





At Biomerics Advanced Catheter, we specialize in the design, development, and production of medical devices used in minimally invasive diagnostic and interventional procedures. We utilize our extensive knowledge and expertise to deliver next-generation solutions to the interventional cardiology, interventional radiology, structural heart, cardiac rhythm management, electrophysiology, vascular access, and pain management markets. Our core capabilities include design and engineering services, advanced component development, and complete finished device manufacturing.

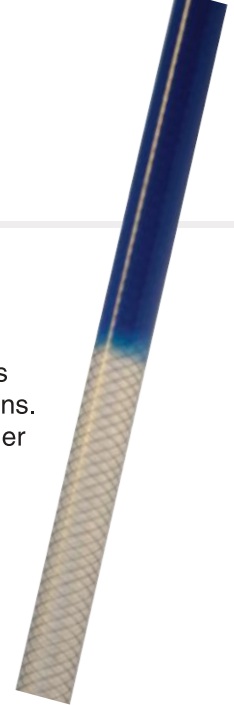
With decades of experience, we are able to effectively and efficiently bring cutting-edge devices and technologies to market. We pride ourselves on our ability to provide our customers with a hassle-free sourcing partner throughout every stage of the product and design lifecycle—from concept to commercial launch.



Braided Shafts & Sheaths

Our braiding, coiling, material science, and engineering capabilities allow us to develop and manufacture guidable, steerable, and fixed shafts and sheaths for a variety of procedural applications. Our braided shafts and sheaths offer (among other characteristics):

- Superior Control & Pushability
- Kink Resistance
- Thin Walls



Steerable & Deflectable Devices

We are capable of designing steerable and deflectable devices for a wide range of markets. We offer the following steerable and deflectable contract manufacturing solutions:

- Uni-Directional, Bi-Directional & Quad-Directional Devices
- Steerable & Deflectable Catheter Engineering
- Steerable & Deflectable Sheath Engineering



Quality Commitment:

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

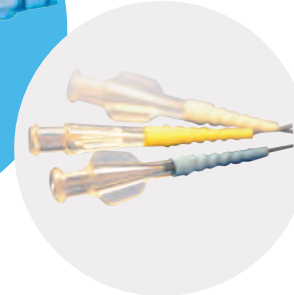
PRODUCTS



Balloons & Balloon Catheters

Through our diversified capabilities and extensive experience, we are able to support our customers through the design, development, and distribution of their balloons and balloon catheters. We contract manufacture balloons and balloon catheters that are used in a wide range of standard and unique procedures. Our capabilities include:

- Compliant, Semi-Compliant & Non-Compliant Balloon Manufacturing
- Balloon Blowing & Casting
- Bonding, Welding & Other Balloon Connecting Techniques



Micro-Catheters

We specialize in the development and manufacturing of neurovascular and cardiovascular micro-catheters used in the locating and treating of aneurysms, clots, and other blood flow problems. We partner with our customers to design and produce micro-catheters and devices that reach areas of the human body that were previously inaccessible. Our micro-catheter manufacturing solutions include:

- Variable IDs & Pic Counts
- Multiple Durometer Shafts
- Advanced Connectors & Luers

Smart Catheters

Smart catheters are minimally invasive medical devices that enable physicians to map the electrical systems of the body, ablate problem causing tissue, and deliver other critical devices. These catheters are typically embedded with electronics and/or other sensing mechanisms that provide information and feedback to the physician. At Biomerics Advanced Catheter, we are rooted in this innovative field. Our engineering team has pioneered smart catheter technologies since the first stent delivery systems of the 1980s. We partner with our customers to design, develop, and produce smart catheters for a variety of markets. When manufacturing these devices, we utilize advanced technologies, such as:

- Mapping Electrodes
- Sensing Electrodes
- Ablation Electrodes



Leads

Leads are used to transmit electrical stimulation signals from the pacemaker to the heart itself. These leads and their ability to transfer electrical signals to the heart are crucial to the success of any pacemaker device or operation. Leads have demanding biocompatibility, biostability, and electrical requirements. Our Quadrathane™ and Quadrasil™ line of medical urethanes are ideal for long-term implantable devices and components such as pacing leads.

For more information about our manufacturing, engineering, quality, or regulatory solutions visit biomerics.com/products/advanced-catheters or give us a call at 763.428.0010.

CAPABILITIES



Braiding and Coiling

We deliver braided and coiled shaft solutions to the medical device industry's leading companies. Our braiding and coiling capabilities include;

- Vertical Continuous ("Reel-to-Reel") Braiding & Coiling
- Horizontal Continuous ("Reel-to-Reel") Braiding & Coiling
- Vertical Mandrel Braiding & Coiling
- Horizontal Mandrel Braiding & Coiling

Injection Molding

We injection mold a variety of medical devices and enclosure parts for a wide range of customers and markets. Our offerings include:

- High Volume Cleanroom (and Non-Cleanroom) Molding
- Low Volume Custom Molding • Overmolding • Insert Molding

Extrusion

Our thermoplastic extrusions meet the precise specifications of the medical world's most demanding applications. Our streamlined approach to extrusion enables us to cost-effectively produce various configurations of:

- Catheters • Reinforced, Guidable & Steerable Shaft Bodies • Medical Tubing
- Components for Introducers, Dilators & Other Procedural Device Tubing

Balloons

We provide customers with non-compliant, semi-compliant, and compliant balloons in a wide range of material configurations. Through our vertically integrated structure and our expertise of polymers and extrusion, we can quickly and efficiently develop and test new balloons. Common balloon materials include: • PET • Nylon

- Polyurethane (Quadra™) • Silicone Urethane Co-Polymers • Polyethylene

Laser Processing

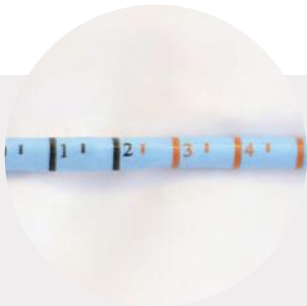
We provide full service laser processing including: • Laser Cutting • Laser Welding

- Laser Ablation • Laser Marking • Laser Drilling

Catheter Assembly

We provide a comprehensive set of both cleanroom and non-cleanroom assembly offerings to provide our customers with a hassle-free, one-stop-shop strategic sourcing partner. We offer a complete catalog of secondary assembly operations, including: • Marker Band Manufacturing • Tipping • Welding • Pad Printing

- Bonding • Packaging



Prolix™



Our Prolix™ line of medical fluid management tubing is designed for a wide range of procedural applications. Our high pressure, low pressure, and pressure monitoring tubing is available in various sizes, materials, and reinforcements.

Our standard Prolix™ line includes:

- Prolix™ HPBT 1,200 psi. Quadraflex™ High Pressure Braided Tubing
- Prolix™ HPCE 1,200 psi. High Pressure Co-Extruded Tubing
- Prolix™ HPC 1,000 psi. High Pressure non-DEPH PVC Tubing
- Prolix™ LPC 500 psi. Low Pressure non-DEPH PVC Tubing

We have the capacity and capability to customize your tubing and assembly. If our variety of standard sizes doesn't meet your needs, we are happy to tailor an extrusion to your specifications.

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 Catheter 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:



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

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



A MEMBER OF THE BIOMERICS FAMILY OF COMPANIES

