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

Certificate No.: IECEx SIM 17.0004X

Issue No: 0

Certificate history:
Issue No. 0 (2018-06-12)

Status: **Current**

Date of Issue: **2018-06-12**

Applicant: **Nautitech Mining Systems Pty Ltd**
Unit 3/9 Packard Avenue
Castle Hill NSW 2154
Australia

Equipment: **FLP Enclosure 5410 Series**
Optional accessory:

Type of Protection: **Flameproof "d"**

Marking:
Ex db I

Approved for issue on behalf of the IECEx Certification Body: Geoffrey Barnier

Position: Principal Engineer - Certification

Signature:
(for printed version)

Date: 12 June 2018

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.

Certificate issued by:

Safety in Mines Testing and Research Station (Simtars)
2 Robert Smith Street, REDBANK QLD 4301
Australia

Simtars

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Manufacturer: **Nautitech Mining Systems Pty Ltd**
Unit 3/9 Packard Avenue
Castle Hill NSW 2154
Australia

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:

AU/SIM/ExTR17.0004/00

Quality Assessment Report:

AU/ITA/QAR08.0004/09

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Schedule

EQUIPMENT:

Equipment and systems covered by this certificate are as follows:

The 5410 Series Flameproof enclosure is of fabricated mild steel construction with approximate dimensions of 350 mm long x 200 mm wide x 155 mm high and comprises an enclosure base and a hinged and bolted cover.

The enclosure base has a gland plate at either or both ends of the enclosure with up to eight metric threaded entries in each gland plate for the fitting of separately certified devices.

The hinged and bolted cover is fastened to the enclosure base via eight M8 socket head cap screws. Counterbores are provided in the cover for protection of the fastener heads. The cover has an M20 x 1.5 metric threaded entry for the fitting of a pushbutton or rotary operator through a threaded brass bush. The pushbutton or rotary operators have provision for locking to the cover.

The enclosure houses electrical equipment including an isolating switch, pressure switch, solenoid valve, intrinsically safe battery pack and associated equipment. A pressure switch, solenoid valve, associated fittings, tubing and other components together with separately certified flametraps may form a containment system within the enclosure.

Refer annex for the separately certified Ex Devices and Ex Components that may be used in the 5410 Series FLP Enclosures.

SPECIFIC CONDITIONS OF USE: YES as shown below:

As required by IEC 60079-1 Clause 5.1, the gap ‘i’ of the flanged cover to enclosure joint shall be ≤0.40 mm.

As required by IEC 60079-1 Clause 5.1, the gap ‘i’ of the pushbutton to bush and rotary operator to bush cylindrical joints shall be ≤0.40 mm.

As required by IEC 60079-1 Clause 5.1, the width ‘L’ of the pushbutton to bush and rotary operator to bush cylindrical joints shall be ≥34.0 mm.

As required by IEC 60079-1 Clause 11.3, the enclosure cover fasteners shall be Property Class 12.9 socket head cap screws.

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Additional information:

Routine pressure testing of the 5410 Series enclosures shall be conducted by the manufacturer at not less than 1131 kPa.

Routine pressure testing of the 5410 Air solenoid system (containment system) within the 5410 Series enclosures shall be conducted by the manufacturer in accordance with IEC 6007-1 Clause G.4.1 at not less than 518 kPa.

To comply with the requirements of IEC 60079-1 Clause 17.2.1, the means of isolating the equipment shall be either fitted inside another enclosure complying with one of the standard types of protection of EPL Mb listed in IEC 60079-0 upstream of the 5410 Series enclosure in accordance Clause 17.2.3, or via plug and socket or cable coupler complying with Clause 13.3 in accordance with Clause 17.2.4.

The IP55 rating of the enclosure is conditional on the use of Gel BW corrosion inhibiting grease on all flamepaths. All separately certified devices used on the enclosure shall have an ingress protection rating of IP55 or better.

The Nautitech 7.2 V Battery Pack (Part No. ME5070-2-99-151) complies with the requirements for installation in a flameproof enclosure and is covered by test report AU/EXTC/ExTR18.0002/00 (Certificate of Conformity IECEx ITA 14.0009X-1).

Annex:

IECEx SIM 17.0004X-0 Nautitech Flameproof Enclosure 5410 Annex.pdf

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Annex

Manufacturer's documents:

Drawings associated with Issue 0:

Drawing No	Subject	Rev.	Date
ME5410-2-99-205-A (Sheet 1 of 4)	FLP ENCLOSURE – CONTROL AND MONITORING	3	10/05/2018
ME5410-2-99-205-A (Sheet 2 of 4)	FLP ENCLOSURE – CONTROL AND MONITORING	3	10/05/2018
ME5410-2-99-205-A (Sheet 3 of 4)	FLP ENCLOSURE – CONTROL AND MONITORING	3	10/05/2018
ME5410-2-99-205-A (Sheet 4 of 4)	FLP ENCLOSURE – CONTROL AND MONITORING	3	10/05/2018
ME5410-2-99-307-A	FLP SHUTDOWN AND CONTAINMENT SYSTEM - 5410	2	10/05/2018
ME5410-0-25-106-A	LABEL – FLP ENCLOSURE 5410 SERIES - IECEx	1	31/03/2017
ME5410-0-25-107-A	LABEL – WARNING – FLP ENCLOSURE 5410 SERIES	1	29/03/2017
ME5410-0-25-108-A	LABEL – ENCLOSURE ISOLATOR – FLP ENCLOSURE 5410 SERIES	1	29/03/2017
ME5410-0-25-130-A	LABEL – ENCLOSURE ROTATIONAL ISOLATOR – FLP ENCLOSURE 5410 SERIES	1	7/05/2018
ME5410-0-25-131-A	LABEL – IS BATTERY INSIDE – 5410 FLP ENCLOSURE	1	29/03/2017
ME5230-0-025-081-A TO 082-A	LABEL – ON OFF – FLP ENCLOSURE	1	9/04/2018
WD5070007-A	Methane Master Shutdown System	2	9/05/2018
QA-PM-49-A	QA-PM-49-A IECEx Model 5410 Series FLP Enclosure Explosion Protection | Ex db I Product Manual	3	MAY 10, 2018

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Equipment:

Ex Devices and Ex Components

Ex Component	Ex Protection	Certificate Number
Nautitech One Way Flametrap Part No. ME5230-2-04-074	Ex db I -20 °C ≤ Ta ≤ +60 °C	IECEx SIM 17.0005U
Nautitech Three Way Flametrap Part No. ME5230-2-04-076	Ex db I -20 °C ≤ Ta ≤ +60 °C	IECEx SIM 17.0005U
Nautitech 7.2 V Battery Pack Part No. ME5070-2-99-151	Ex ia I Ma (Um withdrawn) or [Ex ia] I Ma (Um available) -20 °C ≤ Ta ≤ +60 °C	IECEx ITA 14.0009X

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