

Pentra 200

The Clinical Chemistry System
that offers more so you do less!



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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.

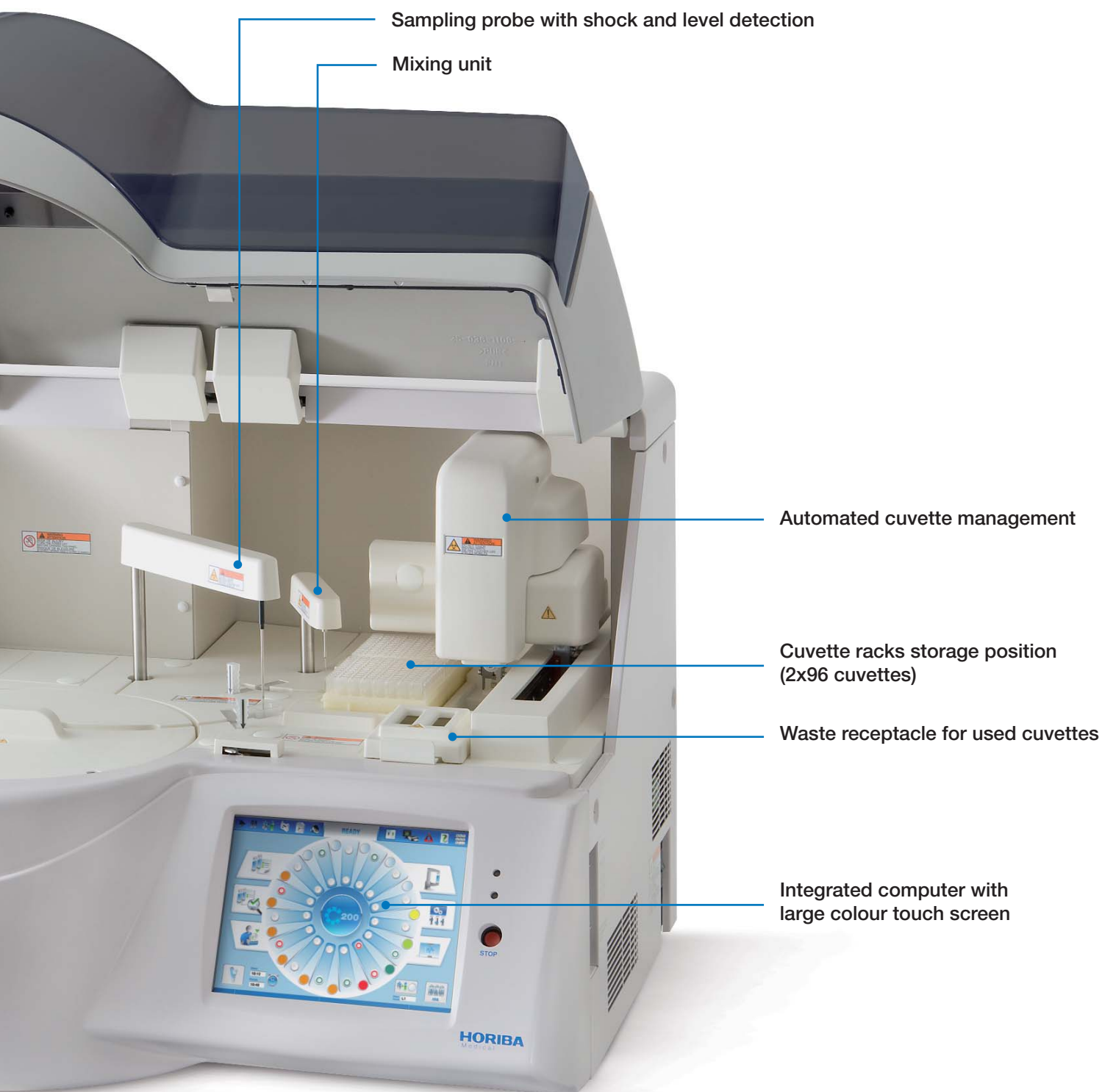
The **Pentra C200** is set to become the new standard for clinical chemistry analysers in small to medium sized laboratories.

Refrigerated compartment for both samples and reagents

Optional ISE module

STAT position accessible in random access mode





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

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 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



②



③

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 wastage of unused cuvettes.

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



①



②

1 - All used cuvettes are placed into a disposable bio-hazard bag.

2 - This biohazard bag is placed in the dedicated waste compartment to minimize the possibility of contact with potentially contaminated substances.



Simplified and secure reagent management



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.
- Mono or bi 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.

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	General Chemistries	Specific proteins
Alkaline Phosphatase	Albumin	Apo A1
ALT	Total Bilirubin	Apo B
AST	Direct Bilirubin	ASO
Amylase*	Calcium*	CRP
CK NAC	Cholesterol	Ferritin
GGT	HDL Direct	HbA1c **
LDH	LDL Direct	IgA
Lipase	CO2	IgG
	Creatinine*	IgM
	Glucose PAP*	μ-albumin
	Glucose HK	Myoglobin
	Iron	Rheumatoid Factor
	Magnesium	Transferrin
	Phosphorus*	
	Total Protein	
	Urinary Proteins*	
	Triglycerides	
	Uric Acid*	
	Urea* (BUN)	

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

Pentra 200

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-syringe ▶

- 1 - Sample micro-syringe for 2-45 μ L
 - 2 - Reagent micro-syringe for 20-350 μ L
 - 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 homogenisation 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 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

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

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

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

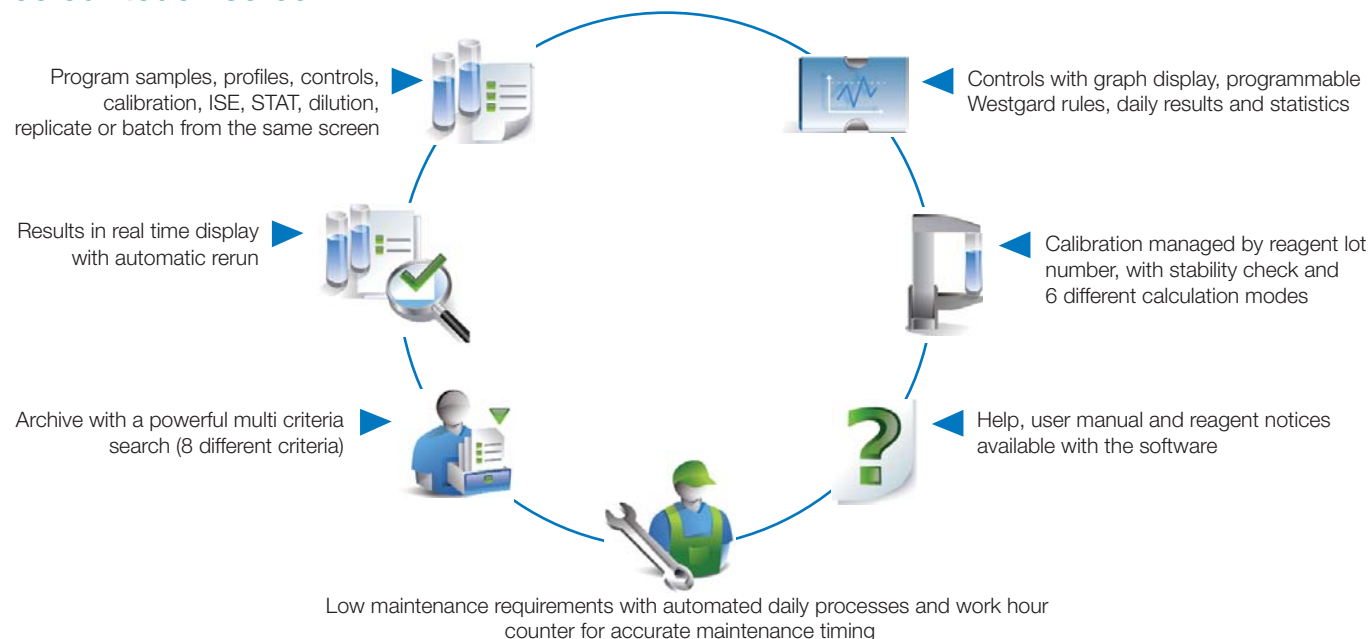
- LIS connection
- Printer and optional peripherals
- Database or parameters can be exported
- Extract results, QC, logs and alarms in Microsoft Excel compatible format

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



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

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Clinical Chemistry system

SPECIFICATIONS

Type

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

Throughput

- 90 t/h (single or dual reagent)
- Up to 370 t/h with ISE module

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+diluant reagent chemistry, mono-bi chromatism

Sample management

- 15 (+1) samples positions
- 24 h 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)
- 24/24 h Refrigerated compartment (8-15°C / 46-59°F)
- Removable tray
- Reagent cassette capacity: from 10 to 100 ml single or twin compartment
- Positive, automatic detection & registration
- Dedicated reagent micro-syringe: 20 to 350 µL (increment by 1 µL)
- Shock detection and level detection
- Inside and outside sampling probe rinsing
- Open channels available

Reaction system

- Disposable unitary cuvette
- 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 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.

HORIBA
Medical

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