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## Conveyor and Batch Reflow Ovens



Lead Free  
Soldering  
Technology

### Conveyor Reflow Oven Features:

- Lead and Lead free Compatible
- 100% forced air Horizontal Convection™ oven\*\*
- 3 vertical heating zones plus cooling zone
- 12" wide conveyor
- Stainless steel conveyor and chambers
- Easy lift clamshell design
- Viewing windows with lighted interior
- Computer controller with:
  - 100 menu profile storage
  - 7 day programmable timer
  - Real time graphic temperature profiler
  - ISO 9000 SPC fault monitoring and reporting
  - Battery memory backup
  - English or metric units
  - Password protection
- Nitrogen gas inerting option
- PC Interface/Windows® software option
- Enhanced printing option



### Batch Oven Features:

- Lead and Lead free compatible
- 100% Cyclonic™ forced air convection
- Unique shuttle system enables higher throughput than standard batch ovens
- Individual time and temperature microprocessor controls make profile set-up easy
- Large top window allows the operator to see the board through the entire process
- All stainless steel interior construction
- Dual cooling stations
- Nitrogen gas inerting option
- Up to 12" x 12" boards

\*\*Patent 6,936,793

All ovens are available with lead free capability and are made in the USA

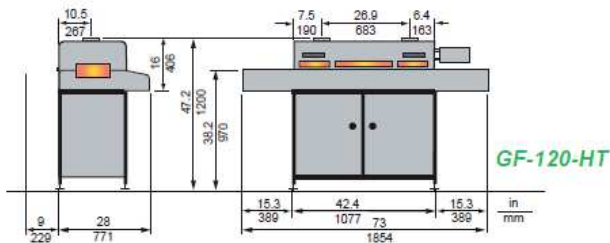
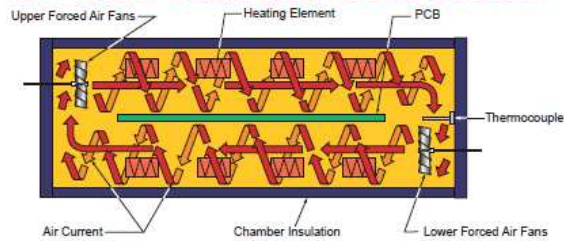


Model GF-120-HT shown with optional stand

## GF-120-HT with HORIZONTAL CONVECTION™

With the patented\*\* Horizontal Convection™ air is circulated horizontally in one direction above the board, and in the opposite direction below the board. This circular air current, or "cyclone" around the board, produces extremely uniform temperature profiles across the board. The model GF-120HTs are high temperature ovens which are compatible with all lead and **lead free soldering** applications.

### GF-120HT chambers cross section



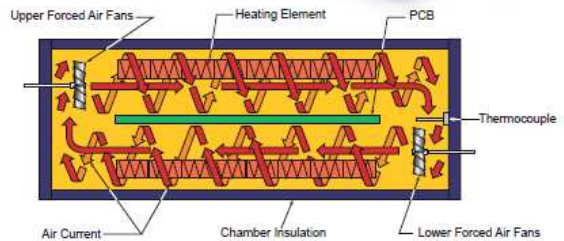
The GF-12/120 series heating profiles are superior to other ovens in their class. Each of the vertical heating zones is programmable through the controller which stores up to 100 profiles. The oven includes a real-time temperature profiler port. When a thermocouple is attached to the PC board, the actual board level temperature profile is displayed graphically as the board travels through the oven. The conveyor speed, heating elements, cyclonic generators and cooling fans are all programmable. The oven also features SPC fault monitoring & reporting, battery backup and a 7 day timer for automatic machine start-up.

\*\*Machines covered under Patent 6,936,793



Model GF-12-HT

## GF-12-HT



Our patented Horizontal Convection™ technology\*\* circulates heated air in each chamber around the board front to back which increases the thermal efficiency and uniformity within each zone. This exposes the circuit board to a uniform temperature profile along the entire assembly. Cyclonic generator speed is independently set in each zone.



PAK-6 temperature profiling kit



GF-12HT with stand option

The temperature profiling accessory kit includes all the accessories you need to profile PC boards through your reflow oven. It is compatible with any ovens or profiling systems which use standard K-type thermocouples.

## Nitrogen Inerting Option

All GF ovens have a nitrogen gas inerting option. With the isolated chamber design (recirculation of atmosphere within reflow zone) low oxygen levels are maintained while conserving nitrogen consumption.

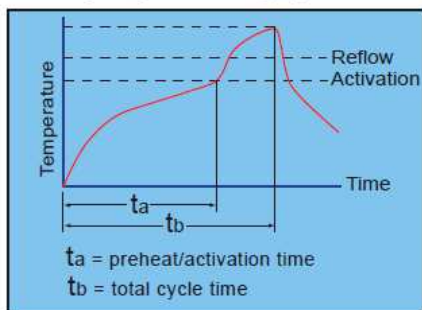
- Decreases wetting angle
- Increases flux efficiency
- Enhances fine pitch solder fillets
- Improves surface finish of solder joints

# Conveyor and batch ovens for solder reflow, curing, drying and thermal cycling

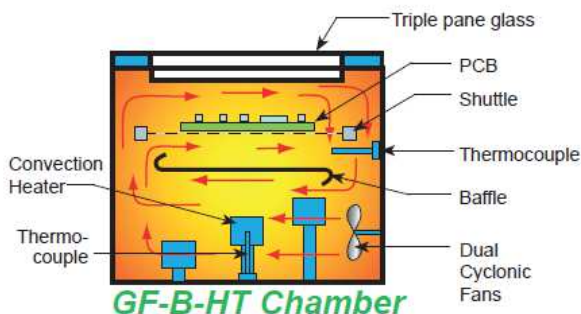


## GF-B-HT Batch Oven\*\* Features:

- High temperature GF-B-HT for lead and lead-free soldering
- Unique shuttle system enables higher throughput than standard batch ovens
- Large top window allows the operator to see the board through the entire process
- 100% Cyclonic™ forced air convection
- Independent time and temperature microprocessor controls with membrane keypad make set-up easy
- 99 menu storage with password protection
- All stainless steel interior construction
- Dual cooling stations
- English or metric units
- Nitrogen gas inerting option



**GF-B-HT Reflow Profile**



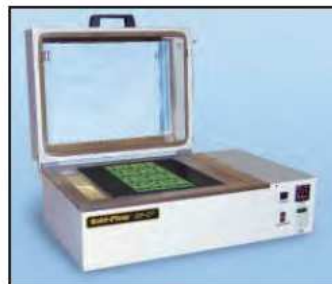
**GF-B-HT Chamber**



## GF-C<sup>2</sup>-HT Batch Oven\*\* or Hot Plate:

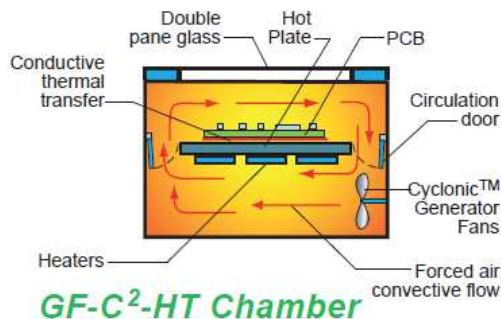
The GF-C<sup>2</sup>-HT oven is ideal for batch SMT reflow, curing and hot plate applications. With its heavy duty construction and stainless steel chamber, the oven is designed for many years of reliable service.

- Can be used as a batch oven or a hot plate.
- Large heating area of 12" x 12".
- Combination forced air convection/conduction heating for consistent process control.
- Large viewing window allows the operator to see the entire product and process.
- 3/4" thick aluminum heat plate.
- Digital temperature controller precisely and automatically regulates temperatures.
- Programmable digital timer with alarm.
- Nitrogen gas inerting option.



• Model **GF-C<sup>2</sup>-HT**  
for lead free soldering

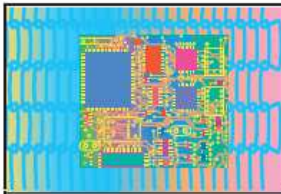
Model **GF-C<sup>2</sup>-HT**  
with hood up for hot plate use



**GF-C<sup>2</sup>-HT Chamber**

\*\*Machines covered under Patent 6,936,793

# Conveyor and Batch Reflow Ovens



Model:	GF-120-HT	GF-12-HT	GF-B-HT	GF-C <sup>2</sup> -HT
Heating zones	3 top, 3 bottom	3 top, 3 bottom	1	1
Cyclonics™ (forced air)	3	3	1	1
Conveyor extensions	NA	yes	Dual board shuttle	NA
Electrical power	220 VAC, 50/60 Hz 1Ø (3Ø option), 50A 8.7 Kw	220 VAC, 50/60 Hz 1Ø (3Ø option) 5.5 Kw	15A @220 VAC, 50/60 Hz 1Ø, 2.7 Kw	110 VAC, 50/60 Hz, 20A 220VAC, 50/60 Hz, 10A 1.8 Kw
Max board width	12" (305mm)	12" (305mm)	12" x 12" (305 x305mm)	12" x 12" (305 x 305mm)
Max board height	1.375" (35mm)	1.375" (35mm)	1.250" (32mm)	3" (76mm)
Cooling station(s)	1	1	2	NA
Max temperature: <b>Lead free compatible</b>	752°F (400°C)	662°F (350°C)	600°F (315°C)	600°F (315°C)
Venting	(2) 4" flanges 100 CFM ea. max.	4" flange 100 CFM max.	4" flange with integral fan	NA
Heating technology	Forced air Horizontal Convection™	Forced air Horizontal Convection™	Forced air convection	Forced air convection
Heat tunnel length	41" (1042mm)	26" (660mm)	NA	NA
Nitrogen option	Yes	Yes	Yes	Yes
Stand option	Yes	Yes	Yes	no
PC interface option	Yes	Yes	no	no
Overall dimensions	73" x 34" x 19"H 1854 x 864 x 483 mm	39" x 32" x 19" H 990 x 813 x 483 mm	38.13" x 28.13" x 14.5" H 968 x 715 x 368 mm	29.12" x 16.5" x 12" H 740 x 420 x 305 mm
Approximate weight	600 lbs (272 kg)	220 lbs (98 kg)	102 lbs (46 kg)	56 lbs (25 kg)

