

LAYUP & BUSSING INTEGRATION MACHINE

ALU-HBL 排版叠焊一体机



功能描述

- 节拍：常规半片组件节拍≤40s，对接高速串焊机。
- 自带纠偏系统，直线电机+绝对值伺服系统，纠偏精度≤0.3mm X轴采用直线电机，精度高；Y轴±100mm；不存在叠片问题。
- 可选配汇流条冲孔、冲倒角、激光除黑漆、汇流条上料不停机等功能；可选配虚焊检测功能；可选配汇流条点烫功能。
- 整体结构简单、便于维护。常规组件切单时效快：30-60min。
- 设备是一一对接高速串焊机，相比较原来的布局降低了叠焊宕机对整线产能的影响。
- 焊接信息监控：自动追频、焊接能量监控MOS管温度焊头温度，数据可实时上传至MES系统。
- 设备集成了排版、叠焊、虚焊检测、汇流条点烫等功能使布局更加合理，减少了机械手抓取次数以及中间流转传输等环节，降低了整体布局成本，减少了场地的占用空间，提高了场地的利用率。

Features

- Cycle time: ≤40s, compatible with high-speed stringer.
- Equipped with a self-correction system, linear motor + absolute value servo system, correction accuracy ≤0.3mm. X-axis adopts linear motor with high precision; Y-axis ±100mm. No cell overlap issue.
- Optional functions include busbar punching, chamfering, laser paint removal, and non-stop busbar loading. Optional virtual welding detection function. Optional busbar ironing function.
- Simple overall structure, easy to maintain. Fast single-cutting time for modules: 30-60min.
- The equipment is directly connected to the high-speed stringer, reducing the impact of cell overlap downtime on the line capacity compared to the original layout.
- Welding information monitoring: automatic frequency tracking, welding energy monitoring, MOS tube temperature, and soldering iron temperature, with data uploadable to MES system in real-time.
- The equipment integrates layout, cell overlap, virtual welding detection, and busbar ironing functions, making the layout more reasonable. It reduces the number of times the robot grabs and the intermediate transfer links, reduces the overall layout cost, reduces the space occupation of the site, and improves the utilization rate of the site.



设备技术性能

电池片规格：156*156mm-230*230(mm)/5BB-24BB
 汇流条规格：卷状供料，厚度(0.20-0.45mm)，
 宽度4/5/6/7/8(mm)
 汇流条重量：≤30kg
 节拍：常规半片组件节拍≤40s
 焊接拉力：5BB≥4N，9BB≥2N，MBB≥2N
 纠偏特性：理片精度高≤0.3mm
 视觉检测：理片纠偏头中尾采用6个相机，每组头中尾相机各一个，共两组，可对纠偏效果进行二次校验，不存在叠片问题。头中尾虚焊检测采用线扫相机，扫描精度高，
 焊接方式：电磁感应焊接
 选配功能：汇流条冲孔、冲倒角、激光除黑漆、汇流条上料不停机、虚焊检测、汇流条点烫功能等功能

Functionality

Cell specifications: 156*156-230*230(mm)/5BB-24BB
 Busbar specifications: Coil feeding, thickness 0.20-0.45(mm), width 4/5/6/7/8(mm)
 Busbar weight: ≤30kg
 Cycle time: ≤40s
 Welding tension: 5BB≥4N, 9BB≥2N, MBB≥2N
 Alignment characteristics: High cell alignment accuracy ≤0.3mm
 Visual inspection: 6 cameras are used for alignment at the head, middle, and tail of the cell, with one camera for each position in two sets, allowing for secondary verification of alignment effectiveness, with no cell overlap issues. Virtual welding detection at the head, middle, and tail is performed using line-scan cameras with high scanning accuracy.
 Welding method: Electromagnetic induction welding
 Optional functions: Busbar punching, chamfering, laser paint removal, non-stop busbar loading, virtual welding detection, busbar ironing function, etc.

技术参数 Specifications

项目 Item	数值 Value
适用玻璃尺寸 Applicable glass size	长 length: 1640-2550(mm); 宽 width: 900-1450(mm)
节拍 Cycle time	≤40s
功率 Power	峰值 peak powe 35kW, 平均功率约 average power 15kW
电源 Power repuirement	AC380V±5%, 3P+1N+1PE
压缩空气 CDA	0.6-0.8(MPa)的干燥、干净压缩空气; 用量: 2000L/min 0.6-0.8 (MPa) dry, clean compressed air ; Consumption: 2000L/min
控制系统 Control system	PLC+触摸屏 touchscreen +CCD视觉检测 vision inspection
重量 Weight	7000kg
外形尺寸 Dimension(L×W×H)	6300*3200*2550(mm)