

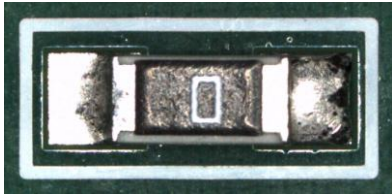
TECHNOLOGICALLY ADVANCED

MV-9 2D/3D Series

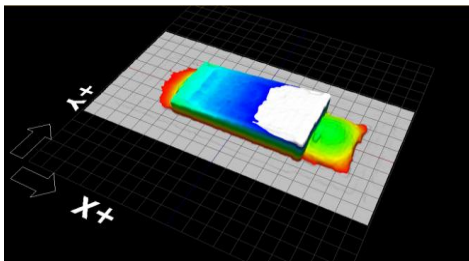
MIRTEC

CoaPress

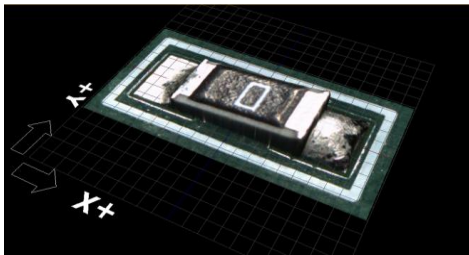
- Five Camera 2D/3D In-Line AOI System
- Exclusive **TWENTY-FIVE MEGA PIXEL** ISIS® Vision System
- Advanced Six Phase Color Lighting Technology
- 7.7 Micron / Pixel Precision Telecentric Compound Lens Design
- Integrated Ten Mega Pixel **SIDE VIEWER**® Camera System
- Precision Linear Drive Motor System
- Extremely Simple Programming and Operation



Ultra High Resolution 2D Image



3D Shape Image - Lifted Device



Advanced 2D/3D Image Processing



- Exclusive **OMNI-VISION**® 2D/3D Inspection Technology
- Advanced Digital Multi-Frequency Quad Moiré Design
- Superior Lifted Lead Detection for Gull Wing Devices
- True Co-Planarity Inspection of Chips, BGAs and Other Height Sensitive Devices



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MV-9 Series Features and Specifications

Max PCB Size Range

MV-9	50 mm x 50 mm to 510 mm x 460 mm (2.0" x 2.0" to 20.1" x 18.1")
MV-9U	60 mm x 60 mm to 660 mm x 610 mm (2.36" x 2.36" to 26.0" x 24.1")
MV-9DL (Dual Lane / One Head)	50 mm x 50 mm to 330 mm x 250 mm (2.0" x 2.0" to 12.99" x 9.84")

Image Transfer Technology

25 MP Camera	5,056 x 5,056 Pixel	CoaXpress	72 fps
		Camera Link	30 fps
15 MP Camera	3,904 x 3,904 Pixel	CoaXpress	120 fps
		Camera Link	45 fps

OMNI-VISION® 2D / 3D Inspeccion Technology

3D Inspection Technology	Digital Multi-Frequency Quad Moiré Technology		
2D Inspection Technology	ISIS® Vision System		
Height Accuracy	±3 µm		
Maximum Component Height	25 Mega Pixel	Option 1 (7.7 µm)	3.5 mm
		Option 1 (15 µm)	6 mm
	15 Mega Pixel	Option 2 (10 µm)	4 mm
Inspection Item	2D Inspection	Missing Component, Wrong Component, Mis-Alignment, Skewed Component, Polarity, Tombstone, Bridge, Flipped, Solder Ball, Etc	
	3D Inspection	Height, Position, Lifted Package, Lifted Lead, Solder Fillet, Excessive Solder, Insufficient Solder, Open Solder, Etc	

ISIS® Vision System (FOV Size)

25 Mega Pixel Camera	5,056 x 5,056 Pixels	Option 1	Pixel Resolution : 7.7 µm	38.93 mm x 38.93 mm (1.53" x 1.53")
15 Mega Pixel Camera	3,904 x 3,904 Pixels	Option 1	Pixel Resoulution : 15 µm	58.56 mm x 58.56 mm (2.31" x 2.31")
		Option 2	Pixel Resoulution : 10 µm	39.04 mm x 39.04 mm (1.54" x 1.54")

2D Maximum Inspection Speed

25 Mega Pixel Camera	CoaXpress @ 72 fps	Option 1	Pixel Resolution : 7.7 µm	0.33 sec / FOV	4,593 mm2/sec (7.12 in2/sec)
	Camera Link @ 30 fps	Option 1	Pixel Resolution : 7.7 µm	0.38 sec / FOV	3,947mm2/sec (6.12 in2/sec)
15 Mega Pixel Camera	CoaXpress @ 120 fps	Option 1	Pixel Resoulution : 15 µm	0.32 sec / FOV	10,716 mm2/sec (16.6 in2/sec)
		Option 2	Pixel Resoulution : 10 µm	0.30 sec / FOV	5,080 mm2/sec (7.87 in2/sec)
	Camera Link @ 45 fps	Option 1	Pixel Resoulution : 15 µm	0.36 sec / FOV	9,526 mm2/sec (14.76 in2/sec)
		Option 2	Pixel Resoulution : 10 µm	0.34 sec / FOV	4,482 mm2/sec (6.95 in2/sec)

2D / 3D Maximum Inspection Speed

25 Mega Pixel Camera	CoaXpress @ 72 fps	Option 1	Pixel Resolution : 7.7 µm	0.90 sec / FOV	1,684 mm2/sec (2.61 in2/sec)
	Camera Link @ 30 fps	Option 1	Pixel Resoulution : 7.7µm	1.59 sec / FOV	953 mm2/sec (1.482 in2/sec)
15 Mega Pixel Camera	CoaXpress @ 120 fps	Option 1	Pixel Resolution : 15 µm	0.77 sec / FOV	4,454 mm2/sec (6.9 in2/sec)
		Option 2	Pixel Resoulution : 10 µm	0.75 sec / FOV	2,032 mm2/sec (3.15 in2/sec)
	Camera Link @ 45 fps	Option 1	Pixel Resoulution : 15 µm	1.35 sec / FOV	2,540 mm2/sec (3.94 in2/sec)
		Option 2	Pixel Resoulution : 10 µm	1.21 sec / FOV	1,260 mm2/sec(1.95 in2/sec)

System Specifications

Lens Configuration	Precision Telecentric Compound Lens Design		
Lighting System	Six Phase Color Lighting		
Side Viewer® Camera System	10 Mega Pixel Digital Color Side Cameras (Quantity Four)		
PCB Top Side Clearance	45 mm		
PCB Bottom Side Clearance	25 mm (Option : 50.8 mm)		
Maximum PCB Warpage	±3 mm		
Barcode System (Option)	1D or 2D Barcode Reader		
Built-in SPC	Statistical Process Control Software (Local)		
Built-in Repair	Repair Plus Software (Local)		
OLTT (Option)	Off-Line Teach Tool Software		
Minimum Component Inspection	25 Mega Pixel	Option 1 (7.7 µm)	03015 Chip (mm) / 0.3 Pitch (mm)
	15 Mega Pixel	Option 1 (15 µm)	0603 Chip (mm) / 0201 Chip (in) / 0.4 Pitch (mm)
		Option 2 (10 µm)	0402 Chip (mm) / 01005 Chip (in) / 0.3 Pitch (mm)
Robot Positioning System	X/Y Axis	Precision Linear Drive Motor System	
	Resolution	0.5 µm	
	Repeatability	±2 µm	
Power Requirements	MV-9 / MV-9U	Single Phase 200~240V 50~60Hz; 1.1 KW	
	MV-9DL	Single Phase 200~240V 50~60Hz; 1.5 KW	
Air Requirements	5 Kgf/cm2 (0.5 Mpa); (7 PSI)		

Machine Demensions and Weight

MV-9	1,250 mm W x 1,500 mm D x 1,600 mm H (49.2" x 59" x 63")	1,300 Kg (2,866 lbs.)
MV-9U	1,400 mm W x 1,560 mm D x 1,600 mm H (55.12" x 61.42" x 63")	1,500 Kg (3,307 lbs.)
MV-9DL (Dual Lane)	1,250 mm W x 1,500 mm D x 1,600 mm H (49.2" x 59" x 63")	1,400 Kg (3,086 lbs.)