Certificate

No.: 968/V 1266.00/21

Product tested	Pneumatic valve positioner	**Certificate holder**	Neles USA Inc. dba StoneL 26271 US Highway 59 Fergus Falls, MN 56537 USA
Type designation	AMI/AX33 and AMI/AX44 Versions		
Codes and standards	EN 61508 Parts 1-2 and 4-7:2010		
Intended application	Safety Function: Initiate movement of attached actuator and valve into safe state The valve controllers are suitable for use in a safety instrumented system up to SIL 2 (low demand mode) and SIL 1 (high demand mode of operation). Under consideration of the minimum required hardware fault tolerance HFT = 1 the test items may be used in a redundant architecture up to SIL 3 (low and high demand mode).		
Specific requirements	The instructions of the associated Installation, Operating and Safety Manual shall be considered.		

Summary of test results see back side of this certificate.

Valid until 2026-10-28

The issue of this certificate is based upon an evaluation in accordance with the Certification Program CERT FSP1 V1.0:2017 in its actual version, whose results are documented in Report No. 968/V 1266.00/21 dated 2021-10-11. This certificate is valid only for products, which are identical with the product tested.

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Köln, 2021-10-28

Certification Body Safety & Security for Automation & Grid

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Holder: **Neles USA Inc. dba StoneL**
26271 US Highway 59
Fergus Falls, MN 56537
United States of America

Product tested: **pneumatic valve positioner**
AMI/AX33 and AMI/AX44 Versions

Results of Assessment

Route of Assessment		2_H / 1_S
Type of Sub-system		Type A
Mode of Operation		Low Demand Mode High Demand Mode (up to 10^6 cycles)
Hardware Fault Tolerance	HFT	0
Systematic Capability		**SC 3**

Single acting

Dangerous Failure Rate	λ_D	1.73 E-07 / h	**173 FIT**
Average Probability of Failure on Demand 1oo1	$PFD_{avg}(T_1)$	7.70 E-04	
Probability of Failure per Hour	PFH	1.73 E-07	

Double acting

Dangerous Failure Rate	λ_D	1.89 E-07 / h	**189 FIT**
Average Probability of Failure on Demand 1oo1	$PFD_{avg}(T_1)$	8.41 E-04	
Probability of Failure per Hour	PFH	1.89 E-07	

Assumptions for the calculations above: DC = 0 %, T_1 = 1 year, MRT = 72 h, β_{1oo2} = 10 %

Origin of failure rates
The stated failure rates are the result of an FMEDA with tailored failure rates for the design and manufacturing process.

The results have been verified by field-feedback data.
Failure rates include failures that occur at a random point in time and are due to degradation mechanisms such as ageing.
The stated failure rates do not release the end-user from collecting and evaluating application-specific reliability data.

Periodic Tests and Maintenance
The given values require periodic tests and maintenance as described in the Safety Manual.
The operator is responsible for the consideration of specific external conditions (e.g. ensuring of required quality of media, max. temperature, time of impact), and adequate test cycles.