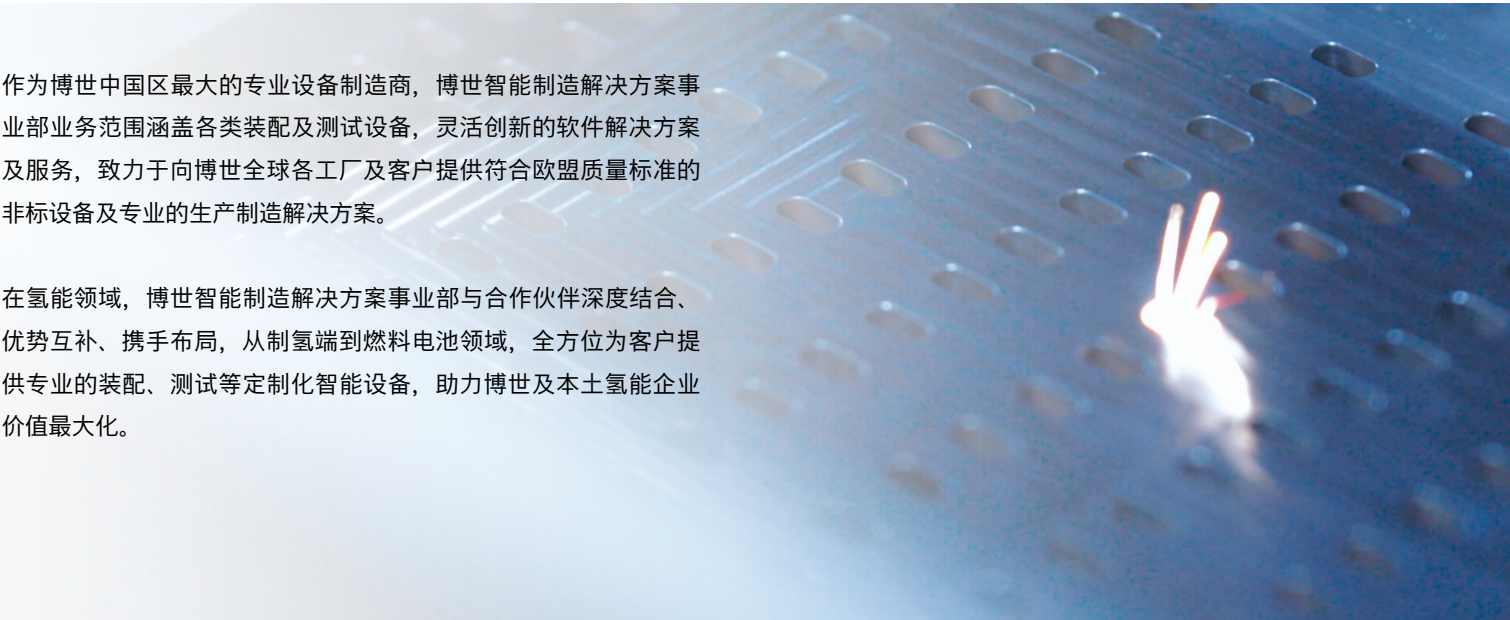


双极板激光焊接解决方案

作为博世中国区最大的专业设备制造商，博世智能制造解决方案事业部业务范围涵盖各类装配及测试设备，灵活创新的软件解决方案及服务，致力于向博世全球各工厂及客户提供符合欧盟质量标准的非标设备及专业的生产制造解决方案。

在氢能领域，博世智能制造解决方案事业部与合作伙伴深度结合、优势互补、携手布局，从制氢端到燃料电池领域，全方位为客户提供专业的装配、测试等定制化智能设备，助力博世及本土氢能企业价值最大化。



主要特点

- 高速高精度焊接
- 精准定位系统
- 针对不同节拍要求定制高效设备方案
- 焊后变形小, 零泄露
- 符合国际标准的激光安全防护

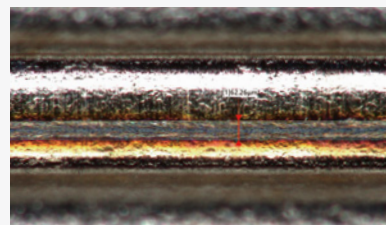
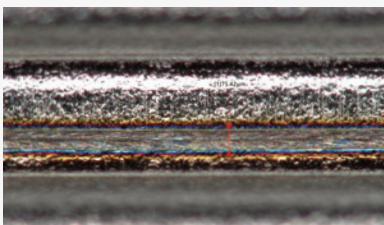
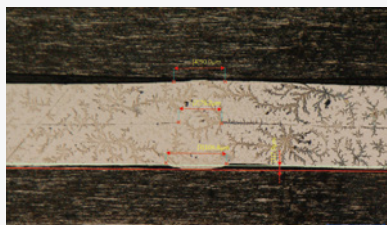
设备介绍



TPL 系列

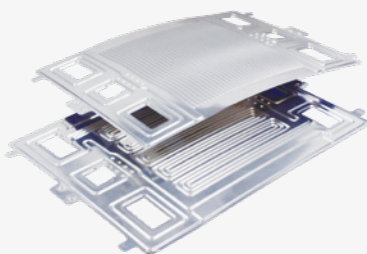
项目	参数配置
薄板板厚	0.075mm~1mm
焊接方式	高速扫描焊接
节拍	≤ 10s/pcs
焊接功率	100w~1000w
重复定位精度	≤ ±0.02mm
视觉定位系统	可选
吸尘系统	✓
保护气	✓
可调压紧力控制	✓
设备可用率	≥ 98%
焊后检测	可选
焊后平整度	≤ 2mm

实例效果



应用领域

- 薄板式散热片焊接
- 氢燃料电池金属双极板焊接
- 其他金属薄板类产品

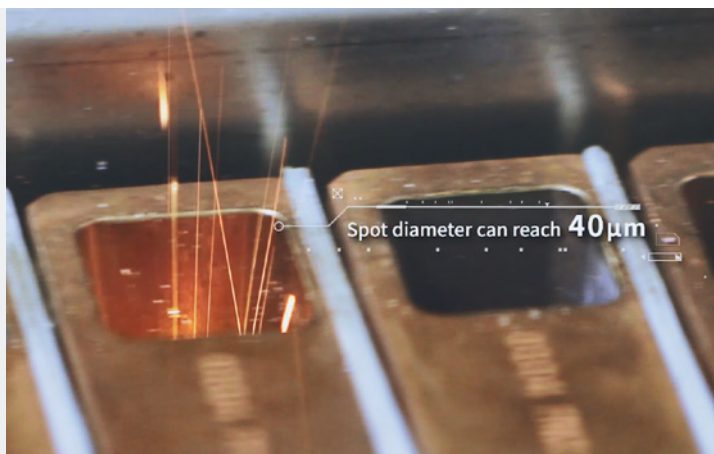


服务支持

- 工艺研发支持
- 样品焊接测试
- 小批量试制
- 开发样机搭建

自主实验室

- 激光工艺开发
- 工艺质量检查
- 不同激光系统试验



Bipolar plate laser welding solution

As the biggest professional machinery manufacturer in Bosch China, the business scope of Bosch Manufacturing Solutions covers all kinds of assembly and testing equipment, flexible and innovative software solutions and related services. It is committed to providing Bosch worldwide plants and customers with special machinery and professional manufacturing solutions that meet European quality standards.

In the field of hydrogen energy, Bosch Manufacturing Solutions division and its partners cooperate deeply with complementary advantages, work together to provide customers with tailored intelligent assembly and testing equipment in hydrogen production and fuel cell field, aim to support Bosch and local hydrogen energy enterprises maximizing their value.



Characteristics

- High speed and high precision welding
- Precise positioning system
- High-efficiency solution for various cycle time requirements
- Small deformation after welding, zero leakage
- Laser safety protection in compliance with international standards

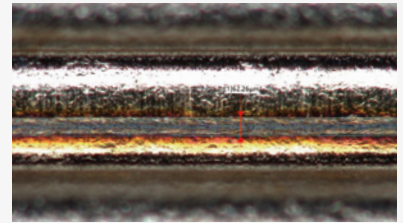
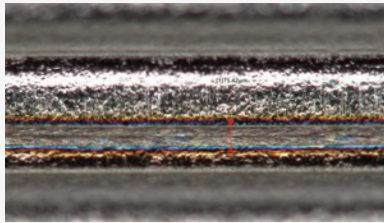
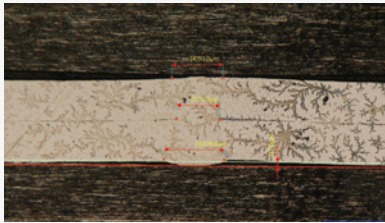
Machine Introduction



TCL series

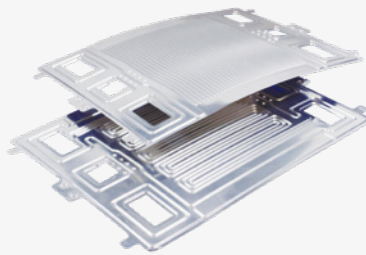
Item	
Sheet Thickness	0.075mm~1mm
Welding Method	High Speed Scanning
Cycle Time	≤10s/pcs
Welding Power	100w~1000w
Accuracy	≤±0.02mm
Vision System	Optional
Exhausting System	✓
Shielding Gas	✓
Adjustable Clamping Force Control	✓
Technical Availability	≥98%
Welding Inspection	Optional
After Welding Deformation	≤2mm

Examples Effect



Application Area

- Thin plate heat sink welding
- Hydrogen fuel cell metal bipolar plate welding
- Other metal sheet products



Service

- Process development support
- Sample welding test
- Small batch trial production
- Prototype machine buildup

Laboratory

- Laser process development
- Process quality inspection
- Various laser systems

