

TYPE APPROVAL CERTIFICATE

This is to certify:**That the Electric Actuator**with type designation(s)
EB100, EB200

Issued to

AMOT (a division of Roper Industries Limited)
BURY ST. EDMUNDS SUFFOLK, United Kingdom

is found to comply with

DNV GL rules for classification – Ships, offshore units, and high speed and light craft**Application :****Product(s) approved by this certificate is/are accepted for installation on all vessels classed by DNV GL.**

Type	Temperature	Humidity	Vibration	EMC	Enclosure
EB100	A	B	B	A	C
EB200	A	B	B	A	C

This Certificate is valid until **2022-04-24**.Issued at **Hamburg** on **2017-04-25**DNV GL local station: **Newcastle-upon-Tyne**for **DNV GL**Approval Engineer: **Marco Rinkel**

Joannis Papanuskas
Head of Section

This Certificate is subject to terms and conditions overleaf. Any significant change in design or construction may render this Certificate invalid. The validity date relates to the Type Approval Certificate and not to the approval of equipment/systems installed.

Product description

The Electric Actuator is a quarter-turn actuator containing the following electrical equipment:

- Electric motor with integral bi-metallic overheat protection (150 °C).
- End of travel shut off micro switches
- End travel pre-warning micro switches to provide indication signals.
- Torque limit shut off micro switches
- Anti-condensation heater which may be switched on when desired.
- Terminal blocks for external connections.
- Status LED x 3 (red, amber and green)

Application/Limitation

The Type Approval covers hardware listed under Product description. When the hardware is used in applications to be classed by DNV, documentation for the actual application is to be submitted for approval by the manufacturer of the application system in each case. Reference is made to DNV GL Rules for Ships Pt.4 Ch.9 Control and Monitoring Systems.

Type Approval documentation

EMC Test reports

dB Technology R2470 Issue 1

R2974 Issue 1

Environmental Test reports

TRAC Warwick, 11057CR01A

UKAS Testing, TL13113-ENV

Technical Documents

49468X_6 Terminal Box Assembly.pdf

49533X_3 Sensor Bracket EB100.pdf

49670L_6_s1 Purchased Actuator Model Coding.pdf

49670L_6_s2 Purchased Actuator EB100 Outline.pdf

49670L_6_s3 Purchased Actuator EB200 Outline.pdf

49670L_6_s4 Purchased Actuator EB100 Specification.pdf

49670L_6_s5 Purchased Actuator EB200 Specification.pdf

49670L_6_s6 Purchased Actuator EB400 Specification.pdf

49670X_6_s1 Actuator Assembly Parts List.pdf

49670X_6_s2 Actuator Assembly Labelling.pdf

49670X_6_s3 Actuator Assembly Positioner Installation.pdf

49670X_6_s4 Actuator Assembly Potentiometer Installation.pdf

80044X_2 Sensor Bracket EB200.pdf

Manuals

OMMGGE00051_4 User Manual for EB Actuators On Valves.pdf

Tests carried out

Applicable tests according to Class Guideline DNVGL CG-0339, November 2015.

Marking of product

EBaaabbcdefgg

aaa: Torque:

- 100: 100 Nm
- 200: 200 Nm

b: Voltage:

- A: 115 VAC
- B: 230 VAC

c: Hardware Options

- A: Standard, no additional hardware
- B: Positioner fitted
- C: Standard with 1 kOhm Potentiometer
- D: Positioner + 1 kOhm Potentiometer

d: Control Signal

- A: Switched live
- B: 4-20 mA
- C: 20-4 mA

e: Feedback Signal

- A: None
- B: Position retransmit (Control Signal B or D only)
- C: Position retransmit (4-20 mA, Control Signal A only)
- D: Position retransmit (20-4 mA, Control Signal A only)
- E: Demand input retransmit
- F: Error transmit
- G: Biased error transmit

f: Extra Features

- A: Not fitted

gg: Special Requirements

- AA: Standard

Periodical assessment

Periodical assessment

The scope of the periodical assessment is to verify that the conditions stipulated for the type are complied with, and that no alterations are made to the product design or choice of systems, software versions, components and/or materials.

The main elements of the assessment are:

- Ensure that type approved documentation is available
- Inspection of factory samples, selected at random from the production line (where practicable)
- Review of production and inspection routines, including test records from product sample tests and control routines
- Ensuring that systems, software versions, components and/or materials used comply with type approved documents and/or referenced system, software, component and material specifications
- Review of possible changes in design of systems, software versions, components, materials and/or performance, and make sure that such changes do not affect the type approval given
- Ensuring traceability between manufacturer's product type marking and the type approval certificate

Periodical assessment is to be performed after 2 years and after 3.5 years. A renewal assessment will be performed at renewal of the certificate.

END OF CERTIFICATE