



### PENTA 580

**Penta 580** is a vertical hot air leveling system, which is equipped with the latest technology. User-friendly operation is guaranteed by a touch panel. A high-speed PLC allows high operation-speed. **Penta 580** possesses the advantages of the **Penta-series**, such as top quality and longevity, low-priced and simple maintenance, low spare-part costs and user-friendliness. Because of the enclosed housing the production is emission-free. Of course **Penta 580** is lead-free capable as well.

### 印刷电路板热空气镀锡设备 PENTA 580

系统特性:

**PENTA 580**是由最先进技术装备的立式印刷电路板镀锡机。其接触式操纵控制盘使操作方便。其高速可存, 可编程控制系统 (**SPS**) 提高了工作速度。**PENTA 580**不仅具备所有传统**PENTA**系列产品的优点即: 高质量, 长寿命, 低价格, 低备件费用, 操作简单, 维护方便等, 而且通过镀锡空间的全封闭的设计从而避免了生产过程的废气外泄。当然, 此**PENTA**设备亦具备无铅能力。



PENTA 580

### PENTA 580 技术数据

Dimensions W x D x H	1900 x 950 x 2340 /mm 毫米	设备尺寸
Weight	1000 kg 公斤	设备重量
Cycles	180 ... 200 /h 次/小时	循环次数
Max. dimensions of PCB	800 x 770 x 5 /mm 毫米	可加工最大工件尺寸
Air pressure	6...8 bar 巴	对输入压缩空气要求
Compressor consumption	14 kW 不少于 千瓦	对输入压缩机功率要求
Exhaust	2000 m³/h, 800 Pa 立方米/小时	排气量
PbSn capacity	420 kg 公斤	焊锡容量
Electr. installation	49 kW 千瓦	输入功率
Consumption	30 kW 千瓦	功耗



# HOT AIR LEVELER PENTA 580

## Components of the Systems

### Framework

The frame consists of solid rectangular tube and is welded airtight. It serves as compressed air accumulator for the blowing process step of the air-knives.

### Upper Frame Structure

The upper frame structure is made of square tube either. It is welded to the base frame and forms a torsionally stiff integral unit.

### Clamp-Lift-Unit

The clamp-lift-unit for the pcb-clamp is an electrical controlled rotation linear sliding drive. The dipping- and exhausting speed is pilot controlled and safed in menu.

### Housing

The external panels are made of stainless steel and are hinged to open for easy access to all components of the machine. The transparent doors at the load station of the machine close prior to the cycle starting. This completely isolates the operator and environment from the fumes and reduces noise levels considerably. The inner trim panels are not fixed tight to the frame and may be taken out of the machine easily.

### Clamp Unit

The clamp unit is fixed to the lift. The panel is locked by clamps via pneumatical cylinder. The clamp gets closed automatically and opened electro-pneumatically when the foot operated switch is actuated.

### Solder Tank

The heat resistant steel solder tank is fixed with hinges to one side of the machine. It can be released by untightening a hand operated nut allowing the tank to be swung for service and clean up operation. The tank is indirectly heated by electrical flat heaters on the tank surface.

### Solder Pump

The circulation pump is mounted left hand side on the tank's top. The pump can be disassembled within a short time.

### Air Knives

The two air knives are made of solid stainless steel, indirectly heated by a low airstream from the airheater. The knives are resistant to distortion due to the thermal and mechanical actions and work noiseless because of the considerable weight. The slot width of the air knives can be exactly adjusted for any requirements. The air knives can be rotated around their horizontal axis. The position towards the PCBs is continuously variable. Together with the fixed steel plate the air knives can be removed off easily.

### Air Heater

The air heater is a solid electrically heated block for the support of the air knives with heated air. Controlled by a magnetic valve the precompressed air is led to a exchange register in the heating block. The heating elements can be easily changed without desassembling of the heating block.

### Pressure Settings of the Air Knives

For each air knife a remote controlled pressure regulation is installed. The set input is done via terminal and stored in the PLC. The air pressure is indicated by a manometer.

### Service and Control Panel

The control panel is mounted outside the machine and can be turned due to the requirements of the operator. It is equipped with the central computer system which controls all internal functions.

Additionally the computer controls data like temperature of solder and air which are determined in 50 preselectable programs.

The variable data are displayed continuously. All merits of control elements, modes of control elements, switches and valves can be checked in a special test-program. This helps to reduce the probability of failure. Additionally the maintenance by the user is easier in most cases.

### Program Operation

All functions as well as the locked safety switches are controlled by a PLC.

# 印刷线路板热空气镀锡机

## PENTA 580

### 系统组成:

#### 地面框架

地面框架由方形厚壁密封焊钢管构成,它即用于支撑所有部件,又作为气刀的压缩空气平衡存储器。

#### 上部框架

上部框架由方型钢管构成,与地面框架焊接在一起,构成一个连接整体。

#### 升降装置

用于机械手和工件传送的升降装置是一个电控直线传动装置,其浸入和退出速度可在功能选择菜单预选和储存。

#### 机器外壳

机器所有不锈钢板外壳均为单件并用螺栓固定在框架上。上部前面门被用作两扇平行运行之有机玻璃板的框架,并能在气压弹性连杆的支持下向上翻开。内部的金属盖板不固定地平置于框架和组件上,并被限制于其所在位置。

#### 线路板装夹组件

工件的装夹是通过安装于升降柱上的机械手(已申报专利)完成的。汽缸驱动机械手夹住工件,并自动实行机械锁紧。通过脚踏开关可实现机械手的电气开启。

#### 焊锡槽

焊锡槽是一个单侧固定于可旋转铰链上的钢制容器。松开另一侧的锁定装置,可使焊锡槽向外转出,以便保养和清洁。焊锡槽的加热由表面电热元件间接实现。

#### 焊锡供应泵

安装于焊锡槽一侧上部边缘的叶片泵由少量的零件组成,松开其三个固定螺栓可容易地将其拆卸。

#### 气刀

两个由实心不锈钢制成且结构相同的气刀由热空气加热并具备良好的抗热和机械变形的稳定性。由于其本身的大质量,使其基本无工作噪音。气刀的狭缝宽度可在整个长度范围实行良好的校准。气刀能够绕水平轴自由转动和调整。气刀至工件的间距同样可无级调整。气刀可极简单地连同固定在上部的金属盖板一起从焊锡槽拆下。

#### 空气加热器

这是一个电加热的实心储热体,用于为气刀提供热空气。在送气过程中,压缩空气通过一个空气阀被引入置于储热体中的换热器。在不拆掉储热体的情况下,可容易地完成对加热棒的更换。

#### 气刀的气压调节

每个气刀都配备有一个遥控气压调节器,气刀喷气压力可在操纵控制盘中操纵程序里设定。为每个气刀所设定气压值均被存贮在计算中心并显示在气压表上。

#### 操纵控制盘

安装于机身外侧,可自旋和绕悬臂轴转动的操纵控制盘装备有计算中心,通过计算中心可将所有操纵过程自由编程和控制。计算机中心负责调整和控制50个可预编程序中所输入的数据,诸如:焊锡和喷出空气的温度以及工作循环的时间。程序的运行情况和数据会被同步显示。所有控制元件,继电器和阀门的运行过程和数据均可通过一个功能测试程序被控制。通过定期运行测试程序可使多数可能出现故障被程序中的自我检修功能所修复,从而避免故障停机。

#### 程序运行

机器运动过程及安全开关的连接可通过"可存,可编程控制系统(SPS)"所控制。