

Application example

Medical adapter

PLASTIC WELDING

METAL WELDING

CUTTING

CLEANING

SCREENING



Task

Medical precision parts are often made from shape-retaining polycarbonate. Both injection-moulded halves must be joined with one another in a liquid-tight way. No loose particles, if possible, should be generated in the process, and the visible joining seam with transparent plastic must be scarcely recognisable. It must be possible to record and trace the joining quality through suitable monitoring measures.

Solution

For this application, 35 kHz ultrasonic welding components are used in a production system. A MAG generator supplies the maximum required power of 1200W. A pneumatic AC actuator unit handles the feed movement, and the joining process is monitored by a TCS5 controller. The high requirements placed on the joining seam can be met by a double pinch seam.

Configuration advantages

The modular design of the ultrasonic components permits their use in both table systems as manual workstations and in special-purpose systems for fully automatic production processes. The correct design of the joining seam is crucial for a tight and invisible welding seam without generation of loose particles. The TCS5 controller with touch-screen operation offers numerous options in relation to process settings and quality monitoring as well as logging of welding parameters.



The application was performed with 35 kHz components (AC series actuator unit, MAG generator, TCS5 controller), integrated into a fully automatic production system.