

IEC 61508 Functional Safety

Holder : TECOFI SAS
83 RUE MARCEL MERIEUX 69969,
CORBAS CEDEX, FRANCE

Manufacturer : TECOFI SAS
83 RUE MARCEL MERIEUX 69969,
CORBAS CEDEX, FRANCE

FAREX (SHANGHAI) FLUID CONTROL EQUIPMENT CO., LTD.
NO.248, XINTUAN RD., QINGPU INDUSTRY ZONE,
SHANGHAI, P.R.C.

Requirements and Standard(s) : IEC 61508 Parts 1-7:2010

Product description : TECOFI KNIFE GATE VALVE

Type/Model(s) : VG Series, VGS Series, VGH Series, VGP Series

Systematic Capability : SC 3 (SIL 3 Capable) @ HFT=0

Random Integrity : Type A Element, Route 2_H
PFD_{AVG} and architecture constraints must be verified for each application

Report No. : 086-03-011-06336

Date of Expiry : 19/06/2027

SWISS APPROVAL TECHNISCHE BEWERTUNG S.A. as a Third Party Certification Body, hereby confirms that the above mentioned products meets the relevant requirements providing a level of integrity.

The product has met manufacturer design process requirements of Safety Integrity Level. 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.

- *This Certificate is issued in conjunction with the above mentioned Report and reflects findings during assessment in time and place only for the product and configuration described hereby and does not release buyer and/or seller from their contractual responsibilities.*
- *All modifications to the Technical File should be first submitted to our Company to ensure further validity of this attestation.*



Evaluating Assessor
Simon Jiang





on behalf of Company
Tzaferis Meletis

Annex I: Specification

Version overview

Type	DN	Connection	Working Pressure
VG Series	DN50 – DN1200	EN 1092-1 EN 1092-2 ASME B16.5 ASME B16.47	2~10 Bar
VGS Series	DN100 – DN800	EN 1092-1 EN 1092-2 ASME B16.5 ASME B16.47	1~3 Bar
VGP Series	DN50 – DN1200	EN 1092-1 EN 1092-2 ASME B16.5 ASME B16.47	2~10 Bar
VGH Series	DN50 - DN1200	EN 1092-1 ASME B16.5 ASME B16.47	10~25 Bar

Acceptable environmental constraints and design lifetime for the product are stated in the Safety Manual. These elements must be checked for each integration of the product.

The certified Safety Function(s) of the above product is the following:

- SIF: Open or close on demand
- The mode of operation is 'Low Demand Mode', which means less than 1 trip demand each year.

IEC 61508 Failure rate in FIT *

Application	λ_{SD}	λ_{SU}	λ_{DD}	λ_{DU}
VG Series VGS Series VGH Series VGP Series	0	128	0	9

* FIT: Failure In Time (1×10^{-9} failures per hour)

Note: The Safety Integrity Level of the safety function using the above product shall be calculated to take into account the characteristics of the complete system supporting the safety function.

