1. # EU-TYPE EXAMINATION CERTIFICATE

2. **Equipment or Protective System Intended for use in Potentially explosive atmospheres**
Directive 2014/34/EU

3. EU-Type Examination Certificate Number: **EESF 19 ATEX 057X**

4. Product: **Process refractometer**

   Certified types: **PR-21-S**

5. Manufacturer: **Vaisala Oyj**

6. Address: **Vanha Nurmijärventie 21, FI-01670 Vantaa, Finland**

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

8. Eurofins Expert Services Oy, Notified Body number 0537, in accordance with Article 17 of 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 confidential report No. EUFI29-19004276-T2.

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

   EN IEC 60079-0:2018 EN 60079-11:2012

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. 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 1G Ex ia IIC T4 Ga
   T_{amb} = -20 … + 65 °C

Espoo, 30.8.2019
Eurofins Expert Services Oy

Kari Koskela
Expert

Ilkka Riihimäki
Expert

This document is digitally signed.

13. **Schedule**

14. **EU-Type Examination Certificate EESF 19 ATEX 057X**

15. **Description of Product**

K-Patents inline refractometer sensor, type PR-21-S is intended for measuring liquid concentration in the process line. The measurement is based on the refraction of light in the process medium.

The sensor communicates with Indicating Transmitter is located on the safe area via I.S. isolator. Transmitter input signal is two-wire 4 mA … 20 mA DC current signal (power supply and communication in the same pair) which is proportional to process solution concentration.

The maximum input values of the refractometer PR-21-S are:

Ui = 24 V, **Ii = 250mA,** **Pi = 1.3 W,**

Ci = 100 nF **Li = negligible**

16. **Report Number**

EUFI29-19004276-T2

17. **Specific Conditions of Use**

1. The allowed ambient temperature range is T_{amb} -20 °C ... +65 °C.
2. The aluminium part of the enclosure is subject to mechanical spark ignition hazard caused by impact or friction.

18. **Essential Health and Safety Requirements**

The Essential Health and Safety Requirements are covered by the standards listed at item 9.

19. **Drawings and Documents**

Drawings and documents are listed in the confidential report.

20. **Certificate History**

Issue	Date	Report No.	Change
VTT 13 ATEX 052X	07.01.2014	VTT-S-08507-13	Original certificate.
Issue 1	23.10.2017	VTT-S-05602-17	Minor non-I.S. changes in manufacturing documents.
EESF 19 ATEX 057X	30.8.2019	EUFI29-19004276-T2	Vaisala Oyj has acquired K-Patents Oy and it's Ex products. Manufacturing location has been changed to Vaisala's facilities. ExNB name changed from VTT Expert Services to Eurofins Expert Services.

Eurofins Expert Services Oy, Kivimiehentie 4, FI-02150 Espoo, Finland
www.eurofins.fi/expertservices