

## Yael-864 - Vacuum Oven



In 1994, the first special vacuum oven was designed and tested in cooperation with Motorola Israel, followed by a second installation in Motorola Plantation, FL., USA

Vacuum Oven for drying moisture sensitive components

Processes for drying moisture sensitive devices has been a problem issue for the manufacturing industry. Most manufacturers unreel and bake the devices at 125 °C and then re-reel the devices. Motorola Israel helped design a vacuum oven that allowed the whole reel of devices to be dried without removing the devices from the reel. In order to determine if the vacuum oven was a good alternative, an experiment was designed that compared the vacuum oven to a conventional oven set at 125 °C and a conventional oven set at 70 °C. It was concluded from this experiment that the vacuum oven is an excellent alternative to the conventional 125 °C oven.

### Advantages:

- Faster than standard oven at 70 °C (temperature limited by the polystyrene material used for reels and tapes)
- As fast as 125 °C baking process
- Practically 100% uniformity throughout the reel, unlike conventional ovens
- No coplanarity and electrostatic discharge (ESD) failures as with 125 °C baking
- No inter-metallic film formed between the solder ball and the PCB carrier on Ball Grid Arrays (BGA), as with 125 °C baking
- Remarkable quality with near absolute dry resulting devices after only 24 hours processing
- Fully automated with PLC control, RS232, Modem, printer and computer communication capabilities (optional)

### Technical Data

<b>Real capacity:</b>	Up to 20 reel
<b>Process required time at 70°C:</b>	24 hours
<b>Volume:</b>	4200 inch <sup>3</sup> (70 dm <sup>3</sup> ) 15"(381mm) ID x 23.6" (600mm)L
<b>Range:</b>	up to 194 °F (90 °C) and not less than ambient temperature
<b>Range:</b>	Less than 50m Torr (after 15min of pumping down of the clean empty chamber)
<b>Power:</b>	3 x 208 VAC/60 Hz, 5KW max (as per customers requirements - no charge)
<b>Ambient Temperature:</b>	57-104 °F (14-40 °C)
<b>Humidity:</b>	Less than 95% non condensing
<b>Dimensions:</b>	52" (1720mm) H 23.6" (600mm)W 31.5" (800mm) D
<b>Weight:</b>	390 lbs (175 kg)