



Oil & Gas Case Study 03/2016

Company: Ardor Engineering Ltd

..... Axiom too

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[Ardor Engineering Ltd](#) specialise in the production of high-quality, precision machined components and boasts particular expertise in manufacturing parts from super alloys and other exotic materials. Ardor's customers operate across a wide variety of demanding sectors, including the Nuclear, Oil & Gas, Petro-Chemical, Industrial Pumps, Valves & Controls, Power Generation and Defence industries. Formed in 1974, the well-known precision engineering business has earned an excellent reputation for the quality of its output, and for the scope of the services it provides.

Prompted through ever increasing demand from both its long standing clients and new customers, Ardor recently substantially expanded its capacity and further extended its range of in-house capabilities by relocating to a custom designed 8,500 square feet manufacturing and administration facility in Huddersfield. Located close to the M1 and M62 motorways, the company's impressive new HQ is situated virtually half way between the East and West coasts and equidistant from the Northern and Southern limits of the company's diverse customer base.

Doubling the company's previous shop-floor space, Ardor's state of the art 'green' headquarters was specified with power saving in mind. The large environmentally friendly building has allowed Ardor's comprehensive range of advanced machine tools to be accommodated, new CNC machines to be installed and enabled a significant increase in output.

To help the company's busy quality department keep-pace with raised production levels, Ardor Engineering Managing Director, Michael Kilbride recently searched for a Coordinate Measuring Machine that could meet the company's accuracy standards and help to guarantee the continued quality of the company's increased output. In addition, the new CMM needed to have the ability to perform rapid, automated measuring routines that could handle the large volume of high precision work passing through the company's quality department.

Michael Kilbride explained "The nature of our demanding customers and the challenging work we undertake necessitates the administration of a rigorous quality policy. This is implemented through the operation of an all-inclusive quality management system that encompasses all of Ardor's activities from admin functions, through manufacturing, to final inspection and component delivery.

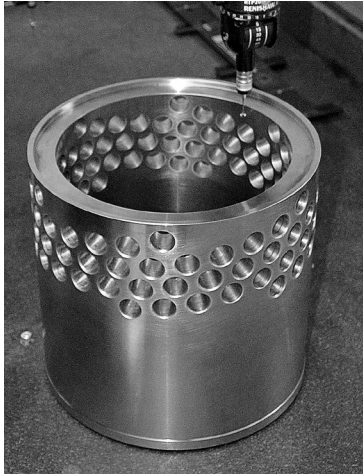
"As part of our quality program we are accredited to Quality standard ISO 9001:2008, Environmental standard ISO 14001:2004 and the Health and Safety standard OHSAS 18001:2007. In addition, we have integrated our management system and achieved accreditation to PAS99:2012.

"In accordance with our commitment to quality, and to help maintain our position as a leader in the demanding field of precision machining, we remain committed to a program of continuous improvements and a 'right first time' production philosophy. These aims are supported by investments in equipment such as our recently purchased Coordinate Measuring Machine.

"Having considered several alternative CMMs, an impressive demonstration of Aberlink's [Axiom too](#) convinced me that the machine had all of the attributes we needed. In addition to having the accuracy specification we were looking for, the Axiom too was also able to perform the quickest, automated CNC measuring routines of all the CMMs we looked at. The machine's generous component support meant that we would be able to measure a single large part, or load multiple smaller components. Given several other factors, not least Aberlink's excellent reputation, the ease of use of the CMM's software and its cost effective price, we were happy to place an order.

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“Now installed in our temperature controlled metrology suite, due to its ease of use, our operators have quickly mastered our new Aberlink CMM and it is proving to be an invaluable tool in ensuring the quality of our output. The machine’s impressive speed has removed the possibility of inspection bottle-necks and its ability to generate comprehensive inspection reports is much appreciated by our customers.”

The Axiom too is the best-selling CMM from Aberlink Innovative Metrology, the largest UK owned Coordinate Measuring Machine manufacturer. Available in manual and CNC variants and in a range of capacities, the recently upgraded CMM can truly be described as the complete Inspection Centre; high measuring accuracies are achieved through the use of the latest metrology techniques and advanced in-house manufacturing methods. The Axiom too boasts an aluminium bridge with a very low thermal mass, rendering the machine ideal for use either in controlled environments or within less than perfect shop-floor conditions. Thanks to the Axiom too’s use of advanced materials, the machine’s reduced inertia results in class leading speed of operation. For increased accuracy air bearings of optimised stiffness are employed on all axes, whilst a granite Y Beam allows preloading of bridge bearings in both directions. Borrowed from the Aerospace industry, the CMM’s sturdy component support 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 measuring volume 640x600x500 or 640x900x500, the machine’s compact design occupies a relatively small footprint, with the controller and all peripherals housed within the Axiom too’s workbench.

The easy to use Axiom too utilises Aberlink’s famous, intuitive 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, are then 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 CMM software currently available, as a result a complete novice is usually able to perform relatively involved measurement routines after just 5 minutes training.

Michael Kilbride concluded. “It remains the goal of Ardor Engineering Ltd to provide products of a quality which not only meet, but exceed the needs of our customers and in doing so, remain a leader in the field of product quality. As it has the high precision capability to measure our most demanding parts and the speed to perform rapid CNC measuring routines, our new Aberlink CMM is now making an excellent contribution to enabling us to maintain our reputation for the quality of our work.”

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