

HORIBA
Medical

Pentra 200

The Clinical Chemistry System

that offers more so you do less!



Pentra 200

A unique level of automation in a compact system

Safe and flexible sample management



Positive identification

Automatic scanning by the internal barcode reader of all samples guarantees 100% positive sample identification.

Flexible programming

The **Pentra C200** allows you maximum flexibility to program, by position, Sample ID (with a barcode) or LIS connection using real time query or batch mode.

Large variety of available tube types

Through its ability to use many different tubes and sample cups, the **Pentra C200** enables routine analysis with the following sample types (Serum, Plasma, Urine, CSF or homogenous fluids).

Dedicated STAT position



The **Pentra C200** combines the power of high capacity automation with the flexibility of STAT access. The **dedicated** STAT position is available during routine chemistry analysis allowing true STAT testing capabilities.

Fully automatic cuvette management

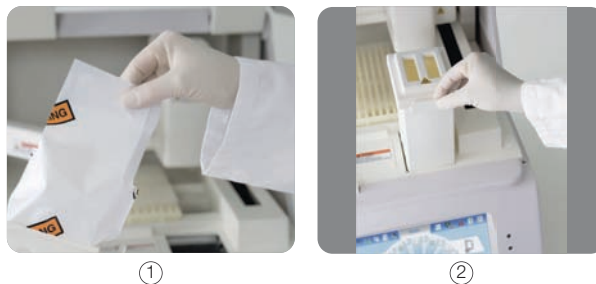
Cuvette management is automated by using the prepackaged cuvette racks containing 96 cuvettes in each rack with the onboard cuvette loader.



- 1 - Simply place the two racks in the storage position and let the **Pentra C200** manage the rest.
- 2 - Cuvettes are automatically placed into the reaction rotor.
- 3 - Removal is automatic from the reaction rotor into the waste compartment at the end of each analysis.

The use of a single disposable cuvette ensures that the correct number of cuvettes are used for an assay and eliminates unused cuvette waste.

On board cuvette capacity ensures over two hours of true walk away time without any user intervention required.



- 1 - All used cuvettes are placed into a disposable biohazard bag.
- 2 - This biohazard bag is placed in the dedicated waste compartment to minimize the possibility of contact with potentially biohazard waste.



Simplified and secure reagent management



The barcoded Pentra reagent cassette is automatically read by an internal barcode reader providing error free reagent identification and position.

The “Pentra” reagent cassettes were specially designed to make routine analysis easier:

- A large and complete test menu available.
- One cassette per assay, either single or dual reagent available.
- Several cassette formats (from 10 to 100 ml capacity) available to optimize the number of tests per cassette.
- Barcode labelled for automatic positive identification and information transfer.
- Lot and cassette number registration.



The **Pentra C200** on-board temperature controlled compartment guarantees extended stability making reagent management easy to maintain.

Open channels are available.

A complete test menu

- All reagents are liquid, stable and ready to use
- IFCC recommended methods for enzyme testing
- HbA1c methodology's is NGSP certified



- Just one calibrator and two controls for routine analysis

Reagent Controls and Calibrators

Uses the same reagents, controls and calibrators as the Pentra 400

Available panel

Enzymes

Alkaline Phosphatase
 ALT
 AST
 Amylase*
 CK NAC
 GGT
 LDH
 Lipase

General Chemistries

Albumin
 Total Bilirubin
 Direct Bilirubin
 Calcium*
 Cholesterol
 HDL Direct
 LDL Direct
 CO2
 Creatinine*
 Glucose PAP*
 Glucose HK
 Iron
 Magnesium
 Phosphorus*
 Total Protein
 Urinary Proteins*
 Triglycerides
 Uric Acid*
 Urea* (BUN)

Specific Proteins

CRP
 HbA1c **
 μ-albumin *

Electrolytes***

Na+
 K+
 Cl-

* Applications also available on urine
 ** Application available on hemolysate
 *** Available with ISE module

- Safe and flexible sample management
- Fully automatic cuvette management ensures true walk away capability
- Simplified and secure reagent management
- A complete ready to use test menu

User friendly interface via ergonomic and intuitive software

An integrated computer for a compact system

A large screen optimizes the quantity of information displayed

Control and monitor your system via the main color touch screen

- Monitoring of Reagent, sample, end of run timing and system status
- All functions are displayed as intuitive icons (Start, Pause, STAT, Print, Switch off, Sleep mode)
- Direct access to all major screens (QC, Calibration, Worklist, Results, Archive)

RS232 connection and 4 USB ports for

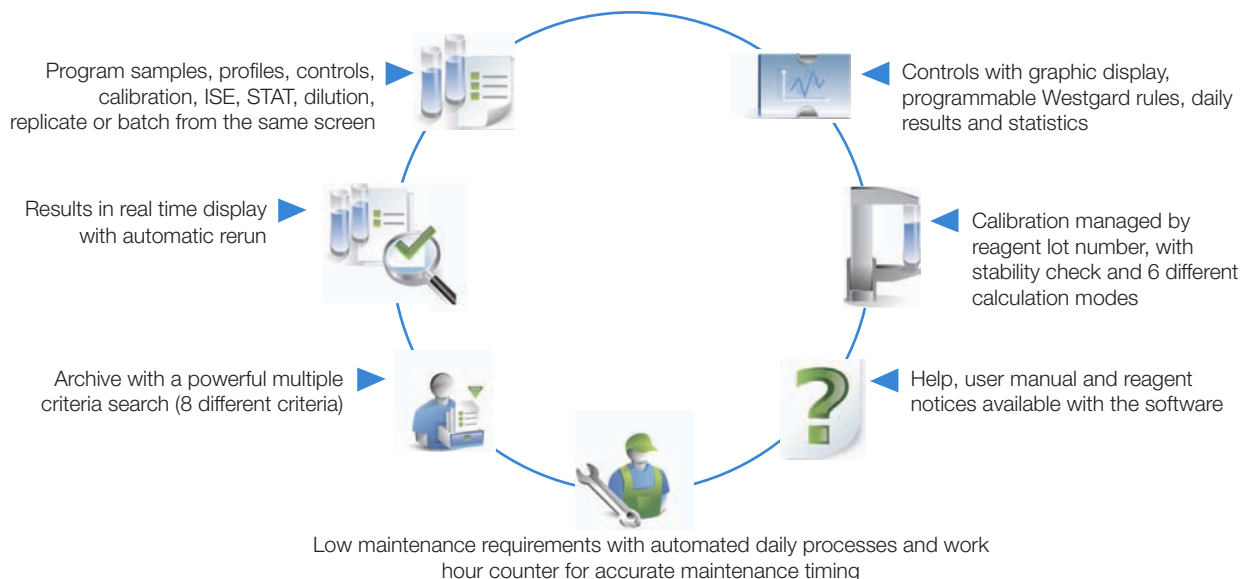
- LIS connection
- Printer and other peripherals such as a keyboard, mouse and barcode reader
- Database or parameters can be exported
- Extract results, QC, logs and alarms in Microsoft Excel compatible format

Secured database management

- Dual database management providing complete data protection
- Database backup saved to external USB key



All the functions you need are accessible via a large, comprehensive and interactive color touch screen

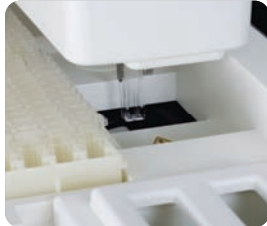


- Compact and integrated computer
- Large interactive color touch screen
- Ergonomic and intuitive software with all available functions

Pentra 200

Proven technologies delivering high quality results

- Eight wavelengths from 340 to 700 nm
- Narrow band filters
- Halogen Tungsten lamp with voltage control for extended life
- Mono or bi chromatic measurement possible

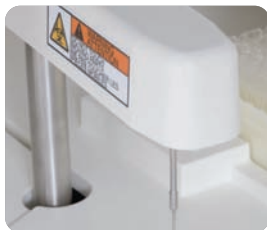
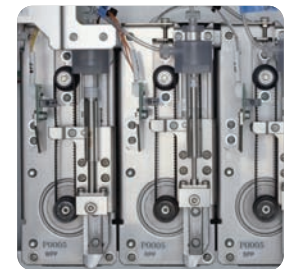


Disposable cuvettes

- Prevents cross contamination
- Optical quality guaranteed by strict factory control process
- Packaged automatically into racks without any human intervention, to maximize the optical quality

Three dedicated micro-syringes

- 1 - Sample micro-syringe for 2-45 μL
 - 2 - Reagent micro-syringe for 20-350 μL
 - 3 - Wash micro-syringe
- These syringes ensure absolute accuracy of sampling volume and reduce maintenance



Mixing system

- Dedicated mixer unit
- A rotating paddle ensures better homogenization during mixing
- Six mixing speeds available

Efficient probe and mixer wash process

- 1 - Internal and external rinsing of probe
 - 2 - External rinse for mixer
- Automatic daily wash process
 - Two separate wash towers for probe and mixer
 - Possibility to program wash at anytime



High range ISE module

- Providing reliable and proven ISE technology
- High throughput module 360 t/h (Std. config: 140 t/h) independent from colorimetric testing
- Low maintenance

- Disposable cuvettes
- Three micro-syringes
- Independent mixer with stirring paddle

- Efficient probe and mixer wash process
- High quality ISE module
- High quality Spectrophotometer

Pentra 200

Clinical Chemistry system

SPECIFICATIONS

Type

- Discrete, fully automatic random access analyzer
- Batch & STAT functions

Throughput

- 90 t/h (single or dual reagent)
- Up to 360 t/h with ISE module

Optic system

- 12V 20W Halogen Tungsten lamp
- Narrow band filters
- 340, 405, 510, 546, 570, 600, 660, 700 nm

Measurement

- Absorbance photometry, turbidimetry, differential, potentiometry (optional)

Methodology

- End point, Kinetic, single/dual/dual+diluent reagent chemistry, mono-bi chromatic

Sample management

- 15 (+1) sample positions
- 24/7 on-board temperature controlled compartment 46-59°F (8-15°C)
- Dedicated random access STAT position
- Serum, plasma, urine, CSF, homogeneous liquids
- Shock detection and level detection
- Dedicated sample micro-syringe: 2 to 45 µL (increment by 0.1 µL)
- Positive and automatic identification (internal barcode reader)
- Removable tray
- Internal and external probe wash

Reagent management

- 15 reagent positions available (single or dual)
- 24/7 on-board temperature controlled compartment 46-59°F (8-15°C)
- Removable tray
- Reagent cassette capacity: from 10 to 100 ml single or dual reagent
- Automatic identification, registration and position
- Dedicated reagent micro-syringe: 20 to 350 µl (increment by 1 µl)
- Shock detection and level detection
- Open channels available

Reaction system

- Disposable individual cuvettes
- Automatic cuvette loading/dispersing system
- From 120 µL to 450 µL reaction volume
- 37 °C +/- 0.3 °C
- Dedicated mixer with stirring paddle
- Dedicated waste compartment for cuvettes and contaminated liquid
- Pure water consumption: <2.1 L/h
- System water and waste management by level detector
- Cuvette on board capacity: 2 racks of 96 cuvettes
- Factor, linear, point to point, log, spline, exponential calculation methods
- Dilution ratio: from 1 to 30,625

Computer

- Integrated computer with 10.4 inches color touch screen
- Industrial PC Board with Windows XP embedded Operating system
- 10 000 results memory capacity
- 4 USB ports for printer and other peripherals, i.e. keyboard or mouse, barcode reader and USB key for result, log export and database backup
- RS 232 connector for LIS connection (mono or bi directional, total query mode available)

Physical specifications

- Power consumption: 600 VA maximums
- Dimension: 29.8" x 28.6" x 22.5" W x D x H (75.5 x 72.5 x 57 cm)
- Weight: 209 lbs (95 kg)
- Operating temperature : 59°F to 86°F (+15 °C to +30°C)
- Operating humidity (relative): 45% to 85% maximum
- Temperature gradient: 35°F (2°C) per hour.

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