



PTCME302

Chip Module Encapsulation Machine

High-speed Smart Card Chip Module Encapsulation, Testing and Surface Defect Inspection Turnkey Solution.



High Stability



High Compatibility



High Cost-performance Ratio



High Flexibility

PTCME302

Chip Module Encapsulation Machine



PTCME302 represents the new generation of high-speed smart card chip module dosing, UV curing, encapsulated module thickness measurement and visual inspection system. 100% online control of the whole process can minimize manual intervention and save labor costs. Latest dosing program for dosing head with 16 dosing nozzles which makes the dosing quality higher and maintaining easier, realizes a simpler operation. The LED UV lamp of PTCME302 curing module is significantly smaller than traditional UV gas discharge lamps, while it has a higher power to makes the production more efficiency. PTCME302 configured encapsulated module thickness measurement module as well as upper and lower chip module surface defect inspection module to saving factory labor cost and control product quality effectively.

Advantages

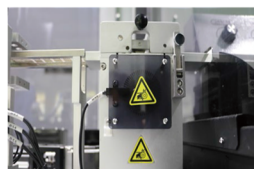
- ▶ Real-time monitoring of dosing effect and encapsulation thickness.
- ▶ Visual dosing trajectory design can easily create a dosing path.
- ▶ Encapsulated module thickness accuracy $\pm 30\mu\text{m}$.
- ▶ DAM resin and Filling resin or Double Filling resin production mode.
- ▶ Automatic X/Y direction movement punching hole function.
- ▶ Detailed production process report.
- ▶ Optional visual defect inspection function.

Configurations



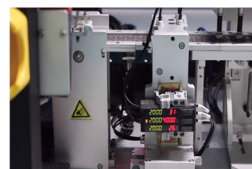
Unwinding/Rewinding Module:

- A tray with an inner diameter of $\phi 40\text{mm}$ (without keyway) and an outer diameter of $\phi 500\text{mm}$ can be loaded.
- A protective tape tray with an inner diameter of $\phi 40\text{mm}$ (without keyway) and an outer diameter of $\phi 500\text{mm}$ can be loaded.



Tape Driving Module:

- Tape tensioning, forward transmission and backward rewinding functions.
- Servo driver + pin wheel mechanism for tape transmission.
- Tape running accuracy is no more than $\pm 0.1\text{mm}$.



Unwinding Detection Module:

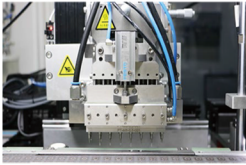
- Bad holes and side holes from unwinding tapes can be detected.
- X/Y sliding table is installed at the bottom of the mechanism to facilitate precise adjustment of the sensor position.



Thickness Measurement Module:

- 8 length gauges in total are configured.
- Adjustment function in X, Y and Z three directions.

Configurations



Dosing Module:

- 2 sets of dosing heads (suitable for 9.5mm tapes) with 16 dosing nozzles for each are configured.
- 14.25mm dosing head with 16 dosing nozzles for each is optional.
- Applicable resin types include: DAM resin and Filling resin.
- The dosing head is driven by the X/Y/Z three-axis motion mechanism with accuracy is no more than $\pm 0.1\text{mm}$, and the encapsulated module thickness accuracy is no more than $\pm 0.03\text{mm}$.
- Zero correction for Z-axis dosing nozzle can re-calibrate the height of Z-axis after replacing the dosing head.



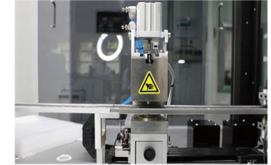
Optical Positioning Module:

- A set of visual positioning system is installed behind each dosing module.
- Module tape positioning function and dosing absence detection function are configured.
- Linkage control between visual positioning system and the three-axis motion mechanism of the dosing module to ensure that the position accuracy after dosing is no more than $\pm 0.1\text{mm}$.
- Camera with 5 million pixel is configured.



UV Curing Module:

- 1.2m LED UV lamp is equipped.
- The LED UV lamp can be automatically raised and lowered by software control. When the UV lamp is attenuated, the height of the lamp can be adjusted to compensate for the curing effect.
- The LED UV lamp can be moved back into the maintenance position as a whole, and can be turned back 90° to facilitate the maintenance or replacement of the LED UV lamp.



Punching Module:

- A hole will be punched on the chip that is failed in thickness measurement & dosing appearance defect inspection.
- Following punching mode, the diameter of the punching hole is $2\pm 0.1\text{mm}$, and the position error is no more than 0.2mm.



Software:

- Control system software.
- Dosing trajectory graphic design software.
- Visual recognition and positioning software.
- Visual monitoring software.
- Dosing appearance defect inspection software. (optional)



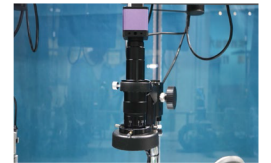
Filling Resin Supply System:

- 1 set of Filling Resin Supply System is configured.



Dam Resin Supply System:

- 1 set of Dam Resin Supply System is configured.



Optical Surface Defect Inspection Module (optional):

- Appearance size & defect inspection on the encapsulated block after UV curing can be realized.
- Defects such as unencapsulated, missing solder joints, repeated dosing, dosing deviation, sinking, dragging, large or small dosing size, wrinkles and other defects can be inspected.
- 3 sets of 5 million pixel cameras are configured.

Throughput

Prodution mode	Glob top	Damm&Fill	Glob top	Damm&Fill
Chip pitch(mm)	9.5	9.5	14.25	14.25
Prodution capacity (UPH)	33000	23000	27000	20000

Technical Specification

Dimension: 7300mm × 1200mm × 2000mm
 Weight: 2100Kg
 Power Supply: 220V (-5% ~ +10%), 50Hz, 8KW
 Noise: ≤65dB

Operation Temperature: 23°C ± 3°C
 Operation Humidity: 50±10%rh
 Compressed Air: Pressure: 0.6Mpa Flow: 1500LPM
 Maxmum Throuput: Glob Top: 33000UPH
 Damm & Fill: 23000UPH

Partners



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