

LV Series Vacuum Reflow Oven



Introduction:

I.C.T LV Series Vacuum reflow oven unparalleled heating performance and temperature control system meets the requirements of various welding processes, LV Series Vacuum Reflow Oven 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.Vacuum system:PCB directly enters the vacuum unit from soldering area. Start the vacuum process to reduce the vacuum pressure to 100mbar-5mbar. The internal gas such as pores and cavities overflows from the molten solder joint, which can reduce the void rate to less than 2%
- 3.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 $^{\circ}$ C ambient temperature to a temperature stabilization .
- 4.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.
- 5. Cooling System: new cooling zone, quick and easy adjustment, easily reach the cooling requirements of different slopes.
- $6. Temperature\ protection: I.C. Tusing\ third-party\ over-temperature\ protection,\ multiple\ layers\ protection\ to\ ensure\ safe\ operation.$
- 7. Products comply with CE, CCC, UL, other standards and specifications.
- 8.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.
- 9.Heating module: Transverse reflow design makes temperature from each zone is not influenced by neibour 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.)
- 10. Hot air motor with independently inverter controlled, set operating frequencies depending on different technology to meet a variety of lead-free processes.
- 11. Machine using zero gas source design, furnace cover with motor lifting, safety rod support, providing significant security.
- 12. Main parts: Imported main parts ensure equipment runs smoothly and lower the maintenance cost.
- 13. Customers can choose optional flux processing system according to their own production features to ensure furnace chamber clean.



14. Three sections transmission: heating area, vacuum area and cooling area. each section is adjusted independently and the width is adjusted as a whole, step-by-step transportation.closed-loop transmission speed control.

Product:

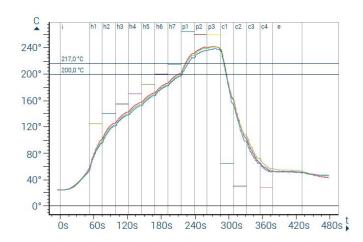


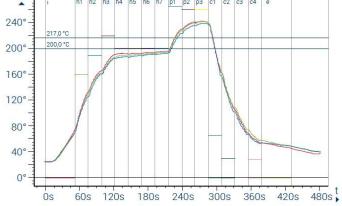
From zero to 240 °C due to optimized heat transfer

Each product has its own requirements in the manufacturing process. Optimized heat transfer over the entire soldering process is the basis for best possible results.

The LV-Series offers flexibly controllable preheating zones within which your PCB is preheated and prepared for the actual soldering process. The individual zones can be controlled independently of each other via fan frequency, and assure best possible processes.

The LV-Series is equipped with special nozzle sheets for optimized heat transfer by means of uniform air flow over the PCBs. Flow speeds in the upper and lower heat zones can be separately controlled, assuring that your PCB is heated up.





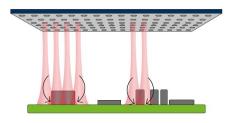
Saddle profile

The component is brought to a temperature of at least 240 °C for soldering. Using a saddle profile the board is gradually heated in line with pre-defined, individual temperature ranges. Even components with differing thermal masses are heated homogeneously and temperature differences minimised.

Linear profile

With a linear profile, the component is not heated in a stepped manner during soldering, in fact it is heated along an identical linear temperature gradient. Linear profiles can reduce cycle times and can help to reduce soldering errors such as tombstoning





Homogenous heat transfer

Heating System

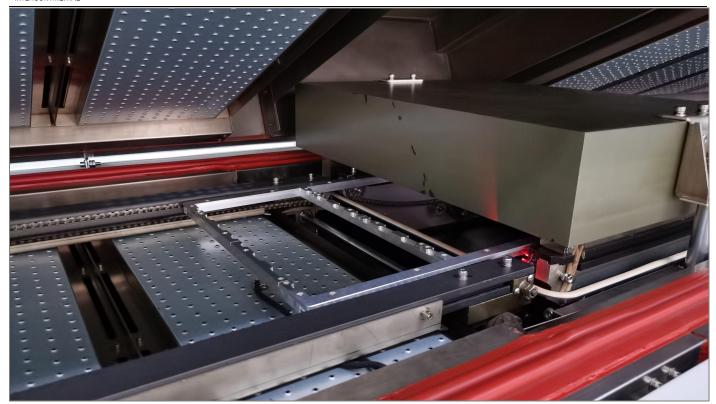
- \leq Separately adjustable heating zones
- \leq Reproducible temperature profile
- \leq Outstanding process stability with the smallest possible ΔT
- \leq Homogenous heat input over the entire PCB thanks to specially designed nozzles
- \leq Low maintenance effort



Transport System

- < Reliable, failure-free production guaranteed by absolutely parallel transport.
- Precise and repeatable adjustment of the transport width.
- \leq Reduced maintenance, transport drive mechanism is outside of the process chamber.
- $\leq\!$ Ideal for any application due to various transport systems.





Vacuum System

- \leq Independent transmission vacuum system
- \leq Ensure the reduction of bubble rate
- \leq Efficient production cycle time
- <Larger PCB size







Effective Residue Management

As is the case with all industrial processes, substances are generated during SMT production which have to be removed from the process cycle because they contaminate the system. Our highly effective residue management function purifies the process gas safely and reliably, and keeps your system clean and dry.

Cooling System

Stress-free cooling using individually adjustable ventilators

Gentle cooling through extended cooling tract

Flexible combination possibilities through a range of different options

New, sustainable cooling principle as a result of liquid nitrogen cooling

Materials List:

No.	Item	Brand	Original
1	Touch Screen	MCGS	China
2	Control systems	I.C.T	China
3	Servo motor	Panasonic	Japan
4	Servo controller	Panasonic	Japan
5	Vacuum Pump	Import	Germany/UK
6	Solid relay	Carlogavazzi	Switzerland
7	Contactor	Schneider	France
8	Transmission motor	Panasonic	Japan
9	High Temp. Motor	Sanyue	Taiwan
10	Heating wire	Hotset	Germany
11	Guide rail	I.C.T	China
12	Chain& Chian shackle	кмс	Taiwan
13	Heat cotton	RockWool	Germany
14	Frequency converter	Delta	Taiwan
15	Button	Schneider	France
16	UPS	KSTAR	China
17	High Temp. Wire	Hotset	Germany
18	Cooling motor	Sanyue	Taiwan

Specification:

LV Series Vacuum Reflow Oven	I.C.T-LV733	I.C.T-LV733N		
DIMENSIONS AND WEIGHTS				
Dimensions 6300*1430*1530mm				
Required area	9.45m²			
Weight	ca. 2500 kg	ca. 2800 kg		
Load per unit area 400 kg/m ²	r unit area 400 kg/m² 350 kg/m²			
PROCESS CHAMBER HEATING				
Length of heating zones	3730mm			
Quantity of preheating zones 9				
Length of preheating zones	3450mm			



Quantity of peak zones 1 Length of peak zones 3505mm Max. soldering temperature 300°C Warm up time c.a.3 min VACUUM ZONE TURN CONTRACTION Vacuum maximum pressure 0.1.12kpa Vacuum puring flow 1000/min Pressure relief time \$1005 Product time \$1005 COULING ZONE TURN CONTRACTION Contract of coding zones \$100 part (Annual Contraction) Contract of coding zones \$100 part (Annual Contraction) Conveyor \$100 part (Annual Contraction) Conveyor Control \$100 part (Annual Contraction) Conveyor Number \$1 Conveyor Number \$1 Conveyor Number \$1 Adjustable conveyor speed \$1 Conveyor Number \$1 Maximum noise level \$1 Room temperature belvered \$1.5 cut as \$2 ce Minimity \$1 Room temperature \$1 VOLTICES SUPPLY CONSUMPTION \$1 VOLTICES SUPPLY CONSUMPTION					
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COOLING WATER AT EXTERNAL COOLING Connection System specific, please see layout plan	Operating capacity	16 KW			
Connection System specific, please see layout plan	As the operating efficiency depends on the settings of the process parameters, the values reached actually can differ from the values indicated here.				
	COOLING WATER AT EXTERNAL COOLING				
Cooling water flow between 25 - 35 I/min (according to temperature)	Connection	System specific, please see layout plan			
	Cooling water flow	between 25 - 35 I/min (according to temperature)			



Operating pressure	2 –5 bar	
NITROGEN SUPPLY		
Connection	System specific, please see layout plan	
Nitrogen supply pressure	6 –10 bar / 6 - 10 bar	
Operating pressure	5 bar	
Nitrogen consumption single conveyor at < 500 ppm	733: ca.30 m³/h	
in peak zone,max. pcb width 200 mm . PCB gap	,	
50mm.		
Nitrogen consumption with N2-control in Standby	733: ca. 27 m3/h	
Mode 200 mm transport width.		

As the nitrogen consumption depends on the PCB-width and the throughput, the values reached actually can differ from the values indicated here.

Set-up indications: The system should not be exposed to draught.

Devices generating a flow to the system or from the system away should not be installed directly in front of the system or behind the system.

EXHAUST PROCESS				
Exhaust socket: diameter 2 x 145 mm				
Exhaust at min. 5 mbar under pressure	2 x 20-25 m³/min			
Exhaust internal Cooling	1 x 1300 m³/h (No Water Connection)			
Exhaust internal Chiller System	1 x 3500 m³/h (Power Cooling)			
Exhaust temperature	< 45 ℃			

Standard Accessories:

1	Touch Screen	1 set
2	Operation Software	1 set
3	Heating	1 pcs
4	Fuse	1 pcs
5	Relay	2 pcs
6	Solid State Relay	1 pcs
7	K-type Test Line	1 pcs
8	Manual	1 book
9	Tool Case	1 set

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

Thanks for choosing I.C.T.

I.C.T looks forward to win-win cooperation.