Success Story

Compact robot system for maximum flexibility

Henke relies on MoTion Weld for excellent welding results

CLOOS

Weld your way.

HAIGER/ALTENSTADT – The welding department is one of the central production areas at Henke GmbH. For more than 30 years, the specialists for industrial sheet metal processing and transformer accessories from Altenstadt in Hesse have relied on the welding technologies of Carl Cloos Schweisstechnik GmbH. In 2018 Henke commissioned a compact robot system of the welding specialists from Haiger. Among other things, the system is equipped with the new MoTion Weld processes by CLOOS and is characterised by maximum production flexibility.

Photo 1: The company commissioned a new QIROX robot system by CLOOS in October 2018.

Henke has its origins in the 1970s when the Frankfurt businessman Heinz W. Henke acquired the bankrupt company Münch-Motorradfabrik GmbH. With continuous investment in machinery and the steady expansion of the product range, Henke quickly developed into a professional metalworking company. Jens Wolf is now the third generation of the family to run the company.

Approximately 150 employees manufacture products for the electrical industry, medical technology, mechanical engineering, the food and pharmaceutical industry, power engineering and many other industries on a production area of more than 9,000 square metres. A wide variety of materials and plate thicknesses are used here. Whether punching, bending, welding or powder coating – Henke Metall is very broadly positioned as a contract manufacturing company.

Increasing customer demands

"Thanks to our flexible production, we can also respond optimally to individual customer wishes," emphasises Henke Managing Director Jens Wolf. "As a partner at eye level, we support our customers from development, design and production to commissioning". In order to meet the demanding customer requirements with regard to quality, delivery time and flexibility, Henke is continually modernising the various production areas and investing in automated production processes. After the more than 25 year old robot was no longer able to meet the increasing requirements in the welding area, the company has used a new QIROX robot system by CLOOS since October 2018.

Compact robot system with high-tech welding technology

In the new QIROX compact system, the welding robot is mounted overhead on a C-frame. The system has two stations with horizontal change and turning and swivelling movement. The 2-station workpiece positioner with counter bearing has two vertically arranged faceplates. The workpiece fixture is mounted between the two faceplates. The counter bearing stabilises even long workpieces during welding. One side of the workpiece positioner has a horizontal swivelling axis with an L-shaped extension arm each in addition. The workpiece positioners always bring the different components into the perfect position for welding.

Photo 2: The system is characterised by maximum production flexibility and can weld a wide range of different components.

Due to the two-station design, robot welding in one station and loading of the components in the other station is simultaneously possible. All robot and positioner axes are fully synchronised. This provides excellent welding results, reduces the secondary processing times and speeds the entire process run enormously.

Photo 3: By using the new robot system, Henke was able to expand its range of products considerably.

Furthermore, the system is equipped with a laser online sensor. Here, the tracking section is measured online during welding. The laser online sensor carries out corrections immediately thus ensuring optimum welding results.
The use of the new QINEO NexT MIG/MAG multi-process welding power source in the robot plant further increases production flexibility. The QINEO NexT is equipped with an inverter power unit and convinces with excellent arc characteristics for highest welding quality.

MoTion Weld for demanding materials

"Whether large or small, thick or thin, aluminium or steel, we can process a wide variety of components on the system," Wolf explains. "Depending on the application, we can select the appropriate MIG/MAG welding process."

Photo 4: The 2-station design significantly accelerates the entire production process.

Wherever special requirements are placed on the weld surface and appearance, Henke uses the new MoTion Weld processes. Thus, the company achieves excellent welding results at both steel or aluminium components.

MoTion Weld is a combination of the proven CLOOS processes such as Control Weld or Vari Weld and reversing wire. Here, a mechanical system draws the wire back and forward at a high frequency.

Photo 5: The MoTion Weld processes ensure an excellent weld quality.

Thus short circuits can be interrupted cleaner and with less energy than in the case of short arcs without reversible wire electrode. The MoTion Weld processes are particularly suitable for thin plate applications and for components with varying gaps and tolerances. The reversing wire allows a maximum process stability. Due to the minimised formation of spatters and powder, less rework is required. In addition, the precise heat control ensures an excellent weld quality.

Increased flexibility and efficiency

The equipment of the new robot system and the process variety enable maximum production flexibility. Whether long narrow or cubic components – Henke can flexibly respond to individual customer requirements. Depending on the utilisation, the new plant already produces in 2-shift operation in some cases. The number of components to be welded on the new system is now to be gradually increased. Henke currently manufactures, among other things, aluminium roof racks, light box covers and electrical switch boxes with the new robot system. "We have been able to significantly expand our range of products," states Jens Wolf happily. "At the same time, we benefit from considerably faster cycle times and excellent welding results." Due to the reduced rework times and the high system availability, Henke was able to increase the productivity considerably.

Photo 6: Welding department manager Jens Oberheim (left) with Henke managing director Jens Wolf (right), who is the third generation to run the family business.

In order to benefit fully from the innovative technology, the staff was intensively trained by CLOOS. "The robotic system has a high status among our employees," says Wolf. "They enjoy working with this fascinating technology."

Long-term partnership

Overall, the company has been relying on welding technology by CLOOS for more than 30 years. On-site support in Altenstadt is provided by the long-standing CLOOS commercial agency Schweisstechnik Schwalbach. In addition to the QIROX robot system, there are also around 20 manual welding workstations where CLOOS welding machines are used.

Henke intends to continuously invest in the automation of production processes in the future. "We keep ourselves constantly informed about new processes such as laser welding and do not shy away from investment if we can use them to increase the quality of our products and the efficiency of our production," Wolf sums up.

Video 1 on CLOOS TV
MoTion Weld

Video 2 on CLOOS TV
Compact system

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