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## Highly Automated Production



**The Société Giennoise de Chaudronnerie (SGC) is a job shop for sheet metal parts equipped with state-of-the-art production machines. The company from Gien, south of Paris, relies on automation. With the RAS Multibend-Center, SGC not only operates an extremely productive bending center but has also connected this bending cell to an automated storage system and loads the blanks with their own robotic solution.**

Automation is the key to SGC's current and future success. Pierre Laurent, the company's CEO, is convinced: "Many companies rely on automation, as they want to reduce labor. That may be a reason, but our philosophy goes a lot further."

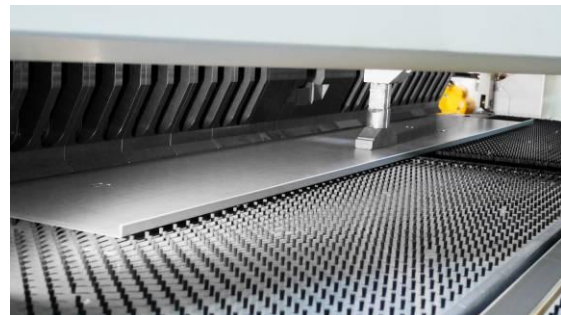


The steadily growing shortage of production specialists is certainly a reason for automation projects. Customers expect a consistent quality of delivered parts. For SGC, it is important to achieve this consistency not only for large production quantities but also for small batch sizes. "Our customers order the same parts over

and over. However, the lot sizes are often small, and it is extremely important for a recurring job that the first part is a good part," explains Pierre Laurent regarding their bending center approach.

The RAS Multibend-Center at SGC has a working length of 2560 mm and is equipped with 203 mm tall tools. The French metal specialists use it to produce long profiles, deep boxes, and large-size panels.

The components are made of mild steel, galvanized steel, and also stainless material. The scratch-free bending technology of the Multibend-Center offers an extreme added value for sensitive surfaces, plus it eliminates subsequent grinding and polishing. Material thicknesses usually range between one and one and a half millimeters.



When bending up and down the blank rests on the table of the bending center. The manipulator positions the workpiece with a precision of a few hundredths of a millimeter on the bending line and rotates it with an accuracy of one one-thousandth of a degree. The tools of the upper and lower beam clamp the part. In front of the clamping point, the available space is almost unlimited so that flanges can also be very long and the variety of possible parts can be additionally increased. The tool of the folding beam contacts the workpiece with its flat surface. This results in scratch-free bending and consistent bend angles. In addition, there is no wear on the folding beam tools.



SGC has a clear strategy when it comes to the question of which parts to run on the Multibend-Center, and for which parts they prefer press brakes. Larger components with more than 4 bends, alternating bending directions, or parts with hems and radii are clear candidates for the panel bender. "If you want to bend a part with a radius on a press brake, you have to accept great quality fluctuations. The positioning of the flanges is complicated and also takes a long time," explains production manager Sylvain Huteau.



The Multibend-Center creates any radius from individual steps. The distance between the steps is so small that the individual steps are not visible even on stainless steel. The automatic parts positioning with the main manipulator ensures reliable repeatability.

The bending precision is also of great importance for the subsequent welding operations. Low bending variances result in less welding and grinding efforts. This affects not only the cost but also the appearance of the finished parts.

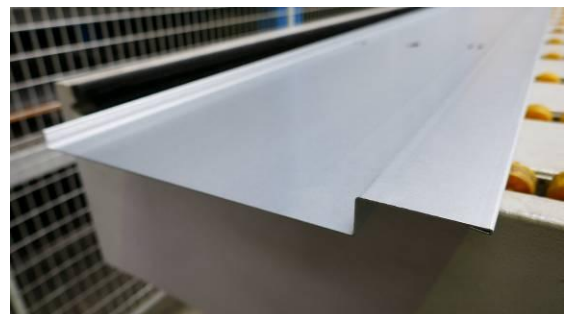
Whenever possible, SGC tries to consult its customers in an early product development stage with regard to automation-compatible designs. This relationship of trust requires long-term partnerships. That is why SGC is also strongly focused on regular customers.



Parts suitable for automation also utilize automated blank loading on the Multibend-Center. On the laser systems, SGC nests the blanks to achieve the most efficient use of material



The automated loading of the parts at the panel bender is handled by a loading robot, which SGC has integrated into the production system themselves. The robot picks up a blank from the shelf and places it on a light-based picturing table. There the completeness of the laser processing is checked and the position of the blank is determined. The robot grips the blank again and either feeds it directly to the bending center or uses a re-grip station if the part needs to be flipped before bending. RAS provided the data interface and the communication to the bending center.



Previously, SGC had a strong dependency on a few customers from the elevator industry. The range of products has grown considerably thanks to the various bending possibilities of the Multibend-Center. Today, the contract manufacturing specialist also supplies the electrical industry, the domestic appliance industry,

and the air handling and mechanical engineering sectors. The automation also brought reliability for the customer. With manual machines, different employee qualifications can easily lead to different bend results. On the other hand, the sequence and the finished part quality are always constant on automated systems. CEO Pierre Laurent smiles: "With this reliability, we have won back several customers who had hoped for lower prices in low-cost Eastern European countries, but finally came back to domestic quality after bad experiences."



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