

1 EC-TYPE EXAMINATION CERTIFICATE



2 Equipment or Protective systems intended for use in Potentially
Explosive Atmospheres - Directive 94/9/EC

3 EC-Type Examination Certificate No: FM11ATEX0072X

4 Equipment or protective system: UltraSonic EX-5 Acoustic Gas Leak Detector
(Type Reference and Name) Gassonic Observer-i Acoustic Gas Leak Detector

5 Name of Applicant: Mine Safety Appliances Company

6 Address of Applicant: 1000 Cranberry Woods Drive,
Cranberry Township,
PA 16066.
United States of America

7 This equipment or protective system and any acceptable variation thereto is specified in the schedule to this certificate and documents therein referred to.

8 FM Approvals Ltd, notified body number 1725 in accordance with Article 9 of Directive 94/9/EC of 23 March 1994, certifies that this equipment has been found to comply with the Essential Health and Safety Requirements relating to the design and construction of equipment intended for use in potentially explosive atmospheres given in Annex II to the Directive.

The examination and test results are recorded in confidential report number:

3049981EC dated 31st October 2013

9 Compliance with the Essential Health and Safety Requirements, with the exception of those identified in item 15 of the schedule to this certificate, has been assessed by compliance with the following documents:

EN 60079-0:2009, EN 60079-1:2007, EN 60079-11:2007, EN 60079-31:2009,
and EN 60529:1991 + A1:2000

10 If the sign 'X' is placed after the certificate number, it indicates that the equipment is subject to special conditions for safe use specified in the schedule to this certificate.

11 This EC-Type Examination certificate relates only to the design, examination and tests of the specified equipment or protective system in accordance to the directive 94/9/EC. Further requirements of the Directive apply to the manufacturing process and supply of this equipment or protective system. These are not covered by this certificate.

12 The marking of the equipment or protective system shall include:



II 2 G Ex d ia IIB+H₂ Gb T6 Ta = -40°C to +60°C
II 2 D Ex tb IIIC T85°C Db Ta = -40°C to +60°C; IP66

Mick Gower
Certification Manager, FM Approvals Ltd

Issue date: 05th December 2013

THIS CERTIFICATE MAY ONLY BE REPRODUCED IN ITS ENTIRETY AND WITHOUT CHANGE

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SCHEDULE

to EC-Type Examination Certificate No. FM11ATEX0072X

13 Description of Equipment or Protective System:

The UltraSonic EX-5 and Gassonic Observer-i Gas Leak Detectors are stationary ultrasonic gas leak detectors that detect leaks from pressurized gas systems by sensing the airborne ultrasound generated by the escaping gas. This detection method is omni-directional. A microphone picks up the whistling sound of a leak and turns it into a signal. There is a transducer in the stainless steel enclosure which acts as a test source for the detector. The apparatus is built into a semi-spherical stainless steel enclosure with a circular indicator window. The microphone and the transducer are mounted outside the main enclosure. A guard protects the microphone from impact.

The optional configurations cover a HART® interface and alternative connections facilities.

Electrical ratings:

U = 15 – 36 Vdc

Um = 250V rms

805501-a UltraSonic EX-5 Acoustic Gas Leak Detector

a = configuration 9, 10, 11, 12, 13, 14, 15 or 16.

805701-a Gassonic Observer-i Acoustic Gas Leak Detector

a = configuration 1, 2, 3 or 4

14 Special Conditions for Safe Use:

1. The Class A2-70, M6 x 1 x 20 bolts connecting the bulkhead flanges must be tightened at 9 Nm.
2. Consult the manufacturer if dimensional information on the flameproof joints is necessary.

15 Essential Health and Safety Requirements:

The relevant EHSRs that have not been addressed by the standards listed in this certificate have been identified and assessed in the confidential report identified in item 8.

16 Test and Assessment Procedure and Conditions:

This EC-Type Examination Certificate is the result of testing of a sample of the product submitted, in accordance with the provisions of the relevant specific standard(s), and assessment of supporting documentation. It does not imply an assessment of the whole production.

Whilst this certificate may be used in support of a manufacturer's claim for CE Marking, FM Approvals Ltd accepts no responsibility for the compliance of the equipment against all applicable Directives in all applications.

This Certificate has been issued in accordance with FM Approvals Ltd's ATEX Certification Scheme.

17 Schedule Drawings

A list of the significant parts of the technical documentation is annexed to this certificate and a copy has been kept by the Notified Body.

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SCHEDULE



Member of the FM Global Group

to EC-Type Examination Certificate No. FM11ATEX0072X

18 Certificate History

Details of the supplements to this certificate are described below:

Date	Description
17 th January 2012	Original Issue.
5th December 2013	<u>Supplement 1:</u> Report Reference: 3049981EC dated 31 st October 2013 Description of the Change: The addition of new model Gassonic Observer-i.

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Blueprint Report

Mine Safety Appliances (MSA) (1000001671)

Class No **ATEX**

Original Project I.D. **3049981**

Certificate I.D. **FM11ATEX0072X**

<u>Drawing No.</u>	<u>Revision Level</u>	<u>Drawing Title</u>	<u>Last Report</u>	<u>Electronic Drawing</u>
PL/TA	11/18/13	PL/TA Agreement Dated November 18, 2013.pdf	3049981	Yes (pdf)