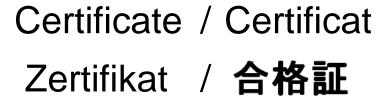


The manufacturer may use the mark:



Revision 5.1 November 30, 2020
Surveillance Audit Due
November 1, 2023



ASC 1002008 C001

exida hereby confirms that the:

Manual Reset Solenoid Valves ASCO Numatics Florham Park, NJ - 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_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 when deenergized / energized within the specified safety time.

Application Restrictions:

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





Évaluating Assessor

Certifying Assessor

Certificate / Certificat / Zertifikat / 合格証

ASC 1002008 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*

Failure Category	$\lambda_{\sf sd}$	λ_{su}	λ_{dd}	λ_{du}
3/2 Tamperproof MRVs, NVR, FT Coil	0	1019	0	302
3/2 Tamperproof MRVs, NVR, LP Coil	0	969	0	302
3/2 High Shock MRVs, NVR, FT Coil	0	914	0	432
3/2 High Shock MRVs, NVR, LP Coil	0	864	0	432
3/2 High Shock MRVs, TSO, FT Coil	0	800	0	487
3/2 High Shock MRVs, TSO, LP Coil	0	800	0	457
Other 3/2 MRVs, NVR, FT Coil	0	1019	0	302
Other 3/2 MRVs, NVR, LP Coil	0	969	0	302
Other 3/2 MRVs, NVR, WBIS Coil	0	1014	0	302

^{*} FIT = 1 failure / 109 hours



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: ASC 10-02-08 R003 V4R1 (or later)

Safety Manual: V9642



Manual Reset Solenoid

Valves



80 N Main St Sellersville, PA 18960

T-061, V5R1