

Laser Aided Profiler

Precision pottery drawings made fast

HIGH - TECH

ROBUST

RELIABLE

PORTABLE

RAPID

HANDY

For busy archaeologists struggling with processing of large find assemblages, the Laser Aided Profiler (LAP) device employs the latest technology for high-quality, rapid, digital documentation of ceramic fragments. The LAP alleviates the tedious drawing task, allowing you to fully concentrate on your research. Resulting data are stored in an easily accessible database, so you can feed them into data-analytic pipelines and take your research to the next level.

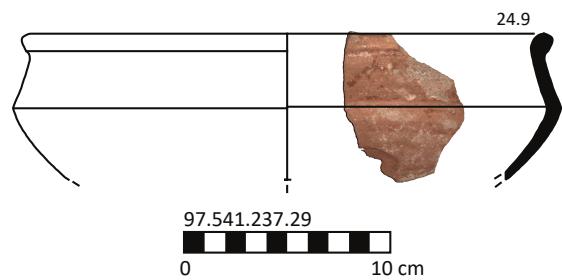
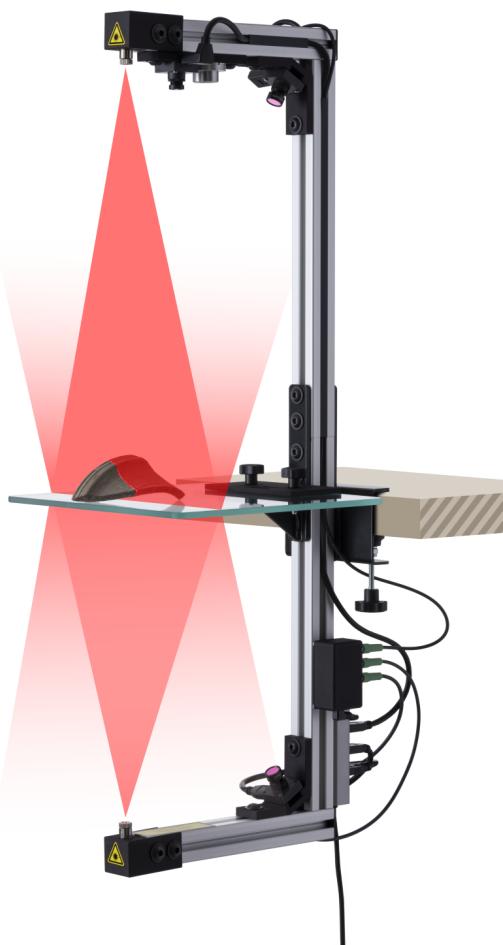
You can use the LAP in the lab as well as in the field. The device is built on industrial-grade components that can withstand dusty environments and temperatures of over 40 degrees Celsius. It is easily portable, with assembly and disassembly taking just a few minutes.

For extreme robustness in long-term usage, there are no moving parts and the data acquisition is purely optical. Thanks to advanced synchronization technology, image capturing is reliable even in places with strong ambient sunlight. Still, the lasers are kept eye-safe for the operator.

The LAP comes packed in a handy suitcase. Measuring 50 x 40 x 14 cm (20 x 16 x 5.5 inches) and weighing under 8 kg (16 lb.), its size and weight fall within standard airplane cabin baggage limits, so you can keep the LAP safely with you while travelling.

The bundled software application streamlines the drawing process for you to work at maximum efficiency while achieving high-quality outputs. On average, about 20 drawings per hour can usually be produced by a skilled operator. The digital data, metadata and complete drawings are saved into an open-source database for later querying or processing.

All drawings are in scale and immediately ready to be published. The acquired data are readily available for subsequent processing, e.g. shape-matching or morphometric analysis.



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Technical Specifications

CLASS 1
LASER PRODUCT

Number of used lasers	2 (top, bottom)
Laser optics	focused line
Laser safety class	1
Laser light wavelength	660 nm
Number of used profile cameras	2 (top, bottom)
Profile camera operating principle	laser sheet-of-light triangulation
Profile camera resolution	1280 x 1024 pixels
Profile measuring range	250 x 200 mm (10" x 8")
Laser to specimen standoff	200 to 400 mm (8" to 16")
Profile type	double-sided
Profile measurement resolution	0.25 mm (0.01")
Profile acquisition	real-time
Profile measurement trigger	foot switch, mouse click
Sensitivity to ambient sunlight	very low
Photo camera resolution	2592 x 1944 pixels
Photo camera field of view	260 x 200 mm (10.5" x 8")
Photo illumination	white LED, 1000 mW, from top side
Specimen type	ceramics (all surface finish types), lithics (opaque)
Specimen handling	manual, with live profile or image display
Maximum total specimen size	unlimited
Support glass	quartz, scratch-resistant
Support glass size	250 x 250 x 6 mm (10" x 10")
Frame type	industrial aluminum frame
Frame size	270 x 770 mm (11" x 30") depth x height, portable
Mounting mechanism	table mount
Total weight	8 kg (16 lb.) including case
Package size when folded	500 x 400 x 140 mm (20" x 16" x 5.5"), case included
Ingress protection class	IP20
Operating temperature	0 to 45 °C (32 to 113 °F)
PC communication interface	USB 3.0
Power supply	USB 3.0, no external power adaptor needed
Device type	solid-state, no moving parts
Software application	dedicated for drawing archaeological pottery and artifacts
Software usage	interactive drawing, profiles and color images
Software operating system	Windows 10/11, macOS 14 and later
Internal database	open-source graph-based database Deposit
Internal database storage format	PostgreSQL, JSON, Pickle
Drawing file format	SVG, PDF, DXF, PNG, TIFF, JPG
Raw profile data file format	WKT
Database export formats	PostgreSQL, SHP, Excel, CSV
Database access	Common inter-institutional database