

# AN EYE ON EFFICIENCY



The ByTrans on its way to pick up the cut sheet from the fibre laser machine's shuttle table

The installation of modern and efficient production machinery has boosted Allsop's turnover to over £10 million and the company now employs 150 staff.

## ISMR SAYS:

*"Two fibre laser cutting machines are so productive that, to achieve the required throughput, it is no longer necessary to run Allsop's factory 24/7, which has led to significant labour cost savings"*

U K sheet metal design and engineering specialists, Allsops Ltd, has progressed from CO<sub>2</sub> to fibre laser cutting, resulting in significant financial savings for the company. Mild steel from 1.2 to 3mm thick is mainly processed and, for these gauges (even up to 6mm), the production output from each of two Bystronic fibre laser machines is at least three times that of the previous CO<sub>2</sub> models that they replaced, with lower running costs.

During 2018, the Holmfirth-based subcontractor upgraded its bending capability with the addition of two Xpert 40 Bystronic press brakes with a bending length of one metre and a stroke of 200mm. Raising the number of press brakes on-site from this supplier (and predecessor companies) to eleven, they provide a more efficient platform for bending smaller parts than a 3-metre capacity machine, which has slower axis movements.

Founded in 1959 by Bob Allsop to support a growing manufacturing community in West Yorkshire, the sheet metal design and engineering subcontractor is celebrating its 60th anniversary this year. It operates from 84,000 sq. ft. premises in Honley, near Holmfirth. From the start, the company has adopted an unwavering focus on quality. Services range from design consultancy through to punching, laser cutting, folding, welding, fabrication, powder coating and assembly. The installation of modern and highly efficient production machinery has boosted its turnover to over £10-million and the company now employs 150



The BySprint Fiber 3015 at Allsops in Holmfirth (UK)

staff. It manufactures a number of products including industrial ovens; naval platforms; office furniture; photo booths; point-of-sale equipment; scissor lifts; shelving slats; post-sorting machinery and switchgear cabinets.

## Rapid file to part

Allsop uses Bystronic's BySoft 7 software to program both the fibre laser cutting machines and the new press brakes.

"The software ensures seamless, rapid progression from cutting the blank to bending and guarantees accuracy of the first-off part. This is invaluable for economy of production when dealing with prototypes and

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short runs. The software includes simulation of the bending sequence to identify any impending collisions," Bystronic told ISMR.

Allsop's technical director, Stephane Lericolais, added: "We previously used generic



The pair of Bystronic Xpert 40 press brake cells in operation at Allsops. Almost all cut sheet metal at the Holmfirth factory is folded.

programming software for laser cutting and bending but, since 2010, we have standardised on BySoft 7. It imports our customers' 3D CAD models, flattens them and automatically generates programs offline for cutting the parts, nesting them within a 3 x 1.5m sheet and then bending them accurately.

"We know that the first part will be within tolerance whereas previously, before producing a prototype or starting a batch run, we would have to cut a blank, calculate the bend allowance, fold the part, check it for accuracy and have to do the same again perhaps once or twice before the job was right. All of this created expensive scrap and took much longer."

Not only is production able to start more quickly on the compact Xpert 40 press brakes, but the machines are also very efficient, according to Allsop's production director, Lyndon Tyas.

"With these inherently fast bending cells, all of the upper and lower tooling is available in drawers on the left- and right-hand sides of the press brake and the operator can remain seated when loading them," commented Tyas. "Tool positions are automatically calculated as a part of the program and flashing LEDs on the front of the upper beam instruct the operator where to mount the tool segments. The ergonomic configuration means that setting up the machine is rapid, typically fifteen minutes for a straightforward part. Accuracy is high - we easily hold  $\pm 0.5\text{mm}$ , more than good enough for most jobs and we can even halve that tolerance if required."

He also pointed out that there is space to hold cut blanks on one side of the machine and components that have been bent on the other. Another feature is the ByVision touch-screen

control, which can be positioned to one side at the operator's eye level, or just above it centrally if preferred.

## 24/7 production no longer needed

Allsops has been a customer of Bystronic, or its acquired companies, for more than 20 years and there is little sheet metal processing equipment on the Holmfirth site, apart from a bending line and a punch press, that has not been sourced from this supplier. While thinner

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gauges of mild steel constitute the majority of the material going through the machines, plate of up to 25mm thick is also cut as well as stainless steel and aluminium of up to 30mm.

The subcontractor was an early adopter of CO<sub>2</sub> laser cutting, installing its first model back in 1995. Latterly, there were two such machines on the shop floor with a 4.4kW and 5.2kW laser source respectively. They were replaced in 2015 and 2016 by a BySprint Fiber and a ByStar Fiber, both of 6kW specification and of 3m x 1.5m sheet capacity. The machines are supplied with material from ByTrans handling units that were formerly fitted to the CO<sub>2</sub> machines, enabling automated delivery of fresh sheets to the machines and the return of laser profiled components for removal from their skeleton.

Fibre laser cutting has massively increased Allsop's productivity compared to CO<sub>2</sub> laser cutting, in this case typically by threefold. Managing director, Rob Machon, and his team had been keeping an eye on the advent of the technology and watched the

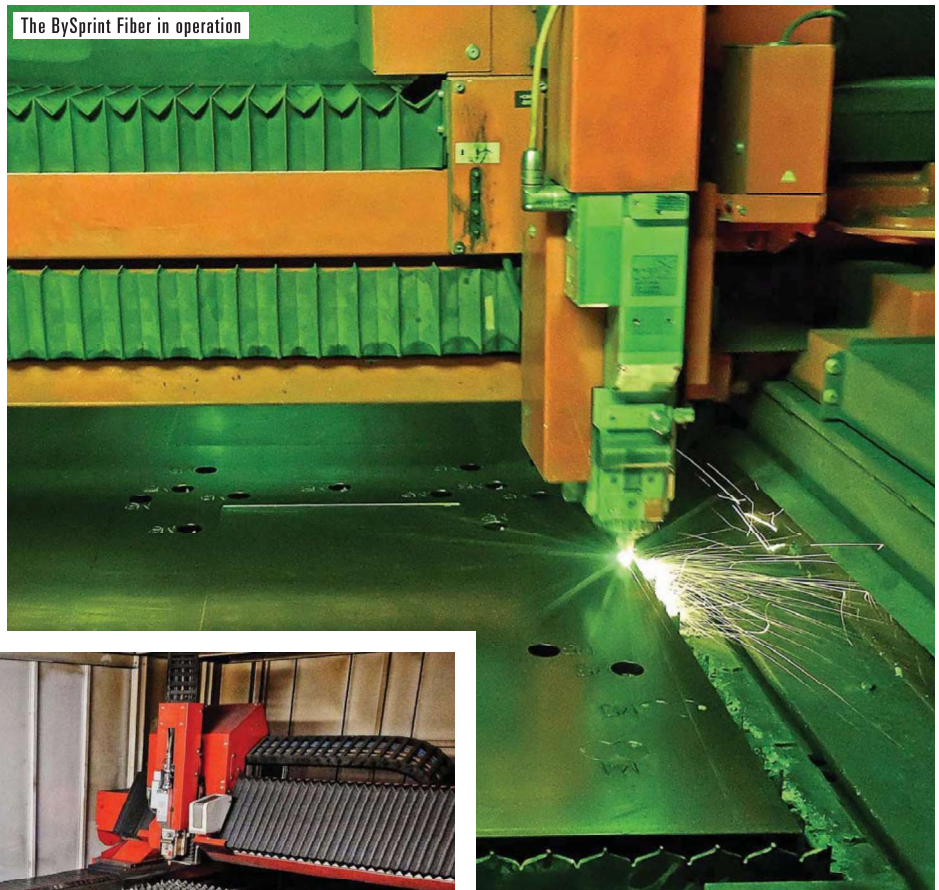


Lyndon Tyas (left), production director at Allsops, with Andrew Richert, sales manager for the UK and Ireland for Bystronic UK

“Some sheets are processed 30 per cent faster if components are complex, while for the simplest jobs there is still an improvement of nearly 10 per cent.”

introduction of machines with 2-, 3- and then 4kW of fibre laser power, but they decided to wait until 6kW became available before making the first investment.

“The Bystronic ByStar installed the following year raised performance significantly further. With faster axis movements and higher dynamics compared with the earlier



The BySprint Fiber in operation

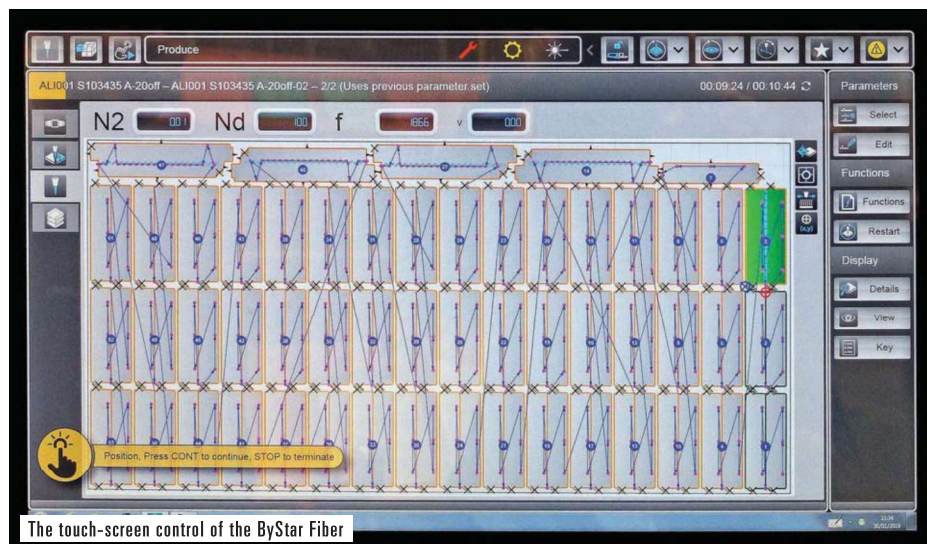


A cut sheet on the table of the ByStar Fiber, before returning to the ByTrans

fibre laser cutting machine, some sheets are processed 30 per cent faster if components are complex, while for the simplest jobs there is still an improvement of nearly 10 per cent,” explained Bystronic.

“Together, the machines are so productive that to achieve the required throughput, it is no longer necessary to run the factory 24/7, leading to significant labour cost savings. Currently, just one night shift is needed four days per week and there is no longer the need for weekend working. At the end of Friday afternoon, the two ByTrans are loaded with material, which provides both machines with a couple of hours' lights-out running for processing the following Monday morning.”

Mr Lericolais advised that further savings result from the fact that laser gas or beam purging gas is no longer needed, while assist gas usage per cut component has dropped by 37 per cent. Additionally, electricity bills have reduced by a similar amount, unsurprising as CO<sub>2</sub> technology requires 98kW of input power to generate 6kW of laser power at the cutting nozzle. ■



The touch-screen control of the ByStar Fiber

## CONTACT

For further details, see  
[www.allsops.co.uk](http://www.allsops.co.uk) and  
[www.bystronic.com](http://www.bystronic.com)