

Modernization of Manufacturing Warehouse

Alfred Kärcher GmbH & Co., Winnenden/Germany

References

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References

Investment Goods
Modernization



Enhanced Performance Thanks to New Control Design

Initial Situation

Alfred Kärcher GmbH & Co. in Winnenden has operated a two-aisle automatic mini-load system and a three-aisle automated storage and retrieval system since 1985. The two areas supply the entire production. After 15 years of intensive use, system availability decreased while maintenance costs rose at the same time. Aspects such as economic efficiency, reliable replenishment, avoidance of unplanned downtime and increase in system efficiency prompted Kärcher to have the facility completely modernized by viastore systems.



System Solution

To ensure the successful implementation of the modernization measure, a detailed schedule was drawn up according to the Kärcher time-frame, taking into account both the reconstruction periods for the individual trades and the reconfiguration of interfaces with the warehouse management system. When modernizing the unit-load warehouse and the mini-load system, the old controls of the MFS as well as the S/R machines and the transfer cars were replaced by Windows-based PC controls, which has resulted in a uniform and integrated control design. This went hand in hand with the replacement of the drives and the entire wiring as well as the position measuring systems, control cabinets and sensor systems. Moreover, some of the mechanical components were also replaced, including the driven wheels, rope drum as well as the rope and hoist console, and an additional drum coupling was installed. The modernization work in the MLS and AS/RS started simultaneously. After as little as one week, the complete system was tested under real operating conditions and handed over. Following the completion of modernization work, production started on time and without any problems.

The Result

Thanks to the new control design, the efficiency of the S/R machines has risen by up to 15 percent. This helps to secure and significantly increase the production rate for Kärcher cleaning systems.

Scope of Supply:

- General contractor
- Drive and control concepts of S/R machines
- Modernization of mechanical S/R machine components
- Material flow control system
- System visualization

Essential Features:

Two-aisle MLS:

- Tray warehouse with 1,512 locations
- 9,300 storage locations
- max. load capacity of 661 lb. (300 kg)
- Height: 20 ft. (6 m)
- Length: 82 ft. (25 m)

Three-aisle AS/RS:

- 3,000 storage locations for Euro pallets
- 1 S/R machine with transfer car
- max. load capacity of 1,764 lb. (800 kg)
- Height: 46 ft. (14 m)
- Length: 151 ft. (46 m)