



## EC-TYPE EXAMINATION CERTIFICATE

Equipment or Protective System Intended for use  
in Potentially Explosive Atmospheres  
Directive 94/9/EC

EC-Type Examination Certificate Number : **BAS98ATEX2338X**

Equipment or Protective System: **BTV RANGE OF HEATING UNITS**

Manufacturer: **RAYCHEM CORPORATION**

Address: **300 Constitution Drive, Menlo Park, California 94025, USA**

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

The Electrical Equipment Certification Service, notified body number 600 in accordance with Article 9 of the Council Directive 94/9/EC of 23 March 1994, certifies that this equipment or protective system has been found to comply with the Essential Health and Safety Requirements relating to the design and construction of equipment and protective systems intended for use in potentially explosive atmospheres given in Annex II to the Directive.

The examination and test results are recorded in confidential Report N°

**98(C)0975 dated 8 June 1999**

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

**EN 50014: 1997      EN 50019: 1994**

except in respect of those requirements listed at item 18 of the Schedule.

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

This EC-TYPE EXAMINATION CERTIFICATE relates only to the design and construction of the specified equipment or protective system. If applicable, further requirements of this Directive apply to the manufacture and supply of this equipment or protective system.

The marking of the equipment or protective system shall include the following:-

 **II 2 G      EEx e II T6**

This certificate may only be reproduced in its entirety and without any change, schedule included.

File No: **EECS 0865/03/030A**

This certificate is granted subject to the general conditions of the Electrical Equipment Certification Service. It does not necessarily indicate that the apparatus may be used in particular industries or circumstances.



Electrical Equipment Certification Service  
Health and Safety Executive  
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Tel: 01298 28000 Fax: 01298 28244



**I M CLEARE**  
DIRECTOR  
8 July 1999



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**Description of Equipment or Protective System**

The BTV Range of Trace Heating Units are of the parallel circuit self-regulating type rated at up to 254V with a nominal power output from 10 W/m to 33 W/m at 10°C and a maximum self-limiting temperature of 80°C.

Each trace heating unit comprises:

- the active heating cable.
- an end seal for terminating the remote end of the unit.
- a cable gland for connecting the powered end of the unit to a suitable terminal enclosure, or alternative integrated power connection systems.

The active heating cable comprises two stranded copper conductors around which is extruded a semi-conductive core material. This core material increases in resistance with increasing temperature and gives the cable its self-limiting property. The core is covered with an extruded layer of modified polyolefin insulation before being overbraided with tinned copper. A further layer of polyolefin or fluoropolymer is extruded over the braid.

The declared maximum withstand temperature for the range is 85°C and the minimum installation temperature is -60°C.

**CABLE ACCESSORIES****END SEALS**

The end seal for terminating the remote end of the unit may be the following types.

Types E-05 or E-08 comprises heat shrink sleeves lined with hot melt adhesive.

Type E-100 mechanical end seal comprises a silicone rubber end cap which is filled with silicone grease sealant and is covered by certificate PTB Nr. Ex-95.D.1045 U, coded EEx e II.

The E-100-L covered by Component Certificate Ex 95.D.1045U.

**SPLICES AND JOINTS**

A Raychem Type S-19 heat shrink splice kit is available for connecting lengths of active heating cable.

A Raychem T-100 tee connection system for up to three heater cables covered by Type Examination Certificate PTB98ATEX1020U.



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POWER CONNECTIONS

The power connection is by means of a Power Connection Kit incorporating heatshrink insulation and suitable glanding arrangements.

Types C25-21 and C16-29 incorporating ABB Type GHG 960 923 P... plastic cable glands covered by component certificate PTB Nr. Ex-92.C.3142 coded EEx e II. The power connection kits may use a moulded silicone rubber core seal to insulate the bus wires with silicone grease in a moulded cavity to seal the end of the heating cable. These are types C25-100 and C16-100.

Type C3/4-100-METAL or C25-100-METAL for connection into Ex d enclosures which includes a Type A7F/e metallic cable gland covered by BASEEFA Certificate of Conformity Number Ex 97D1313U and coded EEx d IIC.

Type JBS-100- power connection system for a single heater cable, covered by Type Examination Certificate PTB 97ATEX1058U.

Type JBM-100 power connection system for multiple heater cables, covered by Type Examination Certificate PTB98ATEX1021U.

A number of different power levels and voltages up to the maximum specified are included in the range, identified in the following manner:

10 BTV 2-CT-

CT - copper braid and anti-corrosion sheath

Voltage rating  
1 - 120 Volts  
2 - 254 Volts

Power rating in approximate watts per foot at 10°C

3 = 3 W/ft (10 W/m) 5 = 5 W/ft (16 W/m) 8 = 8 W/ft (26 W/m)  
10 = 10 W/ft (32 W/m)

Report Nos.

98(C)0976 dated 8 June 1999.



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## EC-TYPE EXAMINATION CERTIFICATE N° BAS98ATEX2338X

### SPECIAL CONDITIONS FOR SAFE USE

1. The following limiting temperatures shall not be exceeded:

Type	Description	Limiting temperature
E-03	End Seal	85°C
S-19	Splice	85°C

2. The assembly of glands, splices and end terminations shall be carried out in accordance with the manufacturer's instruction leaflets.
3. The heating unit must be terminated in a suitable certified terminal enclosure.

### Essential Health and Safety Requirements

ESSENTIAL HEALTH & SAFETY REQUIREMENTS not covered by Standards listed at (9)		
Clause	Subject	Compliance
1.0.2	Analysis of possible operating faults	5.1.0.2
1.0.5	Marking	5.1.0.5
1.0.6	Instructions	5.1.0.6
1.2.7	Protection against other hazards	5.1.2.7

### DRAWINGS

Number	Issue	Date	Description
906563-A	A	11/27/95	E-05 End seal
906564-A	A	11/27/95	E-08 End seal
906567-A	C	1/4/99	connection kits (C25-100)(C25-21)(C16-29)(C16-100)
906568-A	A	11/27/95	S19 & S21 Cut back dimensions
906579-A	C	1/4/99	BTV Heater units
205350-A	J	6/2/98	3BTV-CT & 5BTV-CT
205308-A	L	8/5/98	8BTV-CR & 10BTV-CR
205310-A	K	8/5/98	8BTV-CT & 10BTV-CT
906794-A	A	1/4/99	Generic Atex print dwg. BTV-CT
906816-A	A	2/10/99	Metal connection kit label

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BASEEFA List Keywords  
2HEATER



1 **SUPPLEMENTARY EC-TYPE EXAMINATION CERTIFICATE**

2 **Equipment or Protective System Intended for use**  
**in Potentially explosive atmospheres**  
**Directive 94/9/EC**

3 **Supplementary EC-Type Examination Certificate Number: BAS98ATEX2338X/1**

4 **Equipment or Protective System: BTV RANGE OF TRACE HEATING UNITS**

5 **Manufacturer: RAYCHEM CORPORATION**

6 **Address: 300 Constitution Drive, Menlo Park, California 94025, USA**

7 This supplementary certificate extends EC-Type Examination Certificate No. BAS98ATEX2338X to apply to equipment or protective systems designed and constructed in accordance with the specification set out in the Schedule of the said Certificate but having any variations specified in the Schedule attached to this certificate and the documents therein referred to.

This Supplementary Certificate shall be held with the original Certificate.

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File No: EECS 0865/03/030A

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I M CLEARE  
DIRECTOR  
10 August 1999



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**EC-TYPE EXAMINATION CERTIFICATE N° BAS98ATEX2338X/1**

**Description of the Variation to the Equipment or Protective System**

To allow the use of type S150 splice kits and E150 end seals covered by certificate PTB98ATEX1121U.

**Report Nos.**

None

**SPECIAL CONDITIONS FOR SAFE USE**

See original certificate.

**Essential Health and Safety Requirements**

See original certificate.

**DRAWINGS**

None.

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1 **SUPPLEMENTARY EC-TYPE EXAMINATION CERTIFICATE**

2 **Equipment or Protective System Intended for use**  
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**Directive 94/9/EC**

3 **Supplementary EC-Type Examination Certificate Number: BAS98ATEX2338X/2**

4 **Equipment or Protective System: BTV RANGE OF TRACE HEATING UNITS**

5 **Manufacturer: RAYCHEM CORPORATION**

6 **Address: 300 Constitution Drive, Menlo Park, California 94025, USA**

7 This supplementary certificate extends EC-Type Examination Certificate No. BAS98ATEX2338X to apply to equipment or protective systems designed and constructed in accordance with the specification set out in the Schedule of the said Certificate but having any variations specified in the Schedule attached to this certificate and the documents therein referred to.

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DIRECTOR  
3 November 1999



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**EC-TYPE EXAMINATION CERTIFICATE N° BAS98ATEX2338X/2**

**Description of the Variation to the Equipment or Protective System**

To allow revised marking details.

**Report Nos.**

None

**SPECIAL CONDITIONS FOR SAFE USE**

See original certificate.

**Essential Health and Safety Requirements**

See original certificate.

**DRAWING**

Number	Issue	Issue	Description
*906794-A	B	9/30/99	General ATEX print drawing

\*This drawing is common to BAS98ATEX2335X/2, BAS98ATEX2336X/2 and BAS98ATEX2337X/2

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1 **SUPPLEMENTARY EC-TYPE EXAMINATION CERTIFICATE**

2 **Equipment or Protective System Intended for use**  
**in Potentially explosive atmospheres**  
**Directive 94/9/EC**

3 Supplementary EC-Type Examination Certificate Number: **BAS98ATEX2338X/3**

4 Equipment or Protective System: **BTB RANGE OF TRACE HEATING UNITS**

5 Manufacturer: **RAYCHEM CORPORATION**

6 Address: **300 Constitution Drive, Menlo Park, California 94025, USA**

7 This supplementary certificate extends EC-Type Examination Certificate No. BAS98ATEX2338X to apply to equipment or protective systems designed and constructed in accordance with the specification set out in the Schedule of the said Certificate but having any variations specified in the Schedule attached to this certificate and the documents therein referred to.

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I M CLEARE  
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22 February 2000



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**SUPPLEMENTARY EC-TYPE EXAMINATION CERTIFICATE N° BAS98ATEX2338X/3**

**Description of the Variation to the Equipment or Protective System**

Power connections C25-100 and C16-100 are now covered by Certificate PTB98ATEX1015U.

**Report Nos.**

None

**Special Conditions For Safe Use**

See original certificate.

**Essential Health and Safety Requirements**

See original certificate.

**DRAWINGS**

None.

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