

Pentra 400 New Generation

The Pentra C400 is an evolution of the successful system, the P400. This evolution ensures the user a platform that is reliable and extremely user friendly, whilst ensuring quality results that is the requirement in such an environment.

Save valuable time

Automatic reagent management

- Intelligent monitoring of reagent supply : the "workbalance" function assesses the stock on board relative to the workload requirements⁽¹⁾
- Use limit date and Calibration validity checks

Real-time workflow follow-up

- Control all your operations from the main screen (system, reagent and sample status)
- Dynamic display of the test results and sampling exceptions with the test review function⁽²⁾
- Multiple alarm sounds available

Reduced maintenance procedures

- Automatic daily procedures
- Maintenance alerts
- Easy uploading of target values for calibrators and controls

Secure data management

Secured results validation

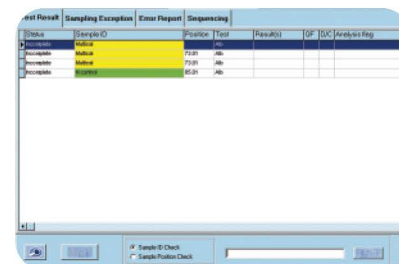
- Westgard multirule Quality Control procedure with up to 3 controls
- Automatic calibration factor check
- Selective flagging

Reliable traceability in compliance with Accreditation Standards

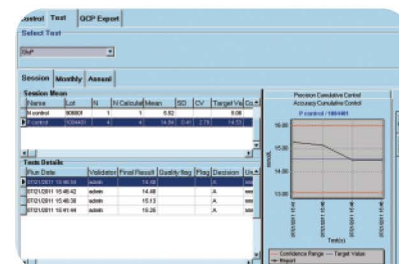
- Operator login history / Reagents, Calibration and Maintenance logs
- Full patient results traceability : multi-format option for archives review, end of day patient reports
- Full QC program : Up to 12-month control history, Levey-Jennings and Statistics⁽³⁾
- Easy export of archived data (USB key)



(1) Workbalance



(2) Test review



(3) Quality Control

Pentra 400

Technical Specifications



General Description

Analysis Method Types:

- Spectrophotometry: Colorimetry and Turbidity,
- Potentiometry: Direct (Serum or Plasma) and Indirect (Urine)

Up to 55 parameters on board

Optional ISE Module (Na⁺, K⁺, Cl⁻)

Maximum Throughput: 420 tests/h

CE Marked & FDA Approved

Sample Handling

Sample Capacity: 6 racks with 10 sample

positions for primary tubes or cups

Positive Sample Identification: Integrated Barcode Reader and Tube Presence Detector

Sample Needle: Level, Shock and Clot Detection

Sample Collection Format: 2, 3, 4, 5, 7 and 10ml (diameter: 16mm)

Sample Specimen: Serum, Plasma, Urine, CSF, Whole Blood, Homogeneous Fluids

Sample Volume: 2 to 380 µL

Automatic Sample Dilution: from 1/2 to 1/22500

Automatic Post Concentration: from x2.0 to x10.0

ISE : 10 µL (Indirect) or 65 µL (Direct)

Calibrator/Control Handling

Calibrator/Controls Positioning on Sample or Reagent Tray

Automatic Standard Dilution Series:

- Dilution Factors: Main Direct 1/2 - 1/150
- Dilution Factors: Main Indirect 1/2 - 1/150⁸

Reagent Handling

52 Reagent positions on board:

- 44 in a closed refrigerated area (2-10°C),
- 8 at room temperature

Positive Reagent Identification: Integrated Barcode Reader

Reagent Needle: Level Detection and Preheating

Reagent Management with Cassettes

Automated Reagent On-board Stability Check plus Test

Countdown

Reagent Volume: from 2 to 600 µL

Reaction System

Reaction Volume: 150 to 600 µL

Reaction Temperature: Air bath at 37°C

Photometer Reaction Cycle: 12 seconds

Homogenization with Teflon-coated Stirrer

Reaction Time: 1 to 100 cycles

Disposable Acrylic Cuvettes

Automatic Cuvette Changer

Cuvette Capacity: 36 segments (432 cuvettes)

7 Integrated Calculation Algorithms

Optical System

Tungsten-halogen Lamp

Measurement Principle

- Bi-chromatism of light absorbance

- Choice of 15 wavelengths from 340 to 700 nm

- Wavelength selection with holographic grating technology

Sensor: Photo diode array

Optical Linearity

2.5 A. at 340nm; 3.0 at other wavelengths



Computer and Software Specifications

Operating System: Windows XP

Data Processing:

- 12 inch Color LCD Touch Screen
- Database Capacity: 10,000 patients
- Processor: 850 MHz
- RC 232C: Patient results, QC to LIS with ASTM Protocol

Integrated Validation Station

Quality Control Management: Levey Jennings, Automatic QC

Logs:

- Reagents, Quality Controls, Calibration
- Applications, Maintenance, Flags and Alarms

Interactive Help (HTML) Format

Back-up Cassettes

Physical Specifications

System Size: 101x71x63 cm

System Weight: 120 kg

External Cooling Unit Size: 29x42x40 cm (W/L/H)

External Cooling Unit Weight: 35 kg

Laser Printer

Sound Level <66 dBA

Operating Temperature: from 15 to 32°C

Operating Humidity: from 20 to 85%

Total Power Requirements (with Printer): 1000 VA

Water: De-ionized/Distilled Water 10L Tank

Water Specifications: Resistivity > 5 MegOhms

Conductivity < 0.2 µS/cm

Certification

IEC 61010-1

EN 61326

EN 61000-3-2

EN 61000-3-3

CSA-C22.2 No.1010-1

UL 61010A-1

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Pentra 400

From routine to specific testing

Now, pass your Analysis with flying Colours



- Up to 420 tests per hour with the ISE module
- 55 on-board parameters with back-up availability
- Innovative cassette format
- Integrated work station and validation station
- Touch screen interface
- Real-time follow-up of your workflow

A concentration of technology for high quality results

HIGH-PRECISION OPTICAL SYSTEM

To meet the requirements for highly accurate photometric measurements, HORIBA Medical has chosen the holographic grating technology developed in collaboration with HORIBA Scientific (Jobin Yvon Technology).

- Spectral unit offering 15 different wavelengths (mono or bi-chromatic)
- Optimised reading by continuous sweep
- Highly sensitive measuring (validated holographic technology)
- Space-saving design with maximum efficacy provided by the tungsten lamp

The holographic grating technology reduces light diffraction and provides a high signal / noise ratio which significantly increases the quality of measurement to produce precise and stable test results.



INTEGRATED ISE MODULE

Optional ISE module designed by HORIBA Ltd., Japan.

180 tests/hour

Simultaneous analysis of Sodium, Potassium and Chloride

Applications on Serum, Plasma and Urine

High quality analytical technology

Single-use reaction cuvette
To perform the most sensitive tests and all latex assays with high stability results.

High performance mixer design
For optimal homogenisation in minimum time without cross-contamination.

Optimum test sequence setting program with Incompatibility function

- High-precision Optical system
- Integrated ISE module
- High quality analytical technology
- An extensive panel of liquid reagents

An extensive panel of liquid reagents

Cassette packaging

- Mono / Bi reagent cassettes
- Ready-to-use
- Extended range
> 52 reagents
> Enzymes / Substrates / Specific Proteins



Easy management of your lab processes

- Random position on board
- Automatic traceability : lot number, expiration date, ...
- Automatic back-up
- Just one calibrator and two controls for global routine analysis



Environment protection

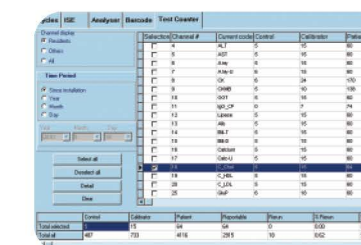
Compact cassette packaging that respects the environment

- No more superfluous packaging
- Saves refrigerator space



Cost control

- Optimised number of tests per cassette
- Limited calibrations
- Re-run analysis according to laboratory defined rules
- Activity measurement thanks to the test counter option⁽¹⁾



(1) Test counter



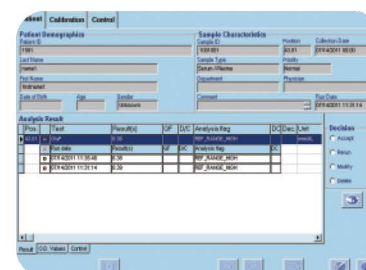
Sample management

- Positive identification
- Multiple sample checks using shock, level and fibrin detection
- Continuous loading
- STAT capability
- Automatic Pre / Post-dilution
- Automatic Re-run



Reagent management

- Barcoded cassettes
- Optimised test packaging
- Reagent test count down with automatic back-up
- Refrigerated zone with up to 44 positions
- Extensive on-board test menu
- User defined channels



Secure data management

- Secured results validation
- Reliable traceability in compliance with Accreditation Standards



Patient management

- Work list generated by a manual entry or bi-directional connection
- Automatic validation based on user defined rules
- Intelligent delta checking
- Panic values monitoring
- Unlimited patients reports archiving