



**Certificate no. TAI-FS-C-22-0020**

WE HEREBY CERTIFY THAT

**Product description** PNEUMATIC RACK AND PINION SPRING RETURN AND DOUBLE ACTING ACTUATOR

**Models** SERIES GT, RCR

**Manufacturer** ROTORK CONTROLS (INDIA) PVT., LTD.  
RFS DIVISION  
23/3, Thiruvallur High Road  
Thirumazhisai, Chennai, Tamil Nadu 600124  
India

IS IN COMPLIANCE WITH THE REQUIREMENTS OF THE STANDARDS

**IEC 61508 Parts 1–7:2010**

AS RESULT OF THE ASSESSMENT ACCORDING TO THE PROVISION SET OUT IN THE ABOVE-MENTIONED STANDARDS

**Summary Report no. TAI-FS-R-22-0041**

**Expiry date 04.05.2025**

**Issue date 11.05.2022**

TÜV AUSTRIA ITALIA - Blu Solutions s.r.l.  
11.05.2022, Monte Roberto (AN)

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## Annex to certificate no. TAI-FS-C-22-0020

|                          |   |
|--------------------------|---|
| <b>Type</b>              | A   |
| <b>HFT</b>               | 0   |
| <b>Safety functions</b>  | <u>Spring return actuators:</u><br>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<br><u>Double acting actuators:</u><br>1. Delivery of a full stroke ( $90^\circ \pm$ tolerance) driven by the piston of cylinder, powered by the specified medium working pressure |
| <b>Mode of operation</b> | Low Demand Mode   |

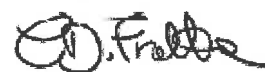
| Random failure rates               |                 |                      |                      |                   |
|------------------------------------|-----------------|----------------------|----------------------|-------------------|
| Configuration                      | Safety function | $\lambda_{DU}$ [1/h] | $\lambda_{DD}$ [1/h] | $\lambda_S$ [1/h] |
| GT, RCR (spring return) - No PST   | 1               | 3,49E-08             | 0,00E+00             | 0,00E+00          |
| GT, RCR (spring return) - With PST | 1               | 3,14E-09             | 3,18E-08             | 0,00E+00          |
| GT, RCR (double acting) - No PST   | 1               | 1,48E-08             | 0,00E+00             | 0,00E+00          |
| GT, RCR (double acting) - With PST | 1               | 1,33E-09             | 1,34E-08             | 0,00E+00          |

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

- 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 SM-GT-00-EN.

END OF CERTIFICATE

TÜV AUSTRIA ITALIA - Blu Solutions s.r.l.  
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