

CERTIFICATE

This certifies that the company

Actuatech S.p.A.
Via San Lorenzo, 70
25069 Villa Carcina (BS)
Italy

Is authorized to provide the product mentioned below

Description of product: **Pneumatic rack and pinion spring return and double acting actuator series RP**

In accordance with: **EN 61508:2010 Parts 1, 2, 3, 4, 5, 6, 7**

Registration No 21 21859 01
Test Report No PS-21859-21-L
File reference 21859-01



TÜV NORD Italia S.r.l. (TÜV NORD Group)
Via Turati, 70 - 20023 Cerro Maggiore (MI)



www.tuev-nord.it

Validity
from 2021-06-28
until 2023-04-02

Cerro Maggiore, 2021-06-28
prodotto@tuev-nord.it

Please also pay attention to the information stated overleaf

ANNEX

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To Certificate-Nr. 21 21859 01

Type	A
HFT	0
Safety functions	<u>Spring return actuators:</u> 1. Delivery of a full stroke ($90^\circ \pm$ tolerance) driven by the spring, with power fluid exhausted from the cylinder through the control system <u>Double acting actuators:</u> 1. Delivery of a full stroke ($90^\circ \pm$ tolerance) driven by the piston of cylinder, powered by the specified medium working pressure
Mode of operation	Low Demand Mode

Random failure rates				
Configuration	Safety function	λ_{DU} [1/h]	λ_{DD} [1/h]	λ_S [1/h]
RP spring return - No PST	1	7,33E-08	0,00E+00	0,00E+00
RP spring return - With PST	1	6,60E-09	6,67E-08	0,00E+00
RP double acting - No PST	1	1,80E-07	0,00E+00	0,00E+00
RP double acting - With PST	1	1,62E-08	1,63E-07	0,00E+00

Systematic capability	3 (Route 1 _s applied)			
Architectural constraints	Route 1_H:	Applied	Route 2_H:	Applied
	The product can be used in: <ul style="list-style-type: none"> • single channel configuration: <ul style="list-style-type: none"> ○ up to SIL 2 without external diagnostic tests ○ up to SIL 3 considering external diagnostic tests • double channel configuration: up to SIL 3 			

Remarks:

- For further details, including environmental conditions, limitations of use, lifetime, failure rates traceability, mean repair times, common cause factors and systematic capability constraints, make reference to Safety Manual SM202101.

