

PRESS RELEASE

Automation Line for Motor Assembly

Task

mk recently helped an automotive supplier that manufactures and assembles motor blocks and cylinder heads. The customer had various motor components that needed to be flexibly supplied for feeding the main assembly line so that they can be subsequently assembled. There is no interim storage on the assembly line, meaning that production occurs just in time, which requires a certain degree of flexibility. Zones for walking and driving must remain clear with a relatively low flow rate.

mk Solution

Based on the requirements, a solution with automated guided vehicles (AGVs) together with the appropriate mobile racks and load handling equipment was suitable in this case. mk supplied mobile racks that are coupled and carried by the AGVs as towing devices, thus allowing them to be brought to the respective stations in a flexible manner.

Driven roller conveyors act as load handling equipment on the racks and transport the motor components onto the AGVs and onto the subsequent lines at the stations. In one case, a roller conveyor with split rollers and centre guide was designed for the product. The roller conveyors are driven by friction wheels, each attached to the roller conveyor and corresponding station. The roller conveyors therefore do not need their own motor and thus power was not supplied by the battery of the AGV. Furthermore, any motor can be used at the stations to drive the roller conveyors. However, solutions with small, light motors for the load handling equipment on the AGVs, for example with 24 V or 48 V DC, are also possible.

Applications with chain conveyors or accumulating roller chain conveyors can also be used as load handling equipment if the products must be transported on pallets. Stoppers used as transport safety devices on the conveyor prevent products from falling while the AGV is in motion. The stoppers are mechanically unlocked at the stations, and thus do not require a separate power supply. The controller for both the load handling equipment and the AGV are integrated in the master controller for the production process. In addition, the mk safety guards provide work piece protection and protective guarding at the respective transfer stations. Protective tunnels on the mobile racks are also available to protect the products from manipulation during transit.

mk were able to provide their customer with excellent integration into their existing systems and controllers and provide a flexible application thanks to the modular profile design.

To find out more about the complete mk range please visit www.mkprofiles.co.uk, call (01949) 823751 or email info@mkprofiles.co.uk.