Take your lab’s performance to the peak
with cobas® 8000 modular analyser series
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While your lab is facing rising complexity and unpredictability, it is also facing intensifying pressure to deliver. Reliability of your analyser and vendor are not just a convenience – they are critical to maximising your lab’s success and upholding the standard of care to which you aspire.

cobas® 8000 modular analyser series is a scalable module based Serum Work Area solution for a wide range of in vitro diagnostics testing of Immunoassay and Clinical Chemistry designed for high throughput laboratories. With cobas® 8000 modular analyser series, your lab will reach a new height of performance. This means unprecedented productivity and distinctive uptime, the broadest assay menu on one consolidated platform and continuous access to breakthrough assays that let you stay at the forefront of the industry.

With the cobas® 8000 modular analyser series and Roche’s commitment to innovation, you can take your lab’s performance to the peak.

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Your time is precious
We help you use it wisely

In the lab, every minute counts - for you and your team, for the clinician and the healthcare institution, for the patient and their family. Any inefficiencies and unexpected interruptions result in delays which are costly. cobas® 8000 modular analyser series is designed to help you use your time wisely.
Reliability is the foundation of efficiency for today’s leading labs as unreliability can have a widespread impact on a lab’s performance. Unplanned downtime can lead to interruption of services and lost revenue, outsourcing of tests and increased risk of diminished quality of results.

cobas® systems are designed to ensure non-stop operation and are well known and trusted in the field for their high reliability.

Ensure non-stop operation through exceptional uptime

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Reliability you can trust
cobas® modular analyser series delivers a distinctive uptime of more than 99%, proven by more than 5000 installations in the market and 15 000 analytical units worldwide. Having a reliable analyser reduces interruption of services and less time spent on troubleshooting, thus higher productivity with more predictable turnaround times.

Less interruption of services
Less troubleshooting
More productivity
More predictable turnaround time

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Empower your clinicians to take action faster

Standards are being raised across health systems, as patient and clinician satisfaction and fast clinical decision making are becoming more prominent quality metrics. Choosing an analyzer that supports short and predictable turnaround times during peak periods is key to meet these standards.

Get answers fast with short and predictable turnaround times

cobas® 8800 is designed to support fast and predictable turnaround time (TAT) across all assays. Comparing it to competitive immunoassay systems, cobas® 8800 analytical unit offers the shortest turnaround times and thus faster result delivery to clinicians and patients for vital clinical decision making. cobas® 8800 also offers less variability in assay times which means more predictability.

**Immunooassay incubation times by vendor**

- **Roche cobas® 8800**: 9 min – 27 min
- **Siemens Atellica IM**: 15 min – 43 min
- **Abbott Alinity i**: 15 min – 75 min
- **Beckman Dxl**: 15 min – 75 min
- **Abbott ARCHITECT**: 16 min – 42 min
- **Ortho VITROS 3600**: 16 min – 73 min
- **Siemens Centaur XPT**: 18 min – 63 min
- **Siemens Centaur XP**: 18 min – 63 min

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Growth brings opportunities but also challenges. While working to expand testing services and increase revenue you may ask yourself: how can you handle the higher volumes in the most cost- and space-efficient way? The cobas® 8800 modular analyser series is designed to deliver true productivity for your lab.

Your space is limited
We help you make the best of it
Make sure you decide for true productivity

Ultimately, each lab seeks a solution that delivers maximum productivity per invested space. Be it true productivity. At Roche we believe that there are three key system characteristics that lead to true productivity and we continuously strive to deliver these for your lab:

1. High throughput per square meter to manage the large volume of testing efficiently
2. Broad assay menu to eliminate the need for different analysers and/or outsourcing
3. High number of reagent channels to consolidate more testing on a single platform

Maximum number of reagent channels per one line of cobas® 8000 modular analyser

- SWA configurations
  - Clinical chemistry configurations
    - Up to 280 reagent channels
  - Immunochemistry configurations
    - Up to 258 reagent channels

- Clinical chemistry configurations
  - Up to 280 reagent channels
  - Immunochemistry configurations
    - Up to 192 reagent channels
Your team is pushed to their limits
We help them focus on the tasks that matter

Whilst the pressure to deliver from many different angles increases, keeping your team engaged and focused on the tasks of importance can be difficult but is of paramount importance for your lab’s success. The cobas® 8000 modular analyser series is designed to eliminate hurdles that may cause unnecessary stress.
Ensure peace of mind for your team with reliable and safe solutions

Unplanned downtime and lack of confidence in results are some of the most stressful things that can happen in the lab. They shift attention to time-consuming, hands-on workarounds or sample reruns which could affect staff morale and motivation. Additionally, they pose a risk to the quality of results and thus to the lab reputation.

With cobas® 8000 modular analyser series we deliver distinctive reliability of the system through sound architecture and confidence in the results through various safety features.

Safety of results

**Immunassay analytical units**

**Disposable AssayTips/AssayCups**

cobas® 8000 immunassay analytical units utilize single-use disposable AssayTips per each pipetting event and single-use AssayCup per each incubation event to completely eliminate the risk of sample carry over.

**Reliability**

cobas® 8000 modular analyser series delivers a distinctive uptime of more than 99%, proven by more than 3000 installations in the market.

**Clinical chemistry analytical units**

**Carryover evasion program**

The sample probes are rinsed inside and outside with demineralized 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 probe, sample probe, and reaction cells with basic and acidic wash solutions.

**Ultrasonic mixing**

cobas® 8000 clinical chemistry analytical units feature ultrasonic mixing for non-contact mixing of the reaction mixture in the reaction cell to eliminate the risk of carryover during this event.
Enable your team to work more efficiently through standardised solutions

Lab standardisation enables you to do more work on fewer instruments, through consolidation of workflow, systems and reagents. Standardisation also provides efficient and compatible solutions for network cooperation. With the cobas® Serum Work Area systems Roche offers analytics platforms that satisfy low-, medium- and high-volume testing needs, all standardised on the same reagents, detection technology, reference ranges and sharing common user interfaces.

Essential benefits of standardisation

- **Improved speed and accuracy of care**: Same reagents and detection technology mean standardised reference ranges which improve the speed and accuracy of care and reduce the need for rebaselining.

- **Population management**: By facilitating larger, consistent datasets, standardisation enables healthcare professionals to interpret greater health trends for true population health management.

- **Simplified training and staff allocation**: Common user interfaces between our cobas® systems mean simplified staffing and training, as well as flexible staff allocation as healthcare centers are consolidating into larger integrated health networks.

Same reagents | Same detection technology | Same reference ranges | Common user interfaces

Lab standardisation enables you to do more work on fewer instruments, through consolidation of workflow, systems and reagents. Standardisation also provides efficient and compatible solutions for network cooperation. With the cobas® Serum Work Area systems Roche offers analytics platforms that satisfy low-, medium- and high-volume testing needs, all standardised on the same reagents, detection technology, reference ranges and sharing common user interfaces.

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Reduce tedious manual work with ready to use reagents

The vast majority of cobas® 8800 reagents are designed to be ready to use, requiring no operator intervention or preparation - they can simply be taken out of the fridge and loaded onto the system. They also come with industry-leading onboard stability and lot calibration stability.

Liquid, ready-to-use reagents and many automated reagent handling processes in our system reduce your lab’s overall hands-on time, thus allowing them to focus on more value-added tasks.
Reduce tedious manual work through integration into lab automation

At Roche, laboratory automation solutions deliver the quality and reliability you expect, with the personalisation required by low-, mid-, and high-volume laboratories. With a complete portfolio in the market, Roche’s Personalised Lab Automation provides customised solutions for every lab.

Virtual automation

To have the control you need, ensuring quality and efficiency across your lab, virtual automation gives you the capability to track your samples and reduce manual tasks through cobas® infinity IT solutions.

Standalone automation

Pre- and post-analytical tasks are automated, offering maximum efficiency through flexible standalone solutions. It significantly reduces manual steps in the lab, enhancing error handling, safety and process quality. (cobas® p 312, cobas® p 512, cobas® p 612, cobas® p 501, cobas® p 701)

Connected automation

In addition to having all the benefits of standalone automation, connected automation offers transportation. Physically connecting different instruments allows for maximum predictability of time to test results. (cobas® connection modules, cobas® 8100 automated workflow series)
Your future is unpredictable
We help you succeed through continuous access to innovations

Choosing the right solution and vendor to partner with is not a small undertaking – it’s a decision that impacts your lab’s ability to fulfill performance and quality standards but also your ability to remain competitive. At Roche we believe in the power of innovation to advance and improve diagnostics possibilities and accessibility – for a better future of the patients and your lab. This is why we are committed to high investment in R&D – the highest in the life sciences industry and among the top 10 in any industry – with two key objectives: to continue pioneering lab solutions and delivering greater medical value.
Partner with a company that has a proven track record of pioneering lab solutions

Our history of innovation

Understanding the shift of laboratory workflow needs, we have pioneered the integration of clinical chemistry and immunochemistry, creating the concept of the 'Serum Work Area' back in 2002. Starting with Modular Analytics, we were the first to offer modularity and scalability which brought a high consolidation power for growing testing needs. We introduced the first common reagent and platform concept designed to reduce the complexity of laboratory operation and provide efficient and compatible solutions for laboratory networks.

Our success track record from the past however doesn’t stop us from continuously looking ahead and challenging the status quo. Three of many areas Roche is investing in include the integrated core lab, innate immune and digital diagnostics.
Support better outcomes by delivering greater medical value

Roche strategy to deliver medical value is through focused innovation in expanding our assay portfolio and commitment to exceptional assay quality because accurate results support the most efficient and effective delivery of patient care.

Focused innovation of our assay portfolio

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

New claims for existing assays
Generating new claims for existing assays for wider application.

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

Commitment to exceptional assay quality

Advanced assay design
- Outstanding precision across measuring range
- High sensitivity in areas where it matters
- Wider measuring range; 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 TAT
- Low sample volume
- No reagent preparation required
cobas® 8000 modular analyser series

At a glance

01 Core unit
The core unit is always on the left side of the instrument and it is the loading and unloading point for samples, achieving a throughput of up to 1000 samples per hour. It features a dedicated STAT port for easy prioritisation of emergency samples and allows for a bidirectional connectivity to pre-analytics.

02 ISE module
The cobas® ISE module measures the concentration of sodium (Na+), potassium (K+) and chloride (Cl–). It is available in two configurations with identical footprint but different throughput: 900 or 1,800 tests per hour.

03 Up to 4 analytical units
One configuration of the cobas® 8000 modular analyser series can consist of one up to four analytical units. The modular and scalable design of cobas® 8000 modular analyser series allows customisation to tailor solutions to individual laboratory needs now and in the future.

04 Module sample buffer
A module sample buffer (MSB) is attached to the left of each cobas c module and of each cobas e module. The MSBs serve as a buffering rack and can deliver sample racks to any module at any time. This allows for efficient sample transport and management across the analyser.
# cobas® 8000 modular analyser series

## At a glance

<table>
<thead>
<tr>
<th>cobas® 8000 modular analyser core unit</th>
<th>up to 1,000 sample/hour</th>
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<table>
<thead>
<tr>
<th>ISE module</th>
<th>Clinical chemistry analytical units</th>
<th>Immunoassay analytical units</th>
</tr>
</thead>
<tbody>
<tr>
<td>ISE</td>
<td>Up to 800 tests/hour</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Up to 1,800 tests/hour</td>
<td></td>
</tr>
<tr>
<td>cobas c 702</td>
<td>Up to 2,000 tests/hour</td>
<td></td>
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<tr>
<td></td>
<td>70 reagent channels</td>
<td></td>
</tr>
<tr>
<td>cobas e 801</td>
<td>Up to 300 tests/hour</td>
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<tr>
<td></td>
<td>48 reagent channels</td>
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</table>

### Configuration possibilities

Combinations of those analytical units offer tailored solutions to an individual laboratory needs. On-site expandability and flexible consolidation potential allow for efficient change management.

#### Secure Work Area (SWA) configurations

- **cobas® 8000** can be configured into a SWA configuration consisting of a combination of clinical chemistry and immunoassay analytical units which are seamlessly integrated. Roche has been the first company in the industry to make this integration possible.

- The maximum SWA configuration includes one core unit + optional ISE module + a combination of up to 4 clinical chemistry and immunoassay analytical units.

- **Maximum throughput and reagent channel positions**
  - Up to 8,100 tests/hour
  - Up to 258 reagent channels

#### Clinical chemistry configurations

- The maximum clinical chemistry configuration includes one core unit + optional ISE module + a combination of up to 4 clinical chemistry analytical units.

- **Maximum throughput and reagent channel positions**
  - Up to 9,800 tests/hour
  - Up to 280 reagent channels

#### Immunoassay configurations

- **cobas® 8000** can be configured into an immunoassay only configuration. The maximum immunoassay configuration includes one core unit + a combination of up to 4 immunoassay analytical units.

- **Maximum throughput and reagent channel positions**
  - Up to 1,200 tests/hour
  - Up to 192 reagent channels

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**cobas® 8000 modular analyser series**

**Overview of core components and analytical units**

**Core components**

- **Core unit**
  - Loading capacity of 360 samples (15 racks/tray, 5 samples/rack)
  - Throughput of up to 1,000 samples/hour
  - Dedicated STAT port
  - Optional sample rotation unit

- **cobas® ISE module**
  - Sodium, potassium, chloride
  - 900 or 1,800 tests/hour
  - ISE specific sample probe with clot detection
  - Independent processing line

- **Module Sample Buffer (MSB)**
  - Capacity for 20 sample racks
  - Additional capacity of 10 samples per module
  - Environmental controlled compartment for Auto QC racks
  - Backup operation port
  - Rack-by-rack access for the module; racks can go from everywhere to everywhere

**Clinical chemistry analytical units**

- **cobas c 702 module**
  - Clinical chemistry, homogeneous immunoassays
  - Throughput of up to 2,000 tests/hour
  - 70 reagent channels
  - Specimen integrity via serum indices, clot and liquid level detection
  - Contact-free ultrasonic mixing
  - 2 sample probes
  - 2 reagent probes
  - Pipetting cycle time of 1.8 seconds

- **Reagent manager**
  - Reagent control
  - Reagent RFID reader
  - Continuous reagent loading during operation
  - Automatic reagent cassette unloading

**Immunooassay analytical units**

- **cobas c 601 module**
  - Heterogeneous immunoassays
  - Throughput of up to 300 tests/hour
  - 48 reagent channels
  - Clot and air bubble detection
  - Reagent manager
  - Reagent RFID reader
  - Continuous reagent loading during operation
  - Automatic reagent cassette unloading
cobas® 8000 modular analyser series

Technical specifications

Configurations
A configuration consists of the core unit and 1 up to 4 analytical units (excluding the optional cobas ISE module). The analytical units are: cobas ISE module, cobas c 702 module, cobas e 801 module.

Detection Methods
Clinical Chemistry: Photometric
Immunoassay: Electrochemiluminescence (ECL)

Maximum throughput
Up to 3800 tests/hour/configuration.

Sample types
Serum, Plasma, Tears, CSE, Supernatant and Whole blood (not applicable for the cobas c 702 module).

Sample tubes
13 x 75 mm, 13 x 100 mm, 16 x 75 mm, 16 x 100 mm, Hitachi standard cup 2.5 ml, cobas® sample cup 2.5 ml, Hitachi microcup* 1.5 ml 11-16 x 63-102 mm

Pediatric sample tube
Yes (Hitachi microcup*: 50 μl dead volume)

Sample capacity
Core unit loading capacity: 300 samples
Module Sample Buffer (MSB) capacity: 100 samples
Core unit throughput: up to 1500 samples/hour

Sample volume
cobas c 702 module: Average 5.5 μl
cobas e 801 module: Average 19.4 μl

Automatic dilution
Yes

Reagent capacity
Up to 280 reagent channels/configuration.
cobas® OE module: N1, N and O
cobas c 702 module: 78 reagent channels
cobas e 801 module: 81 reagent channels

Reagent concept
Ready to use

Reagent loading
Continuous reagent loading during operation (valid for cobas c 702 module and cobas e 801 module)

Sample clot detection
Yes

Sample interference measurement
Serum indices (icterus, hemolysis, lipemia) measured on the clinical chemistry analytical units

Remote diagnostics
Yes

Connectivity to smart phones and tablets
Up to 8 systems can be connected to a tablet using cobas® mobile solution. An application allows the monitoring of the systems, alarms and reagent information.

Dimensions (W x D x H)
Core unit (including STAT port): 102 x 114 x 93 cm
cobas® ISE module: 45 x 114 x 115 cm
cobas c 702 module (including MSB): 150 x 114 x 135 cm
cobas e 801 module (including MSB): 150 x 114 x 162 cm

Weight
Core unit: 197 kg
cobas® OE module: 168 kg (ISE 1800), 170 kg (ISE 900)
cobas e 801 module (including MSB): 750 kg cobas c 702 module (including MSB): 610 kg

Electrical requirements
230/240/220/230 VAC, 50/60 Hz

Noise level
≤ 65 dB

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**Pre-Analytics connectivity**

Unidirectional, bidirectional

**Power consumption**

<table>
<thead>
<tr>
<th>Module</th>
<th>Core unit (including the control unit)</th>
<th>cobas® ISE module:</th>
<th>cobas® c 702 module (including MSB):</th>
<th>cobas® e 801 module (including MSB):</th>
</tr>
</thead>
<tbody>
<tr>
<td>Core unit (including the control unit)</td>
<td>1 kVA (actual maximum: 0.4 kVA)</td>
<td>0.5 kVA (actual maximum: 0.2 kVA)</td>
<td>3 kVA (actual maximum: 2.3 kVA)</td>
<td>2 kVA (actual maximum: 1.5 kVA)</td>
</tr>
<tr>
<td>cobas® ISE module:</td>
<td>0.4 kVA (actual maximum: 0.2 kVA)</td>
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<tr>
<td>cobas® c 702 module (including MSB):</td>
<td>2.3 kVA (actual maximum: 2.0 kVA)</td>
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<tr>
<td>cobas® c 702 module (including MSB):</td>
<td>0.4 kVA (actual maximum: 0.2 kVA)</td>
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</tr>
<tr>
<td>cobas® e 801 module (including MSB):</td>
<td>1.5 kVA (actual maximum: 1.3 kVA)</td>
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</table>

**Heat generation**

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<th>cobas® e 801 module (including MSB):</th>
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</thead>
<tbody>
<tr>
<td>Core unit (including the control unit)</td>
<td>3600 kJ/h (actual maximum: 1440 kJ/h)</td>
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<tr>
<td>cobas® ISE module:</td>
<td>1800 kJ/h (actual maximum: 720 kJ/h)</td>
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<tr>
<td>cobas® c 702 module (including MSB):</td>
<td>10800 kJ/h (actual maximum: 8280 kJ/h)</td>
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<tr>
<td>cobas® e 801 module (including MSB):</td>
<td>7200 kJ/h (actual maximum: 5400 kJ/h)</td>
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</tr>
</tbody>
</table>
References

1. 99% Uptime calculation: (365 days / Mean Time Between Repair Visits (MTBRY) x downtime per incident. Data on file

2. Immunoassay vendors’ assays package inserts (Roche, Siemens, Abbott, Beckman and Ortho). Data on file. Product names and trademarks are the property of their respective owners.
