

Mitutoyo CMM provides 'Pure Precision' to A&M

<https://www.mitutoyo.co.uk/news-and-events/latest-news/mitutoyo-provides-pure-precision>

Located in the traditional heartland of UK manufacturing, Smethwick, West Midlands based A&M EDM Ltd. is one of the country's largest and technically able EDM manufacturing companies. Specialising in EDM wire and spark erosion since 2002, A&M can handle components of all sizes and thanks to the company's use of linear drive technology it is able to produce very deep rib forms in a fraction of the time of taken by conventional EDM machines.

Encouraged by customer demand and to complement its advanced EDM capabilities, in 2015 the business opened a second 41,000 square foot factory dedicated to CNC machining. The on-going success of EDM's machining division has prompted further investments in first-class manufacturing plant, resulting in A&M's impressive machining facility being equipped with a wide range of advanced machine tools. The company's comprehensive plant list allows it to cover a diverse range of job types and sizes, from small watch components to large plate work of up to 3.2m x 2.1m.



The rising volume of components being produced in A&M's machining facility recently began to place a strain on the business' Coordinated Measuring Machine (CMM) provision.

After evaluating CNC CMM's from three global metrology companies, a decision was made to purchase a recently launched Mitutoyo Crysta-Apex V CNC CMM with an xyz capacity of 900 x 1000 x 800 mm.

A&M Quality Inspector, Steve Foster explained. "Our company strapline, 'A&M - Pure Precision' signifies that precision lies at the heart of all of our activities. The nature of our customer base, including the aerospace and automotive sectors, plus Formula 1 teams, means that the accuracy of the components we produce is vitally important.

"To help guarantee the consistent quality of our work, our inspection staff have access to a range of advanced inspection equipment. Although, recent increases in production volumes began to put pressure on our existing three CMMs. To rectify this situation, having witnessed demonstrations and studied the specifications of several CMMs with our required xyz capacity and precision requirements, we purchased a Crysta-Apex V CNC CMM from Mitutoyo UK.

"The Crysta-Apex V was launched only a short time ago, therefore it was the most up to date and advanced CNC CMM of the three machines that we considered and also the most suitable machine for our demanding needs.

"As A&M's advanced machining facility continue to develop, the fact that this new, cutting-edge CMM can integrate with advanced factory arrangements and interact with other systems, makes it future proof.

"It helped our decision that, one of our major aerospace customers has multiple Mitutoyo CMMs. The company's staff reported that their CMMs were extremely efficient and reliable and that they had received excellent service from Mitutoyo UK.

"The Crysta-Apex V's intuitive operating system and the training we have received from Mitutoyo UK has enabled our staff to quickly get 'up to speed'. The impressive speed and accuracy specification of our new CMM has removed the potential for delays in our inspection department and is now helping to ensure the quality of our output."

The recently launched Crysta-Apex-V series of CNC CMMs deliver impressive advances in accuracy, speed and versatility. In addition to being ideal for today's demanding inspection tasks, Mitutoyo's new generation CMMs are designed for the smart factory of the future and for the connected production environment.

The impressive performance specification of the Crysta-Apex-V series is underpinned by features that include an advanced real-time thermal compensation system that makes accurate measurement possible in environments with varying temperatures.

Now, unlike earlier generation CMMs, a controlled environment is unnecessary. The Crysta-Apex-V series maintains high accuracy over the wide temperature range of 16-26°C allowing

the automation of inline and line-side measurements within the manufacturing process, significantly reducing measurement times and streamlining workflows.

An active scanning feature enables high-speed measurement by tolerating discrepancies between design values and actual workpiece dimensions while maintaining the advantages of 3D optimal-path scanning.

When compared with conventional CNC CMMs, higher maximum drive speed and acceleration, of around 20% and 40% respectively, enables V Series CMMs to operate considerably faster. This rapid movement, combined with typically 60% higher measuring speed, significantly reduces users' total inspection times.

Further improving speed and ease of use, V Series CMMs feature Mitutoyo's Quick Launch function that enables simple and intuitive operation for easy part-program execution, including communication via barcodes and QR codes.

Mitutoyo offers a wide choice of touch-trigger, scanning and non-contact probes to enable Crysta-Apex-V CMMs to inspect practically any component surface. An extensive choice of application software is available for automatically generating part programs to efficiently perform measurement and evaluation of simple or complex components including gears and aerofoils.