






TECHNOLOGY IN DETAIL

-  High-rise silo warehouse with approx. 8,700 pallet storage
-  Ceiling and wall panelling
-  Seven storage and retrieval vehicles, complete with lane equipment
-  Pallet transport system for admission into and removal from the warehouse
-  Complete control system and warehouse management and information system



Milchwerke Thüringen GmbH

## Hi-tech high-rise warehouse with innovative logistics for palleting and production

### Humana Milchunion

An automatic high-rise warehouse with futuristic intralogistics – as the main contractor, Köhl Maschinenbau GmbH has created and implemented such a system for Milchwerke Thüringen GmbH.

Milchwerke Thüringen GmbH, located in Erfurt and a subsidiary of the Humana Milchunion Group, which in turn is one of the 20 largest milk processing companies in the world, produces a wide range of long-life and fresh milk products. Due to the increasing demand and resulting increased production at the Erfurt plant, the storage and delivery capacities need to be expanded in a targeted manner. An architectural feature of the plant is the three connecting bridges for palleting and production. After a successful co-operating, the hi-tech high-rise warehouse started operation at the end of 2006.



The high-rise warehouse is linked to the palleting facility by connecting bridges.



The dimensions and intralogistical design of the new high-rise warehouse of Milchwerke Thüringen GmbH mean that it is a fine example of warehouse logistics.

With a length of approx. 80 metres, a width of approx. 35 metres and a height of around 22 metres, it houses approx. 8,700 storage spaces and seven lanes with storage and retrieval vehicles. Three connecting bridges of length 53, 40 and 48 metres connect the hi-tech high-rise warehouse to the palleting and production facilities. Designed for fully-automatic pallet transport using extremely robust, solid pallet conveying systems, the high-rise warehouse system accepts the pallets from production, stores them and makes them available again in time for shipping.

In addition, an empty pallet checking system was introduced, which checks the pallets for their suitability for automatic systems. Besides the conveyor systems, Köhl Maschinenbau GmbH also installed a warehouse management system according to the state-of-the-art criteria. The appropriate data is automatically transmitted to the shipping preparation office.

In the Erfurt plant, a special kind of palleting makes its own contribution to efficient handling in commissioning. Some of the consignment goods are palletted on Düsseldorf or CHEP pallets. During the palleting operation, two of these pallets are positioned on a carrier pallet (ERO pallet). For packaging (automatic stretching), the pallets are lifted off this carrier pallet and are packaged individually. After this operation, the two pallets are brought together again and placed together on the carrier pallet. Storage in the high-rise warehouse takes place in this way.



Hi-tech high-rise warehouse with 8,700 pallet spaces and seven lanes with SRVs.



Complex conveying system in one of the connecting bridges



Vertical conveyor and empty pallet checking station



Individual consignment goods ready for delivery, shown as a flow storage with separation mechanics at the appropriate end of the lane



After packaging, two Düsseldorf pallets are "resaddled" on a EURO pallet.

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