laserlinc

CASE STUDY

Leading Medical Device Manufacturer Automates the Dimensional Inspection of Catheters and Realizes Significant Efficiences

AT A GLANCE

CHALLENGES

- Perform accurate, repeatable, and reliable dimensional inspection at multiple locations on a variety of catheters
- Increase throughput
- Decrease errors associated with manual inspection

BENEFITS

- Increased R&D measurement capabilities
- Automation of the inspection process
- Elevated productivity
- Robust, production-ready, solution
- Reduced operator error

"We partnered with LaserLinc because they combine a focus on innovation in inspection and testing with the expertise needed to turn innovation into a workable reality." — R&D Manager

ABOUT THE COMPANY

One of the world's largest medical device companies manufacturers thousands of products worldwide. Among these offerings are catheters for diagnostic, guiding, drainage, drug delivery, balloon, ablation, and other medical functions. The company sets stringent standards for quality control, manufacturing, regulatory compliance, and, ultimately, patient safety.

CHALLENGES

Catheters are complex medical devices. Varying device lengths and dimensional characteristics along the length create a unique measurement challenge. Manufacturers want to avoid the liability and risk associated with not detecting non-compliant devices and components used for invasive medical procedures, while decreasing the costs associated with scrapping good parts.

The company's R&D team is tasked with the design, development, and manufacturability of new and next-generation, catheter-based medical devices. They are also responsible for identifying the appropriate inspection method that will ultimately end up in production.

Manual Inspection Method is Inefficient and Unreliable

The team was manually inspecting the dimensional characteristics of the catheter against product specifications at multiple locations along the length of the sample. This involved pulling the sample through a micrometer and relying on the operator to capture the outer diameter (OD) and ovality measurements at the correct locations. But the R&D team found this process time consuming and susceptible to operator error.

It became apparent that the company needed a more reliable, repeatable, and efficient measurement method for its process.

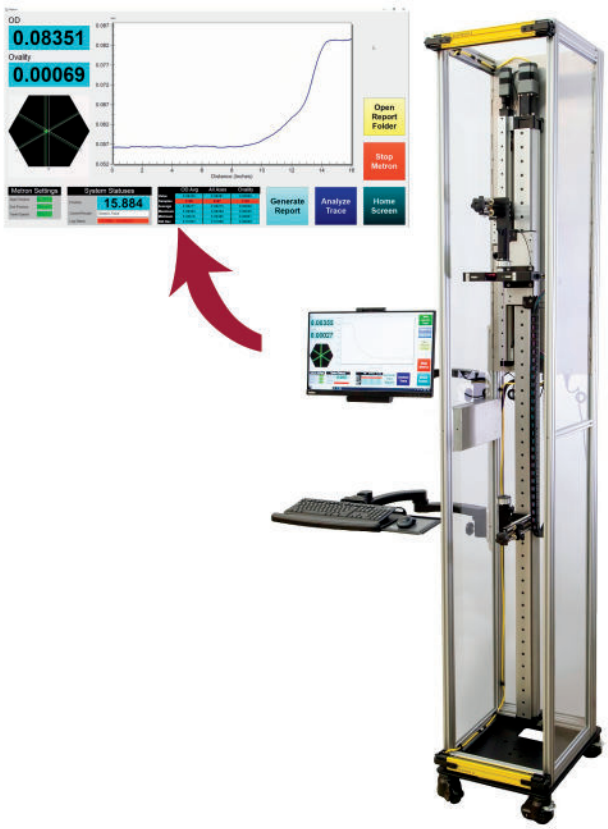
BENEFITS

Increased R&D Measurement Capabilities
The Metron system provides fast, highly accurate, and repeatable results, as well as rapid data collection and tolerance verification.

Automated Inspection
The Metron system completely automates measurements, eliminating manual inspection which was time consuming and prone to error.

Increased Productivity
The Metron system is easy to use, shortens measurement cycle times, and significantly reduces the acceptance of bad parts and rejection of good parts.

Production-Ready Solution
The Metron system smoothly transitioned to production with minimal operator training and no special skills required.



AUTOMATING THE INSPECTION PROCESS

Eager to solve their inspection problem, the R&D team explored novel measurement options. They weren't satisfied with the prospect of adopting the current manual measurement system and using its general-purpose capabilities while waiting for the latest measurement solution to evolve.

The solution presented itself when they consulted LaserLinc and discovered the semi-customizable Metron measurement system. The Metron system automated and simplified the inspection process. Here's how it works.

Once the measurement zones along the length of the catheter have been identified and key dimensional specifications are entered into a recipe, the operator simply loads the sample and selects the appropriate product recipe.

With a touch of a button, the Metron system automatically moves a sensor on a slide, from zone to zone, measuring and displaying the critical dimensions. The Pass/Fail results are displayed for each zone, as well as the entire part, making it easy for the operator to catch out-of-spec parts.

THE MANY BENEFITS

The Metron system has proved to be a valuable asset for the company's R&D of catheter devices. It has automated the department's inspection process, enabling fast, accurate and repeatable results — while also eliminating time-intensive, error-prone manual inspection. And it has increased their measurement capabilities.

The seamless integration into the production process was also a planned benefit. The customization makes it easy to configure the system for a specific product and/or a sequence of events, making it a simple production inspection solution. The reduction in operator error combined with the increased throughput further justified the Metron.

Learn how the Metron system can give you the competitive and quality advantage. Contact us today!

laserlinc | LaserLinc.com | info@laserlinc.com | +1 937 318 2440