



IECEX Certificate of Conformity

INTERNATIONAL ELECTROTECHNICAL COMMISSION IEC Certification System for Explosive Atmospheres

for rules and details of the IECEX Scheme visit www.iecex.com

Certificate No.: **IECEX INE 22.0031X** Page 1 of 3 [Certificate history:](#)
Status: **Current** Issue No: 0
Date of Issue: 2023-08-25
Applicant: **Emerson Process Management Valve Automation Inc.**
19200 Northwest Freeway
Houston
Texas 77065
United States of America
Equipment: **Pneumatic/Hydraulic Part Turn Piston Actuators based on scotch-yoke mechanism type Bettis CBB-CBA300;
type MORIN Series B, C & S; type Bettis Series M & MB and type Bettis Series G/GH**
Optional accessory:
Type of Protection: **Ex h**
Marking: Ex h IIB or IIC T6...T4 Gb
Ex h IIIC T85°C...T135°C Db

Approved for issue on behalf of the IECEX
Certification Body:

Position:

Signature:
(for printed version)

Date:
(for printed version)



Thierry HOUEIX

Ex Certification Officer

2023-08-25

Signé électroniquement
Digitally signed by
Thierry HOUEIX
Ex Certification Officer
Délégué Certification

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BP n2 / Parc Technologique ALATA
F-60550 Verneuil-en-Halatte
France



controlling risks
for sustainable development



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Manufacturer: **Emerson Process Management Valve Automation Inc.**
19200 Northwest Freeway
Houston
Texas 77065
United States of America

Manufacturing locations: **Emerson Process Management Valve Automation Inc.**
19200 Northwest Freeway
Houston
Texas 77065
United States of America

This certificate is issued as verification that a sample(s), representative of production, was assessed and tested and found to comply with the IEC Standard list below and that the manufacturer's quality system, relating to the Ex products covered by this certificate, was assessed and found to comply with the IECEx Quality system requirements. This certificate is granted subject to the conditions as set out in IECEx Scheme Rules, IECEx 02 and Operational Documents as amended

STANDARDS :

The equipment and any acceptable variations to it specified in the schedule of this certificate and the identified documents, was found to comply with the following standards

ISO 80079-36:2016 Explosive atmospheres - Part 36: Non-electrical equipment for explosive atmospheres - Basic methods and requirements
Edition:1.0

ISO 80079-37:2016 Explosive atmospheres - Part 37: Non-electrical equipment for explosive atmospheres - Non electrical type of protection constructional safety "c", control of ignition source "b", liquid immersion "k"
Edition:1.0

This Certificate **does not** indicate compliance with safety and performance requirements other than those expressly included in the Standards listed above.

TEST & ASSESSMENT REPORTS:

A sample(s) of the equipment listed has successfully met the examination and test requirements as recorded in:

Test Report:

[FR/INE/ExTR23.0041/00](#)

Quality Assessment Report:

[GB/SIR/QAR06.0045/15](#)



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EQUIPMENT:

Equipment and systems covered by this Certificate are as follows:

The PART-TURN Actuators are based on the SCOTCH-YOKE mechanism. This mechanism transforms the linear motion of the pneumatic/hydraulic cylinder piston or spring into a 90° rotary motion (quarter-turn). This transformation from linear motion to quarter-turn occurs through the piston rod of the pneumatic/hydraulic cylinder and the stem of the thrust bearing of the spring which are connected to the yoke located inside the main housing of the actuator.

The PART-TURN actuators can be in double-acting or single-acting versions. The double-acting version consists of a pneumatic/hydraulic cylinder connected to the main housing, single-acting instead of a pneumatic/hydraulic cylinder and a spring cartridge respectively on the 2 opposite sides of the main housing of the actuator.

On actuators can be installed the following manual override:

- M11 hydraulic override
- M3 jackscrew manual with or without handwheel
- G-Ride manual gear override with standard hex nut or handwheel
- Blowout jackscrew with hex nut or jackscrew with handwheel
- Jackscrew override (JSO)
- Hydraulic override (MHP)

SPECIFIC CONDITIONS OF USE: YES as shown below:

For the risk from electrostatic discharge, the user shall read the instructions.

The equipment is intended to be used in an ambient temperatures range from -60°C to +75°C (for T6/T85°C), -60°C to +90°C (for T5/T100°C) and -60°C to +100°C (for T4/T135°C), depending the model and used gasket.

Models Morin B, C & S, Bettis M & MB using grease Molykote (Dow Corning) 112 are suitable for ambient temperature range from -40°C ÷ +75°C (for T6/T85°C), -40°C ÷ +90°C (for T5/T100°C) and -40°C ÷ +100°C (for T4/T135°C), depending the model and used gasket.

Annex:

[IECEX INE 22.0031X-00_Annex.pdf](#)



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PARAMETERS RELATING TO THE SAFETY

Actuators type Bettis CBB

Pressure Rating: 3-11 bar

Output max torque: Single acting 482 Nm
Double acting 1301 Nm

Actuators type Bettis CBA300

Pressure Rating: 3-10 bar

Output max torque: Single acting from 286 to 1182 Nm
Double acting from 835 Nm to 2333 Nm

Actuators type MORIN Series B, C & S / Actuators type Bettis Series M & MB

Pressure Rating: from 6,9 bar to 12,00 bar

Design max torque: from 12 Nm to 46210 Nm

Actuators type Bettis series G/GH

Pressure Rating (Pneumatic): 3-14 bar

Output max torque (Pneumatic): 678000 Nm

Pressure Rating (Hydraulic): 345 bar

Output max torque (Hydraulic): 56492 Nm

CONDITIONS OF MANUFACTURE

Equipment with painting thickness not exceeding 0.2 mm could be certified for gas group IIC, equipment with painting thickness between 0.2 mm and 2 mm are certified for gas group IIB.

Bettis CBB-CBA300 actuators could be fitted with the following accessories: blowout jackscrew with hex nut or jackscrew with handwheel.

MORIN Series B, C & S and Bettis Series M & MB actuators could be fitted with the following accessories: jackscrew override (JSO) or hydraulic override (MHP).

Bettis series G/GH actuators could be fitted with the following accessories: M11 hydraulic override, M3 jackscrew manual with or without handwheel, G-Ride manual gear override with standard hex nut or handwheel.

MARKING

Marking has to be readable and indelible; it has to include the following indications:

- Emerson Process Management Valve Automation Inc.
- 19200 Northwest Freeway
- Houston
- Texas 77065
- United States of America
- Bettis CBB-CBA300 or MORIN Series B, C & S or Bettis Series M & MB or Bettis Series G/GH⁽¹⁾
- IECEx INE 22.0031X
- (Serial number)
- Ex h IIB or IIC⁽²⁾ T6...T4 Gb
- Ex h IIIC T85°C...T135°C Db
- IP66/67M
- Tamb.⁽³⁾
- WARNING – POTENTIAL ELECTROSTATIC CHARGING HAZARD – SEE INSTRUCTIONS



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(1) Number logic

Actuators type Bettis CBB-CBA300

Models CBB: CBB315; CBB420; CBB520; CBB525; CBB725 (Double acting – no spring)
CBB315-SRxxx; CBB420-SRxxx; CBB520-SRxxx; CBB525-SRxxx; CBB725-SRxxx (Single acting – SR=spring return)

Models CBA300: CBA-730; CBA-830; CBA-930; CBA-1030 (Double acting – no spring)
CBA-730-SRxxx; CBA-830-SRxxx; CBA-930-SRxxx; CBA-1030-SRxxx (Single acting – SR=spring return)

Note:

xxx means spring cartridge size

Actuators type MORIN Series B, C & S / Actuators type Bettis Series M & MB

Models: B, MB, C, S, M model family 000: models 003 thru 099.

B, MB, C, S, M model family 100: models 100 thru 199.

B, MB, C, S, M model family 200: models 200 thru 299.

B, MB, C, S, M model family 300: models 300 thru 399.

B, MB, C, S, M model family 400: models 400 thru 499.

B, MB, C, S, M model family 500: models 500 thru 599.

B, MB, C, S, M model family 600: models 600 thru 699.

B, MB, C, S, M model family 700: models 700 thru 799.

B, MB, C, S, M model family 800: models 800 thru 899.

B, MB, C, S, M model family 900: models 900 thru 999.

B, MB, C, S, M model family 1000: models 1000 thru 1999.

B, MB, C, S, M model family 2000: models 2000 thru 2999.

Actuators type Bettis series G/GH

Models G: G/GC01xxx; G/GC2xxx; G/GC3xxx; G/GC4xxx; G/GC5xxx; G/GC7xxx; G/GC8xxx; G/GC10xxx; G/GC13xxx (Double acting – no spring)

G/GC01xxx-SR; G/GC2xxx-SR; G/GC3xxx-SR; G/GC4xxx-SR; G/GC5xxx-SR; G/GC7xxx-SR; G/GC8xxx-SR; G/GC10xxx-SR; G/GC13xxx-SR (Single acting – SR=spring return)

Models GH: GH/GHC01xxx; GH/GHC2xxx; GH/GHC3xxx; GH/GHC4xxx; GH/GHC5xxx; GH/GHC7xxx; GH/GHC8xxx; GH/GHC10xxx; GH/GHC13xxx (Double acting – no spring)

GH/GHC01xxx-SR; GH/GHC2xxx-SR; GH/GHC3xxx-SR; GH/GHC4xxx-SR; GH/GHC5xxx-SR; GH/GHC7xxx-SR; GH/GHC8xxx-SR; GH/GHC10xxx-SR; GH/GHC13xxx-SR (Double acting – no spring)

Notes:

C identifies the type of glyph (C=Canted)

H identifies the high-pressure version (Hydraulic)

(2) According to conditions of manufacture

(3) Within the temperature range -60°C to +75°C (for T6/T85°C)

-60°C to +90°C (for T5/T100°C)

-60°C to +100°C (for T4/T135°C)

For Models Morin B, C & S, Bettis M & MB using grease Molykote (Dow Corning) 112 :

Within the temperature range -40°C to +75°C (for T6/T85°C)

-40°C to +90°C (for T5/T100°C)

-40°C to +100°C (for T4/T135°C)

ROUTINE EXAMINATIONS AND TESTS

None