



# STOPA builds the bridge between two sheet metal storage systems

**The sheet metal processor Dreeskornfeld operates two STOPA UNIVERSAL automatic storage systems in order to permit the provisioning of its extensive range of materials. One of the systems is designed for four sheet sizes, including the largest XF format. The fact that the stores are connected by a passageway at a height of five metres means that any of the laser cutting systems can be supplied from both of the systems.**

Marcus Dreeskornfeld, Managing Partner of Heinz Dreeskornfeld GmbH & Co. KG, which was founded in 1961 and is headquartered in Bielefeld, starts his tour of the production facility at the STOPA UNIVERSAL sheet metal storage system. "We started experiencing massive problems in terms of our storage capacity for blank sheets, in particular because we also temporarily store our customers' own materials and these account for approximately 50 percent of our stock. Because it was not possible to extend our old automatic storage system, we invested in a second system. Another major reason for this decision was that we are now increasingly working with XF-sized sheets.

The new automatic storage system, which is approximately 83 metres long, seven metres high and six metres wide, commenced operation in February 2015. Just like the first system, it was supplied by STOPA Anlagenbau GmbH in Achern-Gamshurst. The large-scale stores are designed to handle an extensive range of materials and provide economically efficient space utilisation, direct access to the raw material, a controlled material flow, low-personnel workflows and considerably

reduced non-productive times. The load carriers take the form of system pallets for sheets in the small (KF), medium (MF) and large (GF) formats as well as in the largest available format (XF), which measures 2,000 x 4,000 millimetres. With this extension to include the XF format, which the old storage system is not designed to handle, the family-run company has optimised its workflows. If Dreeskornfeld had decided to store the XF format on cantilever racks then the sheets would have sagged considerably. In addition, there would have been a risk of damage because fork-lift trucks would have had to transport the material to the processing machines. What is more, concentrating all the sheets in the automatic storage systems brings the additional benefit of continuous stock control.

## Precisely aligned storage systems

Marcus Dreeskornfeld stands between the two stores. "One particular challenge lay in measuring up the second sheet metal store. STOPA had to align this precisely with the first system so that it was both parallel and axially aligned. What is more, we calculated a minimum clear-



**Dreeskornfeld has invested in a second automatic sheet storage system, which is designed for four system pallet sizes, including XF, the largest possible format.**



ance below the lower edge of the bridge of 4.5 metres to allow fork-lift trucks to pass below the passageway. For the same reason, no supports could be located in the trucks' way." The sheet metal storage systems, which use the fixed-position storage principle, supply material to the laser cutting systems. The daily turnover of raw materials amounts to between 50 and 60 tonnes. The mid-sized company, which was initially founded as a lathing shop, does not return leftover sheets to the store.

Marcus Dreeskornfeld has climbed up to the bridge that connects the stores. He points to the transport cart that moves back and forth between the systems at a speed of 30 metres per minute. "Thanks to this link, it is possible to supply all our laser cutting systems with all the material grades that we process in the small, medium and large sheet formats. Irrespective of the storage system in which they are located. The only thing that sometimes needs to be taken into account is the longer travel path, meaning that the material has to be requested earlier. We only need the XF format in the new store because this is the only system that is connected to machines that are able to handle this sheet size."

Dreeskornfeld attaches great importance to a high level of vertical integration in its production. Its range of solutions and services includes 2D laser technology and 2D laser-stamping technology, pressing, welding, deburring and dressing. These are complemented by mechanical pro-

#### Solution highlights

- The new STOPA UNIVERSAL automatic storage system in use at Dreeskornfeld is designed for four system pallet formats, including XF, the largest possible format.
- All four formats can be stored via the incoming goods station.
- Thanks to the fact that a transport cart connects the old and new sheet metal storage systems via a passageway, it is possible to supply all the processing machines with various sheet metal grades in the small, medium or large formats from both systems.

shows off samples of her company's products. "We produce claddings, housings, containers and welded assemblies made from sheet steel, stainless steel and aluminium. We develop ideas relating to sheet metal production in cooperation with our customers, most of whom are located in the region." The company mainly manufactures small and large series runs for the agricultural sector, the machine and plant construction industry, the automotive industry and, as of recently, also produces considerable volumes for manufacturers of conveyor technology.

#### One station for four sheet metal sizes

One highlight of the new STOPA UNIVERSAL large-scale store (with 725 storage locations) is its incoming goods



**All the laser cutting machines can be supplied with material at any time from either storage system via the bridge-type passageway.**

duction steps, surface processing, assembly, engineering design, as well as warehousing and logistics. Christine Dreeskornfeld, Managing Partner along with her brother,

station which makes it possible to store all four formats. As a specialist in customised solutions, STOPA has developed a concept with a stationary scissor lift table. This is





**One highlight of the STOPA UNIVERSAL large-scale store installed at Dreeskornfeld is its incoming goods station which makes it possible to store all four sheet formats.**

equipped with loading pins that move in and out depending on the format, as well as a chain conveyor. The conveyor possesses support bands for the system pallets, which are arranged in accordance with the sheet metal formats. One special characteristic is that the station is equipped with vertically adjustable sheet stops, which STOPA installed along the side and at the front to meet the needs of the different formats. Marcus Dreeskornfeld watches as the stops installed above the scissor lift table travel downwards. "Thanks to our software-controlled processes, we have no need of the manually inserted stops that are otherwise commonly used. Instead, a corner coordinate system that is adapted for the sheet size in question is formed automatically and is used by the forklift truck driver to align the sheet stack during storage and position it precisely. The driver is informed by a visual display when the required position has been reached."

The company, which has DIN EN ISO 9001 and 14001 certification, has a workforce of approximately 100 employees. Production takes place in three shifts, five days a week, and also on Saturdays if necessary. The STOPA UNIVERSAL storage systems supply material to twelve laser cutting systems. Using handling mechanisms, the manufacturing company has automatically connected six machines to the new store, which is designed for the connection of up to nine machines. Three machines are connected in a similar way to the old system. Marcus Dreeskornfeld goes to the system in the neighbouring hall. This started operation in 1998 and was modernised by means of a retrofit in 2010. "The other three machines are not supplied directly from the system but via forklift truck. That

is why STOPA installed both an incoming and an outgoing goods station in the first of the storage systems to be assembled. Because these two stations possess transfer points for the three sheet sizes that are located here, the on-time provisioning of the manually connected processing machines is also ensured."

**Increased system operating times**

The result of all this is greater productivity for the operator. This is further enhanced by the new storage system's twin-mast storage and retrieval unit which is equipped with telescopic forks that can be extended on both sides in order to cater for all four sizes. This achieves speeds of 150 metres per minute when travelling, 23 metres when lifting and 25 metres when performing fork operations. To prevent collisions during storage operations, the SRU, which possesses two loading heights, automatically monitors the loading height at the storage locations above and below the selected location.

Given the efficiency of this solution, Marcus Dreeskornfeld draw a positive conclusion from the company's co-operation with STOPA. "Thanks to the investment in the second automatic storage system, we have been able to increase the operating times of our machines. We also have a permanent overview of the stock of materials and no incorrect stock bookings now occur. Above and beyond this, we also benefit from the reduced fork-lift truck movements, greater availability and, in this way, from having underscored our reputation as a centre of expertise in the sheet metal processing world."

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