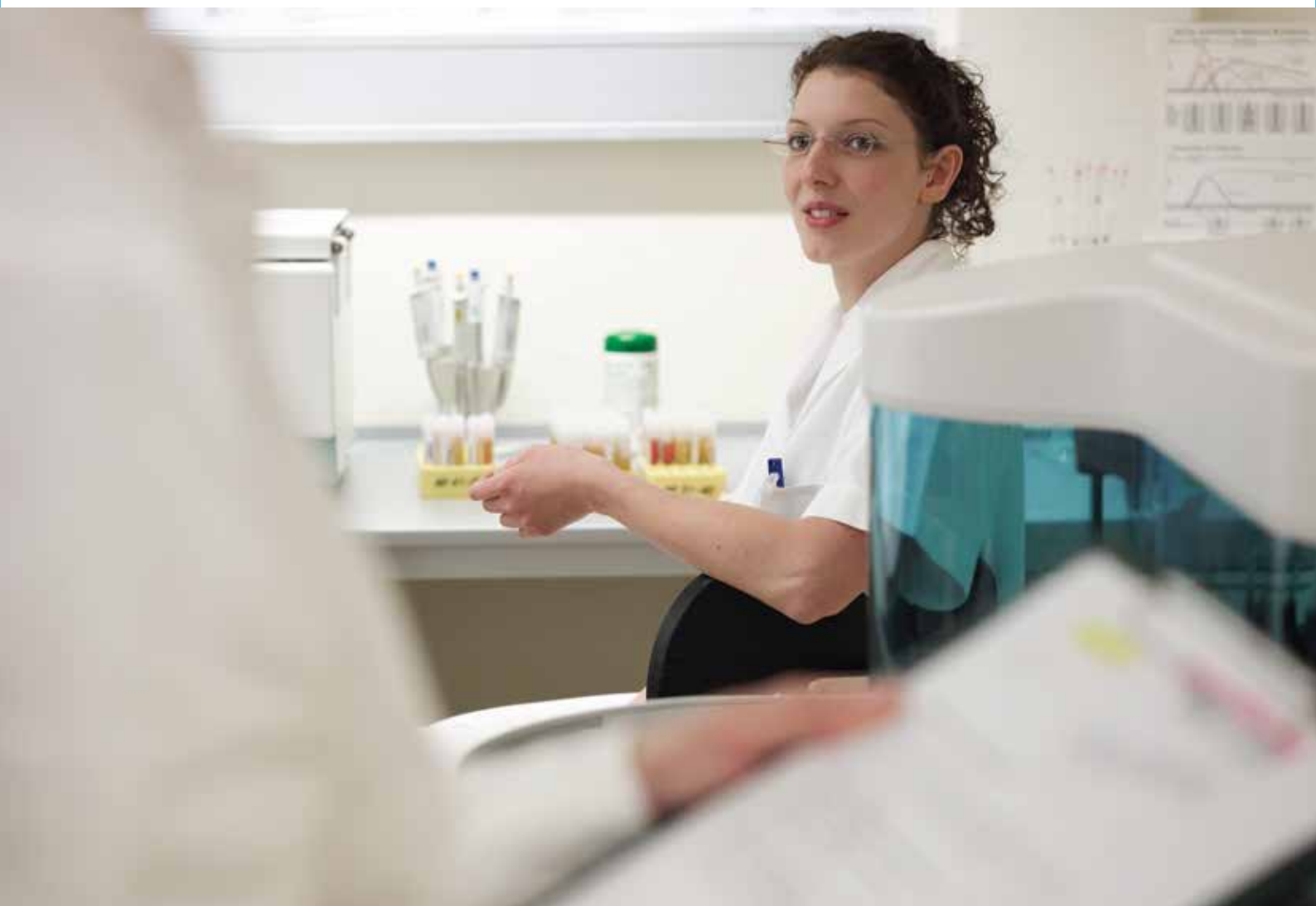


cobas c 311 analyzer

Passion for predictability in chemistry



cobas c 311 analyzer

Passion for predictability in chemistry



- The **cobas c 311** analyzer offers the ultimate in convenience, performance and confidence for laboratories with clinical chemistry workloads of 50-200 samples per day
- The **cobas c** reagent packs deliver maximum handling convenience with minimum reagent waste, liquid ready-to-use reagents and 90 days average onboard reagent stability

Work area management

Standardize & integrate your data management

One work area management tool extending capabilities of most laboratory information systems:

- Reducing variability through consistency in decision management
- Increasing efficiency by comprehensive workflow tools
- Active management of results and patient data providing optimal information management for physicians

cobas® e-services

Lab intelligence at your fingertips

- **cobas e-support** - immediate troubleshooting via remote access improving system uptime and operative efficiency
- **cobas e-library** - automatic update functionality safeguarding online access to most recent application information on reagents, calibrators and controls
- **cobas link** - enabling cobas e-services via secure gateway connection between laboratory and Roche





1 108 sample positions with continuous random access & flexible STAT priority settings

2 66 semi-disposable reaction cuvettes with ultrasonic mixing for reduced water consumption

3 Sample probe equipped with clot detection and vacuum drying

4 Robust ISE unit using indirect method

5 Multi-functional reagent probe utilizes tool to puncture sealed reagent cassettes

6 42 cooled positions for cobas c reagent packs enable full menu consolidation

7 **cobas**[®] user interface standardized to other **cobas** systems

Full workstation consolidation

- The **cobas c 311** analyzer is designed to be a true work-horse on account of proven technology

- It consolidates clinical chemistry with special proteins, DATs and TDMs

Serum work area integration

- Combined with the **cobas e 411** immunoanalyzer, the system can process up to 95% of your serum work area workload

- work area management solutions integrate sample and data management across systems

Seamless laboratory networking

- As part of the **cobas** modular platform, the **cobas c 311** analyzer offers consistent results with other **cobas c** systems

- Universal reagent carriers and analytical components enable flexible network solutions



Electronic updates & downloads via cobas® e-services

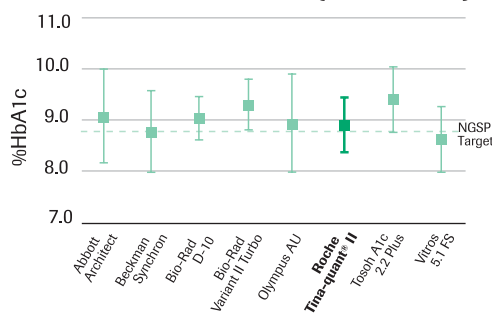
Convenience

cobas c packs for convenient handling

- Liquid, ready-to-use **cobas c** reagent packs simplify handling
- All-in-one cassette for each parameter streamlines logistics
- Electronic updates and downloads ensure seamless, error-free data handling
- Assay-specific pack sizes enable economic usage of routine and esoteric parameters



CAP GH2-A 2008 mid level (mean $\pm$ 2SD)



College of American Pathologists (CAP) HbA1c Survey Data;
Source: <http://www.ngsp.org/prog/index.html>; May 2008

Performance

Full menu of high performance assays

- Whole blood HbA1c offers best-in-class performance
- High onboard stability allows continuous availability of over 40 assays
- Over 100 assays offer a comprehensive clinical chemistry menu
- High calibration stability and lot-to-lot calibration optimize reagent use



Confidence

Robust design and sample integrity checks

- **cobas c 311** analyzer continues the Roche/Hitachi tradition of reliable instrumentation
- Intelligent clot detection ensures reliable results without workflow disruptions
- Contact-free ultrasonic mixing eliminates carry-over
- Test-specific serum indices ensure result integrity without manual validation

cobas[®] 400 analyzer series

cobas c 311 assay menu

Substrates

Albumin (BCP+BCG)
Ammonia
Bicarbonate
Bilirubin-direct
Bilirubin-total
Calcium
Cholesterol
HDL Cholesterol
LDL Cholesterol
Creatinine Enzymatic
Creatinine Jaffé
Fructosamine
Glucose
Iron
Lactate
Magnesium
Phosphorus
Total Protein
Total Protein U / CSF
Triglycerides
Triglycerides GB
UIBC
Urea / BUN
Uric Acid

Enzymes

ACP
ALP
ALT / GPT
Amylase
Amylase Pacreatic
AST / GOT
Cholinesterase Acetyl
Cholinesterase Butyryl
Cholinesterase Dibucain
CK
CK-MB
GGT
GLDH
HBDH
LDH
Lipase

Electrolytes (ISE)

Chloride
Potassium
Sodium

Proteins

α 1-Acid Glycoprotein
α 1-Antitrypsin
α 1-Microglobulin
β 2-Microglobulin
Albumin (immuno.)
APO A1
APO B
ASLO
C3c
C4
Ceruloplasmin
CRP
CRP High Sensitivity
Cystatin C
Ferritin
Haptoglobin
HbA1c (whole blood + hemolysate)
Homocysteine ²
IgA
IgG
IgM
Kappa Light chains
Freelite [™] Human Lambda Free ²
Lambda Light chains
Freelite [™] Human Lambda Free ²
Lipoprotein (a)
Myoglobin
Prealbumin
RF
Soluble Transferrin Receptor
Transferrin

Drugs of abuse (DAT)

Amphetamines
Barbiturates
Benzodiazepines
Cannabinoids
Cocaine
LSD
Ethanol
Methadone
Methadone Methabolite (EDDP)
Methaqualone
Opiates
Phencyclidine
Propoxyphene

Therapeutic drug monitoring (TDM)

Acetaminophen
Amikacin
Carbamazepine
Digitoxin
Digoxin
Gentamicin
Lidocaine
Lithium
MPA-T
NAPA
Phenobarbital
Phenytoin
Procainamide
Salicylate
Theophylline
Tobramycin
Valproic Acid
Vancomycin

Others

D-Dimer
Anti-Thrombin III

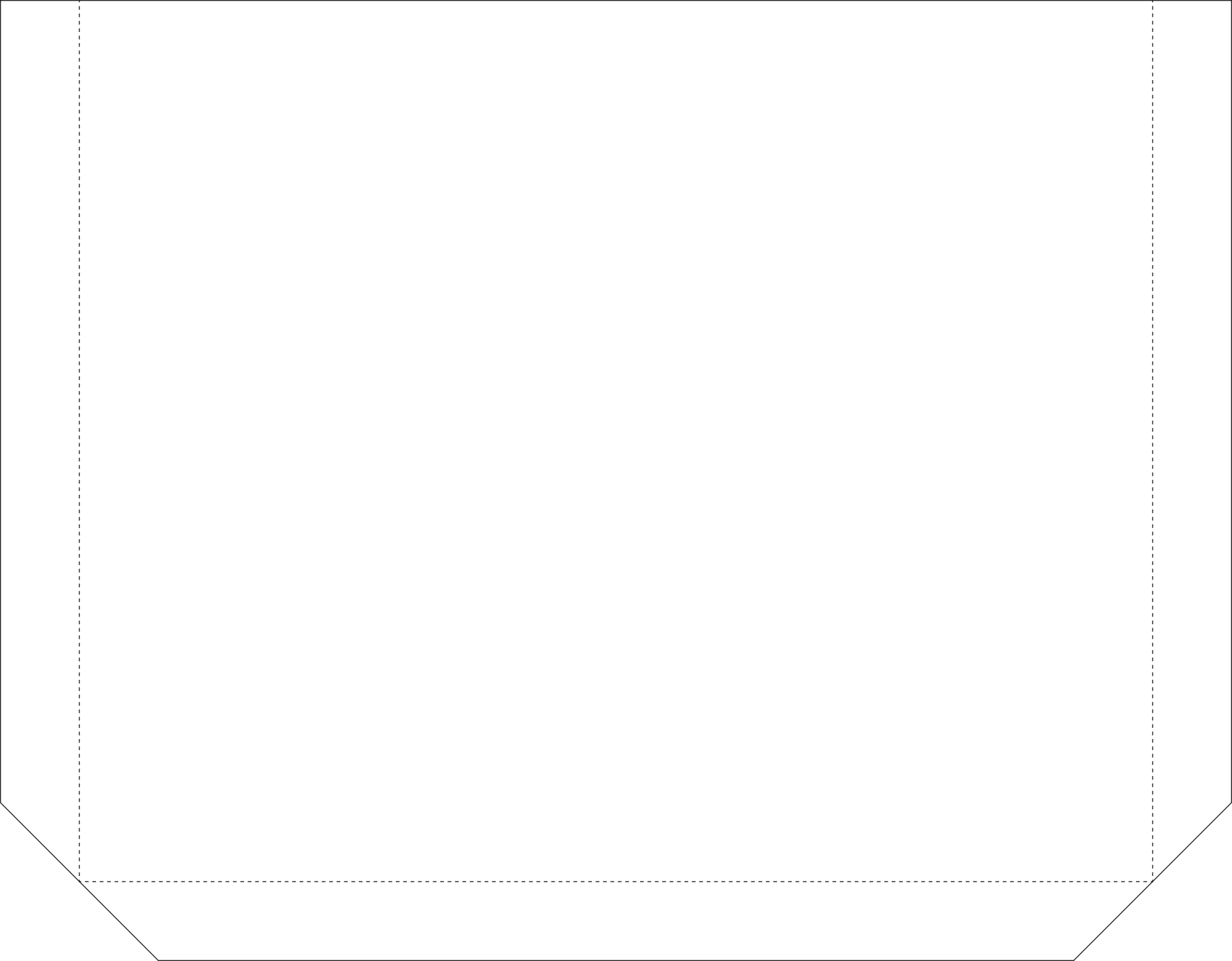
²Partner Channel

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cobas c 311 analyzer

Technical specifications

System	Fully automated, random access analyzer for Clinical Chemistry, Electrolytes & Homogeneous Immunoassays (HIA)
Test Throughput	Up to 450 tests/hr, Up to 300 Tests/Hr Photometric
Reagent concept	Barcoded cobas c reagent packs with convenient packaging & ready-to-use reagents
Onboard reagent capacity	Up to 45 assays (42 cooled cassette slots + 3 channels for ISE)
Programmable parameters	Up to 117 photometric, 3 ISE tests, 8 calculated parameters & 3 serum indices
Sample types	Serum, Plasma, Urine, CSF & Whole Blood
Onboard sample capacity	108 positions with continuous access & STAT interrupt capability
Sample container types	Primary tubes: 5 - 10 mL (16x100, 16x75, 13x100, 13x75 mm) Sample cup: 2.5 mL Micro cup: 1.5 mL Cup on tube
Sample volume	1.0 to 35 µL in 0.1 µL steps
Sample clot detection	Yes
Minimum sample volume	Primary tubes: 700 pL Sample cup: 100 pL Micro cup: 50 pL
Sample barcode types	Code 128, Codabar (NW 7), Interleaved 2 of 5, Code 39
System interfaces	Touchscreen PC, RS 232 serial interface, bi-directional, cobas ® link (TeleService and auto download)
Sample database	10,000 routine/STAT samples
Test methods	1 point, 1 point + prozone check, 2 point, 2 point kinetic, 2 point + prozone check, 3 point, 1 point + kinetics, Rate A, Rate A + serum index, Rate A with blank, Rate B
Calibration methods	Linear, non-linear multi-points, 2 point calibration, K-factor, up to 100 calibrators pre-programmable, storage of up to 180 curves; Preventive calibration of stand-by cassettes.
QC methods	Real-time, individual & cumulative QC; Auto QC; Up to 100 different controls pre-programmable; Preventive QC after calibration of stand-by cassettes
Rerun/repeat/reflex	Automatic rerun/manual reruns, repeats & automatic reflex supported
Electrical requirements	Power requirements: 230/400 Volts AC 3/N/PE, 110 Volts AC 1.5 kVA Frequency: 50 Hz or 60 Hz +/- 0.5 0/0
Water/waste requirements	Water quality: Bacteria free, de-ionised water supply resistance of 1.0 pS/cm max. Water consumption: Up to 12 l/hr during operation Water pressure: 0.5 - 3.5 kg/cm ³ (49 - 343 KPa) Water temperature: 15 to 30°C Biohazards waste: Separate container located in the system Wall drain for waste: 100 mm above the floor
Regulatory compliance	GS, CE, UL, C-UL compliant
Operating conditions	Ambient temperature/humidity: 15 to 32°C/30 to 85% (RH, without condensation) Heat & noise output: 2 kcal/h; < 65 dB
Physical dimensions	Width: 134 cm Depth: 86 cm Height: 126 cm Weight: 270 kg

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