Esec 2100 SSI

Solution for High Power Packages

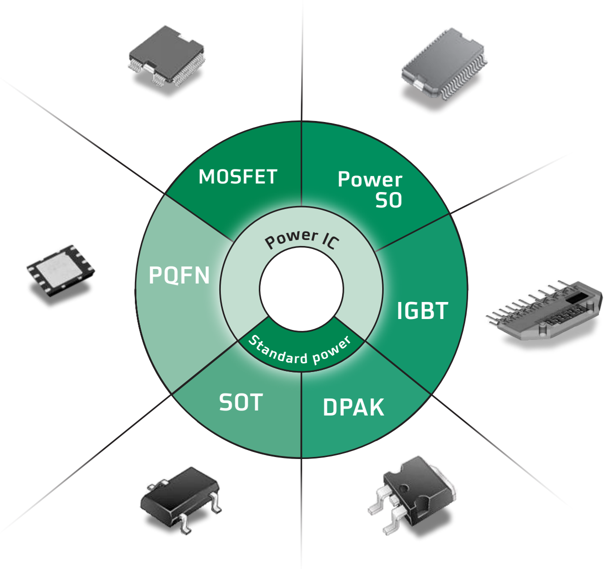
The latest member of the field proven DB 2100 Machine family combines the revolutionary Phi-Y Pick & Place concept with a new Soft Solder Indexer SSIN. This new, more flexible Indexer in conjunction with the all new Dispensing and Pre-pressing System (Dual-Dispensing-Ready) provides the best possible solution to process Soft Solder for today's challenging High Power Packages.

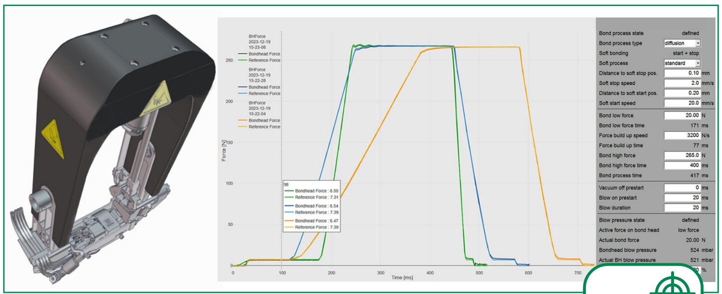
The Esec 2100 SSI guarantees to be the most flexible and capable Die Bonder for Soft Solder and Diffusion Soldering for the time to come.

Flexibility and Capability

- Highest productivity
- Accuracy: 50 µm @ 3σ
- Efficient strip conversion
- Reduced number of dedicated parts
- Enhanced process control
- Process flexibility
- Thin die capability
- Future process upgradability

Future Proof Equipment

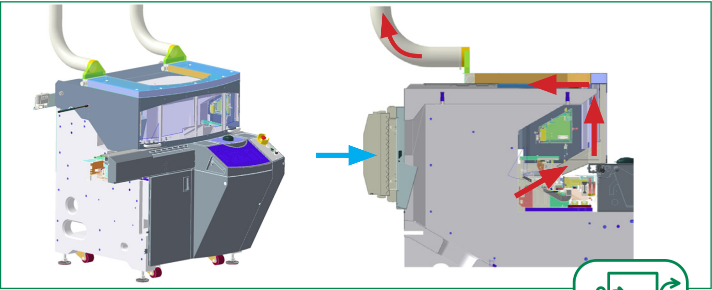




Bond process state defined
Bond process type diffusion
Soft bonding start + stop
Soft process standard
Distance to soft stop pos. 0.10 mm
Soft stop speed 2.0 mm/s
Distance to soft start pos. 0.20 mm
Soft start speed 20.0 mm/s
Bond low force 20.00 N
Bond low force time 171 ms
Force build up speed 3200 N/s
Force build up time 77 ms
Bond high force 265.0 N
Bond high force time 400 ms
Bond process time 417 ms
Vacuum off prestart 0 ms
Blow on prestart 20 ms
Blow duration 20 ms
Blow pressure state defined
Active force on bond head low force
Actual bond force 20.00 N
Bondhead blow pressure 524 mbar
Actual BH blow pressure 521 mbar

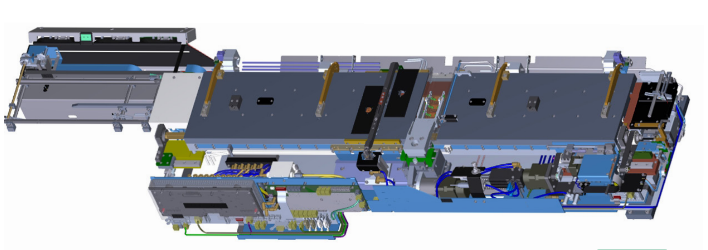
Speed & Accuracy

- Superior "light & rigid" P&P design
- Accurate high performance 5-axis system
- Advanced real time trajectory controller
- Closed loop high bond force control (300 N option)
- Programmable low to high bond force ramp (300 N option)
- Display of bond force curve during process setup (300 N option)



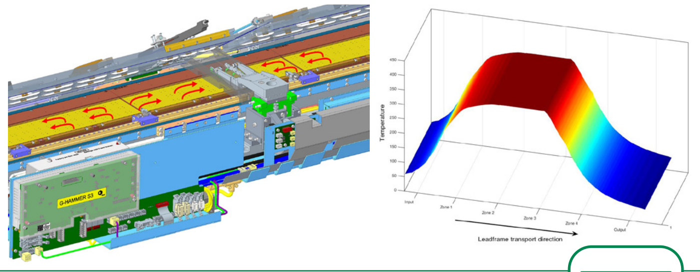
Machine Climate

- Cooling air and gas flow supervision
- Controlled laminar air flow
- Extraction of hot forming gas
- Controlled cool down after power down
- Particle removal kit (option)



Soft Solder Indexer SSIN

- Handling of strips up to 300 x 102 mm
- Process Down Holders with up to 75 N force
- Smart Push-In (SPI) and Smart Push-Out (SPO)
- Convenient application data import via product kit dongle
- Enhanced application flexibility by minimizing dedicated parts



Oven and Atmosphere

- Advanced atmosphere control
- 4 programmable gas flow zones
- Air cooling and vacuum flow monitoring
- 8 programmable heater zones with max. 8 kW
- Accurate and flexible temperature profile settings

Machine Dimensions

- Footprint: W x D x H: 2500 x 1448 x 1400 mm
- Weight: approx. 1650 kg

Supply Requirements

- Voltage: 208 - 240 VAC 1P / 3P Delta (@ 47 - 63 Hz)
- Voltage: 360 - 415 VAC 3P Wye (@ 47 - 63 Hz)
- Power rating: typical 3000 VA, max. 10500 VA
- Compressed air: min. 5.2 bar
- Vacuum: min. -0.75 bar
- Forming gas: min. 2.2 bar

Wafer and Die Dimensions

- Wafer size: 4" - 12"
- Frame size: 8" - 12"
- Die size: 0.5 - 15 mm
- Die thickness: > 0.075 mm

Leadframe Size

- Width: 15 - 102 mm (max. 4")
- Length: 90 - 300 mm
- Thickness: 0.1 - 2.0 mm
- Downset: max. 2.5 mm

Process

- Bond force: 0.2 - 50 N (300 N optional)
- Bond rotation 360°
- 4 programmable gas flow zones
- 8 programmable heating zones

Accuracy / Productivity

- 50 µm / 0.8° @ 3σ (Soft Solder)
- 35 µm / 0.5° @ 3σ (Eutectic / Diffusion)
- Dry cycle: 265 ms
- MTBF: > 200 h