The LabUMat 2 is a fully automated urine chemistry analyzer evaluating 10 chemical parameters of LabStrip U11 Plus GL test strips and 3 physical parameters. Besides preserving all its former attractive features, the new version of LabUMat has been significantly improved for an even better performance. Continuing its predecessor’s mission, LabUMat 2 is a high quality and reliable instrument meeting the requirements of modern automated laboratories and providing walk-away operation. Easy operation via touch screen, automatic handling of test strips and test tubes – including sample mixing and precise dosing for each test pad by the pipetting unit – advanced detection technique and intelligent data management provide maximum efficiency while making urinalysis simple.

### Technical features

- **Methodology:** Reflectance photometer, 4 discrete wavelengths
- **Evaluated parameters:** Bilirubin, Urobilinogen, Ketones, Ascorbic acid, Glucose, Protein, Blood, pH, Nitrile, Leucocytes via LabStrip U11 Plus (GL) urine test strip
  - Specific gravity, Color, Turbidity via PMC (Physical Measurement Cell) module
- **Max. throughput:** Up to 240 tests/hour
- **Batch size:** 100 test tubes
- **Min. sample volume:** 2.0 ml (checked by liquid level sensor)
- **Memory:** Max 10,000 results
- **Display:** 800x600 TFT
- **Size:** 600x650x635 mm (LxDxH)
- **Weight:** 55 kg
- **Input:** 100-250V AC / 50-60 Hz
- **Power consumption:** Max 200 W
- **Interfaces:** USB, RS232 serial port, PS2, VGA
- **Printer:** Built-in thermal printer
- **Barcode reader:** Built-in barcode reader

### About 77 Elektronika

77 Elektronika Kft. is a major global developer, manufacturer and supplier of in vitro diagnostic medical devices, mainly urine analyzers, rapid test readers, blood glucose meters and their consumables. The products are supplied throughout the world under the 77 Elektronika brand and as OEM products for market-leading multinational companies.

77 Elektronika was established in 1986 and is headquartered in Budapest, Hungary (EU). The company is committed to providing superior products and services to the complete satisfaction of its customers.

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**Revolutionary particle visualization and recognition utilizing both bright-field and phase contrast microscopy**

**Zoomable HPF-like images**

**Dual-view for both bright-field and phase contrast images**

**Throughput:** up to 130 tests/hour

**Fully automated sample preparation requiring only low sample volume**

**Manual microscopy mode:** Real-time view of any viewfield of the cuvette to see moving microorganisms as well

**No need for liquid reagents or calibrators**

**Automated QC analysis and maintenance procedures**

**UriSed 3 PRO and LabUMat 2 together make a Complete Urine Laboratory System**

**Streamlined documentation by LIS connectivity**

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**UriSed 3 PRO** provides a uniquely advanced visualization and recognition of formed elements in urine sample using a special combination of bright-field and phase contrast microscopy by automating the gold standard method of sediment analysis. It improves differentiation of hyaline casts, red blood cells, crystals, yeast and overall diagnostic performance in central screening laboratories as well as in specialist laboratories.
The efficiency of LabUMat 2 test strip analyzer and UriSed 3 PRO microscopic sediment analyzer – both manufactured by 77 Elektronika – can be maximized by using the two instruments together as one system.

Common operation is enabled with physical and software connections between LabUMat 2 and UriSed 3 PRO. The results of both measurements are stored in a common database and reported as a common report.

Since all necessary measurements which have to be done on urine samples are completed by this integrated system in one process, the combination of LabUMat 2 and UriSed 3 PRO accelerates laboratory throughput and provides the most effective and reliable solution for complete and professional urine analysis.

The operation of the instrument is based on the patented UriSed Technology. Working without any special liquid reagents, UriSed 3 PRO performs sample preparation, produces whole viewfield microscopic images and evaluates them using the Auto Image Evaluation Module (AIEM), a high-quality image processing software.

Using the phase contrast technology UriSed 3 PRO provides improved performance. It has outstanding visualization and recognition capabilities for every particle type even the ones that conventional bright-field microscopy cannot easily detect (such as casts and ghost red blood cells).

Urine particles with never-seen-before definition and clarity

**Patented measurement process**

- Empty cuvette is loaded into pipetting position
- Barcode scanning
- Sample mixing in test tube
- Sample aspiration
- Sample pipetting into cuvette
- Focusing process is performed
- Bright-field image is recorded
- Phase contrast image is recorded
- Cleaning of sample probe
- The recorded images are evaluated
- Yes
- No
- Used cuvette is placed into the waste bin
- Centrifuging process
- Cuvette is moved to first microscope position
- Focusing process is performed
- Bright-field image is recorded
- Phase contrast image is recorded
- The recorded images are evaluated
- Yes
- No
- Results are displayed and forwarded to LIS

**Technical Specifications**

- Auto-detected particle classes: Red Blood Cells (RBC); White Blood Cells (WBC); WBC Clumps (WBCc); Hyaline Casts (HTA); Pathological Casts (PAT); Squamous Epithelial Cells (EPI); Non-Squamous Epithelial Cells (NEC); Bacteria Cocci (BACc); Bacteria Rods (BACr); Yeast (YEA); Mucus (MUC); Sperm (SPRM); Crystals (CRY); Calcium-oxalate monohydrate (CaOxM); Calcium-oxalate dihydrate (CaOxD); Uric acid (URI); Triphosphate (TRI).
- Further classes for manual sub-classification are also available!
- Technology: Cuvette based automated microscopy and image processing
- Memory capacity: 10,000 results (including all images)
- Throughput: Up to 130 tests/hour
- Magnification: Zoomable HPF-like images
- Displayed images: Phase contrast, bright-field and composite
- Min. sample volume: 2.0 ml (checked by liquid level sensor)
- Batch size: 100 test tubes
- Barcode reader: Built-in
- Printer: Optional, external (connected to operating PC)
- Interfaces: USB, LAN, RS232 serial port
- LIS connectivity: LIS2-A2 or HL7
- Size: 600 x 640 x 635 mm (W x D x H, without PC)
- Weight: 63 kg (without operating PC)
- Power (measuring unit): 100-240V AC / 50-60 Hz / max. 200 W
- Power (operating PC): 100-127V AC / 47-63 Hz / max. 400 W
- 220-240V AC / 47-63 Hz / max. 400 W

**Chemistry and sediment analysis in one system**

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**All you need for complete urine analysis**

- LabStripUl1 Plus GL test strips for LabUMat 2 (closed system)
- Cuvettes for UriSed 3 PRO (closed system)
- Normal distilled water
- Standard test tubes