TÜVNORD

(1) # EU-Type-Examination Certificate

(2) Equipment and protective systems intended for use in potentially explosive atmospheres, **Directive 2014/34/EU**

(3) **Certificate Number** **TÜV CY 24 ATEX 0207050 X**

(4) for the equipment: Explosion-proof Collaborative Robots X**-EUEX Series

(5) of the manufacturer: **Changguangxi Intelligent Manufacturing (Wuxi) Co., Ltd.**

(6) Address: 27-1, Lianze Road, Binhu District, Wuxi City, Jiangsu Province, China

Order number: 0207050

Date of issue: 2024-06-18

(7) The design of this equipment or protective system and any acceptable variation thereto are specified in the schedule to this EU-Type-Examination Certificate and the documents therein referred to.

(8) TÜV CYPRUS Ltd, notified body No. 2261 in accordance with Article 17 of the Council Directive of 2014/34/EU of February 26, 2014, certifies that this equipment or protective system has been found to comply with the Essential Health and Safety Requirements relating to the design and construction of equipment and protective systems intended for use in potentially explosive atmospheres given in Annex II to the Directive. The examination and test results are recorded in the confidential report No. 24 0207050.

(9) Compliance with the Essential Health and Safety Requirements has been assured by compliance with:
EN IEC 60079-0:2018 **EN 60079-1:2014** **EN 60079-2:2014**
EN 60079-2:2014/AC:2015

(10) If the sign "X" is placed after the certificate number, it indicates that the equipment or protective system is subject to special conditions for safe use specified in the schedule to this certificate.

(11) This EU-Type-Examination Certificate relates only to the design, examination and tests of the specified equipment in accordance to the Directive 2014/34/EU. Further requirements of the Directive apply to the manufacturing process and supply of this equipment which are not covered by this certificate.

(12) The marking of the equipment or protective system must include the following:

II 2G Ex db pxb IIC T4 Gb

TÜV CYPRUS Ltd (TUV NORD Group),

Accredited by CYS-CYSAB
Certificate No. C 004-2

The head of the notified body,
D. Demosthenous

notified body
TÜV CYPRUS
TÜV NORD GROUP
2261

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Excerpts or changes shall be allowed by the TÜV CYPRUS Ltd

(13) **SCHEDULE**

(14) **EU-Type-Examination Certificate No. TÜV CY 24 ATEX 0207050 X**

(15) Description of equipment

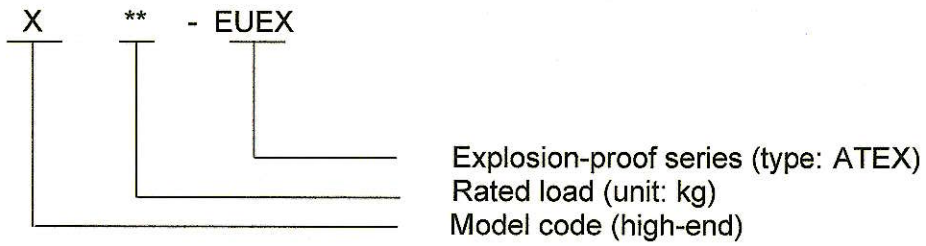
The Explosion-proof Collaborative Robots X**-EUEX Series can be used in hazardous area zone 1 and zone 2.
The Explosion-proof collaborative robot arm consists of 6 modular joints, a large arm tube, a small arm tube, a base and a tool flange. Each joint integrates high power density servo motors, servo drives, encoders, holding gates and harmonic reducers. The robotic arm is fixed to an external base by a base attached to the joint 1, and an actuation tool is fixed at the end by a tool flange. Its 6 joints can be rotated and the tool flange end can make curved or linear movements in the workspace.
The Explosion-proof series robotic arm is connected to the EJPX series pressurized control box through the special cable fixed in the base, and is powered by the +48V DC power supply.

The robot arm is designed with "Ex pxb" pressurization type of protection. The collaborative robot consists of one EJPX pressurized control box, one GUBX flameproof terminal box and the pressurized robot arm.
The EJPX series pressurized control box is ATEX separately certified with certificate BVI 22 ATEX 0058 X and it includes the airway system to the robot arm (base and end side), the robot controller and other modules, the purge control system mounted on the side of the EJPX box, the pressure reducing valve, the solenoid valve, the needle valve and the exhaust valve. The Purge control system 6500 series is ATEX separately certified with certificate DEMKO 16 ATEX 1640X.

The GUBX series flameproof terminal box is ATEX separately certified with certificate LCIE 18 ATEX 3035 X and it includes power supply to the purge control system circuit components, built-in contactors, miniature circuit breakers, intermediate relays. The sound and alarm device is ATEX separately certified with certificate KRH 18 ATEX 1022X and installed on the EJPX.

Permissible range of ambient temperature: $-5\ °C \leq T_{amb} \leq +50\ °C$

Identification code:



Ratings:

Robot model	Rated load (kg)	Number of joints	U_N (Vac)	P_N (kW)
X3-EUEX	3	6	240	0.26
X4-EUEX	4	6	240	0.26
X6-EUEX	6	6	240	0.26
X9-EUEX	9	6	240	0.55
X12-EUEX	12	6	240	0.55
X18-EUEX	18	6	240	0.55

Parameters related to safety:

Supply pressure of protective gas	4 to 8.5 bar
Minimum purging flow rate	200 l/min
Minimum purging duration	14 min
Maximum internal overpressure	10 mbar
Minimum internal overpressure	0.95 mbar
Maximum leakage rate	0.6 l/min
Protective gas	Air

Warning labels:

Warning - Pressurized enclosure
Warning - Do not open with an explosive atmosphere is present
Warning - Do not open when energized

(16) Test documents are listed in the test report No. 24 0207050.

Routine test:

The manufacturer shall carry out functional and leakage test according respectively to clause 17.1 and 17.2 of the EN 60079-2.

(17) Special conditions for safe use

The electrical installation of the collaborative robot shall conform with EN 60079-14 and the instruction manual.

The repair and overhaul of collaborative robot shall not be conducted by the end user. The end user shall inform the manufacturer immediately.

The flameproof paths of the GUBX series flameproof terminal box specified in the standard EN 60079-1 shall be only repaired by the manufacturer.

The fasteners used for the assembly of the GUBX series flameproof terminal box must be of property class higher or equal to A2-70.

The air source at the installation site should be able to provide a flowrate of at least 200 l/min.

When the collaborative robot is used, there is a potential risk of electrostatic charging, and only a damp cloth can be used to wipe the product.

The relay contact circuits of the Purge control system 6500 series shall be externally fused at installation. Each circuit shall have a fuse that is rated for the voltage type being used (AC or DC) with a breaking capacity of at least 1500A. The rating of the fuse for the enclosure power connections shall not exceed 11A. For the Aux relay, it shall not exceed 3A.

(18) Essential Health and Safety Requirements

This EU type Examination certificate covers only the Essential Health and Safety Requirements related to the Directive 2014/34/EU.