Physikalisch-Technische Bundesanstalt
Braunschweig und Berlin
Nationales Metrologieinstitut

# (1) EU-TYPE EXAMINATION CERTIFICATE

**(Translation)**

(2) Equipment or Protective Systems Intended for Use in Potentially Explosive Atmospheres - **Directive 2014/34/EU**

(3) EU-Type Examination Certificate Number:

**PTB 22 ATEX 5002 X** **Issue: 0**

(4) Product: Eccentric screw pump type F 570 ..Ex.. (gearbox version), F 580 ..Ex.. (motor flange version including coupling)

(5) Manufacturer: Flux-Geräte GmbH

(6) Address: Talweg 12, 75433 Maulbronn, Germany

(7) This product and any acceptable variation thereto is specified in the schedule to this certificate and the documents therein referred to.

(8) The Physikalisch-Technische Bundesanstalt, notified body No. 0102 in accordance with Article 17 of the Directive 2014/34/EU of the European Parliament and of the Council, dated 26 February 2014, certifies that this product has been found to comply with the Essential Health and Safety Requirements relating to the design and construction of products intended for use in potentially explosive atmospheres, given in Annex II to the Directive.

The examination and test results are recorded in the confidential Test Report PTB Ex 22-52108.

(9) Compliance with the Essential Health and Safety Requirements has been assured by compliance with:

**EN 80079-36:2016, EN 80079-37:2016**

(10) If the sign "X" is placed after the certificate number, it indicates that the product is subject to the Specific Conditions of Use specified in the schedule to this certificate.

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

(12) The marking of the product shall include the following:

**Ex II 1/2 G Ex h IIB T4...T3 Ga/Gb**

Konformitätsbewertungsstelle, Sektor Explosionsschutz Braunschweig, October 4, 2022
On behalf of PTB:

Dr.-Ing. M. Beyer
Direktor und Professor

PHYSIKALISCH-TECHNISCHE BUNDESANSTALT 22

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(13) # SCHEDULE

(14) **EU-Type Examination Certificate Number PTB 22 ATEX 5002 X, Issue: 0**

(15) Description of Product

The eccentric screw pumps are used for conveying low viscosity to high viscosity pasty and still free-flowing products from containers. Category 1 requirements apply within the container or pump, i.e. outer tube, shaft, shaft seal and rotor as well as stator of the pump. Category 2 requirements apply to all other parts of the eccentric screw pump.

(16) Test Report PTB Ex 22-52108

Based on the ignition hazard assessment of the manufacturer, the submitted test documents and measures for ignition source prevention of the eccentric screw pump type F 570 ..Ex.. (gearbox version) and F 580 ..Ex.. (motor flange version including coupling)" were examined. Parts of the eccentric screw pump that conform with category-2 requirements, have not been re-examined and reassessed in connection with the above-mentioned Test Report (e.g. drive motor or coupling). These parts can be used if they have passed one of the Directive 2014/34/EU conformity assessment procedures that are prescribed by law and conform with the installation conditions. In connection with the Test Report, the category-1 parts, including sealing and bearing parts, and assembly with the already assessed parts (category 2), have been tested and assessed.

(17) Specific conditions of use

- The drive motors (operated electrically or with compressed air) must be selected so that they match the respective frame size with a torque of up to 20 Nm and a maximum idling speed together with the pump of 1,000 rpm.
- A motor protection device, including a starting lockout device shall be provided to prevent automatic starting, e.g. by starting the pump with a plug connector. For automatic filling, a motor with a motor protection device can also be used without a switch-on interlock.
- The line (hose or pipe) connected to the discharge port of the eccentric screw pump must not exceed a resistance of $10^6$ Ω between the ends.
- Before the system is put into service, the eccentric screw pump must be included into the equipotential bonding system, i.e. equipotential bonding of the pump pipe with the tank (barrel), equipotential bonding of the motor with the tank (barrel) or the pump pipe, if the pump pipe and the drive motor are not conductively connected. The tank must be earthed separately, if earthing is not already provided with the type of installation.
- The maximum ambient temperature according to the operating instructions must not be exceeded.
- The maximum medium temperature according to the operating instructions must not be exceeded in the container.

- The bearing / seals must be protected to prevent rare faults. These protective measures consist of filling the inside of the pump with liquid. Since the barrel pump is permanently monitored by an operating person, situations in which rare faults and an explosive atmosphere occur simultaneously can be excluded.
- The eccentric screw pump must never be left unattended when in operation. It must be prevented from running dry or idling.
- Due to the constant monitoring of the eccentric screw pump by an operating person during the pumping process, pumping against a closed shut-off device can be ruled out.
- For operation of the eccentric screw pump, all elements (coupling, drive motor, etc.), which are additionally installed at the connection unit, must be arranged outside the tank.
- Operation of the pump may lead to electrostatic charges in flowing liquids.

(18) Essential health and safety requirements

Met by compliance with the aforementioned standards.

Konformitätsbewertungsstelle, Sektor Explosionsschutz
On behalf of PTB:

Braunschweig, October 4, 2022

Dr.-Ing. M. Beyer
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