SMIC

千住金属工业株式会社

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注：关于“无铅”和“无卤”的定义，
无铅：根据 EU RoHS 规定，铅含有率在 1000ppm（0.1wt%）以下即为无铅。
无卤：根据 IPC 规格 4101B1，符合下述标准即为无卤。
　1. 氯 (Cl) 含有率：0.09wt%(900ppm) 以下
　2. 溴 (Br) 含有率：0.09wt%(900ppm) 以下
　3. 氯及溴含有量总量：0.15wt%(1500ppm) 以下

※ 仿造品相关注意事项
经证实，以海外为中心，市场上充斥着各种仿造我公司产品的焊料产品。
如需采购，请从我公司的子公司或授权经销商处购买。

SENJU METAL INDUSTRY CO., LTD.

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Phone +81-3-3888-5151
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Note: Regarding the definition of “lead-free” and “halogen-free”,
Lead-free: According to EU RoHS regulations, lead content is below 1000ppm (0.1wt%) is lead-free.
Halogen-free: According to IPC specification 4101B1, halogen-free.
　1. Chlorine (Cl) content rate: 0.09wt% (900ppm) or less
　2. Bromine (Br) content rate: 0.09wt% (900ppm) or less
　3. The total content of chlorine and bromine: 0.15wt% (1500ppm) or less

Attention to counterfeit products.
Counterfeit flux cored and other inauthentic SMIC solder products have been distributed abroad.
Please purchase genuine SMIC products from SMIC subsidiaries or authorized distributors.

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SMIC

千住金属工业　FA 设备 综合产品目录

SMIC FA MACHINES CATALOGUE

F A 设备

F A Machines

回流炉 Reflow Oven

N_2 Nitrogen Atmosphere

部件实装用 for Component Soldering

实现节能和高生产率
Superior energy-saving combined with high productivity

SNR-GT P03-04

通过双通道使产量倍增
Dual lanes can provide twice of production output

SNR-GT-D P05

通过独立的双炉膛实现不间断运作
Non-stop operation with independent double chamber

SNR-GT-W P06

高温焊锡用 for High-Temperature Soldering

420℃高温规格
420°C high-temperature specifications

SNR-GT-H P07

焊锡球用 for Solder Balls

热风温和，非常适合小焊锡球封装
Breeze of hot air is ideal for small solder ball soldering

SNR-MB P07

通过加热部的减压区域减少空洞
Void reduction by vacuum zone in heating section

SVR-625GT-C P08

空气 Air Atmosphere

部件实装用 for Component Soldering

性能优越的回流炉
Industry's leading thermal performance design

SAR-825GT P09

小型桌上回流炉
Compact desktop reflow oven

STR-2010 .... P09

＊也可选择N2规格　＊N_2 specification can also be selected

流焊装置 Flow Soldering Machines

空气 & N_2 Air & Nitrogen Atmosphere

波峰焊接 Wave soldering

稳压式自动焊接装置
Stable pressure flow automatic soldering machine

ECOPASCAL SPF2 .... P13-16

空气 Air Atmosphere

浸焊 Dip Soldering

静压式局部焊接装置
Static pressure type selective soldering machine

SOLZEUS MPF P17

内部热循环式浸焊接装置
Internal heat circulation soldering machine

SOLZEUS LPD P18

静压式整体焊接装置
Static pressure type full soldering machine

SOLZEUS LPF P19

喷嘴宽度自动调整局部焊接装置
Static pressure and nozzle width automatic adjusted type selective soldering machine

SOLZEUS SNF P19

喷雾式助焊剂涂覆装置 Spray Fluxer

采用定量泵，可稳定涂覆助焊剂
Metering pump controls coating amount

SSF2 .... P20

焊锡回收装置 Solder Recycle System

使用加工过的芝麻实现回收
Enables recycling solder from dross

SDS2-5N P20

N_2回流炉
N_2 Atmosphere Reflow Oven

SNR-GT Series

追求节能与高生产率的通用回流炉
Superior energy-saving and highly productive general purpose reflow oven

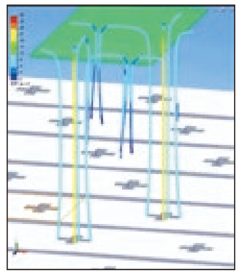
- 通过交叉喷嘴和双重断热结构, 实现节能化
- 曲径密封机构削减了N_2的使用量
- 助焊剂回收机构提高了生产效率

- Saves more energy with cross nozzle and double heat insulation structure
- Labyrinth curtain reduces N_2 consumption
- Flux management system enhances productivity

通过交叉喷嘴提升加热性能 Heating capacity improved by the cross-nozzles

- 提高热风的直进性
- 具备电机低速旋转时的稳定性及节能效果

- Improves rectilinear propagation of hot air
- Stability and energy-saving effect at the motor low rotation



实现全区域稳定的低氧气浓度 Stable low oxygen concentration in all zones

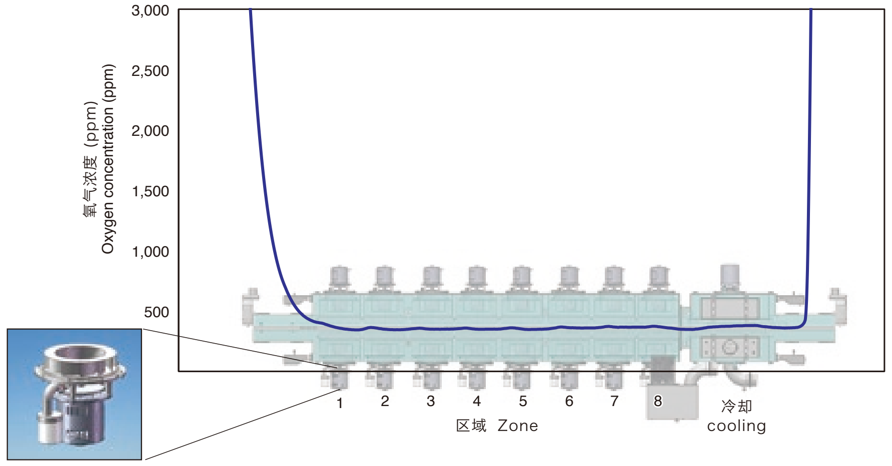
- 出入口上下曲径密封机构
- N_2屏障机构
- N_2投入量优化

- Vertical labyrinth curtain at inlet/outlet
- N_2 curtain
- Optimization of N_2 input

曲径密封机构
Labyrinth Curtain

压制外气流入，保持N_2氛围
Prevents inflow of outside air and outflow of N_2 atmosphere

氧气浓度曲线
Oxygen concentration profile

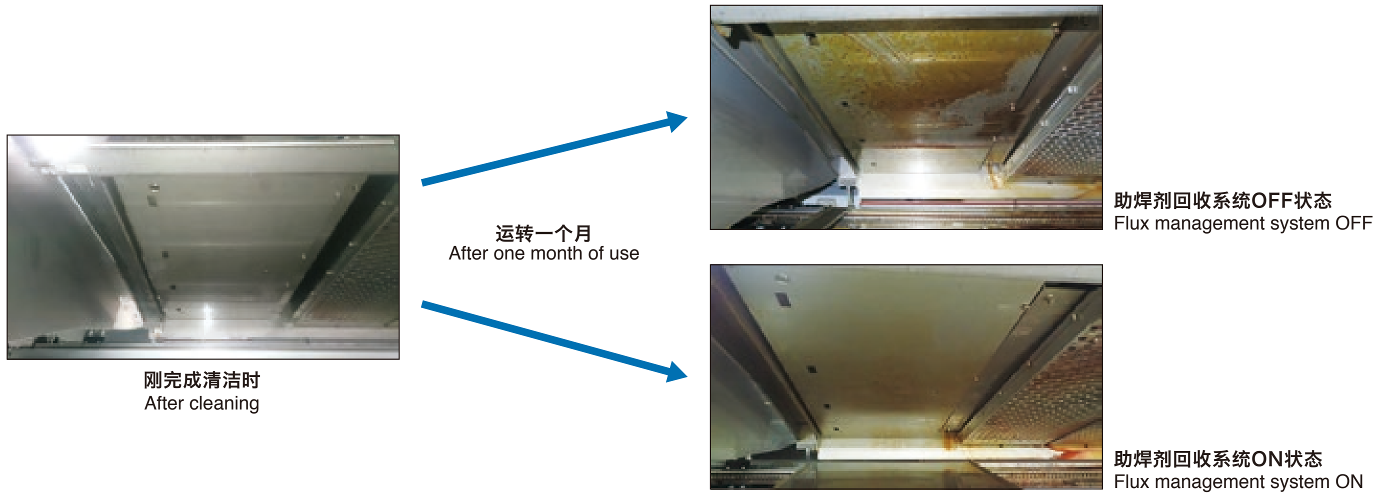


助焊剂回收杯
Flux collection cup

助焊剂回收系统 Flux Management System

- 标准化装配全区域助焊剂回收系统
- 免工具轻松维护结构
- 通过双重回收系统大幅提升回收率
- 焊膏废弃容器可用于助焊剂回收

- Equipped with a flux management system in all zones as a standard feature
- Tool-free easy maintenance
- Significantly higher flux collection efficiency by the dual flux collection unit
- Reuse an abundant paste container for flux collection

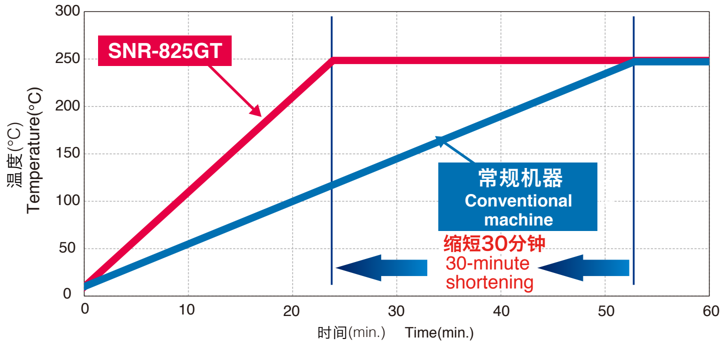


低耗电量 Low power consumption

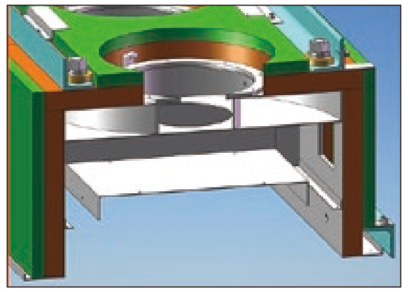
- 搭载SMIC开发的环保模式控制系统实现节电环保
- 通过双重断热结构大幅提升保温力

- Power optimization through ECO-mode control developed by SMIC
- Significant increased heat retention by the double insulation structure

实际启动时间 Actual starting time



双重隔热结构
Double insulation structure



保温力提升！
Improved heat retention

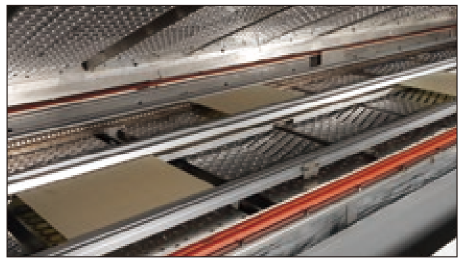
	SNR-725GT	SNR-825GT	SNR-840GT	SNR-850GT	
装置尺寸(L×W×H)	3,000 x 1,326 x 1,430 mm	5,300 x 1,240 x 1,460 mm	5,300 x 1,390 x 1,460 mm	5,700 x 1,490 x 1,460 mm	Dimensions (L×W×H)
轨线	900±20 mm	900±20 mm	900±20 mm	900±20 mm	Conveyor height
输送速度	0.3 - 2.0 m/min	0.3 - 2.0 m/min	0.3 - 2.0 m/min	0.3 - 2.0 m/min	Conveyor speed
目标基板	W: 50 - 250, L: 100 - 300, T: 0.8 - 3.0 mm	W: 50 - 250, L: 100 - 400, T: 0.8 - 3.0 mm	W: 50 - 400, L: 100 - 500, T: 0.8 - 3.0 mm	W: 50 - 500, L: 100 - 500, T: 0.8 - 3.0 mm	Board dimensions
部件高度	≦10mm [OP: 35mm], ≧5mm [OP: 25mm]	≦10mm [OP: 35mm], ≧5 mm [OP: 25mm]	≦10mm [OP: 35mm], ≧5 mm [OP: 25mm]	≦10mm [OP: 35mm], ≧5 mm [OP: 25mm]	Component height
加热部	7	8	8	8	Heated zones
冷却部	1	1	1	1	Cooling zones
搭载余量(选择式)	3 or 4 or 5 mm	3 or 4 or 5 mm	3 or 4 or 5 mm	3 or 4 or 5 mm	Side edge clearance (select one)
N_2气供应	≧99.999%, ≧0.4MPa, 250L/min	≧99.999%, ≧0.4MPa, 200L/min	≧99.999%, ≧0.4MPa, 300L/min	≧99.999%, ≧0.4MPa, 350L/min	N_2 (Nitrogen) gas supply
电源	200V, max. 30kW, 90A, 3-phase	200V, max. 30kW, 90A, 3-phase	200V, max. 30kW, 90A, 3-phase	200V, max. 48kW, 140A, 3-phase	Power requirement

	SNR-1025GT	SNR-1050GT	SNR-1065GT	SNR-1450GT	
装置尺寸(L×W×H)	6,200 x 1,240 x 1,460 mm	6,500 x 1,490 x 1,460 mm	6,800 x 1,790 x 1,460 mm	7,900 x 1,490 x 1,460 mm	Dimensions (L×W×H)
轨线	900±20 mm	900±20 mm	900±20 mm	900±20 mm	Conveyor height
输送速度	0.3 - 2.0 m/min	0.3 - 2.0 m/min	0.3 - 2.0 m/min	0.3 - 2.0 m/min	Conveyor speed
目标基板	W: 50 - 250, L: 100 - 400, T: 0.8 - 3.0 mm	W: 50 - 500, L: 100 - 500, T: 0.8 - 3.0 mm	W: 50 - 650, L: 100 - 700, T: 0.8 - 3.0 mm	W: 50 - 500, L: 100 - 500, T: 0.8 - 3.0 mm	Board dimensions
部件高度	≦10mm [OP: 35mm], ≧5mm [OP: 25mm]	≦10mm [OP: 35mm], ≧5mm [OP: 25mm]	≦10mm [OP: 30mm], ≧5mm [OP: 25mm]	≦10mm [OP: 35mm], ≧5mm [OP: 25mm]	Component height
加热部	10	10	10	14	Heated zones
冷却部	1	2	2	2	Cooling zones
搭载余量(选择式)	3 or 4 or 5 mm	3 or 4 or 5 mm	3 or 4 or 5 mm	3 or 4 or 5 mm	Side edge clearance (select one)
N_2气供应	≧99.999%, ≧0.4MPa, 200L/min	≧99.999%, ≧0.4MPa, 350L/min	≧99.999%, ≧0.4MPa, 400L/min	≧99.999%, ≧0.4MPa, 400L/min	N_2 (Nitrogen) gas supply
电源	200V, max. 48kW, 140A, 3-phase	200V, max. 48kW, 140A, 3-phase	200V, max. 48kW, 140A, 3-phase	200V, max. 48kW, 200A, 3-phase	Power requirement

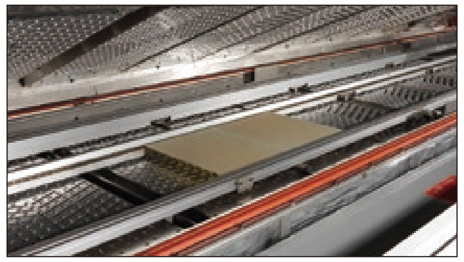
N₂回流炉 双通道型
N₂ Atmosphere Reflow Oven - Dual Lane Type

SNR-GT-D Series

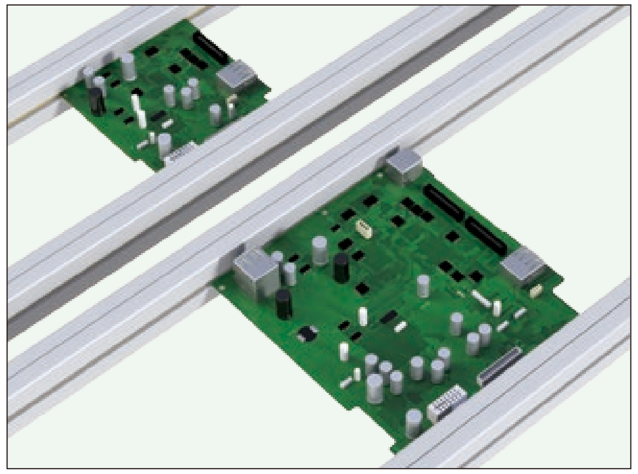
采用双通道使产量倍增
Dual lanes provide twice the production output

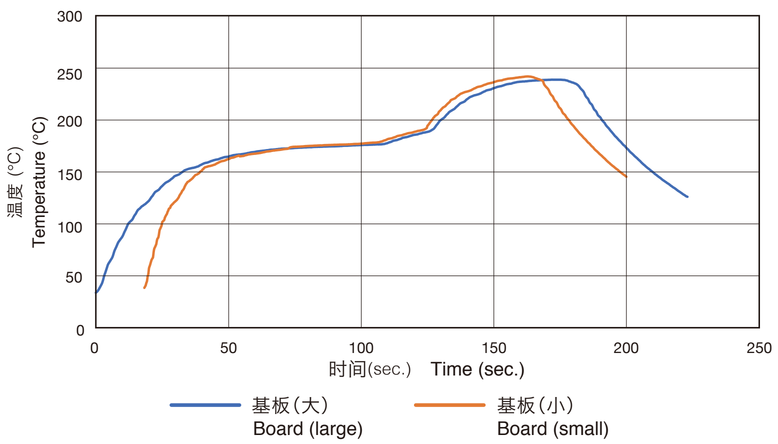


单通道模式下也能应对大型基板
Compatible with a large size PCB in single mode



通过调整传送带的速度也可应对不同尺寸的基板
Compatible with boards in different sizes with conveyor speed adjustment




温度曲线　Temperature profile

	SNR-720GT-D	
装置尺寸(L×W×H)	3,610 x 1,550 x 1,430 mm	Dimensions (LxWxH)
轨线	900±20 mm	Conveyor height
输送速度	0.3 - 2.0 m/min	Conveyor speed
目标基板	W: (双重/Dual) 50 - 200 x 2 lanes, (单一/Single) 200.1 - 350 x 1 lane, L: 100 - 400, T: 0.8 - 3.0 mm	Board dimensions
部件高度	≦10mm [OP: 35mm], ≧5mm [OP: 25mm]	Component height
加热部	7	Heated zones
冷却部	1	Cooling zones
搭载余量(选择式)	3 or 4 or 5 mm	Side edge clearance (select one)
N₂气供应	≧99.999 %, 0.3 - 0.5 MPa, 300L/min	N₂ (Nitrogen) gas supply
电源	200V, max. 30kW, 90A, 3-phase	Power requirement

	SNR-830GT-D	SNR-1030GT-D	
装置尺寸(L×W×H)	5,600 × 1,790 × 1,460 mm	6,300 x 1,790 x 1,460 mm	Dimensions (LxWxH)
轨线	900±20 mm	900±20 mm	Conveyor height
输送速度	0.3 - 2.0 m/min	0.3 - 2.0 m/min	Conveyor speed
目标基板	W: (双重/Dual) 50 - 300 x 2 lanes, (单一/Single) 300.1 - 590 x 1 lane, L: 100 - 400, T: 0.8 - 3.0 mm	W: (双重/Dual) 50 - 300 x 2 lanes, (单一/Single) 300.1 - 590 x 1 lane, L: 100 - 400, T: 0.8 - 3.0 mm	Board dimensions
部件高度	≦10mm [OP: 30mm], ≧5mm [OP: 25mm]	≦10mm [OP: 30mm], ≧5mm [OP: 25mm]	Component height
加热部	8	10	Heated zones
冷却部	1	2	Cooling zones
搭载余量(选择式)	3 or 4 or 5 mm	3 or 4 or 5 mm	Side edge clearance (select one)
N₂气供应	≧99.999%, 0.3 - 0.5 MPa, 500L/min	≧99.999%, 0.3 - 0.5 MPa, 500L/min	N₂ (Nitrogen) gas supply
电源	200V, max. 48kW, 140A, 3-phase	200V, max. 48kW, 140A, 3-phase	Power requirement

N₂回流炉 独立双炉膛型
N₂ Atmosphere Reflow Oven - Independent Double Chamber Type

SNR-GT-W Series

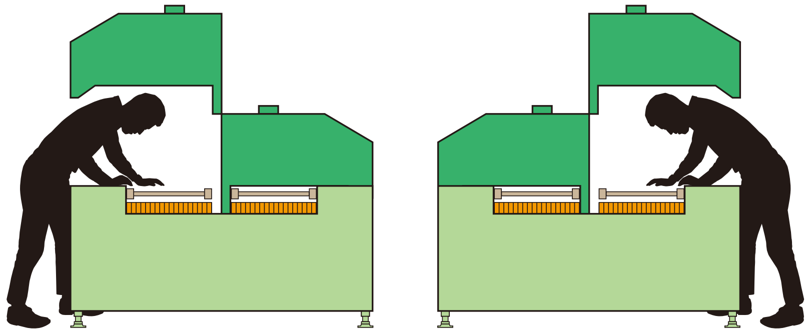
通过独立双炉膛实现不间断运作
Non-stop Operation with Independent Double Chamber

- 实现不间断运作
- 可执行自由的温度曲线
- 提高维护性
- 节省50%的空间

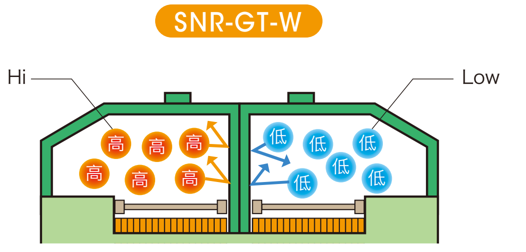
- Non-stop operation
- Independent temperature profile setting by lane
- Improved maintainability
- 50% space reduction

实现不间断运作　Non-stop operation

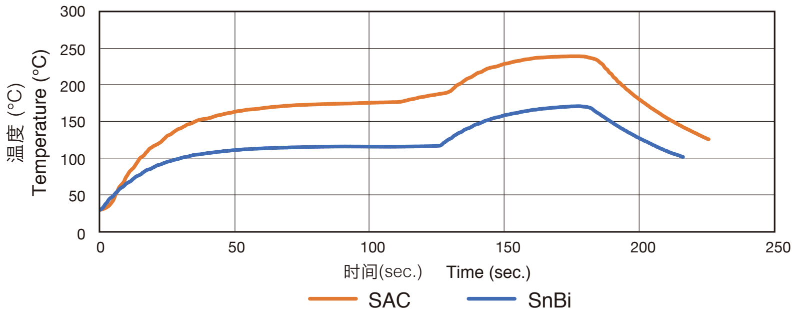
- 2个上部外壳独立升降，维护时无需停止生产
- Non-stop operation and maintenance by independent muffle open/close



执行自由的温度曲线　Independent temperature profile setting by lane



炉膛独立，不受相邻炉膛的热影响
No heat interferes by independent double chamber


温度曲线　Temperature profile

	SNR-830GT-W	SNR-1033GT-W	
装置尺寸(L×W×H)	6,000 x 1,930 x 1,480 mm	6,900 x 1,930 x 1,454 mm	Dimensions (LxWxH)
轨线	900±20 mm	900±20 mm	Conveyor height
输送速度	0.3 - 2.0 m/min	0.3 - 2.0 m/min	Conveyor speed
目标基板	W: 50 - 300 mm, L: 100 - 400 mm, T: 0.8 - 3.0 mm	W: 50 - 330 mm, L: 100 - 400 mm, T: 0.8 - 3.0 mm	Board dimensions
部件高度	≦10mm [OP: 30mm], ≧5mm [OP: 25mm]	≦10mm [OP: 30mm], ≧5mm [OP: 25mm]	Component height
加热部	8	10	Heated zones
冷却部	1	1	Cooling zones
搭载余量(选择式)	5 mm	5mm	Side edge clearance
N₂气供应	[≧99.999%, ≧0.4MPa, 250L/min] x 2	[≧99.999%, ≧0.4MPa, 250L/min] x 2	N₂ (Nitrogen) gas supply
电源	[200V, max. 30kW, 140A, 3-phase] x 2	[200V, max. 48kW, 140A, 3-phase] x 2	Power requirement

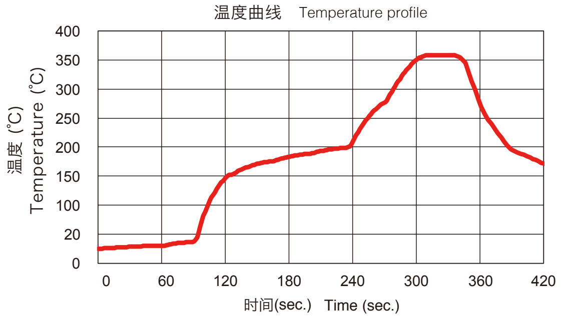
N₂回流炉 超高温型
N₂ Atmosphere Reflow Oven - Ultra High Temperature Type

SNR-GT-H Series

SNR-GT-H Series实现了420℃的温度曲线
The SNR-GT-H Series achieves the 420℃ temperature profile

- 达到420℃设定的耐热结构
- 通过交叉喷嘴省实现节能化

- Heat-resistant structure enables up to 420°C temperature profile
- Cross nozzle saves more energy



耐热结构
Heat-resistant structure

交叉喷嘴
Cross-nozzles

	SNR-725GT-H	
装置尺寸(L×W×H)	3,000 x 1,326 x 1,430 mm	Dimensions (LxWxH)
轨线	900±20 mm	Conveyor height
输送速度	0.3 - 2.0 m/min	Conveyor speed
目标基板	W: 50 - 250, L: 100 - 300, T: 0.8 - 3.0 mm	Board dimensions
部件高度	≦10mm [OP: 35mm], ≧5mm [OP: 25mm]	Component height
加热部	7	Heated zones
冷却部	1	Cooling zones
搭载余量(选择式)	420 ℃	Upper limit temperature setting
N₂气供应	3 or 4 or 5 mm	Soldering margin
电源	≧99.999 %, 0.3 - 0.5 MPa, 200L/min	N₂ (Nitrogen) gas supply
	200V, max. 30 kW, 90A, 3-phase	Power requirement

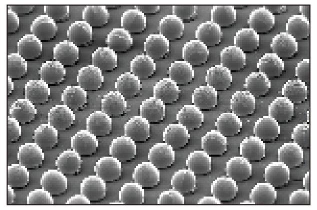
N₂回流炉 Bump形成型
N₂ Atmosphere Reflow Oven - Bump Formation Type

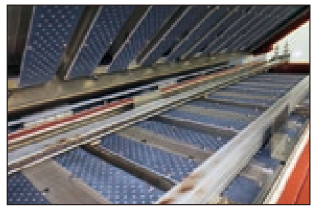
SNR-MB Series

温和的热风很常适合小焊锡球封装
Breeze of hot air is ideal for reflow process of micro solder balls

- 远红外线/热风并用加热
- 低氧气浓度(可在100ppm以下)
- 环境洁净标准(10,000级)
- 适用于100μm以下的小焊锡球

- Heated by far infrared radiant and convection
- Low oxygen concentration (under 100ppm)
- Clean environment specification (10,000 class)
- Compatible with micro solder balls under 100μm





	SNR-725MB	SNR-1346MB	
装置尺寸(L×W×H)	3,000 x 1,326 x 1,430 mm	6,820 x 1,440 x 1,390 mm	Dimensions (LxWxH)
轨线	900±20 mm	900±20 mm	Conveyor height
输送速度	0.3 - 2.0 m/min	0.3 - 2.0 m/min	Conveyor speed
目标基板	W: 50 - 250, L: 100 - 300, T: 0.8-3.0 mm	W: 50 - 460, L: 100 - 500, T: 0.8 - 3.0 mm	Board dimensions
部件高度	≦10mm [OP: 30mm], ≧5mm [OP: 25mm]	≦10mm [OP: 20mm], ≧5mm [OP: 20mm]	Component height
加热部	7	13	Heated zones
冷却部	1	2	Cooling zones
搭载余量(选择式)	3 or 4 or 5 mm	3 or 4 or 5 mm	Side edge clearance (select one)
N₂气供应	≧99.999%, 0.3 - 0.5 MPa, 250L/min	≧99.999%, 0.3 - 0.5 MPa, 600L/min	N₂ (Nitrogen) gas supply
电源	200V, max. 30kW, 90A, 3-phase	200V, max. 63kW, 200A, 3-phase	Power requirement

热风减压N₂回流炉
N₂ Atmosphere Reflow Oven - Vacuum Type

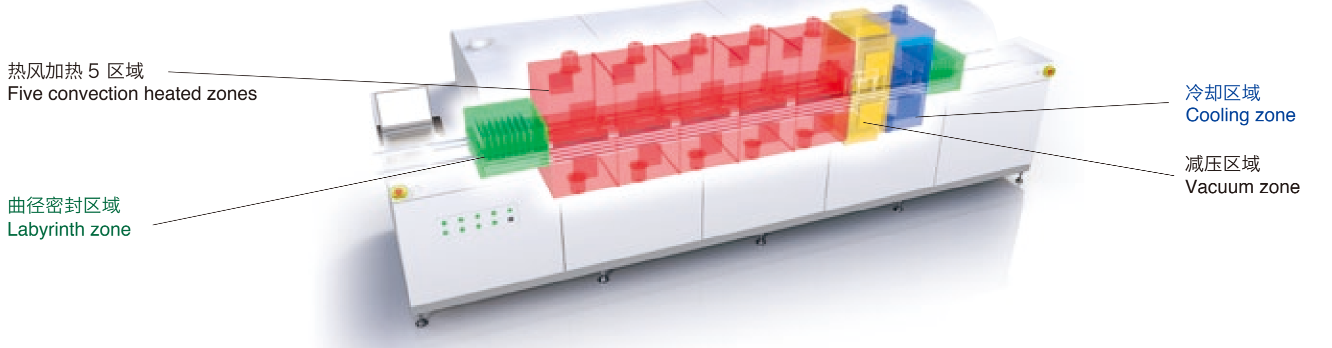
SVR-625GT-C

掌握焊锡材料特性，研发出的设计可减少空洞
"Void free" design by knowledge of solder material characteristics

- 减压控制机构可防飞溅，减少空洞
- 联机输送方式提高了生产效率
- 上下交叉喷嘴的热风加热机构可实现节能化
- 支持高温焊接(设定MAX350℃)

- Void free and splash-proof by vacuum chamber
- Enhanced production efficiency through unique inline conveyance system
- Convection heating by the cross nozzles on top and bottom of the tunnel saves more energy
- Support high temperature soldering (350°C max.)

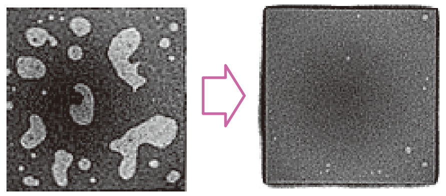
炉体构成 Furnace configuration



采用减压炉，实现减少空洞 Void-free vacuum oven

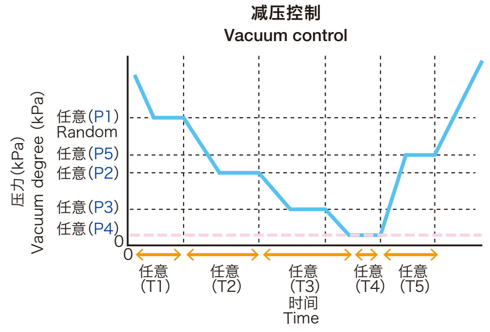
- 通过控制适当的时间/减压度，减少焊锡飞溅，提高输送节拍
- 使用合适的材料，进一步减少空洞
- 通过上下交叉喷嘴的热风加热方式可应对各种大型基板的实装

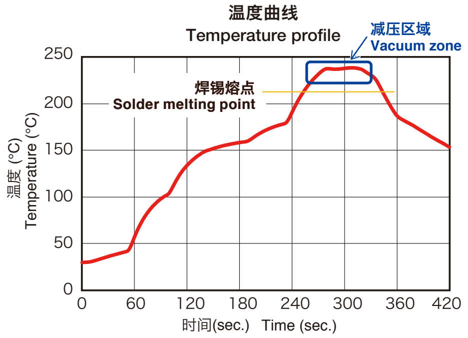
- Optimal time/vacuum degree control prevents solder splashing and improves conveyor takt time
- Further prevented void by the combination with most suitable solder materials
- Large-size substrate soldering is available by convection heating mechanism with cross-nozzles



熔融后
Immediately after melting

减压后
In vacuum





	SVR-625GT-C	
装置尺寸(L×W×H)	5,550 x 1,440 x 1,540 mm	Dimensions (LxWxH)
轨线	900±20 mm	Conveyor height
输送速度	销链条/Pin-chain type	Transfer form
目标基板	W: 100 - 250, L: 100 - 300, T: 0.8 - 3.0 mm	Board dimensions (WxL)
部件高度	≦10mm [OP: 50mm], ≧5mm [OP: 25mm]	Component height
加热部	5	Heating zone
冷却部	1	Vacuum zones
搭载余量(选择式)	1	Cooling zone
N₂气供应	5mm	Side edge clearance
电源	≧99.999%, ≧ 0.4MPa, 600L/min	N₂ (Nitrogen) gas supply
	200V, max 31kW, 90A, 3-phase	Power requirement

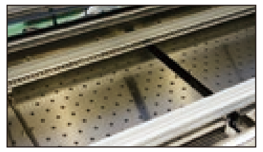
空气回流炉
Air Atmosphere Reflow Oven

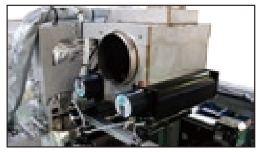
SAR-825GT

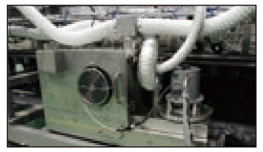
凭借多年的经验和实际成果制造出性能优越的回流炉
Industry's leading reflow oven designed by years of experience and success by SMIC

- 通用性高，易于管理
- 也可用作粘合剂硬化炉

- High versatility and easy maintenance
- Can also be used as an adhesive metallization oven


交叉喷嘴加热器
Cutting-edge cross-nozzle heater


冷却风机
Cooling fan


加热部助焊剂回收机构
Heated zone flux management system

	SAR-825GT	
装置尺寸(L×W×H)	3,800 x 1,330 x 1,460 mm	Dimensions (L×W×H)
轨线	900±20 mm	Conveyor height
输送速度	0.3 - 2.0 m/min	Conveyor speed
目标基板	W: 50 - 250, L: 100 - 400, T: 0.8 - 3.0 mm	Board dimensions
部件高度	≦35mm, ≧25mm	Component height
加热部	8	Heated zones
冷却部(横流风机方式)	上边2台、下边1台/Top side2, bottom side1	Cooling zones (cross flow fan system)
搭载余量(选择式)	3 or 4 or 5 mm	Side edge clearance (select one)
电源	200V, max. 30kW, 90A, 3-phase	Power requirement

桌上回流炉
Desktop Reflow Oven

STR-2010 Series

结构紧凑，可实现高可靠性焊接
Compact, yet delivers highly reliable soldering

- 远红外线加热
- 也可选择N₂规格
- 很适合于研发、验证用途

- Far infrared heating
- N₂ specification can also be selected
- Also suitable for development or experimentation

○ 选项 Options

- 架台
- 氧气浓度计（N₂规格时）

- Rack
- Oxygen analyzer (for N₂ specification)

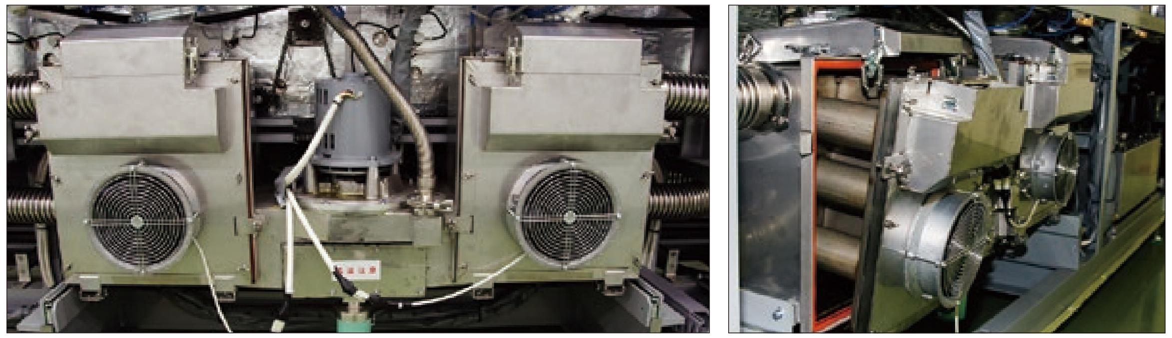
	STR-2010M	STR-2010 N₂M	
装置尺寸(L×W×H)	1,700 × 720 × 534 mm	1,700 × 720 × 534 mm	Dimensions (L×W×H)
轨线	335 - 385 mm [根据/From FL]	335 - 385 mm [根据/From FL]	Conveyor height
输送速度	10 - 100±5% cm/min	10 - 100±5% cm/min	Conveyor speed
目标基板	160 x 200 mm	160 x 200 mm	Board dimensions
部件高度	≦10mm	≦10mm	Component height
加热部(远红外线面板)	5	5	Heated zones (far infrared panel)
冷却部	冷却风机/Cooling fan	冷却风机/Cooling fan	Cooling zones
输送形态	链网输送/Mesh conveyor	链网输送/Mesh conveyor	Transfer form
N₂气供应	-	≧99.999%, 0.3 - 0.5 MPa, 150NL/min	N₂ (Nitrogen) gas supply
电源	200V, max. 12kW, 50A, 3-phase	200V, max. 12 kW, 50A, 3-phase	Power requirement

回流炉 标准规格
Reflow Oven - Standard Specifications

标准规格 Standard Specifications

	SNR-GT	SNR-GT-D	SNR-GT-W	SNR-GT-H	SNR-MB	SVR-625GT-C	SAR-825GT	STR-2010	
笔记本PC+PLC控制	●	●	●	●	●	●	●	–	Laptop PC + PLC control
加热部助焊剂回收系统	●	●	●	●	●	●	●	–	Flux management system in the heated zone
基板掉落/停顿感应器	●	●	●	●	●	●	●	–	PCB fall/congestion sensor
基板张数计数器	●	●	●	●	●	●	●	–	PCB counter
氧气浓度计	●	●	●	●	●	●	–	●*	Oxygen analyzer
氧气浓度自动控制机构	●	●	●	●	●	●	–	–	Automatic oxygen concentration control
智能待机模式	●	●	●	●	–	–	–	–	Intelligent stand-by mode
温度曲线测定模式	●	●	●	●	●	–	●	–	Temperature profile measurement mode
3区域风机控制	●	●	●	●	●	●	●	–	3-block fan control
输送配件的特殊表面处理（链条、键材、链轮）	●	●	●	●	●	●	●	–	Conveyor special surface treatment (chain, key materials and sprockets)
维护计时器	●	●	●	●	●	●	●	–	Maintenance timer
信号塔	●	●	●	●	●	●	●	–	Signal tower
装置/生产历史记录系统	●	●	●	●	●	●	●	–	Machine/production history record system
冷却横流风机	–	–	–	–	–	–	●	–	Cooling cross flow fan

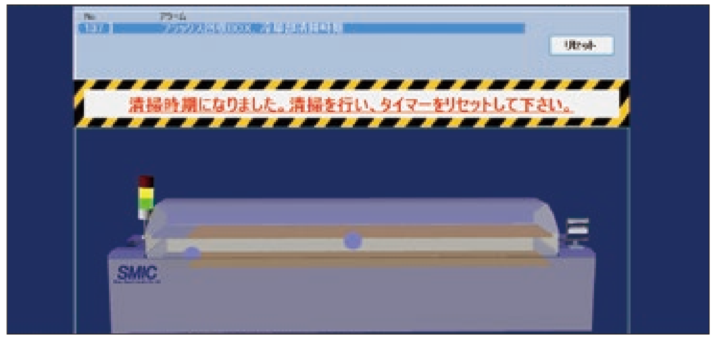
*仅限N₂M型　*Only for N₂M


加热部助焊剂回收系统
无需工具即可轻松维护

Flux management system
Tool-free easy maintenance

笔记本PC + PLC控制
通过3D显示实现高可操作性

Laptop PC + PLC Control
3D display for easy operation


清掃時期になりました。清掃を行い、タイマーをリセットして下さい。

回流炉 选项
Reflow Oven - Options

			SNR-GT	SNR-GT-D	SNR-GT-W	SNR-GT-H	SNR-MB	SVR-625GT-C	SAR-825GT	STR-2010	
选项 Options	硬件 Hardware	防基板翘曲机构	●	●	●	●	●	–	●	–	PCB warpage prevention mechanism
		炉体中央排热用管道	●	●	●	●	●	●	●	–	Oven center exhaust duct
		传送用自转辊	●	●	●	●	●	–	●	–	In-out feeder rollers
		UPS电源	●	●	●*1	●	●	●*1	●	–	UPS
		外置冷风单元*2	●	●	●	●	●	●	–	–	External chiller unit *2
		安全光幕	●	●	●	●	●	●*1	●	–	Safety light curtain
		链网输送 *3	●	●	●	●	●	–	●	●*1	Mesh conveyor *3
		上下曲径密封机构	●	●	●	●	●	●	–	–	Vertical labyrinth curtain
		指定涂镀色	●	●	●	●	●	●	●	–	Custom color
		马弗炉水平升降开关	*5	●	●*1	–	–	–	–	–	Muffle elevating system
		轨线变更 (基座/机架)	●	●	●	●	●	●	●	–	Variable conveyor height (spacer/frame)
		缺氧监测仪	●	●	●	●	●	●	–	–	Oxygen deficiency monitor
	硬件+软件 Hardware + Software	KIC系统 协作	●	●	●	●	–	–	●	–	KIC system collaboration
		条形码程序 变更功能	●	●	●	●	●	●	●	–	Automatic changeover by barcode
		8区域风机控制	●	●	●	●	●	●	●	–	8-block fan control
		全区域风机控制	●	●	●	●	●	●	●	–	All block fan control
		B（微风）规格	●	–	–	–	–	–	–	–	B (breeze) specification
		SMEMA信号线	●	●	●	●	●	●	●	–	SMEMA signal wires
		宽度自动调节机构 *4 (输送轨道)	●	●	●	●	●	●*1	●	–	Automatic width adjustment *4 (conveyor rail)
		宽度自动调节机构 *4 (防翘曲轨道轨道)	●	●	●	●	●	–	●	–	Automatic width adjustment *4 (warpage prevention rail)
	软件 Software	操作员模式/ 工程师模式	●	●	●	●	●	●	●	–	Operator mode/ Engineer mode
		中英文显示	●	●	●	●	●	●	●	–	Display in English/Chinese
		炉体中途停止 开关功能	●	●	●*1	●	●	●*1	●	–	The intermediate stop of the oven cover

*1 作为标准规格配备

*2 也可选择内置型(SNR-GT-W除外)

*3 和 *4 不可组合

*5 请联系我们的销售人员

*1 Equipped as a standard specification

*2 Built-in type can also be selected (excluding SNR-GT-W)

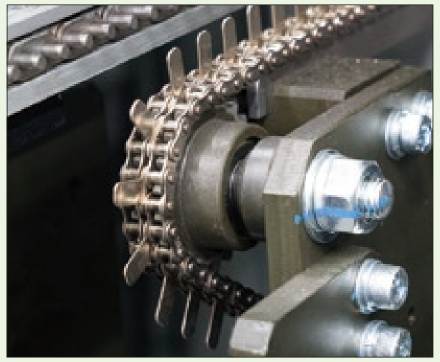
*3 and *4 cannot be selected together

*5 Please contact our sales representative

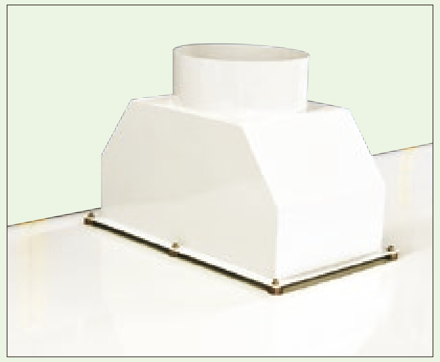
KIC系统协作
KIC system collaboration

条形码程序变更功能
Automatic changeover by barcode

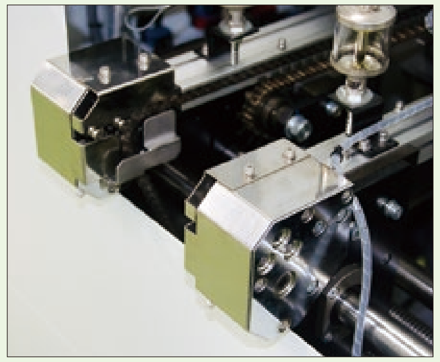
防基板翘曲机构
PCB warpage prevention mechanism



炉体中央排热用管道
Oven center exhaust duct



传送用自转辊
In-out feeder rollers



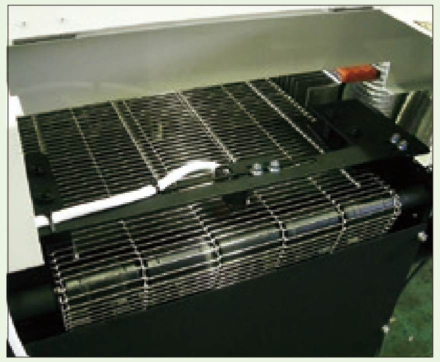
UPS电源
UPS

外置冷风单元
External chiller unit

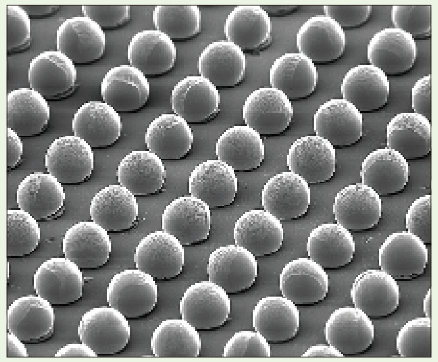
8区域或全区域风机控制
8 or all block fan control

安全光幕
Safety light curtain

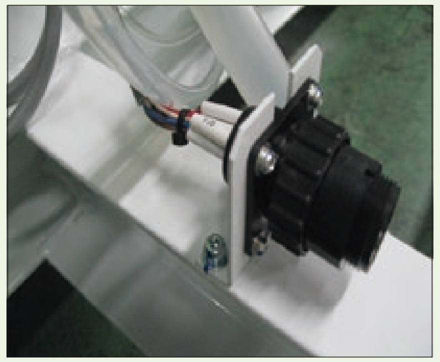
链网输送
Mesh conveyor



(微风)规格
B (breeze) specification



SMEMA信号线
SMEMA signal wires



波峰焊接装置
Wave Soldering Machine

ECOPASCAL SPF2 Series

采用稳压流动方式的自动焊接系统，实现了节能
Energy-saving automatic stable pressure flow type soldering system

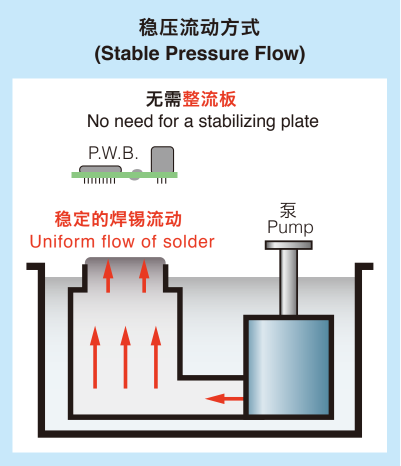
- 通过增强预热能力和加大喷流压力，提升TH部上锡高度
- 采用NH偏流板，实现稳压和镜面喷流

- Enhanced through-hole fillings by strengthened preheaters and stronger wave pressure
- Adoption of NH deflect plate makes stable pressure and mirror surface-like solder flow

稳压流动方式 Stable Pressure Flow

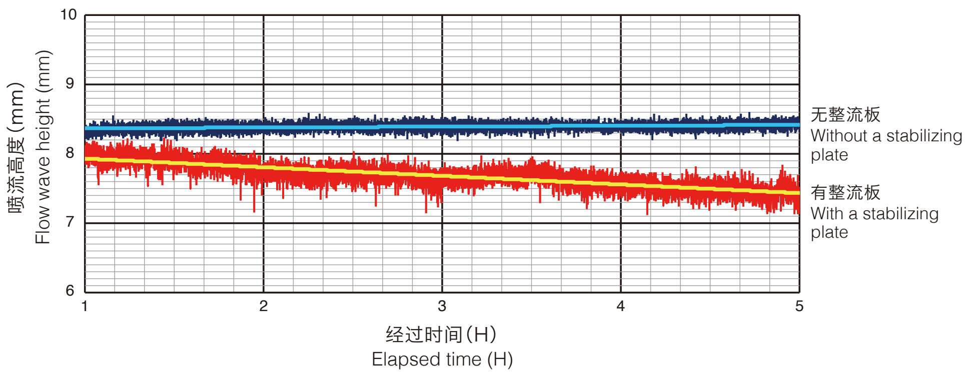
- 无整流板
- 减少需进行槽内拆卸维护
- 稳定喷流

- Eliminates the need for a stabilizing plate
- Allows easy pot cleaning without disassembly
- Stable flow wave

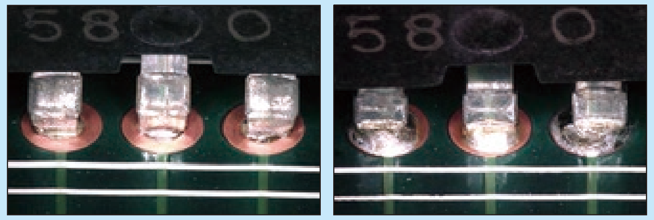


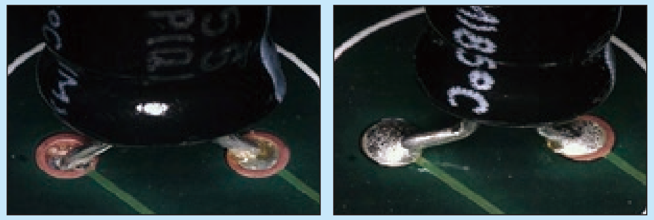
无整流板，氧化物不容易堵塞孔眼，喷流稳定

Without a stabilizing plate, no clogging of oxide occurs and offering stable solder flow



- SPF2系列通过增强喷流压力和强化加热性能，提升了TH部上锡高度
- SPF2 Series offers enhanced through-hole fillings by increasing wave pressure and enhancing heat capacity of preheaters


旧型号(Previous model)SPF → SPF2


旧型号(Previous model)SPF → SPF2

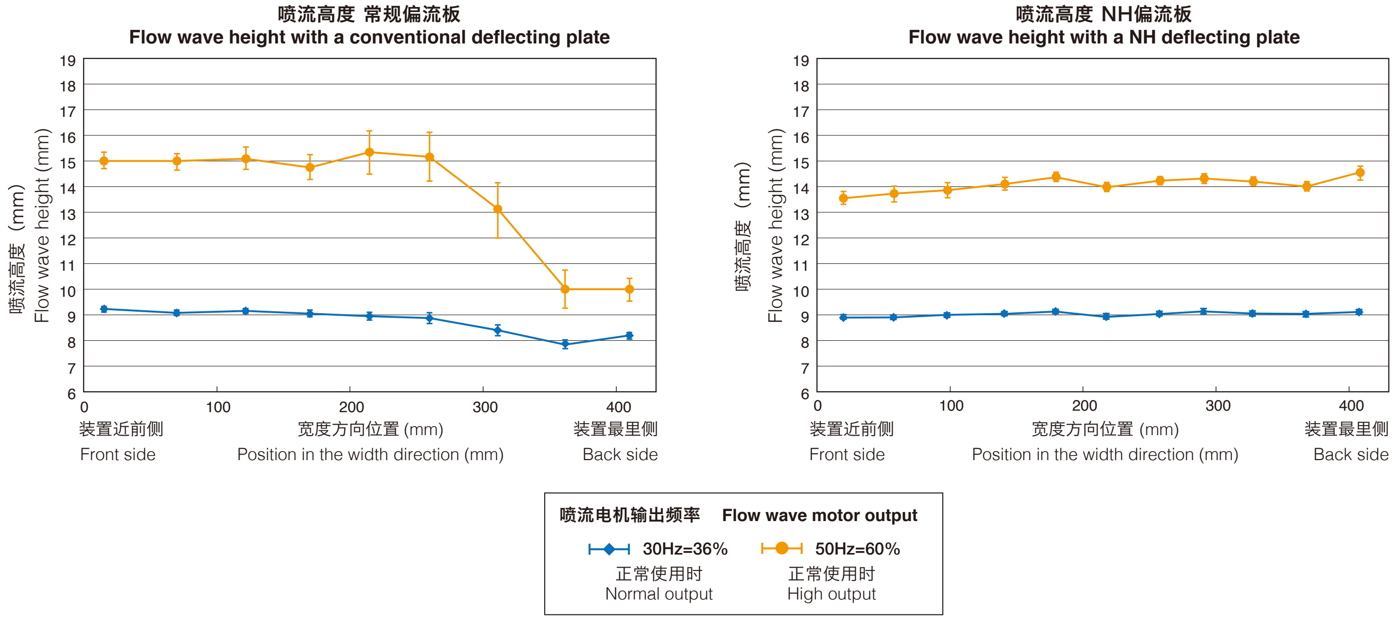
NH偏流板实现了更高更稳定的波 Stable higher wave realized by the NH deflecting plate

- 即使是超过10 mm的喷流您可以保持稳定的波高
- Stable flow wave is compatible with a flow wave height of over 10 mm

喷流波状态 Comparison of wave conditions


常规偏流板
With a conventional deflecting plate

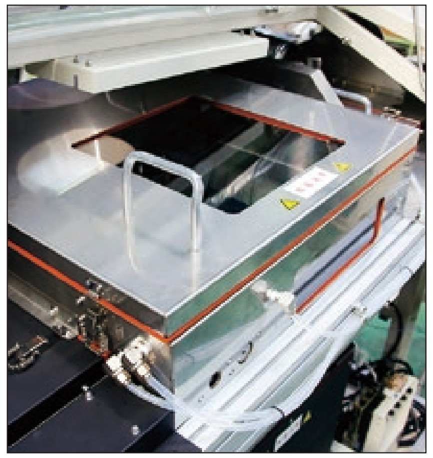

NH偏流板
With a NH deflecting plate



应对氮气 N系列 N-Series for N_2 ambient wave soldering

- 全罩方式
- 标准搭载有助焊剂回收系统
- 品质提升
- 减少氧化物

- Full chamber system
- Equipped with a flux management system as a standard feature
- Ensures high quality of the product
- Reduces oxide of solder



SPF2-400N

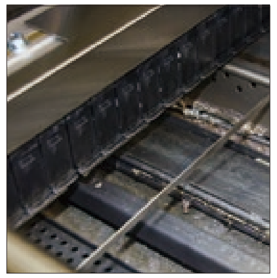
标准规格・选项
Standard Specifications・Options

		SPF2	SPF2-N	
标准规格 Standard Specifications	触摸面板+PLC控制	●	●	Touch panel + PLC control
	预热器：远红外线面板4张	●	●	Preheater: 4 IR panels
	输送高度780±20mm	●	●	Conveyor height 780±20mm
	助焊剂回收系统	●	●	Flux management system
	喷流外部体积	●	●	External flow volume
	宽度可调指示器	●	●	Width adjustment indicator
	基板下部冷却风机单元	●	–	PCB bottom surface cooling fan unit
	信号塔	●	●	Signal tower
	带入口/出口护套链式传送带	●	●	Loading/unloading chain conveyor with flanges
	输送轨道上下机构	●	●	Vertical conveyor rail
	输送树脂爪	●	●	Conveyor resin fingers
	输送爪清洗机构	●	●	Cleaning mechanism for conveyor fingers
	焊锡槽自动升降/拉出	●*	●	Automatic solder bath up/down and in/out
	防焊锡飞溅外罩	●*	●	Solder splash protection cover
选项 Options	防基板翘曲机构	●	●	PCB warpage prevention mechanism
	上部预热器	●	●	Top preheaters
	冷却用定点冷却器	●	–	Spot cooler unit
	UPS电源	●	●	UPS
	焊锡条自动供给机	●	–	Automatic solder bar feeder
	焊锡丝自动供给机	●	●	Automatic wire solder feeder
	基板掉落/停顿感应器	●	●	PCB fall/congestion sensor
	焊锡槽高度测量卡尺	●	●	Solder bath height measuring caliper
	SK感应器	●	–	SK sensor
	SK喷嘴	●	–	SK nozzle
	自动灭火装置	●	●	Automatic fire extinguishing system
	防火阀	●	●	Fire damper
	焊锡槽接口规格	●	●	Solder bath connector specification
	轨线变更（基座/机架）	●	●	Variable conveyor height (spacer/frame)
	断续喷流	●	●	Pulsating jet flow
	耐高温树脂爪	●	●	Heat resistant resin fingers
	波高侧导板	●	●	Wave-height side guide
	全氮化处理	●	●	Full nitride coating
	热风预热器	●	–	Convection preheater
	装置内部照明	●	●	Lighting in machine
	助焊剂发泡装置	●	–	Forming fluxer
	装置/生产历史记录系统	●	●	Machine/production history record system
	备用焊锡槽	●	●	Spare solder bath
	指定涂镀色	●	●	Custom color
	N₂冷冻器	–	●	Nitrogen chiller
	支持PC	–	●	Compatible with PC
	缺氧监测仪	–	●	Oxygen deficiency monitor

* 可作为选项应对　　* Available as an option

选项 Options

- 防基板翘曲机构（仅焊锡槽上部/入口～出口）
- PCB warpage prevention mechanism (only on the upper solder bath/ from inlet to outlet)



- 上部预热器（仅3、4区域）
- Upper preheater (only 3 and 4 zones)

- 冷却用定点冷却器
- Spot cooler unit

- UPS电源
- UPS

- 焊锡丝自动供给机
- Automatic wire solder feeder

- 基板掉落/停顿感应器
- PCB fall/congestion sensor

- 焊锡槽高度测量卡尺
- Solder bath height measuring caliper

- 热风预热器
- Convection preheater

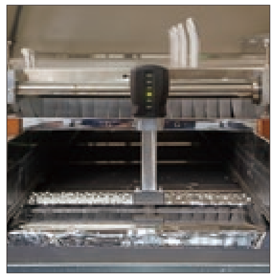
- 装置内部照明
- Lighting in machine

- 耐高温树脂爪
- Heat resistant resin fingers

- 自动灭火装置
- Automatic fire extinguishing system

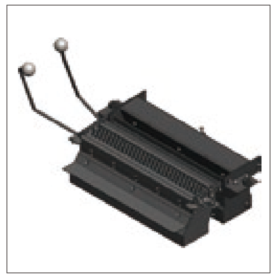
- 防火阀
- Fire damper

- SK感应器
- SK sensor



- SK感应器（显示屏）
- SK sensor (monitor)

- SK喷嘴
- SK nozzle



	SPF2-300	SPF2-300N	
装置尺寸(L×W×H)	4,340 x 1,340 x 1,540 mm	4,340 x 1,340 x 1,540 mm	Dimensions (LxWxH)
轨线	780±20 mm	780±20 mm	Conveyor height
输送速度	0.5 - 2.0 m/min	0.5 - 2.0 m/min	Conveyor speed
目标基板(W×L)	50 x 100 - 300 x 450 mm	50 x 100 - 300 x 450 mm	Board dimensions (WxL)
部件高度	≦100mm, ≧5mm	≦50mm, ≧5mm	Component height (highest)
预热器单元(加热区域长度)	1,600 (400/zone x 4) mm	1,600 (400/zone x 4) mm	Preheater (heated zone length)
焊锡槽容量(约)	360kg (M705, Sn - 3.0Ag - 0.5Cu)	360kg (M705, Sn - 3.0Ag - 0.5Cu)	Solder bath capacity (approx.)
N₂气应	–	≧99.999%, 0.3MPa, ≧300NL/min (18m³/Hr)	N₂ (Nitrogen) gas supply
空气应	–	≧0.5MPa	Air supply
电源	200V, approx. 32.5kW, 100A, 3-phase	200V, approx. 32.9kW, 100A, 3-phase	Power requirement

	SPF2-400	SPF2-400N	
装置尺寸(L×W×H)	4,340 x 1,340 x 1,540 mm	4,340 x 1,340 x 1,540 mm	Dimensions (LxWxH)
轨线	780±20 mm	780±20 mm	Component height
输送速度	0.5 - 2.0 m/min	0.5 - 2.0 m/min	Conveyor speed
目标基板(W×L)	50 x 100 - 400 x 450 mm	50 x 100 - 400 x 450 mm	Board dimensions (WxL)
部件高度	≦100mm, ≧5mm	≦50mm, ≧5mm	Component height (highest)
预热器单元(加热区域长度)	1,600 (400/zone x 4) mm	1,600 (400/zone x 4) mm	Preheater (heated zone length)
焊锡槽容量(约)	360kg (M705, Sn - 3.0Ag - 0.5Cu)	360kg (M705, Sn - 3.0Ag - 0.5Cu)	Solder bath capacity (approx.)
N₂气应	–	≧99.999%, 0.3MPa, ≧300 NL/min (18m³/Hr)	N₂ (Nitrogen) gas supply
空气应	–	≧0.5MPa	Air supply
电源	200V, approx. 32.5kW, 100A, 3-phase	200V, approx. 32.9kW, 100A, 3-phase	Power requirement

	SPF2-500	SPF2-500N	
装置尺寸(L×W×H)	4,640 x 1,440 x 1,540 mm	4,640 x 1,440 x 1,540 mm	Dimensions (LxWxH)
轨线	780±20 mm	780±20 mm	Component height
输送速度	0.5 - 2.0 m/min	0.5 - 2.0 m/min	Conveyor speed
目标基板(W×L)	50 x 100 - 500 x 600 mm	50 x 100 - 500 x 600 mm	Board dimensions (WxL)
部件高度	≦100mm, ≧5mm	≦50mm, ≧5mm	Component height (highest)
预热器单元(加热区域长度)	1,600 (400/zone x 4) mm	1,600 (400/zone x 4) mm	Preheater (heated zone length)
焊锡槽容量(约)	520kg (M705, Sn - 3.0Ag - 0.5Cu)	520kg (M705, Sn - 3.0Ag - 0.5Cu)	Solder bath capacity (approx.)
N₂气应	–	≧99.999%, 0.3MPa, ≧450NL/min (27m³/Hr)	N₂ (Nitrogen) gas supply
空气应	–	≧0.5MPa	Air supply
电源	200V, approx. 32.5kW, 100A, 3-phase	200V, approx. 32.9kW, 100A, 3-phase	Power requirement

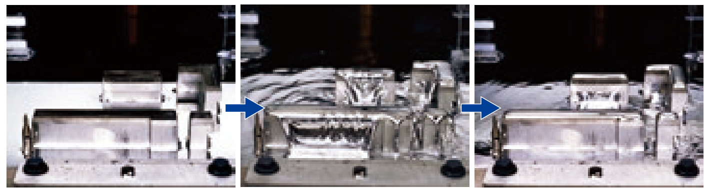
局部浸焊装置
Selective Dip Soldering Machine

SOLZEUS MPF Series

静压式局部焊接实现节能和高品质化
Static pressure type selective soldering offers energy-saving and high quality

- 静压式喷流方式提高了TH部上锡高度
- 采用间距进给方式，实现量产化
- 根据基板尺寸和形状，也可设计异型喷嘴

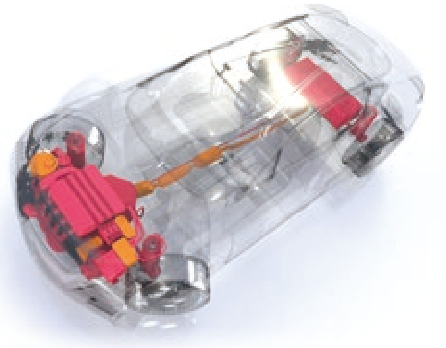
- Customized static pressure wave method enhances through-hole fillings
- Use of pitch-feed mechanism enables mass production
- Customized nozzle design available according to board size and/or shape



MPF-2077ST

车载应用工件　Examples of automotive application

EPS（电动助力转向）	EPS (Electric Power Steering)
ECU（电子控制单元）	ECU (Electronic Control Unit)
接线盒	Junction box
EV控制	EV control
功率器件	Power devices
空调用压缩机	Compressors for air conditioners
ABS	ABS
电动窗/刮雨器	Power windows / Wipers
前照灯/后照	Head lamp / Rear lamp



标准规格　Standard specifications

触摸面板+PLC控制	Touch panel + PLC control
信号塔	Signal tower
周计时器	Weekly timer
预热器（热风/卤素）	Preheater (convection/halogen lamps)
助焊剂装置: X-Y伺服控制	Fluxer: XY-axis servo control
加压式助焊剂装置	Pressurized flux tank

4轴机器人（MPF-2077ST）
4-axis robot (MPF-2077ST)

选项　Options

上部预热器（热风/卤素）	Upper preheater (convection/halogen lamps)
冷却风机单元	Cooling fan unit
焊锡倾斜切断机构	Solder inclination cutting mechanism
焊锡波高管理机构	Wave height control mechanism
控制焊锡渣的装置（使用氮气）	Solder dross prevention N₂ cover system
输送返回结构	Return conveyor

单点喷嘴（MPF-2077ST）
Point nozzle (MPF-2077ST)

	MPF-2003ST (联机型/in-line type)	MPF-2077ST (焊盘型/round type)	
装置尺寸(L×W×H)	3,070 x 1,206 x 1,650 mm	2,800 x 1,460 x 1,650 mm	Dimensions (L×W×H)
效用	3-phase, AC 200V, 19kVA, Air: ϕ10joint	3-phase, AC 200V, 44kVA, Air: ϕ10joint	Utility
目标基板* (可焊接范围 W×L)	W: 80 - 250, L: 80 - 330, T: max. 50mm (230 x 310 mm [自基板中央/From the board center])	W: 80 - 250, L: 80 - 330, T: max. 50mm (230 x 310 mm [自基板中央/From the board center])	Board dimensions* (solderable range W×L)
助焊剂装置单元	X-Y程序方式/XY axis programmable	X-Y程序方式/XY axis programmable	Fluxer unit
预热器单元	6kW [OP:卤素加热器/Halogen heater]	卤素加热器/Halogen heater (1.2kW × 7)	Preheater unit
控制方式	PLC控制/PLC control	PLC控制/PLC control	Control unit
N_2气体供应**	5NL/min [射流轴/Flow shaft part]	5NL/min [射流轴/Flow shaft part]	N_2 (Nitrogen) gas supply**
工件冷却	外气冷却风机/Cooling fan with air	外气冷却风机/Cooling fan with air	Cooling unit

* H: 基板下部高度/Under the board　** OP: 另需N_2外罩/Optional N_2 cover is required separately.

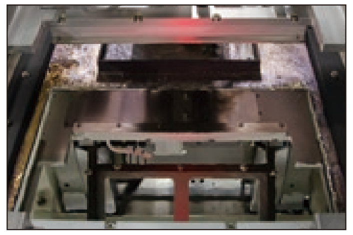
内部热循环式浸焊装置
Internal heat circulation Dip Soldering Machine

SOLZEUS LPD Series

通过独特的内部热循环方法提高焊接质量
Soldering quality with unique internal heat circulation system will inprove

- 新开发内部热循环系统兼顾了热量均衡和抑制氧化物。
- 模板托盘预热系统实现工件的加热稳定。
- 多角度控制，可满足多种浸焊条件

- Internal heat circulation system balances soaking and suppress dross generation
- Mask pallet preheating system achieves soaking of work
- Multi-angle control that enables various dip soldering



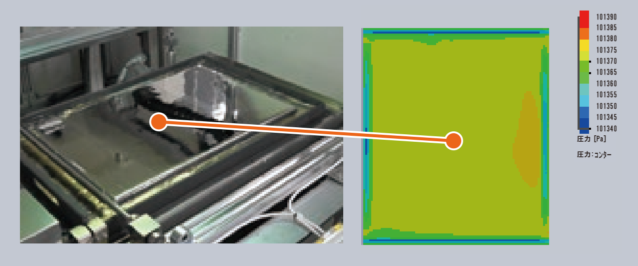
在保持镜面的同时实现内部热循环
Internal heat circulation while keep the mirror surface

利用焊锡浴对模板托盘进行预热时的热源，实现对工件的热量均衡。
Utilize heat source of solder bath for preheating mask pallet Efficient soaking of work

特点　Features

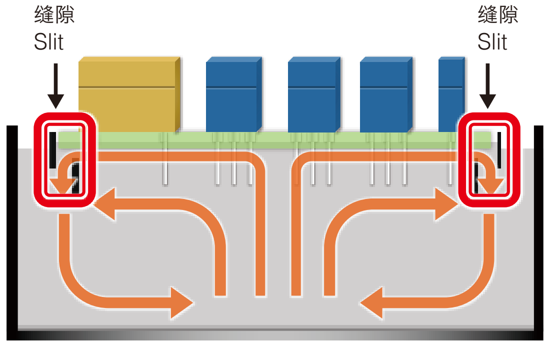
内部热循环方式
Internal heat circulation system

- 稳定的表面压力分布
- Realizes stable surface pressure distribution



焊锡表面压力分布数据
Solder pressure distribution data

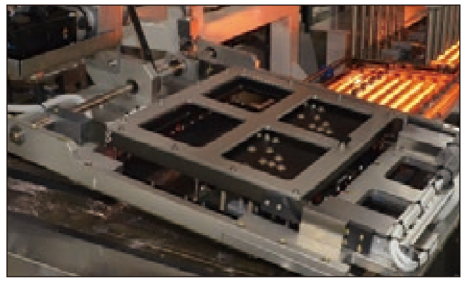
- 内部热循环式焊锡槽的图像
- Image diagram of Internal heat circulation system solder bath



- 免工具模板托盘更换机构
- Tool-free mask pallet changing mechanism

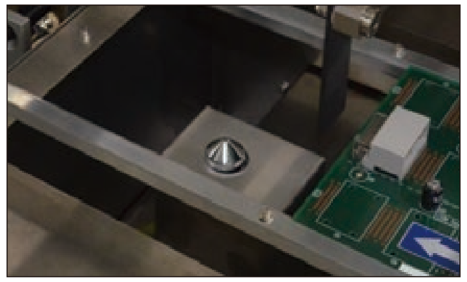
实现短时间内的机种切换
Switch models in a short time

- 通过4轴机器人进行多角度控制
- Multi-angle control by 4-axis robot



可设定各种浸焊条件
Various dip soldering can be set

- XY驱动式喷雾装置
- XY drive spray fluxer



在没有模板的情况下向目标区域涂敷助焊剂
Flux to target location can be applied

	LPD-2019M	
装置尺寸(L×W×H)	3,310 x 1,550 x 1,650 mm	Dimensions (L×W×H)
效用	3-phase, AC 200V, 26kVA, AIR: ϕ10joint	Utility
目标基板	W: 150 - 250, L: 150 - 330, T: max.50mm (自基板上表面/Frome PCB topside), 基板下方插入部件的露出部分/Bottom clearance:max. 10mm	Board dimensions
输送方式	基板直接搬运、机器人卡盘（自动宽度调节类型）/PCB traveling by robot with chuck	Transfer system
助焊剂装置单元	加压式喷雾单元（XY驱动）/Pressurized spraying nozzle (XY Drive)	Fluxer unit
预热器单元	卤素灯/Halogen lump(1.0kWx23本/1st 上5本,下9本/2st:下9本), 耐热玻璃/Heat-resistant glass	Preheater unit
焊接	内部热循环方式/Internal heat circulation, 焊锡槽容量/Solder bath:500kg, 电动喷射泵/Motor system for soldering pump, 耐腐蚀表面处理/Corrosion-proof surface treatment	Soldering
工件冷却	外气冷却风机/Cooling fan with air	Cooling unit

全面浸焊装置
Surface Dip Soldering Machine

SOLZEUS LPF Series

装置设定方便，可进行单一条件下的混流生产
Mixed production under single condition with easy machine setting

- 槽较深，可用于长引线部件
- The Deep soldering bath accepts long lead shape items

- 焊锡槽
- Solder pot

通过喷流马达维持一定的液面高度，持续的供热实现高可靠性实装

Achieves highly reliable mounting by wave motors that keep stable surface with fresh heat

选项 Options

- 上部预热单元（卤素灯6根）
- 助焊剂流量计（泄露检测）
- 冷却风机单元

- Upper pre-heater unit (6 halogen lamps)
- Flux Flowmeter (leak detection)
- Cooling fan unit

	LPF-2008L	
装置尺寸(L×W×H)	4,380 x 1,060 x 1,570 mm	Dimensions (LxWxH)
效用	3-phase, AC 200V, 24kVA, AIR: ϕ10joint	Utility
目标基板	W: 50 - 360, L: 50 - 410, T: max. 90mm (自基板上表面/From PCB topside), 基板下方插入部件的露出部分/Bottom clearance: max. 50mm	Board dimensions
输送方式	输送载体纵循环方式/Conveyor palette vertical rotation system	Transfer system
助焊剂装置单元	加压式喷雾单元/Pressurized spraying nozzle	Fluxer unit
预热器单元	卤素灯/Halogen lump (1.0kW x 12), 耐热玻璃/Heat-resistant glass	Preheater unit
焊接	全面流焊、焊锡槽容量 400kg、电机式喷射泵、耐腐蚀表面处理 Whole-surface wave soldering, Solder bath capacity: 400kg, Motor system wave pump, Corrosion-proof surface treatment	Soldering
工件冷却	外气冷却风机/Cooling fan with air	Cooling unit

局部浸焊装置
Selective Dip Soldering Machine

SOLZEUS SNF Series

很适合多种少量生产的局部自动流焊装置
Automatic selective dip-soldering machine best suited for high mix, low volume production

- 喷嘴宽度可自动调节
- Automatic width adjustable nozzle

无需更换喷嘴　No nozzle change is required

焊接连接器时
(宽15mm)

When soldering connectors (width of 15mm)

焊接电解电容器时
(宽 6mm)

When soldering electrolytic capacitors (width of 6mm)

已获专利 Patented

**在保持基板状态的条件下，
在6～30 mm的范围内，
自动变更为与焊接部位匹配的喷嘴的宽度**

Automatic width adjustment nozzle between 6 to 30 mm according to the soldering part with holding PCB

※喷流转速也会自动切换，以保持相同的喷流高度

※ Wave speed also changed to keep the same wave height

选项 Options

- 输送轨道、机器人卡盘宽度自动调整机构
- 助焊剂流量计（泄露检测）
- 上部预热单元（卤素灯3根）
- 应对规格外基板尺寸（请联系我们）

- Automatic width adjust of PCB conveyor rail and holders
- Flux Flowmeter (leak detection)
- Upper pre-heater unit (3 halogen lamps)
- PCB size for out of specification (please consult)

＊其他特殊规格请咨询我们的销售人员。
*Please contact our sales representative for any requests.

	SNF-2017ST	
装置尺寸(L×W×H)	2,150 x 1,300 x 1,500 mm	Dimensions (LxWxH)
效用	3-phase, 200V, 19kVA, AIR: 40L/min (ϕ10joint), N_2: 10L/min (ϕ10joint)	Utility
目标基板	W: 100 - 250, L: 100 - 200, T: max. 40mm (自基板上表面/From PCB topside), 基板边缘死区/PCB edge dead space: 3mm or more	Board dimensions
输送方式	基板直接搬运 6轴机器人卡盘(可通过触摸面板操作)/PCB traveling by 6-axis robot with chuck (operable by touch panel)	Transfer system
助焊剂装置单元	加压式喷雾单元(XY驱动)、升降式雾气收集管道 Pressurized spraying nozzle (XY Drive), Upward/downward-moving mist collection duct	Fluxer unit
预热器单元	卤素灯/Halogen lump (1.2kW × 6), 耐热玻璃/Heat-resistant glass	Preheater unit
焊接	带点焊宽度可调式喷嘴、焊锡槽100kg、伺服电机式喷射泵、耐腐蚀表面处理、使用Hot N_2 Point soldering nozzles for variable width, Solder bath: 100kg, Servo motor system for soldering pump, Corrosion-proof surface treatment, Using hot N_2	Soldering
工件冷却	外气冷却风机/Cooling fan with air	Cooling unit

喷雾式助焊剂装置
Spray Fluxer

SSF2 Series

采用定量泵，可稳定涂覆助焊剂
Equipped with a metering pump for stable flux coating

标准规格 Standard specifications

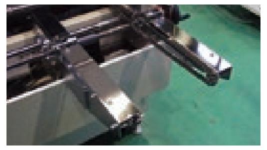
- 触摸面板 + PLC控制
- 输送传送带
- 输送链条清洗机构
- 集尘单元
- 信号塔
- 喷嘴清洗功能
- 涂覆流量计

- Touch panel + PLC Control
- Conveyor
- Conveyor chain cleaning mechanism
- Spray mist collection unit
- Signal tower
- Nozzle cleaning function
- Flowmeter

选项 Options

- 入口插入导轨（手动用 长度300mm）
- 入口转移传送带（长度300mm）
- 出口转移传送带（角度调整式长度300mm）
- 1次空气的压力按钮
- 卷帘式过滤器规格
- IPA槽的液量管理（喷嘴清洗用）
- 指定涂镀色
- 输送高度变更
- 防火阀

- Inlet insertion guide (manual feed, length: 300 mm)
- Inlet transfer conveyor(length: 300 mm)
- Outlet transfer conveyor (angle adjustable, length: 300 mm)
- Primary air pressure switch
- Roll filter specification
- IPA tank liquid amount management (for nozzle cleaning)
- Custom color
- Specific conveyor height
- Fire damper



	SSF2-400	SSF2-500	
装置尺寸(L×W×H)	1,350 x 1,299 x 1,378 mm	1,350 x 1,299 x 1,378 mm	Dimensions (LxWxH)
轨线	780±20 mm	780±20 mm	Conveyor height
输送速度	0.5 - 2.0 m/min	0.5 - 2.0 m/min	Conveyor Speed
目标基板(W×L)	50 x 100 - 400 x 400 mm	50 x 100 - 500 x 400 mm	Board dimensions (WxL)
部件高度	≦100mm, ≧15mm	≦150mm, ≧15mm	Component height
空气供给	≧0.5MPa	≧0.5MPa	Air supply
电源	200V, approx. 1.3 kW, 10A, 3-phase	200V, approx. 1.3kW, 10A, 3-phase	Power requirement

焊锡回收装置
Solder Recycle System

SDS2-5N

靠近焊锡槽，节省空间，实现再利用
Small footprint machine placed near the solder bath for solder recovery

标准规格 Standard specifications

- 支持100V
- 排气管ϕ100
- 搅拌单元
- 焊锡槽容量12kg
- 简易铸模单元
- 氧化物排出口
- 触摸面板 + PLC控制

- Supports 100V
- ϕ100 exhaust duct
- Agitation unit
- Solder bath capacity 12kg
- Mold unit for recovered solder
- Oxide exhaust outlet
- Touch panel + PLC Control

选项 Options

- 信号塔
- 周计时器
- 防火阀
- 指定涂镀色

- Signal tower
- Weekly timer
- Fire damper
- Custom color

	SDS2-5N	
装置尺寸(L×W×H)	800 x 650 x 1,000 mm	Equipment dimensions (LxWxH)
浮渣最大处理量	5kg	Maximum dross processing capacity
处理时间(大约)*	15min [根据计时器的不同可在1～30min内调整/ Adjustable from 1 to 30min using the timer]	Dross processing time (approx.)
电源	100V, approx. 1.2kW, 15A, Single-phase	Power requirement

*取决于浮渣状态、温度、重量及焊料组分。/ Varies depending on the dross condition, temperature, weight and the solder condition.

SMT用焊锡膏　Solder paste for SMT ULT369

追求易用性并提升散热性　Achieved both usability and enhancement of heat dissipation

重新评估SMT工序，在提高了润湿性等基本性能的基础上，还要应对微型元器件的印刷性和薄型BGA的Non-Wet-Open(NWO)，适用于今后越来越小型化的电子装置。

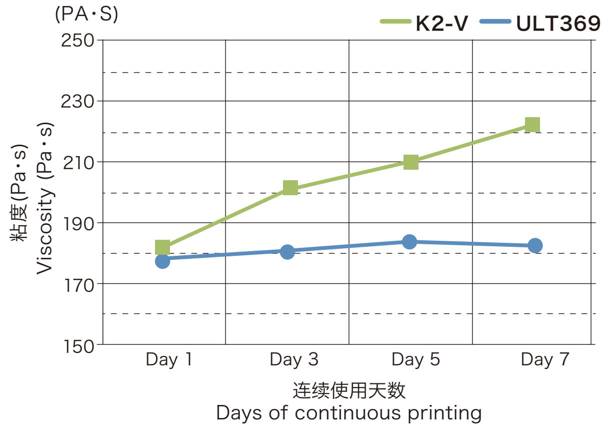
推荐合金：M705

Revised latest SMT process and improved basic performance of wettability as well as printability for miniaturized components and compatibility with Non-Wet-Open (NWO) at slim BGA are the best for downsizing trend of electronic devices.

Recommended alloy: M705

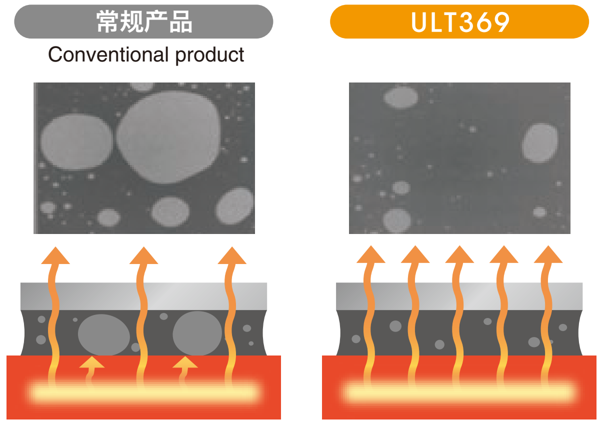
- **削减废弃量**
  改善在印刷工序中发生的焊料粉末与助焊剂的反应。
  延长网版上的使用寿命，削减(焊锡膏的)废弃量。

- **Reduction of waste**
  Protect reaction of solder powder and flux during printing.
  Improve stencil life to reduce solder paste waste.

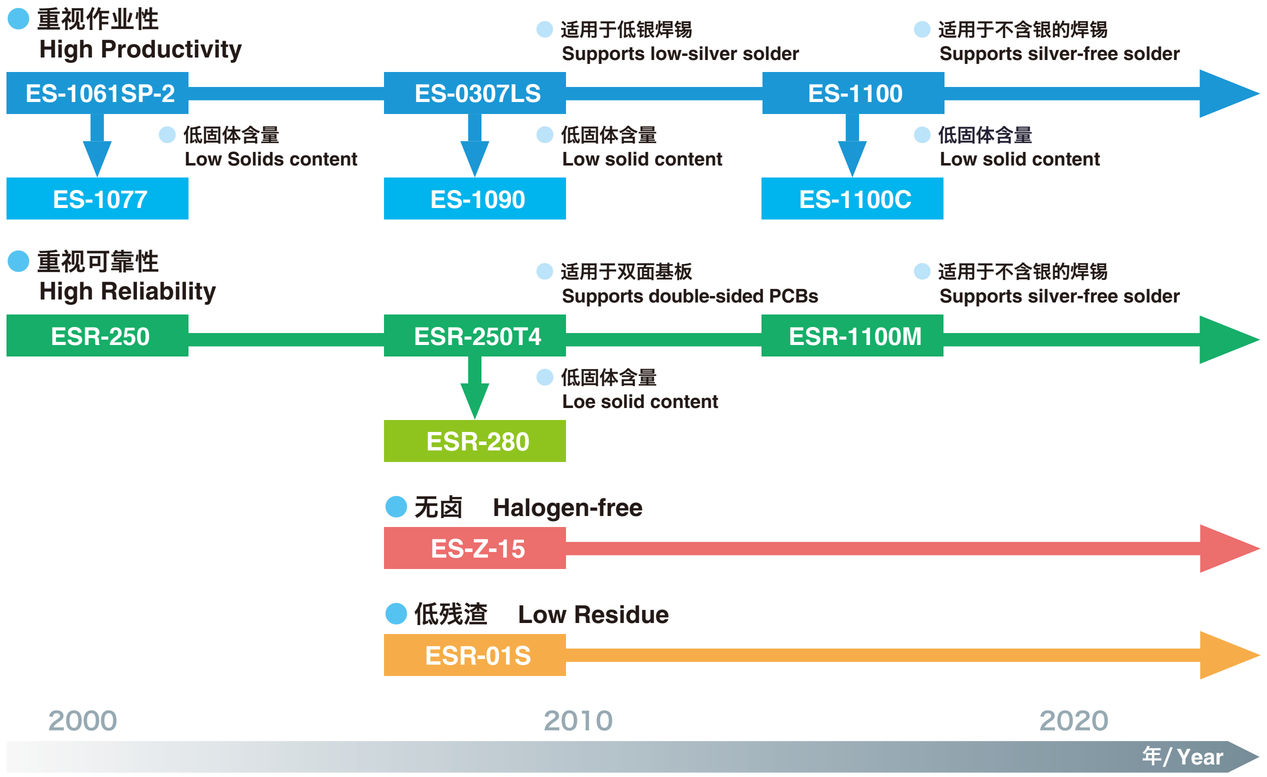


- **提升散热性**
  即使是热传导率低的，热密闭型QFN和QFP等，
  也能排出气体层(空洞)。

- **Enhancement of heat dissipation**
  Void as gas layer with low thermal conductivity will be discharged through heat-sealed QFN or QFP.



基板用后期助焊剂 开发路线图　Post-flux roadmap for PCB



● 重视作业性
High Productivity

ES-1061SP-2 → ES-0307LS → ES-1100

- ES-1061SP-2 ↓ ES-1077：● 低固体含量 Low Solids content
- ES-0307LS：● 适用于低银焊锡 Supports low-silver solder
- ES-0307LS ↓ ES-1090：● 低固体含量 Low solid content
- ES-1100：● 适用于不含银的焊锡 Supports silver-free solder
- ES-1100 ↓ ES-1100C：● 低固体含量 Low solid content

● 重视可靠性
High Reliability

ESR-250 → ESR-250T4 → ESR-1100M

- ESR-250T4：● 适用于双面基板 Supports double-sided PCBs
- ESR-250T4 ↓ ESR-280：● 低固体含量 Loe solid content
- ESR-1100M：● 适用于不含银的焊锡 Supports silver-free solder

● 无卤　Halogen-free

ES-Z-15

● 低残渣　Low Residue

ESR-01S

无铅焊锡合金 一览表
List of Lead-free Solder Alloys

ECO SOLDER	合成组成 (wt%) Alloy composition (wt%)	熔融温度 (℃) Melting temperature (℃)			产品形态 Form				
		固相线 Solidus line	峰值温度 Peak	液相线 Liquidus line	BAR	CORE	BALL	PASTE	PREFORM
M-series: 熔融温度　Melting temperature 200 to 250°C									
M705	Sn−3.0Ag−0.5Cu	217	219	220	●	●	●	●	●
M30	Sn−3.5Ag	221	223	223	●	●	●	●	●
M31	Sn−3.5Ag−0.75Cu	217	219	219	●	●	●	●	●
M714	Sn−3.8Ag−0.7Cu	217	219	220	●	●	●	●	●
M715	Sn−3.9Ag−0.6Cu	217	219	226	●	●	●	●	●
M710	Sn−4.0Ag−0.5Cu	217	219	229	●	●	●	●	●
M34	Sn−1.0Ag−0.5Cu	217	219	227	●	●	●	●	●
M771	Sn−1.0Ag−0.7Cu	217	219	224	●	●	●	●	●
M35	Sn−0.3Ag−0.7Cu	217	219	227	●	●	●	●	●
M20	Sn−0.75Cu	227	229	229	●	●	●	●	●
M24MT	Sn−0.7Cu−Ni−P−Ge	228	230	230	●	●	●	●	●
M24AP	Sn−0.6Cu−Ni−P−Ge	227	228	228	●	●	●	●	●
M805E	Sn−0.3Bi−0.7Cu−P	225	229	229	●	●	●	●	●
M40	Sn−1.0Ag−0.7Cu−Bi−In	211	222	222		●	●	●	●
M47	Sn−0.3Ag−0.7Cu−0.5Bi−Ni	216	228	228	●	●	●	●	●
M773	Sn−0.7Cu−0.5Bi−Ni	225	229	229	●	●	●	●	●
M794	Sn−3.4Ag−0.7Cu−Bi−Sb−Ni−x	210	221	221		●	●	●	●
M731	Sn−3.9Ag−0.6Cu−3.0Sb	221	224	226	●	●	●	●	●
M716	Sn−3.5Ag−0.5Bi−8.0In	196	208	214		●		●	●
M10	Sn−5.0Sb	240	243	243	●	●	●	●	●
M14	Sn−10Sb	245	248	266	●	●	●	●	●
M709	Sn−0.5Ag−6.0Cu	217	226	378	●				
M760HT	Sn−5.0Cu−0.15Ni−x	228	229	365	●				
M711	Sn−0.5Ag−4.0Cu	217	226	344	●				
M770	Sn−2.0Ag−Cu−Ni	218	220	224	●	●	●	●	●
M758	Sn−3.0Ag−0.8Cu−Bi−Ni	205	215	215		●	●	●	●
M832	Sn−3.5Ag−0.8Cu−Bi−Ni	203	214	214		●	●	●	●
M807	Sn−3.5Ag−0.8Cu−Bi−Ni	214	219	219		●	●	●	●
M725	Sn−0.7Cu−Ni−P	228	230	230	●	●	●	●	●
M823	Sn−0.75Cu−1.5Bi−Ni−x	224	229	229			●		
M705RK	Sn−3.0Ag−0.5Cu−x	219	221	221		●			
M20RK	Sn−0.75Cu−x	227	229	229		●			
M35RK	Sn−0.3Ag−0.7Cu−x	217	219	227		●			
L-series: 熔融温度　低于200℃　Melting temperature : 200 ℃ or lower									
L20	Sn−58Bi	139	141	141	●	●	●	●	●
L29	Sn−58Bi−Sb−Ni	140	145	145				●	

峰值温度；DSC曲线最大吸热量点的温度
上述产品形态中，当产品尺寸、或产品等级特殊时，视合金成分可能无法提供。
关于以上未记载的合金成分，请通过本司销售代表或在官网(web@senju.com)上进行咨询。

Peak temp. : Max. endothermic reaction point on DSC curve
For inquiries regarding alloy compositions not listed above, please contact our sales representatives or contact us by e-mail (web@senju.com).

无铅不纯物标准规格（单位：质量%）　Lead-free product impurity standard (unit: percentage by mass)

Sb	Cu	Bi	Zn	Fe	Al	As	Cd	Ag	In	Ni	Au	Pb
0.07 以下 or less	0.05 以下 or less	0.05 以下 or less	0.001 以下 or less	0.02 以下 or less	0.001 以下 or less	0.03 以下 or less	0.002 低于 Less than	0.03 以下 or less	0.02 以下 or less	0.01 以下 or less	0.005 以下 or less	0.05 低于 Less than