The Ultimate in Speed and Accuracy for Industrial Metrology, Semiconductor, Microelectronics and SMT Applications

**Fastest – Seconds, not Hours**
- Significantly speeds attaining coordinate measurements vs. traditional CMMs
- Reduces engineering resource time

**Easy-to-use Interface**
- Simplifies process with award-winning, intuitive, touch screen experience
- Quick programming for complex applications
- Multi-process capable – AOI, SPI, AOM, CMM

**Metrology-grade Accuracy**
- Achieve metrology-grade accuracy with MRS-enabled technology
- Repeatable and reproducible measurements for Metrology, Semiconductor, Microelectronics and SMT Applications

**Vision System & Technology**
- **Imagers**: Multi-3D sensors
- **Resolution**: Sub 10 µm
- **Image Processing**: Autonomous Image Interpretation (AI²) Technology, Coplanarity and Lead Measurement
- **Programming Time**: <15 minutes (for established libraries)
- **CAD Import**: Any column-separated text file with ref designator, XY, Angle, Part no info; Valor process preparation

**System Specifications**
- **Machine Interface**: SMEMA, RS232 and Ethernet
- **Power Requirements**: 100-120 VAC or 220-240 VAC, 50/60 Hz, 10-15 amps
- **Compressed Air Requirements**: 5.6Kgf/cm² to 7.0Kgf/cm² (80 to 100 psi @ 4 cfm)
- **System Dimensions**: SQ3000: 110 x 127 x 139 cm (W x D x H)
- **Weight**: SQ3000: ~965 kg (2127 lbs.)
- **Options**: Barcode Reader, Rework station, SPC Software, Alignment Target

**SQ3000™ 3D CMM**

- **Inspection Capabilities**: MRS Sensor, Ultra High Resolution MRS Sensor
- **Inspection Speed**: 40 cm/sec (2D+3D), High Speed option available: 50 cm/sec (2D+3D)
- **XY Resolution**: 10 µm
- **Z Resolution**: 1 µm
- **Maximum Weight**: SQ3000: 3 kg (5 kg Option), SQ3000-X: 10 kg
- **Minimum Feature Size**: 10 µm
- **Minimum Feature Height**: 2 µm
- **Maximum Feature Size**: SQ3000: 510 x 510 mm (20 x 20 in.), SQ3000-X: 720 x 620 mm (28.3 x 24.4 in.)
- **Maximum Feature Height**: 24 mm
- **XY R&R**: < 3 µm 1 sigma
- **Z R&R**: < 2 µm 1 sigma
- **Accuracy XY**: 2 µm
- **Accuracy Z**: 2 µm
- **Height Clearance**: Top: 50 mm, Bottom: 30 mm
- **Carrier Thickness**: 0.3 - 5 mm (10 mm Option)
- **Coordinate Measurement Capability**: Line / Distance / XY / Mld Line, Inter Point / Regression Shifted, Datum X/Y, LSF X,Y Offset, X,Y Offset / Value / Location / List of X,Y Values, Height / Local Height / Regression / Radius, Coplanarity / Distance to plane / 2nd Order fitting, Difference / Absolute / 2qrt / VC, Max / Min / Ave / Sigma / Plus / Minus / Multiple
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**SQ3000™ 3D CMM**

- **Contact CyberOptics today for more information**
  - +1 800.366.9131 or +1 763.542.5000  |  CSsales@cyberoptics.com  |  www.cyberoptics.com

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SQ3000™ The Ultimate in Speed and Accuracy

High Precision Accuracy with Multi-Reflection Suppression (MRS) Sensor Technology

The SQ3000™ is powered by CyberOptics’ breakthrough 3D sensing technology comprising four multi-view 3D sensors and a parallel projector delivering metrology grade accuracy at production speed. CyberOptics’ unique sensor architecture simultaneously captures and transmits multiple images in parallel while proprietary 3D fusing algorithms merge the images together. The result is ultra-high quality 3D images and high-speed inspection.

Multi-Reflection Suppression (MRS) Technology

SQ3000™ offers unmatched accuracy with the revolutionary MRS technology by meticulously identifying and rejecting reflections caused by shiny components. Effective suppression of multiple reflections is critical for accurate measurement making MRS an ideal technology solution for a wide range of applications including those with very high quality requirements.

CyberOptics has advanced the proprietary Multi-Reflection Suppression (MRS) sensor to an even finer resolution. The Ultra-High Resolution MRS sensor enhances the SQ3000 3D CMM platform, delivering superior inspection performance, ideally suited for mechanical parts inspections, socket metrology and micro-electronic applications where an even greater degree of accuracy and inspection reliability is critical.

Large Board Capability

SQ3000-X™ supports large boards up to 720 x 620 mm, and is capable of inspecting the most demanding assemblies at production speed without compromising on measurement accuracy and repeatability.

AI² - Faster, Smarter Programming

AI² (Autonomous Image Interpretation) technology is all about keeping it simple - no parameters to adjust or algorithms to tune. And, you don’t need to anticipate defects or pre-define variance either - AI² does it all for you. With AI², you have the power to inspect the most comprehensive list of features and identify the widest variety of defects. AI² offers precise discrimination with just one panel inspection making it a perfect solution for high-mix and high-volume applications.

Seconds, not Hours - Faster, Highly Accurate Coordinate Measurement Suite (CMM)

CyberCMM™, a comprehensive software suite of coordinate measurement tools provides highly accurate, 100% metrology-grade measurement on all critical points much faster than a traditional CMM, including coplanarity, distance, height and datum X, Y to name a few. A fast and easy set-up can be performed in less than an hour for programming complex applications as compared to slow, engineering resource-intensive set-up that typically requires multiple adjustments with traditional coordinate measurement machines (CMMs).

Fast, Scalable SPC Solution

CyberReport™ offers full-fledged machine-level to factory-level SPC capability with powerful historical analysis and reporting tools delivering complete traceability for process verification and yield improvement. CyberReport™ is easy to setup and simple to use while providing fast charting with a compact database size.