



Making the connected world possible™

SST 3150

HIGH VACUUM FURNACE

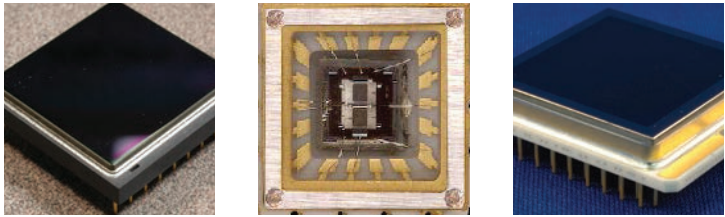
Low gas pressure hermetic package sealing



SST 3150

HIGH VACUUM FURNACE

The Model 3150 is designed to create high reliability MEMS packages. Packages are hermetically sealed with very low vacuum and moisture levels for extended, long term performance.



- **High Vacuum Capability**

Low gas pressure MEMS packages

- **Optional Cryogenic Water Pump**

Extremely low levels of residual water vapor

- **Turbomolecular Pump**

Vacuum to 10^{-7} Torr or lower

- **Pressure to 12 psig**

Collapses solder voids

- **Automated Linear Motion Stage**

Provides component separation and getter activation

- **Resistive Graphite Heat System**

Precise heat control of components

- **Proprietary Run Analyzer Software**

Run analyzer provides ability to graphically review data from logged profiles and export data

SELECTED 3150 OPTIONS

- Customized Graphite Tooling
- Extended Temperature Range (1000°C)
- Residual Gas Analyzer (RGA)
- Thermal Getter Activation
- Multiple Zone Temperature Recording
- Moisture Level Analyzer
- Cryogenic Water Pump
- Water Chiller/Recirculator
- Status Light
- CE Certification

TYPICAL APPLICATIONS

- MEMS Package Sealing
- Hermetic Package Sealing
- Wafer Level Packaging
- Low Moisture Package Sealing
- Military Electronic Package Sealing
- Infrared Sensor Package Sealing
- Crystal Oscillator Package Sealing
- Void-Free Eutectic Die Attach
- Nobel Gas Miniature Lamp Sealing

THERMAL GETTER ACTIVATION

Programmable lid package separation with unique two temperature zone technology to enable effective thermal getter activation during profile run

USER-FRIENDLY SOFTWARE

Clean, user-friendly software makes it easier for operators to use the machine and for programmers to efficiently develop profiles and perform real-time process analysis.

- **Automated Temperature and Pressure Control**

Consistent and reliable execution of process profiles

- **Distributed logic control system**

Automatic control with real time graph & data logs

- **In situ Thermal Getter Activation**

Maintains long term low vacuum within package

- **Real-Time Graphing of All Profile Runs**

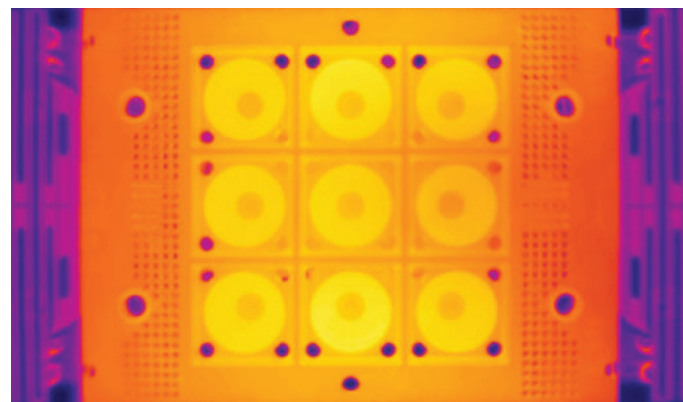
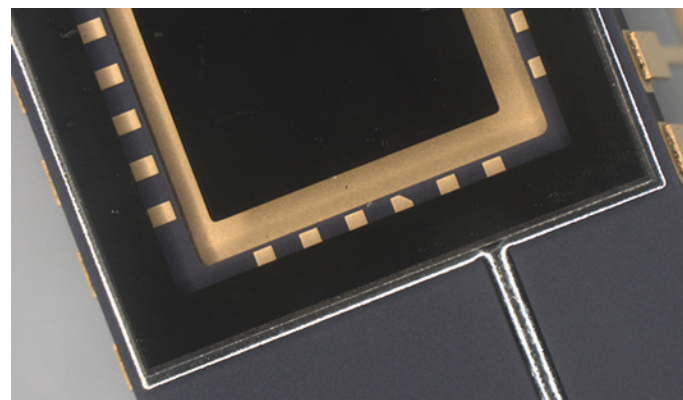
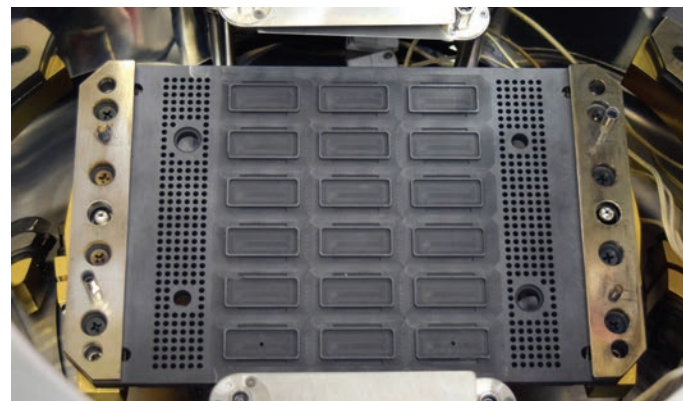
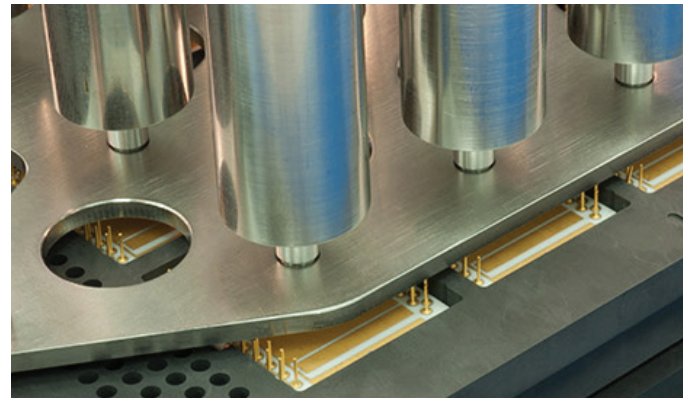
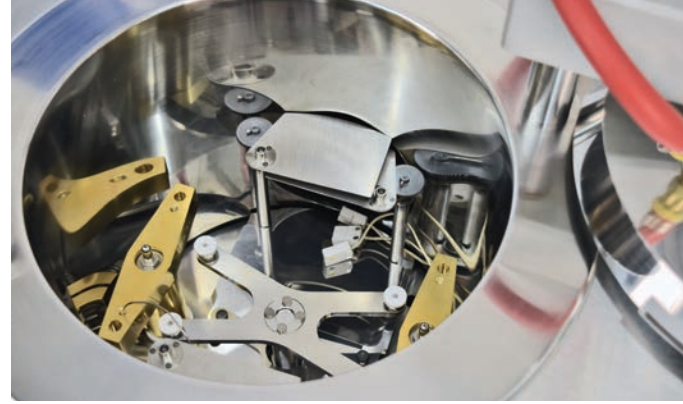
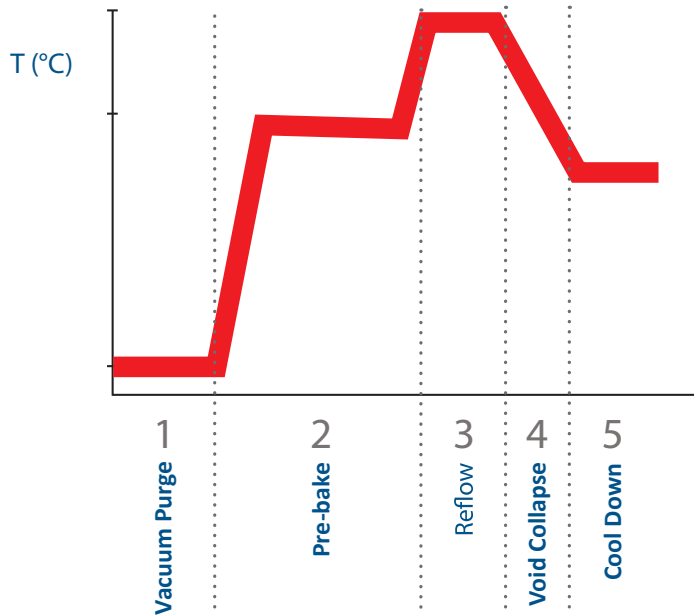
Visual proof of correct profile, plus archiving for future analysis

- **Temperature Up To 1000°C (Optional)**

Wide range of solder alloys & other interconnect materials



Typical Temperature Profile



PERFORMANCE & SPECIFICATIONS

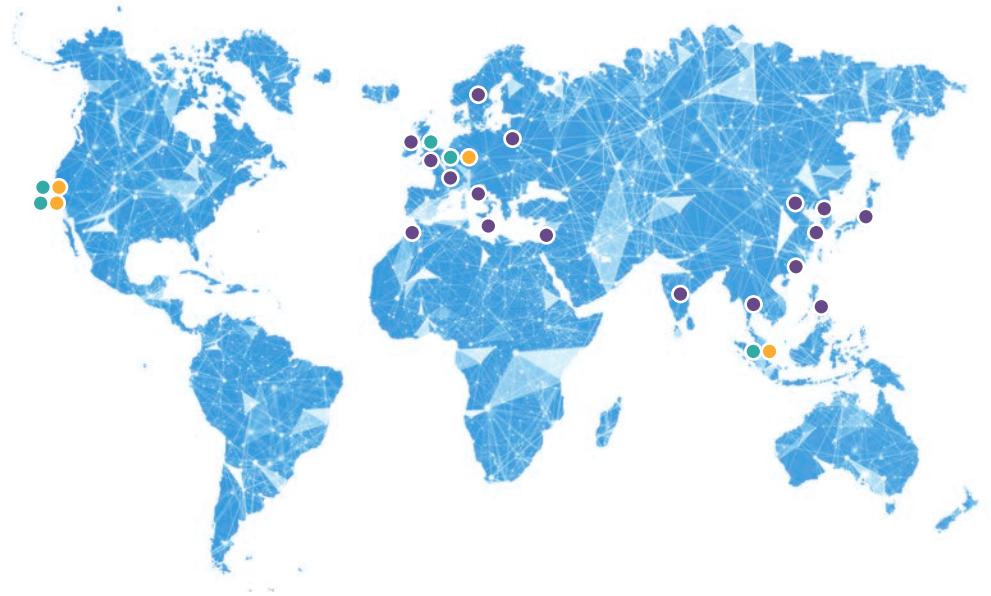
Operating Temperature Range	Room Temperature to 500°C (1000°C option)
Thermal Work Zone	25" ² (160 cm ²)
Minimum Vacuum Level	< 1 x 10 ⁻⁷ Torr (1.3 x 10 ⁻⁷ mBar)
Maximum Chamber Gas PSI	15 psig (1.8 bar)
Chamber Depth	12" (305 mm)
Work Surface Height	37" (95 cm) adjustable
Compressed Air Required	90 psig (7 bar)
CE Certified	Available
Cooling Method	Programmable nitrogen purge
Heating Method	Removable resistive graphite fixture
Process Gases (three inputs)	N ₂ required, (Ar, He, forming gas optional) @ 90 psig (7 bar) minimum pressure
Dimensions (W x D x H)	94" x 43" x 54" (238 x 109 x 137 cm)
Weight	1800 lbs (816 kg)
Electrical (specify voltage)	208-240 volts, 60 amps, 50/60 Hz, 1 phase, 7.3 kilowatt average, 13.2 kilowatt peak
Vacuum Pump Type	Turbomolecular Drag (optional Cryogenic Water Pump)
Cooling Water (Required)	2 gpm (8 lpm) @ 20-25°C, 2 kilowatt capacity minimum

Technical Specifications are subject to change.



Making the connected world possible™

Making the connected world possible by delivering a Total Process Solution™ for advanced photonic and microelectronic device assembly processes utilized in today's smart, connected devices. With a focus on flexibility, speed, and accuracy, Palomar's Total Process Solution includes die bonders, wire and wedge bonders, vacuum reflow systems, along with Innovation Centers for outsourced manufacturing and assembly, and Customer Support services, that together deliver improved production quality and yield, reduced assembly times, and rapid ROI.



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