



(1) **EC-TYPE EXAMINATION CERTIFICATE**

(2) Equipment or protective system intended for use in potentially explosive atmospheres - Directive 94/9/EC

(3) EC-Type Examination Certificate Number: **KEMA 03ATEX2437 X**

(4) Equipment or protective system: **Servomotor Type G493K-...**

(5) Manufacturer: **Moog Inc.**

(6) Address: **300 Jamison Rd, East Aurora, NY 14052-0018, USA**

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

(8) KEMA Quality B.V., notified body number 0344 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 no. 2027991.

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

EN 50014 : 1997

EN 50018 : 2000

(10) 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.

(11) This EC-Type Examination Certificate relates only to the design, examination and tests of the specified equipment or protective system according to the Directive 94/9/EC. Further requirements of the directive apply to the manufacturing process and supply of this equipment or protective system. These are not covered by this certificate.

(12) The marking of the equipment or protective system shall include the following:



II 2 G EEx d IIB T6 or T4

Arnhem, 4 September 2003
KEMA Quality B.V.

C.G. van Es
Certification Manager

* This Certificate may only be reproduced in its entirety and without any change



SCHEDULE

(13)

(14)

to EC-Type Examination Certificate KEMA 03ATEX2437 X

(15) **Description**

The servomotor type G483K-... is a brushless motor with an aluminium alloy flameproof enclosure and designed for operation with a suitable servo controller. For detection of the rotor position a resolver or an optical position detector is optionally incorporated. The G493K-... motor is designed with three cable entry options: flameproof cable gland, NPT conduit box cable entry or compound sealed cable entry. This motor also has two shaft output options: the standard shaft output (keyway or plain) or an angular contact bearing set shaft output, which can change the motor to be a linear actuator with a suitable ballscrew. The G493K-... motor has four different stack lengths: 0.5", 1.5", 2.5" and 4.0".

A PTC or NTC temperature sensor or thermostat in the stator windings with a release temperature of 130°C for T4 or 80°C for T6 is used for direct temperature control. For this purpose the sensor or thermostat is connected to a suitable certified release device.

Depending on the application the motor is rated such that the release temperature of the direct temperature control is not reached during normal operation. This can also be guaranteed by analysing the temperature of a NTC sensor in the winding by means of the servo controller.

Ambient temperature range -20°C ... +40°C.

Electrical data

Motor circuit (three-phase system, sinusoidal or trapezoidal)

Voltage (peak value) 630 V max.

Current (effective value) 25 A max.

Installation instructions

Cable entry

The cable entry device shall be of a certified flameproof type, suitable for the conditions of use and correctly installed.

Cables and cable entry devices suitable for a temperature of at least 95 °C shall be used.

Conduit entry

A certified sealing device such as a stopping box with setting compound suitable for a temperature of at least 95 °C shall be applied, either in the conduit entry of the valve or immediately at the entrance thereto.

Routine tests

Routine tests according to Clause 16 of EN 50018 on the enclosure are not required since the type test has been made at a static pressure of four times the reference pressure.

(16)

Report

KEMA No. 2027991.

SCHEDULE

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(17) **Special conditions for safe use**

The free end of the permanently connected unterminated power supply cable shall be connected by using a suitable certified junction box.

The temperature of the motor shall be directly controlled by the PTC or NTC temperature sensor or thermostat in the stator winding in connection with a certified release device, suitable for the conditions of use and correctly installed.

For operation without analyzing the temperature of the NTC sensor by means of the servo controller the motor shall be rated such that during normal operation the release temperature of the direct temperature control is not reached.

(18) **Essential Health and Safety Requirements**

Covered by the standards listed at (9).

(19) **Test documentation**

1. EC-Type Examination Certificate DMT 03ATEX E 041 X

dated

2. Description rev. 1 (26 pages)

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|----|--------------------------------------|------------|
| 3. | Drawing No. A63570, rev. F (2 pages) | 10.05.1999 |
| | B64929, rev. M | 10.10.2001 |
| | G2768, rev. A | 24.06.1999 |
| | C74463, (3 pages) | 12.02.2003 |
| | C08230, rev. C | 29.01.2003 |
| | C74464 | 14.02.2003 |
| | C54378 | 14.07.2000 |
| | C08096, rev. C | 01.12.1999 |
| | C08084, rev. B | 20.02.2003 |
| | C90393 | 06.03.2003 |
| | C08028, rev. E | 29.01.2003 |
| | C74434 | 05.11.2002 |
| | C08035, rev. D | 29.01.2003 |
| | C74438 | 25.11.2002 |
| | C74440 | 27.11.2002 |
| | C54165, rev. F | 12.02.2002 |
| | C54166, rev. C | 19.10.2001 |
| | C90794 | 29.08.2003 |