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Model 102C/CE Edge Profile Comparator

The Model 102C/CE Edge Profile Comparator non-destructively inspects semiconductor wafer edges and significantly improves yield, reduces wafer breakage, and increases equipment uptime. The 102C/CE

- Reduces chipping and fracture
- Improves gripping by wafer handlers
- Preserves valuable materials
- Increases yield



What Does Your Wafer Edge Look Like?

The H&L Instruments Model 102C Edge Profile Comparator lets you inspect the edges of your wafer to guard against chipping and mishandling by wafer handlers. By creating a shadow-edge profile image, this qualitative inspection instrument helps you verify compliance to specifications, without sacrificing the wafer. The 102C magnifies the profile image 100 times and displays it on a 12" monitor. Precision fixturing for wafers from 1" to 300 mm allows you to rotate the wafer 360° and refocus as needed. By comparing the image with a template clamped to the monitor, you can compare your wafer against specifications such as SEMI M1 or M9. With the optional video processor, you can print the image for hard-copy documentation.

Help Your Wafer Handler Keep its Grip

The shape and integrity of a wafer's edge play a part in its ability to survive the manufacturing process. Many wafer handling systems rely on a controlled wafer edge to provide repeatable, secure wafer transport. When a wafer's edge falls out of this control window, the handling system may lose its grip, causing wafer breakage or worse. During processes with rotation, such as chemical mechanical polishing and backside lap processes, improved gripping avoids the catastrophic failure of wafers "jumping out of their pockets." The 102C Edge Profiler lets you verify wafer edge shape and integrity before manufacturing begins. By preventing chipped and "out-of-spec" wafers from entering the manufacturing flow, you can reduce wafer breakage, improve equipment uptime, and increase your line yield.

Control of Edge Contour Improves Yield

Control of edge contour can also improve your wafer's ability to yield active devices. The Model 102C identifies all common edge problems that affect yield. Whether you need to inspect every wafer, or a statistical sample, control over the edge of your wafers provides significant processing benefits by reducing

- Chipping and fracture
- Slip generation in furnace processes
- Particle generation
- Epitaxial edge crown
- Photoresist edge bead

Approved for Testing to SEMI Standards

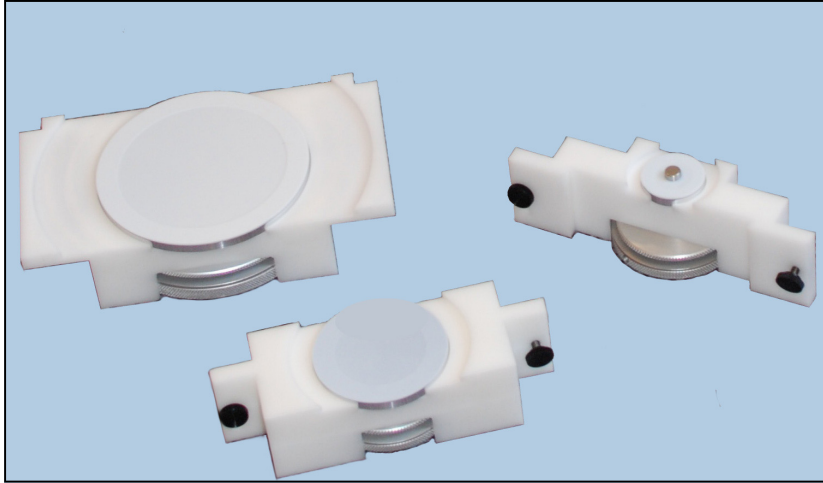
The Model 102C is ideal for testing to ASTM F928 wafer test Method B. Many users prefer this method of edge inspection because the 102C is so easy to use. And, unlike other test methods, the wafer is completely usable after a shadow-image inspection. For large diameter silicon, GaAs and sapphire wafers, non-destructive testing preserves your valuable and hard to obtain materials.

Inspect Wafers and Grinding Wheels From 1" to 300 mm

Built for production use by device manufacturers and wafer manufacturers alike, the Model 102C uses holders to change from one substrate to another. Holders are available for all wafer sizes as well as for many sizes of grinding and forming wheels. With the right holders, you can test all your materials with a single instrument.

Available Wafer and Edge Grinding Wheel Holders

All standard SEMI, DIN, and JEIDA wafer and edge grinding holders are available as well as custom sizes by special order. The wafer holders are made of Delrin with silicone rubber turntables. See the 102C/CE price list for wafer and grinding wheel holder pricing. Contact the factory for pricing of custom wafer and grinding wheel



Magnification and Accessory Frame Grabber Options

A 100X magnification is standard for the 102C/CE instrument. A 50X magnification option is available, and other custom magnifications are available by special order. Contact the factory for custom magnification pricing.

A frame-grabber option provides a USB interface to a PC for capturing edge profile images.

Custom Shipping Container Included

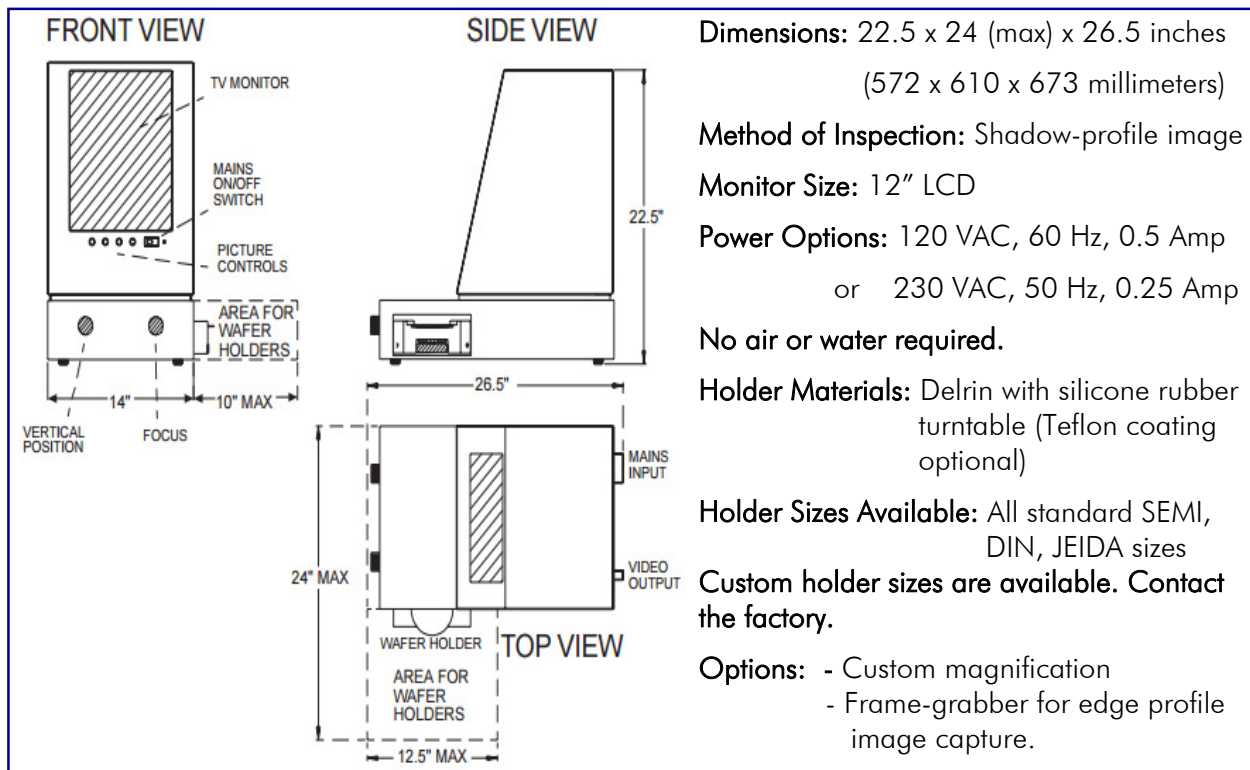
The 102C/CE Instrument includes a custom shipping container that protects the instrument during transport.



Our Customers Include

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|------------------|---|---------------------|
| IBM | MEMC | Sumitomo SITIX |
| Intel | Siemens | Texas Instruments |
| Alcatel-Lucent | SEH | AXT |
| Topsil | Monsanto Company | Crystal Specialties |
| Wacker Siltronic | SGS Thomson Microelectronics, Singapore | |

Specifications



Founded in 1979, H&L Instruments develops and manufactures electro-optical equipment for semiconductor materials processing, turbine engine maintenance, fiberoptic data communication, and medical research.



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