

EPILOG LASER  
**FiberMark\***

Fast, Flexible

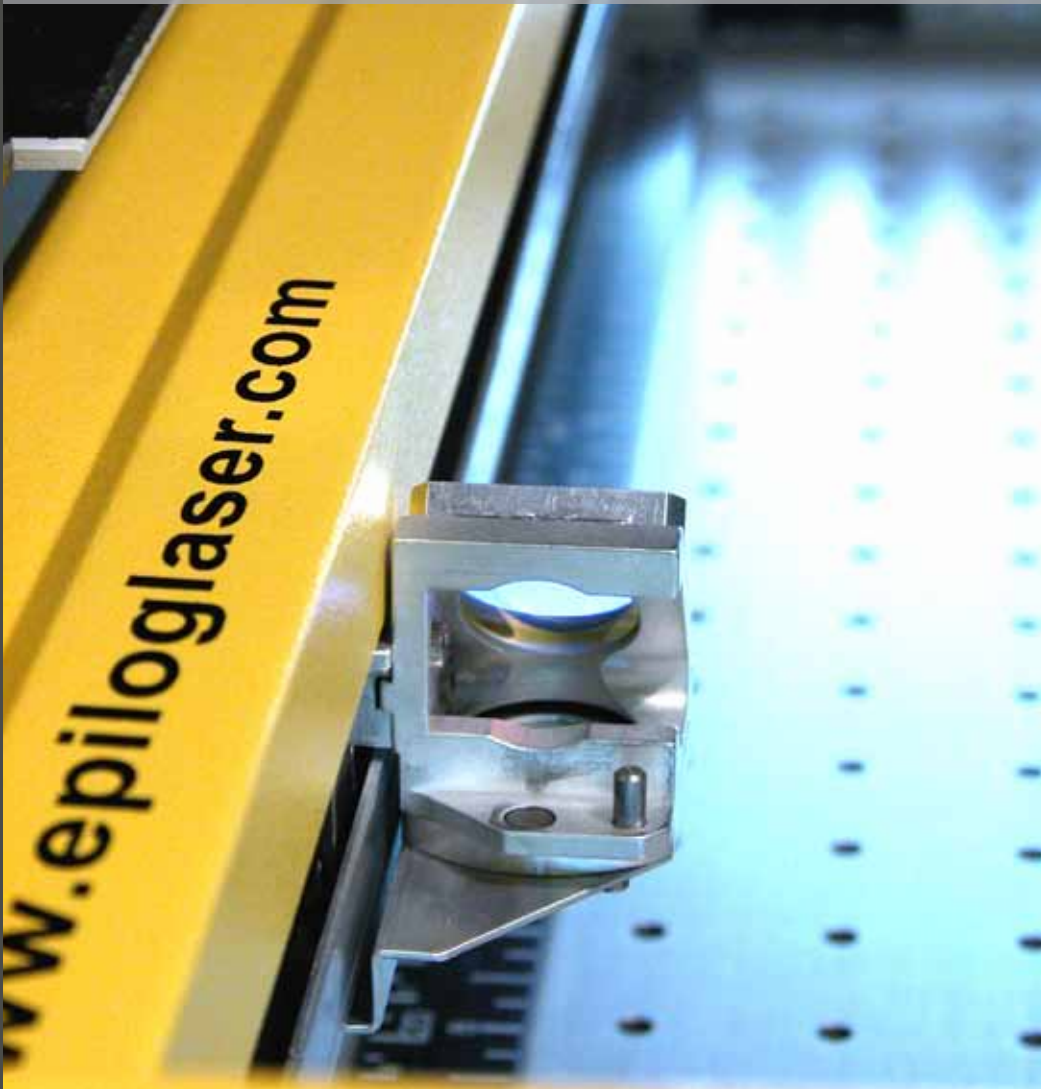
Direct Metal Etching, Annealing, and Polishing



**Industrial Laser Marking System**

Product Identification • Serializing • Logos • UID • Barcoding

Laser Marking



Prints from AutoCAD, CorelDRAW, Illustrator, & More

**MADE IN USA**

### DVD Demo Info

Explore this informative DVD Demonstration of Epilog's laser systems to see the unique features of the FiberMark metal marking system. Insert the DVD demo into your computer's DVD drive and watch as we explore:

- The unique features of the FiberMark design.
- The versatility and ease of printing to the laser from most software packages.
- The next step to owning your FiberMark system!



### Epilog Laser

The Leading Worldwide Provider of Laser Marking Technology

Since 1988, Epilog Laser has been the leading provider of laser technology. From industrial fiber laser marking solutions to consumer CO2 laser models, Epilog Laser is known for the highest-quality laser etching and marking. By combining high-resolution engraving with the highest-quality industrial parts, and our Made-in-the-USA quality, we've built our name on providing the best solutions to our customers.

Located in the foothills of the Rocky mountains, Epilog Laser is proud that our laser systems are designed, engineered and manufactured in the USA.

### The FiberMark Laser by Epilog

Industrial Metal and Plastic Marking Systems

The FiberMark Laser is the **world's first flying-optic design incorporating a fiber laser source.**

Operating at a wavelength of 1062 nm, the FiberMark Laser etches directly into metal and marks a wide variety of plastics with an incredibly simple interface that allows you to print to the laser from almost any Windows®-based software, including AutoCAD, BarTender, CorelDRAW and Illustrator.

We've combined our popular CO2 laser system's Accupoint Motion Control Technology with the fiber technology to solve several industry needs:



#### A Laser System with Lower Operating Costs

With a large 24" x 12" (610 x 305 mm) work area, there is no need for a dedicated operator to load products to be etched. Load a tray of parts, place it the machine, and start the job.



#### Easier Software Integration

Specialized, proprietary software for laser systems creates the need for expensive training and re-training as staff turns over. We've designed the FiberMark to work through a Windows® print driver, allowing you to print to the laser from the software you already use, including AutoCAD, BarTender, CorelDRAW, Illustrator, and more.



#### Ability to Create Custom Marks

Since the FiberMark laser operates like a paper printer, you can quickly set up custom engraving jobs for multiple pieces. Need to etch a different logo? It's as easy as importing the image and printing it to the laser.



#### Etching of Large Parts and Tools

If you face a requirement to track larger parts and tools, the FiberMark Laser can meet that need as well. Place a large piece, up to 24" x 12" x 5" (610 x 305 x 127 mm) on the machine's table to etch your logo or barcode wherever it is needed.



#### Highest Quality Design and Service

Epilog Laser has been manufacturing laser systems in the USA since 1988, and we are proud to have built our business on the reliability and quality of our laser systems and the outstanding customer service we provide. From our Accupoint Linear Encoder, to Kevlar belts, to high-speed, closed-loop servo motors, to easy-to-use placement features, like Center/Center Positioning and Moveable Home Position, you won't find an easier, higher quality system on the market.

**Read on to find out if the FiberMark Laser is the right solution for your business...**

## Introducing the FiberMark by Epilog Laser

Laser Source: 1062 nm Ytterbium Pulsed Fiber Laser - 10, 20, 30 or 50 watts

Material Capabilities: Metals and Engineered Plastics

Today, many industries require permanent identifying marks on a variety of products. Fiber lasers are rapidly becoming a popular choice because of their exceptionally long operational life, lack of required maintenance and alignment, and relatively low cost.

Epilog has combined fiber laser technology with our flying-optics beam delivery system to create the FiberMark laser system, our affordable solution for direct metal and plastic marking applications. With prices starting at 30% less than a traditional Nd:YAG system, this is a cost-effective choice for manufacturers looking for a way to bar code, serialize or add a company logo to their parts and components.

Designed with ease of use in mind, the open-architecture driver of the FiberMark allows you to print directly to the laser system from almost any Windows®-based software package - including proprietary software that your company may already be using. The Easy Access Front Door Panel allows you to insert full tables of parts in no time.

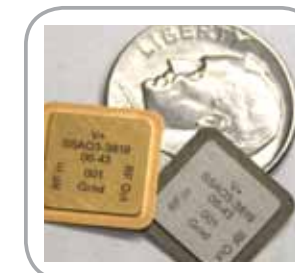
The powerful, yet user-friendly design of the FiberMark allows users to easily mark 2-D data matrix codes, bar codes, serial numbers, logos or text directly onto metal parts and pieces with one easy-to-use system.



## Material Capabilities

Etch a Wide Variety of Metals and Plastics, including:

- 17-4 PH stainless steel
- 303 stainless
- 4043 steel
- 6061 Aluminum
- ABS (black/white)
- Aluminum, 6061
- Aluminum, yellow chromate
- Bayer 2807 Makrolon
- polycarbonate
- Bayers bayblend FR110
- Black/white ABS
- Black/white polycarbonate
- Brass
- Brushed aluminum
- Carbon fiber
- Carbon nanotube
- Ceramics
- Ceramics, metal-plated
- Clear coat anodized aluminum
- Cobalt chrome steel
- Colored Delrin (black/brown)
- Compacted powder iron with iron phosphate coating
- Copper
- DAP- Diallyl Phthalate
- Delrin, colored (black/brown)
- GE Plastics polycarbonate resin 121-R
- Glass filled PEEK
- Glass filled Teflon
- Hard coat anodized aluminum
- Inconel metals (various)
- Machine tool steel
- Magnesium
- Metal-plated ceramics
- Molybdenum
- Nickel plated 1215 mild steel
- Nickel plated brass
- Nickel plated gold
- Nickel plated Kovar
- Nickel plated steel
- Nylon
- PEEK, white
- Polybutylene Terephthalate
- Polycarbonate, (black/white)
- Polycarbonate resin 121-R
- Polycarbonate, Bayer 2807 makrolon
- Polysulphone
- Rynite PET
- Santoprene
- Silicon carbide
- Silicon steel
- Silicon wafers
- Stainless steel 303
- Stainless steel 17-4 PH
- Steel 4043
- Steel, machine tool
- Various inconel metals (nickel-chromium super alloys)
- White PEEK
- Yellow chromate aluminum
- Zinc plated mild steel
- And Much More.



### FiberMark Technical Specifications

<b>Max Marking Area</b>	24" x 12" (610 x 305 mm)
<b>Max Material Thickness</b>	5.0 inches (127 mm)
<b>Standard Features</b>	3" (76.2 mm) focus lens, relocatable home position, variable focus control, work table of 0.5" (12.7 mm) tool plate with integrated vacuum hold-down capability, internal LED lighting, front and top access doors.
<b>Intelligent Memory Buffer</b>	Store unlimited files up to 64 MB. Rolling buffer allows files of any size to be used.
<b>Operating Modes</b>	Optimized raster, vector or combined raster/vector mode.
<b>Motion Control</b>	High-speed, continuous loop, DC servomotors using linear and rotary encoding technology for precise positioning.
<b>X-Axis Bearings</b>	Ground and polished stainless steel NeverWear™ bearing system.
<b>Belts</b>	Advanced B-style doublewide Kevlar drive belts.
<b>Resolution</b>	User controlled choice from 75 to 1200 dpi.
<b>Speed/Power</b>	Computer or machine controlled speed and power in 1% increments to 100%.
<b>Print Interface</b>	10 Base-T Ethernet or USB Connection. Compatible with 32-bit and 64-bit Windows® XP / Vista / 7
<b>Size (W,D,H)</b>	34.5" x 24.5" x 16" (876 x 622 x 406 mm)
<b>Electrical Requirements</b>	Auto-switching power supply accommodates 110 to 240 volt, 50 or 60 Hz, single phase, 15 amp AC.
<b>Ventilation</b>	External exhaust to the outside required via single 4 inch (101.6 mm) output port.

### Laser Source Technical Specifications

<b>Laser Type</b>	Solid State Pulsed Ytterbium (Yb) Fiber Laser (air cooled, includes collimator).
<b>Laser Power</b>	10, 20, 30, or 50 watt pulsed
<b>Wavelength</b>	1062 nm
<b>Mode of Operation</b>	Pulsed 20-100 kHz
<b>Beam Quality</b>	M <sup>2</sup> < 1.1
<b>Focal Length</b>	3" (76.2 mm)

Technical specifications and product configurations subject to change without notice.

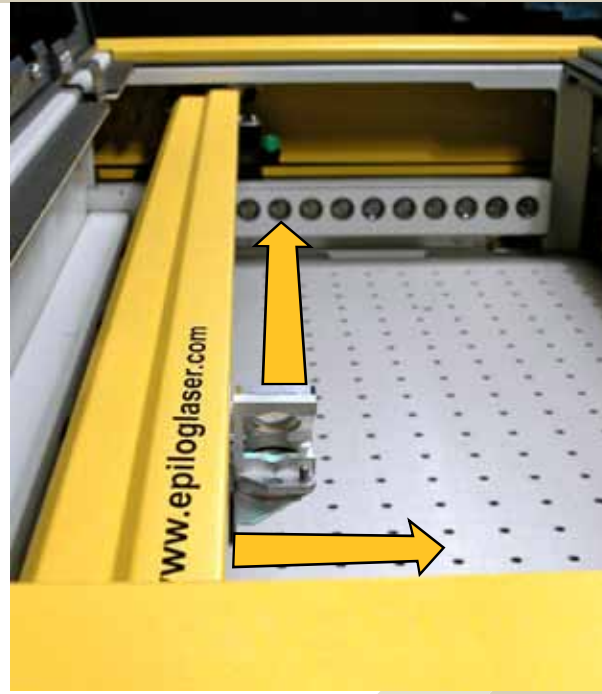
## Etching Over a Large Table Size

Flying-optic beam delivery system provides a larger work area than traditional metal marking systems.

One of the most innovative design features of the FiberMark system is the flying-optic beam delivery system. By directing the laser beam through a series of mirrors, the laser system has been designed to engrave a large work area of 24" x 12" (609 x 305 mm). The flying optic design is a state-of-the-art X/Y mechanical design borne from Epilog's years of manufacturing experience in CO<sub>2</sub> laser marking and cutting systems.

Benefits of the Flying-Optics Design over Galvo Systems:

- ✓ Allows for high-speed parts marking with a larger work area.
- ✓ Accommodates large pieces or common label sheet stock.
- ✓ Palletization or sheet-stock marking is done while operator performs other tasks.
- ✓ Parts indexing is simple and predictable, based on X/Y zero positioning.
- ✓ Consistent spot size and power density is achieved over the entire work area.



## The Highest Precision Laser Motion Control

Highest-quality lasering with Accupoint Motion Control Technology.

Firing the laser in the right place at the right time is the concept behind Epilog's Accupoint Motion Control Technology. While it's easy to see the extraordinary detail in our marking at any resolution, the engineering behind our equipment is what makes the accuracy possible. At 1200 dpi, the entire motion control system is moving in increments as small as .0008 inches (.02 mm), which is the result of a special combination of high-quality components available only in an Epilog Laser system.

In moving the laser beam from point to point, a motion control system utilizes three basic components:

- 1) A linear encoder timing system to make sure the system is always where it needs to be.
- 2) Servo motors to move the system in both the X and Y axes.
- 3) A bearing and belt system to move the head consistently and smoothly across the marking area.

### Servo Motors

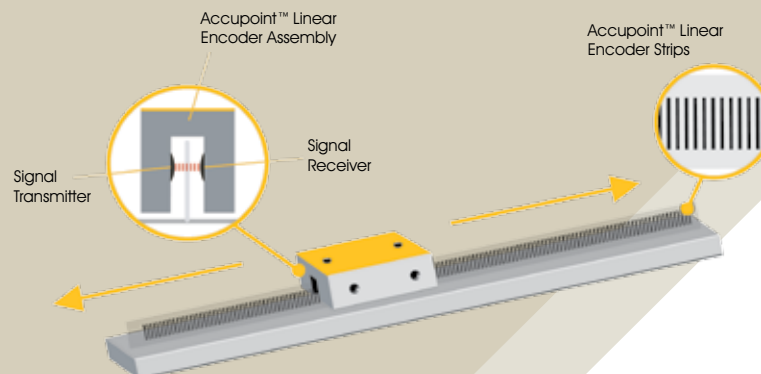
Closed-loop servo motors provide the fastest acceleration and deceleration.

Closed-loop DC servo motors are an industry standard for high-performance industrial systems. Incorporated into the X and Y axes of the FiberMark Laser, these motors are known for their incredibly fast acceleration and deceleration time, as well as the ability to operate without the cogging seen in other, less accurate motors. The ability of the motor to move smoothly at high speeds is a key component in producing the high-quality images that can be created with an Epilog system.

### Linear Encoders

Provides critical timing information to the laser system.

Long used in industrial manufacturing as one of the most precise methods of determining position, linear encoders also provide critical timing information that synchronizes the motion control system to the firing of the laser. Mounted directly to the moving carriage, Epilog's linear encoders provide crisp, clean images, even at the highest speeds.



## Parts Marking without Affecting the Part Integrity

Non-contact laser marking provides high-contrast marks without touching the surface being marked.

One of the greatest benefits of utilizing the FiberMark system is its non-contact marking capabilities. This means that no mechanical part of the equipment actually touches the tool or part being marked: only the laser beam is in contact with the part.

The non-contact marking method produces many benefits:

- ✓ The integrity of the part being marked is never compromised.
- ✓ There are no bits or tools that will wear down and need replacing.
- ✓ You can simply place the part in the engraving cabinet - there's no need to manually hold parts or pieces being marked.
- ✓ It's environmentally responsible - there are no marking materials like ink and acid etching chemicals to worry about or dispose of.
- ✓ Is exceptionally easy to use by practically anyone in your organization.



Ethernet



USB



Wireless

## Networking Your FiberMark Laser

Connect your FiberMark across your network so anyone can send a job to the laser.

Epilog's Quick Connect™ system gives you the most connection options of any laser system. Choose either a high-speed 10 Base-T Ethernet connection or connect the laser to your computer using a USB cable. In addition to higher transfer speeds, the Ethernet connection provides the most reliable data transfer over long distances. Network your laser to all of the computers in your building, or more than one laser to each computer, providing you with the maximum efficiency for your laser system. You can even connect wirelessly through a router. We've designed the laser to work like a paper printer, so it is safe enough to use in an office environment.

## High-Volume, Multi-Piece Parts Marking

Easy-Access Drop-Down Front Door allows easy front access to the engraving table.

Parts placement in the FiberMark can be easily accomplished by placing the part or tray of parts through the top window door, or through the hinged front-access door of the laser system. Both of these safety-interlocked doors provide fast and efficient parts placement and removal.



### View the Marking Table as the Laser Etches Your Material

LED lighting inside the laser designed for easy viewing of the parts etching.

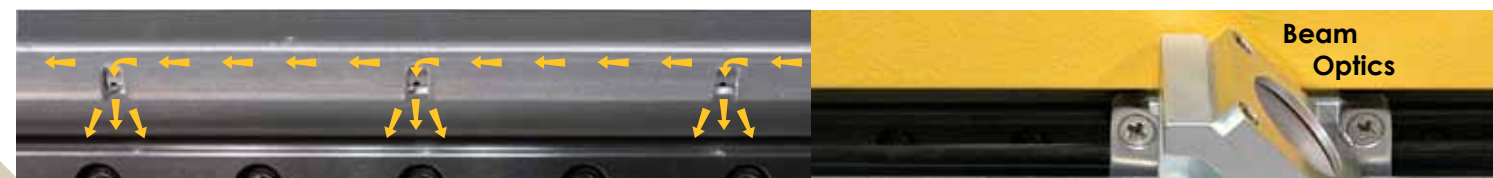
For easy viewing of the marking area, use the inline LED lighting to illuminate the entire work table. The lights can be easily turned on using the On/Off switch located on the top of the FiberMark lid.

### Easy Maintenance of the Laser System

A laser system designed for easy, hassle-free maintenance.

The FiberMark laser has been designed for quick, easy maintenance and upkeep. By using industrial parts throughout the system, the lasers have very little ongoing maintenance other than keeping the machine free from debris and wiping off the lenses.

To help reduce or eliminate the potential for marking debris and contaminants from coming in contact with the X-Axis bearing system, the FiberMark has been designed with a Curtain Air Assist. Using the included air compressor with in-line desiccant (air drying agent), the air curtain blows a stream of air through perforations in a metal tube located within the X-beam. A mechanical barrier has also been integrated to the bottom side of the X-beam. With this included air cleaning system, the FiberMark is incredibly easy to keep free of debris.



### Quick Engraving Setup with No Special Programming

Open Architecture design allows you to print to the laser from software you are already using.

The FiberMark laser system is the most versatile and user friendly metal marking system due to its open architecture software compatibility. Connect the laser system to a PC through an Ethernet or USB port just like a paper printer.

You can operate the laser from almost any Windows-based software, including AutoCAD, Bartender, CorelDRAW, Word, Excel and many more programs. It can even be run from many proprietary software packages your company may already be using.

After you have set up your file, select the laser as your printer. Epilog's software engineering team has designed a feature-filled, custom print driver specifically for laser processing. By using an intuitive design and easy-to-use interface, you can quickly and easily set your laser settings - Job Type, Resolution, Speed, Power, Laser Frequency, Z-focus, and more. To use the same settings on multiple jobs, save the file in the Configuration menu to retrieve them at the touch of a button.

For projects requiring more control over settings, the Advanced Tab gives you the option to use Color Mapping to set independent frequency and focus settings based on line color, as well as a convenient way to perform multiple marking tasks in a single job setup.

The open architecture software flexibility is a tremendous advantage that eliminates the need to have specially trained operators dedicated to a single proprietary software platform.



### Quick Job Positioning

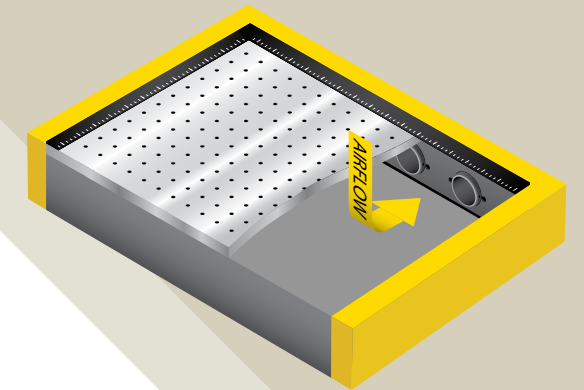
Moveable Home Position and Center/Center Engraving allows you to quickly set a new home position.

If you're marking an irregularly shaped part, Epilog's Moveable Home Position feature makes positioning your bar codes a snap! At the push of a button, you can disable the X and Y motors and set a new home position by moving the carriage by hand. Use the red dot pointer to determine the new home position, press "Set Home" on the keypad and you're done. Lasering an irregularly shaped part has never been easier.

### Higher Consistency in Etching by Holding Your Materials Flat on the Engraving Table

Vacuum Hold-Down Table harnesses the exhaust airflow to hold sheet-stock flat.

The vacuum hold-down table in the FiberMark system uses the airflow from the exhaust fan to hold thin sheet material flat to the surface of the work table. This built-in method of securely holding thin sheet stock in place is a revolutionary feature that is a huge time saver when marking plastic and metal sheet stock.



### Create Multiple Marks with One Laser

By adjusting the laser settings, you can easily create different types of marks with the same system.

Are you looking for a mirrored look to your etching? Or polished? Or annealed? With the FiberMark you can create each of these marks by simply adjusting the speed, power, focus or frequency settings in the Laser Dashboard print driver.

We've developed settings that provide a wide variety of marks on different metals and plastics based on the look you need.

### Test Your Materials in our Applications Lab

Send your materials to our FiberMark specialists to help decide if the FiberMark fits your application's needs.

Do you have a material you would like to test with our lasers? Our Applications Lab is available to help determine if an Epilog Laser is the right tool for your new or existing application. Our team of specialists will provide:

- ✓ Applications Analysis - Is a CO2 or Ytterbium fiber laser system the right tool for your application? What are the system requirements? How can an Epilog laser meet or exceed your expectations?
- ✓ Product and Material Testing - Our Applications Lab will process and return your materials within a few days of receiving them.
- ✓ Applications Report - Upon returning your processed samples, we also will provide a detailed report that is tailored to your specific questions and application. Additionally, we'll make a recommendation on which system is right for you.

Call them today at +1 303-277-1188 or email [applications@epiloglaser.com](mailto:applications@epiloglaser.com) to set up your material test.



## Fiber vs. CO<sub>2</sub> Laser Systems - Which is Right for My Application?

### Choose Between a Free Standing Unit or Desktop

The FiberMark Stand is included to allow you to move the unit throughout your factory.

The FiberMark system is shipped as a desktop unit, but it also comes with an attachable stand that is very easy to assemble. The high-quality metal stand was specially designed to make your FiberMark system free standing, allowing you to easily move the laser throughout your facility.



### Accessories

#### Etch Cylindrical Parts and Tools

Three Rotary Attachment options allow you to choose the best accessory to meet your marking needs.

Because not every cylindrical object is the same, Epilog offers three different styles of Rotary Attachments for the FiberMark system.

The Standard Style Rotary is the easiest to set up and operate. It's a great general-purpose attachment that works well with simple cylindrical shapes.

For more demanding applications where it is desirable to mechanically clamp a cylinder or oddly-shaped, non-cylindrical object in place, we also offer Clamp Style and 3-Jaw Chuck Style Rotary attachments. These attachments provide indexing capabilities, a high level of accuracy and more versatility for holding complex cylindrical objects.

All Epilog Rotary Attachments are extremely versatile, easy-to-set-up and can be adjusted to accommodate a wide range of diameters, shapes and lengths. Even cylinders with different diameters on each end are easily accommodated, as well as custom fixtures to enhance the rotary's capabilities.

#### Optional Lenses For More Etching Options

1.5 and 5-inch lenses are ideal for marking at different resolutions on uniquely-shaped items.

Epilog's FiberMark system comes with a standard three-inch focus lens. This will suffice for most metal/plastic marking applications.

However, as with the CO<sub>2</sub> systems, users will find some applications require a specialized lens.

Epilog also offers 1.5-inch and 5-inch lenses for the FiberMark system to help tackle more complex applications on different kinds of parts.



Epilog manufactures a full line of lasers to meet your engraving, cutting and marking needs. With a complete line of fiber and CO<sub>2</sub> lasers, we're sure we can provide a laser system that is right for your application.

The decision to select a fiber laser over a CO<sub>2</sub> will be determined primarily by what materials you need to mark. A fiber laser system will mark bare metals, ceramics and engineered plastics, whereas a CO<sub>2</sub> laser system can engrave a wider variety of materials, including wood, acrylic, rubber, plastic and more.

If you will be working mostly with metals and part marking, the FiberMark is the right choice for you. The wavelength of the fiber laser allows it to mark directly onto metal and engineered plastics, but not organic materials such as wood and acrylic.

**To see a demonstration of the entire product line, call your distributor at the number listed on their card at the front of the brochure, or call us directly at +1 303 277 1188.**



Models:	Zing Starter Series Epilog Zing 16 and 24	Legend Elite Series Epilog Mini, Helix, and Legend 36EXT	FiberMark Industrial Series
<b>Marking Materials:</b>	Wood, acrylic, plastic, rubber, fabric, paper, mylar, glass, coated metals, anodized aluminum, fiberglass, circuit boards, tile, cork, leather and more.		<b>Marking Materials:</b> Stainless Steel, Anodized Aluminum, Brass, Engineered Plastics, Bare Aluminum, Titanium, Ceramic, Alloys and much more!
<b>Cutting Materials:</b>	Wood, acrylic, plastic, rubber, fabric, paper, mylar, fiberglass, cork, leather and more.		The FiberMark is not designed for cutting applications.
<b>Marking Area:</b>	From 16" x 12" to 24" x 12" (406 x 305 mm to 610 x 305 mm)	From 18" x 12" to 36" x 24" (457 x 305 mm to 914 x 610 mm)	24" x 12" (610 x 305 mm)
<b>Laser Source:</b>	Waveguide, air cooled CO <sub>2</sub> Laser, 1062 mm Class 2 Laser Product - 1 mW CW Maximum 600-700 nm		Ytterbium Fiber Laser, air cooled, 1062 nm
<b>Laser Tube Wattages:</b>	From 30 to 120 watts		From 10 to 50 watts

For complete specifications, visit [www.epiloglaser.com/product\\_line.htm](http://www.epiloglaser.com/product_line.htm)



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[www.epiloglaser.com](http://www.epiloglaser.com)

16371 Table Mountain Parkway  
Golden, CO 80403  
Toll Free 888.437.4564  
+ 1.303.277.1188  
[sales@epiloglaser.com](mailto:sales@epiloglaser.com)  
[www.epiloglaser.com](http://www.epiloglaser.com)

Rev #0128



LASER RADIATION  
DO NOT STARE INTO BEAM  
CLASS 2 LASER PRODUCT  
1 mW CW MAXIMUM 600-700 nm