

# OLYMPUS

THE VISIBLE DIFFERENCE

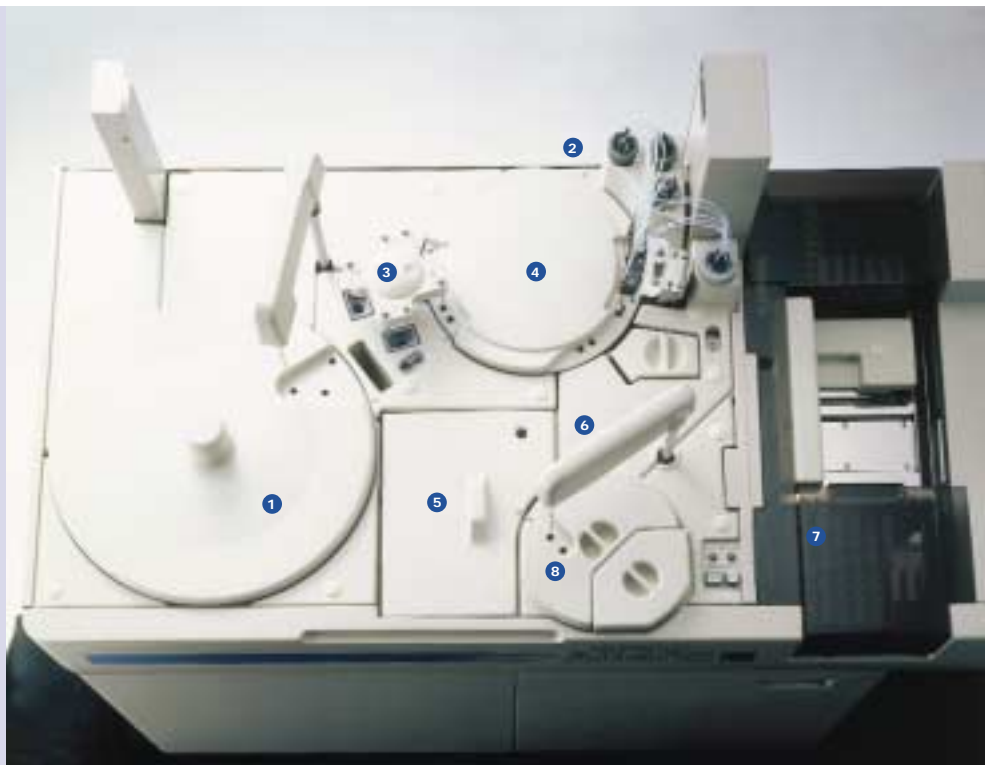
AU 400

## ANALYSER SYSTEM FOR CLINICAL CHEMISTRY



# OUTSTANDING ENGINEERING IN A COMPACT ANALYSER

- 1 Refrigerated reagent compartment
- 2 Washing station
- 3 Mixer
- 4 Cuvette wheel
- 5 ISE unit
- 6 Sample applicator
- 7 Sample feeder
- 8 STAT sample rotor



*The Olympus AU 400 analyser system for clinical chemistry*

## Outstanding performance

The new AU 400 system is a fully automated, random access clinical chemistry analyser with all the benefits of Olympus Systems Compatibility.

With a throughput of 400 photometric tests per hour the system provides high performance analysis, including STAT and ISE capability, in a compact package for small and medium size laboratories.

## Technology and innovation

Outstanding engineering includes the unique Spot Photometry measurement system that uses data in digital format and transmission through fibre optics to eliminate electromagnetic interference and signal drift.

Improved measurement enables reduced reaction volumes and delivers savings in reagent and running costs.

Multiple module control with 32 bit RISC chips ensures precise control with high throughput. Ease of operation is assured with mouse-control Windows software and touchscreen.

A full range of Olympus System Reagents developed in tandem with the analyser range provides optimised measurement for routine and specialist tests.

# MINIMUM CONSUMPTION WITH MAXIMUM PERFORMANCE

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*Precision due to spot photometry system*

The AU 400 analyser system stands out due to the economy and high efficiency of a Random-Access System combined with effort-saving handling and an exceptional reliability:

## **Economy**

- **Minimised consumption of liquid stable reagents**
- **Reaction volume down to 150 µl**
- **Throughput of 800 tests per hour with ISE**

## **Performance**

- **Spot photometry system gives unrivalled accuracy**
- **Interference-free fibre optic data transfer**

## **Ease of use**

- **Bar-coded reagents and primary cups for routine and STAT samples**
- **GUI menus and user definable routines in Windows NT® software**

# C O N T R O L , F L E X I B I L I T Y A N D R E L I A B I L I T Y



*Cooled rotor for STAT, QC and calibrators*

automatically adjusts to match the dispensed volume. Safety features include clot detection and crash prevention.

Volume variation of results is minimized and more accurate measurement is provided on reaction volumes as little as 150 µl.

Contamination is eliminated with a triple washing station. Cuvettes are washed with detergent twice and rinsed with purified water four times in each cycle. Time for mixing and cleaning steps has been reduced to 4.5 seconds.



*Triple washing station*

## Overall flexibility

The AU 400 combines flexible analysis with sophisticated control and measurement reliability.

STAT samples can be quickly processed at any time. Barcoded primary tubes or special sample cups are placed in a distinguished STAT rotor with 22 positions.

## Optimized technologies

Computer controlled liquid dispensing provides speed and positional adjustment. Probe tip speed control prevents liquid splashing. Probe depth

Windows NT® based software

The latest software across the range of Olympus analysers provides easy to use Windows-based mouse control. Pull down menus and help functions ensure that basic operation can be mastered within minutes. Modem support for continuous communication and service is provided.



*Maintenance support*

# C O M P L E T E   S Y S T E M D E V E L O P M E N T



*Olympus System Reagents*



*Reagent compartment for 15 ml,  
30 ml and 60 ml vials*



*Olympus flexible racks*

An expanding range of reagents

Olympus liquid stable reagents are developed in tandem with the company's range of clinical chemistry analysers. Formula, concentration and packaging are perfectly matched to the AU 400.

The TRIS automatic identification bar-coding system includes batch and expiry details to meet laboratory procedural requirements.

Reagent vials of either 15 ml, 30 ml or 60 ml volume featuring long on-board stability.

Over 80 tests are available including Substrates, Enzymes, Specific Proteins, DAU, TDM and Homogeneous Immuno Assays.

Compatibility across all systems

Major savings in costs, logistics, storage space and efficiency are delivered by using the same reagents across Olympus systems, even in complex laboratory settings.

Olympus flexible racks are designed for all primary tubes in the range of 11.5 mm – 16 mm diameter.

The AU 400 has the family hardware and software, and uses the same reagents, as the larger AU 600, AU 800 and AU 1000 analysers.

This system compatibility approach will be continued in future analyser developments from Olympus.

# A U 4 0 0 S Y S T E M R E A G E N T S - S P E C I F I C A L L Y M A T C H E D



*The Olympus System Reagents -  
an expanding range of reagents*

## OLYMPUS SYSTEM REAGENTS

### Substrates

Albumin  
Alpha Amylase  
Bicarbonate  
Bilirubin total  
Bilirubin direct  
Calcium  
Calcium Arsenazo  
Cholesterol  
Creatinine  
Glucose  
Glucose HK  
HDL-Cholesterol  
Iron  
LDL-Cholesterol  
Magnesium  
Phosphate  
Phospholipide  
Total Protein  
Triglycerides  
Urinary Protein  
UIBC  
Urea  
Uric Acid

### Homogeneous Immuno Assays

Apo A1  
Apo B  
ASL  
C3  
C4  
CRP  
IgA  
IgG  
IgM  
Ferritin  
RF  
Transferrin

### DAU

Amphetamine  
Barbiturates  
Benzodiazepines  
Beta Blockers  
Cannabinoids  
Cocain Metabolite  
Cotinine  
Methadone  
Methamphetamine  
Opiates  
PCP  
Thiazides  
Urine pH

### Enzymes

ACP  
ALP  
CHE  
CK  
CK-MB  
GGT  
GOT (AST)  
GPT (ALT)  
HBDH  
LDH  
Lipase

### ISE

Chloride  
Potassium  
Sodium

### Specific Proteins

alpha-1-Antitrypsin  
alpha-1-Glycoprotein  
 $\beta$ -2-Microglobulin  
Ceruloplasmin  
Haptoglobin  
Microalbumin  
Myoglobin  
Prealbumin

### TDM

Amikacin  
Carbamazepine  
Digitoxin  
Digoxin  
Gentamicin  
Phenytoin  
Phenobarbital  
Theophylline  
Tobramycin  
Valproic Acid

# OLYMPUS SYSTEM SUPPORT - A RANGE OF CUSTOMER SERVICE



The combination of Olympus analysers and the specially matched Olympus System Reagents represent only a proportion of Olympus Diagnostica. Our commitment to the provision of a total system and the increasing demands of the modern major laboratory has led to the development of a comprehensive range of services.

## Application consultancy

We provide help for requests concerning reagents or on how to conduct tests through our application specialists. In cases where an application problem cannot be solved over the telephone, we give direct assistance in your laboratory.

## Operator training

Our specialists will teach you all the necessary basic knowledge about operation, application and user maintenance. In addition customised on-site training is of course available.

## Delivery service


Your order is handled by us immediately. Reagents delivery within 24 hours is possible and in true "emergencies" priority dispatch ensures the best possible delivery time.

## Technical equipment service

Our support team of field based engineers and specialists is further enhanced by expert telephone assistance from a specialist who can provide immediate advice on technical problems and how to get the best out of your Olympus system.

## Individual laboratory and contract concepts

The sales representative, assigned to you, will structure made-to-measure system solutions for you.





## AU 400 Specifications

<b>Analytical system</b>	Fully automated, for routine, STAT, urine and homogeneous Immuno Assays
<b>Analytical methods</b>	Clinical chemistry and immunological parameters. End point, kinetic assays, fixed-time-kinetics, optionally ISE
<b>Simultaneously processed analytes</b>	Up to 51 photometric tests + 3 ISE
<b>Throughput</b>	400 photometric tests / hour; maximum of 800 with ISE
<b>Sample feeder</b>	Racks with 10 samples each (bar-codes on primary tubes and on racks); capacity of 80 samples; continuous loading
<b>Sample tubes</b>	In primary and secondary tubes; diameter from 11.5 to 16 mm; height from 55 to 102 mm
<b>STAT samples</b>	Up to 22 positions for STAT samples, bar-coded primary tubes
<b>Sample volume</b>	2 – 50 µl in 1 µl steps (1– 50 µl for repeats)
<b>Reagent supply</b>	Refrigerated (4° C – 12° C); 76 positions for R1 / R2
<b>Reagent volume</b>	1. reagent: 25 – 300 µl; 2. reagent: 25 – 300 µl; (in 1 µl steps)
<b>Total reaction volume</b>	150 – 550 µl
<b>Reaction cuvette</b>	Quartz cuvettes
<b>Reaction time</b>	Up to 8 minutes, 40 seconds
<b>Reaction temperature</b>	37° C
<b>Mixing method</b>	With rotating paddles after dispensing sample and reagent
<b>Photometry system</b>	Direct assay through the reaction cuvette (0 – 2.5 OD) mono-, bichromatic measurements possible
<b>Wave length</b>	13 different wave lengths between 340 – 800 nm
<b>Cuvette cleaning</b>	Comprehensive cleaning with detergents
<b>Calibration</b>	Linear and non linear (linear interpolation), refrigerated calibrator positions
<b>Data processing</b>	Calculated parameters, blank value correction and correlation. Definition of normal value range, measuring range, pathological values and repeats. Quality controls, printout of abnormal values, pending sample work list and repeat run sample list
<b>Test requisition</b>	Individual and profile test requisition via on-line, mouse, function keys or optional touch screen
<b>Safety</b>	Clot detection and crash prevention for sample and reagent dispenser
<b>On-line</b>	Full uni- and bidirectional communication possible
<b>Software</b>	Windows-NT®



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