Master3DGage™

AFFORDABLE, PORTABLE CMM

Automated Inspection & Reporting
3D Scanning and Reverse Engineering

POWERED BY VERISURF

Reduce Scrap, Improve Quality, and Increase Productivity

The flexibility of Master3DGage™ makes it ideal for inspection and reverse engineering. The multi-axis CMM arm features absolute encoders for quick start-up and ultra-high precision measurements while its highly articulated wrist enables you to measure hard to access surfaces by reaching around and under parts. The lightweight, wireless design makes it easy to place the Master3DGage right into your CNC machine while the magnetic base locks it into place on the machine bed to quickly inspect parts while maintaining critical part to machine alignment. Optional 3D scanner and hot swappable probes with automatic probe recognition make it easy to change from scanning a complex profile to probing a small feature in seconds. Implementing Master3DGage in-process inspection identifies out-of-tolerance conditions sooner enabling immediate corrective action.

Quick start absolute encoders

Multi-axis CMM arm with 1.2 m (4 ft) measuring volume

Low CTE carbon fiber tubing

Hot swap between probes (3 included) and optional scanner

Counterweight balancing

Rechargable lithium-ion battery

Wireless communication (WiFi)

Stable freestanding measuring base included

Portable & lightweight

POWERED BY VERISURF

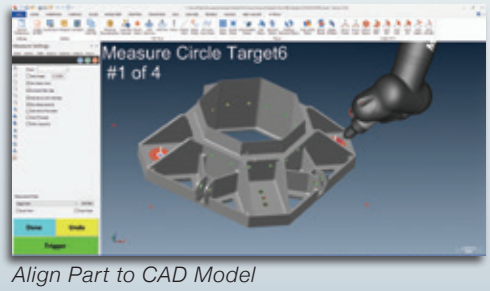
The Master3DGage is powered by Verisurf Software, which is available in Solution Suites to configure the right functionality for your application and budget.

Includes three hot-swappable probes with automatic recognition for flexibility and efficiency: 3mm ruby; 6mm ruby; 15mm steel spherical.

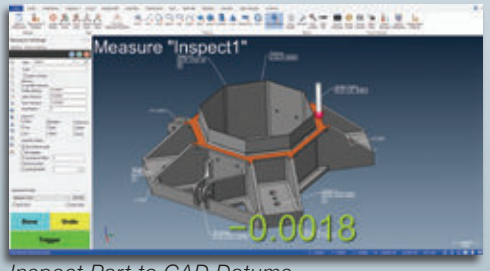
Optional non-contact laser scanner is interchangeable with tactile probes on the Master3DGage. This expands application flexibility between contact probing used in many inspection processes and high-speed non-contact 3D scanning, typically used in reverse engineering.

Inspection and Reporting in Minutes

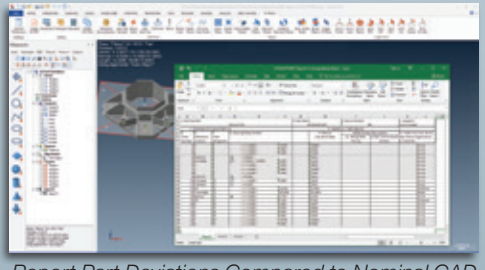
First article inspections that used to take hours now take just minutes using three easy steps.



Align Part to CAD Model



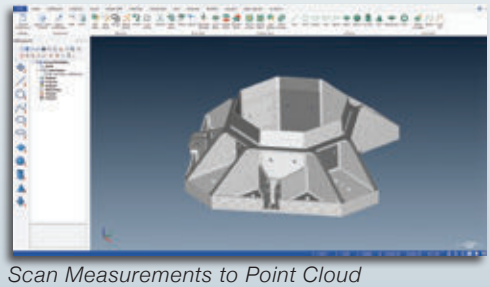
Inspect Part to CAD Datums



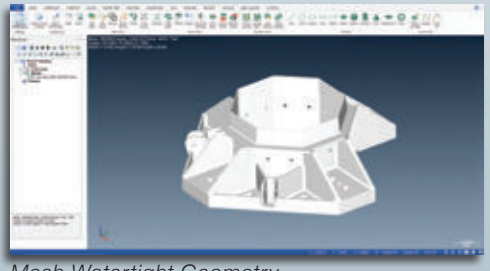
Report Part Deviations Compared to Nominal CAD

Scanning and Reverse Engineering

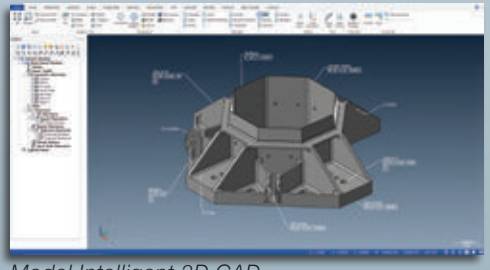
Software productivity features make scanning and reverse engineering fast and easy.



Scan Measurements to Point Cloud



Mesh Watertight Geometry



Model Intelligent 3D CAD

Hardware Specifications

PCMM Standard System

Portable measuring arm
- Master3DGage™ articulated arm PCMM
- 6-Axis 1.2m (4 ft.)
- Ergonomic counterweight design
- USB and power cables, Universal worldwide voltage 110V-240V, CE compliant
- Quick setup guide and mouse pad
- Calibration certificate
- Internal lithium-ion battery and WiFi
- Annodized aluminum training part
- Rugged, three-handle, wheeled transport case
- 1-year hardware warranty

NIST traceable length bar
Certified length standard, 305mm (12 in.) with ISO 17025 certificate

Standard probes
- 3mm ruby, 6mm ruby, 15mm steel spherical hard probes (including case)
- Quick disconnect, hot swappable with automatic probe identification

Certified qualification sphere
- Size ±0.0005mm (0.00002 in.)
- Spherical within 0.0001mm (0.000005 in.)

Certified length standard

Master3DGage™ training part

Standard probes

PCMM Specifications

Calibration Specifications
Certified to ISO 10360-2 and 12 specifications

Probing volumetric accuracy
±0.025mm (.00098 in.)

Probing point repeatability
0.014mm (.00055 in.)

Measuring volume
1.2m (4 ft.) with absolute encoders

Weight (system with transit case)
12.0 kg/26.45 lb. (35.3 kg/77.82 lb.)

Universal power supply
110-240 VAC, 50/60 Hz

Operating temperature
+5° to +40°C (39° F to 104°F)

Storage temperature
-30° C to 70° C (-22° F to 158° F)

Relative humidity
10% to 90% non-condensing

Transit case size
30.5 x 53.3 x 96.5cm (12 x 21 x 38 in.)

Transit Case

Hardware Options

PCMM Options

Short probe kit
Long probe kit
Custom probes

Magnetic base kit
3 precision ground magnetic blocks with mounting hardware

Threaded stand adapter
1, 2 & 3-year extended warranties

Laser Scanner Option

3D laser scanner
Scanner cable
Calibration sphere
Rugged transport case

Laser Scanner Specifications

Accuracy	±40µm 2 sigma
Point acquisition rate	45,000 points/second
Points per line	750 @60Hz
Line rate	60Hz
Line width (mid-field)	80mm (3.1 in.)
Stand-off distance	135mm ±45mm (5.3in. ±1.8)
Minimum point spacing	0.08mm (.0031 in.)
Laser power adjustment	Semi-automatic
Probe/Scanner Mount	Hot swappable
Weight	0.32 kg (.70 lb.)

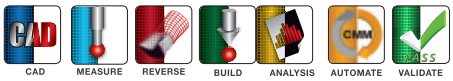
Software Specifications

Verisurf Software

Coordinate Metrology Software
NIST Tested
PTB Certified
Windows 7, 8 and 10 Operating Systems

Verisurf Software Flexibility

Verisurf software modules are available in Solution Suite configurations to deliver the right functionality for your application and budget.



Standard File Formats

Native CAD: Mastercam, SolidWorks, AutoCAD, Inventor, SpaceClaim, Solid Edge, Rhino 3D, KeyCreator, Cadkey, Alibre

Neutral CAD: STL, STEP, IGES, ACIS, Parasolid, VDA, HPGL

Optional File Formats

Native CAD: Native CAD: CATIA V4, V5, V6, PTC Creo, Siemens UG/NX

REVERSE Module: OBJ, PLY, Collada, ASCII, XYZ Cloud, XYZRGB Cloud

Report Formats

3D PDF, Excel, PowerPoint, Word, HTML, Text, Database

Verisurf Authorized Distributor

Master3DGage™
AFFORDABLE, PORTABLE CMM

Schedule a Demo Today

See a Master3DGage™ powered by Verisurf or to help configure and quote your ideal system.

www.verisurf.com/request-a-quote

Visit our YouTube channel
www.youtube.com/user/verisurfchannel

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