



Certificate / Certificat Zertifikat / 合格証

ITT 1802322 C001

exida hereby confirms that the:

C37 / F37 Knife Gate Valve

ITT

Amory, MS - USA

The manufacturer
may use the mark:



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**

Revision 1.1 November 5, 2018

Surveillance Audit Due
November 1, 2021

Safety Function:

The Gate 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

ITT 1802322 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.

Versions:

Device	Description and Application
C37 Series	Cast Knife Gate Valve, Sizes 1.5" to 24"
F37 Series	Fabricated Knife Gate Valve, Sizes 5" & 25" to 96"

IEC 61508 Failure Rates in FIT¹

Application/Configuration	λ_{SD}	λ_{SU}	λ_{DD}	λ_{DU}
Full Stroke, Clean Service	0	0	0	270
Tight Shut-Off, Clean Service	0	0	0	706
Open on Trip, Clean Service	0	36	0	234

¹ 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_{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: ITT 18/02-322 R003 (or later)

Safety Manual: ITT Safety Manual

C37 / F37
Knife Gate Valve



80 N Main St
Sellersville, PA 18960