



Certificate / Certificat Zertifikat / 合格証

HAF 1511126 P0038 C001

exida hereby confirms that the:

**Mechanically actuated valves
Direct operated solenoid valves
Pneumatically operated valves
Pilot operated solenoid valves**

**HAFNER Pneumatika Kft.
Halászi, Hungary**

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

**PFD_{AVG} and Architecture Constraints
must be verified for each application**

Safety Function:

The valve will move to the designed safe position when de-energized / energized within the specified safety time.

Application Restrictions:

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



Peter L.
Evaluating Assessor

Steve J. Chase
Certifying Assessor

The manufacturer
may use the mark:



Revision 1.0 Nov 23, 2016
Surveillance Audit Due
Nov 30, 2019



ANSI Accredited Program
PRODUCT CERTIFICATION
#1004

BAC 1511126 P0038 C001

Systematic Capability: SC 3 (SIL 3 Capable)

Random Capability: Type A, Route 2_H Device
PFD_{AVG} and Architecture Constraints
must be verified for each application

Systematic Capability :

The 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 these products 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. These devices meets *exida* criteria for Route 2_H

IEC 61508 Failure Rates:

The failure rates for the assessed valves are found in the document:
HAFNER 1511-126-C Annex to certificate R004 V1 R0.

SIL Verification:

The Safety Integrity Level (SIL) of an entire Safety Instrumented Function (SIF) must be verified via a calculation of 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: HAFNER 15/11-126-C R003 Assessment report V1 R0

Safety Manual : HAFNER Safety Manual V1 R1



80 N Main St
Sellersville, PA 18960

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