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 23.0038X**

Certificate history:
Issue 0 (2023-08-25)

Status: **Current**

Issue No: 1

Date of Issue: 2025-09-11

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 CBB-CBA300, type FCBB-FCBA300, type G/GH and type FG/FGH**

Optional accessory:

Type of Protection: **Ex h**

Marking: Ex h IIB or IIC T6…T3 Gb
Ex h IIIC T85°C…T200°C Db

Approved for issue on behalf of the IECEx Certification Body: **Bruno DEBRAY**

Position: **Deputy Director of SCI**

Signature:
(for printed version)

Signé électroniquement
Digitally signed by
Bruno DEBRAY
Deputy Director of Strategy, Scientific policy and Communication departement
Directeur adjoint de la direction de la Stratégie, de la Politique scientifique et de la Communication

Date:
(for printed version) 2025-09-11

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Certificate issued by:

INERIS
Institut National de l'Environnement Industriel et des Risques
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

BIFFI ITALIA S.r.l
Strada Biffi, 165
Fiorenzuola d'Arda 29017
Italy

Emerson Process Management (Tianjin) Valves Co., Ltd
No 15 Xing Wang Road
Wuqing Development Area
Tianjin 301700
China

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

IEC 60079-0:2017 Edition:7.0	Explosive atmospheres - Part 0: Equipment - General requirements
ISO 80079-36:2016 Edition:1.0	Explosive atmospheres - Part 36: Non-electrical equipment for explosive atmospheres - Basic methods and requirements
ISO 80079-37:2016 Edition:1.0	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"

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/ExTR23.0040/01

Quality Assessment Reports:

CN/NEP/QAR22.0006/02 FR/INE/QAR08.0005/18 GB/SIR/QAR06.0045/19

IECEx Certificate of Conformity

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

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, depending the model and used gasket

For G, GH, FG and FGH Series: -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)

-40°C to +176°C (for T3/T200°C)

For CBB, CBA300, FCBB and FCBA300 Series : -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)

-60°C to +176°C (for T3/T200°C)

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DETAILS OF CERTIFICATE CHANGES (for issues 1 and above)
For the Issue 01:

- Pneumatic/Hydraulic Part Turn Piston Actuators based on scotch-yoke mechanism type CBB-CBA300 and type G/GH are transferred from certificate IECEx INE 22.0031X to this certificate
- Addition of high-temperature product variants with a temperature range of up to 177°C for extended temperature classification up to T3
- Modification of operating temperature ranges
- Change of manufacturer from BIFFI ITALIA S.r.l. to Emerson Process Management Valve Automation, Inc
- Add of manufacturing location Emerson Process Management (Tianjin) Valves Co., Ltd
- Conformity assessment to IEC 60079-0:2017 in accordance with ExTAG Decision Sheet 2024/002

Annex:

IECEx INE 23.0038X-01_Annex_1.pdf

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Annex: IECEx INE 23.0038X-01_Annex.pdf

PARAMETERS RELATING TO THE SAFETY

Actuators type FCBB

Pressure Rating: 3-11 bar
Output max torque: Single acting 482 Nm
Double acting 1301 Nm

Actuators type CBB

Pressure Rating: 3-11 bar
Output max torque: Single acting 482 Nm
Double acting 1301 Nm

Actuators type FCBA300

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 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 FG/FGH

Pressure Rating (Pneumatic): 3-14 bar
Output max torque (Pneumatic): 678000 Nm
Pressure Rating (Hydraulic): 345 bar
Output max torque (Hydraulic): 56492 Nm

Actuators type 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.

FCBB-FCBA300 and CBB-CBA300 actuators could be fitted with the following accessories: Blowout jackscrew with hex nut or jackscrew with handwheel.

FG/FGH and 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
- FCBB-FCBA300 or FG/FGH or CBB-CBA300 or G/GH (1)
- IECEx INE 23.0038X
- (Serial number)
- Ex h IIB or IIC(2) T6…T3 Gb
- Ex h IIIC T85°C…T200°C Db
- IP6X
- Tamb.(3)
- WARNING – POTENTIAL ELECTROSTATIC CHARGING HAZARD – SEE INSTRUCTIONS

(1) Number logic

Actuators type FCBB-FCBA300
Models FCBB: FCBB315; FCBB420; FCBB520; FCBB525; FCBB725 (Double acting – no spring)
FCBB315-SRxxx; FCBB420-SRxxx; FCBB520-SRxxx; FCBB525-SRxxx; FCBB725-SRxxx (Single acting – SR=spring return)

Models FCBA300: FCBA-730; FCBA-830; FCBA-930; FCBA-1030 (Double acting – no spring)
FCBA-730-SRxxx; FCBA-830-SRxxx; FCBA-930-SRxxx; FCBA-1030-SRxxx (Single acting – SR=spring return)
Note:
xxx means spring cartridge size

Actuators type 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 FG/FGH
Models FG: FG/FGC01xxx; FG/FGC2xxx; FG/FGC3xxx; FG/FGC4xxx; FG/GC5xxx; FG/GC7xxx; FG/GC8xxx; FG/GC10xxx; FG/GC13xxx (Double acting – no spring)
FG/FGC01xxx-SR; FG/FGC2xxx-SR; FG/FGC3xxx-SR; FG/FGC4xxx-SR; FG/GC5xxx-SR; FG/GC7xxx-SR; FG/GC8xxx-SR; FG/GC10xxx-SR; FG/GC13xxx-SR (Single acting – SR=spring return)

Models FGH: FGH/FGHC01xxx; FGH/FGHC2xxx; FGH/FGHC3xxx; FGH/FGHC4xxx; FGH/FGHC5xxx; FGH/FGHC7xxx; FGH/FGHC8xxx; FGH/FGHC10xxx; FGH/FGHC13xxx (Double acting – no spring)
FGH/FGHC01xxx-SR; FGH/FGHC2xxx-SR; FGH/FGHC3xxx-SR; FGH/FGHC4xxx-SR; FGH/FGHC5xxx-SR; FGH/FGHC7xxx-SR; FGH/FGHC8xxx-SR; FGH/FGHC10xxx-SR; FGH/FGHC13xxx-SR (Double acting – no spring)
Notes:
C Identifies the type of glyph (C=Canted)
H identifies the high-pressure version (Hydraulic)
xxx means cylinder size

Actuators type 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)
xxx means cylinder size

(2) According to conditions of manufacture

(3) Within the temperature range

For G, GH, FG and FGH Series : -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)
-40°C to +176°C (for T3/T200°C)

For CBB, CBA300, FCBB and FCBA300 Series : -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)
-60°C to +176°C (for T3/T200°C)

ROUTINE EXAMINATIONS AND TESTS

None