





HORIBA

Explore the future

Automotive Test Systems | Process & Environmental | Medical | Semiconductor | Scientific



The Clinical chemistry system that offers more so you do less!

The Pentra C200 delivers a new milestone in clinical chemistry development by combining a high degree of automation, ergonomics and quality of results into one compact system.

Everything was considered to ensure your routine work is made safer and easier.

Never before in this type of analyser has such a high level of automation, security and quality been brought together within a single, compact system.

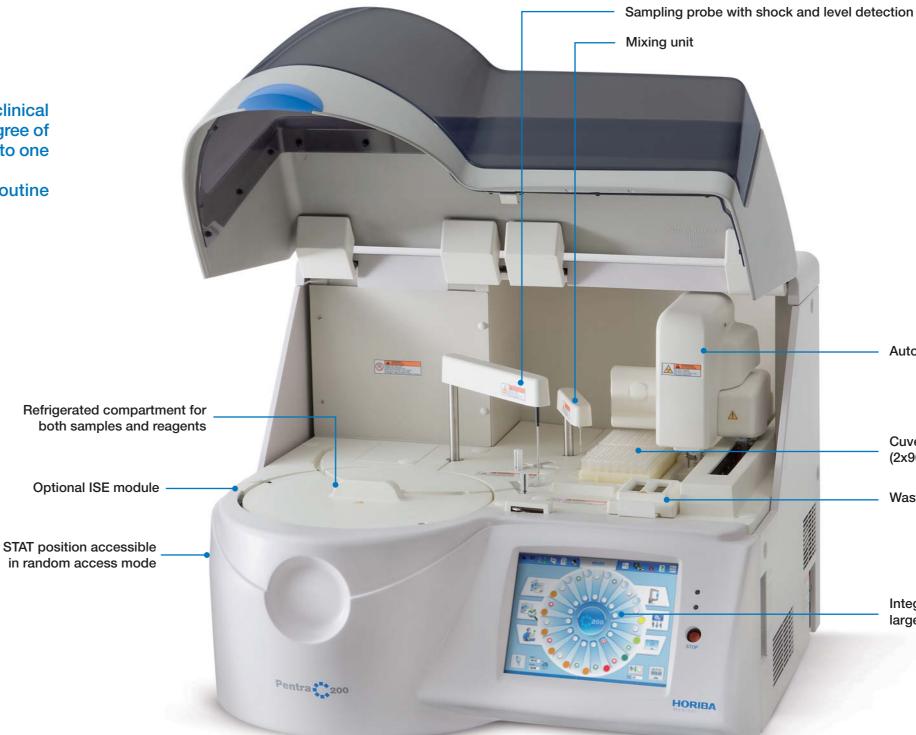
HORIBA Medical has incorporated the standards of automation of larger systems while taking care of the specific needs of small to medium sized laboratories.

The result of this is a complete "plug and play" concept for reagents, samples, cuvettes and waste management, combined with the security of positive sample identification with an internal barcode scanner.

When designing the system, HORIBA Medical used the highest technical design principles to ensure only the highest quality of results is attained. The use of disposable cuvettes is just one such example, since this is the only way to combine low water consumption with delivery of quality results.

To add the final touch of what is the Pentra C200 system, the software interfaces a user friendly large touch screen providing perfect ergonomics with a complete display of all necessary information.

The Pentra C200 is set to become the new standard for clinical chemistry analysers in small to medium sized laboratories.



- A unique level of automation
- Proven technology delivering the best quality of result
- Intuitive and ergonomically designed user interface

Automated cuvette management

Cuvette racks storage position (2x96 cuvettes)

Waste receptacle for used cuvettes

Integrated computer with large colour touch screen



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 all the different tubes and sample cups, the Pentra C200 enables routine working with all possible sample types (Serum, Plasma, Urine, CSF or homogenous fluids).

Dedicated STAT position



With a dedicated STAT position available the Pentra C200 allows you to add samples at anytime during routine use. The **Pentra C200** combines the power of high capacity automation (192 tests) with the flexibility of STAT access.

Fully automatic cuvette management

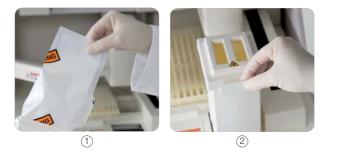
The Pentra C200's 96 cuvette rack combined with a fully automated loader minimises cuvettes management.



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

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

192 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 contaminated substances.





Due to the combination of the "Pentra" cassette and internal barcode reader, reagent identification and checking is automatic and error free.

The "Pentra" reagent cassettes were specially designed to make routine working easier:

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



The closed refrigerated compartment guarantees and ensures extended on-board stability while making reagent management a lot easier.

Open channels are available.

- 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

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

Available panel

Enzymes

Alkaline Phosphatase ALT AST Amylase* CK NAC CK MB GGT IDH Lipase



- Electrolytes***
- Na⁺ K+ CI-

General **Chemistries**

Albumin Total Bilirubin Direct Bilirubin Calcium OCP Calcium Arsenazo Cholesterol HDL Direct I DI Direct CO2 Creatinine* Enzymatic creatinine Glucose PAP* Glucose HK Iron Magnesium Phosphorus* Total Protein Urinary Proteins* Triglycerides Uric Acid* Urea* (BUN)

Specific proteins

ASO CRP Ferritin HbA1c** ΙgΑ lgG laM u-albumin Rheumatoid Factor Transferrin

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



Proven technologies delivering high quality results

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





Disposable cuvettes

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

Three dedicated micro-syringes

- 1 Sample micro-syringe for 2-45 µL
- 2 Reagent micro-syringe for 20-350 µL

accuracy of sampling volume and

3 - Wash micro-syringe - These syringes ensure absolute

reduce maintenance





Mixing system

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



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



High range ISE module

- Same highly reliable ISE module as that of the Pentra 400
- High throughput module (270 tests/hour) independent from colorimetric
- Low maintenance

User friendly interface via ergonomic and intuitive software

An integrated computer for a compact system A large screen optimises the quantity of information on display

Drive and control your system via the main screen with just one finger

- 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 optional peripherals
- Database or parameters can be exported
- Extract results, QC, logs and alarms in Microsoft Excel compatible format

Secured management of database

- Dual database management for full protection of data
- Automated external save of database on USB key

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



Low maintenance requirements with automated daily processes and work hour counter for accurate maintenance timing

- Disposable cuvettes
- Three micro-syringes
- Independent mixer with stirring paddle
- Efficient probe and mixer wash process
- High quality ISE module
- High quality Spectrophotometer

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





SPECIFICATIONS

Туре

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
- (120 150 t/h in standard configuration)

Optic system

- 12V 20W Halogen Tungsten lamp
- Narrow band interferential 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 chromatism

Sample management

- 15 (+1) sample positions
- 24h/7d Refrigerated compartment (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
- Inside and outside rinsing

Reagent management

- 15 positions for 15 parameters (single or dual)
- 24h/7d Refrigerated compartment (8-15°C / 46-59°F)
- Removable tray
- Reagent cassette capacity: from 10 to 100 ml single or dual compartment
- Positive, automatic detection & registration
- Dedicated reagent micro-syringe: 20 to 350 µl (increment by 1 µl)

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- Shock detection and level detection
- Inside and outside sampling probe rinsing
- Open channels available

Reaction system

- Disposable single cuvette
- Automatic cuvette loading/disposing 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 3062

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 port for printer, optional keyboard or mouse, results and logs export (excel format)
- RS 232 connector for LIS connection (mono or bi directional, total query mode available)

Physical specifications

- Power consumption: 600 VA maximum
- Dimension: 75,5 x 72,5 x 57 cm (Width x Depth x Height)
- Weight: 95 kg (209 lbs)
- Operating temperature : +15 °C to +30°C (59°F to 86°F)
- Operating humidity (relative): 45% to 85% maximum
- Temperature gradient: 2°C (35°F) per hour.

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