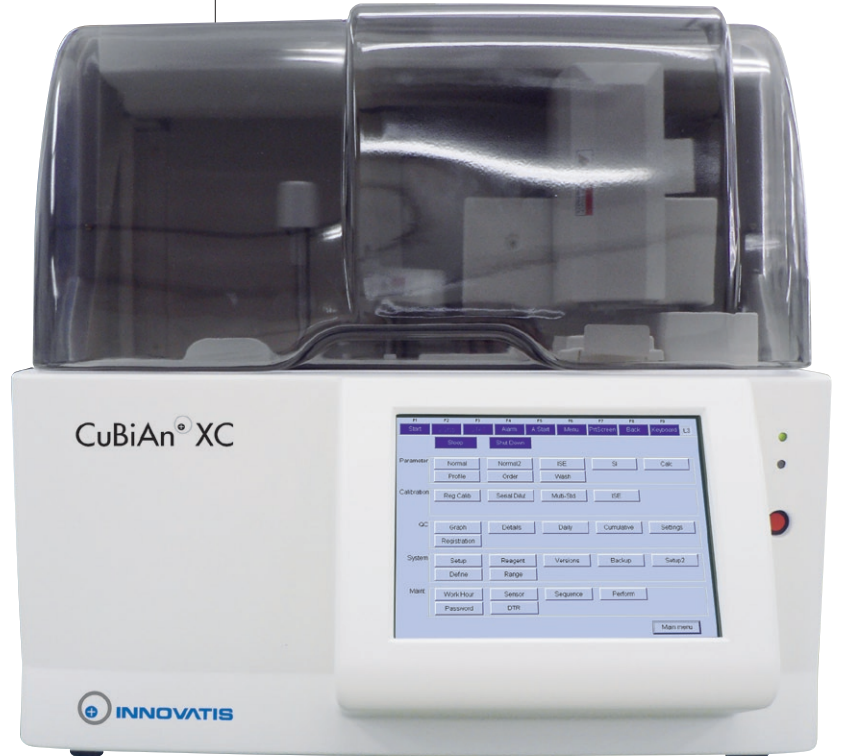


CuBiAn⁺ XC

CULTURE BIOCHEMISTRY ANALYZER
EXTRA COMPACT



PHOTOMETRIC
BIOCHEMISTRY
ANALYZER





CuBiAn⁺ XC

PROCESS DEVELOPMENT

In process development, the CuBiAn⁺ XC is used to optimize culture conditions by monitoring a broad range of medium components. The expandable range of substances allows the user to analyze the growth of a cell culture more in detail. The impact of growth factors and inhibitors on cell cultures can be detected by monitoring lead substrates and metabolites. The efficiency of IgG production can also easily be followed by analyzing IgG concentration via immunoturbidimetry.

PRODUCTION

In a production environment, monitoring the consumption of substrates, following the level of metabolites in the medium, and getting a quick overview about product yield are of the highest importance. The multi-parameter analyzer CuBiAn⁺ XC is capable of collecting all of these data quickly and efficiently. In cell culture processes, it is necessary to collect data on a regular base and receive the results immediately. The CuBiAn⁺ XC delivers a complete set of data within 10 – 15 min for one sample. All delivered result data can be transferred directly to LIS/LIMS systems.

Product Description

The CuBiAn⁺ XC is a compact version of a benchtop, random access biochemistry analyzer, based on the photometric measurement principle. It offers a nearly unlimited, expandable range of measurement applications. A broad range of interesting substances can be detected including substrates, metabolites and products. Kinetic and end point determination of assays are possible.

Due to the stability of the photometric assays, recalibration is necessary only from lot to lot of the selected test method. Barcode detection of reagents and samples ensures a safe and traceable handling of the analysis results. Reagent kits for the detection of ammonia, glucose, glutamine, glutamate, human IgG, LDH, inorganic phosphate, Na⁺, K⁺, and CL⁻ are currently available. However, possible analytes can be expanded to a nearly unlimited range due to the technical measurement principle of the CuBiAn⁺ XC.

Benefits

The CuBiAn⁺ XC delivers a semi-automated platform technology that guarantees highly reproducible results due to its membrane-free measurement principle. The design is geared towards future expansion of the assay portfolio. The quality assurance tools (calibrators and controls) allow for system suitability checks at any time. The compact size of the CuBiAn⁺ XC enables the user to operate the system even in laboratories with limited space.

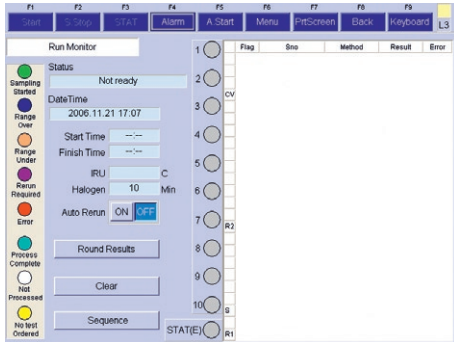


Technology

The CuBiAn® XC is equipped with a photometric measurement unit that allows for automatic wavelength selection from 340 – 800 nm. Endpoint and rate analysis are possible from 0.1 – 3.0 absorbance.

The integrated ISE (Ion Selective Electrode) module delivers data on Na, Na⁺, K⁺ and Cl⁻. The temperature-controlled incubation reaction unit guarantees reproducible test results. Long-term stability of the reagents onboard is possible due to the cooled reagent container unit. The system works with disposable, high precision, resin cuvettes which are automatically loaded and discarded.

The CuBiAn® XC uses a built-in CPU with an LCD touch panel. In the future, the additional sample port may allow for integration of the CuBiAn® XC into fully automated bioprocesses.



Run Monitor

- Robustness and Stability
- Quality assurance
- High Throughput
- Traceability
- Flexible platform technology
- Workstation consolidation
- Improves laboratory workflow
- Significant revenue generating capability
- Replaces most tests performed on nephelometer
- Minimizes referral testing



(Refrigerated) Reagent/Sample Container Unit

Automation – Online Sampling

CuBiAn® FA for automation applications like online sampling on request. Validation Documents available on request.



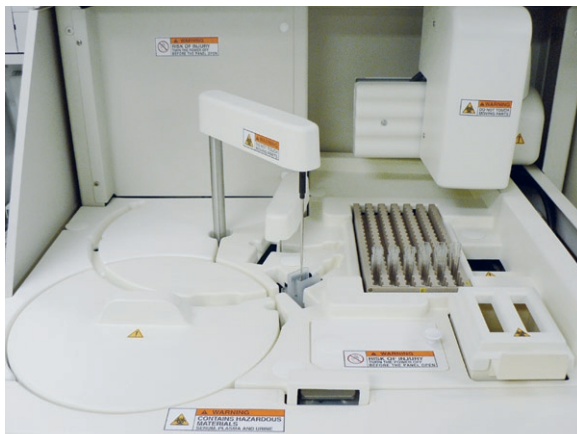
CuBiAn⁺ XC

Technology

Technical Features

- Photometric measurement**
 The membrane-free technology of the CuBiAn⁺ XC enables highly reproducible test results over a long period of time without requiring permanent recalibration cycles.
- Sample capacity**
 Up to 90 results per 1 hour are possible; with ion selective electrode (ISE) unit expandable to up to 360 results.
- Calibrators and controls**
 Up to three controls can be defined for each assay. CuBiAn⁺ XC can be run in compliance with Westgard rules. Levey-Jennings plots document the system and assay performance.
- Flexible software platform**
 The CuBiAn⁺ XC can be expanded to a wider assay range without any hardware changes required. The hardware and software architecture allows for easy addition of new analysis methods.

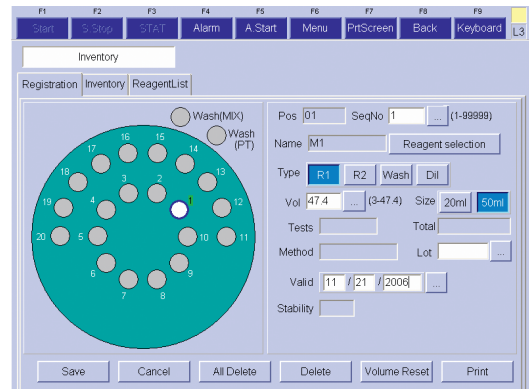
The CuBiAn⁺ XC is designed for projects in cGMP regulated environments. For more information about the innovatis validation service see page 06/07.



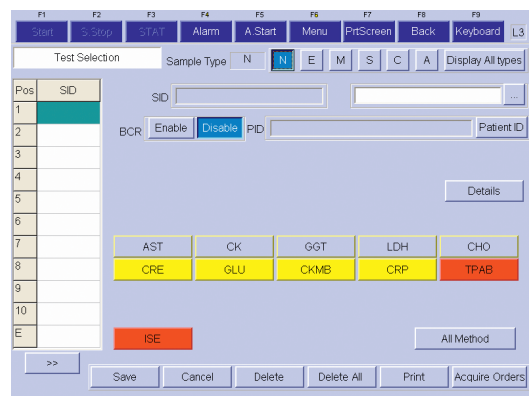
Reagent and Sample Arm



Emergency Sample Port

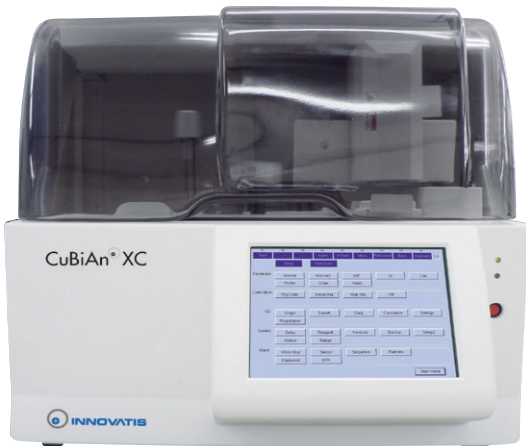


Inventory



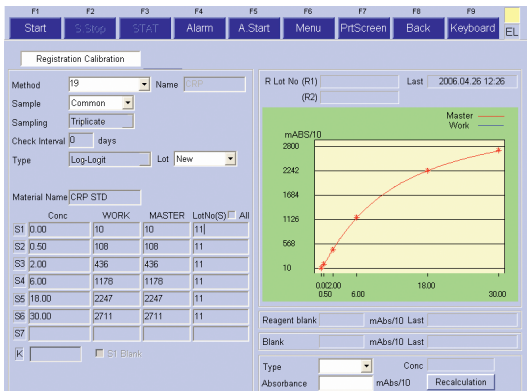
Test Select

Technical Data

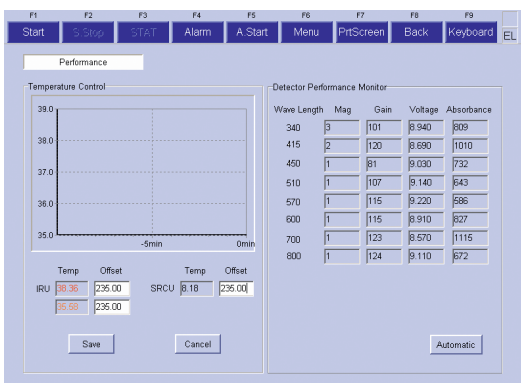


Product Number CuBiAn® XC

Product No. 7 02 10 00 11 (with ISE)
7 02 10 00 12 (without ISE)



Calibration



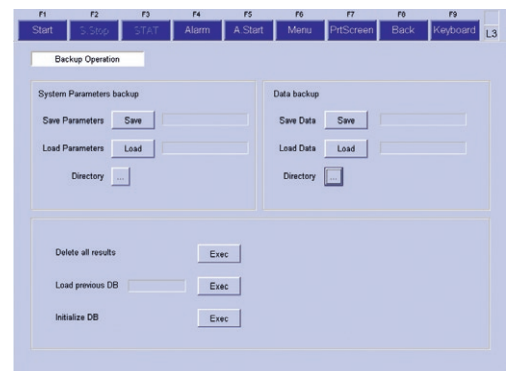
Performance Monitor

Type	Desktop fully automated random access analyzer.
Working principle	General chemistry as photometric or immunoturbidity assay.
Throughput	Up to 90 tests/hour (with ISE up to 360 tests/hour).
Actual Test Scenario (expandable)	Ammonium, glucose, lactate, glutamine (in presence of glutamate), glutamate, human hs IgG, IgG, inorganic phosphate, LDH, Na ⁺ , K ⁺ , CL ⁻ (to be expanded).
Wave length range	Automatic wavelength selection by 8-position filter wheel (range between 340 and 800 nm), bi-Chrom.
Reagent containment	20 bottles (20 mL, or 50 ml volume); cooled by Peltier element (+8 °C to +15 °C).
Reagent consumption monitoring	Optional external barcode reader for reagents available. Typical reagent consumption (~ 180 µL = 96 Test / 20 mL).
Sample containment	Tray for 10 samples / controls / calibrators (plus emergency port). 2 – 35 µL sample volume (increment by 0.1 µm). Several sample tubes/containers formats possible. Optional external barcode reader for sample detection available.
Measurement	Absorbance measurements in cuvettes. Discrete. Single line random access. Multi-test analysis.
Calibrations	Linear. Spline. Logit-Log. Exponential. Point-to-Point. Factor.
Analytic modes	End point. 2 point end. Rate. 2 point rate. ISE.
Sample Predilution	Programmable ratios.
Incubation Reaction Unit (IRU)	24 single-use plastic cuvettes, cuvette temperature adjusted to 37 °C in IRU, monitored by 2 temperature sensors.
LIS Capability	Host query mode. Broadcast download mode. Uni-directional mode. Bi-directional mode. Built-in PC with Touch panel.
Dimensions	620 mm (W) x 666 mm (D) x 577 mm.

Data Management

Data Management System

The DMS software system of the CuBiAn® XC tracks quality controls and archives sample data and monitors system status. The system is LIS interface capable.



Data Management Tool