

Seamark Hongkong Limited

Add: Building 10&11, Longwangmiao Industrial Zone, Baishixia Community, Fuyong, Bao'an, Shenzhen. 518103 China

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ZM-R9100 multi-functional intelligent repair station Technical Specification



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1. Product introduction

ZM-R9100 is a fully automatic visual alignment PCBA repair workstation, which is suitable for fully automatic repair work of various patch devices on PCB boards. Using high precision vision camera and independent temperature control technology, it can realize automatic visual removal, tin removal, tin paste / welding paste, mounting and welding. The equipment can be connected with MES software (optional) to realize the temperature curve analysis of S / N for traceability conditions.

Application advantage

1, non-contact type tin removal

Non-contact tin removal is realized with the help of high-precision laser displacement sensor and precision weighing sensor and air pressure measurement, thus reducing the risk of BGA damage and scrapping during the tin removal, and supporting the rapid generation of tin removal path without the Gerber file puzzle.

2. Large visual field and high-resolution CCD visual system

Config resolution 25 million, pixel accuracy: 0.0176mm / pixel and 55 * 55 large field CCD, using independent developed control software and algorithm, bit accuracy and high degree of automation. For the same PCB in the same position of repair, only need to counterpoint for the first time, the back can be "one key repair";

3. Four sets of independent preheating platforms

There are four sets of independent preheating and heating platforms for the upper part, tin removal of the upper part, the lower part and the mobile temperature area. All the heating and preheating platforms and tin removal heads are closed loop temperature control, and the overall temperature control is stable and accurate.

4. Security

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There are strict standards for product yield and operator safety; the equipment is equipped with secondary grating, each heating module has separate secondary protection, the lowering module has weighing sensor, doors and Windows are equipped with travel switch. Whether it is overtemperature, or personnel into the working area, the location of the limit have an alarm

2. Product specifications and configuration parameters

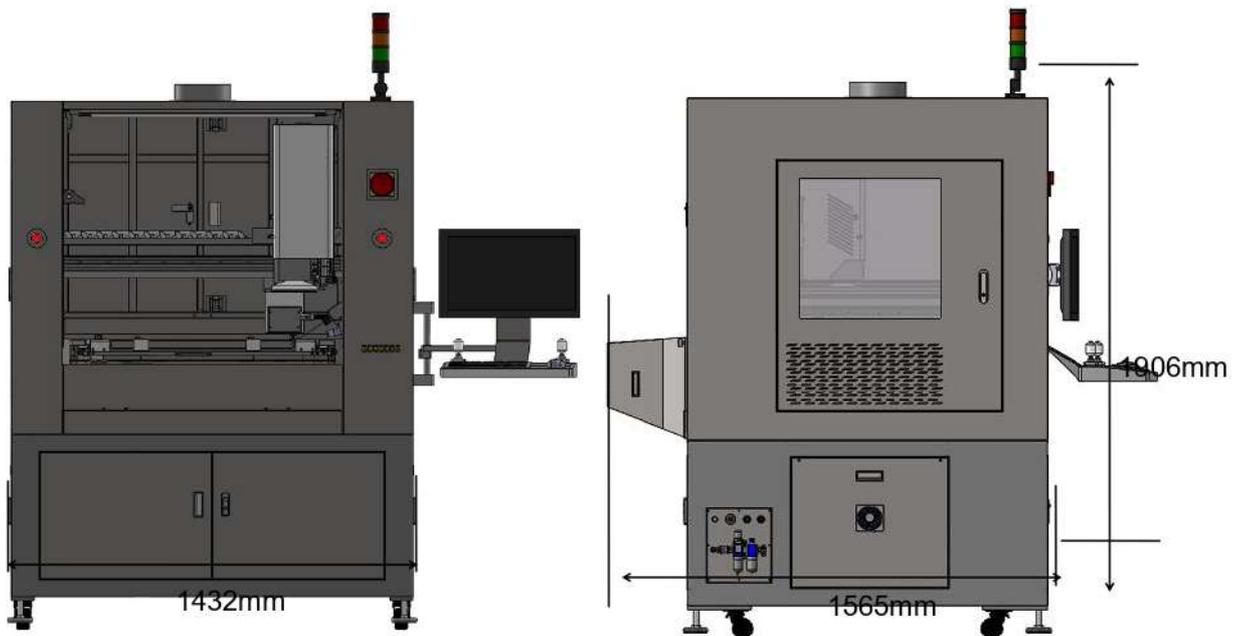
source	AC 380V $\pm 10\%$ 50/60Hz
power	Total power 22.6KW upper temperature zone (2KW) lower temperature zone (2KW) Preheated temperature zone (16KW) except for tin head (0.6KW). Other (2KW)
PCB size	750mm \times 560mm (Max) 10mm \times 10 mm (Min)
Applicable chip	120mm \times 120mm (Max) 1mm \times 1 mm (Min)
IR temperature zone size	700mm \times 630mm
Tin removal head heater temperature	600°C (adjustable)
The removal of tin is highly residual	$\leq 15\%$
The amount of tin is residual	$\leq 10\%$
In addition to tin suction mouth	Diameter ϕ 0.1- ϕ 0.3 replaceable
The BGA substrate deformation amount	Planness 0.15mm
Removal of tin recovery	Replace the filter element
Temperature measurement interface	Seven

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navar	Industrial PC + servo motion control system
display system	24 " mark, clear the display screen
On-site system	Resolution 25 megapixel accuracy: 0.0176mm / pixel Visual field: 55.0mm*55.0mm
The product line change time has been adjusted	20min
vac-sorb	full-automation
The bit accuracy	$\pm 0.025\text{mm}$
temperature control	K-type thermocouple closed-loop control, precision up to $\pm 1^\circ\text{C}$
Feed device	semi-automatic
location mode	L-shaped card slot and universal fixture (customized special-shape fixture)
machine weight	1305kg
outline dimension	L 1432 W 1565 H 1906mm is shown below



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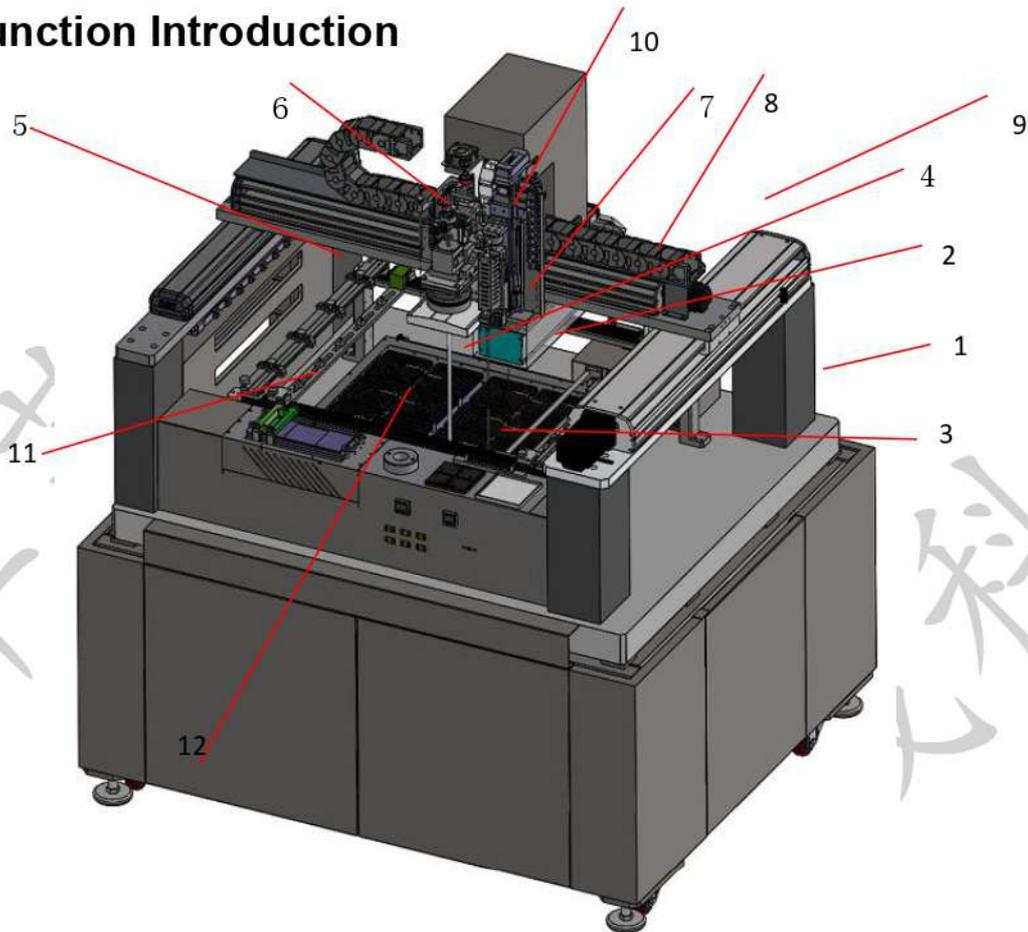


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3、function Introduction



order number	name	function
1	Marble platform mechanism	Marble platform mechanism improves the accuracy of the equipment to ensure the product quality
2	Infrared heating mechanism	The PCB board overall heating, up and down adjustable mechanism
3	Feed agency	Repair when bearing defective products and good product positioning mechanism
4	Mobile temperature zone agency	For the bottom of the PCB board, X and Y are run automatically; also follow the upper head to move automatically.
5	PCB board clamp tray mechanism	Working platform for carrying the PCB board and the positioning of the PCB board
6	Upper nose mechanism	Automatic lifting, automatic angle correction, local heating on the PCB board, adsorption and picking up BGA or chip
7	Visual placement agency	High-precision visual counterpoint mechanism, counterpoint accuracy $\pm 0.025\text{mm}$, to ensure the

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		product quality.
8	The X-axis module motion mechanism	Responsible for the precise movement of the X-axis direction of the upper head mechanism
9	The Y-axis module motion mechanism	Responsible for the precise movement of the Y-axis direction of the upper head mechanism
10	Removal of tin mechanism	Automatic heating of the contactless vacuum tin removal
11	Scratch paste structure	Realize the automatic leveling of tin paste / flux
12	Tin removal head self-cleaning mechanism	Realize the self-cleaning of the tin removal head to prevent the tin removal head from blocking

4. Visual camera lens parameters

resolution ratio	25 Million
Pixel accuracy	0.0176mm/pixel
operating distance	60mm
View size	90.0mm*90.0mm
Pixel depth	8bit,10bit
data interface	Gige
Lens interface	C,CS
Image data format	Mono8,Mono10
Power supply requirements	12-24VDC
power rating	<3W@24VDC
working temperature	0°C-45°C
Storage temperature	-20°C-70°C

5. Installation environment and use safety

order number	ask
1	Far from flammable, explosive, corrosive gases or liquids.
2	Avoid many wet places, and the air humidity is less than 90%.
3	Ambient temperature-10°C ~40°C, to avoid direct sunlight and sun

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	exposure.
4	Operating environment without dust, floating fiber and metal particles.
5	Installation plane shall be horizontal, firm and without vibration.
6	Never place heavy objects on the fuselage.
7	Avoid the influence of direct air flow from the air conditioner, heater, or ventilator.
8	Reserve more than 30cm on the back of the repair table for heat dissipation.
9	Equipment wiring must be operated by qualified professionals, the main line is 10mm ² , and the equipment must be well grounded.
10	When the power supply is disabled, the main power switch is turned off, and the power plug must be unplugged for long-term shutdown.

The materials are for reference, subject to the physical object, and the company reserves the right of final interpretation of the contents of the technical specifications.