



Certificate no. TAI-FS-C-23-0017

WE HEREBY CERTIFY THAT

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

Models BETTIS™ SERIES G

Manufacturer EMERSON AUTOMATION SOLUTIONS
Valve Automation, Inc.
19200 Northwest Freeway
Houston, Texas 77065
USA

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-23-0036

Expiry date 16.04.2026

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TÜV AUSTRIA ITALIA - Blu Solutions s.r.l.
17.04.2023, Monte Roberto (AN)

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Cod. Id. CEE IT02217380423 REA AN n. 170070
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Annex to certificate no. TAI-FS-C-23-0017

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]
Bettis™ series G spring return - No PST	1	3,64E-08	0,00E+00	0,00E+00
Bettis™ series G spring return - With PST	1	3,28E-09	3,32E-08	0,00E+00
Bettis™ series G spring return "tandem" - No PST	1	3,65E-08	0,00E+00	0,00E+00
Bettis™ series G spring return "tandem" - With PST	1	3,28E-09	3,32E-08	0,00E+00
Bettis™ series G double acting - No PST	1	4,17E-08	0,00E+00	0,00E+00
Bettis™ series G double acting - With PST	1	3,75E-09	3,79E-08	0,00E+00
Bettis™ series G double acting "tandem" - No PST	1	4,19E-08	0,00E+00	0,00E+00
Bettis™ series G double acting "tandem" - With PST	1	3,77E-09	3,81E-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 Manuals ES 47_G

END OF CERTIFICATE

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