

PRESS RELEASE

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Fully automated rolling mill diening with central coil flat storage at Gränges

In future, Gränges in Finspång, Sweden, will use a new flat storage facility with an automatic crane from Vollert to organize the entire supply and removal of the new aluminium production area. The warehouse serves as the central interface between the cold rolling mill, the slitter lines and the packaging. Vollert is developing the complete intralogistics system, including coil cooling, inductive transfer cars, an automated guided vehicle (AGV) as well as the control and warehouse management system, and integrating it into an existing hall.

Gränges in Finspång has been manufacturing rolled aluminium products for the automotive industry since 1972. New products include sophisticated battery cathode foil. To expand its capacities, the specialist for flat rolled products invested in the construction of a new, additional aluminium rolling area in an existing hall. In future, an automatic crane will take over the entire handling of the coils in a fully automated process - from the delivery of the raw coils to the feeding and unloading of the roll to processing on three slitting lines and delivery to the packaging.

Automatic crane as an interface in the rolling area

Vollert took on the planning and integration of the central automatic crane and flat storage system for 140 coils, including control and warehouse management. The cooling technology for the ventilation and temperature control of the rolled coils was also supplied by the intralogistics experts from southern Germany. To integrate the crane into the existing building, it was specially adapted to the low height of the hall. With a span of 22 meters and four axles, it covers the entire storage area. The travel path above the flat storage area is 110 meters.

At the beginning of the hall, the raw coils weighing up to 11.5 tons are delivered by truck and made available to the automatic crane at a transfer station. This transfers the coils to the flat storage area and hands them over to the Vollert AGV when requested by the cold rolling mill. The AGV feeds the coil and returns the finished coils to the automatic crane. After rolling, the coils cool down in the cooling zone in the flat store before they are passed on again from the automatic crane to the rolling mill or to three slitting lines for further processing. Vollert uses rail-mounted transfer cars to feed the cutting lines. These are

supplied with energy inductively, so that unhindered movement of people is possible without obstructive energy supply lines. Scanners monitor the area to safeguard the man-machine interface.

Coil gripper with dual function for pallets

After slitting, the aluminium rolls are stored on pallets. This means that the automatic crane must be able to pick up coils in the eye of the coil as well as on pallets. A special design of the gripper makes this possible, depending on the requirements. When the slitting is finished, the crane takes the pallets and stores them in an intermediate storage area before delivery to the packing station, when requested. From here they then leave the warehouse.

"With the dual function of the gripper and our automatic crane as a central interface, we simplify and speed up the delivery to the individual rolling mill areas," explains Lars Strobel, Head of Sales at Vollert. "All transport processes are carried out fully automatically by our control and warehouse management system, and yet we retain the necessary flexibility for future expanded tasks with just a few tricks." This includes, for example, extending the crane area beyond the flat storage area and automatic operation so that manual loading processes can also be carried out in the truck area if required. To this end, the crane runway was extended and an additional radio control system was integrated. In the rolling area, too, everything has already been prepared for the connection of two additional rolling mills. These can then also be operated from the central flat storage area and automatic crane via an additional AGV. Gränges is therefore also equipped for future increases in production.

About Vollert Anlagenbau GmbH

As specialists for heavy loads and large parts, Vollert Anlagenbau GmbH develops turnkey intralogistics concepts for the aluminum and metal industry. As a general contractor and full-service provider, the service range encompasses state-of-the-art material flow, storage and packaging technology as a stand-alone solution or integrated into a larger logistics environment.

Whether fully automated mega-high bay systems for aluminum coils, intelligent material flow systems for the leading aluminum extrusion press manufacturers, the world's most efficient stacker cranes for the storage of sheet metal plates, automatic crane systems for 50 tons and more or the most modern surface coating systems – Vollert is everywhere.

Vollert's plant and machine solutions are deployed in more than 80 countries around the world and in Asia, North and South America the company's own subsidiaries strengthen in addition the sales activities. www.vollert.de

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Image 1 - Source: Vollert