



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

UNIT VERIFICATION

Certificate No.:	IECEx CES 20.0040X	Page 1 of 4	<u>Certificate history:</u>
Status:	Current	Issue No: 0	
Date of Issue:	2021-02-26		
Applicant:	B.T.B. S.r.l. Via della Tecnica, 6 I-52025 Montevarchi (AR) Italy		
Equipment:	FUEL GAS CALORIMETER SAMPLING SYSTEM, model QCP 2.50		
Serial number(s) or Unique Identification:	s.n.: 19-3345-S.0		
Type of Protection:	Pressurized enclosure 'px'		
Marking:	Ex pxb IIB T3 Gb		

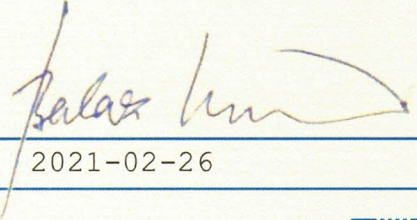
Approved for issue on behalf of the IECEx
Certification Body:

Mirko Balaz

Position:

Head of IECEx CB

Signature:
(for printed version)


2021-02-26

Date:

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:

CESI
Centro Elettrotecnico
Sperimentale Italiano S.p.A.
Via Rubattino 54
20134 Milano
Italy

CESI



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Date of issue: 2021-02-26

Issue No: 0

Manufacturer: **B.T.B. S.r.l.**
Via della Tecnica, 6
I-52025 Montevarchi (AR)
Italy

Additional
manufacturing
locations:

This Unit verification certificate is issued as verification that the Apparatus identified on page 1, was assessed and tested and found to comply with the IEC Standard list below. 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 60079-2:2014-07 Explosive atmospheres - Part 2: Equipment protection by pressurized enclosure "p"
Edition:6

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 Report:

[IT/CES/ExTR20.0041/00](#)

Quality Assessment Report:

As this is a Unit Verification Certificate, no QAR is applicable as this certificate is specific to the items listed by serial number or other unique identification.



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Date of issue: **2021-02-26**

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EQUIPMENT:

Equipment and systems covered by this Certificate are as follows:

The pressurized cabinet Fuel Gas Calorimeter Sampling System model QCP 2.50, s.n.: 19-3345-S.0, consists of a pressurized enclosure (cabinet) with installed inside electric, electronic and Fuel Gas Calorimeter Sampling System instruments, including intrinsically safe circuits.

The whole structure of the cabinet is realized with 3 mm stainless steel sheet. The sheets are pressed, bended and continuously welded to realize all the cabinet parts and accessories. The structure guarantees a degree of protection at least IP40. The doors are realized with the same material of the structure. They are equipped with gaskets, hinges and locking devices in order to guarantee the correct sealing of the cabinet.

In this application, a toxic and explosive gas detector, suitable for the installation area, built according to the reference laws, with alarm threshold set at 15% LEL and trip threshold at 25% LEL, is installed inside panel.

The cable inlets are realized with devices such as cable glands, cable transit devices (CTD's), conduit fittings, etc., subjected to separate IECEx component or equipment certification.

The pressurized cabinet Fuel Gas Calorimeter Sampling System model QCP 2.50 is equipped with an automatic control system of purging and pressurization, PEPPERL+FUCHS 6500 series, for the control of purging before starting and during the pressurization and dilution.

The PEPPERL+FUCHS 6500 series pressurization system, subjected to separate certification, consist of the 6500 control unit (IECEX UL 16.0003X) and EPV-6500 controller vent (IECEX UL 15.0147X).

Identification of pressurized cabinet

The Fuel Gas Calorimeter Sampling System model QCP 2.5 is identified by a code as follows:

- Q** : manufacturer code;
- CP** : pressurized cabinet (Pressurized Cabinet);
- 2.50** : internal cabinet volume expressed in m³.

SPECIFIC CONDITIONS OF USE: YES as shown below:

- All the electrical accessories used to guarantee the operation and the safety of the cabinet, if placed in hazardous area, shall be subject of a Certificate of Conformity to the standards of IEC 60079-0 series, for a type of protection and a temperature class suitable for the zone of installation.
- The special conditions mentioned in the certificates of separately certified apparatus has to be fulfilled.
- The accessories used for cable entries and for unused holes are subject of separate certification according to the standards IEC 60079-0 and guarantee a minimum degree of protection IP 65 according to the standard IEC 60529.
- The incoming main and auxiliary cables must be suitable for the conditions of use and must be fitted and connected so as to preserve the method of protection of the enclosure.
- The minimum purging time in operation must be established taking into account the inlet and outlet ducts not considered in the tests. The time must therefore be increased as a function of the protective gas flow, so as to allow a gas change at least 5 times the inner cabinet volume.
- All the electrical equipment of the Fuel Gas Calorimeter Sampling System model QCP 2.5 pressurized cabinet is connected between their single earth terminal and the frame by conductors of at least 4 mm². Therefore, the external earth terminal of the frame must be firmly connected to the customer's equipotential bonding system via a 5x20 mm CU plate earth bar.
- The conditions for installation and use of the pressurized cabinet type Fuel Gas Calorimeter Sampling System model QCP 2.5 included in the installation, use and maintenance instructions, shall be fulfil.



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Equipment (continued):

Physical And Electrical Data

Maximum electrical power: 7.36 KVA

Maximum rated voltage: 24 Vcc; 230 Vca; 50 Hz

Maximum current: 32 A

Ambient. Temperature: +3°C + +48°C

The electrical power shown is to be intended as maximum let-through power.

Purging and pressurization parameters

- Free internal volume: 1.65 m3
- Protective gas: Clean air
- Supply pressure range to the pressurization system: 4.6 bar
- Supply temperature range of protective gas: +3°C + +48°C
- Minimum purging flow rate of protective gas: 12.0 Nm3/h
- Maximum purging flow rate of protective gas: 18.0 Nm3/h
- Minimum purging time: 60 minutes
- Minimum overpressure: 1.5 mbar
- Maximum overpressure: 15.0 mbar
- Minimum flow rate of protective gas: 18.0 Nm3/h
- Maximum leakage rate from the cabinet: 18.0 Nm3/h

List of devices assembled in/on pressurized cabinet

The Fuel Gas Calorimeter Sampling System model QCP 2.5 has been manufactured assembling several individual devices/components subject of separate IECEx certification. Refer to Manufacturer's document for the list of the apparatus certified according to the IECEx Scheme installed in / on the cabinet type QCP2.5.

Condition of installation:

In the installation have been respected all the conditions of installation and use prescribed in the certificates of the individual devices assembled.

Warning markings:

In the lower part of the marking plate of the pressurized panel is reported the following warning:

- Do not open before switch off power supply; see instruction before opening.

Near the front door handle is also applied the following additional warning plates:

- Pressurized enclosure;
- Do not open when an explosive atmosphere may be present;

On the cover of the pressurization control panel, pressure control unit and junction box JB5 is reported the following warning:

- CONTAINS INTRINSICALLY SAFE CIRCUITS.

For operating nameplates details, make reference to drawing MD19-3345-S.1/3.