

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 056X**
4. Product: **Process Refractometer with Isolator**
Certified types: **Process Refractometers PR-43-AC, PR-43-GC, PR-43-PC, PR-43-AP, PR-43-GP, PR-43-PP
and PR-44-PL with Isolator PR-10930**
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-T1**.
9. Compliance with the Essential Health and Safety Requirements has been assured by compliance with:

**EN IEC 60079-0:2018 EN 60079-11:2012 EN 60079-15:2010
EN 60079-25:2010**
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:

Process Refractometers:


**II 1G Ex ia IIC T4 Ga
I M1 Ex ia I Ma
T_{amb} -40 °C ... +65 °C**

Isolator:


**II 3(1)G Ex nA [ia Ga] IIC T4 Gc
T_{amb} -40 °C ... +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 056X**

15. **Description of Product**

System parts are an 'Exi-isolator', a fixed connection cable and process refractometer types PR-43 or type PR-44 alternatively. With respect to intrinsic safety, both sensor types are identical. The isolator is category 3 G (Zone 2/ EPL Gc) associated apparatus for supplying category 1 G (Zone 0 /EPL Ga/ Ma) refractometer. The "nA" isolator is supplied from 24 V DC power supply and has a LAN-connection (Standard Ethernet IEEE 802.3) and a connection for 4...20 mA current loop. The isolator has an intrinsically safe Ex [ia] output for Ex ia refractometer. The maximum length of the connection cable between the isolator and refractometer is 200 meters.

The metal parts of the enclosures shall be grounded.

PR-10930 Isolator supply:

Un = 24 V In = 150mA

Ex [ia] associated apparatus, 24 V DC, LAN and mA loop inputs:

Um = 250 V r.m.s

16. **Report Number**

EUF129-19004276-T1

17. **Specific Conditions of Use**

1. The allowed ambient temperature range is Tamb -40 °C ... +65 °C.
2. The connection cable shall be delivered by the manufacturer. The maximum cable length is 200 meters.
3. The refractometers shall not be subjected to any mechanism that would cause electrostatic charging. Cleaning shall be done with damp cloth.

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 15 ATEX 005X	18.11.2015	VTT-S-00544-15	Prime certificate
Issue 1	14.7.2016	VTT-S-03060-16	Introduction of certified types PR-43-GC and PR-43-GP. Alternative "Large LED card" added.
Issue 2	10.8.2017	VTT-S-03948-17	Introduction of the Cooling Cover option. Minor material, mechanical and electrical changes.
EESF 19 ATEX 056X	30.8.2019	EUF129-19004276-T1	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.