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中禾旭精密

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企业使命：用科技取代人力
经营理念：以客为本 精益求精
品质政策：制造完美产品 寻求零故障
目标：做完美产品，争做行业第一
服务承诺：不断改进 力求客户满意
企业价值观：诚信感恩 服务社会

Enterprise Mission: Let Technology Replace Human Power
Business Philosophy: Customer-Oriented, Keep Improving
Quality Policy: Manufacture Perfect Products, Pursue Trouble-Free Machines
Company Vision: Produce Perfect Products, Ensure Championship
Service Commitment: Keep Improving, Target On Customer Satisfaction
Enterprise Value: Gratitude Sincerely, Serve Our Society

COMPANY PROFILE
公司简介

“香港中科实业有限公司”成立于2005年，集研发、设计、生产、销售、服务及外贸于一体的智能设备供应商，在SMT、AI及激光领域拥有崇高地位并屡获殊荣，被誉为深圳市高新技术企业和国家高新技术企业，其创新理念及超强研发能力结合国外先进技术，引领国内自动化设备的潮流。

现名下有“深圳市中禾旭精密机械有限公司”和“深圳市中科激光科技有限公司”，分别致力于SMT & AI设备和激光设备。生产基地占地约11000平方米，员工超过200人，其中研发、生产及服务工程师达30余名，研究生、博士数名，产品畅销全球。

“深圳市中禾旭精密机械有限公司”始于2005年，由SMT和AI事业部组成，专业研发及生产销售SMT和AI设备。SMT事业部主要产品有：全电脑热风无铅回流焊和波峰焊，通孔回流焊及SMT周边设备；AI事业部主要产品有：高速在线/离线卧式及立式插件机，标准在线/离线卧式及立式插件机，在线自动异型元件插件机，在线轻触开关插件机等。中禾旭人经过十多年的奋斗正努力奠定行业龙头的地位，竭尽全力造福行业。

“深圳市中科激光科技有限公司”专业从事激光设备的研发、生产和销售。主要产品有：CO2/绿光/紫外PCB打标机和光纤/紫外激光打标机，适用于塑料/五金件的高精度激光打标、PCB和玻璃激光切割、激光软钎焊、铜/不锈钢无缝焊等等，可提供家电激光打标零标签自动化整套解决方案。

“香港中科实业有限公司”秉着“以客为本，精益求精”的经营理念，努力成为国内最好的一体化设备供应商。不断提升自己的品牌形象，打造好每款产品保证质量，为客户创造价值，让客户感到满意！用科技代替人力，用优质的设备、优秀的服务感恩所有支持我们的客户、朋友和社会！

HongKong Techwin Co. Ltd. founded in 2005, design, R & D ,production,sales service and trade in the integration of intelligent equipment suppliers, in the field of SMT, AI and laser with high position and award-winning ShenZhen High-Tech Enterprise and National High-Tech Enterprise.Its innovative ideas and strong research capability in combine with foreign advanced technology, leading the trend of the domestic automation equipment.

We have two factories which name Shenzhen Techwin Precision Machinery Co. Ltd. and Shenzhen Techwin Laser Technology Co. Ltd, which are dedicated to SMT/AI equipment and Laser Marking Equipment manufacturing, products are sell all over the world.Production area cover approx 11000 square meters, with more than 200 employees, over 30 engineers engage in R&D production and service, master and postgraduate included.

Shenzhen Techwin Precision Machinery Co. Ltd. also founded in 2005, including SMT and AI division, it covered R & D, Production and Sales of SMT/AI equipment.SMT main products: Hot Air Lead-Free Reflow Oven, Lead-Free Wave Soldering Machine; AI main products: High Speed In-Line & Off-line Radial & Axial Insertion Machine,In Line Odd Shape Component Insertion Machine etc..More than 10 years hard work and experience, presently established as a leading position in the local industry and make every effort to benefit the industry.

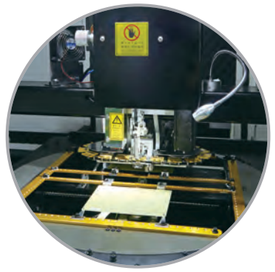
Shenzhen Techwin Laser Technology Co. Ltd. is specialized in the Research & Development, Manufacturing and Marketing of Laser machine. Main Products :In Line Green Light /UV PCB Laser Marking Machine, CO2 Laser Marking Machine, Optic Fiber /UV Laser Marking Machine etc, widely use for plastic and metal high precision laser making ,PCB and glass laser cutting, laser brazing, copper/stainless steel seamless welding and so on; can provide household appliances laser marking zero - label automation solutions.

Hongkong Techwin Co. Ltd. business philosophy is "Excellent Service to Customer ,Accuracy on Machine”, we strive to become the best integrated equipment manufacturer in China.Constantly improve our brand image, offer the good quality products, create value for customers, let customers feel satisfied! Science and technology replace manpower, we are grateful to all the customers, friends and society who support us all the time, and we keep providing you with best quality products and excellent services!

ZHX-R20C/ZHX-R20C-IN

离线/在线自动立式插件机

Off Line/In Line Radial Insertion Machine

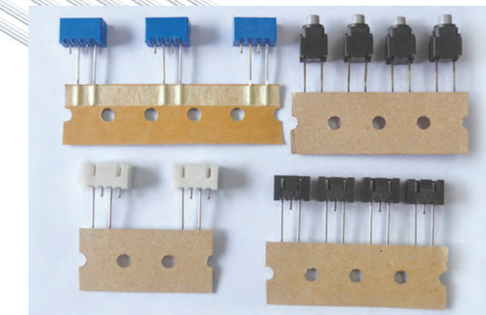


特点

电脑化中英文操作系统及友好使用界面
高密度插装模式，旋转角度0-360°,以1°为分量
进口高精度传动丝杆及AC伺服电机驱动，位置误差<0.01mm
视觉系统配以多点式定位，校正位置确保插装准确度
不间断后备电源，意外停止供电仍能维持操作15分钟
USB端口以供数据传输
高达20,000点/小时插装速度
4 跨距插装可行性
连线生产可行性

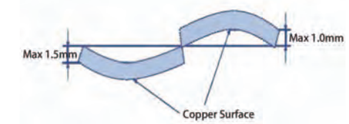
Characteristics

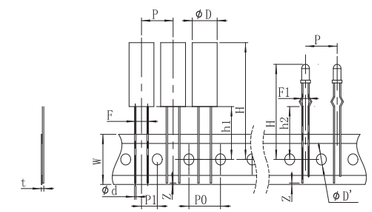
Computerized, Chinese & English interface,Convenient & user friendly
Intensive insertion mode, 0-360° with 1° increment
Imported precision ball screw and AC servo motor drive, Positioning accuracy <0.01mm
Machine vision system, improve position alignment, Multi fiducials, maintain accuracy of insertion
Power protection with UPS power supply, more stable, Can last for 15 minutes operation when accidental Power failure
USB port for data transmission
High speed up to 20,000 cph
Maximum of 4 lead span capability
In-line production capability

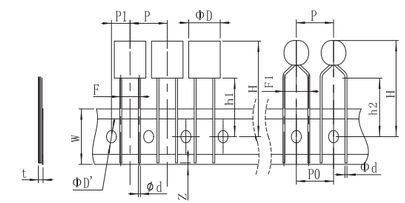


PCB warpage 印制板的翘曲度

最大上翘1.0mm，最大下翘1.5mm，如图所示。
MAX up-rised1.0mm and down-sunk 1.5mm as shown in figure





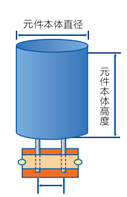


Item 内容	Mark 记号	Size尺寸 Data 数值	Size尺寸 Tolerate Range 容许范围	Remark备注
Component Diameter 元件直径	ΦD	13.0	Max 最大	
Pin Wire Diameter 引脚线直径	Φd	0.6	±0.05	0.5-0.6mm
Component Space 元件间距	P	12.7	±1.0	
Tape Hole Space 编带孔间距	P0	12.7	±0.3	Cumulative Spacing Tolerance=1.0mm/20 distance 累积间距误差=1.0mm/20间距
From the center of hole to the center of the component 从孔中心到元件中心部为止	P1	6.35	±1.3	
Pin to Pin Space引脚间距离	F F1	5.0 2.5	/	
Tape Width 编带宽度	W	18	+1.0 -0.5	
Height from the center of tape to the bottom of component 从编带中心到元件底部的高度	h1 h2	18	+2 0	
Component Height 元件高度	H	/	L≦41.0	
Pin Wire Protrusion 引脚线的突出	Z	0	Z≥0	Tape track friction will caused damage. 编带轨道的摩擦可能造成损伤
Hole Diameter 孔直径	ΦD'	4.0	±0.2	
Tape Thickness 编带的厚度	t	1.2	Max最大	Paper tape、plastic tape、pin wire included. 含纸带、胶带、引脚

Item 内容	Mark 记号	Size尺寸 Data 数值	Size尺寸 Tolerate Range 容许范围	Remark备注
Component Diameter 元件直径	ΦD	13.0	Max 最大	
Pin Wire Diameter 引脚线直径	Φd	0.6	±0.05	
Component Space 元件间距	P	15	±1.0	
Tape Hole Space 编带孔间距	P0	15	±0.3	Cumulative Spacing Tolerance=1.0mm/20 distance 累积间距误差=1.0mm/20间距
From the center of hole to the center of the component 从孔中心到元件中心部为止	P1	7.5	±1.3	
Pin to Pin Space引脚间距离	F F1	7.5 10	/	
Tape Width 编带宽度	W	18	+1.0 -0.5	
Height from the center of tape to the bottom of component 从编带中心到元件底部的高度	h1 h2	18	+2 0	
Component Height 元件高度	H	/	H≦41.0	
Pin Wire Protrusion 引脚线的突出	Z	0	Z≥0	Tape track friction will caused damage. 编带轨道的摩擦可能造成损伤
Hole Diameter 孔直径	ΦD'	4.0	±0.2	
Tape Thickness 编带的厚度	t	1.2	Max最大	Paper tape、plastic tape、pin wire included. 含纸带、胶带、引脚

Specification of the radial component 立式元件的规格

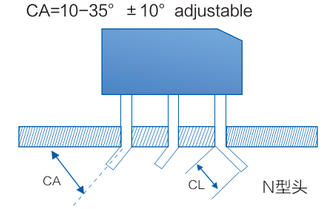
最大高度为 Maximum height 23mm
选项最大高度 OPT Max Component Height 26mm
最大直径为 Max diameter13mm
引线跨距 Lead span
双间距 Dual span 2.5/3.5/5.0/7.5/10.0mm

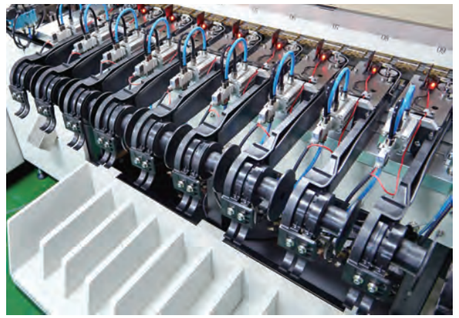


引线跨距：双间距2.5/3.5/5.0/7.5/10.0mm

Insertion Direction & Size 插装方向与大小

立式元件切脚形状如图显示
CL=1.2-2.2±0.5mm，CA=10-35°
(可以通过刀具选择元件脚的长度和角度)
(through cutting tool to select the length and angle of the component feet)
Radial components Clinch Shape As Shown In Diagram
CL=1.2-2.2±0.5mm，
CA=10-35° ±10° adjustable





	ZHX-R20C	ZHX-R20C-IN
Theoretical Speed 理论速度	20,000 cph	20,000 cph
Insertion Direction 插件角度	0° – 360°，1° 增量 Increment	0° – 360°，1° 增量 Increment
Lead Span 引线跨距	标准2.5mm/5.0mm Options:2.5mm/5.0mm/7.5mm; 5.0mm/7.5mm/10.0mm; 2.5mm/3.5mm/5.0mm; 2.5mm/5.0mm/7.5mm/10.0mm Selectable 可选	标准2.5mm/5.0mm Options:2.5mm/5.0mm/7.5mm; 5.0mm/7.5mm/10.0mm; 2.5mm/3.5mm/5.0mm; 2.5mm/5.0mm/7.5mm/10.0mm Selectable 可选
Board Size 基板尺寸	最小 Min 50mm*50mm 最大 Max 450mm*450mm	最小 Min 50mm*50mm 最大 Max 400mm*285mm
Process Height 进板高度	N/A 不适用	900mm
Board Thickness 基板厚度	0.79~2.36mm	0.79~2.36mm
Component Height 元件高度	最高 Max 23mm	最高 Max 23mm
Component Diameter 元件直径	最大 Max 13mm	最大 Max 13mm
Component Style 元件种类	电容，晶体管，三极管，LED 灯，按键开关，电阻，连接器，线圈，电位器，保险丝座，熔断丝等立式编带封装料 Capacitor, Transistor, Triode, LED, Mini Switch, Resistor,Connector,Coil,Potentiometer,Fuse Block,Other Radial style taped components	电容，晶体管，三极管，LED 灯，按键开关，电阻，连接器，线圈，电位器，保险丝座，熔断丝等立式编带封装料 Capacitor, Transistor, Triode, LED, Mini Switch, Resistor,Connector,Coil,Potentiometer,Fuse Block,Other Radial style taped components
Cut & Clinch Length 剪脚长度	1.2/1.5/1.8 mm (Selectable 可选)	1.2/1.5/1.8 mm (Selectable 可选)
Clinch Angle 弯脚角度	10–50° External Bending 外弯曲；3.5mm Lead Span Internal/External Bending Selectable 3.5mm 跨距 内弯 / 外弯可选	10–50° External Bending 外弯曲；3.5mm Lead Span Internal/External Bending Selectable 3.5mm 跨距 内弯 / 外弯可选
Component Stations 料站数量	20 STD 标准（30,40,60,80,100 Option 选项）	20 STD 标准（30,40,60,80,100 Option 选项）
Machine Dimension 机体尺寸	Main Body 主机 : L1800xW1500xH1700mm	Main Body 主机 : L2000xW1500xH1700mm
Component Station Size 料站尺寸	L1800xW1450xH1100 mm	L1800xW1450xH1100 mm
Weight 重量	Main Body 主机：Approx 约 1150kg	Main Body 主机：Approx 约 1200kg
Power Requirement 供电需求	AC220V, Single Phase, 50/60Hz, 1.5Kw	AC220V, Single Phase, 50/60Hz, 1.5Kw
Power Protection 电源保护	UPS, 15 minutes duration after power cut-off	UPS, 15 minutes duration after power cut-off
Air Pressure 气压要求	0.6 Mpa	0.6 Mpa
Air Consumption 耗气量	0.3 M^3/min	0.3 M^3/min
Environmental Temperature 环境温度	5° C – 25° C	5° C – 25° C
Noise Level 噪音水平	65 db	65 db
Component Feeding To Insertion Head 链条推料至插装头	Pneumatic Cylinder 气缸	Pneumatic Cylinder 气缸
Position Teaching 孔位校正方式	Vision System 视觉系统 Multi Fiducial 多定位点校正	Vision System 视觉系统 Multi Fiducial 多定位点校正
Axis Driving System 驱动系统	AC Servo Motor 伺服马达	AC Servo Motor 伺服马达
Data Input Style 数据输入方式	USB Port (Excel Format)	USB Port (Excel Format)
Operation System 操作系统	Chinese/English Interface (Windows Platform) LCD Display 中英文界面，视窗平台，液晶显示	Chinese/English Interface (Windows Platform) LCD Display 中英文界面，视窗平台，液晶显示
Operation Mode 操作模式	Auto 全自动 / Semi Auto 半自动 / Manual 手动	Auto 全自动 / Semi Auto 半自动 / Manual 手动
Component Density 元件密度	高密度插入方式 High Density Insertion Style	高密度插入方式 High Density Insertion Style
Worktable Rotation 工作台运转方式	Clockwise 顺时针 / Counter Clockwise 逆时针	Conveyor Track 导轨式
Board Inload 进板方式	Manual 手动进板	Conveyor Inload Right To Left(Selectable) 导轨自动进板左到右(方向可选)

ZHX-R20D/ZHX-R20D-IN

高速离线/在线自动立式插件机

High Speed Off Line/In Line Radial Insertion Machine

特点

电脑化中英文操作系统及友好使用界面
高密度插装模式，旋转角度0–360°,以1°为分量
进口高精度传动丝杆及AC伺服电机驱动，位置误差<0.01mm
视觉系统配以多点式定位，校正位置确保插装准确度
不间断后备电源，意外停止供电仍能维持操作15分钟
USB端口以供数据传输
高达28,000点/小时插装速度，比上一代设备大幅提速20%
4 跨距插装可行性
连线生产可行性
连杆压料机构，高速稳定
伺服推料机构，送料稳定
剪脚伺服驱动，可自由调整高度

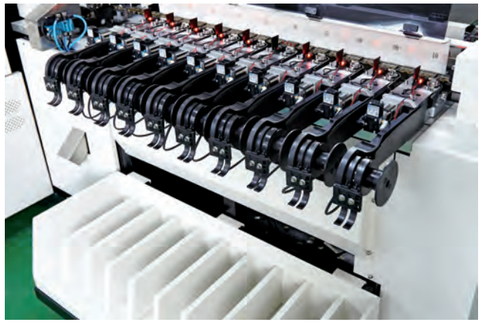
Characteristics

Computerized, Chinese & English interface, Convenient & user friendly
Intensive insertion mode, 0–360° with 1° increment
Imported precision ball screw and AC servo motor drive,Positioning accuracy <0.01mm
Machine vision system, improve position alignment,Multi fiducials, maintain accuracy of insertion
Power protection with UPS power supply, more stable, Can last for 15 minutes operation when accidental Power failure
USB port for data transmission
High speed up to 28,000 cph, greatly increased 20% Compared with last generation machine
Maximum of 4 lead span capability
In-line production capability
Component pressing by connecting rod (High Stability)
Component feeding by AC servo motor
Cutting & clinching by servo motor (Adjustable)

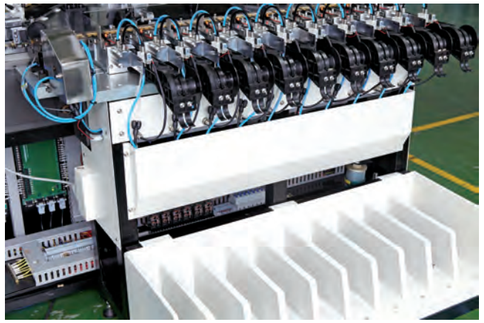
PCB Design Requirement 板材要求

PCB Dimension: 50x50mm – 450x450mm (R20D)
50x50mm – 400x285mm (R20D-IN)
PCB Thickness : 0.79 – 2.36mm
PCB Deformation: Raised <1mm, Sunk < 1.5mm
Hole Size : Increase 0.5mm in diameter of lead

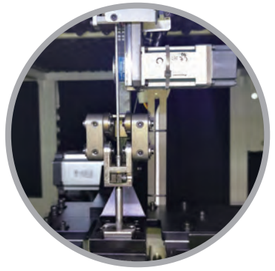
纵向20站



横向10站



	ZHX-R20D	ZHX-R20D-IN
Theoretical Speed 理论速度	28,000 cph	28,000 cph
Insertion Direction 插件角度	0° – 360° , 1° 增量 Increment	0° – 360° , 1° 增量 Increment
Lead Span 引线跨距	2.5mm/5.0mm; 2.5mm/5.0mm/7.5mm; 5.0mm/7.5mm/10.0mm; 2.5mm/3.5mm/5.0mm; 2.5mm/5.0mm/7.5mm/10.0mm Selectable 可选	2.5mm/5.0mm; 2.5mm/5.0mm/7.5mm; 5.0mm/7.5mm/10.0mm; 2.5mm/3.5mm/5.0mm; 2.5mm/5.0mm/7.5mm/10.0mm Selectable 可选
Board Size 基板尺寸	最小 Min 50mm*50mm 最大 Max 450mm*450mm	最小 Min 50mm*50mm 最大 Max 400mm*285mm
Process Height 进板高度	N/A 不适用	900mm
Board Thickness 基板厚度	0.79~2.36mm	0.79~2.36mm
Component Height 元件高度	标准 STD 最高 Max 23mm ; 选项 Option 26mm	标准 STD 最高 Max 23mm ; 选项 Option 26mm
Component Style 元件种类	电容，晶体管，三极管，LED 灯，按键开关，电阻，连接器，线圈，电位器，保险丝座，熔断丝等立式编带封装料 Capacitor, Transistor, Triode, LED, Mini Switch, Resistor,Connector,Coil,Potentiometer,Fuse Block,Other Radial style taped components	电容，晶体管，三极管，LED 灯，按键开关，电阻，连接器，线圈，电位器，保险丝座，熔断丝等立式编带封装料 Capacitor, Transistor, Triode, LED, Mini Switch, Resistor,Connector,Coil,Potentiometer,Fuse Block,Other Radial style taped components
Cut & Clinch Length 剪脚长度	1.2/1.5/1.8mm (Selectable 可选)	1.2/1.5/1.8mm (Selectable 可选)
Clinch Angle 弯脚角度	10–50° External Bending 外弯曲 ; 3.5mm Lead Span Internal/External Bending Selectable 3.5mm 跨距 内弯 / 外弯 可选	10–50° External Bending 外弯曲 ; 3.5mm Lead Span Internal/External Bending Selectable 3.5mm 跨距 内弯 / 外弯 可选
Component Stations 料站数量	20 STD 标准 (10,30,40,60,80,100 Option 选项)	20 STD 标准 (10,30,40,60,80,100 Option 选项)
Machine Dimension 机体尺寸	Main Body 主机 : L1800xW1500xH1700mm	Main Body 主机 : L2000xW1500xH1700mm
Component Station Size 料站尺寸	L1800xW1450xH1100 mm	L1800xW1450xH1100 mm
Weight 重量	Main Body 主机 ： Approx 约 1150kg	Main Body 主机 ： Approx 约 1200kg
Power Requirement 供电需求	AC220V, Single Phase, 50/60Hz, 1.5Kw	AC220V, Single Phase, 50/60Hz, 1.5Kw
Power Protection 电源保护	UPS, 15 minutes duration after power cut-off	UPS, 15 minutes duration after power cut-off
Air Pressure 气压要求	0.6 Mpa	0.6 Mpa
Air Consumption 耗气量	0.3 M^3 /min	0.3 M^3 /min
Environmental Temperature 环境温度	5°C – 25°C	5°C – 25°C
Noise Level 噪音水平	65 db	65 db
Clinch Module Movement 底座移动	AC Servo Motor 伺服马达 （Rotation 旋转 /Up,Dn 升降)	AC Servo Motor 伺服马达 (Rotation 旋转 /Up,Dn 升降)
Tape Cutter 切纸系统	Single Stroke Cutting Feature 单程切纸功能，速度快噪音少	Single Stroke Cutting Feature 单程切纸功能，速度快噪音少
Station feeding system站位送料系统	用高速电磁阀	用高速电磁阀
Component Feeding To Insertion Head 链条推料至插装头	AC Servo Motor 伺服马达	AC Servo Motor 伺服马达
Position Teaching 孔位校正方式	Vision System 视觉系统 Multi Fiducial 多定位点校正	Vision System 视觉系统 Multi Fiducial 多定位点校正
Axis Driving System 驱动系统	AC Servo Motor 伺服马达	AC Servo Motor 伺服马达
Data Input Style 数据输入方式	USB Port (Excel Format)	USB Port (Excel Format)
Operation System 操作系统	Chinese/English Interface (Windows Platform) LCD Display 中英文界面，视窗平台，液晶显示	Chinese/English Interface (Windows Platform) LCD Display 中英文界面，视窗平台，液晶显示
Operation Mode 操作模式	Auto 全自动 / Semi Auto 半自动 / Manual 手动	Auto 全自动 / Semi Auto 半自动 / Manual 手动
Component Density 元件密度	高密度插入方式 High Density Insertion Style	高密度插入方式 High Density Insertion Style
Worktable Rotation 工作台运转方式	Clockwise 顺时针 / Counter Clockwise 逆时针	Conveyor Track 导轨式
Board Inload 进板方式	Manual 手动进板	Conveyor Inload Left to Right(Selectable) 导轨自动进板左到右 (方向可选)
Programming 编程方式	On-line Teaching 在线手动编程	On-line Teaching 在线手动编程
Loader/Unloader 自动进出板设备	N/A 不适用	Option 可选购



ZHX-R20F
ZHX-R20F-IN

离线/在线高速自动立式插件机

High Speed Off Line/In Line Radial Insertion Machine

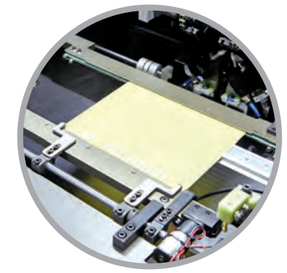
特点

电脑化中英文操作及友好使用界面
高密度插装模式，旋转角度0–360° ，以1° 为分量。
进口高精度传动丝杆及AC伺服电机驱动，确保位置误差 < 0.01 mm
视觉系统配以多点式定位，校正位置确保插装准确度
不间断后备电源，遇有意外停止供电仍能维持15分钟操作
USB端口予以数据传输
4跨距插装可行性
连线生产可行性
连杆压料机构，高速稳定
伺服推料机构，送料稳定
底座剪脚伺服驱动，可自由调整形成高度
高达32000点/小时插装速度，相比D型机提速20%
凸轮传动机构上下联动，机器一致性好
采用新款切刀及剪脚头，刀具寿命长，体积小
可以根据元件高度控制压力
切纸采用V 型切刀把元件脚剪成锥形,插入效率更高
每台马达带编码器可以实时监控每条轴的动态

Characteristics

Computerized, Chinese & English interface, Convenient & user friendly
High-density insertion mode, rotation angle 0–360° ,component is 1°
Imported precision ball screw with AC servo motor Drive, positioning accuracy <0.01 mm
Visual system is equipped with multiple-point positioning to correct the position to ensure the insertion accuracy
Power protection with stable UPS power supply, last for 15 minutes operation when accidental power failure
USB port data transmission
4 lead span capability
In-line production capability
Connecting rod pressing mechanism, high speed and stability
Servo pushing mechanism, stable feeding
Servo driving on base cutting feet , can adjust the height freely
Up to 32000 points/hour plug-in speed, 20% faster than D model machine
CAM transmission mechanism up and down linkage with good machine consistency
Using the new cutting knife and cutting head, long tool life and small volume
According to the component height to controlled pressure
Paper cutting adopted V – shaped cutter and cut component foot to cone shape, plug-in rate in perfect
Each motor with an encoder can monitor the dynamic of each roller in real time

	ZHX-R20F 离线	ZHX-R20F-IN 在线
Theoretical Speed 理论速度	32,000 cph	32,000 cph
Insertion Direction 插件角度	0° - 360° , 1° 增量 Increment	0° - 360° , 1° 增量 Increment
Lead Span 引线跨距	2.5mm/3.5mm/5.0mm/7.5mm10.0mm（可选） 5.0mm/7.5mm/10.0mm; 2.5mm/3.5mm/5.0mm	2.5mm/3.5mm/5.0mm/7.5mm10.0mm（可选） 5.0mm/7.5mm/10.0mm; 2.5mm/3.5mm/5.0mm
Board Size 基板尺寸	最小 Min 50mm*50mm 最大 Max 450mm*450mm	最小 Min 50mm*50mm 最大 Max 400mm*300mm
Process Height 进板高度	没有N/A	900mm
Board Thickness 基板厚度	0.79~2.36mm	0.79~2.36mm
Component Height 元件高度	标准Standard:最高Max high 23mm 最大直径Max diameter 13mm	标准Standard:最高Max high 23mm 最大直径Max diameter 13mm
Component Style 元件种类	电容，晶体管，三极管，LED 灯，按键开关，电阻，连接器，线圈，电位器，保险丝座，熔断丝等立式编带封装料 Capacitor, Transistor, Triode, LED, Mini Switch, Resistor,Connector,Coil,Potentiometer,Fuse Block,Other Radial style taped components	电容，晶体管，三极管，LED 灯，按键开关，电阻，连接器，线圈，电位器，保险丝座，熔断丝等立式编带封装料 Capacitor, Transistor, Triode, LED, Mini Switch, Resistor,Connector,Coil,Potentiometer,Fuse Block,Other Radial style taped components
Cut & Clinch Length 剪脚长度	1.2/1.5/1.8mm (Selectable 可选)	1.2/1.5/1.8mm (Selectable 可选)
Clinch Angle 弯脚角度	10-35° 外弯曲;3.5mm跨距内弯/外弯可选 10-35° External Bending3.5mm Lead Span Internal/External Bending (Selection)	10-35° 外弯曲;3.5mm跨距内弯/外弯可选 10-35° External Bending3.5mm Lead Span Internal/External Bending (Selection)
Component Stations 料站数量	20 站Standard（10,30,40,60,80,100 横向纵向可选 horizontal /vertical option)	20 站Standard（10,30,40,60,80,100 横向纵向可选 horizontal /vertical option)
Machine Dimension 机体尺寸	L1920xW1450xH 1700mm	L1920xW1450xH 1700mm
Component Station Size 料站尺寸	L1800xW1450xH1100 mm	L1800xW1450xH1100 mm
Weight 重量	主机约 1200kgs; Main Body Approx 1200kgs	主机约 1200kgs; Main Body Approx 1200kgs
Power Requirement 供电需求	AC220V, 单相Single Phase, 50/60Hz, 1.5Kw	AC220V, 单相Single Phase, 50/60Hz, 1.5Kw
Power Protection 电源保护	UPS, 15 minutes duration after power cut-off	UPS, 15 minutes duration after power cut-off
Air Pressure 气压要求	0.6 Mpa	0.6 Mpa
Air Consumption 耗气量	0.3 M^3/min	0.3 M^3/min
Environmental Temperature 环境温度	5°C - 25°C	5°C - 25°C
Noise Level 噪音水平	65 db	65 db
Clinch Module Movement 底座移动	伺服马达进行旋转和升降 AC Servo Motor for rotation an up-down control	伺服马达进行旋转和升降 AC Servo Motor for rotation an up-down control
Tape Cutter 切纸系统	Single Stroke Cutting Feature 单程切纸功能，速度快噪音少	Single Stroke Cutting Feature 单程切纸功能，速度快噪音少
Station feeding system站位送料系统	高速电磁阀 High-speed valve	高速电磁阀 High-speed valve
Component Feeding To Insertion Head 链条推料至插装头	AC Servo Motor 伺服马达	AC Servo Motor 伺服马达
Position Teaching 孔位校正方式	Vision System 视觉系统 Multi Fiducial 多定位点校正	Vision System 视觉系统 Multi Fiducial 多定位点校正
Axis Driving System 驱动系统	AC Servo Motor 伺服马达	AC Servo Motor 伺服马达
Data Input Style 数据输入方式	USB 端口，表格模式；USB Port ,Excel Format	USB 端口，表格模式；USB Port ,Excel Format
Operation System 操作系统	中英文可切换界面，视窗平台，液晶显示； Chinese/English Interface ,Windows Platform, LCD Display	中英文可切换界面，视窗平台，液晶显示； Chinese/English Interface ,Windows Platform, LCD Display
Operation Mode 操作模式	Auto 全自动 / Semi Auto 半自动 / Manual 手动	Auto 全自动 / Semi Auto 半自动 / Manual 手动
Component Density 元件密度	高密度插入方式 High Density Insertion Style	高密度插入方式 High Density Insertion Style
Worktable Rotation 工作台运转方式	Clockwise 顺时针 / Counter Clockwise 逆时针	Conveyor Track 导轨式
Board Inload 进板方式	Manual 手动进板	马达送料进板左到右(方向可选);Motor with conveyor, Left to Right or Righ to Left (Option)
Programming 编程方式	On-line Teaching 在线手动编程	On-line Teaching 在线手动编程
Loader/Unloader 自动进出板设备	N/A 不适用	Option 可选购



ZHX-A30C-AS
ZHX-A30C-AS-IN

离线/在线自动卧式连体插件机

Off Line/In Line Axial Insertion Combo Machine

特点

电脑化中英文操作及友好使用界面
4种插件角度 0°,90°,180°及270°
进口高精度传动丝杆及AC伺服电机驱动，确保位置误差<0.01mm
视觉系统配以多点式定位，校正位置确保插装准确度
不间断后备电源，遇有意外停止供电仍能维持15分钟操作
USB端口予以数据传输
联体式设计，包含元件排序模组，无须再购置传统排序机
节省成本，不再存在元件排序时胶纸之耗费
独立跳线供应模块，按实际所需长度供给
高速可达24,000 cph/小时，比传统卧式插件机大幅提速30%
机械式/伺服驱动 元件归中装置
连线生产可行性
底座伺服马达驱动，音噪小，速度快
前链条送料司服单独控制，送料更精准

Characteristics

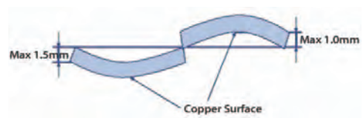
Computerized, Chinese & English interface, Convenient & user friendly
4 different insertion direction of 0°,90°, 180° & 270°
Imported precision ball screw with AC servo motor Drive, positioning accuracy <0.01mm
Machine vision system, improve positioning alignment, Multi fiducials maintain accuracy of insertion
Power protection with UPS power supply, more stable, Can last for 15 minutes operation when accidental Power failure
USB port for data transmission
All-in-one structure with component sequencing modules, Stand alone sequencer no longer required
Cost reduction. No longer required adhesive tape for Component sequencing
Independent jumper feeding mechanism, feed length According to actual requisition
High speed up to 24,000 cph, insertion speed greatly Increased 30% compared with classic machine
Mechanical/Servo driven component centering unit
In-line production capability
Base servo motor drive, low noise, fast speed
The feed servo of the front chain is independently controlled, and the feed is more accurate

PCB Design Requirement 板材要求

PCB Dimension: 50x50mm – 450x450mm (A30-AS)
50x50mm – 350x285mm (A30-AS-IN) STD
50x50mm – 400x285mm (A30-AS-IN) OPT
PCB Thickness : 0.79 – 2.36mm
PCB Deformation: Raised <1mm, Sunk < 1.5mm
Hole Size : Increase 0.5mm in diameter of lead

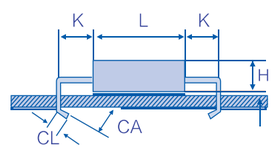
PCB warpage 印制板的翘曲度

最大上翘1.0mm，最大下翘1.5mm，如图所示。
MAX up-rised1.0mm and down-sunk
1.5mm as shown in figure



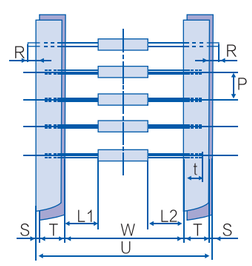
Axial Lead Components 卧式元件

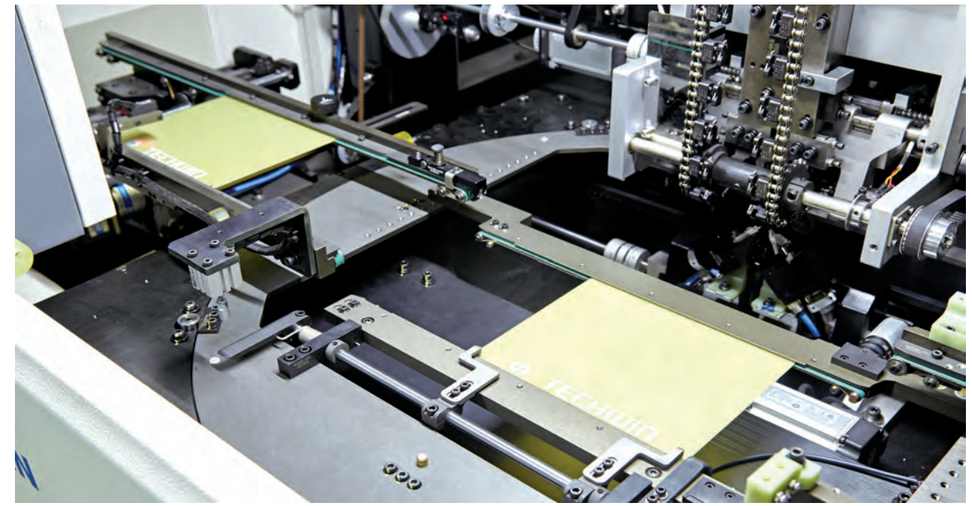
引脚弯曲如图所示
CL=1.2-2.2±0.5mm，CA=0-35±10° 可调， h≈0.1mm
The Clinch shape as shown in figure CL=1.2-2.2±0.5mm，
CA=0-35±10°
L≤ 16mm
H≤ 5mm



Tape 编带

元件要求:	Component Requirement:
元件编带间距：P=5.08mm	Component Pitch: P=5.08mm
原件编带宽度：W=52mm	Tape Width: W=52mm
U = 65.5以下	U = under 65.5
S = 0.8以下	S = under 0.8
T = 6±1	T = 6±1
L1 = L2	L1 = L2
R = 0	R = 0





	ZHX-A30C-AS	ZHX-A30C-AS-IN
Theoretical Speed 理论速度	24,000 cph	24,000 cph
Insertion Direction 插件角度	4 Direction 方向 0° / 90° /180° / 270°	4 Direction 方向 0° / 90° /180° / 270°
Component Span 元件跨距	5mm ~ 22mm	5mm ~ 22mm
Board Size 基板尺寸	最小 Min 50mm*50mm 最大 Max 450mm*450mm	最小 Min 50mm*50mm 最大 Max 320mm*285mm 选项 Option 400mm*285mm
Process Height 进板高度	N/A 不适用	900mm
Board Thickness 基板厚度	0.79~2.36mm	0.79~2.36mm
Component Style 零件种类	电容，晶体管，二极管，电阻，电感，熔断丝等编带卧式封装料 Capacitor, Transistor, Diode, Resistor, Inductance, Fuse Block, Other Axial style taped components	电容，晶体管，二极管，电阻，电感，熔断丝等编带卧式封装料 Capacitor, Transistor, Diode, Resistor, Inductance, Fuse Block, Other Axial style taped components
Jumper 跳线装置	独立输送方式 Independent Module: Dia 0.5-0.7mm 镀锡铜线 Tin Plated Copper Wire 可同时插2种规格的桶装跳线（可选） 2 kinds of jumper can insert at same time (Option)	独立输送方式 Independent Module: Dia 0.5-0.7mm 镀锡铜线 Tin Plated Copper Wire 可同时插2种规格的桶装跳线（可选） 2 kinds of jumper can insert at same time (Option)
Cut & Clinch Length 剪脚长度	1.2~2.2 mm (Adjustable 可调)	1.2~2.2 mm (Adjustable 可调)
Clinch Angle 弯脚角度	0-35° Internal Bending 内弯曲 (Adjustable 可调)	0-35° Internal Bending 内弯曲 (Adjustable 可调)
Component Stations 料站数量	20 STD 标准 (Option 选项 30,40,50,100)	20 STD 标准 (Option 选项 30,40,50,100)
Machine Dimension 机体尺寸	Main Body 主机：L1800xW1500xH1700mm	Main Body 主机：L2000xW1500xH1700mm
Component Station Size 料站尺寸	L2000xW1000xH1500 mm (20 stations)	L2000xW1000xH1500 mm (20 stations)
Weight 重量	Main Body 主机：Approx 约 1150kg	Main Body 主机：Approx 约 1200kg
Power Requirement 供电需求	AC220V, Single Phase, 50/60Hz, 1.5Kw	AC220V, Single Phase, 50/60Hz, 1.5Kw
Power Protection 电源保护	UPS, 15 minutes duration after power cut-off	UPS, 15 minutes duration after power cut-off
Air Pressure 气压要求	0.6 Mpa	0.6 Mpa
Air Consumption 耗气量	0.2 M^3/min	0.2 M^3/min
Environmental Temperature 环境温度	5°C – 25°C	5°C – 25°C
Noise Level 噪音水平	65 db	65 db
Position Teaching 孔位校正方式	Vision System 视觉系统 Multi Fiducial 多定位点校正	Vision System 视觉系统 Multi Fiducial 多定位点校正
Component Centering 元件归中装置	STD 标准 Mechanical Centering 机械驱动归中夹；	STD 标准 Mechanical Centering 机械驱动归中夹；
Axis Driving System 驱动系统	AC Servo Motor 伺服马达	AC Servo Motor 伺服马达
Chain Driving 链条输送方式	双链条双伺服电机驱动 Dual Chain With Dual Servo Motor Drive	双链条双伺服电机驱动 Dual Chain With Dual Servo Motor Drive
Data Input Style 数据输入方式	USB Port, Excel Format	USB Port, Excel Format
Operation System 操作系统	Chinese/English Interface (Windows Platform) LCD Display 中英文界面，视窗平台，液晶显示	Chinese/English Interface (Windows Platform) LCD Display 中英文界面，视窗平台，液晶显示
Operation Mode 操作模式	Auto 全自动 / Semi Auto 半自动 / Manual 手动	Auto 全自动 / Semi Auto 半自动 / Manual 手动
Worktable Rotation 工作台运转方式	Clockwise 顺时针 / Counter Clockwise 逆时针	Clockwise 顺时针 / Counter Clockwise 逆时针 Conveyor Track 导轨式
Board Inload 进板方式	Manual 手动进板	Conveyor Inload Right To Left(Selectable) 导轨自动进板左到右 (方向可选)
Programming 编程方式	On-line Teaching 在线手动编程	On-line Teaching 在线手动编程

ZHX-A30D-AS
ZHX-A30D-AS-IN

高速离线/在线自动卧式插件连体机

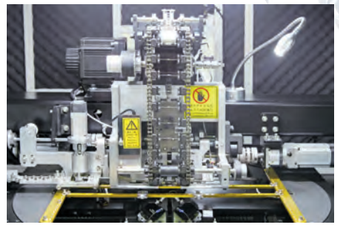
High Speed Off Line/In Line Axial Insertion Combo Machine

特点

电脑化中英文操作及友好使用界面
4种插件角度 0°,90°,180° 及270°
进口高精度传动丝杆及AC伺服电机驱动，确保位置误差<0.01mm
视觉系统配以多点式定位，校正位置确保插装准确度
不间断后备电源，遇有意外停止供电仍能维持15分钟操作
USB端口予以数据传输
联体式设计，包含元件排序模组，无须再购置传统排序机
节省成本，不再存在元件排序时胶纸之耗费
独立跳线供应模块，按实际所需长度供给
高速可达28,000 cph/小时，比传统卧式插件机大幅提速30%
机械式/伺服驱动 元件归中装置
连线生产可行性
底座伺服马达驱动，音噪小，速度快
前链条送料司服单独控制，送料更精准
前后触摸屏控制
操作手柄功能，更方便
全新系统，更人性化，智能化
新一代进板方式，时间短，效率高
智能纠偏照像功能

Characteristics

Computerized, Chinese & English interface, Convenient & user friendly
4 different insertion direction of 0°,90°, 180° & 270°
Imported precision ball screw with AC servo motor Drive, positioning accuracy <0.01mm
Machine vision system, improve positioning alignment, Multi fiducials maintain accuracy of insertion
Power protection with UPS power supply, more stable, Can last for 15 minutes operation when accidental Power failure
USB port for data transmission
All-in-one structure with component sequencing modules, Stand alone sequencer no longer required
Cost reduction. No longer required adhesive tape for Component sequencing
Independent jumper feeding mechanism, feed length According to actual requisition
High speed up to 28,000 cph, insertion speed greatly Increased 30% compared with classic machine
Mechanical/Servo driven component centering unit
In-line production capability
Base servo motor drive, low noise, fast speed
The feed servo of the front chain is independently controlled, and the feed is more accurate
Front and rear touch screen control
Operate handle function, more convenient
New system, more humanized, intelligent
New generation board approach, short time, high efficiency
Intelligent image correction function

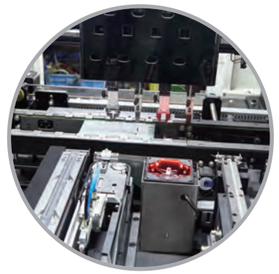


	ZHX-A30D-AS	ZHX-A30D-AS-IN
Theoretical Speed 理论速度	28,000 cph	28,000 cph
Insertion Direction 插件角度	4 Direction 方向 0° / 90° /180° / 270°	4 Direction 方向 0° / 90° /180° / 270°
Component Span 元件跨距	5mm ~ 22mm	5mm ~ 22mm
Board Size 基板尺寸	最小 Min 50mm*50mm 最大 Max 450mm*450mm	最小 Min 50mm*50mm 最大 Max 320mm*285mm 选项 Option 400mm*285mm
Process Height 进板高度	N/A 不适用	900mm
Board Thickness 基板厚度	0.79~2.36mm	0.79~2.36mm
Component Style 零件种类	电容，晶体管，二极管，电阻，电感，熔断丝等编带卧式封装料 Capacitor, Transistor, Diode, Resistor, Inductance, Fuse Block, Other Axial style taped components	电容，晶体管，二极管，电阻，电感，熔断丝等编带卧式封装料 Capacitor, Transistor, Diode, Resistor, Inductance, Fuse Block, Other Axial style taped components
Jumper 跳线装置	独立输送方式 Independent Module: Dia 0.5-0.7mm 镀锡铜线 Tin Plated Copper Wire 可同时插2种规格的桶装跳线（可选） 2 kinds of jumper can insert at same time (Option)	独立输送方式 Independent Module: Dia 0.5-0.7mm 镀锡铜线 Tin Plated Copper Wire 可同时插2种规格的桶装跳线（可选） 2 kinds of jumper can insert at same time (Option)
Cut & Clinch Length 剪脚长度	1.2~2.2 mm (Adjustable 可调)	1.2~2.2 mm (Adjustable 可调)
Clinch Angle 弯脚角度	0-35° Internal Bending 内弯曲 (Adjustable 可调)	0-35° Internal Bending 内弯曲 (Adjustable 可调)
Component Stations 料站数量	20 STD 标准 (Option 选项 30,40,50,100)	20 STD 标准 (Option 选项 30,40,50,100)
Machine Dimension 机体尺寸	Main Body 主机：L1800xW1500xH1700mm	Main Body 主机：L2000xW1500xH1700mm
Component Station Size 料站尺寸	L2000xW1000xH1500 mm (20 stations)	L2000xW1000xH1500 mm (20 stations)
Weight 重量	Main Body 主机；Approx 约 1150kg	Main Body 主机；Approx 约 1200kg
Power Requirement 供电需求	AC220V, Single Phase, 50/60Hz, 1.5Kw	AC220V, Single Phase, 50/60Hz, 1.5Kw
Power Protection 电源保护	UPS, 15 minutes duration after power cut-off	UPS, 15 minutes duration after power cut-off
Air Pressure 气压要求	0.6 Mpa	0.6 Mpa
Air Consumption 耗气量	0.2 M^3/min	0.2 M^3/min
Environmental Temperature 环境温度	5°C – 25°C	5°C – 25°C
Noise Level 噪音水平	60 db	60 db
Position Teaching 孔位校正方式	Vision System 视觉系统 Multi Fiducial 多定位点校正	Vision System 视觉系统 Multi Fiducial 多定位点校正
Component Centering 元件归中装置	STD 标准 Mechanical Centering 机械驱动归中夹；	STD 标准 Mechanical Centering 机械驱动归中夹；
Axis Driving System 驱动系统	AC Servo Motor 伺服马达	AC Servo Motor 伺服马达
Chain Driving 链条输送方式	双链条双伺服电机驱动 Dual Chain With Dual Servo Motor Drive	双链条双伺服电机驱动 Dual Chain With Dual Servo Motor Drive
Data Input Style 数据输入方式	USB Port, Excel Format	USB Port, Excel Format
Operation System 操作系统	Chinese/English Interface (Windows Platform) LCD Display 中英文界面，视窗平台，液晶显示	Chinese/English Interface (Windows Platform) LCD Display 中英文界面，视窗平台，液晶显示
Operation Mode 操作模式	Auto 全自动 / Semi Auto 半自动 / Manual 手动	Auto 全自动 / Semi Auto 半自动 / Manual 手动
Worktable Rotation 工作台运转方式	Clockwise 顺时针 / Counter Clockwise 逆时针	Clockwise 顺时针 / Counter Clockwise 逆时针 Conveyor Track 导轨式
Board Inload 进板方式	Manual 手动进板	Conveyor Inload Right To Left(Selectable) 导轨自动进板左到右 (方向可选)
Programming 编程方式	On-line Teaching 在线手动编程	On-line Teaching 在线手动编程
Feeder 料站	DC motor control feeding 电机控制下料	DC motor control feeding 电机控制下料
Mark Identification Mark 识别	Programming handle, touch screen operation in front and back 编程手柄，前后触摸屏操作(可选)	Programming handle, touch screen operation in front and back 编程手柄，前后触摸屏操作(可选)

ZHX-Y50

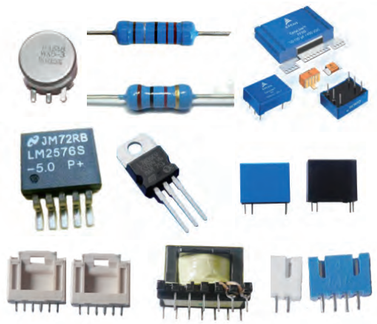
在线自动异型元件插件机

In Line Odd Shape Component Insertion Machine



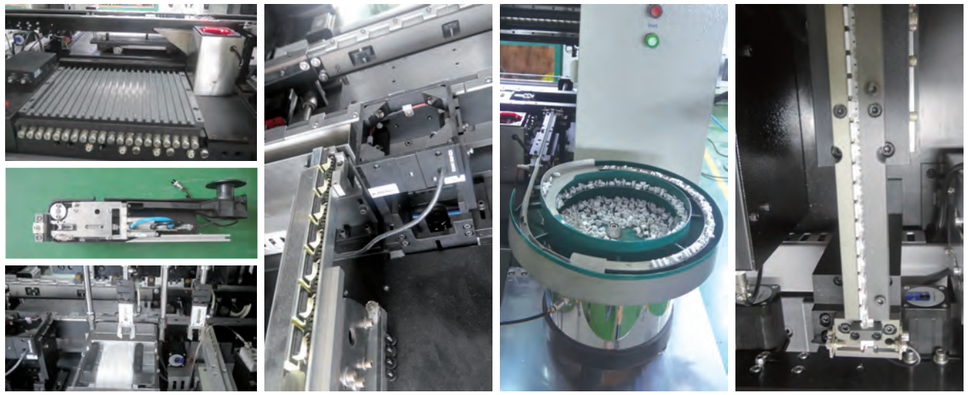
特点

双视觉系统定位，元件视觉自动检测，偏差自动补偿，超差抛料
模块式供料系统，可同时装载散装料，管装，带装及盘装多达8站位
三段式PCB传输结构，减少等待时间，定位可靠，确保精度
多种插件头，快速更换，提高兼容性
插件头回转轴原始位置与中心参数自动光学校正与标定
插件角度0~360度，无极增加
工业电脑控制，高精度伺服驱动系统
高刚性机座结构，保证运动平稳和高速精度要求



Characteristics

Dual vision system positioning, component vision recognization with automatic Compensation & reject if over specification
Modulized feeder unit, capable to handle bulk, tube, tape and tray package Components up to 8 stations
3 sectors conveyor structure, efficiently reduce idle time and maintain positioning Accuracy
Varies type insertion nozzles, rapid nozzle change, enhanced machine flexibility
Optical correction for Insertion head centering & home position
0~360° insertion angle
Industrial computer controls, high precision Servo Driving system
High rigidity machine frame and structure, maintain stable operation & high speed Accuracy requirement



	Techwin ZHX-Y50
Theoretical Speed 理论速度	1.2~2 sec/component元件
Insertion Direction 插件角度	0º- 360º, 1º增量 Increment
Board Size 基板尺寸	最小Min 50mm*50mm 最大Max 350mm*300mm
Board Thickness基板厚度	0.6~2.36mm
Component Style零件种类	电容，三极管，IC，电感，连接器，插座，变压器等各类异型元件 Capacitor, Transistor,IC, Inductor, Connector, Transformer & etc..
Component Size 元件尺寸范围	< L30 x W35mm
Insertion Accuracy 插装精度	±0.05mm (3σ)
Repeatability 重复精度	±0.02mm
Insertion Head 插件轴数	4 sets
Feeder Capacity 供料站数量	2 ~ 8
Feeder Type 供料器种类	卧式带装，立式带装，多管式, 散装震动盘式，盘装 Radial Tape Feeder, Multi-tube Feeder, Bulk Component Bowl Feeder, Tray Feeder
Programming Method 编程方式	手动示教, 视觉示教, Excel 数据格式导入 Manual Teaching, Vision Teaching, Excel format data input
Component Alignment 元件识别方式	200万像数CCD视觉识别 CCD Vision Recognition (2.0 Mega pixel industrial CCD)
Board Offset Correction 基板偏差补偿	工业CCD照相机Fiducial识别 Fiducial mark recognition by Industrial CCD
PCB Conveyor 基板传送机构	3段式皮带传送 左→右 或 右→左 3 Sector Belt Driving, board flow L→R or R→L 自动调宽 Auto Width Adjustment 工作高度 Process Height 900mm±20mm
Operation System 操作系统	工业电脑控制, 视窗操作平台，液晶显示 Industrial Computer, Windows Platform, LCD Display
Machine Dimension 机体尺寸	Main Body主机: W1400xD1300xH1600 mm
Weight 重量	Main Body 主机 ：Approx 约 1000kg
Power Requirement 供电需求	AC220V, Single Phase, 50/60Hz, 1.5Kw
Power Protection 电源保护	UPS, 15 minutes duration after power cut-off
Air Pressure 气压要求	0.4-0.7 Mpa
Air Consumption 耗气量	100NL/min

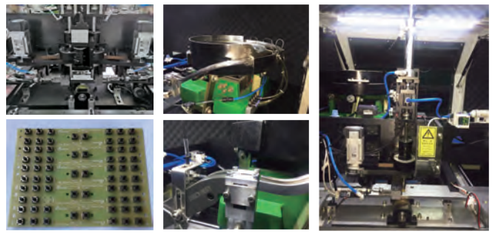
ZHX-TSW50-IN

在线轻触开关插件机

In Line Touch Switch Insertion Machine

特点

全电脑控制，中英文操作系统，视窗平台，操作方便及人性化
视觉系统校正，在线自动编程，自动纠偏及Mark点识别，确保装准确度
AC伺服系统，进口高精度传动组件，实现稳定高速与高效
插装角度0~360度，增量为1度
散装震动盘送料，噪音低，稳定性强，配备自动整脚和弯脚组件
弹性插装结构，保证产品质量
不间断后备电源，意外停止供电仍能操作15分钟



Characteristics

Computerized controls, Chinese & English operation interface, Windows Platform, convenient operation and user friendly
Vision system alignment, on-line auto teaching, automatic offset alignment, Fiducial mark recognization
AC Servo driving system, imported high precision driving mechanism, achieve stability & high speed accuracy
0~360° insertion angle with 1° increment
Bulk component bowl feeder, low noise level and high stability, Lead cut & clinch assembly available
Shock absorption structured insertion head, maintain product quality
Standby power supply for 15 minutes operation if accidental power supply failure

	TSW50-IN
Theoretical Speed 理论速度	12,000 cph
Insertion Direction 插件角度	0° - 360° , 1° 增量 Increment
Component Lead Span 元件脚跨距	宽 W4.5mm ; 长 L6.5mm
Board Size 基板尺寸	最小 Min 50mm*50mm 最大 Max 350mm*300mm
Process Height 进板高度	900mm
Board Thickness 基板厚度	0.79~2.36mm
Track Width 导轨宽度	50~300mm (Adjustable 可调)
Component Style 零件种类	6 * 6 * H5 四引脚按键 4 leads Mini Switches
Clinch Angle 弯脚角度	45° Internal Bending 内弯曲
Machine Dimension 机体尺寸	Main Body 主机 :L1800*W1450*H1500mm
Weight 重量	Main Body 主机 ： Approx 约 750kg
Power Requirement 供电需求	AC220V, Single Phase, 50/60Hz, 1.0Kw
Power Protection 电源保护	UPS, 15 minutes duration after power cut-off
Air Pressure 气压要求	0.6 Mpa
Air Consumption 耗气量	0.3 M^3/min
Environmental Temperature 环境温度	5° C - 25° C
Noise Level 噪音水平	60 db
Position Teaching 孔位校正方式	Vision System 视觉系统； Multi Fiducial 多定位点校正
Axis Driving System 驱动系统	AC Servo Motor 伺服马达
Data Input Style 数据输入方式	USB Port, Excel Format
Operation System 操作系统	Chinese/English Interface (Windows Platform) LCD Display 中英文界面，视窗平台，液晶显示
Operation Mode 操作模式	Auto 全自动 / Semi Auto 半自动
Board Inload 进板方式	Automatic Left To Right(Selectable) 自动进板左到右 (可选)
Programming 编程方式	On-line Teaching 在线手动编程

ZKS-600 SERIES

无铅热风回流焊系列

Lead Free Hot Air Convection Reflow Soldering

特点

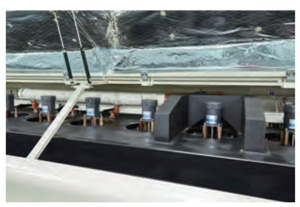
Windows 系统，中英文操作界面在线切换，操作简便
整机采用工控机控制，性能稳定可靠；
上下温区独立PID闭环控温和风速可调，能满意足各类高精度无铅焊接工艺；
控制程序可自动生成和备份操作历史记录，符合ISO9000管理体系采用进口发热部件和专用涡轮增压热风循环系统，使热传导均匀充分，
大大提高加热的效率和均匀稳定性
升温快，从室温到加热恒温<20分钟
网带与链条同步运输，采用无极变速
全电脑自动控制滴油系统
断电保护功能，后备电源保证断电后PCB正常输出，并具有手摇传动装置，确保产品的安全性
PCB在线炉温测试，软件具有曲线数据分析，储存和打印功能；
自动侦测PCB在线工作状态
采用小循环控制方式，有效减少相邻温区之间的干扰和串温现象
主要电气控制和关键部件采用国外名牌进品部件，保证设备经久耐用
具有故障智能诊断功能，可在线显示和记录存储各类警报列表；
特殊炉胆设计，保温性能好，分段加热控制，耗电量少

Characteristics

Windows Platform, Chinese & English operation interface
High reliable industrial computer controlled
PID closed loop controlled and independent blower rotation adjustment ,meet with all Lead Free process criteria
Based on ISO9000 criteria. System software automatically create backup files and log data
Imported heating elements and critical designed blowers , efficiently increase heat transmission and distribution
Rapid ramp up in less than 20 minutes
Variable conveyor speed controlled by invertor
Automatic Rail Chain Oiler
Built-in standby power supply for accidental power supply failure, manual roll out mechanism as second level backup
Built-in 3 channels profiling system with analytical software, printout available
On-line board processing indication feature
Typical small circulation structure ,efficiently avoid effect from adjacent zones
Imported electrical components being used for main portions On screen display fault message and generate history log files for reference
Efficient thermal barreled heating passage, sequential startup features, greatly reduce power consumption

System Software（Fig 1 ）软件控制

Windows 系统，中英文操作界面在线切换，操作简便
具有显示各种故障和自动存储报警列表
Windows platform, Chinese/English user interface
On screen display error messages, auto save history log file



Blower motors（Fig 2）运风马达

台湾优质高温马达，散热性能好，转速高达2800rpm，提供充足的热风流量 2800rpm
high rotation Taiwanese blower motors, enhance hot air flow

Specialized & Critical Designed Heat Generation Structure—独特的热能供应结构

各个温区采用强制统一循环，上下加热独立控温，采用特殊结构涡轮增压热风循环系统
新型的加热风道使热传导均匀充分，大大提高了加热的效率和均匀性
两侧回风，有效防止温区之间串温现像，中置涡轮增压分层出风，确保温控精度±1℃，横向温差±2℃
Specially designed blower with typical small circulation structure ,temperature controlled independently
New designed distribution panel, efficiently increase air flow and enhance hot air evenly distributed
Back flow at left & Right hand sides，minimized interference from adjacent zones, critical blower kit at center location ,temperature accuracy of ±1℃,deviation of ±2℃ in across direction

	ZKS-608	ZKS-610	ZKS-612	ZKS-617
基本规格 General Specifications				
机体尺寸 Machine Dimension	L5173 x W1372 x H1462 mm	L5923x W1372x H1462mm	L6673x W1372x H1462mm	L8548x W1372x H1462mm
重量 Weight	2150 Kg	2300Kg	2500KG	2950KG
机体颜色 Color	电脑白 Grey White			
设备控制 Main Control	Windows视窗 电脑控制 + 西门子 PLC，SPC 数据库 Windows Platform Computer+ SIEMENS PLC			
控制界面 User Interface	中文 / 英文 双语 Chinese/English Multi-language Interface			
加热区数量 Heating Zones	T8/B8	T10/B10	T12/B12	T17/B17
加热区总长 Overall Heating length	3200mm	3950mm	4700mm	6575mm
冷却区数量 Cooling Zones	2	2	2	2
排风要求 Exhaust Requirement	≥ 3m/min X 2 Vanes			
压缩气要求 Compressed Air Requirement	标准 STD: 常风冷却 Natural Air Cooled; 选项 OPT: 自然吸气式冷风机 External Gas Chiller；4-7kgf/cm2			
电源要求 Power Requirement	3 Phase 5 Cables AC 380V 3Φ 50/60Hz			
启动功率 Startup Consumption	≤ 30Kw	≤ 32Kw	≤ 35KW	≤ 40KW
操作功率 General Consumption	≤ 10-11Kw	≤ 12Kw	≤ 14KW	≤ 22KW
升温时间 Time To Steady	≤ 20min	≤ 20min	≤ 20min	≤ 20min
温度设定范围 Temperature Setpoint	室温 Room Temp ~ 350°C			
温度控制方式 Temperature Control	PID 闭环控制 PID Closed Loop Controlled			
控温精准度 Temperature Accuracy	±1°C			
横向温差 Temperature Deviation(Across)	±2°C			
热风流量 Hot Air Flow	Approx 70 CFM			
环境释放热能 Environmental Heat Energy	≤ 70J 焦耳	≤ 76J 焦耳	≤ 82J 焦耳	≤ 88J 焦耳
环境噪音 Noise Level	≤ 70db 分贝	≤ 70db 分贝	≤ 70db 分贝	≤ 70db 分贝
生产数据 Production Data	产品生产档案，生产数据统计，故障统计 Board Recipes ,SPC Data ,Alarm & Fault History			
工作宽度 Process Width	导轨 Rail Chain 50-400mm			
工作高度 Process Height	网带 Mesh 875±20 mm ; 导轨 Rail Chain 900±20 mm			
运输速度 Conveyor Speed	0-1500mm/min			
产品容许高度 Product Clearance	以导轨高度为准则 Reference To Rail Chain: 板面 TopSide 30mm；板底 Underneath 30mm			
功能配置 Features				
传输方向 Flow Direction	左→右 Left → Right / 右→左 Right → Left			
导轨固定方式 Fixed Track	前固定 Front Fixed / 后固定 Rear Fixed			
导轨链条润滑 Rail Chain Lubrication	可编程自动滴油 programmable Automatic Oiler			
中央支撑 Center Board Support	选项 OPT: 链条式中央支撑 Chain Type Center Board Support			
导轨调宽 Rail Width Adjustment	电动调宽 Motorized Width Adjustment			
炉盖开合 Hood opening	电动致动器 Electric Actuators			
上下线设备通讯 Up/Dn Stream Interface	5 Cables SMEMA			
热风循环方式 Hot Air Convection Style	小循环 General Circulation			
冷却方式 Cooling Style	标准 STD: 常风冷却 Natural Air Cooled; 选项 OPT: 外置 3hp 自然吸气式冷冻机 External 3hp Gas Chiller			
故障保护 Breakdown Protections	过流过载 , 超温 , 缺相保护 Overload,Overtemp & Missing Phase Protection 卡板报警 Board Jam Alert			
故障报警 Fault Alert	蜂鸣器，屏幕显示，三色灯显示 Buzzer Alarm,Monitor Display & Lignt Tower			
助焊剂处理系统 FLux Management Unit	标准 STD: 不配置 None ; 选项 OPT: 循环过滤式 Circulated Filtration			
氮气结构 Nitrogen Structured	选项 OPT: 耗氮量 N2 Circulated Filtration(<500 ppm): ≤ 20m3/hr(8 区 zones); ≤ 26m3/hr(12 区 zones)			
氮气附件 Nitrogen Related	选项 OPT: 氧气浓度分析仪，氮气流量表 Oxygen Analyser & Nitrogen Flow Meters			
温度曲线系统 Profiling System	3 通道测温系统，分析软件 3ch Profiling System With Analytical Software			
后备电源供应 Standby Power Supply	1000UV,15-20min			

ZKS-1000/N2 SERIES

无铅热风回流焊系列
Lead Free Hot Air Convection Reflow Soldering

特点

Windows 系统，中英文操作界面在线切换，操作简便
整机采用PLC+模块化控制，性能稳定可靠
上下温区独立PID闭环控温和风速可调，能满意足各类高精度无铅焊接工艺；
控制程序可自动生成和备份操作历史记录，符合ISO9000管理体系
采用进口发热部件和专用涡轮增压热风循环系统，使热传导均匀充分，大大提高加热的效率和均匀稳定性
升温快，从室温到加热恒温<20分钟
网带与链条同步运输，采用无极变速
全电脑自动控制滴油系统
断电保护功能，后备电源保证断电后PCB正常输出，并具有手摇传动装置，确保产品的安全性
PCB在线炉温测试，软件具有曲线数据分析，储存和打印功能；
自动侦测PCB在线工作状态
采用小循环控制方式，有效减少相邻温区之间的干扰和串温现像
主要电气控制和关键部件采用国外名牌进品部件，保证设备经久耐用
具有故障智能诊断功能，可在线显示和记录存储各类警报列表；
特殊炉胆设计，保温性能好，分段加热控制，耗电量少

Characteristics

Window platform ,Chinese & English operation interface
High reliable PLC+ Modular controlled
PID closed loop controlled and independent blower rotation adjustment ,meet with all Lead Free process criteria
Based on ISO9000 criteria, System software automatically create backup files and log data
Imported heating elements and critical designed blowers, efficiently increase heat transmission and distribution
Rapid ramp up in less than 20 minutes
Variable conveyor speed controlled by invertor
Automatic Rail Chain Oiler

Built-in 3 channels profiling system with analytical software, printout available
On-line board processing indication feature
Latest updated Tiny circulation structure, efficiently improve soldering performance
Imported electrical components being used for main portions
On screen display fault message and generate history log files for reference
Efficient thermal barreled heating passage ,sequential startup features, greatly reduce power consumption

双导轨(选项) Dual Track (Option) (Fig 1)

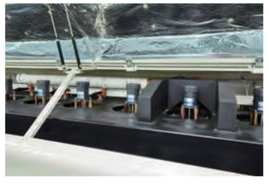
提供双导轨选项，工作宽度 50-250mm
Dual track option available, process width 50-250mm

氮气系统(选项) Nitrogen Structure(Option) (Fig 2)

名牌氧气浓度分析仪，精度高，可靠性强　炉膛使用全密封保护设计，有效保证氮气不易流失，使氧气浓度保持　300-500ppm　氧浓度在300-500ppm环境下，耗氮量仅为16m3/hr　Well known brandname Oxygen analyzer with high accuracy Fully enclosed structure of heating passage, efficiently maintain Oxygen level in 300-500ppm Nitrogen consumption of 16m3/hr based on 300-500ppm

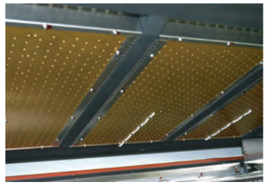
软件控制 System Software（Fig 3 ）

Windows 系统，中英文操作界面在线切换，操作简便 具有显示各种故障和自动存储报警列表
Windows platform, Chinese/English user interface On screen display error messages, auto save history log file



运风马达Blower Motors（Fig 4）

日本优质高温长轴马达，散热性能良好，转速高达2800rpm，提供充足的热风流量
2800rpm high rotation Japanese blow motors, enhance hot air flow



微循环加热系统Tiny Circulation Structure（Fig 5）

新型的微循环加热方式，使热传导更加均匀充分，大大提高了加热的效率和均匀性，确保加热过程的稳定性，△T偏差最少　各个温区均采用强制统一循环，上下加热独立控温，采用特殊结构涡轮增压热风循环系统 工业电脑智能调节控制系统，确保热能的补给量 Specially designed blower wish typical Tiny Circulation structure, temperature controlled independently New concept of heat transmission in vertical air flow ,greatly increase heat capacity and even distribution Industrial computer controls, guarantee sufficient heat compensation

	ZKS-1008	ZKS-1010	ZKS-1012	ZKS-1018
基本规格 General Specifications				
机体尺寸 Machine Dimension(单导轨 Single Track)	L5173*W1372*H1600mm	L5923 x W1372 x H1600mm	L6603 x W1372 x H1600mm	L8966 x W1372 x H1600mm
机体尺寸 Machine Dimension(双导轨 Dual Track)	L5173*W1641*H1600mm	L5923 x W1641 x H1600mm	L6603 x W1641 x H1600mm	L8966 x W1641 x H1600mm
重量 Weight	2550 Kg	2730 Kg	2930 Kg	3500Kg
机体颜色 Color	电脑白 Grey White；工业喷粉 Industrial Duster			
设备控制 Main Control	视窗电脑控制 + 西门子 PLC; Windows platform Computer + SIEMENS PLC			
控制界面 User Interface	中文 / 英文 双语 Chinese/English Multi-language Interface			
加热区数量 Heating Zones	T8/B8	T10/B10	T12/B12	T18/B18
加热区总长 Overall Heating length	3200mm	3950mm	4700mm	6575mm
冷却区数量 Cooling Zones	2+1			
排风要求 Exhaust Requirement	3m3/min x 2 Vanes			
压缩气要求 Compressed Air Requirement	标准 STD: 常风冷却 Natural Air Cooled; 选项 OPT: 自然吸气式冷风机 Extemal Gas Chiller：4-7kgf/cm2			
电源要求 Power Requirement	3 Phase 5 Cables AC 380V 3Φ 50KW 50/60Hz			
总功率 Overall Consumption	45KW	56KW	67KW	100KW
启动功率 Startup Consumption	30KW	32KW	38KW	48KW
操作功率 General Consumption	≦ 11KW	≦ 12KW	≦ 13KW	≦ 16KW
升温时间 Time To Steady	≦ 20 min			
温度设定范围 Temperature Setpoint	室温 Room Temp ~ 400℃			
温度控制方式 Temperature Control	PID 闭环控制 PID closed Loop Controlled			
控温精准度 Temperature Accuracy	±1°C			
横向温差 Temperature Deviation(Across)	±2°C			
热风流量 Hot Air Flow	Approx 70 CFM			
环境释放热能 Environmental Heat Energy	≦ 70J 焦耳	≦ 76J 焦耳	≦ 82J 焦耳	≦ 88J 焦耳
环境噪音 Noise Level	≦ 70db 分贝	≦ 70db 分贝	≦ 70db 分贝	≦ 70 分贝
生产数据 Production Data	产品生产档案，生产数据统计，故障统计 Board Recipes ,SPC Data ,Alarm & Fault History			
工作宽度 Process Width	导轨 Rail Chain 50-400/460mm(可选) (单导轨 Single Track) ; 50-250/300mm(可选) (双导轨 Dual Track)			
工作高度 Process Height	网带 Mesh 875±20 mm ; 导轨 Rail Chain 900±20 mm			
运输速度 Conveyor Speed	0-1500mm/min			
产品容许高度 Product Clearance	以导轨高度为准则 Reference To Rail Chain: 板面 TopSide 30mm；板底 Underneath 30mm			
功能配置 Features				
传输方向 Flow Direction	左→右 Left → Right or 右→左 Right → Left			
导轨固定方式 Fixed Track	前固定 Front Fixed or 后固定 Rear Fixed			
导轨链条润滑 Rail Chain Lubrication	可编程自动滴油 programmable Automatic Oiler			
中央支撑 Center Board Support	选项 OPT: 链条式中央支撑 Chain Type Center Board Suport			
导轨调宽 Rail Width Adjustment	电动调宽 Motorized Width Adjustment			
炉盖开合 Hood opening	电动致动器 Electric Actuators			
上下线设备通讯 Up/Dn Stream Interface	5 Cables SMEMA			
热风循环方式 Hot Air Convection Style	小循环 General Circulation			
冷却方式 Cooling Style	标准 STD: 常风冷却 Natural Air Cooled 选项 OPT: 外置 3hp 自然吸气式冷冻机 Extemal 3hp Gas Chiller			
故障保护 Breakdown Protections	过流过载 , 超温 , 缺相保护 Overload,Overtemp & Missing Phase Protection 卡板报警 Board Jam Alert			
故障报警 Fault Alert	蜂鸣器，屏幕显示，三色灯显示 Buzzer Alarm,Monitor Display & Lignt Tower			
助焊剂处理系统 FLux Management Unit	标准 STD: 不配置 None 选项 OPT: 循环过滤式 Circulated Filtration			
氮气结构 Nitrogen Structured	选项 OPT: 耗氮量 N2 Circulated Filtration(<500 ppm): ≤ 20m3/hr(8 区 zones); ≤ 26m3/hr(12 区 zones)			
氮气附件 Nitrogen Related	选项 OPT: 氧气浓度分析仪，氮气流量表 Oxygen Analyser & Nitrogen Flow Meters			
温度曲线系统 Profiling System	3 通道测温系统，分析软件 3ch Profiling System With Analytical Software			
后备电源供应 Standby Power Supply	1100VA,15-20min			

ZKS-THR1000 SERIES

无铅通孔回流焊系列

Lead Free Pin In Paste Reflow Soldering

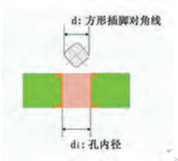
特点

Windows 系统，中英文操作界面在线切换，操作简便
整机采用PLC+模块化控制，性能稳定可靠
顶部全数冷却区，外置低温冷冻模组，满足通孔低温锡膏焊接要求
底部温区独立PID闭环控温和风速可调
炉腔上下完全隔离，确保底部热风不干扰顶部冷却
控制程序可自动生成和备份操作历史记录，符合ISO9000管理体系
采用进口发热部件和专用涡轮增压热风循环系统，使热传导均匀充份大大提高加热的效率和均匀稳定性
升温快，从室温到加热恒温<20分钟
链条运输采用无极变速
全电脑自动控制滴油系统
断电保护功能，后备电源保证断电后PCB正常输出，并具有手摇传动装置，确保产品的安全性
PCB在线炉温测试，软件具有曲线数据分析，储存和打印功能
自动侦测PCB在线工作状态
采用热风及红外线合拼方式，进行通孔低温锡膏焊接
主要电气控制和关键部件采用国外名牌进口部件，保证经久耐用
具有故障智能诊断功能，可在线显示和记录存储各类警报列表
特殊炉胆设计，保温性能好，分段加热控制，耗电量少

外置低温冷冻
External Low
Temperature Cooling

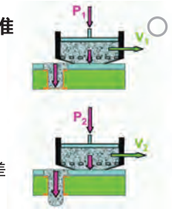
Characteristics

Windows platform, Chinese & English operation interface
High reliable PLC + Modular controlled
Top cooling zones throughout whole passage, external low temperature Cooling modules, meet with PIP low temp soldering criteria
PID closed loop controlled and independent blower rotation adjustment for all bottom zones
Heating passage is totally isolated between top & bottom zones
Based on ISO9000criteria, system software automatically create backup files and log data
Imported heating elements and critical designed blower, efficiently increase heat transmission and distribution
Rapid ramp up in less than 20 min
Variable conveyor speed controlled by invertor
Automatic Rail Chain oiler
Built-in standby power supply for accidental power supply failure manual roll-out mechanism as second level backup
Built-in 3 channels profiling system with analytical software, print-out available
On-line board processing indication feature
Combination of hot air & infra-red, achieve PIP low temperature Soldering application
Imported electrical components being used for main portions
On screen display fault message and generate history log files for reference
Efficient thermal barreled heating passage, sequential startup features, greatly reduce power consumption



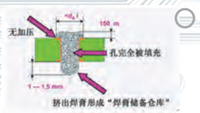
Board Hole Criteria 引脚开孔标准

Diameter of through hole required to concern about the
Tolerance to diagonal of rectangular shape component leads
通孔直径需考虑到方形元件引脚对角线的公差



Printing Condition 印刷状态

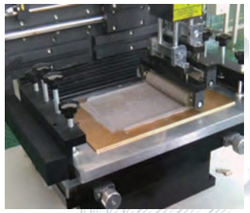
Absolutely required to fill up through hole with paste until
Paste exposed underneath PCB like "Water Drops"
Paste being applied to through hole must be in double of
Hole volume
必须填充满锡膏直至PCB底部出现水滴状锡膏
填充锡膏量必须为通孔容量的两倍



Stencil Apertures 钢网开孔

Thickness 模板厚度 150~120um
Ds=di+2R-0.1
di----Hole diameter 孔径
R----Pad Ring 焊盘环宽

Printing Method 印刷方式
Rotary squeegee or enclosed Pro-Flow meet with PIP Printing criteria
滚筒式或密封加压式，皆非常适合通孔印刷工艺

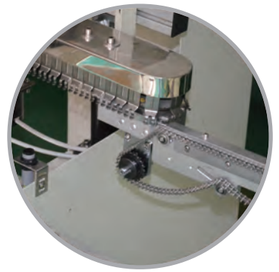


	ZKS-THR1010	ZKS-THR1012	ZKS-THR1014
基本规格 General Specifications			
机体尺寸 Machine Dimension (单导轨 Single Track)	L5923 x W1372 x H1600mm	L6603 x W1372 x H1600mm	L7284 x W1372 x H1600mm
机体尺寸 Machine Dimension (双导轨 Dual Track)	L5923 x W1641 x H1600mm	L6603 x W1641 x H1600mm	L7284 x W1641 x H1600mm
重量 Weight	2730 Kg	2930 Kg	3130Kg
机体颜色 Color	电脑灰 Grey White		
设备控制 Main Control	视窗 Windows 工业电脑控制 Windows platform industrial Computer		
控制界面 User Interface	中文 / 英文 双语 Chinese/English Multi-language Interface		
加热区数量 Heating Zones	T10/B10	T12/B12	T14/B14
加热区总长 Overall Heating length	3847mm	4529mm	5210mm
加热区材质 Heating Passage Material	非储能隔热材质 Low heat gain thermal barrier material		
冷却区数量 Cooling Zones	顶部全数为冷却区 All Top Cooling		
排风要求 Exhaust Requirement	3m3/min x 2 Vanes		
压缩气要求 Compressed Air Requirement	自然吸气式低温冷冻机 Extemal Low Temp Chiller		
电源要求 Power Requirement	3 Phase 5 Cables AC 380V 3Φ 5W 50/60Hz		
总功率 Overall Consumption	56KW	67KW	100KW
启动功率 Startup Consumption	35KW	38KW	48KW
操作功率 General Consumption	≦ 12KW	≦ 13KW	≦ 16KW
升温时间 Time To Steady	≦ 20 min		
加热方式 Heating Style	红外与热风合拼 Combination Of Hot Air & Infra-red		
温度设定范围 Temperature Setpoint	室温 Room Temp ~ 400℃		
温度控制方式 Temperature Control	PID 闭环控制 PID closed Loop Controlled		
控温精准度 Temperature Accuracy	±1°C		
横向温差 Temperature Deviation(Across)	±2°C		
热风流量 Hot Air Flow	Approx 70 CFM		
环境释放热能 Environmental Heat Energy	≦ 38J 焦耳	≦ 41J 焦耳	≦ 44J 焦耳
环境噪音 Noise Level	≦ 70db 分贝	≦ 70db 分贝	≦ 70 分贝
生产数据 Production Data	产品生产档案，生产数据统计，故障统计 Board Recipes ,SPC Data ,Alarm & Fault History		
工作宽度 Process Width	导轨 Rail Chain 50-400mm (单导轨 Single Track) ; 50-250mm (双导轨 Dual Track)		
工作高度 Process Height	网带 Mesh 875±20 mm ; 导轨 Rail Chain 900±20 mm		
运输速度 Conveyor Speed	0-1500mm/min		
产品容许高度 Product Clearance	以导轨高度为准则 Reference To Rail Chain: 板面 TopSide 30mm；板底 Underneath 30mm		
功能配置 Features			
传输方向 Flow Direction	左→右 Left → Right or 右→左 Right → Left		
导轨固定方式 Fixed Track	前固定 Front Fixed or 后固定 Rear Fixed		
导轨链条润滑 Rail Chain Lubrication	可编程自动滴油 programmable Automatic Oiler		
中央支撑 Center Board Support	选项 OPT: 链条式中央支撑 Chain Type Center Board Suport		
导轨调宽 Rail Width Adjustment	电动调宽 Motorized Width Adjustment		
炉盖开合 Hood opening	电动致动器 Electric Actuators		
上下线设备通讯 Up/Dn Stream Interface	5 Cables SMEMA		
热风循环方式 Hot Air Convection Style	小循环 General Circulation		
冷却方式 Cooling Style	外置自然吸气式低温冷冻机 Extemal Low Temp Chiller		
故障保护 Breakdown Protections	过流过载，超温，缺相保护 Overload,Overtemp & Missing Phase Protection 卡板报警 Board Jam Alert		
故障报警 Fault Alert	蜂鸣器，屏幕显示，三色灯显示 Buzzer Alarm,Monitor Display & Lignt Tower		
助焊剂处理系统 FLux Management Unit	标准 STD: 不配置 None 选项 OPT: 循环过滤式 Circulated Filtration		
温度曲线系统 Profiling System	3 通道测温系统，分析软件 3ch Profiling System With Analytical Software		
后备电源供应 Standby Power Supply	1100VA,15-20min		

ZKS-3B

无铅双波峰焊锡炉系列

Lead Free Dual Wave Soldering



特点

Windows 系统，中英文操作界面在线切换，操作简便
整机采用PLC+商务电脑自动控制，性能稳定可靠
控制程序可自动生成和备份操作历史记录，符合ISO9000管理体系
自动喷雾系统，喷雾面积，时间及速度随PCB变化而自动调节
PCB在线炉温测试，软件具有曲线数据分析，存储和打印功能
加长四段式热风预热区及焊接区外观设计，均采用钢化玻璃，方便操作及维修
具有故障智能诊断功能，可在线显示和记录存储各类警报列表
热补偿装置可实现PCB在进入锡炉前温度下降范围≤2℃，减少热冲击
采用专用导轨，防止导轨因受热而变形
具有超温声光报警及紧急制动系统，所有马达均有过载保护系统
可根据用户要求设定提前加热日期和时间，运行全自动开机和关机
铸铁材质陶瓷表层锡炉采用特殊设计，持续加热后炉胆不变形，有效避免爆锡现象，加快深锡时间，锡渣氧化量少
封闭式冷却系统，采用工业探针制冷风机强制冷却，出板冷却温度2-10℃，非常有效地减少无铅工艺的冷焊和剥离现象
喷雾系统采用步进马达驱动，运行顺畅稳定，保证喷雾均匀

Characteristics

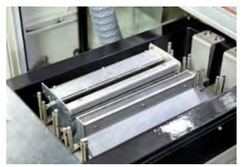
Windows platform, Chinese & English interface, user friendly
PLC + Commercial computer controls, excellent reliability
System software automatically generate backup & log files,meet with ISO 9000 requirement
Automatic spray fluxer, spray area, timing and speed varies Automatically by board model
Built-in profiling system, software featured with analysis, saving & printing ability
Lengthened Hot air pre-heaters in 4 sectors, unbreakable glass covers, convenient for operation & maintenance
Intelligent fault alert system, on-line display and record all system errors
Heat compensation unit, guarantee board temperature drops less than 2℃ before solder pot, efficiently reduce thermal shock
Strengthened conveyor track, reduce and minimize thermal deform
Visual & Audio alert, emergency shutdown, overloading protection to motors
Programmable & fully automatic system on/off timer
Cast Iron with ceramic coating designed solder pot structure , minimal risk of thermal deform, efficiently avoid split of solder, speed up solder melting and reduce solder dross formation
Enclosed cooling structure, industrial chiller with outlet temperature of 2-10℃, efficiently reduce fillet lifting effect
Spray fluxer head driven by step motor, better reliability and performance

软件控制 Control Software (Fig 1)

Windows 系统，中英文操作界面在线切换，操作简便
具有显示各种故障和自动存储报警列表
Windows platform, Chinese and English user friendly interface
Error and fault On screen display, automatically generate history log file

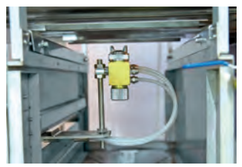
预热系统Per-heaters (Fig 2)

ZKS-3B独特的三段式预热方式，1800mm长热风预热系统，使助焊剂充分发挥活性，将溶剂得以充分挥发
预热区采用可调预热风循环设计，加热效果更均匀
预热区采用四段独立控温，发热均匀，升温迅速，无热冲击，使助焊剂达到最佳活性状况，确保焊接工艺
ZKS-3B, 3 sectional Hot Air pre-heater in total length of 1800mm, efficiently activate liquid flux
Variable speed hot air circulation structure, enhance better heat distribution
Independently temperature control of pre-heaters, fast ramp up and flexible to meet with different target profile



全新型炉胆系统 New designed Solder Pot Structure (Fig 3)

铸铁材质及陶瓷表层炉胆，不产生腐蚀，经久耐用
单槽外发热方式，锡炉分层加热，防止爆锡
特殊的发热管结构，通过铜介质传导，可充分迅速地将热能传给锡炉
特殊小喷口设计，多种调节方向，可灵活焊接各种难度的PCB，确保焊接质量
柔性波峰喷口，特殊的防氧化设计，高效降低氧化量
短间距的双波峰设计
Cast Iron with ceramic coating solder pot, corrosion resist and long lifetime
Single tank with external heat up structure, enhance better heat transmission and avoid splitting of solder
Critical heating element with copper shielding, provide better heat conduction
Multi angle chip wave design, high flexibility for different SMT applications
Low dross formation design of Lambda wave
Extremely short displacement between two waves



氮气系统（选配）Nitrogen Structure (Option)

进口氧浓度分析仪，准确并实时监控含氧量及氮气浓度
预热通道及锡炉密闭式设计，减少氮气渗漏，进一步减少耗氮量
Imported brand-name Oxygen Analyzer, real time and accurately secure Oxygen contents and maintain Nitrogen level
Pre-heater passage and solder pot enclosed structure, minimize the case of Nitrogen leakage and highly reduce Nitrogen consumption

喷雾系统Spray Fluxer

ZKS-3B助焊剂喷雾系统采用步进马达驱动，更有效地保证助焊剂涂覆均匀
助焊剂与外界无接触，无挥发，无污染
智能式喷雾系统，可根据PCB板宽度智能调节
助焊剂风刀，移除过量助焊剂
日本进口喷嘴，雾化更均匀，耐腐蚀，合用寿命长
面板式操作调整喷雾频率，雾化及流量，操作简单
ZKS-3B Spray Fluxer unit is driven by Step Motor, Liquid Flux more evenly distributed
Enclosed and isolated fluxer structure, minimized flux vaporization and contamination
Intelligent spray controls, spray area automatically adjusted regarding

	ZKS-3B
基本规格 General Specifications	
机体尺寸 Machine Dimension	L4620×W1500×H1600mm
重量 Weight	1200kg
机体颜色 Color	电脑灰 Grey White
设备控制 Main Control	Windows 视窗 平台 +PLC 控制 Windows Platform + PLC Control
控制界面 Control interface	中文 / 英文双语 Chinese/English Interface
预热区数量 Pre-Heating Zones	4
预热区总长 Overall Pre-Heating Length	1800mm (标配) 分段控制 (standard) separately control
冷却区数量 Cooling Zones	1
冷却斜率 Cooling Down Slope Gradient	常风冷却 Natural Air Cooled:3-4° C/sec
排风要求 Exhaust Requirement	≥ 3m/sec×2
压缩气要求 Compressed Requirement	常风冷却 Natural Air Cooled; 冷冻干燥机 External Gas Chiller:3-6° C/sec
电源要求 Power Requirement	3 Phase 5 Cables 380Vac 50/60 Hz
启动功率 Startup Consumption	≦ 21.5kw
操作功率 General Consumption	≦ 6kw
升温时间 Heating up time	预热 Pre-Heat: 大约 Approx 15min 锡缸 Solder Pot: 大约 Approx 90min
温度设定范围 Temperature Setpoint	预热 Pre-Heat: 室温 Room Temp-200℃ 锡缸 Soldier Pot: 室温 Room Temp-350℃
温度控制方式 Temperature Control	PID 闭环控制 PID Closed Loop Controlled
控温精准度 Temperature Accuracy	±1℃
横向温度 Temperature Deviation(across)	±2℃
热风流量 Hot air flow	Approx 50CFM
环境释放热能 Environmental Heal Engery	≦ 9OJ 焦耳
坏境噪音 Noise Level	≦ 60db 分贝
生产数据 Production Data	产品生产档案；生产数据统计；故障统计 Board Recipes,SPC Data, Alarem & Fault History
工作宽度 Process Width	50-450mm 选项 (option)
工作高度 Process Height	750mm±30mm
运输速率 Conveyor Speed	0-1800mm/min
导轨可调角度 Conveyor Inclination	4。-7。
产品容许高度 Product Clearance	以链爪高度为准则 Reference To Finger Grooves; 板面 TopsSide ≥ 80mm; 板底 Underneath ≥ 15mm
助焊剂部分 Fluxer	
喷头驱动方式 Spray Head Driving	步进电机驱动 Step Motor Driving
喷雾高度 Spray Height	50-80mm
雾化程度 Molecular Size	20-40 microns 微分
喷嘴直径 Flux Nozzle Diameter	1.3mm
助焊剂容量 Flux Capacity	20 公升 liters
助焊剂补充 Flux Refill	自动 Automatic

	ZKS-3B
传动部分 Conveyor	
传输方向 Flow Direction	左→右 L→R or 右→左 R→L(可选 Selectable)
导轨固定方式 Fixed Track	前固定 Front Fixed （可选）
传动功率 Conveyor Consumption	220Vac 90W
传动方式 Conveyor Style	1）双钩钛爪 2）重型爪 1）Double Hook Titanium 2）Claw/Heavy Claw
中央支撑 Center Board Support	钢丝式中央支撑 Wire Type Center Board Support
导轨调宽 Process Width Adjustment	手动调宽 Manual Width Adjustment 电动调宽 Electric Width Adjustment (Option 可选)
预热部分 Pre-Heaters	
预热功率 Pre-heat Consumption	220Vac 4kw x 3
热补偿功率（红外）Heat Compensation （IR)	220Vac 1kw
加热方式 Heat Up Style	热风循环 Hot Air Convection-50CFM
热风电机功率 Motors Consumption	220Vac 125W 2800rpm
锡缸部分 Solder Pot	
锡缸功率 Solder Consumption	220Vac 1.2kw×10
锡缸容量 Pot Capacity	350/450 kg
锡缸材质 Pot Material	铸铁表面陶瓷覆盖 Cast Iron with ceramic coating
波峰高度 Wave Height	0-12mm
波峰间距 Wave Displacement	第一与第二波间距 Between Chip & Lambda 50mm
平波可调范围 Lambda Wave Openings	40-80mm
波峰电机转速 Wave Motors Rotation	1450rpm
锡缸升降、进出 Tin pot up/down、in/out	电动 Motorized
锡渣生产量 Dross Amount	0.19-0.21kg/hr
冷却部分 Cooling	
冷却方式 Cooling Style	常风冷却 Natural Air Cooled
其他功能配置 Others	
故障保护 Breakdown Protections	过载，超温，缺相保护 卡板报警 Overload,Overtemp & Missing Phase Protection， Board Jam Alert
故障报警 Fault Alert	蜂鸣器，屏幕显示，三色灯 Buzzer Alarm,Monitor Display & Light Tower
助焊处理系统 Flux Management Unit	标准 STD: 不配置 None 选项 OPT: 循环过滤式 Circulated Filtration
氮气结构 Nitrogen Structured	局部冲氮 Section Flushing Nitrogen 耗氮量 N2 Consumption(<500ppm): ≦ 20m3/hr (选项) (option)
氮气附件 Nitrogen Related	氧浓度分析仪，氮气流量表 Oxygen Analyser & Nitrogen Flow Meters
温度曲线系统 Profiling System	3 通道测温系统，分析软件 3ch Profiling System With Analytical Software
后备电源供应 Standby Power Supply	1000W，15-20min

ZHX-SF3J

外置助焊剂喷雾机

External Spray Fluxer

特点

触摸屏控制，操作简易
远离波峰焊热源，大幅降低助焊剂着燃风险
独立双侧排风结构，减少雾化助焊剂粘附，提高清洁度
压力喷流清洗链条，三面循环清洗方式
喷雾头使用步进马达驱动，速度平稳
自动添加助焊剂装置，减少人工添加之麻烦

Characteristics

User friendly touch screen controls
Away from Wave soldering heat source, greatly reduce the risk of burning
Independent bilateral exhaust structure, reduce Flux fume adhesion, improve cleanliness
Pressured jet cleaning structure of chain fingers, 3 ways circulated style
Spray head driven by stepper motor with smooth speed
Automatic flux refill, reduce manpower

	ZHX-SF3J
输入电源 Input Power	单相 Single phase AC220V, 2Kw
气源压力 Air Pressure	3-5 Bar
工作宽度 Process Width	50-300mm
进板高度 Process Height	750±20mm
适用基板尺寸 Board Size	Min W50xL120mm ; T0.6
	Max W300xL350mm ; T1.6
工艺边 Board Edge	3mm
元件高度 Component Height	110mm
引脚长度 Lead Clearance	10mm
运输速度 Conveyor Speed	0.5 – 2.38m/min
机体尺寸 Dimension	L1600 x W1400 x H1352mm
设备重量 Weight	400Kg
运输马达 Conveyor Motor	AC220V, 60W
助焊剂容量 Flux Capacity	Approx 7.5 L
喷雾量 Spray Amount	0.4-0.76 L/Hr
排风扇 Exhaust Fan	3 Ph 380V, 1.5Kw
洗爪马达 Finger Cleaner Motor	AC220V, 22W
移动速度 Transverse Speed	5-24m/min

ZKS-300L/300U

全自动上/下料机

Automatic PCB Loader/Unloader

ZKS-300L
自动上料机

ZKS-300U
自动下料机

	ZKS-300L	ZKS-300U
设备尺寸 Dimension	L1350 x W710 x H1170mm	L1960 x W710 x H1170mm
重量 Weight	250Kg	230Kg
颜色 Color	电脑白 Grey White	电脑白 Grey White
基板尺寸 Board Size	60-250 x 300mm	60-250 x 300mm
适用料架规格 Magazine Size	320 x 355 x 567mm	320 x 355 x 567mm
	左→右 L→R (选项 OPT 右→左 R→L)	左→右 L→R (选项 OPT 右→左 R→L)
运输高度 Process Height	900 ±20mm	900 ±20mm
料架升降步距 Indexing	10, 20, 30, 40, 50mm	10, 20, 30, 40, 50mm
电源 Power Requirement	单相 Single Phase AC220V	单相 Single Phase AC220V
功率 Power Consumption	80W	80W
气压 Air Pressure	4-6 kgf/cm^2	4-6 kgf/cm^2

ZK-G-300/ZK-UV-300

离线/在线自动绿光/紫外PCB激光打标机
Off Line/In Line PCB Green Light Ultraviolet Laser Marking Machine

特点

1. 伺服 XY运动平台，工业 PC 控制、模块化柔性化编程设计。
2. 标配绿光激光（也可选其他激光），最小可雕刻出 1.6mmx1.6mm 多达16位字符的二维码。同轴 CCD 技术，精密定位 ，并且读取、识别二维码等级 (适应 AIM DPM , AS9132 等标准)。
3. 三色光源照明：颜色可三色切换，方便读取不同颜色板的雕刻标志。
4. 传送皮带距地面 900±30mm ，可以直接对接SMT 。可以自选进出料运动方向。
5. 标准 SMEMA 接口及网络通信功能 ，可与上、下游设备及服务器进行通讯；
6. 烟尘过滤装置，有效去除标记时产生的粉尘保证干净及健康。
7. 主动防呆，软件自动检测并防止错打，漏打；主门配有安全开关锁，由软件控制，
8. 在雕刻过程中各门都无 法人为开启，防止产品不良；
9. 进出料口配有自动遮挡门防止激光雕刻时强光损害人眼

Characteristics

1.XY Servo Operation Platform，Industrial PC Controlled 、Modular and flexible programming design.
2.Standard Configured Green Laser（ Option Of Other Laser ），
minimum carving of 1.6mm x 1.6mm up to 16 characters two-dimensional code
3.Coaxial CCD technology, precise positioning, read and identify two-dimensional code level (adapt to AIM, DPM, AS9132 and other standards).
4.Three Color Light Source：Capable to swap between 3 color，It is easy to read the engraving mark of different color boards。
5.Process Height 900±30mm，capable to In Line with SMT. Programmable Board Flow Direction。
6.Standard SMEMA Interface & Lan Communication ，capable to communicate with Upstream & Downstream machines；
7.Dust filter can effectively remove the dust throughout the process to ensure cleanliness and health
8.Active stop, software automatically detects and prevents any wrong hit or miss;
the main door is equipped with safety interlock, controlled by software
9.All covers cannot manually open throughout the process
10.The inlet and outlet are equipped with automatic barrier to prevent laser from damaging human eyes during laser engraving

全自动PCB激光打标机是一款专门用于在印刷电路板上标刻条码、二维码和字符、图形等信息的专用机型。本设备可直接对接SMT流水线，全自动化生产，生产过程中无需人工操作，也可配合自动上下板机组成离线式工作站，一台设备可对应多条流水线。

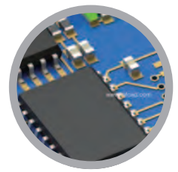
Automatic PCB laser marking machine is designed for marking bar code, 2 dimensional code, characters and graphics on PCB surface. This machine is capable to in-line operation with SMT lines, fully automatic operation with human power not required. Besides, it is also available to work together with loader/unloader and operate in off-line mode. One laser marking machine can fulfil the capacity of several production lines.

激光参数 Specification	激光光源 Laser Source	紫外 Untraviolet/绿光 Green Light
	激光波长 Wave Length	355nm/532nm
加工性 Process Parameters	电路板尺寸 Board Size	最小 Min 50mm×50mm、最大300mm×300mm（特殊可定制 Custom Made available）
	电路板厚度 Board Thickness	0.6-4mm（特殊可定制 Custom Made Available)
	重复定位精度 Repeatability	±0.02mm
	最小线宽 Min Laser Width	<0.005mm
	支持条码类型 Code Compatible	Code128、Code39、EAN-8、UPC-A 等条码 Bar Code，DataMatrix、QR 等二维码 2D Code
	进板方式 Board Flow	左进右出 / 右进左出（可选） L→R/R→L (Selectable)
主要配置 Configuration	电动工作平台 Electrical Worktable	X-Y 线性模组 Linear Modules
	定位系统 Positioning	旁轴 CCD 相机 CCD Side Mounted Camera
	外部辅助装置 External Hardware	负压吸附抽尘系统 Vacuum Dirt & Dust Removal Unit
	（选配）电源保护 Power Protaction	UPS, 断电可持续运行 10 分钟 Standby Power Supply, 10 min operation if power failure
使用环境条件 Environmenal Requirement	供电规格 PowerSupply	220V/50Hz/2KW
	供气规格 Air Pressure	0.6Mpa
	环境要求 Temperature	温度 Temp 5-25℃， 湿度 Humidity < 50%
	整机尺寸 Dimensions	930mm×1600mm×1650mm

ZK-CO_2-10

离线/在线自动CO_2 PCB激光打标机

Off Line/In Line PCB
CO_2 Laser Marking Machine



特点

CO_2激光器是一种气体激光器,以CO_2气体作为工作物质，将CO_2气体充入放电管,在电极上加高电压,放电管辉光放电,释放出激光,然后将释放的激光能量放大而进行激光加工。

其主要特点：

1.该设备采用高性能RF激光器。

2.它是波长为10.6um的脉冲气体激光器，该激光器属红外光。

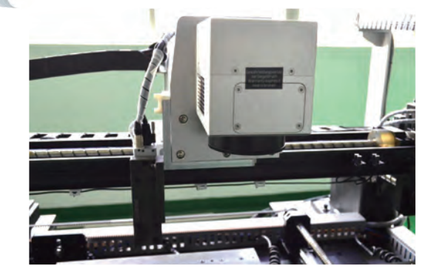
3.小功率的CO_2激光器对非金属材料（如：各种表面漆、塑胶、陶瓷等）具有较好的吸收性。

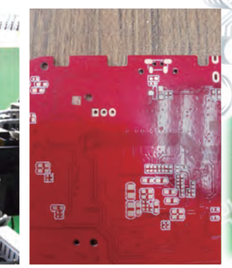
4.精度高、速度快、性能稳定，可以满足长时间工作的要求。

Characteristics

Carbon dioxide is used as a kind of laser medium in CO_2 Laser Marking Machine. Before adding high pressure to the pole, carbon dioxide is filled in discharge tube, making the machine become active and liberate laser. And then it amplifies the energy to laser processing.

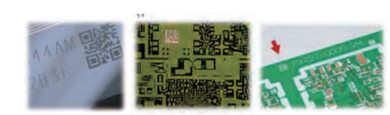
1. High performance RF laser
2. IInfrared, Plused gas laser with 10.6um wave length
3. Low power; excellent non-metallic material absorption（plastic,ceramics and etc.）
4. High accuracy, fast speed, stable performance; meet with long working hours





CO_2激光打标机与传统在线标记喷码方法相比，激光在线打标具有速度更快、效率更高、防伪效果显著、标记永久等优点；广泛应用于PCB行业、医药、个人护理品、烟草、食品饮料包装、酒类、乳制品、服装皮革、电子元器件、化工建材产品等领域的生产及有效日期、 批号、班次、厂家名称和标识等图形和文字的标记。

Compared with traditional in line code-spurting, CO_2Laser Marking Machine is faster, more efficient, better anti-counterfeiting and more remarkable in mark.
It is widely used in PCB, medicine, personal care, tobacco, food and beverage packaging, alcohol, dairy products, clothing, electronic components and chemical building material to mark the effective date, batch number, classes, suppliers and etc.



激光参数 Specification	激光光源 Laser Source	二氧化碳 CO_2
	激光波长 Wave Length	10.6um
加工性 Process Parameters	电路板尺寸 Board Size	最小 Min 50mm×50mm、最大 Max 400mm*300mm（特殊可定制 Custom Made available）
	电路板厚度 Board Thickness	0.6-4mm（特殊可定制 Custom Made Available)
	重复定位精度 Repeatability	±0.02mm
	最小线宽 Min Laser Width	<0.02mm
	支持条码类型 Code Compatible	Code128、Code39、EAN-8、UPC-A 等条码 Bar Code，DataMatrix、QR 等二维码 2D Code
	进板方式 Board Flow	左进右出 / 右进左出（可选） L → R/R → L (Selectable)
主要配置 Configuration	电动工作平台 Electrical Worktable	X-Y 线性模组 Linear Modules
	定位系统 Positioning	旁轴 CCD 相机 CCD Side Mounted Camera
	外部辅助装置 External Hardware	负压吸附抽尘系统 Vacuum Dirt & Dust Removal Unit
	（选配）电源保护 Power Protaction	UPS, 断电可持续运行 10 分钟 Standby Power Supply, 10 min operation if power failure
使用环境条件 Environmenal Requirement	供电规格 PowerSupply	220V/50Hz/2KW
	供气规格 Air Pressure	0.6Mpa
	环境要求 Temperature	温度 Temp 5-25℃，湿度 Humidity < 50%
	整机尺寸 Dimensions	1200mm×1335mm×1600mm

ZK-HF-20A/ZK-UV-30A

光纤 / 紫外激光打标机
Optic Fiber/Ultraviolet laser Marking Machine

特点

光纤激光打标机是我公司采用最先进的模块光纤耦合技术，采用了国际上最优秀的光学、电子配件开发并集成的优秀打标系统。具有短脉冲、高峰值功率、光斑均匀，免维护，能满足不同生产需要；

ZK-HF-20A光纤激光打标机由激光电源、激光器，数控系统、主控柜、升降台、工作台等组成。具有外形美观、整机合一、占地面积小、易操作、易维护的特点；

可广泛应用于电子元器件、集成电路（IC）、电工电器、手机通讯、五金制品、工具配件、精密器械、眼镜钟表、首饰饰品、汽车配件、塑胶按键、建材、食品及医药包装、PVC管材、医疗器械等行业。

Characteristics

Optic fiber laser marking machine using the most advanced module fiber coupling technology, in which the best international optical technology in electronic accessories development and integration of the excellent marking system. The utility model has the advantages of short pulse, high peak power, uniform light spot and maintenance free.

ZK-HF-20A Optic fiber laser marking machine combining the laser light source, laser module, digital control system, electric console, Up/Down worktable as one set, having advantages of nice appearance and engage small floor space, user friendly, convenient operation & maintenance.

It can be widely used on Electronic components, Integrated circuit, Electrical appliances, Telecommunication products, Hardware products, Precision Machinery, Glasses & watches, Jewelry, Automobile Products, Plastic push buttons, Building materials, Food & medical product packing, PVC pipe & Medical equipments.

项目名称	ZK-HF-20A	ZK-UV-30A
功率	20W	
重复频率	1-2000KHz	1-200KHz
波长	1064mm	355mm
光速质量㎡	<1.5	<1.2
标准雕刻范围	100*100 150*150 175*175（可选）	100*100 150*150 175*175（可选）
雕刻线速	9000mm/s	9000mm/s
最小线宽	±0.05mm	0.01mm
电力需求	220V±22v/50Hz/10A	220V±22v/50Hz/10A
整机耗电功率	500W	500W
工作温度	20-35℃	20-35℃
相对湿度	<80%	<80%
设备尺寸	800mm*750*1400mm	800mm*600m*1400mm
脉宽		5-80ns
重复精度		±0.005mm

设备特点

紫外激光加工时的反应机理是通过光化学消融作用实现的，即依靠激光能量打断原子或分子间的键合，使其成为小分子汽化、蒸发。紫外激光打标，具有聚焦光斑小，应用材料广，可加工对红外激光高反或高透的材料等特点。主要应用于超精细加工的高端市场。

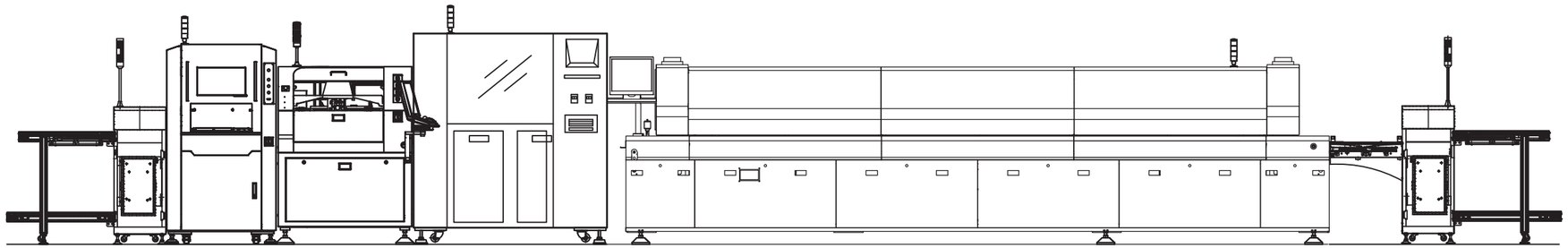
◆光束质量好，聚焦光斑更小，能实现超精细标记；
◆大多数材料都能吸收紫外激光，因而应用范围 更广泛，弥补红外激光加工能力不足；
◆热影响区域极小，不会产生热效应，不会产生材料烧焦问题；
◆标记速度快，效率高；
◆整机性能稳定，体积小，功耗低。

紫外激光由于聚焦光斑极小，且加工热影响区微乎其微，国而可以进行超精细打标、特殊材料打标，是对打标效果有更高要求的客户首先产品。紫外激光没有热作用产生，打标切割的结果精密、光滑，侧壁陡直，不会产生热效应，不会产生烧焦问题，除了铜以外，很多材料对355nm的紫外光是吸收的，所以UV的紫外激光能适合加工更多的材料 类型。

打样展示品

自动化整线方案
Automation Whole Line Project

SMT Line



ZKS-300L
全自动上料机
Auto PCB Loader

ZK-G-300
PCB激光打标机
PCB Laser Marking Machine

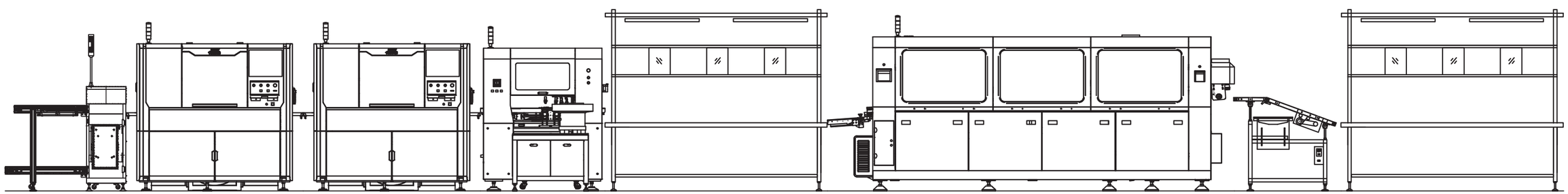
全自动印刷机
Auto Printing Machine

贴片机
Chip Mounter

ZKS-1010
无铅热风回流焊
Reflow Soldering Machine

ZKS-300U
全自动下料机
Auto PCB Unloader

DIP Line



ZKS-300L
全自动上料机
Auto PCB Loader

ZHX-A30D-AS-IN
高速在线自动卧式连体插件机
In Line Axial Insertion Combo Machine

ZHX-R20D-IN
高速在线自动立式插件机
In Line Radial Insertion Machine

ZHX-Y50
在线自动异形元件插件机
In Line Odd Shape Component Insertion Machine

手插线
Hand Insertion Line

ZKS-3B
无铅双波峰焊锡炉
Lead Free Dual Wave Soldering Machine

波峰焊出板机
Wave Soldering Unloader

皮带线
Strap Line

办事处分布图
Branch Offices

24小时售后服务手机：0086-13823330960
投诉电话(总经办）：0086-13823704068 /0086-18813677890

24 Hours After-sales Service Telephone: 0086-13823330960
Complaint Call (Headquarters): 0086-13823704068/0086-18813677890
Email: sales@zhxai.com / lisazhou@zhxai.com

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LITEON 光寶科技
TP-LINK
木林森照明
BYD
DP久量 Duration power 点亮锋尚生活
vatti 華帝
Hisense 海信
deli 得力集团
凯源电子 Sonward
KAMISAFE 康铠盛
CHANGHONG 长虹
QUSUN 乔森照明
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MEGMEET 麦格米特
三雄·极光照明
LONGJOIN 龍键集團
德丰集团 Defond Group
科名電源 KeMing Power
飞利浦 PHILIPS
SAMSUNG 三星电子
EAGLERISE 伊戈尔
TCP
SAE
福佳電器 FUJIA WIRING
信华企业