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# MeccoMark ®
# Fiber Laser Marking System

## *Technical Specification*


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**System Overview:**

The MeccoMark Fiber Laser Marking systems feature the latest in laser marking technologies. Our pulsed fiber system delivers superior performance and reliability in a compact package. For marking part numbers, 2D Data Matrix, logos and graphics, the Fiber series is the ideal laser for your marking applications.

**Standard Features:**

- 10 Watt and 20 Watt models
- Windows based software interface
- Integrated Safety Shutter
- Industrial Computer
- Power Control Box
- High Performance Scanhead
- 110mm square mark field
  *(other field sizes available, see Lens selection chart)*
- Real time system controller
- I/O Interface
- Two Year System Warranty

**Optional Accessories:**

- Visible Pointer for mark preview
- 175mm, 250mm and 305mm square mark fields
- Class I Safety Enclosure
- Rotary Indexer for cylindrical marking
- XY and Z Class 1 Automated Workstations
- Rotary Workstations

**System Benefits:**

- Compact design for minimal footprint
- Estimate 30,000 hours + of laser lifetime
- Mount in any orientation
- Air-cooled design *(no water or external chiller required)*
- Zero maintenance
- Low cost of ownership

**General Laser Safety:**

The MeccoMark Fiber Laser Marking system can be supplied in either Class IV of Class 1 configuration. The standard system (without enclosure) is a Class IV system. The laser operator is exposed to laser radiation at the work surface. This laser radiation can be harmful to the operator if laser light is scattered or reflected into the eye.

If the system is sold as a Class IV system, it is the responsibility of the integrator to properly safeguard the operator from laser radiation. The MeccoMark Fiber Laser Marking System does comply with the Center of Device and Radiological Health and Safety Act of 1968.

The Class IV system features:

- Spring Loaded mechanical safety shutter
- Emergency Off (EMO) circuitry and pushbuttons
- Remote Interlock (RIC) circuitry for use with external equipment such as Class 1 Enclosures and/or safety guarding.

If the system is sold as a Class 1 system, the operator is properly protected from laser radiation. Mecco has submitted this design to the CDRH to be compliant with all safety regulations per 21 CFR 1040.10.

The Class 1 system features:

- Spring Loaded mechanical safety shutter
- Emergency Off (EMO) circuitry and pushbuttons
- Remote Interlock (RIC) circuitry
- Light-tight safety enclosure with interlocked doors and access panels.

Please consult the Fiber Laser Operator Manual for full laser safety information.

**Laser Specifications:**

| Parameter | Value | Notes |
|---|---|---|
| Laser type | Fiber | Ytterbium doped |
| Wavelength | 1070 nm | |
| Output Power | 10 watt and 20W versions | |
| Beam Quality | TEMoo | |
| $M^2$ | <1.4 | |
| Operation Mode | Pulsed | |
| Pulse Rep Rate | 20-100 kHz | |
| Cooling | Air | |
| Scanning Method | XY galvanometer | |
| Integral Shutter | Yes | |
| Rail Weight | 20 lbs | |

**Performance Specifications:**

| Parameter | Value | Notes |
|---|---|---|
| Repeatability | +/- 1 part in 4,000 | |
| Max Line Speed | 3,000 mm/sec | Using 160 lens |
| Max Characters | 250 character/sec | Using 160 lens, 1mm high characters on mirror |

**Computer Specifications:**

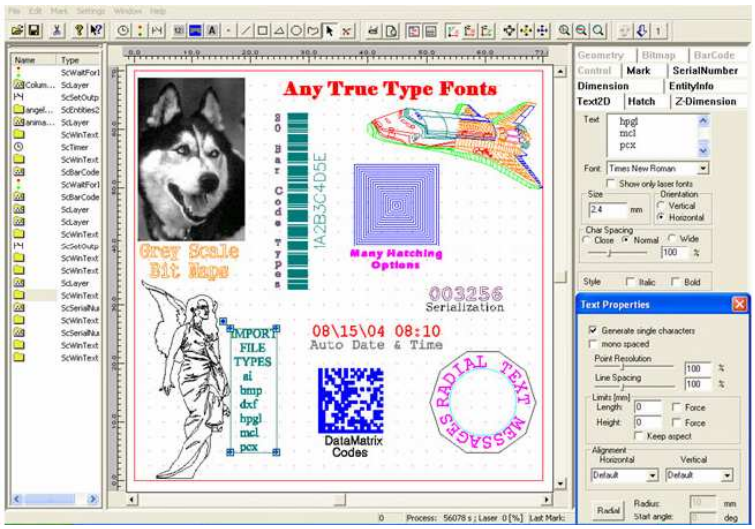
| Parameter | Value | Notes |
|---|---|---|
| Operating System | Windows 2000 or XP | |
| Processor | Pentium or better | |
| Processor Speed | 500 MHz min. | |
| RAM | 128 MB min. | |
| Hard Disk | 4.3 GB min. | |
| Screen Display | 1024 x 768 resolution min | |

**Environmental Specifications:**

| Parameter | Value | Notes |
|---|---|---|
| Electrical | 90–250VAC, 50/60 Hz, 10A | |
| Operating Temp. | 15°C to 35°C | |
| Relative Humidity | 20 to 90% | |
| Warm-up time | 30 minute for full stability | Laser can be fired after 1 minute of warm up time. |

## MeccoMark Laser Marking Software:

The power, ease and flexibility of MeccoMark's User Interface is the most advanced and professional package in industry. MeccoMark® laser scanning control software offers a robust and flexible solution to make your scanning control project a success. MeccoMark® control software is a fully featured, professional Windows based software package for laser marking, cutting, drilling, coding, perforating, and many other laser scanning applications. When combined with the Surf Board-USB board, a 2 or 3-axis scan head and a laser, the laser processing possibilities are endless.

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The software allows graphics job editing that enables you to assemble images, text, and barcodes and quickly arrange them into marking jobs. With a simple point and click, you can graphically edit marking objects, precisely control laser parameters, and build automation scripts within a single interface. You will be able to define and run jobs within a few minutes.

This high performance, laser scanning control solution is designed specifically to run on Windows 98, 2000 or XP. And with the built in Active-X Server, real time machine performance can be managed and monitored over an Ethernet network.

## Features and Highlights

- USB 1.1 or 2.0 Interface
- For Win. 98/2000/XP
- Intuitive, Easy to Learn Graphical Interface
- Serialization & Text Merge
- Radial & Vertical Text
- Import Many Vector and Graphic File Types
- Scale, Rotate, and Mirror
- External Control Capable

- Mark Any Installed True Type Fonts and Barcodes
- Additional I/O Control for Material Handling
- Stepper/Servo Motion Control X/Y, Z, & Rotary
- Controls Any Laser Type
- Built In Lens Correction
- Remote Access & Control