



Electrical Case Study 11/2014

Company: Westwind Air Bearings

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Westwind Air Bearings  
Axiom too



As the world's first manufacturer to offer a range of commercial air bearing spindles, for more than fifty years [Westwind Air Bearings](#) has remained at the forefront of design and manufacturing within this technically challenging sector.

Westwind's global headquarters and European centre of design excellence is based in Poole, Dorset. The high-tech facility employs over one hundred staff and is the source of new product development initiatives and manufacturing.

Westwind air bearing spindles are used globally in many demanding industries, including PCB manufacturing, automotive coating, semiconductor manufacturing equipment, and many other sectors where performance needs fall outside the scope of conventional bearing technology.

Air bearings' demanding applications and high precision nature means that their component parts have exacting dimensional tolerances. To enable strict adherence to the quality standards required by a new contract, Westwind instigated a search for an advanced Coordinate Measuring Machine. Jordan Tuxford, Westwind Quality Engineer explained, "We looked at precision CMMs from several leading manufacturers. The key requirements were for high operational speeds and large granite beds that could accommodate multiple parts for automated batch measurement. [The CNC version of Aberlink's Axiom too](#) satisfied all of our criteria, it was the easiest to use of the CMMs we considered and offered good value for money".

"After a one day training course at Aberlink's Gloucestershire HQ and a trouble-free Axiom too installation, the machine was put to work immediately. A further half day on-site applications visit enabled the inspection process to be fine-tuned. Excellent service from Aberlink means that if help is needed, the Aberlink HQ support staff are always happy to provide advice over the telephone".

"Now we are able to quickly recall the pre-written part program, load multiple components onto the Axiom too and perform a precise and rapid CNC batch inspection".

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Available in [manual](#) and [CNC](#) variants, the recently upgraded, cost effective Axiom too is the best-selling CMM from the largest UK owned Coordinate Measuring Machine manufacturer. Popular throughout the plastic industry, Aberlink Innovative Metrology's Axiom too 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.

Equally rewarding when used by the novice or an experienced CMM operator, 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.

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