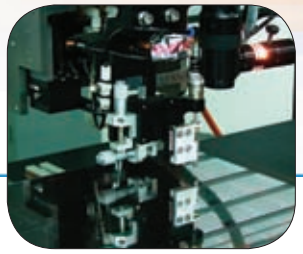
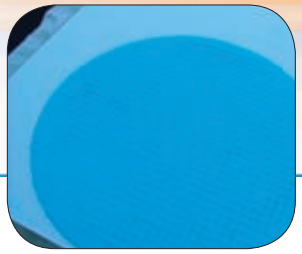
FONON DISPLAY & SEMICONDUCTOR SYSTEMS
Tel: 407.829.2613
Fax: 407.804.1002
www.fononDSS.com
info@fononDSS.com
A DIVISION OF FONON TECHNOLOGY INTERNATIONAL

Fantom G4™

Generation 4 Thin Glass Laser Scribing Machine





The Fantom G4 Glass Panel Scribing Machine utilizes the latest laser technology for glass scribing and is equipped with an integrated Laser Photonics laser source for the Flat Panel Display Industry.

The Fantom G4 Laser Scribing tool is a part of a new line of industrial laser cutting systems from Fonon DSS. It incorporates a new generation modular design laser and precision direct drive high resolution linear motion system forming a precision, stand alone, small foot print automatic tool which can be easily integrated into an inline system.

The system is based on Zero Width Laser Cutting Technology®. ZWLCT method splits materials at the molecular level with tremendous speed, no material loss, and no chips or other debris associated with conventional scribe and break techniques.

New & Unique Features

- System is equipped with patented Fantom™ Laser head specially designed for ZWLCT ™
- Laser is emitting the specific frequency and operating in a special mode enhancing the glass separation process
- Laser auto focus mechanism (Optional Configuration)
- Adjustable loading and unloading positions for in-line integration
- Remote internet monitoring and diagnostics.
- Cutting on the film for "Stretch and Remove" technology
- Maintenance-free optical path
- 1000 mm x 1000 mm max precision sintered metal vacuum table with variable glass size holding capabilities.
- Provides multiple functions: scribing, inspection, measurement
- Produces glass panels 3 to 5 times mechanically stronger without any additional edge processing

Process Capabilities

- Capable of scribing glass panels for up to Generation 4 panel size
- Capable of scribing on any type of display glass (except quartz) without realignments
- Provides extremely stable singulation line with highest possible edge quality
- Micron-level straightening of singulation line
- No chipping and no glass particles generated
- No overheating of the glass surface, no long term edge micro fracturing
- Cross Cuts – no cut initiations on the crossing, no chipping

Advantages for Users

- Low cost solution for precision glass scribing & priced the same as or less than precision mechanical scribers
- Reduced training level requirements for operators
- Eliminates Grinding & Cleaning Line
- Small footprint: Reduced space for Laser Scribing
- Built-in modular (easy to replace) power supply, amplifiers, PC control, and high voltage electronics
- Modular design utilizes standard components for easier service
- "Plug-n-play" characteristics give the system ease of installation and a quick start-up time
- Price includes installation, startup, and training
- The system includes: fully documented operation manual, site plan drawings, recommended spare parts list, cost sheet and setup tool kit
- Service: No laser service needed; there is no optics pass, no optics service required, no optical alignment necessary
- Cost of Ownership: No gas consumption, no optical alignments, no optics cleaning, no special requirements on quality of industrial space
- Plug & Play Capabilities
- Internet-ready
- Easy of installation allows for quick start-up
- The whole process is brought inside clean room

21 CFR 1040.10 Compliance

This product is a Class 1 laser as designated by the CDRH and MEETS the full requirements for a stand-alone laser system as defined by 21 CFR 1040.10 under the Radiation Control for Health and Safety Act of 1968. As an added level of security, a redundantly switched safety interlock system helps prevent accidental exposure to excess laser radiation. Plus, the system is equipped with an electrical power manual reset, a key-locked laser power switch and a remote interlock connector. Finally, the system has audible and visible emission indicators with five (5) second emission delay settings. All these features, in combination, constitute the laser radiation safety system, which allows the equipment to be used in a safe and secure manner.