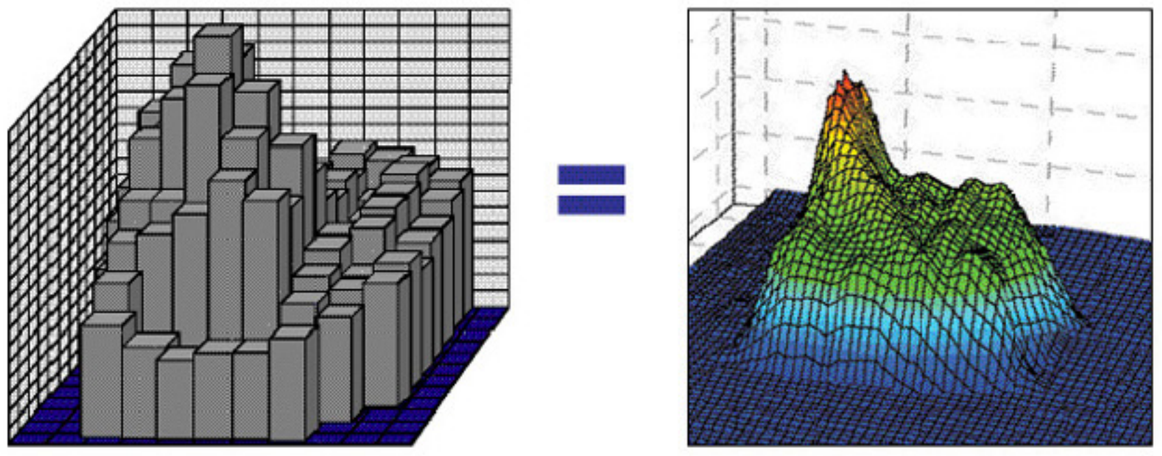
KOH YOUNG TECHNOLOGY
INTELLIGENT INSPECTION

3D IN-LINE SOLDER PASTE INSPECTION SYSTEMS

KY-3030 SERIES(VA,VAL,VAXL,ETC)

True 3D Volume Measurement

The true volume of solder pastes on PCBs using Koh Young's authentic 3D profilometry method.



Basic Functions of KY-3030 Series

Paste defects detection including insufficient/ excessive / missing paste, shape deformity, bridging and paste displacement

Highly Reliable and Accurate Inspection Systems

▷ Volume repeatability : less than ±1% at 3 б
(on a calibration target)

▷ Volume repeatability on average : less than ±3% at 3 б
(on a PCB)

▷ Height accuracy : 2[㎛](on a calibration target)

▷ Gage R & R : much less than 10% at 6 б (±50% tolerance)
(for around 3,600 solder pastes on real PCBs from customer site)

No Shadow Effects and No Specular Problems

With Koh Young's proprietary technology,
KY-3030 series overcome the common bottleneck of
3D measurement systems.

Fast Real-time 3D Inspection

Less than 5 sec on a real PCB with 4,000 pads(160 X 102mm)

Absolute Convenience

Less than 10 min. for inspection job file programming and conditions setup.

Special Features and Advantages

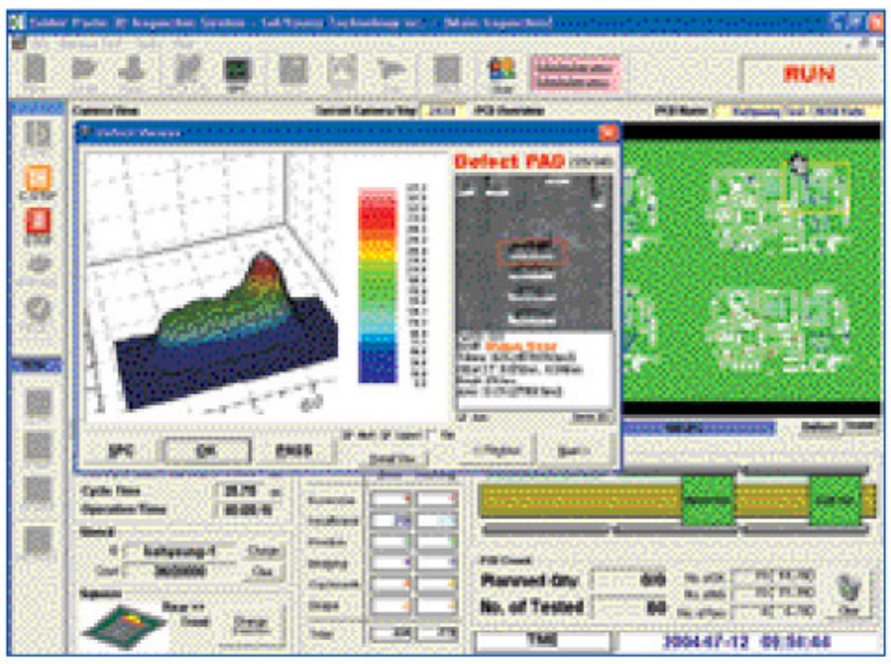
▷ Extract Solder Paste Volume Only by Bare Board Teaching

▷ Robust Inspection against PCB Warp up to ±5[mm] without any Z-axis motion

▷ Effective Feedback Sensor to Operators

▷ Remote Monitoring & Controlling Software

▷ Sets of the SPC(Statistical Process Control)data for SMT Process Management



3D IN-LINE SOLDER PASTE INSPECTION SYSTEMS

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SPECIFICATIONS

Performances

Metrology Capability	Volume, Height, XY Position, Area
Defect Detection	Insufficient / Excessive / Missing Paste, Bridging, Shape Deformity, Paste Displacement
FOV(Field of View) Size	32 X 24 mm (1.26 x 0.94 in.)
XY Table Accuracy	10㎛
Typical Load / Unload & Fiducial Find Time	4 sec
Height Accuracy	2㎛
Repeatability	Height : ±1% * Volume : ±1% *
Min. Paste Size	Rectangle : 150㎛(5.9 mils) Circle: 200㎛(7.87 mils)
Max. Paste Height	400㎛(15.7 mils)
Max. PCB Warp	±5 mm(0.19 in.)
Min. Distance between Solders	100㎛(3.93 mils) (in case of 150㎛ solder paste height)

* 3 Sigma limit for repeatability, on a calibration target.

Systems

Statistical Analysis	Histogram, X Bar & R Chart, X Bar & S chart, Cp & Cpk, % Gage R&R Data,SPI Daily / Weekly / Monthly Reports
Inspection Position Teaching	Supports GERBER format (274X, 274D)
Vision Algorithm	3D / SFM™(Shadow Free Moiré Interferometry)
OS	Windows XP Professional
Probe Type	No Shadow Effect
Camera	2M B/W Digital Camera(1600 X 1200)
Dimensions (W X D X H) / Weight	VAXL 1200 X 1580 X 1570 ㎜(88 X 63 X 62 in.) / 900 Kg(1,984 lbs) VAL 1000 X 1290 X 1440 ㎜ (40 X 51 X 57 in.) / 750 Kg(1,654 lbs) VA 820(1120) X 880 X 1400㎜(33(45) X 35 X 56 in.) / 550Kg(1,213 lbs)
Max. PCB Size	VAXL 690 X 610㎜(27X 24 in.) VAL 510 X 460㎜(20 X 18 in.) VA 330 X 250㎜(13 X 9.84 in.)

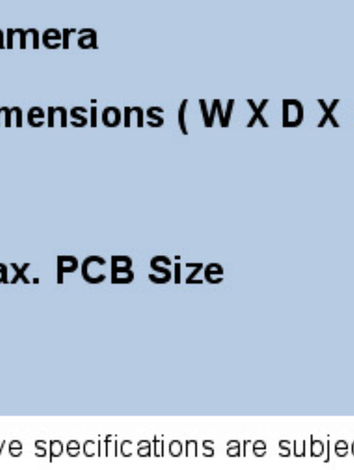
* Above specifications are subject to change without notice when the product undergoes changes such as further development and upgrading.

TYPICAL INSPECTION SPEED

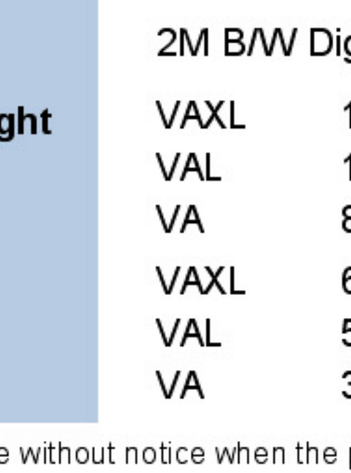
Type of Sample Board	No. of Pads	Board Size(mm)	High Speed Mode	High Resolution Mode	No Shadow Mode
Cellular Board(4 Arrays)	3,848	160 X102(6.3 X 4 in.)	5 sec	6 sec	8.2 sec
Notebook Board	3,845	184 X 219(7.2 X 8.6 in.)	12.1 sec	14.6 sec	19.9 sec
Network Board	7,006	320 X 230(12.6 X 9.1 in.)	25.3 sec	30.1 sec	41 sec

3D VIEWER

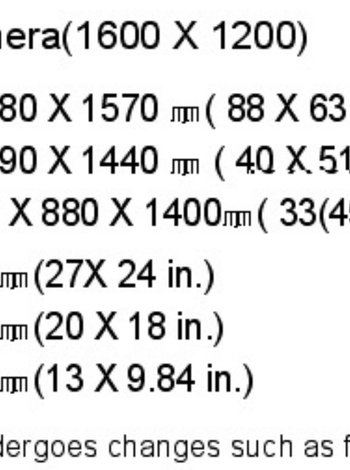
Result : GOOD
Volume : 109%



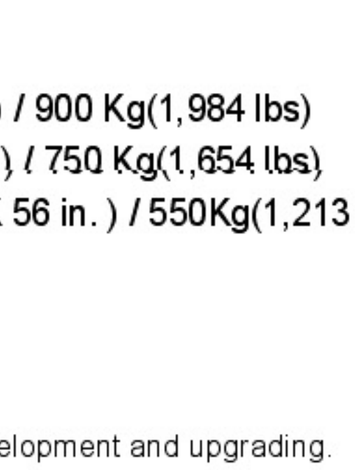
Result : Position Error
Volume : 145%



Result : Insufficient Error
Volume : 35%



Result : Shape Deformity-center-scraped paste
Volume : 113%



Result : Bridging Error
Volume : 91.3%

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