

PROVEN TECHNOLOGY FOR HIGH COMPLEXITY TASKS

Selective soldering module controls fully autonomous solder pots

▲ Versaflow 4/55 plus Versaflex can support the required cycle time. X, Y and Z direction can be controlled individually.

Soldering system manufacturer Kurtz Ersä has developed together with Bachmann electronic a revolutionary idea in the field of selective soldering into series production. Two objectives had to be reached: a record cycle time and the soldering of several variants without the need for setup operations.

» The Bachmann CNC solution was the reliable foundation, on which we were able to develop this complex task. «

Michael Schäfer,
Development manager at Kurtz Ersä



The customer required from Kurtz Ersä a new production line for the production of a new generation of power supply units. The task for the machine manufacturer: The soldering of several variants in the required cycle time without the need for setup operations.

The challenge of the task was in the layout of the board – three PCB panels, with different sizes and terminal densities. Each board consists of six main boards and six sub boards. The sub boards are arranged at right angles in the panel and are soldered later with the main board. The second challenge was the required cycle time of 40 seconds.

The complexity of the task was in the layout of the boards to be soldered – three PCB panels, with different sizes and terminal densities, which were difficult to access by conventional means. The solution: The Versaflex 4 selective soldering module uses two solder pots, which are each installed on a separate axis system. They operate completely independently of each other on the same panel. »With such a complex task we wanted to be sure that a tried and tested technology was used. We have been working as partners with Bachmann since 2001. Their CNC solution provided a reliable foundation on which

we could easily build,« Michael Schäfer, development manager at Ersä, sums up.

During the implementation phase, Bachmann electronic added new functions to the M-CNC tool to enable the collision-free synchronous operation of two axis systems and the collision-free operation of both systems in the same process area. X, Y and Z direction can be moved individually. The software for operation calculates the optimum travel for the solder nozzles.

The Bachmann team implemented three new features in the M-CNC: An advanced checking of the solder programs, online collision monitoring and the synchronous motion of both M-CNC systems. The effect was as required – a considerably shorter processing time through the parallel processing of two boards. In order to ensure user-friendliness, Bachmann expanded the library in the PLC program by creating library blocks for the new functions. An automatic test for simulating the axes with the Bachmann web-based visualization (M1 WebMI Pro) was provided first of all in order to test the new functions already in the office. The graphical display of the two virtual axis systems provided a positive user experience when handling the automation solution.

 **kurtz ersä**

The Automation & Components division offers attractive automation solutions for all aspects of handling for soldering, foam and casting machines. The company, which has been in existence since 1779, now consists of 14 companies, seven production plants and a presence in 135 countries.

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