

Efficient production solutions for welding of cooling plates



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Your advantages

- ✓ Simultaneous remote welding at speeds of up to 10 m/min per lens
- ✓ For aluminium and stainless steel
- ✓ High process stability
- ✓ Energy-efficient process
- ✓ Flexible clamping concept
- ✓ Scalable in multiple stages
- ✓ Optional integrated fitting welding module

Efficient laser welding process

Efficient thermal management is essential in both electric vehicles and mobile and stationary energy storage systems, both during operation and charging. For this purpose, the individual battery cells within the module are placed on cooling plates, which dissipate heat energy from the battery cells via fluid cooling. Depending on the battery type, the cooling plates are made of aluminium or stainless steel.

Two half-plates, shaped to conform to the flow contour, are gas-tightly welded together using a laser welding process. The laser process is characterized by high processing speed, reliability, and low cost.

Optimal high-volume production

The Flexible Laser Cell for manufacturing radiator plates utilizes remote welding and is designed to produce pressure-tight welds, even those several meters long, very quickly.

This process achieves a consistent and homogeneous weld penetration depth in both aluminium and stainless steel. The extensively tested method optimizes heat input to minimize material distortion, stresses/cracks, and porosity.

The technology used enables the pressure-tight joining of material combinations: using an innovative workpiece carrier system, the radiator plates are fed into a gantry system for processing. An optimised welding process with flexible clamping masks ensures that the radiator plates are gas-tight.

Weil Technology

Weil Technology's core competence lies in machines for sheet metal processing using laser welding and cutting. We can look on over 35 years of experience in this field. At our headquarters in Müllheim, Germany, around 250 employees develop and manufacture our designs and systems. We provide solutions to facilitate the transition in the automotive and energy sectors towards electric components. This is where our forward-looking applications come into play as a machine supplier in the field of hydrogen and battery technology.

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