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一、LV-20 Equipment Appearance Diagram:



二、LV-20 Introduction to the Rework Station:

- This equipment features an integrated design of the hot air head and the placement head, offering automatic placement, automatic soldering and automatic disassembly functions. It is equipped with an optical alignment system and uses bright infrared tubes for heating, making it suitable for disassembling and soldering chips of various packaging forms. Applies to any BGA devices, special components POP and difficult repair, CCGA, BGA, QFN, CSP, the LGA, Micro SMD, MLF (Micro Lead Frames SMD) electronic components, etc.
- Controlled by Advantech industrial computers, combined with Mitsubishi 6-axis motion cards and Panasonic high-precision servo motors, the equipment operates more quickly, accurately and reliably.
- The upper air outlet adopts the innovative heating system of Livi. The heating core is heated through multiple channels. The hot air is evenly distributed through the air outlet. The diameter of the air outlet is 75mm, which can meet 99% of the chip repair requirements on the market.
- Both the upper and lower heating zones are heated by hot air, while the third heating zone is heated by carbon fiber heating tubes. The main feature of carbon fiber heating tubes is their rapid temperature rise. When the equipment is heating, they can quickly raise the temperature of the PCB, preventing the temperature difference between the local and surrounding areas from causing deformation such as distortion, indentation, and protrusion of the PCB mainboard during processing.
- Extra-large infrared preheating area, with dimensions up to 600 x 480 mm.
- The equipment is equipped with a built-in vacuum system. The R-axis Angle can rotate 360°. It is controlled by a high-precision stepper motor from Leisai and features precisely fine-tuned suction nozzles for mounting.
- The suction nozzle automatically recognizes the suction and placement height, and the pressure can be controlled within a tiny range of 10 grams. It has a 0-pressure suction and placement function, and is suitable for smaller chips.
- This machine is equipped with dual displays. The computer uses a 27-inch high-definition display, and the optical alignment display uses a 19-inch HDMI high-definition display. It can meet the maintenance requirements of various small

surface mount components, super-large BGA chips, 4094CPU sockets, etc. The color high-definition optical vision system features dual-color splitting, magnification and fine-tuning functions, including a color difference resolution device, automatic focusing, software operation functions, and 50x optical zoom.

- This machine can display 8 temperature curves in real time, showing both set and measured curves, and can analyze the temperature measurement curves.

- 10-stage temperature rise (drop) control + 10-stage constant temperature control, capable of storing a large number of temperature curves, and curve analysis can be conducted on the touch screen.

- A variety of alloy hot air nozzles in different sizes, easy to replace and capable of 360° rotation and positioning.

- It is equipped with 5 temperature measurement ports and has the function of multi-point real-time temperature monitoring and analysis.

- The automatic removal or placement of chips is accomplished on a fixture with positioning scales. Just input the size of the chip on the operation screen, and the upper wind vane will automatically draw the center position of the chip, which is more suitable for mass production.

- It features a solid-state operation display function, making temperature control safer and more reliable.

- This machine can automatically generate SMT standard temperature disassembly curves under different regional and environmental temperatures, without the need for manual setting of the machine curve. It can be used by both experienced and inexperienced operators, achieving machine intelligence.

- PC computer control, can be linked to the MES system.

- It is equipped with a built-in smoke purification system, mainly for the emission treatment of smoke generated during heating.

三、LV-20 Specifications of the rework station:

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| Total Power | 10000W |
| Total Power | 1600W |
| Lower Heating Power | 1600W |
| Lower Infrared Heating Power | 6000W (4000W controlled) |
| Other Power | 800W |
| Power Supply | Three-phase 380V、50/60Hz |
| Positioning Method | The V-shaped card slot fixes the PCB, and the laser positioning lamp quickly positions it. |
| The number of drive motors and the control area | 4-axis (X and Y axis movement of the alignment lens, Z-axis up and down movement of the upper heating head, and R-axis rotation of the suction rod). |
| the alignment lens automatic | Automatic movement or manual control movement |
| Equipment suction feeding device | Yes (standard configuration) |
| The heating (preheating) method in the third temperature zone | It adopts imported German carbon fiber heating tubes (advantages: rapid heating; during normal heating, the temperature difference between the PCB motherboard and the chip being repaired will not be large, ensuring that the PCB motherboard will not deform or twist, thus improving the chip soldering yield). |
| Temperature control | High-precision K-type thermocouple (Ksensor) closed-loop control (Closed Loop), with independent upper and lower temperature measurement, and the temperature control accuracy can reach ± 1 degree. |
| Selection of electrical materials | Advantech industrial computer + Mitsubishi 6-axis motion control card + Panasonic servo motor + Resay stepper motor + Panasonic optical sensor |

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| PC computer control | Connectable to MES system |
| Maximum PCB size | 780mmX630mm |
| Minimum PCB size | 10*10mm |
| temperature measurement interfaces | 5 PCS |
| Chip magnification/reduction range | 2-50times |
| PCB thickness | 0.5~8 mm |
| Applicable chip | 1*1~120*120 mm |
| Applicable chip minimum pitch | 0.15 mm |
| Max load for mounting | 1000g |
| Mounting accuracy | ±0.01mm |
| Machine size | L1000*W954*H1760mm (Monitor stand not included) |
| Machine weight | About 380KG |
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