Condor PD Series

Post Wafer Dicing

Metrology and Inspection

TThe Condor PD Series is targeting post dicing metrology defect inspection at High Volume Manufacturing (HVM). Inspection is conducted while dice are still in wafer format — the last opportunity to add essential information to the wafer map.

During dicing, dice shift and rotate relative to their original location due to the stretching of the adhesive tape. The Condor's multi-level software alignment precisely aligns each die with its reference image, ensuring reliable detection and eliminating false alarms. This capability is especially important for stretched and reconstructed wafers where die shift is more pronounced and even critical for very small die, such as LED.

Condor PD series is based on innovative patented image acquisition of controllable simultaneous bright and dark field detection channels and sophisticated image processing.

In addition to dicing-related damage, the Condor inspects for defects from all previous processes, such as surface contamination and scratches, bond pad damage, size and placement deviations.

The sophisticated algorithms enable the Condor to maintain high resolution detection even at lower magnification for increased throughput.

The Condor PD Series is available in several performance levels and a wide range of configurations, options and upgrade paths to match application and budget evolving needs.

Product Highlights

- Innovative image acquisition technology to achieve better detection capabilities.
- Controllable and independent bright field and dark field detection channels and sophisticated algorithms enabling best TPT/Sensitivity envelop of performance.
- Detects dicing-related damage inside and outside die boundary at unmatched throughput.
- Automatic defect binning and classification.
- Comply with factory automation standards.
- Best-of-breed setup automation to meet high resolution and productivity requirements of pure-play packaging houses handling hundreds of products.
- On-the-fly image grabbing without TPT hit and Smart color image grabbing including filtering and sorting for online and offline review.
- Designed for fast field upgrade to higher level models.

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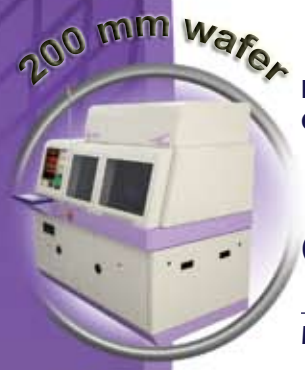
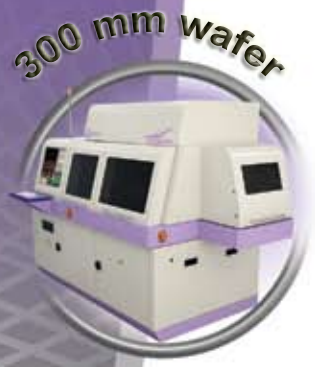
Condor PD Series Description



Inspection Capabilities	Detecting dicing-related damage; surface defects including feature size and placement measurement; probe marks and ink dots for framed wafers before or after dicing All at 100% or sampling

Options



	Up to 200 mm wafer	Up to 300 mm wafer
Material Handling	150, 200mm single framed wafer cassette	150,200, 300mm two framed wafer cassettes

Set up	
Reference	Automatically generated from production wafer
On and Offline	User-defined detection parameters per defect type and zone; Interactive automated routines for easy zone definition; Simulation mode allows setup update without the need for rescanning on the machine.
Review and Classification	
Modes	Fully automated, semi-automated and manual- incorporating live and monochrome images
Smart Grab	Customized preset for defect type, count and location, minimizing grabbing and verification time, optimizing image quality to defect type
Offline Station	PC-based station for viewing and reclassification of defect images captured during scanning (monochrome scale) or post-scanning (color and/or monochrome)
Output	Camtek Statistical Process Control (SPC) software package available as online or stand-alone installation
Histograms	Distribution charts of all defect and metrology data
Reports	SPC analysis at lot, wafer and die levels, KLARF
Wafer Maps	Generate, import, edit and export wafer maps in over 50 standard and custom formats
Particle Removal System	Removes loose particles, eliminating nuisance calls
Height Sensor	Patented Camtek Triangulation Sensor (CTS™) with micron-level precision for measuring bump height and coplanarity
Barcode Reader	Reads wafer ID from the frame
Manual Barcode Reader	Reads wafer ID from the cassette
Ink Marker	Automatic marking of rejected die
Factory Automation	SECS/GEM
Job Portability & Tool Matching	Allows transfer of jobs between compatible Falcon models running on same or higher SW version.
Multi Recipe	Enables running successive scans in one cycle with different focus, magnification, illumination, sensitivity and engines
Small Wafers	Handled on 150 or 200mm frames
Cleanliness	Class 100

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