



STOPA tower storage system: an economical entry-level solution

With the STOPA TOWER Eco tower storage system, KW automotive has laid the basis for efficient sheet metal processing. From this compact store, the company supplies material to a laser cutting system that produces welded attachments for high-end vehicle chassis.

Stefan Weihbrecht, Head of the Production Department at KW automotive GmbH, which was founded in 1995 and is based in Fichtenberg (Baden-Württemberg), holds a component in his hand. "We produce welded accessories for vehicle chassis from the metal sheets that we temporarily store in the tower storage system." KW automotive, a globally active group with a workforce of some 200 employees, has, in its own words, made a name for itself in the field of premium products for car tuning and automobile refinement. It supplies products to industry customers and motor sport teams, primarily in the form of an extensive range of high-end chassis. In addition to the chassis solutions, the company also manufactures, for example, patented wing door conversion kits, which are available for almost all commonly driven car models.

The need for speed

Speed is vital, not just on the race track but also when provisioning the metal sheets. This production requirement is met by the fast blank sheet access capability provided by the STOPA TOWER Eco, which was developed by STOPA Anlagenbau GmbH in Achern-Gamshurst. However, the one-sided tower storage system with puller unit used by KW automotive, and which measures approximately 4.5 metres high,

2.9 metres long and 3.6 metres wide, also has other advantages. These include the space-saving storage of the sheets, the very low level of damage to the material as well as the improved organisation, which results in more efficient searches. In addition, the modular concept underlying the STOPA TOWER Eco, which has been designed for a payload of 1,200 kilograms per shelf or system pallet, provides an economical way into the world of automatic sheet material provisioning.



Axel Ausländer lets a system pallet pre-drive by typing the start and finish coordinates at the central control panel

Weihbrecht stands in front of the tower storage system. "Because we only process medium-sized sheets, we opted for a single shelf block with the corresponding system pallets. In addition, we chose a fixed vertical spacing for the 60-millimetre loading height because this permits an optimum loading density for the parts geometries we handle." On request, STOPA can also supply the tower storage system with a vertical spacing between shelves suitable for a loading height of 200 millimetres. This makes it possible to store thicker materials or, for example, wooden pallets.

The STOPA TOWER Eco in use at KW automotive has 26 storage locations. The system pallets consist of a self-supporting frame construction with side

members and sliding rails. In addition, they have a usable pallet area of up to 1,250 x 2,500 millimetres as well as the maximum, laser-controlled loading height of 60 millimetres. Due to the fixed position storage configuration, each pallet is assigned a defined position in the shelf block, whose longitudinal connections and diagonal bracing, combined with anti-slip stops at the rear, ensure a stable steel structure. The stationary lifting beam possesses a push/pull device and all the functions are monitored to guarantee reliable operation. An absolute and load-independent digital travel measuring system performs height positioning.

Semi-automatic sequences

The task entrusted to the STOPA TOWER Eco, which is used on a single-shift basis at KW automotive, is to store

Solution Highlights

- fast access to raw metal sheets
- optimal packing density
- space-saving storage
- less search effort
- minimized material damage

All storage and retrieval operations are performed semi-automatically as long as the operator continuously holds down the Enable key. KW automotive does not as yet have any need for the automatic mode which STOPA offers as an option and which permits the automatic processing of individual orders once the start and finish coordinates have been entered.



Because the tower warehouse could buffer material for further processing machines given its capacity, KW automotive has invested in the future

metal sheets for the provisioning of the TRUMPF TruMatic L 2530 laser cutting system, which is installed opposite the store. System operator Axel Ausländer uses a crane to lift the delivered sheet metal stacks onto the fixed loading pins of the storage platform, between which the lifting or load beam of the tower storage system has deposited a system pallet. If no empty pallet is available, he sets down the sheets as filling material on a pallet that already contains identical items. The operator considers the system to be easy to use. He chooses the storage location and brings the load carrier forward by entering the start and finish coordinates at the central system control panel. When he releases pallets, these return to their shelves.

The sheets handled by the tower storage system are made from steel and stainless steel. The company also temporarily stores aluminium panels here. The materials vary between one and 15 millimetres in thickness. Stock management is performed in the ERP system implemented by the operator, which has a total production and useful surface area of 23,000 square metres at its headquarters in Fichtenberg.

Axel Ausländer stands at the operating panel of the programmed compact controller (PLC), which is equipped with an LCD display and a touch-sensitive user interface, and considers the position of the sheets in terms of operating safety. This is an additional check. Because the



Bei der Bereitstellung von Blechen ist Geschwindigkeit gefragt

sheets have to be stored in a defined location and taken up and delivered securely, the tower storage system is considerably safer than manual handling. To initiate material removals he enters the number of the shelf from which the pallet is to travel out into the removal position. If material is to be removed from one of the lower two storage shelves then the storage platform can be moved when empty. The operator uses a crane to lift the sheets from the tower storage system's lifting beam and passes them to the laser cutting system in a single step. Leftover sheets are generally returned to the store.



Stefan Weihbrecht, Head of Production at KW automotive GmbH

Metal sheets point the way forwards

In early 2019, the commissioning of the STOPA TOWER Eco, which provides almost 100 percent availability, sounded the starting gun for sheet metal processing at KW automotive. Weihbrecht is happy. "We have made an investment in the future because the capacity of the tower storage system means that it can temporarily store material for other processing machines."

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