

# CERTIFICATE OF CONFORMITY



- HAZARDOUS (CLASSIFIED) LOCATION ELECTRICAL EQUIPMENT PER US REQUIREMENTS**
- Certificate No:** FM16US0377X
- Equipment:** SI-1 Series Electro-Hydraulic Power Unit  
**(Type Reference and Name)**
- Name of Listing Company:** Rotork Fluid Systems (a Division of Rotork UK)
- Address of Listing Company:** 9 Brown Lane West  
Holbeck, Leeds LS12 6BH  
United Kingdom
- The examination and test results are recorded in confidential report number:  
  
3024620 dated 13<sup>th</sup> October 2005
- FM Approvals LLC, certifies that the equipment described has been found to comply with the following Approval standards and other documents:  
  
FM Class 3600:2011, FM Class 3810:2005, ANSI/ISA 60079-0:2009, ANSI/ISA 60079-1:2009, ANSI/ISA 60079-7:2008, ANSI/ISA 60079-18:2009 ANSI/NEMA 250:1991
- If the sign 'X' is placed after the certificate number, it indicates that the equipment is subject to specific conditions of use specified in the schedule to this certificate.
- This certificate relates to the design, examination and testing of the products specified herein. The FM Approvals surveillance audit program has further determined that the manufacturing processes and quality control procedures in place are satisfactory to manufacture the product as examined, tested and Approved.
- Equipment Ratings:**  
  
Flameproof, Encapsulation and Increased Safety for Class I, Zone 1, AEx dme IIB T4 Ta = -35°C to +65°C or Class I, Zone 1, AEx dme IIC T4 Ta = -20°C to +65°C hazardous (classified) locations, indoors and outdoors (Type 4 or 6 depending on the configuration). The Increased Safety rating applies when the increased safety terminal facility is specified on the single phase and DC versions only.

## Certificate issued by:

J.E. Marquedant  
VP, Manager - Electrical Systems

25 January 2019

Date

To verify the availability of the Approved product, please refer to [www.approvalguide.com](http://www.approvalguide.com)

**THIS CERTIFICATE MAY ONLY BE REPRODUCED IN ITS ENTIRETY AND WITHOUT CHANGE**

FM Approvals LLC, 1151 Boston-Providence Turnpike, Norwood, MA 02062 USA  
T: +1 (1) 781 762 4300 F: +1 (1) 781 762 9375 E-mail: [information@fmapprovals.com](mailto:information@fmapprovals.com) [www.fmapprovals.com](http://www.fmapprovals.com)

# SCHEDULE



US Certificate Of Conformity No: FM16US0377X

11. The marking of the equipment shall include:

Class I, Zone 1, AEx dme IIB T4 Ta = -35°C to +65°C, Type 4 or 6

Class I, Zone 1, AEx dme IIC T4 Ta = -20°C to +65°C, Type 4 or 6

12. **Description of Equipment:**

The SI-1 Electro-Hydraulic Power Unit is a self-contained electrically-operated source of hydraulic power which can be instantaneously switched to increase or decrease the pressure to a suitable spring return / double-acting, linear or quarter-turn actuator. The power unit consists of three distinct enclosures which are separated by the center housing casting.

The electrical enclosure has a display window and can contain the following equipment: control PCB, power PCB, transformer and pressure transducer. This enclosure has been designed to meet the requirements of AEx d type of protection.

The terminal enclosure contains the electrical connections for external use. The power supply for 3-phase units is housed in an extended version of the terminal cover. The enclosure, when fitted with the short terminal cover, has been designed to meet the requirements of AEx d type of protection. The electrical connections have been designed to meet the requirements of AEx e type of protection. The terminal enclosure is provided with threaded cable entry points. These are threaded M25. If specified, M25 to NPT thread adaptors are installed.

The oil reservoir contains two oscillating pumps and either one or two solenoid valves.

The pump coils are designed to meet the requirements of AEx m type of protection. They are protected by a thermal fuse which is manufactured to permanently rupture at 130°C (110/230 Vac) and 129°C (24 Vdc).

The solenoid valve coils are designed to meet the requirements of AEx m type of protection. They are protected by a thermal fuse which is manufactured to permanently rupture at 130°C (110/230 Vac) and 130°C (24 Vdc).

Connection between the electrical enclosure and the oil reservoir is made with threaded bushings which are designed to meet the requirements of AEx m type of protection.

The power supply of the unit can either be:  
24 Vdc ( $\pm 10\%$ ), 190 VA  
115/230 Vac, 50/60 Hz single-phase ( $\pm 10\%$ ), 400 VA  
380-480 Vac, 50/60 Hz 3-phase ( $\pm 10\%$ ), 205 VA

The enclosure is made from cast aluminium alloy.

**SI-1-abc-d3. Electro-Hydraulic Power Unit.**

a = Failure Mode 0, 1, 2, 3, 4 or 5.

b = Spring Return Speed 0, 1, 2, 3, 4, 5, 6, 7, 8, or 9.

c = Supply Voltage 0, 1, 2 or 3.

d = Control 0, 1, 2, 3, 4, 5, 6, 7, 8 or 9.

**THIS CERTIFICATE MAY ONLY BE REPRODUCED IN ITS ENTIRETY AND WITHOUT CHANGE**

# SCHEDULE

US Certificate Of Conformity No: FM16US0377X

**13. Specific Conditions of Use:**

Increased Safety rating applies when the increased safety terminal facility is specified on the single phase and DC version (Supply Voltage Option 0, 1, 2) only.

**14. Test and Assessment Procedure and Conditions:**

This Certificate has been issued in accordance with FM Approvals US Certification Requirements.

**15. Schedule Drawings**

A copy of the technical documentation has been kept by FM Approvals.

**16. Certificate History**

Details of the supplements to this certificate are described below:

| Date                          | Description  |
|-------------------------------|--|
| 13 <sup>th</sup> October 2005 | Original Issue.  |
| 3 <sup>rd</sup> November 2016 | <u>Supplement 3:</u><br>Report Reference: RR207266 dated 3 <sup>rd</sup> November 2016<br>Description of the Change: Update certificate (in new format) with the changes Approved under RR206167.                                    |
| 25 <sup>th</sup> January 2019 | <u>Supplement 4:</u><br>Report Reference: PR451712 dated 25 <sup>th</sup> January 2019<br>Description of the Change: Issuance of an ordinary location certificate [FM19NUS0002] and minor updates to the hazardous location listing. |

**THIS CERTIFICATE MAY ONLY BE REPRODUCED IN ITS ENTIRETY AND WITHOUT CHANGE**