

Custom Tower Storage System



STOPA TOWER Eco stores sheet metal in a small space



ATMOS MedizinTechnik has invested in a STOPA TOWER Eco storage system. The specific challenge for this company was scarce factory floor space, which meant that a very compact and non-standard solution had to be found. The only supplier to offer that kind of customization was STOPA.

Walter Baschnagel, a specialist in business information technology and in charge of process organization, IT and quality management at ATMOS MedizinTechnik GmbH & Co. KG in Lenzkirch in the Black Forest, stands in front of the STOPA TOWER Eco. This is a single-sided tower storage system for metal sheets, equipped with a puller unit. “Our floor layout has evolved over many years, which is one reason for the lack of space in our factory building. The challenge for STOPA was to integrate a very compact sheet metal warehouse into this space, and to do it in a corner and under a sloping roof too. Without this solution, we’d have had to take down some walls.” Ralf Bausch, head of the mechanical production department, shows photos of the previous arrangement: “Before the new system was installed, the sheets stood upright between stands, where some of them became deformed. What’s more, we had several storage locations, which required using a number of transport routes.”

Faster access to sheets

ATMOS invested in a tower storage system supplied by STOPA Anlagenbau GmbH, Achern-Gamshurst, and in October 2012 it went into operation. Thanks to the system’s modular design, it represents an economical entry-level solution for the automated stocking of sheet materials. The



Walter Baschnagel, head of process organization, IT and quality management (left), and Ralf Bausch, head of the mechanical production department, are now benefiting from a sheet metal warehouse tailored to the limited available space.

STOPA TOWER Eco has a load capacity of 1,200 kg per shelf bay and pallet, and in this case has a height and width of about four meters and a width of three meters. These dimensions make it ideal for companies that need to buffer relatively small volumes of many different materials. If there had been no space restrictions, a system height of up to 6.4 meters would have been possible. The shelf tower, which has fixed vertical spacing and a loading height of 60 mm per pallet, ensures an optimum loading density and a high degree of space utilization. ATMOS configured the top two shelf bays for a larger loading height of 200 mm per pallet in order to store more material on a flat pallet. This doubles the shelf height, permitting storage of bulkier parts or sheets on Euro pallets. The tower is loaded and unloaded on the longitudinal side by means of a stationary lifting beam which does the work of a storage and retrieval unit. To demonstrate the process, Bausch retrieves a flat pallet: “We now have quick access to the sheets, better organization and so less searching effort. Moreover, the materials are hardly ever damaged, and handling has become very easy now that the system is located right next to the stamping machine.”

Ergonomic handling

The STOPA TOWER Eco holds 18 kinds of material, including aluminium, brass, stainless steel, sheet steel, materials for modelmaking and plastic sheets. The stamping machine is supplied with sheets manually by the operator. First the operator enters the bay number of the flat pallet to be retrieved. He enters this information on the easy-to-use main control panel, which has an LCD display and keypad. Then he confirms the command by pressing a button and waits until the pallet arrives at the removal position. Finally, he ef-



Owing to the scarcity of space on the factory floor at ATMOS, it was necessary to find a very compact and non-standard solution.

fortlessly pulls the sheet from the pallet onto the table of the stamping machine. This ergonomic handling system is particularly advantageous for ATMOS, which manufactures customer-specific components in batch sizes of five to fifty and offers a wide range of products, which entails changing materials frequently. Leftover sheets are put back on the pallet by the operator, who then releases them at the touch of a button for automatic return to their respective bays. Alternatively, ATMOS could have chosen a fully automatic control system, which STOPA offers as an option.

Baschnagel points to the STOPA TOWER Eco: “Each of the 23 storage locations is reserved for a specific material. But instead of continually adding new sheets, we first use all of the items on a flat pallet. This is because the batches can be different, and whenever possible we want to manufacture all the products from the same batch.”

Designed for operational safety

With its longitudinal connections and diagonal bracing, the STOPA TOWER Eco is a compact and safe steel structure. It has bolted-on pallet supports with anti-slip stops at the rear. STOPA designed the system’s 23 flat

pallets for a maximum usable area of 1,250 x 2,500 mm, making them suitable for medium-sized sheets.

The lifting gear of the stationary lifting beam has low-wear roller chains that require little maintenance, and the push/pull device has a roller chain with driving cams. An absolute and load-independent digital travel measuring system is used for height positioning. The lifting beam, which has a device for checking the loading height and is monitored by the controller to ensure correct operation, achieves lifting speeds of up to eight meters per minute and pulling speeds of four meters per minute.

Less physical effort

ATMOS uses the STOPA TOWER Eco on a single-shift basis. The system achieves almost 100 percent availability and handles roughly two tonnes of material per month. ATMOS expects to recoup its investment in four years. "But what really made a difference with this investment was the fact that we reduced the amount of physical effort," says Baschnagel. "Our system operators benefit from this, and they are able to get more work done within a given time. We learned about sheet metal warehouses at a trade fair. Afterwards we

The company

ATMOS MedizinTechnik GmbH & Co. KG: expertise in medical suction

The origins of ATMOS MedizinTechnik GmbH & Co. KG go back to 1888, when the Kaiser Friedrich pharmacy was founded in Berlin. Thirty years later, the pharmacy had grown to become a centre for oxygen equipment, and in 1927 the company developed the first suction, pressure and hot-air apparatus for medical applications. This became its core speciality. In 1941 the company changed its name to ATMOS, and in 1942 it relocated from Berlin to Freiburg im Breisgau.

Today ATMOS has its headquarters in Lenzkirch, in the Black Forest. With some 300 employees it is continuing to expand as a manufacturer of innovative suction and drainage devices for surgery and nursing care. In addition, it offers complete workplace solutions on the world market for ear, nose and throat specialists, where it is a leading manufacturer, and for gynaecologists.

ATMOS achieves annual revenues of approximately 14 million euros and sells its products via 13 subsidiaries and roughly 70 national offices worldwide. In addition, ATMOS supports its partners in the form of strategic alliances involving special products in its core business area of medical suction devices and workflow optimization.

talked with a number of companies. Ultimately we chose STOPA because it was the most flexible and offered a solution that was perfectly tailored to our limited space. Other companies were unwilling or unable to offer this kind of customization."

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Photos: STOPA Anlagenbau GmbH



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