



BIOMERICS
ADVANCED LASER

Biomerics Advanced Laser specializes in laser welding, cutting, ablating, and marking metal and plastic materials with the precision medical device market. We offer state-of-the-art technology, including: Nd:Yag, fiber and ultrafast lasers, furthering our ability to providing you with unrivaled capabilities.

Our core capabilities include an extensive skill set and knowledge in the manufacturing of products that include precision tubes, stents, valve bodies, specialty surgical device components, implantables and catheter systems.

We also offer expertise in the laser fabrication of flat stock, metal tubes, electrodes, bands, wire assemblies and cannula assemblies.



Laser Cutting

Lasers cut with exact precision through the toughest of metals and the simplest of plastics. Our Laser cutting capabilities ensure we can cut through materials such as:

- Nickel • Cobalt • Chromium • MP35N and other polymers

Laser Marking

Laser Marking technology offers traceability and tractability for your tools and devices, allowing you to implement your products exactly as designed.

- Materials we have experience using, include:
- Stainless Steel • Titanium
 - Plastics • Nitinol • Catheter tags

Quality Commitment:

Biomerics Advanced Laser strives to provide superior service while manufacturing products that meets or exceed our customer's expectations. We manufacture products in ISO 13485 and FDA compliant facilities under a robust quality management system.

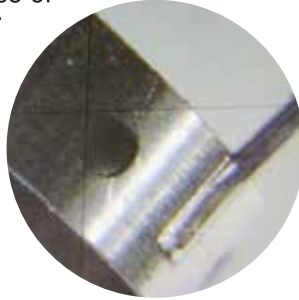
MANUFACTURING

Laser Welding

This process involves the fusing of two similar or dissimilar pieces of metal together. Biomerics offers the use of critical, industry-advanced laser machinery for fusing various types of metals.

We support:

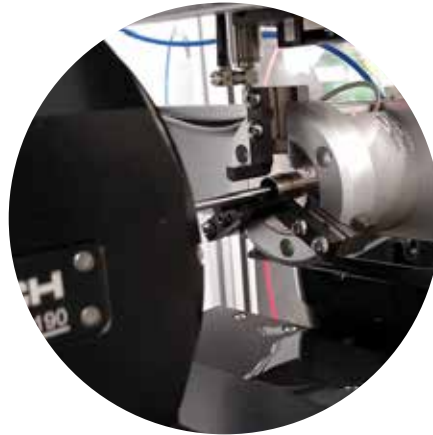
- Guide Wires
- Laser Welded Catheter Tips
- Nitinol Welding
- Helical Welded Coils.



Laser Ablation

Laser structuring is the ablation of material through short high-energy laser pulses. This exacting process allows for incredibly small, precise cuts to be made to an assortment of materials and surfaces. This includes:

- Implants
- Coated Stent Patterning
- Guide Wires
- Catheter Ablation Patterns and Holes
- Balloons of Various Materials



Laser Drilling

Our controlled laser drilling process allows us to drill holes with accuracy and precision through any type of polymer tubing, shim stock, metal and many other materials. With our drilling technology, we can manufacture and optimize your products with greater speed, flexibility and agility - while significantly reducing time and cost.



Secondary Processes

We offer a wide range of secondary operations including:

- Electropolishing
- Etching
- Passivation
- Electroplating
- Electrochemical Deburring
- Color and Type II Titanium Anodizing

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Our expert knowledge in laser processing enables us to develop optimized manufacturing solutions
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PRODUCTS



Implants

We laser manufacture implant devices used to support, enhance, or replace existing biological structures. We work with a range of implants used in a variety of applications, including: • Cardiovascular • Orthopedic • Sensory • Neurological Procedures.



Laser Marking

Our Laser division has extensive experience in marking many types of high-end products that are used both internally and externally to provide proper traceability and tractability for your medical devices. A partial list of such products include:

- Bone Screws • Stent Implantable Devices • Surgical Devices • Surgical Blades
- Guide Wires • Marker Bands • Single Use Items • Endoscopic Instruments and Dental Tools



Polymer Components

Some polymer components require the application of various laser treatments to enhance the function and features of the end product. Our laser machines work with any type of combination of polymer components for: • Pacemaker Leads • Stimulation Leads • Wire Stripping • Polymer Ablation

Laser Cut Components

With our expertise in laser cutting we can help you design the optimum component for any given assembly. With our manufacturing technologies we can process a wide range of tube lengths, diameters and wall thicknesses, including: • Cannulas, • Catheter Components, • Pattern Shafts • Thin Wall Tubing • Heart Valve Frames • Electrodes • Marker Bands • Pull Wires



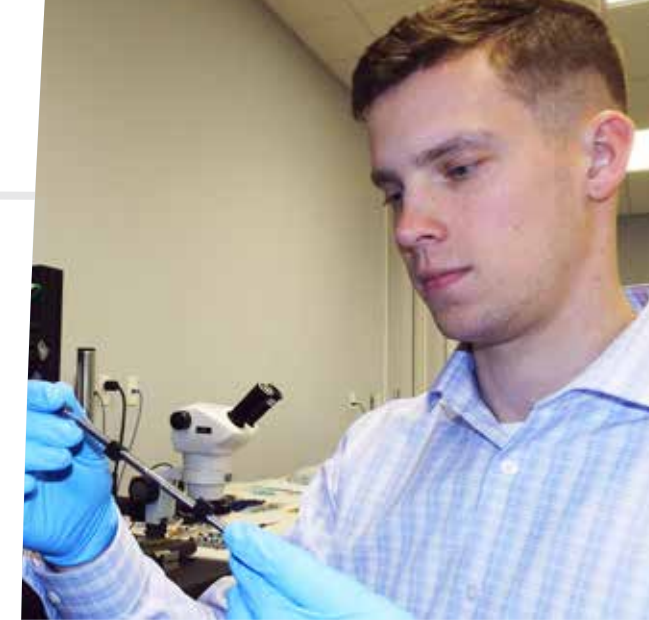
Catheter Components

As minimally-invasive procedures become more intricate in design and function, the need for laser processing of catheter components is a necessity in the industry. Our capabilities enable us to support: • Balloon Bonding and Drilling • Microdrilling • Flexible Cannula Tube • Drill Holes • Catheter Skiving • Pull Wires • Hubs • Welded Wires • Ports



Welded Wires (Welded Components)

We specialize in the laser welding of metal components, including: Stainless Steel, Nitinol, Platinum, Platinum/Iridium, Elgiloy, and other high-quality metals. Welded Wires include: • Pull Wires • Catheter Components • Cannula Components • Flat Stock • Dissimilar Materials • Nitinol Components • Screw Components



ENGINEERING

Our engineering department has considerable experience with implementing a wide range of tests, inspections, and analyses that medical products require. Our design engineers' expert knowledge of CNC fabrication allows them to take advantage of specific laser techniques. They'll work with you to develop solutions for highly challenging medical device applications. They are willing to walk through the process with you to ensure that your end product meets current standards in place by regulatory bodies.

Our engineering capabilities include:

- Laser Process
- Laser Technologies
- Process Validation
- Material Selection
- Deflectable Catheters

OUR MARKET FOCUS

INTERVENTIONAL CARDIOLOGY & RADIOLOGY

- Procedural Devices
- Fluid Management Systems
- Imaging & Diagnostic Catheters
- Drainage Catheters
- Thrombectomy Catheters
- Atherectomy Catheters
- Embolization Catheters
- Balloon Catheters
- Delivery Catheters

VASCULAR ACCESS

- Procedural Devices
- Peripheral Catheters
- Central Venous Catheters
- Ports
- Hemodialysis Catheters

PAIN MANAGEMENT

- Neuroablation Devices
- Neurostimulation Devices
- Access Catheters

NEUROVASCULAR

- Micro-Catheters
- Coil Delivery Systems
- Thrombectomy Catheters
- Embolization Catheters
- Access Catheters

STRUCTURAL HEART

- Heart Access Systems
- PFO Closure Delivery Systems
- Valve Delivery Systems
- Introducers
- Sheaths
- Balloon Catheters

CARDIAC RHYTHM MANAGEMENT & ELECTROPHYSIOLOGY

- Pacing Leads
- Mapping Catheters
- Ablation Catheters
- Cryotherapy Catheters
- Placement Devices

Design & Engineering Solutions

Our engineering capabilities and experience allow us to support our customers' projects from concept through full scale production. The Biomerics Product Development Process™ and Biomerics Product Transfer Process™ both utilize a stagegate approach to ensure that all design, manufacturing, regulatory, and quality requirements for a medical device are planned for and met. We provide world-class engineering expertise, testing labs, and process development and validation services for leading medical device companies. Our design and engineering capabilities include:

- Design Development
- Product & Design Transfer
- Scientific Injection Molding
- Lab & Testing Services
- Animal Testing Support
- Full Project Management

Quality & Regulatory Services

Whether our customers are working with us to develop a new device or transfer an existing product line, we partner with them through every stage of the regulatory process. We have experience and expertise with FDA, CE Mark, and various other regulatory body submission requirements, and we are always ready to help bring life-saving devices to market as efficiently as possible. Our quality and regulatory services include:

- Testing & Validation
- DHF & DMR Documentation
- Process Development & Validation
- Packaging Design & Validation
- IQ, OQ & PQ Validation
- Patent Services
- Clinical Support

CONTACT US

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Biomerics Advanced Laser is a member of the Biomerics Family of Companies. The Biomerics Family of Companies offers the following solutions to the medical device and healthcare industries.



- Cleanroom & Non-Cleanroom Injection Molding
- Finished Device Assembly
- Packaging, Sterilization Management & Fulfillment
- Design & Development Engineering
- Product Transfer Engineering
- Quality & Regulatory Services

- Quadra™ Family of Polyurethanes
- Prolix™ Medical Fluid Management Tubing
- Polymerization & Compounding
- Device Dipping, Imbibing & Coating
- Medical Grade Extrusion
- Ultrasonic Devices & Components



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