

WHY AUTOMATE URINE SEDIMENT TESTING ?

- **Manual microscopy is a time-consuming process** – approx. 10-12 mins for 1 sample
- **Takes away too much time of “highly qualified” lab personnel which can be more effectively utilised**
- **Minimizes risk of Errors**
 - Sample preparation
 - Slide preparation
 - Slide viewing
- **Improves quality of reporting to doctors**
 - Actual images of abnormal findings can be shared

Typical steps with time for 1 sediment test	
Sample Preparation	30 seconds
Create Work List	1 minute
Prepare Centrifugation	1 minute
Sample Centrifugation	5 minutes
Resuspend Sediment	1 minute
Drop Sample on Slide	30 seconds
Microscopic Analysis	1 minute
Cell Counting	30 seconds
Verify Results	30 seconds
Record Results	30 seconds
Key in Results	30 seconds
Total	12 minutes

Age	RESULT	UNIT	Reference	NAME	Reference
NAME	0.00	PUL	0.00-10.00	RESULT	UNIT
WBC	5.81	PUL	0.00-12.00		
CaOxm	0.00	PUL	0.00-6.00		
THI	0.00	PUL	0.00-6.00		
URI	0.00	PUL	0.00-6.00		
HYA	0.00	PUL	0.00-2.00		
PAT	1	PUL	0.00-0.50		
MEC	0.65	PUL	0.00-2.00		
EPI	1	PUL	0.00-5.00		
VEA	0.00	PUL	0.00-3.00		
MAC	2.61	PUL	0.00-130.00		
MDK	5.23	PUL	0.00-264.00		
SPH	0.00	PUL	0.00-12.00		

AUTOMATION OF “GOLD STANDARD” MANUAL MICROSCOPY

● Instrument Technology

Automated microscopy using Accelerated Subsidence, Microscope Real Scene High Definition Image, Artificial Intelligence Recognition and Classification



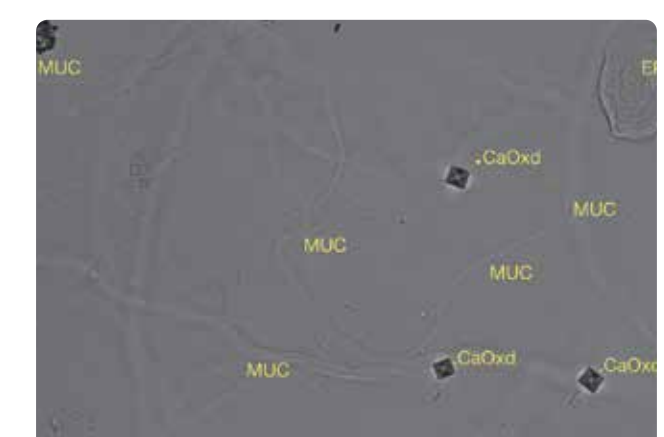
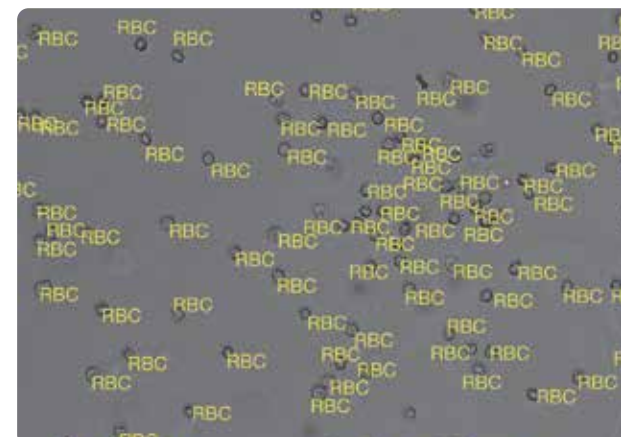
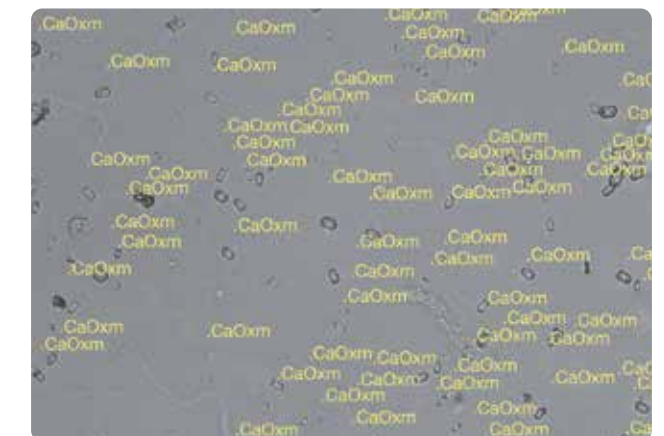
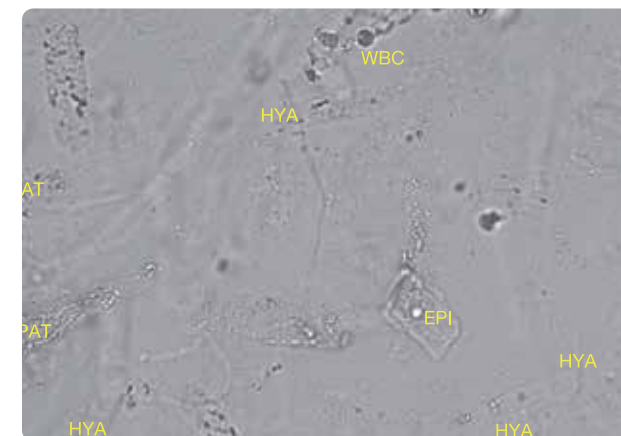
● Simple, User-friendly Operation

- Fully automated sample preparation (sample mixing, centrifuging, preparation of homogenized layer) to minimize manual errors
- Large touch-screen helps zoom-in / zoom-out to access and review images and easily access the menu.
- Each test is processed in 1 cuvette – no carry-over between samples
- Just 1.5 mins testing time / sample



● Smart measurement system

- High-definition in-built cameras capture “**whole view-field**” images similar to HPF images of manual microscopy
- Latest “**deep learning AI**” technology identify, classify, label and count each sediment particle
- Large (13.3’) high-resolution touch-screen for viewing actual images

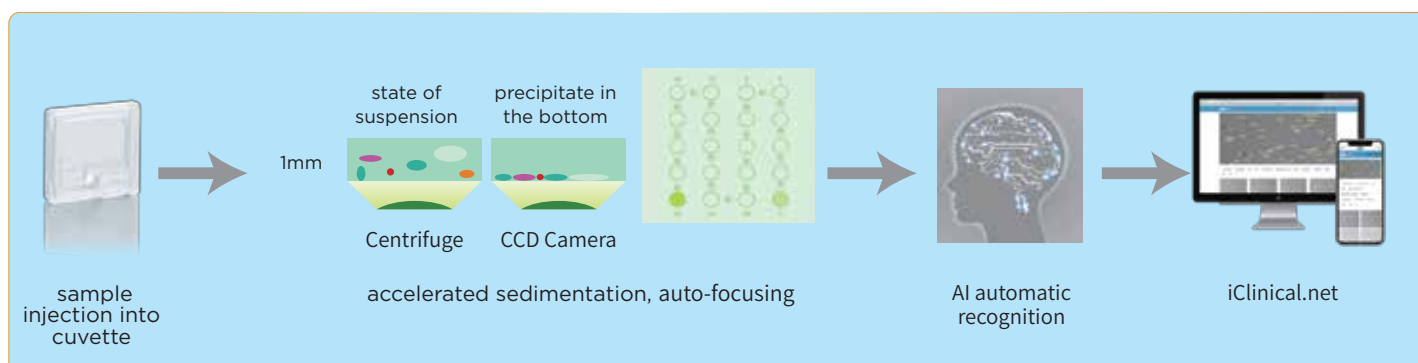


● Cost-effective solution

- Patented Cuvettes and distilled water are the only consumable – no other liquid reagents
- No inventory management issues
- Low maintenance as no tubings, valves etc needed
- Easy to calculate cost-per-test – cost of cuvette is cost of test



MEASUREMENT PROCESS



The urine sample is injected into the cuvette by the aspiration needle from the test tube. The centrifugation process is performed at an acceleration level of 260G, creating a monolayer of particles at the bottom of the cuvette, to drive all the particles to the same level. Digital optical is used to record high resolution images of 10-20 positions, which are evaluated for various formed elements of the urinary sediment automatically by AI technology. With one-click, sample images with uncertainty can be uploaded to "iClinical.net" and get the experts answer immediately online.

TECHNICAL SPECIFICATIONS

	COBIO®S50
Technology	Whole view field microscopic high-definition images Centrifugal accelerated sedimentation AI (Artificial Intelligence) identification
Detected partical classes	≥ 11 items: RBC; WBC; HYA; PAT; EPI; NEC; BAC; YEA; CRY; CaOxm; CaOxd; MUC
Memory	max 25,000 results (including all images)
Min. sample volume	2.0mL
Throughput	50 samples/hour
Batch size	single sample tube
Cuvette container	50 pcs
User interface	13.3' LCD with touch screen
Size	457x414x608mm(LxDxH)
Weight	30kg
Power	110-240 VAC, 50/60 Hz, 200 VA

Can be bridged with
Ormalysr u500
Multi Strip Urine Analyser



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Smart & Simple Solution for Automating Urine Sediment Testing

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