

## L Series Lead Free Reflow Oven



### Introduction:

L series lead-free reflow oven I.C.T's mature product after years of market testing. L Series Reflow oven has maintained a larger share of the market for many years. Its unparalleled heating performance and temperature control system meets the requirements of various welding processes. It is I.C.T's crystallization of years technical research and development. L Series Lead-free reflow is high-end reflow products committed to keeping up with market demand to enhance customers competitiveness. Its new design concept fully meets the needs of increasingly diverse processes. And considering the future direction of the industry, entirely suitable for communications, automotive electronics, home appliances, computers and other consumer electronic products.

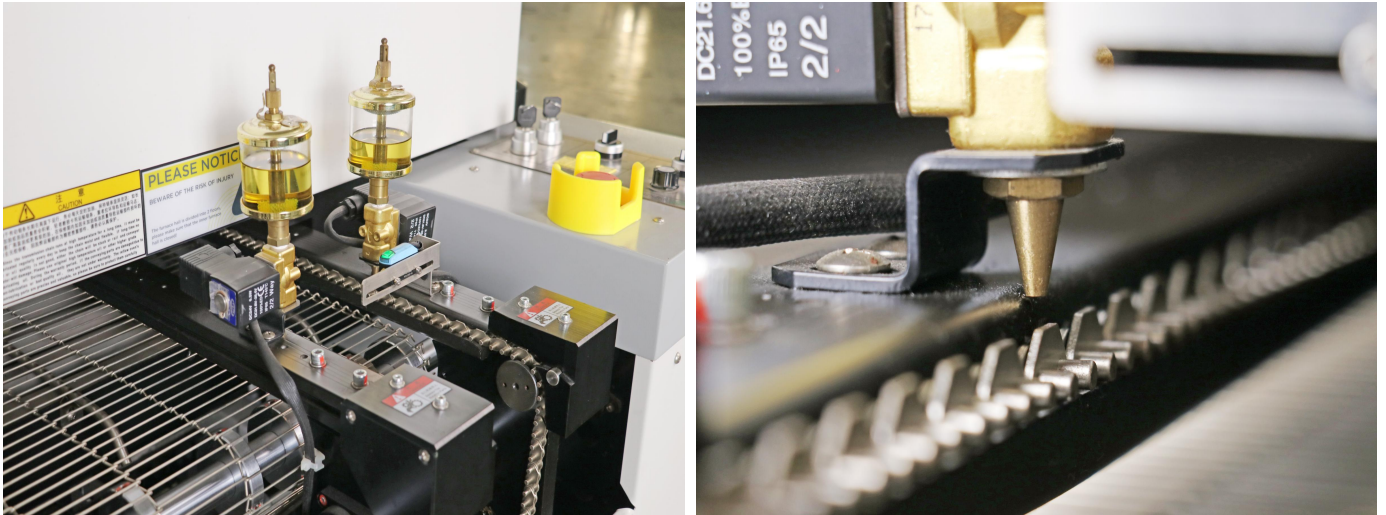
### Features:

1. Control System: PC+Siemens PLC control system, accurate temperature control and more stable, ensures temperature stability rate to be more than 99.99%.
2. Hot air system: first-class heating module, the best temperature zone interval design makes optimum temperature uniformity and repeat. The effective utilization and thermal compensation efficiency, it needs less than 20 minutes from temperature control accuracy  $\pm 1^{\circ}\text{C}$  ambient temperature to a temperature stabilization.
3. Monitoring Software: Windows interface, traditional and simplified Chinese and English online free switch, and operator password management, easy to operate. Operation records, temperature curve measurement and analysis functions, virtual simulation, fault self-diagnosis, process monitoring, automatic generate and save process control documents, substrate transport dynamic display.
4. Cooling System: new cooling zone, quick and easy adjustment, easily reach the cooling requirements of different slopes.
5. Temperature protection: I.C.T using third-party over-temperature protection, multiple layers protection to ensure safe operation.
6. Products comply with CE, CCC, UL , other standards and specifications.
7. User-friendly design: fault detection (such as heaters abnormal alarm, etc.), regular maintenance reminders, the economy functions and tool-free maintenance, reducing equipment failure rates.
8. Heating module: transverse reflow design makes temperature from each zone is not influenced by neighbour to ensure accurate temperature curve, while ensuring a high production capacity and heat exchange capacity to achieve high adaptability (to meet the soldering of automotive, communications, electronics, computers and mobile phones consumer electronics.)
9. Hot air motor with independently inverter controlled, set operating frequencies depending on different technology to meet a variety of lead-free processes.
10. Machine using zero gas source design, furnace cover with motor lifting, safety rod support, providing significant security.
11. Main parts: imported main parts ensure equipment runs smoothly and lower the maintenance cost.
12. Customers can choose optional flux processing system according to their own production features to ensure furnace chamber clean.
13. Closed-loop transmission speed control systems, transportation accuracy  $\pm 2\text{mm}/\text{min}$ , ensuring more stable transmission speed.
14. Central support, dual transmission, external water cooling system is optional.

Product:







#### Transport System

1. The transportation method of mesh belt + chain is compatible with most PCBs and can meet more needs;
2. The overall segmented guide rail and multi-cantilever structure ensure the parallelism and stability of the guide rail;
3. High-temperature resistant lubricating oil, standard computer-controlled filling cycle, no manual maintenance required;
4. Independent frequency converter, imported motor, computer closed-loop control of transmission speed, deviation within  $\pm 2\%$ ;

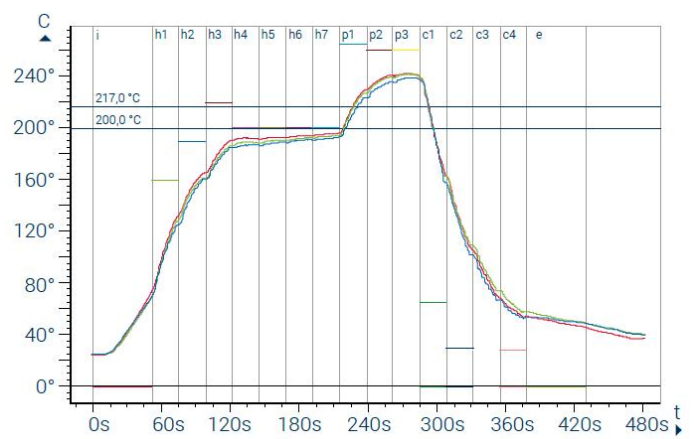
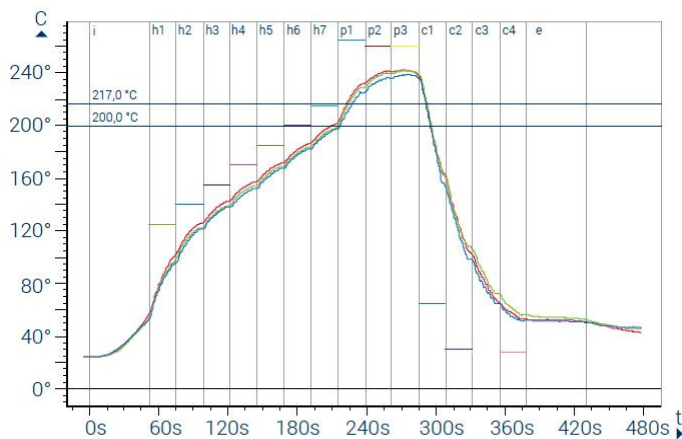


5. Option:dual rails with independent control of each rail's speed;
6. The special spring-type chain tensioning device automatically adjusts the chain tightness to ensure that the chain will not get stuck;
7. Independent guide rail width adjustment, optional Auto guide rail width adjustment, higher efficiency.



Heating System

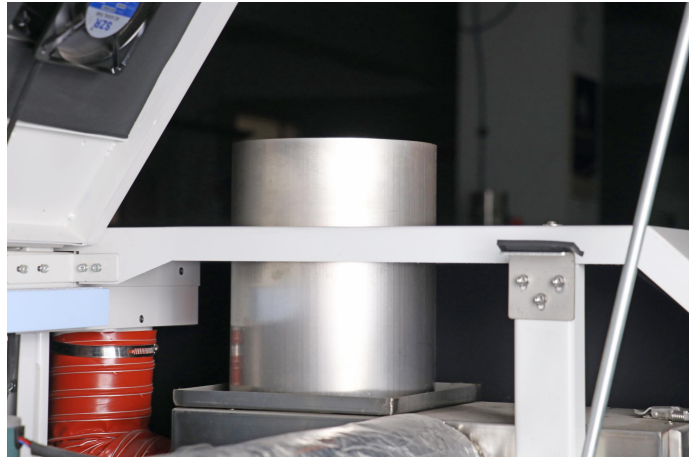
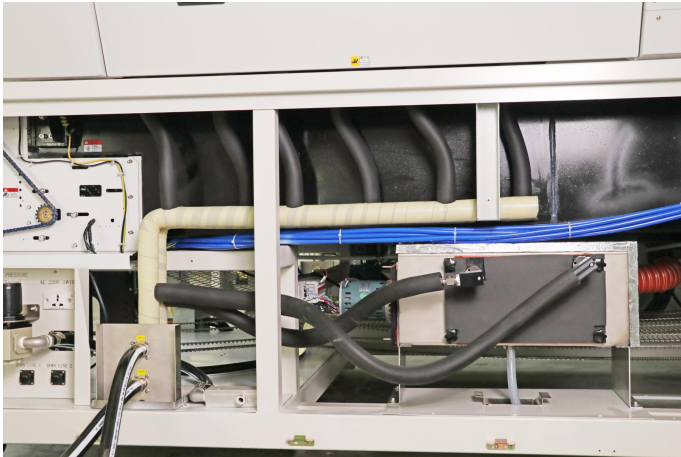
1. Imported high-temperature-resistant long-axis motor, with independent inverter control of upper and lower temperature zones, supporting stepless speed regulation from 0 to 3000 speeds;
2. Specially made long-life winding heater with high thermal efficiency and sensitivity and small thermal inertia;
3. Efficiently accelerates the air duct to provide sufficient circulating air volume;
4. The rectifier board is made of high-quality imported aluminum-zinc plate, which has thermal compensation and thermal recovery of PCB, high thermal efficiency and better uniformity;



5. PID+SSR temperature control method, the temperature control accuracy reaches  $\pm 1^{\circ}\text{C}$

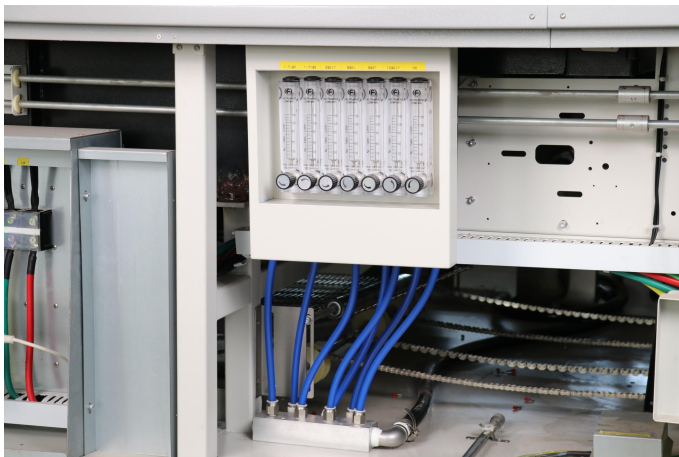
6. Each zone is independently controlled, and the PID+SSR temperature control method can better meet different temperature curves.





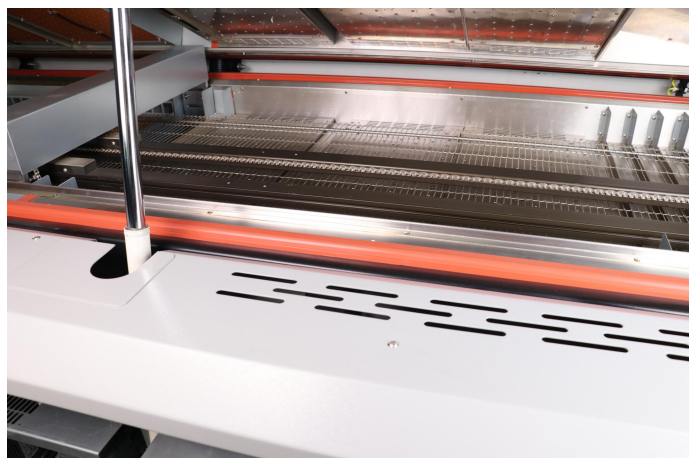
Cleaning System

1. The standard configuration flux smoke recovery system can effectively protect the PCB from contamination;
2. Efficiently accelerates the air duct to provide sufficient circulating air volume;
3. Forced ventilation device to ensure that flux vapor does not leak out.



Nitrogen protection system

1. Optional nitrogen protection system to avoid premature oxidation of solder paste during the welding process resulting in poor welding;
2. The nitrogen flow in the welding area is individually controlled, and the consumption can be flexibly adjusted in actual use.;
3. High-precision nitrogen concentration controller improves welding effect and avoids oxidation of solder paste during curing process.





Cooling System

1. Standard configuration: 2 upper cooling zones, forced convection air cooling;
2. Unique air duct design quickly cools the solder joints to avoid solder paste oxidation and poor welding;
3. When choosing the nitrogen system, an external Chiller + high-efficiency condenser can greatly enhance the cooling effect.



Control System

1. Windows system, Chinese and English interface can be switched online at will, easy to operate;
2. PLC+modularization+PID control, stable and reliable, high repeatability;
3. The main electrical controls and key components are all imported from foreign famous brands, and the equipment has a long service life;

4. The system has three working modes: operation, editing, and demonstration, and has an online editing function, which will not affect the normal operation of the equipment;
5. The system will automatically enter the cooling state according to the severity of the alarm;
6. Log files are automatically generated, and the name, operation process and content are automatically recorded.
7. Equipped with a UPS power supply to avoid sudden power outages and still supply power to the transportation system to ensure that the PCB board will not be damaged if it remains in the furnace cavity for too long.

**Materials List:**

No.	Item	Brand	Original
1	Computer	Lenovo	China
2	PLC	Siemens	Germany
3	Solid relay	Carlogavazzi	Switzerland
4	Contactora	Schneider	France
5	Heating wire	I.C.T	China
6	Guide rail	I.C.T	China
7	Chain& Chain shackle	KMC	Taiwan
8	Frequency converter	Schneider	France
9	Button	Schneider	France
10	UPS	SANTAK	USA
11	High Temp. Wire	I.C.T	China
12	Cooling motor	Sanyue	Taiwan
13	Mesh	TSUBAKI	Japan

**Specification:**

Specification	L8	L10
Dimension	5125*1430*1530mm	5805*1430*1530mm
Weight	Approx.2100KG	Approx.2315KG
Number of Heating Zones	Up8/Bottom8	Up10/Bottom10
Length of Heating Zones	3110mm	3892mm
Power For Warm Up	64KW	80KW
Power Consumption	10KW	12KW
Electric Supply Required	5 Wire System 3P, N, PE 380 VAC ± 5%, 50 Hz. Other voltages upon request	
Rail Width Adjustment	Manual adjustment (Option: Automatic)	
Exhaust Volume	10M <sup>3</sup> /min*2 Exhausts	
Control System	PLC+Computer	
Temperature Control Method	PID+SSR	
Transport Method	Chain+Mesh	
Max. Width of PCB	Single rail: 400mm; Mesh: 500mm	
Warming Time	Approx.25 minute	
Temp. Setting Range	Room Temp.--300°C	
Number of Cooling Zones	Top 2	
Components Clearance	Top/Bottom is 25mm	
Conveyor Height	900±20mm	

Conveyor Speed Range	300~2000mm/min
Fixed Rail Side	Front Fixed (Option: Rear Fixed)
Cooling Method	Forced-Air Motor and fan (Standard)
Conveyor Direction	L→R (Option: R→L)
Temperature Deviation	±1.0℃
Temperature Control Precision	±1.0℃
Process Data & Status Storage	Standard
Temperature Alarm	Standard
Lubrication Auto-Afflux	Standard
On Line Editing	Standard
Temp. Thermocouple Slot	Standard
Flux Recovery System	Standard
Automatic Oil Dripping	Standard
Center Support	Option
Nitrogen System	Option (With External Water Cooler)

**Standard Accessories:**

No.	Item	Quantity
1	Computer	1 set
2	Operation Software	1 set
3	Rail Width Adjustment Handle	1 pcs
4	High Temperature Gloves	1 pair
5	Allen Key	2 pcs
6	Phillips Screwdriver	1 pcs
7	K-type thermocouple	1 pcs
8	Manual	1 book
9	Adjustable Wrench	1 pcs
10	Flat-blade Screwdriver	1 pcs
11	Door Panel Triangle Key Switch	2 pcs
12	24mm Open End Wrench	1 pcs
13	Toolbox	1 pcs

\* Attachments may change with product upgrade. If different, please follow the new list.

\* 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.**