WaferMark® SigmaDSC™

Laser Wafer Marking System

Enabling Technology™

The industry-leading solution for highly efficient hard marking that survives the harshest processing of 100mm to 300mm wafers for identification and traceability.

- Ultra-stable patented diode-pumped laser
- Unsurpassed production marking flexibility
- Handles wafers from 100mm through 200mm diameter
- Available 300 mm kit handles 150mm, 200mm, and 300mm wafers
- Marks SEMI OCR, BC412, 2D Matrix and other font formats
- Custom mark verification and reader options available
- Optional FECS II/GEM interface for factory communications/networking

GSI™ WaferMark®

With the enormous variety of marking opportunities in today's market, you require a wafer marking system with unsurpassed production capabilities. The *GSI Group WaferMark® SigmaDSC™* allows you to easily meet the demanding specifications of the semiconductor industry.

Proven Technology

The *WaferMark SigmaDSC* relies on *GSI Groups'* vast laser marking experience coupled with industry-proven wafer handling equipment to provide maximum production flexibility with minimum downtime. The system design accommodates a number of standard and custom options to further enhance the system process capabilities such as 300 mm wafer handling kit, custom readers and mark verification unit.

Maximum Efficiency

Standard system features allow wafer cassettes to be queued for processing without having to stop production for hardware changeover. The optional robot flipper assembly (not available on 300 mm kit) allows marking on both sides of raw wafers in one operation setup. The system operating software uses a drop windows-style format with all functions grouped into pull-down menus allowing easy access by the process technician. Or, the system can be controlled remotely from the host computer using the available SECS II/GEM communication interface.

Worldwide Support

Throughout the semiconductor world, our applications engineers and materials scientists continue to develop new solutions in step with semiconductor process advancements. Our service technicians are trained in every aspect of maintenance and troubleshooting, and parts are stocked locally in North America, Japan, Taiwan, Korea, Europe, and China.

Specifications

Marking Performance:

- Marking Modes: Dot Matrix, Hardmark
- Fonts: SEMI OCR, BC412, and other Dot Matrix formats available
- Position: Multiple mark groups at any orientation on the wafer front surface within a 25mm band around the wafer circumference

Wafer Handling:

- Wafer Size Range: 100, 125, 150 and 200mm
- Alignment: Optical alignment over the entire wafer size range with no hardware change-over for both flatted and notched wafers
- Repeatability: ± 125 µm in both X and Y axes relative to the primary fiducial
- Wafer Transport: Pick and place robotic arm with dual vacuum wand
- Throughput: Up to 240 wafers per hour (marking per SEMI specification M12-92 single pulse)
- Send and Receive Modules: Three load/unload cassette stations capable of performing no-work-over-work handling two stations for 300 mm kit

Workstation:

- Control System: Windows NT based control unit with 3.5" floppy drive and hard disk drive for storage of all system parameter
- Software: Operator prompt, pull-down menu format using a flat panel monitor and full size keyboard. Bar code wedge reader input device optional.
- Diagnostics: Complete system diagnostic indicators displayed on front panel, along with the EMO button and system keyswitch. Automatic laser data logging function.
- Communication: SECS II / GEM Interface optional

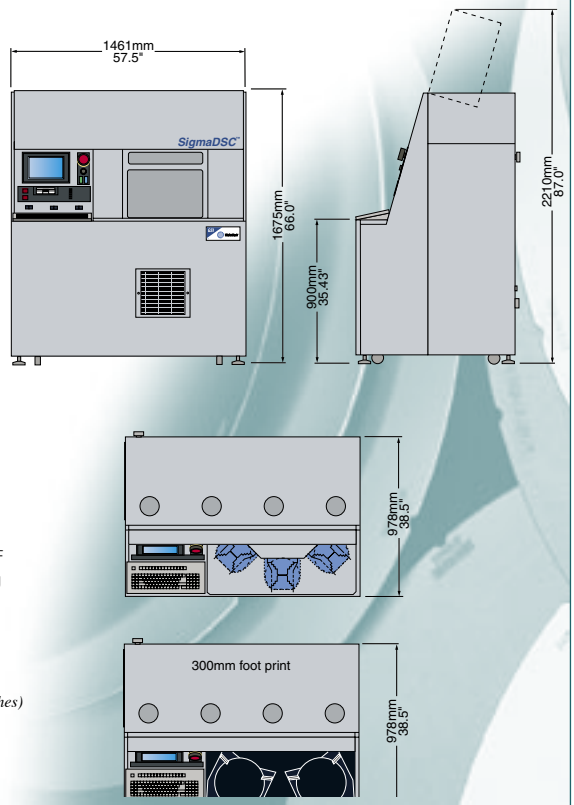
Laser/Optics:

- Laser Type: Acousto-optic Q-switched, TEMoo Nd:YLF Diode-pumped laser
- Optics: Flat field focusing lens

Utilities:

- Electrical:
  Standard connections
  - 220VAC, single phase, 50/60Hz, 22FLA
  - 208VAC, single phase, 50/60Hz, 23FLA
  - 200VAC, single phase, 50/60Hz, 24FLA

  Optional Connections
  - 400VAC, single phase, 50/60Hz, 12FLA
  - 416VAC, single phase, 50/60Hz, 12FLA
- Vacuum: 25-30 inches Hg at 2 SCFM (635-762 torr @ 56.6 l/min) 1/4 inch diameter press-lock connection
- Exhaust: 20 CFM (560 l/min) flow rate max 1.25 inch (32mm) diameter port
- Dimension: 66 inches H x 57.5 inches W x 38.5 inches D (1675mm H x 1461mm W x 978mm D)
- Weight: 1425 lbs (646 Kg)
- Operating Environment : Ambient temp 55.0-85.0 °F (12.8-29.5 °C) Humidity (relative): Non-condensing



Dimensions in mm (inches)

Specifications are subject to change. Please consult Product Center for complete details.
The classification of the WaferMark® SigmaDSC™ is Class 1/I.

www.gsig.com/systems

GSI WaferMark®

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For sales information, visit our web site or contact your local sales office.

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