



## **cobas c 311 analyzer**



**cobas<sup>®</sup>**  
*Life needs answers*



## cobas<sup>®</sup> brand

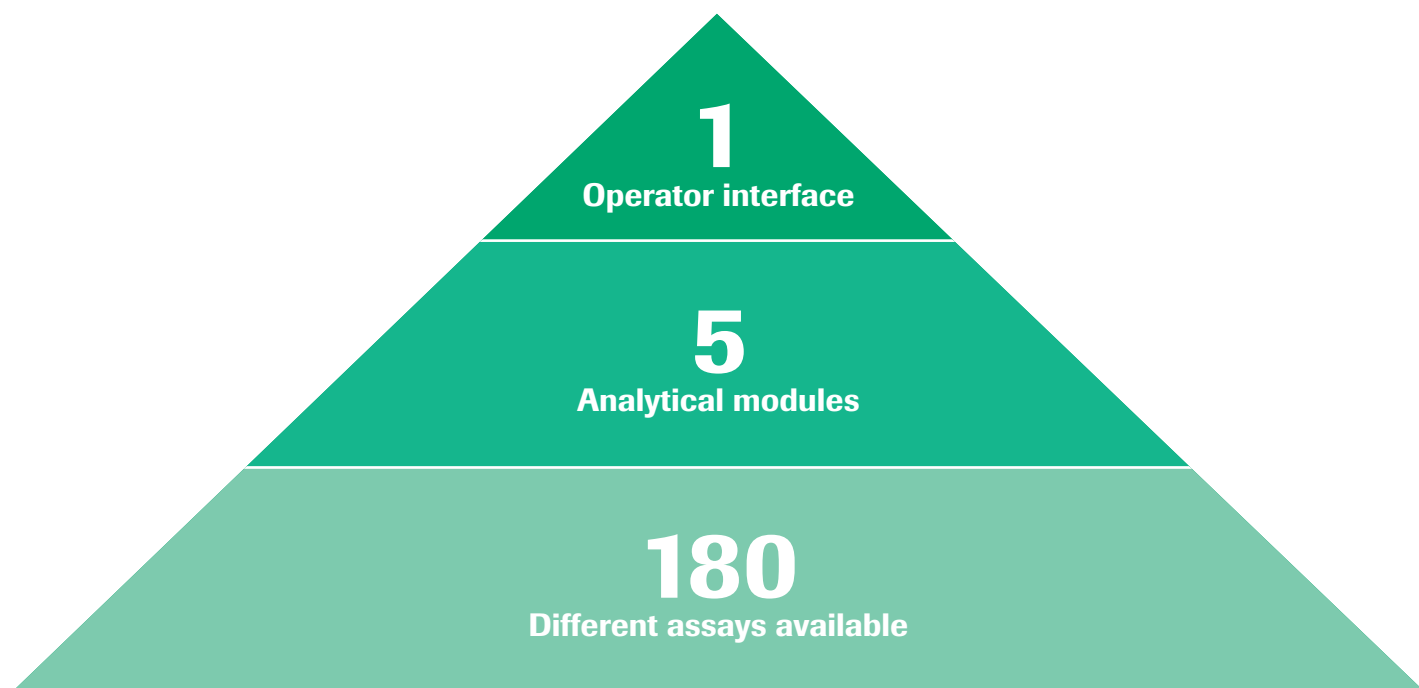
Roche Diagnostics introduces the **cobas** brand as the umbrella for products used to complete or expand the screening, diagnostic and monitoring applications of the professional laboratory.

**cobas** brand includes:

- serum work area with clinical chemistry and immunochemistry
- data management and preanalytical solutions
- products for coagulation analysis and urinalysis
- instruments for rapid blood and cardiovascular testing
- Polymerase Chain Reaction-based applications for virology and women's health testing

# cobas<sup>®</sup> modular platform

*Flexibility you can build on*



Today's laboratories are challenged with delivering high standards of laboratory services with fewer resources. They face constant pressure to lower operating costs while aspiring to grow their business in new areas. Their concern for patient care is paramount, and they demand only the best in diagnostic testing and services.

Just as every patient requires individualized care, every laboratory is unique. Striking the balance between high standards and efficient operation requires tailor-made solutions. With **cobas** modular platform, Roche has developed a platform concept that delivers individualized solutions based on a common architecture for various workloads and testing requirements.

**cobas<sup>®</sup> 4000** is the second member of the new cobas modular platform. It offers small workload laboratories a complete solution for clinical chemistry and immunochemistry testing.

## Common universal reagent carriers

- Simplifies logistics
- Efficient use of reagents

## Common applications and analytical technologies

- Comparable patient results
- Combines routine and innovative testing

## Common operator interface

- Requires less training
- Promotes staff flexibility

The **cobas** modular platform is designed to reduce the complexity of laboratory operation and provides efficient and compatible solutions for network cooperation.



# The clinical chemistry analyzer cobas c 311

*5<sup>th</sup> generation of routine and dedicated chemistry experiences*

**cobas® 4000 analyzer series**

**5<sup>th</sup> generation**

**MODULAR® ANALYTICS**

**4<sup>th</sup> generation**

**COBAS INTEGRA**

**3<sup>rd</sup> generation**

**Hitachi 900 series**

**2<sup>nd</sup> generation**

**Hitachi 700 series**

**1<sup>st</sup> generation**



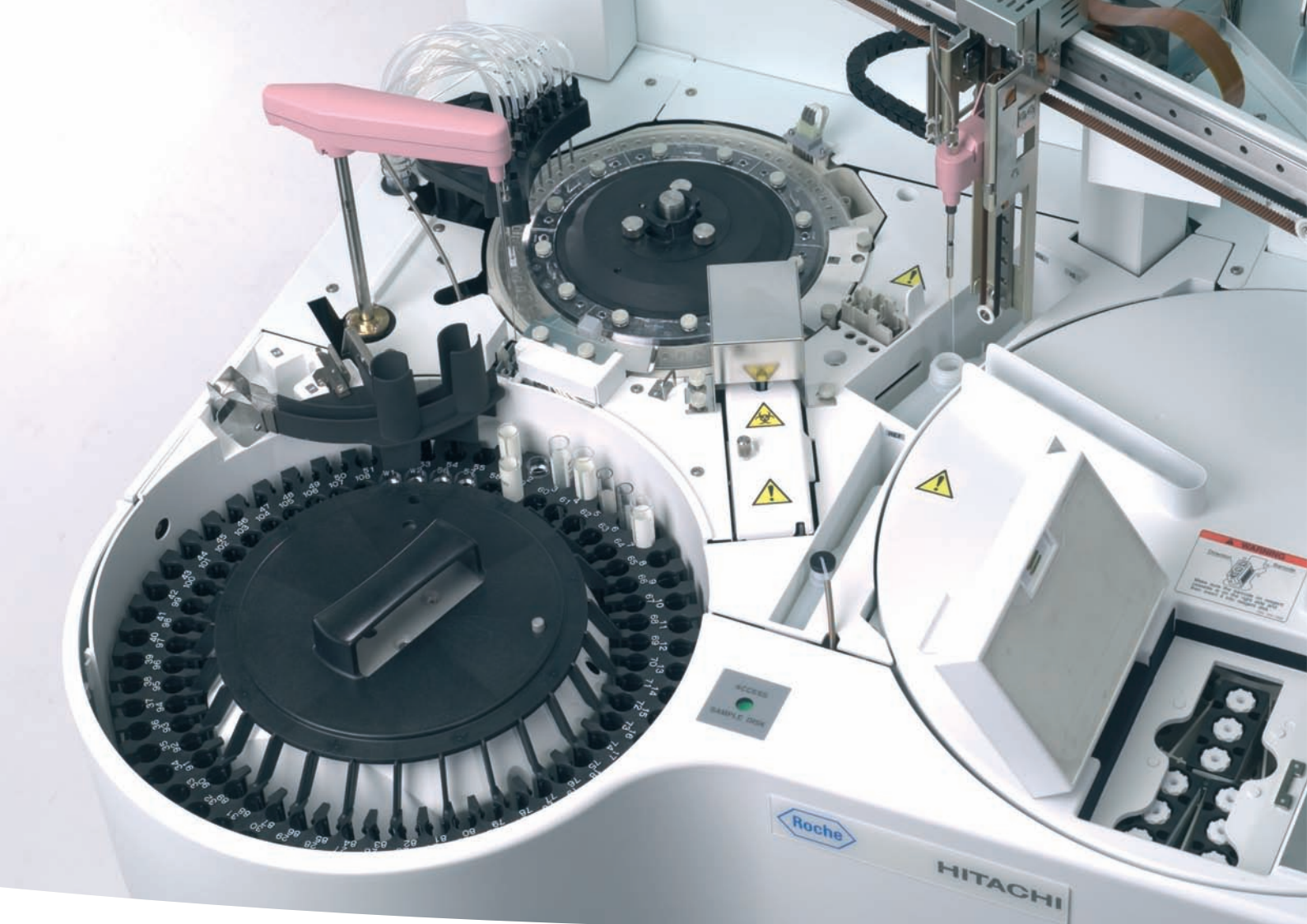
## Reagents

### *One grip handling of reagents*

- The unique concept of the **cobas c** packs allows for convenient reagent handling.
- All reagents are ready to use.
- On board stability of reagents is up to 3 months and guarantees efficient usage even for esoteric assays.
- Over 90% of all reagents require lot calibration.
- Over 70% of all reagents require a sample volume of less than 5.0 µl.
- **cobas c** pack multi enables development channels for userdefined reagent applications.







# cobas c 311 analyzer

## *Features*

Stand alone analyzer for Clinical Chemistry.

Flexible system for consolidating routine and special chemistry workloads.

On-board capacity of 45 tests and throughput of up to 480 tests per hour.

For analysis of serum, plasma, urine, cerebrospinal fluid (CSF), hemolysate and whole blood.

### Benefits

#### **Comprehensive workload consolidation**

**cobas c 311**, with up to 45 tests on board, offers consolidated testing from a menu of more than 100 applications.

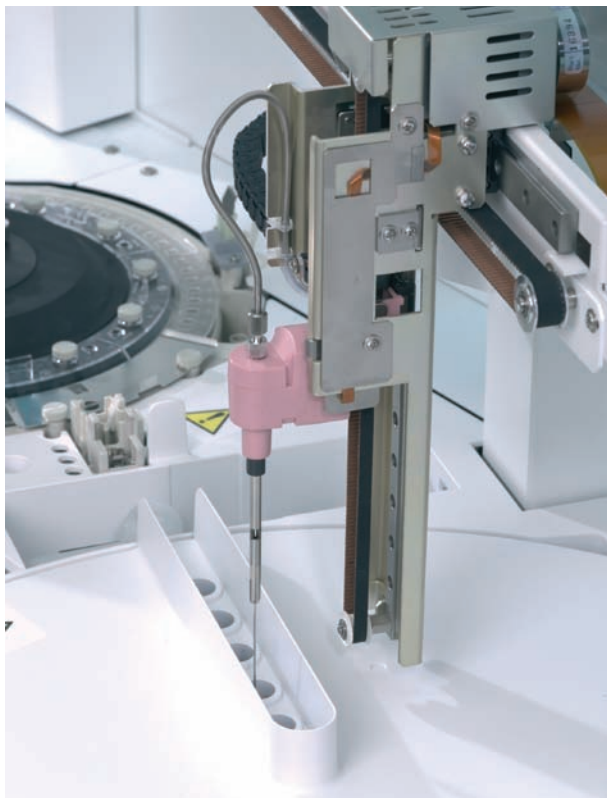
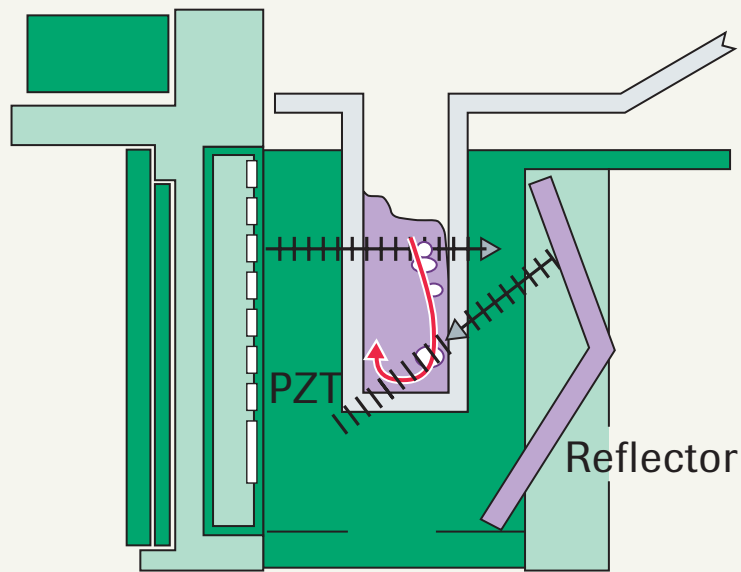
#### **Enhanced lab efficiency**

Eliminating reagent preparation and manual sample handling contribute to time savings, faster result availability and turn-around time.

#### **Reduced costs**

Long on-board reagent stability and long calibration intervals mean fewer calibrations and less waste.

## Ultra-sonic mixing



### Increased security of results

Sample integrity is checked via the analyzers' high sensitivity pressure sensors and clot detection systems minimizing the likelihood of error.

### Sample volume management – optimized for paediatrics

75% of all **cobas c 311** analyzer applications need less than 5µl sample material.

For all short samples/aliquots the combination of micro sample cups, active level detection and volume optimized applications supports the use of paediatric sample material.

### Whole blood HbA1c capabilities

**cobas c 311** enables HbA1c in random access without manual sample preparation

### Ultra sonic mixing – setting the future standard for mixing today!

The new ultra sonic mixing technology prevents potential carry-over by stirrers, reduces service and maintenance time.

# cobas c 311 analyzer

## Specifications

<b>System</b>	Fully automated, random access analyzer for Clinical Chemistry and Homogeneous Immunology (HIA).	
<b>Sample throughput</b>	Up to 300 samples/hr (theoretical max)	
<b>Test throughput (Theoretical max)</b>	300 tests/hr for photometry tests only 480 tests/hr for only ISE tests	
<b>Number of channels (Reagent slots)</b>	42 cassette slots 3 channels on ISE module	
<b>Programmable parameters</b>	max. 117 photometric 3 ISE tests, 8 formulas, 3 serum indices	
<b>Sample types</b>	Serum, Plasma, Urine, CSF, Whole Blood (Hb <sub>A1c</sub> only)	
<b>Sample input (Sample disk)</b>	Load capacity:	total 110 positions 55 positions on the outer ring 55 positions on the inner ring (outer & inner ring barcode read, sample detection available)
	STAT:	real STAT interrupt is available
	continuous operation:	additional sample loading during operation
<b>Sample container types</b>	Primary tubes	5–10 ml, 16x100, 16x75, 13x100, 13x75mm
	Sample cup	2,5 ml
	Micro cup	1,5 ml
	Cups on tube	Cup on top of a 16x75/100 mm tube Cup on top of one non standard tube false bottom tube
<b>Sample volume</b>	1.0 – 35 µl in 0.1 µl steps	
<b>Sample dilution</b>	3 – 121 times, diluent 100 µl	
<b>Sample clot detection</b>	Available	
<b>Minimum sample volume</b>	Primary tubes :	700 µl
	Sample cup:	100 µl
	Micro cup:	50 µl
<b>Sample barcode types</b>	Code 128 Codabar (NW 7) Interleaved 2 of 5 Code 39	
<b>System interfaces</b>	RS 232 serial interface, bi-directional Interface to <b>cobas</b> link (TeleService and automatic download of applications and package inserts)	



# cobas c 311 analyzer

## Specifications

<b>Sample data base</b>	10.000 routine / STAT samples
<b>Test methods</b>	For photometric modules: 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
<b>Calibrator/QC Input</b>	On the sample disk, bar coded
<b>Calibration methods</b>	Start-up, Re-calibration for photometric assays: 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 the stand-by cassettes Two k-factor can be defined for different sample types
<b>QC methods</b>	Real-time QC, individual QC, cumulative QC up to 100 different controls pre-programmable preventive QC after calibration of stand-by cassettes Auto QC (without operator intervention; time- or event-triggered)
<b>Rerun/reflex function</b>	Automatic rerun and manual rerun Automatic reflex is supported by the system if reflex request is provided by a PSM or LIS
<b>Electrical requirements</b>	Power requirements: 230/400 Volts AC 3/N/PE 110 Volts AC 1.5 kVA Frequency: 50 Hz or 60 Hz +/- 0,5 %
<b>Water/waste requirements</b>	Water: Bacteria free, deionised water supply: resistance of 1,0 °S/cm max. Water consumption: Up to 12 l/hr during operation Water pressure: 0,5 – 3,5 kg / cm <sup>2</sup> , (49 – 343 Kpa) Water temperature: 15 to 30 °C Biohazards waste: Separate container located in the system L. concentrated Central drain port, diameter: 50 mm, wall drain <?> waste: 100 mm above the floor
<b>Regulatory requirements</b>	GS, CE, UL, C-UL
<b>Operating conditions</b>	Ambient temperature: 15 to 32 °C Ambient humidity: 45 to 85 % (RH, without condensation) Heat Output: 2 kcal/h Noise Output: < 65 dB
<b>Physical dimensions</b>	Width: 1338 mm Depth: 855 mm Height: 1262 mm
<b>Weight</b>	270 kg

# cobas c 311 analyzer

## Assay menu

Substrates
Albumin
Ammonia
Bicarbonate
Bilirubin-direct
Bilirubin-total
Calcium
Cholesterol
HDL-Cholesterol
LDL-Cholesterol
Creatinine enz.
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-tot.
Amylase-pancr.
AST / GOT
Cholinesterase
CK
CK-MB
GGT
GLDH
HBDH
LDH
Lipase

Electrolytes
Chloride
Potassium
Sodium

Drugs of Abuse
Amphetamines
Barbiturates
Benzodiazepines
Cannabinoids
Cocain Metabolite
Ethanol
Methadone
EDDP*
Methaqualone
Opiates
Oxycodone*
Phencyclidine
Propoxyphene
LSD

Others
Anti Trombin (AT III)
T <sub>4</sub>
T-Uptake
TPLA**

\* Assay is under development

\*\* Not available in all countries

Proteins	
$\alpha_1$ -Acid Glycoprotein	Haptoglobin
$\alpha_1$ -Antitrypsin	Homocystein
$\alpha_1$ -Microglobuline	Hb <sub>A1c</sub> (whole blood)
$\beta_1$ -Microglobuline	IgA
Albumin (immuno.)	IgG
APO A <sub>1</sub>	IgM
APO B	IMA
ASLO	Kappa Light Chains
C3c	Lambda Light Chains
C <sub>4</sub>	Lipoprotein (a)
Ceruloplasmin	Myoglobin
CRP	Prealbumin
CRP High Sensitivity	RF
Cystatin C	Soluble Transferrin Receptor
D-Dimer	Transferrin
Ferritin	

TDM
Acetaminophen
Amikacin
Carbamazepine
Cyclosporine*
Digitoxin
Digoxin
Gentamicin
Lidocaine
Lithium
MPA
NAPA
Phenobarbital
Phenytoin
Procainamide
Quinidine
Salicylate
Theophylline
Tobramycin
Valproic Acid
Vancomycin

COBAS, COBAS C and LIFE NEEDS ANSWERS  
are trademarks of Roche.

©2009 Roche

Roche Diagnostics GmbH  
D-68298 Mannheim  
Germany  
[www.roche.com](http://www.roche.com)