



(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 04 ATEX 4002

Issue: 3

(4) Product: Piston pump, type MEX 0544

(5) Manufacturer: DÜRR TECHNIK GmbH & Co. KG

(6) Address: Pleidelsheimer Straße 30, 74321 Bietigheim-Bissingen, Germany

(7) This equipment and protective system 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 equipment and protective system 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 16-46022.

(9) Compliance with the Essential Health and Safety Requirements has been assured by compliance with:
EN 13463-1:2009, EN 13463-3:2005, EN 13463-5:2011, EN 60079-1:2014, EN 16852:2010

(10) If the sign "X" is placed after the certificate number, it indicates that the equipment and protective system 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 equipment and protective system in accordance to the Directive 2014/34/EU. Further requirements of the Directive apply to the manufacturing process and supply of this equipment and protective system. These are not covered by this certificate.

(12) The marking of the equipment and protective system shall include the following:




Equipment: II 1/2G c d IIA T3 X

Protective system: II G IIA

Konformitätsbewertungsstelle, Sektor Explosionsschutz

Braunschweig, November 25, 2016

On behalf of PTB:


Dr.-Ing. M. Thedens
Oberregierungsrat



SCHEDULE

(13)

(14) **EU-Type Examination Certificate Number PTB 04 ATEX 4002, Issue: 3**

(15) Description of equipment and protective systemProduct

The MEX 0544 xxxx piston pumps are provided with integrated flame arresters at their intake and outlet ends. As vacuum pumps they can be used for extracting and conveying potentially explosive fuel vapour/air mixtures of explosion group IIA and temperature class T3. The pumps are suited for use as vapour recovery pumps in vapour recovery systems for dispensing units of filling stations. As vapour recovery pumps, the MEX 0544 xxxx piston pumps, in addition, serve as an autonomous protection system and prevent flames from flashing back into the storage tanks, should an ignition occur at the filler nozzle. A separate protection with flame arrestors for the vapour recovery pipe inside the dispensing unit of filler stations is therefore not required.

The MEX 0544 xxxx piston pumps are to be alternatively produced with flame arresters made from ceramics. These ceramic elements have square-shaped ducts through which the gas can flow. At an overall length of 11 mm, the sides of the ducts have a maximum length of 0.55 mm or, alternatively, 0.60 mm at an overall length of 13 mm.

Requirements for explosion protection of the equipment:

Category 1: Internal parts of the piping connections in the suction and delivery branch of the MEX 0544 xxxx piston pumps

Category 2: External parts of the MEX 0544 xxxx piston pumps (pump casing, driving motor)

(16) Test Report PTB Ex 16-46022

Result: The MEX 0544 xxxx piston pump meets the requirements of Directive 2014/34/EU for equipment of equipment group II, category 1/2G, and can as a vacuum pump or vapour recovery pump be installed and operated in potentially explosive zone-1 areas and be used for pumping flammable gases and vapours from potentially explosive zone-0 areas (gases and vapours of explosion group IIA in accordance with EN 13463-1:2009 and temperature classes T1 to T3 in accordance with EN 13463-1:2009).

As a vapour recovery pump in dispensing units of filling stations, the MEX 0544 xxxx piston pump, in addition, serves as an autonomous protection system to prevent flashback, should potentially explosive vapour/air mixtures of explosion group IIA deflagrate or detonate when the medium ignites at the filler nozzle.

(17) Special conditions for safe use

No conditions.

SCHEDULE TO EU-TYPE EXAMINATION CERTIFICATE PTB 04 ATEX 4002, Issue: 3

Notes for manufacturing and operation

The MEX 0544 xxxx piston pump may be used as a vacuum pump, in which case the pump does however for fulfil the function of an autonomous protection system. The MEX 0544 xxxx piston pump may in this case only be marked as a piece of equipment (cf. section 12 of this EC Type Examination Certificate).

The MEX 0544 xxxx piston pump may only be used for extracting fuel vapour/air mixtures in dispensing units of filling stations. In this case, the pumps also fulfil the function of an autonomous protection system and can be used as a flame arrester in vapour recovery systems to prevent flashback should an ignition occur at the filler nozzle. The following maximum hose and pipe lengths are permitted between the filler nozzle and the vacuum pump:

- a) Vapour recovery hoseline with an inside diameter ≤ 10 mm in the coaxial hose ≤ 10 m long, or
- b) Coaxial hose with an outside diameter ≤ 38 mm, ≤ 6 m long,

in each case together with a downstream pipeline DN 15 (G1/2) ≤ 3 m.

The tanks mentioned in Test Reports PTB Ex 05-45017 und PTB Ex 05-45027 may in addition be installed in the DN 15 (G1/2) pipeline between the filler nozzle and the MEX 0544 xxxx piston pump at a distance of between 0.3 m and 2.5 m in front of the piston pump. The pipeline between hose and tank must have a minimum length of 0.5 m.

The ambient temperature and the temperature of the fuel vapour/air mixture that is taken in must remain within the temperature range -40°C to $+60^{\circ}\text{C}$ at the intake end.

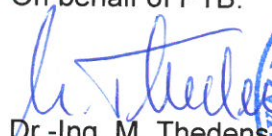
(18) Essential health and safety requirements

Met by compliance with the aforementioned standards.

According to Article 41 of Directive 2014/34/EU, EC-type examination certificates which have been issued according to Directive 94/9/EC prior to the date of coming into force of Directive 2014/34/EU (April 20, 2016) may be considered as if they were issued already in compliance with Directive 2014/34/EU. By permission of the European Commission supplements to such EC-type examination certificates and new issues of such certificates may continue to hold the original certificate number issued before April 20, 2016.

Konformitätsbewertungsstelle, Sektor Explosionsschutz
On behalf of PTB:

Braunschweig, November 25, 2016


Dr.-Ing. M. Thedens
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