



**Certificate no. TAI-FS-C-22-0003**

WE HEREBY CERTIFY THAT

**Product description** PNEUMATIC LINEAR SPRING RETURN AND DOUBLE ACTING ACTUATOR

**Models** SERIES LP/S, LP/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-22-0006**

**Expiry date 18.01.2025**

**Issue date 19.01.2022**

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19.01.2022, Monte Roberto (AN)

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## Annex to certificate no. TAI-FS-C-22-0003

<b>Type</b>	A
<b>HFT</b>	0
<b>Safety functions</b>	1. Stem extended upon the demand of the actuation system 2. Stem retracted upon the demand of the actuation system
<b>Mode of operation</b>	Low Demand Mode

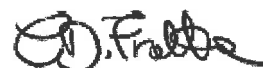
Random failure rates				
Configuration	Safety function	$\lambda_{DU}$ [1/h]	$\lambda_{DD}$ [1/h]	$\lambda_S$ [1/h]
LP/SD (integral spring module) - No PST	1	2,08E-08	0,00E+00	0,00E+00
LP/SD (integral spring module) - With PST	1	1,87E-09	1,89E-08	0,00E+00
LP/SU (integral spring module) - No PST	2	2,08E-08	0,00E+00	0,00E+00
LP/SU (integral spring module) - With PST	2	1,87E-09	1,89E-08	0,00E+00
LP/S (separate spring module) - No PST	1 / 2	2,20E-08	0,00E+00	0,00E+00
LP/S (separate spring module) - With PST	1 / 2	1,98E-09	2,00E-08	0,00E+00
LP/FD - No PST	1	2,27E-08	0,00E+00	0,00E+00
LP/FD - With PST	1	2,05E-09	2,07E-08	0,00E+00
LP/FU - No PST	2	2,26E-08	0,00E+00	0,00E+00
LP/FU - With PST	2	2,04E-09	2,06E-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:**

- The results for model LP/S with separate spring module are given for the worst-case configuration.
- 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-LP-A-01-E.

END OF CERTIFICATE



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