



Certificate / Certificat Zertifikat / 合格証

DEL 1804039 C006

exida hereby confirms that the:

Scotch Yoke Actuator

**DeVal Flow Controls Private Ltd.
Pune - 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.

Application Restrictions:

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

The manufacturer may use the mark:



Revision 2.0 July 18, 2022
Surveillance Audit Due
August 01, 2025



Evaluating Assessor

Certifying Assessor

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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****Scotch Yoke
Actuator****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.

Versions:

Actuator Series	Size
Series 25 Spring Return	250, 350 & 500
Series 25 Double Acting	250, 350 & 500

IEC 61508 Failure Rates in FIT*

Static Application	λ_{SD}	λ_{SU}	λ_{DD}	λ_{DU}
Spring Return	0	180	0	446
Double Acting	0	0	0	561

* 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: DEL 18/04-039 R011 V2R1 (or later)

Safety Manual: DEL-SM:18/04-039 R006 (or later)

