

Linear Motion Technology: Guiding system for welding machines

Pre-engineered gantry system improves efficiency

When Liburdi, a global leader in automated welding systems, asked for help in developing a mechatronic gantry system, Bosch Rexroth provided a ready-to-install solution that reduced Liburdi's assembly time from 14 working days to three hours.

It was during the development of its 3-axis automated welding system for repairing turbine blades, that Liburdi turned towards Bosch Rexroth in order to supply the gantry system, which provides the motion capabilities of the welding machine. The gantry system had to deliver the required precision, speed and component rigidity, as well as perfectly fit into Liburdi's machine frame. The challenge was to provide a system to a time-critical delivery date, that would accommodate the work envelope of the welding system's tasks while maintaining a small footprint. The system included TKK linear modules, servo motors, an IMS-A integrated measuring system, which ensures the necessary precision and repeatability, and a bellow that protects the drive system from spatter and other contaminants.

Installation time remarkably reduced

Within a day of its arrival, Liburdi had the system installed on its machine frame and was able to immediately start wiring and testing the components. Pleased with the outcome, the welding specialist already ordered another gantry system. The system's advantage are its high-precision units, which arrive as a drilled and dowelled package making a significant difference to Liburdi's timeframe. It would have taken 12 to 14 days to complete a comparable single system. But with these pre-engineered units, it takes only about two-and-a-half to three hours to complete a system. Due to the positive experience, Liburdi has already ordered a second gantry system.

Challenge

Development of a high-precision mechatronic gantry system for laser welding machines with a short installation time.

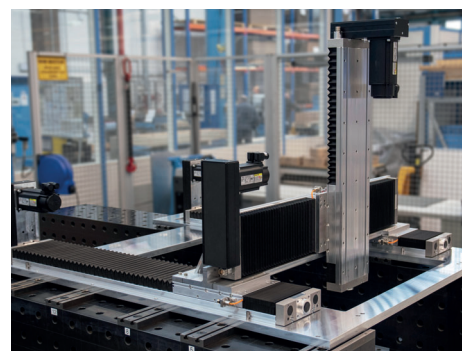
Solution

Modular concept with ready-to-install packages that don't require any further adjustment work during assembly.

Result

"We chose Bosch Rexroth because of its high precision, compact design and on-time delivery engineering services."

JJ Sixsmith, General Manager,
Liburdi Automation



Solved with

- ▶ Ready-to-install gantry solution, consisting of:
- ▶ TKK linear modules
- ▶ Integrated measuring system IMS-A
- ▶ Tailorized servo drives

