



1 **EC TYPE-EXAMINATION CERTIFICATE**

2 Equipment intended for use in Potentially Explosive Atmospheres Directive 94/9/EC

3 Certificate Number: **Sira 10ATEX1376X** Issue: **1**

4 Equipment: **44-5800 Series Vaporizing Regulator**

5 Applicant: **Tescom Corporation**

6 Address: **Industrial Controls Division
12616 Industrial Blvd
Elk River
Minnesota 55330
USA**

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

8 Sira Certification Service, notified body number 0518 in accordance with Article 9 of Directive 94/9/EC of 23 March 1994, certifies that this equipment has been found to comply with the Essential Health and Safety Requirements relating to the design and construction of equipment 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 listed in Section 14.2.

9 Compliance with the Essential Health and Safety Requirements, with the exception of those listed in the schedule to this certificate, has been assured by compliance with the following documents:

EN 60079-0:2009 EN 60079-1:2007

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

11 This EC type-examination certificate relates only to the design and construction of the specified equipment. If applicable, further requirements of this Directive apply to the manufacture and supply of this equipment.

12 The marking of the equipment shall include the following:



II 2G

Ex d IIB +H2 T3 Gb

Ta = -20°C to +50°C for models 44-58xxExxxE and 44-58xxDxxxE1

-20°C to +65°C for all other models

Project Number 70034173

C Ellaby
Deputy Certification Manager

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Sira Certification Service

Unit 6, Hawarden Industrial Park,
Hawarden, CH5 3US, United Kingdom



SCHEDULE

EC TYPE-EXAMINATION CERTIFICATE

Sira 10ATEX1376X
Issue 1

13 DESCRIPTION OF EQUIPMENT

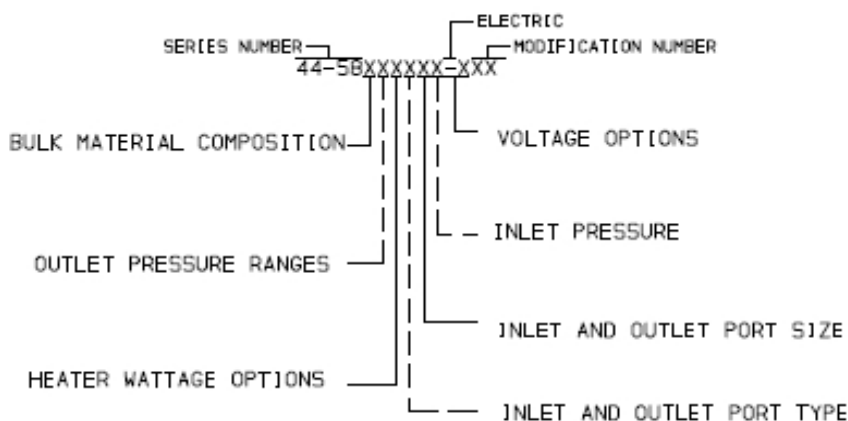
The Tescom 44-5800 Series vaporizing regulator is a self-contained, spring loaded, pressure reducing regulator and it is designed to supply heat to samples entering different instrumentation systems. The regulator is made of two major components - heater block and junction box.

Heater Block: a cylindrical housing with threaded cover, manufactured in stainless steel, is the place where the heat exchange is taking place. It contains the heater cartridge with an internal thermocouple assembly, heater sleeve, and process tubing. The heater cartridge with an internal thermocouple has four electrical wires (two for heater and two for thermocouple), contained within a magnesium oxide ceramic insulation, which are connected to the temperature controller installed in the junction box. The heater block is connected to the junction box by a heater fitting. The heater fitting is a heater welded to an adaptor. The adaptor is connected inside the heater bonnet block by means of a 1/2" NPT fitting.

Operation of heating:

- The heater cartridge is powered by the controller in the junction box.
- The heater is filled with magnesium oxide and transfers heat to the heater sleeve by conduction.
- The heater sleeve transfers heat to the process tubing by conduction.
- The process tubing transfers heat to the process media by convection/conduction as it enters the unit.
- The process media goes through a pressure reducing regulator.
- The process media goes back through the process tubing to be heated up again.
- Then the process media exits the unit.

Electrical Component Housing: ATEX Component Certified ADALET outlet box Model XIH (DEMKO 07 ATEX 0622294U), that houses a temperature controller. The temperature controller is a complete potted component with a potentiometer for temperature adjustment and includes field wiring terminals.



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SCHEDULE

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Sira 10ATEX1376X
Issue 1

Variation 1 - This variation introduced the following changes:

- i. The marking was amended to:
 - Recognise that the temperature class has been raised from T4 to T3.
 - Define the ambient temperature range applicable to specific models.
- ii. The recognition of minor drawing modifications; the addition of Hazloc text, the addition of drawings to the 'critical list' etc., 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.
- iii. The Special Condition for Safe Use that specified the process temperature was removed.
- iv. The description was modified to remove a comment about a thermal fuse.
- v. A new list of descriptive documents was approved and replaces the previous version.
- vi. The Condition of Certification dealing with routine overpressure tests was revised to recognise that Test Sheet JTTS6351 has been modified.

14 DESCRIPTIVE DOCUMENTS

14.1 Drawings

Refer to Certificate Annexe.

14.2 Associated Sira Reports and Certificate History

Issue	Date	Report number	Comment
0	15 February 2011	R23258A/00	The release of the prime certificate.
1	10 September 2015	R70034173A	The introduction of Variation 1.

15 SPECIAL CONDITIONS FOR SAFE USE (denoted by X after the certificate number)

- 15.1 All cable glands used in association with this equipment shall be suitably certified and shall be capable of maintaining an ingress protection of IP56.
- 15.2 The maximum working pressure is 6000 psi.
- 15.3 All cables, cable glands and conductors shall have a temperature rating of 75°C or greater.

16 ESSENTIAL HEALTH AND SAFETY REQUIREMENTS OF ANNEX II (EHSRs)

The relevant EHSRs that are not addressed by the standards listed in this certificate have been identified and individually assessed in the reports listed in Section 14.2.

17 CONDITIONS OF CERTIFICATION

- 17.1 The use of this certificate is subject to the Regulations Applicable to Holders of Sira Certificates.
- 17.2 Holders of EC type-examination certificates are required to comply with the production control requirements defined in Article 8 of directive 94/9/EC.
- 17.3 Each and every unit shall be subjected to the routine overpressure tests as shown on the latest Revision of Test Sheet JTTS6351, there shall be no damage or distortion. This requirement is in addition to the mandatory Certification Routine Overpressure test of 532 psig to be conducted on the heater core assembly.

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Certificate Annexe



Certificate Number: Sira 10ATEX1376X
Equipment: 44-5800 Series Vaporizing Regulator
Applicant: Tescom Corporation

Issue 0 (The drawing list associated with Issue 0 was replaced with that introduced in Issue 1)

Issue 1

Drawing	Sheets	Rev.	Date (Sira stamp)	Description
44-58XXX2XXE	1 of 1	GA	04 Sep 15	44-58 Top Level Drawing
44-58XX-2XXE-001	1 of 1	KA	04 Sep 15	44-58 Top Level Drawing -001
44-5862D241E-001	1 of 1	KA	04 Sep 15	44-58 Bill of Materials
JTA101272-02	1 of 1	G	04 Sep 15	44-5800 Assembly Drawing
JT100837-204X000	1 of 1	HA	04 Sep 15	Ported Body
JT100836	1 of 1	EA	04 Sep 15	Semi-Finished Body
JT101365	1 of 1	FB	04 Sep 15	Marking
JT101268	1 of 1	CB	04 Sep 15	Tube
JT101269	1 of 1	BB	04 Sep 15	Nut
JT101270	1 of 1	BA	04 Sep 15	Ferrule
JT101353	1 of 1	PD	04 Sep 15	Heater Controller Box Assembly
JT101342	1 of 1	HB	04 Sep 15	Heater Fitting
JT101341	1 of 1	E	04 Sep 15	Electrical Heater Controller
JT101352	1 of 1	EA	04 Sep 15	Explosion Proof Conduit Box (Adalet)
JTTS6351	1 of 1	JB	04 Sep 15	44-58 Production Test Sheet, Routine Tests
JT101363	1 of 1	AB	04 Sep 15	Schematic Heater Controller

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