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080701 Sorb squeezes maximum benefit from laser cutting installation

Case Study

Sorb squeezes maximum benefit from laser cutting installation

SORB Engineers specialise in making the most of its resources. So when it decided to replace its two existing laser machines with a state-of-the-art automated laser cutting cell from Prima Industrie UK, the result was a customised installation delivering faster and more accurate profiling, as well as a 'lights out' capability and 40% extra material capacity than standard.

Darryl Sutton at the helm of the 4 kW Platino

Based in Marlow, Buckinghamshire for the last 42 years, SORB is a family-run company that specialises in precision sheet metal engineering and fabrication. It has established a strong reputation for quality and close attention to its customers' requirements, which is why the company's work can be found in the motor sport, medical, IT and communications sectors, in addition to more traditional markets such as machine building, architectural engineering and transportation.

"We pride ourselves on supplying excellent laser cutting and precision sheet metal services," says production manager Andy Proniw. "It's an approach that has been central to our continued business growth and is the reason we enjoy such a high proportion of repeat business." Versatility, flexibility and fast response are further factors in SORB's success. In addition, the company offers CNC folding and MIG/TIG welding facilities on site, enabling it to function as a one stop shop for its customers.

"We have always recognised the benefits of utilising technology to maintain our competitive edge," Proniw continues. "We invested in our first CNC laser cutting equipment back in 1994 and subsequently added a second, larger capacity machine from the same supplier in 1999.

"Our original machine, the first of its type to be installed in the UK, provided a substantial increase in productivity over our previous punch press equipment. It enabled us to tackle much more intricate profiling jobs than before. Its ability to produce high quality work in shorter lead times allowed us to grow business levels significantly and in turn, led to the justification of the second machine.

"A further nine years down the line and it was apparent that laser cutting technology had moved on – not only in cutting speed and precision, but also in terms of work handling capabilities."

After undertaking a thorough market investigation, managing director Mike Simpson selected a solution from Prima Industrie UK. At its heart is a 4 kW Platino laser machine capable of quickly and accurately profiling up to 25 mm mild steel, 15 mm stainless steel and 10 mm thick aluminium sheet. It also provides 0.03 mm cutting accuracy across its entire machining envelope of 3 x 1.5 m while its flying optics design and high dynamics enable head speeds of up to 140 m/min and an acceleration of 12 m/s² to be achieved.

"The Platino's ability to pierce material in around 0.5 sec and cut at up to 6.5 m/min has substantially reduced cycle times and increased productivity, enabling us to reduce the effect of escalating raw material costs," noted business development manager David Smart. "Similarly, its inherent accuracy and repeatability has allowed us to tackle a much wider range of products than we could with the previous equipment."

The second key element in SORB's new laser installation was a purpose designed 14-storey Prima TowerServer work handling system. The unit incorporates four additional pallet stations over the standard 10-storey model and has been custom engineered to fit snugly under the 5.3 metre high roof line at SORB's premises.

Productivity Benefits

According to Simpson, the TowerServer delivers a range of productivity benefits. "First and foremost, it gives us extra flexibility. Unlike our previous machines, which needed operator input at the start and finish of each cycle to unload processed parts and position a new sheet of raw material, the TowerServer

Sorb's managing director Mike Simpson controlling the automated cell

enables the Platino to run unattended. Each of the 14 shelves has a capacity of 3 tonnes and incorporates an automatic loading and unloading system. By contrast, it might have taken three or four of us up to 10 minutes to load a large sheet of, say, 15 mm material onto the previous machines. With the tower unit it is faster, safer, and allows the workforce to concentrate on skilled manufacturing tasks."

"Likewise, it enables us to handle the more complex, precision, prototyping and short lead time work during the day shift, while customers' volume requirements can be processed throughout the night under 'lights out' conditions," adds Smart.

Hand in hand with SORB's new ability to run 24/7 is the increased material stockholding and accurate recording capabilities of the TowerServer unit, which effectively transform it into an automated stores. Proniw explains that by having deliveries of raw material loaded directly onto its pallets has greatly improved health and safety.

While the installation will keep running unattended until it runs out of material or has completed all of its jobs, an additional refinement built into its offline programming capabilities enables Simpson to remotely interrogate and control the new equipment from home.

"The automation means that I can be at home and change the order of sheets being processed or the quantity, all while the machine is cutting," said Simpson. "Prima has been very responsive in tailoring the installation to our particular requirements."

The real proof of the pudding is that the company has already recorded a dramatic increase in business during the past 12 months.

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