



GelSight Max

Handheld, nanometer scale surface measurements in seconds

The GelSight Max is our highest resolution handheld 3D surface analysis solution and is designed for the most demanding applications, with traceable z-axis accuracy to 300nm and surface roughness from 0.2 to 20 µm Ra. The GelSight Max immediately quantifies the surface characteristics of any material at any workflow location, regardless of composition, reflectivity, transparency, or ambient lighting conditions. Its precise, repeatable, in-situ measurement capability can lower the cost-per-measurement by 10x or more vs. legacy solutions while eliminating test escapes and boosting workflow productivity.

Industry 4.0 ready including an AI Toolbox

Automated, high-speed process workflows are enabled by a streamlined 'Operator Mode' UI, external triggering, customizable functions with unique pass/fail criteria, batch-mode analysis, STL and CSV outputs, and immediate PDF report generation. In addition, users can create powerful AI models to apply automated touch sensing to many tasks that had no simple path to digitization.



The GelSight Max 3D surface analysis system transforms workflows by putting lab-grade surface measurements in the palm of your hand, with fully traceable, digital results in seconds.

For use in hard-to-reach areas, the Replica Transformation feature enables direct, in-situ measurements of metrology-grade replica materials.



Precise & Repeatable

Provides extremely detailed, non-destructive, nanometer-level measurements to eliminate human error and subjectivity



Fast

Real-time 2D and 3D surface inspection capabilities with operator-specific UI workflows enable pass/fail testing in seconds



Portable & Versatile

Inspect and measure any type of material in-situ and eliminate the need to disassemble or cross-section parts for lab analysis. Test under any ambient lighting conditions.



Traceable

Provides NIST traceable measurements, full documentation, and a digital audit trail for fully objective quantification of surface defects.

Improve productivity and lower cost across a wide range of NDT workflows:

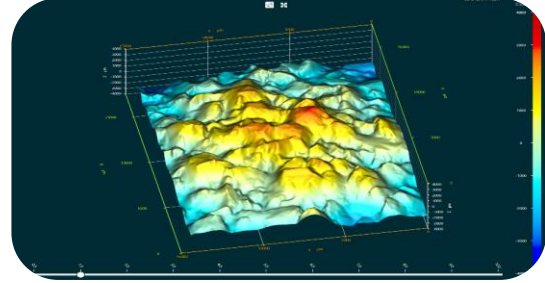
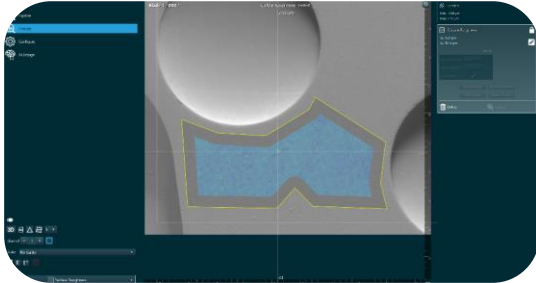
- Incoming Inspection and Vendor Qualification
- Production Quality Control
- Field Installation and Flight Line
- MRO (Maintenance, Repair, and Overhaul), and Sustainment
- Research & Development
- Academia

2D and 3D Measurement and Analysis Capabilities

Unlike manual, mechanical, or optical measurement technologies, GelSight's patented, non-destructive elastomeric sensor enables high-resolution measurements on any surface material, regardless of reflectivity, transparency, or ambient lighting conditions. 2D surface detail is acquired and displayed in real time, and 3D measurement and analysis of surface finish, dimensions, and defects are computed and displayed in seconds.

New capabilities for v3.4 software include a Profile Geometry function that enables measurement of angles, slopes, distances, or radius along a profile line, improved tools for selecting the region of interest when measuring surface roughness parameters, x-y scale bars with crosshair lines for easily visualizing the scale of 2D scan images, advanced image alignment, and more.

Applications Include:



- Profile Roughness
- Surface Roughness
- Pitting / Corrosion
- Texture / Profile
- Shot Peen Finish
- Scratches / Cracks
- Nicks / Gouges
- Fastener Flushness
- Hole Diameter
- Fillet Relief
- Burr Height
- Radius of Curvature
- Profile Geometry / Angles / Slopes
- X-Y-Z Dimensions
- Weld Bead
- Direct Replica Measurement with image transformation

GS Max Condensed Specifications



Dimensions: Grip	45 x 45 x 245 mm	1.7 x 1.7 x 9.6"
Dimensions: Tip	67 x 67 mm	2.6 x 2.6"
Weight	727 g	1.6 lbs
Field of View	14.6 x 8.3 mm	0.6 x 0.3"
Roughness Range	0.2 - 20 μm	7.9 - 790 μin
x-y Accuracy	3 μm + 0.2%	0.1 thou + 0.2%
z Accuracy (1-50 μm)	300 nm + 4%	0.01 thou + 4%
Triggering	Manual, Software, External	
Capture Speed	500 mS	
Data Export Format	PDF, STL, CSV, TMD	
Operating System	Windows 10 and above	
Interface / Power	USB-C	
Optional Computer	Microsoft Surface Pro 8	

Note: All Specifications Nominal



Aerospace
& Military



Automotive



Forensics



Additive
Manufacturing



Research
& Academia



Chemical



Oil & Gas