

# The New Dimension in Solder Paste Inspection



## aspire



**KOH  
YOUNG  
TECHNOLOGY**  
INTELLIGENT  
INSPECTION

The Standard in 3D Measurement & Inspection

## More than Inspection - It's Process Optimization

Most defects that impact yields occur in the solder paste printing process. You can't optimize your process and maintain high yields if your SPI technology is unreliable or can't 'see' the problems.

- True patented 3D volume measurement
- No false calls - no escapes - no shadows
- Highest accuracy and repeatability
- No PCB color sensitivity - for accurate readings always!
- Solder paste printing optimization - at its best
- High speed - with low cost of ownership!
- Short programming time
- Powerful SPC package

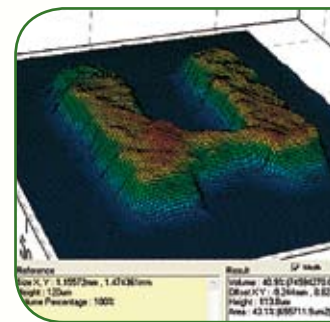
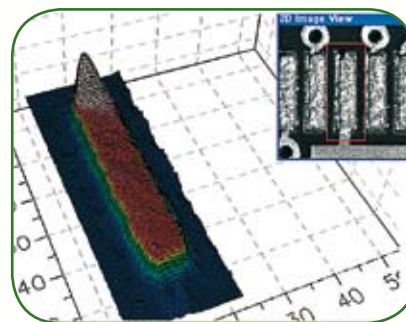
### Three Dimensions of View - Not Two

Accurate, reliable measurement of solder paste deposits requires true three-dimensional inspection technology. Anything less just isn't good enough for today's increasingly smaller paste volumes.

Only Koh Young Technology brings you the third dimension of measurement reliably using our patented shadow-free technology. No more false calls. No escapes.

### True 3D Solder Paste Volume Measurement - it's Critical

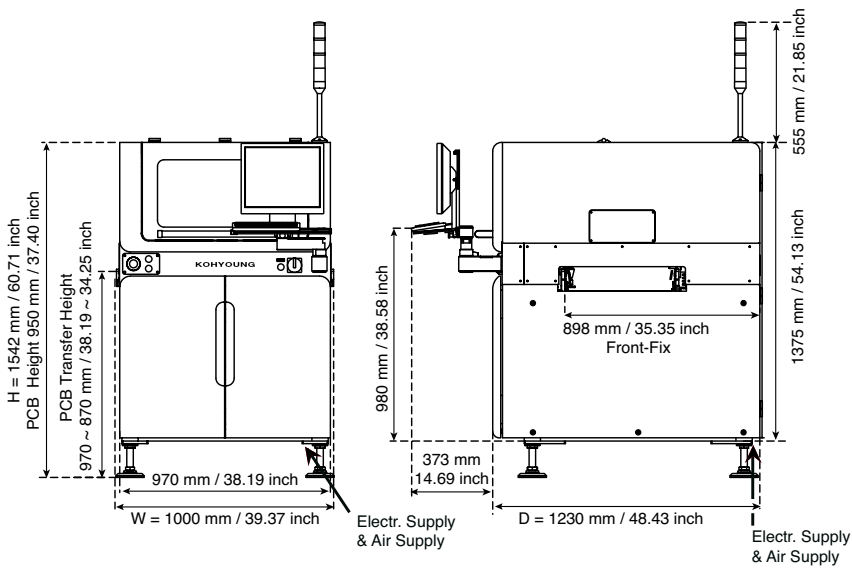
As solder paste deposit volumes become smaller, absolutely correct volume – and the verification of that volume – becomes even more critical. The process window for printing narrows. Maintaining high yields requires process optimization and constant maintenance.



The smaller the solder paste deposit, the more difficult to measure.

Koh Young's patented 3D shadow-free technology does what other SPI systems cannot do.

It delivers true, reliable, whole-deposit measurement for even the smallest paste deposits, at in-line speed.



**Max. PCB Size**

510 x 510 mm      20.08 x 20.08 inch

**Min. PCB Size**

50 x 50 mm      1.97 x 1.97 inch

**PCB Thickness**

0.4 ~ 5.0 mm      0.016 ~ 0.20 inch

**Max. PCB Weight**

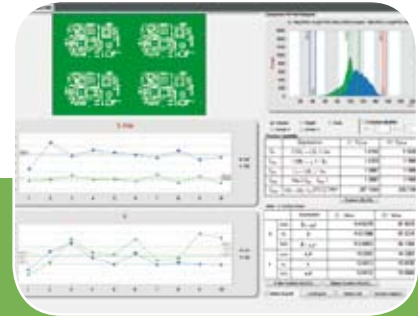
2.0 kg      4.4 lbs

**Machine Weight**

600 kg      1320 lbs

**Bottom Side Clearance**

30 mm      1.18 inch



**In-line Inspection Speed**

For true automated manufacturing integration  
 - 41 cm<sup>2</sup>/sec - without compromising accuracy.

**Rapid Programming**

Less than 10 min. programming for a complete  
 inspection file, with NO fine tuning needed.

**Accurate Compliance Solution**

The only way to guarantee correct solder joint  
 volume per IPC 610 requirements.

**Best SPI Measurement Performance**

- <<10% GR&R on 01005 deposits.
- Volume repeatability < 1% at 3σ on a KY calibration target.
- Average volume repeatability < 3% at 3σ on a PCB.

**Warped PCBs? No Problem!**

Unique real-time warpage tracking hardware and  
 software ensures uninterrupted inspection of  
 warped boards up to ± 5 mm.

**Detect all Defects**

Including insufficient and excessive deposits,  
 shape deformation, missing paste,  
 paste offset, smearing, bridging  
 and more.





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## SPECIFICATIONS

<b>Inspection Range</b>		
<b>Metrology Capability</b>		Volume, Area, Height, Offset, Bridging and Shape Deformity
<b>Types of Defects</b>		Insufficient/Excessive/Missing Paste, Bridging, Shape Deformity and Paste Offset
<b>Measurement Principle</b>		3D Shadow Free Moiré
<b>Camera Technology</b>		
<b>Camera</b>		4MPix
<b>XY Pixel Resolution</b>		10/15/20 $\mu$ m (Factory Setting)      0.39/0.59/0.79 mils (Factory Setting)
<b>Z Resolution</b>		0.37 $\mu$ m      0.015 mils
<b>Inspection Performance</b>		
<b>Inspection Speed at 20 <math>\mu</math>m</b>		41 cm <sup>2</sup> /sec      6.36 sq. inch/sec
<b>Volume Repeatability (on a KY Calibration Target)</b>		< 1% at 3 $\sigma$
<b>Volume Repeatability (on a PCB)</b>		< 3% at 3 $\sigma$
<b>Height Accuracy (on a KY Calibration Target)</b>		2 $\mu$ m
<b>Gage R&amp;R (<math>\pm</math> 50 tolerance)</b>		<< 10 % at 6 $\sigma$ on 01005 deposits
<b>Max. PCB Warp Compensation</b>		$\pm$ 5.0 mm      0.20 inch
<b>Max. Paste Height</b>		400 $\mu$ m      15.75 mils
<b>Min. Paste Deposit Size at 20 <math>\mu</math>m</b>	<b>Rectangle</b>	150 $\mu$ m      5.91 mils
	<b>Circle</b>	200 $\mu$ m      7.87 mils
<b>Min. Distance between Paste Deposit</b>		100 $\mu$ m (at 150 $\mu$ m paste height)      3.94 mils (at 5.91 mils paste height)
<b>PCB Handling</b>		
<b>Conveyor Width Adjustment</b>		Automatic
<b>Conveyor Fix Type</b>		Front/Rear Fixed (Factory Setting)
<b>Conveyor Height</b>		970 ~ 870 mm (Standard)      38.19 ~ 34.25 inch (Standard)
		930 ~ 830 mm (Factory Setting)      36.61 ~ 32.68 inch (Factory Setting)
<b>System &amp; Installation requirements</b>		
<b>Supply</b>	<b>Electrical</b>	200 ~ 240VAC, 50/60 Hz Single phase
	<b>Air</b>	5 Kgf/cm <sup>2</sup>
<b>Operating System</b>		Windows XP Professional
<b>S/W</b>		
<b>Statistical Analysis Tool</b>		SPC Plus
<b>Inspection Program Generation</b>		Import GERBER Data (274X, 274D)
<b>Options</b>		<ul style="list-style-type: none"> <li>• Zoom Head (10, 15, 20 <math>\mu</math>m Autozoom)</li> <li>• Off-line SPC &amp; Defect Review Station</li> <li>• Off-line Programming Station</li> <li>• Barcode Reader (1D/2D)</li> <li>• Certified Calibration Target</li> <li>• Flexible Dual Lane</li> <li>• ODB++ File Conversion</li> <li>• HDD Raid 1 (Mirrored)</li> <li>• UPS</li> </ul>

*Above specifications are subject to change without notice.*

