Success Story

Compact, quick and highly dynamic

Kuhn trusts in the new CLOOS QIROX QRH-280-6 welding robot

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HAIGER/SAVERNE, November 2015 – For more than 30 years Kuhn S.A. has trusted in the automated welding technology of Carl Cloos Schweisstechnik GmbH. At its French headquarters in Saverne, the agricultural machinery specialist recently put the new QIROX QRH-280 welding robot from CLOOS into operation. This investment has enabled Kuhn to reduce the cycle times for welding the small parts for agricultural machines by 15 percent.

The Kuhn Group provides a comprehensive range of agricultural machinery to meet diverse requirements. Whether for farmers or contractors, Kuhn offers the right equipment for each user: 2 to 12-furrow ploughs, machinery for soil preparation and a wide range of harvesting, seeding and mowing machines.

Quality above all else

Quality is the traditional company's top priority. "In order to produce excellent products, we need reliable machines that are easy to use," says Jacky Kirch, who is responsible for the industrialisation of new products at Kuhn as Head of Production Planning. "That's why we've collaborated successfully with CLOOS for over 30 years in the development of welding technology and have built up a strong, trust-based partnership during that time." Overall, the company has 19 CLOOS welding systems in operation. The robots weld a range of parts for Kuhn's high-tech agricultural machinery.

The new welding robot is fast and highly dynamic

"We are delighted that CLOOS informs us about new developments at an early stage and keeps us involved," says Jacky Kirch. Kuhn is among the first customers to have integrated the new QIROX QRH-280-6 welding robot into its production facilities. As the heart of a CLOOS compact cell, the new robot has been welding different small parts for the Kuhn agricultural machines since summer 2015. The QIROX QRH-280-6 is specifically designed for loads of up to 6 kg and is therefore ideally suited to the CLOOS compact cell solutions.

Photo 1: The new welding cell enabled Kuhn to reduce the cycle times for welding the small parts for agricultural machines by 15 percent.

The new welding robot attracts attention because of its compact design which saves production area on one hand and guarantees a very good accessibility to fixtures. Due to the hollow arm design the cable assembly runs inside and is thus protected perfectly. The welding robot is also particularly fast and dynamic, achieving both high speeds and improved positioning accuracy thanks to its low mass and small lever arms.

Photo 2: The QIROX QRH-280 compact welding robot is particularly fast and dynamic.

2-station construction accelerates the production process

In addition, the welding cell is equipped with a 2-station workpiece positioner, which consistently brings the components into the optimal welding position. Station changeover is performed via a vertical turning movement; each station has a horizontal rotary axis with a counter bearing. The positioners can be flexibly adapted to the wide variety of different components — the system is used to weld 25 component variants in total. In addition, the two-station design enables the system to be loaded at alternate ends. The operator can therefore remove the welded components and reload the devices at one station while the welding process takes place at the other, This results in an enormous saving on time for the whole process.

Photo 3: The 2-station positioner consistently brings the workpieces into the optimum welding position.

Vari Weld ensures optimal welding results

The robot welds the workpieces using the Vari Weld MIG/MAG pulsed arc welding process by CLOOS. This generates an absolutely stable, extremely low-spatter pulsed arc. Due to the relatively low temperature, the base material

remains metallurgically unaffected and the corrosion protection of the surface is maintained. This process is ideally suited to the small, thin parts that will later be installed in the agricultural machinery.

Photo 4: Among other things, the QIROX QRH-280 welds discs for mowers.

Automation pays for itself

"Thanks to the investment in the new CLOOS QIROX welding robot we've been able to increase production volume and reduce cycle times by 15 percent," says Jacky Kirch. At the same time, the company has succeeded in further increasing product quality to meet the exacting requirements of its customers.

Based on its positive experience with CLOOS automated welding solutions, Kuhn is planning further investment in this area. "Our goal is to weld all components with automated systems in the future," says Jacky Kirch. "This is the only way to ensure our competitiveness in the long term."

Video on CLOOS TV

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