



# Certificate / Certificat Zertifikat / 合格証

ITT 2105106 C001

*exida* hereby confirms that the:

## EnviZion & BioviZion Actuated Valves ITT Engineered Valves Lancaster, PA - USA

Has 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<sub>H</sub> Device**

**PFD<sub>avg</sub> and Architecture Constraints  
must be verified for each application**

### Safety Function:

The Actuator will move the 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.

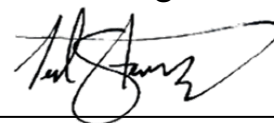
The manufacturer  
may use the mark:



Revision 1.0 August 3, 2021  
Surveillance Audit Due  
September 1, 2024



  
\_\_\_\_\_  
Evaluating Assessor

  
\_\_\_\_\_  
Certifying Assessor

**Systematic Capability: SC 3 (SIL 3 Capable)****Random Capability: Type A, Route 2<sub>H</sub> Device**

**PFD<sub>avg</sub> 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<sub>H</sub>.

**IEC 61508 Failure Rates in FIT\***

Application/Device/Configuration**	$\lambda_{SD}$	$\lambda_{SU}$	$\lambda_{DD}$	$\lambda_{DU}$
Close on Trip – Spring Return	0	166	0	221
Tight Shut-Off – Spring Return	0	166	0	512
Open on Trip – Spring Return	0	229	0	219
Close on Trip – Double Acting	0	0	0	479
Tight Shut-Off – Double Acting	0	0	0	771
Open on Trip – Double Acting	0	63	0	474

\* FIT = 1 failure / 10<sup>9</sup> hours

\*\* See the assessment report for the applicable models.

**SIL Verification:**

The Safety Integrity Level (SIL) of an entire Safety Instrumented Function (SIF) must be verified via a calculation of PFD<sub>avg</sub> 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:** ITT 21-05-106 R002 V1 R1 (or later)

**Safety Manual:** W-1344



80 N Main St  
Sellersville, PA 18960