

# FALCON 8500

## REFLOW SOLDER & CURING OVEN

Sikama International's Falcon 8500 is a multi-purpose oven capable of temperatures up to 400°C that can be used as a reflow solder system as well as for epoxy curing applications. Incorporating Sikama's unique thermal technology using conduction heating in combination with forced thermal



convection, the Falcon 8500 contains 1 load zone, 5 heat zones and 2 cooling zones and includes automatic load and unload buffers with appropriate sensors providing SMEMA interface connection to link into automated production lines. The system may be operated with air, nitrogen or forming gas.

Prior to entering the heat zones, the substrate temperature is stabilized in the liquid-cooled load zone. Each heated zone has individual setpoint gas flow controls that maintain platen temperature to within  $\pm 2^{\circ}\text{C}$  to ensure consistent and precise temperature for reliable, repeatable profiles. The gas is introduced into the reflow chamber through tiny perforations in the conduction heating platens and enters the chamber at the same temperature set for each zone. The internal liquid-cooled zone ensures a process cool-down in an inert atmosphere. Further cooling of the substrates is accomplished as the product exits onto the liquid-cooled offload zone.

Parts are transported through the furnace by sweeperbars that can operate continuously or in a "dwell" (timed delay) mode that is a unique feature offered only by Sikama and which produces superior temperature uniformity in the reflow profile. The Falcon 8500 can also be equipped with a "walking beam" transport system which picks up the product with internal rails and moves it to the next process zone.

With optional Windows based software, the Falcon 8500 can be interfaced with a computer (customer supplied) for storing profiles, monitoring of individual heat zone temperatures, data logging, and speed and time controls and remote operation. A tray to accommodate a laptop computer can be supplied.



The Falcon 8500 is well suited for reflow applications involving a broad range of substrate materials including wafer bump reflow, insulated metal-core substrates, BGA, high mass components and die soldering as well as epoxy curing applications including underfill and glob-top. The Falcon 8500's efficiency of operation and minimal use of electricity and gas are the result of Sikama's unique patented design for balanced heating and cooling that will ensure optimal performance at the lowest cost.

## SPECIFICATIONS

FEATURES	FEATURES
HEATING ZONES	5
COOLING ZONES	2 w/ SB   1 w/ WB
LOAD/UNLOAD BUFFERS	Standard
ZONE TEMPERATURES	752°F   400°C ±2°C
DIRECTION OF FLOW	Bi-directional
TRANSPORT SYSTEM	Sweeper Bar   Walking Beam (WB)
AUTOMATION	SMEMA   SECS/GEM
MINIMUM O <sub>2</sub> LEVEL (PPM)	20

### SUBSTRATE CAPACITY

MIN/MAX DIMENSIONS – INCH (MM)	3 (7.6) W min 8 x 11 (20 x 28) L x W max
MAXIMUM HEIGHT – INCH (MM)	3.5 (89)
MAXIMUM WEIGHT – LBS (KG)	2.5 (1.1) if all zones used

### FACILITY REQUIREMENTS

INPUT VOLTAGE (VAC)	220   380
INPUT AMPS RMS (A)	22 @ start-up ≤11 @ steady state
SYSTEM POWER (KW)	10 @ start-up 5 @ steady state
TOTAL COVER GAS RATE (CFM)	≤17
COOLING WATER FLOW (GPM)	≤2

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