ABOUT SAM COMPANY

SHENZHEN SAM ELECTRONIC EQUIPMENT CO., LTD was founded in 2005, A professional company specializing in R&D, manufacturing Precision SMT Cleaning Equipments, Waste-water Treatment Equipment, Laser PCB Depaneling Equipment, SMT Semiconductor Peripheral Equipment. We will continuously develop new and refined products and technology to achieve world-class manufacturing level for meet the demands of high-end customers.

With 12 years development, SAM’s technical strength and excellent service to win the trust and support of customers. Our products was won SMT China Innovation achievement at three consecutive years, Also our R&D Automatic Cleaning machine, PCB In-line cleaning machine, Waste water treatment system and PCB Depaneling machine was get the patent certification.

Since 2005

35 employees work permanently to satisfy customers request:

3000m² company facility

ISO 9001 and ISO 14001 conform

Patent certification

SMT China Innovation achievement

Complete manufacturing and assembly plant

Yearly Shanghai/Shenzhen NEPCON Exhibition meet old/new customer
SAM CLEANING MACHINE OVERVIEW

Application Suitability:

- Metal stencils from paste and glue: ✓ ✓ ✓ ✓ ✓ ✓ ✓ ✓
- Plastic stencils from glue: ✓ ✓ ✓ ✓ ✓ ✓ ✓ ✓
- Misprints from paste and glue: ✓ ✓ ✓ ✓ ✓ ✓ ✓ ✓
- PCB Assembly and Hybrid Substrates defluxing: ✓ ✓ ✓ ✓ ✓ ✓ ✓ ✓
- Solder pallets from the wave solder process: ✓ ✓ ✓ ✓ ✓ ✓ ✓ ✓
- Various parts (Mechanical, optical, Lead-frames and Wafer): ✓ ✓ ✓ ✓ ✓ ✓ ✓ ✓
- Squeegee: ✓ ✓ ✓ ✓ ✓ ✓ ✓ ✓

Process Data:

<table>
<thead>
<tr>
<th>Model</th>
<th>Stencil capacity</th>
<th>Typical total cycle time</th>
<th>Typical consumption/Cycle (Clean agent)</th>
<th>PCB Defluxing and misprints - max effective area at the disposal</th>
<th>Standard max thickness PCB=components</th>
<th>Max Load in 3U -160 Eurocards (100*160mm)</th>
<th>Typical total cycle time</th>
<th>Typical consumption/Cycle (depends on PCB shape and pollution)-liters</th>
<th>Solder pallets - available space (mm)</th>
<th>Typical total cycle time for solder pallets</th>
<th>Squeegee capacity/Cycle</th>
</tr>
</thead>
<tbody>
<tr>
<td>SM-5600</td>
<td>1 pcs /29&quot;</td>
<td>15-20min</td>
<td>0.06-0.1 L</td>
<td>2.5m²</td>
<td>40mm</td>
<td>70-150pcs</td>
<td>30-50min</td>
<td>0.2-0.3 L</td>
<td>600<em>650</em>600</td>
<td>30-50min</td>
<td>4pcs</td>
</tr>
<tr>
<td>SM-8000</td>
<td>1 pcs /29&quot;</td>
<td>10-15min</td>
<td>0.06-0.15 L</td>
<td>0.72m²/min</td>
<td>80mm</td>
<td>40pcs/min</td>
<td>5min</td>
<td>0.25-0.3 L</td>
<td>740<em>740</em>40</td>
<td>20-30min</td>
<td>4pcs</td>
</tr>
<tr>
<td>SM-7500</td>
<td>1 pcs /29&quot;</td>
<td>5min</td>
<td>0.04-0.08 L</td>
<td>0.6M2</td>
<td>40mm</td>
<td>28pcs</td>
<td>15-25min</td>
<td>0.1-0.2 L</td>
<td>1000<em>1000</em>480</td>
<td>20-30min</td>
<td>6pcs</td>
</tr>
<tr>
<td>SM-8150</td>
<td>✓</td>
<td></td>
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<tr>
<td>SM-8160</td>
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<tr>
<td>SM-8100</td>
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</tr>
<tr>
<td>SM-8400N</td>
<td>✓</td>
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<td></td>
<td></td>
</tr>
<tr>
<td>SM-600</td>
<td>✓</td>
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</tr>
</tbody>
</table>

Technical Data:

- Cleaning agent volume: 55L 180L 45L 50L 30L 40L 60L 60L
- Max cleaning temperature: 60°C 60°C 60°C 60°C 60°C room 50°C 50°C
- Max rinsing temperature: 45°C 50°C 60°C 60°C 60°C 50°C 50°C
- Max drying temperature: 70°C 100°C 80°C 80°C 80°C room 80°C 80°C
- Machine Dimension L*W*H (mm): 1670*1100*1900 6700*1650*1700 1700*1400*1900 1160*1600*1920 1300*850*2100 980*700*1730 2000*1400*1500 1400*900*1320
- Machine Weight: 500KG 3800KG 500KG 500KG 350KG 250KG 400KG-450KG 250KG

www.sam-smt.com
STENCIL CLEAN---SM-8100

PNEUMATIC STENCIL CLEANING SYSTEM

APPLICATION
- SMT Metal stencil for remove solder paste and residual
- Plastic stencil for remove gule

UNIQUE FEATURES
- Completely pneumatic operating without fire risk
- Stainless steel chamber, reliability and durable
- With cleaning and drying process
- Special air exhaust design can reduce clean solvent consumption
- Compressed air drying system
- Chanagable modular design to ensure easy maintenance
- Double clean tank available (option)
- Easy maintenance

CONTROL SYSTEM
- Operation panel Control
- Cleaning and drying time adjustable

CLEAN PROCESS

<table>
<thead>
<tr>
<th>Step</th>
<th>Spray Cleaning</th>
<th>Drying</th>
</tr>
</thead>
<tbody>
<tr>
<td>Solvent</td>
<td>IPA /Alcohols</td>
<td>Compressed air</td>
</tr>
</tbody>
</table>

PROCESS DIAGRAM

CLEAN ROOM

www.sam-smt.com
ULTRASONIC SWASH---SM-8160

ULTRASONIC + SPRAY IN AIR STENCIL CLEANING SYSTEM

APPLICATION
- High precision metal stencils

UNIQUE FEATURES
- Touch-based ultrasonic combination with spray cleaning method
- Auto add & drain cleaner system
- Stainless steel filter, more durable
- 4 clean process, all process totally separated
- LED Panel light detection
- Compressed air wind shear nozzle drying
- Low clean agent consumption

CONTROL SYSTEM
- PLC Control Touchscreen
  Temperature, cycle time and conductivity controlled

CLEAN PROCESS

<table>
<thead>
<tr>
<th>Step</th>
<th>Spray Cleaning</th>
<th>Ultrasonic Cleaning</th>
<th>Rinsing</th>
<th>Drying</th>
</tr>
</thead>
<tbody>
<tr>
<td>Solvent</td>
<td>Water-based</td>
<td>Water-based</td>
<td>Tap Water</td>
<td>Compressed air</td>
</tr>
</tbody>
</table>

WORKING PRINCIPLE

CONTROL TOUCHSCREEN

www.sam-smt.com
SUPER SWASH---SM-8150

HIGH PRESSURE SPRAY CLEANING SYSTEM

APPLICATION

- SMT/SOP stencil and print glue fixtures Cleaning
- Misprint and low volume PCBA Cleaning
- SMT Printer squeegee Cleaning

UNIQUE FEATURES

- Double liquid tank, equipped with heating system
- Stepper motor control spray lance reciprocating spraying, can choose spraying area
- With counting function, automatic count stencil cleaning number and recycle times
- Clean pressure adjustable, wide visual window
- Resistivity monitoring rinse water, ensure cleanliness
- Low clean solvent consumption, compressed air recovery residual liquid
- Stainless steel chamber and filter, Durable and corrosion resistance
- Automatic drainage system, convenient management and maintenance

CONTROL SYSTEM

- PLC Control Touchscreen 5"
- Temperature, cycle time and conductivity controlled

CLEAN PROCESS

<table>
<thead>
<tr>
<th>Step</th>
<th>Spray Cleaning</th>
<th>Chemical isolation</th>
<th>Rinsing</th>
<th>Drying</th>
</tr>
</thead>
<tbody>
<tr>
<td>Solvent</td>
<td>Water-based</td>
<td></td>
<td>Tap / DI-Water (closed/open loop)</td>
<td>Hot-air</td>
</tr>
</tbody>
</table>

PROCESS DIAGRAM

WIDE VISUAL WINDOW

www.sam-smt.com
SUPER SWASH---SM-7500

HIGH PRESSURE SPRAY CLEANING SYSTEM

APPLICATION
- SMT/SOP stencil and print glue fixtures Cleaning
- Misprint and low volume PCBA Cleaning
- SMT Printer squeegee Cleaning

UNIQUE FEATURES
- Intergrated with cleaning, rinsing and drying process
- Spray chamber adpoted "Nano surface treatment " technology, cavity won’t residual clean solvent, reduce consumption
- Easy process optimization due to glass door
- Efficient air knife for drip-off and fast drying
- DI Water reclaom plant is intergrated, equip with plasma activated carbon filter
- Easy maintanence

CONTROL SYSTEM
- WIN 7 based, PLC Control Touchscreen, LAN connection
- Complete process traceability available
- Barcode reader for product identification (Option)
- Clean solvent concentration measuring (Option)
- Machine event logging
- Week program for automatic start up/shut down
- Remote support
- Intuitive control system
- Three levels password protection

CLEAN PROCESS

<table>
<thead>
<tr>
<th>Step</th>
<th>Spray Cleaning</th>
<th>Chemical isolation</th>
<th>Rinsing</th>
<th>Drying</th>
</tr>
</thead>
<tbody>
<tr>
<td>Solvent</td>
<td>Water-based</td>
<td></td>
<td>Tap /DI-Water (closed/open loop)</td>
<td>Hot-air</td>
</tr>
</tbody>
</table>

PROCESS DIAGRAM

CONTROL TOUCHSCREEN
SOLDER PALLET CLEAN---SM-8400N

AUTOMATIC HIGH PRESSURE SPRAY CLEANING SYSTEM

APPLICATION
- High volume Wave Solder pallets cleaning
- Reflow solder tray & Condenser cleaning
- Mechanical parts cleaning

UNIQUE FEATURES
With Clean and rinse solvent real-time circulation filtration system
- Adjustable spray pressure, 720 degree rotation clean basket without clean blind
- Stainless steel filter cleanable
- Auto add & drain clean solvent
- Easy setting and operation
- Low clean solvent consumption, low noise
- High clean capacity, saving labor cost

CONTROL SYSTEM
PLC control Touchscreen 5"
- Temperature, Cleaning and drying time controlled
- Setting and monitoring of all process parameters
- Password protection

CLEAN PROCESS

<table>
<thead>
<tr>
<th>Step</th>
<th>Spray Cleaning</th>
<th>Spray Rinsing</th>
<th>Drying</th>
<th>Drying</th>
</tr>
</thead>
<tbody>
<tr>
<td>Solvent</td>
<td>Water-based</td>
<td>Tap water or DI-Water</td>
<td>High pressure wind-shear</td>
<td>Hot-air</td>
</tr>
</tbody>
</table>

ROTATION CLEAN BASKET

CONTROL TOUCHSCREEN

www.sam-smt.com
SQUEEGEE CLEAN---SM-600

SPRAY IN AIR SQUEEGEE CLEANING SYSTEM

APPLICATION
- SMT Squeegee Cleaning

UNIQUE FEATURES
- Innovative design, rotation ultrasonic combination with spray clean
- Equip with pneumatic pump, auto add and drain clean solvent
- Inching holder, easy load unload squeegee
- Install with solder paste reclaim bags
- Stainless steel chamber and filter, Durable and corrosion resistance
- Easy setting & operation
- Easy maintenance

CONTROL SYSTEM
- PLC Control touchscreen
  - Temperature, cycle time and conductivity controlled

CLEAN PROCESS

<table>
<thead>
<tr>
<th>Step</th>
<th>Spray Cleaning</th>
<th>Ultrasonic Immerse Cleaning</th>
<th>Ultrasonic Immerse Rinsing</th>
<th>Drying</th>
</tr>
</thead>
<tbody>
<tr>
<td>Solvent</td>
<td>Water-based</td>
<td>Water-based</td>
<td>Tap water/DI-Water</td>
<td>Hot-air</td>
</tr>
</tbody>
</table>

SOLDER PASTE RELAIM DEVICE

CONTROL TOUCHSCREEN

www.sam-smt.com
COMPACLEAN---SM-5600

HIGH PRESSURE /HIGH VOLUME CLEANING SYSTEM

APPLICATION
- High capacity & low process cost PCBA cleaning
- High volume misprint PCB Cleaning
- Solder pallet cleaning

UNIQUE FEATURES
- Fixed nozzle system
- Basket oscillation
- Uniform covering of cleaned area
- All processes totally separated
- Closed DI Water loops available
- 4 step process, each splitted to 5 substeps
- Easy Maintenance

CONTROL SYSTEM
- PLC control Touchscreen or WIN 7 Based, LAN connection
- Complete process traceability available
- Barcode reader for product identification (Option)
- Cleaner concentration measuring (Option)
- Machine event logging
- Week program for automatic start-up/shut down
- Remote support
- Intuitive control system
- Adaptive rinsing cycle time control
- Three levels password protection

OPTIONAL CONFIGURATION

<table>
<thead>
<tr>
<th></th>
<th>Spray Cleaning</th>
<th>1 Rinsing</th>
<th>2 Rinsing</th>
<th>Drying</th>
<th>Recommended use</th>
</tr>
</thead>
<tbody>
<tr>
<td>SM-5600I</td>
<td>Water-based</td>
<td></td>
<td></td>
<td>Hot air</td>
<td>Various parts</td>
</tr>
<tr>
<td>SM-5600IR</td>
<td>Water-based</td>
<td>Tap water</td>
<td></td>
<td>Hot air</td>
<td>Solder pallets, Various parts</td>
</tr>
<tr>
<td>SM-5600II</td>
<td>Water-based</td>
<td></td>
<td>Di-Water</td>
<td>Hot air</td>
<td>Misprint PCB</td>
</tr>
<tr>
<td>SM-5600IR</td>
<td>Water-based</td>
<td>Tap water</td>
<td>Di-Water</td>
<td>Hot air</td>
<td>PCB Assembly, Misprint PCB</td>
</tr>
<tr>
<td>SM-5600III</td>
<td>Water-based</td>
<td>Pre Di-water</td>
<td>Di-Water</td>
<td>Hot air</td>
<td>PCB Assembly, Misprint PCB</td>
</tr>
</tbody>
</table>

www.sam-smt.com
IN-LINE CLEANING SYSTEM---SM-8800

HIGH CAPACITY CLEANING SYSTEM

APPLICATION
- Highest capacity & low process cost PCBA cleaning
- High volume misprint PCB Cleaning

UNIQUE FEATURES
- In-line complete cleaning, rinsing and drying process.
- Excellent clean effect to remove Water-soluble flux, organic and inorganic pollutants.
- Stainless steel body with good reliability.
- Wind shearing water section + hot-air circulation drying section.
- Option spray cleaning knife for better clean effect.
- Low equipment investment cost.
- UPS standby power supply system.

CONTROL SYSTEM
- 10 inch PC control, Chinese/English operation interface.
- Capacity counting system and off pcb sensor system.
- Rinse water resistivity water quality monitoring system.
- Chemical filtration system.
- PID temperature control system.

OPTIONAL CONFIGURATION

PCB Load → Pre-clean → Cleaning → Chemical isolation → Rinse I → Rinse II → Rinse III → Spray → Wind sharing water I → Wind sharing water II → Hot air circulation dry → Unload

PROCESS DIAGRAM

CLEAN SECTION

www.sam-smt.com