



# 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](http://www.iecex.com)

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Issue 0 (2023-08-24)

Status: **Current** Issue No: 1

Date of Issue: 2025-05-21

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

Equipment: **Pneumatic/Hydraulic Quarter-Turn Piston Actuators based on scotch-yoke mechanism type ALGA/Bettis FHD, ALGAS/ALGAS-QA/Bettis FHS/Bettis FHS-QA, OLGA, OLGAS/OLGAS-QA, OLGA-H, OLGAS-H/OLGAS-H-QA, GIG, GIGS, GPO, ELGA/MAGA**

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

2025-05-21

Signé électroniquement  
Digitally signed by  
Thierry HOUEIX  
Ex Certification Officer  
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France



controlling risks  
for sustainable development



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Strada Biffi, 165  
Fiorenzuola d'Arda 29017  
**Italy**

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

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](#) Explosive atmospheres - Part 0: Equipment - General requirements  
Edition:7.0

[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/ExTR23.0039/01](#)

Quality Assessment Report:

[FR/INE/QAR08.0005/17](#)



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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:

- MHW = manual hand wheel
- MRHW = manual hand wheel with reducer
- DMHW = manual hand wheel de-clutched
- DMRHW = manual hand wheel de-clutched with reducer
- MSQ = manual square connection
- MRSQ = manual square connection with reducer
- MSJ = manual jackscrew
- MRSJ = manual jackscrew with reducer
- MHP = manual handpump
- CMHP = manual handpump with dedicated cylinder (for hydraulic actuator)

## **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.



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## **DETAILS OF CERTIFICATE CHANGES (for issues 1 and above)**

### **For issue 01:**

- Addition of a gasket increasing the temperature range from -50°C to -60°C
- Update of grease table
- Introduction of IEC 60079-0 : 2017 in accordance with DS 2024/002
- Update of manufacturer documentation

### **Annex:**

[IECEX INE 22.0030X-01\\_Annex.pdf](#)



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## **PARAMETERS RELATING TO THE SAFETY**

*Actuators type Biffi ALGA / Actuators type Bettis FHD*

Pressure Rating: 12,00 bar  
Design max torque: 750000 Nm

*Actuators type Biffi ALGAS /Biffi ALGAS-QA / Actuators type Bettis FHS/Bettis FHS-QA*

Pressure Rating: 12,00 bar  
Design max torque: 750000 Nm

*Actuators type OLGA*

Pressure Rating: 105,00 bar  
Design max torque: 750000 Nm

*Actuators type OLGAS/OLGAS-QA*

Pressure Rating: 105,00 bar  
Design max torque: 750000 Nm

*Actuators type OLGA-H*

Pressure Rating: 352,00 bar  
Design max torque: 1000000 Nm

*Actuators type OLGAS-H/OLGAS-H-QA*

Pressure Rating: 352,00 bar  
Design max torque: 1000000 Nm

*Actuators type GIG*

Pressure Rating: 105,00 bar  
Design max torque: 450000 Nm

*Actuators type GIGS*

Pressure Rating: 105,00 bar  
Design max torque: 450000 Nm

*Actuators type GPO*

Pressure Rating: 105,00 bar  
Design max torque: 450000 Nm

*Actuators type ELGA/MAGA*

Pressure Rating: N/A  
Design max torque: 825000 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.

ALGA/FHD actuators could be fitted with the following accessories: MHW/MRHW, DMHW/ DMRHW, MSQ/MRSQ, MSJ/MRSJ, MHP.

ALGAS/FHS actuators could be fitted with the following accessories: MHW/MRHW, DMHW/ DMRHW, MSQ/MRSQ, MSJ/MRSJ, MHP.

OLGA actuators could be fitted with the following accessories : MSJ, MHW, MRHW MHP, CMHP.

OLGAS actuators could be fitted with the following accessories : MSJ, MHW, MRHW MHP, CMHP.

OLGA-H actuators could be fitted with the following accessories : MSJ, MHW, MRHW MHP, CMHP.

OLGAS-H actuators could be fitted with the following accessories : MSJ, MHW, MRHW MHP, CMHP.

GIG actuators could be fitted with the following accessories : MSJ, MHW, MRHW MHP, CMHP.

GIGS actuators could be fitted with the following accessories : MSJ, MHW, MRHW MHP, CMHP.

GPO actuators could be fitted with the following accessories : MSJ, MHW, MRHW MHP, CMHP.



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## MARKING

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

- BIFFI ITALIA S.r.l
- Strada Biffi, 165
- Fiorenzuola d'Arda 29017 - Italy
- ALGA/Bettis FHD or ALGAS/ALGAS-QA/Bettis FHS/Bettis FHS-QA or OLGA or OLGAS/OLGAS-QA or OLGA-H or OLGAS-H/OLGAS-H-QA or GIG or GIGS or GPO or ELGA/MAGA<sup>(1)</sup>
- IECEx INE 22.0030X
- (Serial number)
- Ex h IIB or IIC<sup>(2)</sup> T6...T4 Gb
- Ex h IIIC T85°C...T135°C Db
- IP6X
- Tamb.<sup>(3)</sup>
- WARNING – POTENTIAL ELECTROSTATIC CHARGING HAZARD – SEE INSTRUCTIONS

<sup>(1)</sup> Number logic

### Actuators type Biffi ALGA / Actuator type Bettis FHD

Models ALGA: ALGA 0.1#-xxx; ALGA 0.3#-xxx; ALGA 0.9#-xxx; ALGA 1.5#-xxx; ALGA 3#-xxx; ALGA 6#-xxx; ALGA 14#-xxx; ALGA 14# 2-xxx; ALGA 18#-xxx; ALGA 18# 2-xxx; ALGA 32#-xxx; ALGA 32# 2-xxx; ALGA 50(60)#-xxx; ALGA 50(60)# 2-xxx; ALGA 80#-xxx; ALGA 80# 2-xxx; ALGA 100#-xxx; ALGA 100# 2-xxx;

Notes:

# Identifies the type of glyph (S=symmetric C=Canted)

xxx means Cylinder size

ALGA YY# 2-XXX with double Cylinder version.

Models FHD: FHD 0.1#-xxx; FHD 0.3#-xxx; FHD 0.9#-xxx; FHD 1.5#-xxx; FHD 3#-xxx; FHD 6#-xxx; FHD 14#-xxx; FHD 14# 2-xxx; FHD 18#-xxx; FHD 18# 2-xxx; FHD 32#-xxx; FHD 32# 2-xxx; FHD 50(60)#-xxx; FHD 50(60)# 2-xxx; FHD 80#-xxx; FHD 80# 2-xxx; FHD 100#-xxx; FHD 100# 2-xxx;

Notes:

# Identifies il type of glyph (S=symmetric C=Canted)

xxx means Cylinder size

FHD YY# 2-XXX with double Cylinder version.

### Actuators type Biffi ALGAS /Biffi ALGAS-QA / Actuator type Bettis FHS/Bettis FHS-QA

Models ALGAS/ALGAS-QA: ALGAS 0.1#-yyy-xxx; ALGAS 0.3#-yyy-xxx; ALGAS 0.9#-yyy-xxx; ALGAS 1.5#-yyy-xxx; ALGAS 3#- yyy-xxx; ALGAS 6#-yyy-xxx; ALGAS 14#-yyy-xxx; ALGAS 18#-yyy-xxx; ALGAS 32(42)#- yyy-xxx; ALGA 50(60)#-yyy-xxx; ALGA 55(65)#-yyy-xxx; ALGAS 80#-yyy-xxx; ALGAS 100#-yyy-xxx;

Notes:

# Identifies the type of glyph (S=symmetric C=Canted)

yyy means Spring Cartridge size

xxx means Cylinder size

Models FHS/FHS-QA: FHS 0.1#-yyy-xxx; FHS 0.3#-yyy-xxx; FHS 0.9#-yyy-xxx; FHS 1.5#-yyy-xxx; FHS 3#-yyy-xxx; FHS 6#-yyy-xxx; FHS 14#-yyy-xxx; FHS 18#- yyy-xxx; FHS 32(42)#-yyy-xxx; FHS 50(60)#-yyy-xxx; FHS 55(65)#-yyy-xxx; FHS 80#-yyy-xxx; FHS 100#-yyy-xxx;

Notes:

# Identifies il type of glyph (S=symmetric C=Canted)

yyy means Spring Cartridge size

xxx means Cylinder size

### Actuators type OLGA

Models OLGA: OLGA 0.3#-xxx; OLGA 0.9#-xxx; OLGA 1.5#-xxx; OLGA 3#-xxx; OLGA 6#-xxx; OLGA 14#-xxx; OLGA 18#-xxx; OLGA 32(42)#-xxx; OLGA 50(60)#-xxx; OLGA 80#-xxx; OLGA 100#-xxx;

Notes:

# Identifies the type of glyph (S=symmetric C=Canted)

xxx means Cylinder size



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## Actuators type OLGAS/OLGAS-QA

Models OLGAS/OLGAS-QA: OLGAS 0.3#-yyy-xxx; OLGAS 0.9#-yyy-xxx; OLGAS 1.5#-yyy-xxx ; OLGAS 3#-yyy-xxx; OLGAS 6#-yyy-xxx; OLGAS 14#-yyy-xxx; OLGAS 18#-yyy-xxx; OLGAS 32(42)#-yyy-xxx; OLGAS 50(60)#-yyy-xxx; OLGAS 80#-yyy-xxx; OLGAS 100#-yyy-xxx;

Notes:

# Identifies the type of glyph (S=symmetric C=Canted)

yyy means Spring Cartridge size

xxx means Cylinder size

## Actuators type OLGA-H

Models OLGA-H: OLGA-H 0.1#2-xxx; OLGA-H 0.3#-xxx; OLGA-H 0.3#2-xxx; OLGA-H 0.9#-xxx; OLGA-H 1.5#-xxx; OLGA-H 3#-xxx; OLGA-H 6#-xxx; OLGA-H 14#-xxx; OLGA-H 18#-xxx; OLGA-H 32(42)#-xxx; OLGA-H 50(60)#-xxx; OLGA-H 80#-xxx; OLGA-H 100#-xxx;

Notes:

# Identifies the type of glyph (S=symmetric C=Canted)

xxx means Cylinder size

Olga YY#-2-xxx means:

YY model, # type of glyph, 2 N° of cylinder or dual cylinder; xxx cylinder dimension

## Actuators type OLGAS-H/OLGAS-H-QA

Models OLGAS-H/OLGAS-H-QA: OLGAS-H 0.1-yyy-xxx; OLGAS-H 0.3-yyy-xxx; OLGAS-H 0.9-yyy-xxx; OLGAS-H 1.5-yyy-xxx ; OLGAS-H 3-yyy-xxx; OLGAS-H 6-yyy-xxx; OLGAS-H 14-yyy-xxx; OLGAS-H 18-yyy-xxx; OLGAS-H 32(42)-xxx; OLGAS-H 50(60)-xxx; OLGAS-H 80-xxx; OLGAS-H 100-xxx;

Notes:

# Identifies the type of glyph (S=symmetric C=Canted)

yyy means Spring Cartridge size

xxx means Cylinder size

## Actuators type GIG

Models GIG: GIG 0.3#-xxx; GIG 0.9#-xxx; GIG 1.5#-xxx; GIG 3#-xxx; GIG 6#-xxx; GIG 14#-xxx; GIG 18#-xxx; GIG 32(42)#-xxx; GIG 50(60)#-xxx; GIG 80#-xxx; GIG 100#-xxx;

Notes:

# Identifies the type of glyph (S=symmetric C=Canted)

xxx means Cylinder size

## Actuators type GIGS

Models GIGS: GIGS 0.3#-yyy-xxx; GIGS 0.9#-yyy-xxx; GIGS 1.5#-yyy-xxx ; GIGS 3#-yyy-xxx; GIGS 6#-yyy-xxx; GIGS 14#-yyy-xxx; GIGS 18#-yyy-xxx ; GIGS 32(42)#-yyy-xxx ; GIGS 50(60)#-yyy-xxx; GIGS 80#-yyy-xxx; GIGS 100#-yyy-xxx

Notes:

# Identifies the type of glyph (S=symmetric C=Canted)

yyy means Spring Cartridge size

xxx means Cylinder size

## Actuators type GPO

Models GPO: GPO 0.3#-xxx; GPO 0.9#-xxx; GPO 1.5#-xxx; GPO 3#-xxx; GPO 6#-xxx; GPO 6#-2-xxx; GPO 14-xxx; GPO 14#-2-xxx; GPO 18-xxx; GPO 18#-2-xxx; GPO 32#-xxx; GPO 32#-2-xxx; GPO 32(35)#-xxx; GPO 32(42)#-xxx; GPO 50#-xxx; GPO 50(60)#-xxx; GPO 50#-2-xxx; GPO 50(60) #-2-xxx; GPO 80#-2-xxx; GPO 100#-2-xxx;

Notes:

# Identifies the type of glyph (S=symmetric C=Canted)

xxx means Cylinder size

GPO YY#-2-xxx means:

YY model, # type of glyph, 2 N° of cylinder or dual cylinder; xxx cylinder dimension

## Actuators type ELGA/MAGA

Models (ELGA): ELGA-1.5KR; ELGA-3KR; ELGA-4KR; ELGA-6KR; ELGA-14KR; ELGA-18KR; ELGA-32KR; ELGA-50KR; ELGA-80KR  
Models (MAGA): MAGA-1.5KR; MAGA-3KR; MAGA-4KR; MAGA-6KR; MAGA-14KR; MAGA-18KR; MAGA-32KR; MAGA-50KR; MAGA-80KR

(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)



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## **ROUTINE EXAMINATIONS AND TESTS**

None