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[Home \(https://www.bowersgroup.co.uk/\)](https://www.bowersgroup.co.uk/) > Feb 2011: Baty 'Bearing' Good News for SynthoTec Precision

Baty 'Bearing' Good News for SynthoTec Precision

SynthoTec Ltd is widely regarded as the UK market leader in the field of manufacturing high precision plastic bearing cages. The company originated in the early 1970's when it was the in-house injection moulding department of a major UK bearing manufacturer. Following a change of ownership in 1990, SynthoTec continued to grow and consolidate its progress, developing its market position in both Western and Central Europe. The company's continuing success is illustrated by the development of a second manufacturing plant in Zilina, North Slovakia, in 2006/2007.

With the majority of its impressive output sold within Europe, the company's development strategy continues to focus on a very high level of technical expertise within a low cost structure, targeted towards selected customers and specific industries. SynthoTec believes in establishing an in-depth understanding of customers' specific requirements, while consistently delivering the highest possible quality of product at the lowest possible price. The company has proved that by working closely with its customers over extended time periods, coupled with examining manufacturing production cycle and out-of-cycle costs, it can achieve realistic unit price reductions without compromising product quality.

SynthoTec's recognised ability to develop advanced production processes, including the precise design of moulds, enables the manufacture of high volumes of products to very accurate dimensional tolerances at relatively low cost. Although this expertise has been developed to meet the demanding requirements of plastic bearing cages, the company's skills have also been applied to other products with similar challenging requirements.

SynthoTec's hi-tech injection moulding machinery and ancillary equipment is specified to meet demanding requirements. The company's injection moulding machines range from 40 tonnes to 90 tonnes clamp force and can accurately deliver from below 1 gram part weight up to approximately 120g. In accordance with SynthoTec's



high component quality, price-down philosophy, machines are fitted with specialist robot component removal and storage facilities.

The ISO 9001:2008 accredited company operates stringent quality control standards, with all production staff having responsibility for the quality of their own work. Standard quality control procedures are based on rigorous automotive industry requirements, while all new projects are planned by APQP, whilst initial sampling is applied in accordance to PPAP.

To ensure the continuing quality of its output, SynthoTec makes regular investments in the most up-to-date quality control equipment. After searching for an extremely accurate vision measuring system capable of keeping pace with the high throughput of precise work processed by the company's busy Quality Control Department, Clive Sharpe, SynthoTec's Quality Manager, has purchased an advanced Venture Plus machine from Baty International.

Commenting on the company's very specific gauging requirements, Clive recently reported:

"Because of the deformable character of many of our high-volume range of parts, normal physical measuring techniques could lead to errors in our gauging routines. This meant that our proposed new measuring device had to have highly accurate, non-contact characteristics, and also the ability to handle a large throughput of very precise work. When I'd explored the available options I organised several demonstrations of potentially suitable non-contact measuring machines. Although I was impressed by aspects of all the alternatives, the Venture Plus Vision System from Baty met - and in many ways exceeded - all our criteria.

"Although it occupies a relatively small footprint, the flexible Baty machine's generous stage size means that we can measure single components or load large batches of parts that can be measured in a rapid CNC mode. As well as the machine's non-contact inspection capability, the Venture Plus also has a Renishaw TP 20 measuring probe, which makes it even more useful for us."

"Because we've found the Baty software extremely easy to use and very intuitive, we were able to make great use of the machine following our initial training session. As we're becoming more experienced we are finding further potential for the machine's more complex functions."

Baty International's Venture Plus is available in three capacities -

VP-6460 with 640mm x 600mm x 250mm measuring range

VP-6490 with 640mm x 900mm x 250mm measuring range

VP-100150 with 1000mm x 1500mm x 400mm measuring range

Venture Plus utilises an all aluminium bridge type construction, resulting in both low inertia and reduced thermal mass. Air bearings are used on all axes, whilst a granite Y beam is used for increased accuracy. This ensures that the machine will expand and contract uniformly with temperature changes, resulting in minimal distortion and errors. Ambient temperature can be compensated for within the Fusion software making Venture Plus ideal for use on the shop floor.

Advanced Venture Plus features include patented light table technology, segmented LED lighting, high resolution 0.5µm scales for increased accuracy, scanning & best fit features, autofocus, Renishaw TP20 touch probe joint and integral zoom optics. Whilst Baty's easy to use software includes advanced teach and repeat programming, CAD import / export, fully dimensioned part view, one click output to Excel™ and an SPC facility.

For more information on Baty's range of Vision Systems [click here. \(https://www.bowersgroup.co.uk/product-range/optical-measuring/vision-systems.html\)](https://www.bowersgroup.co.uk/product-range/optical-measuring/vision-systems.html)



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