



Certificate / Certificat Zertifikat / 合格証

VEL 2208117 C001

exida hereby confirms that the:

API 623 Globe Valve

Velan

Montreal, QC - Canada

The manufacturer
may use the mark:



Has 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_H Device

**PFH/PFD_{avg} and Architecture Constraints
must be verified for each application**

Revision 1.1 December 5, 2022

Surveillance Audit Due
October 1, 2025

Safety Function:

The Globe 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

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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:

Application	Pressure Class	WCB	Cast Stainless
Non-rotating rising stem	150	NPS 12 to 14	N/A
	300	NPS 8 to 14	
	600	NPS 6 to 8	
	900	NPS 2 to 4	
	1500	NPS 2 to 4	
Non-rotating rising stem	150	NPS 8	N/A
	300	NPS 6	
Rotating rising stem	150	NPS 2 to 10	NPS ½ to 6
	300	NPS 2 to 6	NPS ½ to 6
	600	NPS 2 to 4	N/A

IEC 61508 Failure Rates in FIT¹

Device	λ _{SD}	λ _{SU}	λ _{DD}	λ _{DU}
Full Stroke, Clean Service	0	0	0	460
Tight Shut Off, Clean Service	0	0	0	1234
Open on Trip, Clean Service	0	180	0	281
Full Stroke, Severe Service	0	0	0	859
Tight Shut Off, Severe Service	0	0	0	2398
Open on Trip, Severe Service	0	356	0	503

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: VEL 14-05-020 R003 V2 R3 Safety Valves IEC 61508 Assessment (or later)

Safety Manual: SIL-MTV

API 623 Globe Valve



80 N Main St
Sellersville, PA 18960

T-061, V5R2