



PRESS RELEASE

TRUMPF 3D LASER WELDER INSTALLED AT BORDER PRECISION

In a move that helps extend its position as a leader in production capability among precision engineering contract manufacturers, Kelso-based Border Precision Limited (www.borderprecision.com) has installed a TRUMPF TruLaser Robot 5020 3D automated laser welding system for the processing of complex seam geometries.

“We bought it because we always strive to be at the forefront of new technologies,” says the company’s Managing Director, Wayne Ballantyne. “We identified laser welding as a process of the future, a method that represents a fast, cost-effective joining solution for our customers.”

With around 150 employees and annual turnover in the region of £7-8 million, Border Precision is a leading light among UK contract manufacturers. A single source for all engineered products, the company offers capacity that includes laser and punch presses, as well as multi-axis press brakes. However, until recently, the firm’s welding capability was restricted to conventional two-dimensional MIG and TIG processes.

“We knew that laser welding was the way forward, and although we have a long-standing relationship with TRUMPF, we evaluated the marketplace and conducted trials before deciding to acquire the TruLaser Robot 5020,” says Mr Ballantyne.

The TruLaser Robot 5020 is a turnkey, highly integrated TRUMPF eight axis laser welding system for the processing of complex seam geometries. Capable of welding various material types it offers enormous flexibility to produce even small batches cost effectively.

“Its flexibility, speed and cost effectiveness present a real opportunity for our customers to achieve competitive gains,” explains Mr Ballantyne. “Furthermore, the weld strength and heat dissipation of laser welding provide engineering benefits too. There are potential advantages here for all sectors – from military to medical and everything in between, including automotive. It’s a case of raising the knowledge and awareness of laser welding among our customer base.”

Components measuring up to 1,400 mm (width) x 800 mm (height) x 1,200 mm (depth) can be accommodated. Repetition accuracy is ± 0.1 mm, achieved through precise positioning of the focus using laser lines and crosshair generators. Here, crosshairs are faded into the image in the observation camera, with the midpoint lying on the processing focus. With the use of the laser line, exact positioning becomes child's play. If the laser line cuts the midpoint of the crosshairs, the focus of the processing optic is located exactly at this point. In this way, it is possible to perfectly define the optimum distance between the optic and the workpiece.

Among the main components of the TruLaser 5020 is the solid state laser device with laser light cables, robot, manipulator, processing optics, safety enclosure and index unit. The laser source integrated into the system installed at Border Precision is a TRUMPF TruDisk 3302 disk laser using the advantages of a diode laser as the pump source which provides the excitation energy, and ensures high efficiency. The disk as a solid-state laser ensures high beam quality and therefore precision welding.

Border Precision, which processes all common engineering materials in thicknesses from 1-10 mm, is enjoying a busy period despite challenging conditions in the wider economy. And while a 50% export schedule and the favourable exchange rate contribute to current success, Mr Ballantyne says there is a more generic reason for the company's impressive performance levels.

"In this market, competitive prices and high quality are taken for granted," he says. "As a result we differentiate through factors such as flexibility and investing in the latest manufacturing technologies. The TRUMPF TruLaser Robot 5020 fits perfectly into this ethos as it is able to operate efficiently and economically in many different applications. Its versatility will even permit the welding system to be used for other machining functions, such as cutting, drilling and engraving."