Automated Inspection & Reporting
3D Scanning and Reverse Engineering
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
Integrated work light and camera
Hot swap between probes (3 included) and optional scanner
Counterweight balancing
Rechargeable 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.

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.

1. **Scan Measurements to Point Cloud**
2. **Align Part to CAD Model**
3. **Inspect Part to CAD Datums**
4. **Report Part Deviations Compared to Nominal CAD**

Scanning and Reverse Engineering
Software productivity features make scanning and reverse engineering fast and easy.

1. **Scan Measurements to Point Cloud**
2. **Model Intelligent 3D CAD**
3. **Mesh Watertight Geometry**
**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
- **Standard probes** (including case)
  - 3mm ruby, 6mm ruby, 15mm steel spherical hard probes
  - Quick disconnect, automatic probe identification
- **Certified qualification sphere**
  - Size ±0.00005mm (0.00002 in.)
  - Spherical within 0.0001mm (0.000005 in.)
- **Feature pack**
  - Internal lithium-ion battery and WiFi
- **Magnetic base kit**
  - Base anchor with 3 precision ground magnetic blocks
- **Anodized aluminum training part**
- **Rugged wheeled transport case**
- **1-year hardware warranty**

**PCMM Specifications**
- **Calibration certificate**
  - B89.4.22
- **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)
  - 10.2 kg/22.49 lb. (33.5 kg/74 lb.)
- **Universal power supply**
  - 110-240 VAC, 50/60 Hz
- **Operating temperature**
  - 0º C to 50º C (32º F to 122º 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.)

**PCMM Options**
- **Short probe kit**
- **Long probe kit**
- **Custom probes**
- **NIST traceable length bar**
- **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 (5.3 in. ±1.8)
- **Minimum point spacing**
  - 0.08mm (.0031 in.)
- **Laser power adjustment**
  - Semi-automatic
- **Probe/Scanner Mount**
  - Hot swappable

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

**Software Specifications**

**Modules**
Verisurf software is 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

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**Authorized Master3DGage Reseller**

**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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**Master3DGage™**
**Affordable, Portable CMM**

**3D Measurement Solutions**
+1-866-340-5551 www.verisurf.com/hardware/m3dg

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