

STAMPER



Deep drawing from a new perspective.

Today, nearly one century after its foundation, MARK Metallwarenfabrik in Upper Austria is one of the leading suppliers of deep-drawn products in Europe. They rely on BRUDERER high-performance stamping presses for highest precision and guarantee their customers 100 % good parts.

The art of deep drawing.

MARK Metallwarenfabrik has perfected the art of deep drawing for almost a century. For the production of about 1.8 billion deep-drawn parts annually, besides multi-station and transfer presses, fully-automatic stamping presses are used. Amongst them two high-performance stamping presses from BRUDERER, which are ideally suited to deep drawing due to their excellent performance values.

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The success story of MARK Metallwarenfabrik GmbH began in 1920. In what was then their Spital am Pyhrn plant, they focused on the deep drawing of precise metal parts for the footwear industry. In almost a hundred years, a lot has changed at MARK: The core competence of deep drawing was expanded and skills were added. "Today, we supply our products to various sectors, such as the automotive industry, medical technology, electronics and electrical engineering, construction and consumer goods," says Herbert Mayr, DI (FH), Vice President Technology at MARK.

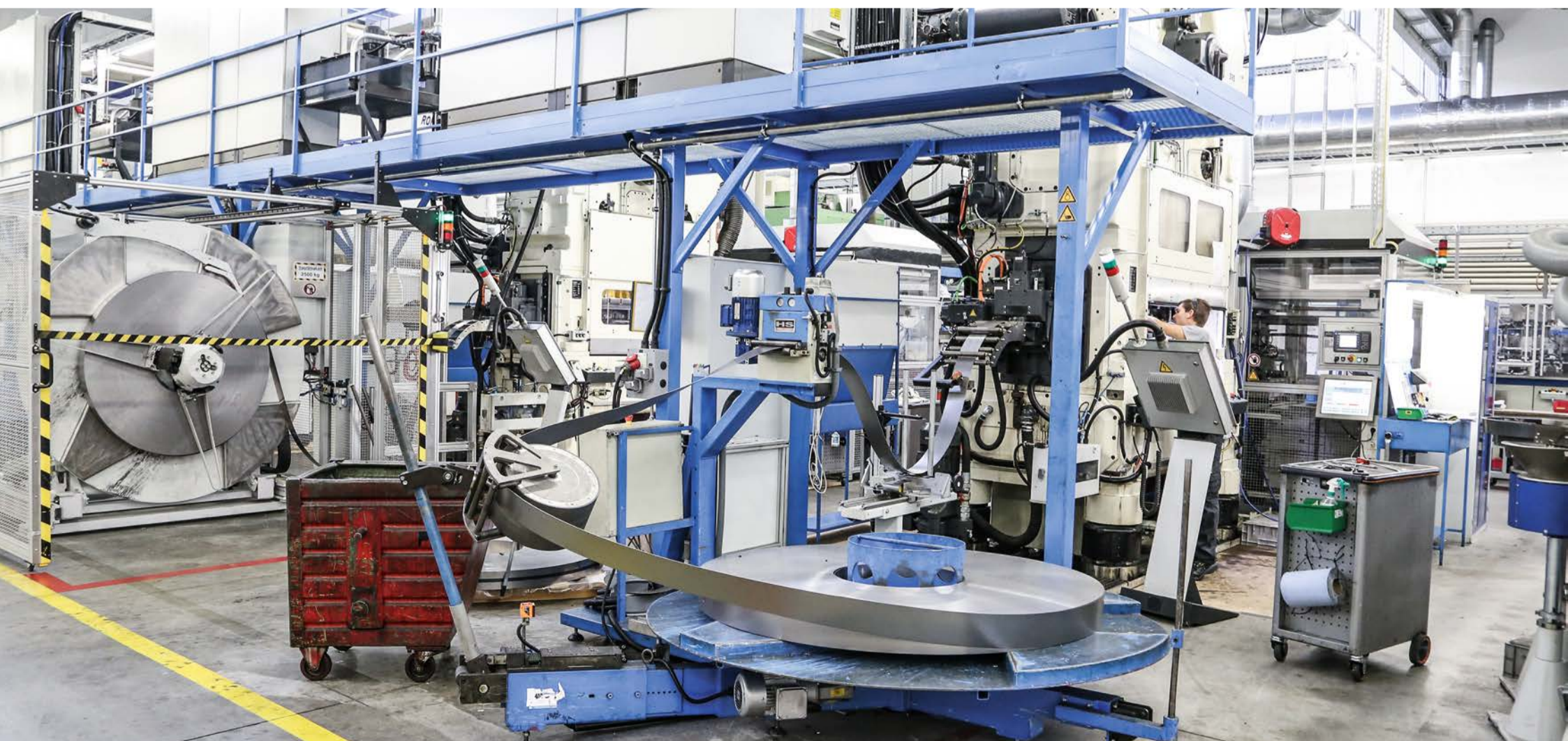
In 2001, the company moved into new premises, where they enjoy over 12000 m² work space, state-of-the-art machinery and spacious offices. To cope with further large orders from the automotive industry, the plant is now being extended by another 10000 m², and the current work force of 350 employees will be increased by 100 in the next few years. Mayr sums it up: "Our core competence still lies in deep drawing, and this is also our passion. We are one of Europe's leading suppliers of high-precision deep-drawn parts with part diameters of 2 - 80 mm, a maximum drawing length of 120 mm and material thicknesses of 0.15 - 2.5 mm."

11000 tons of sheet steel per year – 100% good parts.

The automotive industry now accounts for over 85% of MARK's business. "Almost every car, regardless of which brand, contains approx. 150 parts which are made by us, ranging from parts for brake systems, air bags and fuel injection systems to socket housings for car lamps and connectors for turbo chargers," says Mayr. One of MARK's strong points is their ability to supply parts which have been subjected to an automated 100% sorting (i.e. 100% good parts). "Because of the stringent safety and quality requirements, especially in the automotive industry, the inspection of the parts is critical in this process. After deep drawing and degreasing, each individual component enters an area where it is thoroughly checked using cameras and eddy current testing," specifies Mayr. The assembly and testing department is the fastest growing area within the company, a testament to its importance. It will take up almost half the space in the new factory workshop. The Upper Austrian metal working factory processes about 11000 tons of sheet steel annually on two separate production lines. Larger parts are manufactured on 300 ton multi-station and transfer presses, whereas parts with a shorter drawing length but requiring higher stroke rates are made on 80 - 160 ton stamping



The BSTA series of BRUDERER stamping presses are ideally suited to deep drawing due to their impressive performance characteristics.



MARK's own engineering department in the old plant in Spital am Pyhrn builds all peripheral equipment for MARK Metallwarenfabrik. The metal working factory is a one-stop resource for all press requirements.



“One of the key parameters for deep drawing is the stamping force before BDC (bottom dead centre) and this is where the BRUDERER stamping presses achieve top values. We as the specialists can truly say this: BRUDERER offers a real deep-drawing press.”

DI (FH) Herbert Mayr, Vice President Technology at MARK

presses in a progressive stamping process. “An order for a new part is first of all assessed in our R&D and design department, where feasibility studies and the parts design are carried out. For the manufacture of the complex transfer and progressive die tools we can of course fall back on our in-house toolmaking department. Thus we can offer our customers guaranteed availability, time and cost advantages and high flexibility,” explains Mayr.

Ideal characteristics for deep drawing.

Among the stamping presses in use are also the two aforementioned BRUDERER stamping presses. The Swiss firm BRUDERER is exclusively represented in Austria by Schirnhofner GmbH. “When searching for a deep-drawing press in 2013,” remembers Mayr, “we were comparing the technical characteristics and stamping forces of the short-listed machines and noticed that the BRUDERER presses scored best in an area that is most important to us, namely the stamping force before BDC (bottom dead centre). Depending on the deep-drawn part, we require a high force and torque as soon as possible, e.g. 30 mm before BDC.”

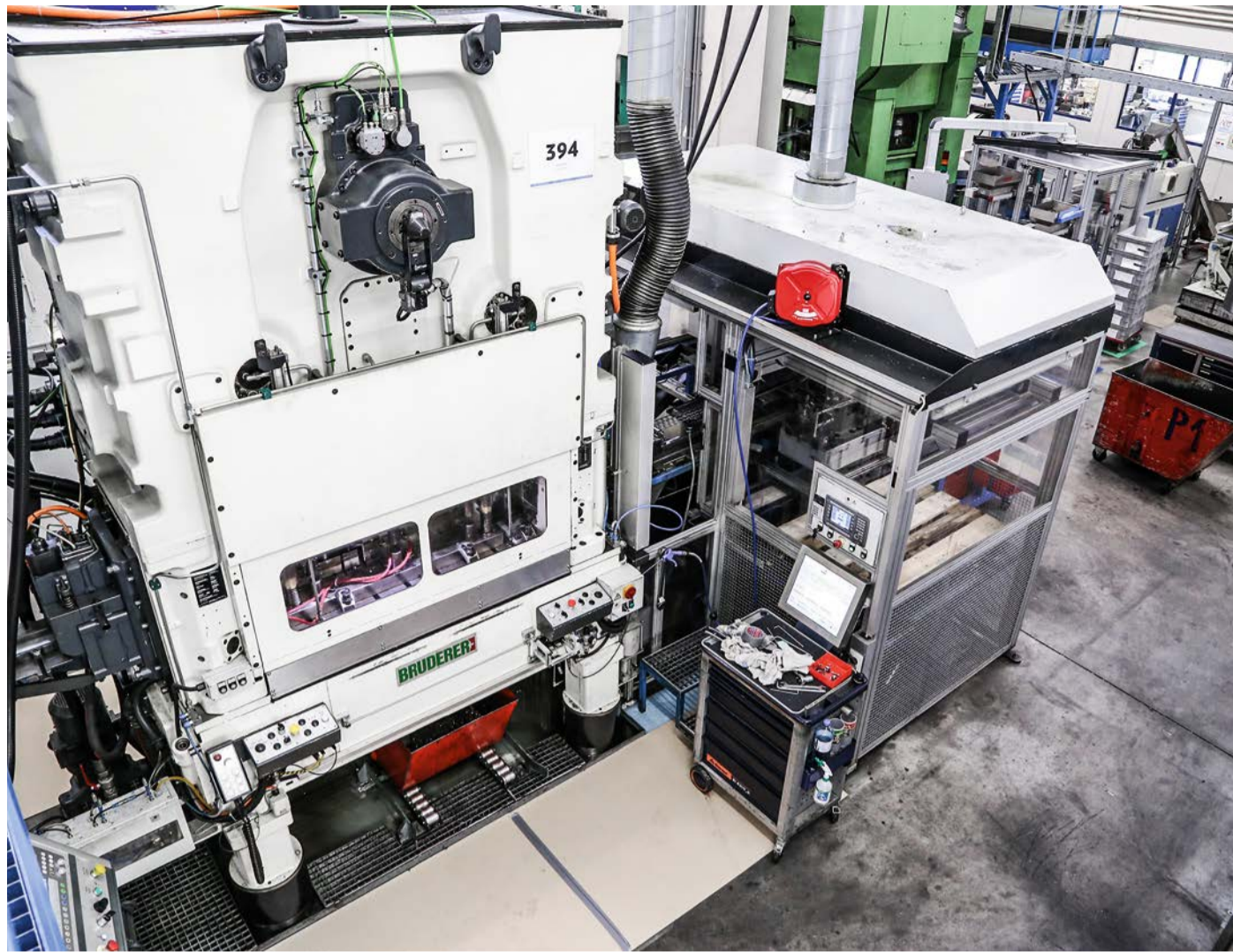
The technical data turned out to be reliable and have now been tried and proven in practice. Thus two years later, a second BRUDERER press was purchased. “Both machines have since given reliable service, to our entire satisfaction. We as the specialists can truly say this: BRUDERER offers a real deep-drawing press,” says Herbert Mayr, who is responsible for investment in machinery and equipment.

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Higher productivity – reduced tool wear.

MARK also had other important requirements for its machines such as high productivity and availability and long tool service life. On both counts the two BRUDERER presses delivered excellent results. Mayr is thus full of praise: “The stamping presses have performed faultlessly ever since their commissioning. They are outstanding in terms of productivity and low tool wear.”

MARK eventually decided on two BSTA stamping presses with a press force of 80 and 125 tons. BRUDERER claims that thanks to their unique lever



In terms of productivity, availability and press tool service life, the BRUDERER presses deliver excellent results.



MARK manufactures about 1.8 billion deep-drawn parts per year.

system, the load acting on the ram during the production process is distributed across the whole system. This load distribution, together with the absolute minimum clearance in the main and connecting rod bearings, is a crucial factor in the long life and consistently high precision of the machines. “A ram guide system located exclusively at strip level prevents deflection of the punches in the press tool and thus contributes to a maximum tool service life,” adds Mayr. He also appreciates the extremely responsive clutch and brake unit which ensures minimum braking distances and brings the press very quickly to a standstill: “This feature has often helped us to avoid unnecessary tool repair costs.”

Finally, it is the machine availability which is the deciding factor in favour of BRUDERER and is the main reason why in the next few weeks, another BSTA stamping press each will be delivered to Spital am Phyrn and the MARK factory in Slovenia respectively. 🇸🇰



“ ‘Precision – Swiss made’ is a quality pledge which has been instrumental in the success of the companies BRUDERER and Schirnhofner in Austria for nearly two decades. The high degree of vertical integration of the Swiss manufacturer, combined with continuous product improvements, offers the customer maximum flexibility in customising their stamping line.”

Mario Schirnhofner, Managing Director of Schirnhofner GmbH



MARK is a medium-sized family-owned company headquartered in Spital am Phyrn in Upper Austria. They supply high-precision deep-drawn metal parts for applications in the automotive industry, medical technology, electronics and electrical engineering, the construction industry and for consumer goods. For almost 100 years their name has been synonymous with quality and innovation in the world of deep drawing.