



卓茂科技集团(香港)有限公司  
SEAMARK ZM TECHNOLOGY GROUP (H.K) CO., LTD.  
深圳市卓茂科技有限公司  
SHENZHEN ZHUOMAO TECHNOLOGY CO.,LTD.

**BGA LED PCB**

**REWORK INSPECT**

多功能返修设备 X-Ray检测设备 一站式服务

全国统一服务热线：400-8928-758

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国家级高新技术企业  
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央视网广告合作伙伴  
商务部诚信AAA认证  
国家可信交易示范单位  
深圳双软企业



CE RoHS





公司简介 Company Profile



深圳市卓茂科技有限公司是一家集研发、生产、销售为一体的国家级高新技术企业。公司自成立以来，凭借雄厚的技术力量、高效的经营管理、完善的销售网络和售后服务赢得了广大客户的信赖与支持！通过引进和吸收国内外先进技术，不断提升自己！同时加强产品研发，提升产品品质，不断开拓国内外市场，在全球电子行业多功能芯片返修设备领域及X-ray检测设备、激光镭射焊接设备、自动除锡设备、自动植球设备、自动点胶设备、吸嘴清洗设备、非标自动化设备等研发方面均取得了辉煌的成就，目前，公司已获得国家级高新技术企业证书、深圳知名品牌、商务部诚信AAA认证、央视网广告合作伙伴、中国电子装备最具创新能力奖等荣誉，公司主营多功能芯片返修设备已获得国家认定的自主知识产权证书，发明及实用新型专利等40余项并已通过国际CE认证，ISO9001等质量体系认证，公司秉承“专业、创新、诚信”的经营理念，已成为全球10万多功能芯片返修设备用户的首选信赖品牌。

为满足广大客户的需求，公司已在苏州、北京、成都等各大城市设立分公司及办事处，未来将继续在各大城市设立分公司及办事处，以求建立完善稳定的销售服务网络，为广大客户提供高效率、高品质的销售体系和完善的售后服务！目前，公司产品在满足国内市场需求的同时已经销往世界各地，遍布欧洲、亚洲、澳洲、大洋洲及东南亚、中东等国家和地区，而且已在美国、加拿大、哥伦比亚、巴西、英国、法国、捷克斯洛伐克、叙利亚、埃及、苏丹、澳大利亚等国家和地区建立相应的分销体系，同时在台湾、越南、印度、泰国、新加坡等东南亚国家和地区建立了自己的销售渠道，集聚了相应的品牌效应，产品深受广大客户的信赖和好评！

作为国内首家多功能芯片返修设备及电子周边设备专业制造商，卓茂科技一直致力于为全球电子行业提供更好、更全面的多功能芯片返修设备、X-ray检测设备、激光镭射焊接设备、自动除锡设备、自动植球设备、自动点胶设备、吸嘴清洗设备、非标自动化设备、精密五金、钣金生产加工等一站式服务与方案，在业界赢得了良好的声誉和市场占有率；同时，卓茂科技多年来凭借自身“稳定的品质、领先的技术、良好的服务体系”已成为中国电子智能装备产业返修设备领域的领跑者！

新的时代，新的机遇，我们真诚的期待，在您优越的产品生产诸多链条中，有我们参与完成的重要一环，并让您的产品享誉天涯海角，惠及千家万户！

Shenzhen Zhuomao Technology Co., Ltd. is one of the national high-tech enterprises of development, production and sales, Since its establishment, with its strong technical force, efficient management, perfect sales network and after-sales service, we win the trust and support of the majority, and improved ourselves by introducing and absorbing overseas advanced technology.

At the same time, We would like strengthening product research and development, to improve product quality, and constantly opening up the domestic market, in the global electronics, the multi-function Rework Field and X-ray inspection equipment, Laser equipment, Automatic tin remover, Automatic bga reballing machine, Glue dispensing machine, Nozzles cleaning machine and non-standard automation equipment etc, we made brilliant achievements. at present, Zhuomao has obtained the certificate of national high-tech enterprise, Shenzhen well-known brands, the Ministry of Commerce honesty AAA certification, CCTV network advertising partners, and China electronic Equipment the most innovative Awards etc, Our mainly products have BGA/POP/LED/LCD/mobile cover/ abnormal shape component and multi-functional BGA rework equipment has obtained a certificate recognized by the national intellectual property, more than 40 patents, and passed the international CE certification, ISO9001 quality system certification. company adhering to the "professional, innovation, integrity" business philosophy, has become the preferred brand in BGA/POP/LED/LCD/mobile cover/ deformable spares and multi-function rework equipment among 100,000 users.

To meet the needs of our customers, the company has set up branches and offices in Suzhou, Beijing, Shanghai, Chengdu, and will continue in other major cities, to establish a sound and stable sales service network and provide our customers the efficient, high-quality marketing system and after-sale service! Currently, our products has been sold around Europe, Asia, Australia, Oceania and Southeast Asia, the Middle East and other countries and regions, the same time distribution system has been in the United States, Canada, Colombia, Brazil, Britain, France, Czechoslovakia, Syria, Egypt, Sudan, Australia and other countries and regions, also stable sales channels in Taiwan, Vietnam, India, Thailand, Singapore and other Southeast Asian areas. Brand and product won the trust and praise.

As China's leading BGA/POP/LED/LCD/mobile cover/ abnormal shape component and multi-functional BGA rework equipment and peripheral equipment manufacturer, Zhuomao has been committed to providing advanced and a full range of repair equipment, X-ray inspection equipment, Laser equipment, Automatic tin remover, Automatic bga reballing machine, Glue dispensing machine, Nozzles cleaning machine, non-standard automation equipment, Precision metal, sheet metal production and processing, one-stop services and solutions has won a good reputation and market share. Meanwhile, over the years by virtue of its own "stable quality, advanced technology, good service", Zhuomao has become the industry leader in the repairing field.

New era, new opportunities, we sincerely look forward to be an important part of your many excellent products chain, and make your product known in corners of the earth, to benefit thousands of families!



## 经营理念

以质量求生存；以创新求发展；  
以服务树信誉；以产品塑品牌。

2017起航

2016跨越

2015航标

2014腾飞

2013超越

2012决战

2011挑战

2010提速

2009决胜

2008突破

2007发展

2006规范

2005成立

12 Years



# 走进卓茂 Show of ZM



研发办公室



文化长廊



会议室



CNC加工中心



产品展示厅



数控加工中心



返修设备装配车间



返修设备调试车间



X-Ray检测设备调试车间



荣誉墙

多功能芯片返修设备 X-Ray检测设备 一站式服务



# 历年展会 Exhibitions of ZM

## NEPCON 展会



2013.04 上海



2014.08 深圳



2015.08 深圳



2015.07 深圳



2015.04 上海

## 电子装备展 海外展会



2016.09 印度电子设备展



2015.11 德国慕尼黑



2013.08 阿尔及利亚



# 公司活动 Activities of ZM

卓茂  
10周年



优质供应商奖



忠诚奖



贡献奖



新人奖

拓展训练

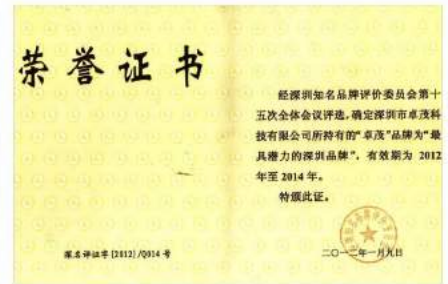


2016 珠海		
2015 惠州	2014 惠州	2013 厦门

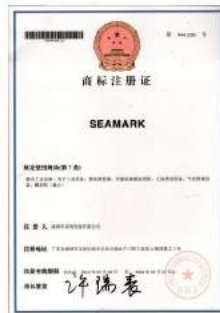
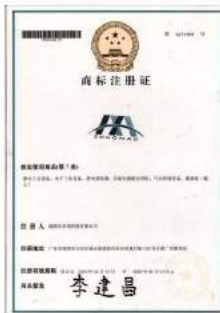




# 公司荣誉 Honor of ZM



## 商标注册



## 体系认证



# 公司荣誉 Honor of ZM

## 软件著作权



## 实用新型专利



## 外观专利



## 发明专利





# 销售网络 Sales Network

多年来，本公司凭借雄厚的实力、良好的信誉以及严格的质量管理、优质的售后服务，赢得了社会广大用户的一直认可。

Since the company was founded, we rely on powerful strength, good prestige, strict quality management and high-quality after-sales service, win the approval and support of users.

## 国内销售网络



**以人为本，  
打造一流团队**  
People-oriented first-class team



## 国外销售网络

全国统一服务热线：0755-29929955 29929956



# 合作伙伴 Representative of partners

排名不分先后，感谢以上客户对卓茂科技一直以来的支持和信赖！

多功能芯片返修设备 X-Ray检测设备 一站式服务



# 产品展示系列 Products Series



ZM-ZQ1050



ZM-CX900



ZM-L80



ZM-R8650



ZM-R8000



ZM-R7800



ZM-POP500



ZM-R7300



ZM-R7830



ZM-R750A



ZM-R6500



ZM-R730



ZM-R720



ZM-R7350



ZM-R7220



ZM-X7800



ZM-X7600



ZM-X6600



ZM-X5600



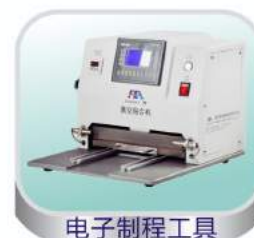
ZM-400



ZM-DP300



ZM-300ED



电子制程工具



贴合除泡一体机

全国统一服务热线：0755-29929955 29929956



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# 多功能芯片返修设备 BGA Rework Station

## 国内首创技术产品 全自动植球机 ZM-ZQ1050

Domestic Pioneer high-tech product : Full automatic reballing machine ZM-ZQ1050,



便捷的操作系统  
Easy operation system



视觉系统自动录入芯片坐标信息  
With Vision system recording chip coordinate information automatically



高性能工控机控制系统  
Perfect performance IPC control system



高速十二轴运动控制系统  
High-speed twelve axis motion control system

### 主要特点

- ZM-ZQ1050自动植球机是由高性能的工控机控制系统、高速的十二轴运动控制系统、高清晰的视觉定位系统、便捷的操作系统、精准的温控系统和优越的安全保护系统组成。通过高精度智能模块化的软硬件，实现了对各种BGA芯片的植球功能。
- 本设备可自动分选、自动吸取和自动放置0.3mm、0.35mm、0.4mm、0.45mm、0.5mm、0.55mm、0.6mm、0.65mm和0.76mm锡球。且不需使用钢网，可避免锡球散落及浪费的现象。
- 适用于菱形且边长为10mm~48mm、厚度为0.5mm~5mm的各种有铅或无铅BGA芯片。机器能自动定位、自动识别BGA的大小与厚度。
- 根据BGA芯片及锡球的大小。无论是有铅或无铅的锡膏，本设备能自动调整锡膏的挤压力，对BGA芯片的焊盘上直接自动有序的输出锡膏。无需在BGA芯片上涂刷助焊膏，避免了频繁的更换钢网和清洗钢网的现象。
- 自动植球机内置两个机械手，可360°旋转。具有自动压平、取料、卸料功能，可根据具体的位置需要，进行自动调整。
- 配有高清晰的视觉定位系统和15"液晶显示器，确保贴装对位精度可达±0.025mm。
- 在全封闭的环境下工作，在人为或者设备部分装置失控的情况下，该设备将自动暂停（包括在该装置前面工作的机构），不影响后面工序各装置的工作，在检查出问题点后方可继续工作。确保避免在任何异常状况下BGA芯片及元器件损坏及机器自身损毁。
- 本设备操作简单、快捷，自动化程度高、速度快、精度高，植入的锡球时间≤±0.3秒/颗，植入锡球的精度≤±0.025mm；在很大程度上降低成本和保证精度。
- 每次BGA芯片自动植球完工时，内置机械手会自动将植好的BGA芯片送到加热器处经过加热、恒温、冷却处理，机械手再次将成品送到接料盒。

### Main Features:

- The full-automatic BGA Ball Mounting machine ZM-ZQ1050 consists of IPC control system, high-speed 12 axis motion control system, high definition vision positioning system, convenient operation system, precise temperature control system and superior protection system. With intelligent high-accuracy intelligent modular software and hardware, it can reball all kinds of BGA chipsets.
- Can sort, suck and place ball of 0.3mm, 0.35 mm, 0.4 mm, 0.45 mm, 0.5mm, 0.55 mm, 0.6 mm, 0.65 mm and 0.76 mm automatically. No need stencils, avoid balls to scatter and waste.
- Suitable for rhombic 10mm~48mm length and 0.5mm~5mm thickness lead and lead-free chips. Can position and identify the size and thickness of bga chips automatically.
- Can adjust the extrusion quantity of solder paste, output solder paste to the bonding pads automatically According to the size of the BGA chips and balls, no matter lead or lead-free. No need painting solder flux on the bga chips, avoid to clean and change stencils.
- Built-in 2 manipulators, with 360° rotation and function of automatic planishing, sucking and unloading. Can adjust position according to demand automatically.
- With high definition Vision positioning system and 15" LCD, ensure the precision of the mounting within ±0.025mm.
- Working under the totally-enclosed environment, the machine will stop automatically (including the equipment front of the machine) if it is out of control. Will not work until check out the problem, but not affect the following processing. Avoid to damage the the chips and machine at any abnormal condition
- Easy operation, high automation, high speed and high precision. Reballing time is: ≤±0.3 s/pcs, the precision is ±0.025mm. Cut the cost and ensure accuracy.
- After reballing, the manipulators carry bga chips to the heater for heating, Homiothermy, and cooling treatment, then put the the bga chips in offload box.

### 产品规格及技术指标 (specifications and technical parameters )

总功率	Total Power	Max 1200W	Max 1200W
电源	Power supply	AC 220V 50/60 Hz	AC 220V 50/60 Hz
加热功率	Heater power	300W	300W
最大加热温度	Hot air heating temperature	400°C ( Max )	400°C ( Max )
定位方式	Positioning	视觉自动识别定位；	Visual automatic identification
适应芯片	Available BGA chip	BGA, POP, QFN, CSP, CCGA, LGA, Micro SMD, MLF	BGA, POP, QFN, CSP, CCGA, LGA, Micro SMD, MLF
适应BGA	BGA chip	厚度：0.5mm ~ 5mm ; 外形：10mm×10mm ~ 48mm×48mm	0.5mm 5mm size 10mm*10mm 48mm*48mm
外形尺寸	Dimensions	L1000×W750×H1500	L1000×W750×H1500
机器重量	Net weight	280kg	280kg
运动控制	motion control	电脑操作与12轴运动控制系统自动运行；	computer operation and 12 axis motion control system move automatically
球 径	Ball diameter	0.3mm ~ 0.76mm	0.3mm 0.76mm

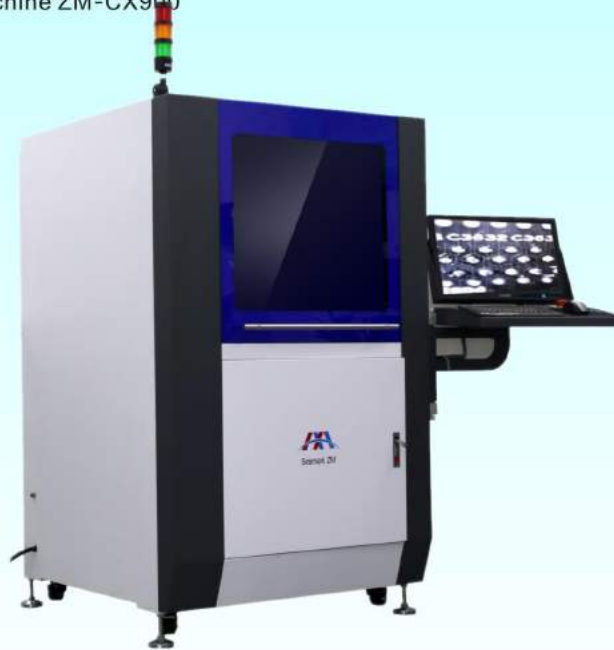
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# 多功能芯片返修设备 BGA Rework Station

## 自动除锡机 ZM-CX900

Automatic Tin Removing Machine ZM-CX900



### 主要特点

- 上部热风加热系统采用陶瓷蜂窝加热系统，热转换高效。
- 下部预热温区采用进口陶瓷辐射器，对PCB充分预热，避免PCB变形。
- 视觉导航定位，自动识别除锡区域，自动分配除锡路径，无需设置繁琐参数。
- 自带激光位移传感器，自动测量PCB高度，保证非接触除锡。
- 除锡头多种规格，应对各种除锡要求。
- 大流量真空系统，在非接触状态吸取锡渣，避免损伤焊盘。
- 自动锡渣排放系统，除锡后自动排出锡渣，避免频繁维护。

### Main Features:

- Adopt ceramics infrared radiator for Top heater to make an efficient heat conversion.
- Adopt ceramics honeycomb heating system for bottom heater to preheat the PCB and keep it from deformation.
- Adopt visual navigation and location for tin removing area automatic recognition and tin removing trail automatic assignment. No need to set complex parameters.
- Adopt laser displacement sensor, height of the PCB will be automatically measured and tin removing process will be non-contact.
- Various kinds of tin removing head are available for different requirements.
- Adopt huge flow vacuum system for non-contact tin removing, to avoid damage to solder pad.
- Discharge system for tin slag

### 产品规格及技术指标 (specifications and technical parameters)

电源	AC380V/AC220 50/60Hz	Power	AC380V/AC220 50/60Hz
总功率	Max 8500W	Total Power	Max 8500W
顶部热风加热器功率	800 W	Top Heater Power	800 W
底部热风加热器功率	7200 W	Bottom Heater Power	7200 W
其它功率	500 W	Other Power	500 W
温度误差	±3°C	Temperature Error	±3°C
定位精度	±0.02mm	Positioning Accuracy	±0.02mm
热风加热温度	400°C ( Max)	Hot Air Heating Temperature	400°C ( Max)
最大PCB尺寸	485mm×505mm	PCB Max Size	485mm×505mm
芯片除锡尺寸范围	1×1mm--80×80mm	Chipset Size	1×1mm--80×80mm
外形尺寸	L1062×W1070×H1733	Package Size	L1062×W1070×H1733
测温接口	4个	Temperature Sensor	4pcs



## 激光镭射修屏机 ZM-L80

LCD screen Laser repairing machine ZM-L80



### 主要特点

镭射类型:Nd-YAG LASER	Laser system
波长:1064/532nm双波长(532nm为调整光轴波长)	Laser types:Nd-YANG LASER
脉冲:Q-Swith 5n/秒	Wave length: 1064/532nm double wavelength(532nmfor adjust the opticalwavelength)
输出功率:800uJ/Pulse (100次平均值)	Pulse:Q-Switch 5n/seconds
开关频率:1-10Hz/秒	Output power:800uJ/Pulse(100times AVG)
显微镜头:Mitutoyo 4Lens自动切换座	Vibration frequency:1-10Hz/seconds
镜头5倍(观察)、10倍、20倍(修补、LCD专用) 50倍(选配)	Objective switching system:Mitutoyo 4 hole/electric switch mode(linear)
输出稳定:21.0uJ	Precision optical lens group:5x(observed),10x,20x(special for LCD repair)
操作模式:电控	Output:21.0uJ
调整差质: +/-10um之内	Operating Mode:Electroic control
光束模式:长型/方型可调	Adjust range:+/-10um
	Light Mode: Long/square is adjustable
工作平台	Working platform
工作范围:905mm x 1535mm x 50mm(XYZ轴)	Working range:905mm *1535mm*50mm(XYZ axis)
Xy轴移动范围:907mm x 1538mm	X,Y effective stroke:907mm*1538mm
Z轴移动范围:51mm	Z axis range:51mm
操作模式:XY轴手动、Z轴手动	Operating Mode:XY axis manual, Z axis manual
显像系统	Optical imaging system
电脑系统:机架式电脑、影像采集卡、显示卡	Computer system:Racks of computer, image acquisition card, Graphics Card
显示器:15寸LCD显示器	LCD monitor:The 15' Monitor
取像机:SXT403 DC12V	Image capture:SXT 403 DC12V
放大倍率:400、800、1600倍	Magnification:400,800,1600multiple
光源:可调、同轴光源与光斑光源及LED背光模组	Light source:Adjustable, coaxial light sources, light spot and LED backlight module
气电性能规格	Electrical specifications
输入电源:交流单相220V, 50-60Hz,25A	Input power: AC power 220V, 50-60Hz,25A
气体压力:0.4mpal	Air pressure:0.4 mpa
保修:全机保修一年(不含耗材零件)	Warranty:1 year(not include the consumable parts)
选购配件	System
不断电系统	UPS system



# 多功能芯片返修设备 BGA Rework Station

## 高自动视觉BGA返修工作站 ZM-R8650 High Auto Optical BGA Rework Station ZM-R8650



### 主要特点

- 贴装头内置压力检测装置，自动检测贴装高度，无需人工设置，操作简单防止误操作。
- 机头内置视觉对位系统，自动识别定位PCB位置，实现自动返修，防止人为因素的返修品质的不稳定性。
- 贴装头X、Y、Z、R运动系统采用台湾上银精密滚珠丝杆、导轨、松下伺服电机，保证可靠精密运行。
- 上下部热风加热，X、Y方向分别自由移动，避免返修死角。
- 下部热风加热系统采用自主专利技术的新型微型加热器，独特的气道布局，保证在高温下稳定运行。
- 大尺寸红外加热器，采用进口陶瓷红外线板状辐射器，内置温度传感器，运行中实时监测，使温度稳定一致。
- 视觉系统采用日本computer镜头，画质稳定。
- 自动送料收料。
- 操作软件多权限限制，防止误操作。
- 多种操作模式可选，符合返修工艺。
- 软件内置曲线分析功能，自动记录保存返修报告，便于日后统计分析。
- 贴装头电动360°旋转，适应各种芯片。
- 内置日本SMC精密气源控制系统，保证热风稳定均匀。
- 整机控制系统采用工控主机，保证整机稳定运行。

### Main Features:

- Mounting head pressure self-detection, automatic detect the mounting height. Mounting head Built-in pressure detection and laser positioning device, to protect PCB and fast positioning.
- Main parts of Mounting head up and down movement system are from Taiwan. The upper and lower are hot air heating, and X, Y directions moves.
- Lower hot air heating system are the new micro-heater Zhuomao patented technology, the unique layout to ensure stable operation at high temperatures.
- Bottom large infrared preheating area, imported ceramic infrared radiation plate, built-in temperature sensor for real-time monitoring.
- Optical zoom lens system from Japan.
- Built-in automatic feeder for feeding and splicing chips.
- Touch panel data password protection.
- Operation mode - solder/mount/desolder optional.
- Heating curve record available in software, for statistical analysis.
- Mounting head electronic drive with 360°rotation.
- Japan SMC Precision air source control system inside, comes stable and evenly hot air.
- Machine control system using Panasonic PLC, to ensure stable operation. Temperature controlled by automatic PID 8-channel module.
- Temperature control system are industrial temperature module with multichannel, automatic PID temperature control.
- Automatically detection and protection of the temperature, pressure, heating system and the operating window when its running.

### 产品规格及技术指标 (specifications and technical parameters)

总功率	Total Power	Max 15000W	Max 15000KW
电源	Power supply	AC 380V 50/60 Hz	AC 380V 50/60 Hz
加热功率	Heater power	上部温区1200W 下部温区800W IR温区12000W	Top heater 1200w 2nd heater 800w,3rd IR heater 12000w
最大加热温度	Hot air heating temperature	400°C ( Max)	400°C ( Max)
定位方式	Positioning	V型卡槽PCB定位，配置万能夹具	V-groove,PCB support can be adjusted in any direction with external universal fixture
最大PCB尺寸	PCB size	600mm×560mm	600mm×560mm
适应芯片	Available BGA chip	BGA,QGN,CSP,POP,QFN, Micro SMD	BGA,QGN,CSP,POP,QFN, Micro SMD
芯片尺寸范围	BGA chip	2×2mm--70×70mm	2×2mm--70×70mm
测温接口	sensor	5个	5
外形尺寸	Dimensions	L1350×W1220×H1770	L1350×W1220×H1770
机器重量	Net weight	1100kg	1100kg



# 多功能芯片返修设备 BGA Rework Station

## 客制化异形器件多功能芯片返修站 ZM-R8000

Customized multifunction Shaped components Rework Station ZM-R8000



### 主要特点

- 热风头和贴装头一体化设计, 自动吸料, 自动焊接, 自动拆焊, 自动放料;
- 百万像素高清彩色光学视觉系统, 具分光、放大和微调功能, 含色差分辨装置, 自动对焦、裂像对位、软件操作功能;
- 轴电动控制, 上部加热头和视觉系统可通过摇杆进行控制, 对位快捷; 上部和第三区可以连动作业
- 上、下、底部三个温区独立加热, 加热温度和时间实时显示, 具超温异常保护功能及气压失压保护功能;
- 全电脑控制, 加热工艺参数设定可用鼠标直接拉动曲线实时更改, 方便快捷, 测温曲线分析并可与历史保存曲线加以比对;
- 上部加热采用自主专利的冷却, 加热一体化装置;
- 上下热风头均可在大型IR底部预热区内任意位置移动, 适合BGA在PCB上不同位置时可靠返修;
- 下部第三温区采用红外热风混合加热方式, 高度上下可微调;
- 底部大面积IR预热区采用碳纤维加热器, 搭配微晶面板, 升温降温快捷, 可根据PCB板的大小, 调整预热面积, 使整块PCB恒温、防止变形;
- XY轴采用伺服电机驱动, 吸咀自动识别贴装高度, 压力控制在微小范围;
- 预留氮气接口, 可在氮气保护下完成BGA返修过程, 并具有独特的氮气节省功能;
- 多种尺寸合金喷嘴, 可360度任意角度定位。

### Main Features:

- Heater device and mounting head 2 in 1 design, automatically suck, weld, remove and place chip.
- High definition ccd color optical vision system, splitting, amplification, micro-ajust and auto-focus, with automatic color resolution, split image focus and software operation function.
- shaft motor control, the top heater and optical lens can be controlled through rocker. Rapid position.
- There are three independent heating area, with instant temperature curve analysis function. When the temperature goes out of control, the circuit will automatically power off.
- fully computer-controlled, Heating process parameters set can be real-time changed through mouse directly pulling the curve. The temperature curve analysis can compare with history curve.
- The top heater adopt integration of independent patent of cooling, heating device.
- The top heater and the bottom heater can move freely in the IR preheating area. Suitable for bga repair in any direction of the pcb board.
- The third heating area adopt IR and hot air mixture. The height can be micro adjust up and down.
- adopt carbon fiber and crystallite panel for IR heater. The preheating area can be adjust according to the size of PCB board. Provide even heat. And prevent the pcb from deformation.
- XY axis adopt servo drives, sucking nozzle automatically identified the height of mouting. Pressure can be controlled in small range.
- Reserved Nitrogen interface. Nitrogen has protective effects on the bga melting process. And it has a special saving nitrogen function.
- Offer all kinds of hot air nozzle. It can rotate 360 degree.

### 产品规格及技术指标 (specifications and technical parameters)

总功率	24KW	Total Power	24KW
电源	三相 380V 50/60Hz	Power	AC 380V 50/60Hz
PCB 定位方式	光学对位	PCB position	Laser
适用芯片尺寸	1×1-90×90mm	Chip size	1×1-90×90mm
设备尺寸	2000mm×1500mm×1800mm	Dimension	2000mm×1500mm×1800mm
最大托板面积	1220mm×940mm	PCB size	1220mm×940mm (MAX)
最大加热面积	1200mm×800mm	Preheating size	1200mm×800mm
适用PCB厚度	0.5-8mm	Suitable PCB thickness	0.5-8mm
温度控制	16段可编程温控设定	Temperature control	Can be set 16 segments
贴装精度	±0.02mm	placement accuracy	±0.02mm
最小间距	0.15mm	Min space	0.15mm
最重芯片	80g	Max weight	80g

全国统一服务热线：0755-29929955 29929956



# 多功能芯片返修设备 BGA Rework Station

## 高效率自动在线BGA返修站 ZM-R7800

High efficiency Automatic BGA online rework station ZM-R7800



### 主要特点

- 线体由一台预热平台及一台自动拆卸设备组成，链条式接驳台自动传输。
- 预热平台采用上下两组大面积红外发热组件，采用特殊碳纤维发热管发热，同时产生热风；上下各三个温区，每温区均可独立设置5段升温+5段降温曲线，实现对PCB上下同步加热，减少PCB受热变形，提高升温速度。
- 自动拆卸设备：
- 加热和拆卸一体化设计，实现自动拆卸功能。
- 采用上部，底部两个温区设计。上部风头采用双通道、直喷式，红外线直接作用于加热区域，与热风同时传导这样可以弥补相互不足，使得PCB升温快（升温速率达10°C/S），同时温度仍然保持均匀。底部采用大面积红外+热风混合加热；发热材料为碳纤维，使用寿命长。
- 底部设有PCB支撑装置气缸驱动上下动作。
- X/Y/Z均采用伺服电机+精密丝杆控制，实现快速移动及精确定位。
- 拆卸后芯片自动回收至指定位置。

### Main Features:

- The line consists of a pre-heating platform and automatic remove equipment, automatic transmission by chain-type feeder.
- Pre-heating platform adopts top and bottom large-area infrared heating module, special carbon fiber heating tube, generates hot air at same time. The top and bottom each has 3 temperature zones. Each zone can independently set 5 segments rising temperature and 5 cooling segments, to heat the PCB board from top and bottom at the same time, to avoid PCB from deformation, to improve heating rate.
- Automatic desoldering equipment: Heating and desoldering 2 in 1 design, can desoldering automatically.
- Adopt top and bottom temperature zone. The top heater adopts dual-channel and direct-injection design. The infrared heats the heating area directly, along with the hot air, which make up the disadvantages of each other. Heating fast (heating rate is up to 10°C/S), meanwhile the temperature keep uniform. The bottom heater adopts large-area infrared and hot air heating, with carbon fiber material, long serve life.
- There is PCB support on the bottom. Cylinder drives up and down.
- X/Y/Z axis controlled by servo control system and precision screw, fast moving and precise positioning. The chip will be recycled into a specified location automatically after desoldering.
- The entire line adopts industrial computer and PLC control, can display temperature curves real time, including setting curves and testing curves, and analyze the curves, save large groups of curves.
- Automatic up and down trigger is optional.

### 产品规格及技术指标 (specifications and technical parameters)

总功率	Total Power	Max 15000W	Max 15000W
电源	Power supply	AC 380V 50/60 Hz	AC 380V 50/60 Hz
定位方式	Positioning	下部支撑，外形或定位孔	bottom support, shape or positioning holes
最大PCB尺寸	PCB size	W550*D450mm	W550*D450mm
适用芯片	Suitable chips	1*1~70*70mm	1*1~70*70mm
外形尺寸	Dimensions	L3800*W1050*H1540	L3800*W1050*H1540
机器重量	Net weight	约700kg	about 700kg
自动拆卸功率	Automatic desoldering power	上部加热功率：红外+热风 1200W 底部预热：红外4000W	Top heater: infrared + hot air 1200W Bottom heater: infrared 4000W
预热平台功率	Pre-heating platform power	最大12KW	Max 12KW
效率	Efficiency	约50S/PCS	about 50S/PCS
PCB厚度	Thickness of PCB	0.5~4mm	0.5~4mm



# 多功能芯片返修设备 BGA Rework Station

高精度异型器件等多功能芯片返修工作站 ZM-POP500  
High precision Multifunction chip rework station for abnormal shape component ZM-POP500



多功能显示窗  
Multifunctional display screen



喂料装置  
Feeding device



触摸屏控制  
Control by Touch Screen



压缩空气及氮气接口  
Compressed air and Nitrogen flow port



独创贴装压力控制系统，  
贴装压力控制在8克以下  
Self-created mounting pressure control system, the mounting pressure controlled below 8 grams

## 主要特点

- 贴装头内置独创双重贴装压力控制系统，贴装压力可控制在10克以下，在拆卸POP上层芯片时不会损坏下层芯片及焊点，保护PCB。
- 贴装头内置激光定位装置，引导PCB快速定位。
- 贴装头上下运动系统采用台湾上银精密滚珠丝杆、导轨、松下伺服电机，保证可靠精确运行。
- 上下部热风加热，X、Y方向电动同步移动，避免返修死角。
- 下部热风加热系统电动升降，可随时调整加热高度。
- 下部热风加热系统采用自主专利技术的新型微型加热器，独特的气道布局，保证在高温下稳定运行。
- 自动记忆贴装、拆焊位置，无需人工设置，实现自动拆焊、贴装。
- 大尺寸红外加热器，采用碳纤维加热器配合微晶面板，使加热更均匀。
- 光学系统采用日本computer变倍镜头。
- 内置喂料系统，自动喂料收料。
- 人机界面采用台湾屏通高分辨率触摸屏，分辨率高达800\*600。
- 对位系统采用摇杆控制，可X、Y方向大范围移动观察芯片边缘。
- 贴装头电动360°旋转。
- 气源接入，氮气与压缩空气可自由切换。
- 内置日本SMC精密气源控制系统，保证热风稳定均匀。
- 整机控制系统采用PLC控制，保证整机稳定运行。
- 温度控制系统采用大工计控8通道温度模块，自动PID控温。
- 运行过程中自动对温度、气压进行检测，有异常事故发生时，自动保护。

## Main Features:

- Mounting head Built-in double pressure control system within 10 grams, when desoldering POP upper chip without damaging the lower one and pad.
- Built-in laser device for PCB rapid positioning.
- Main parts of Mounting head up and down movement system are from Taiwan.
- The upper and lower are hot air heating, and X, Y directions moves.
- The lower hot air heating systems are electric lift, heating height adjustable.
- Lower hot air heating system are the new micro-heater Zhuomao patented technology, the unique layout to ensure stable operation at high temperatures.
- Automatic memory Mounting and desoldering height, do self desoldering and mounting.
- Bottom large infrared preheating area, carbon fiber heaters with Microcrystalline panel.
- An optical zoom lens system from Japan.
- Built-in automatic feeder for feeding and splicing chips.
- Touch panel from Taiwan, resolution up to 800 \* 600.
- Optical alignment system are joystick control, X, Y direction wide move to observe the chip edge.
- Mounting head electronic drive with 360° rotation.
- Air source access, nitrogen and compressed air is optional.
- Japan SMC Precision air source control system inside, comes stable and evenly hot air.
- Machine control system using PLC, to ensure stable operation.
- Temperature control system 8-channel temperature module, automatic PID temperature control.
- Automatically detection and protection of the temperature, pressure, heating system and the operating window when its running.

## 产品规格及技术指标 (specifications and technical parameters)

总功率	Total Power	Max 8200W	Max 8200W
电源	Power supply	AC 220V 50/60 Hz	AC 220V 50/60 Hz
加热功率	Heater power	上部温区1200W 下部温区800W IR温区6000W	Top heater 1200w 2nd heater 800w, 3rd IR heater 6000w
最大加热温度	Hot air heating temperature	400°C ( Max)	400°C ( Max)
定位方式	Positioning	V型卡槽PCB定位，配置万能夹具	V-groove, PCB support can be adjusted in any direction with external universal fixture
最大PCB尺寸	PCB size	540mm×400mm	540mm×400mm
适应芯片	Available BGA chip	BGA, POP, QGN, CSP, QFN, LED	BGA, POP, QGN, CSP, QFN, LED
芯片尺寸范围	BGA chip	2×2mm--70×70mm	2×2mm--70×70mm
测温接口	sensor	5个	5
外形尺寸	Dimensions	L850×W1100×H1570	L850×W1100×H1570
机器重量	Net weight	361kg	361kg



# 多功能芯片返修设备 BGA Rework Station

## 全自动视觉BGA返修工作站 ZM-R7300

Full automatic vision BGA Rework station ZM-R7300



### 主要特点

- 上部加热器一体化设计，陶瓷蜂窝加热器热传导更高效；气源采用压缩空气和氮气，气源自由切换符合返修工艺。
- 下部热风加热器与上部加热器同步运动、电动升降，操作简单使用方便。
- 大尺寸红外加热器采用高性能碳纤维加热器配合微晶面板，使PCB预热均匀。
- 采用高清触摸屏人机界面，人性化操作界面，参数修改调用有权限限制，以防误操作；多种操作模式，适合各种场合。
- 贴装头上下采用精密直线运动系统，Z轴运动为松下伺服控制系统，运行精度高、无噪声、寿命更长久。
- 对位系统采用摇杆控制，可通过手动摇杆来控制光学系统的前后左右移动，全方面的观测元器件的四角和中心点的对位状况，杜绝“观测死角”的遗漏问题；X、Y轴均采用千分尺微调，保证贴装精度。

### Main Features:

- Top heater adopts integration design and honeycomb ceramic technology, ensuring the high efficiency of heat-conduction.
- Compressed air and Nitrogen are available to be the hot air flow. And the free turn of them is more suitable for rework station.
- The top heater and bottom one are moved down and up by the software, and at the same step. It is easy to operate.
- IR heater with large heating area is constituted with high performance carbon fiber heater and Microcrystalline panel, so that PCB board can be preheated evenly.
- Adopt HD user-friendly human-machine interface. Parameters modification has the limited access to avoid mistaken operation. And various operation modes are available for all kinds of rework case.
- Mounting head is controlled by precise Linear Motion Systems and Panasonic servo control system, with great performance of high precision, no noise and long life.
- The alignment system is controlled by joystick. You can make the optical lens move left and right by operate the joystick, and can observe the all direction of the BGA chip. The x-axis and y-axis are adjusted by Micrometer device to ensure precision of mounting.

### 产品规格及技术指标 (specifications and technical parameters)

电源	AC 380V 50/60Hz	Power Supply	AC 380V 50/60Hz
总功率	Max 5800W	Total Power	Max 5800W
上部温区加热功率	800W	Top heater Heater Power	800W
下部温区加热功率	800W	Bottom Heater Power	800W
IR温区加热功率	4000W	IR heater Heater Power	4000W
电气选材	松下PLC+松下伺服系统+10寸真彩触摸屏+高精度智能温度控制模块	Electrical Selection	Panasonic PLC + Panasonic servo system + 10 inch color touch screen + High precise and intelligent temperature control module
温度控制	K型热电偶闭环控制	Temperature Control	k-type thermocouple (closed loop)
定位方式	V型卡槽CB定位+激光自动定位	Positioning	V-groove+ infrared point
PCB尺寸	Max 470×500mm Min 15×20 mm	PCB Size	Max 470×500mm Min 15×20 mm
适用芯片	Max 70×70mm Min 2×2 mm	Available Chip	Max 70×70mm Min 2×2 mm
外形尺寸	L1070×W920×H1500mm(不包括显示支架)	Size	.L1070×W920×H1500mm (The display stand not included)
测温接口	4个	External temperature sensor	4 pcs



# 多功能芯片返修设备 BGA Rework Station

## 高端光学BGA返修工作站 ZM-R7830 High Performance Optical BGA Rework Station ZM-R7830



上下热风系统大范围自由移动  
top/bottom hot air heating system can move freely in large area



平板红外加热系统  
Pad IR preheating system



氮气接口  
Nitrogen flow port



触摸屏控制  
Control by Touch Screen



独创贴装压力控制系统，贴装压力控制在8克以下  
Self-created mounting pressure control system, the mounting pressure controlled below 8 grams



精密压力控制  
Precise impressive Control



精密级热风流量控制器  
Precise Control of hot air flow

### 主要特点

- 贴装头内置压力检测和激光定位装置，保护PCB，并且引导PCB快速定位
- 贴装头上下运动系统采用台湾上银精密滚珠丝杆、导轨、松下伺服电机，保证可靠精确运行。
- 上下部热风加热，X、Y方向同步移动，避免返修死角。
- 下部热风加热系统电动升降，可随时调整加热高度。
- 大尺寸红外加热器，采用碳纤维加热器配合微晶面板，使加热更均匀。
- 光学系统采用日本computer变倍镜头。
- 内置自动喂料与接料系统
- 人机界面采用台湾屏通高分辨率触摸屏，分辨率高达800\*600。
- 对位系统采用摇杆控制，可X、Y方向大范围移动观察芯片边缘。
- 贴装头电动360°旋转。
- 气源接入，氮气与压缩空气可自由切换。
- 内置日本SMC精密气源控制系统，保证热风稳定均匀。
- 整机控制系统采用松下PLC，保证整机稳定运行。
- 温度控制系统采用大工计控8通道温度模块，自动PID控温。
- 运行过程中自动对温度、气压、加热系统、操作窗口进行检测，有异常事故发生时，自动保护。

### Main Features:

- Mounting head Built-in pressure detection and laser positioning device, to protect PCB and fast positioning.
- Main parts of Mounting head up and down movement system are from Taiwan.
- the upper and lower are hot air heating, and X, Y directions moves.
- The lower hot air heating systems are electric lift, heating height adjustable.
- Bottom large infrared preheating area, carbon fiber heaters with Microcrystalline panel.
- An optical zoom lens system from Japan.
- built-in automatic feeder for feeding and splicing chips.
- touch panel from Taiwan, resolution up to 800 \* 600.
- Optical alignment system are joystick control, X, Y direction wide move to observe the chip edge.
- Mounting head electronic drive with 360° rotation.
- air source access, nitrogen and compressed air is optional.
- Japan SMC Precision air source control system inside, comes stable and evenly hot air.
- machine control system using Panasonic PLC, to ensure stable operation.
- temperature control system 8-channel temperature module, automatic PID temperature control.
- automatically detection and protection of the temperature, pressure, heating system and the operating window when its running,

### 产品规格及技术指标(specifications and technical parameters )

总功率	Max 5800W	Total Power	Max 5800W
电 源	AC 380V 50/60 Hz	Power supply	AC 380V 50/60 Hz
加热功率	上部温区800W 下部温区800W IR温区4000W	Heater power	Top heater 800w.heater 800w, IR heater 4000w
最大加热温度	400°C ( Max)	Hot air heating temperature	400°C ( Max)
定位方式	V型卡槽PCB定位+激光辅助定位，配置万能夹具	Positioning	V-groove, PCB support + laser automatic positioning Configure universal fixture
最大PCB尺寸	560mm×470mm	PCB size	560mm×470mm
适应芯片	BGA, QGN, CSP, POP, QFN, Micro SMD	Available BGA chip	BGA, QGN, CSP, POP, QFN, Micro SMD
芯片尺寸范围	2×2mm--70×70mm	BGA chip	2×2mm--70×70mm
测温接口	4个	sensor	4
外形尺寸	L760×W850×H950	Dimensions	L760×W850×H950



# 多功能芯片返修设备 BGA Rework Station

## 高精度光学BGA返修设备 ZM-R750A BGA REWORK STATION ZM-R750A



### 主要特点

- 上部热风加热系统采用陶瓷蜂窝加热系统，热转换高效。
- 下部热风加热器与上部加热器同步移动，实现PCB快速定位；下部热风加热器电动升降，可以避开PCB底部元件，使操作简单使用方便。
- 红外加热系统与PCB托板同步左右大范围移动，方便维修大型PCB；红外加热系统采用碳纤维加热器和高温玻璃，使预热更均匀。
- 多种操作模式，一键完成芯片的拆焊、吸取，操作简单。
- 自带激光定位装置，针对不同返修产品，实现快速转换，无需设置繁琐参数。
- 7段式温区控制，符合无铅返修工艺。
- HDMI高清光学对位系统，电动X、Y方向移动，全方便观测元器件，杜绝“观测死角”遗漏问题，实现元器件的精确贴装。
- X、Y、Z、R轴电动微调，自动补偿对位，同批次贴装无需重复对位。
- 选用高精度K型传感器，实现对PCB、BGA各点温度的精密检测，自动曲线分析。
- 内置三级烟雾净化系统，对运行中产生的有毒气体进行过滤净化（选配）。
- 贴装头360°电动旋转。

### Main Features:

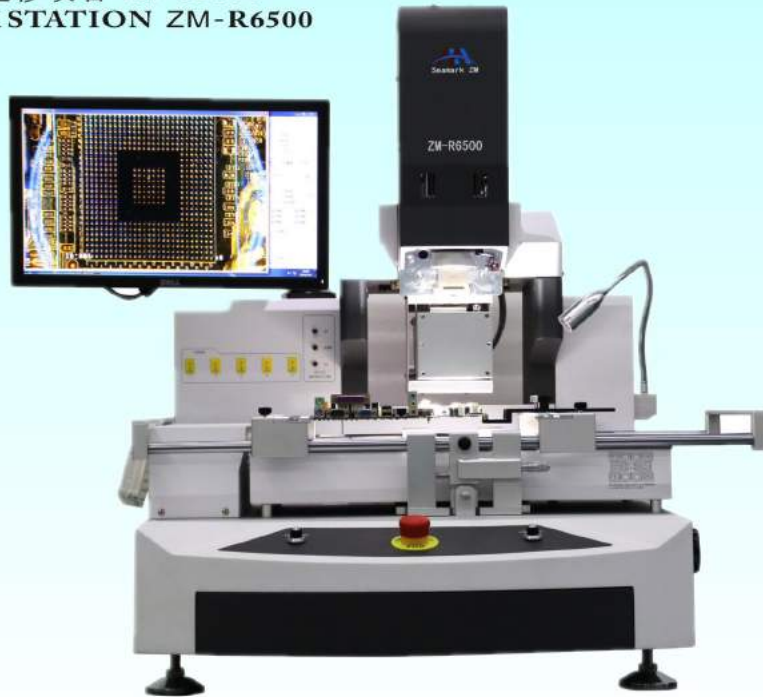
- The top heater adopt ceramic honeycomb heat system, which has high thermal conversion efficiency.
- The top heater and the bottom heater can be moved synchronous, so that the PCB can be positioned fast. The bottom heater can avoid components on the bottom of the PCB board through lifting, which makes the operation easy and convenient.
- The infrared heating system and the PCB tray can be moved synchronous from left to right, so that the repair of large PCB board will become more convenient. What's more, the infrared heating system using carbon fiber heater and heat-resistant glasses which make preheating more evenly.
- There are many kinds of operating mode: the chip can be desoldered and mounted through pressing a button. The operation is very simple.
- Due to laser positioning device, it enabling rapid conversion, without setting burdensome parameter for different products.
- It has 7 section temperature control, which in accordance with lead-free repair process.
- HDMI high-definition digital imaging system, which can move forward and back; up and down automatically. You can inspect the edge of BGA from all directions and mount the components accurately.
- X、Y、Z、R axis can be adjusted and compensated alignment automatically. Same batch of mounting is not necessary to repeat alignment.
- The usage of high precision K-type sensor realizing the precision direction of every point for PCB and BGA. What's more, it has Automatic curve analysis function.
- Built-in three-stage smoke purification system, which can filter poisonous gas. (optional) The mounting head can rotate 360 degrees.

### 产品规格及技术指标 (specifications and technical parameters)

总功率	6100W Max	Total power:	6100W Max
电源	AC 220V±10% 50/60Hz	Power Supply	AC 220V±10% 50/60Hz
上部温区	800 W	Top heater	800 W
下部温区	800W	Bottom heater	800W
Ir温区	4000W (预热区域)可选择控制	IR heater	4000W (preheating)
电气选材	松下PLC+红外发热管	electric material	Panasonic PLC+ infrared heat pipe
对位系统	HDMI数字高清成像系统，自动光学变焦	Optical System	HDMI high-definition digital imaging system; Automatic optical zoom
温度控制	K型热电偶闭环控制，独立控温，精度可达±3度	Temperature control	K-type thermocouple (close-loop) and heating independently. Temperature accuracy is within 3 degree
定位方式	配万能夹具	Positioning	The universal fixture
PCB尺寸	Max 460×460mm；Min20×20mm	PCB Size	Max 460×460mm；Min20×20mm
适用芯片	0.5×0.5~80×80mm	Chip Size	0.5×0.5~80×80mm
测温接口	5个	Sensor	5pcs

# 多功能芯片返修设备 BGA Rework Station

## 高精度光学BGA返修设备 ZM-R6500 BGA REWORK STATION ZM-R6500



全电脑控制

### 主要特点

- 上部热风加热系统采用陶瓷蜂窝加热系统，热转换高效。
- 红外加热系统采用进口陶瓷加热器，使PCB预热更均匀。
- 多种操作模式，一键完成芯片的拆焊、贴装，操作简单。
- 10段温区控制，符合无铅返修工艺。
- 自动曲线分析，自动生成曲线报告，品质异常可追溯。
- 温度参数海量存储，方便调取历史参数。
- 高清光学对位系统，X、Y方向自动移动，全方便观测BGA边缘，杜绝“观测死角”遗漏问题，实现元器件的精确贴装。
- X、Y轴配有千分尺微调，调节精度可达 $\pm 0.01\text{mm}$ 。
- 选用高精度K型传感器，实现对PCB、BGA各点温度的精密检测，自动曲线分析。
- 标配自动喂料器，实现自动喂料自动收料。
- 内置三级烟雾净化系统，对运行中产生的有毒气体进行过滤净化（选配）。
- 贴装头 $360^\circ$ 电动旋转。
- 直线运动机构采用日本THK直线导轨，保障运行精度

### Main Features:

- The top heater adopt ceramic honeycomb heat system, which has high thermal conversion efficiency.
- The infrared heater adopt the imported ceramic heater, which can preheat the PCB more evenly.
- There are many kinds of operating mode; the chip can be desoldered and mounted through pressing a button. The operation is very simple.
- It has 10 section temperature control, which in accordance with lead-free repair process.
- The temperature curve can be analyzed and reported automatically. The origin can be traced if it has exceptional quality problem.
- Mass temperature parameters can be stored. It is very convenient to obtain the history parameters.
- It adopt the high-definition optical alignment system which can move forward and back; up and down automatically. You can inspect the edge of BGA from all directions and mount the components accurately.
- X, Y axis is equipped with micrometer fine-tuning section, adjustment precision of  $\pm 0.01\text{mm}$ .
- The usage of high precision K-type sensor realizing the precision direction of every point for PCB and BGA. What's more, it has Automatic curve analysis function.
- The automatic feeder can feed and discharge the materials automatically.
- Built-in three-stage smoke purification system, which can filter poisonous gas. (optional)
- The mounting head can rotate 360 degrees.
- Linear motion machine using the Japanese THK linear rail which guarantee the running accuracy

### 产品规格及技术指标 (specifications and technical parameters)

电源	AC 380V / AC220 50/60 Hz	Power Supply	AC 380V / AC220 50/60 Hz
总功率	Max 8800W	Total Power	Max 8800W
顶部热风加热器功率	800 W	Power of Top Hot Air Heater	800 W
底部热风加热器功率	1200 W	Power of Bottom Hot Air Heater	1200 W
底部预热功率	6600 W	Power of IR pre-heater	6600 W
控制部分功率	200W	Power of Controller	200W
温度误差	$\pm 2^\circ\text{C}$	Temperature Error	$\pm 2^\circ\text{C}$
贴装精度	$\pm 0.01\text{mm}$	Placement Accuracy	$\pm 0.01\text{mm}$
贴装压力	$< 0.2\text{N}$	Placement Pressure	$< 0.2\text{N}$
热风加热温度	$400^\circ\text{C}$ ( Max)	Hot Air Heating Temperature	$400^\circ\text{C}$ ( Max)
最大PCB尺寸	640mm×520mm	PCB Size	640mm×520mm
芯片尺寸范围	0.8×0.8mm--80×80mm	BGA Chip Size	0.8×0.8mm--80×80mm

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# 多功能芯片返修设备 BGA Rework Station

高精度多功能返修设备 ZM-R730

Optical Alignment BGA Rework Station ZM-R730



## 主要特点

- 独立三温区控温系统
- 精准的光学对位系统
- 自带智能烤箱
- 多功能人性化的操作系统
- 优越的安全保护功能

## Main Features:

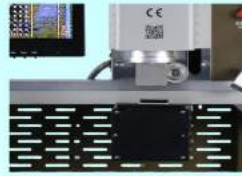
- 3 independent control heaters
- Precise optical alignment system
- Built-in smart oven
- Multi-function operation system
- Superior safety functions

## 产品规格及技术指标 (specifications and technical parameters)

电源	AC 220V±10% 50/60 Hz	Power Supply	AC 220V±10% 50/60 Hz
总功率	Max 7400W	Total Power:	Max 7400W
上部温区加热器功率	1200 W	Top Heater Power	1200 W
下部温区加热器功率	1200 W	Bottom Heater Power	1200 W
Ir温区功率	4000 W	IR Heater Power	4000 W
烤箱功率	1000W	Oven	1000W
电气选材	智能可编程温度控制系统	Electrical Material	High Intelligent Temperature Control Module
温度控制	K型热电偶闭环控制,上下独立测温,温度精度范围±3℃	Temperature Control	K-Type Thermocouple (Closed Loop) Heating Independently; The Precision Within 3℃
定位方式	V型卡槽定位	Positioning	V-Grove PCB Support
PCB尺寸	Max 480×370 mm	PCB Size	Max 480×370 mm
适用芯片	Max 80×80mm      Min 2×2 mm	BGA Chip Size	Max 80×80mm      Min 2×2 mm
外形尺寸	L690×W680×H1560 mm	Dimension	L690×W680×H1560 mm

# 多功能芯片返修设备 BGA Rework Station

## 精密光学LED返修设备 ZM-R720 Precision LED Rework Station ZM-R720



光学对位装置  
Optical alignment system



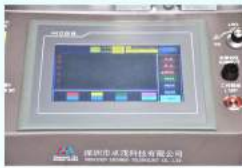
红外定位装置  
Laser positioning device



芯片角度调节装置  
Chip angle adjustment device



USB接口配置  
USB port



触摸屏控制  
Touch Screen Control

### 主要特点

- 本适用于LED灯珠返修，可返修不小于0.6\*0.6微小LED元件。
- 适于编料带及散料LED灯珠元件；也适于任何BGA及高难返修元件的返修。
- 高清光学对位系统，实现准确定位返修的LED元件位置，保证LED元件的精确贴装。
- 光学对位采用电动控制可自动旋转光学对位。
- 贴装头内置压力检测装置，保护PCB。
- 内置激光定位装置，引导PCB快速定位。
- 贴装头上下运动系统采用台湾上银精密滚珠导轨，保证可靠精确运行。
- 上部热风系统与下部热风加热系统上下对中设计，指定局部加热，防止PCB发黄。
- 下部热风加热系统手动升降，可随时调整加热高度。
- 红外加热器采用陶瓷红外辐射板状辐射器，加热稳定均匀寿命持久。
- 人机操作界面设置多种操作模式及权限，贴装拆卸均手动操作，简单培训就会操作。
- 人机界面采用高分辨率触摸屏，分辨率高达800\*600。
- 对位系统采用摇杆控制，摇杆控制机头上下，无需设置繁琐参数。
- 气源供给采用台达双滚珠轴流风机，无需依赖外接气源。
- 整机控制系统采用大工计控6通道温度模块，自动PID控温。
- 运行过程中自动实时监测各加热器，有异常事故发生时，相关传感器将故障信号发送给PLC，PLC自动关闭相关输出通道并显示故障状态。自动保护。

### Main Features:

- Suitable for LED lamp beads repairing, size of micro LED components not less than 0.6\*0.6mm can be repaired
- Suitable for LED lamp beads of tape packaging and bulk materials, Also any BGA and components which are difficult to repair.
- High resolution optical alignment system, accurate LED components positioning, ensure precise mounting.
- Optical alignment is controlled electrically, can rotate automatically
- Mounting head built-in pressure testing device, to protect the PCB
- Built-in infrared laser positioning, fast positioning for PCB.
- Adopt HIWIN precision guide rail for up and down movement system, ensure reliable and accurate running
- Adopt up and down alignment for top and bottom heater, heating for appointed local zone, prevent PCB to turn yellow.
- Bottom heater up and down manually, can adjust the heating height real time.
- Adopt ceramics infrared radiator for IR heater, heating stably and uniformly with long serve life
- Human-machine interface has multiple operation mode and permission, welding, dewatering and mounting manually, easy operation.
- High resolution touch screen, which is up to 800\*600 pixel
- Adopt joystick control for alignment system, no need setting Complicated parameters
- Adopt Delta double ball bearing flow fan for air supply, no need external air source
- Adopt DCCE 6 channel module for temperature control system, automatic PID adjustment
- Monitoring heaters real time, when accident happens, relevant sensors will send signal to PLC, which will close output channel and display fault condition. Protect itself automatically

### 产品规格及技术指标 (specifications and technical parameters)

总功率	Total Power	Max 5800W	Max 5800W
电源	Power supply	AC 220V 50/60 Hz	AC 220V 50/60 Hz
加热功率	Heater power	上部温区1200W 下部温区1200W IR温区3200W	Top heater 1200w 2nd heater 1200w, 3rd IR heater 3200w
最大加热温度	Hot air heating temperature	400°C (Max)	400°C (Max)
定位方式	Positioning	V型卡槽PCB定位+激光辅助定位，配置万能夹具	V-groove, PCB support + laser automatic positioning figure universal fixture
最大PCB尺寸	PCB size	410mm*370mm	410mm*370mm
适应芯片	Available BGA chip	BGA, QGN, CSP, POP, QFN, Micro SMD、LED灯珠	BGA, QGN, CSP, POP, QFN, Micro SMD, LED
芯片尺寸范围	BGA chip	2*2mm--80*80mm	2*2mm--80*80mm
测温接口	sensor	1个	1
外形尺寸	Dimensions	L640*W630*H920	L640*W630*H920
机器重量	Net weight	71kg	71kg

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# 多功能芯片返修设备 BGA Rework Station

## 高性价比光学BGA/LED返修台 ZM-R7350

High cost performance optical alignment BGA/LED Rework Station ZM-R7350



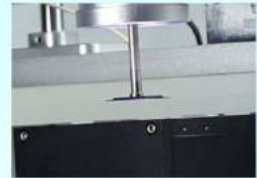
触摸屏控制  
Control by Touch Screen



CCD光学对位镜  
CCD optical lens



激光对位  
Add Laser



BGA贴装头  
BGA mounting head



摇杆控制  
joystick Control



光学对位装置  
Optical alignment system

### 主要特点

- 贴装头内置压力检测装置，保护PCB。
- 激光定位装置，引导PCB快速定位。
- 贴装头上下运动系统采用台湾上银精密滚珠导轨，保证可靠精确运行。
- 下部热风加热系统手动升降，灵活调整加热高度。
- 红外加热器采用陶瓷红外线板状辐射器，加热稳定均匀，寿命持久。
- 人机操作界面设置多种操作模式及权限，应用方便。
- 人机界面采用高分辨率触摸屏，分辨率高达800\*600。
- 对位系统采用摇杆控制，摇杆控制机头上下，无需设置繁琐参数。
- 气源供给采用台达双滚珠轴流风机，保证气源稳定。
- 整机控制系统采用大工计控6通道温度模块，自动PID控温。
- 运行过程中自动实时监测各加热器，有异常事故发生时，自动保护。

### Main Features:

- Mounting pressure control device is inbuilt inside the mounting head to protect PCB board from damage.
- Infrared laser positioning inbuilt the mounting head for PCB positioning quickly.
- Zaxis motion of the mounting head is controlled by Taiwan precise guide rail to ensure the precise running.
- Height of bottom hot air nozzle can be adjusted.
- Adopt ceramics infrared radiator for IR heater, heating stably and uniformly with long serve life
- Multiple operation model can be set up on the touch screen to realize the desoldering and soldering automatically. Profile is protected by limits of authority.
- High resolution touch screen, up to 800\*600 pixels
- Alignment system controlled by joystick, no need setting complicated parameters
- Gas is supplied by Delta double ball bearing axial flow fan ,without need of the external gas supply.
- Temperature control system is composed with DCCE 8 channel temperature module and automatic PID
- Perfect self protection function available. Heaters are inspected anytime in the process, when accident happen, it will alarm.

### 产品规格及技术指标(specifications and technical parameters )

总功率	Max 5300W	Total Power	Max 5300W
电源	AC 220V 50/60 Hz	Power supply	AC 220V 50/60 Hz
加热功率	上部温区1200W 下部温区1200W IR温区2700W	Heater power	Top heater 1200w. heater 1200w, IR heater 2700w
最大加热温度	400°C ( Max )	Hot air heating temperature	400°C ( Max )
定位方式	V型卡槽PCB定位 + 激光辅助定位 配置万能夹具	Positioning	V-groove, PCB support + laser automatic positioning Configure universal fixture
最大PCB尺寸	410mm×370mm	PCB size	410mm×370mm
适应芯片	BGA,QGN,CSP,POP,QFN,LED	Available BGA chip	BGA,QGN,CSP,POP,QFN,LED
芯片尺寸范围	2×2mm--80×80mm	BGA chip	2×2mm--80×80mm
测温接口	1个	sensor	1
外形尺寸	L640×W630×H900	Dimensions	L640×W630×H900
机器重量	70kg	Net weight	70kg

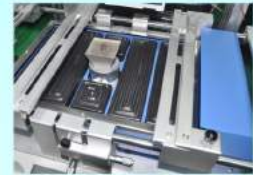


# 多功能芯片返修设备 BGA Rework Station

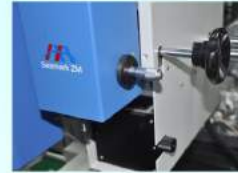
## 手动光学BGA返修台 ZM-R7220 Manual optical BGA Rework Station ZM-R7220



光学对位装置  
Optical alignment system



红外预热装置  
IR preheating heater



芯片角度调节装置  
Chip angle adjustment device



USB接口配置  
USB port



触摸屏控制  
Touch Screen Control

### 主要特点

- 贴装头与加热头分体设计，手动操作灵活，易维护。
- 外置激光定位装置，引导PCB快速定位。
- 贴装头上下运动系统采用台湾上银精密滚珠导轨，保证可靠精确运行。
- 灵活调整加热高度。
- 红外加热器采用陶瓷红外线板状辐射器，加热稳定均匀寿命持久。
- 人机操作界面设置多种使用权限，方便应用
- 人机界面采用高分辨率触摸屏，分辨率高达800\*600。
- 气源供给采用台达双滚珠轴流风机，保证起源稳定。
- 整机控制系统采用自主专利技术的控制器，自动PID控 温。
- 运行过程中自动实时监测各加热器，有异常事故发生时，自动保护。

### Main Features:

- Mounting head and heater are designed independently, with the advantage of flexible operate and easy maintenance.
- External laser positioning function available, to make the PCB positioning fast.
- ZAxis motion of the mounting head is controlled by Taiwan precise guide rail to ensure the precise running.
- Height of bottom hot air nozzle can be adjusted flexibly
- Adopt ceramics infrared radiator for IR heater, heating stably and uniformly with long serve life
- High resolution touch screen, up to 800\*600 pixels
- Gas is supplied by Delta double ball bearing axial flow fan, without need of the external gas supply.
- Adopt patented temperature control system, automatic PID temp control.
- Perfect self protection function available. Heaters are inspected anytime in the process, when accident happen, it will alarm.

### 产品规格及技术指标 (specifications and technical parameters)

总功率	Total Power	Max 4850W	Max 4850W
电 源	Power supply	AC 220V 50/60 Hz	AC 220V 50/60 Hz
加热功率	Heater power	上部温区800W 下部温区1200W IR温区2700W	Top heater 800w 2nd heater 1200w, 3rd IR heater 2700w
最大加热温度	Hot air heating temperature	400°C ( Max )	400°C ( Max )
定位方式	Positioning	V型卡槽PCB定位 + 激光辅助定位 配置万能夹具	V-groove, PCB support + laser automatic positioning Configure universal fixture
最大PCB尺寸	PCB size	370mm×410mm	370mm×410mm
适应芯片	Available BGA chip	BGA, QGN, CSP, POP, QFN, Micro SMD	BGA, QGN, CSP, POP, QFN, Micro SMD
芯片尺寸范围	BGA chip	2×2mm--70×70mm	2×2mm--70×70mm
测温接口	sensor	1个	1
外形尺寸	Dimensions	L640×W800×H850	L640×W800×H850
机器重量	Net weight	63.5kg	63.5kg



# X-Ray检测设备 X-Ray Equipment

X-Ray检测设备 ZM-X7800  
X-Ray Equipment ZM-X7800



## 主要特点

- 高清晰度的检测影像：焊点开路、短路、气泡等缺陷一目了然
- 130KV 3 $\mu$ m 闭式X射线管，长寿命、免维护
- 采用230万高分辨率数字平板探测器
- 倾斜60度观测
- 360度平台旋转
- 彩色图像导航&Mapping导航
- 自动编程检测以及自动判断NG or PASS
- 支持图片拼接功能
- 可升级3D模块(工业CT)
- 自动测试方案定制
- 500 X 500载物台

## Main Features:

- Detection of high-definition video: joints open, short, bubbles and other defects at a glance.
- 130KV 3 $\mu$ m closed X-ray tube, with long life, maintenance in free
- 2.3 million high resolution digital flat panel detector
- 60 degrees observation
- Platform 360 degrees rotation
- Color Image Navigation & Mapping Navigation
- Automatic programming detection and automatic analysis
- Not good or Pass
- Support image stitching
- Scalable 3D module (industrial CT)
- Customized test program automatically
- 500 x 500 Table Size

## 产品规格及技术指标 (specifications and technical parameters)

光管类型	封闭式X光管	Tube type	Closed X-ray tube
最大管电压	130kV(可选90kV, 100kV, 150kV)	Maximum tube voltage	130kV(90kV, 100kV, 150kV optional)
最大管电流	0.15mA	Maximum tube current	0.15mA
焦距大小	3 $\mu$ m	Focal size	3 $\mu$ m
放大倍率	几何倍率：200X 系统倍率：1000X	Magnification	Geometric magnification: 200 X System magnification: 1000X
图像速度	35 fps	Image speed	35 fps
分辨率	1500*1500	Resolution	1500*1500
倾斜角度	载物台360°旋转, 探测器60°倾斜	Slope angle	360° rotation Object stage, 60° inclined Detector, Easily detect BGA false welding.
载物台大小	500mm*500mm	Stage size	500mm*500mm
外形尺寸	长：1630mm,宽：1850mm,高：1650mm	Dimension	Length:1630mm, Width:1850mm Height : 1650mm
设备净重	1800kg	Net weight	1800kg
输入电压	AC 110-220V (+10%) (国际通用之供电方式)	Input voltage	AC 110-220V (+10%) (international standard power supply)

## X-Ray检测设备 ZM-X7600 X-Ray Equipment ZM-X7600



### 主要特点

- 高清晰度的检测影像：焊点开路、短路、气泡
- 等缺陷一目了然
- 130KV 3 $\mu$ m 闭式X射线管，长寿命、免维护
- 采用230万高分辨率数字平板探测器
- 倾斜60度观测
- 360度平台旋转
- 彩色图像导航&Mapping导航
- 自动编程检测以及自动判断NG or PASS
- 支持图片拼接功能
- 可升级3D模块(工业CT)
- 自动测试方案定制

### Main Features:

- Detection of high-definition video: joints open, short, bubbles and other defects at a glance.
- 130KV 3 $\mu$ m closed X-ray tube, with long life, maintenance in free
- 2.3 million high resolution digital flat panel detector
- 60 degrees observation
- Platform 360 degrees rotation
- Color Image Navigation & Mapping Navigation
- Automatic programming detection and automatic analysis
- Not good or Pass
- Support image stitching
- Scalable 3D module (industrial CT)
- Customized test program automatically

### 产品规格及技术指标 (specifications and technical parameters)

光管类型	封闭式X光管	Tube type	Closed X-ray tube
最大管电压	100kV(可选110kV, 130kV)	Maximum tube voltage	130kV(100kV, 110kV optional)
最大管电流	0.15mA	Maximum tube current	0.15mA
焦距大小	3 $\mu$ m	Focal size	3 $\mu$ m
放大倍率	几何倍率: 200X 系统倍率: 1000X	Magnification	Geometric magnification: 200 X System magnification: 1000X
图像速度	35 fps	Image speed	35 fps
分辨率	1500*1500	Resolution	1500*1500
倾斜角度	载物台360°旋转, 探测器60°倾斜, 轻易检测BGA虚焊	Slope angle	360° rotation Object stage, 60° inclined Detector, Easily detect BGA false welding.
载物台大小	590mm*450mm	Stage size	590mm*450mm
外形尺寸	长: 1630mm, 宽: 1850mm, 高: 1650mm	Dimension	Length: 1630mm, Width: 1850mm Height: 1650mm
设备净重	1600kg	Net weight	1600kg
输入电压	AC 110-220V (+10%) (国际通用之供电方式)	Input voltage	AC 110-220V (+10%) (international standard power supply)



# X-Ray检测设备 X-Ray Equipment

X-Ray检测设备 ZM-X6600  
X-Ray Equipment ZM-X6600



## 主要特点

- 高清晰度的检测影像：焊点开路、短路、气泡等缺陷一目了然
- 90KV 5 $\mu$ m 闭式X射线管，免维护、长寿命
- 采用130万高分辨率数字平板探测器
- 倾斜60度观测
- 彩色图像导航
- 自动编程检测以及自动判断NG or PASS
- 多连板模块化观测点设定

## Main Features:

- Detection of high-definition video: joints open, short, bubbles and other defects at a glance.
- 90KV 5 $\mu$ m closed X-ray tube, with long life, maintenance in free
- 1.3 million high resolution digital flat panel detector
- 60 degrees observation
- Color image navigation
- Automatic programming detection and automatic analysis Not good or Pass
- More modular panels observation point setting

## 产品规格及技术指标 (specifications and technical parameters)

光管类型	封闭式X光管	Tube type	Closed X-ray tube
最大管电压	90kV	Maximum tube voltage	90kV
最大管电流	0.12mA	Maximum tube current	0.12mA
焦斑大小	5 $\mu$ m	Focal size	5 $\mu$ m
放大倍率	几何倍率：150X 系统倍率：1000X	Magnification	Geometric magnification : 150X System magnification : 1000X
图像速度	30 fps	Image speed	30 fps
分辨率	1178*1104	Resolution	1178*1104
倾斜角度	探测器60°倾斜	Slope angle	Detector tilts 60°
载物台大小	640mm*540mm	Stage size	640mm*540mm
外形尺寸	长：1360mm,宽：1360mm,高：1650mm	Dimension	length : 1360mm,width : 1360mm,height : 1650mm
设备净重	1300kg	Net weight	1300kg
输入电压	AC 110-220V (+10%) (国际通用之供电方式)	Input voltage	AC 110-220V (+10%) (international standard power supply)

## X-Ray检测设备 ZM-X5600 X-Ray Equipment ZM-X5600



### 主要特点

- 高清晰度的检测影像：焊点开路、短路、气泡等缺陷一目了然
- 90KV 15 $\mu$ m 闭式X射线管，免维护、长寿命
- 采用130万高分辨率数字平板探测器
- 倾斜30度观测
- 彩色图像导航
- 自动编程检测以及自动判断NG or PASS
- 多连板模块化观测点设定

### Main Features:

- Detection of high-definition video: joints open, short, bubbles and other defects at a glance.
- 90KV 15 $\mu$ m closed X-ray tube, with long life, maintenance in free
- 1.3million high resolution digital flat panel detector
- 30 degrees observation
- Color image navigation
- Automatic programming detection and automatic analysis Not good or Pass
- More modular panels observation point setting

### 产品规格及技术指标 (specifications and technical parameters)

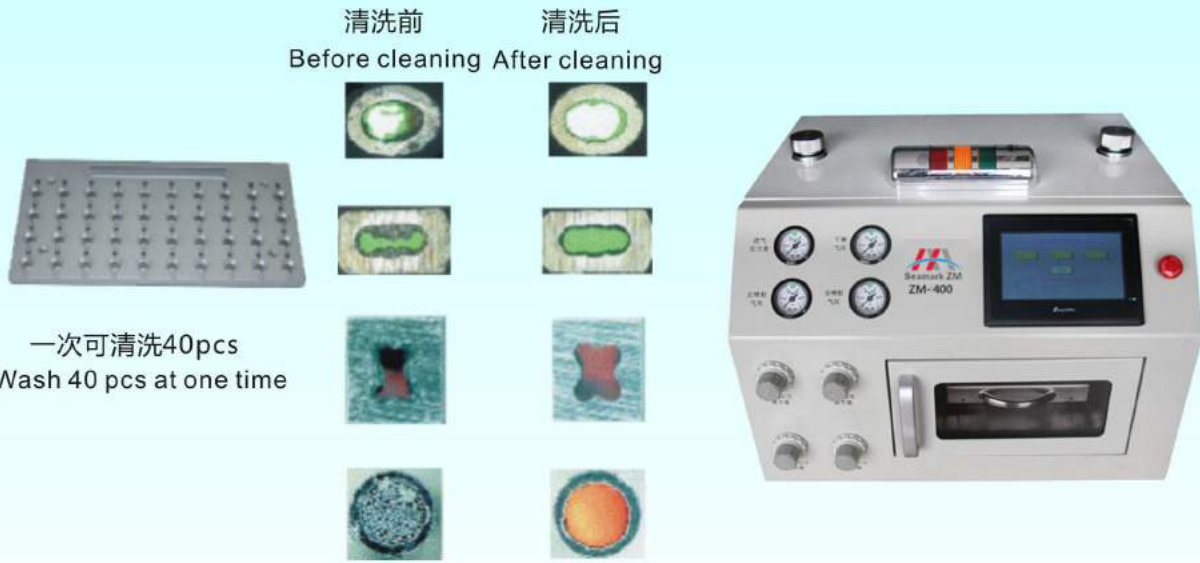
光管类型	封闭式X光管	Tube type	Closed X-ray tube
最大管电压	90kV	Maximum tube voltage	90kV
最大管电流	0.2mA	Maximum tube current	0.2mA
焦点大小	15 $\mu$ m	Focal size	15 $\mu$ m
放大倍率	几何倍率：15X 系统倍率：80X	Magnification	Geometric magnification：15X System magnification：80X
图像速度	20 fps	Image speed	20 fps
分辨率	1176*1104	Resolution	1176*1104
载物台大小	250mm*250mm	Stage size	250mm*250mm
外形尺寸	长：930mm,宽：710mm,高：1070mm	Dimension	length：930mm,width：710mm,height：1070mm
设备净重	350kg	Net weight	350kg
输入电压	AC110-220V (+10%) (国际通用之供电方式)	Input voltage	AC 110-220V (+10%) (international standard power supply)
X射线泄露量	$\leq 1$ u Sv/h	X-ray leakage amount	$\leq 1$ u Sv/h



# 吸咀清洗设备 Cleaning Equipment

## 吸嘴清洗机 ZM-400

Nozzle Cleaning Machine ZM-400



### 主要特点

- 彻底解决超声波难以清洗的污垢杂质；
- 不会因越来越小的吸嘴孔径而清洗不干净；
- 清洗更彻底直接延长吸嘴寿命；
- 无损伤吸嘴表面涂层、反射板；
- 使用环保的去离子水或蒸馏水清洗；
- 自动连续清洗、自动干燥；
- 适用于各种贴片机。

多功能人性化的功能：

气动部份使用全进口日本SMC气动元件,更好的确保了稳定高效的工作效率；

### Main Features:

- To clean the dirt completely which ultrasonic is difficult to resolve
- cleaning will not affect by the smaller and smaller nozzle
- cleaning completely, extending the service life of nozzle
- No damage for the surface of nozzle and baffle-board
- Adopt deionized water or distilled water for cleaning
- Continuous cleaning and drying automatically Suitable for all kinds of SMT machine

Multi-functional humanized functions

Adopt Japan SMC pneumatic components, ensure the stable and efficient working.

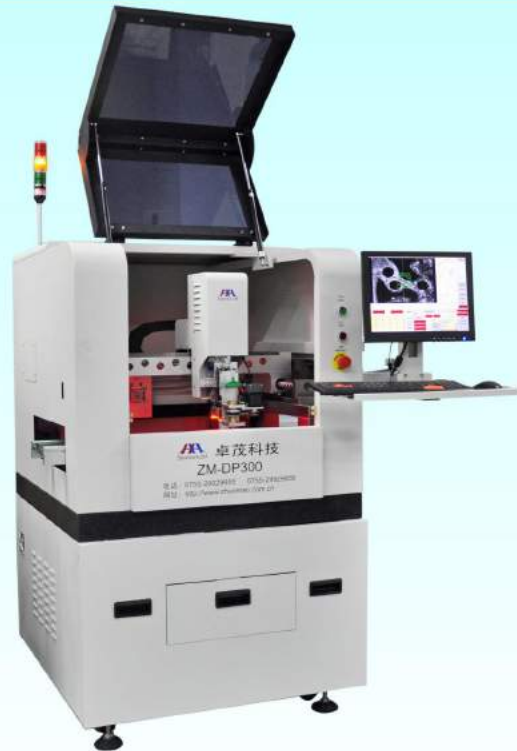
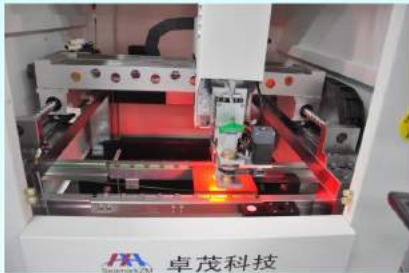
### 产品规格及技术指标 (specifications and technical parameters)

气源	Gas source	压缩空气	Compressed air
		压力范围 ~0.65(Working)	Pressure range 0.5---0.65(Working)
		喷射压 ≤0.55Mpa	Jet pressure ≤ 0.55Mpa
清洗液	Cleaning fluid	存储容量 2000CC	Store capacity 2000CC
		消耗量 2000CC/H	Consumption 2000CC/H
		清洗液 工业去离子水或蒸馏水	Cleaning fluid Deionised or distilled water
电源	Power supply	AC220~240V	AC220~240V
电力消耗	Power consumption	≤0.2KW	≤0.2KW
使用环境	Working environment	0~55°C(不结露)	0~55°C(no ice)
托盘规格	Tray specification	12Hole(各种规格吸嘴)	12Hole(all types of nozzles)
机器重量	Weight	70KG左右	About 70kg

# 非标自动化设备 Non-Standard Automation Equipment

## 全自动点胶机 ZM-DP300

fully-automatic dispensing robot ZM-DP300



### 主要特点

- X\Y\Z为松下A5伺服电机驱动,可做插补同时控制(如圆,椭圆,斜线等),高精度丝杆+导轨配合传动,模块化设计,运行速度可达500mm/s,精度达±0.01mm。
- 全自动视觉定位系统,采用130万高速工业千兆以太网相机,相机识别精度0.005,光源和相机可根据不同产品,记忆不同的亮度和高度,亮度控制精度达1/800。(可根据需要升级为500万像素相机)
- 精密大理石基准平台,保证结构稳定性;在线接驳台式设计,可方便与贴片机及固化炉对接。
- 可搭载激光传感器自动检测产品高度,自动补偿各种因素导致的高度差异,系统自动调节点胶高度,保证点胶均匀一致性。(选配)
- 配置胶管胶量监测系统,胶量剩余不足时自动报警提示更换。
- 能满足各类胶剂,如UV胶,红胶,环氧树脂,锡膏等高精度点涂。
- 编程简单,操作灵活(生产模式和测试模式)。一键自动运行。
- 所有运行数据一键加载。编程简单使用更简单。
- 整机使用研华工控机控制,使用寿命更长,抗干扰更强,适应性更好,随机配送高清监视器。

### Main Features:

- The machine X,Y,Z axis is Panasonic A5 servo motor drive, which can do interpolation and simultaneously control of the circles, ellipses, oblique-line, etc. with high-precision lead screw and guide rail to make transmission, modular design, the operating speed of up to 500mm/s, accuracy of ±0.01mm.
- The full-auto visual position system adopt 1.3 megapixel camera with gigabit ethernet interface, which of identification accuracy is 0.005, the camera can store different brightness and height for different products, the brightness control accuracy of 1/800. (the camera can be upgraded to 500 megapixel according to the requirements.)
- Precision Marble platform can ensure structural stability; the connection to desktop design is easy for the butt joint of SMT machine and curing oven.
- The machine Can be equipped with laser sensor to automatically detect the product height and compensates for the difference of height due to various factors; the system can automatically adjust dispensing height to ensure dispensing evenly. (Optional)
- Equipped with hose and gluing quantity monitoring system, also there will be auto-alarming when the glue is not enough.
- Suitable for all kinds of glue, such as UV glue, red glue, epoxy, solder paste and other high-precision dispensing.
- The programming is simple and easy to operate (production mode and test mode). to press a key to make the machine run automatically.
- All the operating data can be loaded by one key, easy to operate.
- The machine adopt YanHua industry control machine to control, longer service life, stronger anti-interference, better adaptability, also the HD monitor is random delivery.

### 产品规格及技术指标 (specifications and technical parameters)

控制电机	X,Y,Z轴	松下A5伺服	Control motor	X,Y,Z axis	Panasonic A5 servo motor
光学系统	摄像机	130万(可升级为500万)高速工业千兆以太网相机	Optical system	Camera	1.3 megapixel camera (can be upgraded to 500 megapixel)
	光源	环形光源模组,模拟量控制自动调节点亮度,可记忆		Light source	The ring light source module, analog control Automatic adjustment of brightness, memory
机械精度	丝杆	0.01mm/m	Mechanical precision	Lead screw	0.01mm/m
	导轨	0.01mm/m		Guide rail	0.01mm/m
行程范围	X/Y	430mm/450mm	mechanical precision	X/Y	430mm/450mm
最大过板尺寸		600*430mm	Maximum Board Size		600*430mm
运动速度	X,Y,Z轴	最快500mm/s	Working speed	X,Y,Z axis	Max speed 500mm/s
重复定位精度		±0.01mm	Repeatability		±0.01mm
输入气压		0.4-0.7Mpa	Input pressure		0.4-0.7Mpa
系统参数	外形尺寸(长×宽×高)	约L1100*W1000*H1600mm	System parameter	Machine dimension (Length*width*height)	Around L1100*W1000*H1600mm
	机器重量	约600KG		Machine weight	Around 600KG
输入电源		AC 220V 50/60HZ 2200VA/10A	Input power		AC 220V 50/60HZ 2200VA/10A



# 非标自动化设备 Non-Standard Automation Equipment

## 全自动桌面型点胶机 ZM-300ED

Desktop fully-automatic dispensing robot ZM-300ED



### 主要特点

- 中文手持式液晶屏操作，编程方便，易学易懂。
- 具有画点，线，面，弧，圆，不规则曲线连续补间等功能，实现任何3D非平面轨迹路径。
- 卓越的示教功能，支持阵列，圆形化浏览，三维椭圆，常用图形库插入，群组编辑等高级功能。
- 超大容量2G高速MiniSD文件存储器，可存储999个点胶工艺文件。
- 胶量大小粗细，涂胶速度，点胶时间，停胶时间皆可参数设定。
- 配合专用点胶控制器，出胶量稳定，断胶干净，不漏滴胶。
- 具自动防固化功能，有效防止胶水固化堵塞枕头。
- PC兼容性，配合Logoshop软件，可以导入主流设计软件（如精雕，AutoCAD，CoralDraw等）生成的各种文件格式（如NC，AI，DXF，JPG，BMP，扫描仪等）
- 适用流体胶，例如：UV胶，AB胶，EPOXY（黑胶），白胶，EMI导电胶，SILICON，环氧树脂，瞬间胶，银胶，红胶，锡膏，散热膏，防焊膏，透明漆，螺丝固定剂等。

### Main Features:

- Operation with handheld LCD panel teach box, which is easy to program and learn
- Functions of drawing points, lines, surfaces, arc, circle and consecutive interpolation of irregular curves to realize any 3D non planar trajectory path
- Excellent teaching function to support array, graphical browsing, three dimensional elliptic, common graphical library inserting, group editing and so on
- MINI SD file storage with high speed and 2G capacity can store 999 dispensing process documents
- The size of glue, speed of glue spread, dispensing time of halting dispensing can be set by parameters
- With second special dispensing controller, glue outflow is quite stable without leaking and dripping
- The function of automatic gel prevention can effectively prevent curing from jamming needle head
- Powerful PC compatibility with the logoshop software can import mainstream design software (such as AutoCAD, CoralDraw, etc.) to generate a variative of file formats (such as NC, AI, DXF, JPG, BMP, scanner, etc)
- It is applied to fluid dispensing, such as, UV glue, AB glue COB (black glue), white glue, EMI conductive glue, silicon, epoxy resin, instant glue, silver glue, red glue, paste, thermal, thermal grease, welding control paste, transparent paint, screw fixative and so on)

### 产品规格及技术指标 (specifications and technical parameters)

工作范围	Work area	300(X)×300(Y)×100(Z)mm	300(X)×300(Y)×100(Z)mm
外观尺寸	Size	490(L)*528(W)*679(H)mm	490(L)*528(W)*679(H)mm
最大负载Y/Z	Max load	7kg/3kg	7kg/3kg
最大空移速度	Travel speed	400mm/sec(XY)/200mm/sec(Z)	400mm/sec(XY)/200mm/sec(Z)
轴传动方式	Drive mode	步进马达+皮带+精密直线导轨	Stepping motor+belt+precise linear guide rail
XYZ定位精度	Repeatability	±0.03mm	±0.03mm
程序储存容量	Program capacity	999个参数文件(每个文件65535点)	999 parameter files(65535 points per file)
操作系统	Operation system	液晶面板/手持式编程器	LCD panel/Teach pendant
马达系统	Motor	日本精密步进马达	Japan micro stepping motor
运动模式	Movement pattern	3轴点到点、连续直线、圆弧	3 axis point to point, continuous line, arc
扩展IO	I/O signal ports	4输入/4输出	4 inputs/4 outputs
输入电源	Power supply	AC220V 50/60Hz 0.5kw	AC220V 50/60Hz 0.5kw
工作环境	Work condition	温度0-40℃ 相对湿度20-90%	Temperature 0-40℃; humidity 20-90%
重量	Weight	35kg	About 35kg

# 电子制程一站式工具及耗材 One Stop tool And Accessory Solution

## 热风枪系列



ZM-8586 二合一拆焊台  
ZM-8586 2 in 1 solder station



ZM-852D 二合一拆焊台  
ZM-852D 2 in 1 solder station



ZM-852D+热风枪  
ZM-852D+Hotair gun



ZM-938D+电烙铁  
ZM-938D+Soldering iron

## 仪器仪表系列



ZM-3005D 直流稳压电源  
ZM-3005D DC power supply



普源1102E 数字示波器  
Puyun 1102E digital oscilloscope



VC890D 万用表  
VC890D Multi-meter



RT809F编程器  
RT809F programming device

## 手机拆屏系列



五合一支架机  
5 in 1 support device



贴合除泡一体机  
Laminating and debubbler machine



真空分离机  
Vacuum separator



除泡机  
Bubble remove machine

## 植球台系列



直接加热植球台  
Directly heating reballing kit



BGA可调植球台  
Adjustable reballing kit



双向定位对角植球台  
Bilateral position diagonal reball kit



两用对角植球台  
universal diagonal reballing kit

## 锡球助焊膏系列



大瑞无铅锡球  
Darui Lead-free solder ball



大瑞有铅锡球  
Darui Lead solder ball



ZM-218助焊膏  
ZM-218 flux paste



PSI 助焊膏  
PSI flux paste

## 工具系列



防静电镊子  
Anti-static tweezers



Nanch 螺丝套批  
NANCH 22 in 1 screwdriver



5合1螺丝刀  
5 in 1 tweezers



烙铁头  
Soldering iron head





央视网广告合作伙伴



香港分公司

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公共订阅号



公共服务号

绿色环保，节约资源，坚持可持续发展战略，卓茂科技一直在行动