



Slashing throughput times

CNC panel bender cuts set-up times and reduces the reliance on skilled operators in the forming section

Paul King — managing director of the precision sheet-metal fabrication specialist CSM (Chorley) Ltd — says that before installing his latest CNC panel bender, a batch of only 10 components with a degree of complexity would take around 2hr to complete on one of his press brakes; the same 10 components are on and off the new panel bender in just 20min.

Competitive gains of this level are vital in what has become a very competitive arena; and to ensure that it “stood above the crowd”, CSM developed a reputation for excellence. Mr King bought the business in 2005, and from the outset he had plans to take it to an even higher level. “I have always assured the workforce that, through our policy of continuous improvement based on productivity, automation, faster machines and a reduction in process handling, we would not lose jobs but would create them. Today we have 92 people — and we are still growing.”

CSM offers a ‘one-stop’ turn-key service for all precision sheet-metal fabricating needs. The company specialises in the design and fabrication of sheet metal products for a wide range of commercial and retail customers. Around 15% of its output is exported. “Our policy of continual and substantial investment means that we are equipped with the latest fabricating machinery. Moreover, we can offer innovative ideas that will enhance new or existing products — aesthetically or functionally, sometimes both — to achieve a more efficient solution that reduces production costs while maintaining the highest standards of manufacture.”

The need for the panel bender — a Salvagnini P2Xe 21 machine from Salvagnini UK & Ireland (www.salvagninigroup.com) — came when CSM’s press brakes were being worked night and day to keep up with the thousands of sheets that were being processed by its punching and

laser cutting machines. “In effect, the forming section had become a bottleneck,” says Mr King. “As a result, we began to research panel-bending technology and ended up with a short-list of two machines. We opted for the Salvagnini P2Xe 21 for two main reasons. Firstly, we took comfort from the fact that Salvagnini has been manufacturing panel benders for a considerable time. Second, the compactness of the machine meant we could produce a lot more output in the same footprint as a press brake.”

Machine demonstration

Salvagnini arranged for Mr King and his team to see a P2Xe bending the company’s parts at a factory in the South of England. “On the visit, the benefits to our business became clear — not just the speed, but the potential for continuous quality and repeatability without any reliance on skilled operators.”

The P2Xe panel bender produces panels automatically from a punched/cut sheet of metal, using a single universal bending tool. The blank is first moved horizontally by the manipulator before a rotator quickly and accurately places the side to be bent in front of the press. The blank-holder then holds the blank firmly in position, so that the bending unit and its blades can make any number of bends — up or down — in rapid succession. The machine can process pan-

els up to a maximum of 2,180 mm long and form bends up to 165mm high.

“Around 70% of what we produce here falls within the maximum bend height of the Salvagnini,” says Mr King. “We have one or two taller bends on some jobs, but we simply finish those on the press brake. Our previous bottleneck in the forming section has completely disappeared.”

The major selling point of the Salvagnini P2Xe is its ABA automatic blank-holding system, which can adjust the tooling in less than 4sec. Moreover, this is done in ‘masked time’ — before the previous cycle finishes, allowing manufacturers to reduce WIP and run much leaner production. “We are putting ABA to good use to ensure that we make big savings in set-up time. Whereas each job takes 20-30min to set on the press brakes, we can eliminate this using the P2Xe. Overall, cycles are much reduced. For instance, some jobs that previously took two men over an hour can now be completed in less than 10min.”

Batch sizes put through CSM’s Salvagnini panel bender typically range from five to 1,000-off. Most sheets are mild steel in the thickness range 0.9-1.5mm. That said, the P2Xe 21 can bend mild steel up to 2.5mm thick, stainless steel up to 2.1mm, and aluminium up to 3.2mm.

“Since installing the machine, we have started producing complex bend sequences that have amazed even the most experienced press brake operators. We had an ‘open evening’ recently, and our customers were very impressed with the panel bender’s capabilities.”

Despite Mr King confirming that the P2Xe has a “very big appetite” and can “destroy a pile of work in no time”, the machine runs for 12-16hr a day. “It’s not often that we come across technology that provides a genuine step change, but the Salvagnini P2Xe is a quantum leap for our type of work.”