Model: JTAz+JDAz

PowerSpector

Mek PowerSpector Inline Dual Side

Bottom+Top Side Inline AOI System
For SMT + THT Components And
Solder Joints

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Benefits

- **Dual Side Inline Full Featured Inspection**
  Featuring industry leading JTAz optical unit and JDAz optical unit for additional clearance.
- **Newest Generation 5MP USB 3 Vision Cameras**
  The latest generation of high speed, high quality cameras. No capture card requirement.
- **Multi-color 4 angle lighting with Line Source Coaxial Lighting and Meniscus Profiler**
  Reliable solder joint meniscus and pad surface analysis to find solder and paste printing defects.
- **Flexible Classification And Reporting Scenarios**
  Integrate AOI efficiently in existing operations and factory layout.
- **Compatible With Mek Catch System For MES Gateways, Repair, Real Time Monitoring And SPC**
  Catch System is compatible with Windows 11 and is a complete suite for data collection, display and statistics. (optional CFX or iTac compatibility)
- **Line Sourced DOAL (Direct On Axis Lighting) Coaxial Lighting**
  Inspect solder joints without shadow effects from tall components nearby.
- **High Speed Synchronised Bottom+Top Side Inspection**
  Top and bottom optical units are linked to allow parallel inspection cycles.
- **High Resolution Telecentric Optics**
  Standard 15µ resolution for optimal magnification of smaller SMT component package sizes.
- **8x Angular Cameras**
  Triple use of the angular cameras: Automatic inspection, defect classification and repair post-inspection.
- **Z-Axis Moving Optical Unit**
  Focus and position optimally for variying PCB and component distances, warpage or sandwitch assemblies.
- **Automatic Conveyor Width Adjustment**
  Each program has a parameter for the conveyor width. When the program is loaded, the conveyor width is set automatically, using the stepper motor driven width adjustment.
- **Synthetic Imaging And Spectral Analysis**
  Powerful algorithms to achieve optimized inspection results.

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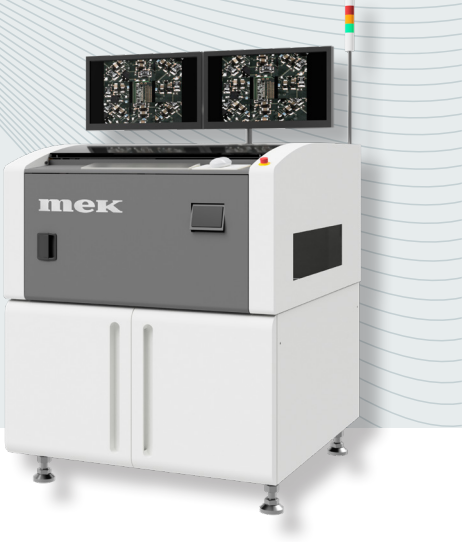
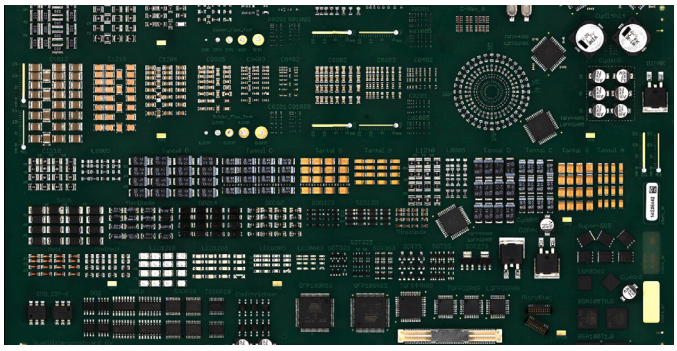
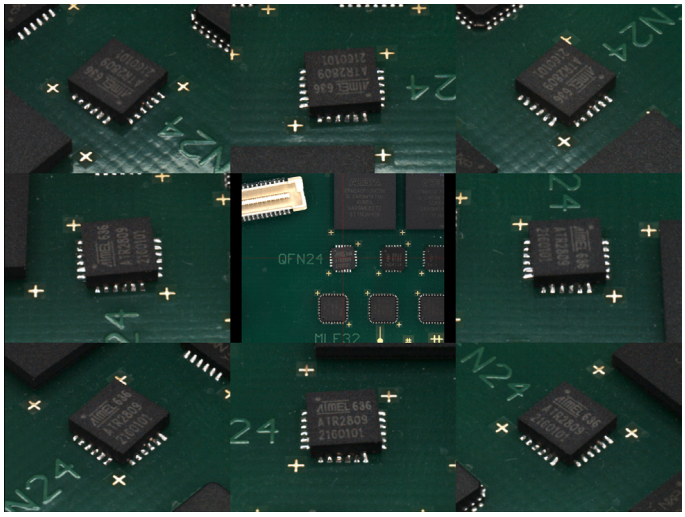


Features

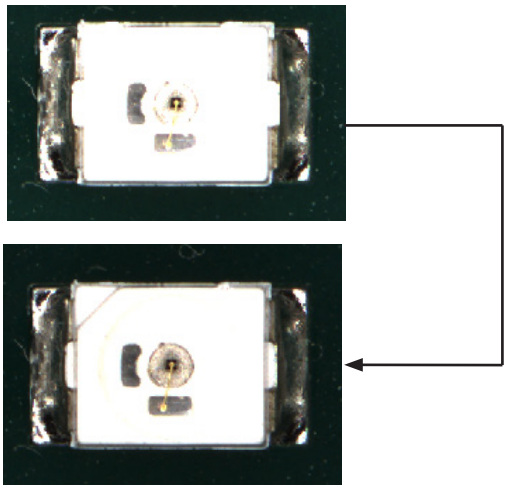


→ **High Definition Images**
The large frame camera CCD and the high quality lenses combination result in crisp and high definition images.

→ **01005" Components Inspectable**
High camera and lens resolution make inspection down to 01005" components possible.



→ **8x Angular Cameras**
Triple use of the angular cameras: Automatic inspection, defect classification and repair post-inspection.



→ **Dynamic Light Reduction And Increase**
Dynamically adjust light intensity to analyse details on white/black PCB's or white/black components.

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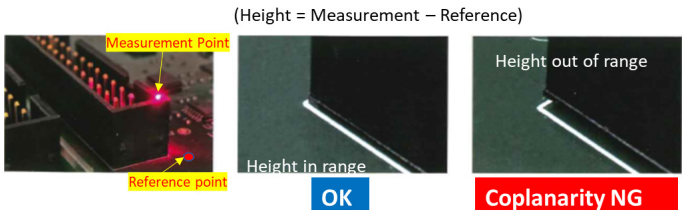
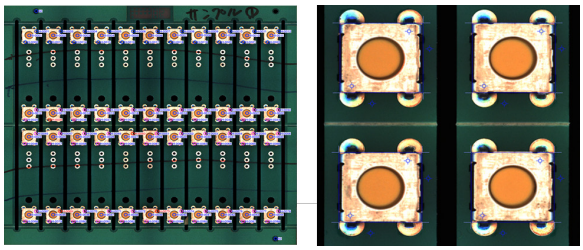
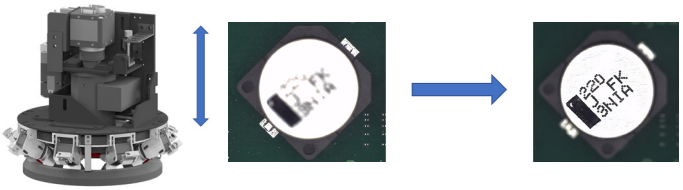


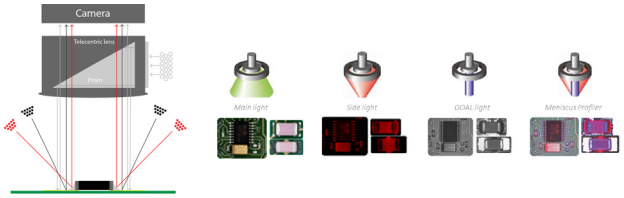
→ **Selective 3D Laser Measurement (top side only)**
Measure heights of any given object. Simply assign two points, a reference and a target. Rapid measurement that only extends the cycle time slightly.



→ **Coplanarity Measurement (top side only)**
There is no limit of how many points can have the laser height measurement. Coplanarity of components can be measured in both horizontal and vertical directions.

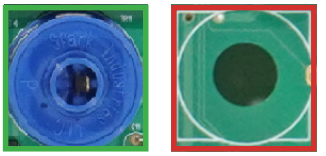


→ **Z-Axis Moving Optical Unit**
Ability to focus and position the optics optimally for best inspection results.

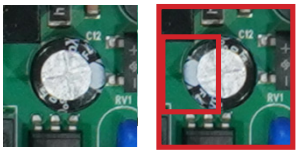


→ **Meniscus Profiler**
Coaxial and omnidirectional lighting from different angles and with different colors to make solder defects visible.

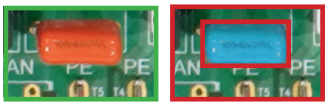
Defect Types (not limited to)



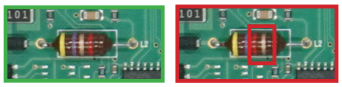
→ **Presence/Absence**



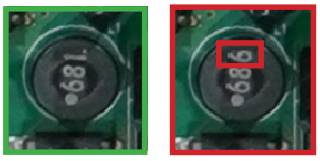
→ **Polarity**



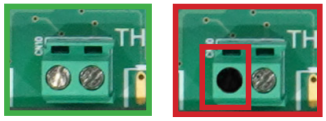
→ **Correct Type/Color**



→ **Correct Type/Value/Color**

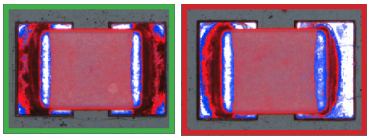


→ **Text (OCV and OCR)**

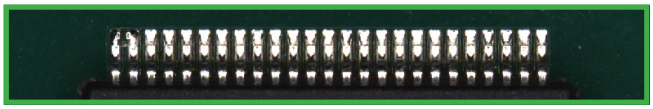


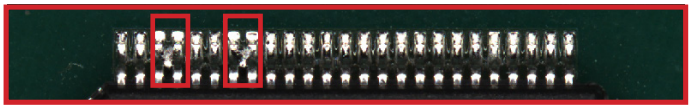
→ **Damaged Component**

→ **Billboarding**



→ **Lack Of Solder**





→ **Bridges**

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Specifications Inline PowerSpector JTAz+JDAz

Characteristics	PowerSpector JTAz+JDAz 350BTL	PowerSpector JTAz+JDAz 550BTL
Product Type	Bottom+Top Side SMT And THT Components And Solder Joints AOI	
Maximum PCB Size	350x250mm (13.8"x9.8")	550x550mm (21.7"x21.7")
Camera Movement	X + Y + Z Direction	
PCB Movement	Stationary	
Parts Inspection	Components Height, Coplanarity, Presence, Polarity, Solder Meniscus, Shape, Offset, Text	
Image Processing	Synthetic Imaging, Spectral Analysis, HSB, Grescale/RGB Limits	
Camera Type	5 MP CCD Camera With USB3 Vision	
Camera Field of View/Resolution	36 x 30mm (1.42" x 1.18") / 15.0 µm (14.4 x 12mm / 6µm option)	
Lens	Telecentric lens with built in prism for DOAL Lighting	
Selective Height Measurement	Laser Projector, Triangular spot measurement	
Lighting System	Omnidirectional Quad LED rings: Side White, Side Red, Main, Line Sourced DOAL Diffused On Axis Lighting	
System Specifications		
Minimum Inspection Component Size	01005" (0.4 x 0.2mm) (6µm lens upgrade option)	
Component Clearance (Top)	60mm (2.4")	
Component Clearance (Bottom)	30mm (1.2")	
Side Cameras	Per side 8x Digital Color USB 3.0 Vision in 45/45 Orientation	
Max Measurable Height	30mm	
Height Measurement Resolution	30µm	
Z-Axis Stroke	30mm (1.2")	
Inspection Speed Typical	0.6 sec per FoV	
Electrical Requirements	100-240 VAC /150W	
Interfacing		
Control PC Type	Apple MacOS	
Data Interface	USB	
Programming Interface	CSV Centroid placement file, (ODB++, Gerber Option)	
Repair/Monitor/SPC System/MES-interface	Mek Catch System (Windows 7/8/10/11) (Option)	
3rd Party Interfacing (MES) & Data Storage	Enterprise SQL DB/XML Files/Socket (Catch System Option)	
Conveyor		
Conveyor Belt Speed	10-500mm/s (0.4-19.7"/s)	
Conveyor Configuration	Left>Right (optional Right>Left), Front Rail Fixed, Height 830-950mm	
PCB Clamping	Edge Clamping, Sensor Stopper (3mm edge clearance)	
Minimum Board Size	50x50mm (2.0" x 2.0")	
General		
Operating Temperature	15-30 deg. C(60-90 deg. F)	
Operating Humidity	15-80 % RH	
External Size	W770x D846 x H1300 (30.3" x 33.3" x 51.2")	W1078 x D1320 x H1317 (42.4" x 52" x 51.8")
Weight	240kg (529lbs)	400kg (882bs)

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