



SUNEAST
日 东 科 技

无铅波峰焊机系列

Lead-Free Wave Soldering System Series

■ 中国国际高新技术成果交易会—成果转换优秀项目奖
China Hi-Tech Fair--- Excellent Project Award in Achievement Transformation

■ 深圳市宝安区首届技术创新奖
The First Technical Innovation Award of Bao' an District Shenzhen City

■ 宝安区科学进步奖之专利奖
Science Improvement Award of Bao' an District--- Patent Award



服务热线Hot Line:400-611-1260

芯成科技控股有限公司
Sino ICT Holdings Limited

总公司:香港九龍尖沙咀廣東道25號港威大厦1座1101 & 1112室
Head Office:Suite 1101&1112,The Gateway Tower1, 25 Canton Road,
Tsim Sha Tsui, Kowloon, Hong Kong
Tel: (852) 6918 0842 Fax: (852) 2343 3120

日东智能装备科技(深圳)有限公司
Suneast Intelligent Equipment Technology(Shenzhen)Co.,Ltd

深圳公司:深圳市宝安区福永街道白石厦东区新塘日东工业园
Shenzhen Office: Suneast Ind.Park, Xintang Ind. Zone, Bai Shixia
Community, Fuyong Street, Bao' an Dist., Shenzhen
Reception Tel: (86-755)27330313 Sales Tel: (86-755) 33371695

中国设立多个办事处,分布在:苏州、宁波、杭州、青岛、天津、西安、郑州、太原、成都、重庆、武汉、南昌、湖南、厦门
Suneast has set up several offices in China, which are located in: Suzhou, Ningbo, Hangzhou, Qingdao, Tianjin, Xi'an, Zhengzhou, Taiyuan, Chengdu,
Chongqing, Wuhan, Nanchang, Hunan, Xiamen.

www.suneast.com.cn

公司简介

Company profile

日东科技1984年成立于香港, 1999年在深圳建立工业园, 2000年在香港上市 (股票代码0365.HK), 为芯成科技控股旗下核心企业。

日东科技配备了现代化的产业园和先进的研发实验设施, 具有雄厚的研发、设计、生产、自动化、信息化装备制造的系统集成能力, 销售网络遍布全球。与清华大学、香港中文大学、香港科技大学、哈尔滨工业大学达成技术战略合作研发实力达到国内外先进水平。

在粤港澳大湾区的核心地带, 日东科技已服务半导体后端应用客户超过四十年, 公司的下游及终端客户包括华为、中兴、TCL、富士康、木林森、光弘、德赛、聚飞等。公司自主研发的回流焊、波峰焊、选择性波峰焊、垂直炉、印刷机等产品在行业内始终保持技术领先地位, 为国内外众多知名企业提供了专业的电子装备解决方案。“龙门双驱同步跟随直线电机”已成功应用到多个高速、高精度的装备制造和加工领域, 得到用户的广泛赞誉。新推出IC贴合机等半导体封装设备, 是日东科技的又一匠心力作, 助力国产芯片产业发展壮大。如今, 日东科技已成为中国智能装备行业的领导者。

作为芯成科技控股的核心企业, 日东科技将坚定集团的战略目标, 打造成为高科技领域的世界级一流企业。

Founded in Hong Kong in 1984, Suneast technology established its industrial park in Shenzhen in 1999 and listed on the main board of Hong Kong stock exchange in 2000 (Stock Code: 0365. HK), which is the core enterprise under Sino ICT Holdings Limited.

With modern industrial parks and advanced R&D facilities, Suneast technology has strong system integration capabilities in R&D, design, production, automation and information equipment manufacturing. Its sales network is all over the world. Suneast technology has been achieved technical strategic cooperation with Tsinghua University, Chinese University of Hong Kong, Hong Kong University of Science and Technology and Harbin Institute of Technology, and its R&D capabilities has reached the advanced level at home and abroad.

In the core area of Guangdong-Hong Kong-Macao Greater Bay Area, Suneast technology has served semiconductor back-end application customers for more than 40 years, its downstream and end customers include Huawei, ZTE, TCL, Hikvision, MLS LIGHTING, DBG, DESAYSV AUTOMOTIVE, SHENZHEN MTC, JFLED, etc.

The independent R&D products, like reflow oven, wave soldering machine, selective soldering machine, vertical oven, printer and etc has always maintained a leading position in technology, and provided professional electronic equipment solutions for many well-known enterprises at home and abroad. The dual drive gantry synchronous follow linear motor technology has been successfully applied to a number of high-speed and high-precision equipment manufacturing and processing fields, and gains great praise by users. The new semiconductor packaging equipment, like chip bonder is the masterpiece of Suneast technology, which helps the development of domestic chip industry. Today, Suneast technology has become the leader of China's intelligent equipment industry.

As the core enterprise of Sino ICT Holdings, Suneast technology will strengthen the strategic goal of the group and become a world-class enterprise in the field of high technology.



产品目录

Catalogue

UXT 系列 无铅波峰焊机 (新型高端机) UXT Series Lead-free Wave Soldering Machine (New high-end machine)	01
SST-350 柔性模组式无铅波峰焊机 (全面升级) SST-350 Flexible Modular Lead-free Wave Soldering Machine (Overall Upgrade)	03
PERFECTFLOW 系列 隧道式全程密封氮气波峰焊 PERFECTFLOW series Tunnel type full sealing nitrogen filled wave soldering machine	05
E-FLOW 系列 柔性模组式无铅波峰焊机 E-FLOW Series Flexible Modular Lead-free Wave Soldering Machine	07
ETS 系列 柔性模组式无铅波峰焊机 ETS Series Flexible Modular Lead-free Wave Soldering Machine	11
UXT 系列 产品规格表 UXT Series Specification	13
SST-350 产品规格表 SST-350 Specification	14
PERFECTFLOW 系列 产品规格表 PERFECTFLOW Series Specification	15
E-FLOW 系列 产品规格表 E-FLOW Series Specification	16
ETS 系列 产品规格表 ETS Series Specification	18
SF-350 环保型助焊剂喷雾机 SF-350 Eco-friendly Flux sprayer	19
链爪类型 Finger Type	20
全能波峰焊测试仪 Wave Explorer	21
波峰焊可选项 Options for wave soldering system	22

锡炉系统四大新技术

Breakthrough technologies

一. 采用喷嘴与PCB垂直喷涂助焊剂, 以提高喷涂的均匀性和穿透性 Spray nozzle and vertical position of the PCB spray soldering flux	23
二. 采用铸铁表面镀陶瓷炉胆, 可提高炉胆寿命 Ceramics coating of soldering pot	24
三. 采用新流道, 新喷口等降低氧化量装置, 有效降低客户运行成本 New Flow Channel and Spray nozzle	24
四. 采用新型叶轮及流道设计, 提高波峰平稳性 New impeller and passage design	26

UXT 系列

无铅波峰焊机 (新型高端机) UXT Series Lead-free Wave Soldering Machine (New high-end machine)

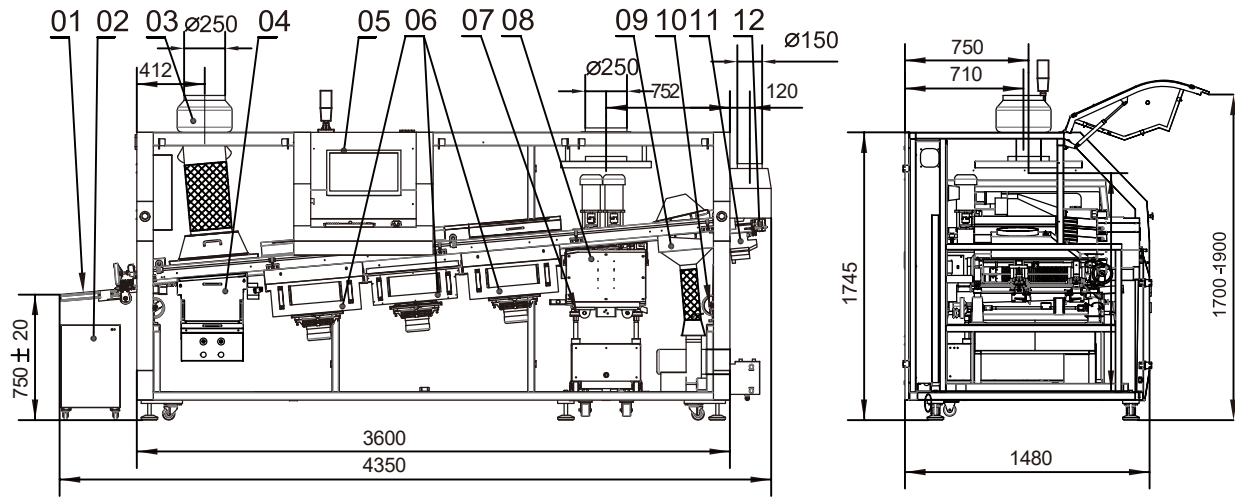
产品简介 Product Introduction

UXT系列以客户需求为导向,采用模块化、数字化及人性化设计,在功能、性能、稳定性及可靠性、安全性、可维护性、易操作性及人性化方面具有良好的优越性,既为客户降低了运营成本,也为客户保质保量生产合格的产品提供了有力的保障,可谓波峰焊产品领域的“巅峰”之作,客户投资首选的“品牌产品”。

UXT series oven is based on customer demand and adopts modular, digital and humanized design. With superiority in function, performance, stability, reliability, security, maintainability, operability and humanization, it doesn't only reduce the operating cost, but also provides qualified products for quality, quantity and production with strong guarantee. It can be described as the "peak" work in the field of Wave soldering products, and the preferred "brand products" for customer investment.



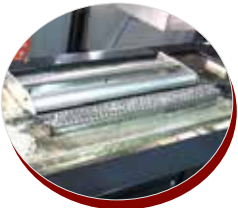
- | | |
|------------|-----------------------------|
| 01 接驳系统 | Buffer system |
| 02 助焊剂供给系统 | Flux supply system |
| 03 排风系统 | Exhaust fan |
| 04 助焊剂喷雾系统 | Flux spray system |
| 05 液晶显示器 | LCD |
| 06 预热器 | Pre-heater |
| 07 锡炉升降装置 | Solder pot lifting unit |
| 08 双波峰锡炉 | Dual wave solder pot |
| 09 冷却系统 | Cooling system |
| 10 角度调节 | Angle adjustment controller |
| 11 洗爪装置 | Finger cleaning system |
| 12 运输系统 | Conveyor system |



喷雾单元一体化 (可选配选择性喷雾装置)
Integrated spray fluxer unit
(selective spray device is optional)



预热系统抽屉式模块化
Drawer type and modular
structure preheating zones



锡炉内胆采用精铸铁材料
Cast iron soldering pot with
special anti-corrosion coating



手动调宽数字显示
Manual width adjustment
with digital display



锡炉电动/手动升降进出
Solder pot electric/manual
lifting in and out

产品特点 Characteristics

- 运输系统采用分段浮动式结构,有效防止导轨变形,新型钛合金双钩爪,不粘锡,直联式入板接驳,铝制导轨,进板更顺畅。
- 喷雾单元一体化模块设计,通过快速接插件同主机连接,喷嘴采用新式精密型喷嘴,可达到高效率、雾化均匀的涂敷效果,可满足水剂助焊剂的工艺要求。
- 预热系统采用微热风+远红外发热管方式,三段预热温区,抽屉式模块化设计,灵活选择混合预热模式。温度均匀稳定。
- 强制自然风冷却系统。(冷水机为选项)
- 锡炉系统,内胆采用特殊材料,内表面防腐蚀处理。(新型喷口固定方式,便于装卸;自动导流装置,便于收集锡渣,波峰形状可调节)锡炉温度控制精度 $\pm 2^{\circ}\text{C}$,锡炉进出、升降电动手动均可,操作方便。
- Windows 10操作系统,中/英文智能软件,具有参数设定、保存、重复利用,远程监控功能。工艺曲线/数据自动存储功能,温度曲线测试功能。

- The transportation system adopts section floating structure, effectively prevent guide rail deformation, new titanium alloy double hook finger, non-stick tin, direct linkage buffering, aluminum guide rail, more smooth.
- Spray unit integrated module design, through the fast connector connected with the machine; adopts new precision nozzle, which can achieve high efficiency, uniform atomization coating effect and meet the process requirements of water flux.
- The preheating system adopts micro-hot air + infrared heating tube, three-section preheating temperature zone, drawer type modular design, flexible selection of mixed preheating mode, uniform and stable temperature.
- Forced air cooling system (Water chiller is optional).
- The solder pot system adopts special material for pot, and anti-corrosion treatment for inner surface. (New nozzle fixed mode, easy to remove and assembly; the solder pot temperature control precision is $\pm 2^{\circ}\text{C}$; solder pot electric/manual lifting in and out, easy to operate.
- Windows 10 operating system, Chinese/English intelligent software, with parameter setting, saving, reuse, remote monitoring functions. Process profile/data automatic storage function, temperature profile test function.

SST-350

柔性模组式无铅波峰焊机 (全面升级) SST-350 Flexible Modular Lead-free Wave Soldering Machine (Fully upgrade)

产品简介 Product Introduction

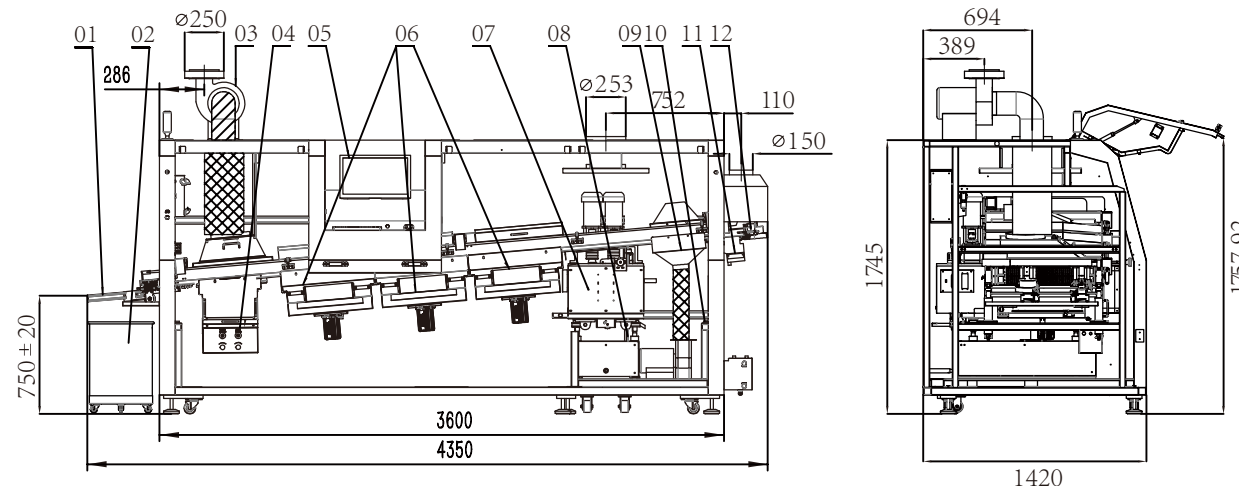
SST系列是一款以满足客户需求为导向,全面升级的波峰焊。增强型模块化、数字化和人性化设计,功能更完善,性能更先进,稳定性和可靠性进一步提高,操作维护性更便利,客户运营成本进一步下降。

SST series is a fully upgraded wave soldering with enhanced modular, digital and humanized design to meet customer needs, With more perfect function, more advanced performance, further improved stability and reliability, the operation and maintenance is more convenient, and the customer operation cost is reduced more.



CE
(可选配 Option)

- | | |
|------------|-----------------------------|
| 01 接驳系统 | Buffer system |
| 02 助焊剂供给系统 | Flux supply system |
| 03 排风系统 | Exhaust fan |
| 04 助焊剂喷雾系统 | Flux spray system |
| 05 液晶显示器 | LCD |
| 06 预热器 | Pre-heater |
| 07 双波峰锡炉 | Dual wave solder pot |
| 08 锡炉升降装置 | Solder pot lifting unit |
| 09 冷却系统 | Cooling system |
| 10 角度调节 | Angle adjustemnt controller |
| 11 洗爪装置 | Finger cleaning system |
| 12 运输装置 | Conveyor system |



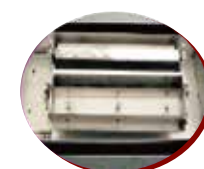
内置喷雾装置
Built in spraying unit



顶部抽风, 过滤系统
Top exhausting and filtering System



强制冷却系统
Forced cooling system



无铅工艺喷嘴
Lead-free processing nozzle



可任意组合预热系统
Flexible combination of preheating system



锡炉电动升降进出
Solder pot is motorized in/out/up/down

产品特点

Characteristics

- 传输系统: 直联式入板结构, 特制不锈钢链条传输, 铝合金导轨独特设计, 经久耐用; 运输系统: 采用分段浮动式结构, 有效防止导轨变形;
- 预热系统: 采用抽屉式模组式节能设计, 红外、热风任意组合, 温度控制采用PID方式, 使温控精度达到 $\pm 2^{\circ}\text{C}$, 预热区与焊接区的温度下降值 $\leq 5^{\circ}\text{C}$;
- 喷雾系统: 采用精密型调节阀进行数字化调节, 方便管理。喷嘴移动采用步进马达控制。助焊剂自动稳压供给, 可使喷雾流量迅速达到饱和, 顶部抽风, 过滤系统;
- 锡炉采用外热式加热, 锡炉内胆采用铸铁制作, 内表面防腐处理, 两个低流速喷嘴、低氧化量设计;
- 强制式冷却系统, 保证冷却速度在 $4\sim 6^{\circ}\text{C}/\text{秒}$ (可调);
- PC+PLC控制系统, Windows 10 操作系统, 中/英文操作界面, 工艺曲线/数据自动存储功能, 助焊剂液面过低过高报警; 锡液面过低报警。

- Conveyor: Direct buffering input structure. Stainless steel chain conveyor, durable and special design for aluminum alloy track. Adopt segment floating structure to prevent from deformation
- Pre-heating zones: Design for energy saving and removable modules (drawer design). Any combination of infrared and hot air convection. Use PID control to achieve $\pm 2^{\circ}\text{C}$ accuracy. The temperature variation for pre-heating zone and soldering zone is less than 5°C
- Flux spraying system: Managed by digital control. The motion of the spray nozzle is controlled by stepper motor. Flux supply is controlled automatically for optimized effect. Exhausting and filter system installed on the top
- The solder pot is made by cast iron with anti-corrosion ceramic coating equipped with two low flow rate nozzles
- Air cooling system: cooling rate $4\sim 6^{\circ}\text{C}/\text{s}$ (adjustable)
- PC+PLC control system. Windows10 operation system with Chinese/English operation interface. Processing profile and data auto saving function. Alarm for detecting the flux and solder level

PERFECTFLOW 系列

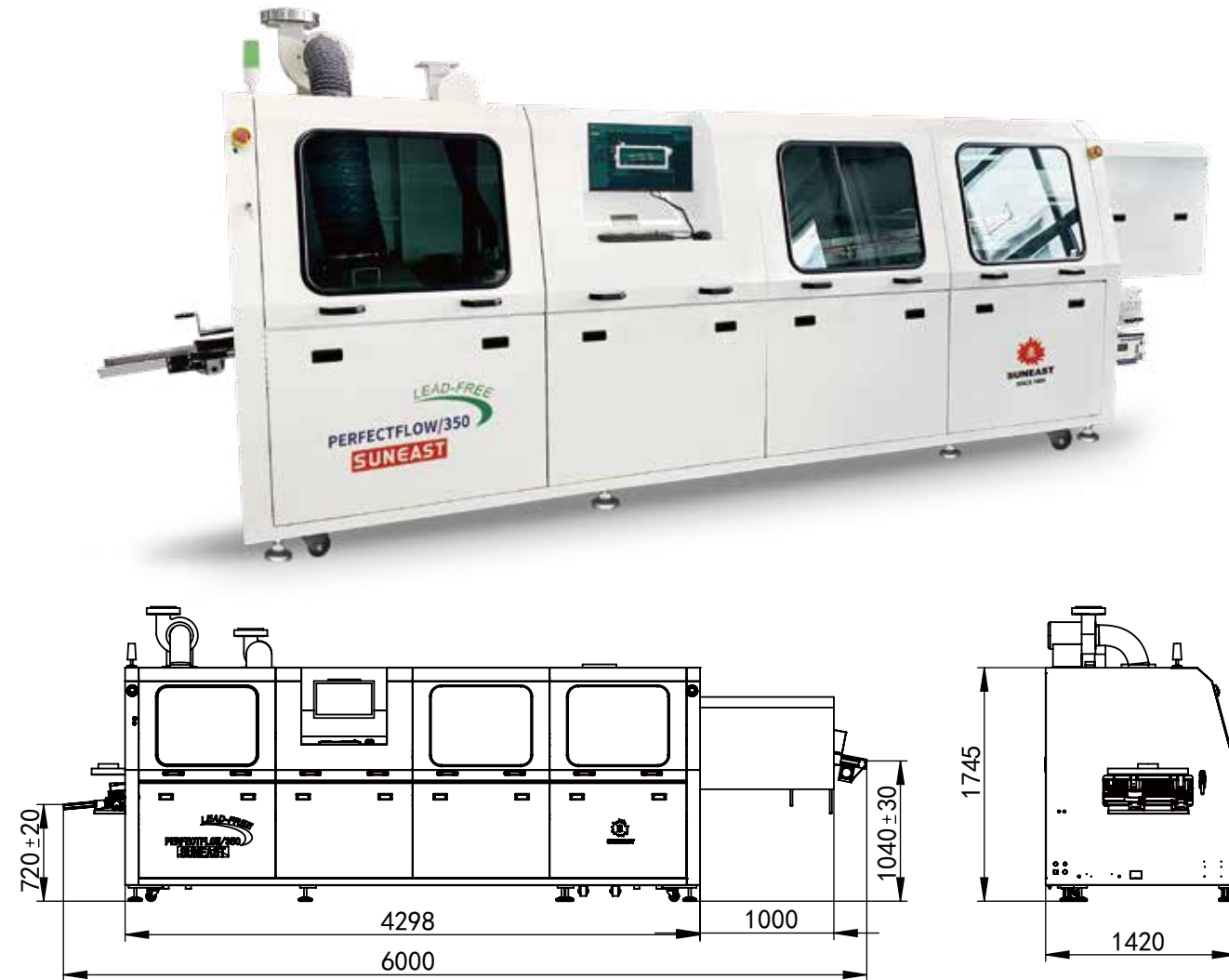
隧道式全程密封氮气波峰焊

Tunnel type full sealing nitrogen filled wave soldering machine PERFECTFLOW series

产品简介 Product Introduction

PERFECTFLOW 系列是隧道式全程密封氮气波峰焊机，采用全球首创的焊接区域密封解决方案和创新的分段传输方案，完美地应对了焊接工艺角度灵活可调的需求，板底过板空间加大的需求，解决了常规隧道式波峰焊的分段输送卡板问题，使用操作维护不便等问题，将波峰焊接氮气保护工艺的应用效果发挥到极致，极大地提升了隧道式波峰焊设备性能和焊接工艺品质。

PERFECTFLOW series is a tunnel type full sealing nitrogen filled wave soldering system. It adopts the world's first sealing solution for welding zone and the innovative segmented conveying solution, which perfectly meets the requirements of flexible welding process angle and enlarges the bottom space of boards, which solves the jamming, inconvenience in operation and maintenance problems of segmented conveyor in common wave soldering machine. It can extremely play the application effect of the nitrogen protection process of wave soldering, and greatly improve the performance of tunnel type wave soldering equipment and welding process quality.



喷雾单元一体化（可选配选择性喷雾装置）
Integrated spray fluxer unit
(selective spray device is optional)

轨道焊接工艺角度灵活可调
The welding process angle of rails is flexible and adjustable

板底空间可根据需求灵活配置
The bottom space can be flexibly configured according to requirements

配置氧分仪，可监控残氧量
Equipped with oxygen separator for monitor remaining oxygen

配置透明玻璃观察窗
Transparent glass viewing window

锡炉电动升降进出
Solder pot is motorized in/out/up/down

产品特点

Characteristics

- 运输系统：采用分段浮动式结构，有效防止导轨变形；创新的分段传输方案，产品输送更顺畅；板底过板空间可灵活配置；
- 预热系统：采用抽屉式模组式节能设计，红外、热风任意组合，温度控制采用PID方式，预热与锡炉过渡段配置红外热补偿，有效减少掉温；
- 焊接系统：锡炉采用外热式加热，锡炉内胆采用铸铁制作，内表面防腐蚀处理；锡炉四周采用特制弹性材料密封，配置电动锡炉，锡炉可自由升降进出；
- 充氮系统：采用全球首创的焊接区域密封解决方案，焊接角度灵活可调；配置氧分仪，可监控残氧量；
- PC+PLC控制系统，Windows 10 操作系统，中/英文操作界面，工艺曲线/数据自动存储功能，助焊剂液面过低过高报警；锡液面过低报警。

- Conveyor system: adopts the segmented floating structure to effectively prevent the deformation of guide rail; innovative segmented conveying system, smoother conveying; the space of the bottom side of the board can be flexibly configured.
- Preheating system: adopts the drawer type module energy-saving design, infrared and hot air convection heating can be combined as required, PID temperature control mode, with infrared heat compensation between the preheating zones and soldering unit which effectively reduce temperature loss.
- Soldering system: The solder pot is heated by external heat, the inner liner of the solder pot is made of cast iron, and treated with anti-corrosion; the solder pot is sealed with special elastic material and equipped with electric mode solder pot, which can be lifted, moved up and down freely.
- Nitrogen filled system: the world's first sealing solution for welding zone, Flexible welding process angle; equipped with oxygen separator for monitoring the remaining oxygen
- PC+PLC control system, Windows 10 operation system, Chinese/English operation interface, process profile/data automatic storage function, over or under level of flux liquid alarm, low tin level alarm.

E-FLOW 系列

柔性模组式无铅波峰焊机

E-FLOW Series Flexible Modular Lead-free Wave Soldering Machine

四大提升 Four major improvements

1.

运输系统：采用全新结构设计，使用耐磨材料，大大提升导轨的使用寿命。

Conveyor system: Structure with anti-wearing material for longer lifetime.

2.

预热系统：优化热风循环路径，温区内温度更均匀稳定。

Preheating system: Optimized hot air circulation, the temperature is more stable and even.

3.

喷雾抽风系统：采用全新理念，分体式设计，维护保养，方便快捷。

Exhausting system: Adopt new concept, separate design, easy for maintenance.

4.

内置局部选择喷雾装置(选配)：是步进电机通过同步带及滚珠丝杆，直线导轨等作X和Y方向的运动来实现局部选择喷涂助焊剂

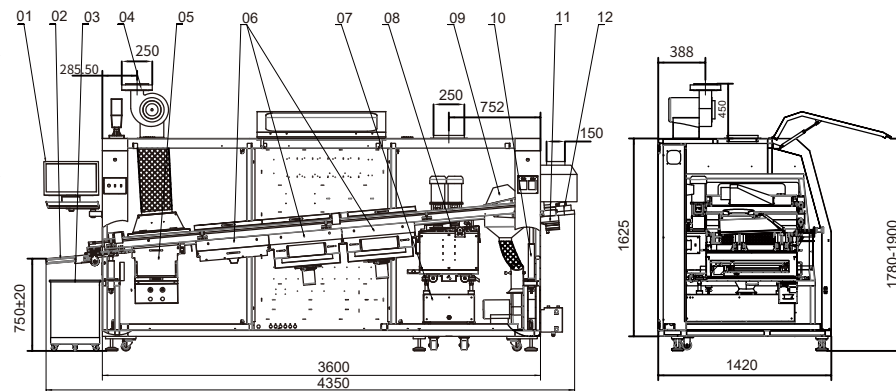
Built-in selective spraying unit(option): through synchronous belt, ball screw, linear guide rail for X and Y direction movement, the step motor will achieve local selection for spraying flux.

- 01 液晶显示器
- 02 接驳系统
- 03 助焊剂自动供给系统
- 04 排风风机
- 05 助焊剂喷雾系统
- 06 预热器
- 07 锡炉升降装置
- 08 双波峰锡炉
- 09 冷却系统
- 10 角度调节
- 11 洗爪装置
- 12 运输系统

- LCD
- Buffer system
- Auto-supplying Flux system
- Exhaust fan
- Flux spraying system
- Pre-heater
- Solder pot lifting unit
- Dual wave solder pot
- Cooling system
- Angle adjustment controller
- Finger cleaning system
- Conveyor system



CE
(可选配 Option)



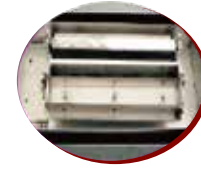
内置局部选择喷雾装置 (选配)
Built-in partial selective spraying device (Option)



顶部抽风，过滤系统
Top exhausting and filtering System



强制冷却系统
Forced cooling system



无铅工艺喷嘴
Lead-free processing nozzle



可任意组合预热系统
Flexible combination of preheating system



重载传输系统
Heavy-duty conveying system

产品特点

Characteristics

- 传输系统：直联式入板结构，特制不锈钢链条传输，铝合金导轨独特设计，经久耐用；运输系统：采用分段浮动式结构，有效防止导轨变形；
- 预热系统：采用抽屉式模组式节能设计，红外、热风任意组合，温度控制采用PID方式，使温控精度达到 $\pm 2^{\circ}\text{C}$ ，预热区与焊接区的温度下降值 $\leq 5^{\circ}\text{C}$ ；
- 喷雾系统：采用精密型调节阀进行数字化调节，方便管理。喷嘴移动采用步进马达控制。助焊剂自动稳压供给，可使喷雾流量迅速达到饱和，顶部抽风，过滤系统；
- 锡炉采用外热式加热，锡炉内胆采用铸铁制作，内表面防腐处理，两个低流速喷嘴、低氧化量设计；
- 强制式冷却系统，保证冷却速度在 $4\sim 6^{\circ}\text{C}/\text{s}$ （可调）；
- PC+PLC控制系统，Windows 10 操作系统，中/英文操作界面，工艺曲线/数据自动存储功能，助焊剂液面过低过高报警；锡液面过低报警。

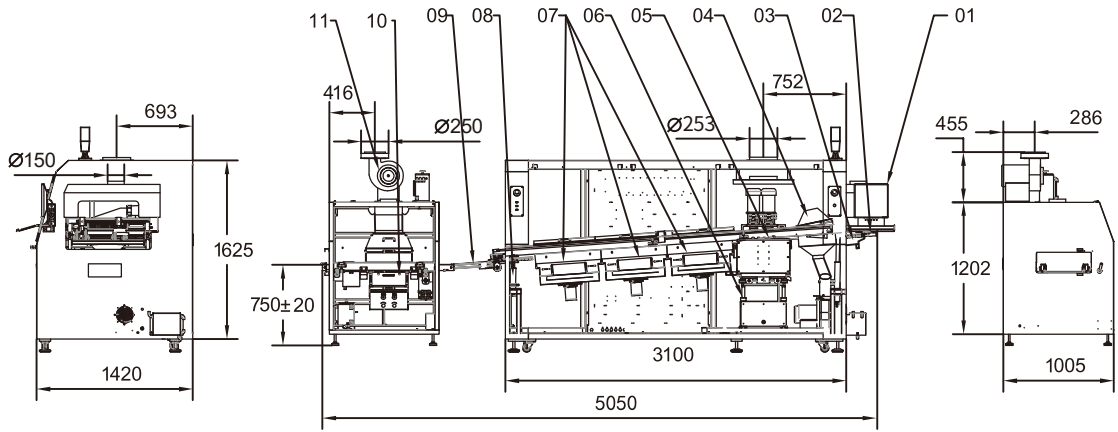
- Conveying system: Direct buffering structure. Special stainless steel chain conveying aluminum alloy rail unique design, durable; Transportation system: adopt segmental floating structure, effectively prevent guide rail deformation;
- Preheating system: Adopts drawer type module with energy-saving design, infrared, hot air convection for any combination, PID temperature control mode, so that the temperature control accuracy reaches to be $\pm 2^{\circ}\text{C}$, preheating area and soldering area temperature drop value $\leq 5^{\circ}\text{C}$;
- Adopt precision control valve for digital regulation, convenient management. Nozzle movement is controlled by stepping motor. Flux automatic pressure supply, which makes the spray flow quickly reach saturation, top exhausting and filtration system;
- The solder pot is made by cast iron with anti-corrosion ceramic coating equipped with two low flow rate nozzles
- Air cooling system: cooling rate $4\sim 6^{\circ}\text{C}/\text{s}$ (adjustable)
- PC+PLC control system. Windows10 operation system with Chinese/English operation interface. Processing profile and data auto saving function. Alarm for detecting the flux and solder level

E-FLOW-Z 系列

喷雾外置无铅 波峰焊接机（全面升级） External spray lead-free wave soldering machine (Fully upgrade)

五大特点 Five Features

- 喷雾外置，杜绝安全隐患，易维护、保养
 - 预热系统：采用高效马达，热效率高
 - 运输系统：采用独特设计，运输平稳、杜绝抖爪
 - 喷雾抽风系统：采用上抽风+下侧抽风+隔离风刀，最大限度杜绝异味溢出
 - 抽烟罩系统：抽烟效率高，可增加防异物滴落设计，杜绝品质隐患
- External spraying unit: eliminate safety risks, easy maintenance.
 - Preheating system: adopts high energy efficiency motor with high thermal efficiency.
 - Conveying system: adopts special design for smooth conveying and prevent finger shaking.
 - Exhausting system of spraying: adopts upper and lower exhausting and air knife for separating, to eliminate odor overflow.
 - Exhausting hood system: with high exhausting efficiency, anti foreign matter dripping design can be added , to eliminate quality trouble.



- 01 液晶显示器

02 运输系统

03 洗爪装置

04 冷却系统

05 双波峰锡炉

06 锡炉升降装置

07 预热器

08 角度调节

09 接驳系统

10 助焊剂喷雾系统

11 排风风机
- LCD

Conveyor system

Finger cleaning system

Cooling system

Dual wave solder pot

Solder pot lifting unit

Pre-heater

Angle adjustment controller

Buffer system

Flux spraying system

Exhaust fan

- 外置喷雾（可选配选择性喷雾装置）
External spraying unit (option: selective spraying system)
- 顶部抽风，过滤系统
Top exhausting and filtering System
- 强制冷却系统
Forced cooling system
- 无铅工艺喷嘴
Lead-free processing nozzle
- 可任意组合 预热系统
Flexible combination of preheating system
- 重载传输系统
Heavy-duty conveying system

产品特点 Characteristics

- 传输系统：直联式入板结构，特制不锈钢链条传输，铝合金导轨独特设计，经久耐用；运输系统：采用分段浮动式结构，有效防止导轨变形；
 - 预热系统：采用抽屉式模组式节能设计，红外、热风任意组合，温度控制采用PID方式，使温控精度达到±2℃，预热区与焊接区的温度下降值≤5℃；
 - 喷雾系统：采用精密型调节阀进行数字化调节，方便管理。喷嘴移动采用步进马达控制。助焊剂自动稳压供给，可使喷雾流量迅速达到饱和，顶部抽风，过滤系统；
 - 锡炉采用外热式加热，锡炉内胆采用铸铁制作，内表面防腐处理，两个低流速喷嘴、低氧化量设计；
 - 强制式冷却系统，保证冷却速度在4~6℃/秒（可调）；
 - PC+PLC控制系统，Windows 10 操作系统，中/英文操作界面，工艺曲线/数据自动存储功能，助焊剂液面过低过高报警；锡液面过低报警。
- Conveying system: Direct buffering structure.Special stainless steel chain conveying aluminum alloy rail unique design, durable; Transportation system: adopt segmental floating structure, effectively prevent guide rail deformation;
 - Preheating system: Adopts drawer type module with energy-saving design, infrared, hot air convection for any combination, PID temperature control mode, so that the temperature control accuracy reaches to be ±2℃, preheating area and soldering area temperature drop value ≤5℃;
 - Adopt precision control valve for digital regulation, convenient management. Nozzle movement is controlled by stepping motor. Flux automatic pressure supply, which makes the spray flow quickly reach saturation, top exhausting and filtration system;
 - The solder pot is made by cast iron with anti-corrosion ceramic coating equipped with two low flow rate nozzles
 - Air cooling system: cooling rate 4-6℃ /s (adjustable)
 - PC+PLC control system. Windows10 operation system with Chinese/English operation interface. Processing profile and data auto saving function. Alarm for detecting the flux and solder level

ETS-300 系列

柔性模组式无铅波峰焊机

ETS-300 Flexible Modular Lead-free Wave Soldering Machine

五大特色

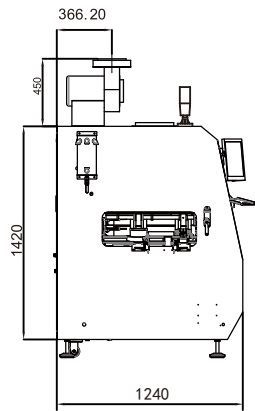
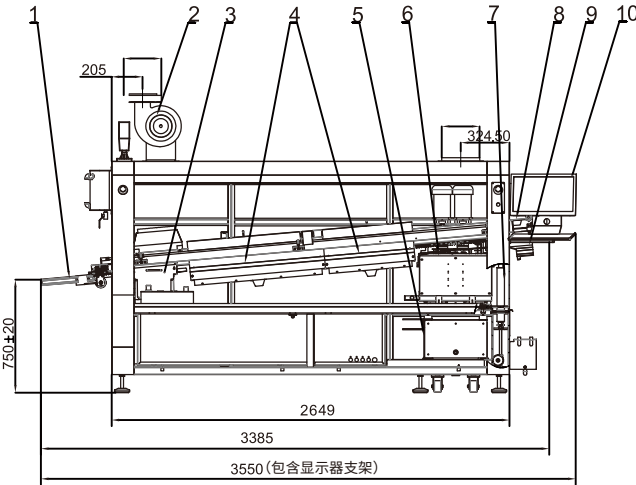
Five Characteristics

- 结构紧凑，占地面积小，节省场地。
 - PC+PLC控制系统
 - 红外预热，热效率高，温度均匀性好。
 - 喷雾采用步进马达驱动，更加平稳可靠。
 - 采用缩小容量锡炉，降低成本投入。
- Compact structure and small footprint.
 - PC+PLC control system.
 - IR preheating, high thermal efficiency and uniform temperature.
 - Step motor control spraying, more stable and reliable.
 - Adopts small solder pot, reduces the cost.



CE
(可选配 Option)

- | | |
|------------|-----------------------------|
| 01 接驳系统 | Buffer system |
| 02 排风风机 | Exhaust fan |
| 03 助焊剂喷雾系统 | Flux spraying system |
| 04 预热器 | Pre-heater |
| 05 锡炉升降装置 | Solder pot lifting unit |
| 06 双波峰锡炉 | Dual wave solder pot |
| 07 角度调节 | Angle adjustment controller |
| 08 冷却系统 | Cooling system |
| 09 洗爪装置 | Finger cleaning system |
| 10 液晶显示器 | LCD |



内置喷雾装置
Built-in Spraying Device



预热系统抽屉式模块化
Drawer type module preheating unit



联动式入板接驳
Linkage Inlet Buffering



精铸铁内胆锡炉
Solder Pot with Cast Iron Material

产品特点

Characteristics

- 传输系统：直联式入板结构，特制不锈钢链条传输，铝合金导轨独特设计，经久耐用；运输系统：采用分段浮动式结构，有效防止导轨变形；
- 预热系统：采用抽屉式模组式节能设计，红外预热，温度控制方式采用PID方式，使温控精度达到 $\pm 2^{\circ}\text{C}$ ，预热区与焊接区的温度下降值 $\leq 5^{\circ}\text{C}$ ；
- 喷雾系统：采用精密型调节阀进行数字化调节，方便管理。喷嘴移动采用步进马达控制。助焊剂自动稳压供给，可使喷雾流量迅速达到饱和，顶部抽风，过滤系统；
- 锡炉采用外热式加热，锡炉内胆采用铸铁制作，内表面防腐蚀处理，两个低流速喷嘴、低氧化量设计；
- 强制自然风冷却系统；
- PC+PLC控制系统，Windows 10 操作系统，中/英文操作界面，工艺曲线/数据自动存储功能，助焊剂液面过低过高报警；锡液面过低报警。

- Conveying system: Direct buffering input structure. Special stainless steel chain transmission, aluminum alloy rail unique design, durable; Conveying system: adopt segmental floating structure, effectively prevent guide rail deformation;
- Preheating system: Drawer-type energy-saving design. IR preheating, PID mode temperature control, the temperature accuracy can reach to $\pm 2^{\circ}\text{C}$; the dropping temperature between preheating zone and soldering zone is $\leq 5^{\circ}\text{C}$;
- Flux spraying system: Adopt precision control valve for digital regulation, convenient management. Nozzle movement is controlled by stepping motor. Flux automatic pressure supply, can make the spray flow quickly reach saturation, top exhaust, filtration system;
- The solder pot adopts external heating, it is made of cast iron, the inner surface is anticorrosive treatment, with two low-flow nozzle and low oxidation design;
- Forced air cooling system;
- PC+PLC control system. Windows 10 operation system with Chinese/English operation interface. Processing profile and data auto saving function. Alarm for detecting the flux and solder level.

规格

Specifications

型号 Model NO.	UXT-350	UXT-450	UXT-610
外形尺寸 Dimension: L*W*H(mm)	4350*1480*1750	4350*1580*1750	4350*1740*1750
重量 Weight	Approx.1800kg	Approx.1950kg	Approx.2150kg
电源 Power Supply	3PH 380V 50HZ	3PH 380V 50HZ	3PH 380V 50HZ
启动功率 Start up Power	32KW	32KW	45KW
正常运行功率 Normal Running Power	Approx.8KW	Approx.8.5KW	Approx.11KW
控制系统 Control System	PC+PLC/日东智能控制卡 PC+PLC/Suneast intelligent control card		
喷雾移动 Spraying movement	步进马达(Step motor)	步进马达(Step motor)	步进马达(Step motor)
喷雾气压 Spraying Pressure	0.2Mpa~0.4Mpa	0.2Mpa~0.4Mpa	0.2Mpa~0.4Mpa
助焊剂流量控制 Flux Flow Control	Option	Option	Option
助焊剂自动添加 Auto Flux Filling	标配(Standard)	标配(Standard)	标配(Standard)
抽风方式 Exhausting	上抽风(Top exhaust)+侧抽风(Side exhaust)	上抽风(Top exhaust)+侧抽风(Side exhaust)	上抽风(Top exhaust)+侧抽风(Side exhaust)
抽风管直径 Exhausting Pipe Diameter(mm)	Φ250	Φ250	Φ250
排风量 Exhaust Capacity	30m³/min	30m³/min	30m³/min
预热方式 Preheating Mode	微热风/红外(Hot air convection/IR)	微热风/红外(Hot air convection/IR)	微热风/红外(Hot air convection/IR)
温度控制方式 Temperature Control Mode	PID	PID	PID
预热区数量 Preheating Zone Quantity	3	3	3
预热区长度 Preheating Zone Length(mm)	1800	1800	1800
预热温度可调范围 Preheating Temperature Range	温室(Room temperature)~200℃	温室(Room temperature)~200℃	温室(Room temperature)~200℃
预热升温时间 Warm-up Time(min)	Approx.12min(setting: 150℃)	Approx.12min(setting: 150℃)	Approx.12min(setting: 150℃)
热风马达 Preheating Blower Motor	250W 3PH 220 VAC	250W 3PH 220 VAC	250W 3PH 220 VAC
宽度范围 Width(mm)	50~350	50~450	50~610
PCB传送方向 PCB Conveying Direction	L→R(Option:R→L)	L→R(Option:R→L)	L→R(Option:R→L)
传送速度范围 Conveying Speed(mm/min)	500~1800	500~1800	500~1800
运输高度 Conveying Height(mm)	750±20	750±20	750±20
允许PCB元件高度 Available Component Height(mm)	上(Top) 120 (Option:240) 下(Bottom)15	上(Top) 120 (Option:250) 下(Bottom)15	上(Top) 120 (Option:250) 下(Bottom)15
速度控制方式 Conveying Speed Control Mode	变频器闭环无级调速(Closed loop stepless speed regulation by inverter)	变频器闭环无级调速(Closed loop stepless speed regulation by inverter)	变频器闭环无级调速(Closed loop stepless speed regulation by inverter)
爪 Finger	弹簧压片爪(Spring Pressing Finger);D-40型鸭嘴爪(D-40 Type Finger);双钩爪(Double-hook Finger);重型双钩爪(Heavy type double hook finger)任选其一(Options)	弹簧压片爪(Spring Pressing Finger);D-40型鸭嘴爪(D-40 Type Finger);双钩爪(Double-hook Finger);重型双钩爪(Heavy type double hook finger)任选其一(Options)	重型双钩爪(Heavy type double hook finge) Option:治具专用爪(Special jig for fixture)
导轨角度 Conveying Angle	4~7°	4~7°	4~7°
锡炉类型 Solder Pot Type	机械式(Mechanical)	机械式(Mechanical)	机械式(Mechanical)
锡炉材质 Solder Pot Material	铸铁(Casting Iron)	铸铁(Casting Iron)	铸铁(Casting Iron)
波峰调节方式 Wave Height Adjustment	变频器(Inverter):电脑数字控制(Digital Control by PC)		
冷却方式 Cooling type	强制风冷(Air Cooling) Option:冷水机(Water cooling)		
锡炉加热功率 Solder Pot Heating Power	13.5KW	13.5KW	18KW
锡炉最高温度 Max Solder Pot Temperature	300℃	300℃	300℃
锡炉容量 Solder Pot Capacity	Approx.480kg	Approx.550kg	Approx.640kg
波峰驱动功率 Wave Driving Power	180W*2 3PH 220 VAC	180W*2 3PH 220 VAC	180W*2 3PH 220 VAC
锡炉升温时间 Solder Pot Warm-up Time	Approx.150min(setting: 250℃)	Approx.150min(setting: 250℃)	Approx.150min(setting: 250℃)
炉温控制方式 Temperature Control Mode	PID	PID	PID
洗爪系统 Finger Cleaning System	毛刷(Brush)	毛刷(Brush)	毛刷(Brush)

型号 Model NO.	SST-350
外形尺寸 Dimension: L*W*H(mm)	4350*1420*1750
重量 Weight	Approx.1600kg
电源 Power Supply	3PH 380V 50HZ
启动功率 Start up Power	33KW
正常运行功率 Normal Running Power	8KW
控制系统 Control System	PC+PLC/日东智能控制卡 PC+PLC/Suneast intelligent control card
喷雾移动 Spraying movement	步进马达(Step motor)
喷雾气压 Spraying Pressure	0.2Mpa~0.4Mpa
助焊剂流量控制 Flux Flow Control	option
助焊剂自动添加 Auto Flux Filling	标配(Standard)
抽风方式 Exhausting	上抽风(Top exhaust)
抽风管直径 Exhausting Pipe Diameter(mm)	Φ250
抽风机功率 Exhaust fan power	750W
预热方式 Preheating Mode	微热风/红外(Convection/IR emitter)
温度控制方式 Temperature Control Mode	PID
预热区数量 Preheating Zone Quantity	3
预热区长度 Preheating Zone Length(mm)	1800
预热温度可调范围 Preheating Temperature Range	室温(Room temperature)~200℃
预热升温时间 Warm-up Time(min)	Approx.12min(setting: 150℃)
宽度范围 Width(mm)	50~350
PCB传送方向 Conveying Direction	L→R(Option:R→L)
传送速度范围 Conveying Speed(mm/min)	500~1800
运输高度 Conveying Height(mm)	750±20
允许PCB元件高度 Available Component Height(mm)	上(Top) 120下(Bottom) 15
速度控制方式 Conveying Speed Control Mode	变频器闭环无级调速(Closed loop stepless speed regulation by inverter)
爪 Finger	弹簧压片爪(Spring Pressing Finger);D-40型鸭嘴爪(D-40 Type Finger);双钩爪(Double-hook Finger);重型双钩爪(Heavy type double hook finger)任选其一(Options)
导轨角度 Conveying Angle	4~7°
锡炉类型 Solder Pot Type	机械式(Mechanical)
锡炉材质 Solder Pot Material	铸铁(Casting Iron)
波峰调节方式 Wave Height Adjustment	电脑数字控制(PC digital control)
冷却方式 Cooling type	强制风冷(Air Cooling) Option:冷水机(Water cooling)
锡炉加热功率 Solder Pot Heating Power	13.5KW
锡炉最高温度 Max Solder Pot Temperature	300℃
锡炉容量 Solder Pot Capacity	Approx.480kg
波峰驱动功率 Wave Driving Power	180W* 2 3PH 220 VAC
锡炉升温时间 Solder Pot Warm-up Time	Approx.150min(setting: 250℃)
炉温控制方式 Temperature Control Mode	PID
洗爪系统 Finger Cleaning System	毛刷(Brush)

型号 Model NO.	PERFECTFLOW/350	PERFECTFLOW/450	PERFECTFLOW/610
外形尺寸 Dimension: L*W*H(mm)	6000×1420×1750	6000×1520×1750	6000×1690×1750
重量 Weight	Appro×.1850kg	Appro×.2050kg	Appro×.2300kg
电源 Power Supply	3PH 380V 50HZ	3PH 380V 50HZ	3PH 380V 50HZ
启动功率 Start up Power	33KW	33KW	45KW
正常运行功率 Normal Running Power	Approx.8.5KW	Approx.9KW	Approx.11KW
控制系统 Control System	PC+PLC/日东智能控制卡 PC+PLC/Suneast intelligent control card		
喷雾移动 Spraying movement	步进马达(Step motor)	步进马达(Step motor)	步进马达(Step motor)
喷雾气压 Spraying Pressure	0.2Mpa~0.4Mpa	0.2Mpa~0.4Mpa	0.2Mpa~0.4Mpa
助焊剂流量控制 Flux Flow Control	Option	Option	Option
助焊剂自动添加 Auto Flux Filling	标配(Standard)	标配(Standard)	标配(Standard)
抽风方式 Exhausting	上抽风(Top exhaust)	上抽风(Top exhaust)	上抽风(Top exhaust)
抽风管直径 Exhausting Pipe Diameter(mm)	Φ250	Φ250	Φ250
抽风机功率 Exhaust fan power	750	750	750
预热方式 Preheating Mode	微热风/红外(Hot air convection/IR)	微热风/红外(Hot air convection/IR)	微热风/红外(Hot air convection/IR)
温度控制方式 Temperature Control Mode	PID	PID	PID
预热区数量 Preheating Zone Quantity	3	3	3
预热区长度 Preheating Zone Length(mm)	1800	1800	1800
预热温度可调范围 Preheating Temperature Range	温室 (Room temperature) ~200℃	温室 (Room temperature) ~200℃	温室 (Room temperature) ~200℃
预热升温时间 Warm-up Time(min)	Approx.12min(setting: 150℃)	Approx.12min(setting: 150℃)	Approx.12min(setting: 150℃)
热风马达 Preheating Blower Motor	250W 3PH 220 VAC	250W 3PH 220 VAC	250W 3PH 220 VAC
宽度范围 Width(mm)	50~350	50~450	50~610
PCB传送方向 PCB Conveying Direction	L→R(Option:R→L)	L→R(Option:R→L)	L→R(Option:R→L)
传送速度范围 Conveying Speed(mm/min)	500~1800	500~1800	500~1800
运输高度 Conveying Height(mm)	750±20	750±20	750±20
允许PCB元件高度 Available Component Height(mm)	上(Top)110下(Bottom)15	上(Top)110下(Bottom)15	上(Top)110下(Bottom)15
速度控制方式 Conveying Speed Control Mode	变频器闭环无级调速 (Closed loop stepless speed regulation by inverter)	变频器闭环无级调速 (Closed loop stepless speed regulation by inverter)	变频器闭环无级调速 (Closed loop stepless speed regulation by inverter)
爪 Finger	重型双钩爪(Heavy type double hook finge) Option:治具专用爪(Special jig for fixture)	重型双钩爪(Heavy type double hook finge) Option:治具专用爪(Special jig for fixture)	重型双钩爪(Heavy type double hook finge) Option:治具专用爪(Special jig for fixture)
导轨角度 Conveying Angle	4.5~6.3°	4.5~6.3°	4.5~6.3°
锡炉类型 Solder Pot Type	机械式(Mechanical)	机械式(Mechanical)	机械式(Mechanical)
锡炉材质 Solder Pot Material	铸铁(Casting Iron)	铸铁(Casting Iron)	铸铁(Casting Iron)
波峰调节方式 Wave Height Adjustment	变频器(Inverter):电脑数字控制(Digital Control by PC)		
冷却方式 Cooling type	氮气流刀冷却Nitrogen knife cooling		
锡炉加热功率 Solder Pot Heating Power	13.5KW	13.5KW	18KW
锡炉最高温度 Max Solder Pot Temperature	300℃	300℃	300℃
锡炉容量 Solder Pot Capacity	Approx.480kg	Approx.550kg	Approx.640kg
波峰驱动功率 Wave Driving Power	180W*2 3PH 220 VAC	180W*2 3PH 220 VAC	180W*2 3PH 220 VAC
锡炉升温时间 Solder Pot Warm-up Time	Approx.150min(setting: 250℃)	Approx.150min(setting: 250℃)	Approx.150min(setting: 250℃)
炉温控制方式 Temperature Control Mode	PID	PID	PID
洗爪系统 Finger Cleaning System	毛刷(Brush)	毛刷(Brush)	毛刷(Brush)
供氮纯度要求 Nitrogen purity	99.999%	99.999%	99.999%
氮气消耗量 Nitrogen consumption	Appro×.20m³/h	Appro×.22m³/h	Appro×.25m³/h
氮气压 Nitrogen pressure	0.4Mpa~0.6Mpa	0.4Mpa~0.6Mpa	0.4Mpa~0.6Mpa
喷雾外置机型 (可选项) External spraying unit (option) 整体长度增加500mm The total length +500mm	PERFECTFLOW/350-Z	PERFECTFLOW/450-Z	PERFECTFLOW/610-Z

型号 Model NO.	E-FLOW	E-FLOW-450	E-FLOW-610
外形尺寸 Dimension: L*W*H(mm)	4350*1420*1750	4350*1520*1750	4350*1690*1750
重量 Weight	Approx.1600kg	Approx.1750kg	Approx.1950kg
电源 Power Supply	3PH 380V 50HZ	3PH 380V 50HZ	3PH 380V 50HZ
启动功率 Start up Power	33KW	33KW	45KW
正常运行功率 Normal Running Power	Approx.8KW	Approx.8.5KW	Approx.11KW
控制系统 Control System	PC+PLC/日东智能控制卡 PC+PLC/Suneast intelligent control card		
喷雾移动 Spraying movement	步进马达(Step motor)	步进马达(Step motor)	步进马达(Step motor)
喷雾气压 Spraying Pressure	0.2Mpa~0.4Mpa	0.2Mpa~0.4Mpa	0.2Mpa~0.4Mpa
助焊剂流量控制 Flux Flow Control	Option	Option	Option
助焊剂自动添加 Auto Flux Filling	标配(Standard)	标配(Standard)	标配(Standard)
抽风方式 Exhausting	上抽风(Top exhaust)	上抽风(Top exhaust)	上抽风(Top exhaust)
抽风管直径 Exhausting Pipe Diameter(mm)	Φ250	Φ250	Φ250
抽风机功率 Exhaust fan power	750W	750W	750W
预热方式 Preheating Mode	微热风/红外(Hot air convection/IR)	微热风/红外(Hot air convection/IR)	微热风/红外(Hot air convection/IR)
温度控制方式 Temperature Control Mode	PID	PID	PID
预热区数量 Preheating Zone Quantity	3	3	3
预热区长度 Preheating Zone Length(mm)	1800	1800	1800
预热温度可调范围 Preheating Temperature Range	温室 (Room temperature) ~200℃	温室 (Room temperature) ~200℃	温室 (Room temperature) ~200℃
预热升温时间 Warm-up Time(min)	Approx.12min(setting: 150℃)	Approx.12min(setting: 150℃)	Approx.12min(setting: 150℃)
热风马达 Preheating Blower Motor	150W 3PH 220 VAC	150W 3PH 220 VAC	250W 3PH 220 VAC
宽度范围 Width(mm)	50~350	50~450	50~610
PCB传送方向 PCB Conveying Direction	L→R(Option:R→L)	L→R(Option:R→L)	L→R(Option:R→L)
传送速度范围 Conveying Speed(mm/min)	500~1800	500~1800	500~1800
运输高度 Conveying Height(mm)	750±20	750±20	750±20
允许PCB元件高度 Available Component Height(mm)	上 (Top) 120下(Bottom)15	上 (Top) 120下(Bottom)15	上 (Top) 120下(Bottom)15
速度控制方式 Conveying Speed Control Mode	变频器闭环无级调速 (Closed loop stepless speed regulation by inverter)	变频器闭环无级调速 (Closed loop stepless speed regulation by inverter)	变频器闭环无级调速 (Closed loop stepless speed regulation by inverter)
爪 Finger	弹簧压片爪(Spring Pressing Finger);D-40型鸭嘴爪(D-40 Type Finger);双钩爪 (Double-hook Finger);重型双钩爪(Heavy type double hook finger)任选其一(Options)		重型双钩爪(Heavy type double hook finge) Option:治具专用爪(Special jig for fixture)
导轨角度 Conveying Angle	4~7°	4~7°	4~7°
锡炉类型 Solder Pot Type	机械式(Mechanical)	机械式(Mechanical)	机械式(Mechanical)
锡炉材质 Solder Pot Material	铸铁(Casting Iron)	铸铁(Casting Iron)	铸铁(Casting Iron)
波峰调节方式 Wave Height Adjustment	变频器(Inverter) :电脑数字控制(Digital Control by PC)		
冷却方式 Cooling type	强制风冷(Air Cooling) Option:冷水机(Water cooling)		
锡炉加热功率 Solder Pot Heating Power	13.5KW	13.5KW	18KW
锡炉最高温度 Max Solder Pot Temperature	300℃	300℃	300℃
锡炉容量 Solder Pot Capacity	Approx.480kg	Approx.550kg	Approx.640kg
波峰驱动功率 Wave Driving Power	180W*2 3PH 220 VAC	180W*2 3PH 220 VAC	180W*2 3PH 220 VAC
锡炉升温时间 Solder Pot Warm-up Time	Approx.150min(setting: 250℃)	Approx.150min(setting: 250℃)	Approx.150min(setting: 250℃)
炉温控制方式 Temperature Control Mode	PID	PID	PID
洗爪系统 Finger Cleaning System	毛刷(Brush)	毛刷(Brush)	毛刷(Brush)

规格

Specifications

型号 Model NO.	E-FLOW-Z (喷雾外置External spraying)	E-FLOW-Z450 (喷雾外置External spraying)	E-FLOW-Z610 (喷雾外置External spraying)
外形尺寸 Dimension: L*W*H(mm)	5050*1420*1750	5050*1520*1750	5050*1690*1750
重量 Weight	Approx.1850kg	Approx.2050kg	Approx.2300kg
电源 Power Supply	3PH 380V 50HZ	3PH 380V 50HZ	3PH 380V 50HZ
启动功率 Start up Power	33KW	33KW	45KW
正常运行功率 Normal Running Power	Approx.8KW	Approx.9KW	Approx.11KW
控制系统 Control System	PC+PLC/日东智能控制卡 PC+PLC/Suneast intelligent control card		
喷雾移动 Spraying movement	步进马达(Step motor)	步进马达(Step motor)	步进马达(Step motor)
喷雾气压 Spraying Pressure	0.2Mpa~0.4Mpa	0.2Mpa~0.4Mpa	0.2Mpa~0.4Mpa
助焊剂流量控制 Flux Flow Control	Option	Option	Option
助焊剂自动添加 Auto Flux Filling	标配(Standard)	标配(Standard)	标配(Standard)
抽风方式 Exhausting	上抽风(Top exhaust)	上抽风(Top exhaust)	上抽风(Top exhaust)
抽风管直径 Exhausting Pipe Diameter(mm)	Φ250	Φ250	Φ250
抽风机功率 Exhaust fan power	750W	750W	750W
预热方式 Preheating Mode	微热风/红外(Hot air convection/IR)	微热风/红外(Hot air convection/IR)	微热风/红外(Hot air convection/IR)
温度控制方式 Temperature Control Mode	PID	PID	PID
预热区数量 Preheating Zone Quantity	3	3	3
预热区长度 Preheating Zone Length(mm)	1800	1800	1800
预热温度可调范围 Preheating Temperature Range	温室 (Room temperature) ~200℃	温室 (Room temperature) ~200℃	温室 (Room temperature) ~200℃
预热升温时间 Warm-up Time(min)	Approx.12min(setting: 150℃)	Approx.12min(setting: 150℃)	Approx.12min(setting: 150℃)
热风马达 Preheating Blower Motor	150W 3PH 220 VAC	150W 3PH 220 VAC	250W 3PH 220 VAC
宽度范围 Width(mm)	50~350	50~450	50~610
PCB传送方向 PCB Conveying Direction	L→R(Option:R→L)	L→R(Option:R→L)	L→R(Option:R→L)
传送速度范围 Conveying Speed(mm/min)	500~1800	500~1800	500~1800
运输高度 Conveying Height(mm)	750±20	750±20	750±20
允许PCB元件高度 Available Component Height(mm)	上 (Top) 120下(Bottom)15	上 (Top) 120下(Bottom)15	上 (Top) 120下(Bottom)15
速度控制方式 Conveying Speed Control Mode	变频器闭环无级调速 (Closed loop stepless speed regulation by inverter)	变频器闭环无级调速 (Closed loop stepless speed regulation by inverter)	变频器闭环无级调速 (Closed loop stepless speed regulation by inverter)
爪 Finger	弹簧压爪(Spring Pressing Finger);D-40型鸭嘴爪(D-40 Type Finger);双钩爪(Double-hook Finger);重型双钩爪(Heavy type double hook finger)任选其一(Options)	重型双钩爪(Heavy type double hook finge) Option:治具专用爪(Special jig for fixture)	
导轨角度 Conveying Angle	4~7°	4~7°	4~7°
锡炉类型 Solder Pot Type	机械式(Mechanical)	机械式(Mechanical)	机械式(Mechanical)
锡炉材质 Solder Pot Material	铸铁(Casting Iron)	铸铁(Casting Iron)	铸铁(Casting Iron)
波峰调节方式 Wave Height Adjustment	变频器(Inverter) :电脑数字控制(Digital Control by PC)		
冷却方式 Cooling type	强制风冷(Air Cooling) Option:冷水机(Water cooling)		
锡炉加热功率 Solder Pot Heating Power	13.5KW	13.5KW	18KW
锡炉最高温度 Max Solder Pot Temperature	300℃	300℃	300℃
锡炉容量 Solder Pot Capacity	Approx.480kg	Approx.550kg	Approx.640kg
波峰驱动功率 Wave Driving Power	180W*2 3PH 220 VAC	180W*2 3PH 220 VAC	180W*2 3PH 220 VAC
锡炉升温时间 Solder Pot Warm-up Time	Approx.150min(setting: 250℃)	Approx.150min(setting: 250℃)	Approx.150min(setting: 250℃)
炉温控制方式 Temperature Control Mode	PID	PID	PID
洗爪系统 Finger Cleaning System	毛刷(Brush)	毛刷(Brush)	毛刷(Brush)

注：可定制4段预热，温区长度达2.3米
Note:4sections of preheating can be customized,and the length is 2.3m .

型号 Model NO.	ETS-300	ETS-300E
外形尺寸 Dimension: L*W*H(mm)	3385*1240*1540	3385*1190*1540
重量 Weight	Approx.1150kg	Approx.1100kg
电源 Power Supply	3PH 380V 50HZ	3PH 380V 50HZ
启动功率 Start up Power	28KW	27KW
正常运行功率 Normal Running Power	7KW	6.7KW
控制系统 Control System	PC+PLC/日东智能控制卡 PC+PLC/Suneast intelligent control card	
喷雾移动 Spraying movement	步进马达(Step motor)	步进马达(Step motor)
喷雾气压 Spraying Pressure	0.2Mpa~0.4Mpa	0.2Mpa~0.4Mpa
助焊剂流量控制 Flux Flow Control	option	option
助焊剂自动添加 Auto Flux Filling	标配(Standard)	标配(Standard)
抽风方式 Exhausting	上抽风(Top exhaust)	\
抽风管直径 Exhausting Pipe Diameter(mm)	Ø250	Ø250
抽风机功率 Exhaust fan power	370W	\
预热方式 Preheating Mode	红外(IR)	红外(IR)
温度控制方式 Temperature Control Mode	PID	PID
预热区数量 Preheating Zone Quantity	2	2
预热区长度 Preheating Zone Length(mm)	1500mm	1500mm
预热温度可调范围 Preheating Temperature Range	室温(Room temperature)~200℃	室温(Room temperature)~200℃
预热升温时间 Warm-up Time(min)	Approx.12min(setting:150℃)	Approx.12min(setting:150℃)
宽度范围 Width(mm)	50~300	50~300
PCB传送方向 PCB Conveying Direction	L→R(Option:R→L)	L→R(Option:R→L)
传送速度范围 Conveying Speed(mm/min)	500~1800	500~1800
运输高度 Conveying Height(mm)	750±20	750±20
允许PCB元件高度 Available Component Height(mm)	上(Top)120下(Bottom)15	上(Top)120下(Bottom)15
速度控制方式 Conveying Speed Control Mode	变频器闭环无级调速 (Closed loop stepless speed regulation by inverter)	变频器闭环无级调速 (Closed loop stepless speed regulation by inverter)
爪 Finger	1.重型双钩爪(Heavy type double hook finge) 2.轻型双钩爪(Light double hook finger (Option)	1.重型双钩爪(Heavy type double hook finge) 2.轻型双钩爪(Light double hook finger (Option)
导轨角度 Conveying Angle	4~6°	4~6°
锡炉类型 Solder Pot Type	机械式(Mechanical)	机械式(Mechanical)
锡炉材质 Solder Pot Material	铸铁(Cast iron material)	铸铁(Cast iron material)
波峰调节方式 Wave Height Adjustment	电脑数字控制(Digital Control by PC)	电脑数字控制(Digital Control by PC)
冷却方式 Cooling type	强制风冷(Air cooling)	\
锡炉加热功率 Solder Pot Heating Power	9KW	220V 9KW
锡炉最高温度 Max Solder Pot Temperature	300℃	300℃
锡炉容量 Solder Pot Capacity	Approx.350KG	Approx.350KG
波峰驱动功率 Wave Driving Power	180W*2 3PH 220 VAC	180W*2 3PH 220 VAC
锡炉升温时间 Solder Pot Warm-up Time	Approx.240min(setting:250℃)	Approx.240min(setting:250℃)
炉温控制方式 Temperature Control Mode	PID	PID
洗爪系统 Finger Cleaning System	毛刷(Brush)	\

SF-350

环保型 助焊剂喷雾机 Eco-friendly Flux sprayer

- 采用优质不锈钢链条输送基板；
- 新型清洗链条装置能彻底清洗链条；
- 抽风装置采用大风量、高风压、低噪音风机，采用上下抽风过滤结构，双级过滤；
- 喷雾上方采用不锈钢过滤网+导流机构，下层采用箱体两侧带抽风机构，提高了助焊剂的回收率；
- 有效防止助焊剂回落基板影响板面质量，保持机体的清洁；
- 采用小口径进口喷嘴，方便调整喷雾状态，各气压参数采用数值显示，方便管理和操作；
- 松香采用恒压供给，配有自动加松香装置；
- 人机界面操作，PLC控制；
- 采用PC+运动控制器控制,实现X、Y轴联动；(选择性喷雾配置)

- Adopt high quality stainless steel chain for conveying;
- Adopts the new type cleaning chain device for thoroughly cleaning;
- Exhaust device adopts large air volume, high air pressure, low noise fan, upper and lower exhaust filter structure, two-stage filter;
- Stainless steel filter + backflow mechanism is used above the spray, and the lower layer is equipped with air pumping mechanism on both sides of the box, which improves the flux recovery rate;
- It can effectively prevent the flux dropping on the surface of PCB and keep it clean;
- The imported nozzle with small diameter is adopted to adjust the spraying conveniently, which will display the air pressure parameters in numerical value that is convenient formangement and operation;
- Flux supplying with constant pressure, and equips with flux auto adding device;
- Man-machine interface operation, PLC control;
- PC+ motion controller control, realize X, Y axis linkage;(for selective spraying option).



SF-350

注：电脑及显示器为选择性喷雾机配置
Remarks: The computer and monitor will be configured for the selective sprayer

规格 Specifications

项目	Item	SF-350	SF-350 (带选择喷雾功能) (selective spray function)
运输马达	Conveyer Motor	220V 60W	220V 60W
运输速度	Conveyor Speed	0.5-1.8min	0.5-1.8min
基板尺寸	PCB Size	50-350mm	50-350mm
PCB运输高度	Inlet height	750±20mm	750±20mm
喷雾驱动马达	Spray drive motor	Step Motor 48V	Step Motor 48V
洗爪泵	Finger Cleaning Pump	220V 10W	220V 10W
排风机	Exhaust fan	3 f 380V 50Hz 750W	3 f 380V 50Hz 750W
助焊剂装置气压	Air pressure of Spray Fluxer	3-6bar	3-6bar
机体尺寸	Dimension	1450 (L) *1100 (W) *1350 (H) mm	1450 (L) *1100 (W) *1350 (H) mm
总功率	Total Power Consumption	Approx. 1.3KW	Approx. 1.3KW
正常运行功率	Normal running power	1.0KW	1.0KW
电源	Power	3 f 380V 50Hz/60Hz	3 f 380V 50Hz/60Hz
净重	Net Weight	Approx.350kg	Approx.350kg
控制方式	Control Type	触摸屏+PLC Touch screen+PLC	PC+运动控制器 PC+ motion controller

链爪类型

FINGER TYPE

- 目前我司产品有5种链爪，每种链爪都有其相应的特点，标准机配置链爪有时并不能满足客户产品需求，导致客户生产后要求换爪。现对每种链爪具体特点列表于下。
- We now have five different types of fingers as standard finger might not be able to meet customer products' requirements.



▲ 重型双钩爪
Double hook finger

项目 Item	参数 Parameter
工艺边 Technical distance	≥ 4mm
PCB厚度 PCB thicness	≤ 3mm
材料 Material	钛合金材料 Titanium alloy



▲ 重型双钩爪(L型)
Double hook finger(L type)

项目 Item	参数 Parameter
工艺边 Technical distance	≥ 4mm
PCB厚度 PCB thicness	针对带工装产品不限厚度 For the production with jig, no limit on thickness of jigs
材料 Material	钛合金材料 Titanium alloy



▲ 轻型双钩爪
Light-duty double Hook Finger

项目 Item	参数 Parameter
工艺边 Technical distance	≥ 3mm
PCB厚度 PCB thicness	≤ 2. 5mm
材料 Material	材料有不锈钢和钛合金两种 Material is stainless steel and titan- nium alloy



▲ 重型弹簧压片爪
Spring pressed finger

项目 Item	参数 Parameter
工艺边 Technical distance	≥ 4.5mm
PCB厚度 PCB thicness	≤ 5mm
材料 Material	支撑片钛合金材料, 压片不锈钢材料 support chip is titanium alloy, tableting is stainless steel



▲ D-40鸭嘴爪
D-40 duchbill finger

项目 Item	参数 Parameter
工艺边 Technical distance	≥ 3mm
PCB厚度 PCB thicness	≤ 2mm
材料 Material	钛合金材料 Titanium alloy

温度曲线 → 工艺管理 Temperature Profile → Process Management

全面、专业实现焊锡零缺陷 Completely and Professionally Achieve Zero Defect of Soldering

该产品主要用于波峰焊设备状况的检测，依据检测数据，分析各项工艺指标是否适合生产现有的产品，大量减少因设备能力不足而造成的不良。

This device mainly used in analyzing data and process index to help decide whether the wave soldering is in a suitable condition for manufacturing, therefore, greatly reduces the number of defects.

减免测温板的制作，取代常规测温板的单一测温方式，并提供沾锡时间、平行度、深度及链速等各项工艺指标测试方法。

Reduce the quantity of temperature measurement board, taking place of conventional temperature measurement board's singal temperature testing method, and provide different process index testing methods, such as drip flake time, parallelism, depth & chain speed.



Wave Explorer 技术参数: Wave Explorer technical parameter:

型号 Model	Wave Explorer C# / UP6E4+	Wave Explorer C# / R6E4-D	Wave Explorer E # / SDT4-M
测试主架尺寸 Frame size	W=160 mm/235 mm/260 mm/360 mm/460 mm可选, L=380 mm, H=35 mm * 常规宽度规格为160mm、235mm The normal width of the frame is 160mm and 235mm.		
记录仪尺寸 (mm) Recorder size (mm)	152 (L) x 93 (W) x 17 (H)	152 (L) x 93 (W) x 17 (H)	142 (L) x 62 (W) x 15 (H)
测试结果读取方式 Test Result Reading Method	USB 传送到 PC, 软件自动分析 USB to PC, software analysis automatically.	USB 传送到 PC, 软件自动分析 USB to PC, software analysis automatically.	记录仪液晶屏即时显示结果 / USB 传送到 PC, 软件自动分析 LCD displays the result immediately. / USB to PC, software analysis automatically.
温度通道数 Temperature Channel No.	6 个 6 ea	6 个 6 ea	6 个 6 ea
沾锡通道数 Tin Touching Channel No.	3 个物理接触感应通道 3 physical sensing channels	3 个物理接触感应通道 3 physical sensing channels	3 个物理接触感应通道 3 physical sensing channels
速度通道数 Speed Channel No.	1 个 1 ea	1 个 1 ea	1 个 1 ea
精度 Accuracy	温度: ±0.8℃ 沾锡时间: ±0.01 秒 链速: < ±1 cm/min Temp: ±0.8℃ Tin touching Time: ±0.01 s Speed: < ±1 cm/min	温度: ±0.5℃ 沾锡时间: ±0.01 秒 链速: < ±1 cm/min Temp: ±0.5℃ Tin touching Time: ±0.01 s Speed: < ±1 cm/min	温度: ±0.5℃ 沾锡时间: ±0.01 秒 链速: < ±1 cm/min Temp: ±0.5℃ Tin touching Time: ±0.01 s Speed: < ±1 cm/min
分辨率 Resolution	温度: 0.25℃ 沾锡时间: 0.01 秒 链速: 0.1 cm/min Temp: 0.25℃ Tin touching Time: 0.01 s Speed: 0.1 cm/min	温度: 0.1℃ 沾锡时间: 0.01 秒 链速: 0.1 cm/min Temp: 0.1℃ Tin touching Time: 0.01 s Speed: 0.1 cm/min	温度: 0.1℃ 沾锡时间: 0.01 秒 链速: 0.1 cm/min Temp: 0.1℃ Tin touching Time: 0.01 s Speed: 0.1 cm/min
采样频率 Sample Frequency	0.1~32 秒, 可调 0.1~32 s, Adjustable	0.1~400 秒, 可调 0.1~400 s, Adjustable	0.1~400 秒, 可调 0.1~400 s, Adjustable
测温范围 Temperature Measuring Range	0~300℃	0~300℃	0~300℃
热电偶类型 Thermocouple Type	k 型 K Type	k 型 K Type	k 型 K Type
电池 Battery	可充电电池 Rechargeable battery	可充电电池 Rechargeable battery	可充电电池 Rechargeable battery
待机时间 Stand-by Time	超省电设计, 待机 30 天 Super power saving design, standby for 30 days	超省电设计, 待机 280 天 Super power saving design, standby for 280 days	超省电设计, 待机 280 天 Super power saving design, standby for 280 days
数据接口 Data interface	Mini USB 2.0	Mini USB 2.0	Micro USB
软件安装环境 Software Environment	Microsoft Windows 2000 / XP / Win7 / win8 (32/64bit)		
软件语言 Software Language	英文、简体中文、繁体中文 English, simplified Chinese, traditional Chinese		

Wave Explorer 功能项目:

Wave Explorer functions:

- 专业用于波峰焊温度测试和沾锡测试用
Used in wave soldering temperature test and drip flake test.
 - 可方便测量锡炉全程焊锡引脚可用空间
Can be used to test available space of solder pot for solder pin.
 - 预热过程最大均匀性
Maximum uniformity during preheating
 - 预热峰值温度均匀性
Preheating peak temperature uniformity
 - 沾锡前温度均匀性
Temperature uniformity before dipping tin
- 沾锡前温降
A drop in temperature before dipping tin
 - 锡温均匀性 Tin temperature uniformity
 - 沾锡平行度 Tin dipping parallelism
 - 沾锡时间 Drip flake time
 - 沾锡深度 Drip flake depth
 - 可精确调整锡波高度
Tin wave height can be adjusted accurately
 - 精确测量锡温 Test tin temperature accurately
 - 链速 Chain speed

波峰焊可选项

OPTIONS FOR WAVE SOLDERING SYSTEM

助焊剂涂敷部分 1. 局部选择性喷雾	Fluxer coating 1. Partial selective spraying
流量计 1. 玻璃转子流量计 2. 电子数显流量计 3. 助焊剂闭环控制	Flowmeter 1. Glass rotameter 2. Electronic digital display flowmeter 3. Flux closed loop control
运输系统 1. 电动调宽	Conveyor system 1. Electrical width adjustment
锡炉部分 1. 炉胆材料: a. 铸铁 b. 钛合金 2. 电动控制锡炉进出及升降运动	Solder pot 1. Materials for solder container: a. Casting Iron b. Titanium alloy 2. Electric control solder pot movement
自动加锡装置 局部氮气保护装置	Solder auto-feeding system Local Nitrogen safety device
双轨波峰焊(背靠背制作)	Double rail wave soldering (Back to Back)
MES接口	MES interface
扫码枪 1. 扫描PCB板上或夹具上的识别码	Barcode reader 1. Scan the bar code on the jig or PCB
急冷却方式 1. 冷水机	Cooling type 1. Water cooling chiller
预热系统 可定制4段预热, 温区长度达2.3米	Preheating system 4 sections of preheating can be customized, and the length is 2.3m .

注: 部分可选项主要针对部分机型配置, 订购时务必确认清楚, 以便制做快捷。
Note: Some options are mainly used for the configuration of specified types. Please make sure before ordering for manufacturer's convenience.



▲ BL-300插件线装置
BL-300 plug-in assembly line



▲ BF-350 基板接驳装置
BF-350 Buffer conveyor



▲ UB-350 基板排出装置 (无孔皮带)
UB-350 PCB Exhaust Device (imporous belt)



▲ 自动加锡丝、自动加锡条
Auto filling with solder tin and solder bar



▲ 电子数显流量计
Electronic digital display flowmeter



▲ 玻璃转子流量计
Glass gauge flow meter



▲ 冷水机
Water cooling chiller



▲ 四段预热
Four sections of preheating

一.采用喷嘴与PCB垂直喷涂助焊剂，以提高喷涂的均匀性和穿透性

Use of spray nozzle and vertical position of the PCB spray soldering flux will improving uniformity and penetrability .

垂直PCB板面喷雾(带路径优化系统) The vertical PCB board spray (with path optimization system)

A.喷嘴与PCB垂直可使喷出的助焊剂在PCB上更均匀，对孔的穿透力更强，将会提高钎料的爬升能力。

Use of spray nozzle and vertical positioning will allow the soldering flux on the PCB to be more evenly spread, better wetting performance of the holes and improve the adhesiveness of the solder metal.



传统助焊剂喷雾方式
Traditional Soldering Flux Method

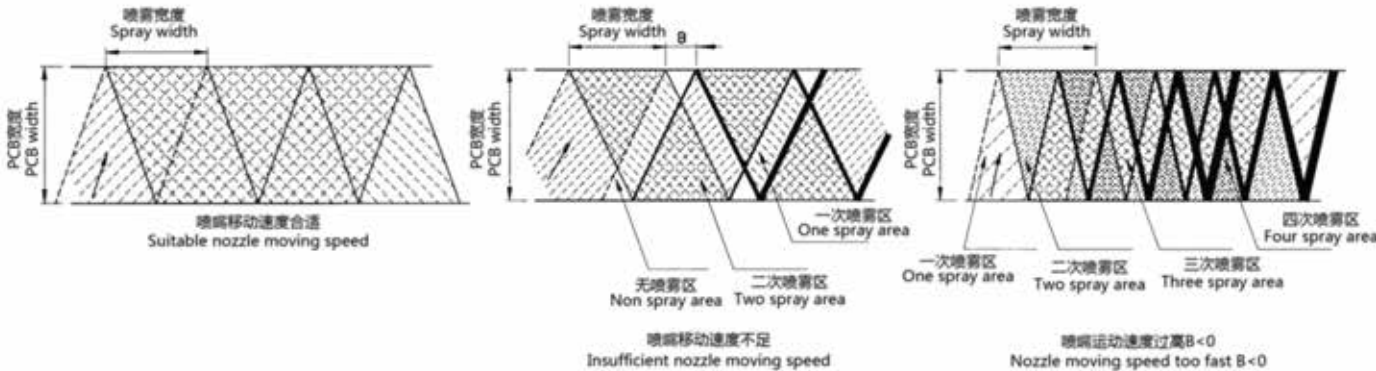


新型助焊剂喷雾方式
New Soldering Flux Method



B.自动路径优化系统可保证助焊剂喷涂实现最佳二次涂覆提高助焊剂涂覆均匀性。

Path optimization system guarantee the flux coating uniformity when sprayed the second time.



C.先进的软件系统，可自行根据运输速度、PCB宽度进行调节

Advanced software system, PCB will be auto-adjusted according to the speed of transportation



二.采用铸铁表面镀陶瓷炉胆，可提高炉胆寿命

Use of cast iron solder container with ceramic coating can increase the life span of solder container.

新型防腐铸铁锡炉 New anti-corrosion cast iron solder pot.

题目：无铅波峰焊锡炉材料溶蚀行为研究（哈工大06届硕士研究生研究课题）

The corrosion behavior of lead-free wave solder pot materials research
(Harbin Institute of Technology 2006 Master candidate research topics).

	炉胆尺寸(mm) Solder Container size	炉胆厚度(mm) Solder Container thickness	寿命(年) 8时/天 Life (years) 8 hours/1 day
316 不锈钢 316 Stainless steel	1165×480×265	3	≥ 1
钛 Titanium		3	≥ 5
耐热铸铁 Heat Resistant cast iron		10	≥ 8

铸铁炉胆
Cast iron solder container.

5年包换
5 years replacement.



- 采用了厚度为10mm壁厚的铸铁炉胆，大大的提高了锡炉在受热情况下抵抗变形的能力。
- 铸铁里面含有大量的石墨，它对于钎料几乎不产生润湿现象，故对炉胆的腐蚀行为很小，为了更有效的提高炉胆的耐腐蚀性能及表面光滑度，在铸铁表面进行陶瓷工艺处理，更有效的提高了使用寿命。
- The cast iron wall thickness of 10mm pot resist deformation under heat.
- Cast iron contains large quantities of graphite and it has low humidity so reduces the effect of corrosion. The ceramic coating improves corrosion resistance and surface smoothness, hence; increase the service life of the solder pot.

三.采用新流道、新喷口等降低氧化量的装置，有效降低客户运行成本

Devices using new channel and nozzle reduce the amount of oxidation hence effectively cutting operating cost.

降低氧化渣装置 Lowering oxide slag device.

题目：无铅波峰焊铅料氧化渣形成特点及其改善的工艺措施(哈工大07届硕士研究生研究课题)

Lead-free wave solder oxide slag formation characteristics and improve process measures
(Harbin Institute of Technology 2007 Master candidate research topics)

影响氧化量的因素 Influential factors for oxidation level:

影响焊锡氧化因素是多方面引起的，有些是无法控制的，如焊锡的工作温度是一定的；

有些因素是完全可以利用机械原理加以控制，如：波峰的流速、落差、横截面、助焊剂的喷涂量等等，可以总结为以下计算公式：

氧化量= f (落差、接触面积, 流速系数, 温度系数)

变量：落差、流速、接触面积

定量：焊锡温度

Solder oxidation can be caused by many different factors, some are uncontrollable such as high temperature from soldering. Other factors can be controlled using mechanical measures such as flow rate, drop, cross section, spray of flux etc.

Amount of Oxidation = f(amount of drop, contact area, coefficient of velocity, temperature coefficient)
variable quantity: amount of drop, velocity, contact area
Fixed quantity: soldering temperature:



降氧化装置具体措施 Specific measures to reduce oxidation:

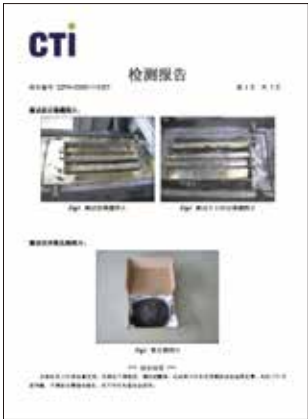
- 降低氧化装置就是要有效控制波峰的流动速度，降低落差，减少接触面积，缩短运动路径，有效消除"豆腐渣"现象产生；采用动态旋转部分与氧气隔离，杜绝黑色氧化物的产生；
- 根据PCB的宽度调节喷口的宽度，从而有效降低焊锡氧化。
- By controlling the flow rate of the peak, reducing the drop, limiting contact area and shortening the path of movement, we can effectively reduce the oxidation and eliminate the amount of creases produced. We can prevent the generation of black oxide by using dynamic rotation to isolate oxygen.
- Adjust the width of the nozzle according to the width of the PCB hence effectively reducing the solder oxidation



氧化渣检测报告 Oxidation residue test report.

测试条件: Testing Criteria:

模拟正常生产过板 Simulate normal plate production process
锡炉温度:260℃ Tin furnace temperature:260℃
波峰宽度:400mm Peak width: 400mm
波峰高度:8mm Wave height: 8mm
测试时间:8h Testing time: 8h



行内领先的低成本运作波峰焊设备供应商

Leading the industry with low operating cost as supplier of wave soldering equipment



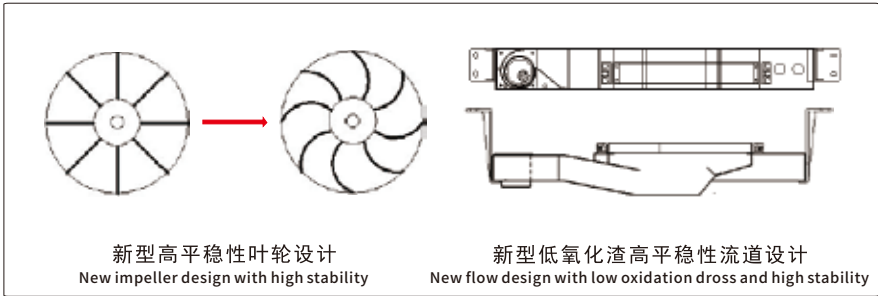
	国内China		国外 Overseas	
机型 Model	日东 Suneast	国内某品牌 China brand	美国 著名品牌 Famous American brand	德国 著名品牌 Famous Germany brand
波峰宽度 (mm) Wave width (mm)	400	400	600	500
成渣量 kg/8h Dross quantity kg/8h	<2	4	8	8

四.采用新型叶轮及流道设计，提高波峰平稳性

Use of new impeller and passage design increase the smoothness of the peak.

波峰平稳性控制技术 Technology for controlling the smoothness of the peak

A. 喷嘴、流道、叶轮结构直接影响波峰平稳度
The nozzle, passage way and impeller structure all directly affect the smoothness of the peak



B. 波峰平稳度可控制在0.5mm以内 The smoothness of the peak can be controlled within 0.5mm

备注:德国波峰焊性能测试仪实测值为0.2mm以内)
Note: Germany wave soldering performance tester actual measured value is within 0.2mm

软件系统人性化设计 User friendly Software Design

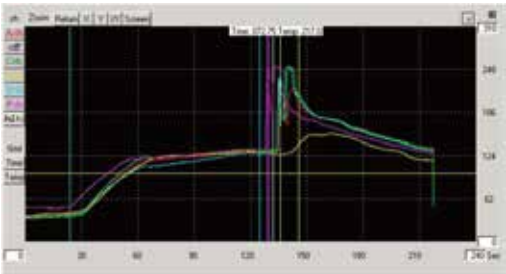
- 良好人机图标演示界面，可方便操作；
Good demonstrative chart as interface making it easy to operate;
- 新增了焊接缺陷诊断帮助文档及常见设备故障诊断及维修帮助文档，降低客户培训成本
Includes trouble shooting information, common problems and solutions in software which helps reduce training cost
- 新增SPC查询功能，对生产过程进行有效管控，能够更好的保证设备的性能稳定性。
Additional SPC query function result in a more efficient control of the production process and guarantee a more stable performance.



混合预热的优势

The advantage of mixed preheat

- 波峰焊红外预热提升温度快，热风预热提升温度均匀性；
 - 采用红外和热风混合预热既能快速提升温度又能增加温度均匀性；
 - 混合预热特别适合水溶性助焊剂。
-
- IR preheating can raise temperature fast and hot air preheating can increase temperature uniformity.
 - Mix IR preheating and hot air preheating cannot only raise temp.quickly but also enhance temp. uniformity.
 - Mixed preheating goes especially well with water-solulde flux.



内置局部选择喷雾装置

Built-in partial selective spraying device

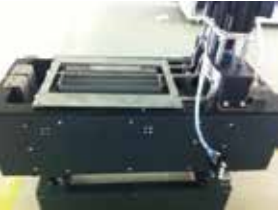
- 是步进电机通过同步带及滚珠丝杆, 直线导轨等作X和Y方向的运动来实现局部选择喷涂助焊剂；
 - 精选喷嘴可实现点喷、直线喷和矩形喷；
 - 采用PC+运动板卡控制，响应速度快，精度高，可编程，界面可操作性强；
 - 适用于喷涂面积占总面积50%以下的情况，节约助焊剂在50%以上。
-
- Stepper motor moves in the direction of X and Y axis to achieve partial selective flux spraying through synchronous belt,ball screw and linear guide rail.
 - Excellent spray nozzle can realize spot-spray,line-spray and rectangle-spray.
 - Controlled by PC + motion control board,quick respond,high accuracy,programmable and user friendly UI.
 - Suitable when spraying area is under 50% of total area,which can save flux by over 50%.



锡炉区局部充氮装置

Partial Nitrogen-charging device of solder pot

- 波峰焊锡炉区局部充氮装置，能用少的氮气体在PCB下方元件脚和锡炉喷口波峰周围得到高浓度的氮气；
- 采用特制不锈钢纳米微孔管，氮气弥散型充盈，均匀，浓度高；
- 3路流量计控制3路氮气管。消耗氮气15m³/h左右，喷口流动的焊锡附近氧气浓度1000PPM左右；
- 提高焊接品质，减少焊锡氧化量；不提供在线检测氧气浓度；



- The partial nitrogen releasing unit can minimal amount of nitrogen to create high concentration of nitrogen around the wave
- The use of stainless steel nano-porous tube release the nitrogen uniformly and in high concentration
- The 3 flow meters control the 3 nitrogen tubes with consumption rate at 15m3/h and the concentration of nitrogen around the nozzle is about 1000ppm
- Do not support online detection of nitrogen concentration

客户群体

CUSTOMER GROUP
