



Deburring and rounding-off in a single pass

A Lissmac grinding and deburring machine has now been in service with Metallwarenerzeugung Herbert König in Fußach/Austria for a year. The machine has contributed greatly not only to the success of the sheet metal processing firm but also to increasing the serviceability of its products.



The Lissmac SBM-GS 1000 grinding and deburring machine

An SBM-GS 1000 grinding and deburring machine has now been in service for over a year with Metallwarenerzeugung Herbert König in Fußach/Austria, a town on Lake Constance in the economically strong region of Vorarlberg. Founded fifty years ago, the family-owned business started out doing repair work, went on to make parts for ski bindings and has now evolved into a successful supplier of high quality sheet metal products. Given the fact that, for example, the snow cannons which Herbert Koenig and his workforce produce in response to a customer's order, form part of the most reliable snow making systems available, a Lissmac grinding and deburring machine has made a substantial contribution not only to this success but also to increasing the serviceability of many other products. To its user, the machine brings two distinct advantages. On the one hand, it is capable of completely deburring the relatively rough metal sheets for the snow making systems from both sides while, on the other, it rounds off all the inner and outer edges, all in a single pass. It functions just as reliably in the thin gage range as in the thick gage range on sheets up to 120mm thick, where it can grind off burs up to 5 mm long.

Following the laser cutting of sheets of steel with oxygen, oxide layers are generally left on the razor sharp cut edges. The cutting of thick metal sheets is often still

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associated with the annoying formation of burrs. As a result, processed metal sheets not only present a risk of cut injuries when handled, but are also lacking in quality.



Herbert Koenig, owner of HK Metallwarenerzeugung

According to Herbert König, "In the case of snow making systems, which make snow out of water, rust spots developed in a very short time which not only spoilt the appearance of the equipment but also impaired operating functions. As an example of this I would mention the wear and rounding effect on the ring gear on which the snow cannon revolves. The 100 % removal of the oxide layer by manual grinding was, in practice, impossible to achieve at a reasonable cost. Now, the zinc coating holds firm. As a consequence of rust spots on the cut edges of the related switchgear cabinets, there was always a potential threat to the electrical installation. Today, the rounded edges of the cable apertures protect the power cables. So you can appreciate that getting information about the new Lissmac SBM-GS 1000 machine was well timed."



Wear and rounding of the ring gear on which a snow cannon rotates

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The machine has eight grinding systems by which the fed-in metal parts are processed. Following their transfer from the conveyor belt, work pieces are automatically directed through the machine with the aid of pressure rollers. In the front section, two parallel grinders act on the components from above, while two others perform the same task in parallel from below. These first four grinders carry out the removal of burrs and spatter. Only after the metal sheets have been cleaned up in this way can the following four grinders perform the precise rounding-off process. To achieve this, two machines above and two below drive grinding belts running in opposite directions. "The machine stands out not only by virtue of the high productivity resulting from the processing of the metal sheets from above and below simultaneously, but also because it is designed in such a way that all the inner and outer cut edges are completely rounded off to a specified degree of processing", König emphasizes. "Depending on the intended task, with eight grinding systems arranged in pairs I can use different grinding belts, typically of different degrees of coarseness, at the front. The same applies to the rear section where, again, I can install different grinding belts which, with the facilities for adjusting the rate of advance and the engagement of the grinding machines enable me to achieve precisely the desired result." It is also possible to achieve a uniformly soft, gleaming finish without any material being removed.



Junior Philip Koenig programming the SBM-GS 100

Convenient cleaning – easy tool changing. The machine features a swiveling system which permits grinding belts to be conveniently replaced. Belt changing takes about

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fifteen minutes. In order to facilitate access to the machine, the infeed and discharge belts (linked to the control system) run on rollers, so that they can be conveniently traversed to the side. Herbert König points out a further advantage of the Lissmac machine. "Thanks to the selective adjustment of the rate of advance and the application and selection of the grinding belts, the machine is also suitable for surface finishing. In this way, we are often able to dispense with the use of metal sheets which have been pre-ground and coated with a protective plastic film."



Rounded edges prevent handling injuries

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