

BEST CHOICE TO GO WITH SMALL VOLUME PRODUCTION E-THERM E4/E6 LEAD FREE REFLOW OVEN



ECONOMICAL LEAD FREE REFLOW OVEN SERIES

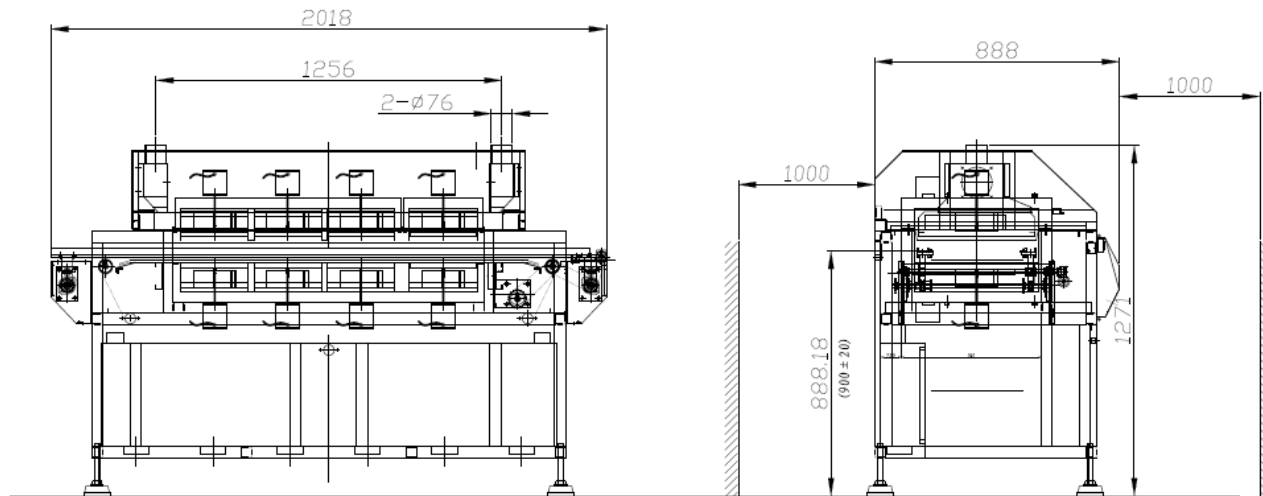
Description

E4/E6 is a capable lead free CE certificated reflow oven with 4/6 upper & 4/6 bottom individual hot air convection zones, pin chain&mesh belt inline conveyor. It's the best choice to go with small volume pick&place machine like Autotronik, TWS, DIMA, ESSEMTEC etc.

E4/E6 Lead Free Reflow Oven Description

- Touch screen and PLC controlling system
- E4:Upper 4 /6 bottom 4/6 individual zones hot air convection
- Stainless steel mesh belt and chain conveyor.
- Conveyor with SMEMA
- Brand electrical component with CE certificated
- Max 300mm PCB width capable
- Heating tunnel : E4/980mm E6/1540mm
- Overall length :E4/1920mm E6/2550mm

Structure



Features

- Streamline shape design make the oven looks great. Touch screen with PLC controller which can save 50 groups of temperature parameters and provide extra 2 ports for profile test.
- Equipped with brand electrical component like Schneider (German made) contactor, Omron (Japan made) box relay.CE certificated high temperature resistant blower ensure stable and lower noise operation.
- Upper zone, hood and electrical box cover can be opened easily, easy for cleaning and maintenance.
- The inner tunnel of the oven is made of stainless steel which can stand the high temperature and easy for cleaning.
- The entire upper and bottom zones are forced hot air convection.
- Stainless steel mesh belt, chain conveyor and SMEMA connector.
- Unique program design can automatically adjust the start power consumption and lower the start current.

Specifications

MODEL	E4	E6
Heating Zones	Upper 4 Zones / Bottom 4 Zones	Upper 6 Zones / Bottom 6 Zones
Heating Tunnel	980 mm	1540 mm
Dimension	L1920*W750*H1250	L2550*W750*H1250
Net Weight	About 280 Kg	About 360 Kg
General Power	23KW	33KW
Power Consumption	Approx.3--7KW	Approx.4--8KW
Rising Time	15 mins	15 mins
Controlling Type	Touch Screen and PLC	Touch Screen and PLC
Heating Method	Fully Forced Air Convection	Fully Forced Air Convection
Temperature Controlling	PID Close-Loop Control, SSR Drive	PID Close-Loop Control, SSR Drive
Temperature Range	Ambient---350°C	Ambient---350°C
Temperature Accuracy	±1°C	±1°C
Temperature Uniform	±2°C	±2°C
Cooling	One Cooling Zones, Fans for Cooling	One Cooling Zones, Fans for Cooling
Conveyor Method	Mesh Belt and Chain Conveyor	Mesh Belt and Chain Conveyor
Conveyor Height	900±20mm	900±20mm
Mesh Belt width	330 mm	330 mm
Max PCB width	300 mm	300 mm
PCB Clearance	30 mm	30 mm
Conveyor Direction	Left to Right	Left to Right
Conveyor Speed	0-900 mm/min	0-900 mm/min
Hook Lift	Manual	Manual
Power Supply	380v, 3ph, 50hz	380v, 3ph, 50hz

General



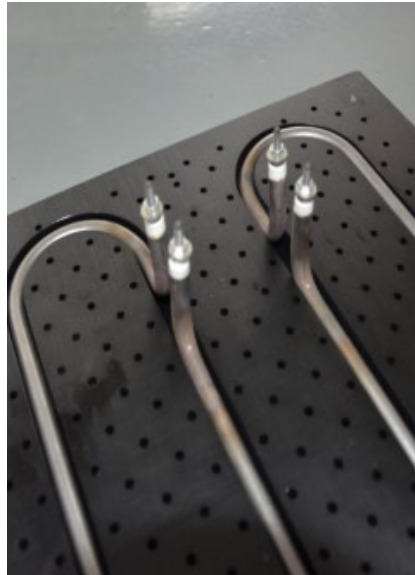
Machine's cover can be easily lifted up with air spring holder.



Inner tunnel can be manually lifted up too, easy for clean and maintenance.



Latest self-designed porous plate, get best uniform hot air distribution under the theory of static pressure. New designing: aluminum heating plate + U shape heating tube, more stable and longer service life



Aluminum heating system is made up by 2 pieces aluminum plates (top and bottom) and 2 pieces U shape heater by stainless steel, compare with the traditional heater, advantages as below:

1. Easy to replace and maintain, only need to remove fix screws and replace U- heater
2. It has longer service life than old version, can save more cost for customers
3. Better raw materials to ensure the stability of oven temperature
4. Customers can replace aluminum heating system on installed reflow ovens(with old heating elements), maintenance and service problem can be solved at once



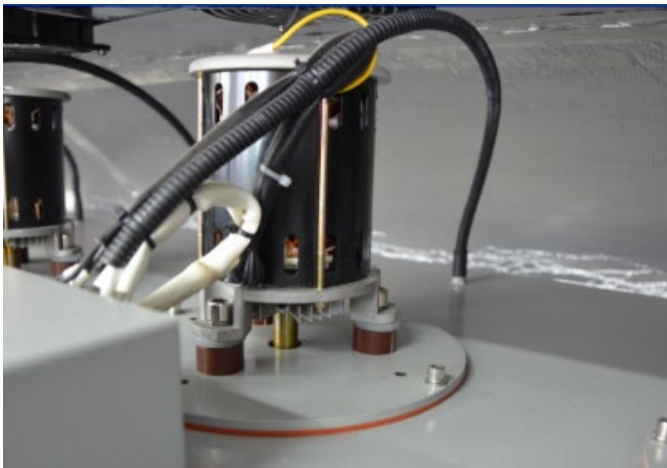
Upper 4 /6 zones and bottom 4 /6zones hot air convection latest CE certificated high temperature resistant motor.



Equipped with fan and adjustable bracket angle for cooling system.



Upper 4/6 zones/bottom 4/6 zones hot air convection latest CE certificated high temperature resistant motor.



New designing makes easy to replace hot air motor

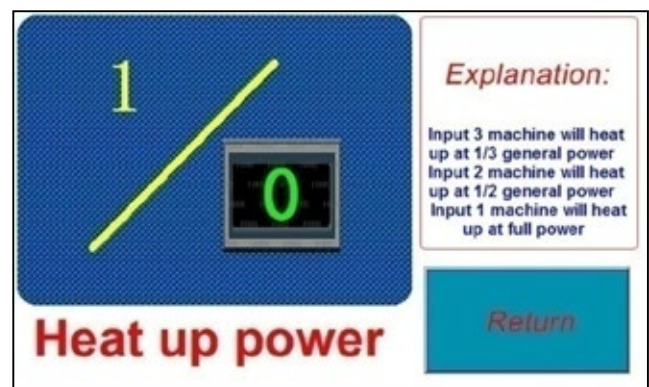
- 1.Remove these screws
- 2.Take out whole structure (blower motor+ rounded fixing plate+ fan),
- 3.Take out motor fan which is fixed by set screw
- 4.Replace blower motor and fan
- 5.Fix the rounded fixing plate with blower motor by screws

Operator can finish that within 15 minutes.

Controlling



Full English interface, easy to be operated which can stock more than 50 groups parameters with recommended leaded/leaded free temperature/speed setting before machine be delivered. You can master how to operate it within 10 minutes.



Unique program design can adjust the start power consumption and lower the start current . Best choice for customer with limit power supply.



Colored touchscreen interface with PLC controller ensure stable operation of machine.



The whole machine was built under CE instruction.

Electrical



Schneider Converter



Mitsubishi Breaker



PLC (Made In Taiwan)

Conveyor



Chain and mesh belt conveyor, all rail has been harden-treated, equipped with lubrication cup.

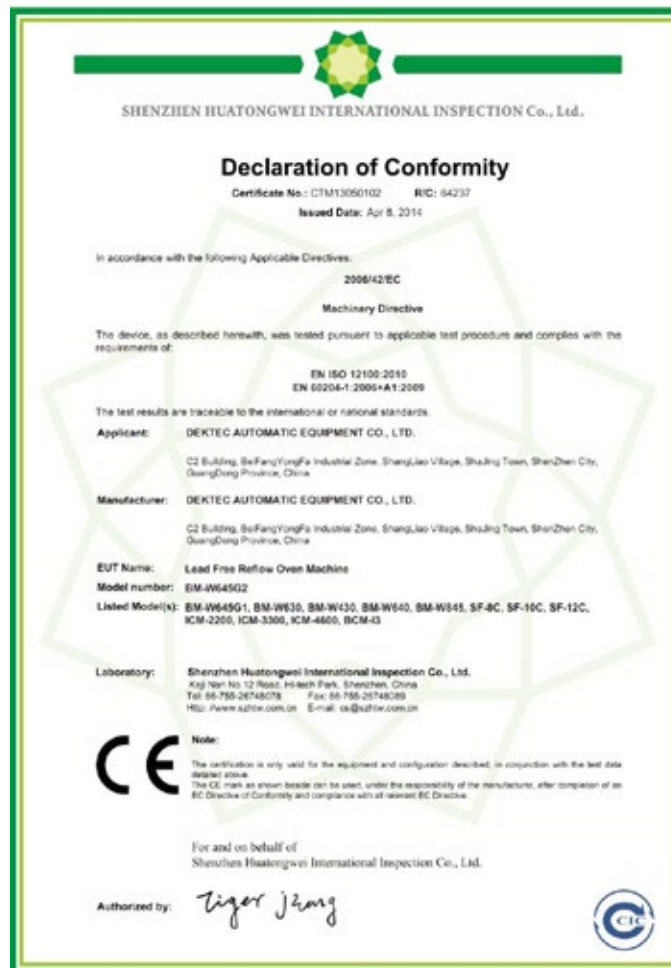


PLC, Schneider transducer, Panasonic motor formed a stable conveyor system.

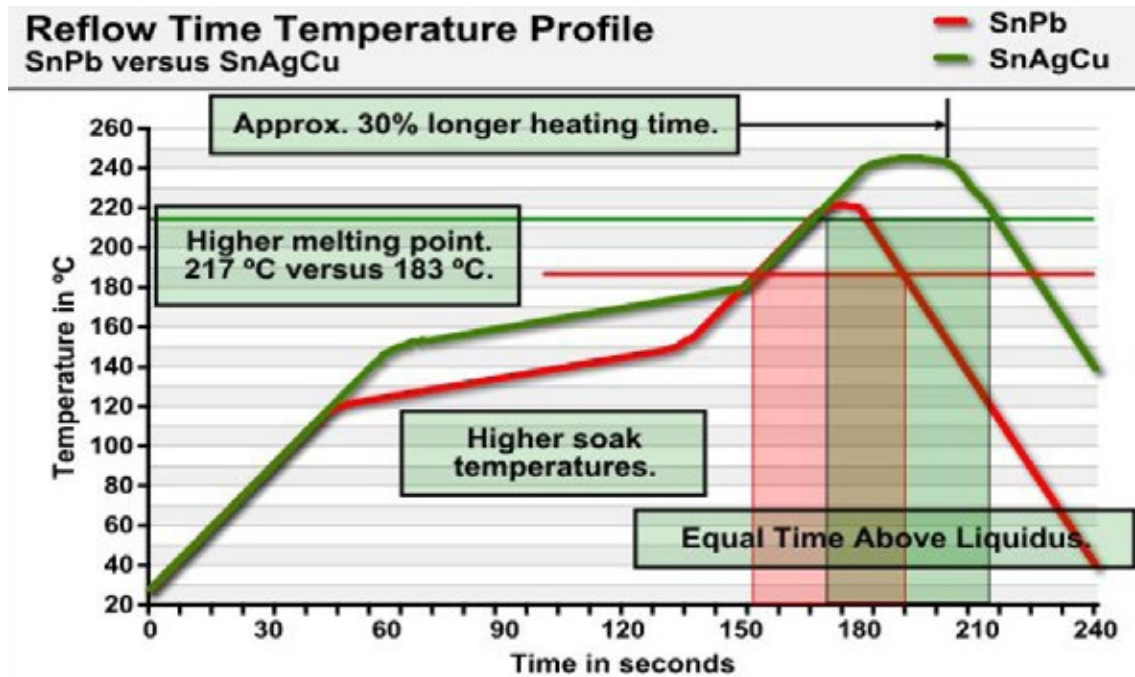
Standardly equipped with SMEMA connector for inline production.

CE Report

CE certification machine under 2006/42/EC Machinery Directive, EN ISO 12100:2010 EN 60204-1:2006+A1:2009



Temperature Setting & IPC Standard

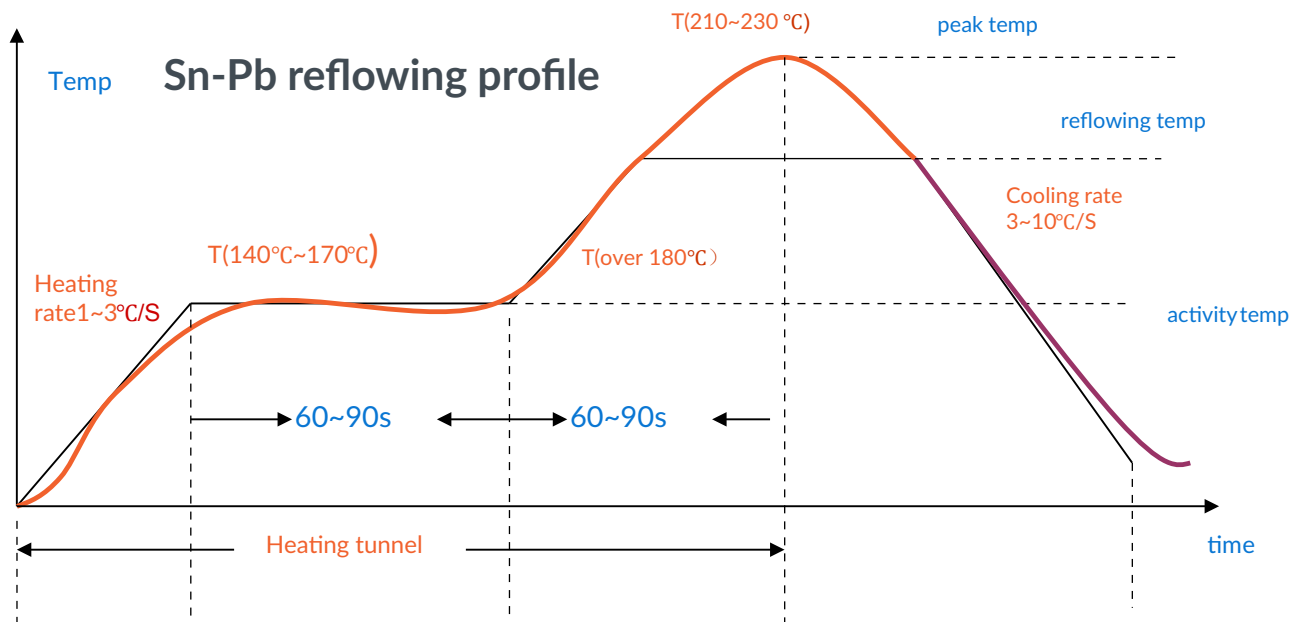


Solder paste according to the metal powder into leaded solder paste and lead-free solder paste, The differences are mainly in the process of welding temperature. Lead-free soluble melt temperature and peak temperature higher than leader solder, about 30 -50C.

Classification Reflow Profiles

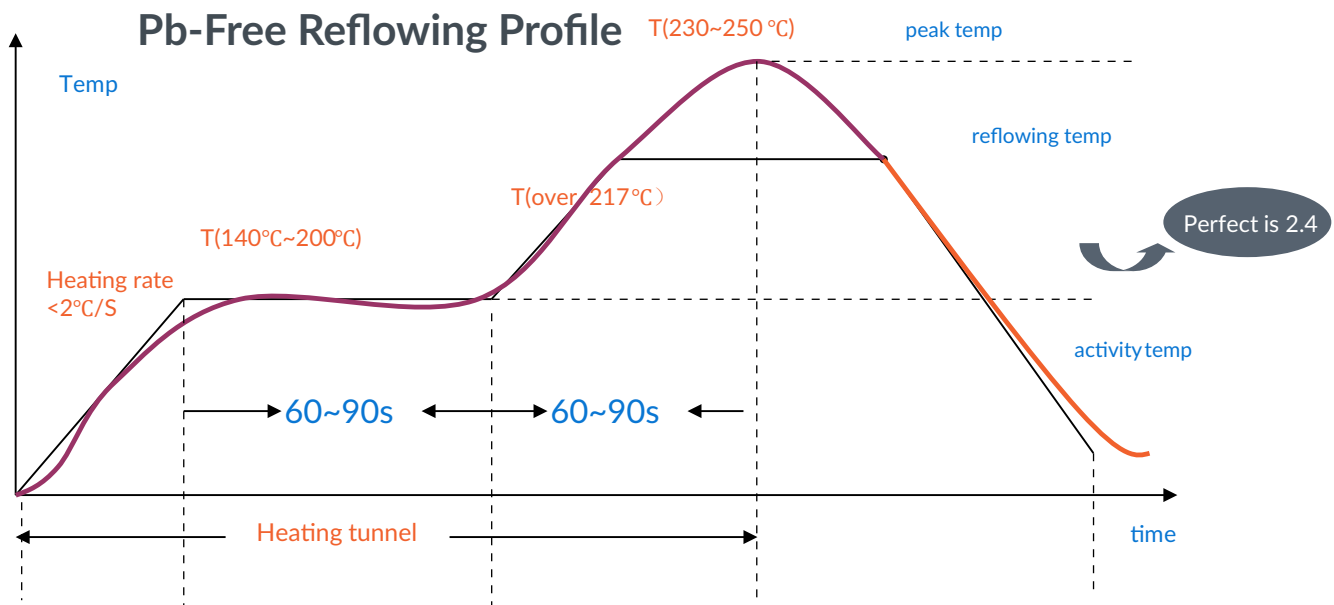
PROFILE FEATURE	SN-PB EUTECTIC ASSEMBLY	PB-FREE ASSEMBLY
Average Ramp-Up Rate (T _{smax} to T _p)	3°C/ second max.	3°C/ second max.
Preheat Temperature Min (T ^s min)	100°C	100°C
Temperature Max (T ^s max)	150°C	150°C
Time (T ^s min to T ^s max) (ts)	60-120 seconds	60-180 seconds
Time Maintained Above Temperature (T _L)	183°C	217°C
Time (t _L)	60-150 seconds	60-150 seconds
Time within 5°C of Actual Peak Temperature (tp) ²	10-30 seconds	20-40 seconds
Ramp-down Rate	6°C/second max.	6°C/second max.
Time 25°C to Peak Temperature	6 minutes max.	8 minutes max.

Based on IPC standard reflow oven need to abide by attached profile feature, it can provide the best soldering result for Sn-Pb and Pb-Free assembly ,before shipment , we calibrate the oven many times and save the perfect temperature setting for customer.



ZONE	PREHEATING	ACTIVITY	REFLOWING	COOLING
Function	Solvent evaporation	Flux activation and board temperature equilibrium	Melting of solder paste	Solder joints form

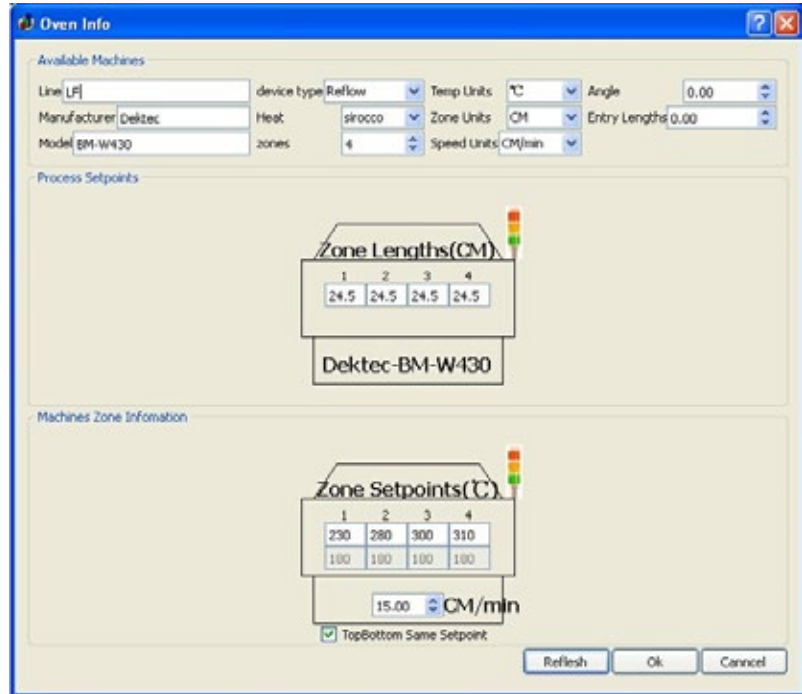
Peak temperature should be higher than the melting point solder paste at least 20 to 30°C



ZONE	PREHEATING	ACTIVITY	REFLOWING	COOLING
Function	Solvent evaporation	Flux activation and board temperature equilibrium	Melting of solder paste	Solder joints form

Calibration & aging before package

1. Test instrument : 6 CH Thermal Profiler /450 *300mm PCB
2. E4/E6 Lead free Reflow Oven temperature setting value :



After calibration & aging test, our reflow oven is acceptable by IPC Standard completely



Plenty Spare parts

Includes:

- Lead free reflow oven
- 4/6 independently controlled upper heating zones
- 4/6 independently controlled lower heating zones
- Corrosion-resistant, heatproof, stainless steel heating tunnel
- PID temperature controls for each zone with $\pm 1^{\circ}\text{C}$ accuracy
- Air cooling
- Mesh belt chain conveyor
- Pin conveyor lubrication
- Colored touch screen panel
- 1 year parts warranty

Free accessories as below

ITEM NAME	DESCRIPTION	QUANTITY
Blower	45w 4"	2 pcs
Preheater	2.2KW 220V	4 pcs
Preheater Sensor	3M	2 pcs
Conveyor Chain Clip	/	3 pcs
Conveyor Sensor	U shape sensor S-670	1 pcs
SSR	SSR-KD-40-L	1 pcs
Cooling Fan	4" 220VAC	4 pcs
Hex Spanner		1 pcs
Open Spanner		1 pcs
Key of door		2 pcs
Alarm Light Bulb		3 pcs
Fuse		3 pcs
Tool box		1 pcs

E4

SHIPPING INFORMATION

- Dimensions:
L2.2*W1.08*H1.6m
- Gross Weight:
about 500 KG
- Cubic Meter:
3.8 CBM

E6

SHIPPING INFORMATION

- Dimensions:
L2.8*W1.08*H1.63m
- Gross Weight:
about 600 KG
- Cubic Meter:
4.9 CBM

Package & shipping:

