

In the Spotlight

Timesavers: at the cutting edge of precision grinding

Do you need to grind sheet material to an accuracy of +/- 0.02 mm? Do you need to deliver such sheets in large or small quantities? And do you need a grinding process that works economically and reliably? Then at the top of your call list should be Timesavers, a company with an eighty year engineering pedigree and a global client base that includes steel mills, service centres and distributors.

By David Sear



The history of Timesavers is a captivating story in itself. It can trace its origins back to a repair shop for woodworking machinery, established in 1939. The transition to developing and manufacturing machinery in-house such as abrasive equipment soon followed and by the early 1960s the company was already producing wide-belt sanding equipment.

The following decade saw Timesavers first step into the metals market and indeed at the start of the new millennium the decision was taken to increasingly focus on

materials such as carbon steel, stainless steel, duplexes, aluminium, etc. Today the company enjoys a solid reputation for its broad selection of machines for grinding, finishing and deburring metal plates.

When SSWN spoke to Timesavers' Sales Director Piet Kooman, however, he puts the focus of our interview very firmly onto a relatively new product line, the 81 series, developed for the precision grinding or calibrating of metal sheets.

"Indeed, many companies in the steel industry know Timesavers for

our machines that can round edges, deburr, remove slag and apply an attractive surface finish. Such equipment is commonly found in say machine shops, fabricators, etc. However, some fifteen years ago we launched a machine that can precision grind metal sheets and plate to very fine tolerances. In short our equipment provides a calibrated product."

Customers for calibration machinery to date includes some of the top names amongst the mills that provide high end materials such as titanium, molybdenum, zirconium and aluminium. "Because of the final letter in all these metals these companies are sometimes referred to collectively as the 'um materials group'," laughs Piet. On a more serious note he indicates that Timesavers' calibrating technology can very definitely be equally applied with equal success to more standard materials such as carbon steel and stainless steel.



All Timesavers' machines are designed for ease of maintenance. Replacing grinding belts (here shown on an 81 series machine) is much more straightforward compared to a grinding stone.

Turn-key projects

Whoever the customer and whatever the material he wishes to process, he is assured of Timesavers' undivided attention, comments Piet. "We don't simply sell a ready-made machine to a prospective client. It is important for us to first understand exactly what they want our equipment to do. We will then run tests to determine the most appropriate choice of belt for the material, the optimum cooling rate, the best throughput speed and all the other parameters that need to be set to ensure sheets will be properly calibrated."

The calibrating machine is then custom-built to meet the clients' precise needs. Timesavers can also organise and integrate appropriate handling equipment, such as roller conveyors, automatic stacking and de-stacking units, turnover units,

etc, to create a genuine process solution for customers.

"Timesavers staff will then visit the customer's premises to install, test and fine-tune all the equipment to make sure everything works as expected. We then train the customer's own staff, to make sure they understand the machine and can perform all necessary maintenance. This way, the customer can immediately and reliably put the calibrating equipment to good use. In short, we deliver turn-key projects including all the process parameters and this fact does give us a strong competitive edge."

On the topic of maintenance Piet adds that Timesavers offers ultimate flexibility to customers. "As indicated, we will not leave the customer until his people know our machinery inside out and can keep it in tip-top condition. However, we also recognise that

In the Spotlight

some clients prefer to outsource maintenance which is why we have our own service department. Our people quite literally fly around the world to maintain our calibrating equipment. Some customers actually take out preventative maintenance contracts with us. We then schedule visits to ensure their calibrating machines are kept in perfect working order."

Superior belt technology

Fundamental to the performance of each calibrating machine is, of course, the grinding belt. Piet stresses that the technology in modern belts used by Timesavers is far, far removed from say the belts used in domestic sanders.

"Timesavers has worked very closely with two leading manufacturers of grinding belts for many years. By running tests, sharing experiences and gathering customer feedback we have been able to help these companies further improve the quality and performance of their products. Belts are now much better than when we first started, offer longer lifetimes and can remove much more material in a single pass."

Piet recalls that many industry professionals were initially sceptical whether grinding belts could achieve results previously only seen with processes like milling or stone-grinding. "However, we have been able to demonstrate that Timesavers' precision grinding machines can in fact outperform stone grinding, not only in terms of speed of processing but also as regards the surface finish over the full plate."

Customer feedback reinforces the benefits of Timesavers' belt technology. "Various clients have informed me that belt grinding puts much less heat into the process than a grinding stone. Others report that belts 'cut' much more precisely than a grinding stone, resulting in less damage to the homogeneity of the product surface."

Asked for more details about performance, Piet indicates that with a new grinding belt a Timesavers' calibrating machine can remove

In the Spotlight

anything from 0.05 mm to 0.1 mm in a single pass. "Obviously when the belt wears that can drop to say 0.02 mm. Now on traditional machines that means that the operator has to regularly intervene and make adjustments to take this wear into account. What we have done, however, is to develop a system whereby our machines constantly monitor the condition of the grinding belt and make all necessary adjustments. This system also stops the machine once the belt has fully worn out, so in effect once running it performs operator-free."

Piet also stresses that customers are definitely not tied to a specific brand of belt. "Our calibrating machines are designed to work with products from all leading belt suppliers, giving freedom of choice.

However, we do recommend the two leading belt makers – 3M and Hermes Abrasives – who we work very closely with and whose products we fit as standard. It's no secret to say that some customers do try cheaper alternatives but quickly revert to these two manufacturers. That's because our recommended belts give better performance and value for money."

With over fifteen years of customer feedback at their fingertips, Timesavers have every confidence in their ability to develop process

Case history: edge rounding



Krones' machine park is equipped with a WRB42 series rotary brush machine which enables deburring and final edge rounding in a very efficient one-step operation

The Krones Group, headquartered in Neutraubling, Germany, plans, develops and manufactures machines and complete lines for the fields of process, filling and packaging technology. The portfolio also includes information technology, factory planning and other goods.

Mr. Martin Landendinger, head of the CPL Sheet Metal Production section (sheet metal working unit), is conscious of his responsibility for the high quality of the equipment that Krones supplies.

"25 percent of the 20 tons of sheet or coil material we process every day consists of stainless steel. Per hour we manufacture about 400 individual parts. The finished equipment is different for every customer. We therefore typically manufacture batches of 10 pieces or less, using laser cutting as the method of choice." Although workpieces produced by laser cutting show hardly a burr, two sharp edges do need to be rounded. For this production step the Krones machine park is equipped with a WRB42 series rotary brush machine delivered by Timesavers. "If necessary, these machines allow deburring by a pre-grinding process and final edge rounding. The whole work is carried out in only one operation step, we need just a single machine without any further time to be spent. For our application this is the best resolution," states Mr. Landendinger.



The extremely versatile 42 series can be specified with various carousel rotating brush heads and grinding belts for or flawless deburring, perfect edge rounding, high-class finishing and ultimate precision grinding

In the Spotlight

Case history: deburring, edge rounding and finishing



Dutton Engineering make good use of a Timesavers' 42 series machine for both deburr and grinding operations in a single pass

Dutton Engineering based in Sandy, UK, is a specialist sheet metal sub-contractor. The focus of its forty years has been stainless steel sheet. With customers in the food processing, medical and architectural sectors, among others, attention to detail, premium finish and quality products are essential to maintaining good customer satisfaction.

To support its customers Dutton Engineering has a comprehensive capacity list including punching, laser, waterjet, bending and forming, as well as milling and turning capabilities. Equipment has long included two Timesavers machines for surface graining / finishing operations. However, when a new contract demanded guaranteed consistent burr free parts (which contained multiple slots) the decision to purchase a new Timesavers 42-1350-WRb was straightforward. With its combination of wide abrasive belt head and an eight brush rotary head, this 42 series machine combines both deburr and grinding operations in a single pass. The inclusion of a vacuum table also adds greater versatility as the machine is capable of processing parts ranging from 1350 mm wide sheet up to 4500 mm long, down to parts measuring just 50 mm by 50 mm and up to 150 mm thick.

solutions for customers. Comments Piet: "as stated, we throughout research each customer's needs, determining the best belt, throughput speed and numerous other parameters. If that customer follows our recommendations we will back that up by offering a guarantee on output!"

Exponential sales growth

In absolute numbers the sales volume of the 81 series might seem modest, but Piet is delighted with results to date and has high expectations for the future.

"When the calibrating equipment was launched in 2004 we had to spend a lot of time informing potential customers of the benefits of this technology. Once first sales had been made our focus turned to gathering customer

feedback to further improve our products and the overall service we offer. We then started to receive more and more inquiries based on word of mouth which is very satisfying and I can say that

our sales figures really took off in 2011."

Given how popular Timesavers' calibrating machines have become it is no surprise to learn that the company has established a separate facility housing all the various disciplines needed for production. "This unit is self-contained and from where we provide the consulting, engineering, parts production, assembly, installation and after sales services required for our calibrating machines and other special products," explains Piet.

He adds that Timesavers has invested in developing a wide network of trusted sub-suppliers and partners which means the company can be very flexible when it comes to production. He is therefore confident that Timesavers has all the resources in place to accommodate further sales growth.

"Many suppliers of say stainless steel or carbon steel sheet and plate currently use grinding stones if they need to deliver anything outside standard thicknesses," states Piet. "However, grinding stones are relatively slow and the results are not very precise. Our calibrating equipment can do the job in just a tenth of the time and with much better accuracy and consistency. This is why I believe there is a tremendous potential market for us to capture and why I am looking forward to talking to steel mills, service centres and distributors... literally anyone who needs to deliver plates to highly accurate thicknesses."

Facts & Figures

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| Company name: | Timesavers International BV |
| Established: | 1939 |
| Facilities: | Goes, the Netherlands; Minnesota, USA |
| Key products: | equipment for deburring, finishing, edge rounding, precision grinding, heavy slag removal, laser oxide removal |
| Applicable metals: | carbon steel, alloy steel, stainless steel, nickel-base alloys, titanium, zirconium, molybdenum, aluminium, etc |
| E-mail: | info@timesaversint.com |
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