



Certificate / Certificat Zertifikat / 合格証

DEZ 1406094 C004

exida hereby confirms that the:

Cylinder Actuator for Knife Gate Valves

**DeZurik Canada, Inc.
Cambridge, ON Canada**

Have been assessed per the relevant requirements of:

IEC 61508 : 2010 Parts 1-7

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 valve will move 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 September 28, 2017

Surveillance Audit Due
October 1, 2020

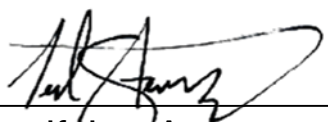


ANSI Accredited Program
ISO/IEC 17065
PRODUCT CERTIFICATION BODY
#1004





Evaluating Assessor



Certifying Assessor

DEZ 1406094 C004

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*

Failure Category	Failure Rate (FIT)	
	Normal	with PVST
Fail Safe Detected	0	0
Fail Safe Undetected	0	0
Fail Dangerous Detected	0	143
Fail Dangerous Undetected	246	103
No Effect	329	329

* FIT = 1 failure / 10⁹ hours

† PVST = Partial Valve Stroke Test of a final element Device

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 DEZ Q14-06-094 R004 V1R2

Safety Manual: D11038



80 N Main St
Sellersville, PA 18960

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