



Functional Safety Certificate

No. 6C230208.WCV0T93

Test Report / Technical Construction File no. TCF-OY20230201-SIL

Certificate's Holder:	Wuxi Coreline Valve Co., Ltd. No.210 Xinyuan Rd, Ehu Industrial Park, Xishan District, Wuxi, Jiangsu Province			
Product: Model(s):	Pneumatic Actuator Fig.540/Fig.541			
Standard:	Has been assessed per the relevant requirements of: IEC 61508:2010 Parts 1-7 And meets requirements providing a level of integrity to: Systematic Capability: SC 3(SIL 3 Capable) Random Capability: Type A Element SIL 3@ HFT=1, SIL 3 @ HFT= 0; Route 2H PFDAVG and Architecture Constraints must be verified each application			
	 *Safety function: The on-line gas chromatograph will move to the designed safe position when de- energized / energized within the specified safety time. * Application Restrictions: The unit must be properly designed into a Safety Instrumented Function per the Safety Manual requirements. * Is suitable to be safety function according to the description and the configuration defined in Annex I 			
Verification Mark:	The Verification Mark can be affixed on the product. It is NOT permitted to alter the Verification Mark in any way			

Remark: This SIL Verification of Compliance has been issued on a voluntary basis. ECM confirms that a Test Report is existent for the above listed product(s) and found to meet the requirements of above standards for application in safety related system up to Safety Level of **SIL 3**. The unit must be properly designed into a Safety Instrument Function as per the requirements in the Safety Manual. The Verification Mark shown above can be affixed on the product. It is NOT permitted to alter the Verification Mark in any way. In addition the Verification's Holder is NOT allowed to transfer the Verification to third parties. This certificate can be checked for validity at www.entecerma.it

Date of issue 08 February 2023



Expiry date 07 February 2028

Approver Ente Certificazione Macchine Legal Representative Luca Bedonni



Annex I



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- 1. The use of the product [Obstacle detection and anti collision assistant system] must obey the required rules to conservation of SIL3 properties, these rules are recalled in the §6 of the Assessment Report reference: [SIL Capability assessment report].
- 2. The product version of hardware components used for validation and type tests are the following:

Product:	Pneumatic Actuator
Model(s):	Fig.540/Fig.541
Air Supply:	2.5bar-8bar
Air Connection:	G1/4, G1/2

- Acceptable environmental constraints for the system are recalled in the safety Manual. These 3. elements must be checked for each integration operation of the product.
- The SIL 3 capable certified safety instrumented function of the product [Obstacle detection and anti 4. collision assistant system] is the following:
 - SF1: To Close on demand.
 - SF2: To Open on demand. •

5. Hypothesis used for calculations are presented here under: The mode of operation is Low demand, which means less than 1 trip demand each year;

Component architecture	sIL Capability	Demand frequ	ency PFD
1001 configuration	SIL2	Low	1.70E-03
1002 configuration	SIL3	Low	2.98E-04
Safety function Failur	e rate Undetected do	angerous failure rate Te	sts intervals MTTR

SF1	2.89E-06	3.88E-07	12months	8h			
SF2	2.87E-06	3.86E-07	12months	8h			
6. The safety integrated level of the safety function using the product [Obstacle detection and anti							

collision assistant system] shall be calculated taking into account the characteristics of the whole system.

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