

Application example

Face mask

PLASTIC WELDING

METAL WELDING

CUTTING

CLEANING

SCREENING



Task

Various joining tasks are required for the manufacture of face masks from polypropylene fleece fabric, for example:

- Manufacture of the mask blank
- Welding of the edge area by individual points or contour cutting with simultaneous sealing
- Welding the valve in
- Fixing the nose bracket
- Fixing the carrier belt

Manufacture of the mask must be as cheap as possible. It must be possible to monitor the quality of important process steps.

Solution

Ultrasonic welding and cut'n'seal technology can be used for all welding tasks. The appropriate welding operation is determined according to the frequency and the output required. All welding systems in the USP series and AC actuator units are operated with modular MAG generators and the TCS5 process controller.

Configuration advantages

The modular ultrasonic components offer maximum flexibility for fitting in automatic production lines. Ultrasonic technology offers comprehensive options in relation to cost-effectiveness, joint quality and welding data logging. The constant amplitude and power approach of the MAG generator ensures the joining quality remains uniform even when there are fluctuations in supply voltage from 180 to 260V. The TCS5 process controller offers various welding modes and trigger functions as well as the option of programming multi-level amplitude and force profiles. This allows all joining processes to be covered optimally.



The application was produced with various 20 and 35kHz ultrasonic welding systems from the USP series or corresponding components integrated into a special-purpose system.