

## COMPACT, AFFORDABLE 'TABLETOP' LASER WELDING SYSTEM

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A new compact tabletop laser welding system designed for easy integration into a production line, or for standalone use within manufacturing cells, is being introduced by HORIZON INSTRUMENTS at MedTec UK. The cost-efficient, modular NOVOLAS BASIC AT COMPACT system utilises fibre-coupled diode laser optics developed by laser welding specialists Leister Process Technologies, who are represented in the UK and Ireland by Horizon Instruments.



Leister laser welding systems enable the joining of intricate plastic components and can therefore provide important opportunities for the low cost development of components, production methods and techniques used in the medical device, biotechnology and pharmaceutical industries. With plastics playing an ever-increasing role in numerous high-volume manufacturing applications including medical devices, microfluidic components and lab-on-chip applications, compact and affordable systems such as the Novolas Basic AT meet the challenges of providing effective and versatile joining methods and offer important features and benefits. For example, outstanding micron precision, emission and particulate free processing, optimum weld strength, high reproducibility as well as minimal mechanical and thermal stress.

A key feature of the Novolas Basic AT Compact system is that it is air-cooled as opposed to being water cooled, which results in a more compact and lower cost system with overall dimensions of 483mm x 500mm x 267mm (WxDxH). The system includes a fibre-coupled laser module with an optical power of 40W. This makes it particularly suited for use with Leister's standard spot or GLOBO optic which can be used for welding applications requiring low energy input.

The effectiveness of the patented Leister GLOBO optic technique has been acknowledged by the Swiss Technology Award in 2004 and has proved its qualities across many complex 3D joining applications. The laser beam is focused by a glass sphere which is carried on an air bearing. The laser optic head can then be mounted to a 6 axis robot which is programmed to follow the 3D profile to be welded. As the Globo head applies direct pressure during the welding process the need for a clamping mechanism is eliminated.

Further specially designed optics by Leister allow for simultaneous welding of various geometries of the component, the Ring Optic, Radial Optic being two examples. Both of these enable fast welding speeds, guaranteeing short cycle times and increased throughput in series production.

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