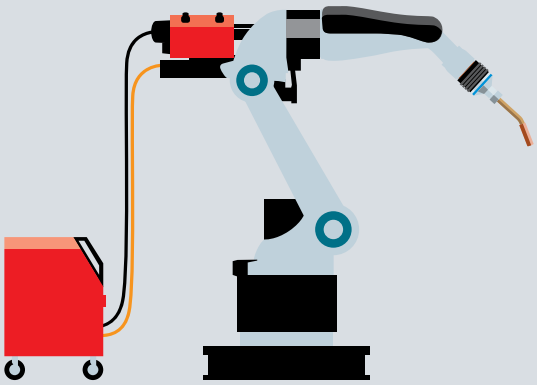

READY-TO-ROBOT

Lorch boosts MTS's efficiency in civil engineering.

MTS is the specialist for automated solutions in the field of civil engineering. In an effort to finish their products promptly and with the highest quality, this family-owned business based in the Swabian town of Hayingen relies exclusively on in-house engineering and production. Its innovative compactor systems have made this medium-size company a household name far beyond the confines of the "Ländle" and continuously fill their order books.

CHALLENGE

The compactor systems made by MTS come in various models – starting with the 100 kilogramme "lightweight", the V3 Mini, to a heavy-duty model weighing more than 1.6 tonnes. Each compactor is made up of construction steel with a thickness between 15 and 30 millimetres, which joins the individual components to a unit. More than two dozen weld seams must be capable of withstanding extreme stress. As well as up to 6 tonnes of contacting pressure, the welds must stand up to continuous oscillating vibrations. This type of strain makes highly durable weld seams paramount and the task of setting the seams manually a daunting challenge. MTS, therefore, set out to find a welding solution that would help them satisfy the great demand for their products and save them the cost of investing into additional welders.

SMART SOLUTION PROVIDED BY LORCH: MIG-MAG ROBOT WELDING POWER SOURCE S5-ROBOMIG

Initial sample welding operations performed by the experts of our Lorch Application Technology and System Integration teams as part of the project have already demonstrated that a robot solution will come out on top when vetted against a conventional, manual solution as it offers superior welding quality, speed and flexibility.

Operating based on the SWIP principle, the automation specialists from Auenwald have accompanied the project from day one. As they were responsible for the completion of the entire pre-configuration of the machine based on the developed specifications, the specialists were able to cut down the time required for the on-site installation of the entire machine to a few days. At the core of the welding cell is a high-performance SpeedPulse version of the MIG-MAG robot welding power source S5-RoboMIG.

An aspect that proved particularly smart and useful was that the Ready-to-Robot solution allows for the integration of all productivity-enhancing MIG-MAG Speed processes, which come standard with all machines of Lorch's S series. The incorporation of one of these processes, SpeedPulse, led to a significant increase in welding speed and a substantially reduced amount of rework thanks to minimal spatter.

Not any less smart: the SeamTracking function. As the components used are usually flexible parts, variations of up to 5 millimetres may occur. This poses no problem as the robot will independently find the perfect path, calculate the tolerances and place all subsequent seams with exact precision thanks to a special signal prepared by the Lorch power source. These features allow the robot system to both produce weld seams that are of higher quality and achieve significantly shorter welding times.

The total savings generated across the production process by the application of Lorch's Ready-to-Robot solution amount to approx. 80 per cent. Even more impressively, the machine did not even run at full capacity. It is set up perfectly and offers ample room to grow.

READY-TO-ROBOT

THIS IS THE CUSTOMER'S VERDICT:

"Our cooperation with the members of the Lorch team was exceptionally effective throughout. Their profound understanding of the welding processes and the fact that we only had to deal with one contact in matters concerning the entire solution 'robot plus welding machine', have impressed me immensely. Not only are our welding processes much smoother now but the transfer of know-how was completed in no time at all. All it took for our employees in charge to fully grasp all basic features of the system was a two-day training session, as learning the individual workflows is completely intuitive. The self-explanatory nature of the system allows the operator to take full command of the welding process. As a medium-size company we attach great importance to keeping the operating and set-up expertise entirely in-house. The application of Lorch's Ready-to-Robot solution allowed us to pare down the processing time to a quarter and afforded us additional flexibility. Regardless of which model of compactor our customers order, we are ready to go right away and can guarantee the highest possible quality."

Armin Galser, technical director at MTS

Top-grade surfaces, nearly spatter-free: Thanks to the use of robots, the need to rework each weld seam is reduced to a minimum

Armin Galser is keenly fond of minimised production times and first-rate weld seams

The seamless interplay of robot arm and positioner allows for welding in perfect downhand position

Would you like to learn more?
Mr. Dalmer accompanied this project and will be happy to receive your requests:
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LORCH