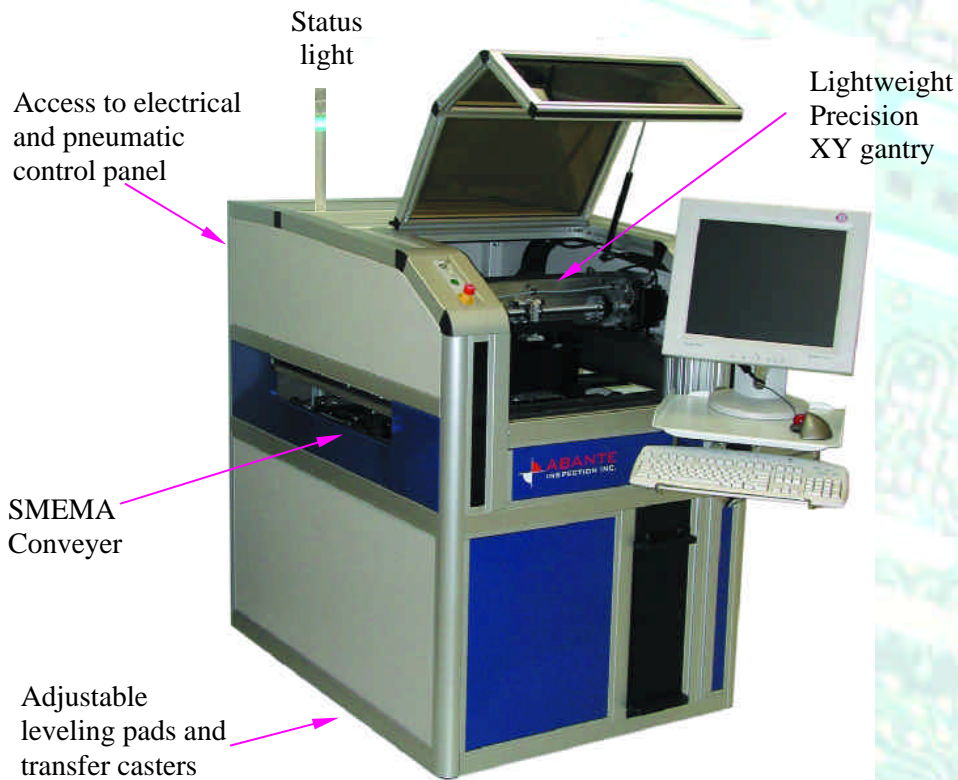
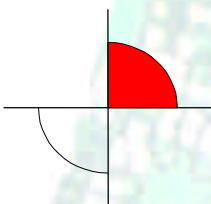


AI-835SP

Solder Paste Inspection System



- **High speed – high accuracy 3D and 2D inspection**
- High resolution – pad sizes down to 140µm in diameter
- Fully static 3D laser technology with 2D color for highly reliable measurements and defect detection
- In line inspection at line speed
- Easy to use set-up screens and reliable operation
- Accurate height, position, diameter, area and volume measurements
- Small footprint



Aceris 3D
INSPECTION INC.

P e r f o r m a n c e - 0 2 0 1 a n d b e y o n d



Sensor Specification SH-35

Features:

- Integrated high speed 2-D and 3-D laser sensor
- Technology: 3-D Structured Light, Class 1 "eye-safe"
- Three independently controlled strobe LED lighting modes for the 2D
- No moving parts
- Stable calibration

Technical specifications:

Resolution Height (3-D):	0.5 μ m
Resolution Lateral (3-D):	15 μ m
Scan direction resolution (3D):	4 – 50 microns in 1 μ steps
Profiles per second:	7,500-15,000
Points per profile:	2352
3-D Points/sec:	17.6 – 33.2 million
Swath size:	35 mm
Dept of field (Z):	2.5 mm optimum, 6 mm acceptable
2D camera resolutions:	18.5 μ m per pixel (2M pixel CCD)
Repeatability volume:	5% nominal at 3 σ (worst case for small features)
Repeatability position:	3.6 μ m at 3 σ
Speed:	15.75 – 31.5 cm ² /sec at 15x6 μ m resolution (small bumps – 140 μ m diameter) 52.5 - 105 cm ² /sec at 15x20 μ m resolution (CSP) 105 – 210 cm ² /sec at 15x40 μ m resolution

Computing Specifications

The menu-driven graphics software, navigated by a trackball is user-friendly and provides graphical depiction of data where appropriate.

Operating System:

- Microsoft Windows® XP® Workstation.

Computer:

- Dual Processor 64bit PC
- 4 Gigabytes RAM,
- 120 Gigabyte or larger Hard Drive,
- 3.5" Floppy Diskette,
- CD ROM,
- Custom interface board for the 3D cameras,
- PCI frame grabber for the 2D camera,
- Motion control and I/O interface board,
- 100 Base T Ethernet,
- Parallel printer port.

Software Features:

- Gerber file input and manual bump editor.
- On/off-line Set-up software facilitates quick inspection program creation.
- Easy to use fiducial teach program.
- Utilities to see both 2D and 3D images as well as home and jog slides and perform calibration.
- Graphical and numerical feedback during inspection.
- Excel and data base compatible result files.
- Graphical result presentation capabilities.
- Network interface.

Defects and Metrology

The AI-835SP system includes inspection software to detect and classify paste defects such as bridges, missing and extra bumps as well as perform measurements on individual bumps and report defects when they are outside user-specified limits.

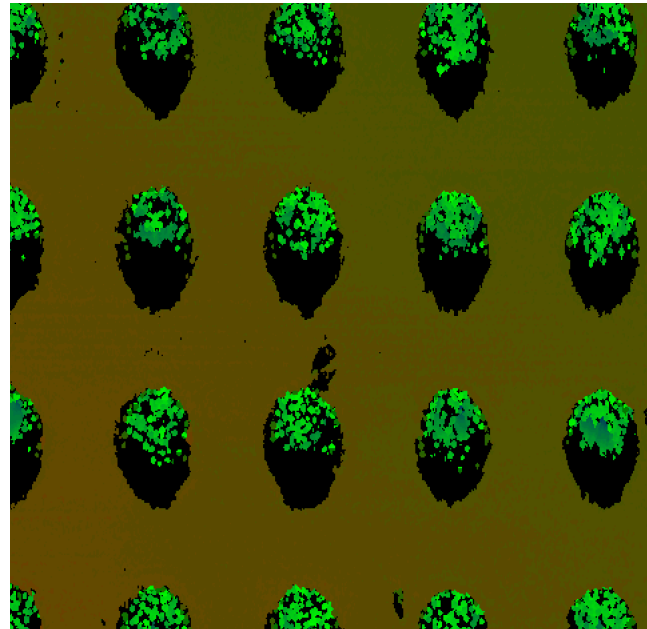
Defect detection:

- extra bumps
- bridging
- missing

Metrology:

- displacement (in X and Y)
- diameter
- height
- area
- volume
- shape

All measurement values have user selectable limits. Any value out of the preset limit will be flagged as defect. Statistical process control is feasible using the data collected in the measurement data base.



High speed & high resolution – 3D solder paste image

Conveyer Specification

Features:

- Stopper pop-up control with photo eye for two predetermined "Y" position
- Cylinder on rear rail for registration of carrier against "X"
- Variable speed edge carry belt (15m per minute min.)
- PLC controlled
- SMEMA interface
- Dual speed

The conveyer operates as follows:

1. Conveyer brings the PCB to the first Y stop.
2. Lift cylinders, acting on the lift bracket, push the PCB against the Z reference.
3. X axis cylinder pushes entire rail against the X reference rail to reference the panel.
4. For panels longer than 18" after the inspection of the first 18" section, the panel is indexed to the second Y stop 10" away.

Technical Data:

Adjustable width:	75mm to 610mm (3" to 24")
Conveyer length:	1 Meter
Belt edge contact:	4.8mm 0.187"
Single pass maximum inspection area:	457 x 610 mm (18" x 24")
Two pass maximum inspection area:	660 x 610 mm (28" x 24")
Conveyer height (adjustable):	813 to 965 mm (32 to 38")

System Specifications

Electrical requirement:	100-120/220-240 V, 50/60 Hz, 15 A, single phase
Compressed air:	80 to 100 psi (@ 1cfm)
Operating temperature:	5 - 40°C (40 - 100°F), 18 - 28°C optimum
Storage temperature range:	- 20 to 70°C (-4 - 158°F)
Humidity:	30 - 90% non-condensing
Dimensions:	(h x w x d) 140 x 93 x 132 cm (55 x 36.5 x 52")
Weight:	300 kg (660 lbs)

Specifications subject to change without notice

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