



cobas[®] 6500 urine analyzer series

*Fully automated urine work area
on a modular platform*



cobas[®]
Life needs answers



cobas® 6500 urine analyzer series

*Fully automated urine work area
on a modular platform*

- **cobas** 6500 urine analyzer series provides a fully automated solution on a modular platform for laboratories processing 100 - 1000 urine samples per day. The **cobas u 601** analyzer performs fully automated urine strip testing and **cobas u 701** analyzer performs fully automated sediment microscopy with the benefit of real images.
- Both stand-alone analyzers, the **cobas u 601** and the **cobas u 701** analyzers can be upgraded on-site onto one platform with automated sample transportation through the entire system, with continuous loading of urine samples.
- The **cobas** 6500 urine analyzer series significantly improves productivity and efficiency of urine testing by reducing manual intervention to a minimum and optimizes workflow.

cobas[®] 6500 urine analyzer series

*New dimension in productivity, efficiency,
process innovation and consolidation*

There are 4 good reasons why the cobas 6500 urine analyzer series offers a new dimension in productivity, efficiency, process innovation and consolidation which are:

- Automation of the gold standard
- Precise and secure strip results
- Urine work area consolidation
- Workflow optimization

Automation of the gold standard

Fully automated sediment microscopy standardizes all steps of the process and mirrors real images into the result reporting for objective results.

Precise and secure strip results

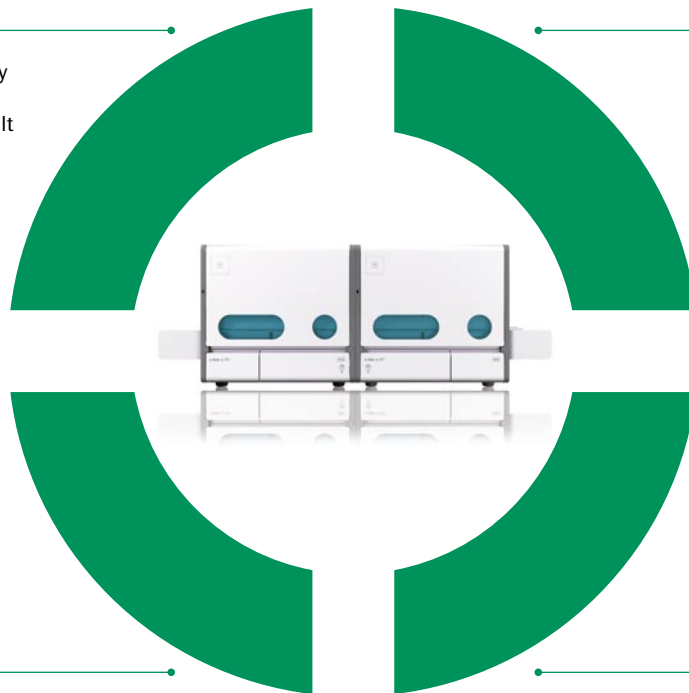
50 years of experience and proven test strip technology and performance. Combined with regular improvements and ongoing innovation, for true confidence in results.

Workflow optimization

Significantly reduced operator intervention, automated sieve testing, improved cost, staff and time management and assisted result management, to further enhance efficiency and productivity in urine testing.

Consolidation of urine work area

True urine work area consolidation with full parameter menu, all results on one screen for convenient validation. Fully automated sample flow, for increased productivity and efficiency.



cobas® 6500 urine analyzer series

At a glance



1 cobas 6500 user interface

- Operated on 19" touch screen, designed for ease of use and intuitive navigation
- Intuitive user interface helps the operator use the instrument correctly, and also means effective operation, less training required, helping staff management
- Consolidates results of urine strip testing and urine microscopy images onto one screen, customized and assisted result management, improves TAT and optimizes workflow
- User defined automated sieve testing (reflex testing) – sediment test only if needed, saving cost and time
- Convenient QC management by consolidation of QC data and results on a single platform, all the QC information can be viewed on screen including "QC chart" without any manual entry

2 cobas u 701 module

- Fully automated urine microscopy analysis
- Throughput is up to 116 samples/hour
- Captures, retains and reports 15 images/sample
- Reagent free design, only uses disposable cuvettes (**cobas u** cuvette) as consumables
- **cobas u** cuvette: 400 cuvette/cassette with RFID labelling
- Reclassification functionality allows operator to reclassify any particle
- Operator can define cross-check and validation rules
- 11 parameters: erythrocytes, leukocytes, squamous epithelial cells, non-squamous epithelial cells, bacteria, hyaline casts, pathological casts, crystals, yeasts, mucus and sperm



3 cobas u 601 module

- Fully automated urine test strip analysis
- Throughput is up to 240 samples/hour
- Uses reagent strip (**cobas u** pack) with ascorbic acid resistance
- **cobas u** pack: 400 strips/cassette with RFID labelling
- New technology of photometer for strip reading: an image sensor (camera chip) performs reflectance photometric measurements on each test pad of a test strip with 4 wavelengths. The new technology allows the differentiation of intact and lysed erythrocytes up to 50 E/ μ L, avoids the measuring failures caused by dust, low sample volume or wrong test strip positioning, e.g. to assure reliable results
- 12 parameters: pH, leukocytes, nitrite, protein, glucose, ketones, urobilinogen, bilirubin, and erythrocytes, gravity, color and clarity

4 Input buffer

5 Output buffer

- Loading capacity of 75 samples (15 racks/tray, 5 samples/rack), continuous loading of urine samples
- The throughput of **cobas** 6500 (urine work area) depends on the rate of samples of microscopy (up to 240 samples/hour with test strip analysis only, up to 116 samples/hour with microscopy analysis only)
- Automatically starts operation after routing, and priority or emergency samples loading

cobas u 701 microscopy analyzer improves the gold standard in urine microscopy by standardization and automation of all manual steps, removing operator variability and significantly reducing operator intervention and increasing efficiency.

Automation of the gold standard

Fully automated microscopy:

with **cobas u 701** analyzer

- resuspends the sample
- pipettes sample into cuvettes
- centrifuges the cuvette
- captures 15 images of each centrifuged sample

all fully automated, resulting in minimum operator intervention and improving TAT.

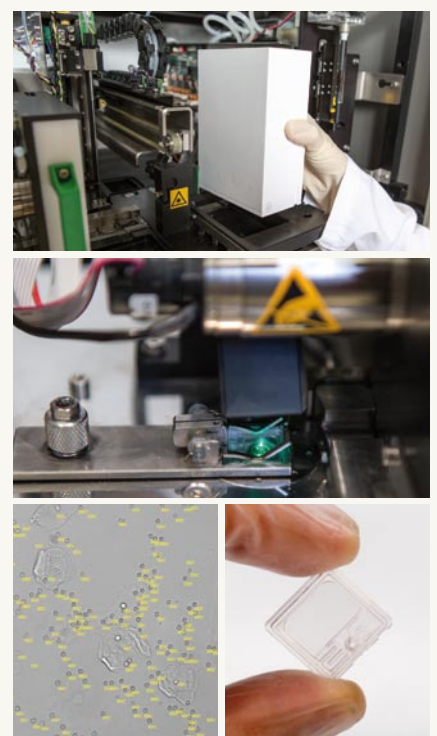
Standardized process:

- standardizes all steps of the process
- reagent- and contact free operation
- mirrors real images

eliminating operator variability resulting in objective results.

Retained microscopy images:

- mirrors sediment images into the result screens
 - documents objectivity
- for easy review or training further enhancing efficiency.**



cobas u 601 urine analyzer automates all manual steps and provides high quality results by proven unique reagent strip technology based on 50 years of experience in urine analysis and innovation, minimizing operator intervention while providing confidence in results.

Precise and secure test strip results



Proven Combur-Test® strip technology:

- 50 years of successful history in urine diagnostics
- comparable results with same technology across all Roche urinalysis systems

for efficient back-up and network solutions.

Unique reagent strip construction:

- ascorbic acid resistance for proven high quality results
- nylon mesh ensures uniform color development through uniform penetration of the urine into the test area
- separating different reagent papers in a test pad

protected results, reduced reaction time and increased storage life of the strip by proven design.

New generation of strip test system:

- innovation with the new photometer technology for the test strip result reading taking inhomogenous, high-resolution images of each pad
 - detecting the intact and lysed erythrocytes
- accurate, safe results by new technology.**

Ease of use:

- convenient cassette concept
 - **cobas u** pack, humidity protected
 - with RFID technology
- minimizing operator intervention and enhancing productivity.**



The cobas® 6500 urine analyzer series is a fully automated solution and consolidates the urine work area – fully automated urine microscopy and urine testing – into one single platform standardizing the entire testing procedure resulting in increased productivity and efficiency.

Consolidation of urine work area

True modularity:

- stand-alone analyzers can be integrated onto one single platform at site
- for flexible consolidation of testing disciplines.**

True integration:

- consolidation of full parameter menu of urine test trip and urine microscopy
- for increased productivity.**

Convenience in validation:

- all results on one screen
- for convenient and fast validation.**

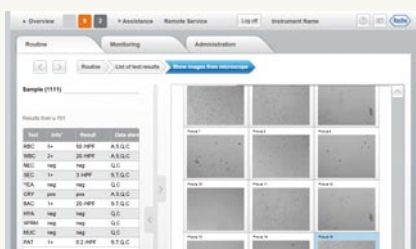
Fully automated sample flow:

- one sample loading and one sample unloading area
- eliminating operator intervention.**



Workflow optimization in cobas® 6500 urine analyzer series is the result of using the cassette concept and offering centralized and assisted result management, reducing operator intervention and optimizing the overall laboratory workflow.

Workflow optimization



Efficient cost management:

- automated sieve testing – sediment is tested only if needed based on the result from strip testing

reduced cost by optimized workflow setting.

Reagent free cassette concept:

- 400 strips in one humidity protected cassette
- significantly reduces operation intervention while ensuring high quality of results.**

Intuitive software navigation:

- effective operation and training
- saving time and improving staff management.**

Assisted result management:

- automated result validation and reflex testing
- easy review process

improves TAT and optimizes workflow.

Reduced and improved maintenance:

- reagent free operation
- fully controlled reloading of all materials

clean operation and less intervention, saves time and gains efficiency.

Harmonized sample handling:

- using standard 5-position racks
- increasing workflow efficiency throughout the entire lab network.**

The cobas® 6500 urine analyzer series is an important part of the overall Roche product portfolio and is the result of many years of experience and innovation in the urine testing field.

Roche with its strong commitment to innovate in the diagnostic field is not only continuously developing new products, but also integrates them into the entire portfolio to provide a valuable solution addressing the challenges in today's laboratories. The idea of using a cassette concept to help reducing operator intervention, and of offering modular approaches to provide flexibility, has been

implemented throughout the Roche portfolio. Also, the Roche 5 position rack is used in all analyzers for Clinical Chemistry, Immunochemistry, for serum work area, for pre- and post-analytical systems and for laboratory automation, as well as on the **cobas** 6500 urine analyzer series so that new analyzers can be integrated into the lab working process smoothly.

Serum work area



Hematology



Urinalysis



Point of Care



Pre- and post-analytics



Coagulation



The cobas 6500 urine analyzer series offers a wide range of benefits for laboratories with demanding challenges.

Automation of the gold standard

Precise and secure strip results

Workflow optimization

Consolidation of urine work area







The cobas® 6500 urine analyzer series standardizes the entire testing procedure, reduces operator intervention and offers centralized result management. This optimizes the overall laboratory workflow and helps increasing the efficiency in productivity.

cobas[®] 6500 urine analyzer series

Technical specifications

System	Modular, analytical system platform, consolidated work area for urine strip test and urine microscopy, expandable and re-configurable on site	
Types of modules	cobas u 601 module: urine strip measuring unit cobas u 701 module: urine microscopy measuring unit	
Module combinations	Stand-alone: • cobas u 601 urine analyzer • cobas u 701 microscopy analyzer Urine work area: • cobas 6500 urine analyzer series with one cobas u 601 module and one cobas u 701 module	
Sample throughput	Up to 240 samples/hour with test strip analysis only Up to 116 samples/hour with microscopy analysis only The throughput (theoretical max) depends on the rate of samples that are processed on the cobas u 701 analyzer	
Test parameters	• Urine strip analysis: ERY Erythrocytes and hemoglobin LEU Leukocytes NIT Nitrite KET Ketones GLU Glucose PRO Protein UBG Urobilinogen BIL Bilirubin pH COL Color CLA Clarity SG Specific gravity	• Urine microscopy analysis: RBC Red blood cells WBC White blood cells NEC Non-squamous epithelial cells SEC Squamous epithelial cells YEA Yeasts CRY Crystals BAC Bacteria HYA Hyaline casts SPRM Sperm MUC Mucus PAT Pathological casts
Consumables	cobas u pack: cassette with 400 strips for urine strip analysis cobas u cuvette: cassette with 400 cuvettes for urine microscopy analysis	
Sample input/output	• Load/unload capacity: 75 samples (= 15 racks), continuous loading/unloading • Rack: 5 position rack, RD standard rack • Tray: tray with 15 racks/75 samples, RD standard tray • Automatically starts operation after routing, priority or emergency samples loading	
Sample container types	Length: 65 - 115 mm. Diameter: 13 - 16 mm. Bottom: round, conical or false	
Minimal sample volume	• Test strip and microscopy: 2.8 mL • Test strip: 2.0 mL • Microscopy: 2.0 mL	• Test strip reduced volume (no measuring cell measurements): 1.5 mL • Test strip reduced volume and microscopy: 2.3 mL

Measurement principles	<ul style="list-style-type: none"> • Reflectance photometry: with 4 different wavelengths (465, 528, 560 and 615 nm) • Refractometry: SG testing • Turbimetry: clarity testing • Automated microscopy • Automatic image evaluation 		
Calibration	<ul style="list-style-type: none"> • cobas u calibration strip for urine strip analysis • Reference cuvette for urine microscopy analysis 		
Storage capacity	<ul style="list-style-type: none"> • Test results: up to 10,000 sample test results (including images) • QC, photometer calibration, measuring cell calibration and microscope check: up to 300 for each • Operator can export all results on the analyzer, including sediment images, QC and calibration results 		
Electrical requirements	<ul style="list-style-type: none"> • Line voltage: <ul style="list-style-type: none"> 100-125 VAC, permanent connection (+10%, -15%) 200-240 VAC, permanent connection (+10%, -15%) • Line frequency: <ul style="list-style-type: none"> 50 or 60 Hz (± 5%) 		
Regulatory requirements	CE, us/cETL, CB Test Certificate The system is compliant with the following standards: <ul style="list-style-type: none"> • IEC 61010-1: 2001 • IEC 61010-2-101: 2002 • IEC 61010-2-081: 2001 + A1: 2003 • UL 61010-1 • CAN/CSA C22.2 No. 61010-1-04 +G11 • CAN/CSA C22.2 No. 61010-2-101: 04 • CAN/CSA C22.2 No. 61010-2-081-04(R09) 		
Operating conditions	<ul style="list-style-type: none"> • Ambient room temperature 18 to 32°C (64.4 to 90°F) • Relative humidity 30%-80%, non condensing 		
Physical dimensions	<ul style="list-style-type: none"> • cobas u 601 module: <ul style="list-style-type: none"> Width (with buffers) 107.9 cm (42.48 in) Width (without buffers) 68.7 cm (27.05 in) Depth 53.2 cm (20.94 in) Height 64.4 cm (25.35 in) 	<ul style="list-style-type: none"> • cobas u 701 module: <ul style="list-style-type: none"> Width (with buffers) 107.9 cm (42.48 in) Width (without buffers) 68.7 cm (27.05 in) Depth 53.2 cm (20.94 in) Height 64.4 cm (25.35 in) 	<ul style="list-style-type: none"> • Urine work area (with buffers): <ul style="list-style-type: none"> Width 179 cm (70.5 in) Depth 53 cm (21 in) Height 64.4 cm (25.4 in)
Weight	<ul style="list-style-type: none"> • cobas u 601 module: <ul style="list-style-type: none"> Weight (with buffers) 169.3 kg (373.2 lb) Weight (without buffers) 157.1 kg (346.3 lb) 	<ul style="list-style-type: none"> • cobas u 701 module: <ul style="list-style-type: none"> Weight (with buffers) 88.8 kg (195.8 lb) Weight (without buffers) 76.6 kg (168.9 lb) 	<ul style="list-style-type: none"> • Urine work area (with buffers): <ul style="list-style-type: none"> Weight 174 kg (386 lbs.)

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