



(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 10 ATEX 1053 X**

**Issue: 2**

(4) Product: Universal motors for barrel pumps, types F 460 Ex, F 460-1 Ex  
and F 460 Ex EL

(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 22-12105.

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

**EN IEC 60079-0:2018+AC:2020-02, EN 60079-1:2014+AC:2018-09,  
EN IEC 60079-7:2015+A1:2018**

(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.

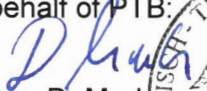
(12) The marking of the product shall include the following:

 **II 2 G Ex db eb IIC T6 resp. T5 Gb**

Konformitätsbewertungsstelle, Sektor Explosionsschutz

Braunschweig, October 11, 2022

On behalf of PTB:

  
Dr.-Ing. D. Markus  
Direktor und Professor



sheet 1/3

EU-Type Examination Certificates without signature and official stamp shall not be valid. The certificates may be circulated only without alteration. Extracts or alterations are subject to approval by the Physikalisch-Technische Bundesanstalt. In case of dispute, the German text shall prevail.

(13)

## SCHEDULE

(14) **EU-Type Examination Certificate Number PTB 10 ATEX 1053 X, Issue: 2**

(15) Description of Product

Universal motors (collector motors) with thermal overcurrent and no-volt release \*) of types F 460 Ex and F 460-1 Ex. The enclosure (motor compartment) is made from aluminium and is designed to Flameproof Enclosure "d" type of protection; the terminal is made from plastics and is designed to Increased Safety "e" type of protection. The motors are used for driving barrel pumps that are operated in zone 0 and are separately tested and certified.

<b>Technical data:</b>	<b>Type F 460 Ex</b>	<b>Type F 460-1 Ex</b>
Rated voltage:	12 to 240 V (DC/AC 50 and 60 Hz)	42 to 240 V (DC/AC 50 and 60 Hz)
Rated power:	max. 500 W	max. 800 W
Speed:	9,000 rpm	10,000 rpm
Duty type:	S1	S1
Temperature class:	T6 resp. T5	T6 resp. T5

Other voltage ratings are possible, provided the temperature class T6 resp. T5 is complied with.

The F 460 Ex universal motor may optionally also be manufactured with speed controller, two-pole ON/OFF switch with undervoltage release and thermostatic switch. The type name for the version with electronic speed controller is **F 460 Ex EL**.

The universal motors may be operated on electric low-voltage power systems with nominal voltages (rated voltage = nominal voltage) and voltage tolerances that comply with IEC 60038 specifications, or other power or supply systems with nominal voltage tolerances of max.  $\pm 10\%$ .

Compliance with the maximum permissible temperatures specified in EN 60079-0, section 26.5.1.3, will be ensured by the manufacturer who also defines the temperature class under his own responsibility.

(16) Test Report PTB Ex 22-12105

## SCHEDULE TO EU-TYPE EXAMINATION CERTIFICATE PTB 10 ATEX 1053X, Issue: 2

(17) Specific conditions of use

Repairs on flameproof joints may only be performed in accordance with the manufacturer's design specifications. Repair on the basis of the values in tables 1 and 2 of EN 60079-1 is not permitted.

Additional notes for safe operation:

Components attached or installed (e.g. terminal compartments, bushings, cable glands, connectors) shall be of a technical standard that complies with the specifications on the cover sheet. They shall be suited for the operating conditions and have a separate examination certificate. The special conditions specified for the components shall be complied with, and the components shall be included into the type test, if necessary. This equally applies to the components mentioned in the technical description.

If the universal motors are operated together with the barrel pump, comprehensive and clear equipotential bonding must be provided in the form of an electrically conductive connection between the pump and the motor that complies with the specifications in EN 60079-0, section 15.

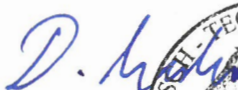
If, for practical reasons (e.g. remote control system), a no-volt release cannot be provided, the barrel pump unit has to be arranged so that no frictional or impact sparks can occur and that the operating conditions ensure safe operation.

(18) Essential health and safety requirements

Met by compliance with the aforementioned standards.

Konformitätsbewertungsstelle, Sektor Explosionsschutz  
On behalf of PTB:

Braunschweig, October 11, 2022

  
Dr.-Ing. D. Markus  
Direktor und Professor

