

SUNEAST SER SERIES

HIGH-EFFICIENCY INDUSTRIAL HOT-AIR & NITROGEN SMT REFLOW SYSTEMS

PRODUCT DATA SHEET

Industrial SMT Assembly Lines
Models: SER-706 / 708 / 710 / 712

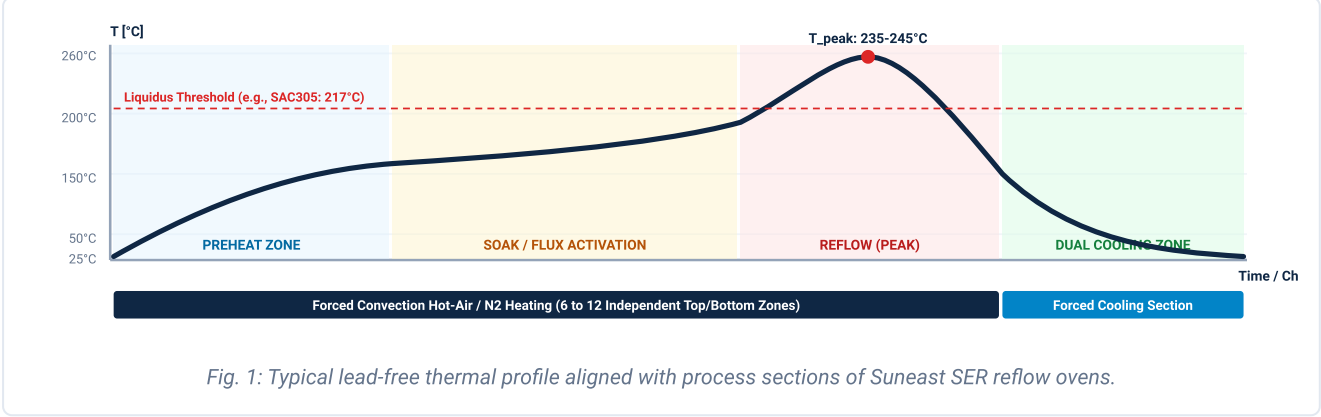
The **Suneast SER Series** multi-zone reflow soldering systems deliver high-precision thermal processing engineered for modern mass and high-mix PCBA manufacturing. Combining modular heating chambers, independent top and bottom forced-convection hot air circulation, optional nitrogen (N₂) atmosphere, and optimized flow dynamics, the SER series ensures exceptional thermal uniformity and minimal component ΔT across both micro-footprint passives and high-mass BGA packages.

±1.0 °C TEMP CONTROL ACCURACY	6 – 12 HEATING ZONES (TOP/BOTTOM)	320 °C MAX OPERATING TEMPERATURE	≥ 6.0 kW STEADY-STATE RUNNING POWER
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Key Technological Advantages of the SER Series

⚡ High Thermal Efficiency Calibrated heating capacity and volumetric chamber dynamics optimize heat transfer rates within a compact envelope, maximizing line throughput with shorter required heating tunnel lengths.	💰 Cost Economy & High Process CPK Multi-layer thermal insulation and microprocessor-regulated loops curb continuous running power to just 6.0–11.5 kW. Tight repeatability is validated by industry-standard CPK process benchmarks.
📏 Thermal Uniformity ($\Delta T \leq 1^\circ\text{C}$) Dedicated front-to-back gas circulation loops eliminate adjacent zone thermal turbulence and cross-flow interference, balancing thermal absorption across ultra-fine 01005 chips and large BGAs.	🔄 Conveyor Modularity & Stability Standard support for PCB widths up to 400 mm, with optional single-lane expansion to 550 mm or dual-lane 2×300 mm capability. Robust anti-warp guide rails with motorized-manual width positioning.

Thermal Flow Architecture & Zone Profile Alignment



Technical Specifications & Multi-Model Comparison

Technical Parameter	SER-706AH	SER-708 (AH/H/NH)	SER-710 (AH/H/NH)	SER-712 (AH/H/NH)
1. HEATING & CONVECTION SYSTEM				
Number of heating zones	6 zones (12 modules)	8 zones (16 modules)	10 zones (20 modules)	12 zones (24 modules)
Heating tunnel length	2230 mm	2950 mm	3670 mm	4350 mm
Cooling method	Dual forced-air blowers	Dual forced-air blowers / Optional 3-zone chilled water cooling		
Exhaust requirements	2 exhaust ports Ø145 mm, flow rate requirement: 15 m³/min × 2			
2. PCB CONVEYOR TRANSPORT SYSTEM				
PCB process width	Min. 50 mm – Max. 400 mm (Optional: single lane up to 550 mm; dual lane 2×300 mm)			
Transport direction & height	Standard Left → Right (Option: Right → Left) Conveyor height: 900 ± 20 mm			
Conveyor type & speed	Synchronized roller chain + stainless mesh belt Speed: 300 – 1500 mm/min			
Component clearance	Above rail: 30 mm Below rail: 20 mm			
Rail width adjustment	Motorized + manual fine adjustment (Fixed rail: front standard, rear optional)			
3. ELECTRICAL RATINGS & POWER CONSUMPTION				
Power supply input	AC 3-phase 5-wire (3Φ, 5W), 380V, 50/60 Hz			
Total installed power	45 kW	57 kW	71 kW	89 kW
Startup heating power	30 kW	30 kW	35 kW	40 kW
Steady-state running power	approx. 6.0 kW	approx. 7.5 kW	approx. 9.5 kW	approx. 11.5 kW
4. CONTROL ARCHITECTURE, DIMENSIONS & NET WEIGHT				
Control architecture	Industrial PC + PLC Controller (Windows OS), multilingual EN/CN interface			
Blackout protection	Integrated UPS power backup (guarantees safe board discharge during power outages)			
Dimensions (L × W × H)	4335 × 1372 × 1515 mm	5055 × 1372 × 1515 mm	5775 × 1372 × 1515 mm	6495 × 1372 × 1515 mm
Machine net weight	1600 – 1800 kg	2000 – 2200 kg	2400 – 2600 kg	2800 – 3000 kg

Nitrogen (N₂) Inert Atmosphere System (Optional)

- NH Models:** Features advanced mechanical sealing and multi-manifold nitrogen purge to prevent solder oxidation and enhance surface wetting.
- Closed-Loop O₂ Monitoring:** Continuous residual oxygen sensing (ppm level) coupled with automatic N₂ flow throttling.
- Operating Cost Reduction:** Tight zone gas barriers significantly reduce inert gas consumption during sustained production shifts.

Process Safety & Production Line Options

- Dual-Track Transport:** Enables parallel processing of two independent PCB boards up to 300 mm each, doubling lane throughput.
- Statistical CPK & Traceability:** Automatic recording of temperature curves, zone parameters, profile history, and alarm logs.
- Closed-Loop Water Chiller:** Optional external cooling unit to rapidly drive PCB exit temperatures below 50°C for immediate handling.