WIS1000
1st Optical Inspection System

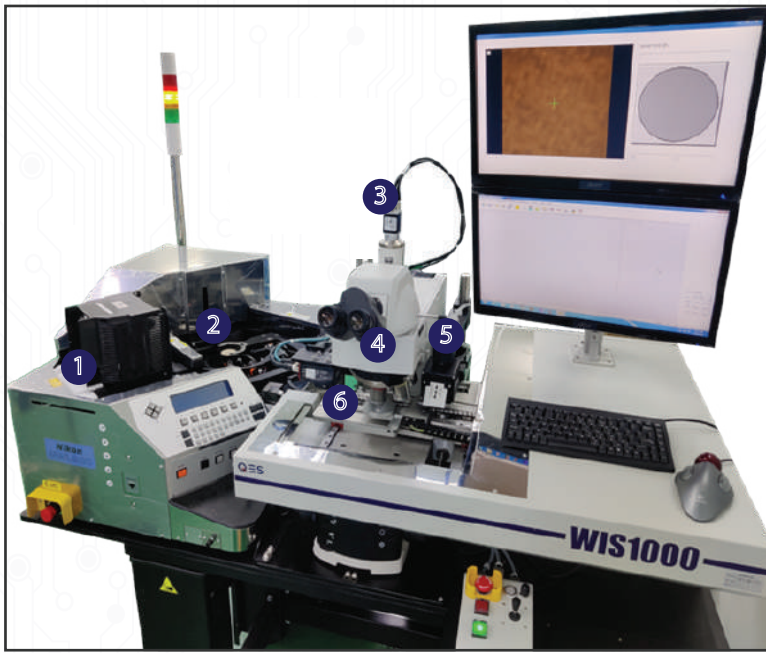## Highlights

WIS1000 is mainly designed for wafer size of 6" and 8". The standard design comes with one standard cassette load port that can accomodate both 6" and 8" SEMI Standard Open Cassette. The system integrated with Nikon Wafer Auto-Loader, NWL200, and programmable XY indexing table for macro and micro inspection. WIS1000 can do macro inspection on both the front and the back wafers, as well as micro inspection. The NWL200 allows you to specify macro inspection settings including wafer rotation speed and tilt angle either automatically or manually. For defect marking during inspection, the Inker Modulle can be integrated with the system. WIS1000 can decode wafer map and display in a graphical for mat for easy comprehension The user can also customise the reject code and review the summary lot report after the inspection.

Key Features

- Micro & Macro Inspection
- Bright-field, Dark Field & NIC Modes
- Integrated with Nikon Autoloader & Microscope
- Motorized Objective Lens with 4 Lens (5x, 10x, 20x & 50x)
- Programmable XY Indexing
- Wafer Alignment & Mapping Capabilities
- User Define Reject Code & Summary Lot
- IOSS WID120 Wafer ID Reader

QES MECHATRONIC SDN BHD

Wafer Handling

2 NWL200 Nikon Auto Loader
Comes with vacuum type end effector for wafer load/unload, pre-aligner for wafer centering and alignment, and macro inspection.

3 Color CMOS Camera
To display live image of die on LCD screen during the inspection.

4 Microscope with Objective Lens
Integrated with Nikon motorized nose-piece with 4 objective lens (5x, 10x, 20x & 50x)

5 OCR Reader
To read wafer ID such as OCR to download wafer map from customer server for inspection.

1 Cassette Load Port
Design for 6" or 8" open cassette. Integrated with mapping sensor to detect wafer presence and cross slot.

6 Micro Inspection
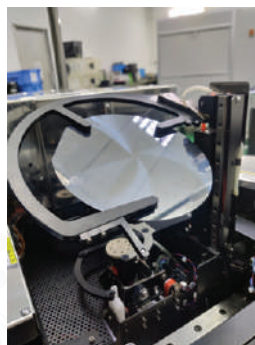Programmable X Y stage with vacuum chuck to hold wafer for inspection and update mapping.
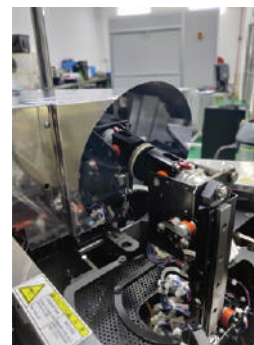
Inspection Capabilities

Macro Inspection

Wafer arm integrated with wafer chuck holds wafer and inspection parameters such as wafer rotation speed and tilt angle can be set automatically or manually.
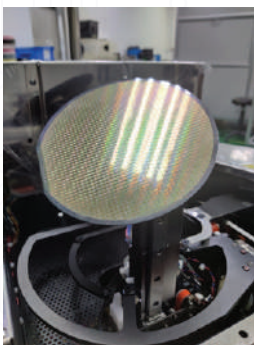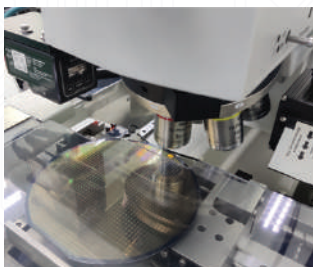

Surface Inspection

Back Side Center Inspection

Back Side Edge Inspection

Micro Inspection

High power microscope integrated with 4 objective lens (5x, 10x, 20x & 50x).
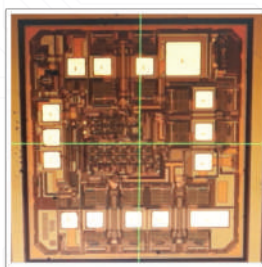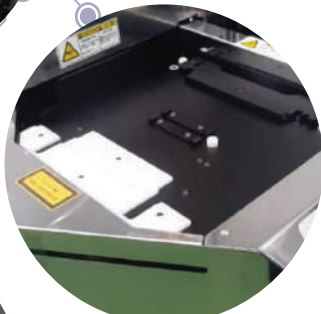

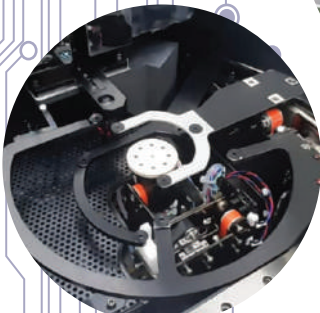*Microscopic Inspection*
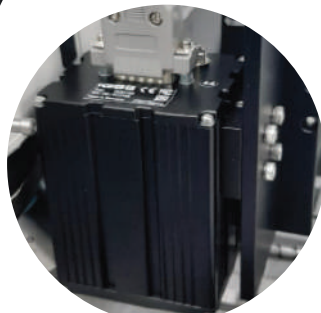

Image of Wafer Die

Features and Advantages

Nikon NWL200

Cassette Load Port

NWL200 Multi-arm System

IOSS WID120

Camera System

Microscope with Objective Lens

Quick & Effective Handling

WIS1000 is equipped with NWL200 Wafer Loader, which provide higher performance and effective wafer handling during process. The multi-arm system enables for precise loading and unloading of wafers, improving total transfer. This reduces cycle times and increases throughput considerably.

Macro Inspection

Macro inspection includes top surface inspection, back side edge inspection and back side center inspection. Wafer rotation speed and tilt angle can be set automatically or manually for macro inspection. There are a variety of lighting system available, ranging from spot lighting to uniform wide-area lighting.
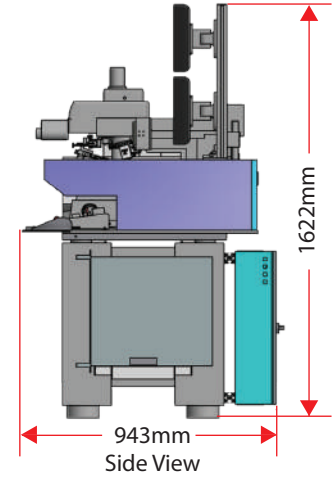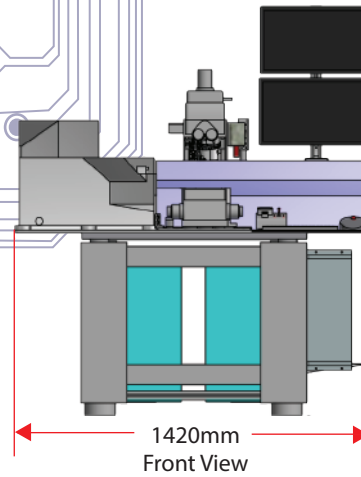
Advanced Wafer ID Reader

With up to 18 different light modes, the IOSS WID120 can decodes OCR, Barcode, DataMatrix and QR-Code markings on any kinds of wafer, regardless of the wafer material. Fully automatic light control and intelligent configurations handling, IOSS WID120 is able to improve the read rates drastically.

Micro Inspection

The microscopic inspection is equipped with a color CMOS camera, which is combined with a objective lens to produce images that are crisp and clear, with high contrast and resolution. The system incorporates with programmable XY stage for wafer alignment before inspection; wafer centering, wafer theta (rotation) and wafer die size (die pitch)

1622mm

1420mm
Front View

943mm
Side View

Technical Specification

Wafer	
Size	6" Wafer Size
	8" Wafer Size
Thickness	250μm to 800μm
Warpage	Up to 1mm
	More than 1mm (Sample Required for Engineering Test)
Loading Port	
Input/Output Port	Standard 1 Load Port
Carrier	6" Open Cassette (Semi Standard)
	8" Open Cassette (Semi Standard)
Inspection Platform	
Handling	Nikon NWL200 Series
Macro Inspection	Top & Back Wafer Inspection
	Wafer Chuck to hold Wafers during the Tilting Mechanism
Micro Inspection	Trinocular Wide-Field Observation Tube
	10x Wide-Field Eyepiece.
	Nikon Eclipse L200N With 4 Objectives Lens (5x, 10x, 20x, 50x)
Wafer ID Reader	
Code Types	Barcode: BC412, IBM412 (IBM & SEMI, T1-95 & Base35)
	2D Matrix: Data Matrix™ECC200, SEMI T7, M1.15
	Alphanumeric: SEMI OCR: M12, M13, M1.15
Standard Accessories	
Camera	Colour CMOS Camera
Display	2 x 18.5" LCD Monitor
Status Indicator	3-Tier Tower Light with Adjustable Buzzer Volume
Input Device	Process Soft Keypad, PC Key board, PC Mouse, Joystick
Auto Conversion	Programmable Different Wafer Size (For 6" & 8")
Operation System	
Software	Microsoft Window 10 Operating System
	Wafer Inspection System WIS1000
Optional Accessories	
Anti-Vibration Workstation	20 psi - 80 psi (Gross Load Capacity)
Network System	Network Connection Ready (TCP/IP)
Reject Module	Inker Identification Reject Module
Operating	
Power Supply	200-240VAC, 50/60 Hz Single Phase
Compressed Air	70 Psi
Dimension	
Foot Print	1420mm (L) x 943mm (W) x 1622mm (H)