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Schedule

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Certificate Number DAN 23ATEX0272X

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Description of Product

This BioProcess MPLC System project no: P-221740, serial no 29715240, is designed for use as Category 3 Equipment in a Zone 2 environment. The system has been tested and assessed on the manufacturers location in Uppsala on the 19th of June 2023.

The system is designed to fulfil the European Standard EN 60079-2 ("pzc" pressurization) for zone 2 and EN 60079-0 (General requirements).

The used Ex purge controller is a "Pepperl + Fuchs" Model 6000 Series Certified as: II 2G Ex db [ib pxb] IIC T4 Gb, by UL-DEMKO, Certificate: DEMKO 07 ATEX 0705753 X.

The protection type "pzc" is based on the principle of maintaining a constant overpressure using air or a protective gas to prevent an explosive mixture forming near the device inside the pressurized enclosure.

Before starting, the pressurized enclosure must be purged with air to remove any explosive mixtures that may be inside the enclosure. The purge time is based on a practical testing where the purge time has been measured for venting out a test gas (in this case a light and a heavy test gas has been used i.e., Helium and Argon).

After purging the pressure control unit use leakage compensation to keep a working pressure of minimum 0.25 mbar inside the enclosure. The "blow out nozzle" is integrated as a part of the Pepperl+Fuchs Purge Control system.

After elapsed purge time and with a sufficient enclosure pressure above the minimum pressure limit, the power is turned on to the electrical equipment controlled by the purge control unit.

If the pressure falls below the minimum pressure 0.63 mbar the main relay will disconnect the supply voltage to the cabinet and the purge sequence will start up again.

Type key:

BioProcess MPLC System

Serial no.: 29715240

Project no: P-221740

Technical data:

Permissible range of ambient temperature for ATEX: +2°C to +30°C

Power supply specifications:

Power Supply system: L-N-PE, 230 VAC, 50 Hz

Power Supply, pumps: L1-L2-L3-PE, 400VAC, 50 Hz



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Essential purge settings:

Internal free volume:	910 [liters]
Minimum purging flow rate:	565 [l/min]
Minimum amount of purge air	5085 [liters]
Minimum purge time:	9 [min]
Purge air supply pressure:	4 – 10 [bar]
Reduced purge air supply:	4 [bar]
Maximum leakage rate:	5 [liters/min]
Minimum overpressure	0.63 [mBar]
Maximum overpressure	19.92 [mBar]

16 Report Number

Examination and test report: 23ATEX0272_Assessment Report_29715240

17 Specific Conditions of Use

- The BioProcess MPLC System is a purged/pressurized system. The power to the cabinet will not be switched on before the end of the purge sequence. The minimum amount of air used for purging the system is 5085 liters.
- The purge time before powering up must be at least 9 minutes.
- For antistatic reasons, the cabinet should be properly bonded/earthed before use (external bonding connector is located on top of the cabinet).
- The supply power and signal cables must be connected in the safe area to the belonging Junction box.
- Mechanical protection of the external cables must be conducted in accordance with EN 60079-14.

18 Essential Health and Safety Requirements

In addition to the Essential Health and Safety Requirements (EHSRs) covered by the standards listed at item 9, the following are considered relevant to this product, and conformity is demonstrated in the report:
No additional requirements.

19 Drawings and Documents

Document	Doc number	Rev	Release date
Assembly Drawing	29882208	AC	July 7, 2023
Piping and instrumentation diagram	29903359	AH	July 5, 2023
General specification	29903364	AH	June 30, 2023
Bill of material	29902709	AH	July 3, 2023
ATEX BOM	29973745	AB	July 5, 2023
Electrical schematics	29902705	AD	June 26, 2023
Layout and interconnections	29902715	AD	June 26, 2023
ATEX Ignition Hazard Risk Assessment	29907451	AA	January 19, 2023
Nameplate specification system	30035926	AB	July 6, 2023
Operating Instructions	29731943	AA	July 11, 2023