



The manufacturer
may use the mark:



This assessment is valid
until June 31, 2017.

Rev 1.0 June 2014



ANSI Accredited Program
PRODUCT CERTIFICATION
#1004

Certificate / Certificat Zertifikat / 合格証

Flowserve 1303006 P0033 C001

exida Certification S.A. hereby confirms that the:

General Service Control Valve Valtek GS

Flowserve Control Valves GmbH Villach, Austria

Has been assessed per the relevant requirements of:

IEC 61508 : 2010 Parts 1 - 7

and meets requirements providing a level of integrity to:

Systematic Integrity: SC 3 (SIL 3 Capable)

Random Integrity: Type A Element

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

Safety related function:

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

Application restrictions:

The valve must be properly designed into a Safety Instrumented Function per the requirements in the Installation, Operations and Maintenance and Safety Manuals for the valves.



Evaluating Assessor

Certifying Assessor

Systematic Integrity: SC 3 (SIL 3 Capable)

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 these products must not be used at a SIL level higher than stated.

Summary for the General Service Control Valve - Valtek GS :

V1 - General Service Control Valve - Valtek GS

Valve and application	Fully closed			Tight shut off			Fully Open		
	λ_{Safe}	λ_{DD}	λ_{DU}	λ_{Safe}	λ_{DD}	λ_{DU}	λ_{Safe}	λ_{DD}	λ_{DU}
V1 Clean service	595	0	677	595	0	1437	195	0	1074
V1 Clean Service with PVST	595	253	424	595	253	1184	199	767	307
V1 Severe service	595	0	1100	595	0	2585	361	0	1334
V1 Severe Service with PVST	595	366	734	595	366	2219	461	879	455

PVST – Partial Valve Stroke Test
All failure rates are given in FIT=10⁻⁹/h

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.

The following documents are mandatory parts of this certificate:

Flowserve 1303-006-C R005 V1 R3 Assessment Report Valtek GS
Flowserve Safety manual Valtek GS V1 R0

General Service
Control Valve
Valtek GS

Flowserve Control
Valves GmbH
Villach, Austria



Form	Version	Date
C61508	1.1	Apr 2014