



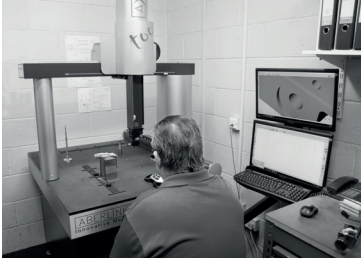
CMM Case Study 12/2018

Company: Frictec Ltd

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Frictec Ltd  
Axiom too



Portsmouth based Frictec Ltd was established in the late 1980's to exploit the commercial applications of friction welding when adapted and used as a wear resistant coating process. In the early 1990's a highly efficient, full-scale friction-surfacing machine was developed and the technique evolved from what was a small-scale laboratory process to one that could be used to apply Frictec's unique TMC45 friction surfacing process on a commercial basis. Today, the still expanding business boasts a world-wide customer base.

TMC45 is now used to produce machine knives in the packaging, food and pharmaceutical industry, where Frictec Ltd supports its customers through the manufacturing of wear parts and industrial blades. Following more than three decades of experience, Frictec is now a trusted supplier to many multi-national companies worldwide.

In addition to making purchases of advanced machine tools, the company also invests in first-class inspection equipment to ensure that Frictec's robust quality standards are adhered to. Due to ever increasing production levels and the possibility of future hold-up in the company's busy inspection department, Dr Benoit Jaworski (Production Manager) recently searched for a precise, automated inspection aid that had both contact and non-contact measuring capabilities and that could deliver highly accurate and repeatable results.

Benoit Jaworski explained. "Frictec has supported cutting applications and wear parts in the packaging industry for more than 20 years. Quality is of the utmost importance at Frictec, and we strive to maintain our ISO9001:2015 status. Our strict quality assurance procedures are applied throughout all areas of our production.

"Ensuring the quality of Frictec's knives and wear parts makes certain that our customers achieve substantial annual savings and increase their productivity. Our customers are seeking blades and wear parts to fit on machines where every hour of downtime means thousands of products not packed or processed. To support this need we carry-out regular in-process checks and meticulous final inspection routines to ensure that our output adheres to all specified dimensional specifications.

"To help speed-up the throughput of products through our inspection department and to further improve our already excellent accuracy capabilities, we recently searched for an advanced, automated means of inspection. In addition to seeking speed and precision, we needed a system that had both tactile and vision means of measurements.

"There are many types of cutting applications and by their nature, cutting edges are not best suited for contact probes. We wanted to acquire a mean of inspection that would cover both regular mechanical components and cutting-edge components.

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“Having examined several systems we concluded that the Axiom Too CNC CMM from Aberlink was the best of the options we looked at. In addition to the Aberlink CMM providing the levels of automation, speed and precision that we required, we were able to specify the machine with both tactile probing and Aberlink’s advanced camera system. We considered the accuracy capabilities, low cost of the Aberlink CMM alongside its ease of use a good fit for our requirements.

“As Aberlink’s 3D measurement software is very logical and straight forward, our operators were quickly able to grasp, the Axiom Too’s basic operation, now through hands-on daily use they are quickly becoming more proficient in the CMM’s operation. The ability of the Axiom Too to easily produce reports is now a key component of our quality system.

“We purchased the CAD programming capability, which we are now pushing to integrate in our normal process route alongside our CAD/CAM package. The ability to measure parts manually or from CAD files, easily switching from manual to automatic offers great flexibility. We are working with numerous products and have to quickly validate parts in production to minimise setup times, and our aim is to have inspection programs ready in advance. The Axiom Too, being a fully automated CNC measurement machine, will ensure that our repeat jobs are processed faster and faster over time.”

The cost-effective Axiom Too is the best-selling CMM from Aberlink, the largest UK owned Coordinate Measuring Machine manufacturer. Aberlink’s popular Axiom Too CMM is available in both manual and CNC variants in a range of capacities and is described by Aberlink as the ‘complete inspection system’. As it boasts an aluminium bridge with a very low thermal mass the CMM is ideal for use in either controlled environments, such as inspection departments, or within less than perfect shop-floor conditions. Thanks to the Axiom Too’s use of advanced materials, the machine’s reduced inertia also results in class leading speed of operation.

Borrowed from the laser optics industry, the CMM’s sturdy granite table consists of an advanced granite/aluminium honeycomb construction. This technology provides natural damping and further improves the machine’s thermal properties. Despite the Axiom Too’s generous X-Y-Z measuring volume (640mm x 600-900-1200-1500mm x 500mm), the machine’s compact design occupies a relatively small footprint, with the controller and all peripherals housed within the Axiom Too’s workbench.

The Axiom Too utilises Aberlink’s renowned 3D software, ensuring greater user productivity and profitability. A welcome bi-product of any Aberlink CMM inspection routine is that a simultaneous picture of the measured component is created on the computer screen. Dimensions between the measured features, mirroring those that appear on the component drawing, can then be simply picked off as required. In essence, this ‘smart’ software represents an intelligent measuring system that is able to automatically recognise and define the various features being measured. Aberlink 3D is the easiest to use and most intuitive CMM software currently available.

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