

High Precision
Model

3D AXI

AUTOMATED X-RAY INSPECTION

TR7600F3D SII SERIES



Next Generation Platform Design
for Higher Speed up to 10 FOV/s



Smart Factory Ready for
Easy MES Connectivity

5 μ m

High Precision Inspection for
Comprehensive Defect Detection

1000 x 660
mm mm
Large Board
Support

2X
Faster*
Inspection



Smart Board
Warpage



TRI
innovation

*Compared to the previous model, TR7600F3D.

TR7600F3D SII



In-Depth High-Speed 3D X-Ray Inspection

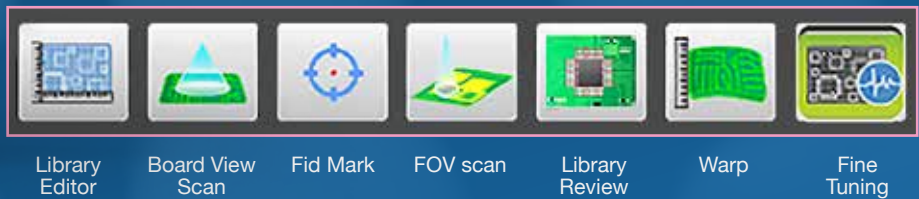
The TR7600F3D SII is the next-generation high-speed in-line automated X-Ray inspection solution, soaring speeds as to twice to three times as fast as the previous model. The AXI solution can inspect large boards, up to 1000 mm x 660 mm. The TR7600F3D SII lowers the escapes and false calls without compromising the production line's cycle time.

2X
Faster Inspection
Optimized Cycle Time

* Compared to the Previous Model, TR7600F3D

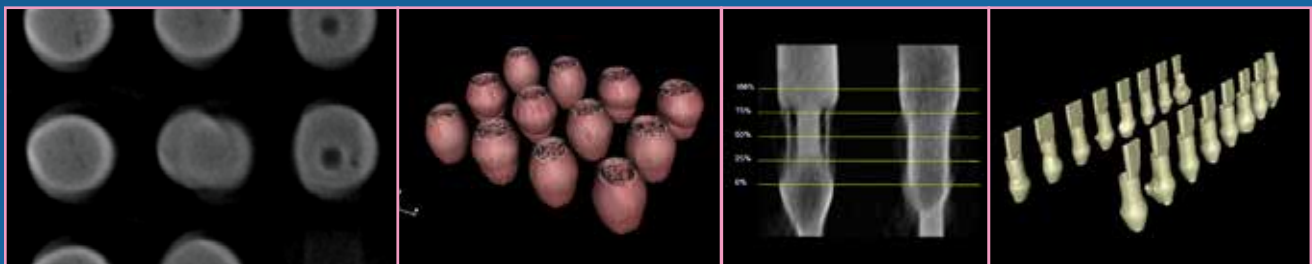
Smart Programming

The new 3D AXI intuitive software helps set up inspection programs based on CAD data. The TR7600F3D SII is equipped with TRI's extensive Smart component library, reducing Engineer workload and minimizing production downtime.



High Resolution Design for Maximum Defect Detection

The TR7600F3D SII enhanced 3D inspection with planar CT imaging can recreate a complete 3D model of each solder joint, enabling clear analysis of shape irregularities, head-in-pillow and voiding problems. Vertical cross-section CT images help with reliable visual review of borderline and buried solder joints.

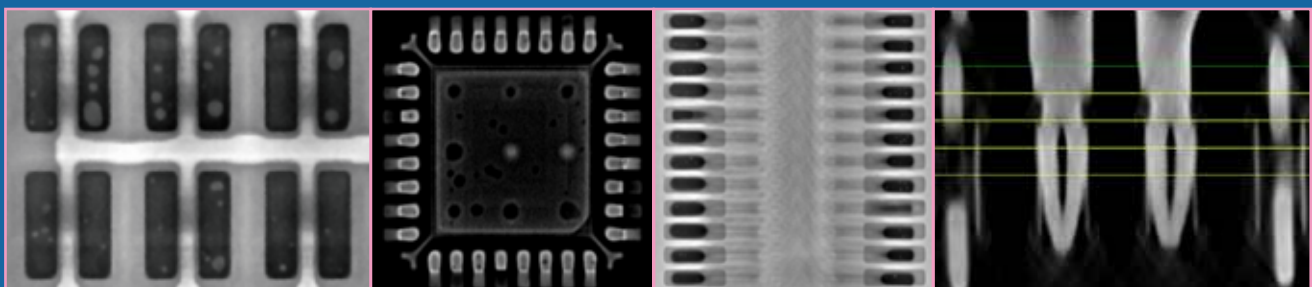


BGA Head-in-pillow Defect

3D CT BGA Inspection

THT Cross Section

3D CT DIP Inspection



Void Inspection of LED

QFN 3D CT Inspection

DIMM Connector Inspection

Press-fit Cross Section Inspection

SERIES



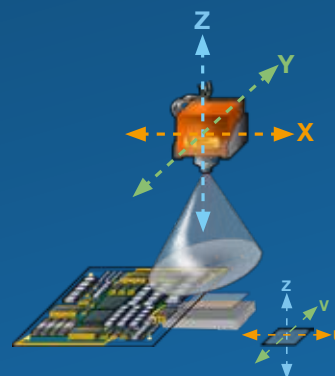
Board Warpage Control

The TR7600F3D SII uses multiple laser sensors to accurately measure any PCB assembly deformation and automatically adjusts component inspection parameters to compensate for local board warpage. This ensures reliable inspection of the most complex boards with overlapping and multilayered components and heavy press-fit connectors.



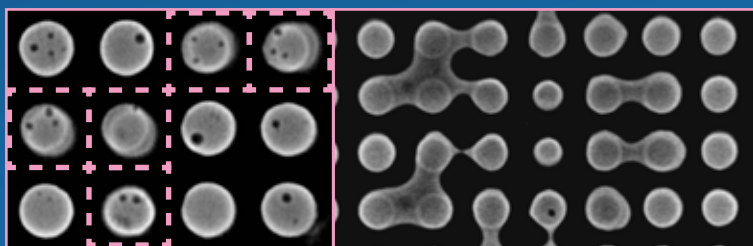
High Precision Technology

During the inspection the sample is fixed, preventing possible sample damage. The TR7600F3D SII has six independent motions with flexible programming that supports multiple focal settings in one program. The AXI solution is ideal for thick PCBs with dual side PressFit, PoP packages, PCBs with tall components, and more.



High Accuracy BGA Inspection

TRI AXI inspects individual slices absolute area, shape and compares it to the nearest BGA. TRI's new HiP defect algorithm considers multiple slices simultaneously, quantifying and comparing the profile of the BGA.



BGA HiP Defect

BGA Short/Open Defect

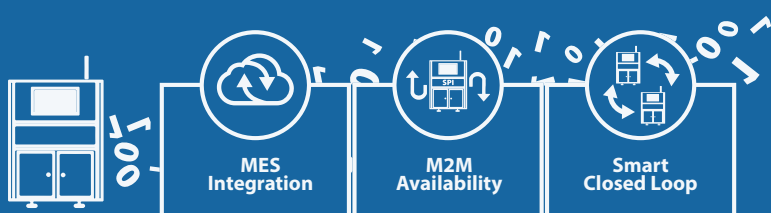
Top of the Line Repair Station

The 3D AXI solution collects a wide range of inspection data to offer instantaneous process monitoring and analysis. This integrated approach offers clear statistical feedback that improves defect management and enhances the efficiency of the inspection process.



- 2D Defect Viewer
- 3D Defect Image
- CT Defect Viewer
- Board Viewer
- Joint Information
- History Data

Big Data Ready



Boost your factory intelligence and optimize your production line by easily integrating big data analytics from your solutions. TRI's smart factory test and inspection solutions promote full traceability and data exchange, by generating big data for your MES applications, essential for optimizing your production your yield rate, enabling the connected factory.

Smart Monitoring

TRI's smart factory solutions allow operators to aggregate information from individual systems for statistical analysis of production line defect rates, reviewing and fine-tuning inspection results, and identifying component defect trends and emerging production issues.



Production Analysis



Centralized Inspection Center



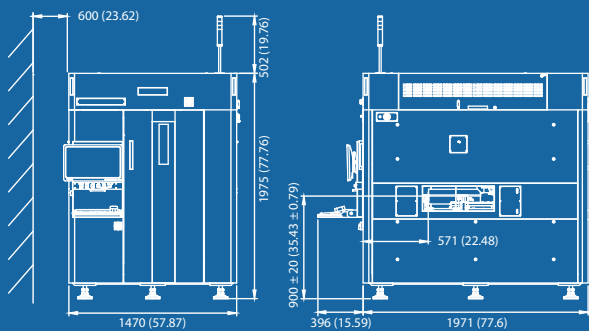
Real Time SPC Trends



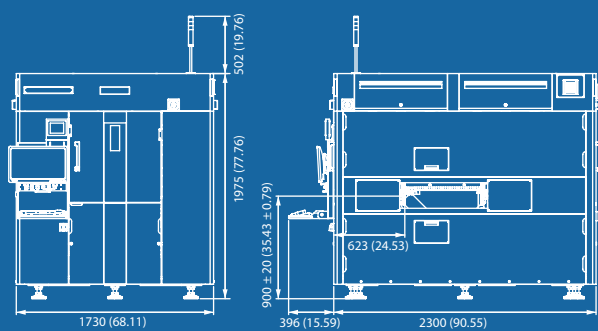
Model	TR7600F3D SII	TR7600F3D LL SII
Camera	Flat Panel Detector	
X-ray Source (User Adjustable)	130 kV	
Imaging Resolution	5 μ m	10 μ m
Inspection Method	15 μ m	20 μ m
	25 μ m	30 μ m
	2D, 2.5D, 3D Slicing, Planar CT (Optional)	
Capabilities	BGAs, Backdrill, Barrel fill, Capacitors, Resistor, Chips, Components Under RF shields, WLCSP, DIMM Connectors, Flip-Chips, Ground Pads, Gullwing, Heat sinks, J-Leads, LED Chips, LGAs, Paladin Connector, RNET, SiP, SMT Connectors, SOIC, SOT, Thermal Pad, QFNs, QFP and THTs	
Defects	Missing, Misalignment, Tombstone, Billboard, Tantalum Polarity, Rotation, Foreign Material, Insufficient/Excess Solder, Bridging, Open, Solder Ball, Non-Wetting, Void and Lifted Lead	
X-Y-Z-Axis Control	High-Precision Ballscrew + AC-Servo Controller	
Max PCB Size*	900 x 460 mm (35.43 x 18.11 in.)	1000 x 660 mm (39.37 x 25.98 in.)
PCB Thickness	0.6 - 7 mm (0.024 - 0.276 in.)	0.4 - 7 mm (0.016 - 0.276 in.)
PCB Transport Height	880 - 920 mm (34.65 - 36.22 in.)	
Max PCB Weight	12 kg (26.46 lb)	
PCB Carrier / Fixing	Step Motor Driven / Pneumatic Clamping	
Top	5 mm (0.2 in.)	25 mm (0.98 in.)
Bottom	45 mm (1.77 in.)	50 mm (1.97 in.)
Edge	70 mm (2.76 in.)	55 mm (2.17 in.)
Weight	3850 kg (8,487.8 lb)	4850 kg (10,692.42 lb)
Power Requirement	200 - 240 VAC, Single Phase, 50 / 60 Hz, 4 kVA	
Air Requirement	72 psi - 87 psi (5 - 6 bar)	
Optional Features	Barcode Scanner, Repair Station, Offline Editor, Yield Management System (YMS 4.0), CAD Converter and CT Imaging	

* The Max. PCB Size will vary depending on the angle of incidence

Unit: mm (in.)



TR7600F3D SII



TR7600F3D LL SII

Global Network

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TRI 德律 TRI INNOVATION

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