



The manufacturer may use the mark:



Revision 1.0 June 7, 2023
Surveillance Audit Due
June 1, 2026



Certificate / Certificat Zertifikat / 合格証

VEL 2209125 C002

exida hereby confirms that the:

Butterfly Valve and Actuator Assembly 43ESV0248

Velan

Montreal, QC - Canada

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 2 (SIL 2 Capable)

Random Capability: Type A, Route 2_H Device

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

Safety Function:

The Final Element assembly will move the Butterfly Valve 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

Certificate / Certificat / Zertifikat / 合格証

VEL 2209125 C002

Systematic Capability: SC 2 (SIL 2 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) 2. 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.

Device	λ_s	λ_D	#	E
(35) Relief Valve	0	100	750	160
(110) Filter Regulator	0	115	655	85
(179) 3/2 N.C. Pneumatic Pilot – Spring Return Valve	100	175	350	25
(278) Unidirectional Flow Regulator	75	75	460	470
(286) Dust Excluder	0	15	155	85
(124) Check Valve	75	20	310	20
(276) Bidirectional Flow Regulator	0	55	150	450
(283) Quick-Exhaust Valve	75	60		
Pneumatic Scotch Yoke Actuator – Spring Return	150	575	1250	
Butterfly Valve, Open on Trip	235	412	884	

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 22/09-125 R005 V1 R3 (or later)

Safety Manual: SIL-BF, E50_199161_algas-spring-return-pneumatic-actuator



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T-062, V5R2