

**cobas<sup>®</sup> pro integrated solutions**  
*Simplicity meets Excellence*



# Introducing cobas® pro integrated solutions

*Simplicity meets Excellence*





**01 Sample supply unit**

Up to **1,000** samples per hour processing capacity

Up to **300** samples direct loading

Up to **300** samples direct unloading

or bi-directional connectivity to lab automation

**02 ISE analytical unit**

Up to **900** tests per hour

**03 cobas c 503 analytical unit**

Up to **1,000** tests per hour

**60** reagent positions

**04 cobas e 801 analytical unit**

Up to **300** tests per hour

**48** reagent positions



**Your time is precious**  
*We help you use it wisely*

*Get answers fast with short and predictable turnaround times*

Boost your efficiency with fast analytical units, intelligent sample routing, and short assay incubation times. Empower your physicians to take action faster, with best-in-class 9 minutes STAT and 18 minutes routine immunochemistry assays<sup>1,2</sup>.





*Simplify your routine  
with minimal operator  
intervention*



#### **Free up staff time with reduced maintenance efforts**

With **cobas® pro** integrated solutions, every effort has been made to reduce maintenance tasks to a minimum. The new and smart concept of self-operating maintenance executes maintenance tasks automatically in the background and reduces the manual burden of daily maintenance to zero for **cobas c 503** analytical unit, and to only five minutes for **cobas e 801** analytical unit.

#### **Ensure non-stop operation with continuous loading**

##### **Save time and costs with cobas AutoCal**

The all-new **cobas** AutoCal is a revolution in calibration. With **cobas** AutoCal, new reagent lots are calibrated automatically, without the need for manual calibration.

**Your space is limited**  
*We help you make the best of it*

## *Use your space intelligently with cobas® green packs*

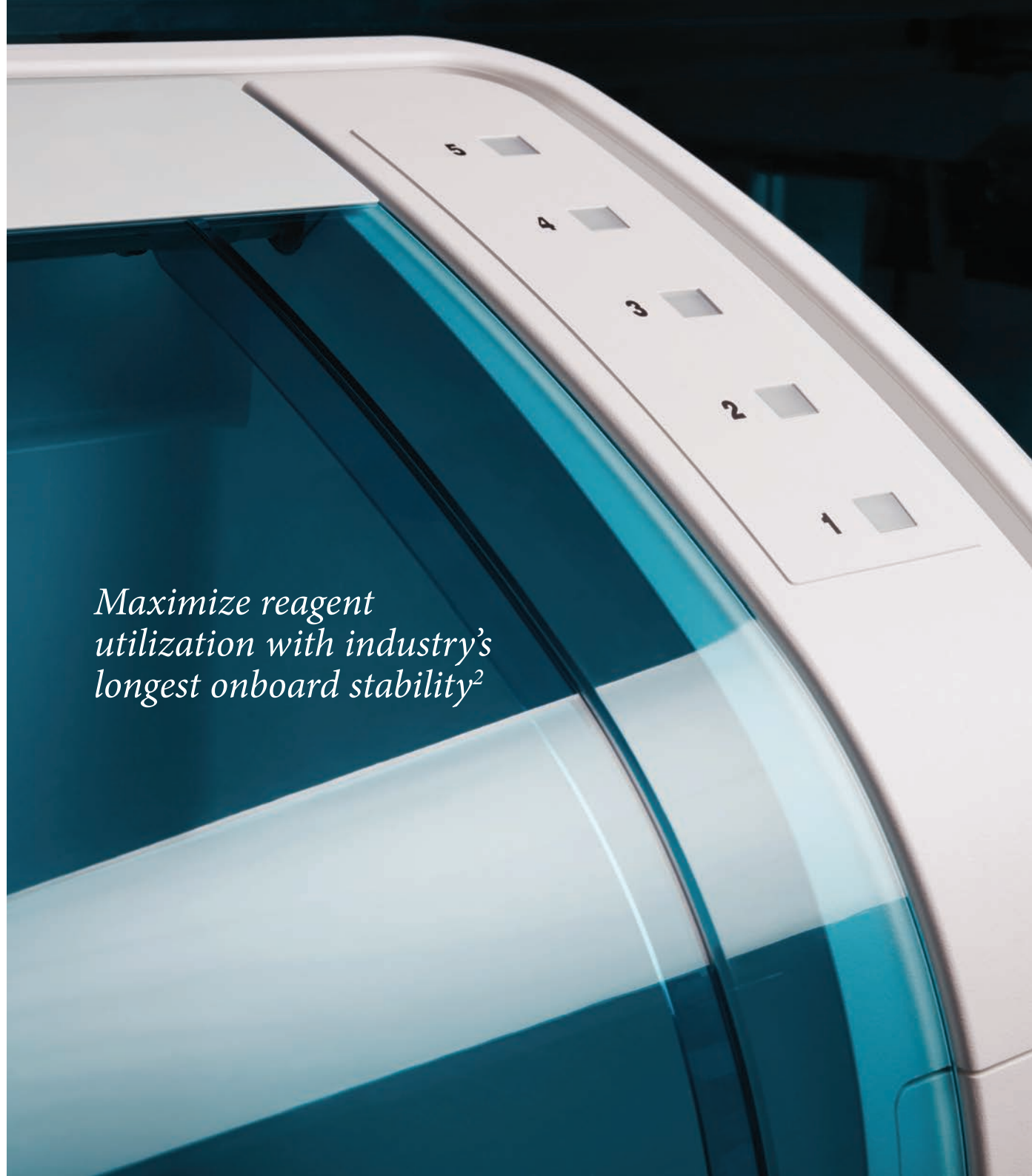
### **More tests per pack**

Up to 3 300 tests per **cobas c** pack green allow for long walk-away times and less loading, ordering and handling events for reagents.

### **Our best reagent carriers ever in clinical chemistry and immunochemistry**

Closed onboard, more tests per pack. Preparation-free. From the fridge to the analyzer, without any preparation. This is as easy as it can get.





*Maximize reagent  
utilization with industry's  
longest onboard stability<sup>2</sup>*

**Best-in-class onboard stability<sup>3</sup>**

With up to 6 months of onboard stability for the all-new **cobas® c** pack green, and up to 4 months of onboard stability for the **cobas e** pack green.

- Consolidate low- and high-throughput testing
- Bring low volume send out testing in-house
- Minimize reagent waste

A man with a grey beard and glasses, wearing a white lab coat over a dark blue shirt, is engaged in a conversation with a woman whose back is to the camera. They are in a laboratory or industrial setting, with a large blue and white machine visible in the background.

*Increase revenue through  
expanded testing services*

A photograph of two female scientists in white lab coats. One scientist is seen from the back, with long dark hair in a ponytail. The other scientist is facing her, looking slightly upwards and to the side with a thoughtful expression. They are in a bright, modern laboratory setting with white walls and equipment visible in the background.

**Your team is pushed to their limits**

*We help them focus on the tasks that matter*



*Reduce tedious  
manual work with  
ready to use reagents*



*Enable error-free handling  
with RFID\*-tagged  
reagents and consumables*

\*Radio-frequency identification.

*Enhance sample  
integrity with  
cobas® SonicWash*

**Unprecedented cleanliness of the  
sample probe with cobas® SonicWash.**

SonicWash cleans the sample probe with ultrasound technology so thoroughly that only a few parts per billion are detectable<sup>4</sup>. In addition, SonicWash eliminates the daily maintenance of the sample probe and reduces clot events.



*Ensure peace of mind  
for your team with reliable  
and safe solutions*

**cobas® pro** integrated solutions  
is designed to achieve more than  
300 days between unplanned repair visits.  
This means less unplanned interruptions  
and smooth workflows. Every day.

*Reduce tedious manual  
work through integration  
into lab automation*



**Your future is unpredictable**  
*We help you succeed through  
continuous access to innovations*

# HITACHI



*Partner with a company  
that has a proven track  
record of pioneering lab  
solutions and sustainable  
development*





*Standardize your operations  
with cobas<sup>®</sup> integrated solutions*



*Make a difference when every drop of blood counts with industry's smallest sample volumes<sup>3</sup>*

*Support better outcomes by delivering greater medical value*

# cobas<sup>®</sup> pro integrated solutions

## General technical specifications

| Dimensions and weights                      | Width        | Depth        | Height       | Units      | Weight            |
|---------------------------------------------|--------------|--------------|--------------|------------|-------------------|
| <b>Sample unit (SSU), including monitor</b> | 1320<br>52,0 | 1185<br>46,7 | 1430<br>56,3 | mm<br>inch | 250 kg<br>551 lb  |
| <b>ISE</b>                                  | 450<br>17,7  | 1150<br>45,3 | 1160<br>45,7 | mm<br>inch | 170 kg<br>375 lb  |
| <b>cobas c 503 (incl. SB and SBL)</b>       | 1500<br>59,1 | 1140<br>44,9 | 1355<br>53,3 | mm<br>inch | 790 kg<br>1742 lb |
| <b>cobas e 801 (incl. SB and SBL)</b>       | 1500<br>59,1 | 1140<br>44,9 | 1350<br>53,3 | mm<br>inch | 780 kg<br>1610 lb |

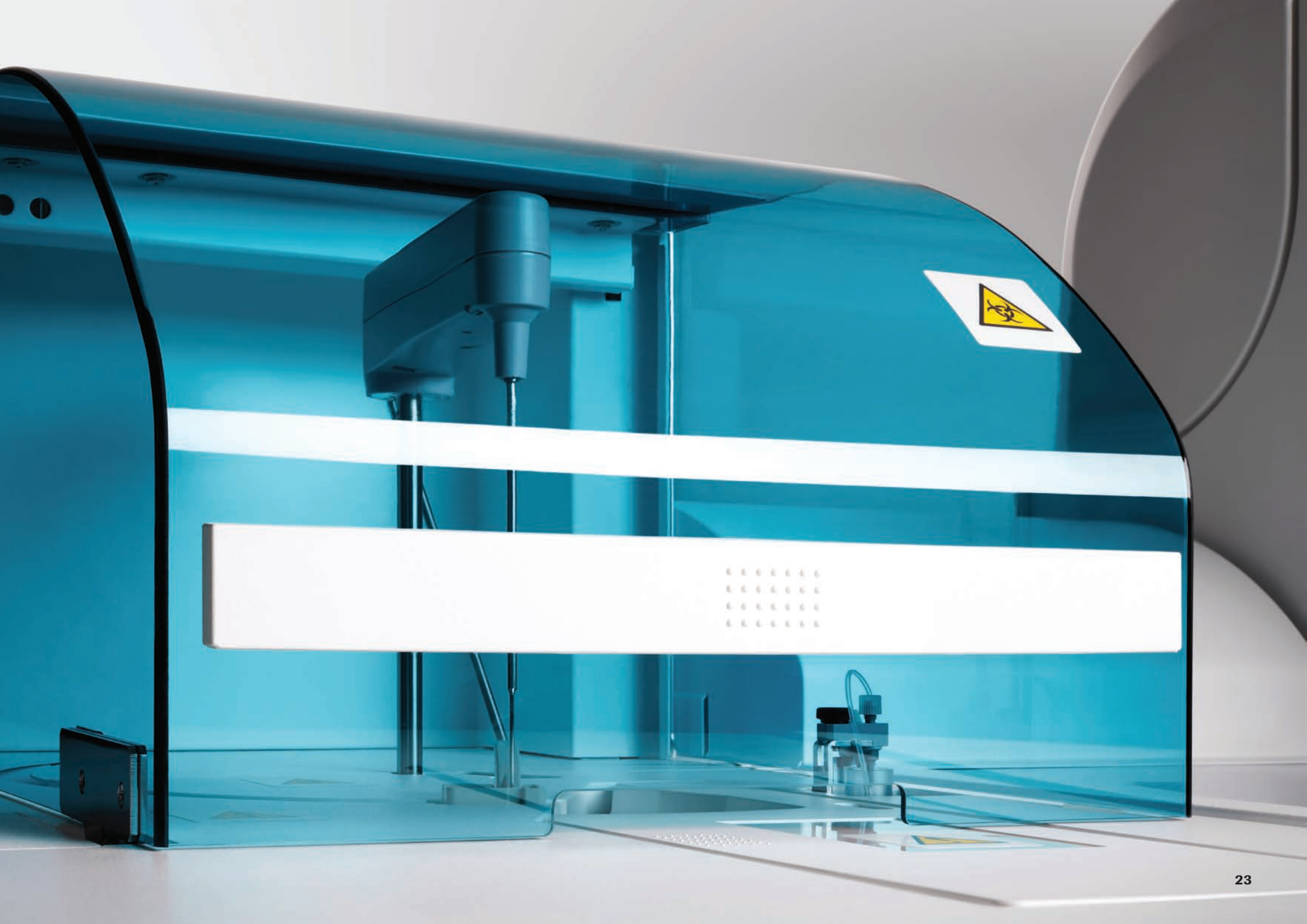
| Specifications of the electrical power supply | cobas <sup>®</sup> pro integrated solutions                                                                                                                                    |  |
|-----------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|
| <b>Distance to the instrument</b>             | ≤ 5 m<br>≤ 16 feet                                                                                                                                                             |  |
| <b>Output</b>                                 | 200 / 208 / 220 / 230 / 240 V<br>50 / 60 Hz                                                                                                                                    |  |
| <b>Max. power fluctuation</b>                 | < 10 %                                                                                                                                                                         |  |
| <b>Power consumption</b>                      | Whole System: ≤ 5.5 kVA<br>Sample Supply Unit and Sample Buffers: < 0.8 kVA   ISE: < 0.4 kVA   <b>cobas c 503</b> : < 2.4 kVA   <b>cobas e 801</b> : < 2.4 kVA<br>Single Phase |  |

| List of concentrated liquid waste volumes | cobas c 503                                                                       | cobas e 801                                                                       |
|-------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|
| <b>Max. liquid waste volumes</b>          | Concentrated liquid waste volume: < 2 L/h<br>Normal liquid waste volume: < 30 L/h | Concentrated liquid waste volume: < 7 L/h<br>Normal liquid waste volume: < 22 L/h |

| <b>Max. liquid waste volumes</b>                         | <b>cobas c 503</b>                                                                       | <b>cobas e 801</b>                                                                       |
|----------------------------------------------------------|------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------|
| <b>Distance to instrument</b>                            | ≤ 5 m<br>≤ 16 feet                                                                       | ≤ 5 m<br>≤ 16 feet                                                                       |
| <b>Conductivity</b>                                      | ≤ 1.0 µS/cm                                                                              | ≤ 1.0 µS/cm                                                                              |
| <b>Water pressure</b>                                    | 50 to 340 kPa<br>0.5 to 3.4 bar                                                          | 50 to 340 kPa<br>0.5 to 3.4 bar                                                          |
| <b>Water temperature</b>                                 | > 12°C<br>> 53.6 °F                                                                      | > 12°C<br>> 53.6 °F                                                                      |
| <b>Deionized water consumption (average)</b>             | approx. 32 L/h<br>ISE: < 2 L/h                                                           | < 30 L/h                                                                                 |
|                                                          |                                                                                          |                                                                                          |
| <b>List of environmental conditions during operation</b> | <b>cobas c 503</b>                                                                       | <b>cobas e 801</b>                                                                       |
| <b>Max. altitude above sea level</b>                     | 2,000 m                                                                                  | 2,000 m                                                                                  |
| <b>Floor conditions</b>                                  | ≤ 0.5 % inclination<br>Load bearing: 175 kg or more per adjust foot installation surface | ≤ 0.5 % inclination<br>Load bearing: 175 kg or more per adjust foot installation surface |
| <b>Ambient temperature</b>                               | 18–32°C (during operation)                                                               | 18–32°C (during operation)                                                               |
| <b>Ambient temperature fluctuation</b>                   | ≤ 2°C/hour (≤ 3.6 °F/h)                                                                  | ≤ 2°C/hour (≤ 3.6 °F/h)                                                                  |
| <b>Ambient humidity</b>                                  | 30–85% (non-condensing)                                                                  | 30–85% (non-condensing)                                                                  |
| <b>Noise emission to environment</b>                     | < 65 dBA in operation<br>< 56 dBA in standby                                             | < 65 dBA in operation<br>< 56 dBA in standby                                             |

## ISE analytical unit

|                                      |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
|--------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Applications</b>                  | Na+: Sodium<br>K+: Potassium<br>Cl-: Chloride                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| <b>Sample types</b>                  | Serum, urine<br>Ion-selective electrodes: 3 (Na+, K+ and Cl-)<br>Reference electrode 1                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| <b>Max. throughput</b>               | 900 tests/hour (300 samples/hour)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| <b>Max. liquid waste volumes</b>     | Concentrated liquid waste volume: < 2,8 L/h                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| <b>Sampling cycle time</b>           | 12 seconds                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| <b>Electrode handling</b>            | 2D barcode placed on the electrode package                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| <b>Sample Liquid level detection</b> | Available                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| <b>Sample clot detection</b>         | Available                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| <b>Sample foam detection</b>         | Available                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| <b>Number of applications</b>        | ISE: max. 60 (20 sample types available)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| <b>Sample pipetting volumes</b>      | 15 µl (Default)<br>Selectable from 10 µl                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| <b>Reagent volumes per sample</b>    | DIL: 450 µl (330 µL/sample: dilution vessel washing in case of discontinuous measurement,<br>600 µl DIL is used before IS measurement<br>IS: Total 720 µl (220 µl Dilution vessel washing, 500 µl: IS measurement)<br>REF: 130 µl                                                                                                                                                                                                                                                                                                                                                                 |
| <b>Measuring range</b>               | Na+: Sodium<br>10-250 mmol/L (technical measuring range)   450 µl Diluent   15 µl Sample volume (default)<br>20-375 mmol/L (technical measuring range)   450 µl Diluent   10 µl Sample volume<br>K+: Potassium<br>1-100 mmol/L (technical measuring range)   450 µl Diluent   15 µl Sample volume (default)<br>1-150 mmol/L (technical measuring range)   450 µl Diluent   10 µl Sample volume<br>Cl-: Chloride<br>10-250 mmol/L (technical measuring range)   450 µl Diluent   15 µl Sample volume (default)<br>20-375 mmol/L (technical measuring range)   450 µl Diluent   10 µl Sample volume |



## The all-new cobas® c 503 analytical unit

*Excellent performance, simple to use and beautifully designed.  
The all-new **cobas c 503** analytical unit brings all that it takes  
to set new standards in reliability, maintenance and efficiency.  
1,000 tests per hour. 60 reagent channels onboard.*

|                                      |                                                                               |
|--------------------------------------|-------------------------------------------------------------------------------|
| <b>Reagent pack type</b>             | <b>cobas c</b> pack green                                                     |
| <b>Reagent loading/unloading</b>     | Automatic                                                                     |
| <b>Reagent identification</b>        | RFID                                                                          |
| <b>Capacity of reagent manager</b>   | 5 reagent packs                                                               |
| <b>Capacity of reagent disk</b>      | 60 packs<br>Inner ring: 24 (1-24 position)<br>Outer ring: 36 (25-60 position) |
| <b>Reagent storage temperature</b>   | 5-15 °C                                                                       |
| <b>Number of applications</b>        | 680                                                                           |
| <b>Max. throughput</b>               | Photometric: 1,000 tests/h<br>HbA1c: 500 samples/h                            |
| <b>Number of reaction cells</b>      | 221                                                                           |
| <b>No. of reaction cell segments</b> | 13 (17 cells/segment)                                                         |
| <b>Reaction volume</b>               | 75-185 µl                                                                     |
| <b>Incubation bath temperature</b>   | 37 ± 0.1 °C (98.6 ± 0.1 °F)                                                   |
| <b>Reaction time</b>                 | 3-10 min                                                                      |
| <b>Mixer</b>                         | Ultrasonic                                                                    |



## *cobas e 801 analytical unit*

*Launched in 2016, the **cobas e 801** analytical unit combines excellence in results with the speed and efficiency that is required to fulfil the highest expectations, especially during peak hours. 300 tests per hour. 48 reagent channels onboard.*

|                                        |                                    |
|----------------------------------------|------------------------------------|
| <b>Reagent pack type(s)</b>            | <b>cobas e</b> pack green          |
| <b>Reagent loading/unloading</b>       | Automatic                          |
| <b>Cap pre-opener</b>                  | Yes                                |
| <b>Reagent identification</b>          | RFID                               |
| <b>Capacity of reagent disk</b>        | 48 reagents packs                  |
| <b>Reagent storage temperature</b>     | 5-10 °C                            |
| <b>Incubator temperature</b>           | 37 °C ± 0.3 °C<br>98.6 °F ± 0.5 °F |
| <b>Reaction times for tests</b>        | 9/18/27 min                        |
| <b>Measuring cell</b>                  | ECL measuring cell                 |
| <b>Number of measuring cells</b>       | 2                                  |
| <b>Cycle time per channel</b>          | 24 seconds                         |
| <b>Overall cycle time (2 channels)</b> | 12 seconds                         |
| <b>Max. throughput</b>                 | 300 tests/h                        |



#### References

1. Internal market research of immunoassay vendors (Roche, Siemens, Abbott). Data on file.
2. Roche cobas e 801 Immunoassay Method Sheets.
3. Method sheets cobas c 503, cobas e 801, Beckman Unicel Dxl/DxC, Abbott ARCHITECT c/i, Abbott Alinity c/i, Siemens Atellica CH/IM, Siemens Vista, Siemens Centaur.
4. Based on R&D report. Data on file.

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