



Subcontract Case Study 07/2016

Company: Weymouth Precision Engineers

Axiom too HS

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Axiom too HS



Having recently moved into a custom designed 10,000 square feet manufacturing facility and invested in additional advanced machine tools, [Weymouth Precision Engineers](#) bespoke new HQ is now home to 30 highly skilled operatives, management personnel and support staff. Prompted by growing customer demand, the company's expansion means it now provides highly efficient 3, 4 and 5 axis CNC milling, 3 and 4 axis CNC turning and a wide range of further manufacturing solutions.

In addition to comprehensive assembly services, JIT and KANBAN based delivery systems are offered, whilst all subcontract operations are managed through approved sources.

The management of WPE attribute its growing reputation and increases in customer demand to its philosophy of supplying high quality components and assemblies at a cost-effective price, in a timely fashion. Although ever rising production levels recently lead to inspection delays and prompted a search for a solution.

Dave Beadnell-Smith, WPE Quality Manager explained "All at Weymouth Precision Engineers have an unwavering commitment to quality, cost and delivery. Although, the company's recent expansion and ever rising demands from our growing customer base meant that our quality department began to struggle to keep-pace with production.

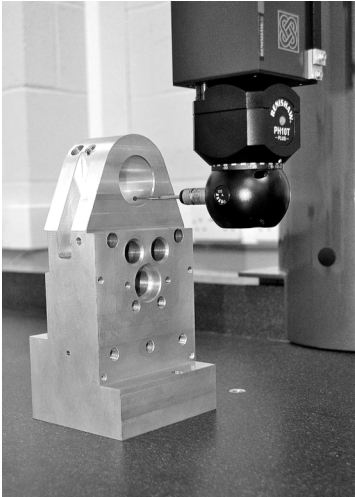
"As it was believed that the use of a fast acting, accurate Coordinate Measuring Machine would eliminate inspection delays a search was made for a suitable machine. Having reflected on the merits of the available makes and models, a decision was made to purchase an [Axiom too HS CMM](#) from Aberlink.

"Although we looked at several other machines, we concluded that the fast Axiom too HS CMM from Aberlink was the best available option, it also helped that the Aberlink CNC machine proved to be the easiest to use. Not only did the Axiom too HS have the required accuracy specification, it was able to undertake all inspection routines much quicker than the alternatives.

"Now in regular use, the accuracy of our new CMM helps to ensure the quality of the parts we deliver, whilst it impressive speed means that it has removed the possibility of inspection delays and it will be able to handle all anticipated rises in production levels."

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The new HS is the high-specification variant of Aberlink's acclaimed Axiom too CNC CMM range. As a result of its enhanced accuracy specification, swifter acceleration and faster travel, the advanced Axiom too HS is able to achieve higher levels of precision and carry out a far greater number of component measuring cycles in a given time.

Available in four X-Y-Z capacity variants, from 640 x 600 x 500 mm to 640 x 1500 x 500 mm, the cost effective CMM can truly be described as the complete, high speed, high precision, inspection centre. The Axiom too HS 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 machine's use of advanced materials, its 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.

The Axiom too HS utilises Aberlink's famous, intuitive 3D software, 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.

Aberlink Innovative Metrology Business Development Manager, Chris Davies concluded. "Factors such as the ever rising accuracy specifications of components, inspection bottle necks that can occur due to increased levels of production and limited floor space available to accommodate multiple CMMs, prompted the design and launch of the Axiom too HS.

"The advanced HS machine is largely based on the UK's best-selling CMM, the Aberlink [Axiom too](#), therefore the machine is founded on a tried and tested format. When compared to a standard Axiom too, our high-specification machine has a superior accuracy specification, faster acceleration and quicker travel. As a highly productive Axiom too HS CMM is able to carry out a far greater number of component measuring cycles in a given time, it can take two, older slower CMMs to undertake a similar amount of work.

"To ensure that customers are able to receive a machine to match their exact needs, a wide range of [touch probes](#), a [CMM camera system](#) for non-contact inspection and several [CAD software options](#) are also available."

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