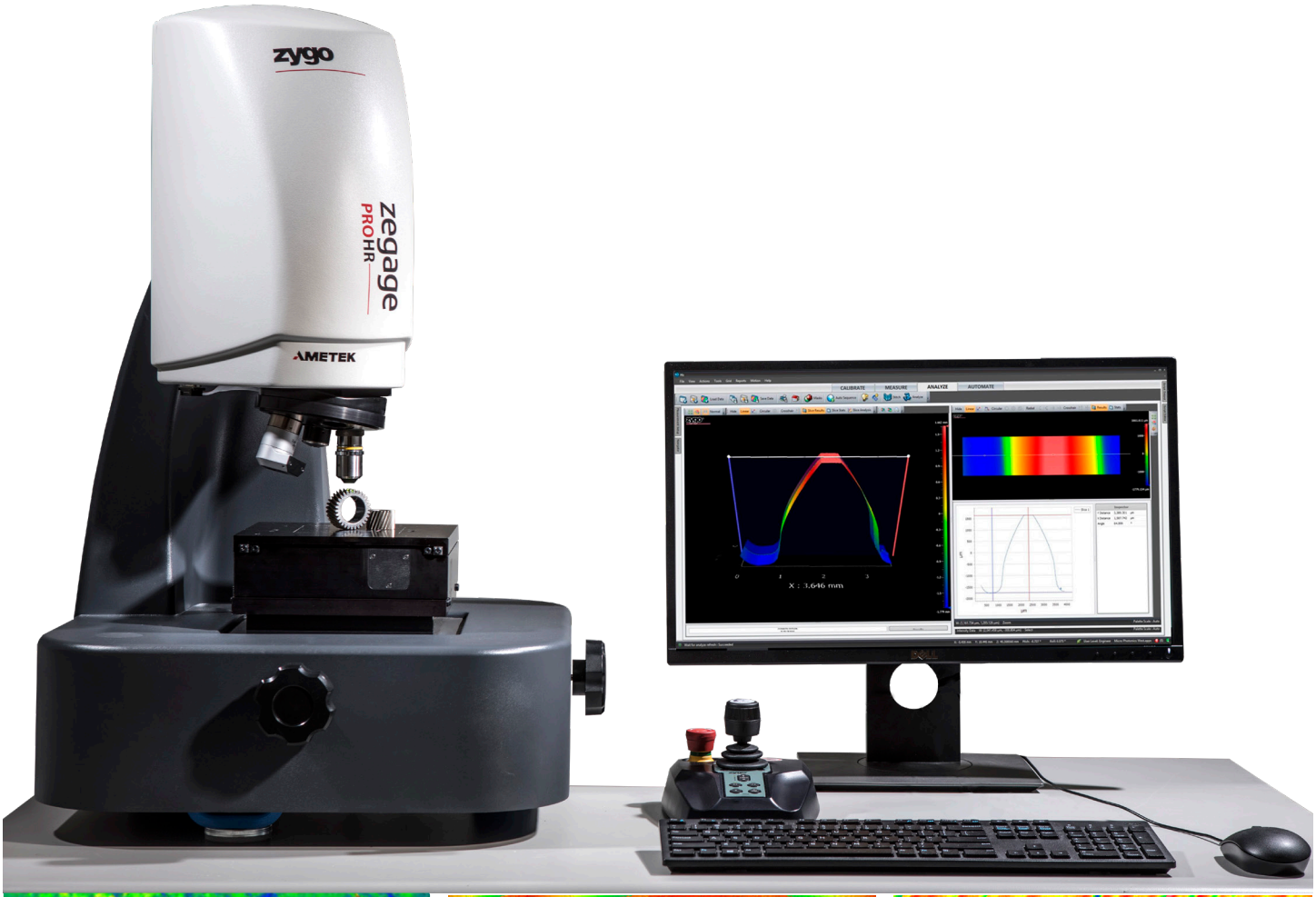
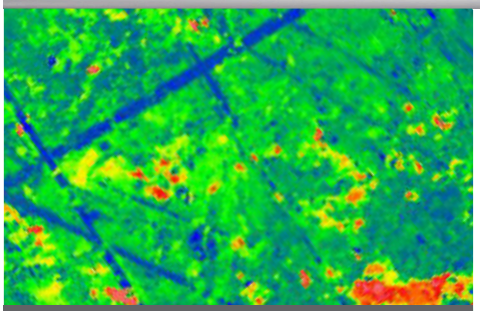
zygo®

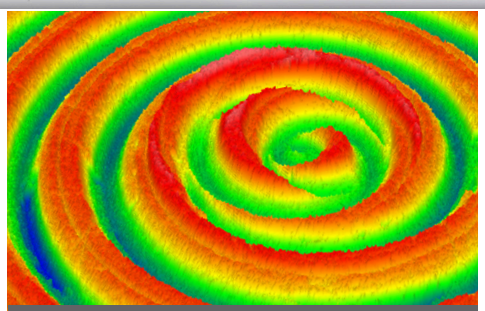
zegage™ PRO

Production Surface Profilers

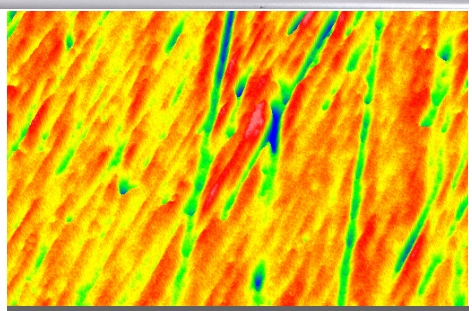




ground metal surface



fuel pump plate



polished prosthetic knee

Robust 3D Optical Surface Metrology

AMETEK®
ULTRA PRECISION TECHNOLOGIES

ZeGage™ Pro product highlights

Powerful non-contact optical profilers for precise and robust 3D form and roughness measurements in the lab and on the factory floor.

ISO 25178 compliant texture results ensure confidence in your metrology.

Area-based measurement is insensitive to part lay.

Non-contact optical technology prevents part damage with no consumables.

Vibration resistant, for metrology and process control on the production floor.

Two configurations provide the right level of precision at the right price.

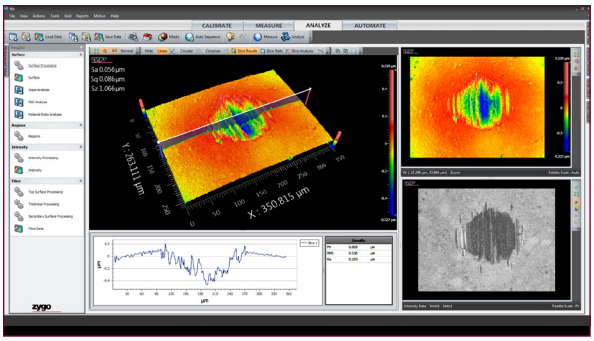
Smart Setup automates typical configuartion steps for superior ease-of-use.

Fast, dependable industrial metrology in a compact, cost-effective package

The ZeGage™ Pro and ZeGage™ Pro HR profilers are Coherence Scanning Interferometers (CSI) that provide 3D optical surface profiling for the measurement of precision surfaces. Unlike other optical surface profilers, these systems maintain high precision at all of their magnification options. They are not affected by the environment they operate in. You can take them out of the QA lab, place them directly beside your production equipment, and get precise 3D surface metrology.

Interactive Analysis

The ZeGage™ Pro profilers with Mx™ software provide area and slice based interactive plots and quantitative results of measurements, like this wear scar on a ball bearing.



ADVANCED DESIGN

Illumination and imaging are completely controlled through the software

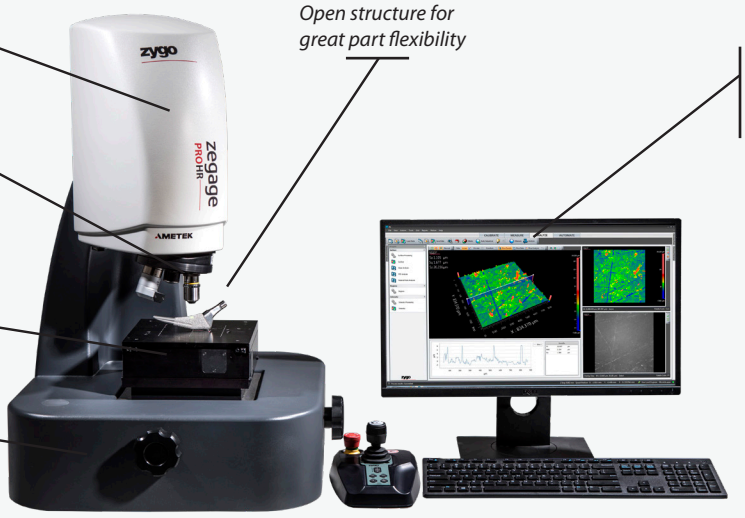
Available with single objective mount or automated 4-position objective turret for maximum versatility

Motorized or manual XY stage options

Stable system with SureScan™ technology requires no vibration isolation

Open structure for great part flexibility

Mx™ software—simple to use, easy to learn. All the powerful analysis of an industry standard.



A metrology system with intuitive software

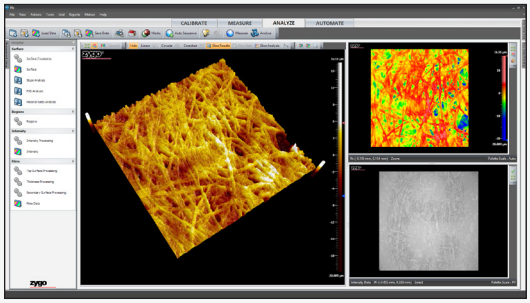
The standard in metrology software: Mx™ control and analysis

Mx software is ZYGO's proven platform for instrument control and data analysis. Using a simple workflow based concept, users easily navigate the metrology experience from setup through analysis and reporting.

Interactive and detailed plots show full 2D or 3D data; profile slices, material ratio, slope analysis, and PSD views. With built-in SPC, pass/fail indication, data reporting and run charts, production quality analysis is simple.

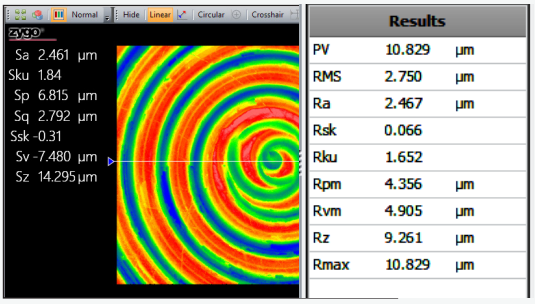
Mx software on ZeGage Pro and ZeGage Pro HR are cross platform and backwards compatible with all your ZYGO tools.

ADVANCED ANALYSIS



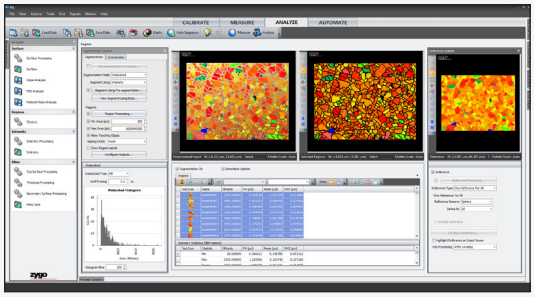
Powerful Visualization

Detailed three dimensional imaging of this banknote surface shows individual fibers and texture in a rotatable and zoomable model which enables easy investigation and characterization.



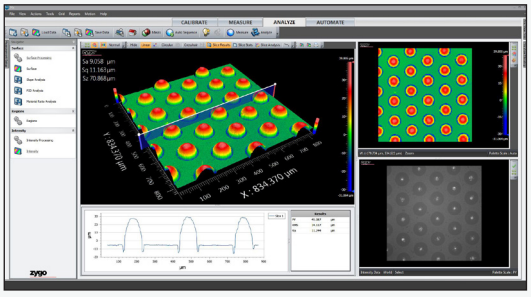
Quantitative Results

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.



Automated region analysis

Separate discrete regions by height, intensity, masking, and more, to perform analysis of multi-regional surfaces like this granular surface in which each grain has been separated. Each region can be individually analyzed in the region tool and summary stats are instantly computed.



Interactive tools

Live updating plots enable quick analysis of surfaces such as this semiconductor packaging bump array.

ZeGage™ Pro advantages

Versatility

- Measures a wide variety of surface materials and parameters, including 2D and 3D profiling of surface texture, form, step-height and more.
- Included Mx software provides comprehensive tools for surface data visualization, analysis and reporting.
- Optional motorized part stage enables fully automated measurement sequences and field stitching for high resolution inspection of large areas.

Powerful Performance

- Proprietary SureScan™ technology makes the ZeGage Pro systems resistant to vibration; no vibration isolation platforms or enclosures necessary.
- Quantitative surface metrology with nanometer-level precision on the standard ZeGage Pro profiler and sub-nanometer precision on the ZeGage Pro HR profiler provides superior gage capability.
- Correlation to 2D and 3D standards, and compliance to ISO 25178 surface roughness parameters.

zegage™
PRO

System Options

Options
- Manual or auto; with or without extended head position

Objectives
- 1.0X – 50X magnification; standard and long working distance (See Nexview™ Nx2/NewView™ 9000/ ZeGage PRO Objective Chart for more details)

Objective Mounting Options
- Single objective dovetail (standard)
- Manual or motorized 4 objective turret (option)

Software
- ZYGO Mx™ software running under Microsoft Windows® 10 (64 bit)

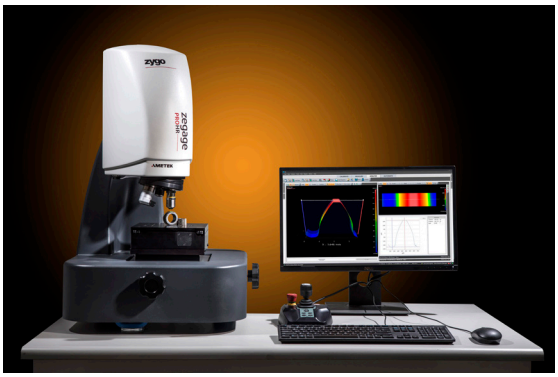
Physical Characteristics

Dimensions (H × W × D)
- 156 x 127 x 76 cm (ZeGage PRO on workstation)
- 82 × 53 × 53 cm (ZeGage PRO)
- 74 × 127 x 76 cm (Workstation)

System Weight
- ZeGage PRO: 54 kg
- Workstation: 37 kg

Utility Requirements
- 100 to 240 VAC, 50/60 Hz

Higher resolution with ZeGage™ Pro HR profiler



The ZeGage™ Pro HR is an expansion version of the ZeGage Pro profiler. It provides improved precision. It also increases the range of measurable surfaces and features. ZeGage Pro HR retains the ease of use, vibration robustness, and small footprint of the standard ZeGage Pro.

With ZeGage Pro HR, measurements with sub-nanometer precision are possible. With the tool's higher precision, measurement of optical surfaces, and polished metallic components such as orthopedic implants, and superfinished surfaces are all just as easy to characterize as the rougher surfaces measured by the standard ZeGage PRO profiler.

The chart below highlights the common and distinct features of the two platforms.

Benefits/Features

Benefit/Feature	ZeGage™ Pro	ZeGage™ Pro HR
Surface Topography Repeatability	≤3.5 nm	≤0.15 nm
Repeatability of RMS	0.1 nm	0.1 nm
Data Scan Speed Range	10.7 µm/sec – 171 µm	
Illuminator	Integrated Long life white light LED with computer controlled light level	
Scanner	Long range Z scan	
Measurement Technique	Non-contact 3D Coherence Scanning Interferometry (CSI)	
Stage Control	ZYGO Pendant	
Safety	Integrated Emergency Motion Stop	
Data Points (max)	>1.9 million	

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