1 # EU - TYPE EXAMINATION CERTIFICATE

2 **Product or Protective System Intended for use in Potentially Explosive Atmospheres Directive 2014/34/EU – Annex III**

3 EU - Type Examination Certificate No.: **TRAC13ATEX0054X V1 (incorporating variations V1 to V3)**

4 Product: **Flameproof Enclosures, EMH29 Series**
Models EMH29, EMH29E, EMH29SS, EMH29ESS, EMH29P, EMH29PE, EMH29PSS, EMH29PESS

5 Manufacturer: **JCE (Europe) Ltd.,**

6 Address: **East Way, Lee Mill Ind. Estate, Ivybridge, Devon, PL21 9LL, United Kingdom**

7 This product and any acceptable variation thereto is specified in the schedule to this certificate and the documents therein referred to.

8 Element Materials Technology, Notified Body number 2812, in accordance with Article 17 of Directive 2014/34/EU of the European Parliament and of the Council, dated 26 February 2014, certifies that this product has been found to comply with the Essential Health and Safety Requirements relating to the design and construction of products intended for use in potentially explosive atmospheres given in Annex II to the Directive.
The examination and test results are recorded in the confidential reports: **TRA-012091-33-00A and TRA-036997-33-00A**.

9 Compliance with the Essential Health and Safety Requirements has been assured by compliance with:

EN 60079-0:2012+A11:2013 **EN 60079-1:2007** **EN 60079-31:2009**

EN 60079-28:2015

Except in respect of those requirements listed at section 18 of the schedule.

10 If the sign “X” is placed after the certificate number, it indicates that the product is subject to specific conditions of use specified in the schedule to this certificate.

11 This EU - TYPE EXAMINATION CERTIFICATE relates only to the design and construction of the specified product. Further requirements of the Directive apply to the manufacturing process and supply of this product. These are not covered by this certificate.

12 The marking of this product shall include the following:

II 2 G
Ex d IIC T5 / T6 Gb
Ex d op is IIC T5 / T6 Gb *Tamb see section 15*

II 2 D
Ex tb IIIC T95 °C / T80 °C Db
Ex tb op is IIIC T95 °C / T80 °C Db

This certificate and its schedules may only be reproduced in its entirety and without change. This certificate is issued in accordance with the Element Materials Technology Ex Certification Scheme.

S P Winsor, Certification Manager

Issue date: 2019-11-01

Voorerf 18, 4824 GN Breda, Netherlands
Element Materials Technology Rotterdam B.V.
Registered in the Netherlands. Registered Office: PO Box 6854, 4802 HW, Breda, Netherlands
Company Reg No. 24170257

13 SCHEDULE TO EU - TYPE EXAMINATION CERTIFICATE

14 CERTIFICATE NUMBER TRAC13ATEX0054X incorporating variations V1 to V3

15 Description of Product

The EMH29 equipment is a flameproof enclosure, designed to be fitted with a variety of internal equipment as detailed in the scheduled drawings.

The equipment model designations are detailed in Table 1. The EMH29 comprises a lower threaded body section base casting and an upper threaded cast cover with a windowed aperture. A threaded body extension is available that increases the volume of the enclosure through insertion between the lower base and the upper cover to accommodate a range of equipment.

The lower body section and extension are fabricated from either LM25 Aluminium or Stainless steel. The upper windowed covers and guards can also be made from LM25 Aluminium or Stainless steel.

In addition the aluminium covers may be painted.

The enclosure cover is available with either an 80mm or 86mm diameter aperture forming a cemented viewing window that can be provided with two glazing options comprising plain soda lime glass or Patol® glass which additionally includes a mechanical cover with viewing apertures provided for observation purposes when equipment such as cameras are fitted within the enclosure.

The base casting can be supplied with either 1 x M25 or a 1 x 3/4" NPT entry located in the top face and either 2 x M20 entries or 2 x ½" NPT entries located in the bottom face positioned at 45mm centres. The guard for the Patol is supplied with a ¼" BSP parallel thread for connection of the air curtain supply, this connection is not critical to the protection concept.

The enclosure cover and base are secured with stainless steel locking screws to the body extension. The enclosure base is also supplied with an M4 stainless steel internal and M6 stainless steel external earth stud as standard.

No additional entries are permitted into the enclosure other than those already permitted by the enclosure manufacturer.

The equipment was evaluated for use with gas group IIC, and dust group IIIC within a temperature range of

-20° or -40°C to +40°C or -20°C or -40° to +60 °C.

Table 1 Model Designations

Model Designation	Assembly & Dimensions	Material	Lid Style
EMH29	Standard enclosure 146mm Diameter x 129mm high	Aluminium LM25	Window
EMH29E	Enclosure fitted with extension 146mm Diameter x 299 mm high	Aluminium LM25	
EMH29SS	Standard enclosure (stainless steel) 146mm Diameter x 129mm high	Stainless steel	
EMH29ESS	Enclosure & extension (stainless steel) 146mm Diameter x 299 mm high	Stainless steel	
EMH29P	Enclosure fitted with Patol Glass & guard. 146mm Diameter x 129mm high	Aluminium LM25	
EMH29PE	Enclosure fitted with extension, Patol glass & guard 146mm Diameter x 299 mm high	Aluminium LM25	
EMH29PSS	Enclosure (stainless steel) fitted with Patol Glass & guard. 146mm Diameter x 129mm high	Stainless steel	
EMH29PESS	Enclosure & extension (stainless steel) fitted with Patol Glass & guard. 146mm Diameter x 299 mm high	Stainless steel	

Table 2 Thermal Data

Enclosure Type		Power Dissipation (W)	Temperature Class / Ambient Temperature	
			+40°C	+60°C
Standard size				
EMH29	Standard enclosure.	**30W maximum power dissipation**. (This applies to all equipment model numbers listed)	T6/T80°C	T5/T95°C
EMH29SS	Standard enclosure (stainless steel)		T6/T80°C	T5/T95°C
EMH29P	Enclosure fitted with Patol Glass & guard.		T6/T80°C	T5/T95°C
EMH29PSS	Enclosure (stainless steel) fitted with Patol Glass & guard.		T6/T80°C	T5/T95°C
Standard size with added body extension				
EMH29E	Enclosure fitted with extension.	**30W maximum power dissipation**. (This applies to all equipment model numbers listed)	T6/T80°C	T5/T95°C
EMH29ESS	Enclosure & extension (stainless steel).		T6/T80°C	T5/T95°C
EMH29PE	Enclosure fitted with extension, Patol glass & guard		T6/T80°C	T5/T95°C
EMH29PESS	Enclosure & extension (stainless steel) fitted with Patol Glass & guard.		T6/T80°C	T5/T95°C

16 Test report No. (associated with this certificate issue): TRA-036997-33-00A.

17 Specific Conditions of Use

1. Where painted or powder coated, the enclosures could present an electrostatic hazard. Clean only with a damp or anti-static cloth.
2. Cables must be suitable for use at temperatures of 85°C for a +40°C ambient and 105°C for a +60°C ambient.
3. Only suitably ATEX / IECEx (as applicable) certified cable glands and blanking elements shall be used.
4. As part of the routine maintenance schedule, the condition of the window cement shall be periodically inspected for any degradation or discolouration of the cement that may compromise the explosion protection.
5. The enclosure is also to be earthed externally using the earth point provided.
6. The flameproof enclosure containing secondary cells / batteries is to be marked clearly with the following “WARNING – DO NOT OPEN WHEN AN EXPLOSIVE GAS ATMOSPHERE IS PRESENT”.
7. Only low power indicating light emitting diodes, or Vishay TSHA650 Infra-red light emitting diodes may be used.
8. No sources of ultrasonic radiation may be fitted without assessment.

Attention is drawn to the operating and installation instructions which may contain useful information in relation to conditions of use.

18 Essential Health and Safety Requirements (Directive Annex II)

The standards listed in section 9 of this certificate are no longer listed within the Official Journal and are therefore not harmonised. A gap analysis has been conducted by Element Materials Technology Ltd. against the relevant, latest versions of the harmonised EN 60079 series standards and has confirmed continued compliance with the Essential Health and Safety Requirements.

This analysis is detailed in report: TRA-036997-33-00A.

In addition to the Essential Health and Safety Requirements covered by the standards listed at item 9, the following are considered relevant to this product, and conformity is demonstrated in the report:

Clause	Subject
none	none

19 Drawings and Documents

The list of controlled technical documentation is given in Appendix A to this schedule.

20 Routine Tests

None (These are addressed by the enclosure component certificate TRAC13ATEX0058U).

21 Specific Conditions for Manufacture

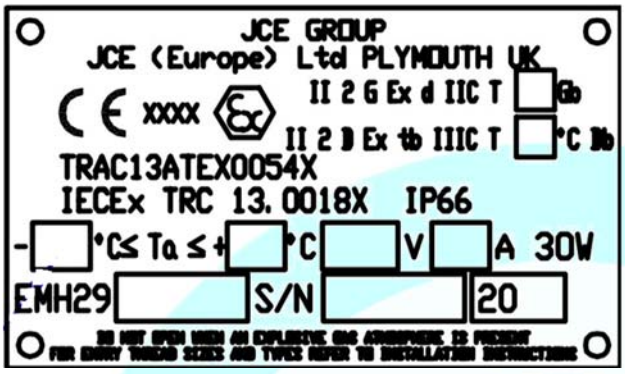
1. Sources of RF or ultrasonic radiation may not be fitted.
2. All fitted equipment must have a power dissipation not exceeding 30W for any enclosure type listed in Table 1.
3. The content of the Ex component enclosure may be placed in any arrangement providing that an area of at least 40% of each cross-sectional area remains free to permit unimpeded gas flow and unrestricted development of an explosion. Separate relief areas may be aggregated provided that each area has a minimum dimension in any direction of 12.5mm.
4. Where fuses are fitted, the enclosure shall be marked with the warning “DO NOT OPEN WHEN ENERGISED”. The cover lids state “ KEEP COVER TIGHT WHEN CIRCUITS ALIVE”
5. The EMH29 series equipment shall include a dedicated earth terminal with dimensions equal to or greater than the terminals for connection of supply conductors.
6. Earth wiring shall have a cross sectional area in accordance with EN 60079-0 Table 10.

22 Photographs

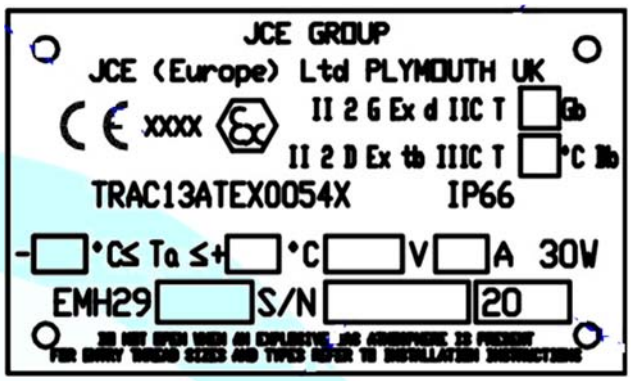
23 Details of Markings

Enclosures fitted without IR-LEDs

IECEx Registered Companies

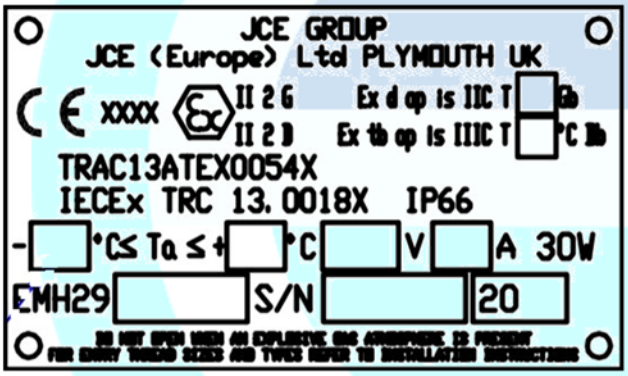


Non IECEx Registered Companies

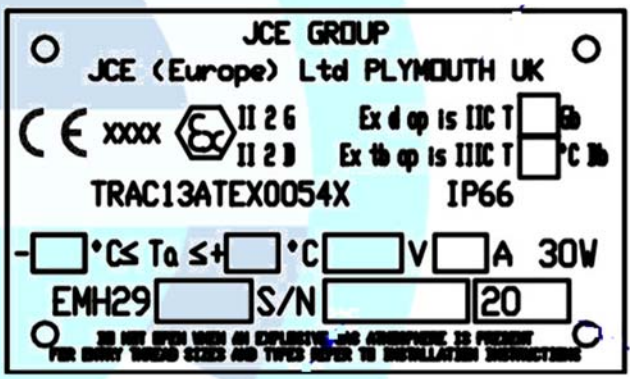


Enclosures fitted with IR-LEDs marked ‘op is’

IECEx Registered Companies



Non IECEx Registered Companies



The manufacturer address marked above (JCE (Europe) Ltd.), may be replaced by the following in accordance with the manufacturer’s ATEX and IECEx accreditations:

- JCE (Europe) Ltd, Plymouth United Kingdom.
- JCE GROUP (UK) Ltd, Aberdeen, United Kingdom.
- JCE (Asia Pacific) Ltd, Singapore. (not IECEx).
- JCE Group USA Inc., Houston TX, USA (not IECEx).

For the purposes of ATEX it is the manufacturer’s responsibility to ensure that each factory location has a valid quality assurance assessment.

24 Details of Variations to this Certificate

This certificate is a consolidated certificate and reflects the latest status of the certification, including the following variations:

- Variation V1 – Enclosures fitted with IR-LEDs are marked ‘op is’.
- Variation V1 - issue 2 – correction to Specific Conditions for Manufacture No.1, cosmetic change to marking plates.
- Variation V2 - Administrative variation only.
- Variation V3 - This certificate was originally issued by Notified Body number 0891 under Directive 2014/34/EU. The technical file has been transferred to Element Notified Body number 2812 without further assessment or evaluation.

25 Notes to CE marking

In respect of CE Marking, Element Materials Technology accepts no responsibility for the compliance of the product against all applicable Directives in all applications.

26 Notes to this certificate

Element Materials Technology certification reference: **NR-JCEQ-0010**

Throughout this certificate, the date format yyyy-mm-dd (year-month-day) is used.

Notified Body number 2812 is the designation for Element Materials Technology Rotterdam BV.

In accordance with Article 41 of Directive 2014/34/EU, EC-Type Examination Certificates referring to 94/9/EC that were in existence prior to the date of application of 2014/34/EU (20 April 2016) may be referenced as if they were issued in accordance with Directive 2014/34/EU. Variation certificates to such EC-Type Examination Certificates, and new issues of such certificates, may continue to bear the original certificate number issued prior to 20 April 2016.

TA1 NR-PTLQ-0001

27 Conditions for the validity of this certificate

This certificate remains valid for so long as:

(i) The equipment listed in section 4 is manufactured in accordance with the documents listed in Appendix A of this certificate.

(ii) The standards listed in section 9 of this certificate continue to satisfy the Essential Health and Safety Requirements of Annex II of Directive 2014/34/EU and the generally acknowledged state of the art (e.g. as determined by the publishers of those standards).

SCHEDULE TO EU - TYPE EXAMINATION CERTIFICATE

CERTIFICATE NUMBER TRAC13ATEX0054X incorporating variations V1 to V3

APPENDIX A - TECHNICAL DOCUMENTS

Title:	Drawing No.:	Rev. Level:	Date:
Certification drawing EMH29 series enclosures to Ex d IIC (4 sheets)	A3C-3010	2	2017-08-23
EMH29 Series Control and Instrument Enclosures – Installation, operation and maintenance	DN-134	2	2017-11-01
Label details	A3C-3020	1	2019-10-11