

Pallet circulation system for just-in-sequence production

Task

Two test lines are required in the quality control department of an automotive supplier. One line will be used to test the electrical components of the product. The other line will carry out a tensile test on the product to ensure the quality of a locking mechanism. The products should be checked just-in-sequence, i.e. in a fixed order.

Solution from mk

Versamove plus transfer systems operating on two levels with lifts. The empty pallets are lifted from the lower return level to the upper level using the lift. The products to be tested are attached to the pallets. To test the electrical components of the product, they are electrically connected to the pallet. The products are securely fixed to the pallet on a second, parallel line. A tensile test is then carried out to check a locking mechanism on the product. At the end of the lines, the products are removed from the pallets. The pallets are transported to the lower level with the lift and from there returned to the beginning of the line.

So that the products can be clearly assigned to their respective sequence, the pallets are fitted with RFID chips and engraved with a unique number. After the lift, at the start of the line, the RFID chips are labelled with the respective sequence number. The workers are shown the sequence numbers with the associated pallet number on a monitor, so that they can process the products on the correct pallet.

At the end of the line, before the lift down, the RFID tag is deleted so that blank pallets are transported on the return line. For example, this allows a pallet to be inserted on the return line following a repair without the sequence getting mixed up.

Both transfer systems are equipped with their own controllers and connected to the customer's higher-level system, in which faults are recorded and displayed centrally. The sides of all of the conveyors are completely covered with creep zone protection and a protective guard.

Benefits for the customer

- Semi-automated quality control
- Optimised for just-in-sequence production
- An individual controller is connected to the customer's controller

Products used

> [Versamove plus](#)