

Greenfield Engineering Ltd

AMADA's first UK fibre laser installed with the OVS System



Greenfield Engineering, a market leader in precision sheetmetal fabrication, has invested in an AMADA ENSIS-3015AJ 3 kW fibre laser with AS LUL automation tower. Saving on the previous cost of outsourcing laser work, the machine is the first in the UK to feature AMADA's OVS system, which allows pre-punched and formed sheets to be loaded on the ENSIS for laser cutting.

Established in 1989 and employing 80 people, Greenfield Engineering has a strong ethos of continual improvement. Working over the past three decades towards the main goal of delivering to the customer an efficient, successful and diverse service at all levels to sectors such as office furniture, lighting / HVAC. Accreditations include ISO 9001, ISO 14001 and OHSAS 18001.

Greenfield relies on a number of in-house punching machines, including three AMADA EMZ models with automation, to produce its mix of long-term contract or project-based work. However, the company knew it would benefit from the introduction of its first flat-bed laser cutter, and turned to AMADA for the solution.

"We wanted to increase our capacity, and felt that with our mix of work, a fibre laser was the right machine," says Managing Director Gary Burnard, who started with the company 26 years ago as an apprentice.

"Fibre technology has levelled the playing field in profiling, particularly with regard to the thinner gauges that we typically process. Also, as we laser-cut our parts using compressed air, we save against nitrogen or oxygen, as used by previous-generation CO₂ laser cutters.

As a result, along with the fact that no tooling is required, there are increasing numbers of parts which are nowadays produced more competitively on lasers in comparison with punching machines."



Inherent benefits of the ENSIS-3015AJ laser include Variable Beam Control technology and cutting at high speed across a full range of materials without changing lenses. The laser is capable of cutting up to 25mm thick mild steel, with the equivalent capability of much larger fibre lasers, but using half the power. In addition, Greenfield is the UK's first user of AMADA's OVS system.



"In addition, the level of automation available was a pertinent factor. With the AS LUL pallet stockyard tower we are able to run 24/7 – we've found the machine and automation to be very reliable from that perspective. In fact, the AS LUL has enabled us to increase our capacity by more than 40% without adding any additional labour cost." - Gary Burnard Greenfield Managing Director

"OVS allows us to take punched parts and put them on our ENSIS-3015AJ, which verifies the position of two punched datum holes and automatically adjusts the laser program to compensate for any inaccuracies in sheet loading," explains Mr Burnard. "We thus end up with combined process parts without the need or cost of a punch-laser combination machine."

As well as combination parts, Greenfield also uses its ENSIS-3015AJ as a stand-alone laser, and even for producing parts that would otherwise be punched, when the punching machines are over capacity. Typical materials processed include mild steel, galvanised steel and stainless steel, usually 3mm or thinner, but sometimes up to 6mm. Batch sizes extend from 1-off up to 12,000.

Mr Burnard says the choice of supplier for the fibre laser machine, which was installed in October 2018, was always going to be AMADA based on the performance and reliability of the company's existing machines, matched by the quality of service provided.

According to Mr Burnard, the ENSIS-3015AJ has allowed the company to be more efficient with material through dynamic nesting, and has reduced costs for small batch work. Component edge quality has also improved, particularly on harder, thicker gauge materials.

"The machine represents an overall improvement, which is what we always try to achieve with our investments," he states. "It enhances the business, whether that's through extra capacity, improving costs or quality, or opening up routes to new revenue streams."

Since installation, Greenfield has been running its new machine across two manned shifts and lights-out when required. The ENSIS-3015AJ not only complements the existing AMADA punch presses, but also the AMADA automated bending cell and press brake technology on site. It is clear to see that Greenfield invests continuously in new equipment and technology to stay ahead of the competition, automating wherever possible.

"We are a company that very much trades on reputation, so we pride ourselves on investing in the business," says Mr Burnard. "The automated ENSIS-3015AJ is a statement of investment that shows our ambitions. Ultimately, it's about always trying to offer a better service and cost-per-part to the customer. Customers want top quality, on-time at the lowest cost. Each of our investments is aimed at delivering these requirements."

A fundamental principle of Greenfield is the awareness of giving customers the sheet metal products they want, when they want them. Customers have had to be increasingly more demanding on their supply chain in every aspect – cost, quality, design and delivery – to survive in their own competitive environment.

"We strive to offer an all-round, value-added service," concludes Mr Burnard. "We're heavily invested, which is how we stay competitive in the market and retain long-standing clients. The laser has enhanced this offer, whether that's via the capability to respond quicker with a minimal set-up machine, or through component cost or quality improvements."