

First combined project of automatic high-bay warehouse and AutoStore System® for the new logistics center at iDM Energiesysteme GmbH in Matri

The iDM Group is the largest Austrian manufacturer of heating heat pumps. More than 400 employees develop, produce and distribute over 10,000 heating pumps for heating, cooling and hot water each year. iDM has made a name for itself with its development expertise and numerous innovations. The intelligent iDM energy manager "Navigator 2.0" controls the heating pump, uses weather forecasts to adjust heat demand and solar power yields, learns heating and cooling behavior of individual rooms, and optimizes operating times by retrieving hourly electricity prices. This way, iDM makes a significant contribution to the energy transition with efficient and clean heat for generations.

For the further expansion at the headquarters in Matri, East Tyrol, the consulting company IbH Schepper was in charge of planning the new logistics center. In this logistics concept, an innovative AutoStore® small parts warehouse will be built in the first construction stage. In the second stage the new pallet high-bay warehouse, the connecting conveyor system and the central orderpicking workstations, served from both warehouses, are to follow. The contract for the realization of the overall solution including the WMS system HiLIS for both automatic and manual warehouses was awarded to HÖRMANN Logistik.

Automatic high-bay warehouse for the storage of semi-finished and finished goods

The new, three-aisle high-bay warehouse with dimensions of 57.5 x 22.5 x 31 m (L x W x H) is connected to the goods receiving area via pallet conveyor technology. At the infeed point, contour and weight checks are carried out. Afterwards, the Euro pallets, industrial pallets or mesh pallets on Euro pallets are conveyed to the conveyor loop in the pre-storage area of the HRL. Each of the three high-bay aisles has a separate storage and retrieval spur. The storage and retrieval machines (SRMs) pick up the pallet. The stacker cranes control the assigned storage location via camera-based compartment fine positioning. The double-deep telescopic forks of the stacker cranes can extend to the second z-position and thus place the pallets double-deep, with pinpoint accuracy. The three stacker cranes operate with the HiLIS ECO power management system, saving up to 25% of energy consumption through intelligent energy balancing. The high-bay warehouse has space for 9,324 pallets and achieves a storage performance of 93 pallets/h and a retrieval performance of 85 pallets/h.

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Press information

Dynamic AutoStore® small parts warehouse for 16,000 totes

In order to optimally adapt the AutoStore® small parts warehouse to iDM's requirements, HÖRMANN Logistik carried out a comprehensive system simulation with real data. The result is a configuration with one carousel port on the west side of the AutoStore® warehouse, used for re-stocking and shipping orders. Four conveyor ports are aligned with the central picking bays. The 16,000 totes, measuring 649 x 449 x 330 mm (L x W x H), are stored and handled on seven levels. Each tote has a net load capacity of approximately 30.5 kg.

The single-double grid with overall dimensions of 29.8 m x 35.3 m x 3.5 m (L x W x H) is mounted above the container stacks. On the grid, 9 Red-Line robots move in two directions by means of their four pairs of wheels arranged at an angle, providing access to any position in the grid. They communicate via WLAN with the AutoStore® controller, assigning transport orders to the individual robots. When the order load is low or the battery capacity is too low, the robots move themselves to one of the 10 charging stations at the edge of the grid. The AutoStore® system is connected to the electrical department on the upper floor via two transfer cells, a lifter and miniload conveyor technology.

Central picking for high-bay warehouse and AutoStore® small parts warehouse

Four picking stations are directly connected to the high-bay warehouse via conveyor technology and distribution carts. Each conveyor port of the AutoStore® system, in combination with the adjacent high-bay warehouse order picking station, constitutes one logical order picking station in the HiLIS WMS. This means that both palletized goods and goods from AutoStore® can be picked at each workstation. The supply from the high-bay warehouse is carried out via two distribution carts on one rail, which can operate in a partially redundant manner. In addition, a gripper lifting aid supports each picking station when removing heavy items.

Maximum performance and availability with the WMS HiLIS and HiLIS AS

Warehouse management, system control and system visualization of the two automatic and the manual storage areas are carried out with the proven HÖRMANN Logistik Warehouse Management System HiLIS, integrating the AutoStore®-specific WMS HiLIS AS. HiLIS connects to the customer ERP-system by means of a flexible interface technology.

Facts

The scope of supply of HÖRMANN Logistik includes steel rack construction, roof and wall cladding, stacker cranes, conveyor technology, distribution carriages, fire protection gates, AutoStore® Grid, cladding, robots, loading stations, ports and the HiLIS/HiLIS AS WMS, PLC controls system incl. plant visualization.

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Construction stage 1 will go into operation in summer 2021, construction stage 2 will follow at the beginning of 2022.

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