



Certificate no. TAI-FS-C-25-0006

WE HEREBY CERTIFY THAT

Product description	Pneumatic rack and pinion spring return and double acting actuator
Models	EL-O-Matic™ series F (up to and including size 0600)
Manufacturer	Emerson Process Management Valve Automation, Inc. 19200 Northwest Freeway Houston, Texas 77065 United States of America
	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
Assessment report no.	TAI-FS-R-25-0006
Expiry date	06.04.2028
Issue date	07.04.2025

TUV AUSTRIA ITALIA
07.04.2025, 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@tuvaustraiitalia.com - tuvaustraiitalia@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.tuvaustraiitalia.com

Annex to certificate no. TAI-FS-C-25-0006

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]
EL-O-Matic™ series F spring return - No PST	1	1,11E-08	0,00E+00	0,00E+00
EL-O-Matic™ series F spring return - With PST	1	1,00E-09	1,01E-08	0,00E+00
EL-O-Matic™ series F double acting - No PST	1	1,35E-08	0,00E+00	0,00E+00
EL-O-Matic™ series F double acting - With PST	1	1,21E-09	1,22E-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 DOC.SILM.EF.EN

END OF CERTIFICATE

TUV AUSTRIA ITALIA
07.04.2025, 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@tuvaustraiitalia.com - tuvaustraiitalia@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.tuvaustraiitalia.com



ZERTIFIKAT | CERTIFICATE | CERTIFICAT | CERTIFICADO | СЕРТИФИКАТ | شهادة | 证书 | 인증서

Certificate no. TAI-FS-C-23-0035

WE HEREBY CERTIFY THAT

Product description PNEUMATIC RACK AND PINION SPRING RETURN AND DOUBLE ACTING ACTUATOR

Models EL-O-MATIC™ SERIES F (from size 0950 up to and including size 4000)

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-23-0070

Expiry date 07.06.2026

Issue date 08.06.2023

TÜV AUSTRIA ITALIA - Blu Solutions s.r.l.
08.06.2023, Monte Roberto (AN)

Ing. Crescenzo Di Fratta

Page 1 of 2

TÜV AUSTRIA ITALIA - Blu Solutions s.r.l.
Sede operativa: Via dell'Industria, 14 – 25030 Erbusco - Brescia, Italy
Phone +39 030 9821049 Fax +39 030 9822253 info.bs@tuvaustralia.com
Sede legale: Via del Commercio, 6/A - 60030 Monte Roberto - Ancona, Italy
Cap. Soc. i.v. EUR 10.000,00; R.l. Ancona – C.F. – P. IVA 02217380423
Cod. Id. CEE IT02217380423 REA AN n. 170070
A socio unico, soggetta a controllo e coordinamento di:
TÜV AUSTRIA HOLDING AG, Deutschstrasse 10, 1230, Vienna, Austria
www.tuvaustriaitalia.com www.tuv.at

Annex to certificate no. TAI-FS-C-23-0035

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]
EL-O-Matic™ series F spring return - No PST	1	1,88E-08	0,00E+00	0,00E+00
EL-O-Matic™ series F spring return - With PST	1	1,69E-09	1,71E-08	0,00E+00
EL-O-Matic™ series F double acting - No PST	1	2,21E-08	0,00E+00	0,00E+00
EL-O-Matic™ series F double acting - With PST	1	1,99E-09	2,01E-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 DOC.SILM.EF.EN.

END OF CERTIFICATE

TÜV AUSTRIA ITALIA - Blu Solutions s.r.l.
08.06.2023, Monte Roberto (AN)



Ing. Crescenzo Di Fratta