

True  Smart Factory Solutions
Powered by the AI Platform

aspire3

Best-in-class SPI functionality



Ultra High Speed



Complete
Process Solutions



Highest Accuracy



Automated Solder Paste
Dispensing: Auto-Repair



KOH
YOUNG
TECHNOLOGY
INTELLIGENT
INSPECTION



aSPIre 3

Best-in-class SPI functionality



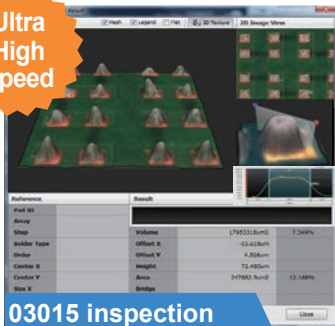
➤ **Overshadowing the Competition**
aSPIre 3 delivers the most accurate and repeatable 3D inspection results by eliminating shadow issues.



A Higher Standard in Metrology-Level 3D Inspection

“The new 03015 microchip epitomizes the cutting-edge of surface mount component miniaturization.”

Ultra High Speed



aSPIre 2
15um
32.8cm ² /sec
⌵
aSPIre 3
2 Times Faster

o Swift 03015 Microchip Component Inspection

aSPIre 3 technology offers accurate and repeatable measurement values with double the throughput, providing exceptional 03015-measurement capabilities to help realize the advanced IT innovations of the 21st century.



Automated Solder Paste Dispensing: Auto-Repair

Optional

aSPIre 3 adds automated solder paste dispensing as an optional add-on. The high-precision, user-friendly dispensing system helps to eliminate costly mistakes due in large part to insufficient solder in open joints, lean fillets, and weak joints. The aSPIre 3's automatic dispensing option repairs such issues before pass through, resulting in enhanced first pass yield and reduced operational costs.

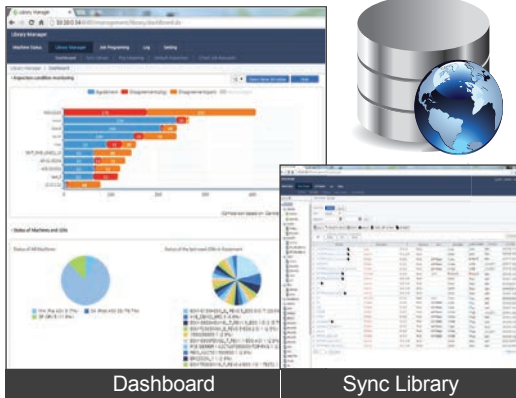
Test Results	BEFORE		AFTER	
	NG	Good	NG	Good
Small Sized Pad				
	Volume	30.24 %	Volume	78.38 %
	Height	66.68 um	Height	92.26 um
	Area	31.4 %	Area	76.46 %
OffsetX	0.001 mm	OffsetX	0.001 mm	
OffsetY	-0.008 mm	OffsetY	-0.005 mm	
BGA Pad				
	Volume	22.4 %	Volume	74.64 %
	Height	51.86 um	Height	71.71 um
	Area	38.87 %	Area	93.68 %
OffsetX	-0.001 mm	OffsetX	-0.001 mm	
OffsetY	0.004 mm	OffsetY	0.004 mm	



Integrated Software Solutions to Realize the Fully Automated Process Optimization of Industry 4.0



LM(Library Manager) @KSMART



Job Management

aSPIre 3 stores and distributes job files and inspection conditions from its centralized DB to multiple SPIs ensuring easy management of modifications and changes following process optimization.

User Level Management

aSPIre 3 has the ability to set up user level groups with various authorities ensuring that the work history of each user is monitored through the user's data logs.

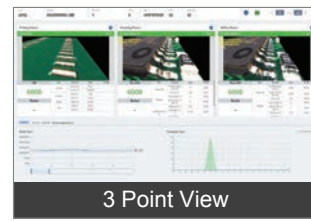


Link @KSMART

Optional

A 3D data-based SPI-AOI Communication Solution

aSPIre 3 provides review, diagnosis and optimization of printing, pick-and-place and reflow processes by tracing the root cause of defects through the storage and communication of inspection results in Koh Young's 3D SPI and 3D AOI systems.



Auto-Verification

Optional

Uphold Optimal Machine Conditions

aSPIre 3 offers periodical checks on critical items such as 3D/2D light intensity, PZT Feed, Height Accuracy, and XY Offset. It helps operators to take precautionary measures so that SPI can maintain optimal conditions.

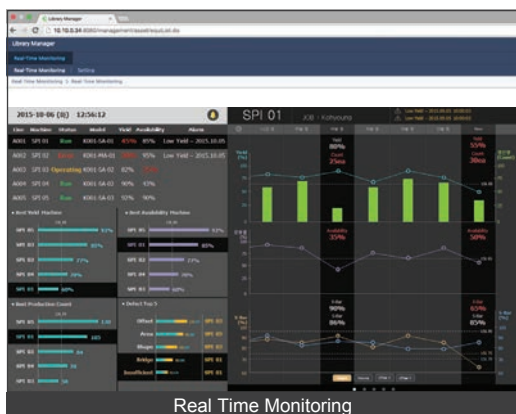
Improve Operational Efficiency

aSPIre 3 also minimizes maintenance through auto-verification of machine conditions during operation to reduce process interruptions and enhance equipment uptime.



Real Time Monitoring

Optional



Process Optimization

aSPIre 3 provides analysis of real-time multiline management data, enabling the comparison of each machine and line, while allowing for management of machine status for all production lines from remote locations.

Multi-line Production Info

aSPIre 3 provides a detailed history chart, height, volume, and offset for designated lines by ensuring the best products that yield the available machine ranking. It shows machine stats, model information, yield and alarm time.

Must-check Requirements for a 3D SPI System



Requirements	Solutions		
Shadow Problem Solution	<ul style="list-style-type: none"> • 3D Shadow-Free Moiré Technology & 4 Way Projection 		
Specular Problem Solution			
Reference Plane Shadow Solution			
Directional Problem Solution			
Real Time PCB Warp compensation (2D+3D Solution)	<ul style="list-style-type: none"> • Warp Compensation (Pad Referencing + Z-tracking) 		
Operator User-friendliness	<ul style="list-style-type: none"> • Renewal GUI, Real Color 3D Image 		
Foreign Material Inspection	<ul style="list-style-type: none"> • 3D Foreign Material Inspection 		
Inspection Items	Metrology Capability	<ul style="list-style-type: none"> • Volume, Area, Height, Offset, Bridging, Shape Deformity, Coplanarity • Insufficient/Excessive/Missing Paste, Bridging, Shape Deformity, Paste Offset, Coplanarity 	
	Types of Defects		
Inspection Performance	Camera Resolution	10 μ m	15 μ m
	FOV Size	40.96 x 30.72 mm (1.61 x 1.21 inches)	61.44 x 46.08 mm (2.42 x 1.81 inches)
	Full 3D Inspection Speed	29 ~ 63 cm ² /sec	
	Camera	<ul style="list-style-type: none"> • 12M Pixel Camera 	
	Illumination	<ul style="list-style-type: none"> • IR-RGB LED Dome Style Illumination 	
	Z Resolution	<ul style="list-style-type: none"> • 0.37 μm 	
	Height Accuracy (on KY Calibration target)	<ul style="list-style-type: none"> • 1 μm 	
	01005 Inspection Capacity Gage R&R (\pm 50% tolerance)	<ul style="list-style-type: none"> • < 10% at 6σ 	
	Max. Inspection Size	10 x 10 mm	0.39x0.39 inches
	Min. Distance between PADs	100 μ m (150 μ m paste height)	3.94 mils (5.91 mils paste height)
Multi-colored PCB Inspection	<ul style="list-style-type: none"> • Possible 		
PCB Handling	Conveyor Width Adjustment	<ul style="list-style-type: none"> • Automatic 	
	Conveyor Fix Type	<ul style="list-style-type: none"> • Front / Rear Fixed (factory setting) 	
Software	Supported Input Format	<ul style="list-style-type: none"> • GERBER Data (274X, 274D), ODB++ 	
	Programming S/W	<ul style="list-style-type: none"> • ePM-SPI 	
	Statistical Process Control Tool	<ul style="list-style-type: none"> • SPC@KSMART <ul style="list-style-type: none"> - Histogram, X-bar & R-Chart, X-bar & S-Chart, Cp & Cpk, %Gage R&R - Real Time SPC & Multiple Display - SPC Alarm • Remote Monitoring System 	
	Operator User-friendliness	<ul style="list-style-type: none"> • Library Manager@KSMART • KYCal: Auto-Camera Calibration, Auto-Illumination Calibration, Auto-Height Calibration 	
	Operating System	<ul style="list-style-type: none"> • Windows 7 Ultimate 64bit 	
	Add-on Solutions	<ul style="list-style-type: none"> • 1D & 2D Handy Barcode Reader • 1D & 2D Inline Barcode Reader • Offline Programming Station • Auto Verification • ODB++ • Auto-Repair* 	<ul style="list-style-type: none"> • Offline SPC Plus Station • Standard Calibration Target • Remote Monitoring System • Link@KSMART • SPC@KSMART

※ Above specifications are subject to change without notice.

※ Machine dimensions, PCB size and clearance will change if the Auto-Repair option is selected.

	L		XL	
	Single Lane	Dual Lane	Single Lane	Dual Lane
Max. PCB Size (X x Y)	490 x 510 mm (19.2 x 20.0 inches)	Single Mode: 490 x 580 mm (19.2 x 22.8 inches) Dual Mode: 490 x 320 mm (19.2 x 12.5 inches)	830 x 690 mm (32.6 x 27.1 inches)	Single Mode: 850 x 580 mm (33.4 x 22.8 inches) Dual Mode: 850 x 320 mm (33.4 x 12.5 inches)
Min. PCB Size	50 x 50 mm (1.9 x 1.9 inches)		70 x 70 mm (2.7 x 2.7 inches)	
PCB Thickness	0.4 ~ 5 mm (0.01 ~ 0.19 inches)		0.6 ~ 8 mm (0.02 ~ 0.31 inches)	
Max. PCB Weight	5 kg (11.0 lbs)		10 kg (22.0 lbs)	
Machine Weight	600 kg (1322.7 lbs)	700 kg (1543.2 lbs)	850 kg (1873.9 lbs)	900 kg (1984.1 lbs)
Bottom Clearance	50 mm (1.9 inches)			
Supplies	200~240VAC, 50/60Hz Single Phase, 5Kg/cm ² (0.45MPa)			
W	1000 mm(39.3 inches)	1000 mm(39.3 inches)	350 mm(53.1 inches)	1350 mm(53.1 inches)
D	1295 mm(50.9 inches)	1475 mm (58.0 inches)	1475 mm(58.0 inches)	1475 mm(58.0 inches)
H	1727 mm(67.9 inches)	1727 mm(67.9 inches)	1727 mm(67.9 inches)	1727 mm(67.9 inches)

