Success Story

Flexible production in focus

Customised solution for automated small part welding

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HAIGER/SATERLAND — Flexibility is a top priority for the Claassen group. Based in Saterland, Lower Saxony, the group recently began operating two new compact cells from CLOOS for the welding of small components which combine efficient production with excellent welding results.

Up to 100 tons of steel are processed by the Claassen group every day. The traditional supplier company has enjoyed remarkable growth since its founding by Thomas Claassen in 1999. In addition to Maschinen- und Metallbau Claassen GmbH, the Group also includes the metalworking and welding company Thoclatec GmbH in which the Group's entire welding operations are concentrated and also Syntegra GmbH which was launched in 2007 and primarily employs disabled people. In total, the Group has around 200 employees and the name Maschinen- und Metallbau Claassen is well known throughout the region for its high-quality metal plate solutions.

"From conceptual planning through to professional production and assembly of individual prototypes, small and large series production with complex components, we offer our customers everything from a single source," says Thomas Claassen, founder and CEO of the Claassen group. "The trend today is increasingly towards more complex components." By positioning itself broadly across a range of industry sectors, such as engineering, agricultural engineering, shipbuilding, wind energy, materials handling, crane construction and many more, Claassen wants to remain flexible and thus avoid dependence on any single industry. Whether steel, stainless steel, aluminium, plastic, copper or brass, the company manufactures plates and moulded parts in lengths of up to 12 m, diameters of up to 410 mm, plate thicknesses of up to 300 mm and individual weights of up to 10 tonnes. "Our customers very much appreciate our flexibility and short delivery times", says the CEO. Many are long-standing regular customers, however the components required change frequently. Therefore, the company not only handles manufacturing but also supports customers in developing their components into serial products.

Photo 1: The compact cells weld various small components for a range of industry sectors.

Compact robot cell for small components

Since spring 2016 Thoclatec has been using two new QIROX QR-CC-4.1 compact cells from CLOOS to weld small components. The robot cells each have a 2-station workpiece positioner that is capable of vertical transition and rotation. Whilst the robot welds at one station, the other station can be loaded again. This accelerates the entire process enormously.

Photo 2: The compact cell has a 2-station workpiece positioner with vertical rotation.

The systems belong to an extensive series of compact robot cells that are designed for different component types. The new version of the "Ready to weld" system offers many new features. The cells are equipped with the new QIROX QRH-280 welding robot which was specially developed for CLOOS cell solutions. The compact robot is particularly fast and highly dynamic which further reduces production times.

All robot and positioner axes are fully synchronised. A maximum clamping length of 1,200 mm and a maximum carrying load of 250 kg per side enable a wide range of workpieces to be processed on both systems. In addition, the arrangement of the welding power source and QIROX controller outside the enclosure makes servicing and maintenance of the new cells significantly easier.

Photo 3: The 2-station design allows employees to load one station while the robot welds at the other.

An investment that soon pays for itself

Currently, Claassen welds around 25 different components and assemblies with the new compact cells, with new variants in differing batch sizes being added daily. The new cells are thus being optimally utilised in 2-shift operation. "Due to the process reliability, our customers are increasingly requesting automatically welded components," explains Stefan Menke, plant manager at Thoclatec. In addition to a faster process, the robots now achieve exactly reproducible welding results, which was previously not possible with manual welding.

Photo 4: The new QIROX QRH-280 welding robot is particularly fast and dynamic.

In addition, the compact cells are characterised by maximum production flexibility. Since the systems require little space and are fully pre-installed, integrating them into the production process was straightforward. They can also be moved quickly from one production area to another and even retrospective conversions can be implemented at any time with little effort or expense.

Around seven Thoclatec employees are now trained to operate the new robot cells. "Above all, our younger employees enjoy using the new technology which is also highly user-friendly," says Stefan Menke. "All the components — from the robotics to the welding power sources and controllers — are perfectly matched."

Continuous expansion of production capacity

The Claassen Group has grown rapidly in recent years. In the future, its use of automation will continue to develop, further optimising its production processes. "We are pleased that our large premises provide enough space for further expansion of the production areas," says CEO Thomas Claassen. "This will ensure that Claassen can continue to grow."

Photo 5: Thoclatec belongs to the Claassen group, which has grown tremendously in recent years.

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