

Industrial production of individual parts

Salzmann Formblechtechnik relies on MAK 4 Evolution UD when producing facades for ropeway stations



Customer

Salzmann Formblechtechnik GmbH is a sheet metal processing company in Hohenems located in Austria with an extensive portfolio: from consulting and construction via lasering, punching, bending, welding, powder coating, FIGP- and PU-foaming to component assembly and just-in-sequence-logistics. Largest customer is the Doppelmayr Group, world market leader for ropeways. Per week, Salzmann produces sheet metal coverings for up to five ropeway stations and prepares them for construction sites all over the world.
(www.formblechtechnik.com)

Success

The production of component parts for Doppelmayr ropeway stations is highly complex. For technical and design reasons as well as due to specific circumstances on the construction site, every part is planned individually. As a result, the sheet metal parts always differ in terms of forms and measures – Salzmann has to produce at a batch size of 1. The order of the parts is defined by just-in-sequence delivery, not by setup optimizations. Nevertheless the production has been partially automated thanks to the highly efficient folding machine MAK 4 Evolution UD.

Machine in operation

MAK 4 Evolution UD

- Folding machine up to 5 mm sheet thickness (400 N/mm²)
- 4,040 mm working length
- Up-and-Down-folding beam
- increased clamping beam stroke 1,030 mm for high special tools
- automatic tool changer
- POS 3000 3D-Graphic control and folding simulation
- Folding program creation uses Trumpf *.geo-CAD-Data
- Suction gauge allows to gauge parts with radii

Every day, a good 10 tons of steel sheet go through the production of Salzmann Formblechtechnik and leave the plant close to the lake Constance as high-quality, precise sheet metal parts. The fully automated high-bay store from Salzmann contains 4,000 x 2,000 mm big steel sheets at a sheet thickness of 1-20 mm as standard formats. However, in addition smaller sheets, VA-steel and aluminium are processed. In the centre of the production stands the CNC-controlled folding machine from Hans Schröder Maschinenbau – alongside a comprehensive range of laser machines and automatic punching presses from the manufacturer Trumpf.

"If the machine is as good in bending as it looks like we will buy it – this was my reaction when we first met with the MAK 4 Evolution UD at the exhibition EuroBLECH", remembers the managing director Gehard Salzmann. This was followed by extensive tests and time analysis. "In the end it was clear: The MAK 4 Evolution UD is faster, stronger, more precise and more flexible as every competitor in this sector."

„A fantastic machine – in terms of handling bigger sheets there is no comparison to the conventional technology. Moreover the gauge, the UD-folding beam and the suction cups allow semi-automization. We are bending complex parts, partially with radii and counter-radii – everything in one go, automatically and with an extreme repeat accuracy.“

David Kraus
Machine operator

With a tool changer to batch size 1

The sheet metal processing is dominated by the parts for the key customer Doppelmayr where almost every product is a unique piece. After cutting and punching holes each of the individual sheets are passed on to the MAK 4 Evolution UD. Based on the order number, the individual bending program which belongs to the sheet, opens up automatically. The fully-automatic tool changer of the MAK 4 Evolution UD is already preparing the suitable tool station while the operator puts the sheet on the back gauge table. Thanks to its high precision and repeat accuracy, the machine produces practically no rejects – very important for a one-off production.

The whole, in many areas automated process of collecting the sheet from the high-bay warehouse up to the project-defined packaging of the ready façade parts serves to facilitate the handling of the sheets at the construction site: The customer can take and assemble the sheets in the order in which they appear. For the production planning Salzmann uses the external PC-version of the software control POS 3000 that has been developed in-house by Schröder. In an own department, Salzmann creates the bending program by importing CAD-Data into the Trumpf* geo-format.

Semi-automatic sheet metal processing

After selecting the bending program via the order number, the machine operator gets guided through the program. A further advantage: the suction gauge developed by Schröder. The folding beam positioned horizontally serves as a front gauge feature. Thus, the sheet can be gauged exactly alongside the folding beam and gets fixed by suction cups. Afterwards all folds and counter-folds on one side are made automatically (thanks to the Up-and-Down folding beam) without further intervention by the operator. The efficiency of the MAK 4 Evolution UD is also shown by the following: The whole production of Salzmann works in three shifts, but for the Schröder folding machine two are enough.



Schröder Group

The Schröder Group consists of Hans Schröder Maschinenbau GmbH, located in Wessobrunn, Germany, and SCHRÖDER-FASTI Technologie GmbH, located in Wermelskirchen, Germany.

Founded in 1949, Hans Schröder Maschinenbau GmbH combines traditional and modern aspects in mechanical engineering. Successfully managed as a quality and customer-oriented family company, Hans Schröder Maschinenbau specialises in the development of modern machine concepts for folding and cutting sheet metal.

Thanks to the 2006 integration of the Fasti Company and its workshops and a global presence, the Schröder Group is now a leading provider of machines for folding, cutting, crimping, beading, and circular bending sheets of all kinds. The diversity of the range of precision machines ranges from proven solutions for trade to innovative, high-performance machines for automated industrial production. The Schröder Group now employs more than 240 workers at various domestic and international locations.

SCHRÖDER
GROUP

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