

Robust and Affordable 3D Optical Profilers for Precise Surface Metrology on the Production Floor

ZeGage is the ideal non-contact optical profiler for quantitative measurements of 3D form and roughness on precision machined surfaces. The industrial design provides fast, accurate metrology in a compact, cost-effective package that can be located directly on the factory floor without the need for vibration isolation or specialized enclosures. And the interactive control software, ZeMaps™, provides easy and detailed visualization to help you control your process. Read more to see how ZeGage Power, Versatility, and Value can benefit you.

Powerful Performance

- Proprietary non-contact optical technology is resistant to vibration; no vibration isolation platforms or enclosures necessary.
- Quantitative surface metrology with nanometer-level precision provides superior gage capability.
- Correlation to 2D and 3D standards, and compliance to ISO/DIN 25178 surface roughness parameters.
- High resolution 1 million pixel image sensor provides fast areal measurements in seconds for excellent surface detail and visualization.
- Integrated autofocus and focus aid simplify part setup and minimize operator variability.

Versatility

- Measures a wide variety of surface materials and parameters, including 2D and 3D profiling of surface texture, form, step-height and more.
- Selectable magnification and field-of-view with numerous imaging and system options.
- Included ZeMaps software provides comprehensive tools for surface data visualization, analysis and reporting.
- Heavy duty, T-slot compatible part positioning staging enables simple, repeatable fixturing and measurement.

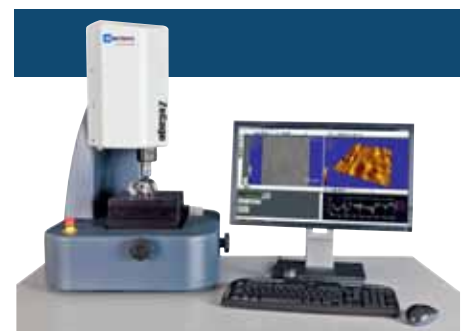
Productivity and Value

- Cost-effective price-to-performance ratio compared to alternative systems, including mechanical contact stylus profilers.
- Compact, vibration-tolerant design for easy integration anywhere in your facility.
- Non-contact method means no consumable replacement costs to worry about.
- Simplified operation results in low training and service costs.
- High-output, long-life LED light source for years of trouble-free operation.

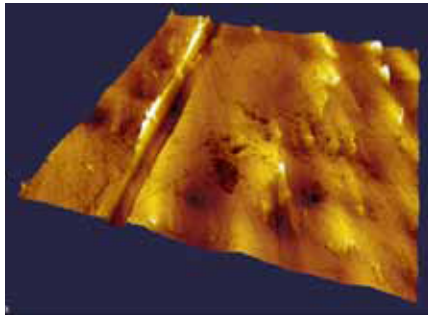
Images above: (a) machining marks on a fuel injector plunger and (b) water staining and scratches on a glass surface as measured on a ZeGage with ZeMaps

KEY BENEFITS:

- Vibration resistant design provides robust metrology on production floor
- ISO 25178 compliant texture results ensures confidence in your metrology
- Non-contact metrology technique prevents potentially costly part damage and scrap
- Area based measurement is insensitive to part lay
- Measurements require no consumables

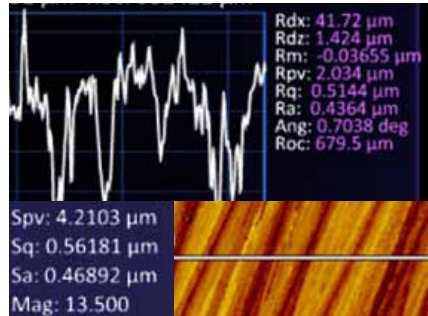


Sample Measurements and System Specifications



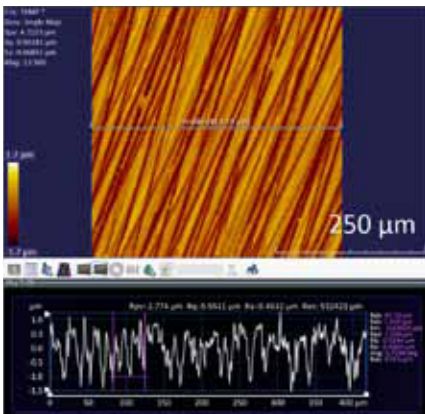
Powerful Visualization

Detailed three dimensional imaging of this prosthetic knee surface shows scratches and surface defects in a rotatable and zoomable model which enables easy investigation and characterization of the manufacturing process.



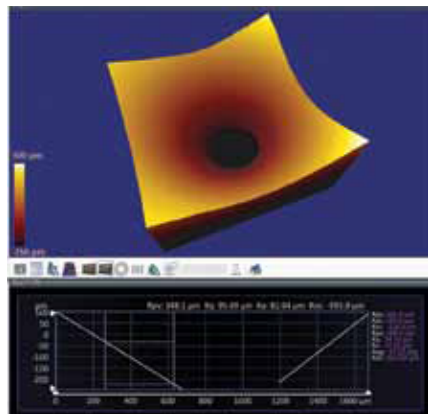
Quantitative Results

Surface results compliant with ISO 25178 and profile slice results are computed instantly for each measurement and can be tracked in real time with run charts and automatic logging features.



Simultaneous 2D and 3D metrology

Area profiling of this machined surface enables texture measurements independent of sample lay and line profiles can be extracted for correlation to stylus tools.



Interactive tools

Live updating plots enable quick analysis of the angle and texture of this 120° cone from a fuel injector.

Part Number	6301-0310-01
Measurement Technique	Non-contact, three-dimensional, scanning white light interferometry
Objectives	2.5x – 50x Standard Working Distance. 1x-10x Long Working Distance. Refer to the ZeScope Objective Chart for objective specifications 100mm travel.
Z Stage	Head may be mounted at either of 2 heights for optimal work volume
Part Stage	Manual Tip/Tilt with $\pm 4^\circ$ adj. Manual XY with 50x100 mm x/y travel. Integrated T-Slot plate for fixture attachment.
Vertical Scan Range	$\leq 20\text{mm}$ (objective dependent)
Data Scan Rate	$\leq 23 \mu\text{m}/\text{sec}$
Maximum Data Points	1,048,576 per acquisition.
Optical Resolution	0.52 μm to 9.50 μm ; objective dependent
Surface Topography Repeatability (per ISO/DIN 25178-604, Annex D)	$< 3 \text{ nm}$
Step Height	Accuracy $\leq 1\%$. Repeatability $\leq 0.1\%$ @

For more information about ZeGage

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