ZIII-NIR Wafer Inspection System

**FEATURES**

- Turn-key integrated measurement system
- Fully motorized 3-axis system for semi-automated inspection
- Proprietary McBain reflected light near InfraRed optical package provides best-in-class NIR visibility
- Highly sensitive InGaAs detector for superior imaging capability, particularly for hard to image materials such as doped Si and Si with rough surfaces
- Measurement software stores imaging and measurement parameters to maximize throughput
- Powerful options and upgrades allow for customization to exact customer & application requirements

**NIR Inspection & Measurement Applications**

- **In Process**: Verification for pre-bond or pre-hybridization on critical alignment applications such as MEMS, Wafer Bonding and 3D Chip Stacking
- **Post Process**: Verification, validation, inspection and direct measurement of critical sub-surface features in Si, GaAs and other NIR transmissive materials
- **Failure Analysis, Process Development, Tool Verification, Part Characterization, Qualification and Environmental Testing**

McBain’s imaging software allows for best-in-class image clarity for accurate measurement of alignment structures. The semi-automated software routines allow the user to preprogram different inspection routines, which can be easily recalled. The output data provides accurate and immediate alignment information for real-time quality control of your bonding process.
PRODUCT SPECIFICATIONS

Column: Precision motorized Z-column
- 150mm travel
- 0.5 micron scales
- 9mm cross roller bearing

Stage: Precision Motorized
- 200mm x 200mm Travel
- 0.5 micron scales
- 6mm cross roller bearing

Theta: Manual, 360°

Illumination: McBain Reflected Light NIR

Objectives: LWD 5X, 10X, 20X and 50X HR

Detector: InGaAs FPA
- 320x256
- 900nm-1680nm

Feature Resolution: ~0.6 to 1.3 microns

Min Field of View (x-axis): 100 microns @ 50X

Throughput: Approx 10 wafers/hour

Facilities Requirements
- 110VAC (220VAC Available)
- Vacuum
- Compressed Air/Nitrogen

Weight: 250kg

Options/Upgrades
- Transmitted Light
- 0.1 Heidenheim Scales
- 2.5X & 100X Objectives
- 640x512 Hi res camera
- Bond Chuck Adapter
- 300mm wafer System
- Motorized Theta
- McBain Ergo Table
- Software Customization to optimize any product and/or application

Software Functions
- Recipe creation & recall
- Wafer navigation
- Camera control & Imaging
- Theta Correction (de-skew)
- Focus assist
- Alignment target measurement
- Data output

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