Inspection Capabilities	MRS Sensor	Ultra High Resolution MRS Sensor
Inspection Speed	40 cm^2/sec (2D+3D), High Speed option available: 50 cm^2/sec (2D+3D)	15 cm^2/sec (2D+3D)
Minimum Component Size	0402 mm (01005 in.)	0201 mm (008004 in.)
PCB Size (Max.)	SQ3000-DD: Single Lane: 510 x 510 mm (20 x 20 in.); Dual Lane: 510 x 330 mm (20 x 13 in.) SQ3000-D: Single Lane: 510 x 510 mm (20 x 20 in.); Dual Lane: 510 x 300 mm (20 x 11.8 in.)	
Component Height Clearance	Top: 50 mm; Bottom: 35 mm	
PCB Thickness	0.3 - 5 mm	
Component Types Inspected	Standard SMT (chips, J-lead, gull-wing, BGA, etc.), through-hole, odd-form, clips, connectors, header pins, and more	
Component Defects	Missing, polarity, tombstone, billboard, flipped, wrong part, gross body and lead damage, and more	
Solder Joint and Other Defects	Gold finger contamination, excess solder, insufficient solder, bridging, through-hole pins	
3D Measurement Inspection	Lifted Lead, package coplanarity, polarity dimple and chamfer identification	
Measurement Gage R&R	<10% @ ±3σ (±80 µm process tolerance)	
Z Height Accuracy	1 µm on certification target	
Z Height Measurement Range	6 mm at spec, 24 mm capability	3 mm at spec, 10 mm capability
Vision System & Technology		
Imagers	Multi-3D sensors	
Resolution	Sub 10 µm	7 µm
Image Processing	Autonomous Image Interpretation (AI^2) 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	5.6 Kgf/cm^2 to 7.0 Kgf/cm^2 (80 to 100 psi @ 4 cfm)	
System Dimensions	170.5 x 162 x 152 cm (W x D x H) Height excludes signal-light pole and leveling feet	
Weight	≈1596 kg (3519 lbs.)	
Options		
Barcode Reader, Rework station, SPC Software, Alignment Target		
Standard SQ3000 and SQ3000-X models available		

CYBEROPTICS®

Contact CyberOptics today for more information

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SQ3000-DD™ 3D AOI

The Ultimate in Speed and Accuracy

Dual Lane - Dual Sensor Inspection System

Powered by MRS Technology

Powered by **2** MRS Sensors

CYBEROPTICS®

SQ3000-DD™ 3D AOI

SQ3000-DD™ The Ultimate in Speed and Accuracy

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

The SQ3000-DD™ is powered by CyberOptics' breakthrough 3D sensing technology comprising of two MRS Sensors 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. The SQ3000-D™ (dual lane, single sensor) is also available.

AOISOFTWARE

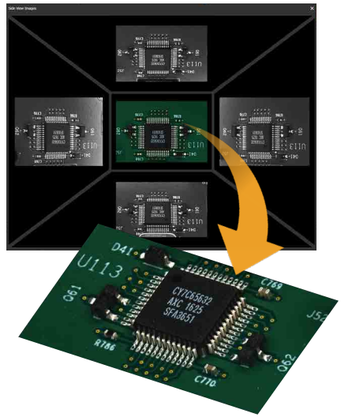
Intuitive, Easy-to-Use Software

The SQ3000-DD™ software is a powerful yet extremely simple design with an intuitive interface that reduces training efforts and minimizes operator interaction – saving time and cost. The software includes multi-touch controls and 3D image visualization tools, taking ease-of-use to a whole new level.

Multi-Reflection Suppression (MRS) Technology

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

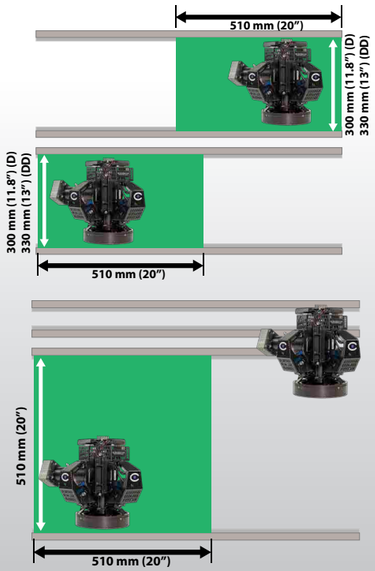
CyberOptics has advanced the proprietary Multi-Reflection Suppression (MRS) sensor to an even finer resolution. The Ultra-High Resolution MRS sensor enhances the SQ3000-DD™ 3D AOI platform, delivering superior inspection performance, ideally suited for the 0201 metric process and micro-electronic applications where an even greater degree of accuracy and inspection reliability is critical.



Flexibility At Its Best

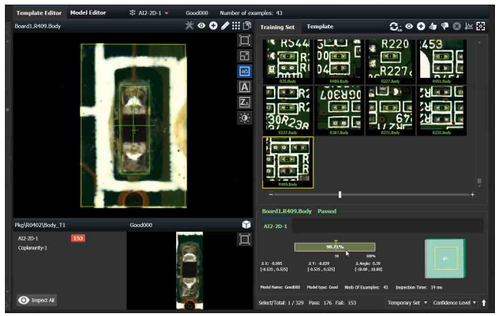
The SQ3000-DD™ 3D Automated Optical Inspection (AOI) System is an extension of the award-winning SQ3000™ 3D AOI platform. The dual lane, dual sensor system maximizes flexibility catering to varying PCB widths. This unique design provides the ability to inspect high volume assemblies, the convenience of inspecting different assemblies and board sizes simultaneously on different lanes, or even switching from dual lane to single lane mode to inspect very large boards.

Not only does the SQ3000-DD™ provide PCB flexibility, it also provides the flexibility to choose two of the same or two different proprietary MRS sensors.

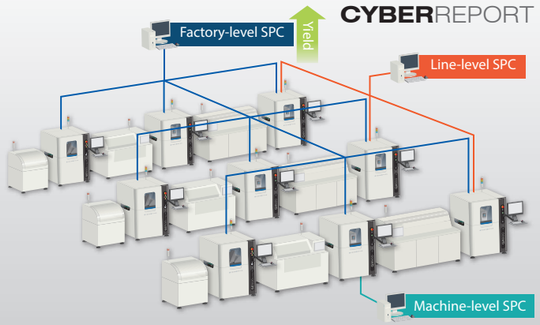


AI² - Faster, Smarter Programming

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.



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.

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