SC-MDD™ Compact Whole-Wafer Scanner

Fast Detection of Macro Defects as small as 5 µm

MACRO DEFECT DETECTION

SC Solutions' Macro Defect Detection system, SC-MDD™, is a production-proven tool that rapidly detects and classifies macro defects for every wafer being processed.

SC-MDD™ includes scanner hardware as well as SC-WDD™ software which controls the scanning process, performs wafer image processing, and implements wafer die error detection and classification.

SC-MDD™ hardware

WHOLE-WAFER INSPECTION

There is a critical need in the semiconductor wafer processing industry for relatively inexpensive, in-line defect detection tools that detect macro defects in real-time at the point where the defects are generated without impacting throughput.

SC Solutions' SC-MDD™ table-top scanner meets this challenge by automatically inspecting wafers at a high speed right at the process step.

Any anomaly with the particular processing step is detected immediately, which minimizes scrap wafers and better control of yield.

SC-WDD™ implements the latest algorithms in defect classification that facilitates root-cause analysis of defects and enables maximum wafer yield.

FEATURES

- Detects macro defects down to 5 µm.
- Multiple-camera configuration available depending on minimum defect requirement.
- Easy wafer loading.
- Fast scanning & processing speeds (< 10 s).
- Easy installation with table-top configuration.
- Accommodates different wafer sizes.

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Value Through Innovation

OPTICAL RESOLUTION

300 mm wafer: 1355 dpi (18.6 µm pixel, 6.2 µm defect).

200 mm wafer: 2032 dpi (12.5 µm pixel, 4.2 µm defect).

150 mm wafer: 2710 dpi (9.3 µm pixel, 3.1 µm defect).

SCAN AND PROCESSING TIME

Scan time: ~8 sec. (@2000 lps).

Processing time: ~25 sec. (256 MB image).

OUTPUT IMAGE

Format: raw (binary) or PNG, 8-bit grayscale.

Size: 16000 x 16000 pixels (256 MB uncompressed).

COMPUTER

Type: Windows 10 PC, 3.4GHz i7 CPU, 64GB RAM, 1TB hard-drive and NVidia graphics card with GPU.

Cards: Frame grabber, NVIDIA GPU, DAQ.

Scanner Interface: 2 camera link cables, 2 USB cables.

Software: Operations GUI and Python interface code.

DIMENSIONS

Closed: 37 5/8" x 24 ¼ " x 10 3/4" - L x W x H.

Open: 56 1/8" x 24 ¼ " x 10 3/4" - L x W x H.

REQUIRED SPACE, INCLUDING CLEARANCE FOR VENTILATION AND CABLING:

Closed: 50" x 36" x 20" - L x W x H.

Open: 68" x 36" x 20" - L x W x H.

WEIGHT

185 lbs, excluding PC, monitor and accessories.

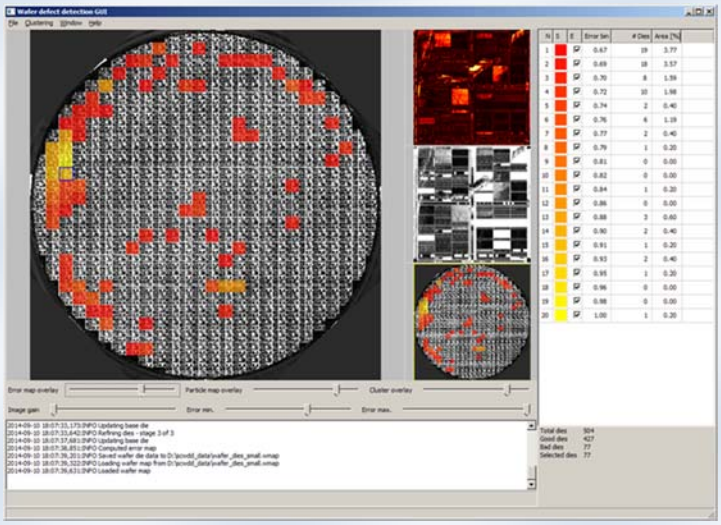
POWER SUPPLY

110V or 220-240V AC power dependent on choice.

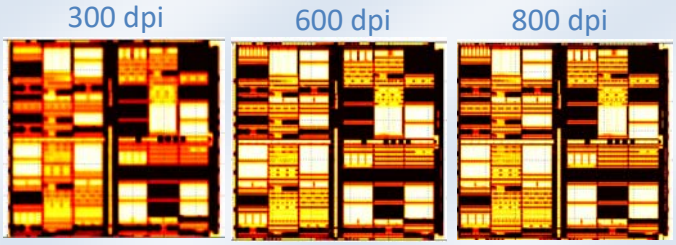
WARRANTY

Camera: 2 years.

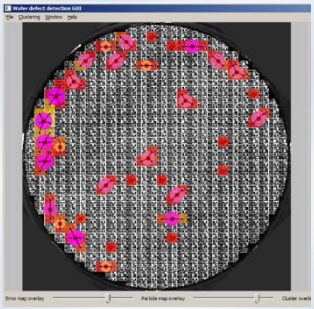
All other parts and labor: 1 year.

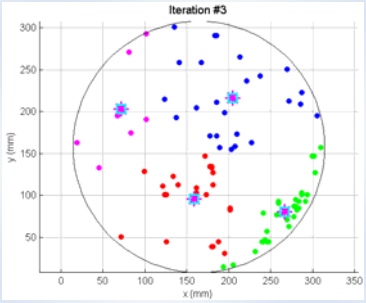


SC-WDD™ software and User Interface



"Golden Die" Estimation at different resolutions.





Iterative clustering of defects using k-means algorithm.

PLEASE CONTACT US FOR MORE INFORMATION

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