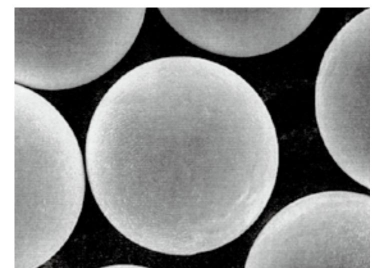
SMIC Micro Soldering System

Clean Reflow Oven "CX-430"

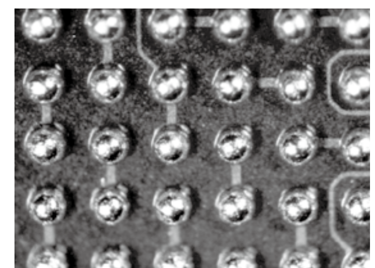
This clean reflow oven is designed for high–precision applications like information technology and mobile telecommunication devices as well as for bare-mounting applications. It excels at face–up packaging by wire bonding and face–down mounting by FCB combining a state-of-the-art heating system with a high quality walking beam conveyor. These components enable high–quality solder bump formation at the wafer level.

Features

- **Cleanness inside oven:** achieving class 1000 (by walking beam conveyance and far infrared / radiation heating)
- **Oxygen concentration level:** 100ppm or lower (a hermetic chamber structure)
- **Automatic Flux Management System:** flux fumes generated inside the furnace are automatically recovered
- **Highly flexible temperature setting:** heaters in 4 zones along the conveyor direction controlled separately in eight blocks and a separate reflow zone make a highly flexible temperature setting possible (32-surface control)
- **Conveyor mechanism:** the walking beam conveyor system and cycle–time operation allow stable heating in each zone in a dust free environment
- **Radiant heating:** the use of far infrared / radiant heating eliminates the need for forced convection reducing defective bump surface finishes due to hot blasts to a minimum
- **Applicable to high-temperature solder:** lead-free solder and other types of high-temperature solders can be used



ϕ 0.1mm Sparkle ball



After ball mounting

Major application

- Bump formation on W-CSP (Wafer Level-CSP)
- FCB / flip-chip bonding (soldering, electroconductive paste curing etc.)

SENJU METAL INDUSTRY CO., LTD.

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Clean Reflow Oven CX-430: Specification

Power		200 VAC; 3-phase; 24 kw; 100 A
Dimensions		Total length: 3,000 mm; total width: 1,300 mm; total height: 1,260 mm
Weight		1,800kg
Pass line		900 ± 30 (mm)
Applicable board width		ϕ 200 mm, ϕ 300 mm (Capable ϕ 150 mm, temperature is unwarrantable)
Continuous operation temperature		370℃ (Wafer surface temperature)
Heating Unit	Number of zones	4 zones
	Heating length	1,500mm (300 mm x 4 zones)
	Heater capacity	4.85kw x 4 surfaces 200 VAC (Partial 100 VAC) (Top 5, Bottom 3 block division / 1 surface)
	Control system	Individual control of each heater (PID) 32 surfaces in total
Cooling Section	Cooling length	375mm
	Cooling system	By N_2 gas spraying
Conveyor Section	System of conveyance	By walking beam
	Conveyor direction	Left → Right (when viewed from the front of equipment)
	Effective conveyor width / height	150 to 300mm, 10mm above conveyor surface
	Cycle pitch	375mm
Exhaust Recovery system		Forced exhaust from each side of chamber
Nitrogen gas consumption		250 ℓ / min. (Oxygen concentration inside furnace: 100 ppm or less during continuous wafer input)
Flux fume recovery	Power capacity	0.2kw (Circulative blower)
	Clarification	Water circulative clarifier by blower
Inside furnace	Cleanliness level	Class1000 (0.5μm)

In case of installation in the clean room, the exhaust duct (with dumper) have to be put at the inlet / exit of the furnace.

Solder paste for bare mounting

OZ 63-BPS8-T2F	Standard solder, reduced voids, good washability
M705-BPS70 Series	Lead-Free, reduced voids, good washability

Solder balls for bare mounting

S M705 - ϕ0.06-5	Lead-Free solder
S 63% - ϕ0.06-5	Standard solder
S 5% - ϕ0.06-5	High-temperature solder

* Please inquire for alloy and size details.

As a total supplier for bare chip and fine mounting, we can provide support on facility, material and manufacturing method. Loaders and unloaders are available from us upon your purchase. Product specifications and design are subject to change for improvement without notice.

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