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Reflow & Curing Ovens

100% Convection modules Standard configurations with edge hold Dual lane / Dual temperature Curing & back-end semiconductor Voidless reflow soldering Previously owned Heller reflow equipment





Solder Pastes

Fluxes

Chipbonders

Solder Wires

No-clean leaded & lead free

Halogen free

PoP pastes Easier to clean no-clean

Anti-voiding / Anti-pillowing

Up to 72 hour tac times Room temperature storage

Tacky fluxes

Solder wire improves performance & cuts up to 40% of solder tip consumpt



Inline

Batch

Cleaners

Poly or stainless steel Liquid lock dramatically cuts chemistry costs High performance pumps and blowers Drying up to 220 degrees

Stand alone wash and drying units







Controlled Humidity & Temperature Storage Solutions

Ultra low relative humidity of under 1%

Eliminates defects in moisture sensitive devices

Critical for storage for lead free devices

Applications as well for:

digital media - optics - preservation - laboratories and industrial where superior environmental control is required.



Batch Cleaners for a Wide Variety of Critical Applications

PCB Defluxing - Assembly Cleaning - Avionic Maintenance - Medical Maitenance - Rail Maintenance



Semi-Automatic Cleaners

Maintenance Cleaners

Compact footprint All units feature:

Effcient in all aspects

Zero discharge

Chemistry is permenantly filtered

Ultralow enegy consumption

CSA approved



SMT Placement Machines



MBtech



Placement rates from 55,000 to over 150,000 CPH! Ultra intelligent machine

Self loading feader is a game changer - load on the fly!

"Overdrive" technology dramatically improves your utilization rates Placement of 01005's - QFN's - LGA's - Connectors - PoP's



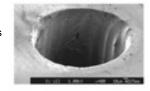


Micro-Machining

Stainless steel or Kepoch material. A varitey of sizes and mounting option Micro-stencils for rework New stainless steel improves release characteristics

Laser Cutting Laser Welding Laser Micro-Drilling Laser Marking Laser Engraving

Laser Die Cutting





Cost effective for prototypes or production!

Contamination Solder Volume Reflow Profile Land Design Excessive Reflow Temp Excessive Heating Rate Screen/Stencil Clogged nsufficient Solder Paste Oxidized Solder Paste Misaligned Component Excess Solder Deposition Pad Size Mismatch Coplanarity Reflow Cycle Too Long Preheat Temp Low Solder Paste Oxidation Paste Viscosity Too Low Component Contamination 3oard Contamination Solder Quality Metallurgy Placement Accuracy SOLDER DEFECT TROUBLESHOOTING GUIDE CAUSE Open Joint Tombstoning Voids Solder Wicking Non-Wetting Incomplete Fillets Poor Strength O Solder Shorts ш Solder Balls ш Intermetallics Appearance ш Component Cracking Bridging Grainy Solder Laminate Discoloration Leaching Halo Effect Discolored Joint