



# Laser Aided Profiler

Precision pottery drawings made fast

## HIGH - TECH

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.

## ROBUST

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.

## RELIABLE

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.

## PORTABLE

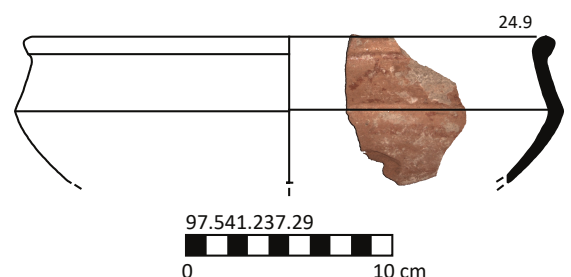
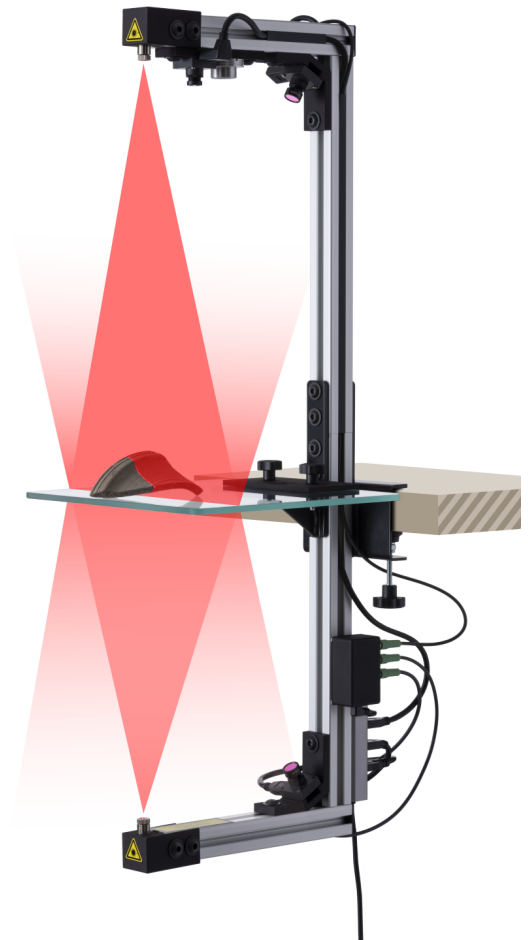
The LAP comes packed in a handy suitcase. Measuring 50 x 40 x 14 cm (20 x 16 x 5.5 inches) and weighing under 8 kg (16 lb.), its size and weight fall within standard airplane cabin baggage limits, so you can keep the LAP safely with you while travelling.

## RAPID

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.

## HANDY

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



|                                   |                                                            |
|-----------------------------------|------------------------------------------------------------|
| Number of used lasers             | 2 (top, bottom)                                            |
| Laser optics                      | focused line                                               |
| Laser safety class                | 1                                                          |
| Laser light wavelength            | 660 nm                                                     |
| Number of used 3D cameras         | 2 (top, bottom)                                            |
| 3D camera operating principle     | laser sheet-of-light triangulation                         |
| 3D camera resolution              | 1280x960 pixels                                            |
| 3D measuring range                | 250x200 mm                                                 |
| Laser to specimen standoff        | 200 - 400 mm                                               |
| 3D profile type                   | double-sided                                               |
| 3D profile measurement resolution | 0.25 mm                                                    |
| 3D profile acquisition            | real-time                                                  |
| 3D profile measurement trigger    | foot switch, mouse click                                   |
| Sensitivity to ambient sunlight   | very low                                                   |
| Color camera resolution           | 2592x1944 pixels                                           |
| Color camera field of view        | 260x200 mm                                                 |
| Color camera illumination         | white LED, 1W, 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                | 250x250x6 mm                                               |
| Frame type                        | industrial aluminum frame                                  |
| Frame size                        | 270x770 mm (depth x height), portable                      |
| Mounting mechanism                | table mount                                                |
| Total weight                      | 8 kg including case                                        |
| Package size when folded          | 500x400x140 mm (case included)                             |
| Ingress protection class          | IP20                                                       |
| Operating temperature             | 0 - 45 °C                                                  |
| 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, 3D profiles and color images          |
| Software operating system         | Windows 10/11                                              |
| 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                                |