



IECEX Certificate of Conformity

INTERNATIONAL ELECTROTECHNICAL COMMISSION IEC Certification Scheme for Explosive Atmospheres

for rules and details of the IECEx Scheme visit www.iecex.com

Certificate No.: IECEx SIR 12.0056X issue No.:2

Status: **Current**

Date of Issue: **2015-04-27** Page 1 of 5

Certificate history:
Issue No. 2 (2015-4-27)
Issue No. 1 (2014-6-17)
Issue No. 0 (2012-11-14)

Applicant: **Watlow Electric Manufacturing Company**
6 Industrial Loop Road
Hannibal
Missouri 63401
United States of America

Electrical Apparatus: **Flange Immersion Heaters, Series FE**
Optional accessory:

Type of Protection: **Increased Safety**

Marking: Ex e IIC T1-T6 Gb
Ta = -20°C to 60°C

Approved for issue on behalf of the IECEx Certification Body: A C Smith

Position: Certification Manager

Signature:
(for printed version)

Date:

2015-04-27

1. This certificate and schedule may only be reproduced in full.
2. This certificate is not transferable and remains the property of the issuing body.
3. The Status and authenticity of this certificate may be verified by visiting the [Official IECEx Website](http://www.iecex.com).

Certificate issued by:

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

sira
CERTIFICATION





IECEX Certificate of Conformity

Certificate No.: IECEx SIR 12.0056X

Date of Issue: 2015-04-27

Issue No.: 2

Page 2 of 5

Manufacturer: **Watlow Electric Manufacturing Company**
6 Industrial Loop Road
Hannibal
Missouri 63401
United States of America

Additional Manufacturing location
(s):

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 electrical apparatus 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 60079-7 : 2006-07 Explosive atmospheres - Part 7: Equipment protection by increased safety "e"
Edition: 4

*This Certificate **does not** indicate compliance with electrical 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 Report:

GB/SIR/ExTR12.0247/00

GB/SIR/ExTR14.0149/00

GB/SIR/ExTR15.0085/00

Quality Assessment Report:

DE/TUR/QAR10.0001/00

DE/TUR/QAR10.0001/01



IECEx Certificate of Conformity

Certificate No.: IECEx SIR 12.0056X

Date of Issue: 2015-04-27

Issue No.: 2

Page 3 of 5

Schedule

EQUIPMENT:

Equipment and systems covered by this certificate are as follows:

Flange Immersion Heaters, Series FE, 690 Vac max, 120 W/sq in. max tubular.

The heaters comprise a range of sizes of Ex e certified metal enclosures with a number of heating elements and/or thermocouples installed such that the terminations of the elements are within the enclosure. The enclosure may also contain Ex e certified terminals, which provide connection facilities for thermocouples and externally mounted certified temperature transmitters. Alternatively, the externally mounted certified temperature transmitters may be used to terminate thermocouples.

The heater elements are installed into the enclosure via welded joints. Thermocouple elements are installed the same way. The interior of the heater may be fitted with an Ex e certified anti-condensation heater.

Conditions of manufacture

The Manufacturer shall comply with the following:

1. The manufacturer shall ensure that the maximum enclosure temperature will not exceed the temperature defined in the table on Sheet 1 of the drawings listed on the certificate.
2. The manufacturer shall carry out a routine dielectric strength test at twice the rated voltage + 1000 V, for at least one minute, on every unit. There shall be no dielectric breakdown. Alternatively, the test may be carried out at 1.2 times the test voltage, but maintained for at least 100 ms.

CONDITIONS OF CERTIFICATION: YES as shown below:

- 1 The anti-condensation heater, when fitted, must be interlocked such that it cannot operate when the enclosure temperature is above 35°C.
- 2 The heating element supply circuit must include an electrical protection device in conformity with Annex D of IEC 60079-7:2006.
- 3 The equipment must be provided with sensing devices to protect against zero fluid flow or empty vessel conditions.
- 4 Uncertified thermocouples and RTDs must be connected into intrinsically safe circuits.



IECEx Certificate of Conformity

Certificate No.: IECEx SIR 12.0056X

Date of Issue: 2015-04-27

Issue No.: 2

Page 4 of 5

EQUIPMENT(continued):

The heaters may be designated as follows:

FEaabbccddeeffgg

FE = Flange Heater

aa = flange Size

b = element size

cc = enclosure size

dd = voltage

eee = power rating

fff = number of elements

gg = number of temperature sensors

The temperature class is related to the heating element temperature or process temperature, whichever is the highest

Temperature class	Maximum surface/process temperature
T6	80°C
T5	95°C
T4	130°C
T3	195°C
T2	290°C
T1	440°C



IECEx Certificate of Conformity

Certificate No.: IECEx SIR 12.0056X

Date of Issue: 2015-04-27

Issue No.: 2

Page 5 of 5

DETAILS OF CERTIFICATE CHANGES (for issues 1 and above):

Issue 1 – this Issue introduced the following change:	
1.	The recognition of a modified label drawing
Issue 2 – this Issue introduced the following changes:	
1.	The introduction of the following alternative end seals with a maximum temperature rating of 130°C.
	Protavic PNE - 47207 Polycast - 159 Polycast RTV - 710WE
2.	The introduction of an alternative cable gland, Peppers CR-S Conduit Stopper Box, was approved.
3.	The removal of a superfluous Condition of Certification.