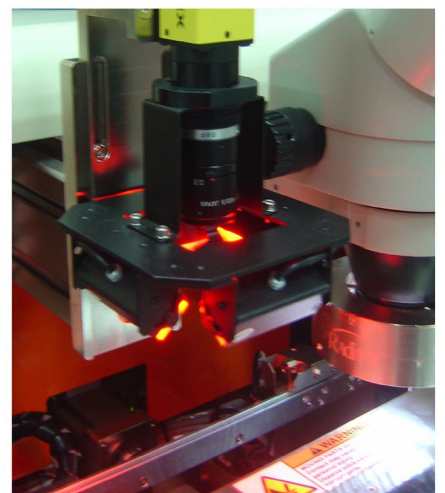
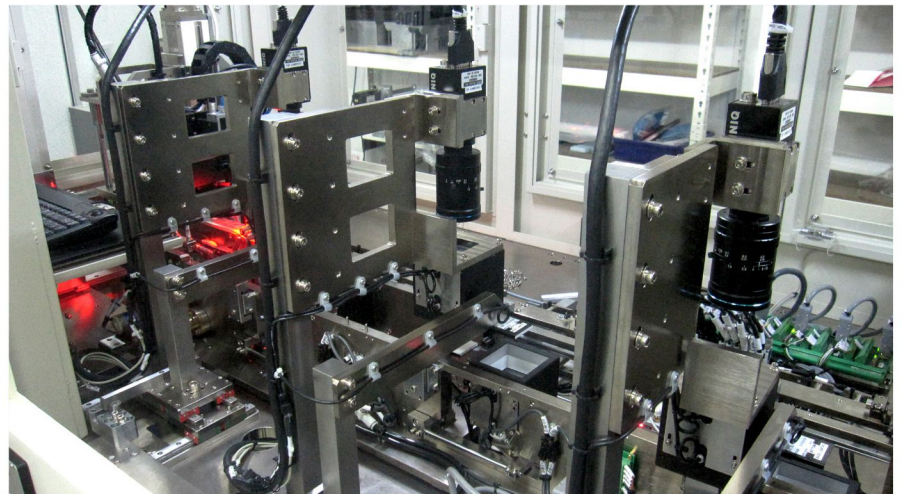
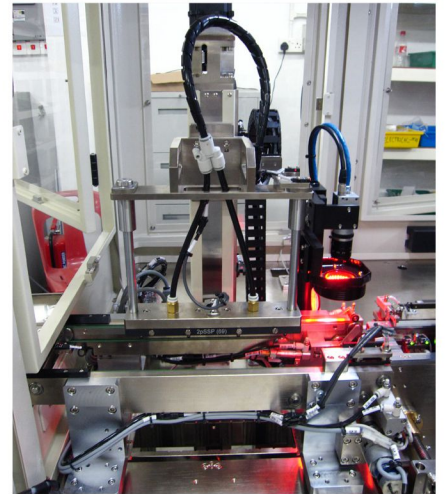
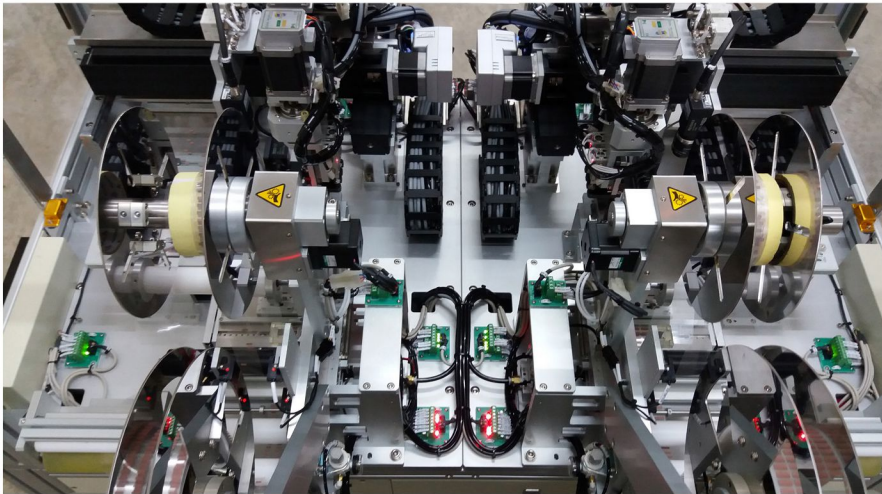


Semiconductor Technology

Since the foundation of our company we've been developing and fabricating systems to optimize and automate quality control for label inspection, early defect detection, assembly verification and other quality control operations. We also develop high-volume laser marking handler with machine vision and laser OEM options.



Fully Auto Laser Marking System

Our precision Laser Marking system is a high speed and accurate marking system that provides high accuracy and optimum marking performance. This handler offers the flexibility of manual and automated loading and unloading with the option of vision inspection (before and after marking)

This handler can be tailored towards the most suitable types of laser module on the material, surface and marking speed requirement. Optional integrated camera can be used for pattern identification, 2D or Barcode Reading and comes with integrated networking mapping capabilities.

In semiconductor industries, the machine is capable of running multiple types of packages in one machine at high speed and high accuracy.



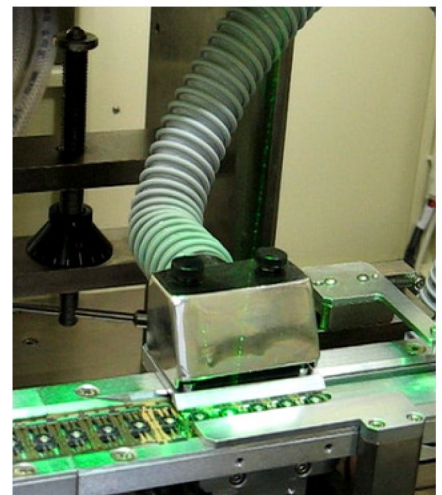
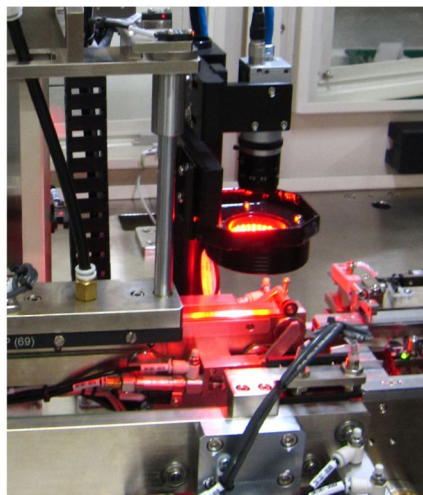
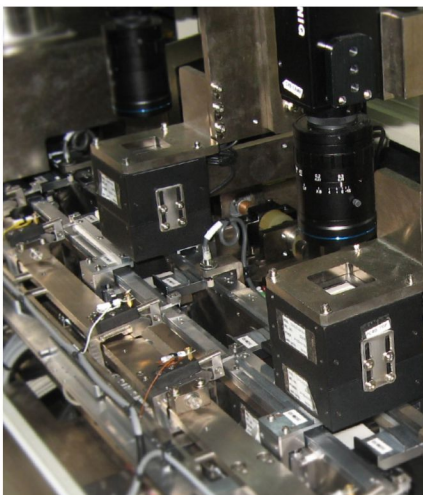
Fully Auto Laser Marking System

Features

- High Speed, High Accuracy & Reliable Marking
- Configurable and scalable, wide spectrum of packages in one system
- Choice of CO2Laser or Fiber Laser Module depending on material to be marked
- Vision inspection immediately after laser marking option
- Easy Maintenance & Long Term Stability
- Networking Mapping capability

Specifications

Configuration	Stand-alone	
Laser Module	Co2 or Fiber Laser Module	
Actuators	Indexer Loading & Unloading	Stepper Motor + Ball Screw Drive Stepper Motor + Ball Screw Drive
Motion Controller	Motion Parameters	Multiple Axis Velocity and acceleration
Performance	XYZU Accuracy XYZU Repeatability	+/- 0.02mm +/- 0.05mm
Control	Host Operating System Monitor Control	Pentium class PC Windows 7 LCD Mouse & Mini Keyboard Touch screen (optional)
Utility	Electrical Compressed Air	110/250V, 50/620Hz, 10/20 Amp 5 bar (70psi), 0.5 cfm *Depends on valve consumption
Optional	Premark & Postmark Vision Inspection	* Orientation Check, ID identification and Product Check Verify * Marking Quality Inspection



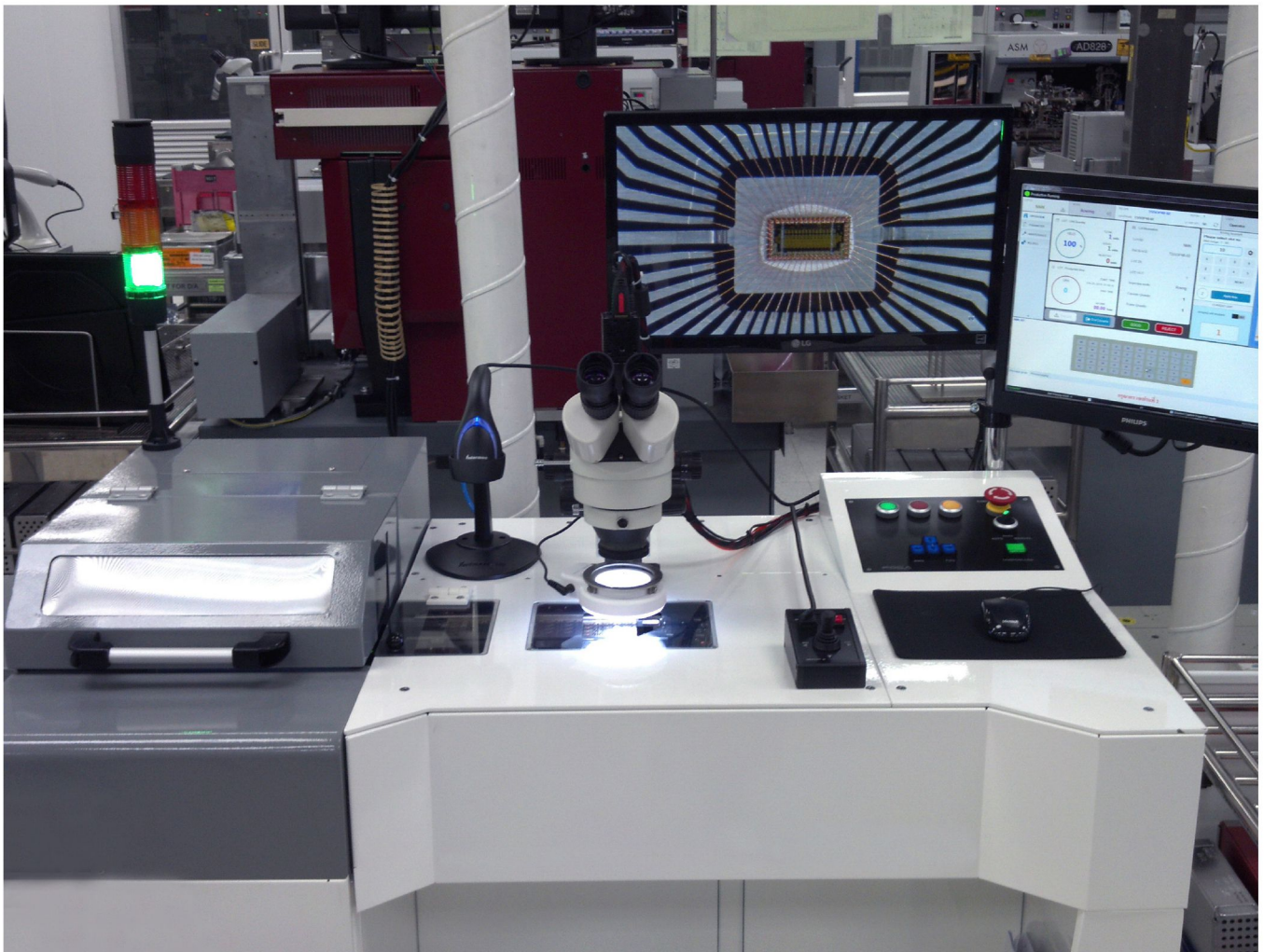
3rd Optical Inspection

The 3rd Optical Inspection System is an Automatic lead frame and Substrate Handling system for inspection purposes. The system consists of a magazine loader, Programmable track width and programmable gripper track on a Y-table.

Software Simple Mode interface allows quick setup and operation while Advanced Mode Interface provides advanced parameters that allow complicated inspection path pattern setup.

The material transfer flow is designed in such to minimize handling time and ensuring delicate handling of Lead frame and Substrate. Ergonomic design offers great to operator.

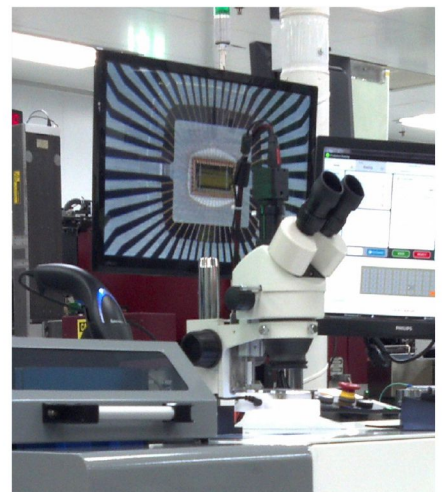
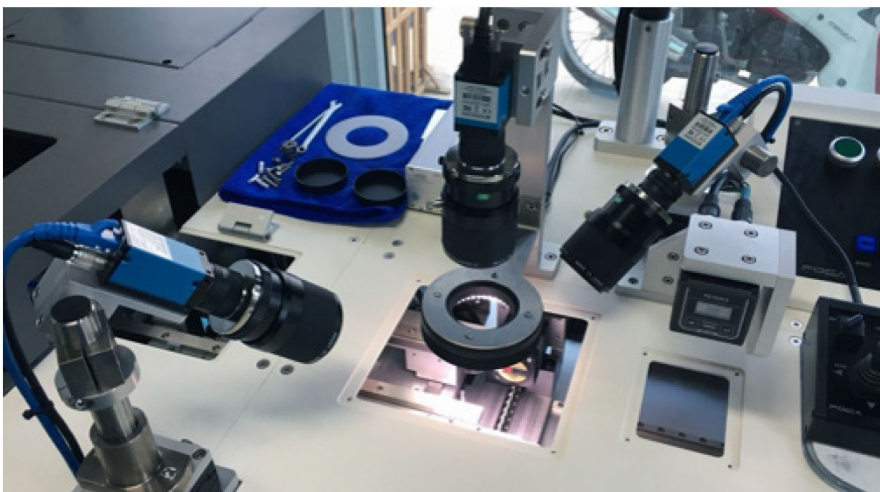
Optional integrated camera can be used for pattern identification, 2D or Barcode Reading and comes with integrated networking mapping capabilities.



3rd Optical Inspection

Features

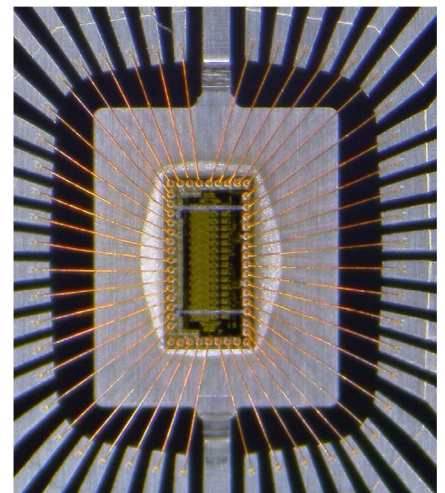
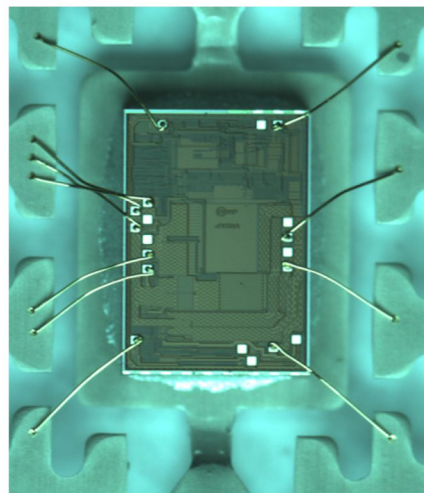
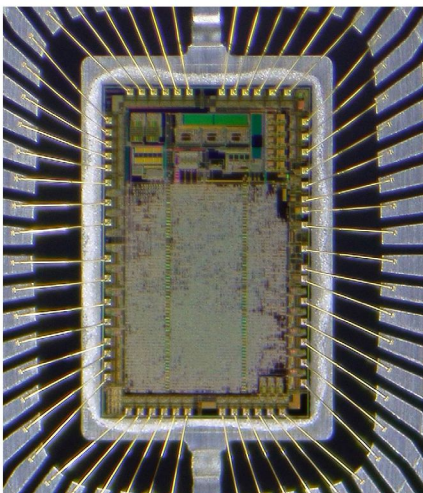
- Hands free of lead-frame handling and can inspect matrix LF by visual.
- Top view Inspection 2 optional via Microscope and via CCD camera.
- Fully automated conversion and can programmable lead-frame handling system that consists of Cassette elevator, motorized LF pusher and gripper transfer and track width adjustable etc.
- Lead frames coverage inspection of SO, DIP, (T)SSOP and QFN.
- Jam-frame elimination design with precious mechanical, force sensor detection and smooth motion control of high precision position.
- Force sensor detection in module of Pusher and Puller to prevent lead-frame damage.
- Production recipe management system.
- Human error proof with cassette cover mishandling detection.
- Design friendly perform to destroy rejected unit for completely defect.
- Compact machine and ergonomic design offers comfort working to operator.
- Laser pointer to identify the defect unit (optional).
- Sec-Gems interface and E-mapping system (optional).



3rd Optical Inspection

Specifications

Handling System	Lead frame / Substrate	
	Length	179 mm to 270 mm
	Width	40 mm to 70 mm
	Thickness	0.1 mm to 0.5 mm
Magazine	Length	190 mm to 280 mm
	Width	52 mm to 85 mm
	Height	Max. 118 mm
Indexer	Travel Area (X x Y)	300 x 130 mm
	Travel Accuracy	± 5 micron
User Interface	Workstation	Compatible Pentium PC; 17" and 22" LCD Monitor
	Networking	RS232 via TCP/IP; Upgradeable to SECS/GEM
Control System	Control Device	Micro-Stepper Motor ; Hybrid Axis Controller
Software	Operating System	Microsoft Windows 7
	User Interface	FV2000P UI *****
Optical Device	Microscope	Zoom Stereo Microscope complete with CCD Camera system
	Illuminator	LED Ring Illuminator
Optional Item	Strip-Mapping MS	Upgradeable for Strip-Mapping Management System
	2D Matrix Reader Interface	Upgradeable for Strip-Mapping Management System
	Barcode Reader Interface	Ready barcode reader interface
Physical and Facilities	Dimension (L x W x H)	1450 mm x 750 mm x 1000 mm
	Weight	150 Kg.
	Power Supply	230Vac ± 10% 50/60Hz Single Phase
	Compressed Air	4-5 Bar



Hawk Eyes II

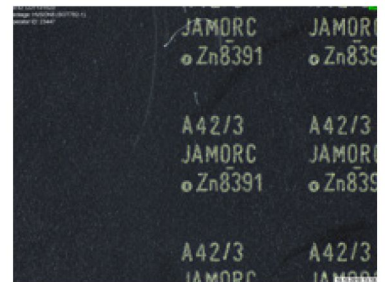
QFN Mark Mis-alignment Inspection by dual visions



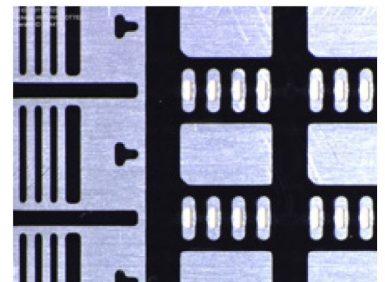
Model: Hawk Eyes II



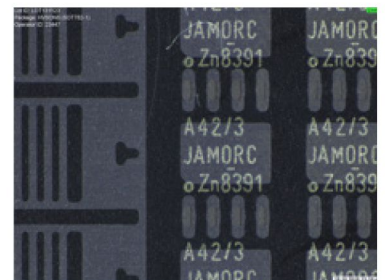
Software HMI



Top mark insp.



Lead insp.

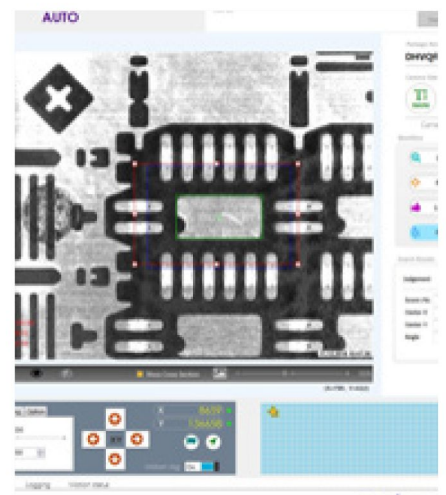


Merge Results

Hawk Eyes II

Specifications

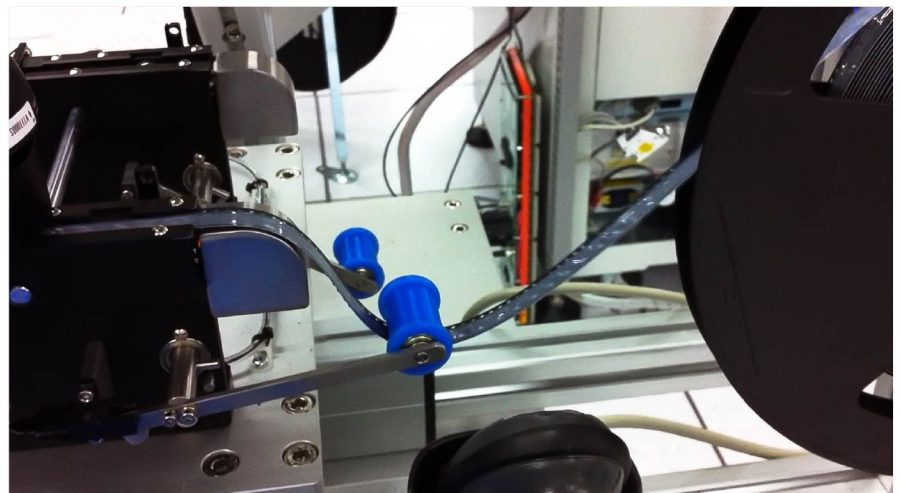
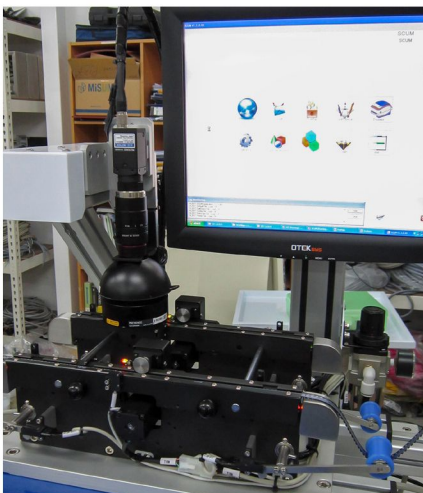
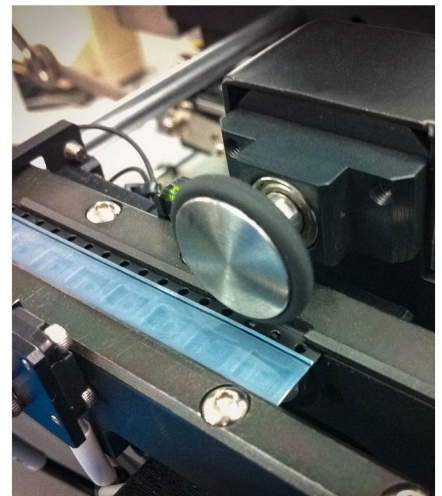
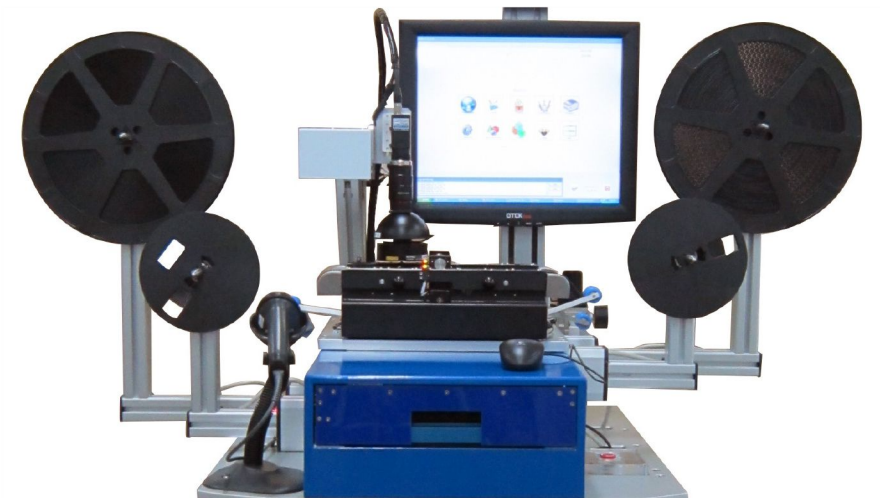
Configuration	Stand-alone	
CCD Cameras	5MP CCD GigE /Tele centric lens include Illumination system	Top and Bottom CAM
Loader module	Manual loading + Jig package conversion	
Actuators	XY Indexer	Hybrid Stepper Motor + Ball Screw Drive
Motion Controller	PCI motion card	2 axis Pulse Train
	Parameters	Motion profile (Speed, Acc, Dec), On the fly adjustment
Performance	XY Accuracy XY Repeatability	*/- 20 micron +/- 40 micron
Controller	Host Operating System Monitor Human Interface	Industrial PC / Intel core i5, Fanless, SSD and RAM 4GB Window 7 Pro 64bit Dell 23" IPS Mouse / Mini Keyboard Touch screen (optional)
Utility	Electrical	220Vac, 50Hz, 10 Amp



Vision in Tape Handler

“Vision In Tape Handle” is Tape & Reel Inspection System designed to inspect LED, semiconductor component, or any component in tape & reel without dismantle the sealing tape. The system consists of a programmable track width conversion.

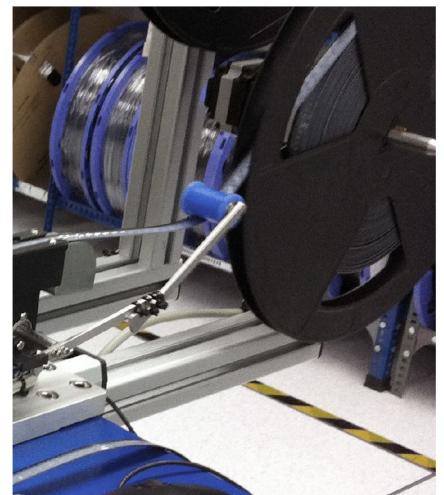
Software Simple Mode Interface provide allows quick setup and operation while Advanced Mode Interface provide advanced parameters allow complicated inspection path pattern setup. The material transfer flow is designed in such to minimized handling time and ensuring delicate handling carrier tape. Ergonomic design offers great comfort to operator.



Vision in Tape Handler

Specifications

Configuration	Stand-alone	
Actuators	Stepper Motor Drive	
Control	Host Operating System Monitor Control	Pentium class PC Windows 7 LCD Foldable Keyboard and Mouse Touch screen (Extreme Ver. Only)
Utility	Electrical Compressed Air	110/250V, 50/60Hz, 10/20 Amp 5 bar (70psi), 0.5 cfm *depend on valve consumption
Physical	Dimensions Weight Optional Camera Resolution Inspection Criterial (Extreme Ver. Only)	650(W) X 600(D) X 1600 (H) mm Approx. 80Kg Tower Light Networking Mapping capability 5 Mega pixel Orientation, Slanting, Gauging, Chip Off Gross Lead Inspection, Empty Pockets ** Standard model comes with only Trinocular Microscope

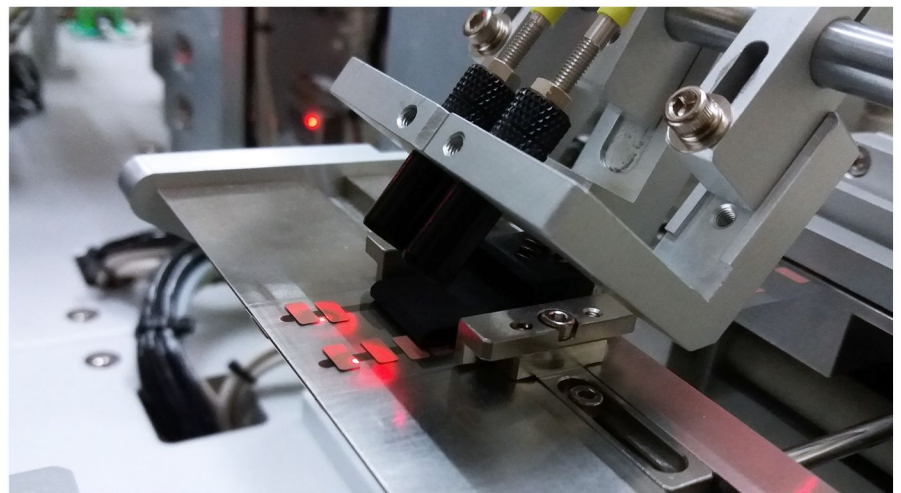
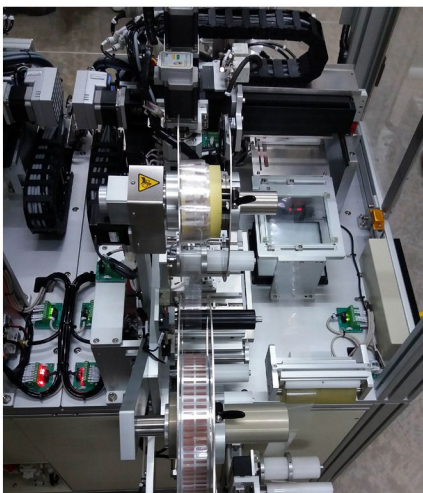
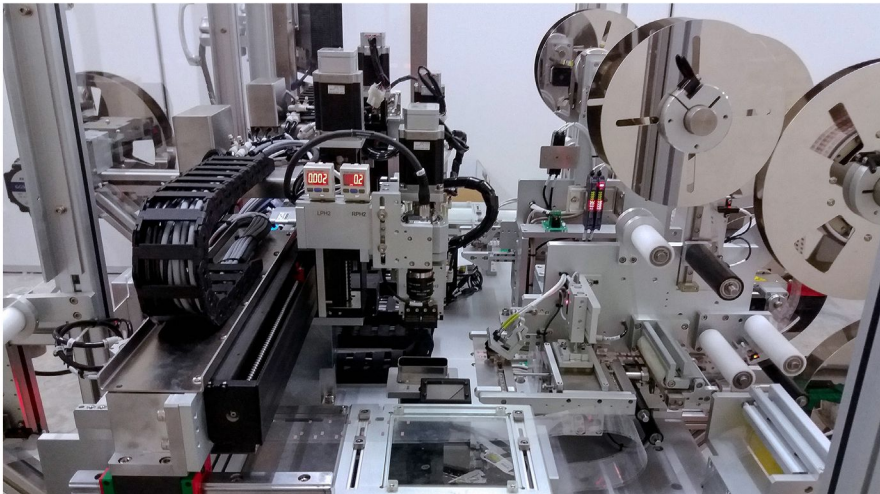


Damper PNP Machine

DPNP (Damper Pick and Place) machine helps manufacturer to turn their incoming material into products form ready for shipment via vision positioning correction and assembly on laminar surface. Vacuum pick transfer with zero damage on products. Smart vision provide high accuracy variation of positioning on incoming material and for gantry to re-correct on placing process.

Software Simple Mode Interface provide allows quick setup operation while Advanced Mode Interface provide advanced parameters allow complicated inspection path pattern setup.

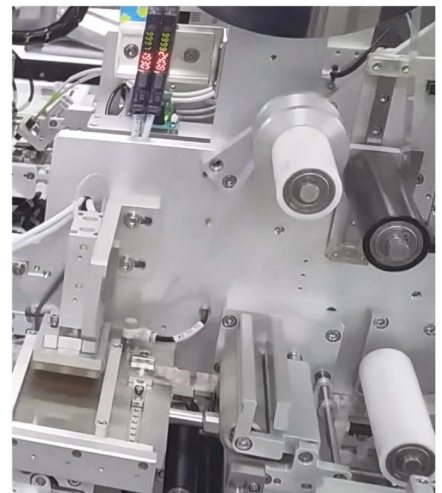
Customized pickup head for incoming material to provide full utilize on the pick and place process. Dual module with pre configuration layout for productivity boots up with same accuracy and quality.



Damper PNP Machine

Specifications

Configuration	Standalone	
Actuators	Indexer Pool Feeding	Close Loop Step Motor + Ball Screw Drive Brushless DC Motor Step Motor + Soft Feed
Performance	XYZU Accuracy Repeatability	+/- 0.002mm +/- 0.001mm
Control	Host Operating System Motion Control	Pentium class PC Windows 7 Touch screen LCD Foldable Keyboard and Mouse
Utility	Electrical Compressed Air	110/250V, 50/60Hz, 10/20 Amp 5 bar (70psi), 0.5 cfm *Depends on valve consumption
Physical (w/o Encloser)	Dimensions Weight	1440(L) x 1705 (W) x 1769 (H) mm Approx. 1000 Kg
Module Pick head Camera Resolution	Single or Dual Single or Dual 5 Megapixel	
HEPA Filter & Encloser	Laminar Flow Class 100 Clean Room (Optional)	



QC Measurement Handler

QC measurement system meets semiconductor requirement for package dimension measurement for leaded packages. User friendly and simple setup operation enable quick setup of new package and editing or parameter, threshold and specification range. Advance Vision Measurement Algorithm provides fast detection and computation of measure result that is tedious for conventional projectors.

Allocating system provides line to perform measurement allows immediate adjustment to production as well as trend analysis to optimize mold and stamping process. The pass fail criteria indication on screen and on report provides accurate and precise criteria failure location and its results. The system provides platform for QA Sampling gate to measure and document the dimensions prior shipment will allow better control of products shipped to customers.

Report printing features provides printout of the measurement data for documentation and ease process control

Features

- Small foot print fits the system into any product floor or QA Room
- Quick and tool-less nest conversion
- Up to 5 Units automated measure
- Fast and precision measurement with accuracy up to 0.01 mm (0.0004 in)
- Measure vast variety of leaded semiconductor packaging dimensions
- Complete features reporting generation and GR&R computation
- Tool-less Nest Conversion
- Low Pressure Sensor, Air Gun, UPS



QC Measurement Handler - Application

Package, Measurement Criteria & Accuracy

Criteria*	View	Small Package (2-5mm)			Standard Package (4-12mm)			Large Package (4-12mm)		
		Package (Pin)	Range (mm)	Accuracy (mm)	Package (Pin)	Range (mm)	Accuracy (mm)	Package (Pin)	Range (mm)	Accuracy (mm)
		FOV 5mm (0.127 In.)			FOV 12mm (0.305In.)			FOV 5mm (0.127 In.)		
Body Width	Top	SC-59 (3)	0.5 ~ 4.0	0.5 ~ 4.0	SOIC-N (14~16)	4.0 ~ 10.0	0.025	SC-72	4.0 ~ 30.0	0.050
Body Length	Top	SC-70 (3~6)	0.5 ~ 4.0	0.5 ~ 4.0	SOIC-W (16~28)	4.0 ~ 10.0	0.025	TO-126	4.0 ~ 30.0	0.050
Body Thickness	Top	SC-95 (3~6)	0.5 ~ 4.0	0.5 ~ 4.0	SSOP (16~28)	4.0 ~ 10.0	0.025	TO-202	4.0 ~ 30.0	0.050
Lead Length Lead	Top	SC-96 (3~7)	0.1 ~ 2.0	0.1 ~ 2.0	TSSOP (20~38)	0.1 ~ 6.0	0.025	TO-218	0.1 ~ 15.0	0.050
Width	Top	TSOP (6)	0.1 ~ 2.0	0.1 ~ 2.0	TQFP (48~80)	0.1 ~ 6.0	0.025	TO-220	0.1 ~ 15.0	0.050
Lead Pitch	Top	SOT-23 (2~8)	0.1 ~ 4.0	0.1 ~ 4.0	LQFP(48~80)	0.1 ~ 10.0	0.025	TO-247	0.1 ~ 10.0	0.050
Lead Tweeze	Top	SOT-89	0.1 ~ 1.0	0.1 ~ 1.0	MQFP	0.1 ~ 6.0	0.025	TO-252	0.1 ~ 15.0	0.050
Lead Slant	Top	SOIC (8)	0.1 ~ 1.0	0.1 ~ 1.0	TO-252	0.1 ~ 6.0	0.025	TO-263	0.1 ~ 15.0	0.050
Lead Spread	Top	MSOP (8~10)	2.0 ~ 4.0	2.0 ~ 4.0	TO-263	2.0 ~ 10.0	0.025	ITO-220	5.0 ~ 30.0	0.050
Lead Standoff	Top	TSSOP (8~16)	0 ~ 1.0	0 ~ 1.0	SC-72	0 ~ 2.0	0.025	SOT-32	0 ~ 2.0	0.050
Lead Co-plan	Top		0 ~ 1.0	0 ~ 1.0		0 ~ 2.0	0.025		0 ~ 2.0	0.050
Lead Flat Part	Top		0 ~ 2.0	0 ~ 2.0		0 ~ 4.0	0.025		0 ~ 4.0	0.050
Lead F Part Angle	Top		-8 ° ~ 8 °	-8 ° ~ 8 °		-8 ° ~ 8 °	2 °		-8 ° ~ 8 °	2 °
Odd Dimensions	Top		0.1 ~ 4.0	0.1 ~ 4.0		0.5 ~ 10.0	0.050		0.5 ~ 30.0	0.050