



IECEx Certificate of Conformity

INTERNATIONAL ELECTROTECHNICAL COMMISSION IEC Certification System for Explosive Atmospheres

for rules and details of the IECEx Scheme visit www.iecex.com

Certificate No.:	IECEx EXV 23.0035X	Page 1 of 4	<u>Certificate history</u> :
Status:	Current	Issue No: 2	Issue 1 (2024-02-26) Issue 0 (2023-09-06)
Date of Issue:	2025-04-16		
Applicant:	Analytical Systems KECO 9515 Windfern Rd. Houston TX 77064 United States of America		
Equipment:	Hydrocarbon in Water and Hydrogen Sulfide in Liquid or Gas Analyzer		
Optional accessory:			
Type of Protection:	Increased safety "e", Pressurization "p"		
Marking:	Ex eb pxb IIB+H2 T3 Gb Ta = -20°C to +55°C		

Approved for issue on behalf of the IECEx
Certification Body:

Sean Clarke CEng MSc FIET

Position:

Certification Manager

Signature:
(for printed version)

Date:
(for printed version)



1. This certificate and schedule may only be reproduced in full.
2. This certificate is not transferable and remains the property of the issuing body.
3. The Status and authenticity of this certificate may be verified by visiting www.iecex.com or use of this QR Code.

Certificate issued by:

ExVeritas Limited
Units 16-18 Abenbury Way
Wrexham Ind. Est.
Wrexham LL 139UZ
United Kingdom





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Manufacturer: **Analytical Systems KECO**
9515 Windfern Rd.
Houston TX 77064
United States of America

Manufacturing locations:

This certificate is issued as verification that a sample(s), representative of production, was assessed and tested and found to comply with the IEC Standard list below and that the manufacturer's quality system, relating to the Ex products covered by this certificate, was assessed and found to comply with the IECEx Quality system requirements. This certificate is granted subject to the conditions as set out in IECEx Scheme Rules, IECEx 02 and Operational Documents as amended

STANDARDS :

The equipment and any acceptable variations to it specified in the schedule of this certificate and the identified documents, was found to comply with the following standards

IEC 60079-0:2017 Explosive atmospheres - Part 0: Equipment - General requirements
Edition:7.0

IEC 60079-2:2014 Explosive atmospheres - Part 2: Equipment protection by pressurized enclosure "p"
Edition:6

IEC 60079-7:2017 Explosive atmospheres - Part 7: Equipment protection by increased safety "e"
Edition:5.1

This Certificate **does not** indicate compliance with safety and performance requirements other than those expressly included in the Standards listed above.

TEST & ASSESSMENT REPORTS:

A sample(s) of the equipment listed has successfully met the examination and test requirements as recorded in:

Test Reports:

[GB/EXV/ExTR23.0064/00](#) [GB/EXV/ExTR23.0064/01](#) [GB/EXV/ExTR25.0039/00](#)

Quality Assessment Report:

[GB/EXV/QAR23.0006/00](#)



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EQUIPMENT:

Equipment and systems covered by this Certificate are as follows:

The Analyzers quantify either total volatile organic compounds (VOCs) hydrocarbons in water, hydrogen sulfide in various liquids (including but not limited to water, crude oil, diesel, liquid fuels, naphtha and other petroleum products and liquids) or gas using Sample Transfer Stripper or the PermaStream[TM] Stripper (exclusive KECO Membrane Technologies) and a sensor system. The analyzer consists of one enclosure; being purged pressurized. Equipment enclosures is a IECEx certified Ex eb IIC Gb (IECEx ETL 19.0036U or IECEx ITS 14.0004U) constructed of stainless steel including IECEx certified window kit Ex e IIC Gb (IECEx SIR 13.0123U) with a direct mount IECEx certified (IECEx DNV 09.0001X) Ex e mb ib [px] IIC T4 Gb purge controller installed. The purge / pressurized analyzer enclosure volume is 113.25 liters (4 cuft). The analyser sample line flows through a normally closed, spring return shut off valve outside the purged/ pressurized enclosure. The purge gas line supplying the purged/ pressurized enclosure is split into two branches prior to entry. One branch supplies the pressure regulator supplying the purged/ pressurized enclosure and the second branch holds open the shut off valve supplying the sample to the analyzer enclosure. If the purge gas supply pressure drops below 5.52 bar (80 psig) the spring will return the shut off valve to its normally closed position; stopping sample from entering the purged/ pressurized enclosure.

See attachment for model nomenclature.

SPECIFIC CONDITIONS OF USE: YES as shown below:

1. Wiring connection to equipment shall be made by an IECEx Ex e entry device.
2. Equipment is approved for extended ambient range of -20°C to +55°C
3. Sample gas may not have an oxygen concentration of greater than 2% V/V
4. Sample gas must not have a Lower Flammable Limit less than 3.9% or an Upper Flammable Limit exceeding 80%
5. The calibration gas mixture must be below the Lower Flammable Limit.



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DETAILS OF CERTIFICATE CHANGES (for issues 1 and above)

Addition of T200 series Hydrogen in Sulfide Analyzers

Addition of alternate HV & P enclosures

Annex:

[IECExE~1_1.PDF](#)

Description Continued:

The Hydrocarbon in Water and Hydrogen Sulfide in Liquid Analyzer has multiple models with different ratings.

Model Nomenclature:

Model	Heater	Enclosure	Input Ratings	Analyzer Function	Controller	Sensor	Furnace
205HV ATEX-IECEx	Cirrus 80 (300- 600W)	HV	120VAC 12.5A 240VAC 6A	H2S in Liquid	Tape Deck Panel	Optics Block	N
205 PermaStream ATEX-IECEx	Intertec CP Multitherm (100W)	HV	120VAC 3A 240VAC 1.5A 12VDC 10A 24VDC 5A	H2S in Liquid	Tape Deck Panel	Optics Block	N
205P ATEX- IECEx	Cirrus 40 (230W)	P	120VAC 6A 240VAC 3A	H2S in Liquid	Tape Deck Panel	Optics Block	N
204P ATEX- IECEx	Cirrus 40 (230W)	P	120VAC 6A 240VAC 3A	Hydrocarbon in Water	HMI	VOC Sensor	N
204 PermaStream ATEX-IECEx	Cirrus 80 (300- 600W)	HV	120VAC 6A 240VAC 3A	Hydrocarbon in Water	HMI	VOC Sensor	N
T200 ATEX- IECEx	Intertec CP Multitherm (100W)	P	120VAC 3A 240VAC 1.5A	H2S in Gas	Tape Deck Panel	Optics Block	N

Routine Tests:

IEC 60079-2: 2014

1. Clause 17.1 – Functional Test of safety device
2. Clause 17.2 – Leakage Test
3. Clause 17.4 – Test for a containment system with a limited release

Conditions of manufacture:

1. The fasteners must be secured with a torque of 1.7 Nm to 2.3 Nm per the component special condition

Manufacturer's documents:			
Title:	Drawing No.:	Rev. Level:	Date:
205PS ATEX-IECEx H2S FLOW DIAGRAM PERMASTREAM -CLOSED LOOP	Flow 205PERMASTREAM ATEX-IECEx	A	11/2022
Wiring Page 1 of 2 Control PCB 205PERMASTREAM ATEX-IECEx	WireP1 205PERMASTREAM ATEX-IECEx	A	05/05/2023
*CABINET DIMENSIONS HV ATEX-IECEx LIQUIDS ANALYZER	Dimensions HV ATEX-IECEx	C	02/11/2025
FLOW DIAGRAM MODEL 205HV-Z1-ATEX- IECEx H2S IN LIQUIDS ANALYZER	Flow Carrier-Sample 205HV ATEX-IECEx	A	01/06/2023
MODEL 205HV-Z1 H2S in Liquids Analyzer General Assembly and Connections	GA205HV-Z1-CERT-94252	B	01/06/2023
MODEL 205HV-Z1-ATEX IECEx H2S IN LIQUIDS ANALYZER WIRING DIAGRAM - PAGE 1 of 2 - HIGH VOLTAGE	WiringHigh 205HV ATEX- IECEx	A	01/06/2023
*PURGE for Hazardous Area HV CABINET ATEX/IECEx MODELS: 204 & 205 PERMASTREAM, 205HV, & T800	Purge HV ATEX-IECEx	B	02/11/2025
MODEL 204 PERMASTREAM-G2 ATEX- IECEx VOC IN LIQUIDS ANALYZER - WIRING DIAGRAM - PAGE 1 of 2 - AC VOLTAGE	WiringHigh 204PS-G2 ATEX- IECEx	A	05/2023
204 PermaStream-G2 ATEX-IECEx IN WATER ANALYZER FLOW DIAGRAM PERMASTREAM -OPEN LOOP	Flow 204PS-G2 ATEX-IECEx	A	05/2023
FLOW DIAGRAM 204P ATEX/IECEx	Flow Carrier-Sample 204P-G2 ATEX-IECEx	A	05/2023
MODEL 204P ATEX-IECEx VOC IN LIQUIDS ANALYZER WIRING DIAGRAM - PAGE 1 of 3 - AC VOLTAGE	Wiring P1of3 High 204P-G2- PT ATEX-IECEx	A	05/2023
MODEL 205P ATEX/IECEx H2S IN LIQUIDS ANALYZER SAMPLE FLOW	Flow-Sample 205P ATEX- IECEx	A	05/04/2023
MODEL 205P ATEX-IECEx H2S IN LIQUIDS ANALYZER WIRING DIAGRAM - PAGE 1 of 2 - HIGH VOLTAGE	Wiring High 205P ATEX- IECEx	A	05/2023
PURGE for Hazardous Area P CABINET ATEX/IECEx MODELS: 204P, 205P, T212, T214 & T700	Purge PCAB ATEX-IECEx	A	01/31/2024
P CABINET ATEX/IECEx CONNECTIONS & DIMMENSIONS	CONN-DIMS P CAB ATEX- IECEx	A	05/2023
P CABINET DIMMENSIONS ATEX/IECEx	DIMS-P ATEX-IECEx	A	01/31/2024
H2S in Liquids Analyzer User's Manual	205HV ATEX-IECEx H2S in Liquids Analyzer	B	24-Aug- 2023
HYDROCARBON/VOC IN WATER ANALYZER USER MANUAL	Model 204P ATEX-IECEx	B	24-Aug- 2023
204 HYDROCARBON IN WATER ANALYZER	204P-ATEX-IECEx-LABEL	0	08/23/2023
205 H2S IN LIQUIDS ANALYZER	205HV-ATEX-IECEx-LABEL	0	08/23/2023
*MODEL T800 Total Sulfer Analyzer ATEX IECEx - FLOW DRAWING	Flow T800-ATEX-IECEx	A	02/11/2025
*MODEL T700 Total Sulfer Analyzer ATEX- IECEx – FLOW DRAWING	Flow T200-ATEX-IECEx	B	04/11/2025

*H2S in Gas Analyzer User's Manual	T200 ATEX-IECEx H2S in GAS Analyzer	B	12-APRIL-2025
*T200 H2S IN GAS ANALYZER	T200-ATEX-IECEx-LABEL	A	04/16/2025

Note: Drawings with a '*' are new or revised

