

The manufacturer
may use the mark:



Reports:

BET 03-08-24 R007 V2 R1
Assessment Report

BET 02-08-01 R001 V3 R1
FMEDA Report

Validity:

This assessment is valid for
the CB/CBA/CBA300/CBB
Series Scotch Yoke
Actuators

This assessment is valid until
February 28, 2013.

Revision 1.0 February 23, 2010



Certificate / Certificat Zertifikat / 合格証

BET 090460 C001

exida hereby confirms that the:

**CB/CBA/CBB/CBA300 Series
Scotch Yoke Actuators**

**Valve Automation, Inc.
Waller, TX, USA**

Has been assessed per the relevant requirements of:

IEC 61508 Parts 1, 2

and meets requirements providing a level of integrity to:

Systematic Integrity: SIL 3 Capable

Random Integrity: Type A Device

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

Safety Function:

The actuator will move the actuator/valve combination to the
designed safe position within the specified safety time.

Application Restrictions:

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



Product Assessor

Auditor

BET 090460 C001

Systematic Integrity: SIL 3 Capable

Random Integrity: Type A Device

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

**CB/CBA/CBB/CBA300
Series Scotch Yoke
Actuators**

**Valve Automation, Inc.
Waller, TX , USA**

SIL 3 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 without "prior use" justification by end user or diverse technology redundancy in the design.

IEC 61508 Failure Rates in FIT*

Device	λ_{sd}	λ_{su}	λ_{dd}	λ_{du}	SFF
Pneumatic CB/CBA/CBB/CBA300 Series actuators, SR	0 FIT	1113 FIT	0 FIT	426 FIT	-
Pneumatic CB/CBA/CBB/CBA300 Series actuators, DA	0 FIT	892 FIT	0 FIT	839 FIT	-
Pneumatic CB/CBA/CBB/CBA300 Series actuators, SR with PVST	373 FIT	758 FIT	228 FIT	198 FIT	-
Pneumatic CB/CBA/CBB/CBA300 Series actuators, DA with PVST	0 FIT	892 FIT	473 FIT	366 FIT	-

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 subsystem must be checked to assure compliance with minimum hardware fault tolerance (HFT) requirements.

* FIT = 1 failure / 10⁹ hours



Form	Version	Date
C61508	2.20	Feb 2010