

Meet the Needs of the SMT Age

Please read this user manual carefully before running



S-WS250 Wave Soldering Machine

USER MANUAL

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1. Overview

FEATURES:

1. Suitable for the welding device of long legs and SMD, SMC components
2. Lead-free soldering process, accord with the requirement of environmental protection industry to reduce pollution
3. Directly pull out of the preheating zone of the module design and filter system, convenient maintenance
4. Lengthening preheating zone and preheating curve smoothly, ensure the PCB uniform heat, not deformation
5. Intelligent automatic tracking spray system, the area of the spray along with the PCB evenly heat, not deformation
6. With speed automatic tracking program
7. With flux nozzle automatic cleaning device, use for a long time, without cleaning
8. Furnace adopts the XT special structural design, can save electricity and reduce oxygen cargo
9. Guide rail USES the XT unique design, can greatly reduce the thermal deformation, can guarantee the PCB is complete, welding and transport
10. The stepless frequency conversion technology, precise control wave height
11. All motor is equipped with overload protection system
12. Precision titanium alloy elastic titanium claws, transportation, PCB, stable and reliable and never adhered tin

13. The whole control system adopts three ling series PLC and touch screen

14. Furnace and nozzle uses the XT unique design, two tin bath outside

heating type to prevent tin explosion and decrease the oxidation

2. Technical parameters

PCB width	50-250mm
Conveyor height	760±10mm
Conveyor speed	0.5~1.8M/Min
Preheating zone	900mm
Preheating zones number	2
Preheating Temperatures	Room tempreature~200°C
Suitable solder type	Lead free solder
Wave solder pot	9KW
Solder Pot Capacity	180KG
Solder temperature	Room tempreature~320°C
System Control	PLC+Touch Screen Control
Flux storage tank	Max5.2L
Power requirements	3 Phase 380V,50/60Hz
Totall Power	Max.9KW
Air supply	4-7kg/cm ²
Weight	Approx.450kg
Dimensions	L2700*M1000*H1550

3. Operating instructions

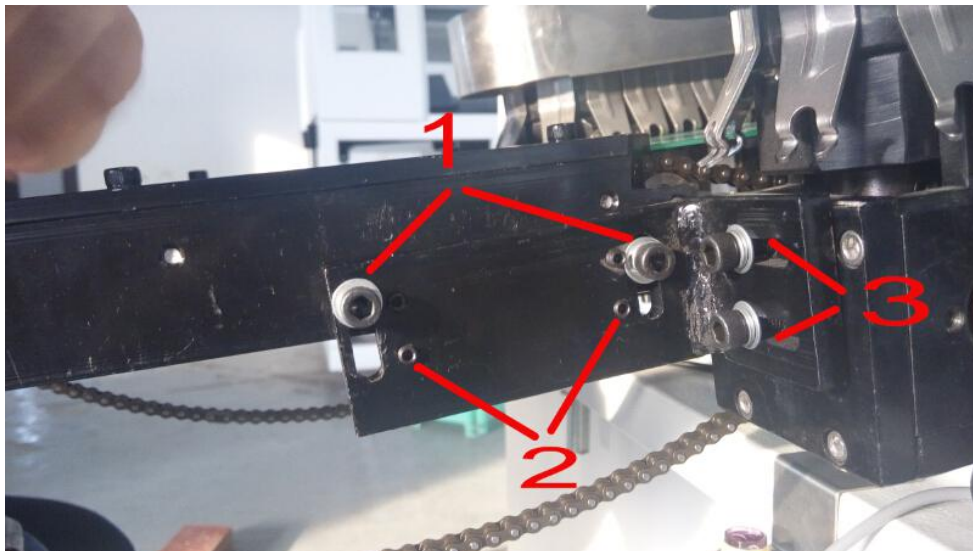
A Preparation before operation

- 1) Check the electric box has loose line and short circuit conditions or not;
check the transmission part if there is any Unidentified thing stuck;
- 3) check the preheating box have flammable objects and debris or not;
- 4) check the air pressure have 4 to 7 kg/cm or not
- 5) check whether the power supply three phase five wire, ground wire of
resistance under 10R;
- 6) check whether the spray transverse cylinder flexible;
- 7) check the flux box if there is flux or not;
- 8) check whether the spray filter through content;

B The machine hardware installation and instructions

1) : Install import board Conveyor

Take the import board conveyor to install docking, screw can be adjusted up and down the balance.

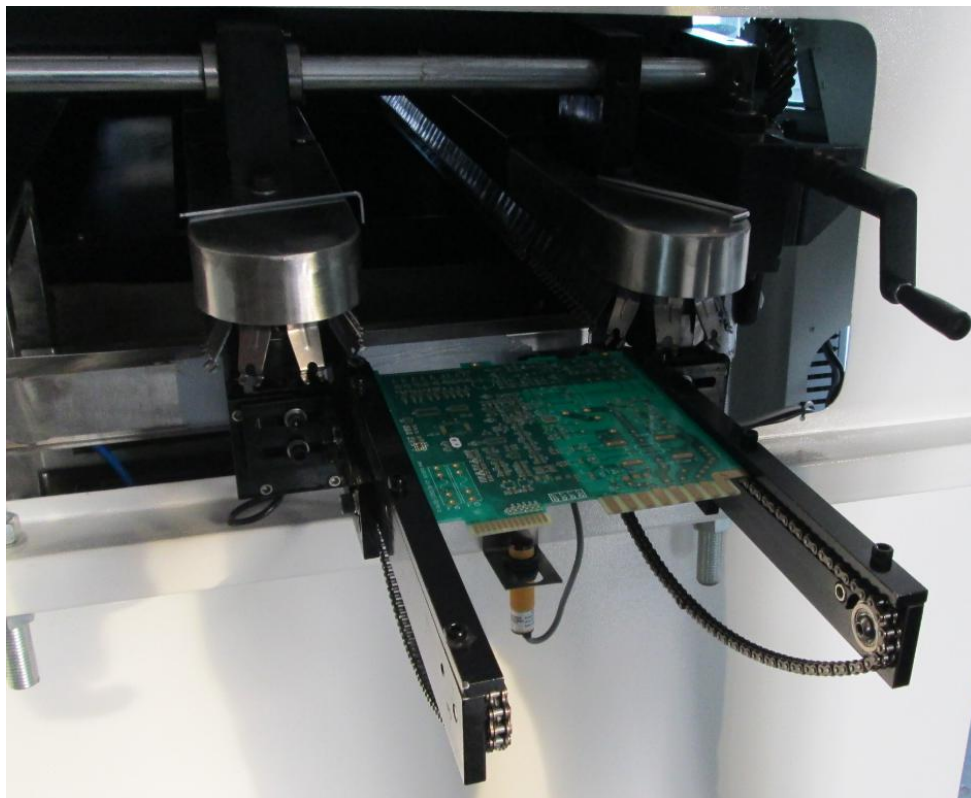
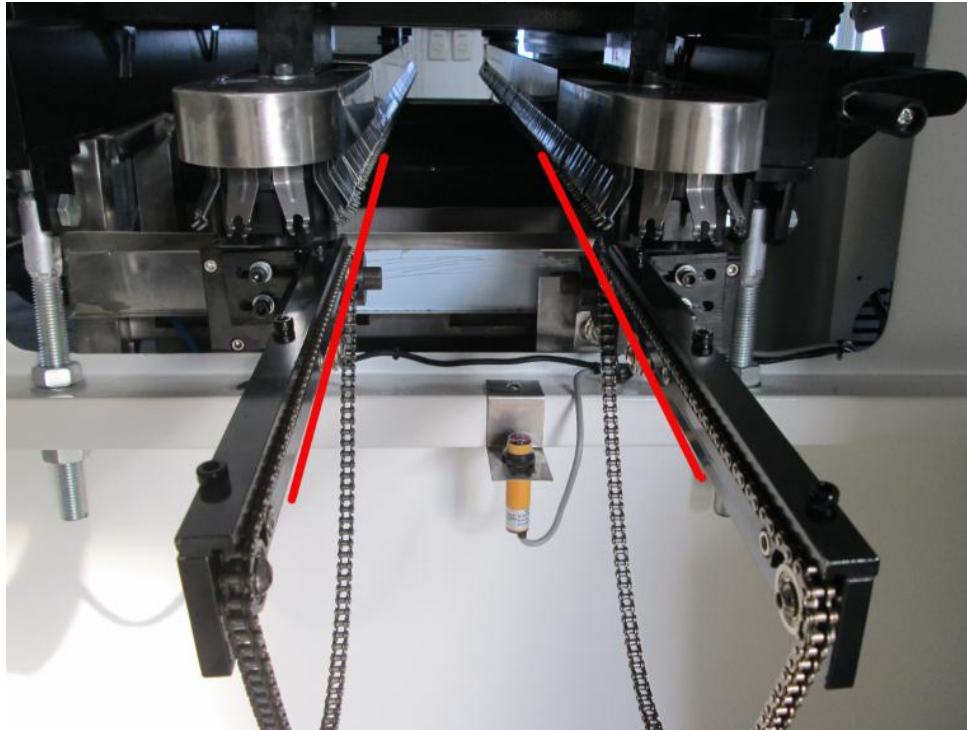


Note: 1.Conveyor guide high and low level adjustment

2.Conveyor guide vertical level adjustment

3.Conveyor guide right and left adjustment

2):Must let import conveyor chain plane into a straight line with claw.

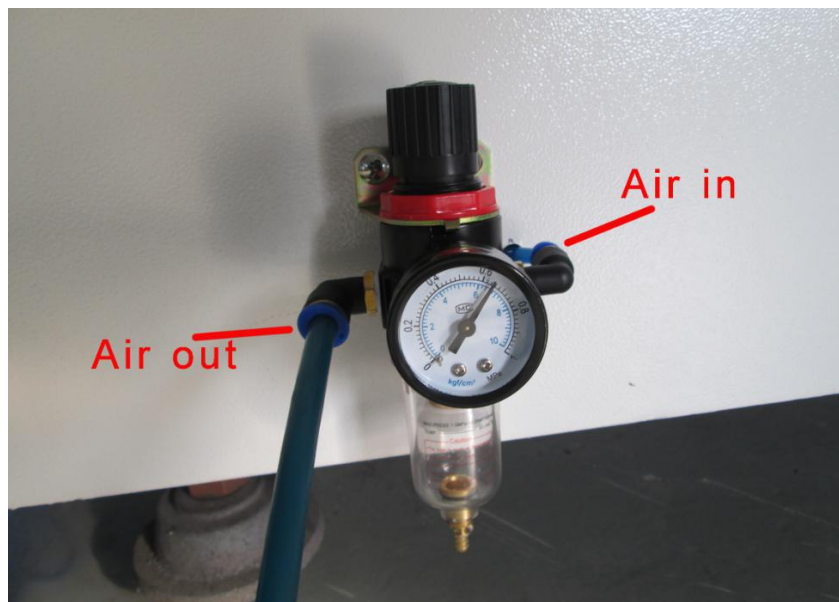


3):Install the oil-water separator

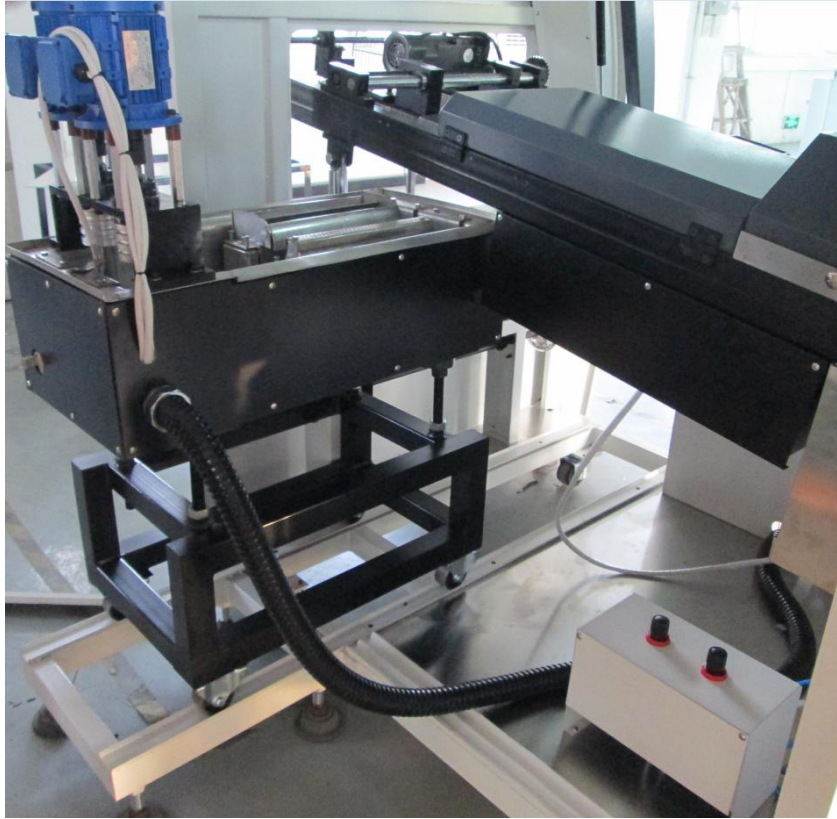
a.Oil-water separator is installed on the side of board import hole where has a small hole (The above has two cross screws)



b.Plug in pipe ,installation is completed



4): Molten tin stove installation



a, the tin stove frame is installed in the position of tin stove in and out .

b.The tin should be distributed on the sides and bottom of the tin stove.(In order to avoid empty tin stove burning lead to deformation)



c.Open a tin furnace for heating temperature

d.In the process of heating, when tin melting on both sides of the tin stove,must continue to add tin. Until it is full .

e. Tin surface should be the plane in 5 mm different with tin stove . As the best state.

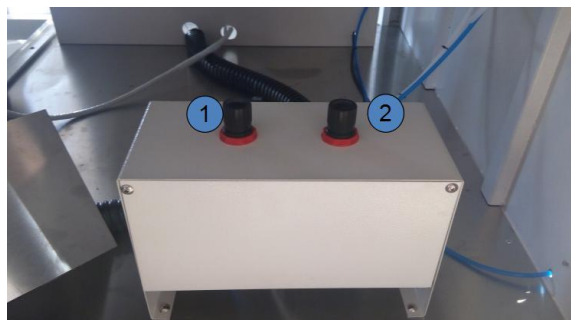
5):Following figure



Note: 1.The first wave control speeder

2.The second wave control speeder

3.Chain height adjustment



Note: 1.Adjust the size of air demand of rosin spraying

2.Adjust the size of air demand of rosin spraying moving orbit

4. Press the control switch on the operation panel



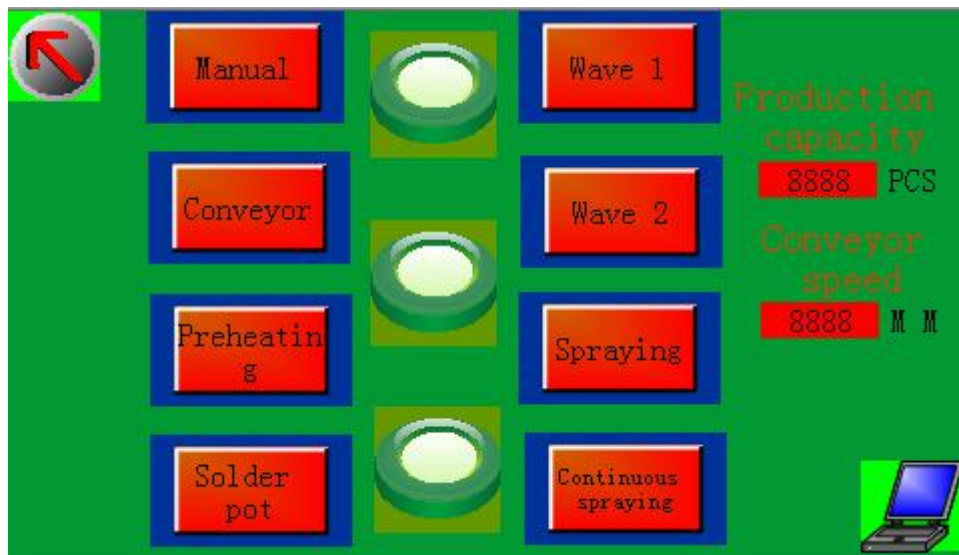
Timer	Timing Switch
Preheating	Preheating Setting
Solder Machine	Tin Stove Temperature Setting
Start	Power Switch
Lighting	Lamp Switch
Velocity	Chain Speed

1) Monitoring menu: boot monitor will show as below

Touch screen display and flashing automatically ;



2) According to company name to the main menu. Any touch screen to enter the next menu.



3) This graphics for operating

a : In this picture is able to transport, spray, wave, washing, tin stove, manual/ automatically control one by one.

b : Tin stove is automatically start when turn on PC

c. Production counter starts counting from the first piece of PCB.

d : Transportation speed display . "U" type optical eye not shown without

detection.(" U "light eyes in export of equipment)

e : "Settings"button to enter the next menu.



4) This menu is the main menu of setting spray distance, wave distance, peak time.

a : Spraying distance, setting value refers to the distance from light eyes into the sprayer.

b : wave distance, setting value refers to the distance from light eyes into the tin stove.

c:wave time, setting value refers to the automatic state the time of the wave crest.

(note: the value set are analog value, not as the actual distance and time.)

5) In the control panel of preheating and tin stove temperature control table

a: SV : Set value,

b: PV : easurements value.

c: OUT for SSR output signals

d: AT : PID automatic calculation indicator

e: ALM1 : Alarm 1 light

f: ALM2 : Alarm 2 lights

g: SET keys function keys.

h: Another three arrow button is used to set value.

6) Temperature control table parameter table

Display symbol	Name	Explanation	Set Range	Factory value
	PV\SV	measurement value\set value	whole process	
AL1	AL1	NO.1 set alarm	whole process	
AL2	AL2	NO.2 set alarm	whole process	
ArU	ATU	PID	0 : Close PID 1 : Open PID	0
P	P	PB	0: whole process ON\OFF control when set to 0	30
I	I	RC	0-3600 s When set to 0 , No RC	240
d	D	Td	0-3600 s When set to 0 , No Td	60
Ar	Ar	reference values	After AT ,set automatically	25
r	T	work cycle	Time proportional period 1-100s	
oH	OH	Master control non-action bandwidth	1-100 unit same to (PV)	2
5C	SC	PV modified value	-200-200 unit same to (PV)	0

7) Temperature control graph trouble

Message	Explanation	Exclusion method
Err	Instrument trouble	send and repair
oooo	Input broken lines, anti-polarity or beyond the input range	Check if the input signal errors
UUUU	Input interrupted anti-polarity or beyond the input range	Check if the input signal errors

5. Maintenance

- 1), Check whether the transmission has lubrication and smooth;
- 2), Check the transmission system fixed position whether there is loose;
- 3), Check whether the chain claw has a deformed shape;
- 4), Check whether the preheating box with debris, dust, and the stagnational flux ,clean them up;
- 5), Check the filter and remove flux cover and clean residue excess;
- 6), Check the sprayer spray atomization system is uniform or not, transverse cylinder smooth or not;
- 7), Check the tin oxide black powder, slag is too much or not;
- 8), Check whether the plane wave soldering tin is stable, thoroughly clean again per 400h.

6.Attention

- 1), Never put flux in a preheated box and tin stove
- 2), Never will drip flux on machinery and equipment with high temperature and electric box;
- 3), Absolutely can't unlimited heating when without adding tin in tin stove;
- 4), Grounding line must be reliable;
- 5), Tin stove temperature optimal setting temperature to 260 ± 5 degrees;
- 6),The best transmission speed : 0.8-1.3 m/min.
- 7),Best preheating temperature, PCB welding side temperature : 100 ± 10 degrees.