



IECEX Certificate of Conformity

INTERNATIONAL ELECTROTECHNICAL COMMISSION IEC Certification Scheme for Explosive Atmospheres

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

Certificate No.: IECEx ETL 16.0044X Issue No: 0 Certificate history:
Issue No. 0 (2016-11-10)

Status: **Current** Page 1 of 3

Date of Issue: **2016-11-10**

Applicant: **AMETEK Process Instruments**
455 Corporate Blvd
Newark, DE 19702
United States of America

Equipment: **Dual Bench Process Spectrophotometer**
Optional accessory:

Type of Protection: **Exd flameproof and Ex px Pressurization**

Marking:
Ex d px IIC T3 Gb IP 65
-20°C to +50°C
IECEX ETL 16.0044X

*Approved for issue on behalf of the IECEx
Certification Body:*

Don Card

Position:

Certification Officer

*Signature:
(for printed version)*

Date:

2016-11-10

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 the [Official IECEx Website](http://www.iecex.com).

Certificate issued by:

Intertek
3933 US Route 11 South
Cortland NY 13045-2995
United States of America





IECEx Certificate of Conformity

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Manufacturer: **AMETEK Process Instruments**
455 Corporate Blvd
Newark, DE 19702
United States of America

Additional Manufacturing location(s):

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 electrical apparatus 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 : 2007-10 Edition:5	Explosive atmospheres - Part 0:Equipment - General requirements
IEC 60079-1 : 2007-04 Edition:6	Explosive atmospheres - Part 1: Equipment protection by flameproof enclosures "d"
IEC 60079-2 : 2007-02 Edition:5	Explosive Atmospheres - Part 2 Equipment protection by pressurized enclosure "p"

*This Certificate **does not** indicate compliance with electrical 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 Report:

[US/ETL/ExTR16.0067/00](#)

Quality Assessment Report:

[NO/PRE/QAR15.0035/00](#)



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Schedule

EQUIPMENT:

Equipment and systems covered by this certificate are as follows:

The IPS-4-DB is a dual-bench process spectrophotometer that is housed in a two part IP 65 rated stainless steel enclosure. It incorporates a certified purge system on the side of the enclosure that houses the electronics to provide the Ex px protection. The other side is not purged but the only electrical component within it is a certified Ex d heater. The power is supplied into the Ex px enclosure from a component approved Ex d enclosure that contains relays to cut all the circuits going into the purge enclosure via certified bushings. The relays for the purged portion of the enclosure are controlled by an Ex d pressure switch that is operated by the purge controller. The pressure relief valve on the pressurized enclosure is part of the certified purge control system and is set at 1000 Pa.

Note: See Annex for manufacturers documents, routine tests, certified components, equipment ratings and purge parameters.

CONDITIONS OF CERTIFICATION: YES as shown below:

Repairs of flamepath joints must be made in accordance with structural specifications provided by the manufacturer.

Repairs must not be made on the basis of the values in Table 1 or 2 of IEC 60079-1.

The installer must install appropriate protection from light to ensure that the resistance to light of the window on the unit of parts of the unit is satisfactory.

The installer must ensure that the installation minimizes the risk from electrostatic discharge.

Annex:

[Annex to IECEx certificate IECExETL16.0044X.pdf](#)



IECEX Certificate of Conformity

Certificate No:	IEC Ex ETL 16.0044X	Issue No. 0
Annex No. 1		

Manufacturer's documents

Drawings associated with Issue 0 of this certificate:

Title:	Drawing No.:	Rev. Level:	Date:
Certification drawing IPS-4, Dual Bench, IECEx	403475903	A	11/9/2016
IPS-4 Analyzer Full Spectrum Option 1 Zone 1 User Manual	403469901	H	--

Conditions of Manufacture (routine tests)

- IEC 60079-2 Section 17.1 Functional Test
- IEC 60079-2 Section 17.2 Leakage Test

Equipment Ratings: 120V/240V 50-60Hz 850Wmax

Purge Parameters:

Minimum Purging Flow Rate..... 225 l/min
 Minimum Purge Time..... 5 Minutes
 Protective Gas..... Air or Nitrogen
 Minimum Supply Pressure..... 4.15 bar (60psi)
 Maximum Supply Pressure..... 5 bar (72.5psi)
 Maximum Leakage Rate..... < 15 l/min
 Minimum Overpressure..... 50 Pa (0,5 mBar)
 Maximum Overpressure..... 1000 Pa

Incorporated Ex Equipment/Components:

No.:	Item:	Manufacturer:	Part No.:	Details:	
1	MiniPurge Purge Controller	EXPO Technologies Ltd	071XLC/SS/PO	Certificate No.	IECEX SIR 07.0027X
				Standards/Versions:	IEC 60079-0: 2011 IEC 60079-2: 2014
				X/U Conditions:	From Cert: 1. these options not used 2. installed per instructions 3. safety parameters are set within ratings 4. control unit is incorporated correctly 5. low temperature option not used 6. no vortex cooler used 7. no vortex cooler used
				Rating	Ex [pxb] IIC T6 Gb
				Note	None

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Annex No. 1		

No.:	Item:	Manufacturer:	Part No.:	Details:	
2	Heater Assembly	Ametek Process Instruments, Inc.	883024/Z1D400	Certificate No.	IECEX ETL 15.0041X
				Standards/Versions:	IEC 60079-0: 2011 IEC 60079-1: 2014
				X/U Conditions:	From cert: 1.no adjustment to flamepath is intended 2.controlled by SIL
				Rating	Ex db IIC T3 Gb -20°C to 60°C
				Note	None
3	Cable Gland	Hawke International	ICG653/U/O/1/2NPT/ NP	Certificate No.	IECEX BAS 06.0015X
				Standards/Versions:	IEC 60079-0: 2011 IEC 60079-1: 2014
				X/U Conditions:	From cert: 1.Equipment ambient rating is within this range 2.not used for increased safety
				Rating	Ex db IIC Gb -60°C to +80°C
				Note	Used with items 2 and 5
4	Bushing	Bartec GmbH	07-9101-A557/GXU1 (signal wires) 07-9101-Z256/GXU1 (Power wires)	Certificate No.	IECEX EPS 13.0045U
				Standards/Versions:	IEC 60079-0: 2011 IEC 60079-1: 2007
				X/U Conditions:	From cert: -used according to ratings -retests with bushing to determine temp class -re-tested to considered max current rating -used in threads that meet 60079-1 -used in IIC -not used in a cylindrical hole -not used in a cylindrical joint -fixed accordingly -wires are wired to meet 60079-0 -retested
				Rating	Ex db IIC
				Note	Retested with enclosure item 5

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No.:	Item:	Manufacturer:	Part No.:	Details:	
5	Enclosure	Officine Meccaniche Mam	Ametek Part # 403476001 M.A.M. part # GUB 5S (disconnect enclosure) Ametek part # 403447001 M.A.M. Part # GUB 4S (customer connection enclosure)	Certificate No.	IECEX INE 11.0018X
				Standards/Versions:	IEC 60079-0: 2011 IEC 60079-1: 2007
				X/U Conditions:	From cert: -gap and width of flamepath is less than values in IEC 60079-1
				Rating	Ex d IIC T6 or T4 Gb
				Note	Retested
6	Snap-Switch Assembly	ITT Aerospace Controls	057-0761	Certificate No.	IECEX SIR 10.0009X
				Standards/Versions:	IEC 60079-0: 2007 IEC 60079-1: 2007
				X/U Conditions:	From cert: Assembly is installed properly
				Rating	Ex d IIC T* Gb Ta = -40°C to 70°C)
				Note	None
7	Adaptors, Reducers, and Stopping plugs	Ex Innovations Ltd, Trading as Redapt	AD-U-1-1-04-29-S2. ADAPTOR M20 RDU110605 - Reducer M32 PD-U-1-1-05-00-S2 - PLUG M25 PD-U-5-0-06-00 - PLUG M32 PD-U-5-0-05 -PLUG M25	Certificate No.	IECEX SIR 12.0016X
				Standards/Versions:	IEC 60079-0: 2007 IEC 60079-1: 2007
				X/U Conditions:	From cert for AD, RD and PD: i. only one is used at entry ii. IP protection verified iii. stopping plug not used with adaptor or reducer iv. not for group I v. nitrile, EPDM, neoprene, silicone or fluorosilicone o-ring used
				Rating	Ex d
				Note	Used with items 2 and 5
8	Minipurge Interface Unit	EXPO Technologies Limited	MIU/d	Certificate No.	IECEX SIR 07.0008
				Standards/Versions:	IEC 60079-0: 2011 IEC 60079-1: 2014
				X/U Conditions:	None
				Rating	Ex db IIC T6 or T5 -20°C to +40 or 55°C
				Note	Used with item 1

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