

According to clause 16.1 of standard IEC 60079-1, each equipment shall be submitted to an overpressure test for a duration of at least 10 seconds under:

<i>Part</i>	<i>Gas Group</i>	
	IIB	IIC
Main frame	1.5 MPa (15 Bar)	1.5 MPa (15 Bar)
Terminal box	1.0 MPa (10 Bar)	1,2 MPa (12 Bar)