



cobas[®] pure integrated solutions
Simplicity meets Excellence



cobas[®]

cobas[®] pure integrated solutions

Simplicity meets Excellence



01 cobas e 402 analytical unit¹

Up to **120 Immunochemistry** tests per hour
28 reagent positions

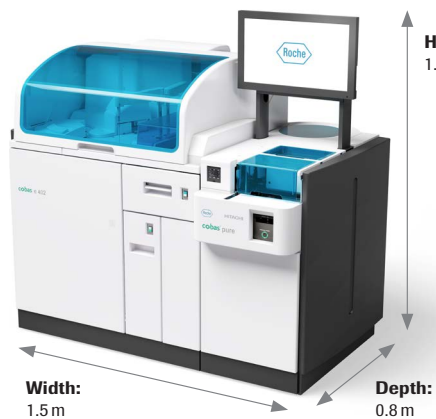
02 Sample Supply unit¹

Up to **50** samples direct loading
Up to **50** samples direct unloading
STAT port

03 cobas c 303 analytical unit¹

Up to **450 photometric** tests per hour
Up to **450 ISE** tests per hour
Up to **750 tests** per hour
(mixed mode photometric and ISE)
42 reagent positions

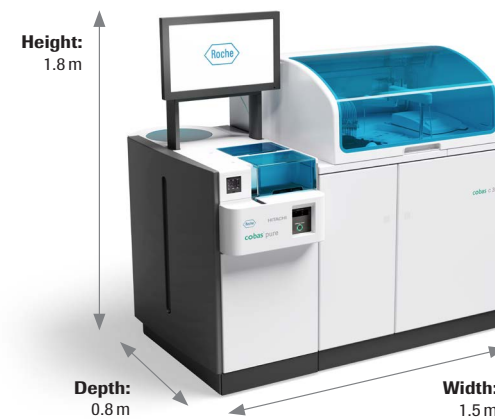
Three compact configurations*



Immunochemistry Configuration
Footprint $\approx 1.2 \text{ m}^2$

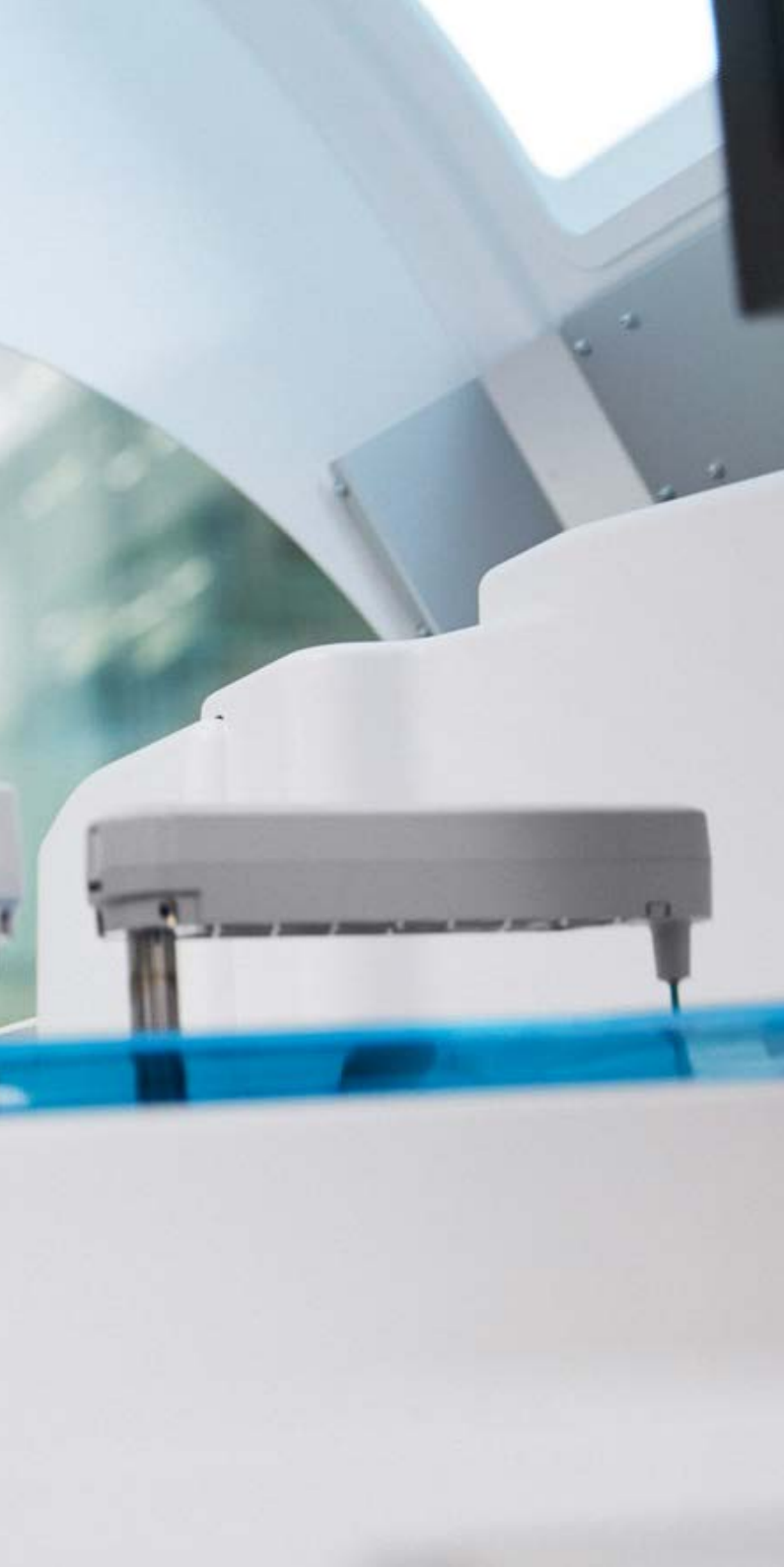


Serum Work Area Configuration
Footprint $\approx 2.0 \text{ m}^2$



Clinical Chemistry Configuration
Footprint $\approx 1.2 \text{ m}^2$

*The width and depth dimensions shown here are the floor(footprint) dimensions¹



Ready to use reagents*

cobas® pure uses the latest reagent generation from Roche – **cobas e** pack green and **cobas c** pack green. These reagents do not require any preparation, mixing, waiting or pre-opening. The operator can simply take them out of the fridge and load them directly onto the analyser.



No preparing



No mixing



No waiting



No pre-opening

Take out of the fridge

Load onto the analyser

Industry leading onboard stability

Using space intelligently is about achieving the highest output within the existing space. The average onboard stability for the immunochemistry reagents is 110 days, with 98% of the assays having an onboard stability of 4 months. The average onboard stability for clinical chemistry is 137 days, with 57% of the reagents having an onboard stability of 6 months.^{2,3}

Immunochemistry⁵



cobas e
pack green

- Up to 4 months onboard stability
- ≈ 3 times longer average onboard stability compared to previous generation systems

Clinical chemistry⁶



cobas c
pack green

- Up to 6 months onboard stability
- ≈ 2 times longer average onboard stability compared to previous generation systems

Safety of results¹

Disposable AssayTips/AssayCups

cobas® pure immunochemistry analytical unit utilises single-use disposable AssayTips and AssayCups to completely eliminate the risk of sample carry over.

Carry over evasion program

The sample probes on the **cobas® pure** clinical chemistry analytical unit are rinsed inside and outside with deionised water each time after dispensing a sample. Additionally, for applications that are sensitive to sample carryover, special wash can be programmed for an extra wash of reagent probes, sample probes and reaction cells with basic and acidic wash solutions.

Ultrasonic Mixing

The **cobas® pure** clinical chemistry analytical unit features ultrasonic mixing for non-contact mixing of sample and reagent to eliminate the risk of carryover during this event.

Reliability

cobas® pure integrated solutions is designed to deliver the reliability that Roche is known for. With more than 75,000 analytical units globally, the **cobas** family of solutions demonstrates a distinctive uptime* of more than 99%.⁷ Having a reliable analyser means less interruption of services and less time spent on troubleshooting, thus higher productivity with more predictable turnaround times.

*Uptime: Percentage of the time when system is up and running vs. the time the system is not running due to unplanned incidents. Calculation:

$(365 \text{ days} / \text{Mean time between repair visit}) \times (\text{Mean time for repair visit} + \text{Travel Time})^{\text{a}}$

Sample



Liquid Level Detection Foam detection Clot detection

Reagent



Liquid Level Detection Foam detection

Clinical Chemistry



Carryover evasion program Ultrasonic Mixing of sample and reagent

Immunochemistry



Single-use AssayTip Single-use AssayCup



99% uptime⁷

cobas pure



Focused innovation of our assay portfolio

Extending evidence base

Extending the evidence-base for existing assays through clinical studies to generate higher awareness and broader access to innovation.

New claims for existing assays

Generating new claims for existing assays for a wider range of application.

Discovery of new assays

Menu expansion in the areas of unmet medical needs to help clinicians improve outcomes for their patients.

Bring Personalised Healthcare to clinical practice

Supporting better patient care, contributing to health economics and empowering labs to play a greater role in medical decision making.

Commitment to exceptional assay quality

Advanced assay design

- Outstanding precision across measuring range
- High sensitivity in areas where it matters
- Wider measuring ranges, fewer dilutions and repeats

Consistent, standardised results

- Consistent patient results across all platforms
- Excellent lot-to-lot consistency
- Assays standardised against reference method or reference material

Designed for convenience

- Short and predictable assay Turn Around Times
- Low sample volume
- No reagent preparation required

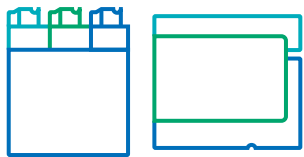


cobas® pure integrated solutions



cobas® pro integrated solutions

Delivering seamless design today and into the future



Shared reagents packs



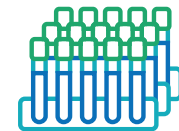
Consistent results



Consistent operation



Same technologies



Same assay menu

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General technical specifications

Dimensions and Weights	Width	Depth	Height	Weight
Sample Supply Unit (SSU), (excl. STAT port and incl. touch screen monitor)	450	800	1,750 mm	200 kg
	17.7	31.5	70.0 inch	441 lb
cobas c 303 analytical unit (incl. ISE)	1,000	800	1,375 mm	400 kg
	39.4	31.5	54.1 inch	882 lb
cobas e 402 analytical unit	1,000	800	1,375 mm	400 kg
	39.4	31.5	54.1 inch	882 lb
SWA System Configuration <c 303 SSU e 402>	2,450	800	1,750 mm	1,000 kg
	96.5	31.5	70.0 inch	1,764 lb

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Specifications of the electrical power supply	
Distance to system	≤ 5 m (16 feet)
Electrical supply	Single Phase AC
	200 / 208 / 220 / 230 / 240 V
	50 / 60 Hz
Max. power fluctuation	≤ 10 %
Power consumption	≤ 4.0 kVA
	Whole System: < 4.0 kVA
	SSU: < 0.5 kVA
	cobas c 303 AU: < 1.5 kVA
	cobas e 402 AU: < 2.0 kVA

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General technical specifications continued

cobas c 303 analytical unit (incl. ISE)

cobas e 402 analytical unit

Deionised water supply and consumption

Distance to instrument

≤ 5 m

≤ 5 m

≤ 16 feet

≤ 16 feet

Conductivity

≤ 1.0 µS/cm

≤ 1.0 µS/cm

Water pressure

50 to 340 kPa

50 to 340 kPa

0.5 to 3.4 bar

0.5 to 3.4 bar

Water temperature

> 12 °C

≥ 12 °C

> 53.6 °F

≥ 53.6 °F

Approx. deionised water consumption

max. 16 L/h

max. 12 L/h

Maximum liquid waste volumes

Highly concentrated liquid waste flow rate

< 1.2 L/h

≤ 3 L/h

Diluted liquid waste flow rate

< 14.8 L/h

≤ 10 L/h

Environmental conditions during operation

Maximum altitude above sea level

3,000 m

3,000 m

Floor conditions

≤ 1/200 or ≤ 0.5% inclination

≤ 1/200 or ≤ 0.5% inclination

Bearing load ≥ 5 kN/m²

Bearing load ≥ 5 kN/m²

Ambient temperature

0 – 2,000 m above sea level 18 – 32 °C (64.4 – 89.6 °F)

0 – 2,000 m above sea level 18 – 32 °C (64.4 – 89.6 °F)

> 2,000 m above sea level 18 – 30 °C (64.4 – 86 °F)

> 2,000 m above sea level 18 – 30 °C (64.4 – 86 °F)

Ambient temperature fluctuation

≤ 2 °C/hour (≤ 3.6 °F/h)

≤ 2 °C/hour (≤ 3.6 °F/h)

Ambient humidity

30 – 85%

30 – 85%

cobas e 402 analytical unit

Specifications

Specifications of the reagent system

Reagent pack types	cobas e pack green
Reagent loading / unloading	Manual
Reagent Identification	RFID
Capacity of reagent disk	28 reagent packs
Reagent storage temperature	5 – 10 °C (41 – 50 °F)

Specifications of the sampling system

Sampling cycle time	30 seconds
Sample pipetting volume	4 – 60 µL (1 µL steps)
Sample Liquid level detection	Available
Sample clot detection	Available
Sample air aspiration detection	Available

Specifications of the reaction system

Number of incubator disk positions	38
Reaction volume	120 µL
Incubator temperature	37 °C ± 0.3 °C (98.6 °F ± 0.5 °F)
Reaction times for tests	9/18/27 min
Mixer	Vortex

Specifications of the ECL measuring system

Measuring Cell	ECL measuring cell
Number of measuring cells	1
Maximum throughput*	120 tests/hour

*Throughput may differ based on the mix of test orders per sample

Excellent performance, simple to use and beautifully designed. The new Immunochemistry analyser – cobas e 402 analytical unit.



The new *cobas c 303* analytical unit – combining photometric and ISE testing on a footprint of just 1.2 square metres.



cobas c 303 analytical unit

Specifications

Specifications of the reagent system

Reagent pack types	cobas c pack green
Reagent loading/unloading	Manual
Reagent Identification	RFID
Capacity of reagent disk	42 reagent packs
Reagent storage temperature	5 – 15 °C (41 – 59 °F)

Specifications of the sampling system

Sampling cycle time	8 seconds
Sample pipetting volume	1.0 – 25.0 µL (0.1 µL steps)
Sample liquid level detection	Available
Sample clot detection	Available
Sample air aspiration detection	Available

Specifications of the reaction system

Number of reaction cells	128
Reaction volume	75 – 185 µL (detectable reaction volume)
Incubation bath temperature	37.0 +/- 0.1 °C
Reaction time	3 – 10 min (1 min steps)
Mixer	Ultrasonic

Specifications of the photometric system

Measurements per reaction cell/10 min	46
Photometer lamp	12 V, 50 W
Photometer	Multiple wavelengths spectrophotometer
Maximum throughput*	Photometric only: 450 tests/hour ISE only: 450 tests/hour (150 samples/hour) Mixed mode Photometric & ISE: 750 tests/hour (300 photometric + 450 ISE tests/hour)** HbA1c only: 225 tests/hour

* Throughput may differ based on the mix of test orders per sample

** The ISE unit and the c 303 photometric measuring unit share the same sample pipetter

ISE unit (integrated in the c 303 analytical unit*)

Specifications

Applications

Na⁺: Sodium

K⁺: Potassium

Cl⁻: Chloride

Serum/Plasma, Urine

Ion-selective electrodes: 3 (Na⁺, K⁺ and Cl⁻)

Reference electrode 1

ISE only: 450 tests/hour (150 samples)

24 seconds per sample for ISE

2D barcode placed on the electrode package

Available

Available

Available

15 µL

For reruns of urine samples with a decreased sample volume after Test data alarm: 10 µL

DIL 780 µL

IS 720 µL

REF 130 µL

Sample types

Number of electrodes

Maximum throughput**

Sampling cycle time

Electrode handling

Sample Liquid level detection

Sample clot detection

Sample air aspiration detection

Sample pipetting volumes
(serum/plasma/urine)

Reagent pipetting volumes per sample

* The ISE unit and the c 303 photometric measuring unit share the same sample pipetter

** Throughput may differ based on the mix of test orders per sample

References

- 1 *cobas pure – footprint dimensions – Internal Document.*
- 2 *Elecsys assay menu cobas pure – Analysis (source method sheets cobas e pack green, CMP Database).*
- 3 *Clinical Chemistry assay menu cobas pure – Analysis (source method sheets cobas c pack green).*
- 4 *Roche Diagnostics Internal Reporting Data On File – GCS reporting / Product reports Q1/2020, CPS Finance Report from Tableau, ICB Q1 2020.*

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