COBAS INTEGRA® 400 plus

Roche

cobas®

Life needs answers

COBAS INTEGRA® 400 plus
Advantages

- **Real security of results**
  with the COBAS INTEGRA clot detection system
- **cobas c packs**
  make reagent preparation a task of the past
- **Workflow consolidation**
  with the choice of over 140 applications
- **Sophisticated software programs**
  to simplify operation and training
- **Reduced costs**
  through increased efficiency
- **Continuous access**
  to up to 90 samples for a smoother workflow

COBAS INTEGRA 400 plus is designed to consolidate testing and increase efficiency while reducing total running costs of the laboratory.

The COBAS INTEGRA 400 plus system is the right choice for consolidation in the low workload laboratory and special chemistry testing in medium volume sites.

The COBAS INTEGRA systems' extensive assay menu and innovation of the **cobas c** pack are combined with four proven measurement technologies and sophisticated, easy-to-use software.

COBAS INTEGRA® 400 plus
Convenience

cobas c pack

Patented reagent carrier design plus on-board refrigeration prevents reagent evaporation and degradation, ensuring long-term on-board stability and long calibration intervals.

Each **cobas c** pack holds all necessary reagents for up to 800 determinations, maximising on-board capacity and reducing the need for operator intervention and frequent reloading.

Reagent preparation is a task of the past. The barcoded **cobas c** packs are automatically handled by the system, reducing the possibility of errors and saving staff time.

Compact design of the reagent carrier means that more than a year´s supply of tests for a typical laboratory can easily be stored in a single refrigerator.

Continuous sample access

Sample racks allow continuous access as tests are completed and new samples arrive, eliminating unnecessary test delays.

Up to 90 barcoded samples, in six 15 position racks, can be loaded on-board. STATs are automatically given priority and immediately processed once the barcode is read to speed up delivery of results to the physician.

Serum, plasma, urine, hemolysate, whole blood and CSF can be used in barcoded primary or secondary tubes. Microcups can be used for low volume samples, e.g. paediatric and CSF.

Workflow consolidation

More than 140 applications for all types of sample matrices are measured with one of 4 different measuring technologies – absorbance photometry, turbidimetry, fluorescence polarisation and ion selective potentiometry.

The COBAS INTEGRA 400 plus system has up to 36 different on-board assays. For quick access to additional tests, **cobas c** packs can be exchanged while the system is running. Off-board storage of pre-calibrated **cobas c** packs allows full flexibility.

The broad menu includes clinical chemistry, specific proteins, therapeutic drug monitoring, drug of abuse testing and much more. Consolidation on a single system improves turnaround times by reducing the need for sample splitting.

On-board storage of 32 **cobas c** packs at 12°C ensures reagent stability up to 3 months, reducing reagent waste and costs.

For high volume tests, multiple **cobas c** packs of the same assay can be on-board for automatic switch-over during run.

COBAS INTEGRA® 400 plus
Reliable and efficient

Sophisticated software
On-screen inventory management tracks reagents available on board and forecasts if additional reagent packs are required based on daily workload statistics.

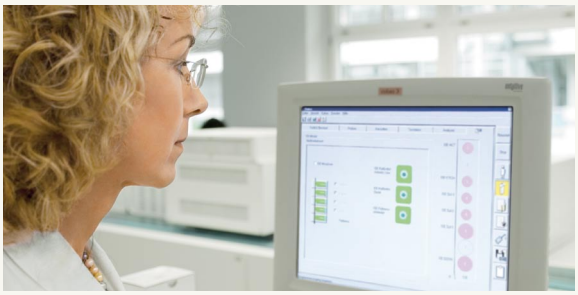
The intelligent processing on COBAS INTEGRA 400 plus automatically schedules each sample's tests to minimise analyser turnaround time and increase throughput, while allowing immediate STAT testing 24 hours a day.

Quality control programs monitor precision and accuracy to ensure reliable results.

Validated sample results are continuously transmitted to the LIS via the host query communication mode, guaranteeing fast result availability.

The software automatically tracks service needs and alerts the user when maintenance is due. Activities are recorded in the electronic log to support compliance with Good Laboratory Practice and Accreditation.

Remote diagnostics by modem allows Roche service personnel to resolve errors quickly and efficiently without an on-site visit.



Reduced costs through increased efficiency

Consolidation eliminates pre-analytical phase tasks by reducing sample splitting to improve workflow and decrease handling costs.

Long on-board reagent stability and fewer calibrations mean less waste and lower cost per reportable result.

A single workstation optimises use of time and budget by reducing costs of operating, maintaining and servicing multiple analytical systems.

Processing time can be reduced by up to 50% compared with dedicated analysers.

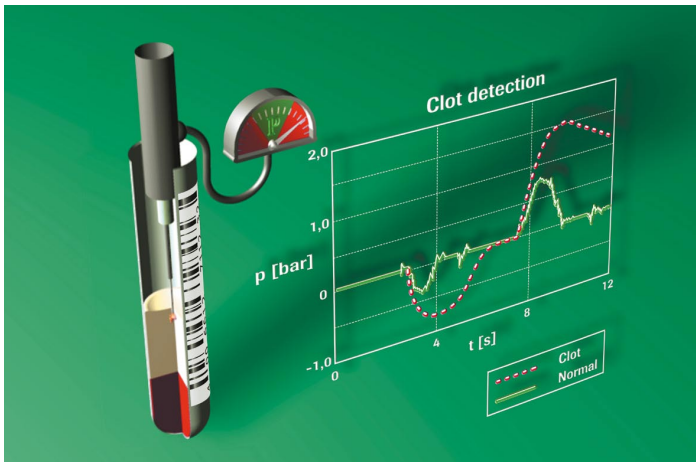
Post-analytical tasks such as sample tracking, rerunning, archiving and disposal are greatly simplified by use of a single consolidated system – COBAS INTEGRA 400 plus.

Real security

Highly sensitive pressure sensors detect incorrect pipetting, even at 2 µL sample volume.

Handling of clotted samples is improved with immediate flagging of faulty samples.

System wash pressures have been optimised to fully remove the clot from the sample probes, avoiding any maintenance actions and interruptions to workflow.



COBAS INTEGRA® 400 plus

System overview

1 Automatic start-up

- Configurable start-up options ensure that the system is ready whenever needed
- Access to the full COBAS INTEGRA reagent menu 24 hours a day guarantees quick after hours turn around time
- Automatic system maintenance significantly reduces operator interventions

2 Result security

- Highly sensitive pressure sensors detect incorrect pipetting, even at 2 µL sample volume.
- Handling of clotted samples is improved with immediate flagging of faulty samples
- System wash pressures have been optimised to fully remove the clot from the sample probe, avoiding maintenance actions and interruptions to workflow

3 ISE module

- Sodium, Potassium, Chloride and Lithium

4 Flexible change of onboard tests

- Onboard capacity of 8 racks with 4 **cobas c** packs each
- Easy change of menu via the reagent racks
- Refrigerated storage for long calibration stability

5 Continuous sample loading

- 6 sample racks for various primary and secondary cups
- Up to 90 samples onboard, racks can be replaced after sample pipetting
- Positive sample identification via barcode

6 Analytical unit

- Precise temperature controlled reaction rotor ensure stable test conditions and reliable results
- Sensitive photometric and turbidimetric measurements
- Extremely stable LED light source for fluorescence polarisation

7 Enhanced user interface

- System software is object-oriented, based on Windows XP, for standardised ease-of-use
- Intuitive online help provides instant and precise multilingual support
- Easy to read 19 inch flatscreen monitor

COBAS INTEGRA® 400 plus
Specifications

System	Random and continuous access, sample selective analyser Integration of 4 measuring principles 36 tests onboard Absorbance photometry: Enzymes and substrates Turbidimetry: Specific proteins, drugs of abuse Fluorescence polarimetry: Therapeutic drugs, thyroid tests Ion-selective electrode potentiometry: Na^+,K^+,Cl^- and Li^+
Test throughput	Up to 400 tests/hr (including ISE)
Sample types	Serum, plasma, urine, CSF, hemolysate and whole blood (HbA1c)
Sample handling	90 primary or secondary tubes on-board Up to 6 x RD15 racks on-board Cooled rack position for controls and calibrators Automatic sample dilution and concentration Barcode reading via laser scanner, with immediate STAT recognition
Sample container types	Primary tubes: 5 to 10 mL; 16x100, 16x75, 13x100, 13x75 mm with closed cap for Hitachi microcup, 500 µL; Hitachi standard cup, 1.5 mL; **cobas** cup, 650 µL; Eppendorf cup, 1.5 mL; Cup on tube definable
Sample volume	Typically 2 to 10 µL per test, ISE indirect 20 µL, ISE direct 97 µL
Sample barcode types	Code 128, Codabar, Code 2 of 5 interleaved, Code 39
Reagents onboard capacity	32 **cobas c** packs, 50-800 tests per **cobas c** pack Up to 8 racks of 4 **cobas c** packs on-board Reagent compartment cooled to 10-15°C Onboard stability up to 3 months, calibration typically each lot
Reaction cells	Holds 1,000 disposable cuvettes with 5 mm path length, and 120-240 µL reaction volume
Control unit	HP workstation running Windows XP Intel Pentium IV with 512 MB RAM Dual 40 GB hard drives, CD ROM, floppy drive and inbuilt modem
System interfaces	RS 232 serial interface, bi-directional, inbuilt modem for remote diagnostics access
Electrical requirements	100-125/200-240 Volts AC, 50 or 60 Hz, consumption 1,200 VA
Physical dimensions	Width: 135 cm (53.1 in) Depth: 66 cm (25.9 in) Height: 75 cm (28.5 in)
Weight	320 kg (506 lbs)
Water requirements	Up to 2 liters per hour in operating mode, Type 1 NCCLS
Certification	CE, UL, C-UL

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Roche Diagnostics Ltd.
CH-6343 Rotkreuz
Switzerland
www.roche.com

03273873001® 0409

COBAS INTEGRA® 400 plus

Test menu

Substrates
Albumin
Albumin BCP[2]
Ammonia
Bicarbonate
Bilirubin - direct
Bilirubin - total
Calcium
Cholesterol
HDL Cholesterol Direct
LDL Cholesterol Direct
Creatinine
Fructosamine
Glucose
Homocysteine[2]
Iron
Lactate
Magnesium
Phosphorus
Total Protein
Protein Urine / CSF
Triglycerides
Total Bile Acids[2]
UIBC
Urea / BUN
Uric Acid
Zinc[2]

Enzymes
5'Nucleotidase[2]
ACE[2]
Acid Phosphatase
Alkaline Phosphatase
ALT / GPT
Amylase - pancreatic
Amylase - total
Antistreptodornase[2]
AST / GOT
Cholinesterase / Dibucain
CK
CK-MB
GGT
GLDH
HBDH
LDH (L-P)(P-L)
Lipase

ISE
Chloride
Lithium
Potassium
Sodium

Specific proteins
α1-Acid Glycoprotein
α1-Antitrypsin
α1-Microglobulin (c pack MULTI)
α2-Macroglobulin[2]
β2-Microglobulin[2]
Albumin (Turbidimetric)
APO A1
APO B
ASLO
C3c
C4
Ceruloplasmin
CRP
Cystatin C
Ferritin
Haptoglobin
HbA1c (whole Blood, Hemolysate)
hsCRP
IgA
IgG
IgM
IMA[2]
Kappa (c pack MULTI)
Lambda (c pack MULTI)
Lp (a)
Myoglobin
Prealbumin
Rheumatoid Factor
Soluble Transferrin Receptor
Transferrin

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Life needs answers

Drugs of abuse
Amphetamines
Barbiturates – urine/serum
Benzodiazepines – urine/serum
Buprenorphine[2]
Cannabinoids
Cocaine Metabolite
EDDP[1]
Ethanol – urine/serum
Lysergic Acid Diethylamide
Methadone
Methaqualone
Opiates
Oxycodone[2]
Phencyclidine
Propoxyphene
Tricyclic Antidepressants[2]

Therapeutic drug monitoring
Acetaminophen
Amikacin
Carbamazepine
Caffeine[2]
Cyclosporine
Digitoxin
Digoxin
Ethosuximide[2]
Gentamicin
Lithium
Lidocaine
Methotrexate[2]
MPA (total)
NAPA
Netilmycin[2]
Phenobarbital
Phenytoin – free/total
Primidone
Procainamide
Quinidine
Salicylate
Sirolimus[2]
Tacrolimus[2]
Theophylline
Tobramycin
Valproic Acid –free/total
Vancomycin

Others
AT III
D-Dimer
Factor XIII[2]
Serum Index
T4
T-Uptake

Note:
Not all tests may be available in all countries due to local registration requirements.
Please contact your local nearest Roche office for full details.
Urine and CSF applications are available for selected tests.
[1] Assays currently under development
[2] Available as Development Channel
Last review April 2009

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CH-6343 Rotkreuz
Switzerland
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