



Certificate no. TAI-FS-C-22-0015

WE HEREBY CERTIFY THAT

Product description PNEUMATIC COMPACT HELICAL SLOT SPRING RETURN AND DOUBLE ACTING ACTUATOR

Models SERIES CQP/S, CQP/D

Manufacturer ROTORK FLUID SYSTEMS S.r.l.
Via Padre Jacques Hamel 138/B
I-55016 Porcari (LU)

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-22-0031

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TÜV AUSTRIA ITALIA - Blu Solutions s.r.l.
05.05.2022, Monte Roberto (AN)

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Annex to certificate no. TAI-FS-C-22-0015

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

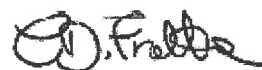
Random failure rates				
Configuration	Safety function	λ_{DU} [1/h]	λ_{DD} [1/h]	λ_S [1/h]
CQP/S - No PST	1	3,13E-08	0,00E+00	0,00E+00
CQP/S - With PST	1	2,81E-09	2,84E-08	0,00E+00
CQP/D - No PST	1	5,41E-08	0,00E+00	0,00E+00
CQP/D - With PST	1	4,87E-09	4,93E-08	0,00E+00

Systematic capability	3 (Route 1s 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 SM-CQP-A-01-E.

END OF CERTIFICATE

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