



Certificate no. TAI-FS-C-23-0016

WE HEREBY CERTIFY THAT

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

Models BETTIS™ SERIES CBB, CBA300
BIFFI™ SERIES FCB (models FCBB, FCBA300)

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-23-0034

Expiry date 16.04.2026

Issue date 17.04.2023

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

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Annex to certificate no. TAI-FS-C-23-00xx

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™ CBB spring return, Biffi™ FCBB spring return - No PST	1	1,49E-08	0,00E+00	0,00E+00
Bettis™ CBB spring return, Biffi™ FCBB spring return - With PST	1	1,34E-09	1,36E-08	0,00E+00
Bettis™ CBA300 spring return, Biffi™ FCBA300 spring return - No PST	1	1,57E-08	0,00E+00	0,00E+00
Bettis™ CBA300 spring return, Biffi™ FCBA300 spring return - With PST	1	1,41E-09	1,42E-08	0,00E+00
Bettis™ CBB double acting, Biffi™ FCBB double acting - No PST	1	1,92E-08	0,00E+00	0,00E+00
Bettis™ CBB double acting, Biffi™ FCBB double acting - With PST	1	1,73E-09	1,75E-08	0,00E+00
Bettis™ CBA300 double acting, Biffi™ FCBA300 double acting - No PST	1	2,10E-08	0,00E+00	0,00E+00
Bettis™ CBA300 double acting, Biffi™ FCBA300 double acting - With PST	1	1,89E-09	1,91E-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_CBB, ES 47_CBAx30, SM 033

END OF CERTIFICATE



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