

红外线综合拆焊台

Integrated Infrared BGA Rework Station

使用说明书 INSTRUCTION MANUAL

1000A/1000B

中文/English



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Statement: The company reserves the right to improve and upgrade products, product specifications and design are subject to change without notice.

感谢您购买此款BGA拆焊台, 本产品是专门为无铅拆焊而设计的, 使用前请仔细阅读本说明书, 阅读后请妥善保管, 以供日后参考。

Thank you for choosing this type of BGA preheating station. The product is designed for soldering and unsoldering without lead. Please read the User Guide thoroughly before use, and keep it in a safe place for future reference.

安全守则

使用本机器,下列基本措施要遵守,以免触电或对人体造成伤害,避免火灾等现象的危害。

- 1、为了确保人身安全,该机器工作完毕后,请关闭机器总电源开关,长期不使用请拔掉电源线!!!
- 2、该产品是高温锡焊设备,请做好防护措施,以免烫伤。
- 3、该产品是高光强度设备,请做好眼睛防护措施。
- 4、必须使用原厂认可或推荐的零件,否则将导致严重后果。
- 5、机器故障必须由专业人士或本公司指定人员进行维修。
- 6、本产品使用三线接地插头,必须插入三孔接地插座内,不要更改插头或使用未接地三头适配器而使接地不良。
- 7、热风枪或电焊台开启后,其温度都有可能达到400度以上。切勿在易燃、易爆气体、物体附近使用。喷管及喷出的热气都十分炎热,能灼伤人体,切勿触摸发热管及热气直接喷向人体。
- 8、热风枪开启前请确保热风枪处于安全状态,热风枪开启后切勿离开工作岗位。
- 9、安装喷嘴时不可在热风枪开启时,必须在发热管与喷嘴冷却后才可安装。
- 10、请保持进/出风口畅通,不能有堵塞物。
- 11、使用后,切记要冷却机身,应将手柄放回手柄架,机器进入休眠后再关机。
- 12、切勿使用烙铁进行焊接以外的工作;切勿用烙铁敲击工作台面以清除焊剂残余,此举可能严重损坏烙铁。
- 13、焊接时会冒烟雾,请做好应有的通风设施。
- 14、预热盘在工作时温度高,切勿触摸发热盘、线路板固定架及发热盘周边机盖部分。
- 15、工作时需要滤光片滤光,切勿在没有滤光片的情况下经常观察灯光,请勿让灯光照射身体(人体安全危险)!
- 16、如果电源线损坏,为了避免危险,必须有制造商或维修部分的专业人员进行更换。
- 17、本工具不使用时必须放置在它的支架上。
- 18、在有易燃材料的地方使用本器具时要小心;不要长时间在同一地方使用本器具。
- 19、要意识到热可能传递到远处的易燃材料;器具接通时需有人照看。
- 20、器具不打算由存在肢体、感官或精神能力缺陷或缺乏使用经验和知识的人(包括儿童)使用,除非有负责他们安全的人对他们进行与器具使用有关的监督或指导;应照看好儿童,确保他们不玩耍本器具。

一、用前须知

在使用本产品前,请仔细阅读此说明指导书。以帮助你尽快熟练掌握使用本产品的一些技巧、注意事项。

- 1、待维修的电路板要注意的一些事项及必要的防护处理措施:
 - A、确保电路板两面要预热区范围内(预热盘面四边线+20mm)没有易燃易爆的元器件。如:塑胶件,手机摄像头,显示屏,LED,电解电容等。
 - B、红外灯光能照到的区域确保没有易燃易爆的元器件,如果不能避免,一定要用反光纸遮挡好。如:塑胶件,手机摄像头,显示屏,LED,电解电容等。
- 2、根据要拆焊IC大小,更换合适口径的灯杯(灯杯口径要略大于IC面积);安装灯杯时要对好丝口、旋转到位以尽量缩短灯体与IC的距离而有利于加热。
- 3、确保工作台周围没有较大的风流量以防止热量流失,必要时做好避风措施。
- 4、待拆焊IC脚周围涂上助焊剂,预热一段时间再涂也可以,特别是BGA封装的IC,要在预热了一段时间后再加一些助焊剂让其渗透到IC底部焊点。
- 5、戴好高温防护手套,戴好防护眼罩。放好遮光板,做好周围的遮光措施以保护眼睛。
- 6、把支架放在预热盘的正上方,把电路板放在支架上。支架的高度最好在8~20mm之间,以确保电路板有效的预热。调整红外灯支架组件高度,位置使灯杯正对着待拆IC,灯杯距离IC高度在10~20mm之间以确保红外灯有效的加热。
- 7、打开总电源开关、先只开预热盘电源,预热盘设置温度调到180°C左右。可以根据IC及电路板大小、热容作适当调整。要保持足够长的预热时间,让IC温度从低到高慢慢预热到设定温度(一般为5~10分钟)。BGA封装的IC烘烤的时间适当延长、IC底部有红胶的作溶胶处理。
- 8、开启红外灯电源、红外灯设置温度调到280°C左右。可以根据IC和电路板的热容大小作适当调整。此时IC受红外光照射会迅速升温(一般1~3分钟左右)。待IC的所有脚完全熔锡后、轻轻用镊子夹起IC,关闭预热盘和红外灯电源;如果是焊接IC熔锡塌陷后、关闭预热盘和红外灯电源,让其自然冷却。
- 9、如果不能准确的把握加热时的温度和时间,为避免IC因温度过高造成损坏。请在拆焊时将支架上的传感器探头接触到IC表面,当IC表面温度高于设置温度时红外灯会自动停止加热。
- 10、红外灯加热功率调整。可以根据要拆焊的IC封装大小适当调整红外灯加热功率。

调整方法是:在总电源开关是关闭的时候,左手同时按住红外设置温度加/减两个键不松手,右手打开总电源开关,当有“滴”的提示音、红外设置温度显示窗第三四位显示“5~80”红外灯加热功率参数,表示已进入红外灯加热功率调整模式。按红外设置温度加/减键调整参数,数字越小红外灯加热功率越大,10秒钟无操作自动进入正常工作模式后,红外灯加热功率参数会自动保存、加热功率也会随之改变。
- 11、刚开始使用本产品时,最好先用废弃的电路板试拆焊几遍,等熟悉了本产品的使用方法后再进行正常的维修作业。

二、用途

- 1、适合拆焊和焊接BGA、SOIC、CHIP、QFP、PLCC等封装贴片IC，特别适合BGA模块、电脑主板南北桥、手机主板各类贴片IC及LED灯的拆焊。
- 2、可用于热收缩、烘干、除漆、解冻、预热、胶焊接等。

三、产品特点

- 1、采用PID程控控温技术，控温精准，升温迅速，操作简单，数码管显示温度。同时内部采用SMT双面板工艺制造，内部工艺整齐，信号流向清晰明了，机器稳定和安全性能进一步提高，能适应各种恶劣环境。
- 2、采用红外线传递热量技术，红外线穿透力强，元件受热均匀，超越传统的热风加热方式，防止吹跑IC周边小元件。红外线工作模式分为两种：第一种是外置传感器控温方式，即通过传感器探测IC表面温度控温；第二种是无外置传感器控温，操作方便。
- 3、预热台是采用具有高热效应的釉层、热震性能良好的陶瓷作为基体，高质量的镍铬合金丝一次烧结而成。它具有热效应高、整体性好、热稳定性好、发热均匀、绝缘强度高、清洁卫生、安装方便等特点。
- 4、风枪发热芯采用陶瓷发热芯，发热丝稳固地缠绕在模型陶瓷上，发热迅速且均匀。陶瓷的超强耐高温性在长时间高温状态下不会出现任何变形走样，大大加强发热芯的稳定性，延长发热体寿命。
- 5、风枪无风保护功能：使用热风枪过程中非正常停风，发热丝停止加热，防止无风烧手柄，大大提高产品安全性能。
- 6、设有明亮精致、低压LED照明灯，安全节能。
- 7、线路板固定架，采用双轴固定技术，可随意移动固定支架。在固定线路板的同时非常便捷的调整需要拆装器件的位置。
- 8、人性化功能设计，设有以下功能：
 - A、温度校正功能：**
适应于由于环境影响或更换发热芯、风机、烙铁头等零配件引起的温度偏差，可以通过此功能校正温度。校正范围：-50°C~+50°C（红外灯模拟值：5-80）。
 - B、摄氏/华氏显示温度功能：**
为满足不同地区的市场需要而设计的温度显示模式，可根据习惯兴趣选择。
- 9、烙铁部分采用进口发热芯，升温迅速，温度稳定，使用寿命长；防静电设计，防止静电损坏娇嫩的SMD元件。

四、规格

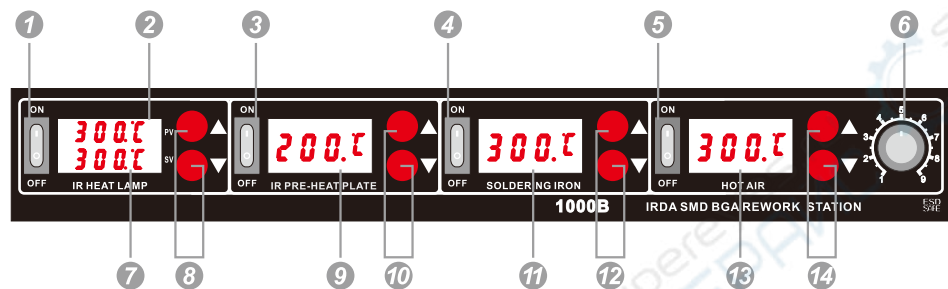
型 号	1000A	1000B
输入电压	AC 110V ±10% 60Hz/AC 220V~240V 50Hz	
最大功率	800W	1500W
机箱尺寸	长288 x 宽360 x 高52mm ±5mm	
重 量	9.2kg	9.8kg
工作环境	0~40°C/32~104°F	
储存环境	-20°C~80°C/-4°F~176°F	
储存湿度	35%~45%	
红外灯部分		
最大功率	≤150W	
发光元件	远红外线发射灯	
温度范围	100~350°C/212~662°F	
显示形式	LED	
有效照射面积	35x35mm	
预热台部分		
最大功率	≤540W	
发热元件	远红外线发热盘	
温度范围	50~200°C/122~392°F	
显示形式	LED	
预热面积	120x120mm	
风枪部分		
最大功率	无	≤700W
发热元件		骨架式陶瓷发热芯
送风类型		无刷风机柔和风
风 流 量		≤120L/min
温度范围		100°C~480°C/212°F~896°F
温度稳定度		±1°C(静态)
显示形式		LED
手柄线长		≥100cm
电烙铁部分		
最大功率	≤75W	
发光元件	进口发热芯	
温度范围	200°C~480°C/392°F~896°F	
温度稳定度	±1°C(静态)	
焊咀对地电压	<2mV	
焊咀对地电阻	<2ohm	
显示形式	LED	
手柄线长	≥100cm	

五、性能对照表

性能 \ 型号	1000A	1000B
功能组成	红外灯+预热台+焊台	红外灯+预热台+热风枪+焊台
显示	LED显示	LED显示
华氏/摄氏转换	有	有
温度校正	有	有
控温方式	数字PID	数字PID
电烙铁	有	有
热风枪	无	有

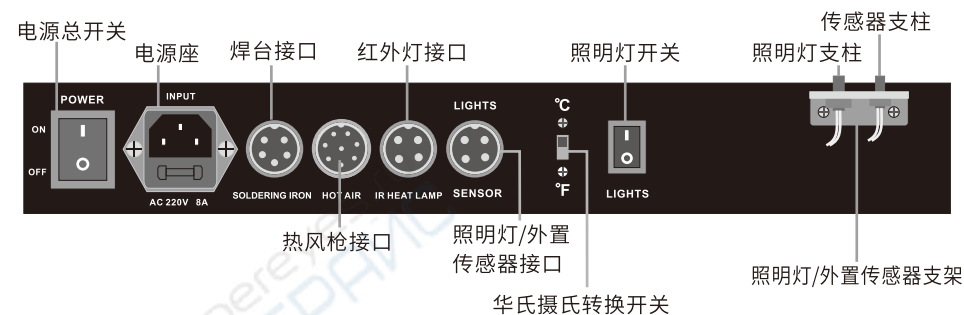
六、产品示意图

面板示意图

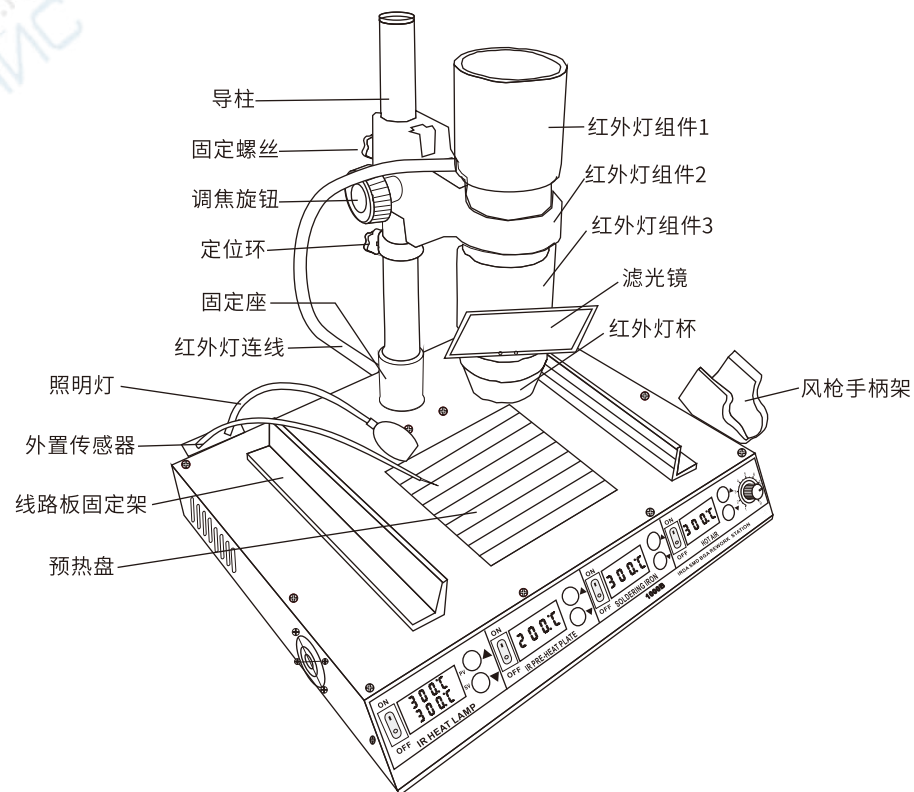


- ① 红外灯开关
- ② 红外灯温度
- ③ 预热盘开关
- ④ 焊台开关
- ⑤ 热风枪开关
- ⑥ 热风枪调风旋钮
- ⑦ 外置传感器温度
- ⑧ 红外灯温度调节按钮
- ⑨ 预热盘温度
- ⑩ 预热盘温度调节按钮
- ⑪ 焊台温度
- ⑫ 焊台温度调节按钮
- ⑬ 热风枪温度
- ⑭ 热风枪温度调节按钮

后板示意图



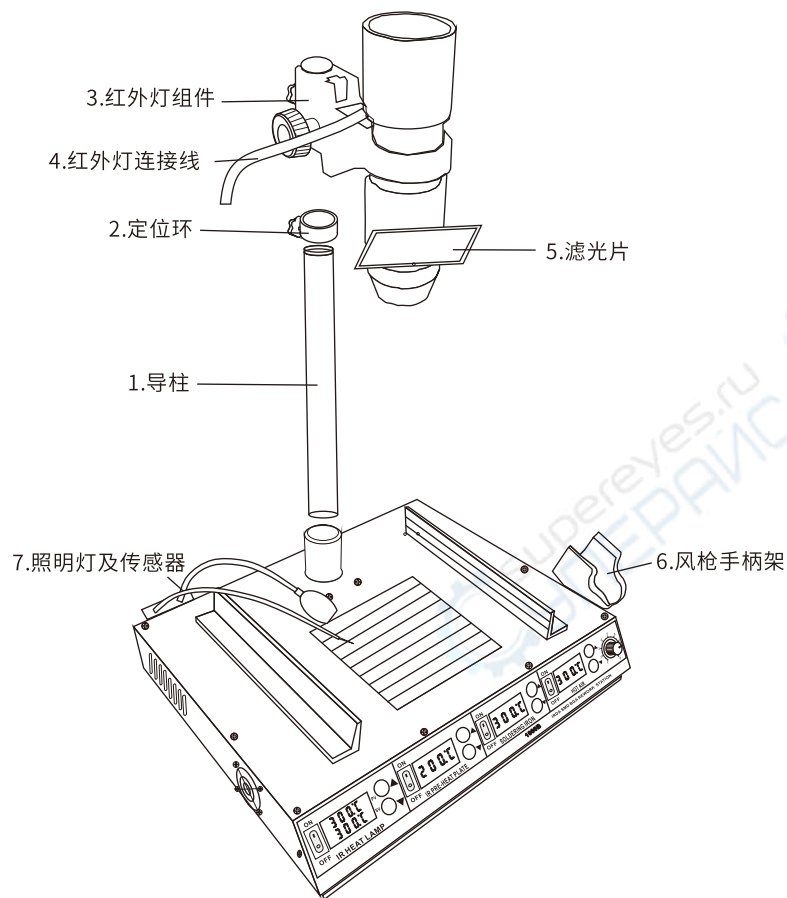
主要部件示意图



七、装机步骤

- 1、装导柱旋钮装入固定架,必须拧紧。
- 2、装入定位环,并锁紧固定螺母。
- 3、将红外灯组件套入导柱,并锁紧固定螺母。
- 4、把红外灯连接线接到后板的红外灯接口并拧紧。
- 5、套上滤光片。
- 6、装上风枪手柄架。
- 7、装上照明灯及传感器。
- 8、将焊台手柄连接到后板的焊台接口上。
- 9、将风枪手柄接到后板的风枪接口。

警告:断开电源才可以拆装风枪手柄(高压危险!)



八、操作说明

红外灯部分

注意

- 1、红外灯与预热台配合使用才能达到最佳效果。
- 2、红外灯设有两种工作模式:
 - A、选择外置传感器方式时请把传感器移到IC表面,程序通过传感器反馈回来的温度进行高速跟踪控温(如果工作过程中传感器移至光斑外面,程序自动转为无外置传感器模式,防止因传感器检测错误而烧IC);
 - B、选择无外置传感器方式时请把传感器移开。

1、红外灯温度设置:

- A、打开红外开关,并按红外灯温度加按钮“▲”为增加所需设置温度,点按红外灯温度减按钮“▼”为减少所需设置温度,步进为1°C(长按为快速设置温度)。
 - B、IC面积小于15x15mm时,温度设置在160°C~200°C为宜。
 - C、IC面积15x15~30x30mm时,温度设置在200°C~280°C为宜。
 - D、IC面积大于30x30mm时,温度设置在280以上。
- 这时红外灯光线最强,请注意控制好拆焊时间,防止IC过热烧坏IC或电路板。

2、灯杯选取:

根据IC大小选择灯杯,灯杯直径有Φ28mm、Φ38mm、Φ48mm,分别适应IC面积小于15x15mm、15x15~30x30mm、大于30mm的拆焊。更换灯杯后调节调焦旋钮使光斑全罩住IC为宜。

3、拆焊:

- A、选择合适的灯杯,固定线路板,使IC对准红外灯与红外灯垂直,调节调焦旋钮,保持灯杯与IC距离在15~20mm为宜。
- B、打开预热盘开关,预热盘开始加热,等待温度升到设定温度。
- C、打开红外灯开关,设置好所需工作温度后,红外灯开始加热,红外灯工作指示灯(红外灯显示窗右下角)亮起!升温时为常亮,恒温时有规律高速闪动,降温时熄灭。等到熔点化后取出IC。

4、回焊:

- A、清洁焊盘
- B、植入锡球及涂敷一层薄薄的助焊剂。
- C、用红外灯加热锡浆,等待助焊剂挥发掉溶剂后用架子将回焊的IC对准焊盘,放正,然后加热到锡球完全融化,IC自动焊入位置。等到IC冷却后撤下线路板测试焊接效果,如果不成功请重新操作。

预热盘部分

- 1、将需要预热的元件固定在预热盘上方。
- 2、打开预热盘开关, 安装设置红外灯温度的方法设置所需的温度 (一般100~180°C; IC面积大或IC底部涂有密封胶, 温度设置在150°C~200°C且预热时间加长) 便可进行预热工作了。
- 3、工作完毕, 请关闭电源!

风枪部分

- 1、将红外线拆焊台摆放好, 先把手柄架装在机箱右侧, 然后把手柄搁置在手柄架上。
- 2、装置所需的风阻 (尽量使用大口径风阻), 连接好电源, 打开总电源开关。
- 3、打开热风枪开关, 显示窗口先显示设置温度后显示“---”, 此时拆焊台为待机状态, 这时按设置红外灯温度的方法设置所需温度, 设置好后拿起拆焊台风枪手柄, 拆焊台热风枪进入正常加热状态, 这时风枪工作指示灯 (风枪显示窗右下角) 亮起! 升温时为常亮, 恒温时有规律高速闪动, 降温时熄灭。调节调风旋钮设置合适风量, 待温度稳定后便能正常作业。
- 4、工作完毕, 必须把手柄放置在手柄架上, 机器自动切断风枪加热体电源, 风枪工作指示灯熄灭, 进入送冷风冷却发热体模式, 当温度低于100°C时, 风枪显示窗显示“---”表示机器即将进入待机状态, 这时即可正常关闭电源。

焊台部分

- 1、将焊台手柄连接好, 将手柄放在烙铁架中。
- 2、打开焊台电源开关, 发热丝开始加热, 安装设置红外灯温度的方法设置所需的温度, 当烙铁工作指示灯有规律高速闪动进入恒温状态后就可以正常工作了!
- 3、工作完毕, 可使用清洁高温海绵清洁焊咀上的残留物, 重新镀上一层新锡, 将焊台放入焊台架中就可关闭电源!

九、功能设置说明

摄氏/华氏显示功能设置

机箱后板设有摄氏/华氏温度显示转换开关, 可拨动开关转换显示状态。

温度校正功能设置

- 1、预热盘、焊台、热风枪温度校正设置:
 - A、分别同时按下各个功能的温度加减按钮3秒, 温度显示窗显示“00”;
 - B、接着按各自的加减按钮设置各自的校正温度;
 - C、停止操作3秒, 程序自动记忆并推出, 设置完成;
 - D、校正温度范围: -50°C~+50°C (红外灯模拟值范围: 5-80)。
- 2、红外灯功率调整设置:
 - A、先打开红外灯开关, 按住红外灯温度加减按钮不放;
 - B、再打开电源总开关, 直到红外灯温度显示窗显示“20”时松开按钮;
 - C、再按红外灯加减按钮设置温度校正模拟值;
 - D、模拟值越大, 温度补偿越小, 模拟值范围: 5-80。
- 3、外置传感器温度校正设置:
 - A、红外灯处于工作状态下, 同时按下红外温度加减按钮3秒, 外置传感器温度显示窗显示“00”;
 - B、再按加减按钮设置校正温度, 停止操作3秒;
 - C、程序自动记忆并退出, 设置完成。
 - D、校正温度范围: -50°C~+50°C。

十、使用须知

- 1、打开电源时风枪手柄必须连接好放置在手柄架上。
- 2、请保持出风口畅通, 不能有阻塞物。
- 3、工作完毕后, 必须把加热手柄放置在手柄架上, 让机器自动冷却至显示“---” (停止送风) 才能关闭风枪电源开关。

- 4、风机型在使用机器标配的四个大、中、小、方喷嘴以外的更小喷嘴时，必须要把风量调为最大，使用较低的温度并在短时间内使用，避免长时间使用损坏风枪。
- 5、根据工作需求，选用合适的风咀，不同的风咀，温度可能略有差别，出风口与物件之间距离最少2mm。
- 6、当烙铁初次使用时，要注意检查烙铁咀升温情况，待其温度刚刚能融化锡丝时，在烙铁咀上镀上一层锡，再将温度调至所需温度。
- 7、烙铁头温度不宜过高，温度过高会减弱烙铁头功能。间隔不使用时，可将温度调低。
- 8、应定期使用清洁海绵清洁烙铁头，使用后应抹净烙铁头，镀上新锡层，以防止烙铁头氧化。
- 9、因在工作过程中可能产生烟雾，请保持工作环境通风，保持红外灯清洁。
- 10、红外灯工作完毕，等待风扇冷却红外灯后方可关闭电源总开关。
- 11、预热盘非防水性结构，隐藏存放及使用安装时，切勿与油、水、塑料粒接触，以防止漏电及其他安全隐患。
- 12、预热盘应避免用力敲击或与硬物相造成瓷砖断裂、合金电阻丝外露而影响操作寿命。
- 13、预热盘请勿长时间高温使用，防止机箱过热。
- 14、IC附近有元件，在拆焊前可以贴高温贴纸隔热保护，防止在拆焊过程中损坏。

特别说明：

尊敬的用户，您好！因机器风枪和烙铁手柄采用的是高强度不锈钢筒，在生产过程中机器必须在正常工作状态通过四次检验或者校准，钢筒因高温会出现轻微变黄！当新机拆开使用时发现钢筒处有轻微的变黄，此为正常现象，请放心使用！

十一、注意事项

- 1、装置喷嘴时勿使劲装置喷嘴，或用钳子拉动喷嘴边缘，勿使劲紧栓螺丝。
- 2、装置喷嘴时必须在发热管与喷嘴都冷却时，才能装喷嘴。
- 3、切勿触摸发热管，或以热气直喷脸部。启动初时，可能会冒出白烟，此属正常现象，稍后此现象会消失。
- 4、更换发热体时，小心不要损坏接地线!!!
- 5、更换时应注意连接线的顺序及颜色，不能接错!!
- 6、请更换同一型号的发热体或发热芯。

十二、提示符号说明

- 1、显示“---”，表示出风口温度低于100°C，拆焊台进入待机状态，手柄搁置在手柄架上。
- 2、显示“S-E”，表示烙铁、风枪的传感器组件有问题或未插上手柄，需要更换发热体（发热材料及传感器组件）。
- 3、显示“F-1/F-2”，表示风枪无风保护，需要检查风机和风枪供电电路。

十三、可换组件说明

风枪发热体的更换(图1)

- 1、更换发热体应在其冷却时进行更换。
- 2、如图，松开手柄上的两只固定螺丝。
- 3、旋出手柄组件，再将手柄壳取出。
- 4、轻轻移出风机，取出固定接线板上的3只螺丝。
- 5、将接线板反过来，从接线板上拆开发热体的连接线，注意其连接位置。
- 6、从钢管中取出发热体与包住发热体的云母纸，注意不要弄断钢管上的连接线。
- 7、用云母纸包好新发热体，将其插入钢管中，注意发热体要安装到位。
- 8、按照原先的位置连接发热体的个连接线。
- 9、拆开时的相反程序回装好手柄。

烙铁发热芯和烙铁头的更换(图3)

- 1、旋出螺母1，再将钢管2取出，这时就可以取下烙铁头进行更换了。
- 2、如需更换烙铁发热芯可继续旋出螺纹头4，拔出烙铁芯6和线路板7，要注意弹簧5的连接线。
- 3、将烙铁芯从线路板上焊下，更换新的发热芯，装好即可。注意烙铁芯引线的连接顺序。

灯杯和红外灯的更换(图2)

- 1、旋出灯杯1，更换其他型号灯杯。
- 2、如需更换红外灯，拆下弹环2(注意：小心别把石英片弄破)，拿下石英片3，旋出红外组件4，拆下红外灯5(注意：小心别把红外灯弄破)。
- 3、按拆开时相反的程序装好红外灯。

Warning!!!

Use the machine, the following basic measures should abide, avoid electric shock or cause injury or damage caused by fires.

1. **To ensure personal safety, after the machine completed work, please turn off the main power switch, and unplug the power cord if long time no use.**
2. This unit is high temperature soldering machine, please protect the eyes from scald.
3. This unit is high light intensity equipment, please protect the eyes.
4. To ensure personal safety, you must use the original approval or recommendation of the parts, otherwise it will lead to serious consequences.
5. Machine failure must be by professionals or the company designated personnel for repair.
6. This product is grounded three-wire plug, must be inserted within the three-hole grounded outlet, do not change the plugs or use ungrounded three adapter made it bad grounded.
7. Hot air gun or soldering station is open, its temperature are likely to reach 400 degrees. Do not use it near flammable gas, objects. Tube and the heat emitted very hot, can burn the body, do not touch the hot pipe and direct injection to heat the human body.
8. Before turn on hot air gun, please ensure it is safety state, when hot air gun is turned on, do not leave the job site.
9. When the hot air gun opening do not install nozzle, the heat pipe and the nozzle must be cooling. Then installed the other nozzle.
10. Please keep inlet and outlet air flow, don't have obstruction.
11. After use, remember that the cooling body, the handle should be released into the handle frame, then shut down the machine to sleep.
12. Do not use a soldering iron to weld outside the work; Do not iron percussion table to clear the residual flux, this could seriously damage the iron.
13. The machine welding will take smoke, please do proper ventilation.
14. When Preheating plate is working, the temperature is high, do not touch the preheating plate, circuit board fixed frame and case box around the preheating plate.
15. During working, you should equip with light filter, do not often observe the light without light filter, do not expose yourself on lamplight.
16. If the supply cord is damaged, it must be replaced by a special cord or assemble available from the manufacturer or its service agent.
17. **WARNING:** This tool must be placed on its stand when not in use.
18. Be careful when using the appliance in places where there are combustible materials; Do not apply to the same place for a long time.
19. Be aware that heat may be conducted to combustible materials that are out of sight; Do not leave the appliance unattended when it is switched on.
20. This appliance is not intended for use by persons (including children) with reduced physical, sensory or mental capabilities, or lack of experience and knowledge. Unless they have been given supervision or instruction concerning use of the appliance by a person responsible for their safety. Children should be supervised to ensure that they do not play with the appliance.

I. Precaution

Before using this product, please read the user guide thoroughly to help you master how to use this machine.

1. Repair circuit boards required precautions and necessary protective measures :
 - A. To ensure that both sides of the circuit board preheat zone (edge of preheating plate + 20 mm) without fusible explosive flammable components, like: Plastic, Display, Phone camera, LED, Electrolytic capacitors.
 - B. Ensure that no combustible fusible explosive components in Infrared light can shine on the area, If you can not avoid, Must use reflective paper keep out that. like: Plastic, Display, Phone camera, LED, Electrolytic capacitors.
2. According to IC size, use a suitable diameter lamp cup (lamp cup size larger than IC size); Install lights Cup minimize the distance between lamp and IC, to facilitates heating.
3. Ensure that the working environment is no greater airflow to prevent heat loss, well sheltered measures when necessary.
4. Apply solder paste to the IC before the de-soldering, also you can early preheat then Apply solder paste, Especially BGA package IC, should be early preheat then apply solder paste, the can make solder paste penetrate into the bottom of the IC.
5. Wear heat protective gloves and goggles. Place the visor, good shading measures to protect the eyes.
6. Put bracket above the Preheating plate, the bracket can not touching Preheating plate, the can prevent bracket overheating and avoid Ceramic heating element has damage. The circuit board on the stand, Height of the stand preferably between 8~15mm, In order to ensure circuit board have effective preheating. Adjust of the Infrared light bracket assembly height, make IC facing the lamp cup, Lamp cup rom IC between 10~20mm in height in order to ensure efficient heating infrared lamp.
7. Turn on the main power switch, the first open only preheat coil power, The preheating plate set temperature is about 180°C. Make the appropriate adjustments based on the size of the IC and circuit board. Kept warm-up time long enough Let IC temperature slowly heated to the set temperature from low to high (Generally 8 to 15 minutes). BGA package IC preheating time needs to be extended, because the bottom of IC has Sol treatment with red plastic.
8. Turn on the Infrared light power, Set the temperature to about 280°C. Make the appropriate adjustments based on the size of the IC and circuit board. IC by infrared light irradiation will be rapidly warming (generally 1 to 3 minutes) Tweezers to pick up IC, turn off the preheating plate and infrared light power when the IC was completely molten tin, If the IC is soldered tin melting collapse, close preheating plate and infrared lamp power, let it cool down.
9. If you can not accurately grasp the heating temperature and time, To avoid the IC damage due to overheating. Please use sensor on the bracket the contact with IC when de-soldering When the IC surface temperature is higher than the set temperature, the infrared light will automatically stop heating.

10. Infrared lamp heating power adjustment, You can adjust the infrared lamp heating power according to IC size. Adjustment method: Left hand while holding the IR set temperature plus / minus two key grimdeath when the main power switch is turned off, then turn on the main power switch on the right-hand, when a "drop" beep, infrared temperature display will show "5 to 80" infrared lamp heating power parameters, That mean is entered the infrared lamp heating power adjustment mode. Set the infrared temperature by plus/ minus keys to adjust the parameters, The lower the number the infrared lamp heating greater the power, 10 seconds no operation will automatic enter into normal work mode, infrared lamp heating power parameters are saved automatically, heating power will be change.
11. Just started using this product, it is best to try to use the abandoned circuit board rework a few times. And so familiar with the use of this product then carry out normal maintenance work.

II. Usage

1. Suitable for desoldering and soldering BGA, SOIC,CHIP, QFP,PLCC package SMD IC, Particularly suitable for de-soldering BGA module, computer motherboard north and south bridge, all kinds of mobile phone motherboard SMT IC and LED lights.
2. Shrinking, Paint drying, adhesive removal, thawing, warming, Plastic welding etc.

III. Products Feature

1. Using the PID programmable temperature control technology, precise control temperature, rapid heating, simple operation, digital display of temperature. At the same time the internal use of SMT double panel manufacturing process, internal process system, the direction of signal clarity, machine stability and safety performance is further improved, can adapt to a variety of harsh environment.

2. Using infrared heat transfer technology, infrared penetration strength, components uniform heating, beyond the traditional hot air heating vowed to prevent blow off the IC surrounding small components. Infrared work mode has 2 types: The first type is an external sensor temperature control mode, that is detected by the sensor IC surface temperature control temperature; second type is no external sensor temperature control, easy to operate.
3. Preheating station is to use a glaze layer having a high thermal effect, good thermal shock resistance of the ceramic as the substrate, high-quality nickel branded alloy wire once sintering. It has a high thermal effect, overall good, good thermal stability, uniform heating, high dielectric strength, clean, easy to install and so on features.
4. The gun heater adopts a ceramic heater, heating element firmly around the model of ceramic, rapid and uniform heating up. Ceramic super high temperature and very tough material at long time high temperature under the condition of no deformation, greatly enhance the heating element stability, prolong the life of the heating elements.
5. The air gun has no wind protection function, If use a heat gun is not normal in the process of stop the wind, the heating wire to stop heating, and the prevention of the no wind burning handle, so as to greatly improve the safety performance of the product.
6. Has bright delicate, low voltage LED lighting, safety and energy conservation.
7. Circuit board fixed bracket, use biaxial fixation techniques, can be moved fixed support bracket. In fixing the circuit board while very convenient position adjustment requires disassembly of the device.
8. Powerful human function design, with the following functions:
 - A. Temperature correction function :**
Adapted due to environmental conditions or the replace the heater/fan blower/ iron tips caused by iron or hot air gun temperature deviation, this eature can be corrected temperature. Correction of temperature range: - 50°C ~ + 50°C (Infrared lamp analog value :5-80).
 - B. Celsius / Fahrenheit temperature display function:**
meet different market needs to design the temperature display mode. According to the custom to choose.
9. Iron part adopts import heater, quick temperature rise, temperature stability, long service life; static design, prevent electrostatic damage the SMD element.

IV. Specification

Model	1000A	1000B
Voltage	AC 110V \pm 10% 60Hz/AC 220V~240V 50Hz	
Max power consumption	800W	1500W
Measurement	L288xW360xH52mm \pm 5mm	
Weight	9.2kg	9.8kg
Working environment	0~40°C/32~104°F	
Storage environment	-20°C~80°C/-4°F~176°F	
Storage humidity	35%~45%	
Infrared lamp part		
Max power consumption	\leq 150W	
Light-emitting components	Infrared emission lamp	
Temperature Stability	100~350°C/212~662°F	
Display Type	LED	
Effective irradiation area	35x35mm	
Preheating station part		
Max power consumption	\leq 540W	
Light-emitting components	Far infrared heating plate	
Temperature Range	50-200°C/122-392°F	
Display Type	LED	
Preheating area	120x120mm	
Hot Air Reworks part		
Max power consumption	NO	\leq 700W
Heating components		Skeleton-type ceramic heater
Airflow type		Brushless fan spiral wind
Air Flow		\leq 120L/min
Temperature Range		100°C~480°C/212°F-896°F
Temperature Stability		\pm 1°C(statics)
Display Type		LED
Handle cable length		\geq 100cm

Soldering Iron Part

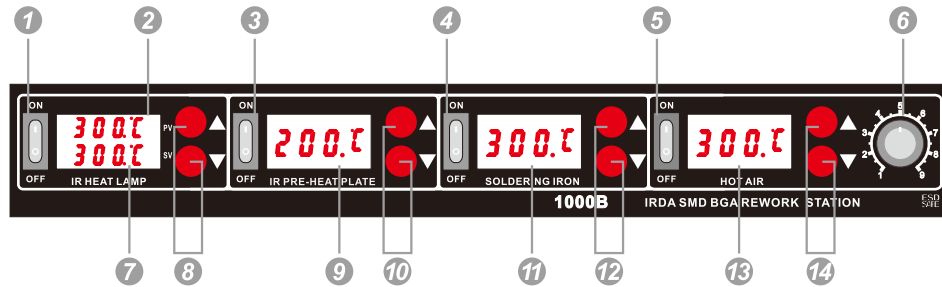
Max power consumption	\leq 75W
Light-emitting component	Imported heater
Temperature range	200°C~480°C/392°F-896°F
Temperature stability	\pm 1°C(statics)
Tip of ground voltage	<2mV
Tip of ground resistance	<2ohm
Display type	LED
Handle cable length	\geq 100cm

V. Performance Comparison Table

Function	Model	1000A	1000B
Function composition		Infrared lamp/ preheating station/ soldering station	Infrared lamp/ preheating station/ soldering station/hot air reworks
Display type		LED	LED
Fahrenheit/ celsius conversion		YES	YES
Temperature correction		YES	YES
Gun type		NO	Brushless fan
The way of control temperature		Digital PID	Digital PID
Air gun handle		NO	YES
Soldering iron handle		YES	YES

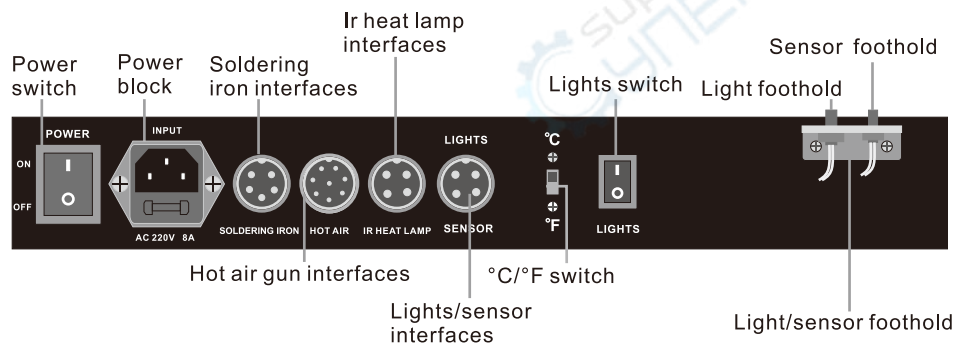
VI. Product Schematic

Panel Schematic

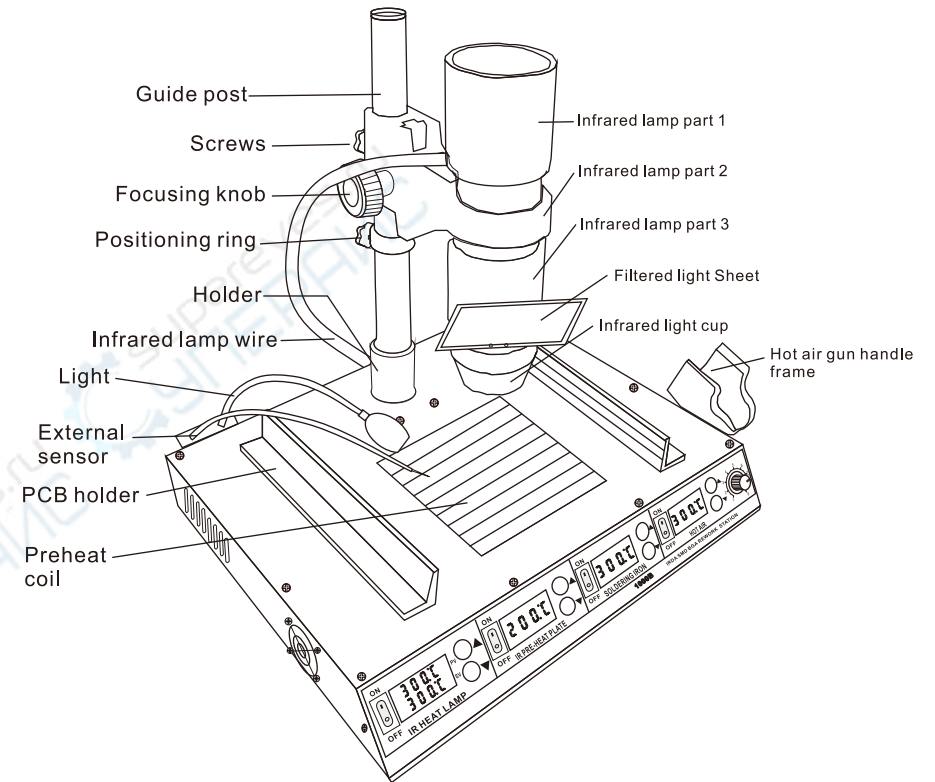


- | | |
|-----------------------------------|----------------------------------|
| 1 Infrared lamp switch | 8 Temperature control button |
| 2 Infrared lamp temperature | 9 Preheating plate temperature |
| 3 Preheating plate switch | 10 Temperature control button |
| 4 Soldering station switch | 11 Soldering station temperature |
| 5 Hot air gun switch | 12 Temperature control button |
| 6 Hot air gun airflow adjust knob | 13 Hot air gun temperature |
| 7 External sensor temperature | 14 Temperature control button |

Rear Panel Schematic



Main parts schematic

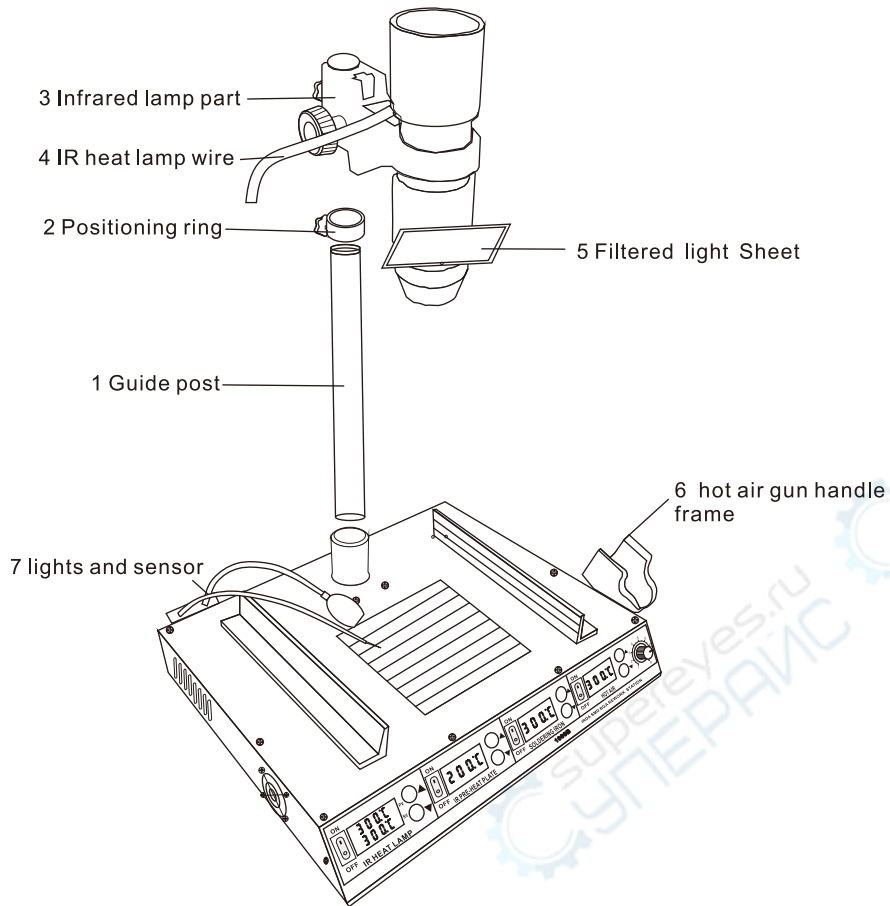


VII. Installation Steps

1. Rotate the guide post mount bracket, must be tightened.
2. Load retainer ring, and locking nut.
3. Set infrared lamp part into the guide post, and tighten the nut.
4. put infrared light wire to the rear panel IR port, and tighten.
5. Install filtered light Sheet.
6. Install air gun handle frame.
7. Install lights and sensor.
8. Soldering station handle connected to the soldering station interface of the rear panel.

9. Hot air gun handle connected to the hot air interface of the rear panel.

Warning: Disassembly the air gun handle, power must be disconnected. (Danger of high Voltage.)



VIII. Operating Instructions

Infrared lamp part

Note:

1. Used in conjunction with Infrared light and preheating station, can be best results.
2. Infrared lamp has two modes, select the external sensor method move the sensor on the surface of the IC, program high-speed track and control temperature According to sensor feedback the temperature (If the sensor is moved outside light spot in the work process, the program automatically converted for no external sensors mode, prevent the error detection of sensor and burned the IC) No external sensor selection method is to remove the sensor.

A. Infrared lamp temperature setting:

Open the temperature switch, press the infrared lamp temperature increase key "▲" then can raise the temperature, and press the infrared lamp temperature decrease key "▼" then can reduce the temperature. Each time you press the temperature change 1°C (Long press for fast set temperature). IC area less than 15x15mm, the temperature set to 160°C-200°C is best. IC area is 15x15mm-30x30mm, the temperature set to 200°C-280°C is best. IC area greater than 30x30mm, the temperature set to than 280°C is best. Infrared light is strongest when the temperature set to than 280°C, Please control the desoldering time, Prevent burn IC or circuit boards.

B. Light Cup selection:

According IC size select the light Cup, light Cup diameter have $\Phi 28\text{mm}$ / $\Phi 38\text{mm}$ / $\Phi 48\text{mm}$, Respectively, to adapt IC area less than 15x15mm / IC area is 15x15mm-30x30mm and IC greater than 30x30mm. Change the lamp cup and adjust the focus knob to make light spot hooded of IC

C. Desoldering

Select the appropriate lamp cup, and fixed the circuit boards, make IC align and vertical with infrared light, adjust the focus knob to make lamp cup and IC distance to 15-20mm. Open the preheat coil switch, Wait for the temperature to rise to the set temperature. Open the infrared lamp switch, set all need temperature, Infrared light begins to heating, Work lights of infrared lamp is work (Bottom right corner of the infrared lamp screen), Always light is heating, thermostatic the light is regular of flashing, Lower the temperature the lights go out. Remove the IC until tin is melted.

D. Re flow

- a. Clean bonding pad.
- b. Implants solder balls and coated with a thin layer of flux.
- c. Use infrared lamp heating solder paste, after waiting flux solvent was evaporated with clips aligning the re flow of the IC pads, put positive, then heated to completely melt the solder ball, IC automatic welding into place. Wait until the

IC removed after cooling circuit board test welding effect, if unsuccessful, please try again.

Preheating plate part

1. Will require preheated components fixed to in the preheating plate the upper member.
2. Open the preheat plate switch, in accordance with the method set up infrared lamp to set / the desired temperature (generally 100°C-180°C, IC or the IC at the bottom of a large area coated with sealant, the temperature is set at 150°C -200°C, and the warm-up time longer) work can be preheated.
3. Work is completed, turn off the power.

Hot air gun part

1. Set the infrared BGA rework station in a good place, first please install air gun frame in the right of the machine, then the handle must be set in the handle frame.
2. Connected power supply, turn on the whole machine switch, the device the air nozzle (to make use of large-diameter nozzle)
3. Open the air gun power switch ,display window display “---” at this time desoldering station for standby; Then according to set method of infrared lamp to set the desired temperature, when set the desired operating temperature, please picking up the gun handle that the gun into the normal heating condition. when the gun working pilot lamp (gun display on lower right corner) ! Warming up the pilot lamp light, constant temperature the pilot lamp will regular high flicker, cooling the pilot lamp off. Adjusting airflow knob setting appropriate airflow, stay stable temperature will be normal operation.
4. Work is completed, must be put the handle on the holder, at this time desoldering will automatic cut off the heating current into the body to send cold air cooling heating mode. When the temperature is below 100°C shows “---” desoldering station, that means the machine will enter into standby mode. At this time you ormallly turn off the power of the hot air gun.

Soldering station part

1. The soldering iron handle connected, it will handle on the iron holder.
2. Open the iron power switch, the heater heating. Then according to set method of infrared lamp to set the desired temperature, when the iron indicator work a regular high-speed flash into a constant temperature after normal working!
3. Work is completed, clean high-temperature sponge to clean up the residue of the iron lips under re-plated on a new layer of solder, the iron into the iron frame, you can turn off the power!

IX. Function Setting Instruction

1. Celsius / Fahrenheit temperature display function settings:

Chassis rear panel has Celsius Fahrenheit temperature display switch , stir switch can switch the display status.

2. Temperature correction function settings:

A. Preheating plate / soldering station / hot air reworks temperature correction function settings:

Respectively while pressing the temperature of each function plus and minus buttons for 3 seconds, the temperature display shows“00”, then press the plus and minus buttons to set their own calibration temperature, stop the operation for 3 seconds, the program automatically remembers and exit setup is complete. Calibration Temperature range: -50°C ~ +50°C. The analog value range: 5-80

B. Infrared lamp power adjustment setting:

First open the infrared lamp switch, hold down the infrared lamp temperature plus and minus button, and then turn on the power switch until the infrared lamp temperature display shows “20” release the button, and then press infrared lamp temperature plus and minus buttons to set the temperature correction simulation values. the analog value range: 5-80.

C. External sensor temperature correction settings:

Infrared lamp is in working condition, while press the infrared lamp temperature plus and minus button for 3 seconds, external sensor temperature display shows “00”, then press plus and minus buttons to set the calibration temperature, stop the operation for 3 seconds, the program automatically remembers and exit setup is complete. the calibration temperature range: -50 °C ~ +50 °C.

X. Usage Notes

1. When turning on the main unit's power, the Hot Air rework's handle must be placed properly on the handle's rack.
2. Please ensure the Hot air's outlet is clear, must free from any blockages or obstructions.

3. After usage, the handle must be placed back on the handle's rack, let the unit cooling down(temperature gradually decreasing) until it displays "---" (Air flow Stop), then turn off the Hot Air power switch.
4. The unit comes with three standard nozzle sizes: large, medium , small. When using the smaller nozzle the Hot air volume must be adjusted to the maximum rate or set the temperature low and maintain it in a short time, to avoid prolonged use which could damage the Hot air unit.
5. In regards to the usage requirements, choose the appropriate Hot air flow, different Hot air flow will cause the temperature to be slightly different, and please maintain the distance between the outlet and the object must be at least 2 mm.
6. When the iron is used for the first time, please pay attention to check the iron tip warming condition, when the tip can melt the tin wire, please plate some tin on tip, then adjust to the desired temperature.
7. The tip temperature should not be too high, too high temperature would weaken the tip function. When Interval using, can lowering the temperature.
8. Should be regularly use clean sponge to clear deoldering tip, after finish use, should wipe clean soldering iron tip, plate new tin to prevent soldering iron tip oxide.
9. Because in the course of their work may produce smoke, keep the work environment ventilation , keep infrared lamp clean.
10. Infrared lamp work is completed, after waiting for fan-cooled infrared lamp, then can turn off the main power switch.
11. Preheat plate non-waterproof structure, therefore, store and use the installation do not with the oil, water, plastic pellets contacts to prevent leakage and other security risks.
12. Preheat plate should avoid being forced to tap or collision with hard objects causing tile breakage, alloy resistance wire exposed affect the operating life.
13. Preheat plate do not high temperature for prolonged use, to prevent overheating of the chassis.
14. IC nearby components, the high- temperature de-soldering stickers can be affixed before the heat shield to prevent damage during desoldering.

Special note:

Dear users, because the air gun handle and iron handle are using high strength stainless steel tube, during production, the machine must be tested or adjusted four times, the tube maybe slightly yellow because of high temperature ,when new machine opened,it is normally that the tube become slightly yellow,please be assured.

XI. Cautions

1. DO NOT install / De - install Nozzles with excessive force, and DO NOT use pliers to pull the nozzle edge out, DO NOT tight the nozzle's bolt excessively, only install nozzles when the unit is cool (room temperature).
2. DO NOT face the hot air outlet or touch the soldering Iron to the human body WHATSOEVER because it is very hot and can instantly burn the skin / body. When the first use the unit might started initially with white smoke, but this soon will go away.
3. Replacement heater, be careful not to damage the grounding line! !
4. Replace the cable should pay attention to the order and color, can not take a wrong! !
5. Replace the same type of heater or heating core! ! !

XII. Display Notes

1. When the LED digital displays "---", it means the outlet temperature is below 100°C, the hot air rework station is in standby mode, and the handle is placed on the handle's rack.
2. When the LED digital displays "S - E", it means the soldering iron, Hot air rework's sensor is having a problem or handle is un-plugged, if this the case it needs to replace the heating element (heating core's element and sensor components).
3. Show "F-1 / F-2", it mean the air gun without wind protection, need to check the fan and air gun power supply circuit.

XIII. Replacement Parts Instruction

Replacement of Hot Air rework heating element (Figure 1)

1. Ensure the Hot Air Rework is fully cooled down before replacing the element.
2. Figure, loosen the two screws on the handle
3. Turns the handle anti-clockwise until it comes off and then remove the handle's cover.
4. Gently takes out the fan, loosen the three screws to remove the fixed wiring board.

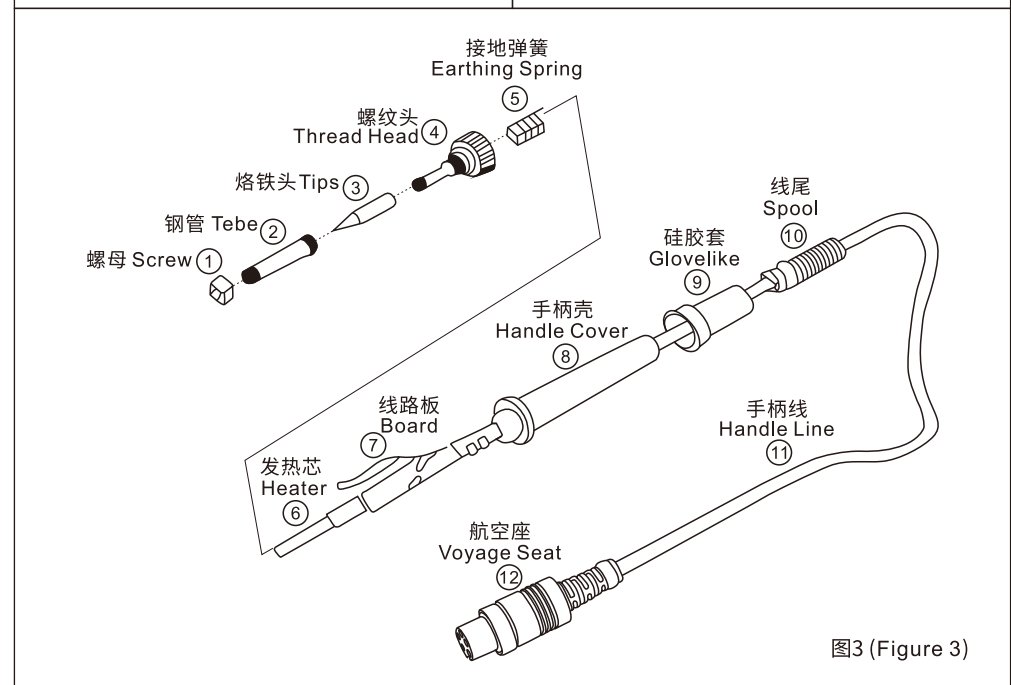
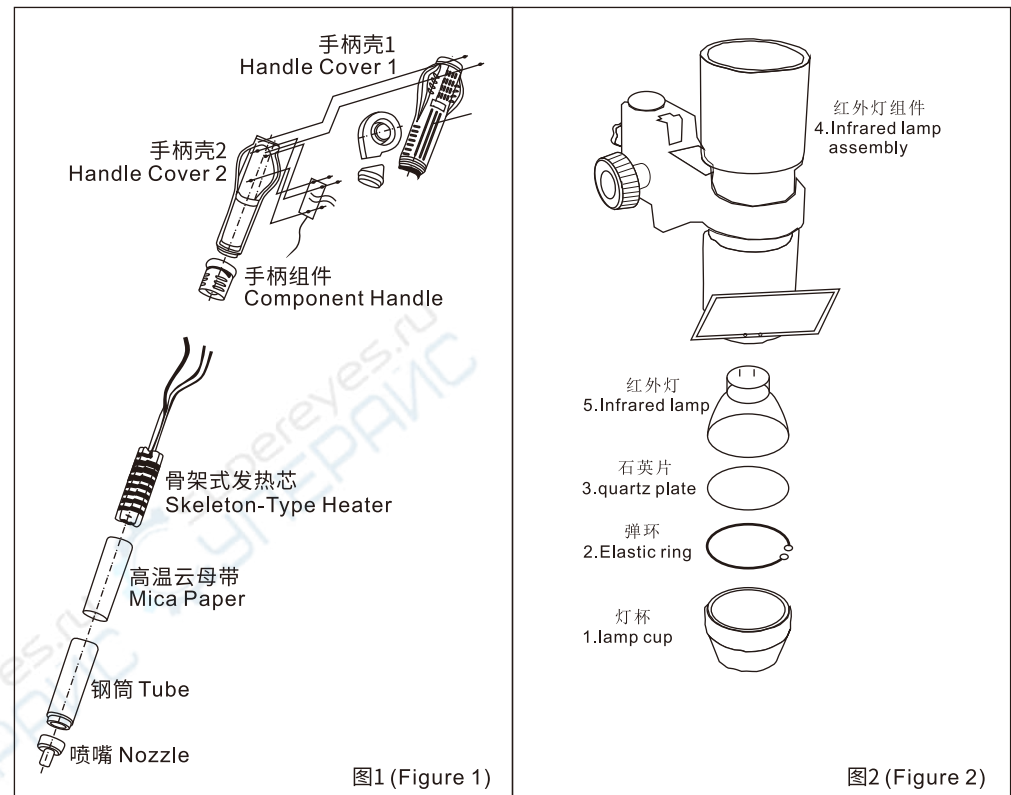
5. The wiring board vice versa, apart from the heater wiring board connection cable, pay attention to the connection location.
6. Remove from the heat pipe heat body wrap with mica paper, careful not broken ground wire of the steel.
7. Wraps well with the new heater mica, inserted into the tube, the attention heater to install in place.
8. According to the original location of the connection to connect heater.
9. As per the reverse procedure by open and back to the installed handle.

Replacement of the soldering iron's tip and soldering iron heating core's element (Figure 2)

1. Unscrews the nut NO.1, and then removes the steel tube NO.2, followed by removing the tip which is going to be replaced.
2. For the replacement of heating core's element can be performed by unscrewing the plastic cap NO.4, pulls out gently the heating core's element NO.6 along with the circuit board NO.7, please carefully remember the connection of spring NO.5.
3. The iron core from the circuit board welding, the replacement of the heating core, can be fitted well. Note that the order of the iron core wire connection.

Replacement of lamp cup and Infrared lamp (Figure2)

1. Spin out the lamp cup 1, replace other types of lamp cup.
2. To replace the infrared lamp, remove the elastic ring 2 (Note: be careful not to break the quartz plate), take down the quartz plate 3, spin out the infrared lamp assembly 4, remove the infrared lamp 5 (Note: be careful not to break the infrared lamp).
3. As per the reverse procedure by open and back to the installed infrared lamp.



附：电焊台使用烙铁头型号图
Attachment: Electric welding machine using welding head model figure

900M-T-0.8D 0°C	900M-T-0.8B -10°C/-18°F	900M-T-K 30°C/54°F
900M-T-1.2D 0°C	900M-T-0.5C 0°C	900M-T-R 0°C
900M-T-1.6D 0°C	900M-T-0.8C 0°C	900M-T-RT 0°C
900M-T-2.4D 0°C	900M-T-1C 0°C	900M-T-SI 0°C
900M-T-3.2D 0°C	900M-T-1.5CF 0°C	900M-T-I -10°C/-18°F
900M-T-1.2LD -10°C/-18°F	900M-T-2C 0°C	900M-T-H -20°C/-36°F
900M-T-SB 0°C	900M-T-3C 0°C	900M-T-1.8H -10°C/-18°F
900M-T-B 0°C	900M-T-4C 0°C	900M-T-S4 0°C

900M系列外径φ6.5mm

通用部件


*喷嘴的规格尺寸
表示该IC的尺寸

General parts

*Nozzle specification
and sizemeans the IC size

Airflow 空气流量 0.8 (0.03) 0.18 (0.07)		QFB	SOP	PLCC	SOJ	BGA(CSP)
A1125 QFP 10x10 (0.39x0.39)	A1126 QFP 14x14 (0.55x0.55)	A1127 QFP 17.5x17.5 (0.68x0.68)	A1128 QFP 14x20 (0.55x0.78)	A1129 QFP 28x28 (1.1x1.1)		
A1135 PLCC 17.5x17.5 (0.68x0.68) (44针needle)	A1136 PLCC 20x20 (0.78x0.78) (52针needle)	A1137 PLCC 25x25 (0.98x0.98) (68针needle)	A1138 PLCC 30x30 (1.18x1.18) (84针needle)	A1139 PLCC 12.5x7.3 (0.49x0.49) (18针needle)		
A1140 PLCC 11.5x11.5 (0.45x0.45) (28针needle)	A1141 PLCC 11.5x14 (0.45x0.55) (28针needle)	A1182 BOFP 24x24 (0.94x0.94)	A1187 TSOL 18.5x8 (0.73x0.31)	A1257 SOP 11x21 (0.43x0.83)		
A1258	A1259 SOP 13x28 (0.51x1.1)	A1260 SOP 8.6x18 (0.34x0.71)	A1261 QFP 20x20 (0.78x0.78)	A1262 QFP 12x12 (0.47x0.47)		
A1263 QFP 28x40 (1.1x1.57)	A1264 QFP 40x40 (1.57x1.57)	A1265 QFP 32x32 (1.26x1.26)				
A1124 Single-tube 单管式φ2.5 (1.1x1.57)	A1130 Single-tube 单管式φ4.4 (0.17)	A1131 SOP 4.4x10 (0.17x0.39)	A1132 SOP 5.6x13 (0.22x0.51)	A1133 SOP 7.5x15 (0.3x0.59)		
A1134 SOP 7.5x18 (0.3x0.7)	A1142 Curved single tube 弯型单管式 1.5x3 (0.06x0.12)	A1325 Single-tube 单管式φ1.5x5.10 (0.06x0.02-0.39) 管脚距离可调 Pin distance adjustable				
		管脚距离可调 Pin distance adjustable		喷嘴正面 Front nozzle		

产品合格证 Product certification

产品型号名称(Model NO.)	
产品编号(Product ID)	
检验(Examine)	经检验产品符合技术标准 Upon examination products meet technical standards 
售货日期(Sales Date)	
出厂日期(Date of manufacture)	

产品保修卡 Warranty Card

感谢您购买本产品, 在使用本产品前请您认真阅读以下条款:
Thank you for choosing this type of products, please read the following terms before using:

1. 消费者由购买日起7天内, 在正常操作情况下(非人为损坏), 全新拆包, 未经拆修, 可享受包换服务。
 From purchasing date within 7 days, under normal use(Non-artificial damage), new package, not be disassemble and repaired ,enjoy replacement service.
2. 消费者由购买日起1年内, 在正常操作情况下, 出现品质故障, 未经拆修可享受保修服务。
 From purchasing date within one year, under normal use, if there are quality problem, not be disassemble and repaired ,enjoy free repair service.
3. 在超过保修期终生提供保修服务, 免收人工费, 只收取零件费。
 For more than warranty, we provide a lifetime warranty service, free of labor costs, charge only spare parts costs.
4. 保修期内若未能出示保修卡, 本公司不予免费服务。
 Failure to present warranty card during warranty period, the company will not be a free service.
5. 用户需保修商品, 请先与原销售单位联系。
 Users need warranty service, please contact your original sales unit.
6. 用户保修时需提供保修卡和购买发票或有本公司印章的收据凭证。
 When users need warranty service, please provide warranty card and purchase invoice, or receipt of the certificate of the company seal.
7. 保修不包括运输费用和不提供上门服务。
 Warranty does not include transportation costs and provide on-site service.

维修记录 Maintenance records

序号 NO.	送修日期 Date for repair	故障原因 Cause	修好日期 Fix date	维修员 Repairer