



The manufacturer
may use the mark:



Revision 4.1 May 23, 2025
Surveillance Audit Due
December 01, 2027



Certificate / Certificat Zertifikat / 合格証

ROT 1803043 C001

exida hereby confirms that the:

EHF Self Contained Electro-Hydraulic Actuators

**Rotex Manufacturers & Engineers
Pvt. Ltd.
Maharashtra - India**

Has been assessed per the relevant requirements of:

IEC 61508 : 2010 Parts 1-2

and meets requirements providing a level of integrity to:

Systematic Capability: SC 3 (SIL 3 Capable)

Random Capability: Type A, Route 2_H Device

**PFH/PFD_{avg} and Architecture Constraints
must be verified for each application**

Safety Function:

The Actuator will move the attached Valve to the designed safe position per the Actuator design within the specified safety time when the ESD Solenoid is De-Energized.

Application Restrictions:

The unit must be properly designed into a Safety Instrumented Function per the Safety Manual requirements.



Evaluating Assessor

Certifying Assessor

ROT 1803043 C001

Systematic Capability: SC 3 (SIL 3 Capable)

Random Capability: Type A, Route 2_H Device

**PFH/PFD_{avg} and Architecture Constraints
must be verified for each application**

Systematic Capability:

The product has met manufacturer design process requirements of Safety Integrity Level (SIL) 3. These are intended to achieve sufficient integrity against systematic errors of design by the manufacturer.

A Safety Instrumented Function (SIF) designed with this product must not be used at a SIL level higher than stated.

Random Capability:

The SIL limit imposed by the Architectural Constraints must be met for each element. This device meets *exida* criteria for Route 2_H.

IEC 61508 Failure Rates in FIT*

Application/Device/Configuration	λ_{SD}	λ_{SU}	λ_{DD}	λ_{DU}
Single Acting EHF, Rotary Actuator, Power Fail Close/Open, With or Without Accumulator	0	1696	0	462
Single Acting EHF, Rotary Actuator, Power Fail Stay Put, With or Without Accumulator	0	902	0	462
Double Acting EHF, Rotary Actuator, Power Fail Close/Open/Stay Put, With Accumulator	0	797	0	836
Single Acting EHF, Linear Actuator, Power Fail Close/Open, With or Without Accumulator	0	1645	0	214
Single Acting EHF, Linear Actuator, Power Fail Stay Put, With or Without Accumulator	0	851	0	214
Double Acting EHF, Linear Actuator, Power Fail Close/Open/Stay Put, With Accumulator	0	797	0	452

* FIT = 1 failure / 10⁹ hours

SIL Verification:

The Safety Integrity Level (SIL) of an entire Safety Instrumented Function (SIF) must be verified via a calculation of PFH/PFD_{avg} considering redundant architectures, proof test interval, proof test effectiveness, any automatic diagnostics, average repair time and the specific failure rates of all products included in the SIF. Each element must be checked to assure compliance with minimum hardware fault tolerance (HFT) requirements.

The following documents are a mandatory part of certification:

Assessment Report: ROT 18-03-043 R002 V4R1 (or later)

Safety Manual: RTX-EHF-18-01, Rev.2, Dated 24-01-2024 (or later)



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