Cutting Edge
Maintenance Free

We believe our customers should use the best technology available and that’s why we offer the most advanced fiber laser markers in the world. Say goodbye to the days of changing lamps, complex alignments and water cooling. Our systems are air-cooled, solid-state and maintenance free.

In addition, our MOPA laser architecture offers advantages over average fiber lasers including increased power, advanced marking capabilities and more.

TYKMA Laser Advantages

- Air-Cooled Solid State Maintenance Free Design
- MOPA Fiber Laser Technology Available from 10 to 70 Watts of Power
- Compact Machine Footprints with Simple Modular Designs
- No Lamps, Water Cooling or Alignments and Zero Calibrations Required
- Longest Reliability; up to 100,000 Hours Life Span with 3 Year Warranty
- Advanced Capabilities to Solve the Most Difficult Marking Applications

Efficient Environmentally Friendly

Fiber lasers are up to ten times more efficient than traditional YAG laser systems. In addition, they use little to no energy in stand-by mode.

Our turn-key laser marking system are designed using low power components, maximizing energy efficiency and savings.
Pulse Duration Control with MOPA Technology

While today’s modern fiber laser technology has improved laser reliability and lifetime, many fiber lasers fall short when processing a wide variety of difficult or sensitive materials. Our MOPA technology solves this problem. Master Oscillator Power Amplifier (MOPA), is what gives our laser systems capability and performance that exceed other lasers.

Our MOPA fiber laser technology offers a solution for marking on difficult materials such as gold and nickel plating, plastics, PCB and other sensitive materials and layers. In addition, ablating of anodized and painted surfaces, smooth finishing of deep engravings and annealing for medical devices can also be enhanced.

Utilizing selectable waveforms and an expansive frequency range, we are able to accomplish results where other laser technologies and systems fall short. By changing waveforms we change the pulse duration and offer greater peak power at high frequencies. This setting is controlled directly within the software and is part of the overall “recipe” used when determining ideal laser settings for a particular material and mark type. This capability is currently available in our systems from 20 to 70 watts.

Application Example | Anodized Aluminum

With anodized aluminum the results are improved by selecting an optimized waveform in the software, thus lowering the pulse duration and improving the marking results. Figure 1 shows magnified marking results from a standard fiber laser marker. Figure 2 shows magnified marking results from our fiber laser using an optimized waveform improving surface finish and brightness and decreasing cycle time.
Application Example | Plastics

With plastics the results are improved by selecting an optimized waveform in the software, thus lowering the pulse duration and improving the marking results. Figure 1 shows magnified marking results from a standard fiber laser marker. Figure 2 shows magnified marking results from our fiber laser using an optimized waveform which improved the absorption rate increasing the mark density and contrast.

Application Example | Gold Plated Semiconductor Lids

It’s critical to minimize surface penetration when marking plating or other sensitive layers on semiconductors or electronic components. When using a standard fiber laser it is difficult to mark the surface while minimizing the aggressiveness of the mark. Waveform control allows us to discolor gold plating as shown in the photos above without exposing the underlying layer which can lead to corrosion.

Power and Precision

Fiber lasers offer the dynamic combination of high peak power and optimized beam quality. This combination is ideal for deep engraving and is further enhanced with our waveform pulse control.

Near perfect beam quality and small spot sizes allow for micro markings with quality and precision.
TYKMA™ Electrox pledges to provide every customer with laser systems of the highest quality and reliability. We offer application specialists that are available from the start. Our 24/7, 365 days a year emergency service line is staffed with factory-trained technicians for all your service needs. We’re dedicated to providing long-term customer problem resolution and training to ensure your system operates effectively for years to come. Contact us today to learn more. Join the growing number of manufacturers who’ve chosen TYKMA™ Electrox as their partner in industrial laser systems.

Support Services

- 24/7, 365 days a year emergency support phone line
- Online remote programming and troubleshooting assistance via Citrix™ secured software
- Application and programming assistance
- Preventive maintenance and critical response agreements
- Loaner and rental laser systems

“We purchased a Zetalase for part identification. TYKMA personnel demonstrated outstanding knowledge of our industry and their products. Recently, a part (under warranty) needed to be replaced. The technician from TYKMA drove from Ohio to North Carolina to replace the part. Rarely do we see this level of commitment from our vendors. We are completely satisfied with TYKMA’s performance and we will use them to meet our laser needs in the future. They are fully committed to the interests of their customers and their team is enthusiastic and positive. It was a real pleasure to work with them.”

Troy Crosby, James Tool Machine and Engineering, Inc.
Global Presence

With facilities and distributors in more than 25 countries, TYKMA™ Electrox is dedicated to providing exceptional service and support to our clients around the world. To learn more about our products and services, visit us online at www.permanentmarking.com.

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TYKMA™ ELECTROX

Industrial Laser Systems

North America, Headquarters
370 Gateway Drive
Chillicothe, OH 45601 • U.S.A.
Phone +1 (740) 779-9918

U.K. Facility
Avenue One, The Business Park • Letchworth
Hertfordshire SG6 2HB • United Kingdom
Phone +44 (0) 1462 472400

sales@permanentmarking.com  www.permanentmarking.com