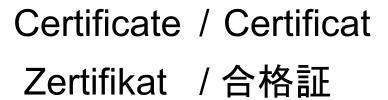


The manufacturer may use the mark:



Revision 2.0 February 13, 2025 Surveillance Audit Due November 1, 2027



SAM 2108032 C002

exida hereby confirms that the:

# **Trunnion Mounted Ball Valves**

# SAMAMAT Flow Control L.L.C Dubai - UAE

Have 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<sub>H</sub> Device

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

### Safety Function:

The Ball 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.





**Evaluating Assessor** 

Certifying Assessor

# Certificate / Certificat / Zertifikat / 合格証 SAM 2108032 C002

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

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

#### Systematic Capability:

These products have 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:**

| Valve Series                     | Sizes     | Pressure Class                   |  |  |
|----------------------------------|-----------|----------------------------------|--|--|
| Trunnion Ball Valve – Side Entry | 2" to 36" | ASME Class 150, 300, 600 and 900 |  |  |
|                                  | 2" to 12" | ASME Class 1500, and 2500        |  |  |
| Trunnion Ball Valve – Top Entry  | 2" to 24" | ASME Class 150, 300, 600 and 900 |  |  |
|                                  | 2" to 12" | ASME Class 1500 and 2500         |  |  |

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

| Static Application            | λ <sub>SD</sub> | λ <sub>SU</sub> | $\lambda_{\text{DD}}$ | λου  |
|-------------------------------|-----------------|-----------------|-----------------------|------|
| Full Stroke, Clean Service    | 0               | 0               | 0                     | 513  |
| Tight Shut-Off, Clean Service | 0               | 0               | 0                     | 1060 |
| Open on Trip, Clean Service   | 0               | 132             | 0                     | 386  |

<sup>\*</sup> 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<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: SAM 21/08-032 R003 V2 R1 (or later)

Safety Manual: SFC-SM-0002-00-02/25 (or later)

Trunnion Mounted
Ball Valves



80 N Main St Sellersville, PA 18960