



(GYB24.1187X)

(Attachment I)

Attachment I to GYB24.1187X

1. Description

FR series explosion-proof collaborative robot produced by FAIR Innovation (Suzhou) Robot System Co., Ltd., this product
It is composed of two parts: a robotic arm and a pressurized explosion-proof cabinet.
The two parts are connected by cable, and have been inspected by the National Supervision and Inspection Center for Explosion Protection and Safety of Instrumentation (NEPSI) to meet the following standards:

GB/T 3836.1-2021 Explosive Atmospheres Part 1: Equipment General Requirements

GB/T 3836.2-2021 Explosive atmospheres – Part 2: Equipment protection by flameproof enclosures "d".

GB/T 3836.3-2021 Explosive atmospheres – Part 3: Equipment protection by increased safety "e".

GB/T 3836.4-2021 Explosive atmospheres – Part 4: Equipment protection by intrinsic safety "i".

GB/T 3836.5-2021 Explosive atmospheres – Part 5: Equipment protection by pressurized enclosure.

GB/T 3836.31-2021 Explosive atmospheres – Part 31: Equipment dust ignition protection by enclosure "t".

The approved models are: FR2, FR3, FR5, FR6, FR8, FR10, FR12, FR16, FR18, FR20, FR25, FR28, FR30, FR35.

Ex marking of pressurized explosion-proof cabinet are:

Ex db eb ib pxb IIC T4 Gb, Ex ib pxb tb IIIC T130°C Db

Ex marking of the mechanical arm part is:

Ex pxb IIC T4 Gb, Ex pxb IIIC T130°C Db.

The certificate number is GYB24. 1187X.

2. Special Conditions for Safe Use

The suffix "X" placed after the certificate number indicates that this product is subject to special conditions for safe use, that is:

1. For the equipped flameproof electrical equipment, the manufacturer of the product must be contacted for the maintenance of the flameproof joint surface.

2. The air source at the product installation site should be able to provide a flow rate of at least 120L/min.

3. The user shall ensure that the auxiliary electrical equipment that has been individually certified is suitable for the installation and use environment of the whole product, and strictly abide by the respective instruction manual, special conditions, and restrictions for safe use of each auxiliary electrical equipment.

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

5. Ambient temperature: 0°C ~ +45°C.

3. Conditions for Safe Use

1. The enclosure of the product is equipped with a grounding bolt, and the user should be reliably grounded when installation and using.

2. Product electrical parameters: 220V 50Hz.

3. Minimum purging flow: 120L/min.

4. The minimum purging time of the product: 14min.

5. The minimum positive pressure of the product: 100Pa.

6. The maximum positive pressure of the product: 1000Pa.

7. Product enclosure protection level: IP65.

8. The setting and installation of the pressurised controller should ensure the possibility of operation when the above parameters fail, and the reliability operation should be tested and verified.

9. When the product is used and maintained on site, it must comply with the principle of "it is strictly forbidden to open the lid in dangerous places".

10. The user shall not replace the electrical parts of the product at will, and shall work with the product manufacturer to solve the fault in operation, so as not to affect the explosion-proof performance and the occurrence of damage.

11. The installation, use and maintenance of the product shall be in accordance with the product manual, GB/T 3836.13-2021 "Explosive atmospheres – Part 13: Repair, overhaul, repair and modification of equipment", GB/T 3836.15-2017 "Explosive atmospheres – Part 15: Design, selection and installation of electrical installations", GB/T 3836.16-2022 "Explosive atmospheres – Part 16: Inspection and maintenance of electrical installations", GB15577-2018 "Dust explosion-proof safety regulations" and GB50257-2014 "Electrical installation engineering explosion and fire hazard environment construction and acceptance specifications".

4. Responsibilities of the manufacturer:

1. The product manufacturer must incorporate the above precautions into the product instruction manual or relevant technical documents;
2. The manufacturing plant must produce in strict accordance with NEPSI approved documentation.

Shanghai Inspection and Testing
Institute of Instruments and Automation Systems Co. Ltd.
National Supervision and Inspection Center
for Explosion Protection and Safety of Instrumentation
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