

专注领域

半导体设备:

键合机(粗铝线,铜线),AOI检测(3D\2D)

甲酸炉,IGBT铜引脚焊接机

自动化装联及视觉检测设备:

自动螺丝锁付,自动高速点胶,自动焊锡

选择性波峰焊,SPI检测等设备

A

全国统一服务热线
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企业宣传册 CORPORATE BROCHURE

让中国制造享誉世界

MAKE MADE IN CHINA BE FAMOUS IN THE WORLD

智能制造综合解决方案提供商
INTELLIGENT INTEGRATED SOLUTION PROVIDER



格润智能成立于2006年,是专注于自动化装联和半导体设备的国家高新技术企业。秉承着“助力智能制造、振兴民族品牌”的使命和“让中国制造享誉世界”的愿景,格润智能布局了3C电子、新能源、半导体三大领域,并在此基础上开展传统制造领域提质、降本、增效和国产化替代解决方案的研发、设计、智能生产和商业化应用,涵盖了多个行业的智能制造的广泛应用场景。

格润智能是国内少数掌握运动控制、软件算法和视觉控制三大关键核心技术能力的公司,自主研发和生产的产品包含自动螺丝锁付、自动高速点胶、自动焊锡、AOI检测、SPI检测、半导体铝线铜线键合机、甲酸真空炉等占据行业重要地位。截止至2023年底,格润智能已获得发明、实用新型、外观和软件著作权等数十项国家专利。

凭借三大关键核心技术,格润智能以自研产品为载体,人工智能技术为核心,致力于以创新科技服务解决产业实现数字化和智能化的终极需求,创造真正可持续发展的长期社会价值。

未来,格润智能将矢志不渝地践行对研发创新技术的承诺,为中国智能制造转型绿色智能制造创造更大的价值。

Founded in 2006, GREEN is a national high-tech enterprise focusing on automation assembly and semiconductor equipment. Adhering to the mission of "assisting intelligent manufacturing and revitalizing national brands" and the vision of "making China famous in the world", GREEN has intelligently laid out three major fields of 3C electronics, new energy and semiconductors, and on this basis, it has carried out R & D, design, intelligent production and commercial application of alternative solutions for quality improvement, cost reduction, efficiency enhancement and localization in traditional manufacturing fields, covering a wide range of intelligent manufacturing application scenarios in multiple industries.

GREEN Intelligent Equipment is one of the few companies in China that master the three key technical capabilities of motion control, software algorithm and vision control. The products independently developed and produced include automatic screw locking, automatic high-speed dispensing, automatic soldering, AOI testing, SPI testing, semiconductor aluminum wire bonding machine, formic acid vacuum furnace, etc. occupy an important position in the industry. By the end of 2023, GREEN has obtained dozens of national patents for inventions, utility models, appearance and software copyrights.

With the three key core technologies, GREEN takes self-developed products as the carrier and artificial intelligence technology as the core and is committed to solving the ultimate needs of digitalization and intelligence of the industry with innovative scientific and technological services and creating long-term social value of real sustainable development.

In the future, GREEN Intelligent Equipment will unswervingly fulfill its commitment to research and development of innovative technologies and create greater value for China's intelligent manufacturing transformation into GREEN's intelligent manufacturing.



企业理念

客户第一、员工第二、股东第三

Enterprise Concept

Customer first, employees second, shareholders third

企业使命

助力智能制造、振兴民族品牌

Enterprise Mission

Assist intelligent manufacturing Vitalize national brand

企业愿景

让中国制造享誉世界

Enterprise Vision

Make Made In China be famous in the world

价值观念

主动、正面、利他、精进、担当、感恩

Value

Active, Positive, Altruistic, Progressive, Responsible, Gratitude

粗线超声波键合机

Thick wire ultrasonic bonding machine

单排至多排的专用键合设备

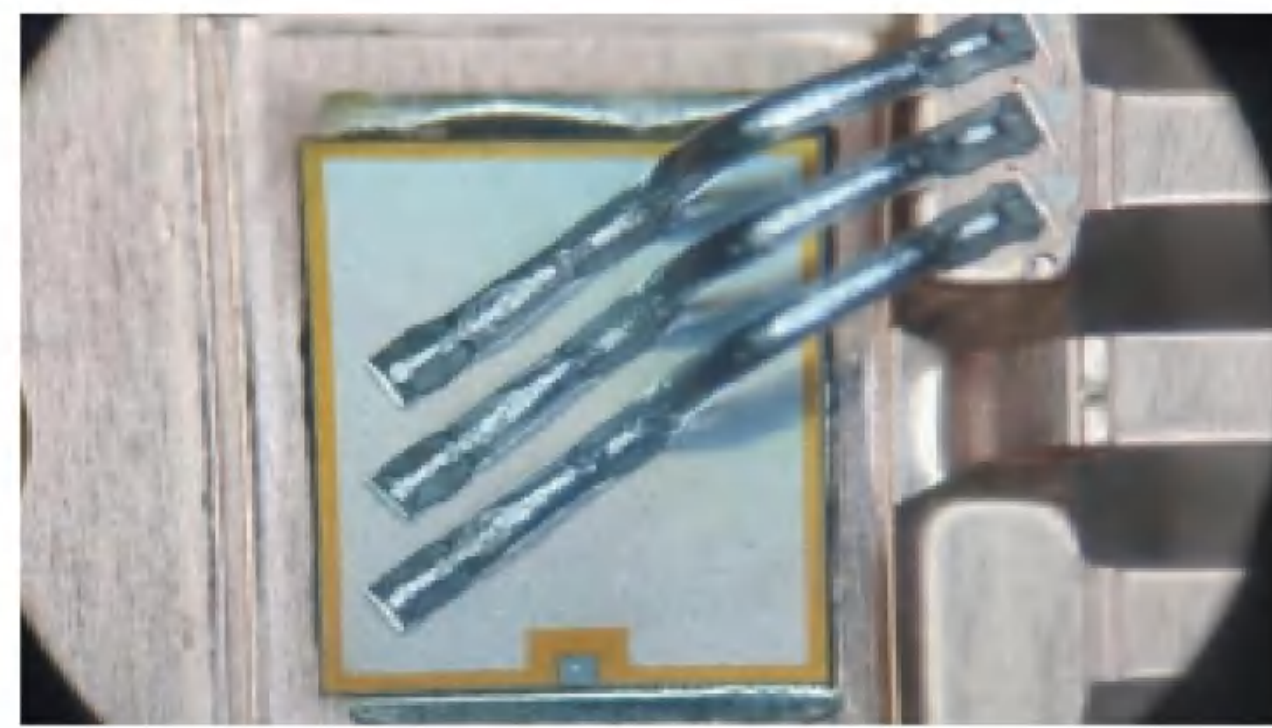
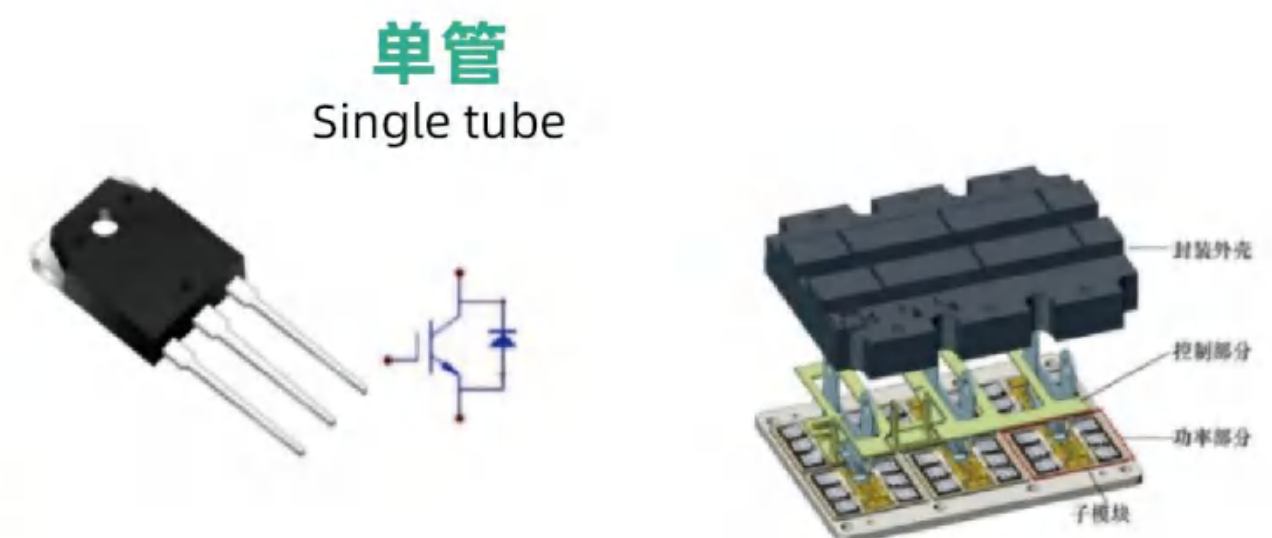
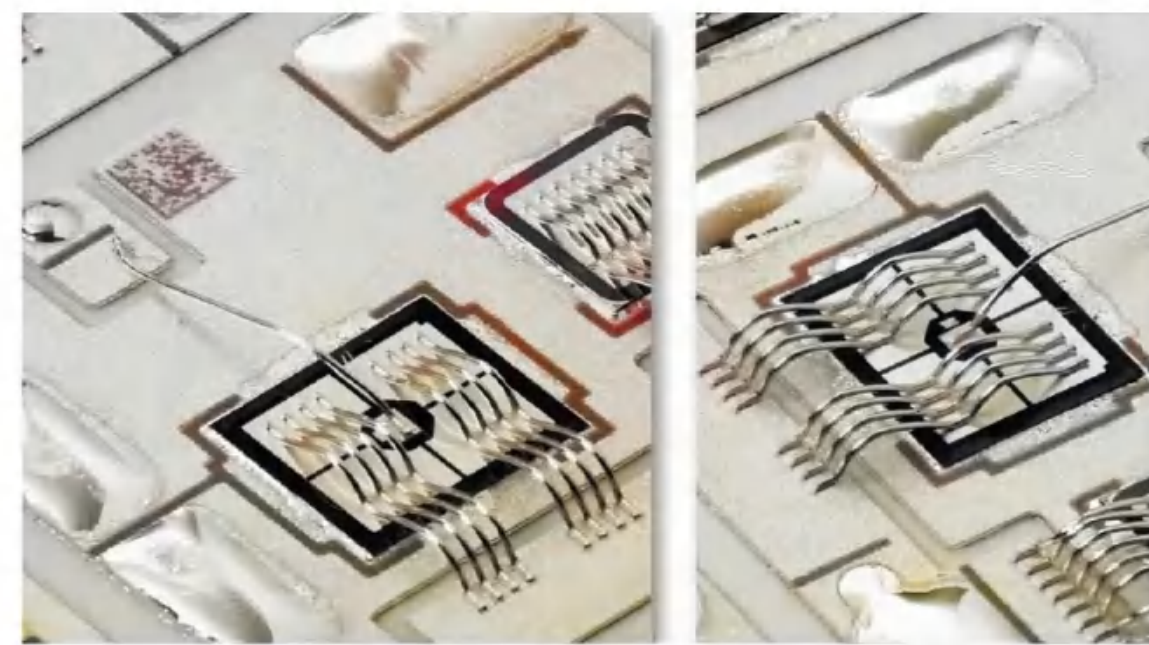
Dedicated bonding equipment for single to multiple rows

工艺需求

- 1.就单管IGBT来说,在IGBT单管封装工艺流程中,芯片在晶圆上做好划片之后,要通过粘片设备把芯片从晶圆转移到到框架(或称作基板)上进行粘接,然后通过压焊进行连线,再进行最后的塑封等过程。
- 2.根据IGBT不同的应用,支持不同款式的功率器件,无论多排或者单排,或者单独DBC与晶圆在线式的键合,该超声键合机能够灵活应用。
- 3.除了灵活的兼容设计之外,格润半导体在键合机上还有更多设计考虑,单台设备实现高效高质量功率器件封装键合。

Process requirements

1. As far as single-tube IGBT is concerned, in the IGBT single-tube packaging process, after the chip is diced on the wafer, the chip should be transferred from the wafer to the frame (or substrate) through the bonding equipment for bonding, and then connected by pressure welding, and then the final molding and other processes are carried out.
2. According to the different applications of IGBT, support different styles of power devices, whether multi-row or single-row, or separate DBC and wafer online bonding, the ultrasonic bonding machine can be flexibly applied.
3. In addition to flexible and compatible design, Green Semiconductor has more design considerations in the bonding machine, and a single machine can achieve high-efficiency and high-quality power device package bonding.



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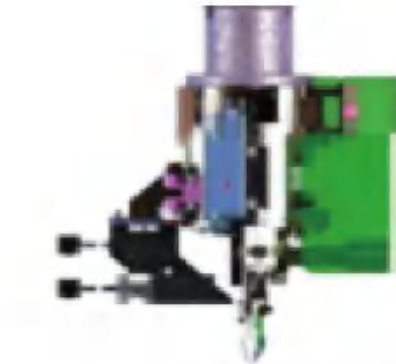
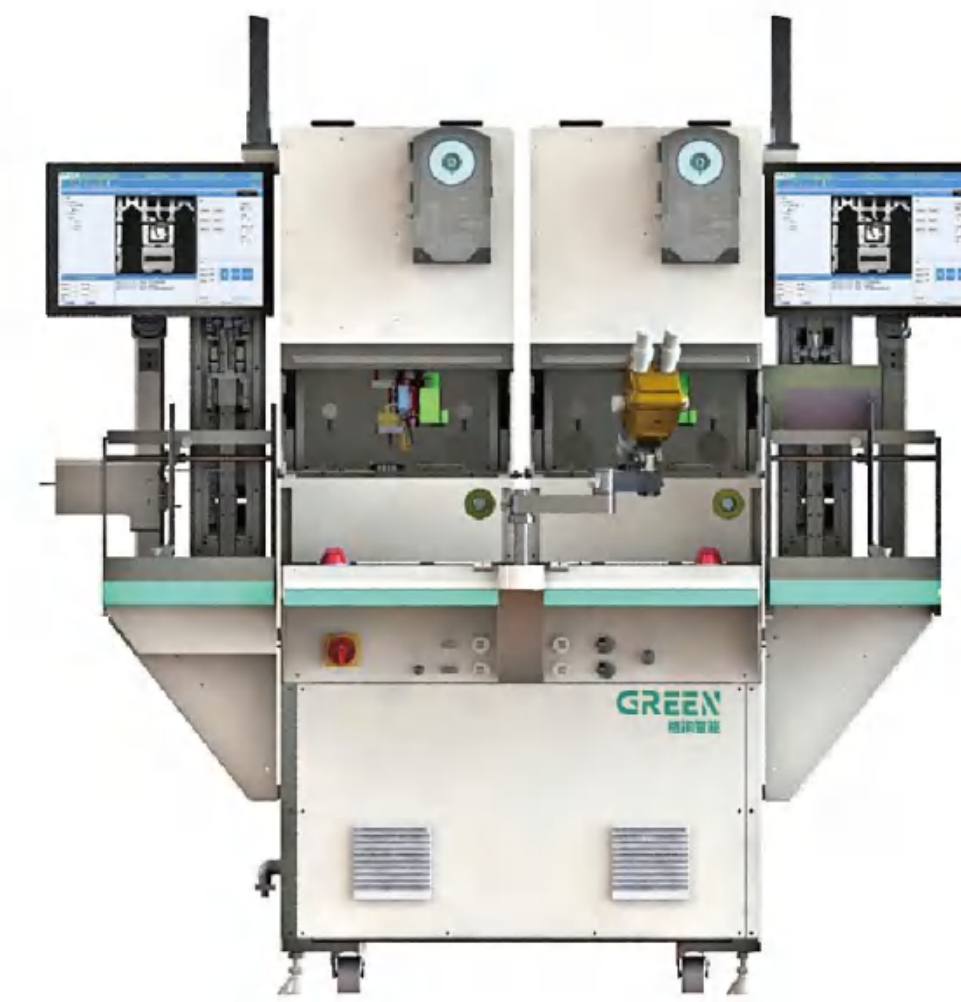
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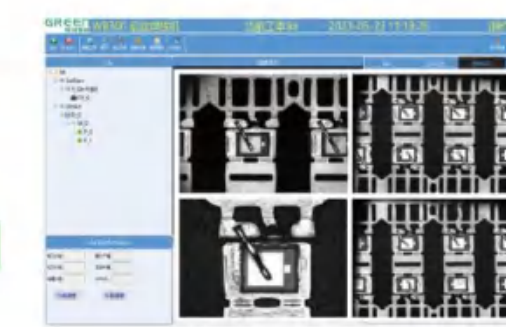
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粗线超声波键合机

Thick wire ultrasonic bonding machine



先进数字超声焊头
Advanced digital ultrasonic sonotrode



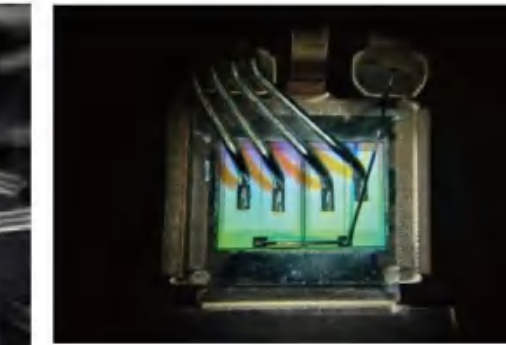
自主PR系统
Autonomous PR system



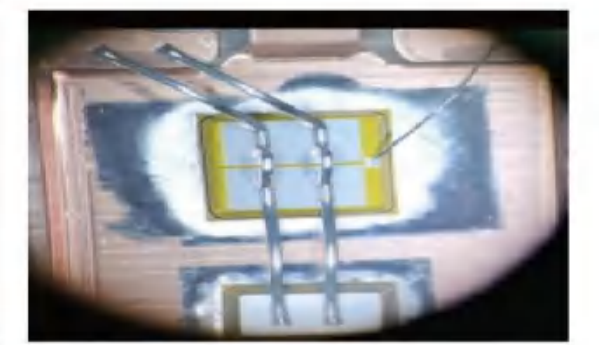
自带超声质量监控
Built-in ultrasound quality monitoring



TO功率器件
TO power devices



TO多跳线系列
TO multi-jumper series



TO双跳线系列
TO double jumper series

单排至多排的专用键合设备

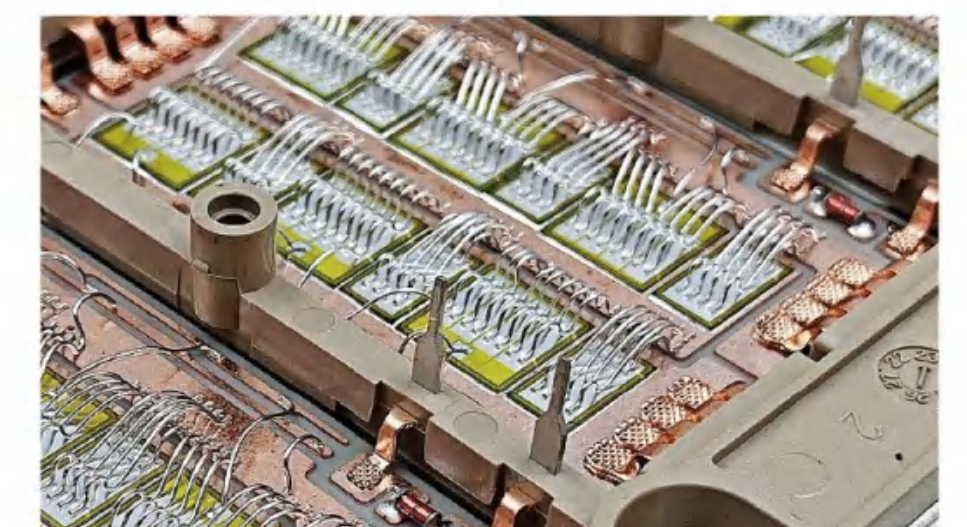
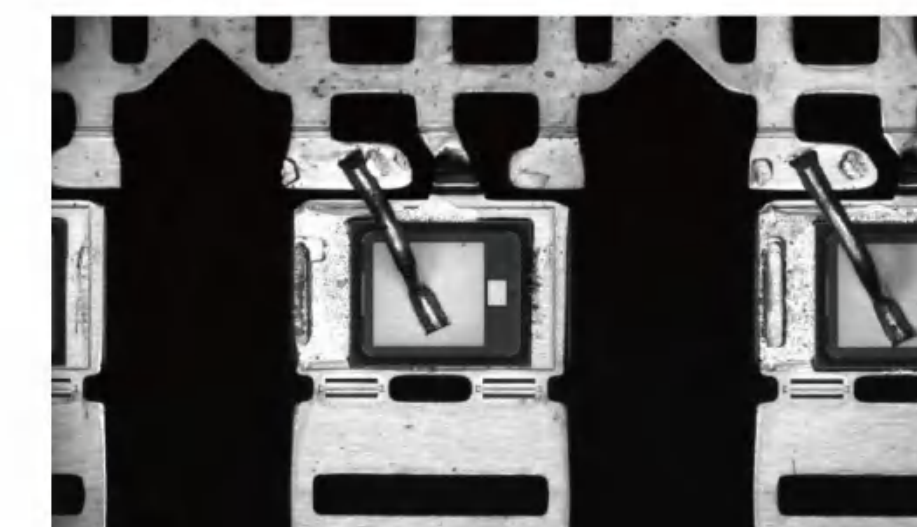
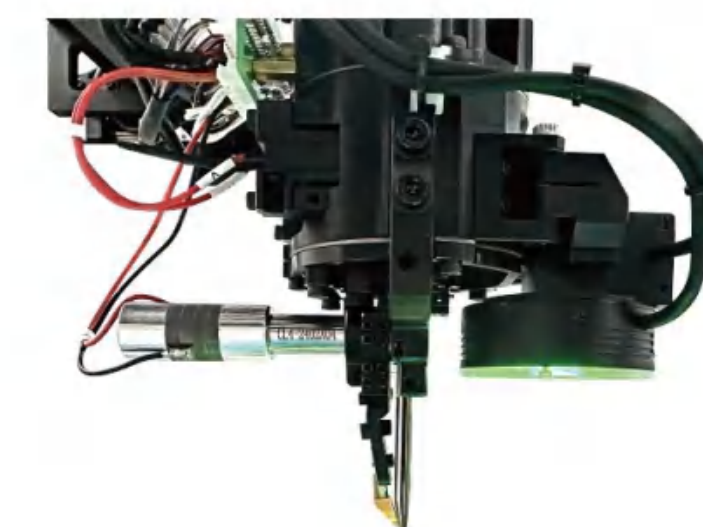
Dedicated bonding equipment for single to multiple rows

解决方案

- 1.采用计算机控制的自主研发直线电机系统,多轴直线电机配合的方式,同时实现各种不同芯片的高精度键合功能;
- 2.优越的结构设计:两套独立芯片工作台机构,各自可完成键合不同线径的工艺;
- 3.优越的过程控制:图像识别和自动寻位、θ角度修正技术,提高了焊线的灵活性、稳定性;
- 4.可调焊接压力:音圈电机实现压力无级电动调节;
- 5.自动送料、过料、收料;
- 6.采用计算机控制,全中文操作界面,更精确、方便的操作;

Process requirements

1. Adopt computer-controlled self-developed linear motor system, multi-axis linear motor coordination, and realize the high-precision bonding function of various different chips at the same time;
2. Superior structural design: two sets of independent chip workbench mechanisms, each of which can complete the process of bonding different wire diameters;
3. Superior process control: image recognition, automatic positioning, θ angle correction technology, Improve the flexibility and stability of the welding wire;
4. Adjustable welding pressure: the voice coil motor realizes stepless electric adjustment of pressure;
5. Automatic feeding, passing and receiving;
6. Adopt computer control, full Chinese operation interface, more accurate and convenient operation



粗线超声波键合机

Thick wire ultrasonic bonding machine

粗线超声波键合机

GR-W02

GREEN-粗线焊线机专业公司 - 可以为IGBT、智能功率模块和混合装配行业中的任意焊接难题提供完美的解决方案

GREEN - Thick wire bonding machine specialist company - can provide perfect solutions for IGBT, intelligent power module and Any welding challenge in the hybrid assembly industry

设计

GREEN创新设计上做延续了平台的策略,可以在同一个设备底座上采用不同焊线技术及换能器频率。不同尺寸工作区域的数量确保了整套封装技术的最高灵活性。

BOND-W02再次实现创新性技术突破,产品性能优良;零故障制造;虽然工作距离长,但机械臂可始终保持无震动,实现高精度定位。

Design

GREEN's innovative design continues the platform's strategy of using different wire bonding technologies and transducer frequencies on the same device base. The number of different working areas ensures maximum flexibility in the complete package technology.

BOND-W02 once again achieved an innovative technological breakthrough, becoming the industry's first wire bonding equipment with a work surface close to 1m²+. Excellent product performance; Trouble-free manufacturing; Despite the long working distance, the robotic arm remains vibration-free at all times for high-precision positioning.

机器规格

Machine Specifications:

名称 name	参数parameter	名称 name	参数parameter
XY运动范围 XY range of motion	100mm (X) x 100mm(Y)	Z轴行程以及精度 Z-axis route and accuracy	音圈电机、50mmZ轴行程、 0.1um分辨率 Voice coil motor, 50mmZ-axis travel, 0.1um resolution
XY运动精度 XY motion accuracy	线性直线电机 0.1um分辨率 Linear linear motor 0.1um resolution	R轴 R-axis	扭矩电机驱动, ±220°, 0.1um分辨率 Torque motor driven, ± 220°, 0.1um resolution
超声键合重复定位 Ultrasound bonding repetitive positioning	±0.02mm, 包括图像 /引线/劈刀/应用 ±0.02mm, including image /lead/chopper/application	控制系统 Control system	工业电脑+伺服 Industrial PC + servo
电源要求 Power requirements	电气180~240V AC单相, 50/60HZ, 4.0kVA Electrical 180~240V AC single phase, 50/60HZ, 4.0kVA	压缩气压 /可选 Compressed air pressure / optional	0.5~0.7MPa, 清洁的干燥空气 0.5~0.7MPa, clean dry air
设备外形尺寸 size	1820mm x 1260mm x 1700mm	重量 weight	1200kg



粗线超声波键合机

Thick wire ultrasonic bonding machine

应用范围

MOS TO220、TO220F、TO247、TO252、TO263等系列单排或多排, DBC IGBT模块等功率器件

MOS TO220, TO220F, TO247, TO252, TO263 and other series of single-row or multi-row, DBC IGBT modules and other power devices

设备特点

- 利用快速系统切换,在一个机器平台中实现粗线的整合
- 通过具有专利的焊接过程控制,针对多变的材料表面实现焊接参数的实时调整,确保可重复的焊接质量
- 通过在工业4.0/OT规程方面的无缝集成,确保过程透明性
- 通过可供选择的多种超声波频率实现最佳的材料匹配,促进过程的稳定性
- 由单一供应源集成工艺过程技术与自动化

Device features

- Integrate thick wires in a single machine platform with fast system changeovers
- Real-time adjustment of welding parameters to variable material surfaces through patented welding process control ensures repeatable welding quality
- Process transparency is ensured through seamless integration in terms of Industry 4.0/OT regulations
- A wide selection of ultrasonic frequencies enables optimal material matching and promotes process stability
- Integrate process technology and automation from a single source of supply

粗线和焊头规格

粗线规格

- 圆线100-500微米
- (4-20 mil)

引线材料

- 铝, 铜

配置

- 高速高精度龙门双驱系统
- 高精度动态锁频焊接系统
- 自动力校

切线方式

- 主动式:切割深度适用于前切

Thick wire and sonotrode specifications

Thick wire specifications

- Round wire 100-500 μm
- (4-20 mil)

Lead material

- Aluminum, copper

configuration

- High-speed and high-precision gantry dual-drive system
- High-precision dynamic frequency-locked welding system
- Automatic force calibration

Tangent method

- Active: The cutting depth is suitable for front cutting

焊接劈刀

- 153系列适用于铝线
- 595系列适用于铜线
- GRN实验室开发的专用劈刀

换能器频率

- 60,80,120KHz标准频率
- GRN实验室开发的专用换能器

超声波发生器

- GRN,数字30-250KHz
- 分辨率:< 1 Hz
- 分辨率最大值:100W,可编程

压力

- 50-1500g,可编程小于150克以内精度±5g
- 大于150克以上时为 ±3%
- 可调压力步进为 1g

Welding splitter

- The 153 series is suitable for aluminum wires
- The 595 series is suitable for copper wires
- Special splitter developed by GRN Laboratories

Transducer frequency

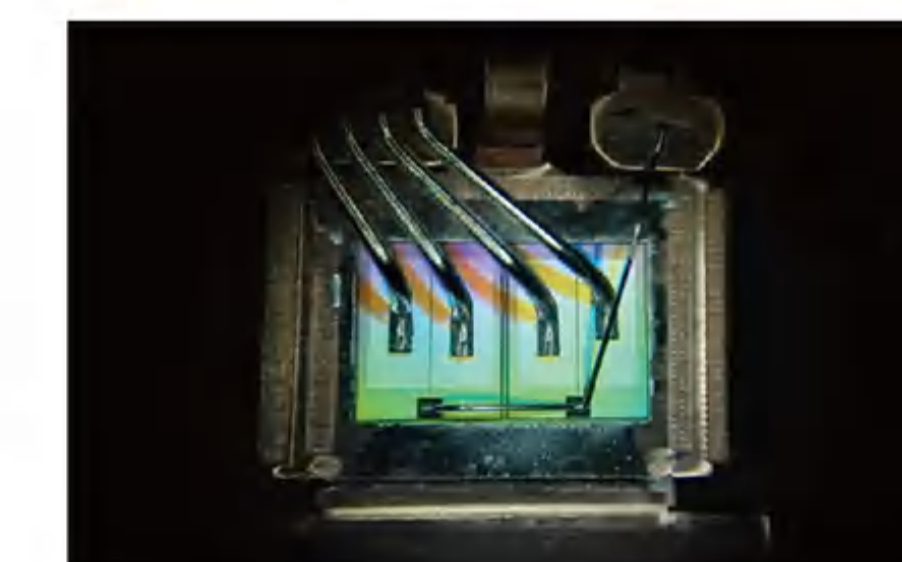
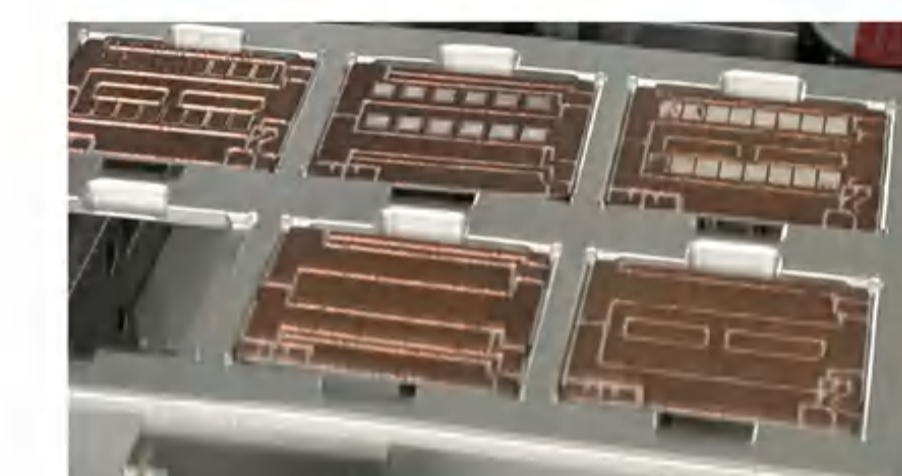
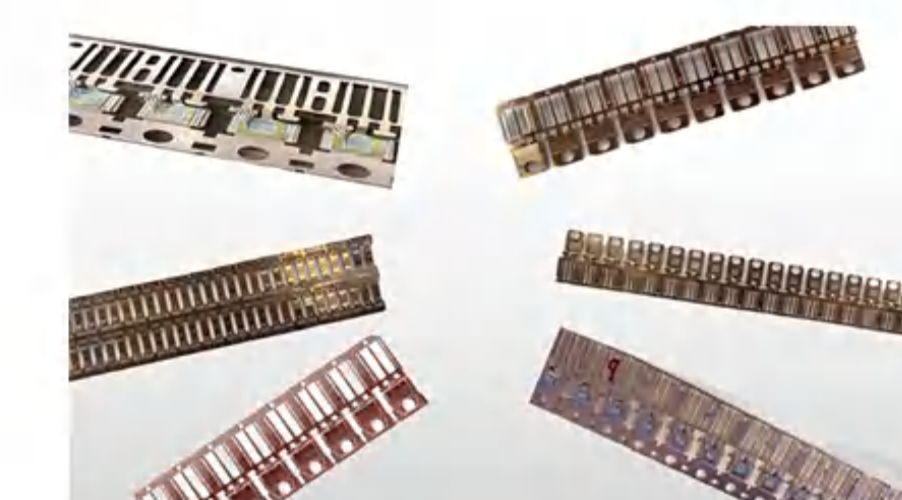
- 60, 80, 120KHz standard frequency
- Dedicated transducer developed by GRN Labs

Ultrasonic generators

- GRN, digital 30-250KHz
- Resolution: < 1 Hz
- Maximum power :100W, programmable

pressure

- 50-1500g, programmable Less than 150 grams, the accuracy ± 5g
- ±3% for heavier than 150 g
- The pressure step is 1 g



识别模式

- 特征查找, 单点PR与角度
- 增强模式自主研发视觉系统

耗材

- 可以实现最佳的引线进给和控制
- 新型切刀具有硬化表面,可以实现超长寿命

速度

- 根据应用,可达到每秒每根线

Recognize patterns

- Feature Lookup, Single Point PR & Angle
- Augmentation mode: independent research and development of vision system

Supplies

- Optimal lead feed and control can be achieved
- The new cutter has a hardened surface for an ultra-long life

velocity

- Depending on the application, it can be achieved per wire per second

粗线超声波键合机

Thick wire ultrasonic bonding machine

应用范围

新能源动力电池、光伏逆变器、变频器、汽车电子、储能、IGBT、BMS电池安全控制板等
New energy power batteries, photovoltaic inverters, inverters, automotive electronics, energy storage, IGBT, BMS battery safety control board, etc

设备特点

- 利用快速系统切换, 在一个机器平台中实现粗线与条带的整合
- 通过具有专利的焊接过程控制, 针对多变的材料表面实现焊接参数的实时调整, 确保可重复的焊接质量
- 通过在工业4.0/OT规程方面的无缝集成, 确保过程透明性
- 通过可供选择的多种超声波频率实现最佳的材料匹配, 促进过程的稳定性
- 由单一供应源集成工艺过程技术与自动化

Device features

- Fast system change over enables the integration of thick wires and strips in one machine platform
- Patented welding process control enables real-time adjustment of welding parameters for changing material surfaces to ensure repeatable welding quality
- Ensure process transparency through seamless integration of Industry 4.0/OT procedures
- Optimum material matching is achieved through a wide selection of ultrasonic frequencies to promote process stability
- Integration of process technology and automation from a single source of suppl

粗线和焊头规格

粗线规格

- 圆线100-500微米 (4-20 mil)
- 条带2000 x 300微米 (80mil x 12mil)

引线材料

铝, 铜

配置

- 高速高精度龙门双驱系统
- 高精度动态锁频焊接系统
- 自动力校准

切线方式

- 主动式: 切割深度适用于前切和后切

Thick wire and sonotrode specifications

Thick wire specifications

- Round wire 100-500 microns (4-20 mil)
- Strip 2000 x 300 micron (80mil x 12mil)

Lead material

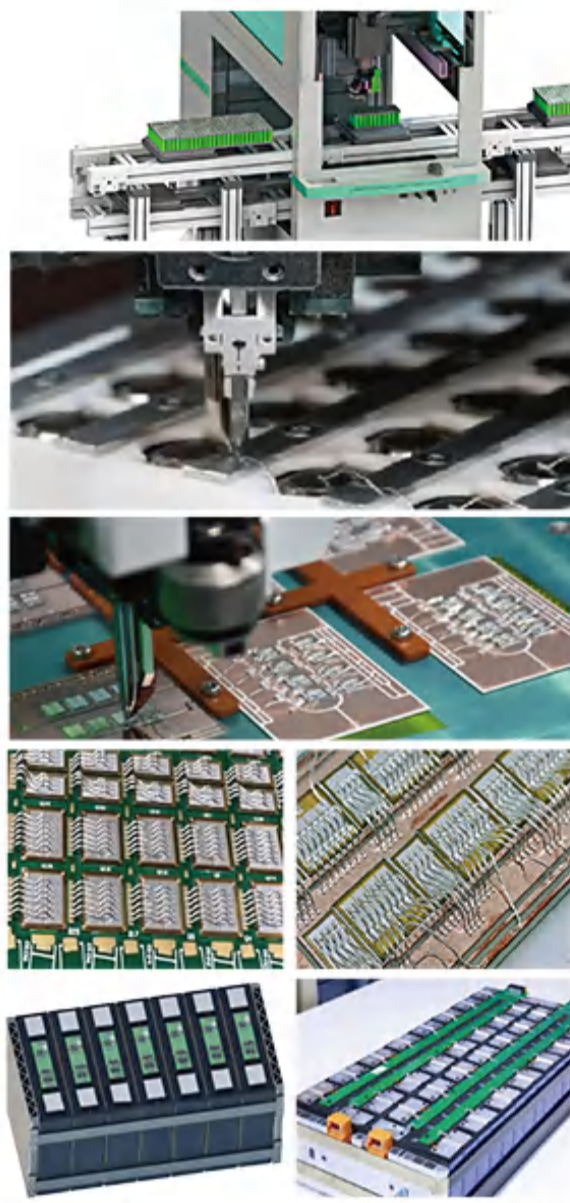
- Aluminum, copper

configuration

- High speed and high precision gantry double drive system
- High precision dynamic frequency locking welding system
- Self-power calibration

Tangent mode

- Active: The cutting depth is suitable for both front and back cuts



机器规格

Machine specifications

网络安全 Cybersecurit

TCP/IP/FTP数据交换 TCP/IP/FTP data exchange	300*300,300*8000
采用SMEMA与其它机器进行在线连接 Adopted SMEMA for online connection with other machines	使用治具模块化 Use fixture modularity
SEMI 通信标准 SECS/GEM SEMI communication standard SECS/GEM	

手工工装模式 Manual tooling mode

300*300,300*8000
使用治具模块化 Use fixture modularity

图像识别 Image recognition

图像识别单元 Image recognition unit	图像快速识别传统 Image fast recognition system
识别时间 Identify time	每个图像识别最多2毫秒 Up to 2 ms per image recognition
准线修正 Alignment correction	Flexsearch;包括相位角的单点识别, 两点识别 Flexsearch; Including single-point identification of phase angle, two-point identification
摄像头 Camera	相位角修正+/-5% Phase angle correction +/-5%
分辨率 resolution	移动CCD摄像头, 微米级精度像素 Mobile CCD camera with micron precision pixels
图像尺寸 Image dimensions	2-30微米/像素;使用不同的光学器件可调节 2-30 μm/pixel; Adjustable with different optics

自动工装模式 Automatic tooling mode

定位针式步进传输: Positioning pin step transmission:	皮带式步进传输 Belt-type step transmission
封装形式: Package type:	平面基板, 例如:陶瓷基板、PCB或工件托盘 Planar substrates, such as ceramic substrates, PCBs or workpiece trays
自动输送线: Automatic conveyor line:	可根据客需定制自动搬产品,AGV模式 Automatic moving products can be customized according to customer needs, AGV mode
标准有效焊接行程: Standard effective welding stroke:	300*300,300*800(毫米) 300*300,300*800(mm)
行程定制化: Itinerary customization:	根据不同产品增加行程,比如汽车动力电池包 Increase the route according to different products, such as car power battery packs

两种技术的国产键合机

Domestic bonding machines of two technologies



智能键合机

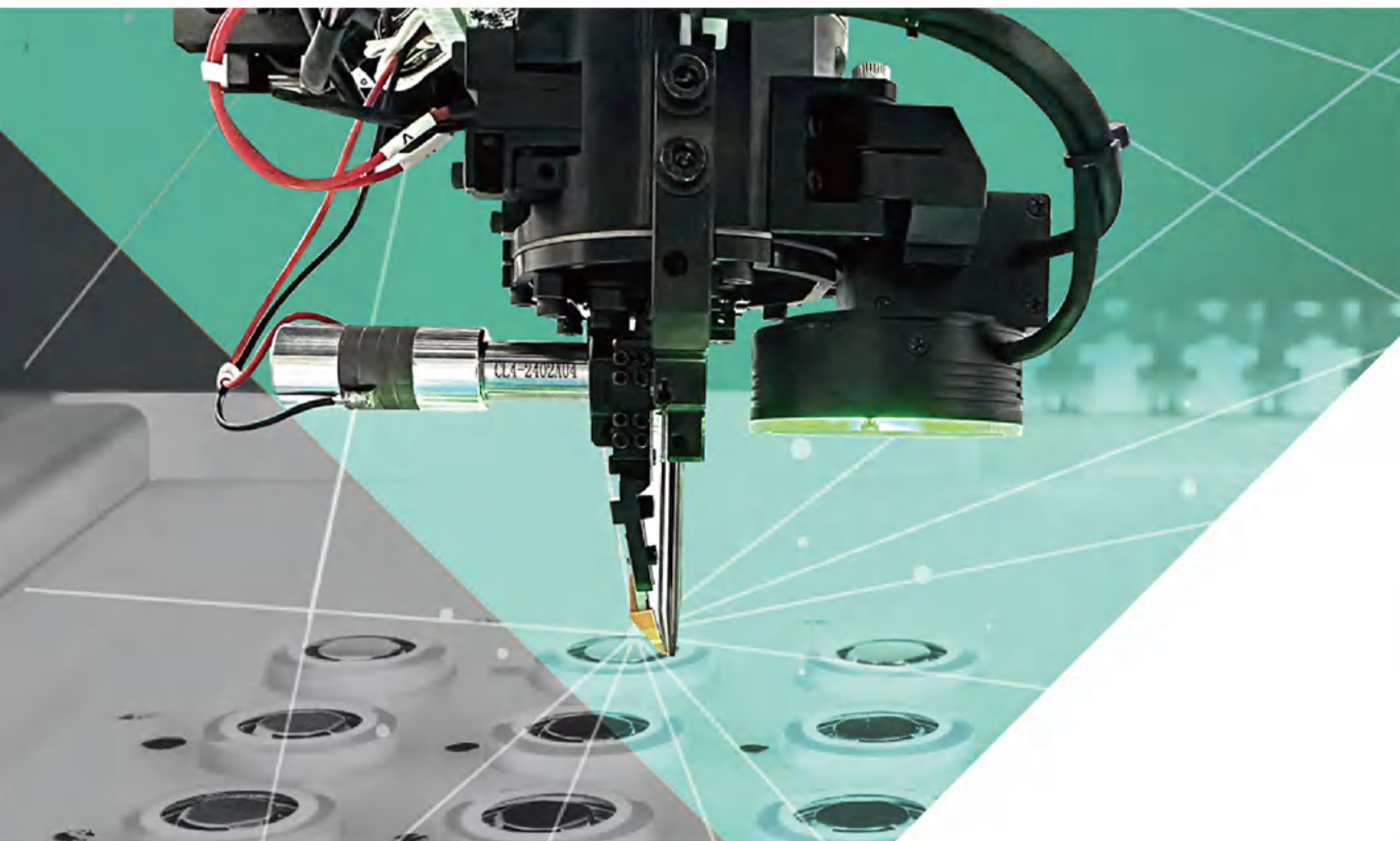
Intelligent bonding machine

用于电池/电力/电子设备超声波焊接和引线键合机
For battery/power/electronic equipment ultrasonic welding and wire bonding machines



机器规格 Machine specifications

X-Y轴 X-Y Axis	线性编码器分辨率优于0.1微米 Linear encoder resolution is better than 0.1 microns
R轴 R Axis	配备绝对编码器的+/- 220度交流伺服马达;分辨率0.0035度 +/- 220 degree AC servo motor with absolute encoder; Resolution 0.0
Z轴 Z Axis	可选60毫米(2.36英寸);配备绝对编码器的交流伺服马达分辨率0.5微米 Optional 60 mm (2.36 inches); AC servo motor with absolute encoder resolution 0.5 microns
位置精度 Location accuracy	<+/- 5微米@3倍标准差, 包括图像/引线/剪刀/应用 <+/- 5 μm @ 3x standard deviation, including image/lead/splitter/application
产品上的可重复性 Repeatability on the product	<+/- 3微米@3倍标准差, 包括图像/线/剪刀/应用 <+/- 3 μm @ 3x standard deviation, including image/line/splitter/application
显示器 displayer	21英寸平面屏幕 21-inch flat screen
显微镜 microscope	立体变焦显微镜, 灯光可调节 Stereo zoom microscope with adjustable light
连接 connect	SMEMA, USB, RJ45, Digital I/O
操作系统 operating system	实时、基于Unix@的多任务操作系统 Real-time, Unix@-based multitasking operating system
认证 authentication	SEMI S2, CE



格润智能赋能国内半导体产业升级

Green empowers the domestic semiconductor industry to upgrade

一款国产自主智能化粗铝线超声波键合机

A domestic independent intelligent coarse aluminum wire ultrasonic bonding machine

不只是机器,还有焊接解决方案

It's not only the machines, it also has welding solutions

质量工具 Quality tools

焊接过程监控(BPC):新型BPC的准确优点是什么?

Welding Process Monitoring (BPC): What are the Accurate Benefits of the New BPC?

- 采用闭环系统对焊接时间,超声波功率及压力进行监控和实时控制
- 可以根据使用过程的变化,调整超声波的功率
- Closed-loop system is used to monitor and control welding time, ultrasonic power and pressure in real time
- The power of the ultrasonic can be adjusted according to the change of the use process

通过过程完善保障质量 Quality assurance through process improvement

传感器将持续跟踪引线变形,并将按照先前定义的参考值对施加的超声波能量进行实时控制。The sensor will continuously track the lead deformation and will control the applied ultrasonic energy in real time according to a previously defined reference value.

通过过程监视保证生产质量 Guarantee production quality through process monitoring

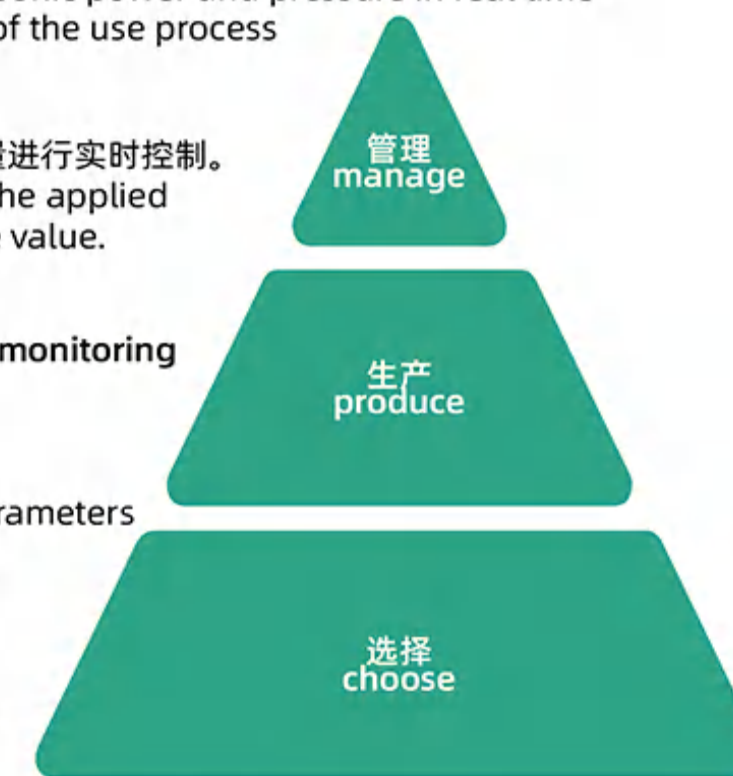
工艺过程将在定义公差范围内可靠运行。

可以通过每条引线过程参数的分析进行统计评估,将持续确定Cpk值。

The process will operate reliably within defined tolerances. Statistical evaluation can be performed by the analysis of the process parameters of each lead, and the Cpk value will be determined on an ongoing basis

通过缺陷检测选择质量 Select quality through defect detection

焊接过程控制的基本原理:将识别出故障部件,并且可以进行拒收 The basic principle of welding process control: faulty parts are identified and can be rejected



剪刀检查

采用图像识别单元,实现剪刀、切刀和引线导向装置预期定位的图形显示。在更换剪刀、切刀或引线导向装置时,可以实现最小设置时间与最大可追溯性。

可追溯性

可以与客户专用MES进行连接。可以与现有主机进行连接。适用于手动及自动工件装卸。

力控传感器

称重传感器及外壳可以实现焊接重量·的全自动校准。

拖动与焊接全景模式识别

创新的自扫描系统,可以实现最大限度的概览。直观的用户界面,可以用于生成焊接程序。

条形码与DMC读取器

全自动零件识别、配方及过程数据分配可以作为灵活的手持式DMC读取器或固定位置的集成单元进行使用。

换能器

由换能器和超声波发生器构成的系统经过了优化、调节使用换能器实验室正确记录的大量测试程序对每个换能器进行的测量。

Capillary inspection

The image recognition unit is used to realize the graphic display of the expected positioning of the capillary, the cutter and the lead guide.

When changing capillary knives, cutters or lead guides, minimum set-up time and maximum traceability can be achieved.

Traceability

It can be connected to a customer-specific MES. You can connect to an existing host. Suitable for manual and automatic workpiece loading and unloading.

Force control sensors

The load cell and housing can be fully calibrated for welding weight.

Drag & Weld Panorama Pattern Recognition

The innovative self-scanning system allows for maximum overview. Intuitive user interface that can be used to generate soldering programs.

Barcode & DMC Reader

Fully automated part identification, recipe and process data distribution can be used as a flexible handheld DMC reader or as a fixed-location integrated unit

Transducers

The system, consisting of a transducer and an ultrasonic generator, has been optimized and adjusted. Measurements are made for each transducer using a large number of test procedures properly documented in the transducer laboratory.



粗线超声波键合机

Thick wire ultrasonic bonding machine

粗线超声波键合机 GR-W01

GREEN-粗线焊线机专业公司 - 可以为IGBT、智能功率模块和混合装配行业中的任意焊接难题提供完美的解决方案

GREEN - Thick wire bonding machine specialist company - can provide perfect solutions for IGBT, intelligent power module and Any welding challenge in the hybrid assembly industry

设计

GREEN创新设计上做延续了平台的策略,可以在同一个设备底座上采用不同焊线技术及换能器频率。不同尺寸工作区域的数量确保了整套封装技术的最高灵活性。

BOND-W01再次实现创新性技术突破,成为行业工作台面接近1m²的引线键合设备。产品性能优良;零故障制造;虽然工作距离长,但机械臂可始终保持无震动,实现高精度定位。

Design

GREEN's innovative design continues the platform's strategy of using different wire bonding technologies and transducer frequencies on the same device base. The number of different working areas ensures maximum flexibility in the complete package technology.

BOND-W01 has once again achieved an innovative technological breakthrough and has become a wire bonding equipment with a working surface of nearly 1m² in the industry. Product performance Excellent; Zero-fault manufacturing; Despite the long working distance, the robotic arm remains vibration-free at all times, achieving high-precision positioning.



项目 Item

参数 parameters

X轴 X-axis	300毫米/ 可选行程定制 300 mm / route customization optional
Y轴 Y-axis	300毫米/800毫米, 可选行程定制 300mm/800mm, route customization optional
Z轴 Z-axis	标准50毫米, 可选行程50-100毫米 Standard 50 mm, 50-100 mm route customization optional
R轴 R Axis	配备绝对编码器的+/- 220度交流伺服马达; 分辨率0.0035度 +/- 220 degree AC servo motor with absolute encoder; Resolution 0.0035 degrees
不包含信号灯高度 Signal height is not included	1800毫米 1800 mm
重量 weight	650KG
工作高度 Working height	符合 SEMAMA 850-1050 毫米 Complies with SEMAMA 850-1050 mm
电源 power supply	220V
功率 power	1KW
压缩空气 pressurized air	0.5-0.7MPa 清洁干燥空气 0.5-0.7MPa clean dry air
机器规格 size	L1200 X W810 X H1800 (mm)

格润智能装备(深圳)有限公司

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Web: www.green-china.com



小红书 抖音 快手 微博 哔哩哔哩

技术参数 Technical Specification

项目 Item	参数 Specification	
型号 Model	GR-Au350-SM (伺服马达型)	GR-Au350-LM (直线电机型)
用电需求Electricity demand	AC220V 11A 50/60Hz 2.5KW(无轨道加热时功率)	AC220V 8A 50/60Hz 1.8KW(无轨道加热时功率)
气压需求Barometric pressure demand	90psi(6bar)	90psi(6bar)
外形尺寸 Outer demension	835*1300*1450mm(W*D*H)	835*1300*1450mm(W*D*H)
设备重量 Weight	1000KG	1000KG
认证标准Accreditation standards	CE	CE
XYZ轴定位精度XYZ axis positioning accuracy	XY: ±30um@3σ Z:±15um@3σ	XY: ±20um@3σ Z:±15um@3σ
XYZ轴重复精度XYZ axis repeatability	XY: ±10um@3σ Z:±5um@3σ	XY: ±5um@3σ Z:±5um@3σ
最大速度 Maximum speed	1000mm/s(XY)	1500mm/s(XY)
加速度 Acceleration	1.0g	1.5g
驱动系统 Drive system	伺服电机Servo motor	直线电机(XY) 伺服电机(Z)Linear Motor(XY) Servo Motor(Z)
轨道承重 Track load-bearing	3KG	3KG
轨道调宽范围Track widening range	50~500mm	50~500mm
基板最小板边距Minimum board margins for the substrate	5mm	5mm
基板厚度(含治具) Substrate thickness (including fixture)	0.5~8mm	0.5~8mm
轨道离地高度Orbital ground clearance	900±20mm	900±20mm
通讯协议Communication protocols	SMEMA	SMEMA
最大点胶范围(单轨/双轨) Maximum dispensing range (single/dual-lane)	350*500mm/350*200mm (W*D)	350*500mm/350*200mm (W*D)

标配 Standard Configuration

CCD视觉定位 CCD visual positioning
 ESD 7mm宽平皮带ESD 7mm wide flat belt
 XYZ轴基准校正系统XYZ axis datum correction system
 轨道前后两侧产品顶升机构Product jacking mechanism on both sides of the front and rear of the track
 USB接口 USB interface
 单轨道输送 Single-track conveying
 上/下位机对接串口The upper/lower computer is docked with the serial port

选配 Optional Configuration

AOI视觉胶路检测 AOI visual glue inspection
 3D扫描/路径引导 3D scanning/path guidance
 镭射测高(基恩士/SICK) Laser altimetry (Keyence/SICK)
 称重系统 Weighing system
 针头自动对针 The needle is automatically aligned
 缺胶报警 Lack of glue alarm
 针头/喷嘴卷布式清洁模块 Needle/nozzle cloth wrap cleaning module
 喷嘴真空清洁模块 Nozzle vacuum cleaning module
 工业条码/二维码识别系统 Industrial barcode/Qr code identification system
 FFU
 正门安全光栅 Safety light curtain at the front entrance
 φ4mm圆形ESD皮带(适用板厚≤0.5mm或托边为圆弧形的产品) φ4mm round ESD belt (for products with a plate thickness of ≤0.5mm or a rounded edge)
 线体产品传送方向:左进右出/右进左出 Transmission direction of line products: left in and right out/right in and left out
 轨道横向侧推定位机构 Rail transverse side thrust positioning mechanism
 轨道中心顶升机构(大尺寸产品中心防重力变形/产品真空吸附固定) Rail center jacking mechanism (large-size product center anti-gravity deformation / product vacuum adsorption fixation)
 延长轨道线(增加进料离子风/降温, 出料UV固化等功能) Extension of the track line (adding functions such as ionic air/cooling for feed, UV curing for outfeed, etc.)
 三段独立式轨道(增加进料待料, 出料待料功能) Three-stage independent track (add the function of feeding and waiting for feeding, discharging and waiting)
 上下层轨道输送(MiniLED芯片行业多台串线独立点胶工艺) Upper and lower rail conveying (independent dispensing process of multi-machine series line in MiniLED chip industry)
 双轨输送(前后并排) Double-track conveyor (front and rear side by side)
 非接触式产品预热模块(进料位, 点胶位产品加热) Non-contact product preheating module (infeed level, dispensing level, product heating)
 产品防刮伤轨道 Product scratch resistant tracks
 无尘拖链 Dust-free energy chain
 弹夹式自动上下料模块 Magazine type automatic loading and unloading module
 储气罐增压泵/电气比例阀(适用高精度胶量点胶) Air Tank Booster Pump/Electric Proportional Valve (for high-precision glue dispensing)
 单阀(气动/电喷射阀, 回吸阀/撞针阀, 单/双组份螺杆阀, 30/55CC针筒等) Single valve (pneumatic/piezoelectric injection valve, suction valve/firing needle valve, one/double component screw valve, 30/55cc syringe, etc.)MiniLED chip industry)
 异步双阀(双阀同时点同一种胶水, 产品阵列方向相同, 距离偏差XY±2mm以内) Asynchronous double valve (double valve points the same glue at the same time, the product array direction is the same, and the distance deviation is within XY±2mm)
 错步双阀(双阀不同时工作, 同一机台内完成两种胶水点胶工艺) Staggered double valve (the double valve does not work at the same time, and two glue dispensing processes are completed in the same machine)
 同步多阀(产品阵列距离, 方向一致, 2套以上阀同时对多个产品点相同胶水) Staggered double valve (the double valve does not work at the same time, and two glue dispensing processes are completed in the same machine)
 阀体倾斜旋转点胶 The valve body is tilted and rotated for dispensing
 阀体倾斜角度固定, 定点360°转圈画圆 The tilt angle of the valve body is fixed, and the fixed point is 360° to draw a circle
 阀体自动倾斜/垂直, 产品侧面点胶 The valve body is automatically tilted/vertical, and the product is dispensed on the side

全自动高速在线式点胶机 AUTOMATIC HIGH-SPEED IN-LINE DISPENSING MACHINE



高精度 高产能 高柔性

High precision, high capacity, high flexibility

格润智能装备(深圳)有限公司

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企业视频号

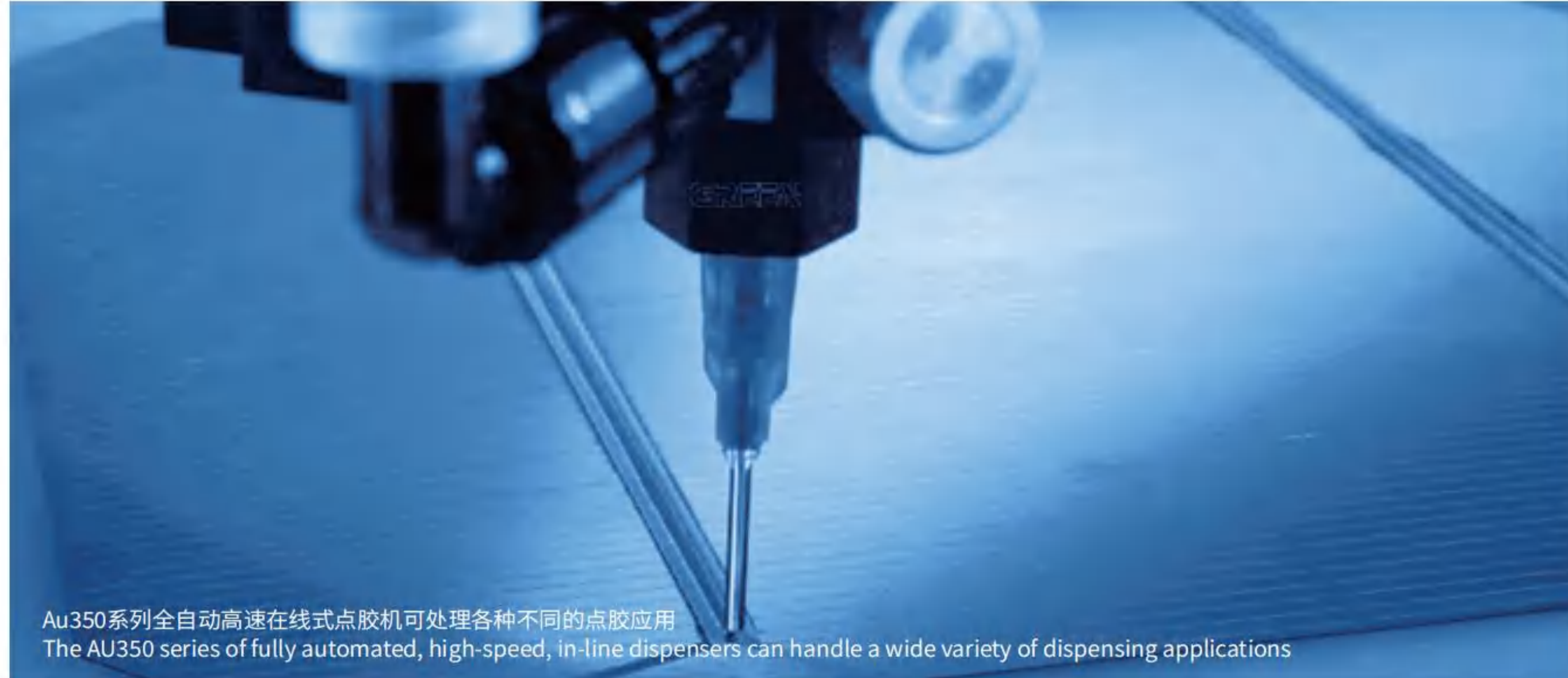


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应用场景 Application scenarios

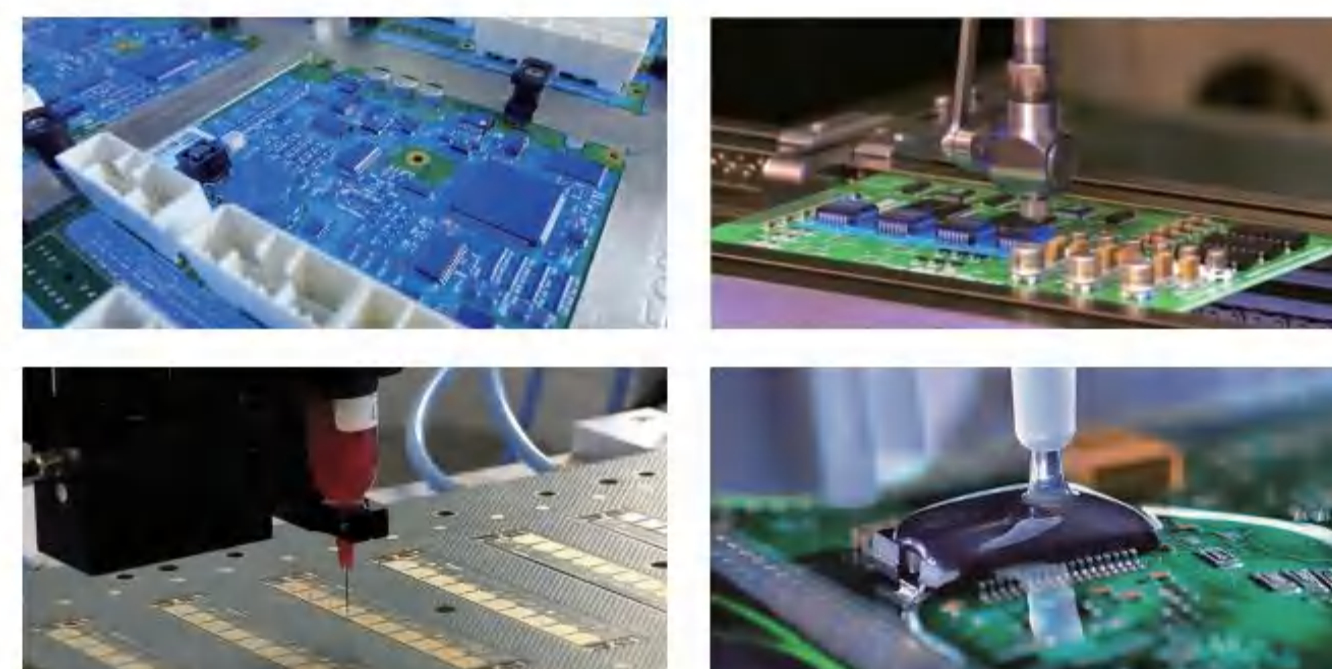
	消费类电子 Consumer electronics		智能家居 Smart home
	汽车电子 Automotive electronics		医疗行业 Medical industry
	SMT加工行业 SMT processing industry		通讯电子 Communication electronics

适用胶水 Applicable glue:

UV胶、AB胶、PUR、EPOXY(黑胶)、白胶、蓝胶、EMI导电胶、SILICON、环氧树脂、瞬间胶、银浆、红胶、锡膏、散热膏、防焊膏、透明漆、螺丝固定剂等
UV glue, AB glue, PUR, EPOXY (black glue), white glue, blue glue, EMI conductive glue, SILICON, epoxy resin, instant glue, silver paste, red glue, solder paste, heat dissipation paste, solder paste, transparent paint, screw fixing agent, etc

优势应用 Advantageous applications

- 底部填充 (underfill)
- 引脚包封 (pin encapsulating)
- 精密涂覆 (conformal coating)
- 堆栈封装 POP (package on package)
- 围坝填充 (Underfill)
- SMT 红胶制程 (SMT red glue process)
- COB 封装 (COB package)



细节展示 Show in detail



设备介绍 Equipment introduction

Au350系列高速在线式点胶机可用于处理各种不同的点胶与AOI检测应用。
The Au350 series of high-speed in-line dispensers can be used to handle a variety of different dispensing and AOI inspection applications.

Au350系列高速在线式点胶机，整机设计时着重所有细节，结合以往在工厂遇到的各种点胶环境与工艺要求，通过自身几代产品的不断优化与创新，综合了各类点胶技术，提供多种不同的全自动在线点胶方案。重点应用在消费电子，汽车电子，半导体，PCB, FPC, IC封装等行业点胶应用领域。

稳定性

整机采用方通焊接配重设计，热处理后结构力学稳定，系统运行更持久；标准件采用行业顶级标准元器件，良好的质量保证，减小机台故障发生率，使用成本大幅降低；丝杆龙门模组采用直连方式，易损部件少，节约了购置成本；直线电机龙门模组搭配微米分辨率光栅尺闭环控制，精度更高更可靠。

通用性

Au350系列高速在线式点胶机根据不同的点胶工艺要求，灵活应用多种相应的功能模块，如双轨、底部加热、针头倾斜旋转，自动对针，测高，称重，残胶擦拭，同步双阀/异步双阀等，都可根据实时要求进行选配；阀体固定平台通用多种不同阀体，适用各种点胶工艺及胶水切换。

便捷性

自动上下料，减少人工干预，提高设备良率与效率；搭配压电阀点胶，无需z轴上下移动，增加生产产能；精准的胶量控制，通过视觉自动纠正补偿产品点胶位置的偏移量，提高点胶作业良率；直线电机驱动型运动更快捷，缩短空跑时间；同时可配置扫码系统，对接MES系统，实现大数据交互，提高车间信息化管理水平。

AOI检测

通过机台串线的模式，可在点胶后实现对产品上胶路的外形检测，如多胶，少胶，断胶，胶路偏移等，也可以搭配检测相机作为检测设备，对产品表面的尺寸，划伤，脏污，组装不良，毛刺，零部件有无等进行检测。

The high Au350 series high-speed online dispensing machine focuses on all details when the whole machine is designed, combined with various dispensing environments and process requirements encountered in the factory in the past, and continuously optimized through its own generations of products With innovation, it integrates various dispensing technologies and provides a variety of different fully automatic online dispensing solutions. It is mainly used in consumer electronics, automotive electronics, semiconductors, PCB, FPC, IC packaging and other industries with the field.

stability

The whole machine adopts the design of square through welding counterweight, the structural mechanics are stable after heat treatment, and the system operation is more durable; The standard parts are made of the industry's top standard components, with good quality assurance and reduced machine failure The production rate and the cost of use are greatly reduced; The screw gantry module adopts the direct connection mode, which has few wearing parts and saves the purchase cost; Linear motor gantry module with micron resolution grating scale closed-loop control, Higher accuracy and reliability.

Versatility

AU350 series high-speed online dispensing machine flexibly applies a variety of corresponding functional modules according to different dispensing process requirements, such as double track, bottom heating, needle tilt rotation, automatic needle alignment, height measurement, Weighing, residual glue wiping, synchronous double valve/asynchronous double valve, etc., can be selected according to real-time requirements; The valve body fixed platform is suitable for a variety of different valve bodies, suitable for various dispensing processes and glue switching.

Convenience

Automatic loading and unloading, reducing manual intervention, improving equipment yield and efficiency; With piezo valve dispensing, there is no need to move the Z-axis up and down, increasing production capacity; Precise glue quantity control, automatic correction and replenishment through vision Compensate for the offset of the dispensing position of the product and improve the yield of dispensing operations; Linear motor-driven motion is faster and shortens idle running time; At the same time, the code scanning system can be configured to connect with the MES system to realize big data delivery Mutually improve the level of information management in the workshop.

AOI detection

Through the mode of the machine string, the shape of the glue path on the product can be detected after dispensing, such as more glue, less glue, glue break, glue path deviation, etc., and it can also be used with a detection camera as a testing equipment for the product The surface is inspected for dimensions, scratches, dirt, poor assembly, burrs, presence of parts, etc.

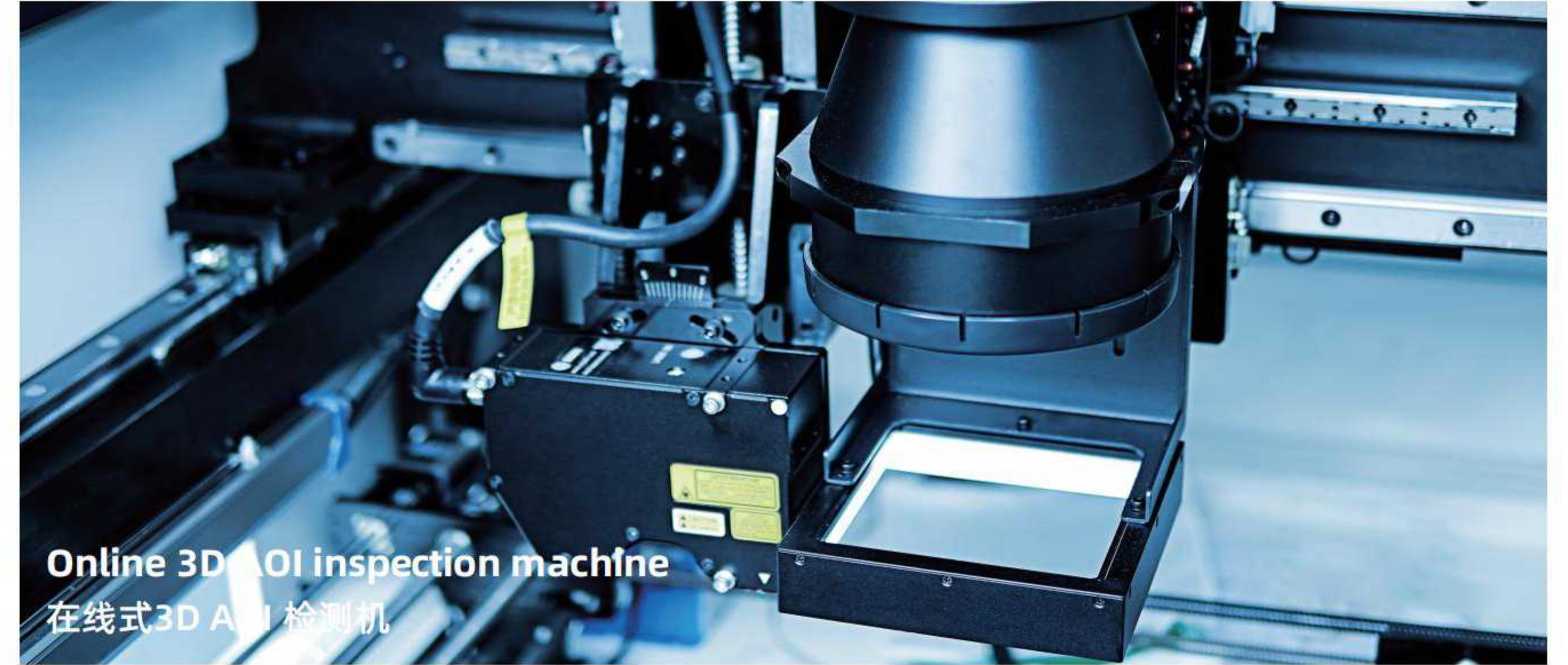
在线3D AOI 检测设备

Online 3D AOI detection equipment



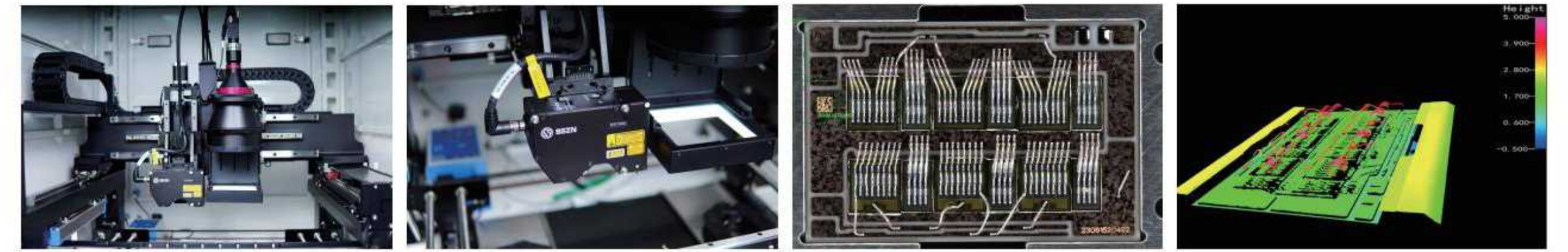
高精度 高效率 高柔性

High precision, high efficiency, high flexibility



Online 3D AOI inspection machine
在线式3D AOI 检测机

细节展示Detail display



设备参数 Equipment parameters

项目 Item		参数 Specifications
2D	相机 camera	1200万/2000万/2500万
	镜头 lens	自动变倍镜头 Automatic zoom lens
	视野 visual field	2mm - 20mm (选配1mm-10mm)
3D	分辨率 resolution ratio	0.5um - 5um (选配0.25um-2.5um)
	线扫速度 Line scanning speed	≤50mm/s
	重复检测精度 Repetitive detection accuracy	±5μm
	行程 stroke	可根据客户定做
	读码 Reading codes	选配: Datamatrix, QR code, Wafer ID
	上料高度 Loading height	可根据客户定做
	设备尺寸 (L*W*H) size (L * W * H)	约1200mm x 900mm x 1800mm
	设备重量 weight	约500kg
	测试产品 Test product	一次邦线后铝线、芯片及 DBC 外观检验
	检测项目 Testing items	约1200mm x 900mm x 1800mm

检测项目 Testing items

铝线桥联, 塌线, 少线, 焊点下异物, 焊点下脏污, 焊点悬空, 芯片划伤漏硅, 芯片崩边, 芯片脏污, 耐压环划伤, 耐压环脏污, 芯片下溢锡, 陶瓷缺角, DBC划痕, DBC裂纹, DBC氧化。
Aluminum wire bridging, wire collapse, missing wires, foreign objects under solder joints, dirt under solder joints, welding point suspended, chip scratches and silicon leakage, chip edge collapse, chip dirt, pressure ring scratches, pressure ring dirt, Tin overflow under the chip, ceramic missing corners, DBC scratches, DBC cracks, DBC oxidation.

格润智能装备(深圳)有限公司

GREEN INTELLIGENT EQUIPMENT (SHENZHEN) CO.,LTD.

地址: 深圳市宝安区新桥街道黄埔社区上南东路128号

Add: NO.128 of East ShangNan Rd, HuangPu Community, XinQiao Street, Bao'an District, ShenZhen City,

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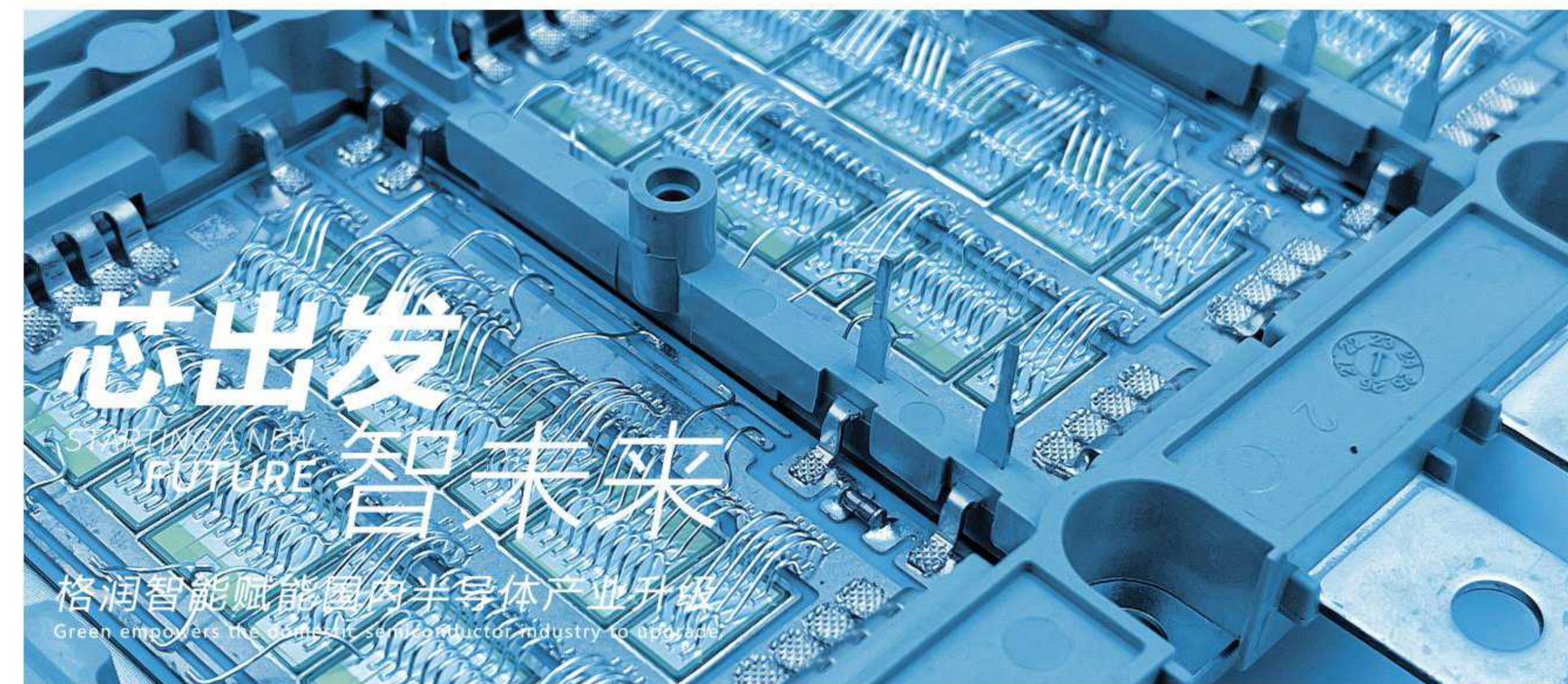


IGBT 引脚焊接机

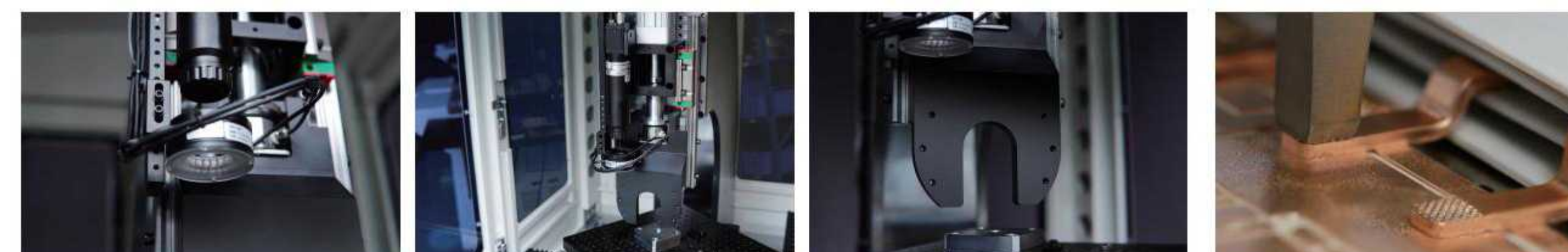
IGBT Pin Bonding Machine



高精度 高效率 高柔性
High precision, high efficiency, high flexibility



细节展示Detail display



设备参数 Equipment parameters

项目 Item	参数 Specifications
设备尺寸 size	约1162mm x W800mm x H1800mm
设备重量 weight	约610KG
上下料方式 Loading and unloading method	人工上下料 自动上下料
产品焊点定位方式 Product welding joint positioning method	超声波(可任意阵列)
超声波频率 Ultrasound frequency	40000或20000Hz
超声波焊接功率 Ultrasonic welding power	3000W
焊接面积 Welding area	可根据客户定制 (mm ²)
焊接铜片厚度 Thickness of welded copper sheet	0.5 ~ 1.5mm
工作行程XY Working stroke XY	450 x 350mm
Z轴运动行程 Z-axis motion stroke	150mm
超声波控制方式 Ultrasonic control mode	振幅控制、能量控制、熔深控制
定位精度 Positioning accuracy	5um
相机分辨率 resolution ratio	500万
供气要求 Gas supply requirements	>0.6Mpa
设备总功率 Total device power	4KW/AC 220V
焊接时间 Welding time	4秒/点

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桌面式点胶机

DESKTOP DISPENSING MACHINE

格润智能桌面式点胶机 GR-DT331-H
Green desktop dispensing machine GR-DT331-H



技术参数 Technical Specification

项目 Item	参数 Specification
型号 Model	GR-DT331-H
用电需求Electricity demand	AC220V 50/60Hz 1.5KW
气压需求Barometric pressure demand	≥0.6Mpa
外形尺寸 Outer demension	810*550*700mm(D*W*H)
运动行程 (mm) Movement stroke(mm)	300*300*100
重量 weight	85KG
认证标准Accreditation standards	CE
定位精度 (mm) Positioning accuracy(mm)	±0.02
重复精度 (mm) Repeatability(mm)	XY: ±0.012
最大速度 (mm/s) Maximum speed (mm/s)	600(XY), 300(Z)
最大加速度Maximum acceleration	0.4g
Z轴负载 (kg) Z-axis load (kg)	6.5
工作台面负载 (kg) Table load (kg)	20
图像传感器Image sensors	高清工业相机High-definition industrial cameras
驱动方式Drive mode	滚珠丝杆Ball screws
驱动系统 Drive system	伺服电机Servo motor
编程方式Programmatically	视觉编程Visual programming
软件平台Software platform	Dispec 软件平台

桌面式点胶机

DESKTOP DISPENSING MACHINE

● 细节展示 Details Show



● 优势应用 Advantageous applications

1. 底部填充 (underfill)
2. 引脚封装 (pin encapsulating)
3. 精密涂覆 (conformal coating)
4. 堆栈封装 POP (package on package)
5. 围坝填充 (Underfill)
6. SMT 红胶制程
7. COB 封装 (COB package)

● 产品优点 Product Benefits:

设备采用稳定的机械结构与丝杆驱动设计, 确保机台在高速运动过程中X/Y/Z三轴的运行精度, 达到理想的点胶效果。搭配不同种类和数量的阀体配置, 提高生产效率, 可满足不同工艺的点胶要求。

1. 适用于底部填充胶、硅胶、银浆、热熔胶、螺纹胶、红胶、UV胶、三防胶等市面上大部分胶水。
2. 连续路径点胶, 实现整个喷射点胶过程维持点胶速度和方向的连续性; 尤其适合小器件紧密相连的高速连续运动点胶。
3. 采用稳定的机械结构与丝杆驱动设计, 确保机台在高速运动过程中XYZ三轴的运行精度。人性化的软件界面保证简单易用。
4. 流体低液位报警, 减少因胶水不足引起的不良。
5. 创新性的一键校正尽可能减少人为操作, 提高效率, 提高不同机台的点胶差异。
6. 自动生成检测报告, 为后续良率分析以及产品可追溯性分析提供强有力的数据支持。

The equipment adopts a stable mechanical structure and screw drive design to ensure the running accuracy of the X/Y/Z triaxes of the machine during high-speed movement and achieve the ideal dispensing effect. Match different kinds and The number of valve body configurations can improve production efficiency and meet the dispensing requirements of different processes.

1. Suitable for most glues on the market, such as underfill glue, silica gel, silver paste, hot melt glue, thread glue, red glue, UV glue, three-proof glue, etc.
2. Continuous path dispensing to achieve the continuity of dispensing speed and direction throughout the jet dispensing process; It is especially suitable for high-speed continuous motion dispensing where small devices are closely connected.
3. Adopt stable mechanical structure and screw drive design to ensure the running accuracy of XYZ three axes in the process of high-speed movement. The user-friendly software interface guarantees simplicity and ease of use.
4. Low liquid level alarm of fluid to reduce defects caused by insufficient glue.
5. Innovative one-key correction reduces manual operation as much as possible, improves efficiency, and improves the dispensing difference of different machines.
6. Automatically generate inspection reports to provide strong data support for subsequent yield analysis and product traceability analysis.

技术参数 Technical Specification

标配 Standard Configuration

- CCD视觉定位 CCD visual positioning
- 标准三轴桌面式平台 Standard three-axis desktop platform
- 单Y工作位 Single Y bit
- XYZ轴基准校正系统 XYZ axis datum correction system
- 静电接口 Electrostatic interface

选配 Optional Configuration

- AOI视觉胶路检测 AOI visual glue inspection
- 真空载台 Vacuum stage
- 加热载台 Heating stage
- 镭射测高 (基恩士/SICK) Laser altimetry (Keyence/SICK)
- 阀体加热 The valve body is heated
- 针头自动对针 The needle is automatically aligned
- 缺胶报警 Lack of glue alarm
- 工业条码/二维码识别系统 Industrial barcode/QR code identification system
- 单阀 (气动/压电喷射阀, 回吸阀/撞针阀, 单/双组份螺杆阀, 30/55cc 针筒等) Single valve (pneumatic/piezoelectric injection valve, suction valve/firing needle valve, one/double component screw valve, 30/55cc syringe, etc.)

双工位桌面式点胶机

DOUBLE-STATION DESKTOP DISPENSING MACHINE

格润智能双工位桌面式点胶机 GR-DT4221-M
Green Double-station desktop dispensing GR-DT4221-M



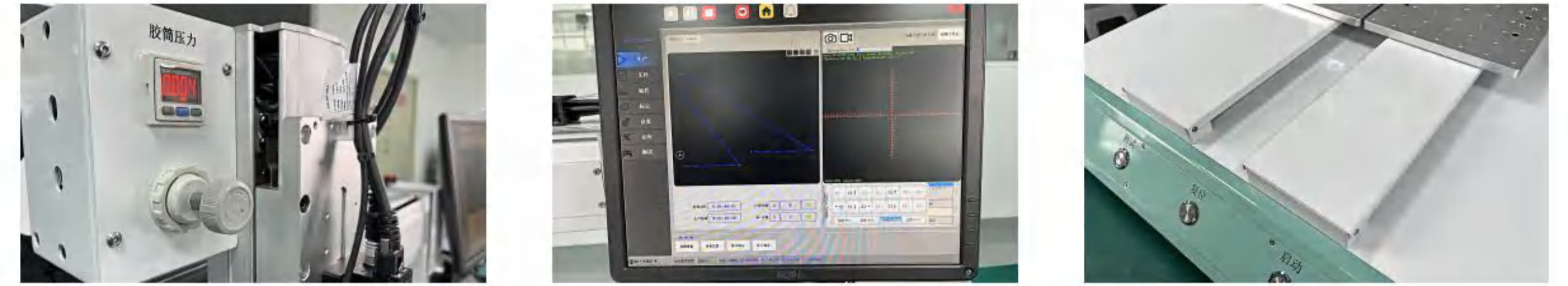
技术参数 Technical Specification

项目 Item	参数 Specification
型号 Model	GR-DT4221-M
用电需求Electricity demand	AC220V 50/60Hz 1.5KW
气压需求Barometric pressure demand	≥0.6Mpa
外形尺寸 Outer demension	810*710*700mm(D*W*H)
有效点胶区域 (mm) Effective Dispensing Area (mm)	Y1:200*200*100 ;Y2:200*200*100
重量 weight	100KG
认证标准Accreditation standards	CE
工作台workbench	双平台Dual platform
定位精度 (mm) Positioning accuracy(mm)	±0.02
重复精度 (mm) Repeatability(mm)	XY: ±0.012
最大速度 (mm/s) Maximum speed (mm/s)	600(XY) , 300(Z)
最大加速度Maximum acceleration	0.4g
Z轴负载 (kg) Z-axis load (kg)	6.5
工作台面负载 (kg) Table load (kg)	15
图像传感器Image sensors	高清工业相机High-definition industrial cameras
驱动方式Drive mode	滚珠丝杆Ball screws
驱动系统 Drive system	伺服电机Servo motor
编程方式 Programmatically	视觉编程Visual programming
软件平台Software platform	Dispec 软件平台

双工位桌面式点胶机

DOUBLE-STATION DESKTOP DISPENSING MACHINE

● 细节展示 Details Show



● 优势应用 Advantageous applications

1. 底部填充 (underfill)
2. 引脚包封 (pin encapsulating)
3. 精密涂覆 (conformal coating)
4. 堆栈封装 POP (package on package)
5. 围坝填充 (Underfill)
6. SMT 红胶制程
7. COB 封装 (COB package)

● 产品优点 Product Benefits:

设备采用稳定的机械结构与丝杆驱动设计, 确保机台在高速运动过程中X/Y/Z四轴的运行精度, 达到理想的点胶效果。搭配不同种类和数量的阀体配置, 提高生产效率, 可满足不同工艺的点胶要求。

1. 适用于底部填充胶、硅胶、银浆、热熔胶、螺纹胶、红胶、UV胶、三防胶等市面上大部分胶水。
2. 连续路径点胶, 实现整个喷射点胶过程维持点胶速度和方向的连续性; 尤其适合小器件紧密相连的高速连续运动点胶。
3. 采用稳定的机械结构与丝杆驱动设计, 确保机台在高速运动过程中XYZ四轴的运行精度。人性化的软件界面保证简单易用。
4. 流体低液位报警, 减少因胶水不足引起的不良。
5. 创新性的一键校正尽可能减少人为操作, 提高效率, 提高不同机台的点胶差异。
6. 自动生成检测报告, 为后续良率分析以及产品可追溯性分析提供强有力的数据支持。

The equipment adopts a stable mechanical structure and screw drive design to ensure the running accuracy of the X/Y/Z four axes of the machine during high-speed movement and achieve the ideal dispensing effect. Match different kinds and The number of valve body configurations can improve production efficiency and meet the dispensing requirements of different processes.

1. Suitable for most glues on the market, such as underfill glue, silica gel, silver paste, hot melt glue, thread glue, red glue, UV glue, three-proof glue, etc.
2. Continuous path dispensing to achieve the continuity of dispensing speed and direction throughout the jet dispensing process; It is especially suitable for high-speed continuous motion dispensing where small devices are closely connected.
3. Adopt stable mechanical structure and screw drive design to ensure the running accuracy of XYZ four axes in the process of high-speed movement. The user-friendly software interface guarantees simplicity and ease of use.
4. Low liquid level alarm of fluid to reduce defects caused by insufficient glue.
5. Innovative one-key correction reduces manual operation as much as possible, improves efficiency, and improves the dispensing difference of different machines.
6. Automatically generate inspection reports to provide strong data support for subsequent yield analysis and product traceability analysis.

技术参数 Technical Specification

标配 Standard Configuration

- CCD视觉定位 CCD visual positioning
- 标准四轴桌面式平台 Standard Four-axis desktop platform
- 双Y工位Double Y working position
- XYZ轴基准校正系统XYZ axis datum correction system
- 静电接口Electrostatic interface

选配 Optional Configuration

- AOI视觉胶路检测AOI visual glue inspection
- 真空载台Vacuum stage
- 加热载台Heating stage
- 镭射测高 (基恩士/SICK) Laser altimetry (Keyence/SICK)
- 阀体加热The valve body is heated
- 针头自动对针The needle is automatically aligned
- 缺胶报警Lack of glue alarm
- 工业条码/二维码识别系统 Industrial barcode/QR code identification system
- 单阀 (气动/压电喷射阀, 回吸阀/撞针阀, 单/双组份螺杆阀, 30/55CC针筒等) Single valve (pneumatic/piezoelectric injection valve, suction valve/firing needle valve, one/double component screw valve, 30/55cc syringe, etc.)

双工位一体式点胶机

DOUBLE-STATION ALL-IN-ONE DISPENSING MACHINE

格润智能双工位一体式点胶机 GR-FS4221-H

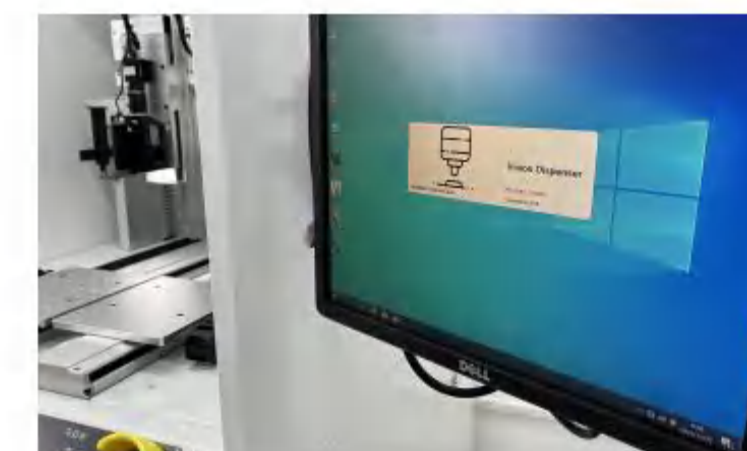
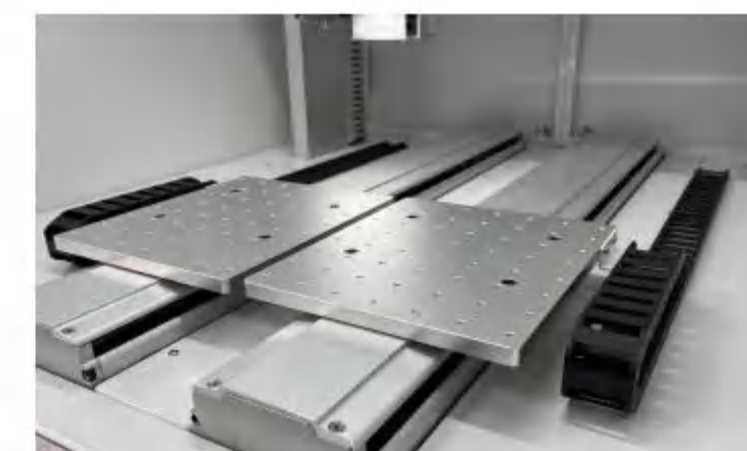
Green Double-station all-in-one dispensing machine GR-FS4221-H



双工位一体式点胶机

DOUBLE-STATION ALL-IN-ONE DISPENSING MACHINE

● 细节展示 Details Show



● 优势应用 Advantageous applications

1. 底部填充 (underfill)
2. 引脚包封 (pin encapsulating)
3. 精密涂敷 (conformal coating)
4. 堆栈封装 POP (package on package)
5. 围坝填充 (Underfill)
6. SMT 红胶制程
7. COB 封装 (COB package)

● 产品优点 Product Benefits:

1. 各轴采用高级伺服电机, 机密滚珠丝杠, 保证机台运动的高速度、高精度和高一致性
2. 主控系统采用控制卡, 触摸屏或工控机直接编程
3. 编程界面简单明了, 常用图形 (圆、椭圆、矩形等) 可直接输入参数调用
4. 支持CAD图像导入和轨迹预览功能
5. 半封闭式外壳设计, 便于操作的同时, 提高了点胶环境的清洁性
6. 设备采用整体加工的设计方式, 模块化的安装方式, 保证高精度的同时也便于维护
7. 承载能力强, 设备内部空间大

High-precision dispensing operations such as heads and headphones.

1. Each axis adopts advanced servo motor and confidential ball screw to ensure the high speed, high precision and high consistency of the machine movement
2. The main control system is directly programmed by control card, touch screen or industrial computer
3. The programming interface is simple and clear, and common graphics (circles, ellipses, rectangles, etc.) can be directly input and invoked
4. Support CAD image import and trajectory preview function
5. Semi-enclosed shell design, easy to operate, improve the cleanliness of the dispensing environment
6. The equipment adopts the design mode of overall processing and modular installation mode to ensure high precision and easy maintenance
7. Strong bearing capacity and large internal space of the equipment

技术参数 Technical Specification

标配 Standard Configuration

- CCD视觉定位 CCD visual positioning
- XYZ轴基准校正系统XYZ axis datum correction system

选配 Optional Configuration

- AOI视觉胶路检测AOI visual glue inspection
- 3D扫描/路径引导3D scanning/path guidance
- 镭射测高 (基恩士/SICK) Laser altimetry (Keyence/SICK)
- 针头自动对针The needle is automatically aligned
- 缺胶报警Lack of glue alarm
- 针头/喷嘴卷布式清洁模块Needle/nozzle cloth wrap cleaning module
- 喷嘴真空清洁模块Nozzle vacuum cleaning module
- 工业条码/二维码识别系统 Industrial barcode/QR code identification system
- FFU
- 正门安全光栅Safety light curtain at the front entrance
- 非接触式产品预热模块Non-contact product preheating module
- 储气罐增压泵/电气比例阀 (适用高精度胶量点胶) Air Tank Booster Pump/Electric Proportional Valve (for high-precision glue dispensing)
- 单阀 (气动/压电喷射阀, 回吸阀/撞针阀, 单/双组份螺杆杆, 30/55CC针筒等) Single valve (pneumatic/piezoelectric injection valve, suction valve/firing needle valve, one/double component screw valve, 30/55cc syringe, etc.)
- 错步双阀 (双阀不同时工作, 同一机台内完成两种胶水点胶工艺) Staggered double valve (the double valve does not work at the same time, and two glue dispensing processes are completed in the same machine)
- 同步多阀 (产品整列距离, 方向一致, 2套以上阀同时对多个产品点相同胶水) Synchronous multi-valve (the whole distance of the product, the direction is the same, more than 2 sets of valves at the same time to multiple products point the same glue)
- 阀体倾斜旋转点胶 The valve body is tilted and rotated for dispensing
- 阀体倾斜角度固定, 定点360°转圈画圆 360° to draw a circle
- 阀体自动倾斜/垂直, 产品侧面点胶 The valve body is automatically tilted/vertical, and the product is dispensed on the side

技术参数 Technical Specification

项目 Item	参数 Specification
型号 Model	GR-FS4221-H
用电需求Electricity demand	AC220V 11A 50/60Hz 2.5KW
气压需求Barometric pressure demand	90psi(6bar)
外形尺寸 Outer demension	900*1000*1700mm(W*D*H)
重量 weight	450KG
点胶范围Dispensing range	X1 X2:200mm Y1 Y2:200mm Z:100mm
主轴数量Number of spindles	X、Y1、Y2、Z
XYZ轴定位精度XYZ axis positioning accuracy	±0.025mm
XYZ轴重复精度XYZ axis repeatability	±0.012mm
最大速度 (mm/s) Maximum speed (mm/s)	800mm/s(XY) 500mm/s (Z)
加速度 acceleration	0.8G
驱动系统Drive system	伺服电机+丝杆模组 Servo motor + screw module
轨道承重Track load-bearing	5KG
平台离地高度The height of the platform above the ground	900±20mm
控制方式Control mode	工控机+运动控制卡IPC + motion control card

双工位一体式点胶机

DOUBLE-STATION ALL-IN-ONE DISPENSING MACHINE

格润智能双工位一体式点胶机 GR-FS4221-M

Green Double-station all-in-one dispensing machine GR-FS4221-M



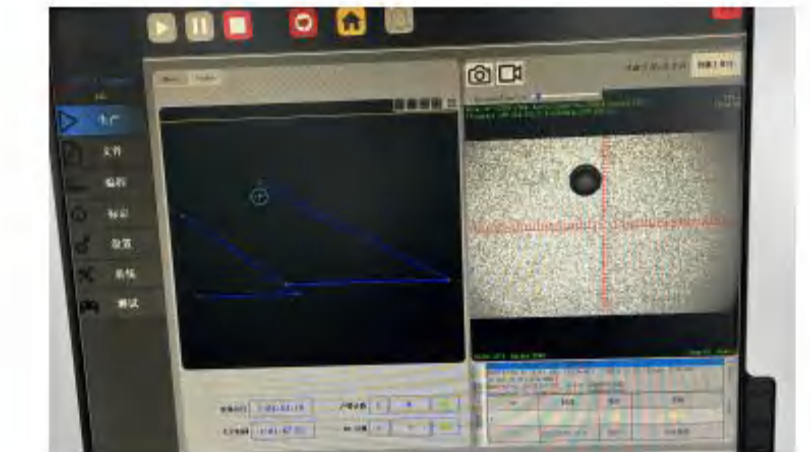
技术参数 Technical Specification

项目 Item	参数 Specification
型号 Model	GR-FS4221-M
用电需求Electricity demand	AC220V 11A 50/60Hz 2.5KW
气压需求Barometric pressure demand	90psi(6bar)
外形尺寸 Outer demension	900*1000*1700mm(W*D*H)
重量 weight	400KG
点胶范围Dispensing range	X1 X2:200mm Y1 Y2:200mm Z: 100mm
主轴数量Number of spindles	X、Y1、Y2、Z
XYZ轴定位精度XYZ axis positioning accuracy	±0.030mm
XYZ轴重复精度XYZ axis repeatability	±0.012mm
最大速度 (mm/s) Maximum speed (mm/s)	800mm/s(XY) 500mm/s (Z)
加速度 acceleration	0.8G
驱动系统Drive system	伺服电机+丝杆模组 Servo motor + screw module
轨道承重Track load-bearing	5KG
平台离地高度The height of the platform above the ground	900±20mm
控制方式Control mode	工控机+运动控制卡IPC + motion control card

双工位一体式点胶机

DOUBLE-STATION ALL-IN-ONE DISPENSING MACHINE

● 细节展示 Details Show



● 优势应用 Advantageous applications

1. 底部填充 (underfill)
2. 引脚封装 (pin encapsulating)
3. 精密涂敷 (conformal coating)
4. 堆栈封装 POP (package on package)
5. 围坝填充 (Underfill)
6. SMT 红胶制程
7. COB 封装 (COB package)

● 产品优点 Product Benefits:

1. 各轴采用高级伺服电机, 机密滚珠丝杠, 保证机台运动的高速度、高精度和高一致性
2. 主控系统采用控制卡, 触摸屏或工控机直接编程
3. 编程界面简单明了, 常用图形 (圆、椭圆、矩形等) 可直接输入参数调用
4. 支持CAD图像导入和轨迹预览功能
5. 半封闭式外壳设计, 便于操作的同时, 提高了点胶环境的清洁性
6. 设备采用整体加工的设计方式, 模块化的安装方式, 保证高精度的同时也便于维护
7. 承载能力强, 设备内部空间大

1. Each axis adopts advanced servo motor and confidential ball screw to ensure the high speed, high precision and high consistency of the machine movement
2. The main control system is directly programmed by control card, touch screen or industrial computer
3. The programming interface is simple and clear, and common graphics (circles, ellipses, rectangles, etc.) can be directly input and invoked
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5. Semi-enclosed shell design, easy to operate, improve the cleanliness of the dispensing environment
6. The equipment adopts the design mode of overall processing and modular installation mode to ensure high precision and easy maintenance
7. Strong bearing capacity and large internal space of the equipment

技术参数 Technical Specification

标配 Standard Configuration

- CCD视觉定位 CCD visual positioning
- XYZ轴基准校正系统XYZ axis datum correction system

选配 Optional Configuration

- AOI视觉胶路检测AOI visual glue inspection
- 3D扫描/路径引导3D scanning/path guidance
- 镭射测高 (基恩士/SICK) Laser altimetry (Keyence/SICK)
- 针头自动对针The needle is automatically aligned
- 缺胶报警Lack of glue alarm
- 针头/喷嘴卷布式清洁模块Needle/nozzle cloth wrap cleaning module
- 喷嘴真空清洁模块Nozzle vacuum cleaning module
- 工业条码/二维码识别系统 Industrial barcode/QR code identification system
- FFU
- 正门安全光栅Safety light curtain at the front entrance
- 非接触式产品预热模块Non-contact product preheating module
- 储气罐增压泵/电气比例阀 (适用高精度胶量点胶) Air Tank Booster Pump/Electric Proportional Valve (for high-precision glue dispensing)
- 单阀 (气动/压电喷射阀, 回吸阀/撞针阀, 单/双组份螺杆阀, 30/55CC针筒等) Single valve (pneumatic/piezoelectric injection valve, suction valve/firing needle valve, one/double component screw valve, 30/55cc syringe, etc.)
- 错步双阀 (双阀不同时工作, 同一机台内完成两种胶水点胶工艺) Staggered double valve (the double valve does not work at the same time, and two glue dispensing processes are completed in the same machine)
- 同步多阀 (产品整列距离, 方向一致, 2套以上阀同时对多个产品点相同胶水) Synchronous multi-valve (the whole distance of the product, the direction is the same, more than 2 sets of valves at the same time to multiple products point the same glue)
- 阀体倾斜旋转点胶 The valve body is tilted and rotated for dispensing
- 阀体倾斜角度固定, 定点360°转圈画圆 360° to draw a circle
- 阀体自动倾斜/垂直, 产品侧面点胶 is dispensed on the side

电脑版焊锡机

PC TYPE SOLDERING MACHINE

格润智能电脑版焊锡机SI10DR
Green PC type soldering machine SI10DR



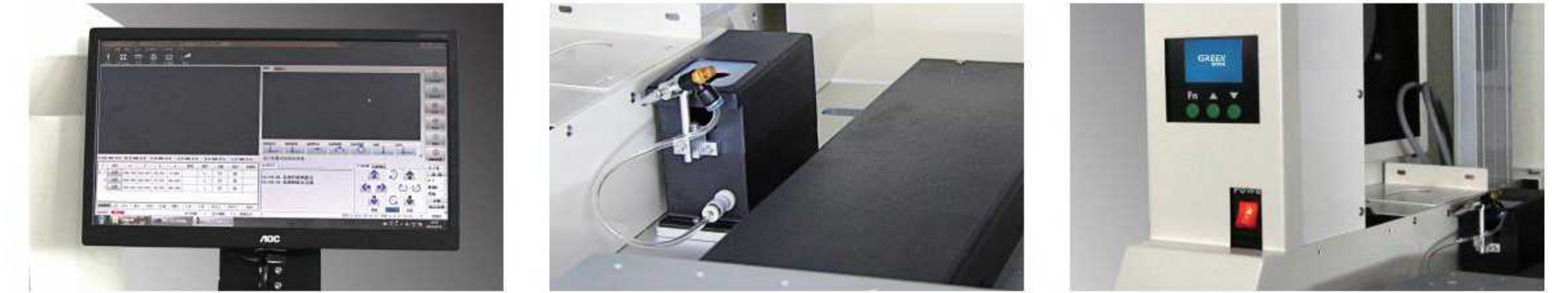
技术参数 Technical Specification

项目 Item	参数 Specification
型号 Model	SI10DR
X轴 X axis	500mm
Y1轴 Y1 axis	300mm
Y2轴 Y2 axis	300mm
Z轴 Z axis	100mm
R轴 R axis	360°
XYZ重复精度 XYZ repeatability	±0.02mm
XYZ定位精度 XYZ positioning accuracy	±0.03mm
Z轴定位精度 Z axis positioning accuracy	±0.02mm
XY轴最大移动速度 XY max. speed	500mm/s
Z轴最大移动速度 Z max. speed	250mm/s
Z轴负载 Z axis load	3KG
编程模式 Programming mode	示教编程 Teaching programming
输入电源 Power supply	AC220V 10A 50-60HZ
最大功率 Max. power	1.5KW
外形尺寸 Outer demension(L*W*H)	800*860*1520(mm)
设备重量 Weight	约170KG Around170KG

电脑版焊锡机

PC TYPE SOLDERING MACHINE

● 细节展示 Details Show



● 应用范围 Application Range

1. LSI, IC、混合IC、CSP、BGA等半导体焊接;
 2. 主板、小型开关、电容器、可变电阻器、水晶振荡器、LCD、磁头、继电器、连接器焊接;
 3. DVD、音频设备、汽车导航系统、电视游戏机、电视机、收音机、洗衣机、吸尘器等
1. LSI, IC, hybrid IC, CSP, BGA and other semiconductor welding;
 2. Motherboard, small switch, capacitor, variable resistor, crystal oscillator, LCD, magnetic head, relay, connector welding;
 3. DVD, audio equipment, car navigation system, TV game console, TV, radio, washing machine, vacuum cleaner etc.

● 应用领域 Application Field

3C消费电子行业/家电行业/5G行业/电子工业
3C consumer/electronics industry/Appliance industry/5G industry/Electronics industry

● 产品优势 Product Advantage

1. 基于Windows操作系统开发的软件,更符合使用者的操作习惯;
 2. 高清触摸屏,人机界面,运行轨迹实时焊接监控;
 3. 具有缺锡与堵锡自动检测功能,直接保护焊接产品;
 4. 可连接MES系统
1. The user software developed based on the Windows operating system is more in line with the user's operating habits;
 2. High-definition touch screen, man-machine interface, real-time welding monitoring of running track;
 3. With automatic detection function of tin shortage and blocking, directly protect the welding products;
 4. Can be connected to MES system

标配 Standard Configuration	参数 Specification
驱动方式 Drive method	步进电机+皮带+精密导轨 Stepping motor + belt + precision guide rail
控制方式 Control method+运动控制 Motion control	工控机 Industrial PC+运动控制 Motion control
选配 Optional Configuration	参数 Specification
驱动方式 Drive method	伺服电机+丝杆+精密导轨 Servo motor + screw + precision guide rail
烟雾净化系统 Smoke purification system	
MES系统 MES system	
其他功率温控 Other power temperature controller	

落地式蓝光激光锡焊机

FLOOR-TYPE BLUE LIGHT LASER SOLDERING MACHINE

格润智能落地式蓝光激光焊锡机LAW501

Green floor-type blue light laser soldering machine LAW501



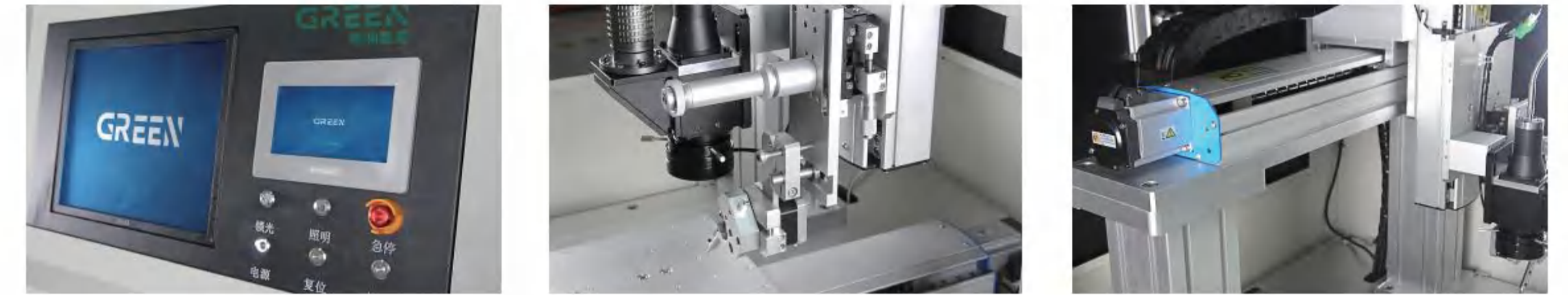
技术参数 Technical Specification

项目 Item	参数 Specification
型号 Model	LAW501
X、Y、Z轴行程 X, Y, Z axis travel	X400、Y400、Z130 (mm)
加工范围 Processing range	350*350mm
焊接类型 Weld type	激光锡丝 Laser tin wire
激光器类型 Laser type	蓝光半导体激光器 Blue light semiconductor laser
激光器波长 Laser wavelength	445nm
最大激光输出功率 Maximum laser output power	40W
光纤芯径 Fiber core diameter	400um
整机功率 The power of the whole machine	2.0KW
焊接实时监控 Real-time monitoring of welding	同轴相机监视 Coaxial camera monitoring
重复位置精度 Repeatability accuracy	±0.02mm
输入电源 Power supply	AC220V 10A 50-60HZ
最大功率 Max.power	2.0KW
外形尺寸 Outer demension (L*W*H)	1000*860*1820mm (不含报警灯 Without alarm lights)
设备重量 Weight	

落地式蓝光激光锡焊机

FLOOR-TYPE BLUE LIGHT LASER SOLDERING MACHINE

● 细节展示 Details Show



● 应用范围 Application Range

1. 线材, 电池连接器插头; 2. 软硬板; 3. 车灯, LED灯; 4. USB接头, 电容电阻插件; 5. 蓝牙耳机等
1. Wire, battery connector plug; 2. Soft and hard board; 3. Car lights, LED lights; 4. USB connector, capacitor resistor plug-in; 5. Bluetooth headsets, etc.

● 应用领域 Application Field

通讯行业/3C消费电子行业/汽车行业/新能源行业/LED行业/电子工业
 Communications industry/3C consumer electronics industry/Automobile industry/
 New energy industry/LED industry/Electronics industry

● 产品优势 Product Advantage

1. 精度较高: 光斑可以达到微米级别, 加工时间可以通过程序控制, 使得精度远远高于传统焊锡工艺。
 2. 非接触性加工: 不用直接进行表面接触, 就可以完成焊锡过程, 所以不存在接触焊接导致的应力。
 3. 工作空间要求小: 细小的激光束替代烙铁头, 在加工件表面有其他干涉物的时, 也同样进行精密加工。
 4. 工作影响区域小: 局部加热, 热影响区小。
 5. 工作过程安全: 加工过程无静电威胁。
 6. 工作过程洁净、节约: 激光加工耗材, 加工过程无废料产生。
 7. 操作维护简单: 激光焊锡操作简单, 激光头维护方便。
 8. 使用寿命: 镭射二极管至少可以使用10000小时, 寿命长, 性能稳定。
1. High precision: the light spot can reach the micron level, and the processing time can be controlled by the program, making the accuracy much higher than the traditional soldering process.
 2. Non-contact processing: the soldering process can be completed without direct surface contact, so there is no stress caused by contact welding.
 3. Small working space requirements: a small laser beam replaces the soldering iron tip, and precision processing is also performed when there are other interferences on the surface of the workpiece.
 4. Small working area: local heating, the heat-affected zone is small.
 5. The working process is safe: there is no electrostatic threat during the processing.
 6. The working process is clean and economical: laser processing consumables, no waste is generated during the processing.
 7. simple operation and maintenance: laser soldering operation is simple, laser head maintenance convenience.
 8. Service life: The life of the laser can be used for at least 10,000 hours, with long life and stable performance.

主要配置 Main Configuration

标配 Standard Configuration	参数 Specification
蓝光半导体 激光器 Blue light semiconductor lasers	HLD40 (最大激光输出功率 40W) HLD40 (max laser output 40W) 格润智能 GREEN
焊接头 Welding head	格润智能 GREEN
触摸屏 touch screen	7寸触摸屏 7 inch touch screen
工业相机 Industrial cameras	海康/Basler HIK VISION/Basler
工控机 Industrial computer	i5 处理器(国产) i5 Processor (Domestic)
显示器 display	17寸戴尔/AOC 17 inches DELL/AOC
驱动方式 Drive method	伺服电机+丝杠+精密导轨 Servo motor+screw+precision guide rail

塑料激光焊接机

PLASTIC LASER WELDING MACHINE

格润智能塑料激光焊接机LAESJ220

Green plastic laser welding machine LAESJ220



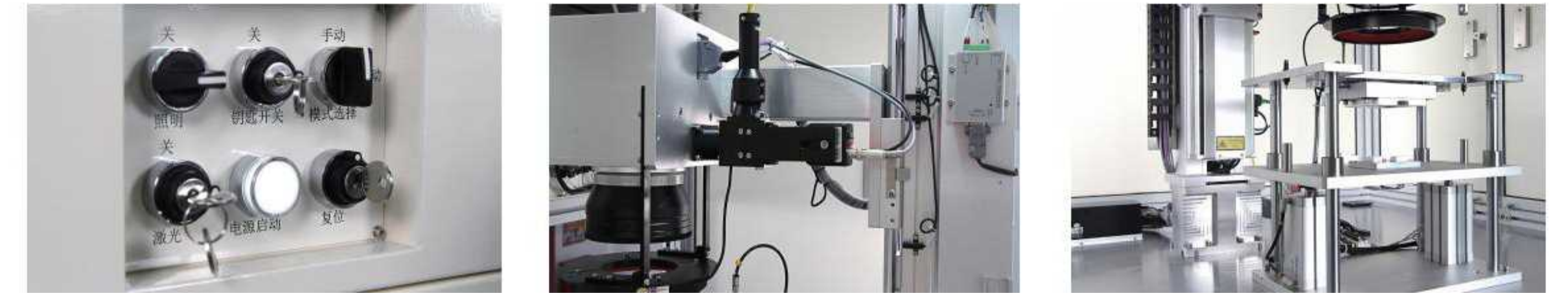
技术参数 Technical Specification

项目 Item	参数 Specification
型号 Model	LAESJ220
激光功率 Laser power	200W
激光波长 Laser wavelength	1064nm
聚光腔反射体 Condenser cavity reflector	进口陶瓷聚光腔
激光频率 Laser frequency	1-20Hz
脉冲宽度 Laser wavelength	0.1-30ms
电动光斑调节范围 Electric spot adjustable range	0.2-2mm
额定功率 Rated power	4KW
最大电流 Maximum current	10A
额定电压 Rated voltage	220V/1P
电力需求 Electricity demand	AC380V 40A 50HZ
三维承重工作台承重 Load-bearing	150kg
输入气压 Input air pressure	0.4-0.7MPa
外形尺寸 Outer demension (L*W*H)	
设备重量 Weight	

塑料激光焊接机

PLASTIC LASER WELDING MACHINE

● 细节展示 Details show



● 应用范围 Application Range

半导体/电容器/电机/相机/计算机/汽车/船舶/游戏机/LCD/医疗设备/FPC、PCB、FCP硬板等
Semiconductor/capacitor/motor/camera/computer/automobile/ship/game console/LCD/medical equipment/FPC, PCB, FCP hard board, etc.

● 应用领域 Application Field

汽车电子/光学产品/军工产品/数码电子
Automotive electronics /Optical products/ Military products /Digital electronics

● 产品优势 Product Advantage

- 1: 激光功率密度高, 无需焊剂焊料即可完成焊接
- 2: 焊斑牢固, 热影响区域小
- 3: 专业的焊接控制系统, 稳定性极高, 液晶触摸屏操控, 简单易学
- 4: CCD可视化调整, 方便, 准确

- 1: High laser power density, welding can be completed without flux solder
- 2: Firm welding spot, small heat affected area
- 3: Professional welding control system, high stability, LCD touch screen control, easy to learn
- 4: CCD visual adjustment, convenient ,precise

技术参数 Technical Specification

标配 Standard Configuration	参数 Specification
激光器最大激光输出功率 (W) Maximum laser output power of laser (W)	30/60/120/200W (可选配) 30/60/120/200W (can be choosed)
激光波长 Laser wavelength	1064nm
相机 Camera	同轴视觉定位 Coaxial vision positioning
冷却方式 Cooling method	风冷 Air-cooled device
驱动方式 Drive method	步进电机+皮带+精密导轨 Stepping motor + belt + precision guide rail

选配 Optional Configuration	参数 Specification
激光器最大激光输出功率 (W) Maximum laser output power of laser (W)	30/60/120/200W (可选配) 30/60/120/200W (can be choosed)
温度反馈 Temperature feedback	
驱动方式 Drive method	伺服电机+丝杆+精密导轨 Servo motor + screw + precision guide rail

激光锡膏焊接机

LASER SOLDER PASTE WELDING MACHINE

格润智能激光锡膏焊接机GR-FJ03

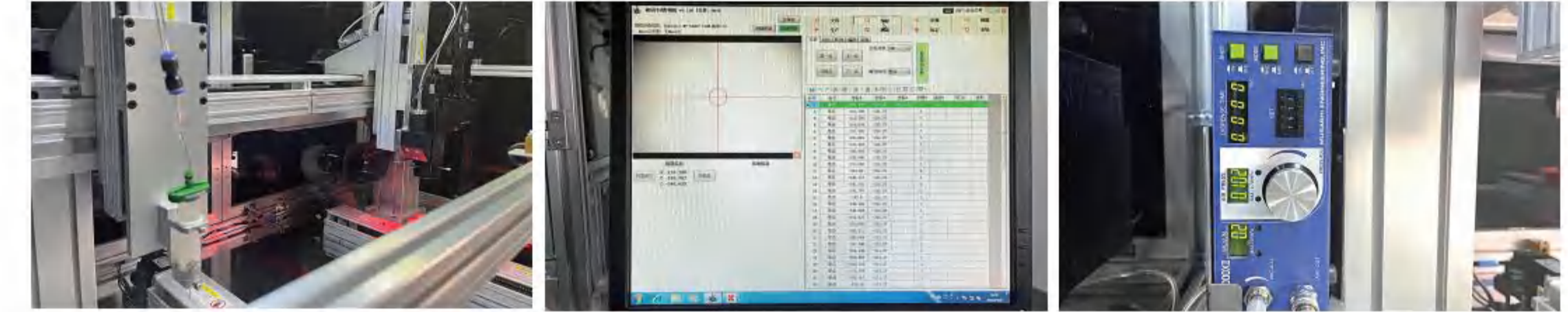
Green Laser solder paste welding machine GR-FJ03



激光锡膏焊接机

LASER SOLDER PASTE WELDING MACHINE

● 细节展示 Details show



● 应用范围 Application Range

传感器、电感、硬盘磁头、摄像头模组、vcm音圈马达、CCM、FPC、PCB电路板、光通讯元器件、连接器、天线、扬声器、喇叭、热敏元件、光敏元件、手机通讯、精密医疗器械
Sensors, inductors, hard disk heads, camera modules, vcm voice coil motors, CCM, FPC, PCB circuit boards, optical communication components, connectors, antennas, speakers, speakers, thermal components, photosensitive components, mobile communications, precision medical instrument

● 产品优势 Product Advantage

- 1.设备为肩并肩六轴机构，两台机器合并为一台使用，一边点锡膏，一边激光焊接；
 - 2.自动点锡膏系统配武藏精密点胶控制器控制点锡膏，可以精确控制锡量大小；
 - 3.激光锡膏焊接系统带温度反馈功能，可对焊接进行温度控制，可以对焊接区域进行温度监测；
 - 4.视觉监视系统采用图像自动检测焊接情况；
 - 5.激光锡膏焊接属于非接触焊接，没有烙铁接触焊锡时产生的应力，无静电产生；
 - 6.激光锡膏焊接只对焊点部位局部加热，对焊盘和元器件本体基本没有热影响；
 - 7.焊点快速加热至设定温度和局部加热后焊点冷却速度快，快速形成合金层，接头组织细密，可靠性高；
 - 8.温度反馈速度快，能精准地控制温度满足不同焊接的需求；
 - 9.激光加工精度高，激光光斑范围可控制在0.2-5mm，加工精度远高于传统电烙铁锡焊；
 - 10.无接触焊接，对应复杂焊点也能满足应用需求；
- 1.The equipment is a side-by-side six-axis mechanism, and two machines are combined into one for use, while soldering paste is applied and laser welding is performed at the same time;
- 2.The automatic solder paste dispensing system is equipped with the Musashi precision dispensing controller to control the solder paste, which can precisely control the amount of tin ;
- 3.laser solder paste welding system has a temperature feedback function, which can control the temperature of the welding and monitor the temperature of the welding area ;
- 4.visual monitoring system uses images to automatically detect welding conditions;
- 5.Laser solder paste welding is non-contact welding, there is no stress generated when the soldering iron contacts the solder, and no static electricity is generated ;
- 6.Laser solder paste welding only heats the solder joints locally, and has basically no thermal effect on the pads and component bodies ;
- 7.The solder joints are quickly heated to the set temperature and after local heating, the solder joints cool quickly, form an alloy layer quickly, the joint structure is fine, and the reliability is high ;
- 8.The temperature feedback speed is fast, and the temperature can be accurately controlled to meet the needs of different welding ;
- 9.The laser processing precision is high, the laser spot range can be controlled within 0.2-5mm, and the processing precision is much higher than that of the traditional electric soldering iron ;
- 10.Non-contact welding, corresponding to complex solder joints can also meet application requirements ;

技术参数 Technical Specification

项目 Item	参数 Specification
型号 Model	GR-FJ03
工作模式 Operating mode	自动 automatic
上料方式 Feeding method	人工上料 Manual feeding
下料方式 Cutting method	人工下料 Manual cutting
设备行程 Equipment stroke	(X1/X2) 250* (Y1/Y2) 300* (Z1/Z2) 100(mm)
运动速度 Movement speed	500mm/s(最大800mm/s)500mm/s (maximum 800mm/s)
电机类型 Motor type	伺服电机 Servo motor
重复精度 Repeatability	±0.02 mm
焊接类型 Welding type	激光锡膏焊接 Laser solder paste welding
点锡膏控制系统 Dot solder paste control system	运动控制卡+手持编程器 Motion control card + handheld programmer
激光焊接系统 Laser welding system	工控机+键鼠 Industrial computer + keyboard and mouse
激光器类型 Laser type	半导体激光器 A semiconductor laser
激光器波长 Laser wavelength	915nm
最大激光功率 Maximum laser power	100W
激光类型 Laser type	连续激光 Continuous laser
光纤芯径 Fiber Core Diameter	200/220um
焊接实时监控 Welding real-time monitoring	同轴相机监视 Coaxial camera monitoring
冷却方式 cooling method	风冷 air cooling
导轨 guide	台湾品牌 Taiwanese brand
丝杆 screw	台湾品牌 Taiwanese brand
光电开关 Photoelectric switches	欧姆龙/台湾品牌 Omron/Taiwan brand
显示方式 Display method	显示器 monitor
送锡丝机构 Tin wire feeding mechanism	选配 Optional
驱动方式 Drive mode	伺服电机+精密丝杆+精密导轨 Servo motor + precision screw + precision guide
功率 power	3KW
电源 power supply	AC220V/50HZ
尺寸 size	1350*890*1720mm

三头焊锡机

THREE-HEAD SOLDERING MACHINE

格润智能三头焊锡机GR-FH02

Green Three-head soldering machine GR-FH02



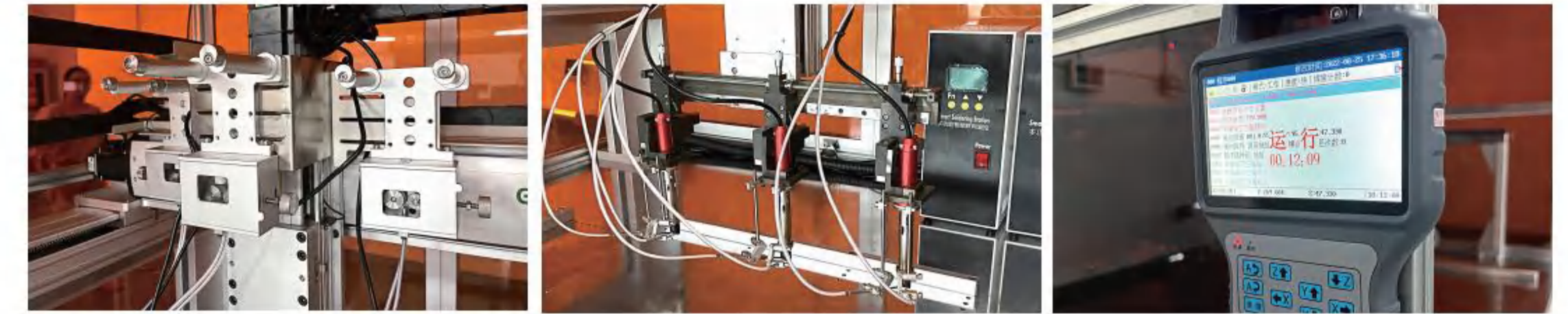
技术参数 Technical Specification

项目 Item	参数 Specification
型号 Model	GR-FH02
工作模式 Operating mode	自动 automatic
上料方式 Feeding method	人工上料 Manual feeding
下料方式 Cutting method	人工下料 Manual cutting
X/Y/Z焊锡行程 Solder stroke	600*700*100(mm)
运动速度 Movement speed	500mm/s(最大800mm/s)(Up to 800mm/s)
电机类型 Motor type	伺服电机 Servo motor
程序记录模式 Program recording mode	99组/999组可选 99 groups/999 groups optional
重复精度 Repeatability	±0.02 mm
控制系统 Control system	运动控制卡+手持编程器 Motion control card + handheld programmer
导轨 guide	台湾品牌 Taiwanese brand
丝杆 Screw	台湾品牌 Taiwanese brand
光电开关 Photoelectric switch	欧姆龙/台湾品牌 Omron/Taiwan brand
I/O信号 I/O signal	24 In puts/12Out puts
显示方式 Display method	LED教导盒 LED teaching box
温度范围 Temperature range	0~450°C
可用锡丝直径 Usable Wire Diameter	φ0.5~φ2mm
驱动方式 Drive mode	伺服电机+精密丝杆+精密导轨 Servo motor + precision screw + precision rail
清洗 Cleaning	选配 Optional
功率 Power	3KW
电源 Power supply	AC220V/50HZ
尺寸 size(L*W*H)	1270*1190*1720mm

三头焊锡机

THREE-HEAD SOLDERING MACHINE

● 细节展示 Details show



● 应用范围 Application Range

3C消费电子行业、家电行业、5G行业、电子工业
3C consumer electronics industry, home appliance industry, 5G industry, electronics industry

● 产品优势 Product Advantage

- 1.设备针对大产品且焊接位置阵列均匀排布的板栅等产品,通过人工上下料,多头同步进行自动焊锡;
 - 2.灵活多样的焊锡方式,具有点焊、拖焊(拉焊)等功能;
 - 3.模块化的结构设计,便于维护、保养;
 - 4.设备可存储99组操作程序,同一机器可对不同99款产品进行焊锡加工;
 - 5.支持多送锡模组,可根据应用需要快速添加送锡模组,可以定制多焊头同时作业;
 - 6.焊锡抖动功能,在焊接时打开此功能可以使焊接更迅速,对大焊点尤其有效;
 - 7.设备编写工作程序可进行点到点、块到块的复制,缩短程序编写时间,且简单易学;
 - 8.驱动方式:伺服电机+精密丝杆+精密导轨传动,有效提升运动定位精度和重复精度;
- 1.The equipment is aimed at large products and grids and other products with evenly arranged welding positions, through manual loading and unloading, multi-head synchronous automatic soldering;
 - 2.Flexible and diverse soldering methods, with functions such as spot welding, drag welding (pull welding);
 - 3.Modular structure design, easy to maintain and maintain;
 - 4.The equipment can store 99 sets of operating procedures, and the same machine can process 99 different products;
 - 5.Supports multiple tin feeding modules, can quickly add tin feeding modules according to application needs, and can customize multiple welding heads to work at the same time;
 - 6.Solder jitter function, turning on this function during welding can make welding faster, especially effective for large solder joints;
 - 7.The equipment programming work program can be copied from point to point and block to block, which shortens the programming time and is easy to learn;
 - 8.Drive mode: servo motor + precision screw + precision guide rail drive, effectively improve the motion positioning accuracy and repeatability;

双工位激光锡球焊接机

DUPLEX LASER SOLDER BALL WELDING MACHINE

格润智能双工位激光锡球焊接机LAB201

Green duplex laser solder ball welding machine LAB201



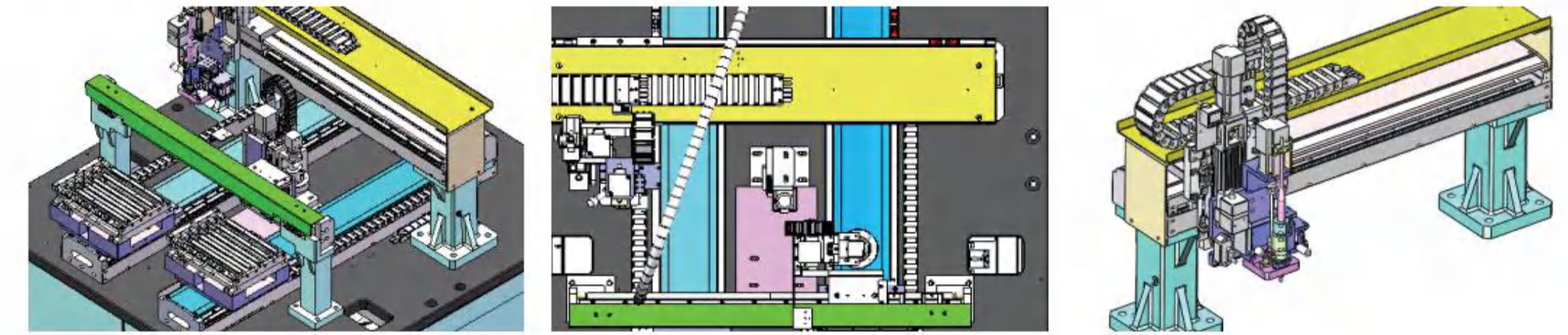
技术参数 Technical specifications

项目 Item	参数 Specifications	
型号 Model	LAB201	
激光参数 Laser parameters	功率 power	150W
	波长 wavelength	1064
	模式 mode	连续脉冲光纤激光器 Continuous pulse fiber lasers
锡球规格 Solder ball specifications	0.15-0.25mm/0.3-0.76mm/0.9-2.0mm(可选配) (Optional)	
视觉定位系统 Visual positioning system	CCD, 解析±5μm The resolution ± 5 μm	
相机像素 Camera pixels	500万 5 million pixels	
控制方式 Control mode	PLC+PC控制 PLC+PC Control	
机械重复定位精度 Mechanical repeatability accuracy	±0.02mm	
加工范围 Processing range	200mm*150mm(可定制) (Customizable)	
使用功率 Use power	<2KW/H	
气源 Air source	压缩空气>0.5MPa 氮气>0.5MPa Compressed air > 0.5 MPa nitrogen > 0.5 MPa	
外形尺寸 Outer demension (L*W*H)	1000*1100*1650(mm)	
设备重量 Weight	500KG	

双工位激光锡球焊接机

DUPLEX LASER SOLDER BALL WELDING MACHINE

● 细节展示 Details show



● 应用范围 Application Range

激光喷锡球焊接实现精密类: PCB焊盘与金手指焊锡连接, FPC与PCB焊接, 线材与PCB焊接, 部分THT插装器件焊接。单边有PIN脚的产品和共两边PIN脚的对边产品, 和其他多种精密焊接。
Laser solder ball welding realizes precision class: PCB pad and gold finger solder connection, FPC and PCB welding, wire rod and PCB welding, partTHT plug-in device soldering. Products with PIN pins on one side and contralate products with PIN pins on both sides, and many other precision welding products.

● 应用领域 Application Field

CCM摄像头/模组、金手指/FPC类、线材类、通讯器件、光器件、保险管行业、半导体行业焊锡
CCM camera/module, gold finger/FPC, wire, communication device, optical device, fuse industry, semiconductor industry solder

● 产品优势 Product Advantage

- 1、加热、熔滴过程快速,可在0.2s内完成 ;
 - 2、在焊嘴内完成锡球熔化,无飞溅 ;
 - 3、不需助焊剂、无污染,最大限度保证电子器件寿命 ;
 - 4、锡球直径最小0.15mm,符合集成化、精密化发展趋势 ;
 - 5、可通过锡球大小的选择完成不同焊点的焊接 ;
 - 6、焊接质量稳定,良品率高 ;
 - 7、配合CCD定位系统适合流水线大批量生产需求 ;
 - 8、UPH≥8000点,良率≥99%(根据不同的产品略有不同) ;
1. The heating and droplet process is fast and can be completed within 0.2s;
 2. Complete the melting of the solder ball in the solder nozzle without splashing;
 - 3, no flux, no pollution, to maximize the life of electronic devices;
 4. The minimum diameter of the solder ball is 0.15mm, which is in line with the development trend of integration and precision;
 5. Welding of different solder joints can be completed through the selection of solder ball size;
 6. Stable welding quality and high yield rate;
 7. Cooperate with CCD positioning system to meet the needs of assembly line mass production;
 8. UPH ≥ 8000 points, yield ≥ 99% (different according to different product)

标配 Standard configuration	参数 Specification
供球机构 Ball supply agency	将锡球按单颗分离并送至焊接位 Separate the solder balls into individual pieces and send them to the solder position
激光器 laser	150W JDSUMAX光纤激光器 150W JDSUMAX fiber laser
伺服马达 Servo motor	为运动模组提供动力 Powering the motion module
气动系统 Pneumatic system	机械定位/限位 Mechanical positioning/limiting
PLC	软件控制 Software control
工控机 Industrial computer	IPC710
CCD	抓拍焊接点位 Capture welding points
触摸屏 Touch screen	焊接控制操作 Weld control operation
远心镜 Telecentric mirror	视觉抓取 Visual capture
光纤传感器 Fiber optic sensors	激光通断控制 Laser on-off control

双视觉焊锡机

DUAL -VISION SOLDERING MACHINE

格润智能双视觉焊锡机SI641R

Green Dual-vision soldering machine SI641R



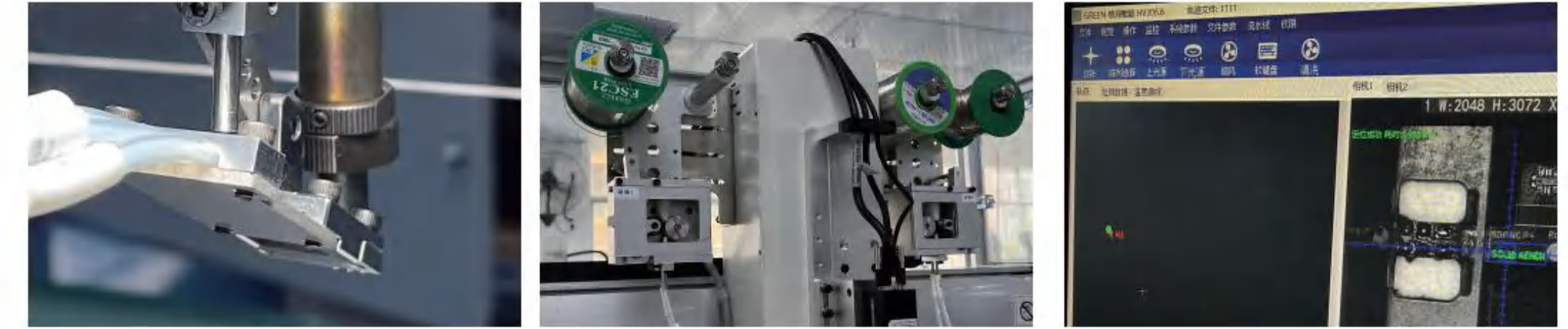
技术参数 Technical specifications

项目 Item	参数 Specifications
型号 Model	SI641R
X轴 X-axis	600mm
Y轴 Y-axis	400mm
Z轴 Z-axis	100mm
R轴 R-axis	360°
Z轴负载 Z-axis load	3Kg
Y轴负载 Y-axis load	10Kg
XY轴最大移动速度 The maximum movement speed of the Y-axis	0~500mm/sec
Z轴最大移动速度 The maximum movement speed of the Z-axis	0~250mm/sec
重复定位精度 Repeatability accuracy	± 0.02 mm/ Axis
操作方式 How it works	17寸显示器+运动控制卡 17 inch monitor + motion control card
程序记录模式 Program recording mode	100组 100 groups
温度范围 Temperature range	5~450°C
可用锡丝直径 Available in tin wire diameters	φ0.5~φ2mm
驱动方式 Drive mode	步进电机+同步带+精密导轨 Stepper motor + synchronous belt + precision guide rail
输入电源 Enter the power supply	220V/50HZ
外形尺寸 Outer demension (L*W*H)	820*643*915(mm)

双视觉焊锡机

DUAL -VISION SOLDERING MACHINE

● 细节展示 Details show



● 应用范围 Application Range

3C消费电子行业、家电行业、5G行业、电子工业

3C consumer electronics industry, home appliance industry, 5G industry, electronics industry

● 设备特点 Device features

- 1.灵活多样的焊锡方式，具有点焊、拖焊（拉焊）等功能；
 - 2.模块化的结构设计，便于维护、保养；
 - 3.定制多送锡模组，可根据应用需要快速添加送锡模组，可以满足板上多个大小不同焊盘的一次性焊接工艺；
 - 4.中心抽烟系统，将助焊剂对空气及焊接模组的污染降到最低；
 - 5.柔性编程系统，满足多样化的客户需求；
 - 6.配备双视觉系统，上视觉用于定位系统功能，下视觉用于校正烙铁头角度（用于多送锡模组）；
 - 7.设备具有自动清洗功能，一定程度上稳定了焊锡加工质量与延长烙铁咀使用寿命；
 - 8.自带温度实时监控系统；
 - 9.该设备焊接模组带有自动缓冲功能，避免在设备调试与运行期间损伤到焊接产品；
 - 10.温控器可调节温度范围为5-450摄氏度之间，精确到±5摄氏度，恒温温控，快速补温；
 - 11.驱动方式：步进电机+同步带+精密导轨传动；
1. Flexible and diverse soldering methods, with spot welding, drag welding (pull welding) and other functions;
 2. Modular structure design, easy to maintain and maintain;
 3. Customized multi-tin feeding module, which can quickly add tin feeding module according to application needs, which can meet the one-time soldering process of multiple pads of different sizes on the board;
 4. The central smoke extraction system minimizes the pollution of the flux to the air and the soldering module;
 5. Flexible programming system to meet diverse customer needs;
 6. Equipped with dual vision system, the upper vision is used for positioning the system function, and the lower vision is used to correct the angle of the soldering iron tip (for multi-tin feeding module);
 7. The equipment has an automatic cleaning function, which stabilizes the quality of solder processing and prolongs the service life of the soldering tip to a certain extent;
 8. Built-in temperature real-time monitoring system;
 9. The welding module of the equipment has an automatic buffering function to avoid damage to the welding products during the commissioning and operation of the equipment;
 10. The temperature range of the thermostat can be adjusted to between 5-450 degrees Celsius, accurate to ±5 degrees Celsius, constant temperature control, and rapid temperature supplementation;
 11. Drive mode: stepper motor + synchronous belt + precision guide rail transmission;

双平台背靠背焊锡机

DOAL PLATFORM BACK-TO-BACK SOLDERING MACHINE

格润智能双平台背靠背焊锡机GR-556611RR

Green Dual platform back-to-back soldering machine GR-556611RR



技术参数 Technical specifications

项目 Item	参数 Specifications
型号 Model	GR-556611RR
设备行程范围 Device travel range	X1轴 X1 axis 500mm 机器左右移动数据 500mm machine moves data left and right
	X2轴 X2 axis 500mm 机器左右移动数据 500mm machine moves data left and right
	Y1轴 Y1 axis 300mm 工作台前后移动数据 300mm table moves data back and forth
	Y2轴 Y2 axis 300mm 工作台前后移动数据 300mm table moves data back and forth
负载 load	ZR1轴 ZR1 axis 100mm+360° 机器上下+旋转 移动数据 100mm + 360° machine up and down + rotation to move data
	ZR2轴 ZR2 axis 100mm+360° 机器上下+旋转 移动数据 100mm + 360° machine up and down + rotation to move data
温控器 Thermostat	Y轴平台工作负载10kg Y-axis platform workload 10kg
控制系统 Control system	150W (标配) / 200W / 400W / 600W 可选 150W (standard) / 200W / 400W / 600W optional
移动速度 (mm/sec) Movement speed	运动控制卡+加手持控制盒 Motion control card + plus handheld control box
重复精度 Repeatability	0~600mm/sec
程序记录模式 Program logging mode	± 0.05 mm
显示方式 How it is displayed	150个加工文件, 每组存1500个编程点 150 machining files, each group stores 1500 programming points
XY传动方式 XY transmission mode	LED 教导盒 LED teaching box
ZR传动方式 ZR transmission mode	步进电机+同步带+精密滑轨 Stepper motor + timing belt + precision slide rail
清洗系统 Cleaning the system	步进电机+同步带+精密滑轨+精密花键 Stepper motor + timing belt + precision slide rail + precision spline
温度控制范围 Temperature control range	气吹式吹锡 Air-blown tin
报警温度范围 Alarm temperature range	25~450°C
加热时间 Heating time	±5°C
可用锡丝直径 Available tin wire diameter	0~9.9s
输入气压 Input air pressure	φ0.5~φ2mm
输入电源 Enter the power supply	0.5~0.7MPa
设备尺寸 size	AC220V/50HZ
	L*W*H (720*903*940) mm

双平台背靠背焊锡机

DOAL PLATFORM BACK-TO-BACK SOLDERING MACHINE

● 细节展示 Details show



● 应用范围 Application Range

手机、电脑、集成电路、平板、数码 汽车工业 电池组装 扬声器、PCB板 半导体微电子组装 摄像头模组焊锡
Mobile phones, computers, integrated circuits, tablets, digital Automotive industry Battery assembly Speaker, PCB board Semiconductor microelectronics assembly Camera module solder

● 设备特点 Device features

1. 灵活多样的焊锡方式, 具有点焊、拖焊(拉焊)等功能;
2. 设备可存储150个加工文件, 每组存1500个编程点;
3. 焊锡抖动功能, 在焊接时打开此功能可以使焊接更迅速, 对大焊点尤其有效;
4. 焊点轨迹可见, 方便操作员了解焊锡进度, 方便工程人员调试;
5. 设备编写工作程序可进行点到点、块到块的复制, 缩短程序编写时间, 且简单易学;
6. 设备具有自动清洗功能, 有效保障了焊锡加工质量与延长烙铁咀使用寿命;
7. 多轴联动机械手, 全部采用精密步进马达驱动及先进运动控制算法, 有效提升运动定位精度和重复精度;
8. 背靠背焊锡机对同一个产品焊点大小不一的产品进行同时焊接工作, 可大量节约更换烙铁头和调试时间, 有效提高生产效率;

● 产品优势 Product Advantage

1. 提高生产效率, 减少人工, 节约成本。
2. 省材, 送锡速度快大小可控, 拒绝浪费。
3. 焊锡准确均匀, 速度快, 焊点一致。
4. 自动化程序控制, 轻松解决复杂程序。

肩并肩平台焊锡机

SHOULDER TO SHOULDER PLATFORM SOLDERING MACHINE

格润智能肩并肩平台焊锡机GR-333311R

Green Shoulder to shoulder platform soldering machine GR-333311R



技术参数 Technical specifications

项目 Item	参数 Specifications
型号 Model	GR-333311R
设备行程范围 Device travel range	X1轴 X1 axis 300mm 机器左右移动数据 300mm machine moves data left and right
	X2轴 X2 axis 300mm 机器左右移动数据 300mm machine moves data left and right
	Y1轴 Y1 axis 300mm 工作台前后移动数据 300mm table moves data back and forth
	Y2轴 Y2 axis 300mm 工作台前后移动数据 300mm table moves data back and forth
负载 load	ZR1轴 ZR1 axis 100mm+360° 机器上下+旋转 移动数据 100mm+360° machine up and down + rotation to move data
	ZR2轴 ZR2 axis 100mm+360° 机器上下+旋转 移动数据 100mm+360° machine up and down + rotation to move data
温控器 Thermostat	Y轴平台工作负载10kg Y-axis platform workload 10kg
控制系统 Control system	150W (标配) / 200W / 400W / 600W 可选 150W (standard) / 200W / 400W / 600W optional
移动速度 (mm/sec) Movement speed	运动控制卡+加手持控制盒 Motion control card + plus handheld control box
重复精度 Repeatability	0~600mm/sec
程序记录模式 Program logging mode	± 0.05 mm
显示方式 How it is displayed	150个加工文件, 每组存1500个编程点 150 machining files, each group stores 1500 programming points
XY传动方式 XY transmission mode	LED 教导盒 LED teaching box
ZR传动方式 ZR transmission mode	步进电机+同步带+精密滑轨 Stepper motor + timing belt + precision slide rail
清洗系统 Cleaning the system	步进电机+同步带+精密滑轨+精密花键 Stepper motor + timing belt + precision slide rail + precision spline
温度控制范围 Temperature control range	气吹式吹锡 Air-blown tin
报警温度范围 Alarm temperature range	25~450°C
加热时间 Heating time	±5°C
可用锡丝直径 Available tin wire diameter	0~9.9s
输入气压 Input air pressure	φ0.5~φ2mm
输入电源 Enter the power supply	0.5~0.7MPa
设备尺寸 size	AC220V/50HZ
	L*W*H (1020*603*846) mm

肩并肩平台焊锡机

SHOULDER TO SHOULDER PLATFORM SOLDERING MACHINE

● 细节展示 Details show



● 应用范围 Application Range

手机、电脑、集成电路、平板、数码 汽车工业 电池组装 扬声器、PCB板 半导体微电子组装 摄像头模组焊锡
Mobile phones, computers, integrated circuits, tablets, digital Automotive industry Battery assembly Speaker, PCB board Semiconductor microelectronics assembly Camera module solder

● 设备特点 Device features

1. 灵活多样的焊锡方式, 具有点焊、拖焊(拉焊)等功能;
2. 设备可存储150个加工文件, 每组存1500个编程点;
3. 焊锡抖动功能, 在焊接时打开此功能可以使焊接更迅速, 对大焊点尤其有效;
4. 焊点轨迹可见, 方便操作员了解焊锡进度, 方便工程人员调试;
5. 设备编写工作程序可进行点到点、块到块的复制, 缩短程序编写时间, 且简单易学;
6. 设备具有自动清洗功能, 有效保障了焊锡加工质量与延长烙铁咀使用寿命;
7. 多轴联动机械手, 全部采用精密步进马达驱动及先进运动控制算法, 有效提升运动定位精度和重复精度;
8. 肩并肩焊锡机可以同时焊接不同的两款焊接工艺, 可大量节约更换烙铁头和调试时间, 有效提高生产效率;

1. Flexible and diverse soldering methods, with spot welding, drag welding (pull welding) and other functions;
2. The equipment can store 150 processing files, and each group stores 1500 programming points;
3. Solder jitter function, opening this function during welding can make welding faster, especially effective for large solder joints;
4. The solder joint trajectory is visible, which is convenient for the operator to understand the solder progress and convenient for engineering personnel to debug;
5. The equipment writing work program can be copied from point to point and block to block, shortening the program writing time and easy to learn;
6. The equipment has automatic cleaning function, which effectively guarantees the quality of solder processing and prolongs the service life of the soldering iron nozzle;
7. Multi-axis linkage manipulator, all using precision stepper motor drive and advanced motion control algorithm, effectively improve motion positioning accuracy and repeatability;
8. The shoulder to shoulder soldering machine can weld two different welding processes at the same time, which can greatly save the time of replacing the soldering iron tip and debugging, and effectively improve production efficiency;

● 产品优势 Product Advantage

1. 提高生产效率, 减少人工, 节约成本。
2. 省材, 送锡速度快大小可控, 拒绝浪费。
3. 焊锡准确均匀, 速度快, 焊点一致。
4. 自动化程序控制, 轻松解决复杂程序。
1. Improve production efficiency, reduce labor, and save costs.
2. Save materials, fast tin delivery speed, controllable size, refuse waste.
3. The solder is accurate and uniform, the speed is fast, and the solder joints are consistent.
4. Automatic program control, easy to solve complex procedures.

平台焊锡机

PLATFORM SOLDERING MACHINE

格润智能第二代平台焊锡机GR-5331R

Green second generation platform soldering machine GR-5331R



技术参数 Technical specifications

项目 Item	参数 Specifications
型号 Model	GR-5331R
设备行程范围 Device travel range	X1轴 X1 axis 500mm 机器左右移动数据 500mm machine moves data left and right Y1轴 Y1 axis 300mm 工作台前后移动数据 300mm table moves data back and forth Y2轴 Y2 axis 300mm 工作台前后移动数据 300mm table moves data back and forth ZR轴 ZR axis 100mm+360° 机器上下+旋转 移动数据 100mm + 360° machine up and down + rotation to move data
负载 load	Y轴平台工作负载10kg Y-axis platform workload 10kg
温控器 Thermostat	150W (标配) / 200W / 400W / 600W 可选 150W (standard) / 200W / 400W / 600W optional
控制系统 Control system	运动控制卡+加手持控制盒 Motion control card + plus handheld control box
移动速度 (mm/sec) Movement speed	0~600mm/sec
重复精度 Repeatability	± 0.05 mm
程序记录模式 Program logging mode	150个加工文件, 每组存1500个编程点 150 machining files, each group stores 1500 programming points
显示方式 How it is displayed	LED 教导盒 LED teaching box
XY传动方式 XY transmission mode	步进电机+同步带+精密滑轨 Stepper motor + timing belt + precision slide rail
ZR传动方式 ZR transmission mode	步进电机+同步带+精密滑轨+精密花键 Stepper motor + timing belt + precision slide rail + precision spline
清洗系统 Cleaning the system	气吹式吹锡 Air-blown tin
温度控制范围 Temperature control range	25~450°C
报警温度范围 Alarm temperature range	±5°C
加热时间 Heating time	0~9.9s
可用锡丝直径 Available tin wire diameter	φ0.5~φ2mm
输入气压 Input air pressure	0.5~0.7MPa
输入电源 Enter the power supply	AC220V/50HZ
设备尺寸 size	

平台焊锡机

PLATFORM SOLDERING MACHINE

● 细节展示 Details Show



● 应用范围 Application Range

手机、电脑、集成电路、平板、数码 汽车工业 电池组装 扬声器、PCB板 半导体微电子组装 摄像头模组焊锡
Mobile phones, computers, integrated circuits, tablets, digital Automotive industry Battery assembly Speaker, PCB board Semiconductor microelectronics assembly Camera module solder

● 设备特点 Device features

1. 灵活多样的焊锡方式, 具有点焊、拖焊(拉焊)等功能;
 2. 设备可存储150个加工文件, 每组存1500个编程点;
 3. 焊锡抖动功能, 在焊接时打开此功能可以使焊接更迅速, 对大焊点尤其有效;
 4. 焊点轨迹可见, 方便操作了解焊锡进度, 方便工程人员调试;
 5. 设备编写工作程序可进行点到点、块到块的复制, 缩短程序编写时间, 且简单易学;
 6. 设备具有自动清洗功能, 有效保障了焊锡加工质量与延长烙铁咀使用寿命;
 7. 多轴联动机械手, 全部采用精密步进马达驱动及先进运动控制算法, 有效提升运动定位精度和重复精度;
 8. 双工位交替工作, 一边正在进行焊接工作, 另一边可以摆放产品, 有效提高生产效率;
1. Flexible and diverse soldering methods, with spot welding, drag welding (pull welding) and other functions;
 2. The equipment can store 150 processing files, and each group stores 1500 programming points;
 3. Solder jitter function, opening this function during welding can make welding faster, especially effective for large solder joints;
 4. The solder joint trajectory is visible, which is convenient for the operator to understand the solder progress and convenient for engineering personnel to debug;
 5. The equipment writing work program can be copied from point to point and block to block, shortening the program writing time and easy to learn;
 6. The equipment has automatic cleaning function, which effectively guarantees the quality of solder processing and prolongs the service life of the soldering iron nozzle;
 7. Multi-axis linkage manipulator, all using precision stepper motor drive and advanced motion control algorithm, effectively improve motion positioning accuracy and repeatability;
 8. Double station alternately work, one side is undergoing welding work, the other side can place products, effectively improve production efficiency;

标配 Standard configuration

驱动方式 Drive method
温控150W Temperature controller 150W
运动控制卡+手持教导盒 Motion control card + handheld programmer

参数 Specification

步进电机+同步带+精密导轨 Stepping motor + synchronous belt + precision guide rail

选配 Optional configuration

驱动方式 Drive method
其它功率温控 Other power temperature controller

参数 Specification

伺服电机+丝杆+精密导轨 Servo motor + screw + precision guide rail
400W

桌面式激光焊锡机

DESK TYPE LASER SOLDERING MACHINE

格润智能桌面式激光焊锡机LAW400V

Green desk type laser soldering machine LAW400V



技术参数 Technical Specification

项目 Item	参数 Specification
型号 Model	LAW400V
X轴 X axis	400mm
Y轴 Y axis	400mm
Z轴 Z axis	100mm
焊接类型 Welding type	锡丝 Tin wire
光斑大小 Spot diameter range	0.2mm-5.0mm
适配锡丝直径 Suitable tin wire diameter	Φ0.5-Φ1.5mm
激光器寿命 Laser lifetime	100000h
功率稳定性 Power stability	<±1%
重复精度 Repeatability	±0.02mm
输入电源 Power supply	AC220V 10A 50~60HZ
最大功率 Max. power	1.5Kw
外形尺寸 Outer dimension(L*W*H)	690*717*660(mm)
设备重量 Weight	约80KG Around80KG

桌面式激光焊锡机

DESK TYPE LASER SOLDERING MACHINE

● 细节展示 Details Show



● 应用范围 Application Range

1. 线材, 电池连接器插头; 2. 软硬板; 3. 车灯, LED灯; 4. USB接头, 电容电阻插件; 5. 蓝牙耳机等
1. Wire, battery connector plug; 2. Soft and hard board; 3. Car lights, LED lights;
4. USB connector, capacitor resistor plug-in; 5. Bluetooth headsets, etc.

● 应用领域 Application Field

通讯行业/3C消费电子行业/汽车行业/新能源行业/LED行业/电子工业
 Communications industry/3C consumer/Electronics industry/Automobile industry/
 New energy industry/LED industry/Electronics industry

● 产品优势 Product Advantage

1. 精度较高: 光斑可以达到微米级别, 加工时间可以通过程序控制, 使得精度远远高于传统焊锡工艺;
 2. 非接触性加工: 不用直接进行表面接触, 就可以完成焊锡过程, 所以不存在接触焊接导致的应力;
 3. 工作空间要求小: 细小的激光束替代烙铁头, 在加工件表面有其他干涉物的时, 也同样进行精密加工;
 4. 工作影响区域小: 局部加热, 热影响区小;
 5. 工作过程安全: 加工过程无静电威胁;
 6. 工作过程洁净、节约激光加工耗品, 加工过程无废料产生;
 7. 操作维护简单: 激光焊锡操作简单, 激光头维护方便;
 8. 使用寿命: 镭射二极管至少可以使用100000小时, 寿命长, 性能稳定;
1. High precision: the light spot can reach the micron level, and the processing time can be controlled by the program, making the accuracy much higher than the traditional soldering process;
2. Non-contact processing: the soldering process can be completed without direct surface contact, so there is no stress caused by contact welding;
3. Small working space requirements: a small laser beam replaces the soldering iron tip, and precision processing is also performed when there are other interferences on the surface of the workpiece;
4. Small working area: local heating, the heat-affected zone is small;
5. The working process is safe: there is no electrostatic threat during the processing;
6. The working process is clean and economical: laser processing consumables, no waste is generated during the processing;
7. simple operation and maintenance: laser soldering operation is simple, laser head maintenance convenience;
8. Service life: The life of the laser can be used for at least 10,0000 hours, with long life and stable performance;

技术参数 Technical Specification

标配 Standard Configuration	参数 Specification
激光器最大激光输出功率 (W) Maximum laser output power of laser (W)	30/60/120/200W (可选配) 30/60/120/200W (can be choosed)
光纤芯径 Fiber core diameter	105um/135um/200um
激光器波长 Laser wavelength	915nm
相机 Camera	同轴视觉定位 Coaxial vision positioning
冷却方式 Cooling method	风冷 Air-cooled device
驱动方式 Drive method	步进电机+皮带+精密导轨 Stepping motor + belt + precision guide rail
控制方式 Control method	工控机 Industrial PC
选配 Optional Configuration	参数 Specification
激光器最大激光输出功率 (W) Maximum laser output power of laser (W)	30/60/120/200W (可选配) 30/60/120/200W (can be choosed)
温度反馈 Temperature feedback	
驱动方式 Drive method	伺服电机+丝杆+精密导轨 Servo motor + screw + precision guide rail

桌面四轴吸附式锁螺丝机

DESKTOP FOUR-AXIS ADSORPTION LOCK SCREW MACHINE

格润智能桌面四轴吸附式锁螺丝机

Green Desktop four-axis adsorption lock screw machine



技术参数 Technical specifications

项目 Item	参数 Specifications			
型号 Model	GR-XF5331	GR-XF6441	GR-XF6661	GR-XF8441
行程(X*Y*Z)Stroke (X*Y*Z)	500*300*300*100mm	600*400*400*100mm	600*600*600*100mm	800*400*400*100mm
Y轴负载Y-axis load	10Kg			
轴移动速度Axis movement speed	0-500mm/s			
重复精度 Reprogram storage capacity/accuracy	±0.05 mm			
程序储存容量Program storage capacity	999组 999 groups			
设定坐标方式Set the coordinate method	触摸屏+手持编程器 Touch screen + handheld programmer			
锁付效率Lock-up efficiency	单颗螺丝约0.9-1.2S A single screw is about 0.9-1.2S			
锁付良率 Lock-up yield	99.98%			
工作电源 Working power supply	AC220V			
工作气源 Working air source	0.4-0.7MPa			
功率 power	约1KW Approx 1KW			
机台总重量 The total weight of the machine	约80kg Approx. 80kg			
外形尺寸 Outer dimension (L*W*H)	660*740*980mm	760*840*980mm	760*1040*980mm	960*840*980mm

桌面四轴吸附式锁螺丝机

DESKTOP FOUR-AXIS ADSORPTION LOCK SCREW MACHINE

● 细节展示 Details show



● 应用范围 Application Range

手机、汽车电子、平板、无线充、电子烟、手表、智能穿戴、遥控器、相机、路由器、机顶盒、游戏手柄、POS机等
Mobile phones, automotive electronics, tablets, wireless charging, electronic cigarettes, watches, smart wear, remote controls, cameras, routers, set-top boxes, game controllers, POS machines, etc

● 设备特点 Device features

- 支持漏锁、滑牙、浮高等报警检测。软件自带浮高修复功能；
 - 系统搭载松下PLC、7寸触摸屏；
 - 可同时编辑999组不同的配方，单个产品最多可锁付500颗螺丝；
 - 可兼容锁附M2-M6大小的螺丝；
 - Z轴可配置激光位移传感器（测浮高）、下压力检测传感器（选配项）；
 - 电批可搭载HIOS电批、奇力速电批、伺服电批、智能电批等（选配项）；
 - 设备可根据客户需求上传MES，如扭力、圈数、角度、扭力曲线图、锁付状态（选配项）；
 - 可选择人工扫码与自动扫码（选配项）
 - 生产数据可追溯，软件自带品质管控看板。各类数据可以上传与下载（选配项）。
- Support alarm detection such as leaky lock, tooth slipping, floating and so on. The software comes with a floating height repair function;
 - The system is equipped with Panasonic PLC and 7-inch touch screen;
 - 999 groups of different formulas can be edited at the same time, and up to 500 screws can be locked for a single product;
 - Compatible with M2-M6 size screws;
 - Z-axis can be equipped with laser displacement sensor (float height measurement), downforce detection sensor (optional);
 - The electric batch can be equipped with HIOS electric batch, Qili speed electric batch, servo electric batch, intelligent electric batch, etc. (optional);
 - The equipment can upload MES according to customer needs, such as torque, number of turns, angle, torque curve diagram, lock status (optional);
 - Manual code scanning and automatic code scanning can be selected (optional)
 - The production data can be traced, and the software comes with a quality control kanban. All kinds of data can be uploaded and downloaded (optional).

标配 Standard Configuration	参数 Specification	
驱动方式 Drive mode	同步带+闭环电机 重复精度±0.05mm	Synchronous belt + closed-loop motor The repeatability is ±0.05mm
供料器 Feeder	吸附式供料机 Adsorption feeder	
电批 Electric batch	伺服电批 Servo electric batch	
PLC+手持编程器 PLC + handheld programmer		
选配 Optional Configuration	参数 Specification	
驱动方式 Drive mode	丝杆+伺服电机 重复精度±0.02mm Screw + servo motor Repeatability ± 0.02mm	
供料器 Feeder	振动盘+分料机构 Vibrating plate + material distribution mechanism	
电批 Electric batch	智能电批 Smart electric batch	
各种非标行程定制 All kinds of non-standard itinerary customization diameter length		
MES方面的需求 MES requirements itinerary customization		
桌子(放置设备用) Desk (for equipment)	可根据客户现场要求定做 It can be customized according to the customer's on-site requirements ± 0.02mm	

桌面六轴吸附式 背靠背锁螺丝机

DESKTOP SIX-AXIS ADSORPTION TYPE
BACK-TO-BACK LOCK SCREW MACHINE

格润智能桌面六轴吸附式背靠背锁螺丝机

Green Desktop six-axis adsorption type back-to-back lock screw machine



技术参数 Technical specifications

项目 Item	参数 Specifications			
型号 Model	GR-XFBKB556611	GR-XFBKB558811	GR-XFBKB668811	GR-XFBKB888811
行程(X*Y*Z)Stroke (X*Y*Z)	500*600*100mm	500*800*100mm	600*800*100mm	800*800*100mm
Y轴负载Y-axis load	10Kg			
轴移动速度Axis movement speed	0-1200mm/s			
重复精度 RepProgram storage capacityeatability	±0.05 mm			
程序储存容量Program storage capacity	999组 999 groups			
设定坐标方式Set the coordinate method	触摸屏+手持编程器Touch screen + handheld programmer			
锁付效率Lock-up efficiency	单颗螺丝约0.9-1.2S A single screw is about 0.9-1.2S			
锁付良率 Lock-up yield	99.98%			
工作电源 Working power supply	AC220V			
工作气源 Working air source	0.4-0.7MPa			
功率 power	约1KW Approx 1KW			
机台总重量 The total weight of the machine	约80kg Approx. 80kg			
外形尺寸 Outer demension (L*W*H)	730*970*900mm	730*1170*900mm	830*1170*900mm	1030*1170*900mm

桌面六轴吸附式 背靠背锁螺丝机

DESKTOP SIX-AXIS ADSORPTION TYPE
BACK-TO-BACK LOCK SCREW MACHINE

● 细节展示 Details show



● 应用范围 Application Range

手机、汽车电子、平板、无线充、电子烟、手表、智能穿戴、遥控器、相机、路由器、机顶盒、游戏手柄、POS机等
Mobile phones, automotive electronics, tablets, wireless charging, electronic cigarettes, watches, smart wear, remote controls, cameras, routers, set-top boxes, game controllers, POS machines, etc

● 设备特点 Device features

- 支持漏锁、滑牙、浮高等报警检测。软件自带浮高修复功能；
 - 系统搭载松下PLC、7寸触摸屏；
 - 可同时编辑999组不同的配方，单个产品最多可锁付500颗螺丝；
 - 可兼容锁附M2-M6大小的螺丝；
 - Z轴可配置激光位移传感器(测浮高)、下压力检测传感器(选配项)；
 - 电批可搭载HIOS电批、奇力速电批、伺服电批、智能电批等(选配项)；
 - 设备可根据客户需求上传MES,如扭力、圈数、角度、扭力曲线图、锁付状态(选配项)；
 - 可选择人工扫码与自动扫码(选配项)
 - 生产数据可追溯，软件自带品质管控看板。各类数据可以上传与下载(选配项)。
- Support alarm detection such as leaky lock, tooth slipping, floating and so on. The software comes with a floating height repair function;
 - The system is equipped with Panasonic PLC and 7-inch touch screen;
 - 999 groups of different formulas can be edited at the same time, and up to 500 screws can be locked for a single product;
 - Compatible with M2-M6 size screws;
 - Z-axis can be equipped with laser displacement sensor (float height measurement), downforce detection sensor (optional);
 - The electric batch can be equipped with HIOS electric batch, Qili speed electric batch, servo electric batch, intelligent electric batch, etc. (optional);
 - The equipment can upload MES according to customer needs, such as torque, number of turns, angle, torque curve diagram, lock status (optional);
 - Manual code scanning and automatic code scanning can be selected (optional)
 - The production data can be traced, and the software comes with a quality control kanban. All kinds of data can be uploaded and downloaded (optional).

标配 Standard Configuration	参数 Specification
驱动方式 Drive mode	同步带+闭环电机 重复精度±0.05mm Synchronous belt + closed-loop motor The repeatability is ±0.05mm
供料器Feeder	吸附式供料机 Adsorption feeder
电批Electric batch	伺服电批 Servo electric batch
PLC+手持编程器 PLC + handheld programmer	
选配 Optional Configuration	参数 Specification
驱动方式 Drive mode	丝杆+伺服电机 重复精度±0.02mm Screw + servo motor Repeatability ± 0.02mm
供料器Feeder	振动盘+分料机构 Vibrating plate + material distribution mechanism
电批Electric batch	智能电批Smart electric batch
各种非标行程定制 All kinds of non-standard itinerary customization diameter length	
MES方面的需求 MES requirements itinerary customization	
桌子(放置设备用) Desk (for equipment)	可根据客户现场要求定做 It can be customized according to the customer's on-site requirements ± 0.02mm
背靠背可延伸为后下料 Back-to-back can be extended to rear unloading	前锁螺丝后下料 具体根据客户需求定做The front lock screw is customized according to customer needs
背靠背可延伸为其他组装需求 Back-to-back can be extended for other assembly needs	比如组装磁铁、胶塞等具体根据客户需求定做 For example, assembling magnets, rubber stoppers, etc., are customized according to customer needs

桌面六轴吸附式 双拼锁螺丝机

DESKTOP SIX-AXIS ADSORPTION TYPE
DOUBLE-SPELLING LOCK SCREW MACHINE

格润智能桌面六轴吸附式双拼锁螺丝机

Green Desktop six-axis adsorption type double-spelling lock screw machine



技术参数 Technical specifications

项目 Item	参数 Specifications			
型号 Model	GR-XFSP33331	GR-XFSP33441	GR-XFSP44441	GR-XFSP55551
行程(X*Y*Z)Stroke (X*Y*Z)	300*300*100mm	300*400*100mm	400*400*100mm	500*500*100mm
Y轴负载Y-axis load	10Kg			
轴移动速度Axis movement speed	0-1200mm/s			
重复精度 RepProgram storage capacityeatability	±0.05 mm			
程序储存容量Program storage capacity	999组 999 groups			
设定坐标方式Set the coordinate method	触摸屏+手持编程器Touch screen + handheld programmer			
锁付效率Lock-up efficiency	单颗螺丝约0.9-1.2S A single screw is about 0.9-1.2S			
锁付良率 Lock-up yield	99.98%			
工作电源 Working power supply	AC220V			
工作气源 Working air source	0.4-0.7MPa			
功率 power	约1KW Approx 1KW			
机台总重量 The total weight of the machine	约80kg Approx. 80kg			
外形尺寸 Outer demension (L*W*H)	960*740*900mm	960*840*900mm	1160*840*900mm	1360*940*900mm

桌面六轴吸附式 双拼锁螺丝机

DESKTOP SIX-AXIS ADSORPTION TYPE
DOUBLE-SPELLING LOCK SCREW MACHINE

● 细节展示 Details show



● 应用范围 Application Range

手机、汽车电子、平板、无线充、电子烟、手表、智能穿戴、遥控器、相机、路由器、机顶盒、游戏手柄、POS机等
Mobile phones, automotive electronics, tablets, wireless charging, electronic cigarettes, watches, smart wear, remote controls, cameras, routers, set-top boxes, game controllers, POS machines, etc

● 设备特点 Device features

- 支持漏锁、滑牙、浮高等报警检测。软件自带浮高修复功能；
 - 系统搭载松下PLC、7寸触摸屏；
 - 可同时编辑999组不同的配方，单个产品最多可锁付500颗螺丝；
 - 可兼容锁附M2-M6大小的螺丝；
 - Z轴可配置激光位移传感器(测浮高)、下压力检测传感器(选配项)；
 - 电批可搭载HIOS电批、奇力速电批、伺服电批、智能电批等(选配项)；
 - 设备可根据客户需求上传MES,如扭力、圈数、角度、扭力曲线图、锁付状态(选配项)；
 - 可选择人工扫码与自动扫码(选配项)
 - 生产数据可追溯，软件自带品质管控看板。各类数据可以上传与下载(选配项)。
- Support alarm detection such as leaky lock, tooth slipping, floating and so on. The software comes with a floating height repair function;
 - The system is equipped with Panasonic PLC and 7-inch touch screen;
 - 999 groups of different formulas can be edited at the same time, and up to 500 screws can be locked for a single product;
 - Compatible with M2-M6 size screws;
 - Z-axis can be equipped with laser displacement sensor (float height measurement), downforce detection sensor (optional);
 - The electric batch can be equipped with HIOS electric batch, Qili speed electric batch, servo electric batch, intelligent electric batch, etc. (optional);
 - The equipment can upload MES according to customer needs, such as torque, number of turns, angle, torque curve diagram, lock status (optional);
 - Manual code scanning and automatic code scanning can be selected (optional)
 - The production data can be traced, and the software comes with a quality control kanban. All kinds of data can be uploaded and downloaded (optional).

标配 Standard Configuration	参数 Specification	
驱动方式 Drive mode	同步带+闭环电机 重复精度±0.05mm	Synchronous belt + closed-loop motor The repeatability is ±0.05mm
供料器Feeder	吸附式供料机 Adsorption feeder	
电批Electric batch	伺服电批 Servo electric batch	
PLC+手持编程器 PLC + handheld programmer		
选配 Optional Configuration	参数 Specification	
驱动方式 Drive mode	丝杆+伺服电机 重复精度±0.02mm Screw + servo motor Repeatability ± 0.02mm	
供料器Feeder	振动盘+分料机构 Vibrating plate + material distribution mechanism	
电批Electric batch	智能电批Smart electric batch	
各种非标行程定制 All kinds of non-standard itinerary customization 定制直径长度 diameter length		
MES方面的需求 MES requirementsitinerary customization	可根据客户需要上传相关数据 Relevant data can be uploaded according to customer needs	
桌子(放置设备用) Desk (for equipment)	可根据客户现场要求定做 It can be customized according to the customer's on-site requirements± 0.02mm	

桌面四轴吹气式锁螺丝机

DESKTOP FOUR-AXIS AIR-BLOWN SCREW LOCKING MACHINE

格润智能桌面四轴吹气式锁螺丝机
Green Desktop four-axis air-blown screw locking machine



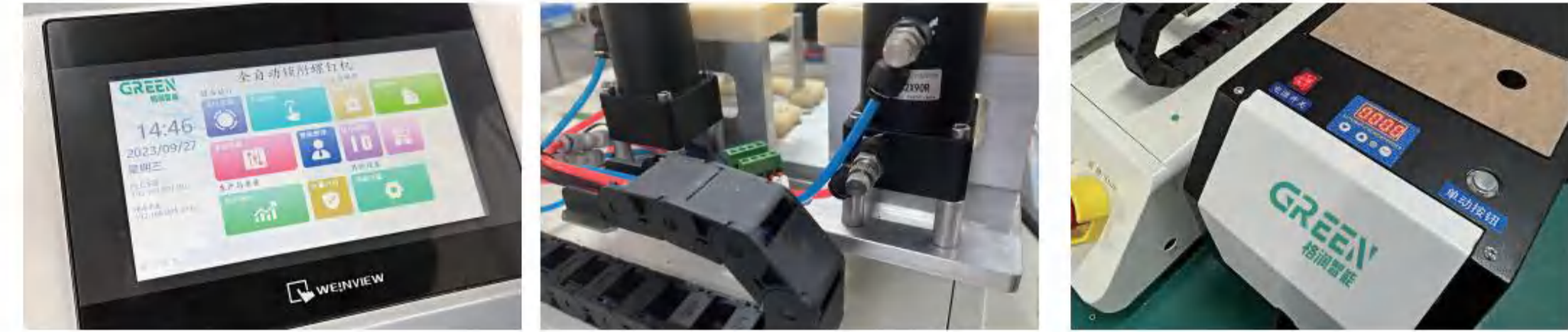
技术参数 Technical specifications

项目 Item	参数 Specifications			
型号 Model	GR-CQ5331	GR-CQ6441	GR-CQ6661	GR-CQ8441
行程(X*Y*Z)Stroke (X*Y*Z)	500*300*300*100mm	600*400*400*100mm	600*600*600*100mm	800*400*400*100mm
Y轴负载Y-axis load	10Kg			
轴移动速度Axis movement speed	0-500mm/s			
重复精度 RepProgram storage capacityeatability	±0.05 mm			
程序储存容量Program storage capacity	999组 999 groups			
设定坐标方式Set the coordinate method	触摸屏+手持编程器Touch screen + handheld programmer			
锁付效率Lock-up efficiency	单颗螺丝约0.9-1.2S A single screw is about 0.9-1.2S			
锁付良率 Lock-up yield	99.98%			
工作电源 Working power supply	AC220V			
工作气源 Working air source	0.4-0.7MPa			
功率 power	约1KW Approx 1KW			
机台总重量 The total weight of the machine	约80kg Approx. 80kg			
外形尺寸 Outer demension (L*W*H)	660*740*980mm	760*840*980mm	760*1040*980mm	960*840*980mm

桌面四轴吹气式锁螺丝机

DESKTOP FOUR-AXIS AIR-BLOWN SCREW LOCKING MACHINE

● 细节展示 Details show



● 应用范围 Application Range

手机、汽车电子、平板、无线充、电子烟、手表、智能穿戴、遥控器、相机、路由器、机顶盒、游戏手柄、POS机等
Mobile phones, automotive electronics, tablets, wireless charging, electronic cigarettes, watches, smart wear, remote controls, cameras, routers, set-top boxes, game controllers, POS machines, etc

● 设备特点 Device features

- 支持漏锁、滑牙、浮高等报警检测。软件自带浮高修复功能；
 - 系统搭载松下PLC、7寸触摸屏；
 - 可同时编辑999组不同的配方，单个产品最多可锁付500颗螺丝；
 - 可兼容锁附M2-M6大小的螺丝；
 - Z轴可配置激光位移传感器(测浮高)、下压力检测传感器(选配项)；
 - 电批可搭载HIOS电批、奇力速电批、伺服电批、智能电批等(选配项)；
 - 设备可根据客户需求上传MES,如扭力、圈数、角度、扭力曲线图、锁付状态(选配项)；
 - 可选择人工扫码与自动扫码(选配项)
 - 生产数据可追溯，软件自带品质管控看板。各类数据可以上传与下载(选配项)。
- Support alarm detection such as leaky lock, tooth slipping, floating and so on. The software comes with a floating height repair function;
 - The system is equipped with Panasonic PLC and 7-inch touch screen;
 - 999 groups of different formulas can be edited at the same time, and up to 500 screws can be locked for a single product;
 - Compatible with M2-M6 size screws;
 - Z-axis can be equipped with laser displacement sensor (float height measurement), downforce detection sensor (optional);
 - The electric batch can be equipped with HIOS electric batch, Qili speed electric batch, servo electric batch, intelligent electric batch, etc. (optional);
 - The equipment can upload MES according to customer needs, such as torque, number of turns, angle, torque curve diagram, lock status (optional);
 - Manual code scanning and automatic code scanning can be selected (optional)
 - The production data can be traced, and the software comes with a quality control kanban. All kinds of data can be uploaded and downloaded (optional).

标配 Standard Configuration	参数 Specification	
驱动方式 Drive mode	同步带+闭环电机 重复精度±0.05mm	Synchronous belt + closed-loop motor The repeatability is ±0.05mm
供料器Feeder	吹气式供料机 Blow-on feeder	
电批Electric batch	伺服电批 Servo electric batch	
PLC+手持编程器 PLC + handheld programmer		
选配 Optional Configuration	参数 Specification	
驱动方式 Drive mode	丝杆+伺服电机 重复精度±0.02mm Screw + servo motor Repeatability ± 0.02mm	
供料器Feeder	振动盘+分料机构 Vibrating plate + material distribution mechanism	
电批Electric batch	智能电批Smart electric batch	
各种非标行程定制 All kinds of non-standard itinerary customization diameter length		
MES方面的需求 MES requirementsitinerary customization	可根据客户需要上传相关数据 Relevant data can be uploaded according to customer needs	
桌子(放置设备用) Desk (for equipment)	可根据客户现场要求定做 It can be customized according to the customer's on-site requirements± 0.02mm	

桌面四轴吸附式 视觉锁螺丝机

DESKTOP FOUR-AXIS ADSORPTION
VISUAL LOCK SCREW MACHINE

格润智能桌面四轴吸附式视觉锁螺丝机
Green Desktop four-axis adsorption visual lock screw machine



技术参数 Technical specifications

项目 Item	参数 Specifications			
型号 Model	GR-XF5331KK-VIS	GR-XF6441KK-VIS	GR-XF6661KK-VIS	GR-XF8441KK-VIS
行程(X*Y*Z)Stroke (X*Y*Z)	500*300*300*100mm	600*400*400*100mm	600*600*600*100mm	800*400*400*100mm
Y轴负载Y-axis load	10Kg			
轴移动速度Axis movement speed	0-1200mm/s			
重复精度 RepProgram storage capacityeatability	±0.02 mm			
程序储存容量Program storage capacity	999组 999 groups			
设定坐标方式Set the coordinate method	视觉定位 Visual positioning			
锁付效率Lock-up efficiency	单颗螺丝约0.9-1.2S A single screw is about 0.9-1.2S			
锁付良率 Lock-up yield	99.98%			
工作电源 Working power supply	AC220V			
工作气源 Working air source	0.4-0.7MPa			
功率 power	约1KW Approx 1KW			
机台总重量 The total weight of the machine	约80kg Approx. 80kg			
外形尺寸 Outer demension (L*W*H)	785*680*900mm	885*780*900mm	885*980*900mm	1085*780*900mm

桌面四轴吸附式 视觉锁螺丝机

DESKTOP FOUR-AXIS ADSORPTION
VISUAL LOCK SCREW MACHINE

● 细节展示 Details show



● 应用范围 Application Range

手机、汽车电子、平板、无线充、电子烟、手表、智能穿戴、遥控器、相机、路由器、机顶盒、游戏手柄、POS机等
Mobile phones, automotive electronics, tablets, wireless charging, electronic cigarettes, watches, smart wear, remote controls, cameras, routers, set-top boxes, game controllers, POS machines, etc

● 设备特点 Device features

- 支持漏锁、滑牙、浮高等报警检测,支持CCD寻孔、CCD定位、CCD孔位校正;
 - 系统搭载松下PLC、7寸触摸屏、工业工控机、15.6寸工业显示器。搭配海康威视500W相机镜头、环形光源;
 - 可同时编辑999组不同的配方,单个产品最多可锁付500颗螺丝;
 - 可兼容锁附M0.8-M4大小的螺丝;
 - Z轴可配置激光位移传感器(测浮高)、下压力检测传感器(选配项);
 - 电批可搭载HIOS电批、奇力速电批、伺服电批、智能电批等(选配项);
 - 支持支持相机自动扫码、扫码器自动扫码、人工扫码,设备可根据客户需求上传MES,如扭力、圈数、角度、扭力曲线图、锁付状态、生产报表、品质报表等;
 - 支持单Mark、双Mark、圆孔定位多种视觉算法;
 - 支持dxf导入孔位坐标、提高编程效率(选配项)。
- Support alarm detection such as leakage lock, tooth slippage, float height, CCD hole finding, CCD positioning, and CCD hole position correction;
 - The system is equipped with Panasonic PLC, 7-inch touch screen, industrial computer, and 15.6-inch industrial display. With Hikvision 500W camera lens, ring light source;
 - 999 groups of different formulas can be edited at the same time, and up to 500 screws can be locked for a single product;
 - Compatible with M0.8-M4 size screws;
 - Z-axis can be equipped with laser displacement sensor (float height measurement), downforce detection sensor (optional);
 - The electric batch can be equipped with HIOS electric batch, Qili speed electric batch, servo electric batch, intelligent electric batch, etc. (optional);
 - Support camera automatic code scanning, code scanner automatic code scanning, manual code scanning, the device can upload MES according to customer needs, such as torque, number of turns, angle, torque curve, Lock-up status, production report, quality report, etc.;
 - Support a variety of visual algorithms for single Mark, double Mark and round hole positioning;
 - Support DXF to import hole coordinates and improve programming efficiency (optional).

标配 Standard Configuration	参数 Specification
驱动方式 Drive mode	伺服电机+KK丝杆模组 重复精度±0.02mm Repeatability ± 0.02mm Servo motor + KK screw module
供料器Feeder	吸附式供料机 Adsorption feeder
电批Electric batch	智能电批Smart electric batch
显示方式How it is displayed	15.6寸工控一体机+键盘鼠标 15.6 inch industrial computer + keyboard and mouse
电控方式Electronically controlled mode	PLC+PC+视觉 PLC+PC+Vision
选配 Optional Configuration	参数 Specification
供料器Feeder	振动盘+分料机构 Vibrating plate + material distribution mechanism
电批Electric batch	智能电批Smart electric batch
各种非标行程定制 All kinds of non-standard itinerary customization diameter length	
MES方面的需求 MES requirements itinerary customization	
视觉检测方面的需求The need for visual inspection	同心度、垂直度和螺丝直径长短的检测 Detection of concentricity, perpendicularity and screw diameter length
桌子(放置设备用) Desk (for equipment)	可根据客户现场要求定做 It can be customized according to the customer's on-site requirements ± 0.02mm

桌面六轴吸附式 背靠背视觉锁螺丝机

DESKTOP SIX-AXIS ADSORPTION TYPE BACK-TO-BACK
VISUAL LOCK SCREW MACHINE

格润智能桌面六轴吸附式背靠背视觉锁螺丝机
Green Desktop six-axis adsorption type Back-to-back visual
lock screw machine



技术参数 Technical specifications

项目 Item	参数 Specifications			
型号 Model	GR-XFBK556611KK-VIS	GR-XFBK558811KK-VIS	GR-XFBK666611KK-VIS	GR-XFBK668811KK-VIS
行程(X*Y*Z)Stroke (X*Y*Z)	500*600*100mm	500*800*100mm	600*800*100mm	800*800*100mm
Y轴负载Y-axis load	10Kg			
轴移动速度Axis movement speed	0-1200mm/s			
重复精度 RepProgram storage capacityeatability	±0.02 mm			
程序储存容量Program storage capacity	999组 999 groups			
设定坐标方式Set the coordinate method	视觉定位Visual positioning			
锁付效率Lock-up efficiency	单颗螺丝约0.9-1.2SA single screw is about 0.9-1.2S			
锁付良率 Lock-up yield	99.98%			
工作电源 Working power supply	AC220V			
工作气源 Working air source	0.4-0.7MPa			
功率 power	约1KW Approx 1KW			
机台总重量 The total weight of the machine	约80kg Approx. 80kg			
外形尺寸 Outer demension (L*W*H)	730*970*900mm	730*1170*900mm	830*970*900mm	830*1170*900mm

桌面六轴吸附式 背靠背视觉锁螺丝机

DESKTOP SIX-AXIS ADSORPTION TYPE BACK-TO-BACK
VISUAL LOCK SCREW MACHINE

● 细节展示 Details show



● 应用范围 Application Range

手机、汽车电子、平板、无线充、电子烟、手表、智能穿戴、遥控器、相机、路由器、机顶盒、游戏手柄、POS机等
Mobile phones, automotive electronics, tablets, wireless charging, electronic cigarettes, watches, smart wear, remote controls, cameras, routers, set-top boxes, game controllers, POS machines, etc

● 设备特点 Device features

- 1.支持漏锁、滑牙、浮高等报警检测,支持CCD寻孔、CCD定位、CCD孔位校正;
- 2.系统搭载松下PLC、7吋触摸屏、工业工控机、15.6吋工业显示器。搭配海康威视500W相机镜头、环形光源;
- 3.可同时编辑999组不同的配方,单个产品最多可锁付500颗螺丝;
- 4.可兼容锁附M0.8-M4大小的螺丝;
- 5.Z轴可配置激光位移传感器(测浮高)、下压力检测传感器(选配项);
- 6.电批可搭载HIOS电批、奇力速电批、伺服电批、智能电批等(选配项);
- 7.支持支持相机自动扫码、扫码器自动扫码、人工扫码,设备可根据客户需求上传MES,如扭力、圈数、角度、扭力曲线图、锁付状态、生产报表、品质报表等;
- 8.支持单Mark、双Mark、圆孔定位多种视觉算法;
- 9.支持dxf导入孔位坐标、提高编程效率(选配项)。

1. Support alarm detection such as leakage lock, tooth slippage, float height, CCD hole finding, CCD positioning, and CCD hole position correction;
2. The system is equipped with Panasonic PLC, 7-inch touch screen, industrial computer, and 15.6-inch industrial display. With Hikvision 500W camera lens, ring light source;
3. 999 groups of different formulas can be edited at the same time, and up to 500 screws can be locked for a single product;
4. Compatible with M0.8-M4 size screws;
- 5.Z-axis can be equipped with laser displacement sensor (float height measurement), downforce detection sensor (optional);
6. The electric batch can be equipped with HIOS electric batch, Qili speed electric batch, servo electric batch, intelligent electric batch, etc. (optional);
7. Support automatic code scanning by camera, automatic code scanning by code scanner, manual code scanning, and the device can upload MES according to customer needs, such as torque, number of turns, angle, Torque curve diagram, lock status, production report, quality report, etc.;
8. Support a variety of visual algorithms for single Mark, double Mark and round hole positioning;
9. Support DXF to import hole coordinates and improve programming efficiency (optional).

标配 Standard Configuration	参数 Specification
驱动方式 Drive mode	伺服电机+KK丝杆模组 重复精度±0.02mm Servo motor + KK screw module Repeatability ±0.02mm
供料器Feeder	吸附式供料机Adsorption feeder
电批Electric batch	智能电批Smart electric batch
显示方式How it is displayed	15.6寸工控一体机+键盘鼠标 15.6 inch industrial computer + keyboard and mouse
电控方式Electronically controlled mode	PLC+PC+视觉PLC+PC+Vision
选配 Optional Configuration	参数 Specification
供料器Feeder	振动盘+分料机构 Vibrating plate + material distribution mechanism
电批Electric batch	智能电批Smart electric batch
各种非标行程定制 All kinds of non-standard itinerary customization	
MES方面的需求MES requirementsitinerary customization	
视觉检测方面的需求The need for visual inspection customization	同心度、垂直度和螺丝直径长短的检测 Detection of concentricity, perpendicularity and screw diameter length
桌子(放置设备用) Desk (for equipment)	可根据客户现场要求定做 It can be customized according to the customer's on-site requirements±0.02mm

落地式六轴协作机器人锁螺丝机

FLOOR MOUNTED SIX-COLLABORATIVE
ROBOT LOCKING SCREW MACHINE

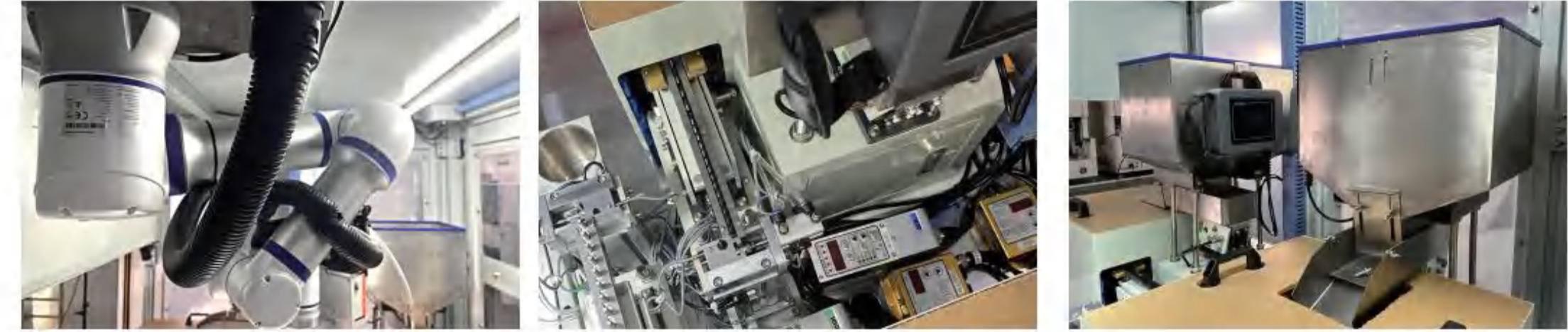
格润智能落地式六轴协作机器人锁螺丝机
Green Floor-mounted six-axis collaborative robot
locking screw machine



落地式六轴协作机器人锁螺丝机

FLOOR MOUNTED SIX-COLLABORATIVE
ROBOT LOCKING SCREW MACHINE

● 细节展示 Details show



● 应用范围 Application Range

主要应用于汽车行业车灯、开关、尾灯、发动机等离线式锁付

It is mainly used in the automotive industry for offline locking of lights, switches, taillights, engines, etc

● 设备特点 Device features

1. 单机离线式结构, 进料平台移动实现产品进/出料, 六轴机器人联动实现螺丝锁付
 2. IPC运动控制系统, 可视化编程, 数据保存无限制;
 3. 图形化显示锁付点位及锁付结果, 自动标记OK/NG螺丝点位, 查找直观快捷;
 4. 多用户、多级权限管理, 管理员可以新建账户并分配软件操作权限
 5. CCD辅助示教螺丝坐标点, 消除人工目视定位误差; CCD视觉定位校正坐标点, 多组Mark点智能组合校正, 提升拍照直通率;
 6. 支持漏锁、滑牙、浮高等报警检测。软件自带浮高修复功能;
 7. Z轴可配置激光位移传感器(测浮高)、下压力检测传感器(选配项);
 8. 电批可搭载HIOS电批、奇力速电批、伺服电批、智能电批等(选配项);
 9. 设备可根据客户需求上传MES, 如扭力、圈数、角度、扭力曲线图、锁付状态。
 10. 可选择人工扫码与自动扫码(选配项)
 11. 生产数据可追溯, 软件自带品质管控看板。各类数据可以上传与下载(选配项);
 12. 自动扭力点检, 存储扭力点检结果并可查询(选配项)。
1. Stand-alone offline structure, the feeding platform moves to realize product feeding/discharging, and the six-axis robot linkage realizes screw locking
 2. IPC motion control system, visual programming, unlimited data saving;
 3. Graphical display of locking points and locking results, automatic marking of OK/NG screw points, intuitive and fast search;
 4. Multi-user, multi-level permission management, administrators can create new accounts and assign software operation permissions
 5. CCD-assisted teaching screw coordinate points to eliminate manual visual positioning errors; CCD visual positioning correction coordinate points, intelligent combination correction of multiple groups of Mark points, Improve the first-pass rate of photography;
 6. Support alarm detection such as leaky lock, sliding teeth, float and so on. The software comes with a floating height repair function;
 7. Z-axis can be equipped with laser displacement sensor (float height measurement), downforce detection sensor (optional);
 8. The electric batch can be equipped with HIOS electric batch, Qili speed electric batch, servo electric batch, intelligent electric batch, etc. (optional);
 9. The equipment can upload MES according to customer needs, such as torque, number of turns, angle, torque curve diagram, and lock status.
 10. Manual code scanning and automatic code scanning can be selected (optional)
 11. Production data can be traced, and the software comes with a quality control kanban. All kinds of data can be uploaded and downloaded (optional);
 12. Automatic torque spot check, store the torque spot check results and can query (optional).

技术参数 Technical specifications

项目 Item	参数 Specifications
型号 Model	GR-XFXZ950
机器人臂展 Robot reach	950mm
机器人末端负载 Robot end load	16Kg
进料平台 Feeding platform	中控旋转台+伺服电机 Central control rotary table + servo motor
供料方式 Feeding method	吹/吸气式均可兼容 Blow/a spirate are compatible
程序储存容量 Program storage capacity	999组 999 groups
设定坐标方式 Set the coordinate method	视觉定位 Visual positioning
锁付效率 Lock-up efficiency	单颗螺丝约2.0-2.5s single screw is about 2.0-2.5s
锁付良率 Lock-up yield	99.95%
工作电源 Working power supply	AC220V
工作气源 Working air source	0.4-0.7MPa
功率 power	约2.5KW Approximately 2.5KW
操作方式 How it works	19寸显示器+键盘+鼠标 19 inch monitor + keyboard + mouse
外形尺寸 Outer demension (L*W*H)	1400*1900*1950mm

标配 Standard Configuration	参数 Specification
六轴机器人 Six-axis robot	臂展950mm+末端负载16kg Arm span 950mm + end load 16kg
进料平台驱动方式 Feed platform drive mode	中空旋转台+伺服电机 重复精度±0.02mm Hollow rotary table + servo motor Repeatability ± 0.02mm
供料器 Feeder	吸附式供料机/吹气式供料机 Adsorption feeder/air blowing feeder
电批 Electric batch	智能电批 Smart electric batch
IPC + CCD+运动控制卡 IPC + CCD + motion control card	
选配 Optional Configuration	参数 Specification
供料机构 Feeding mechanism	振动盘+分料机构 Vibrating plate + material distribution mechanism
电批 Electric batch	可接受客户制定品牌的电批 We can accept the electric batch of the customer's brand
各种机器人及进料平台可按需定制 <small>A variety of robots and feeding platforms can be customized on demand (optional customization)</small>	
MES方面的需求 MES requirements <small>itinerary customization</small>	可根据客户需要上传相关数据 Relevant data can be uploaded according to customer needs

落地式四轴机器人 吸附式锁螺丝机

FLOOR MOUNTED FOUR-AXIS
ROBOT ADSORPTION SCREW LOCKING MACHINE

格润智能落地式四轴机器人吸附式锁螺丝机

Green Floor-mounted four-axis robot adsorption screw locking machine



落地式四轴机器人 吸附式锁螺丝机

FLOOR MOUNTED FOUR-AXIS
ROBOT ADSORPTION SCREW LOCKING MACHINE

● 细节展示 Details show



● 应用范围 Application Range

手机、汽车电子、平板、无线充、电子烟、手表、智能穿戴、遥控器、相机、路由器、机顶盒、游戏手柄、POS机等。
Mobile phones, automotive electronics, tablets, wireless chargers, electronic cigarettes, watches, smart wearables, remote controls, cameras, routers, set-top boxes, game controllers, POS machines, etc.

● 设备特点 Device features

1. 单机离线式结构, 进料平台移动实现产品进/出料, 四轴机器人联动实现螺丝锁付
 2. IPC运动控制系统, 可视化编程, 数据保存无限制;
 3. 图形化显示锁付点位及锁付结果, 自动标记OK/NG螺丝点位, 查找直观快捷;
 4. 多用户、多级权限管理, 管理员可以新建账户并分配软件操作权限
 5. CCD辅助示教螺丝坐标点, 消除人工目视定位误差; CCD视觉定位校正坐标点, 多组Mark点智能组合校正, 提升拍照直通率;
 6. 支持漏锁、滑牙、浮高等报警检测。软件自带浮高修复功能;
 7. Z轴可配置激光位移传感器(测浮高)、下压力检测传感器(选配项);
 8. 电批可搭载HIOS电批、奇力速电批、伺服电批、智能电批等(选配项);
 9. 设备可根据客户需求上传MES, 如扭力、圈数、角度、扭力曲线图、锁付状态。
 10. 可选择人工扫码与自动扫码(选配项)
 11. 生产数据可追溯, 软件自带品质管控看板。各类数据可以上传与下载(选配项);
 12. 自动扭力点检, 存储扭力点检结果并可查询(选配项)。
1. Stand-alone offline structure, the feeding platform moves to realize product feeding/discharging, and the four-axis robot linkage realizes screw locking
 2. IPC motion control system, visual programming, unlimited data saving;
 3. Graphical display of locking points and locking results, automatic marking of OK/NG screw points, intuitive and fast search;
 4. Multi-user, multi-level permission management, administrators can create new accounts and assign software operation permissions
 5. CCD-assisted teaching screw coordinate points to eliminate manual visual positioning errors; CCD visual positioning correction coordinate points, intelligent combination correction of multiple groups of Mark points, Improve the first-pass rate of photography;
 6. Support alarm detection such as leaky lock, sliding teeth, float and so on. The software comes with a floating height repair function;
 7. Z-axis can be equipped with laser displacement sensor (float height measurement), downforce detection sensor (optional);
 8. The electric batch can be equipped with HIOS electric batch, Qili speed electric batch, servo electric batch, intelligent electric batch, etc. (optional);
 9. The equipment can upload MES according to customer needs, such as torque, number of turns, angle, torque curve diagram, and lock status.
 10. Manual code scanning and automatic code scanning can be selected (optional)
 11. Production data can be traced, and the software comes with a quality control kanban. All kinds of data can be uploaded and downloaded (optional);
 12. Automatic torque spot check, store the torque spot check results and can query (optional).

技术参数 Technical specifications

项目 Item	参数 Specifications	
型号 Model	GR-XFSZ600	GR-XFSZ800
机器人臂展 Robot reach	600mm	800mm
机器人末端负载 Robot end load	10Kg	10Kg
进料轴行程 Feed shaft stroke	500mm	800mm
轴移动速 Shaft movement speed	0-1200 mm/s	
程序储存容量 Program storage capacity	999组 999 groups	
设定坐标方式 Set the coordinate method	视觉定位 Visual positioning	
锁付效率 Lock-up efficiency	单颗螺丝约2.0-2.5s single screw is about 2.0-2.5s	
锁付良率 Lock-up yield	99.98%	
工作电源 Working power supply	AC220V	
工作气源 Working air source	0.4-0.7MPa	
功率 power	约1.5KW Approximately 1.5KW	
机台总重量 The total weight of the machine		
外形尺寸 Outer demension (L*W*H)	1300*1000*1950mm	1500*1200*1950mm

标配 Standard Configuration	参数 Specification
四轴机器人 Four-axis robot	臂展+末端负载 Reach + end load
轴驱动方式 Shaft drive mode	丝杆+伺服电机 重复精度±0.02mm Screw + servo motor Repeatability ± 0.02mm
供料器 Feeder	吸附式供料机 Adsorption feeder
电批 Electric batch	智能电批 Smart electric batch
IPC + CCD + 运动控制卡 IPC + CCD + motion control card	
选配 Optional Configuration	参数 Specification
供料机构 Feeding mechanism	振动盘+分料机构 Vibrating plate + material distribution mechanism
电批 Electric batch	可接受客户制定品牌的电批 We can accept the electric batch of the customer's brand
各种机器人及进料平台可按需定制 <small>A variety of robots and feeding platforms can be customized according to demand for customization</small>	
MES方面的需求 MES requirements <small>itinerary customization</small>	可根据客户需要上传相关数据 Relevant data can be uploaded according to customer needs

在线式单轨视觉锁螺丝机

ONLINE MONORAIL VISUAL LOCK SCREW MACHINE

格润智能在线式单轨视觉锁螺丝机GR-ONLINE-200L

Green Online monorail visual lock screw machine GR-ONLINE-200L



技术参数 Technical Specification

项目 Item	参数 Specification
型号 Model	GR-ONLINE-200L
锁付范围 Lock range	200*200*70mm(X*Y*Z)
线体负载 Wire load	10Kg
线体移动速度 The speed at which the line moves	0-200mm/s
重复定位精度 Repeatability accuracy	±0.02 mm
程序储存容量 Program storage capacity	999组 999 groups
设定坐标方式 Set the coordinate method	视觉定位 Visual positioning
设定坐标方式 Set the coordinate method	视觉定位 Visual positioning
锁付效率 Lock-up efficiency	单颗螺丝约0.9-1.2S A single screw is about 0.9-1.2S
锁付良率 Lock-up yield	99.98%
工作电源 Working power supply	AC220V
工作气源 Working air source	0.4-0.7MPa
功率 power	约1.5KW Approximately 1.5KW
机台总重量 The total weight of the machine	约80kg Approx. 80kg
外形尺寸 Outer demension (L*W*H)	1000*645*1520 (不包含两端长150mm接驳台) 1000*645*1520 (excluding 150mm long docking stations at both ends)
标配 Standard Configuration	参数 Specification
四轴机器人 Four-axis robot	臂展+末端负载 Reach + end load
进料平台驱动方式 Feed platform drive mode	闭环电机+同步带 Closed-loop motor + synchronous belt
供料器 Feeder	吸附式供料机/吹气式供料机 Adsorption feeder/air blowing feeder
电批 Electric batch	智能电批 Smart electric batch
IPC + CCD+运动控制卡 IPC + CCD + motion control card	
选配 Optional Configuration	参数 Specification
电批 Electric batch	可接受客户制定品牌的电批 We can accept the electric batch of the customer's brand
各轴行程及输送线体可按需定制 The stroke of each axis and the conveyor line can be customized on demand	
MES方面的需求 MES requirements itinerary customization	可根据客户需要上传相关数据 Relevant data can be uploaded according to customer needs

在线式单轨视觉锁螺丝机

ONLINE MONORAIL VISUAL LOCK SCREW MACHINE

● 细节展示 Details show



● 应用范围 Application Range

主要应用于手机、平板电脑、智能穿戴等电子产品类螺丝在线式锁付。
It is mainly used in mobile phones, tablet computers, smart wearables and other electronic products screw online locking

● 产品优势 Product Advantage

1. 单机在线式结构, 轨道宽度可调, 产品长边平行于轨道流动, 覆盖5~7寸主流手机产品尺寸范围
 2. IPC运动控制系统, 可视化编程, 数据保存无限制;
 3. 图形化显示锁付点位及锁付结果, 自动标记OK/NG螺丝点位, 查找直观快捷;
 4. 多用户、多级权限管理, 管理员可以新建账户并分配软件操作权限
 5. CCD辅助示教螺丝坐标点, 消除人工目视定位误差; CCD视觉定位校正坐标点, 多组Mark点智能组合校正, 提升拍照直通率;
 6. 支持漏锁、滑牙、浮高等报警检测。软件自带浮高修复功能;
 7. Z轴可配置激光位移传感器(测浮高)、下压力检测传感器(选配项);
 8. 电批可搭载HIOS电批、奇力速电批、伺服电批、智能电批等(选配项);
 9. 设备可根据客户需求上传MES, 如扭力、圈数、角度、扭力曲线图、锁付状态。
 10. 可选择人工扫码与自动扫码(选配项)
 11. 生产数据可追溯, 软件自带品质管控看板。各类数据可以上传与下载(选配项);
 12. 自动扭力点检, 存储扭力点检结果并可查询(选配项)。
1. Stand-alone online structure, the track width is adjustable, and the long side of the product flows parallel to the track, covering the size range of 5~7 inch mainstream mobile phone products
 2. IPC motion control system, visual programming, unlimited data saving;
 3. Graphical display of locking points and locking results, automatic marking of OK/NG screw points, intuitive and fast search;
 4. Multi-user, multi-level permission management, administrators can create new accounts and assign software operation permissions
 5. CCD-assisted teaching screw coordinate points to eliminate manual visual positioning errors; CCD visual positioning correction coordinate points, intelligent combination correction of multiple groups of Mark points, improve the first-pass rate of photography;
 6. Support alarm detection such as leaky lock, sliding teeth, float and so on. The software comes with a floating height repair function;
 7. Z-axis can be equipped with laser displacement sensor (float height measurement), downforce detection sensor (optional);
 8. The electric batch can be equipped with HIOS electric batch, Qili speed electric batch, servo electric batch, intelligent electric batch, etc. (optional);
 9. The equipment can upload MES according to customer needs, such as torque, number of turns, angle, torque curve diagram, and lock status.
 10. Manual code scanning and automatic code scanning can be selected (optional)
 11. Production data can be traced, and the software comes with a quality control kanban. All kinds of data can be uploaded and downloaded (optional);
 12. Automatic torque spot check, store the torque spot check results and can query (optional).

AOI自动光学检测机

AUTOMATED OPTICAL INSPECTION MACHINE

格润智能AOI自动光学检测机AOI-D500-1

Green Automated Optical Inspection Machine(AOI-D500-1)



设备概述 Device overview

主要特点 Key features

1. 人机界面友好,简单培训即可快速上手
2. 用户可自定义缺陷代码名称
3. 客户可根据需求自定义defect code
4. 可追踪的缺陷mapping数据,支持多种通讯格式
5. 次品点墨标识模块
6. TCP/IP通讯协议
7. 具备SPC统计和分析功能
8. 远程对多台设备进行操作管理
9. 人工复检平台选型,可设定多种检索条件对当前和历史检测结果进行精确查找
10. SECS/GEM通讯协议选项

1. easy for new programmer to learn and operate in a short time after simple training
2. User can customize the defect code name
3. Customers can customize the defect code according to their needs
4. Traceable defect mapping data, support a variety of communication formats
5. Defective ink identification module
6. TCP/IP communication protocol
7. With SPC statistics and analysis function
8. Central control system option, remote operation management of multiple equipment
9. Manual re-inspection platform selection, can set a variety of search conditions to accurately find current and historical test results
10. SECS/GEM communication protocol options

接驳台-上下料模块 Conveyor-Loading and unloading module

支持自动线串线或自动上下料。自动上下料支持PCB、标准Jedec料盘、标准华夫料片等产品形式规格,可根据产品或载具规格选型或部分定制
Support automatic line string or automatic loading and unloading. Automatic loading and unloading supports PCB, standard Jedec trays, standard waffle blanks and other product specifications, which can be selected or partially customized according to product or vehicle specifications

AOI自动光学检测机

AUTOMATED OPTICAL INSPECTION MACHINE

● 细节展示Details show



产品参数 Product parameters

视觉检测系统 Visual inspection system

1. 高分辨率工业相机及相关量测模组固定在X、Y、Z运动平台上,可实现X、Y、Z方向的运动。
 2. SI—表面缺陷检测模组 系统标定分辨率:6.6微米
 3. LS—BLT量测模组 测量标定精度:1微米
 4. MV—焊线弧高量测模组 测量标定精度:15微米
1. High-resolution industrial camera and related measurement module fixed on X, Y, Z motion platform,It can realize movement in the X, Y, and Z directions.
 2. SI—Surface defect detection module System calibration sub-rate: 6.6 microns
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 4. MV— Wire Bonding Arc High Measurement Module Measurement calibration accuracy: 15 microns

视觉算法 Vision algorithms

1. 专业固晶&焊线视觉检测系统
 2. 近百种固晶、焊线、框架、胶水以及Die表面缺陷专用检测算法
 3. 自适应瑕疵检测 4. 针对铝线楔焊设计的检测应用算法
1. Professional solid-crystal & wire bonding visual inspection system
 2. Nearly 100 kinds of solid crystal, bonding wire, frame, glue and Die surface defect special detection algorithms
 3. Adaptive defect detection 4. Detection application algorithm for aluminum wire wedge welding design

软件 Software

1. 采用PC Based操作系统,人性化的操作界面,用户可根据需要设定不同组别的访问权限(组别数量无限制)
 2. 具有详细的历史批次检测信息,以及缺陷分析与量测分析功能
 3. 可提供缺陷的e mapping信息给后道工序,格式有: csv文件, txt文本, Html文件, HTTP API请求, Excel文件, SQLite数据文件
 4. 设备报警时界面清晰显示信息,具有历史报警信息记录查询功能
1. Using PC Based operating system, user-friendly operation interface, users can set the access rights of different groups according to their needs (the number of groups is unlimited)
 2. It has detailed historical batch detection information, as well as missing circuit analysis and measurement analysis functions
 3. Can provide defective e mapping information to the post-process, the format is: csv file, txt text, html file,HTTP API requests, Excel files, SQLite data files
 4. When the device alarms, the interface clearly displays the information, and has the function of querying the historical alarm information record

数据管理 Data management

1. 缺陷分析工具(包括历史数据查询、良率分析、缺陷统计和Mapping缺陷分布)
 2. UPH 3.GR&R
1. Missing circuit analysis tool (including historical data query, yield analysis, defect statistics and mapping defect distribution)
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次品标识(选配) Defective identification (optional)

点墨模块可以集成在现有设备上,对于检查出来的不良品,进行点墨标识处理
The ink point module can be integrated into the existing equipment to carry out the ink marking processing for the defective products that are inspected

扫描枪 Scan gun

文件内的批次信息条形码可由设备自带的手持扫码枪进行读取,以方便快捷准确输入相关信息
The batch information barcode in the file can be read by the handheld code scanner that comes with the device to easily and accurately enter relevant information

智能读码器 Smart barcode reader

可高效读取载具和料片二维码,实现与检测结果的Mapping对应
It can efficiently read the QR code of the vehicle and the blank, and realize the mapping of the inspection results

轨道传送 Orbital transfer

料盘或料片运行轨道宽度50~460mm可调
The width of the running track of the material tray or piece is adjustable from 50~460mm

料片轨道 Sheet tracks

料盘或料片在轨道中移动采用皮带传送,电机驱动模式
The material reel or piece moves in the track using belt conveyor, motor drive mode

AOI自动光学检测机

AUTOMATED OPTICAL INSPECTION MACHINE

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料盘或料片在轨道中移动采用皮带传送,电机驱动模式
The material reel or piece moves in the track using belt conveyor, motor drive mode

在线式甲酸真空焊接炉

ONLINE FORMIC ACID VACUUM WELDING FURNACE

格润智能甲酸真空焊接炉GR-400

Green Online formic acid vacuum welding furnace GR-400



GR-400

设备结构特点说明:

该设备具体分为:传动部分、加热及焊接区、真空单元、冷却区及松香回收系统。

1、传动部分

此结构贯穿整个设备,分为三段:加热区、真空单元及冷却部分。

2、加热及焊接区

各个温区温度可以单独调节,确保实现灵活稳定的焊接制程,满足无铅焊片焊接制程的工艺,产品在此过程中实现满足客户要求的焊接工艺。

3、真空单元

产品从焊接区直接进入真空单元,DBC焊点处于熔融状态,开启真空制程,使真空压力低至1mbar,气孔、空洞等内部气体从熔融状态的焊点中溢出,可以将空洞率降至1-3%以下。

4、冷却区

产品从真空单元出来直接进入冷却区,同标准回流焊冷却功能相似,满足一定的冷却斜率及降低出板温度,进入下道工序,此时焊接制程完成。

5、松香回收系统

同标准回流焊功能相同,将松香通过冷却回收得到特定的结构里面,定期的保养,减少设备的维护及环境污染。

Description of equipment structure characteristics:

The equipment is divided into: transmission part, heating and welding area, vacuum unit, cooling area and rosin recovery system.

1. a transmission part

This structure runs through the entire equipment and is divided into three sections: the heating zone, the vacuum unit and the cooling part.

2. Heating and welding area

The temperature of each temperature zone can be adjusted individually to ensure a flexible and stable soldering process, which meets the process of lead-free solder lug soldering, and the product realizes the soldering process that meets customer requirements in the process.

3. Vacuum unit

The product enters the vacuum unit directly from the welding area, and the DBC solder joint is in a molten state, and the vacuum process is opened, so that the vacuum pressure is as low as 1mbar, porosity, cavities and other internal gases from the molten solder joint can reduce the void rate to less than 1-3%.

4. Cooling zone

The product comes out of the vacuum unit and directly enters the cooling zone, which is similar to the standard reflow soldering cooling function, which meets a certain cooling slope and reduces the temperature of the plate, and enters the next process, at which time the welding process is completed.

5. Rosin recovery system

Same as standard reflow soldering, the rosin is recycled into a specific structure through cooling, and regular maintenance reduces equipment maintenance and environmental pollution.

在线式甲酸真空焊接炉

ONLINE FORMIC ACID VACUUM WELDING FURNACE

设备参数 Equipment parameters

项目 Item	参数 Specifications
型号	GR-400
加热方式	金属加热平台,电阻加热方式,分区独立控制,产品接触式传导热量
加热温区	3个
冷却区	1个
温度范围	最高温度 400°C
加热平台均匀度	±3°C
极限真空区真空度	10pa
真空区	4个
冷却方式	金属冷却平台,配置水冷系统,产品接触式降温,达到快速冷却的效果
进料方式	步进电机控制升降;电机传动进料;
进料接驳	进料高度 900mm±20MM 接驳自动运行进料生产;
产品最大尺寸	280*410mm
炉膛高度	80mm
产能	UPH≤8min/套(连续生产入/出料时间);(HPD二次焊UPH≤12min/套)
加热平台材质	高分子合金材料+表面特殊处理
气泡率	单个<1%,整体<3%
气体	氮气、甲酸气体、氢气
氮气消耗	约 50L/min
最低含氧量	≤10ppm
甲酸使用量	约 30-100L/min
功率	最大功率:35KW 工作功率:10-15KW
控制方式	嵌入式工业触摸屏加plc
操作系统	LINUX 系统
电源标准	380V 三相五线制、10 平方铜线
外观尺寸	L4500 x W1800 x H1800 mm (LxWxH)
设备重量	3000KG

安全系统 Security system

低温报警、超温报警
真空度检查报警
氮气充入故障报警
冷却水压力检测系统,低压报警
气压检测系统,高低压报警
舱门未到位检测
一键式切断加热部分电源

硬件配置 Hardware configuration

设备主机1 台
控制系统1 套
氮气控制系统1 套
甲酸还原气体控制系统1 套
真空泵4 台
自动进出料系统2 套

在线式甲酸真空焊接炉

ONLINE FORMIC ACID VACUUM WELDING FURNACE

格润智能在线式甲酸真空焊接炉

Green Online formic acid vacuum welding furnace



专为焊片工艺、车规级功率器件可靠封装开发
Developed for reliable packaging of solder lug processes
and automotive-grade power devices

技术参数 Technical specifications

项目 Item	参数 Specifications	
型号 Model	GRVX410	GRVX610
焊接面积 Welding area	410mm*280mm	610mm*280mm
炉膛高度 Furnace height	100mm	100mm
数据接口 Data interface	485网络/USB	
温度范围 Temperature range	最高可达400C	
冷却方式 Cooling method	水冷/气冷	
控制方式 Control mode	独立PID温度控制+真空压力控制可存储若干条温度曲线	
电压 voltage	380V 50Hz	
额定功率 Rated power	50KW	
外形尺寸 size (L*W*H)	3870mmx1600mmx2160mm(主体)	
重量 weight	2400KG	

在线式甲酸真空焊接炉

ONLINE FORMIC ACID VACUUM WELDING FURNACE

产品特点/Features

- 1、模块和加热板之间只有一层治具，温度均匀度优于同类产品；±2°C%。
 - 2、可不停机更换加热管，维护更方便。
 - 3、长期使用温度均匀度有保障，在长期使用过程中可通过更换不同功率加热管来调整加热板温度均匀度。
 - 4、双保险设计，确保工件能100%精准到达每一个真空腔。批量生产成品率高，有效为客户降低成本。
 - 5、预热、加热区使用石墨碳化硅涂层加热板，导热快，温度均匀性好。
1. There is only one layer of fixture between the module and the heating plate, and the temperature uniformity is better than similar products; ±2°C%.
 2. The heating tube can be replaced without stopping, which is more convenient for maintenance.
 3. The temperature uniformity of long-term use is guaranteed, and the temperature uniformity of the heating plate can be adjusted by replacing the heating tube with different power during long-term use.
 4. Double insurance design to ensure that the workpiece can reach each vacuum cavity with 100% accuracy. High mass production yield, effectively reducing costs for customers.
 5. The preheating and heating zone uses graphite silicon carbide coated heating plate, which has fast heat conduction and good temperature uniformity.

功能介绍/Function Introduction

- 1、设备共有5区，分别是：导入、预热、加热、冷却、导出区。
 - 2、设备内外总共两层真空腔，区别于同类一层的真空腔，两层真空腔确保工件无气化，甲酸无泄漏。氧含量低于3PPM。
 - 3、可编程多段抽真空功能：设备在抽真空时能实现可编程3-5段抽真空，可以精准控制抽真空速率，同时能精准实现真空值的恒定，从而实现更好的焊接质量
 - 4、快速抽真空功能：每个真空泵配一个辅助真空罐体，可有效缩短腔体各区抽真空的时间。抽真空速度更快更易于可控。工作真空度：20pa。
 - 5、精密传输和定位功能：高精度传感器确保每个工件都能精确传输到指定位置，同时各区都配有一组阻挡机构，防止治具运行超过规定行程。
 - 6、双加热系统设计：顶部、底部独立控温加热，有效提升模块底板不平导致的焊接不良。
 - 7、每组温区六点温度实时监控：预热、加热区各有6组共计12路测温点实时监控加热板温度，设备具备单区加热板温差报警功能。通过温差报警系统可实时监控加热板温度均匀度，确保产品焊接的高质量。
 - 8、本设备独立自主开发，拥有核心自主知识产权。无知识产权侵权风险。
1. The equipment has a total of 5 zones, namely: import, preheating, heating, cooling, export area.
 2. A total of two layers of vacuum chamber inside and outside the equipment are different from the same one-layer vacuum cavity, and the two-layer vacuum cavity ensures that the workpiece is not vaporized and formic acid is leakage-free. Low oxygen content AT 3PPM.
 3. Programmable multi-stage vacuum function: The equipment can realize programmable 3-5 stage vacuum during vacuuming, which can accurately control the vacuum rate and be precise at the same time. Achieve a constant vacuum value, so as to achieve better welding quality
 4. Fast vacuum function: each vacuum pump is equipped with an auxiliary vacuum tank, which can be effective. Shorten the evacuation time of each area of the chamber. Vacuuming is faster and easier to control. Working vacuum: 20pa.
 5. Precision transmission and positioning function: High-precision sensors ensure that each workpiece can be accurately transmitted to the designated position, and each area is equipped with a set of blocking machines to prevent the fixture from running beyond the specified stroke.
 6. Dual heating system design: independent temperature control heating at the top and bottom, effectively improving the welding defect caused by uneven bottom plate of the module.
 7. Real-time monitoring of six-point temperature in each group of temperature zones: There are 6 groups of 12 temperature measurement points in each of the preheating and heating zones to monitor the temperature of the heating plate in real time, and the equipment has a single zone plus Hot plate temperature difference alarm function. The temperature difference alarm system can monitor the temperature uniformity of the heating plate in real time to ensure the high quality of product welding.
 8. This equipment is independently developed and has core independent intellectual property rights. No risk of intellectual property infringement.

散热片自动组装线体

HEAT SINK AUTOMATIC ASSEMBLY LINE

格润智能散热片自动组装线体 AL-HL503C01

Green heat sink automatic assembly line AL-HL503C01



此线体为非标定制

技术参数 Technical Specification

项目 Item	参数 Specification
型号 Model	AL-HL503C01
输入电源 Power supply	AC220V 63A 50-60HZ
智能电批扭力精度 Intelligent electric batch torque accuracy	±5%
定位方式 Positioning	销柱精密定位 Pin column precision positioning
最大功率 Max.power	15KW
输入气压 Input air pressure	0.6-0.8MPa
外形尺寸 Outer demension(L*W*H)	7200*2000*2000(mm)

散热片自动组装线体

HEAT SINK AUTOMATIC ASSEMBLY LINE

● 细节展示 Details show



● 散热片打螺丝线体构成 Line Composition

- 前治具升降模块 Front fixture lifting module
- 放散热片模块 Placing heatsink module
- 印散热膏模块 Printing thermal paste module
- 放小陶瓷片模块 Placing a small ceramic sheet module
- 放大陶瓷片模块 Placing big the ceramic sheet module
- 锁附模块1 Lock Module 1
- 锁附模块2 Lock Module 2
- 锁附模块3 Lock Module 3
- 锁附模块4 Lock Module 4
- 锁附模块A Lock Module A
- 锁附模块B Lock Module B
- 后治具升降模块 Rear fixture lifting module

● 应用范围 Application Range

驱动, 适配器, PC电源, 桥堆, MOS管等中的散热片
Heat sinks in drivers, adapters, PC power supplies, bridge stacks, MOS tubes, etc

● 应用领域 Application Field

电子行业/汽车行业/玩具行业/电器行业等
Electronics industry / automotive industry / toy industry / electrical industry, etc

● 产品优势 Product Advantage

1. PLC控制系统, 操作接口采用简易人机触摸屏控制
 2. 送料/定位/成型/涂胶/锁螺钉组装全自动一次完成, 只需3-4秒
 3. 自动检测, 有料启动, 无料停机
 4. 自动上料/收料, 一条线体可省多个人工
 5. 自动计数, 产量设定, 稳定性高, 高效率, 散热片种类可兼容性广, 软件功能可选: 单晶体或多体, 带螺母或无螺母直线式或多工位转盘方式;
1. PLC control system, and the operation interface adopts simple touch screen control
 2. Feeding/positioning/forming/gluing/locking screw /assembly is completed automatically at one time, only 3-4 seconds
 3. Automatic detection, if there has material, it will start, if not, it will stop
 4. Automatic feeding/receiving products, one line body can save multiple labor
 5. Automatic counting, output setting, high stability, high efficiency, wide compatibility of heat sink types, software functions optional: single crystal or multibody, with nut or nutless linear or multi-station turntable mode

倒盘机

INVERTING MACHINE

格润智能倒盘机GR-OFX06
Green Inverting machine GR-OFX06



技术参数 Technical specifications

项目 Item	参数 Specifications
型号 Model	GR-OFX06
适用产品尺寸Applicable product sizes	250*300mm
工作模式Working mode	自动进板、定位、搬运、上料、收料等Automatic feeding, positioning, handling, feeding, receiving, etc
上料方式Feeding method	料盘自动上料The tray is automatically loaded
收料方式Receiving method	料盘自动收料The tray is automatically receiving
工作行程Work itinerary	(X) 300* (Y) 250* (Z) 100(mm)
运动速度Speed of movement	0-800mm/s
电机类型 Motor type	伺服电机 Servo motor
定位方式Targeting method	CCD视觉定位 CCD visual positioning
重复精度 Repeatability	±0.02 mm
控制系统 Control system	上位机+PLC Upper computer + PLC
导轨guide rail	台湾上银 HIWIN
丝杆 Lead screw	台湾品牌Taiwanese brand
光电开关 Photoelectric switch	欧姆龙/松下Omron/Panasonic
I/O信号 I/O signals	预留8 In puts/8 Out puts Reserve 8 In puts/8 Out puts
显示方式 How it is displayed	显示器+触摸屏Monitor + touch screen
功率 power	约2.5KW Approximately 2.5KW
电源 power supply	AC220V/50HZ
外形尺寸 size (L*W*H)	1430mm*1800mm*1800mm

倒盘机

INVERTING MACHINE

● 细节展示 Details show



● 应用行业 Application industry

汽车工业、新能源、集成电路、电池组装 半导体等行业
Automotive industry, new energy, integrated circuits, battery assembly, semiconductors and other industries

● 设备概述: Equipment Overview

设备采用三轴龙门式结构, 搭载真空旋转机构实现IGBT吸料、搬运、定位、转向、放料等工作, 设备由自动调宽主流水线、三轴搬运机构、真空旋转机构, 上/下视觉系统、料盒自动上料/收料机构, 放料/收料皮带线等组成, 适用于汽车行业、动力电池芯片全自动搬运作业, 节省人工, 减少芯片人为损伤, 操作简易、容易上手。
The equipment adopts a three-axis gantry structure, equipped with a vacuum rotation mechanism to realize IGBT suction, handling, positioning, steering, discharging and other work, and the equipment is automatically adjusted Wide main stream waterline, three-axis handling mechanism, vacuum rotation mechanism, up/down vision system, automatic loading/receiving mechanism of the material box, unwinding/receiving belt line and other groups It is suitable for the automotive industry and automatic handling of power battery chips, saving labor, reducing artificial damage to chips, and is easy to operate and easy to use.

● 产品优势 Product Advantage

- 1、配备两套视觉定位系统、实现高精度定位产品。
 - 2、取料机构 配备旋转功能、可实现产品转向角度可控。
 - 3、配备两套上料机构可实现自动收料、放料功能。
 - 4、设备左右各配备收料和放料机构, 实现自动化作业。
 - 5、设备采用上位机+PLC控制方式, 控制、操作简单。
 - 6、设备采用方通焊接, 结构坚固, 运行平稳、提高重复定位精度。
1. Equipped with two sets of visual positioning systems to achieve high-precision positioning products.
 2. The reclaiming mechanism is equipped with a rotation function, which can realize the controllable steering angle of the product.
 3. Equipped with two sets of feeding mechanisms to realize the functions of automatic receiving and discharging.
 4. The left and right sides of the equipment are equipped with receiving and discharging mechanisms to realize automatic operation.
 5. The equipment adopts the upper computer + PLC control mode, which is simple to control and operate.
 6. The equipment adopts square welding, with firm structure, stable operation and improved repeated positioning accuracy.

高速异形插件机

HIGH-SPEED SPECIAL-SHAPED PLUG-IN MACHINE

格润智能高速异形插件机GR-320

Green High-speed special-shaped plug-in machine GR-320



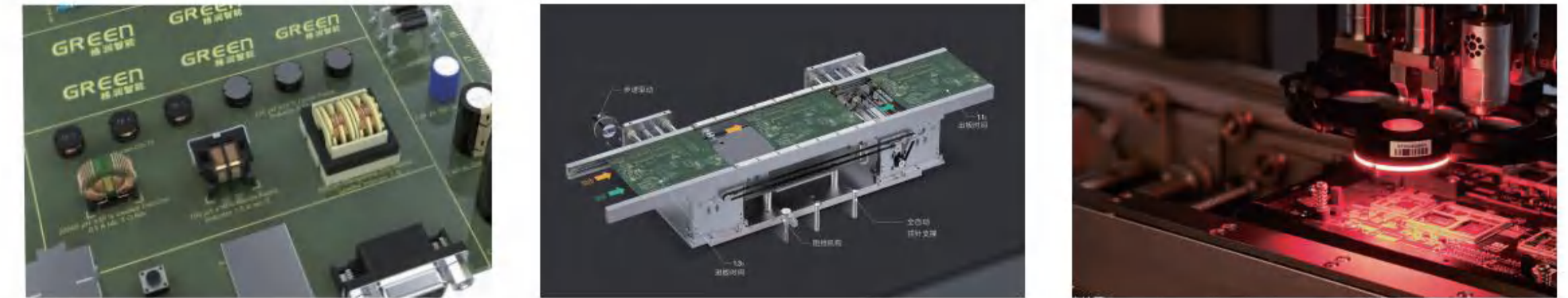
技术参数 Technical Specifications

项目 Item	参数 Specifications
型号 Model	GR-320
PCB板尺寸 PCB board size	400*400mm
PCB板厚度 PCB board thickness	0.8-5mm
PCB板重量 PCB board weight	Max.6kg
夹边宽度 Sandwich width	3mm/5mm
插件速度 Plug-in speed	11250cph
插件节拍 Plug-in beats	0.32sec/part
重复定位精度 Repeatable positioning accuracy	±0.01mm
取料方式Extraction method	夹取/吸取 Pick-up/aspiration
工作头数量 Number of working heads	8
元件尺寸 Component size	30mm
元件高度 Element height	28mm
元件重量 Component weight	Max.300g
插入方向 Insertion orientation	0-360°
插件角度 Plug-in angle	平面 plane
工作电压 Operating voltage	220AV ±10%
机器功率 Machine power	2KVA
工作气压 Working air pressure	0-360°
联机接口 Online interface	SMEMA (欧式14针)
机器尺寸 Machine size	2000*1303*1502mm
机器重量 Machine weight	1900kg

高速异形插件机

HIGH-SPEED SPECIAL-SHAPED PLUG-IN MACHINE

● 细节展示 Details show



● 应用范围 Application Range

Common ports of computer motherboards, USB interface, RJ45 interface, large multi-pin connector, S terminal module, automotive electronic connector, inductor/choke coil, Electrolytic capacitors, relay/film capacitors, transformers, integrated circuits, communication industry connectors, etc

● 应用领域 Application Field

手机行业/玩具行业/家电行业/电子行业
Mobile phone industry/Toy industry/Appliance industry/Electronic industry

● 产品优势 Product Advantage

X轴采用高刚性的大理石横梁+直线电机双动子结构(双工作单元),配合双视觉系统,左右交换取料,实现连续插件,大大提高了生产效率。
The X-axis adopts high rigidity marble beam + linear motor double movers structure (double working unit), with dual vision system, left and right exchange of materials to achieve continuity Plug-ins, greatly improve production efficiency.

技术参数 Technical specifications

传送系统 Conveyor system	参数 Specifications
传送结构 Transfer structure	三段式 Three-stage
传送方式 Delivery method	皮带 belt
传送模式 Transfer mode	同步/异步 Synchronous/asynchronous
传送速度 Transfer speed	Max.800m/s
传送方向 Transfer direction	L→R或R→L
宽度调整 Width adjustment	自动调宽 Automatic widening
固定边位置 Fixed edge position	前端 Front
宽度调整 Width adjustment	上45/下20 Up 45/Down 20
供料器数量 Number of feeders	参数 Specifications
立式编带 Vertical taping	20
卧式编带 Horizontal taping	16
管状供料 Tubular feeding	16
盘装供料 Tray feeding	/
震动盘供料 Vibrating plate feeding	16
安全保护 Security	参数 Specifications
机器认证 Machine certification	ISO9001、CE认证
安全门设计 Safety gate design	安全门开关(开门即停机)、安全光幕
压力失效报警 Pressure failure alarm	电子压力开关保护