



Certificate no. TAI-FS-C-24-0064

Product description WE HEREBY CERTIFY THAT
**HYDRAULIC SCOTCH-YOKE SPRING RETURN AND
DOUBLE ACTING ACTUATOR**

Models **SERIES GH/S, GH/S-FA, GH/D**

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

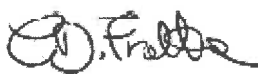
AS RESULT OF THE ASSESSMENT ACCORDING TO THE PROVISION
SET OUT IN THE ABOVE-MENTIONED STANDARDS

Summary Report no. TAI-FS-R-24-0127

Expiry date 13.06.2027

Issue date 10.07.2024

TUV AUSTRIA ITALIA
10.07.2024, Monte Roberto (AN)


Ing. Crescenzo Di Fratta

TUV AUSTRIA ITALIA S.p.A.
Via del Commercio, 6/A 60030 Monte Roberto (AN)
+39 0731 22781 - info@tuvaustriaitalia.com - tuvaustriaitalia@pec.it
C.F./P. IVA IT01055750333 - Cap. Soc. i.v. € 400.000,00 - REA AN n. 211030
Società a socio unico, soggetta a controllo e coordinamento di:
TÜV AUSTRIA HOLDING AG Deutschstrasse 10, A-1230, Vienna, Austria
www.tuvaustriaitalia.com

Annex to certificate no. TAI-FS-C-24-0064

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

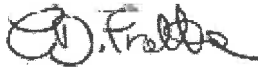
Random failure rates				
Configuration	Safety function	λ_{DU} [1/h]	λ_{DD} [1/h]	λ_S [1/h]
Series GH/S - No PST	1	8,59E-09	0,00E+00	0,00E+00
Series GH/S - With PST	1	7,73E-10	7,81E-09	0,00E+00
Series GH/S-FA - No PST	1	9,59E-09	0,00E+00	0,00E+00
Series GH/S-FA - With PST	1	8,63E-10	8,72E-09	0,00E+00
Series GH/D - No PST	1	1,41E-08	0,00E+00	0,00E+00
Series GH/D - With PST	1	1,27E-09	1,28E-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-GH-A-02-E

END OF CERTIFICATE

TUV AUSTRIA ITALIA
10.07.2024, Monte Roberto (AN)


 Ing. Crescenzo Di Fratta

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Certificate no. TAI-FS-C-24-0063

WE HEREBY CERTIFY THAT

Product description PNEUMATIC SCOTCH-YOKE SPRING RETURN AND
DOUBLE ACTING ACTUATOR

Models SERIES GP/S, GP/D

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-24-0125

Expiry date 13.06.2027

Issue date 10.07.2024

TUV AUSTRIA ITALIA
10.07.2024, Monte Roberto (AN)

Ing. Crescenzo Di Fratta

TUV AUSTRIA ITALIA S.p.A.

Via del Commercio, 6/A 60030 Monte Roberto (AN)
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Annex to certificate no. TAI-FS-C-24-0063

Type	A
HFT	0
Safety functions	<u>Spring return actuators:</u> 1. Delivery of a full stroke (90° ± 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° ± 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]
Series GP/S - No PST	1	6,01E-09	0,00E+00	0,00E+00
Series GP/S - With PST	1	5,41E-10	5,47E-09	0,00E+00
Series GP/D - No PST	1	1,12E-08	0,00E+00	0,00E+00
Series GP/D - With PST	1	1,01E-09	1,02E-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-GP-A-02-E

END OF CERTIFICATE

TUV AUSTRIA ITALIA
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