

# GREAT PRODUCTIVITY INCREASES AND BEST WELDING QUALITY

## READY-TO-ROBOT SOLUTION BRINGS ENORMOUS ADVANTAGES TO MEDIUM-SIZED COMPANIES

MTS Schrode AG, a specialist in civil engineering and road construction, has made a name for itself with innovative compaction systems. In seven different versions – from the 100-kilogram “light” V3 Mini to the V10 that weighs more than 1.6 tons – the family-owned company in Hayingen manufactures popular construction tools. Every compressor is made of 15-to-30-millimetre-thick structural steel connecting the individual components into a single unit. There are more than two dozen weld seams, and they must absorb extreme stresses. Constant vibrations act on the material in addition to a contact pressure that may reach 6 tons. Therefore, heavy-duty weld seams are absolutely vital. Manual adjustment of the weld seams poses a great challenge. The company chose an automated welding solution from Lorch in order to produce the highly popular compressors in their various versions at the required high quality and in a timely manner in spite of the shortage of skilled workers. The core of this is the high-

performance MIG-MAG robot welding power source S5-RoboMIG in its SpeedPulse version. The Ready-to-Robot solution and productivity-enhancing MIG-MAG speed processes has allowed the company to achieve savings in the amount of about 80 percent in the manufacturing process.

### OUR CUSTOMER AT A GLANCE

#### MTS SCHRODE AG

- Hayingen, DE
- 70 employees
- Mechanical engineering
- [www.mts-online.de](http://www.mts-online.de)



Best surfaces, virtually spatter-free: Robots have reduced the amount of rework per weld seam to an absolute minimum.



Flexible: Welding is always possible in the optimal position of the tray due to the precise interaction of the robot arm and positioner.



Smart: The robot always finds the ideal weld path with the help of the seam tracking function.

SpeedPulse and SeamTracking function

## FAST AND PRECISE WELDSEAMS EVEN ON BENT PARTS

Use of the Ready-to-Robot solution turned out to be a decisive advantage for MTS. All MIG-MAG speed processes can be used in production now. The SpeedPulse welding process not only allowed a significant welding speed increase, but also a considerable reduction of rework due to minimal spatter. The SeamTracking function is another benefit for the company. Since bent parts are the most commonly used ones, deviations of

up to 5 millimetres are possible. The robot will find the optimal path itself, calculate the tolerances, and set the other weld seams precisely. This way, the robot system not only produces higher-quality weld seams, but also significantly shortens welding times: Where eight and a half hours were once required for manual welding and grinding of a single frame, the robotic cell has reduced the entire production process to just over two hours.



*“The robot welding cell has reduced processing time to a quarter for us. It has also made us a lot more flexible. Depending on the ordered compressor version, we will be able to start right away and can always warrant optimal welding quality.”*

*– Armin Galster, technical manager*

## FACTS

- Consistent torch guidance, leading to consistent bead quality from the weld seam start to its end.
- Weld seam lengths of 1.5 metres and more in a single welding process
- Flexible rotation and positioning of the workpiece always provide optimal welding position in the tray position
- Fewer layers per weld seam since a larger welding range is covered by the weaving movements of up to 8.5 millimetres
- Avoidance of craters due to larger layer areas
- Significant reduction of rework (grinding) due to an optimally adjusted welding process (i.e. less spatter, clean weld seams)
- Reduction of the total production time by about 80 percent with always constant high quality of the weld seam

[www.lorch.eu](http://www.lorch.eu)



**LORCH**  
smart welding