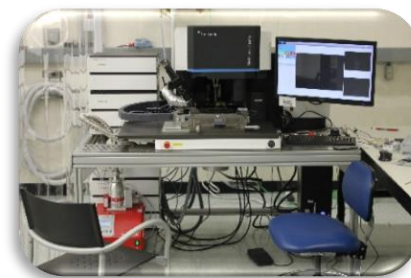


DIE ATTACH

Die attach is the process of electrically connecting an active or passive element to a substrate. Our service include attachment via solder paste through a reflow oven, solder preforms through a vacuum oven or with brazing materials in a vacuum furnace for extreme environments. Die can also be connected via gold bumps by ultrasonic agitation.

Finetech Sigma 2406 Die Bonder: The Finetech Sigma 2406 die bonder is capable of attaching components with placement accuracy up to +/- 0.5 micron. System supports a multitude of bonding technologies including thermo-compression, thermosonic and ultrasonic.

1. Work size: 100mm²
2. Chip/Substrate temperature: Up to 450°C
3. Ultrasonic specifications: 40W @60KHz
4. Charge: \$60/hour (academic)



Sikama 5/C Reflow Oven: The Sikama 5/C has four (4) heat zones controlled both above and below the sample to allow for individual adjustment for most solder reflow applications blanketed by nitrogen gas during the reflow process to avoid unwanted oxidation.

1. Work size: 125.4mm x 144mm
2. Operating temperature: Up to 420°C
3. Temperature zones: 4
4. Charge: \$10/hour plus N₂ @\$20/hour (academic)



SST 3130HT Brazing furnace: This vacuum furnace is the HT option able to heat up to 700°C in an inert gas (4% hydrogen in nitrogen).

1. Work area: 100mm x 125mm
2. Operating temperature: Up to 700°C
3. Vacuum range: ~50mTorr
4. Pressure range: Up to 50psig
5. Charge: \$60/hour (academic)



SST 5100 Solder vacuum oven: The programmable vacuum furnace is routinely used to obtain void-free solder joints without the use of flux. This unit has a formic acid preclean cycle run at 210°C and a reflow heat limit of 450°C in an inert gas (4% hydrogen in nitrogen).

1. Work area: 300mm x 300mm
2. Operating temperature: Up to 450°C
3. Vacuum range: ~40mTorr
4. Pressure range: Up to 40psig
5. Charge: \$60/hour (academic)



DIE ATTACH

The items listed here include peripherals closely related to the operation of the die attach process that users may find beneficial.

Diener electronic PICO 5: A plasma ash chamber tool plumbed with oxygen (O_2) to selectively remove organics then argon (Ar) to remove any oxide created during the oxidation run. Generally, a three-minute oxygen clean then a five-minute argon clean is used prior to a solder reflow or wire bond process.

1. Work size: 125mm x 300mm
2. Power: 150W
3. Charge: \$10/hour (academic)



Fisher Isotemp 281A Vacuum Oven: The Fisher Isotemp vacuum oven is used to cure epoxies, encapsulants, solders, and other materials that do not give off chemical residues. Simple design with a knob to initiate a vacuum then another knob to purge the chamber with nitrogen to bring the chamber back to atmosphere.

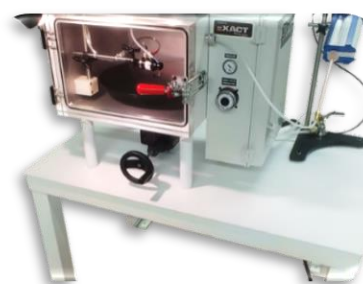
1. Work size: 200mm x 200mm
2. Operating temperature: Up to 280°C
3. Charge: \$3/hour (academic)



Exact Dispensing VC-18 Vacuum Chamber

System: Vacuum chamber designed to create a vacuum environment while dispensing encapsulant to insure void free coverage.

1. Work size: 300mm diameter
2. Vacuum range: ~2 Torr
3. Charge: \$60/hour (academic)



SIEG 3501 CNC Milling Machine: The model 3501 is a full CNC milling machine that provides three axis machining and is used to provide graphite fixtures for the SST 3130HT and 5100 to ensure parts do not move during the braze or reflow process.

1. Work envelope: 259mm x 109mm x 180mm
2. Positioning accuracy: 10 microns
3. Charge: \$10/hour (academic)

