



1 **TYPE EXAMINATION CERTIFICATE**

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

3 Certificate Number: **Sira 09ATEX4140X** Issue: **3**

4 Equipment: **MM10004 Servomotor unit (230 Vac)**
MM10004/D Servomotor unit (24 Vac)

5 Applicant: **Autoflame Engineering Limited**

6 Address: **Unit 1-2 Concorde Business Centre**
Airport Industrial Estate
Wireless Road
Biggin Hill
Kent TN16 3YN
UK

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

8 Sira Certification Service certifies that this equipment has been found to comply with the Essential Health and Safety Requirements that relate to the design of Category 3 equipment, which is intended for use in potentially explosive atmospheres. These Essential Health and Safety Requirements are given in Annex II to European Union Directive 94/9/EC of 23 March 1994.

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 of this certificate, has been assessed by reference to:

EN 60079-0: 2006

EN 60079-15: 2005

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 TYPE EXAMINATION CERTIFICATE relates only to the design of the specified equipment, and not to specific items of equipment subsequently manufactured.

12 The marking of the equipment shall include the following:



II 3G

Ex nA nL IIC T4

Ta = -20°C to +40°C

Project Number 28671

C Ellaby
Deputy Certification Manager

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SCHEDULE

TYPE EXAMINATION CERTIFICATE

Sira 09ATEX4140X
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13 DESCRIPTION OF EQUIPMENT

The MM10004 and MM10004/D units are servo motor driven valve position devices. The MM10004 is a 230 Vac type and the MM10004/D is a 24 Vdc type. The units are fitted with a single PCB. Integral position feedback provided via one, 5 k Ω , single-turn potentiometer. The PCB has a number of electrical components fitted including the terminal blocks for all external connections.

The MM10004 and MM10004/D servomotor unit is intended for use with a mechanical flow control valve. The valve is used to control the flow of air/gas with a 0 to 90 degree movement. The position of the valve is adjusted intermittently depending on the burn control required and feedback adjustments.

Variation 1 - This variation introduced the following change:

- i. The Applicant's address was changed from Bellingham, London SE6 3BX to Unit 1-2 Concorde Business Centre, Airport Industrial Estate, Wireless Road, Biggin Hill, Kent TN16 3YN.

Variation 2 - This variation introduced the following changes:

- i. The introduction of a Large Servo Enclosure; in addition to housing the previously defined electrical equipment, the motor drive and gear box used to position the flow control valve are now located in a separate compartment inside the enclosure. As a result of this change, additional conditions were introduced.

14 DESCRIPTIVE DOCUMENTS

14.1 Drawings

Refer to Certificate Annexe.

14.2 Associated Sira Reports and Certificate History

| Issue | Date | Report no. | Comment |
|-------|-----------------|------------|--|
| 0 | 26 May 2009 | R52A18386A | The release of the prime certificate. |
| 1 | 16 June 2009 | R51A20472A | The introduction of Variation 1. |
| 2 | 22 January 2010 | R52A18386B | Report number R52A18386A was replaced by R52A18386B. |
| 3 | 30 October 2012 | R28671A/00 | The introduction of Variation 2. |



SCHEDULE

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15 SPECIAL CONDITIONS FOR SAFE USE

- 15.1 The area in which the equipment is to be used shall be a minimum of Pollution degree 2 as defined in IEC 60664-1.
- 15.2 The potentiometer connections (+V, 0V, and W) shall only to be terminated to an Autoflame MM Controller. The potentiometer shall be connected to a +12 Vdc supply with the wiper connection terminated to an operational amplified input.
- 15.3 This equipment, when fitted in accordance with the manufacturer's instructions will meet an environmental rating of IP 65 which is in excess of the IP 54 rating required by EN 60079-15: 2005.

16 ESSENTIAL HEALTH AND SAFETY REQUIREMENTS (EHSRs)

The relevant EHSRs that are not addressed by the standards listed in this certificate have been identified and individually assessed 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 Type Examination Certificates are required to comply with the production control requirements defined in Article 8 of directive 94/9/EC.
- 17.3 Routine Electrical strength tests shall be undertaken (without breakdown or flashover) in accordance with EN 60079-15:2005 clause 34.2 on 100% of all completely assembled MM10004 or MM10004/D units. The test shall be conducted between the Live and Neutral cores connected together and the earth/case. One of the following should be used:
- 500 V r.m.s. (+5%, -0%) for 60 seconds on the MM10004/D unit
 - 700 V d.c. (+5%, -0%) for 60 seconds on the MM10004/D unit
 - 1500 V r.m.s. (+5%, -0%) for 60 seconds on the MM10004 unit
 - 2100 V d.c. (+5%, -0%) for 60 seconds on the MM10004 unit
- The test can be undertaken for a period of 100ms for a test voltage of 1.2 times the value specified.
- 17.4 The manufacturer shall provide the installer with the relevant instruction that will ensure that the environment rating of the final installation meets IP 65.

Certificate Annexe

Certificate Number: Sira 09ATEX4140X
Equipment: MM10004 Servomotor unit (230 Vac)
MM10004/D Servomotor unit (24 Vac)
Applicant: Autoflame Engineering Limited



Issues 0, 1 and 2 The drawings listed with these Issues were rationalised and have been superseded by those detailed in Issue 3

Issue 3

| Drawing No. | Sheets | Rev. | Date (Sira stamp) | Title |
|-------------|--------|------|-------------------|--|
| LS006 | 1 of 1 | 1 | 17 Feb 10 | Large Servo Top Plate |
| LS007 | 1 of 1 | 1 | 15 Oct 12 | Large Servo Ex Base Plate |
| LS008 | 1 of 1 | 1 | 15 Oct 12 | Large Servo Ex Lid |
| LS009 | 1 of 1 | 1 | 15 Oct 12 | Large Servo Ex Cover |
| LS010 | 1 of 1 | 5 | 17 Oct 12 | Large Servo – ATEX Version |
| | 1 of 4 | 1 | 22 Oct 12 | Parts Lists For ATEX Approved Large Servo Motors |

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