

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.: **TRAC12ATEX0013X (incorporating variations V1 and V2)**

4 Product: **Flameproof Enclosures – GUBC, GUBT, GUBHC, GUFX2C and GUFX2T Series Enclosures**

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

6 Address: **East Way, Lee Mill Industrial 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 report **TES-004699-33-01A and TES-004699-33-03A**.

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

EN 60079-0:2009

EN 60079-1:2007

EN 60079-31:2009

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.

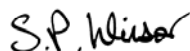
11 This EU - TYPE EXAMINATION CERTIFICATE relates only to the design and construction of the specified product. Further requirements of the Directive apply to the manufacturing process and supply of this product. These are not covered by this certificate.

12 The marking of this product shall include the following:

 **II 2 G Ex d IIC T4 / T5 / T6 Gb or II 2 G Ex d [ia/ib/ic] IIC T4 / T5 / T6 Gb**

II 2 D Ex tb IIIC T130°C / T95°C / T80°C Db or II 2 D Ex tb [ia/ib/ic] IIIC T130°C / 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

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15 Description of Product

The GUB Series enclosures are flameproof enclosures designed to be fitted with a variety of internal equipment. Typical equipment fitted is detailed on drawing A3C-3003.

The equipment model designations are as follows:

GUB (H) (S) (T) (C) 1-5

Where:

- H - Windowed Lid (not present – solid lid).
- S - Stainless Steel enclosure (GUBS3/GUBHS3 only).
- T - Terminal enclosure.
- C - Equipment enclosure.

They consist of a range of enclosures of varying sizes manufactured from LM25 aluminium alloy. The GUB designation denotes that the enclosures are fitted with solid aluminium threaded lids. The GUBH designation denotes the use of lids with a cemented viewing window. These are designed to accommodate instrument type equipment.

The GUB3 / GUBH3 size enclosure can also be manufactured from stainless steel. This version enclosure is designated GUBS3 / GUBHS3.

The enclosures may be painted or powder coated.

Holes for cable entries in the size range M20 to M90 and 1/2” to 3” NPT may be drilled in the enclosure in the areas marked by the manufacturer and defined in the Installation, Operation and Maintenance manual.

The equipment was evaluated for use with gas group IIC, and dust group IIIC within a temperature range of - 40 °C to +40 °C and -40 °C to +60 °C (or any temperature within these limits).

Intrinsically Safe equipment may be fitted internally to the enclosures with suitable modification to the marking.

Table 1 - Thermal Data

Enclosure Type	Power Dissipation (W)	Temperature Class	
		Ambient Temperature (°C)	
		+40	+60
GUB1/ GUBH1	15	T6	T5
	30	T5	T4
GUB2	15	T6	T5
	30	T5	T4
GUB3/ GUBH3	20	T6	T5
	40	T6	T5
	50	T5	T4
GUB4/ GUBH4	20	T6	T5
	40	T6	T5
	50	T5	T4
GUB5/ GUBH5	40	T6	T6
	80	T6	T5

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The GUFX2 enclosure is a flameproof enclosure designed for use with a variety of internal equipment (GUFX2C) or terminals (GUFX2T). The enclosure is manufactured from LM25 aluminium alloy. The enclosure is fitted with a solid aluminium threaded lid. Typical equipment fitted is detailed on drawing A3C-3005.

Up to 4 holes for cable entries in the size range M20, M25, 1/2" NPT or 3/4" NPT may be drilled in the enclosure in the areas marked by the manufacturer and defined in the Installation, Operation and Maintenance manual.

The equipment was evaluated for use with gas group IIC and dust group IIIC, within a temperature range of -40 °C to +60 °C or -40 °C to +40 °C.

Intrinsically Safe equipment may be fitted internally to the enclosures with suitable modification to the marking.

Table 2 - Thermal Data

Enclosure Type	Power Dissipation (W)	Temperature Class	
		Ambient Temperature (°C)	
		+40	+60
GUFX2	10	T6	T6

16 Test Report No. (as added for this issue of the certificate): N/A

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. For equipment with temperature class T5 or T4, cables must be suitable for use at temperatures of 100 °C (T5) or 135 °C (T4).
3. Only suitably ATEX 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. Where internal intrinsically safe equipment is fitted, refer to the instructions for permitted category, equipment protection level and gas group.



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)

In addition to the Essential Health and Safety Requirements covered by the standards listed at item 9, all other requirements are demonstrated in the relevant reports.

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19 Drawings and Documents

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

20 Routine Tests

None.

21 Specific Conditions for Manufacture

1. Sources of ultrasonic radiation may not be fitted.
2. Sources of optical radiation may only be fitted in non-window versions where the optical energy is completely contained within the enclosure.
3. The content of the Ex component enclosure maybe 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 12.5 mm.
4. Where fuses are fitted, the enclosure shall be marked with the warning "DO NOT OPEN WHEN ENERGISED".
5. Where switchgear is fitted to the GUBC equipment the conditions stated on drawing A3C-3003 Sheet 1 Note 2 shall be adhered to.
6. Where power supply conductors for GUBC equipment are greater than 16mm², a dedicated earth terminal with dimensions equal to or greater than the terminals for connection of supply conductors shall be fitted. The corresponding earth conductor shall also be of an equivalent or greater size as the incoming power conductors.
7. Where Intrinsically Safe equipment is fitted internally to the enclosures, the maximum power dissipation is limited to 1/3rd of the lowest values listed in Table 1 and the maximum permitted ambient temperature of the overall equipment is limited to +40 °C. The manufacturer shall perform a thermal test to ensure that in the location where the Intrinsically Safe equipment is fitted, the internal ambient temperature does not exceed the maximum permitted ambient temperature of the Intrinsically Safe equipment.
8. The GUBT series equipment shall include a dedicated earth terminal with dimensions equal to or greater than the terminals for connection of supply conductors.
9. Earth wiring shall have a cross sectional area in accordance with EN 60079-0 Table 10.
10. Separations between bare live parts of intrinsically safe equipment and non-intrinsically safe equipment shall conform to the requirements of EN 60079-11:2012 Clause 6.2.
11. Maximum number of terminals for GUBT shall be calculated as defined on JCE Drawing no. A3C-3011. The manufacturer shall ensure that the power dissipation for the relevant temperature class / ambient temperature does not exceed that permitted.

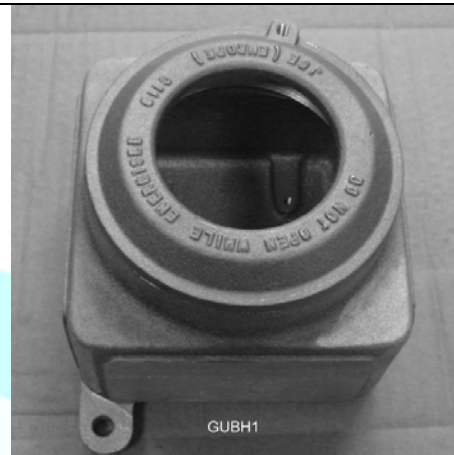
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22 Photographs

GUB 1



GUBH 1



GUB 3



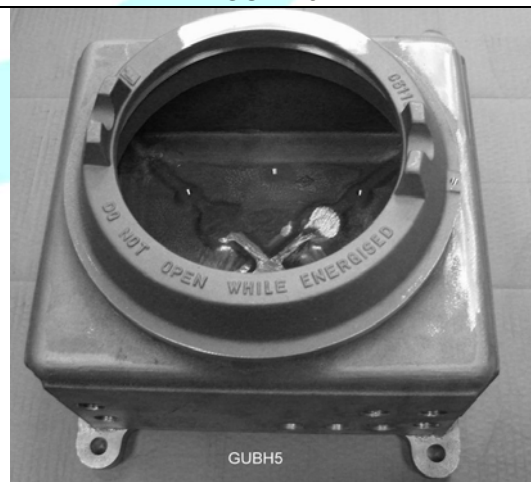
GUBH 3



GUB 5



GUBH 5



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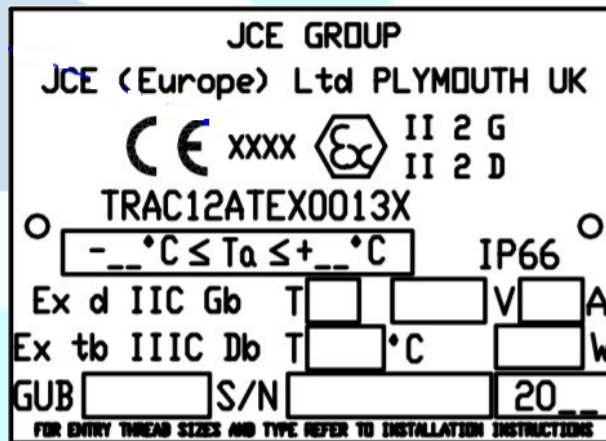
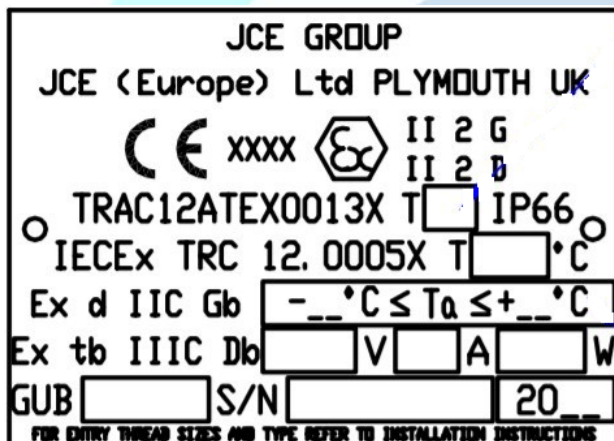
GUFX



23 Details of Markings

IECEX registered companies

Non-IECEX registered companies



Where i.s. equipment is optionally fitted then the Ex coding includes supplementary i.s. marking (e.g. Ex d [ia])

Note: The manufacturer's name and address marked above (i.e. JCE (Europe) Ltd) may be replaced by the following in accordance with the manufacturer's ATEX accreditations:

JCE (Europe) Ltd.,
East Way, Lee Mill Industrial Estate, Ivybridge, Devon, PL21 9LL, United Kingdom.

JCE (Aberdeen) Ltd.,
Blackburn Business Park, Aberdeen, AB21 0PS, United Kingdom.

JCE Group Ltd.,
Blackburn Business Park, Aberdeen, AB21 0PS, United Kingdom.

JCE (Asia Pacific) Pte Ltd.,
51 Boon Lay Way, Trade Hub 21, #01-55 Singapore 6099657.

JCE Group USA Inc.

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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 – Addition of GUFX.
- Variation V2 - 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: JCEQ-0005

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.

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 TRAC12ATEX0008U (incorporating variations V1 to V4)****APPENDIX A - TECHNICAL DOCUMENTS**

Title:	Drawing No.:	Rev. Level:	Date:
Certification Drawings – GUB Series Equipment Enclosures	A3C-3003 (Sheets 1-6)	2	2012-09-27
GUB Installation, Operation and Maintenance Manual (Sheets 1-3)	*	1	2012-06
Terminal Calculation Spreadsheet	A3C-3011	1	2012-05-23
Adhesive Datasheet	10-1096G-01	*	2008-11-21
Certification Drawings – GUF2 Enclosures to Exd IIC	A3C-3005 (Sheets 1-2)	1	2012-09-12
GUF2 Installation, Operation and Maintenance Manual	*	1	2012-06
Certification Drawings – GUB Series Equipment (marking)	AC3-3018	1	2019-10-11

* no information supplied.