

EU-TYPE EXAMINATION CERTIFICATE

Equipment or Protective System Intended for use in Potentially Explosive Atmospheres Directive 2014/34/EU

- EU-Type Examination Certificate Number:** ITS16ATEX18435X **Issue 01**
- Product:** TFS1-Ex Hydrocarbon Analyzer
- Manufacturer:** Envent Engineering Ltd.
- Address:** 2721 Hopewell Place NE, Calgary, AB, T1Y 7J7
Canada
- This product and any acceptable variation thereto is specified in the schedule to this certificate and the documents therein referred to.
- Intertek Testing and Certification Limited, Notified Body number 0359 in accordance with Article 17 of Directive 2014/34/EU of the European Parliament and of the Council dated 26 February 2014, certifies that the 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 of the Directive.
- Compliance with the Essential Health and Safety Requirements has been assured by compliance with EN 60079-0:2012 + A11:2013 and EN 60079-1:2014 except in respect of those requirements referred to within item 14 of the Schedule.
- If the sign "X" is placed after the certificate number, it indicates that the product is subject to the special conditions of use specified in the Schedule to this certificate.
- 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.
- The marking of the product shall include the following:



II 2 G Ex db IIB+H₂ T3 Gb

0°C ≤ Ta ≤ 50°C

Certification Officer: _____ **Date:** 29th July 2019
P Moss

SCHEDULE:

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11. Description of Equipment or Protective System

The TFS-1 is a hydrocarbon analyzer which is housed in a component approve enclosure (certificate number EPSILON 07 ATEX 2251U) which measures approximately 305mm x 457mm x 203mm. It has a single glass window providing a view of an LCD screen which is supplied as part of the component approved enclosure. The equipment contains multiple relay outputs and both internal and external earthing points are provided.

The equipment also contains an internal containment system approved for use with IIA or IIB+H2 gases only with a maximum inlet pressure of 30PSI. Two flame arrestors (INE12ATEX9013U or SIRA10ATEX1351U) are used to protect the containment system inlet and outlets to the flame proof enclosure and one additional flameproof breather (SIRA07ATEX1174U) is used to prevent the internal pressure being exceeded in the event of a failure of the containment system.

The equipment may be provided with optional external parts such as a metallic back pan, solenoids (LCIE00ATEX6008X) or pressure switches (SIRA08ATEX1046X) when these devices are fitted conduit unions or nipples may be used to connect between the devices and the enclosure (SIRA13ATEX1196U or ITS09ATEX16417U).

12. Report Number

Intertek Report: 103780560EDM-001 Issue: 00 Dated: June 2019.

13. Special Conditions of Certification

(a). Special Conditions of Use

- No modifications to the flamepaths are permitted without consultation with the controlled documentation or notified body.
- Only suitably approved Ex db IIB+H2 Gb minimum cable glands or blanking elements with a minimum operating ambient range of 0°C to +50°C to be used.
- Temperature at branching point may reach 67°C, as such suitably rated cable must be selected.
- Use only those bolts supplied with the enclosure, No cover bolts are to be omitted. Install and alternate cover bolt pattern when tightening, see recommended torque value table.

(b). Conditions of Manufacture - Routine Tests

- A routine overpressure test is required at a test pressure of at least 45 PSI, shall be applied to the containment system and maintained for a time of at least 2 min. The increase of the test pressure should achieve the maximum pressure within 5s. The test is considered to be satisfactory if no permanent deformation occurs and compliance with the leakage test a containment system with a limited release is verified.
- Following the overpressure test the containment system shall; be surrounded by helium at a test pressure equal to the maximum rated pressure, but no less than 1000 Pa, or be connected to a helium supply at the maximum rated pressure, but no less than 1000 Pa.
The maximum helium-leakage rate shall be less than 10^{-2} Pa × l/s (10⁻⁴ mbar × l/s).

This Certificate is for the exclusive use of Intertek's client and is provided pursuant to the agreement between Intertek and its Client. Intertek's responsibility and liability are limited to the terms and conditions of the agreement. Intertek assumes no liability to any party, other than to the Client in accordance with the agreement, for any loss, expense or damage occasioned by the use of this Certificate. Only the Client is authorized to permit copying or distribution of this Certificate and then only in its entirety. Any use of the Intertek name or one of its marks for the sale or advertisement of the tested material, product or service must first be approved in writing by Intertek.

Intertek Testing & Certification Limited, Cleeve Road, Leatherhead, Surrey, KT22 7SA
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- All test data shall be recorded and retained.

14. Essential Health and Safety Requirements (EHSRs)

The relevant Essential Health and Safety Requirements (EHSRs) have been identified and assessed in Intertek Report: 103780560EDM-001 Issue: 00 Dated: June 2019.

15. Drawings and Documents

Title:	Drawing No.:	Rev. Level:	Date:
TFS1-Ex ATEX/IEC XP Enclosure	TFS1-Ex-01	00	17.Nov.16
TFS1-Ex Analyzer General Arrangement	TFS1-Ex-02	00	17.Nov.16
TFS1-Ex Analyzer with Standard Backpan General Arrangement	TFS1-Ex-03	00	17.Nov.16
TFS1-Ex Analyzer with Solenoid General Arrangement	TFS1-Ex-04	00	17.Nov.16
TFS1-Ex Analyzer with Pressure Switch General Arrangement	TFS1-Ex-05	00	17.Nov.16
TFS1-Ex Electrical Termination 24 VDC Power Inlet	TFS1-Ex-06	00	17.Nov.16
TFS1-Ex Electrical Termination 110-240 VAC Power Inlet	TFS1-Ex-07	00	17.Nov.16
*TFS1-Ex Certification Nameplate Nameplate Overview	TFS1-Ex-08	01	24.May.19
TFS1-Ex Serial Number Nameplate Overview	TFS1-Ex-09	00	17.Nov.16
TFS1-Ex Analyser Module Exploded View	TFS1-Ex-10	00	17.Nov.16
Analyzer BOM for ATEX/IEC (3 sheets)	TFS-Ex-00	4	19.Dec.16
*TFS1 -Ex Operator's Manual	TFS1-Ex	1	24.May.19

16. Details of Certificate changes Issue 1

Description Drawings and Documents

This update was to revise the manufacturers address only; no changes were made to the equipment. The descriptive documents TFS1-Ex and TFS1-Ex-08 were revised as a result of the address change.