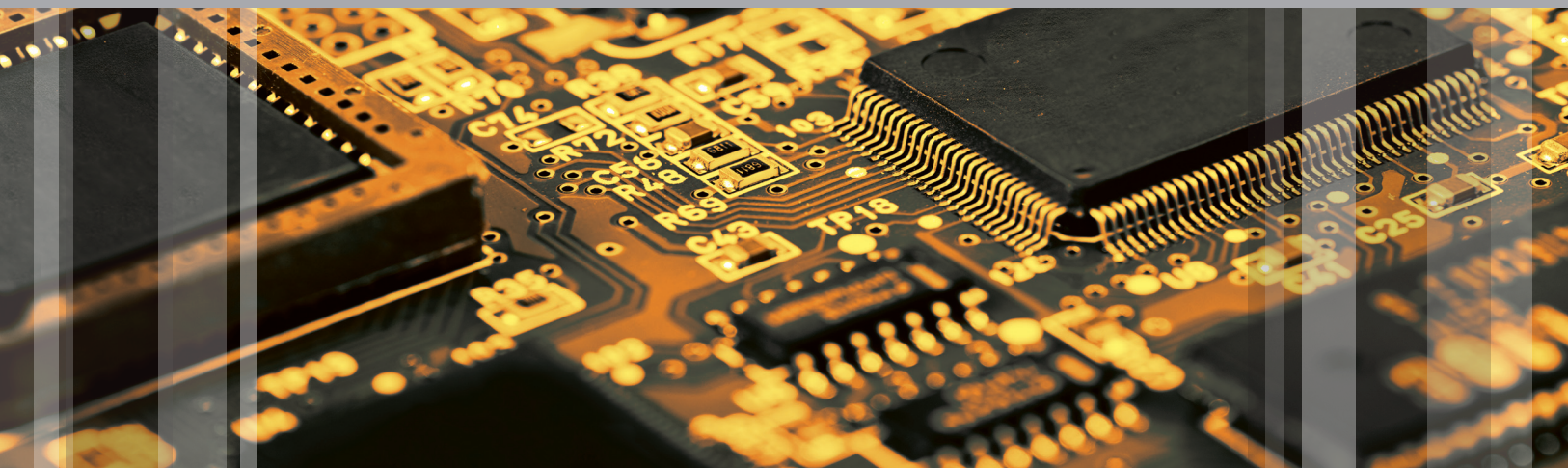


3D AOI Series

MV-9

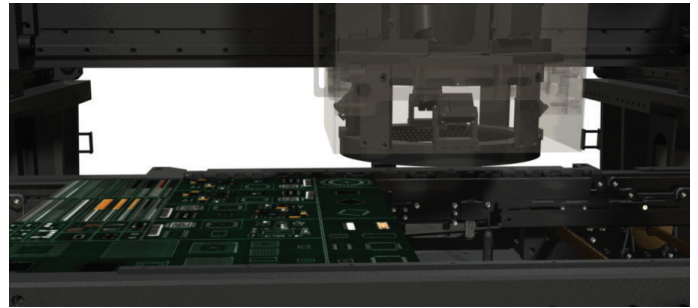
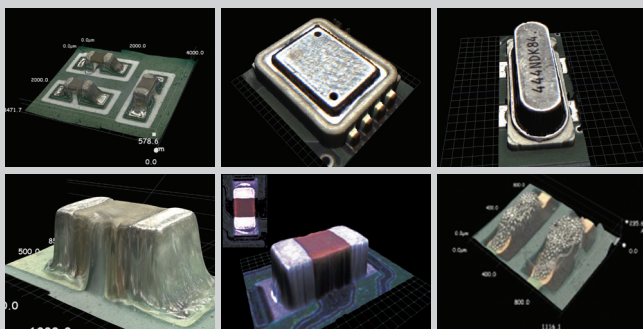


- 25 Mega Pixel Top Camera
- 4 Way Multi-Frequency Moire Technology
- QHD Projection
- 8 Phase Color Lightning System
- 10 Mega Pixel Side-Viewer[®]

3D AOI Series

MV-9

MV-9 Series is a premium full 3D inline vision inspector with 25 Mega Pixel high resolution camera, 4 direction QHD Moire projection, 10 Mega Pixel side cameras and 8 phase color lighting system to have capability to inspect up to Q201(mm)chip.

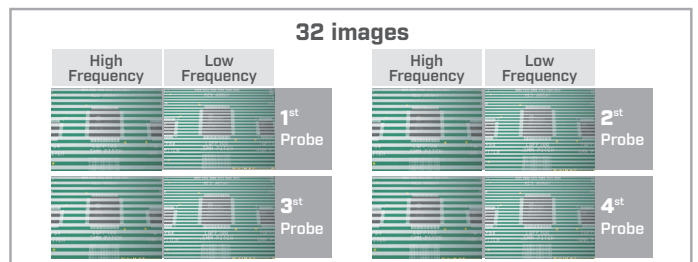


With the Best Technology, Precise 3D Measurement

QHD resolution moire porjection Unit measures the component in EWSN 4 directions in 3 dimension to obtain the 3D image for accurate and fast defect detection.

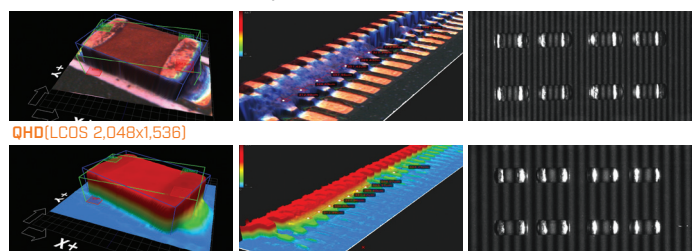
4 Way Multi-Frequency Moire Technology

- Obtain 3D image without blind spots using 4 3D projections
- Various component height inspection with the combination of high and low frequency moire pattern
- Linkage with the main camera to apply Full 3D inspection to detect various defects flawlessly



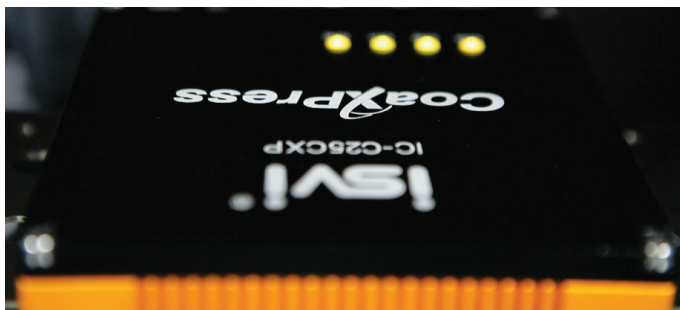
QHD Projection **QHD**

- Fine height change detection is possible due to miniaturizing of fringe pattern pitch
- Chip height measurement repeatability improved
- Chip height measurement error compared to SXGA reduced
- Fillet ratio measurement accuracy/repeatability improved detect various defects flawlessly



QHD(LCOS 2,048x1,536)

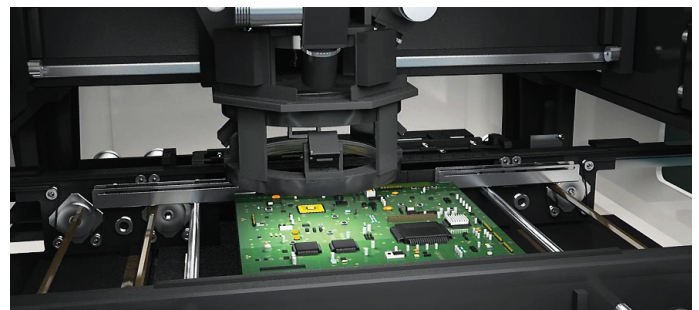
SXGA(LCOS 1,280x1,024)



The World's First High Resolution 25 Mega Pixel Camera

We are proud to have applied the next generation vision system with 25 Mega Pixel / 7.7 μ m high resolution camera for more precise and stable inspection and the world's only high speed CoaXpress transmission method to allow 4 times more data transmission and 40% increased process speed.

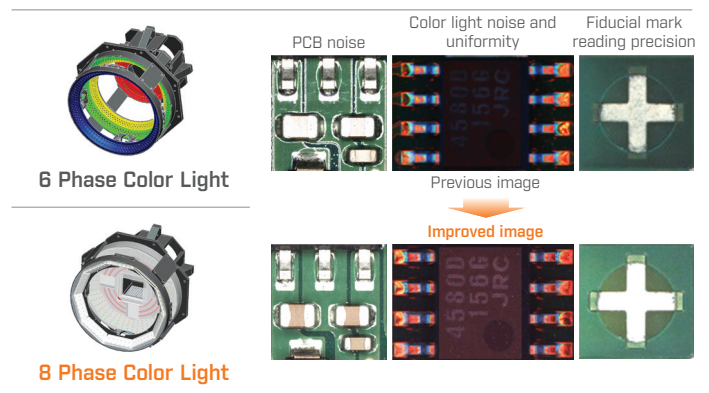
- World's Only 25 Mega Pixel Loaded
- CoaXpress high performance vision system applied
- Large FOV to increase inspection speed
- 7.7 μ m super precise camera to inspect 03015 chip
- Processing speed increased by 40% compared to Camera Link



8 Phase Lighting System for Precise Inspection

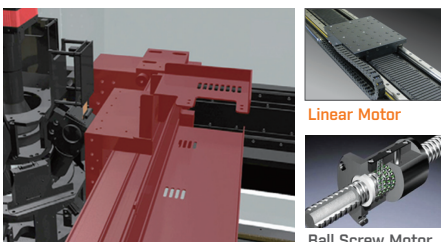
Through 8 different lights combination a clear noise free image is obtained to give various types of precise defect detection.

- Color change extraction following angle of reflection
- Appropriate for Chip / IC lead lift and solder defect detection
- Precise Solder Joint inspection



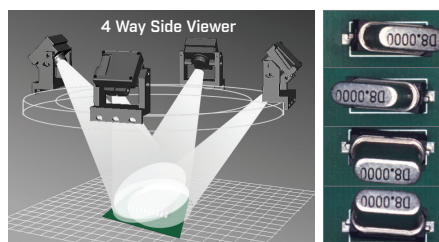
Linear Motor System

- 0.5 μ m resolution applied to control precise position
- Data feedback possible for mounter position adjustment
- Highest GR&R, CP/CPK reliability guaranteed



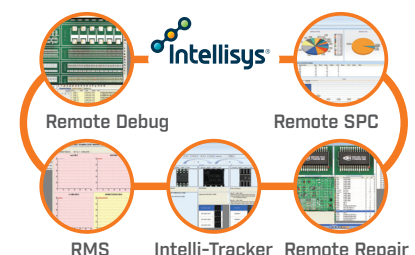
10 Mega Pixel Side Viewer®

- 4 cameras in EWSN applied
- The only J-lead inspection solution
- Convenient naked eye verification after inspection



Intellisys® System

When a defect occurs in the line, understanding in advance as well as remote control is possible while reducing costs from defective products



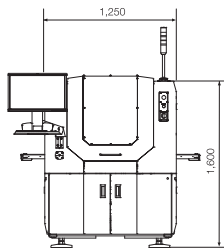
Specifications

Model			MV-9	MV-9U	MV-9DL
Max PCB Size Range					
Linear Motor System (mm)			50 x 50 - 510 x 460	60 x 60 - 660 x 610	50 x 50 - 330 x 250
OMNI-VISION® 3D / 2D Inspection Technology					
3D Inspection Technology			Digital Multi Frequency Quad Moiré Technology		
2D Inspection Technology			ISIS® Vision System		
Height Accuracy			±3µm		
Maximum Component Height	25 Mega Pixel	Option 1 (7.7µm)	4mm		
	15 Mega Pixel	Option 1 (15µm)	5mm		
		Option 2 (10µm)	4mm		
Inspection Item	2D Inspection		Missing Component, Misalignment, Polarity, Tomb Stone, Manhattan, Bridge, Turn Over, Wrong Component, Scratch, Solder Ball, Foreign Body, Shift, Tilt, BGA Ball, Wave Solder (Pin Hole), Etc		
	3D Inspection		Missing Component, Height, Position, Lifted Package, Lifted Chip, Lifted Lead, Solder Fillet, Excessive Solder, Insufficient Solder, Open Solder, Double Chip, Manhattan, Tomb Stone, Tilt, Dimension, Foreign, Etc		
ISIS® Vision System (FOV Size)					
25 Mega Pixel Camera	CXP	5,120 x 5,120 Pixel	Option 1	Pixel Resolution : 7.7µm / 39.42mm x 39.42mm	
	CL	5,056 x 5,056 Pixel	Option 2	Pixel Resolution : 7.7µm / 38.93mm x 38.93mm	
15 Mega Pixel Camera	3,904 x 3,904 Pixel		Option 1	Pixel Resolution : 15µm / 58.56mm x 58.56mm	
			Option 2	Pixel Resolution : 10µm / 39.04mm x 39.04mm	
2D Maximum Inspection Speed					
25 Mega Pixel Camera	CoaXPress @ 72 fps	Option 1	Pixel Resolution : 7.7µm / 0.33 Sec/FOV / 4,593mm²/Sec		
	Camera Link @ 23 fps	Option 1	Pixel Resolution : 7.7µm / 0.38 Sec/FOV / 3,947mm²/Sec		
15 Mega Pixel Camera	CoaXPress @ 120 fps	Option 1	Pixel Resolution : 15µm / 0.32 Sec/FOV / 10,716mm²/Sec		
		Option 2	Pixel Resolution : 10µm / 0.30 Sec/FOV / 5,080mm²/Sec		
	Camera Link @ 37 fps	Option 1	Pixel Resolution : 15µm / 0.36 Sec/FOV / 9,526mm²/Sec		
		Option 2	Pixel Resolution : 10µm / 0.34 Sec/FOV / 4,482mm²/Sec		
3D / 2D Maximum Inspection Speed					
25 Mega Pixel Camera	CoaXPress @ 72 fps	Option 1	Pixel Resolution : 7.7µm / 1.05 Sec/FOV / 1,460mm²/Sec		
	Camera Link @ 23 fps	Option 1	Pixel Resolution : 7.7µm / 1.95 Sec/FOV / 698mm²/Sec		
15 Mega Pixel Camera	CoaXPress @ 120 fps	Option 1	Pixel Resolution : 15µm / 0.80 Sec/FOV / 4,260mm²/Sec		
		Option 2	Pixel Resolution : 10µm / 0.80 Sec/FOV / 1,890mm²/Sec		
	Camera Link @ 37 fps	Option 1	Pixel Resolution : 15µm / 1.31 Sec/FOV / 2,344mm²/Sec		
		Option 2	Pixel Resolution : 10µm / 1.24 Sec/FOV / 1,100mm²/Sec		
System Specification					
Lens Configuration			Precision Telecentric Compound Lens		
Lighting System			Eight Phase Color Lighting		
Side Viewer® Camera System			10 Mega Pixel Digital Color Side Cameras (4ea)		
PCB Top Side Clearance			45mm		
PCB Bottom Side Clearance			25mm (Option : 50.8mm)		
Maximum PCB Warpage			±3µm		
Barcode System (1D/2D)			Keyence 1D / Leuze (1D-Scan) / Data Logic (1D) / Cognex (1D/2D) / Micro Scan (1D/2D)		
Built-in SPC			Statistical Process Control Software		
Built-in Repair			Repair Software		
OLTT (Option)			Off-Line Teaching Tool Software		
Minimum Measurement Size	25 Mega Pixel	Option 1 (7.7µm)	0201 Chip (mm) / 0.3 Pitch (mm)		
	15 Mega Pixel	Option 1 (15µm)	0603 Chip (mm) / 0201 Chip (inch) / 0.4 Pitch (mm)		
		Option 2 (10µm)	03015 (mm) / 0.3 Pitch (mm)		
Robot Positioning System		X/Y Axis	Precision Linear Drive Motor System		
		Resolution	0.5µm		
		Repeatability	±2µm		
Power Requirements		MV-9 (Single Lane)	Single Phase(s) 200-240V 50-60Hz, 1.1 KW		
		MV-9DL (Dual Lane)	Single Phase(s) 200-240V 50-60Hz, 1.5 KW		
Air Requirements			5 Kg _f / cm ² [0.5 MPa]		
Dimension and Weight					
Dimension (mm)			1,250(W) x 1,500(D) x 1,600(H)	1,400(W) x 1,650(D) x 1,600(H)	1,250(W) x 1,500(D) x 1,600(H)
Weight			Approx. 1,200 kg	Approx. 1,500 Kg	Approx. 1,400 Kg

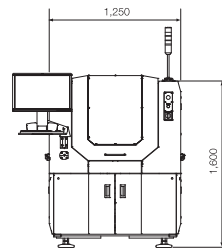
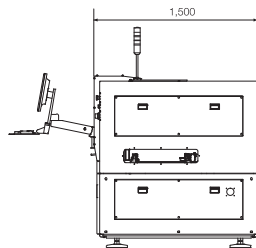
• We will not be responsible for any problems caused by using unverified BARCODE READER. Contact our HQ for the list of allowed BARCODE READER models to use.

Dimension

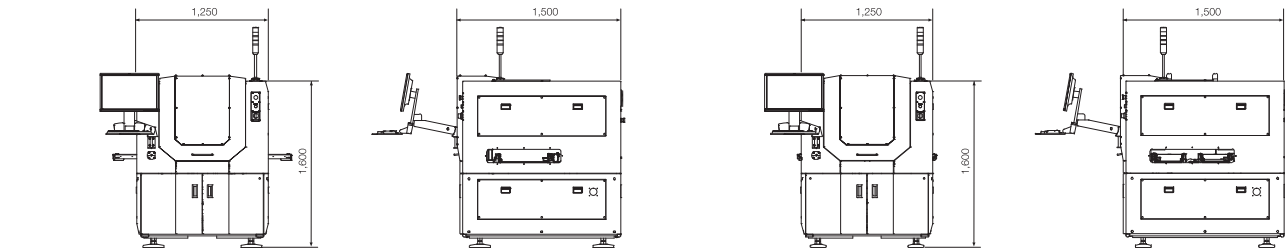
unit : mm



MV-9



MV-9DL



MIRTEC CO., LTD (Headquarter)

SK Ventium 103-803, 166, Gosan-ro, Gunpo-si, Gyeonggi-do, 435-776 KOREA

• TEL : 031-202-5999 • FAX : 031-202-5990
• www.mirtec.com

• Sales / CS : 1544-1062

• Data subject to change without notice.