

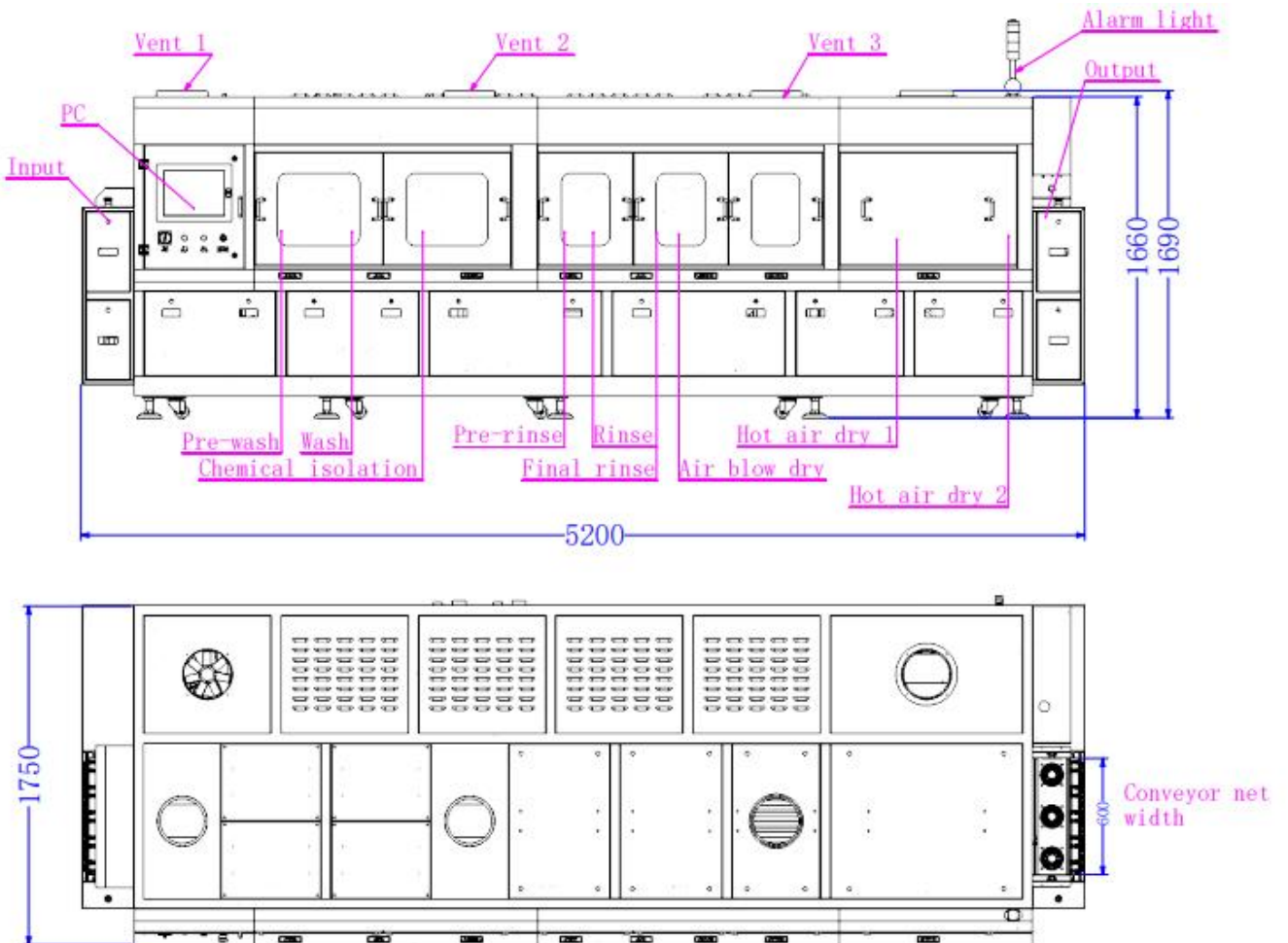
**PCBA Online Cleaning Machine I.C.T-6300**

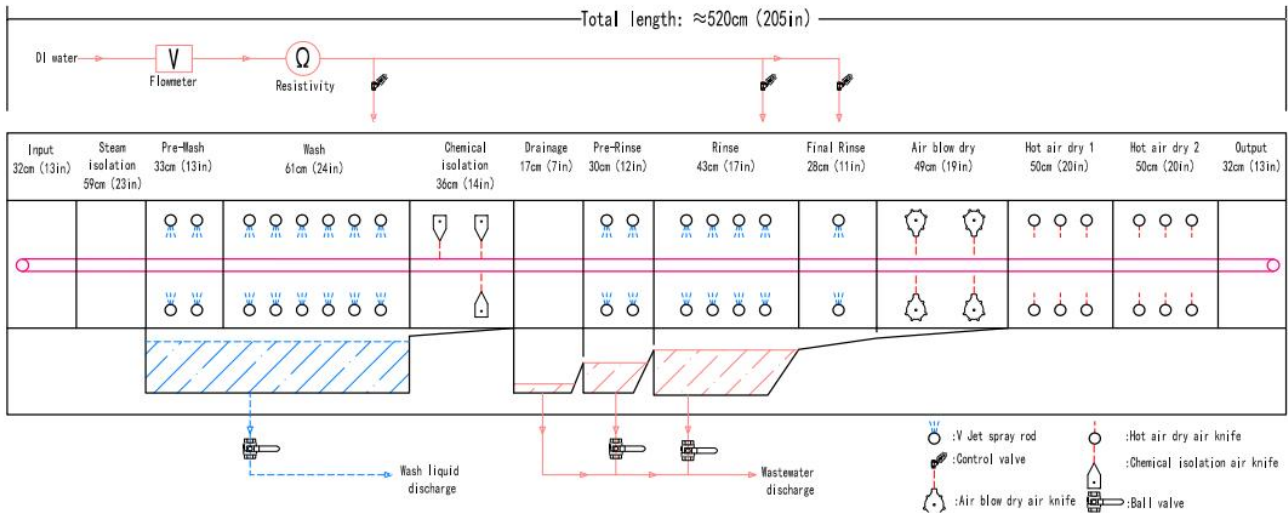


**Introduction:**

I.C.T-6300 is PCBA online cleaning machine, mainly used for batch PCBA, automatic cleaning, including chemical cleaning, DI water rinsing and hot air drying.

The unique high-pressure spray cleaning process with large flow and high-pressure spray and belt conveyor system can automatically complete the chemical cleaning, DI water rinsing and hot air drying in one machine.





Spray bar, air knife, drying air knife, liquid tank, water tank, water inlet, drainage configuration diagram

**Process flow:**

Put in PCBA → chemical liquid pre-wash → chemical liquid wash → chemical isolation → DI water pre-rinse → DI water rinse → DI water final rinse → Air blow → hot air dry 1 → hot air dry 2 → send out PCBA

**Features:**

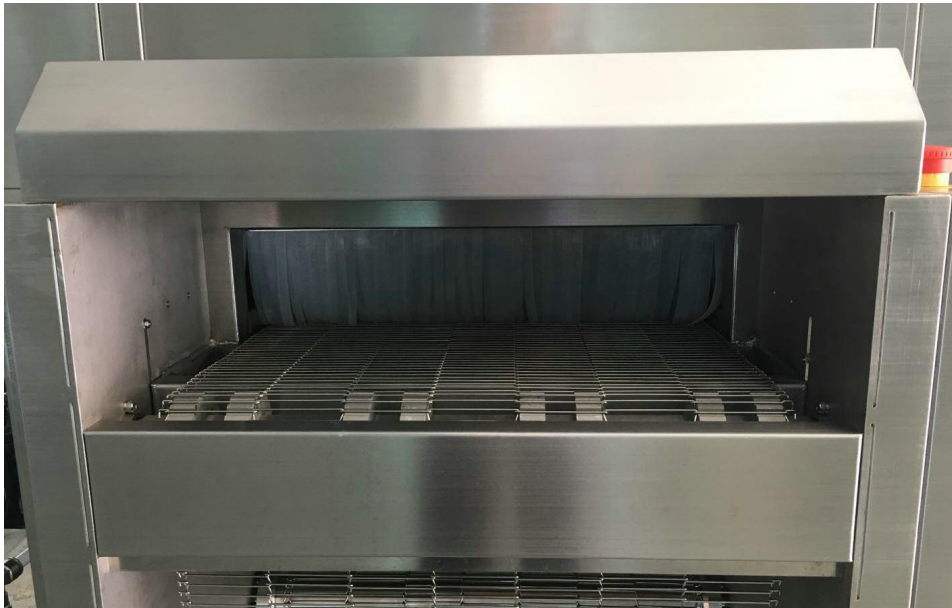
1. 100% SUS304 stainless steel material, argon arc welding process, acid and alkali corrosion resistance, sturdy structure and attractive appearance.
2. PC+PLC control, English operation software.
3. Spray pressure and angle of the upper and lower manifolds are adjustable.
4. Chemical isolation and air blow functions, air knife angle and blow pressure are adjustable.
5. Equipped with DI water resistivity monitoring system.
6. Equipped with wash liquid double condensation devices to reduce vapor liquid consumption.
7. Electrical pressure gauges to monitor liquid/water spray pressure and air pressure changes.
8. Equipped with concentrated liquid tank.
9. Equipped with chemical liquid and DI water auto add and discharge air pumps.
10. Equipped with SMEMA signal line connection system.
11. Customer MES system connecting software to monitor the machine status (Option).
12. Energy saving function.
13. Inlet/outlet PCBA detecting sensors: PCBA quantity auto counting, PCBA time-out delay send out detecting.
14. Mitsubishi leakage protection switch in the electric control cabinet.
15. The body-to-ground resistance <math><1\Omega</math>, the body surface voltage <math><50V</math>.
16. Equipped with power supply phase loss and phase sequence protection functions.
17. Equipped with over current and overload protection functions.
18. Current wave protection function when machine starting.
19. Over-temperature protection function: liquid tank, water tank and hot air drying section.
20. Liquid/water high level and low level protection function.
21. Emergency stop protection: emergency stop buttons on the inlet/outlet side, operation panel.
22. Liquid concentration detecting and compensation device and software (Option).

**Safety protection:**

1. The equipment adopts three-phase five wire power supply with 380V, 50Hz, 70~110KW (optional).
2. Main power leakage protection: "Mitsubishi" leakage protection switch is adopted for the main power switch of the electric control cabinet.
3. The machine is equipped with power supply phase failure and phase protection functions.
4. The pump, motor and heating device are all separately air switches corresponding to overload protection.
5. Current surge protection: when the machine is started, all electrical equipment will be started one by one to reduce the instant current impact and protect the machine and lines.
6. Pump and heater protection: low liquid level alarm protection function is designed.
7. Liquid and heating temperature protection: PID mode, when the temperature reaches the set value, the heater stops working; when the temperature is lower than the set value, the heater starts to work until the set temperature is reached.
8. Power off protection: the machine is equipped with UPS backup power supply system to supply power.
9. Emergency stop: emergency stop switch is set on the inlet end, outlet end and operation surface, so as to cut off the power supply in time in case of accidents during production.

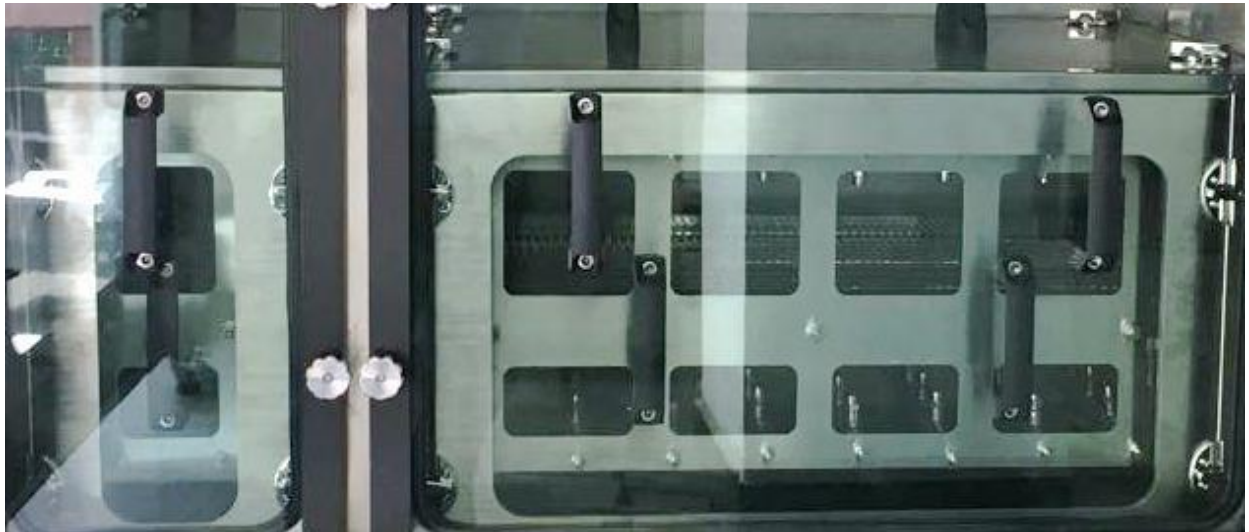
**Description:**

1. Emergency button. (3 for inlet, outlet and operation panel)
2. Import and export radiation sensor: capacity counting, dropping detection, energy saving standby.
3. SUS304 stainless steel mesh.



**Part A: Pre cleaning section & cleaning section**

1. There are 2 spray bars at the top and bottom of the pre-cleaning section, and 6 spray bars at the top and bottom of the cleaning section.
2. 7.5KW vertical electric pump.
3. Immersion heating tube, the temperature of the cleaning liquid can be adjusted, and the temperature rises quickly.
4. 2 layers of explosion-proof glass inside + 1 layer of outer door, 3 layers of protection, no liquid odor seepage.
5. The liquid injection pressure can be adjusted, and the spray rod angle can be adjusted.
6. Equipped with a filter barrel, the cleaning liquid is used for circulating filtration.
7. The exhaust outlet is equipped with a long condensation recovery device.
8. Equipped with an external concentrate tank.
9. Equipped with a diaphragm pump, the liquid is automatically added and the waste liquid is automatically discharged.
10. Cleaning fluid pressure detection and feedback.



**Part B: Chemical isolation section**

1. The chemical isolation equipped with a 10HP air blower.
2. 2 upper and 1 lower air knives.
3. The angle of the air knives can be adjusted.
4. Electric air pressure meters monitoring air blow pressure.



**Part C: Pre-rinse, rinse, final spray rinse section**

1. 2 upper/ 2 lower spray manifolds on pre-rinse section.
2. 4 upper/ 4 lower spray manifolds on rinse section.

3. 1 upper/ 1 lower spray manifolds on final rinse section.
4. Different type of spray nozzles combination.
5. 3-stage rinsing, super rinse ability.
6. One 2HP electric pump on pre-rinse section and one 5.5HP electric pump on rinse section.
7. Pre-rinse DI water and rinse DI water spray pressure are adjustable.
8. Pre-rinse and rinse tank DI water temperature adjustable.
9. The pre-rinse tank has 1 immersed 12KW heater and the rinse tank has 3\*12KW immersed heaters, totally 36KW.
10. In the pre-rinse, rinse, and final spray section, the DI water is recycled and overflow to renew in sequence of the Final spray→Rinse tank→pre-rinse tank→water discharge tank to save the DI water.
11. The final spray of fresh DI water flow is adjustable.
12. DI water conductivity monitoring.



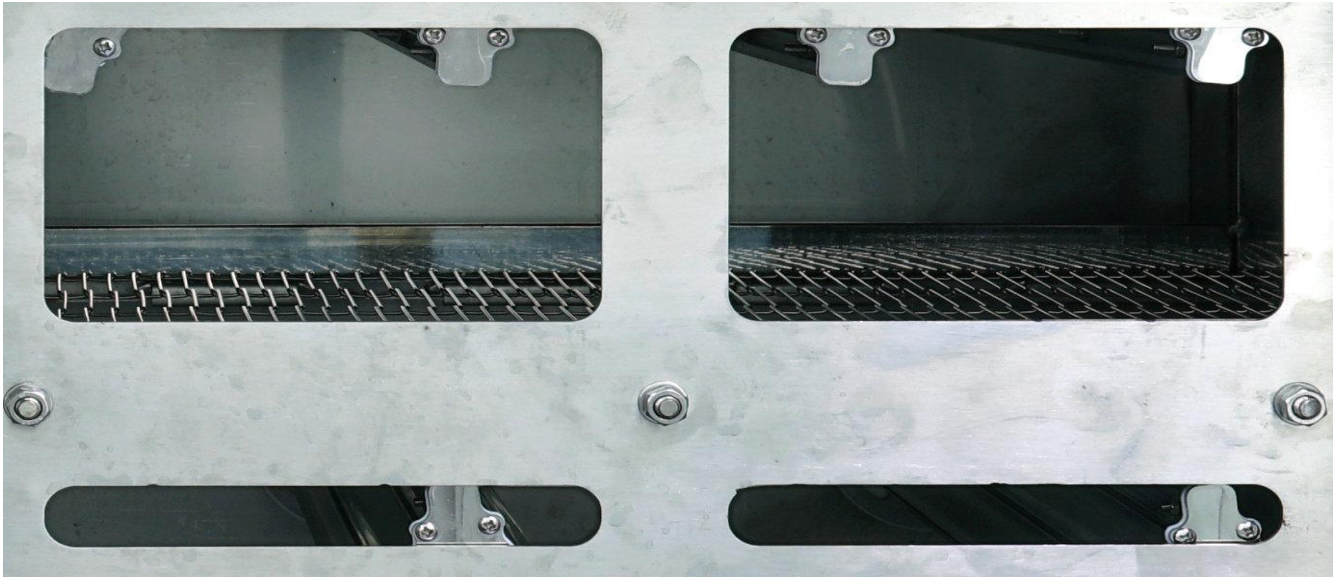
**Part D: Final spray rinse (fresh DI water, 1 spray)**

1. Finally, the flow meter of spray water control valve is monitored.
2. Spray and rinse fresh DI water to ensure cleanliness, and update front-end rinsing water.
3. Introduction of 6~12L / min DI water.
4. Pressurize to 40-60psi and penetrate the bottom gap of the device.



**Part E: Hot air dry section**

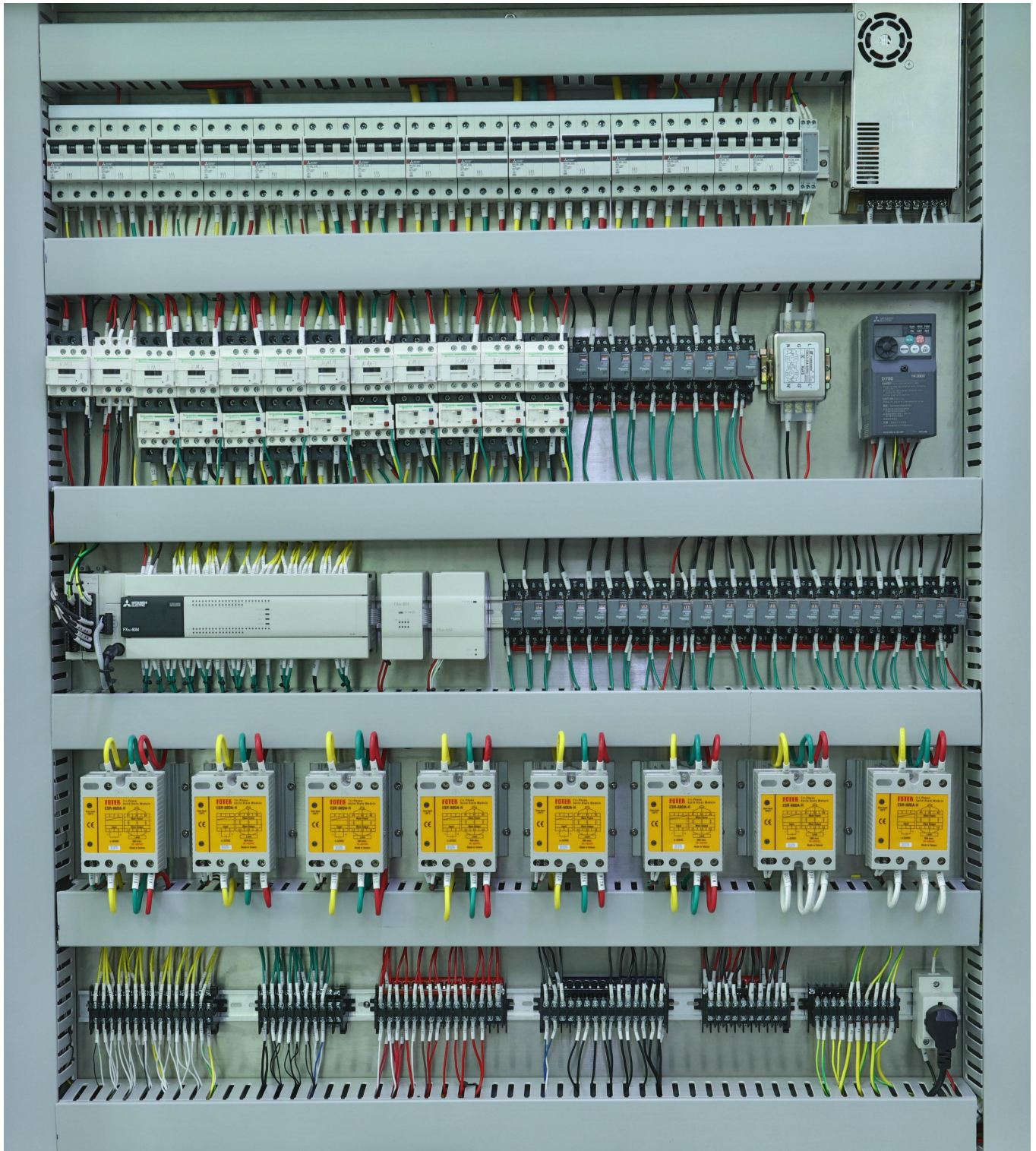
1. The hot air drying stage 1 and the hot air drying stage 2 are equipped with independent heaters.
2. The temperature of the first stage of hot air drying and the second stage of hot air drying can be adjusted separately.
3. Configure the medium pressure blower.
4. There are a total of 12 SUS304 stainless steel air knives up and down.
5. Double-layer thermal insulation steel plate with thermal insulation cotton in the middle, and the outermost protective door to ensure that the temperature of the machine shell is lower than 40°C.



**Part F: Control system**

1. Fully compliant control system layout.
2. High quality reliability brand parts.
3. Visual operation software.

Main Menu		Auto running...		Manual Menu		Net conveyor	08:46:24
						real-time speed: 000.0 cm/min	
						Wash tank concentrat	
						Liquid add amount: 000.00 L	
<p><u>Wash Tank</u></p> <p>PV 000.0 °C SV 040.0 °C</p> <p>PV 00.00 Bar SV 05.00 Bar</p> <p>Pre-Wash pump</p> <p>Wash pump</p> <p>Wash tank DI water add solenoid valve</p> <p>Wash Tank charge valve</p>	<p><u>Pre-Rinse Tank</u></p> <p>PV 000.0 °C SV 030.0 °C</p> <p>PV 00.00 KPa SV 05.00 KPa</p> <p>Chemical Isolation Air Blower</p> <p>Pre-Rinse Pump</p> <p>Rinse tank DI water add solenoid valve</p>	<p><u>Rinse Tank</u></p> <p>PV 000.0 °C SV 030.0 °C</p> <p>Rinse pump</p> <p>Water chiller solenoid valve</p> <p>Final spray solenoid valve</p>	<p><u>External tank</u></p> <p>Wash Tank PH 00.00</p> <p>Resistivity 00.00 MΩ*cm</p> <p>Air dry blower I</p> <p>Air dry blower II</p> <p>Wash tank Concentrat liquid add valve</p> <p>External tank add/discharge solenoid valve</p>	<p>Hot air dry section</p> <p>PV1 000.0 °C PV2 000.0 °C SV 085.0 °C</p> <p>Hot air blower</p> <p>Net conveyor</p>			



**Option:**

1. Wash liquid concentration auto detecting and compensation device.
2. MES software and connection.

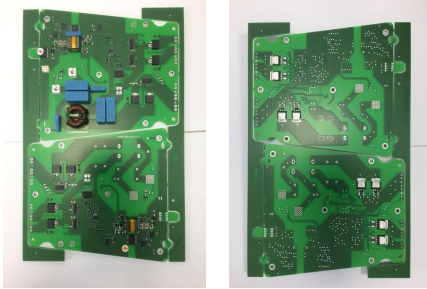


**Cleaning Report:**

1. Cleaning and Inspection Tool: cleaner, DI water machine, CTP-200 Cleaning liquid, phone, 200 times electronic magnifier



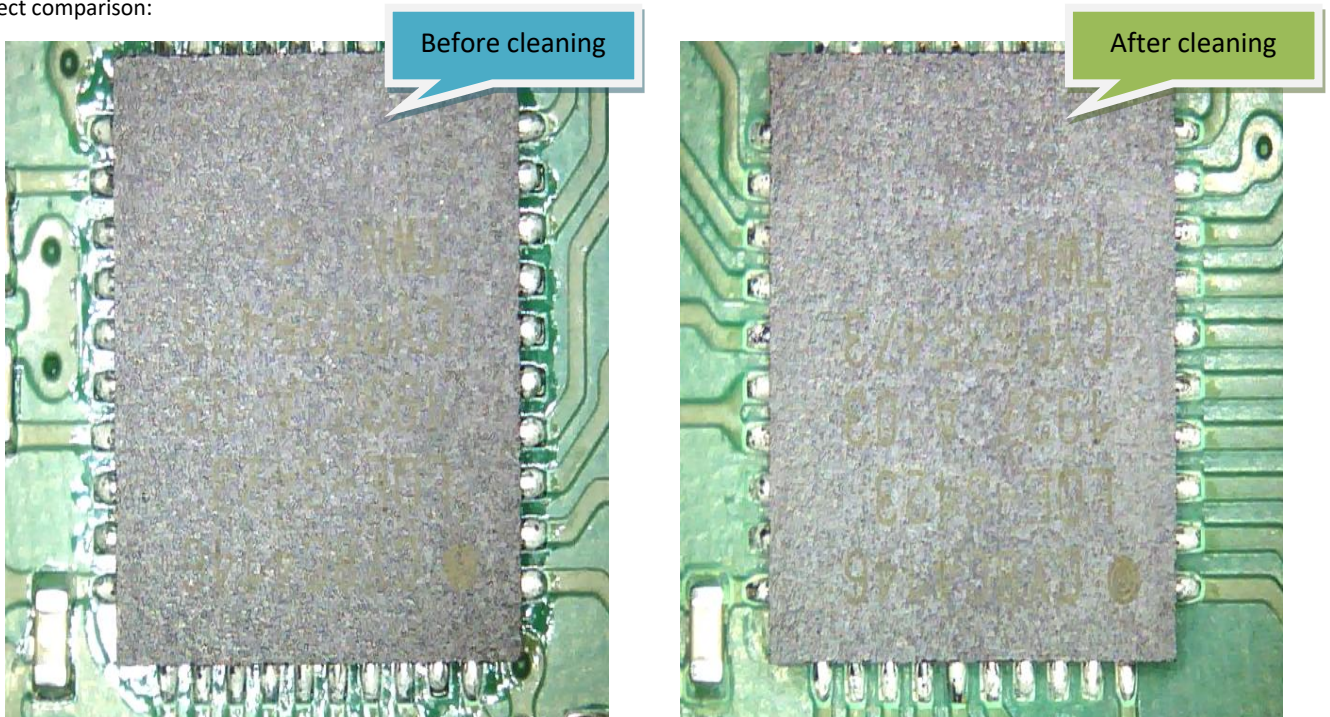
2. Cleaning sample: main board (A B side)

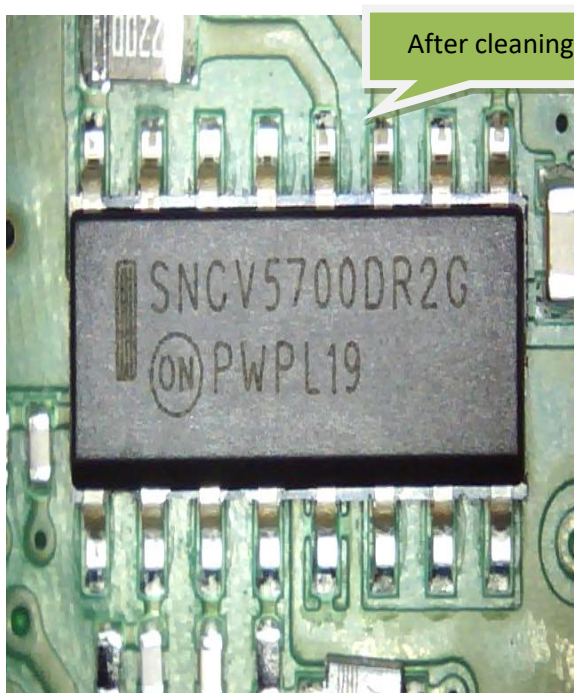
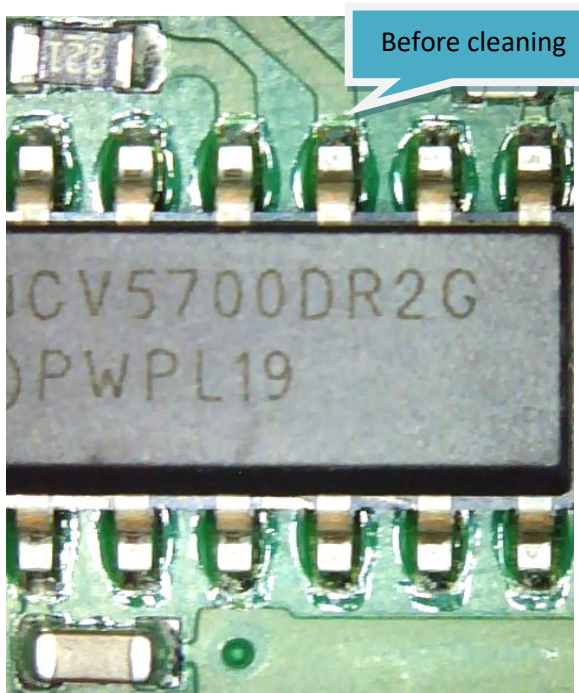
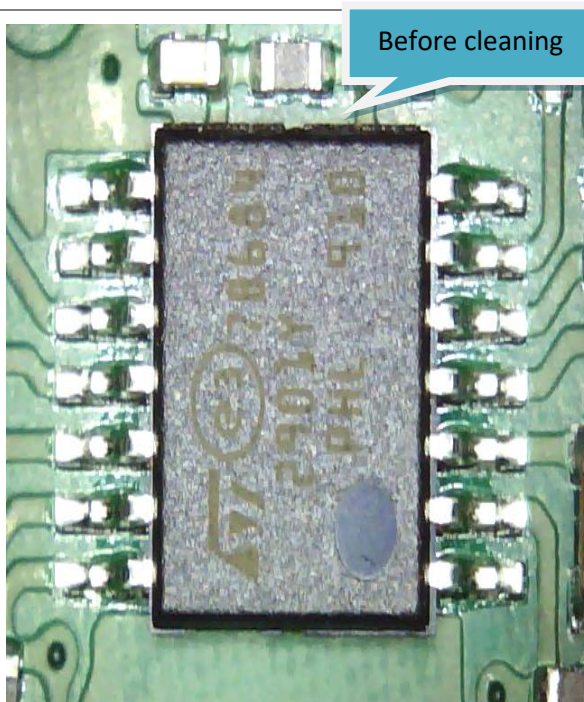


3. Condition setting:

Machine	I.C.T-6300
Cleaning liquid	CTP-200
Cleaning speed	30cm/min
Cleaning pressure	5Kg
Rinse pressure	4Kg
Cleaning temperature	45°C
Rinse temperature	30°C
DI Water resistivity	6MΩ
Dry temperature	80°C

4. Effect comparison:





5. Conclusion

After this cleaning, using I.C.T-6300 PCBA cleaning machine, DI-250 DI water machine, combined with CTP-200 water-based environmental protection cleaning solution, under the above process parameters, good cleaning effect has been achieved, and no damage to PCBA components, which can ensure the effectiveness and safety of sample cleaning.

Specification:

Item	I.C.T-6300
Mesh width	600mm
Mesh speed	100~1500mm/min
Conveyor height	900±25mm

PCBA direction	Left to Right
PCBA size	600*400*100mm(L*W*H)
Clean liquid temperature	Room temp~80℃
DI water temperature	Room temp~60℃
Hot air dry temperature	Room temp~100℃
Clean liquid pump	7.5KW
Clean tank capacity	240L
Pre-rinse tank capacity	30L
Concentrate tank capacity	50L
Rinse tank capacity	120L
DI water resistivity	0~18MΩ
DI water supply	6~12L/min
Air volume	40m <sup>3</sup> /min
Control	PC+PLC
Power	380VAC, 3P, 50/60HZ, 300A, 122kw
Air supply	0.5~0.7Mpa, 200L/min
Dimension	5200*1750*1700mm
Weight	2600KG

\* I.C.T keeps working on quality and performance, specifications and appearance may be updated without particular notice.

**Thanks for choosing I.C.T.**  
**I.C.T looks forward to win-win cooperation.**  
**Thank you.**