

HS Series **of Lead free reflow soldering system**



HB HB Automation

Leading manufacturer in soldering technology

More. Reliability

The transport system



Due to our secure transport system and the arrangement of the transport mechanism outside of the process chamber you receive a stable process while reducing maintenance expenses and machine downtime.

The standard conveyor system is equipped with mesh and chain rail which ensure the repeatability for 24/7 3 shift production environment.



Multiple track ovens for multiple placer lines. Dual transport machines with dual speed is available to ensure the productivity with high throughput.

The optionally available center support makes it possible to process large panel formats – an additional advantage for flexible manufacturing!



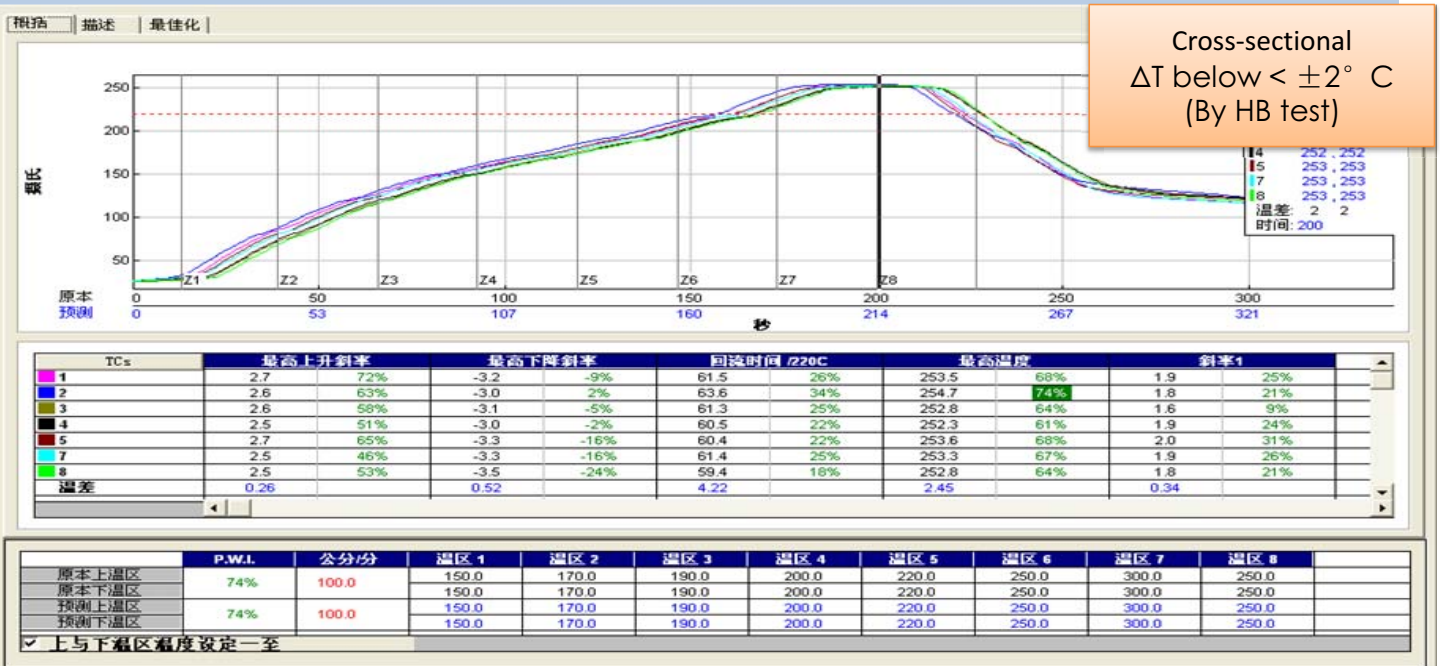
Center support system with unique parking position as a standard configuration in the HS series soldering system .

Our center support system offers continuous support especially for very thin PCB substrate and guarantee linear precision over the entire length of the oven. This specifically designed supports automatically fold down flat to allow for bottom-side to remain as close as possible to the PCB.

Smallest ΔT

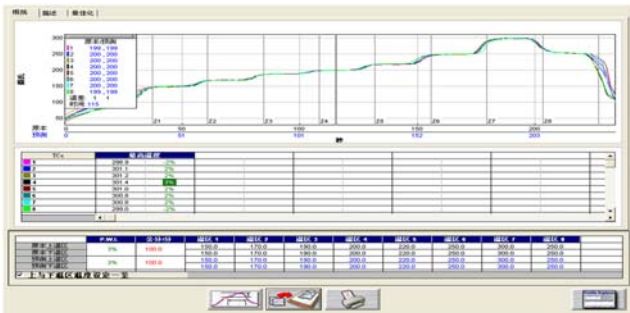
Ideal heat transfer

In a reflow oven, the efficiency of the heat transfer has a primary effect on all aspects of quality. Productivity and running costs which directly influence profitability. Our heat transfer guarantee a minimum ΔT which translates into maximum profile flexibility



The foundation of excellent heat transfer in HS series reflow is our in-depth understanding of convective heat generation, transfer and management. The result- HS series ovens are unique in using the fastest-acting heat source available: High-heat nickel chromium heater.

Our heater generate the desired temperature faster than any other reflow heat source and respond in less than half a second to temperature change of less than $0.1^\circ C$ thus maintaining the highest level of temperature repeatability. The heater modules in HS series oven are also unique in heating air on the intake, allowing it to be blended into a uniformly mixed air blanket.



Air temperature uniformity



Hot air motor-Blower

Exclusive closed loop convection control

The most efficient reflow heating system allows for the most flexibility in the loading conditions. The improved HB Automation's heating technology requires almost no distance between PCBs regardless of type, size and mass.

The HS series oven guarantees absolute process stability when running at "Board on board" maximum capacity. Intermittent and /or continual loading does not affect the long term process stable of the machine even in a "24/7" 3 shift production environment.

With our exclusive closed loop convection control , the oven features:

- Improved temperature uniformity
- Guaranteed process repeatability
- Excellent convection efficiency reduces zone temperature set-points



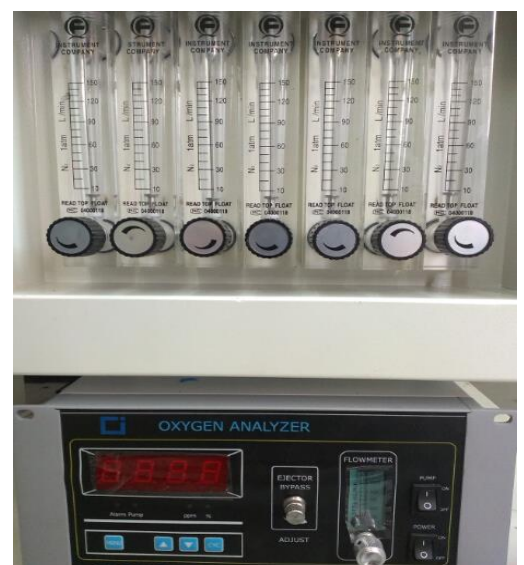
Powerful cooling technology

Depending upon the length of the system, the cooling tract in the HS series oven is laid out in 900mm length top 2 cooling zone in the standard HS series oven . The fans in the individual zones, which can be controlled separately as an option, allow for accurate control, and cooling gradients can be correspondingly influenced. This assures stress-free cooling for your PCBs, for lead-free soldering as well.



Nitrogen Control Process Atmosphere Control

To maintain stable ,user-selected oxygen PPM levels automatically. A wide range of PPM levels can be selected with nitrogen consumption rate as low as depending upon board size . An internal oxygen sensor and proportioning valve is used to minimize nitrogen consumption and related costs by up to 50% ! Use completely sealed design inside the chamber of oven to be effective protection for nitrogen.



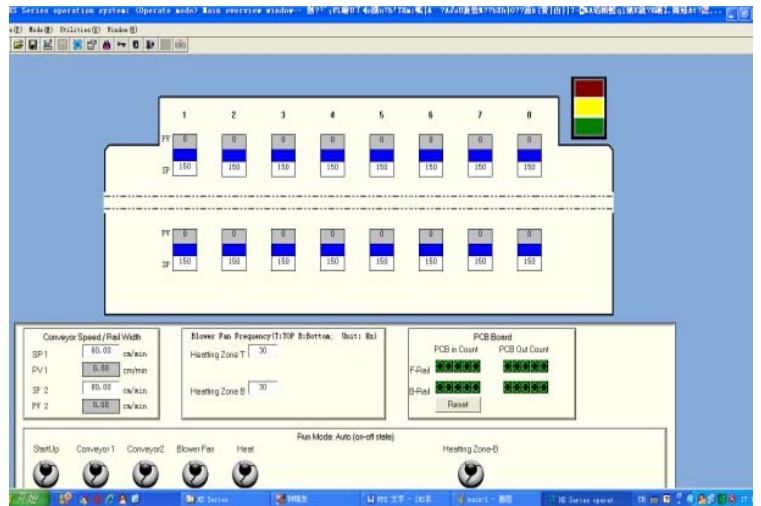
User friendly software

User friendliness

The menu of the HS series Software is arranged very clearly and intuitively. Faulty operations can be avoided in this way and it is good for quick working.

User Levels

With the Software you can set optimally the rights for different user groups, e.g. for administrators, supervisors and users.



Key standard features

- Lead-free Process-Guaranteed
- Forced Convection
- Advanced Flux management system
- Combination pin chain and mesh belt conveyors
- Low Nitrogen and Power Consumption
- International standard (SMEMA)
- Standard 2 cooling zone (top)
- Uninterruptible power supply
- Automatic edge rail lubrication system
- Temperature curve analysis, storage, call function
- Board counter and multiple alarm functions
- Operator level management

Optional features

- Dual lane with independent lane speed control
- Full Nitrogen system
- Repeatable Center support system in single lane Or dual lane.
- KIC 24/7

specifications

Model	HS-0601	HS-0802	HS-1002	HS-1202
Dimension(L*W*H)mm	3600*1383*1490	5310*1353*1490	6100*1353*1496	6915*1353*1496
Weight (kg)	1325	2200	2400	2600
Number of heating zones	Top 6+ bottom 6	Top 8+ bottom 8	Top 10+bottom 10	Top 12+bottom 12
Length of heating zones(mm)	2359	3121	3891	4706
Number of cooling zones	Top 1 Forced air cooling	Top 2 Forced air cooling		
Nozzle plate	8 mm Aluminum alloy plates			
Exhaust volume	10M2/min *2 channel exhaust			
Control system				
Power supply requirements	3 phase ,380V 50/60Hz (optional : 3 phase ,220V 50/60V)			
Total Power	52KW	64KW	80KW	92KW
Startup power	26KW	28KW	34KW	38KW
Normal Power consumption	7KW	9KW	10KW	11KW
Warming time	30 minutes			
Temp. setting range	Room temperature to 300°C			
Temperature control method	PID Close loop control +SSR Driving			
Temperature control precision	+/- 1.0 °C			
Temperature deviation on PCB	+/- 1.5°C (by HB test standard)			
Conveyor system				
Chain structure	Single buckle	Single buckle for preventing board jammed		
Max. PCB width	400mm	400mm (Optional 610mm)		
Range of rail width	50-400mm	50mm -400mm (optional 50mm -610mm)		
Components clearance	Top/Bottom clearance of PCB : 25mm			
Conveyor direction	L to R (Optional R to L)			
PCB transmission method	Chain + Mesh			
Conveyor speed	300mm /min-2000mm / min			
lubrication	Auto-lubrication + Manual-lubrication			
Optional	Full N2 system, Center support system ,KIC RPI reflow process inspection ,Dual lane			

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