OLYMPUS®

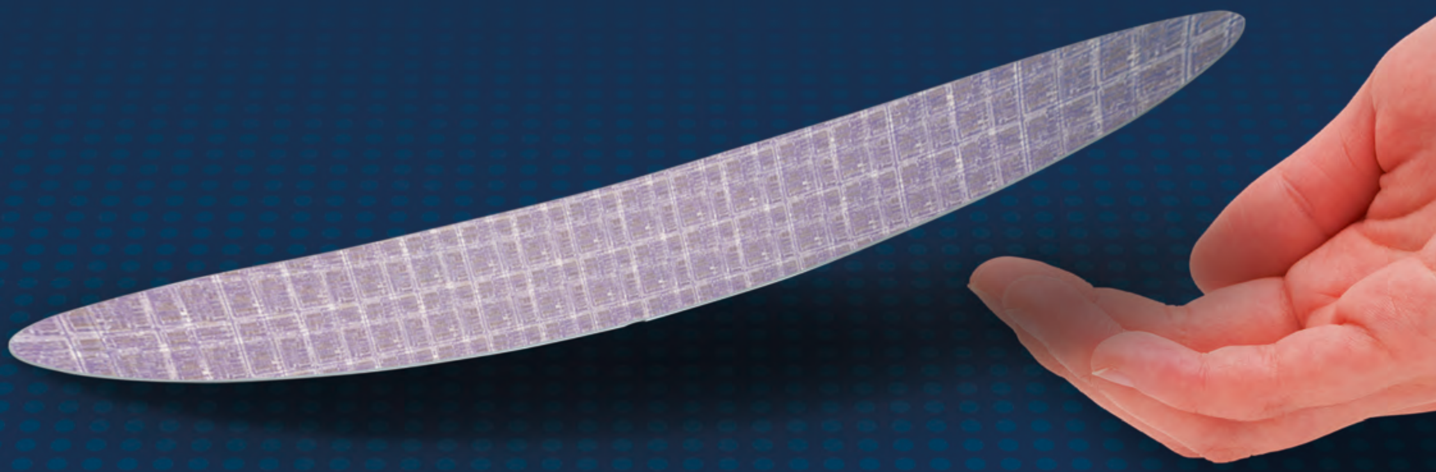
Your Vision, Our Future

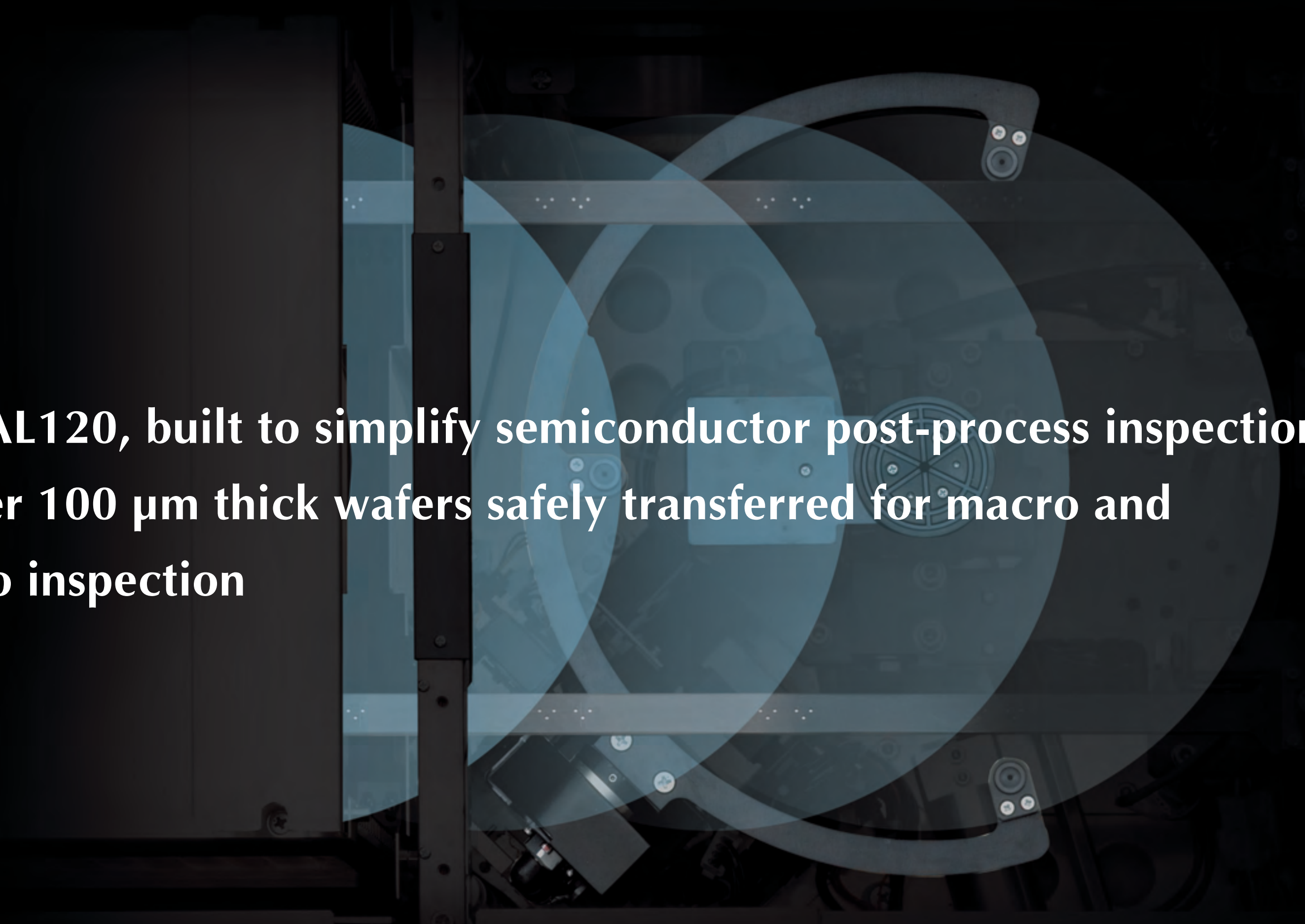
Wafer Loader

AL120

Pursuit of Excellence

Enhanced Versatility for Extended Performance





The AL120, built to simplify semiconductor post-process inspection

Under 100 µm thick wafers safely transferred for macro and micro inspection

AL120 (200 mm Configuration) +
Semiconductor Inspection
Microscope MX61

200 mm 200/150 mm

Allows for quick inspection, improving throughput.
Combines with the MX61 semiconductor inspection microscope for a complete and reliable wafer inspection solution.

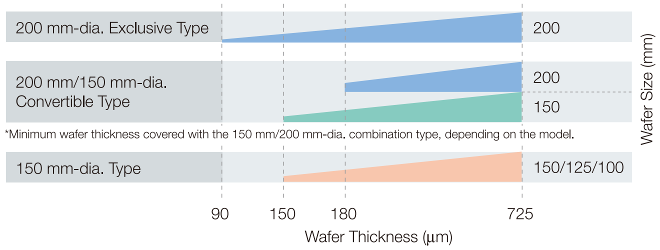
AL120 (150 mm Configuration) +
Semiconductor Inspection
Microscope MX61

150 mm 125 mm 100 mm

Precision Flexibility

Handles Multiple Wafer Sizes

The AL120 series consists of three models based on wafer diameter, 200 mm exclusive type (AL120-L8), 150 mm and 200 mm convertible type (AL120-L86) and the 150 mm type for sizes of 150 mm or less (AL120-L6). Each model is designed for wafer transfer and microscope inspection. Topside and backside macro inspections are also available for all wafer sizes.



*Minimum wafer thickness covered with the 150 mm/200 mm-dia. combination type, depending on the model.

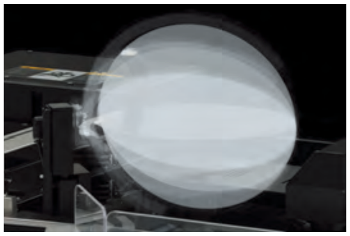
Wafer Transfer of Ultra-thin Wafers Down to 90 µm

To meet the challenging demands of thinner wafers, Olympus specially designed transfer arms to now allow an entire cassette of twenty-five 200 mm wafers with thicknesses down to 90 µm to be safely transferred and inspected. A maximum of ten wafer thicknesses can be preset via a control panel.

Precision Capability

Enhanced Macro Inspection Functionality

Macro inspection (LMB) now features a 360-degree self-rotating function for a complete macro inspection of the wafer. This allows for easy identification of defects and particles on the wafer surface for both the top and backside surfaces. In addition, top macro inspection includes up to 30 degrees of tilt using the integrated joystick.



Macro Function, with the Wafer Holder Tilting Angle at 360 Degrees (Simulation)

LCD Display Improves Accuracy and Convenience

An LCD display provides the operator with the ability to visually configure inspection recipes and sequences, as well as confirm set-up conditions. Inspection results, including operator input of micro and macro defects, are displayed on the LCD for operator review.

Control Panel and LCD Display

Serial Interface for Software Control (Optional)

Inspection parameters and recipes of the AL120 can be controlled through an optional RS232C serial interface. Equipment manufacturers and labs with internal inspection software can enhance automation and efficiency by incorporating the AL120 Wafer Loader. The serial interface uses Dynamic Link Library (DLL), making integration simple with application specific software.

Precision Reliability

Wafer Safety Functions

The AL120 employs two new wafer detection functions: wafer height and cross-slot placement. Wafers are scanned prior to wafer transfer to detect the position of the wafers in the cassette, as well as checking for cross-slotted wafers. An optional stage lock kit is available to ensure proper wafer transfer to the vacuum stage.

Robust and Reliable Microscope Platform

The Olympus MX61 semiconductor inspection microscope provides exceptional image resolution and clarity through observation methods such as brightfield, darkfield, and differential interference contrast (DIC). The motorized objective turret and aperture stop are interlocked allowing optimal illumination and contrast for each objective lens.

SEMI S2/S8 and RoHS Compliant

AL120's design not only ensures the safety of the wafers and its operators by adhering to SEMI S2 and S8 standards, but it is also RoHS compatible.

Specifications

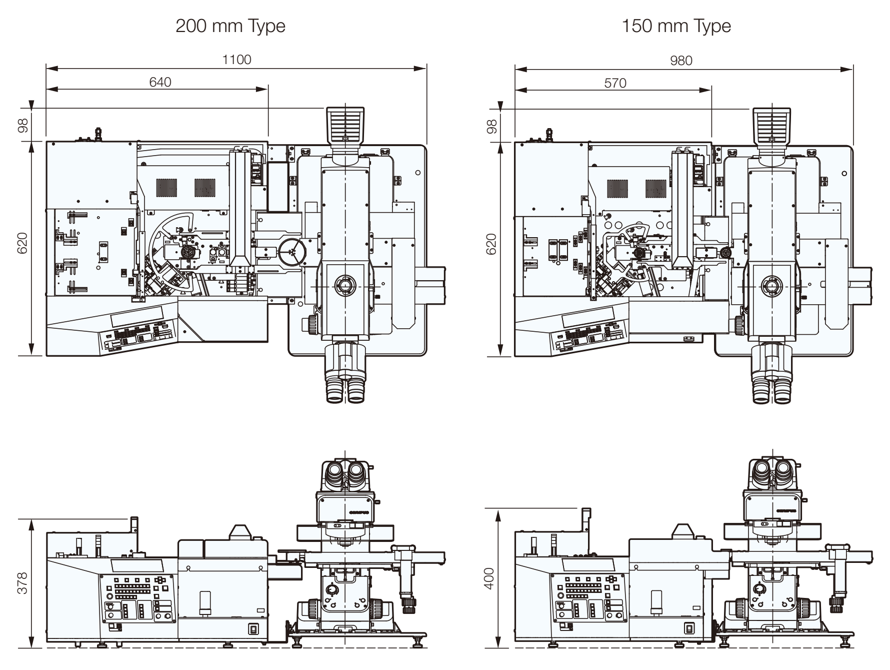
Item		Model: 200 mm Type	200 mm/150 mm Convertible Type				150 mm Type	
		AL120-LMB8-90	AL120-LMB86-180	AL120-L86-180	AL120-LMB86	AL120-L86	AL120-LMB6-150	AL120-L6-150
Wafer Size (SEMI Standard)		200 mm	200 mm/150 mm				150 mm/125 mm/100 mm	
Minimum Wafer Thickness		90 µm	180 µm		400 µm		150 µm	
Type of Cassette*1		SEMI stad. 25 (26)-slot						
Number of Cassette		1						
Inspection Recipe		All/Sampling						
Inspection Sequence	Micro (Microscope)	✓	✓	✓	✓	✓	✓	✓
	Top Macro	✓	✓		✓		✓	
	Back Macro	✓	✓		✓		✓	
	2nd. Back Macro	✓	✓		✓		✓	
Wafer Orientation (Every 90º)		Non-contact (O.F./Notch)					Non-contact (O.F.)	
Compatible Microscope Model		Olympus Semiconductor Inspection Microscope MX61						
External Control*2		✓ (Option)	✓ (Option)	✓ (Option)	✓ (Option)	✓ (Option)	✓ (Option)	✓ (Option)
Dimensions (mm)		640 (W) x 620 (D) x 378 (H) Body Only, 1100 (W) x 620 (D) x 378 (H) with Microscope					570 (W) x 620 (D) x 400 (H) Body Only, 980 (W) x 620 (D) x 400 (H) with Microscope	
Weight (kg) (Main Body Only)		44	44	41	44	41	40	37
Utility (Power Consumption/Vacuum)		AC100 V – 120 V, 1 A, or AC 220 V – 240 V, 0.5 A 50/60 Hz, -67 to -80 kpa, 20 Liter or higher/min						

*1 Up to 10 types of cassette are registered for all models. *2 Compatible OS: Windows7 (32-bit/64-bit)

There are some cases that all types of wafers must be tested in advance to installation of the equipment.

Dimensions

(Unit: mm)



Visual Inspection Illuminator WA-LED-2*

High-intensity LED with a wide illuminance area.

*Not available in some countries including Republic of Korea

•*Manufacturer : HAYASHI WATCH-WORKS CO.,LTD.*