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 SIR 18.0011X**

Certificate history:
Issue 1 (2023-11-15)
Issue 0 (2018-09-17)

Status: **Current**

Issue No: 2

Date of Issue: 2025-11-12

Applicant: **Air Control Industries Limited**
Weycroft Avenue
Millwey Rise Industrial Estate
Axminster EX13 5HU
United Kingdom

Equipment: **VB, MR, #MS11 and H Centrifugal Fans**

Optional accessory:

Type of Protection: **Mechanical 'h'**

Marking:

VB, MR, #MS11 & H fan range

Ex h IIB+H_2 T# Gb
Ex h IIIC T#°C Db

#MS11 aluminium fan range
Ex h IIB+H_2 T# Gb
Ex h IIIC T#°C Dc

Ta -## °C to +## °C
The rated ambient temperature range will be applied by the Manufacturer and is dependent upon that marked on the selected motor or vibration sensor, as applicable, whichever is the most restrictive.

Process Temperature: Up to ### °C Max.
The rated process temperature will be applied by the Manufacturer as applicable.

Applicable to all above –
Lower EPL can be marked depending upon specification.

The Manufacturer will apply the temperature class/maximum surface temperature based either on the rated process temperature, or that marked on the selected motor or vibration sensor as applicable, whichever is the higher.

The fans shall be marked with the EPL and gas/dust subdivisions as detailed above or that marked on the selected motor or vibration sensor, whichever is the most restrictive as applicable.

LNL Drying System
Ex h IIC T6 Gc

Approved for issue on behalf of the IECEx Certification Body: **Michelle Halliwell**

Position: **Senior Director of Operations**

Signature:
(for printed version)

Date:
(for printed version)

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 www.iecex.com or use of this QR Code.

Certificate issued by:

CSA Group Testing UK Ltd
Unit 6, Hawarden Industrial Park
Hawarden, Deeside CH5 3US
United Kingdom

IECEx Certificate of Conformity

Manufacturer: **Air Control Industries Limited**
Weycroft Avenue
Millwey Rise Industrial Estate
Axminster EX13 5HU
United Kingdom

Manufacturing locations: **Air Control Industries Limited**
Weycroft Avenue
Millwey Rise Industrial Estate
Axminster EX13 5HU
United Kingdom

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 Edition:7.0	Explosive atmospheres - Part 0: Equipment - General requirements
ISO 80079-36:2016 Edition:1.0	Explosive atmospheres - Part 36: Non-electrical equipment for explosive atmospheres - Basic methods and requirements
ISO 80079-37:2016 Edition:1.0	Explosive atmospheres - Part 37: Non-electrical equipment for explosive atmospheres - Non electrical type of protection constructional safety "c", control of ignition source "b", liquid immersion "k"

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:

GB/SIR/ExTR18.0085/00 GB/SIR/ExTR23.0172/00 GB/SIR/ExTR25.0101/00

Quality Assessment Report:

GB/SIR/QAR18.0006/05

IECEx Certificate of Conformity

EQUIPMENT:
Equipment and systems covered by this Certificate are as follows:

The VB, MR, #MS11 and H Centrifugal Fans are designed to provide air ventilation at flow rates up to 11000 m^3/h. They comprise a centrifugal fan that is mounted on the shaft of a suitably certified motor and enclosed by a housing that is bolted to the motor. The centrifugal impellers are manufactured from aluminium, stainless steel or galvanised steel and are mounted on a hub that fits to the motor shaft. The fan housings are manufactured from mild steel, stainless steel or cast aluminium and may have flat air inlet plates or spun air inlet guides. There are various arrangements for both inlet and discharge guards and the provision for inlet filters which can either be supplied with the fan or selected and installed by the end user under a related specific condition of safe use. The equipment is designed to have suitable clearances between rotating and stationary parts but brass, copper or PTFE rubbing rings are included as a precaution against incendive sparking in the event of the fan striking the housing. Non-return valves can also be fitted if required; these consist of brass flapper plates that swivel in a stainless-steel housing.

The #MS11 type may have up to three centrifugal impellers; these are mounted on a shaft adaptor, and, with this option, the fan casing includes additional air guides to maximise efficiency.

The interior/exterior of the fans are up to EPL Gb/Db depending upon the specification. Types MS11 aluminium fan range are restricted to EPL Gb/Dc.

The EPL is derived from that applied to the fan itself or the supplied motor and if applicable vibration sensor, whilst the marked surface temperature or temperature classification will be based either on the specified process temperature rating, or that marked on the supplied motor and if applicable vibration sensor whichever is the higher.

An LNL drying system can also be provided with or without the centrifugal fans. The LNL drying system consists of a stainless-steel enclosure that houses ancillary drying equipment. The ancillary drying equipment, which incorporates jet plates, air knives, can dryers, cap dryers & neck dryers, emits and directs air in different ways and directions.

SPECIFIC CONDITIONS OF USE: YES as shown below:

1. The equipment has non-conductive surfaces which are a potential electrostatic charging hazard - see the instructions for guidance.
2. **Refer to the Annexe for additional Conditions**

IECEx Certificate of Conformity

DETAILS OF CERTIFICATE CHANGES (for issues 1 and above)
Issue 1– this Issue introduced the following changes:

1. Introduction of a vibration monitoring option.
2. Introduction of inspection hatches.
3. Introduction of inlet plate seals.
4. Change to liner materials and thickness.
5. Addition of heat spinner material.
6. Addition of process temperature.
7. Changes to marking label drawings.
8. Addition of new model configurations.
9. Removal of dimension table.
10. Removal of model configurations.
11. Introduction of accessories.
12. Controlled drawing update.
13. Merging of controlled drawings.
14. Addition of alternative fixings.
15. Variation to impellor widths.
16. Update to the ignition hazard assessments, where applicable.
17. General updates to drawings. xviii.Introduction of draining points

Issue 2– this Issue introduced the following changes:

1. Recategorization of the 3MS11/168 stainless fan for use in Zone 1/21.
2. Removal of specific fastener types from parts list tables.
3. Removal of impeller clearance dimensions.
4. Power rating of the VBL9(W) extended to 11KW.
5. Include assessment to IEC 60079-0.

Annex:

IECEx SIR 18.0011X Annexe Issue 2.pdf

Specific Conditions of Use Continued

ii. For Category 2D (Zone 21) rated fans a vibration monitoring system is required.

When the equipment IS fitted with a vibration sensor by the manufacturer it must be connected to a control circuit that meets the requirements of Type of Protection- Control of Ignition Source 'b' to ISO 80079-37. The control circuit must trip the supply to the fan motor when vibration levels according to ISO 14694:2003 are detected. (see tabulated data below).

When the vibration sensor IS NOT supplied by the manufacturer, it must be fitted with a suitably certified vibration sensor which must be connected to a control circuit that meets the requirements Type of Protection- Control of Ignition Source 'b' to ISO 80079-37. The control circuit must trip the supply to the fan motor when vibration levels according to ISO 14694:2003 are detected (see tabulated data below). The vibration sensor shall be located so as to detect vibration in the bearing/impeller. The mounting position and method shall not compromise any aspect of the motor or fan that contributes to compliance. If in doubt, please contact the manufacturer.

Condition	Fan-application Category (ISO 14694)	Rigidly Mounted (mm/s)	Flexibly Mounted (mm/s)
Start-up	BV-3	4.5	6.3
Alarm	BV-3	7.1	11.8
Shutdown	BV-3	9.9	12.5

iii. Where a fan is supplied without an inlet filter and intended to be fitted with inlet ducting as part of a larger system the end user shall select and install a suitable filter to prevent the ingress of particles or objects which can cause ignition. In selecting a filter due consideration of any potential electrostatic charging cause by process flow must be taken into consideration.

Conditions of Manufacture

i. The marked surface temperature or temperature classification will be based either on the values listed below based upon the rated process temperature, or that marked on the selected motor or vibration sensor, whichever is the higher.

Process temperature	Fan surface temp or temperature classification	
Up to 50°C	T85°C	T6
Up to 90°C	T135°C	T4
Up to 145°C	T200°C	T3

When selecting a suitably certified motor to form a motor/fan combination the manufacturer must ensure that the motor ambient temperature rating in service is not exceeded. The effect of any process temperature associated with the fan or local ambient temperature must be taken into account, any cooling effect of thermal insulation or heat spinning device may be considered as part of this evaluation. The manufacturer must ensure that any instructions for motor are supplied to the end user as part of the documentation package.
The ambient temperature range marking applied to the fans shall be based upon the stated ambient temperature rating of the installed motor or vibration sensor whichever is the most restrictive.

ii. The fans shall be marked with the EPL and gas/dust subdivisions as detailed in the certificate marking section or that marked on the selected motor or vibration sensor, whichever is the most restrictive as applicable.

iii. The products covered by this certificate incorporate previously certified devices, it is the responsibility of the manufacturer to ensure that there has been no modifications or changes to the status of the certification of these devices which affects the validity of this certificate.

CSA Group Testing UK Ltd.
Unit 6 Hawarden Industrial Park,
Hawarden Deeside CH5 3US, UK.

Item	Manufacturer	Certificate No	Key attributes
ABB Ability ™ Smart Sensor	ABB AS	IECEx PRE 19.0044X Issue 1 Presafe 19ATEX14930X Issue 0	Ex ia IIC T4 Ga Ex ia IIIC T157°C Da T amb -40°C to +85°C

Also, the manufacturer must ensure that any instructions for the said equipment is supplied to the end user as part of the documentation package.

When installing the vibration sensor to form a motor/vibration sensor/fan combination the manufacturer must ensure that the vibration sensor ambient temperature rating of -40°C to +85°C in service is not exceeded. The effect of any process temperature associated with the fan or local ambient temperature must be taken into account, any cooling effect of thermal insulation or heat spinning device may be considered as part of this evaluation.

iv. All impellors are subject to balancing to G6.3 to ISO 14694:2003 clauses 6 and 7.2. After assembly complete fans are subjected to balancing to verify a maximum seismic vibration limit for start up to clause 8.4 ISO 14694:2003.

v. As part of the manufacturing process all fan assemblies must be subjected to continuity testing to ensure that all conductive parts are electrically bonded to any protective bonding facility.

vi. The approved gas/dust subdivisions are IIB+H_2/IIIC. If required lower subdivisions may be marked on the fans to align with that applied to the selected motor.

CSA Group Testing UK Ltd.
Unit 6 Hawarden Industrial Park,
Hawarden Deeside CH5 3US, UK.