ZERTIFIKAT ◆ CERTIFICATE ◆ 認證證書 ◆ СЕРТИФИКАТ ◆ CERTIFICADO ◆ CERTIFICAT

Product Service

(1) # EU-Type Examination Certificate

TRANSLATION

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

(3) EU-Type Examination Certificate Number:

TPS 18 ATEX 18013 013 X Issue 02

(4) Product: Density Sensor
Type: L-Dens 7000 Serie in “db”

(5) Manufacturer: Anton Paar GmbH

(6) Address: Anton-Paar-Straße 20
8054 Graz
Österreich

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

(8) TÜV SÜD Product Service GmbH, notified body No. 0123 in accordance with Article 17 of the Council 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 product and protective systems intended for use in potentially explosive atmospheres, given in Annex II of the Directive.
The examination and test results are recorded in the confidential report 713259278

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

EN IEC 60079-0:2018 **EN 60079-1:2014**

(10) If the sign “X“ is placed after the certificate number, it indicates that the product 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 technical design of the specified product in accordance with the Directive 2014/34/EU. Further requirements of this 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 2G Ex db IIB T4/T5 Gb

Certification Body Explosion Protection
Ridlerstraße 65, 80339 Munich

Munich, 05.07.2022

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Dipl.-Ing. (FH) Arno Butzke

Product Service

(13) **Schedule**

(14) **EU-Type Examination Certificate TPS 18 ATEX 18013 013 X** Issue 02

(15) Description:
The density sensors of the L-Dens 7000 series (L-Dens 7300 / 7400 / 7500) are used to measure the density of liquids. The sensor consists of the flameproof encapsulated sensor element and a process control unit, which is connected to the sensor element via a feed-through. The process device control includes an HMI variant, Pico 3000 HMI and a non-HMI variant Pico 3000. Optionally, the process device control can be designed as a separate unit (Pico 3000 RC), which is connected to the L-Dens 7000 sensor with a feed-through.

Type Classification / Marking

Model	Marking
L-Dens 7300 SST Petro Ex d L-Dens 7300 SST Petro NPT Ex d L-Dens 7300 SST Petro Ex d (with Pico 3000) L-Dens 7300 SST Petro NPT Ex d (with Pico 3000) SST denotes the material: SST - Stainless Steel 1.4404	Ⓔx II 2G Ex db IIB T4/T5 Gb T_a= -40°C to +70°C T_p= -40°C to 95°C for T5 und -40°C to 125°C for T4 Maximum process pressure: 50 bar
L-Dens 7300 SST Petro Ex d (with Pico 3000 and HMI) L-Dens 7300 SST Petro NPT Ex d (with Pico 3000 and HMI) SST denotes the material: SST - Stainless Steel 1.4404	Ⓔx II 2G Ex db IIB T4/T5 Gb T_a= -20°C to +60°C T_p= -40°C to +95°C for T5 and -40°C to +125°C for T4 Maximum process pressure: 50 bar
L-Dens 7400 AAA Ex d L-Dens 7400 AAA NPT Ex d L-Dens 7400 AAA Ex d (with Pico 3000) L-Dens 7400 AAA NPT Ex d (with Pico 3000) AAA denotes material options: HAS - Hastelloy C-276 SST - Stainless Steel 1.4404 TAN - Tantalum INC - Incoloy 825	Ⓔx II 2G Ex db IIB T4/T5 Gb T_a= -40°C to +70°C T_p= -40°C to +95°C for T5 and -40°C to +125°C for T4 Maximum process pressure: 50 bar
L-Dens 7400 AAA Ex d (with Pico 3000 and HMI) L-Dens 7400 AAA NPT Ex d (with Pico 3000 and HMI) AAA denotes material options: HAS - Hastelloy C-276 SST - Stainless Steel 1.4404 TAN - Tantalum INC - Incoloy 825	Ⓔx II 2G Ex db IIB T4/T5 Gb T_a= -20°C to +60°C T_p= -40°C to +95°C for T5 and -40°C to +125°C for T4 Maximum pressure: 50 bar

Model	Marking
L-Dens 7400 HAS HP Ex d L-Dens 7400 HAS HP NPT Ex d (High Pressure version) L-Dens 7400 HAS HP Ex d (with Pico 3000) L-Dens 7400 HAS HP NPT Ex d (with Pico 3000) (High Pressure version) HAS denotes the material: HAS - Hastelloy C-276	Ⓔx II 2G Ex db IIB T4/T5 Gb T_a= -40°C to +70°C T_p= -40°C to +95°C for T5 and -40°C to +125°C for T4 Maximum process pressure: 180 bar for $T_p \leq 70°C$ 140 bar for $T_p \leq 125°C$
L-Dens 7400 HAS HP Ex d (with Pico 3000 and HMI) L-Dens 7400 HAS HP NPT Ex d (with Pico 3000 and HMI) (High Pressure version) HAS denotes the material: HAS - Hastelloy C-276	Ⓔx II 2G Ex db IIB T4/T5 Gb T_a= -20°C to +60°C T_p= -40°C to +95°C for T5 and -40°C to +125°C for T4 Maximum process pressure: 180 bar for $T_p \leq 70°C$ 140 bar for $T_p \leq 125°C$
L-Dens 7500 HAS Ex d L-Dens 7500 HAS NPT Ex d L-Dens 7500 HAS Ex d (with Pico 3000) L-Dens 7500 HAS NPT Ex d (with Pico 3000) HAS denotes the material: HAS - Hastelloy C-276	Ⓔx II 2G Ex db IIB T4/T5 Gb T_a= -40°C to +70°C T_p= -40°C to +95°C for T5 and -40°C to +125°C for T4 Maximum process pressure: 50 bar
L-Dens 7500 HAS Ex d (with Pico 3000 and HMI) L-Dens 7500 HAS NPT Ex d (with Pico 3000 and HMI) HAS denotes the material: HAS - Hastelloy C-276	Ⓔx II 2G Ex db IIB T4/T5 Gb T_a= -20°C to +60°C T_p= -40°C to +95°C for T5 and -40°C to +125°C for T4 Maximum pressure: 50 bar
Pico 3000 RC Ex d (with Pico 3000 and HMI) Pico 3000 RC NPT Ex d (with Pico 3000 and HMI)	Ⓔx II 2G Ex db IIB T5 Gb T_a= -20°C to +60°C

Electrical data:

Nominal Voltage:	24 Vdc ± 20% (Safety extra low voltage SELV)	
Nominal Power:	without Pico 3000	with Pico 3000
	max. 2 W	max. 5 W

(16) Report: 713259278

(17) Specific conditions of use:

The limitation of the ambient temperature for the sensor, the sensor with Pico 3000 and the sensor with Pico 3000 + Pico 3000 HMI is different:

L-Dens 7000: T_a = -40°C to +70°C

L-Dens 7000 with Pico 3000: T_a = -40°C to +70°C

L-Dens 7000 with Pico 3000 and Pico 3000 HMI: T_a = -20°C to +60°C

According to EN 60079-1:2014 cl. 16.1.2, the following routine tests shall be carried out:

- Static overpressure test with 13 bar on all oscillator tubes or one of the inspection methods listed in EN 60079-1, Clause 16.3
- Hydrostatic overpressure test with 75 bar on all oscillator tubes
- Hydrostatic overpressure test 270 bar on all oscillator tubes for L-Dens 7400 HAS HP models.

For power cable, use only a cable whose thermal stability of its insulation is minimum 90°C.

For cable entrances use only already certified Ex d or Ex db cable glands suitable for application and rated for a minimum of 80°C.

Unused openings shall be closed by use of already certified Ex d or Ex db stopping plugs suitable for application and rated for a minimum of 80°C

(18) Essential health and safety requirements:

Met by compliance with the requirements mentioned in item 9.