



# 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](http://www.iecex.com)

Certificate No.:	<b>IECEx SIR 08.0093X</b>	Page 1 of 5	<u>Certificate history:</u>
Status:	<b>Current</b>	Issue No: 10	Issue 9 (2019-12-06)
Date of Issue:	2020-10-27		Issue 8 (2016-10-20)
Applicant:	<b>Rosemount Inc.</b> 10241 West Little York Road Suite 200 Houston, Texas 77040 <b>United States of America</b>		Issue 7 (2015-09-30)
Equipment:	<b>700XA Gas Chromatograph</b>		Issue 6 (2014-02-25)
Optional accessory:			Issue 5 (2013-05-28)
Type of Protection:	<b>Flameproof 'db'</b>		Issue 4 (2013-04-29)
Marking:	Ex db IIC Gb T6	When fitted with the optional external sampling system	Issue 3 (2011-04-12)
	Or when the LSIV unit is fitted:	Ex db e IIC T3 Gb	Issue 2 (2010-12-08)
	Ex db IIC Gb T4	Ex db e IIC T4 Gb	Issue 1 (2010-04-30)
			Issue 0 (2009-08-14)

Approved for issue on behalf of the IECEx  
Certification Body:

**N Jones**

Position:

**Certification Manager**

Signature:  
(for printed version)

Date:

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**SIRA Certification Service**  
**CSA Group**  
**Unit 6, Hawarden Industrial Park**  
**Hawarden, Deeside, CH5 3US**  
**United Kingdom**

**sira**  
CERTIFICATION





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Date of issue: 2020-10-27

Issue No: 10

Manufacturer: **Rosemount Inc.**  
10241 West Little York Road  
Suite 200  
Houston, Texas 77040  
**United States of America**

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 60079-0:2011](#) 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 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/ExTR09.0122/00](#)  
[GB/SIR/ExTR11.0085/00](#)  
[GB/SIR/ExTR14.0036/00](#)  
[GB/SIR/ExTR19.0303/00](#)

[GB/SIR/ExTR09.0194/01](#)  
[GB/SIR/ExTR13.0086/00](#)  
[GB/SIR/ExTR15.0201/00](#)

[GB/SIR/ExTR10.0284/00](#)  
[GB/SIR/ExTR13.0145/00](#)  
[GB/SIR/ExTR16.0271/00](#)

Quality Assessment Report:

[GB/SIR/QAR08.0016/07](#)



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## **EQUIPMENT:**

Equipment and systems covered by this Certificate are as follows:

The 700XA Analyzer (Electrical Rating: 90-130/180-264 VAC, 150W, 50/60 Hz, 1 Phase or 20-32 VDC, 150W, Permanently Connected) is a gas chromatograph (GC) type analyzer housed in a proprietary flameproof compartment which is divided into two chambers (compartments).

### **Analyzer Assembly**

The upper compartment is the "oven compartment", it is provided with a domed cover. This compartment contains the columns, detectors, pneumatically operated switching valves and solenoids that make up the analyzer assembly. Process tubing enters the oven compartment through purpose designed tube entries that are screwed into M32 x 1.5 ISO threaded entries tapped in the compartment wall. These devices incorporate cylindrical flame paths. The interface between the process tubes and the tube entries forms a cylindrical flame path. A breathing element is included that screws into an M20 x 1.5 ISO threaded entry. An additional entry – ¾-14 NPT – is provided for the electrical feed through that must be sealed adjacent to the compartment. An opening with an M75 x 1.5 ISO threads for an optional liquid sample injection valve may be present

### **Controller Assembly**

The lower compartment is the "electronics compartment". It is provided with a compartment lid that incorporates a glass window. This compartment houses the central processor, power supply, operational electronics and communication electronics that support analysis.

Power and telecommunications cables enter through a number of M32 x 1.5 ISO threaded entries tapped in the compartment wall. A barrier wall between the two compartments has one M40 X 1.5 ISO threaded passage for a sealed cable assembly providing necessary communication between systems.

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

1. When the Vapour regulators and flow switches are fitted they must be suitably certified with the ratings Ex d IIC Gb T5/T6/T4 and for a minimum ambient temperature range  $T_a = -20^{\circ}\text{C}$  to  $+60^{\circ}\text{C}$ .
2. Where right angle bend cable adaptors are used they shall be appropriately certified and shall interface with enclosures via appropriate certified barrier glands.



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## Equipment (continued):

### Design Options

- An alternative bottom compartment which eliminates the wiring access conduits leading from the lower compartment to the surface near the upper opening. The change reduces overall volume by a small amount as shown on drawing DE-22001 rev H.
- The fitting of an optional MAT Valve (LSIV).



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## **DETAILS OF CERTIFICATE CHANGES (for issues 1 and above)**

**This issue, Issue 10, recognises the following change; refer to the certificate annex to view a comprehensive history:**

1. This allows for the removal of the manufacturing site; Emerson Process Management UK Limited and its associated QAR, no ExTR was issued..

### **Annex:**

[IECEx SIR 08.0093X Issue 10 Annexe.pdf](#)

Annexe to: IECEx SIR 08.0093X Issue 10  
Applicant: Rosemount Inc  
Apparatus: 700XA Gas Chromatograph



## Conditions of Manufacture

1. When using the bottom compartment to drawing number DE-22001 rev H or newer both compartments are exempt from an overpressure test when intended for use in a -20°C environment. But shall be pressure tested to the table above when operating in a -30°C or -40°C environment. As required under IEC 60079-1 and EN 60079-1 clause 16.1. There shall be no damage or permanent deformation as a result of these tests.
2. All cable entry devices fitted shall be suitable for the application, in addition it shall be certified by an IECEx body.
3. When using the bottom compartment to drawing number DE-22001 rev D both compartments shall be pressure tested to the table below in accordance to the ambient temperature it is operated under. There shall be no damage or permanent deformation as a result of these tests.

Top Section	Bottom Section
15.375 bar @ -20°C	29.35 bar @ -20°C

4. The products covered by this certificate incorporate previously certified devices, it is therefore the responsibility of the manufacturer to continually monitor the status of the certification associated with these devices, and the manufacturer shall inform Sira of any modifications of the devices that may impinge upon the explosion safety design of their products.
5. Where right angle bend cable adaptors are used they shall be appropriately certified and shall interface with enclosures via appropriate certified barrier glands.

## Full certificate change history

**Issue 1** – this Issue introduced the following change:

1. The introduction of the Flexi Rigid PCB Cable entry device that is fitted between compartments.

**Issue 2** – this Issue introduced the following changes:

1. The addition of an optional field bus enclosure within the bottom compartment.
2. The recognition of minor drawing modifications; these amendments are administrative or involve changes to the design that do not affect the aspects of the product that are relevant to explosion safety.

**Issue 3** – this Issue introduced the following change:

1. The applicant's name was changed from Rosemount Analytical Gas Chromatograph Division to that currently shown.

**Issue 4** – this Issue introduced the following changes:

1. To permit the introduction of an optional external sampling system with heating. This uses Raychem trace heating, type 20QTVR1-CT (120VAC) or 20QTVR2-CT (240VAC), inside the sampling system for the 700XA model. The heater is controlled by a temperature switch (Barksdale/Raychem type Raystat Ex-02), set to maintain a maximum of 80°C (T4) or 110°C (T3) resulting in the new coding; Ex d IIC T3 Gb, a new Condition of Certification is introduced as a result.
2. To permit the optional vapour regulators and switches to be used within the external heating sampling system. These being suitably certified with the ratings Ex d IIC Gb T6/T4 and a minimum ambient temperature range of -20°C to +60°C, a new Condition of Manufacture is introduced as a result.
3. To permit the use of an optional temperature sensor (RTD): 100 ohm RTD, 5/32 O.D. by Minco # S204PD AC887Y26L18, Emerson P/N 2-4-0700-154.
4. To permit the use of the optional feed through adapter for all models using a proprietary sealing component; Model LE\*\*\*\*\*/ manufactured by Quintex GmbH.
5. To permit the optional internal power supplies TDK-Lambda GWS250-24 series and Emerson LCC250.
6. To permit a number of minor drawing modifications. These modifications do not affect the type of protection.

Date: 27 October 2020

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Form 9530 Issue 1

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Annexe to: IECEx SIR 08.0093X Issue 10  
Applicant: Rosemount Inc  
Apparatus: 700XA Gas Chromatograph

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7. The applicant's address was changed from 5650 Brittmoore Road, Houston 77041, Texas to that currently shown.
8. The removal of a superfluous Condition of Manufacture.

**Issue 5** – this Issue introduced the following changes:

1. The option to use up to two, M32 threaded holes, currently used for the passage of process tubing, for the accommodation of a suitable cable entry device.
2. The clarification of drawing information not affecting certification was recognised.

**Issue 6** – this Issue introduced the following change:

1. The introduction of a new Conditions Of Certification and Condition Of Manufacture to give clarification on the use of appropriate certified right angle cable adaptors with the equipment.

**Issue 7** – this Issue introduced the following changes:

1. The use of an optional temperature sensor (RTD): 100 ohms, by JMS # 18248, Emerson P/N 2-4-0700-154 was recognised.
2. The amendment of a number of drawings which includes the following:
  - **Drawing DE-22114 to Rev D** – Replace 2-3-0710-007 with new PCA assembly part number 7A0055G02 on the BOM.
  - **Drawing DE-22143 to Rev F** – Updated drawing to BOM updates, to add revised methanator P/N, to add option to pick between CSA or ATEX certified plugs during final assembly, to update internal part number 2-4-0710-249 to 2-4-0710-266 on page 5 and amend drawing on page 3.
  - **Drawing BE-22145** – To rev. D: Updated drawing to change the threaded length from .800" to .900" including an undercut.
  - **Drawing DE-22003** – To rev. F: Updated drawing to add metrology holes in non-critical surfaces.
  - **Drawing DE-22008** – To rev. H: Updated drawing to add metrology holes in non-critical surfaces.
  - **Drawing CE-22178** – To rev D.: Updated epoxy call out for CSA units as described in CSA report 2194377.
  - **Drawing CE-22178** – To rev. C: Removed insulation pad call out from the BOM.– To rev G.: Updated to include French warning translations and Russian certification markings (not related to ATEX or IECEx certification)

**Issue 8** – this Issue introduced the following changes:

1. The use of a modified optional FID hose heater assembly was recognised.
2. Minor drawings amendments, none of which affect compliance with the standards listed.

**Issue 9** – this Issue introduced the following changes:

1. Following appropriate assessment for the existing products to demonstrate compliance with the latest technical knowledge, IEC 60079-0:2007 was replaced by IEC 60079-0:2011 Ed. 6, IEC 60079-1:2007 Ed. 6 was replaced with IEC 60079-1:2014 Ed. 7. The markings were updated accordingly.
2. Assessment of the containment system according to the EN 60079-1:2014 requirements
3. Drawings Revisions.
4. Permission of the usage of Quintex line bushings LB\*\*\*\*\*, certified under IECEx EPS 11.0004X in the application of the single and dual flex cable bushings.
5. Permission of the usage of Renata 1000-0 battery on the CPU PCBA.
6. Permission of the usage of the optional microFPD hardware feature.
7. Assessment of the feed thru assembly BE-22147 to update the design and verify the 0.020 tubes as a flame arresting component.
8. Modification of dome and body enclosure thread dimensions.
9. The Applicant and Manufacturers name was changed from Rosemount Analytical, Inc. to Rosemount Inc.

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Form 9530 Issue 1

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Annexe to: IECEx SIR 08.0093X Issue 10  
Applicant: Rosemount Inc  
Apparatus: 700XA Gas Chromatograph

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Issue 10 – this Issue introduced the following change:

1. This allows for the removal of the manufacturing site; Emerson Process Management UK Limited and its associated QAR, no ExTR was issued.