

OTHER MACHINES

VERTICAL REFLOW OVEN MSTX-600



AUTOMATIC VERTICAL REFLOW OVEN

READY FOR LARGE PCB'S, SIMPLE TO
OPERATE, RELIABLE PERFORMANCE



Automatic vertical curing oven is specially used after dispensing backend process and to solve the bottleneck operation process. This automatic curing system is composed of seven parts: PCB entry (pallet) device, lifting device, transition device, PCB exit device, heating device, width adjusting device and control system.

The control system adopts self-developed PLC, the driving motor is stepper motor and servo motor of famous brand. Friendly touch screen interface makes the whole system precise, simple to operate, reliable performance, continuous curing process and adjustable curing time, which is the best choice for curing process.



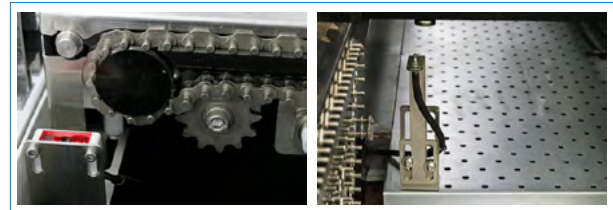
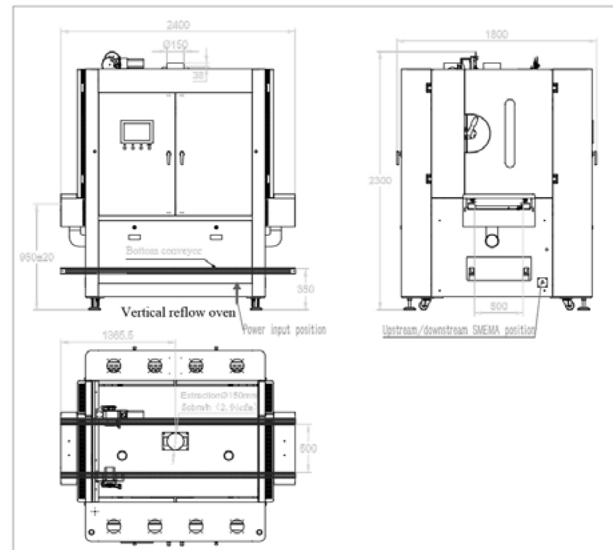
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FEATURES

- **PCB size:** 600x600mm (L*W)
- **Conveyor:** Bottom and return
- **Distance between slots:** 50mm
- **Numbers of slots:** front 32 cages, rear 32 cages
- **Weight:** More than 6kg per layer
- **Zones:** 3 Temperature zones and 5 probes
- **Heating control:**
 - » Temperature monitoring probes (thermocouple)
 - » Heating speed can be adjusted
- **Photoelectric sensor:** Detect the position of PCB
- **Fiber optic sensor:** Detect the position of PCB
- **Lifting limit** detection fiber
- **Width adjusting device:** The moving rail moves to adjust the width
- **Safety:** CE Safety measures and protection devices

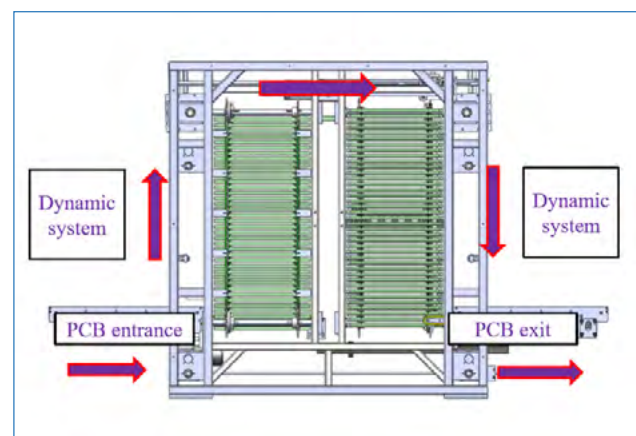


Photoelectric sensor

Fiber optic sensor

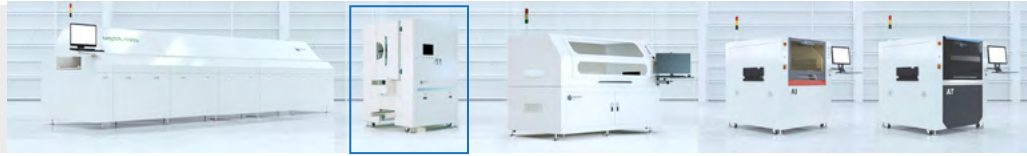
SYSTEM WORK FLOW

When the equipment is running, the heat flow air is continuously sent into the chamber. After the temperature reaches the preset one, the product (pallet) enters the plate layer on the side, the lifting device moves up layer by layer until it reaches the transition layer. The transition device will send the product to the side of the exit, and then the lifting device will move the product down layer by layer and send it to the exit layer. Exit device sends products out of the oven; the cycle of work continues to complete the process.



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FEATURES

HEATING DEVICE



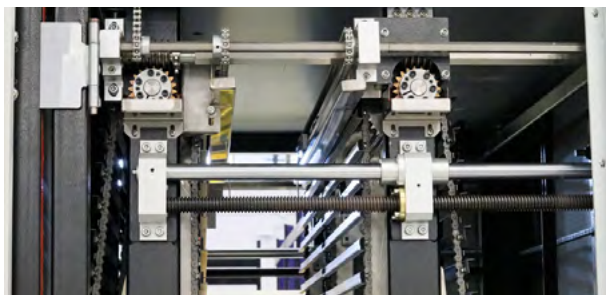
The motor drives the wind wheel in the heating box to provide heat to the inner of oven. The hot air flows down the air ducts on both sides of the equipment and enters the chamber of through the mesh plate, forming the vortex of airflow sucked in the external exhaust, and finally forming a circulation flow in the chamber.

CONTROL OF PCB ENTRY DEVICE



The stepper driver's speed is controlled by the main PLC. A photoelectric sensor control the starting PCB entering device. A limit photoelectric sensor detects if the position of entered PCB is correct. If not, it will give suspend the operation of the equipment. A fiber optic sensor, installed in the chamber, is used to detect whether the PCB is in place or not.

CONTROL OF LIFTING DEVICE



The driving mode of lifting mechanism components is driven by servo motor, which is connected with the main controller (PLC). According to the preset program, the movement speed and positioning of the bracket in the chamber are controlled. The lifting limit detection fiber is installed at the bottom of the exit. When the exit layer declines beyond the detection limit, operation is suspended.

PCB EXIT DEVICE



Two parallel chains are installed on the side exit and pushing device is installed on the two chains. The chain is driven by the installed sprocket wheel. A stepper motor is installed below the exit to drive the two sprockets to work and move the product from the exit layers to the connection device outside the chamber. The exit driving is by step motor, the speed is controlled by PLC.

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TECHNICAL SPECIFICATIONS

Model	MSTX-600
General specifications	
Dimension	1800*1880*2200 mm-L*W*H
Weight	1600KG
Heating zone qty	Top 2, bottom 2
Direction	Left to right, up to bottom
Power	3P 380V 50/60HZ
Total power	26.4KW
Running power	17KW
Conveyor	
PCB width	100*100-600*600mm
PCB thickness	2*5mm - pallet:5*45mm
PCB bending rate	Up& bottom ≤1.0mm
Conveying height	900±50mm
Gap height	≥50.8mm
Stocking PCB qty	Top:32 layers - bottom:32 layers
Conveying method	Support strip
Distance	25.4mm
Conveying speed	0-2000mm/min adjustable
Bearable weight	6KG/layer
Property	
Heating modular	4pcs
Heating time	18min
Oven surface temp.	≤65°C (under room temp.)
Controllable temp	Indoor 200°C
Heating compensation temp	±3°C
Control accuracy	±3°C
Software	
Control method	Touch screen+ PLC / industrial computer+ PLC
Data monitor	Computer data record and enquiry
Authorization	Can be set
Safety	
In accord to national standard	Yes
Abnormal temp. stop	Signal of PCB enter and exit, trigger device
Heat radiation system	Yes
Protection device	Safe guardrail, emergency stop, safe marks
Safe device	Open the safety door to alarm and automatically shift to temp. dropping mode
Over temp. protection device	Heating stops, PCBs inside come out
Fire-proof level	B1/A
Service	
Warranty	2 years
Scene training	Yes
Technique support	48 hours
Intelligent terminal	Available
Software upgrade	Free of charge



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