

# FALCON 1200

## REFLOW SOLDER/CURING OVEN

Sikama International's Falcon 1200 is a multi-purpose oven capable of temperatures up to 750°F (400°C) that can be used as a reflow solder or epoxy curing system. Using Sikama's unique thermal technology which combines conduction and forced thermal convection, the Falcon 1200 contains 1 load zone, 7 heat zones and 2 cooling zones as well



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

Parts are transported through the furnace by sweeper bars that can operate continuously or in a "dwell" (timed delay) mode that is a unique feature offered only by Sikama and produces superior temperature uniformity with minimal floorspace. The Falcon 1200 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 1200 can be interfaced with a computer for storing profiles, monitoring of individual heat zone temperatures, data logging, speed and time controls, and remote operation. A tray to accommodate a laptop computer can be supplied.

The Falcon 1200 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, die soldering, and epoxy curing applications such as underfill and glob-top. The Falcon 1200's efficiency of operation and minimal use of electricity and gas are the result of Sikama's unique design for balanced heating and cooling that will result in optimal performance in a low cost solution.

## SPECIFICATIONS

FEATURES	
HEATING ZONES	7
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 (76) W min 11.8 (300) 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 CURRENT RMS – AMPS	37 @ start-up ≤19 @ steady state
SYSTEM POWER – KW	33 @ start-up 17 @ steady state
TOTAL COVER GAS RATE – CFM	≤20
COOLING WATER FLOW – GPM	≤2
DIMENSIONS – L x D x H – INCH (CM)	164 x 24 x 45 (417 x 61 x 114)

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