



WAVE  
SOLDERING  
**波峰焊接设备**

PRODUCT BROCHURE

**JT 劲拓股份**

深圳市劲拓自动化设备股份有限公司  
SHENZHEN JT AUTOMATION EQUIPMENT CO., LTD.

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专注 持久 分享

## SE系列

SE Series



## SMART-III系列

SMART-III Series



JT波峰紧跟焊接工艺发展需求,采用滚动式运输结构,最大承重负载120KG;解决客户重型产品产能瓶颈问题,传承JT产品优良基因,并新开发了波峰高度闭环控制管理、产品定点分区焊接、能量智能管理系统、设备中控系统远程操作及远程自诊断监控功能,拓展了波峰焊接的新思路,让波峰焊接量化管理真正成为现实;

JT波峰焊适用于5G系列产品、大功率储能产品及汽车电子产品钎接装联用户,根据产能需求可选升级双轨系列,外置喷雾模块,更安全可靠,是最具行业代表之作。

JT Wave Soldering Machine closely follows the development needs of the welding process, Adopts a rolling transportation structure; The maximum load is 120KG; it solves the bottleneck problem of the customer's heavy products; Develops the wave height closed-loop control function; Develop the product fixed point partition soldering function; The energy intelligent management system; The remote operation of the equipment central control system; The remote self-diagnosis monitoring function; Which have expanded the new idea of Wave Soldering and let the quantitative management of Wave Soldering come true.

JT Wave Soldering Machine can be applied to 5G series products, High-power energy storage products and Automotive Electronic products. According to the capacity demand, JT Wave Soldering Machine can be upgraded double rail series. Its external spray module, is more safe and reliable, is the best design of Wave Soldering Machine industry.

## 喷雾模块 Spray Fluxer System

全新设计的喷雾模块,改善喷雾震动幅度、保养维护更便利、布局更合理,可搭载大行程选喷及超声波系统  
The newly designed spray module improves the spray vibration amplitude, makes maintenance more convenient, and has a more reasonable layout. It can be equipped with large-stroke selective spray and ultrasonic spray systems.

### 外置喷雾模块 External spray fluxer module

- 外置式独立喷雾模块,物理性阻隔助焊剂进入预热区,提升安全性;
- 减少波峰焊的保养频率;
- 结构优化,空间更大更简洁,方便日常维护保养;
- 外置喷头自动清洗功能,让维护更简单省时。
- External independent spray module, which physically blocks flux from entering the preheating zone, improving safety;
- Reduce maintenance frequency for wave soldering;
- Optimized structure, larger and clean space, convenient for daily maintenance;
- The automatic cleaning function of the external nozzle makes maintenance easier and time-saving.



喷头自动清洗功能  
Nozzle Clean Automatically

### 喷雾模块抽风罩 Spray module exhaust hood

- 抽风罩内反V导流板,防止助焊剂滴落到板上;
- 抽风罩打开合页,方便把整个抽风罩打开保养;
- 抽风管与离心风机连接使用密封接头管,防止松香溢到后方的电箱区,并加快更换过滤网降低保养强度。
- V Type designed exhaust hood to prevent flux dripping onto the board;
- Exhaust hood open hinge, easy to maintenance;
- The exhaust pipe and centrifugal fan are connected with sealed joint pipe to avoid the rosin from overflowing to the rear electric box area, replace the filter to reduce the maintenance intensity.

### 优化布局 Optimize the layout

- 抽风机位置与喷雾区隔离,接口处密封,并增加快换过滤网装置;
- 后方电箱、风机、清洗装置与前面喷雾区隔离,避免松香进入;
- 助焊剂桶内置,并在助焊剂桶下方增加托盘,更安全环保;
- 洗爪液箱、气动隔膜泵、水泵,集中安装在后侧,更整洁,维护更方便。
- The exhaust fan is isolated from the spray area, the interface is sealed;
- The rear electric box, fan and cleaning device are isolated from the front spray area to prevent rosin from entering;
- In-built flux bucket, and add the tray under the bucket, more safe and environment friendly;
- The claw washing liquid tank, pneumatic diaphragm pump, and water pump are centrally installed on the rear side, which is cleaner and easier to maintain.

### 系统提升方案 System promotion

- 可搭载X轴大行程选喷系统,喷头可沿运输方向往返喷涂,提升产能及节约能源50-80%;
- 兼容超声波喷雾系统,均匀性更佳,节省助焊剂40-70%。
- Can be equipped with large-stroke spray selective spray system, the nozzle can be sprayed back and forth, promote the capacity and save-energy by 50%-80%;
- Compatible with ultrasonic spray system, better uniformity, saving 40-70% of flux.

全喷模式  
Full spray mode

超声波喷雾模式  
Ultra sonic full spray mode

选择性喷雾模式  
Selective spray mode

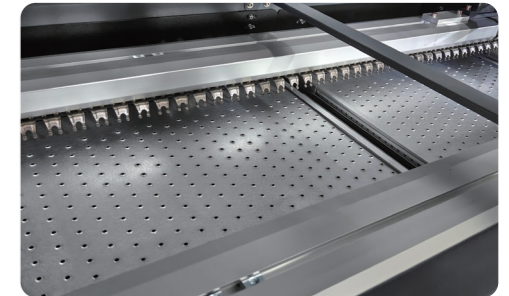
超声波+选择性喷雾模式  
Ultra sonic+ Selective spray mode

## 预热模块 Preheating Module

预热风道增加有效面,提升热均匀性、热能转化速率  
Add the preheating area, improve the thermal uniformity, and thermal energy conversion

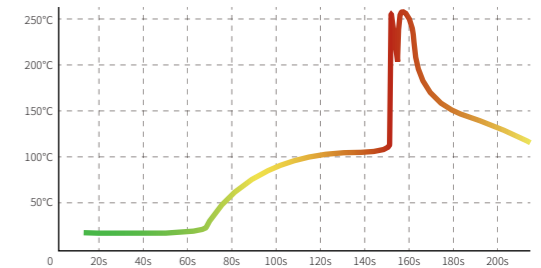
### 预热结构 Preheating zone

- 热风预热采用裸装发热丝,端头铆接工艺,提升发热丝的寿命;
- 拓宽大面积对流通道设计,炉内空间热均匀性更佳;
- IR红外预热采用中短波加热管,响应迅速,较强热穿透能力,节能环保。
- Hot air preheating adopts naked heating wire and end riveting process to improve the life of heating wire;
- Widen the convntion duct design area, the thermal uniformity of the furnace space is better;
- IR infrared preheating adopts medium and short wave heating tube, which has fast response, strong heat penetration ability, energy saving and environmental protection.



### 预热性能稳定 Stable preheating performance

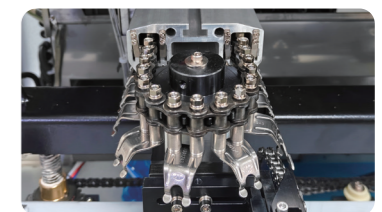
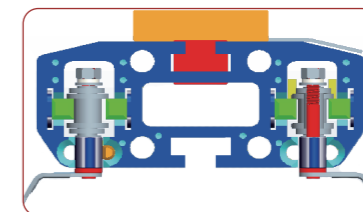
- 良好的预热稳定性,按设定温度偏差值 $\pm 3^{\circ}\text{C}$ 标准制程,定点计算所得CPK $> 2$ ;
- 工艺曲线平滑,波动更小,预热到锡波间的热冲击 $\leq 130^{\circ}\text{C}$ ;
- 一、二波峰之间的掉温在 $60^{\circ}\text{C}$ 以内。
- Stable preheating performance, according to the standard process of set temperature deviation  $\pm 3^{\circ}\text{C}$ , fixed-point calculation of CPK $> 2$ ;
- Soomther process curve, smaller fluctuation, the heating shock from preheating zone solder pot is  $\leq 130^{\circ}\text{C}$ ;
- The drop temperature between the first and second wave is within  $60^{\circ}\text{C}$ .



## 传动部分 / Transmission Part

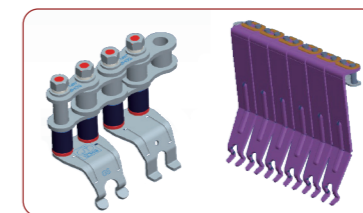
### 传动部分性能特色 Transport system

- 创新的滚动结构技术,较小的运输摩擦阻力,传动顺畅平稳延长导轨的使用寿命;
- 导轨全程标准负载能力达60 KG (可选大负载满足120KG);
- 可自由组态的重型爪配置:全V、全L、2V+L、3V+L;
- 自动润滑装置系统。
- Innovative Rolling Conveyor structure technology, less frictional resistance for transportation, transmission is smoother, extend the lifetime of the rails;
- The standard load capacity is 60 KG, (max option is 120KG);
- Heavy duty claw configuration are available: all V, all L, 2V+L, 3V+L;
- Automatic Lubricator System.



### 爪型选择介绍 Selective of claw

- L型重爪主要适合重载治具使用;
- V型重爪主要适合重裸板&有夹边;
- V+L型重爪可以兼容治具和裸板;
- 普通双钩爪主要适合轻裸板。
- L type mainly used for heavy fixture;
- L type mainly used for heavy bare PCB with edge;
- V+L are compatible with jigs and bare boards;
- Common dual claw are mainly for bare board.

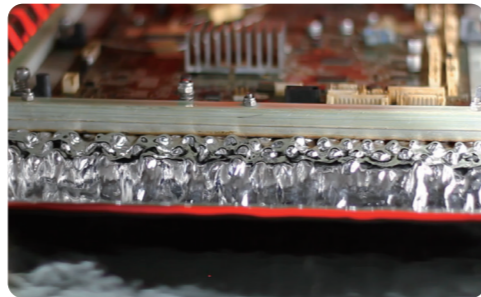


# 焊接模块 Spray Fluxer System

焊接系统创新功能, 结构优化减少锡渣量、保养的便利性  
Innovative functions of the welding system, optimized structure to reduce the tin dross, and the convenience for maintenance

## □ 优良平整的平流波 Heating tube structure

- 使用玻璃板测试平流波的平整度, 实测最大波峰触波宽度差异为5mm, 高度偏差为0.5mm。
- Use a glass plate to test the flatness. The measured maximum wave peak width difference is 5mm, and the height deviation is 0.5mm



## □ 锡炉节能设计 Solder pot energy-saving design

- 硬件: 锡炉四侧封板采用保温布包裹, 起到保温和隔热的作用, 从而降低锡炉在正常生产中的恒温功耗;
- 软件: 当波峰焊长时间无PCB板进入时, 通过降低预热区温度进入待机状态, 从而达到降低能耗的目的; 可自动感应或者定时器进入待机状态, 适合工厂午休或非连续过板场景。
- Hardware: The surrounding of pot is wrapped with insulating cloth, heat preservation and insulation that can reduce the power consumption;
- Software: When there is no PCB board entering the wave soldering for a long time, it enters standby mode by reducing the temperature of the preheating zone, thereby achieving the goal of reducing energy consumption; It can automatically sense or enter standby mode with a timer, suitable for factory lunch breaks or non continuous board passing scenarios.



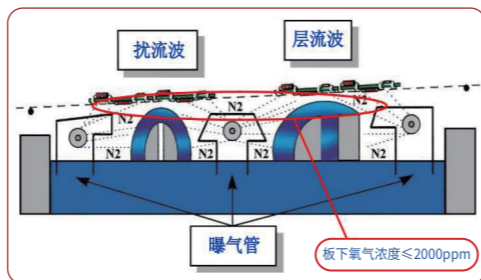
## □ 锡炉溢锡功能 Tin overflow function

- 锡炉两侧接锡盒上方增加溢锡报警;
- 当有锡从锡炉边缘溢出的时候, 最先流到溢锡报警装置处, 软件界面弹出溢锡警示信息, 并禁止波峰输出, 避免大面积溢锡的风险。
- Added tin overflow alarm above the tin box on both sides of the tin pot;
- When the tin overflow from the pot, The software interface pops up a warning message of overflowing tin, and stop the wave motor output, avoid the larger area of tin overflow risky.



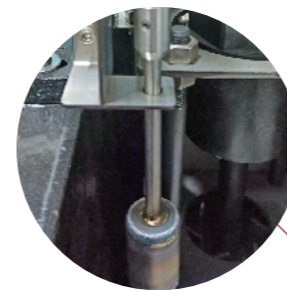
## □ 局部氮气系统结构 (选配) Nitrogen system (Option)

- SMART系列波峰焊氮气系统 (可选项) 标准采用开放式弥漫充氮结构;
- 专用纳米氮气管, 确保锡炉焊接区间气流均匀可控, 节约氮气损耗;
- 拆装方便, 维护简单。
- SMART series nitrogen system (option) adopt standard open diffuse nitrogen filling structure;
- Special nano nitrogen tube, Ensure uniform and controllable airflow in the soldering area of the tin furnace, save nitrogen consumption;
- Easy disassembly and assembly, simple maintenance.

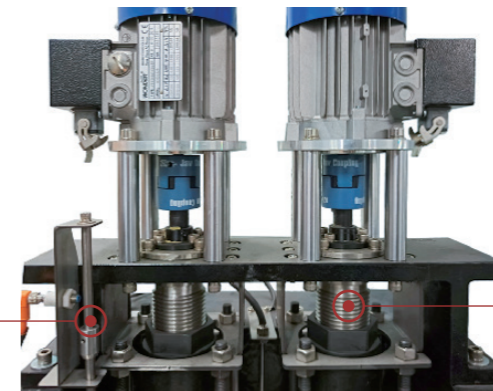


## □ 锡炉锡位检测功能 (选配) Tin furnace tin level detection function (Option)

- 浮球式锡位检测装置;
- 锡炉高低锡位检测采用钛材质浮球式, 可根据客户的需求调节浮球的高低检测锡位, 由近距离传感器感应浮球的高低, 让客户操作人员更直观管理锡炉液位, 如感应到低锡时软件界面会弹出低锡警示信息。
- Floating ball type tin level detection device;
- The tin pot detection adopt titanium float type, The height of the floating ball can be adjusted according to the needs of customers to detect the tin level, the sensor can detect the height of the floating ball, if low tin is sensed, the software interface will pop up a low tin warning message.



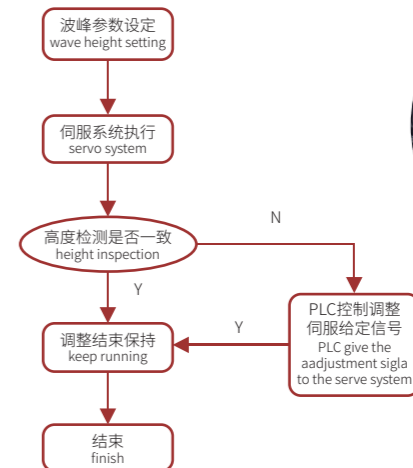
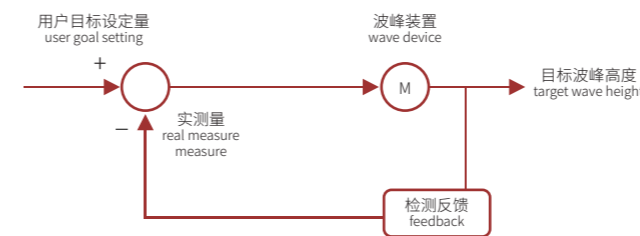
锡炉锡位检测装置  
Tin level detection device for tin furnace



快拆式锡炉抗氧化套  
Quick detachable tin furnace anti-oxidation sleeve

## □ 波峰闭环控制系统 (选配) Wave closed-loop control system (Option)

- 波峰高度按客户自定义设定实时校准;
- 保障产品焊接接触深度的一致性;
- 消除人工干预产生的差异, 解决工艺参数量化管理之难点。
- Real-time calibration of wave height;
- Ensure the consistency of product welding contact depth;
- Eliminate the differences caused by manual intervention and solve the difficulty of quantitative management of process parameters.



波峰闭环控制系统装置  
Wave closed-loop control system

**风压报警功能(选配)**  
Wind pressure alarm function (Option)

- 抽风检测是通过压差开关检测喷雾抽风量,对应12m<sup>3</sup>/min;
- 正常生产中如出现喷雾过滤网或外部管道堵塞时,抽风量低于12m<sup>3</sup>/min设备报警抽风堵塞;
- Exhaust detection is to detect the spray volumn by the differnt presuure, the stardard is 12m<sup>3</sup>/min;
- On the normal production, when the filer and external pipe was block, the exahust is less then 12m<sup>3</sup>/min, it will alarm.

**预热掉板报警功能(选配)**  
Preheating board drop alarm function (option)

- 预热区全程实时物理感应,掉板的第一时间发出声光报警;
- 解决了传统软件计时计算判断是否掉板带来的延时间题。
- Real-time physical induction in the whole preheating zone, sound and light will alarm when the board is dropped;
- Solve the delay problem caused by traditional software timing calculation to determine whether the board is dropped.

**锡炉启动加热异常报警功能**  
Solder pot heating abnormal alarm

- 锡炉在正常启动加热时如出现空气开关跳闸、发热管导致不能正常升温,设备在15min后报警;
- 应对定时开机熔锡时,因熔锡过程中出现加热异常,导致在员工上班时未达到工作温度,耽误生产进度的风险;
- 预警提示人员提前介入对策解决。
- When the solder pot starts heating normally, if the air switch trips or the heating tube is damaged, the temperature cannot be heated normally, and the equipment will alarm after 15 minutes;
- To deal with the risk of delaying the production progress due to abnormal heating during the tin melting process when the tin melting is started regularly, Can be solve the problem earlier.

**混合过板功能(选配)**  
Mixed board function (Option)

- 扫码混合过板是指相同宽度的不同产品配方,通过扫码后调取相应的产品配方文件;
- 混合过板产品条件:当客户的多种PCB板的过炉宽度、助焊剂类型、焊接工艺角度相同时,可通过扫码识别不同工艺参数的产品,混合过炉焊接;
- 混合过板工艺条件:运输速度(mm/min)、预热温度(°C)、预热风机频率(Hz)、波峰频率(Hz)、锡炉高度(mm)、助焊剂喷头速度(mm/s)、助焊剂型号(-XX)、助焊剂流量(mL/min)。
- The different products with same width,after the scan the code,the corresponding product formula file can be retrieved;
- Condition:When the customer PCBS have same width,flux soldering process angle,then can be identified by scanning the code and soldering;
- Orocess conditions :Conveyor speed (mm/min)、preheating temperature(°C)、preheating motor rate (Hz)、wave rate (Hz)、solder pot height (mm)、flux nozzle speed (mm/s)、flux type (-XX)、flux flow (mL/min)。

**锡炉高度、一键进出功能(选配)**  
Tin furnace height, one-key entry and exit function (Option)

- 软件自动化控制按钮:一键移进、一键移出;
- 锡炉智能高度显示,可输入数值自动调整,精度误差±0.02mm,保存在配方文件里面,一键调取。
- Automatically control: one key move in, one key move out;
- The intelligent height display of the solder pot can automatically adjust the input value, and the accuracy error is ±0.02mm. It is saved in the recipe file and retrieved with one key.

**AI识别功能(选配)**  
AI recognition function (Option)

- 通过人脸识别,自动进入相关权限账号操作软件。
- Through face recognition, automatically enter the relevant authority account operating software.

**预热、锡炉加热巡检保护功能(选配)**  
Preheating, tin pot heating inspection protection function (Option)

- 加热巡检功能巡检每个温区是否因马达不转动导致发热丝干烧的现象,要求最高设定为400°C,此功能为设备二次独立保护功能。
- This function inspects whether the heating wire is dry due to the non-rotation of the motor in each temperature zone. The maximum setting is 400 °C. This function is a secondary independent protection function of the equipment.

**升级版全程钢丝托刀功能(选配)**  
Upgraded version of the whole steel wire knife function (Option)

- 全程钢丝托刀安装在入口与出口侧门板上,可调节钢丝支撑的高低;
- 主要解决客户过裸板且PCB板面积较大的产品,防止PCB板变形。
- It is installed on the entrance and exit side door panels, and the height of the wire support can be adjusted;
- Solve the products of customers with bare boards and large PCB size to prevent PCB deformation.

**安全门功能(选配)**  
Satey door function (Option)

- 打开设备前门顶盖或者后门时,设备会自动报警,PC软件弹出安全门打开报警提示,蜂鸣器提示;
- 防止机器运行时,出现危险操作;
- 遵循以人为本,安全第一的生产原则。
- When opening the door, the machine will automatically alarm, the PC software will pop up the security door opening alarm prompt, and the buzzer will prompt;
- Prevent dangerous operations when the machine is running;
- Follow the production principle of people-oriented, safety first.

**热风预热、波峰马达转速侦测功能(选配)**  
Hot air preheating, wave motor speed detection function (Option)

- 实时直接监测预热马达、波峰马达转速;
- 可将转速r/min直接加入到配方文件;
- 当马达出现故障未转动情况下,可以及时报警响应。
- Monitor preheating motor,wave motor speed in real-time;
- The speed r/min can be directly added to the recipe file;
- When the motor fails and does not rotate, it can alarm and respond in time.

# SMART软件系统

SMART software system



软件界面优化, 简约清晰, 内置多种智能化模块。  
Software interface optimization, simple and clear, built-in a variety of intelligent modules.

## IO信号监测功能

IO signal monitoring function

- 可在软件上查看电路信号输入输出状态, 便于快速查找线路问题。
- The input and output status of circuit signals can be viewed on the software, which is convenient for quickly finding line problems.

## 产能和设备运行状态统计

Statistics on production capacity and equipment operation status

- 自动识别实际过板数量, 可自动生成产品的日报、月报、年报(柱状图或曲线图);
- 智能监控设备使用状态, 可以查询当前机器运行、等待、报警和停机时间, 从而计算出设备使用率, 便于生产成本管理。
- It can generate the daily, monthly, yearly report by identity the real PCB quality (Histogram or Graph);
- Monitor the usage status of the equipment, and can calculate the equipment usage rate by running, waiting, alarming and stopping the current machine, which is convenient for production query management.

## 智能保养和配件更换提示

Intelligent maintenance and parts replacement tips

- 自定义设定设备保养项目、间隔周期, 到预定时间可自动提示, 并上传到MES系统, 便于客户合理安排产能。
- 根据设备运行状态, 软件自动统计关键部件的使用寿命, 使用寿命耗尽后自动提示检修和更换, 帮助客户减少因配件问题造成的停机损失。
- Customize the maintenance item, interval time, Automatic reminders at the scheduled time and upload it to the MES system, so that customers can reasonably arrange production capacity;
- According to the operating status of the equipment, the software automatically counts the service life of key components and automatically prompts maintenance and replacement, helping customers reduce downtime losses caused by parts problems.

# SMART-III电气控制系统

SMART-III Electrical Control System

控制系统方案优化, SMART-III全系选用三菱品牌PLC兼容式结构设计。  
Optimized the control system, The whole system adopts the PLC-compatible structure design of Mitsubishi and Inovance ect brand.

## 控制系统I/O兼容性结构设计

Design of Control System I/O Compatibility Structure

- 兼容汇川PLC搭配大理工温控模块, 控制系统可自由切换无需改造。
- Compatible with Inovance PLC and Dalian Ligong temperature control module, the control system can be switched freely without modification.

## 控制系统优化

Optimized the control system

- 三菱PLC搭载大理工温控系统, 运行稳定可靠; 可选三菱PLC与麦格米特温控模块, 组态兼容性强; 可选三菱PLC搭配RKC温控系统, 让热力管理更加完美。
- Mitsubishi PLC is equipped with a temperature control system from Dalian University of Technology, ensuring stable and reliable operation; Optional Mitsubishi PLC and Meggitt temperature control module, with strong configuration compatibility; Optional Mitsubishi PLC paired with RKC temperature control system, making thermal management more perfect.

# 波峰焊辅助设备

Peripherals of Wave Soldering

## FS系列 助焊剂喷雾机 (选喷、超声波全喷、超声波选喷)

FS Series Selective Fully-Auto Spray Fluxer (Selective spray, Ulro sonic full spray, Ulro sonic+Selective spray)

- 波峰焊辅助设备, 可与波峰焊锡机设备运行在线连接, 实现全自动化生产;
- 采用PLC+PC电脑, 全数字化设定和显示;
- 采用进口名牌步进马达驱动, 传送速度平稳可靠, 确保助焊剂涂覆均匀。
- Wave Soldering peripheral Equipment, it can be connected online with wave soldering machine equipment to realize fully automated production;
- Use PLC+PC computer, fully digital setting and display;
- Driven by famous stepping motor, and the transmission speed is stable and reliable to ensure uniform spraying of flux.

- ① 可选助焊剂断喷报警、超限报警功能; ② 可选助焊剂流量电子监控功能; ③ 可选助焊剂流量闭环控制系统, 最小控制精度可实现±2ml;
- ④ 可选多种喷头: 明治ST-6、斯普瑞气压喷头、电子喷枪; ⑤ 可选X轴大行程模式, 实现沿运输方向往返喷涂(选择性喷雾)。
- ① Optional flux spray stop alarm, over-limit alarm function; ② Optional flux flow electronic monitor function; ③ Optional flux flow closed-loop control system, the minimum control accuracy can achieve ±2ml; ④ Optional of nozzles are available: Meiji ST-6, Spree air pressure nozzles, electronic spray guns; ⑤ Optional X-axis large stroke mode to achieve round-trip spraying along the transport direction (selective spraying).



型号 Model		FS-450S-III	FS-610S-III
外形尺寸(L*W*H)	Dimension(L×W×H)	1300*1400*1600 mm	1400*1560*1600mm
PCB宽度	PCB Width	50-450mm	50-610mm
运输高度	Conveyor Height	750 ± 20mm (Option: 950±20mm)	
运输方向	Conveyor Direction	L → R (Option: R → L)	
运输速度	Conveyor Speed	0 ~ 1.8m/min (选喷根据焊接点数定)	
助焊剂槽容量	Capacity of Flux Tank		20L

## INC系列 入板机

INLET Conveyor

- 波峰焊辅助设备;
- 用于波峰焊机前端与生产线接驳使用。
- Wave Soldering peripheral Equipment;
- Used to connect the front of wave soldering machine between the production line.



型号 Model		INC-350A/B	INC-450A/B
外形尺寸	Dimension	1000*700*750(mm)	1000*800*750(mm)
PCB宽度	PCB Width	50 ~ 350mm	50 ~ 450mm
运输方向	PCB Direction		L → R (Option: R → L)
运输速度	Speed		0 ~ 2000mm/min
运输带长度	Transmission Length		1000mm
运输高度	Conveyor Hight		750 ± 20mm
传输带材料	Belt Material		A为防静电皮带ESD belt, B为链条chain

## OUC系列 出板机

OUTLET Conveyor

- 波峰焊辅助设备;
- 三排散热风扇设计, 最大限度降低PCB和组件的温度;
- 运输带有皮带和不锈钢网带两种, 皮带又分为普通防静电和防滑防静电皮带。
- Wave Soldering peripheral Equipment;
- Three-row cooling fan design to minimize PCB and component temperature;
- Optional conveyor: belt and steel mesh belt.



型号 Model		OUC-400A/B	OUC-500A/B	OUC-650A/B	OUA-500	OUA-650
外形尺寸	Dimension (mm)	1300×555×1200	1300×655×1200	1300×805×1200	2000/2450×985×1200 (产线高度900/750)	2000/2450×1135×1200 (产线高度900/750)
皮带宽度A(Belt) PCB宽度B(Mesh)	PCB Width	400mm	500mm	650mm	50 ~ 500mm	50 ~ 650mm
PCB运输方向	PCB Direction				L → R (Option: R → L)	
运输速度	Conveyor Speed				0 ~ 2000mm/min	
运输带长度	Conveyor Length		430mm+870mm		350+1090/1450+550mm (产线高度900/750)	
机身高度	Height Adjustable			750 ~ 1200mm		

# SMART系列波峰焊参数

SMART series wave soldering parameters

型号 Model		SMART-350III-M/450III-M	SMART-350III-H/450III-H	SMART-610III-H
外型尺寸	Dimension (L×W×H)	3945×1582×1735mm	4445×1582×1735mm	4645×1742×1735mm
外置喷雾外型尺寸	External device dimension	1300×1400×1600mm	1300×1400×1600mm	1400×1560×1600mm
重量	Weight	1700KG	1700KG / 1800KG	2100KG
电源	Power supply	3P5W 380V AC 50/60Hz 63A	3P5W 380V AC 50/60Hz 100A	3P5W 380V AC 50/60Hz 150A
总功率	Total power	37KW + 6KW/PCS (每增加一个预热模组add one preheating)	43KW + 6KW/PCS (每增加一个预热模组add one preheating)	58KW + 9KW/PCS (每增加一个预热模组add one preheating)
正常工作功率	Operating power	≤9KW / ≤10KW	≤11KW / ≤12KW	≤13.5KW
喷雾方式	Spray mode	气压全喷 Air pressure full spray 选配 Option:气压选喷/超声波全喷 sleective/ultrasonic spray		
喷雾抽风方式	Spray suction mode	PCB板上/下配置抽风 (配置强排) PCB up/bottom with strong centrifugal fan		
喷雾流量	Spray flow	10~100ml/min		
助焊剂自动添加	Flux automatic addition	配置耐腐蚀气动隔膜泵 Equipped with corrosion-resistant air-operated diaphragm pump		
针阀压力	Needle valve pressure	0.2Mpa~0.3Mpa		
助焊剂喷头	Flux nozzle	ST-6 lumina进口雾化喷头Imported atomizing nozzle(1.3mm) 选配Option:超声波喷头/电子喷头(带雾化) ultrasonic nozzle/Electronic nozzle (with atomization)		
喷头驱动	Nozzle drive	步进+直线轴承模块 Stepper + Linear Bearing Module		
空气耗量	Air consumption	1-6m³/h	350: 1-6m³/h 450: 1-7.2m³/h	1-7.2m³/h
预热方式	Preheat mode	热风预热 Hot air 红外预热 IR		
预热器发热管	Preheater heating pipe	350: 热风Hot air: 380VAC 3KW×2(下Bottom)3KW×2(上Top) 红外IR: 380VAC 1.2KW×6(下Bottom)1.2KW×5(上Top) 450: 热风Hot air: 380VAC 3KW×2(下Bottom)3KW×2(上Top) 红外Infrared: 380VAC 1.5KW×6(下Bottom)1.2KW×5(上Top)	热风Hot air: 380VAC 4.5KW×2下Bottom/3KW×2上Top 红外IR: 380VAC 2KW×6下Bottom/2KW×5上Top	
预热区数量	Preheat zones number	3 选配(TOP MAX 3PCS)	4 选配(TOP MAX 4PCS)	4 选配(TOP MAX 4PCS)
预热区长度	Preheat zone length	1800mm	2300mm	
预热温度	Preheat temperature	室温Room ~ 230°C	室温Room ~ 250°C	室温Room ~ 250°C
预热控温方式	Preheating temperature control mode	PID+SSR mode		
控温精度	Control accuracy	±6°C		
预热升温时间	Preheating temperature rise time	≤18min		≤20min
炉胆材质	Furnace liner materia	铸铁+搪瓷(选配:全钛) Cast iron + Enamel process (Option:full titanium alloy)		
锡炉发热管功率	Power of heating tube of tin furnace	14.4KW		21KW
锡炉容量(比重7.5)	Tin furnace capacity(specific gravity 7.5)	480KG / 550KG	480KG / 550KG	800KG
锡炉极限承受温度	MAX temp of tin furnace	MAX: 300°C		
锡炉控温方式	Temp control method	PID+SSR		
控温精度	Control accuracy	±2°C		
波峰驱动功率	Wave driving powe	1/4 HP×2 3P 220VAC (350) —1/2 HP×2 3P 220VAC (450)		1/2HP×1+1HP×1 3P 220VAC
波峰高度调节方式	Peak height adjustment mode	变频无级调速 Inverter		
波峰高度	Wave height	0-15mm 选配Option:15-20mm		
锡炉小车	Tin furnace trolley	手动+电动锡炉小车 Manual+electronic solder pot trolley		
入口接驳装置	Inlet connection device	联动式入口接驳装置Connection inlet device (长度 Length 300mm)	联动式入口接驳装置Connection inlet device (长度 Length 500mm)	
PCB板宽度范围	Width range of PCB	50-350mm(350) / 50-450mm(450)		50-610mm
PCB板元件高度	PCB board component height	上 Top 120mm, 下 Bottom 25mm (顶部热风中 Hot air top 110mm)		
PCB入口运输高度	PCB inlet transport height	750±20mm (选配 Option:增高垫 Addtion 100mm 150mm 200mm 250mm)		
运输导轨倾角	Transport guide rail inclination	出厂 Setting: 5.5°±0.2° (4°— 7°可调 Adjsutable)		
PCB传输速度	PCB transmission speed	300-1800mm/min		300-1500mm/min
调速方式	Speed regulation mode	闭环无级变频调速 Closed-loop inverter		
调宽方式	Width adjustment mode	手动+电动调宽 Manual+electronic adjsutment		
轨道承重	Track bearing capacity	重型爪 Heavy duty finger 60KG (V/L爪 Finger) 选配 Option:普通爪 Commen30KG (V/L爪 Finger)		
运输精度	Transportation accuracy	±5%		
冷却方式	Cooling mode	强制空冷 Forced air cooling		
排风量要求	Exhaust air volume requirements	15 m³/ min x 3(通道) Exhausts 口径 Φ200mm		
助焊剂流量监控	Flux flow monitoring	选配Option 单板使用助焊剂量监控 Single board usage soldering dose monitoring		
助焊剂闭环控制	Flux closed loop control	选配: (必选独立喷雾机) 实现每块板助焊剂量精准控制 Option: (only the exteral spray fulx) Accurate control of flux amount for each board		
条码枪	Bar code gun	选配Option 绑定PCB板数据上传, 切换PCB程序 Bind PCB board data upload, switch PCB program		
锡炉钢片拖刀	Tin furnace steel sheet dragging knife	选配Option		
全程钢丝拖刀	Full process steel wire towing knife	选配Option		

备注: 参数若有更改, 恕不另行通知! The above contents are subject to change without further notice!

# SE系列波峰焊参数

SE series wave soldering parameters

型号 Model		SE-350	SE-450
外型尺寸 (L×W×H)	Dimension (L×W×H)	4445×1582×1735mm (三段预热 3 preheating zones)	
重量	Weight	1800KG	
电源	Power Supply	3P5W 380V AC 50/60Hz 63A	
总功率	Total power	37KW (+6KW/PCS 每增加一个预热模组 add one preheating)	
正常工作功率	Operating power	≤9KW	≤10KW
喷雾方式	Spray Mode	气压全喷Full air spray (选配 Option:气压选喷/超声波全喷sleective/ultrasonic spray)	
助焊剂自动添加	Flux Automatic Addition	配置耐腐蚀气动隔膜泵 Equipped with corrosion-resistant air-operated diaphragm pump	
针阀压力	Needle Valve Pressure	0.2Mpa~0.3Mpa	
助焊剂喷头	Flux Nozzle	ST-6 lumina进口雾化喷头Imported atomizing nozzle(1.3mm) 选配Option:超声波喷头/电子喷头(带雾化) ultrasonic nozzle/Electronic nozzle (with atomization)	
喷头驱动	Nozzle Drive	步进+直线轴承模块 Stepper + Linear Bearing Module	
喷雾箱风刀	Air Knife For Spray Box	喷雾箱前后配置风刀, 喷雾出口风刀后配置抽风槽 The front and rear of the spray box are equipped with air knives, and the air knives at the spray outlet are equipped with ventilation slots.	
预热方式	Preheat mode	热风预热 Hot air \ 红外预热IR	
预热器发热管	Preheater heating pipe	380VAC 3KW×2 下 Bottom 3KW×2 上Top (热风Hot air) 380VAC 1.2KW×6 下 Bottom 1.2KW×5 上Top (红外IR)	380VAC 3KW×2 下 Bottom 3KW×2 上Top (热风Hot air) 380VAC 1.5KW×6 下 Bottom 1.2KW×5 上Top (红外IR)
预热区数量	Preheat zones number	3 选配Option:上层预热 Top heating (MAX 3PCS)	
预热区长度	Preheat zone length	1800mm	
预热温度	Preheat temperature	Room~230°C	
预热控温方式	Preheating temperature control mode	PID+SSR模式	
控温精度	Control accuracy	±6°C	
炉胆材质	Furnace liner materia	铸铁+搪瓷Castiron+Enamel processing (选配Option:全钛 Full titanium alloy)	
锡炉发热管功率	Power of heating tube of tin furnace	14.4KW	
锡炉容量(锡比重7.5)	Tin furnace capacity(specific gravity 7.5)	480KG	550KG
锡炉极限承受温度	MAX temp of tin furnace	MAX: 280°C	
锡炉控温方式	Temp control method	PID+SSR模式	
控温精度	Control accuracy	±2°C	
波峰驱动功率	Wave driving powe	1/4 HP×2 3P 220VAC	1/2 HP×2 3P 220VAC
波峰高度	Wave height	0-15mm 选配Option:15-20mm	
入口接驳装置	Inlet connection device	联动式入口接驳装置 Inlet connection device (长度Length300mm)	
PCB板宽度范围	Width range of PCB	50-350mm	50-450mm
PCB板元件高度	PCB board component height	上 Top 120mm, 下 Bottom 25mm (顶部热风中 Hot air top 110mm)	
PCB入口运输高度	PCB inlet transport height	750±20mm 选配Option:增高垫 addition 100mm 150mm 200mm 250mm	
运输导轨倾角	Transport guide rail inclination	出厂: 5.5°±0.2° (4°—7°可调 adjustable)	
PCB传输速度	PCB transmission speed	500-1800mm/min (具体速度取决于实际产品工艺 The specific speed depends on the actual product process)	
调速方式	Speed regulation mode	闭环无级变频调速 closed-loop inverter	
调宽方式	Width adjustment mode	手动调宽 Manual	
轨道承重	Track bearing capacity	重型爪 Heavy duty finger 60KG (V/L爪 Finger) 选配 Option:普通爪30KG (V/L爪 Finger)	
运输精度	Transportation accuracy	±5%	
冷却方式	Cooling mode	强制空冷 Forced air cooling	
排风量要求	Exhaust Volume	15 m³/ min x 3 (通道 channel) Exhausts 口径 Φ200mm	

备注: 参数若有更改, 恕不另行通知! The above contents are subject to change without further notice!

JT波峰焊可与劲拓现有插件机、选择焊以及底部检测AOI设备在PCB插件生产工艺应用上,再次延伸升级,形成插件、焊接、检测、返修闭环式控制系统,实现“JT THT Smart Solutions”劲拓THT智慧解决方案,实现“0”缺陷。

JT wave soldering can be further extended and upgraded with existing plug-in machines, selective soldering, and bottom detection AOI equipment of Jintuo in the production process of PCB plug-ins, forming a closed-loop control system for plug-in, welding, testing, and repair, realizing the "JT THT Smart Solutions" Jintuo THT intelligent solution and achieving "0" defects.

