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 CES 21.0005X**	Page 1 of 4	Certificate history:
Status:	**Current**	Issue No: 0	
Date of Issue:	2021-03-22		
Applicant:	**B.T.B. S.r.l.** Via della Tecnica, 6 I-52025 Montevarchi (AR) **Italy**		
Equipment:	**ELECTRICAL CONTROL PANEL, series QCP 3.00**		
Optional accessory:			
Type of Protection:	**Intrinsic Safety 'i', Pressurized enclosure 'px'**		
Marking:	**Ex pxb IIB / IIB+H2 / IIC T4 / T3 Gb** *or* **Ex pxb [ia IIC Ga] IIB / IIB+H2 / IIC T4 / T3 Gb**		

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

Position: **Head of IECEx CB**

Signature: (for printed version)

Date: 2021-03-22

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

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

Additional 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 60079-11:2011 Explosive atmospheres - Part 11: Equipment protection by intrinsic safety "i"
Edition:6.0

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/ExTR21.0004/00

Quality Assessment Report:

IT/CES/QAR19.0003/01

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EQUIPMENT:
Equipment and systems covered by this Certificate are as follows:

ELECTRICAL CONTROL PANEL series QCP 3.00.

The pressurized Electrical Control Panel series QCP 3.00, consists of a pressurized enclosure (cabinet) with installed inside electric and electronic instruments, including Associated Apparatus for intrinsically safe systems.

The whole structure of the cabinet is realized with 3 mm stainless steel sheet, alternatively with 3 mm of painted mild steel. The sheets are pressed, bended and continuously welded to realize all the cabinet parts and accessories. 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. The doors can be supplied with trasparent glass windows.

The structure guarantees a degree of protection at least IP40.

The cabinet inlets shall be realized with devices such as cable glands, cable transit devices (CTD's), counduit fittings, etc., subject to separate IECEx equpment certification.

The pressurized cabinet is equipped with an automatic control system of purging and pressurization, PEPPERL+FUCHS 6500 series, for the control of purging and during the pressurization.

The PEPPERL+FUCHS 6500 series pressurization system, subject 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 Pressurized Electrical Control Panel series QCP 3.00 is identified by a code as follow:

Q : manufacturer code;

CP : pressurized cabinet (Pressurized Cabinet);

3.00 : internal cabinet volume expressed in m^3;

* : cabinet dimension code (refers to manufacturer instructions).

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 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 shall be established taking into account the inlet and outlet ducts not considered in the tests. The time shall therefore be increased as a function of the flow of the protective gas, so as to allow a change of gas at least 5 times this additional volume.
- The correct design and installation of intrinsically safe circuits/systems, to be connected by the User inside the pressurized apparatus, are not assessed as part of the present certification procedure; the certificate of the pressurized cabinets type **QCP 3.00** is not to be used as evidence that intrinsically safe apparatus, wiring and associated apparatus, as part of such circuits, meet all the relevant requirements for intrinsically safe systems.
- The special conditions mentioned in the certificates of separately certified apparatus has to be fulfilled.
- All the electrical equipment shall be 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 of the installation and use of the pressurized cabinet type **QCP 3.00** included within the installation, use and maintenance instructions, shall be fulfil.

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Equipment (continued):

Physical And Electrical Data
Maximum AC electrical power: 200 kVA
Maximum DC electrical power: 22 kW
Maximum AC rated voltage: 1000 V; 50/60 Hz
Maximum DC rated voltage: 110 V
Maximum current AC/DV: 200 A
Maximum dissipated power (T3): 4 kW
Maximum dissipated power (T3): 2.8 kW
Ambient. Temperature: -20°C ÷ +50°C
The electrical power shown is to be intended as maximum let-through power.

Purging and pressurization parameters
- Free internal volume: 2.00 m3
- Protective gas: Clean air
- Supply pressure range to the pressurization system: 3.2 bar
- Supply temperature range of protective gas: -20°C ÷ +50°C
- Minimum purging inlet flow rate of protective gas: 53.0 Nm3/h
- Minimum purging outlet flow rate of protective gas: 27.2 Nm3/h
- Minimum purging time: 44 minutes
- Minimum overpressure: 1.5 mbar
- Maximum overpressure: 15.0 mbar
- Maximum leakage rate from the cabinet: 19.0 Nm3/h

List of devices assembled in/on pressurized cabinet.
The Electrical Control Panel series QCP 3.00, 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 QCP3.00.

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 switching 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 document NT21-3877-INT.