



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

Certificate No.: **IECEx ICS 20.0015X** Page 1 of 4 [Certificate history:](#)

Status: **Current** Issue No: 0

Date of Issue: 2020-04-21

Applicant: **Colliery Dust Control (Pty) Ltd**
9 Lear Rd, Nuffield
Springs, 1559
South Africa

Equipment: **Squirrel Cage Induction Motors Types 11910Re, Type 11910Rh, Type 11910Se and Type 11910Sh**

Optional accessory:

Type of Protection: **Flameproof**

Marking: **Ex db I Mb**

Approved for issue on behalf of the IECEx
Certification Body:


Roelof Viljoen

Position:

Certification Authority

Signature:
(for printed version)

Date:


2020-04-21

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.
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Certificate issued by:

South Africa Mining and Surface Certification (MASC)
45 Jurg Street
Lelyta Park Unit 5
Hennopspark Ext 87, Centurion, 0157, Gauteng
South Africa





IECEx Certificate of Conformity

Certificate No.: **IECEx ICS 20.0015X**

Page 2 of 4

Date of issue: 2020-04-21

Issue No: 0

Manufacturer: **Transvaal Electric Motors (Pty) Ltd**
4 Simmonds Str South, Selby
Johannesburg, 2001
South Africa

Additional
manufacturing
locations:

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

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:

[ZA/ICS/ExTR19.0005/00](#)

[ZA/ICS/ExTR19.0005/01](#)

Quality Assessment Report:

[AU/TSA/QAR08.0012/07](#)



IECEx Certificate of Conformity

Certificate No.: **IECEx ICS 20.0015X**

Page 3 of 4

Date of issue: 2020-04-21

Issue No: 0

EQUIPMENT:

Equipment and systems covered by this Certificate are as follows:

Type 11910Re and Type 11910Rh:

Type 11910Re is a Squirrel Cage Induction motor suitable to be used with a 1000V – 3PH – 50Hz supply.
Type 11910Rh is a Squirrel Cage Induction motor suitable to be used with a 1140V – 3PH – 50Hz supply.
Mechanically these motors are identical, the only difference is the electrical design.
Both motors are rated at 20kW for a S2-60min duty cycle.

Type 11910Se and Type 11910Sh:

Type 11910Se is a Squirrel Cage Induction motor suitable to be used with a 1000V – 3PH – 50Hz supply.
Type 11910Sh is a Squirrel Cage Induction motor suitable to be used with a 1140V – 3PH – 50Hz supply.
Mechanically these motors are identical, the only difference is the electrical design.
Both motors are rated at 20kW for a S2-60min duty cycle.

SPECIFIC CONDITIONS OF USE: YES as shown below:

Conditions of certification / manufacture:

- A routine overpressure test of 1062kPa on the enclosure and 5250kPa on the water jacket must be conducted on all production enclosures, according to the requirements of IEC 60079-1.
- A suitably certified gland shall be fitted in the cylindrical gland entry. The gland certification shall include the requirements for the keeper plate, associated fasteners and fastener holes. The flamepath shall comply with L=25mm minimum length and 0.5mm maximum gap.

Special conditions of use:

- Fasteners used on the motor shall comply with the minimum grade specified in the description.
- Some flamepaths may have more restrictive dimensions than allowed by the standard. When required, information w.r.t. flamepaths must be obtained from the manufacturer.
- The requirements regarding the safe use of the water jacket shall be complied with as per the instructions/operation manual and water jacket marking plate.
- The use of the direct thermal protection sensors inside the stator windings is compulsory. The connection and use of the sensors, along with a safety device is detailed in the instructions/operation manual of the motor.
- The water jacket may not be pressurised to more than 3500kPa.



IECEx Certificate of Conformity

Certificate No.: IECEx ICS 20.0015X

Page 4 of 4

Date of issue: 2020-04-21

Issue No: 0

Equipment (continued):

Type 11910Re and Type 11910Rh:

Type 11910Re is a Squirrel Cage Induction motor suitable to be used with a 1000V – 3PH – 50Hz supply.
Type 11910Rh is a Squirrel Cage Induction motor suitable to be used with a 1140V – 3PH – 50Hz supply.
Mechanically these motors are identical, the only difference is the electrical design.
Both motors are rated at 20kW for a S2-60min duty cycle.

The motors have the following overall dimensions: 651 mm total length and 615.5 mm total height.
The motor frame is a welded assembly manufactured from S355 steel, where cooling water flows through a waterjacket.
The end shield on the drive end side is fastened to the stator frame with four M10 x 1.5 x 30 SHCS (8.8) fasteners.
The end shield on the non-drive end is fastened to the stator frame with four M10 x 1.5 x 30 SHCS (8.8) fasteners.

The connection box is attached to the motor via an extension pipe which utilises a threaded M52 x 2P flamepath connection on both sides of the extension pipe. A connection box base is fitted to one end of the extension pipe. The connection box is then fixed to the base with four M10 x 1.5 x 80 SHCS (8.8) fasteners. The connection box cover is fixed with four M10 x 1.5 x 35 SHCS (8.8) fasteners.
There is a plain gland entry through which a suitably certified gland is fitted. The gland is kept in place with a keeper plate and two M10 x 1.5 x 20 SHCS (8.8) fasteners.

The watercooling requirements are:
Water flow rate of minimum 20 litres per minute at a maximum inlet temperature of 25°C and maximum pressure of 3500kPa.

Type 11910Se and Type 11910Sh:

Type 11910Se is a Squirrel Cage Induction motor suitable to be used with a 1000V – 3PH – 50Hz supply.
Type 11910Sh is a Squirrel Cage Induction motor suitable to be used with a 1140V – 3PH – 50Hz supply.
Mechanically these motors are identical, the only difference is the electrical design.
Both motors are rated at 20kW for a S2-60min duty cycle.

The motors have the following overall dimensions: 651 mm total length and 660.0 mm total height.
The motor frame is a welded assembly manufactured from S355 steel, where cooling water flows through a waterjacket.
The end shield on the drive end side is fastened to the stator frame with four M10 x 1.5 x 30 SHCS (8.8) fasteners.
The end shield on the non-drive end is fastened to the stator frame with four M10 x 1.5 x 30 SHCS (8.8) fasteners.

The connection box is attached to the motor via an extension pipe which utilises a threaded M52 x 2P flamepath connection on both sides of the extension pipe. A connection box base is fitted to one end of the extension pipe. The connection box is then fixed to the base with four M12 x 1.75 x 30 button head screws (8.8) fasteners. The connection box cover is fixed with eight M10 x 1.5 x 30 SHCS (8.8) fasteners.

On the side of the connection box, there is an adaptor plate that is fastened with four M10 x 1.5 x 30 SHCS (8.8) fasteners. The adaptor plate provides two options of gland entries:

- The one option is a plain gland entry through which a suitably certified gland is fitted. The gland is kept in place with a keeper plate and two M10 x 1.5 x 20 SHCS (8.8) fasteners.
- The other option is to allow entry to the connection box via a threaded entry with a range of sizes from M20 x 1.5 up to M63 x 1.5. The exact size of the relevant entry is indicated on top of the adaptor plate for use of a suitably certified gland / blanking element (as per the certification drawings).

The watercooling requirements are:
Water flow rate of minimum 20 litres per minute at a maximum inlet temperature of 25°C and maximum pressure of 3500kPa.