ABERLINK
Innovative Metrology

Case Study

Subcontract Case Study 09/2013

Company: **Metaltech Precision Engineers Ltd**

Zenith too

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Based in Hailsham, East Sussex, Metaltech Precision Engineers Ltd (MPE) is a progressive sub-contract engineering company that offers broad based experience in the field of medium to light, precision machining. Given the trend for buyers of outsourced parts to shorten their supply chains, MPE provide a comprehensive range of services. In addition to precision machining, the company undertake processes such as heat treatment, NDT testing, welding and assembly.

Since the Company's inception in 1976, MPE has continually invested in the best available CNC machine tools, resulting in its impressive manufacturing facility being equipped with a comprehensive range of CNC machining, milling, grinding and turning equipment. In addition to the implementation of the latest technology, MPE continually updates its staff's skill levels and ensures the continuity of the company's expertise by overseeing a progressive apprenticeship scheme.

As quality is at the heart of all of MPE's endeavours, the company administers a policy of continuous improvement in both its manufacturing and management systems. As part of this continuous improvement strategy and owing to an increase in business and the growing demand for the manufacture of ever larger components, MPE Managing Director Ken Elphick, recently investigated the available Coordinate Measuring Machines.

Ken Explained. "The management of Metaltech is committed to the continual improvement of the quality of our output, we have developed a corporate mindset that relentlessly pursues the elimination of variability and waste, whilst ensuring the delivering of high-quality, value for money products and services. To further these aims, as well as investing in the modern CNC machine tools, we provide our personnel with best available inspection technology.

"An ever expanding order book and the increasing demand for the production of larger parts recently prompted a search for a CMM with the required capacity and precision. Having had several demonstrations of similar, large capacity CMMs, we agreed that the 1.5 x 1 x 0.8 metre Zenith too from Aberlink was the ideal machine for our needs. Not only did the Aberlink CMM demonstrate excellent levels of speed and accuracy, Aberlink's intuitive software and simple report generating system made the machine the easiest to use of the models we considered.

"In addition to having the ability to precisely measure the larger components that we now manufacture, mindful of the possibility of future demand for even larger parts, the Zenith too's capacity should render it 'future-proof'.

Given the many advantages that the Zenith too had over the other CMMs we considered, we were happy to discover that the Aberlink machine was also the least expensive.

"Following a short training course and hands-on experience, our quality personnel have quickly become familiar with the machine's controls. As Aberlink's software is so easy to use our operators are now able to write, store and recall measurement programs. We are now able to load a single large part or multiple smaller parts onto the Zenith too's large component support, and using the relevant program perform the most complex of measuring routines in a fully automatic CNC mode. Dependant on our customers' requirements, on completion of a measuring routine, we are able to generate a variety of inspection reports, with options for dimensioned graphical representations to tabulated report formats.

"Since its installation, our Aberlink's Zenith too has proved a great success, not only has it enabled the measurement of larger components, it has enhanced our accuracy capability and considerably speeded-up the throughput of work in our busy Quality Department."

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Manufactured by Aberlink Innovative Metrology, the largest UK owned Coordinate Measuring Machine manufacturer, the large capacity Zenith too range consists of 10 machines with XYZ capacities from 1000x1000x600mm –1000x3000x800mm.
The range's cutting edge, all aluminium construction, advanced drive design and raised guide-ways ensures that despite their generous measuring envelopes, the machines' extremely low inertia characteristics guarantees high operational speed. Impressive accuracy and repeatability figures are further aided by the Zenith too's measuring structure being completely independent of the machine's granite surface table.
Although the Aberlink series is perfectly suited to use within environmentally controlled inspection departments, it is on the shop floor where the Zenith too range's low thermal mass and extremely robust characteristics come to the fore, enabling the accurate measurement of large components to take place nearer to their point of manufacture.

The impressive hardware of the new Zenith too is complemented by the range's intuitive Windows based software. A welcome bi-product of any Zenith too CMM inspection routine is that a simultaneous picture of the measured component is created in real-time on the operator's computer screen. Dimensions between the measured features, mirroring those that appear on the component drawing, are then picked off as required. In essence Aberlink's '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, so much so, that a complete novice is usually able to perform relatively involved measurement routines after just 5 minutes training.

Aberlink supply a complete Zenith too 'turn-key' package, including a comprehensive training programme, a wide choice of motorised or manual probes, Aberlink's celebrated 3D software and not least the latest generation of high speed custom controllers, that are capable of generating true, three dimensional contours.

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