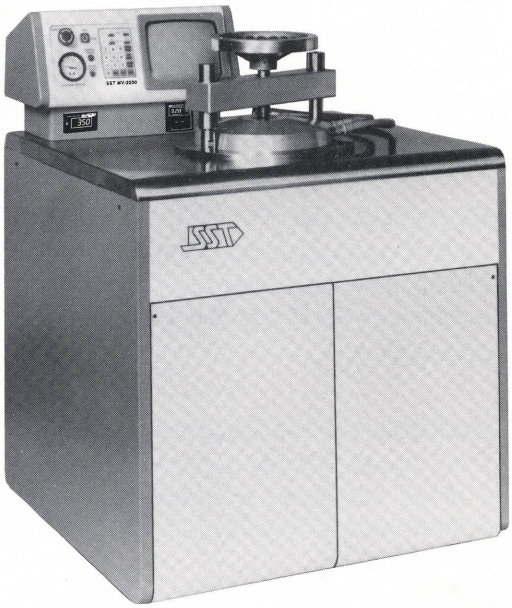
Enhanced Vacuum Process Furnace

Model MV-2200

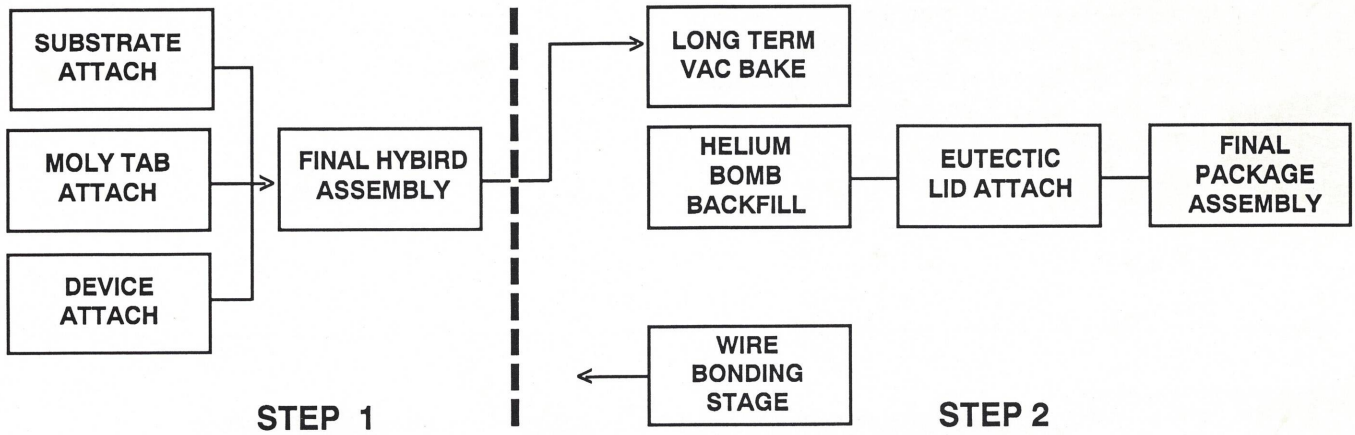
For Hermetically Sealing Components In Vacuum, Low Moisture Environments

Performance Benefits

- The MV-2200 provides all of the process and environmental controls available in the DAP 2200 furnaces.
- Environmental control improved through the application of a 16 CFM two stage vacuum pump. The vacuum range, now extended to 10-2 Torr further insures lower package moisture levels.
- Lower vacuum levels accompanied by the optional capability to extend insitu vacuum bake. Can control moisture levels to < 100 ppm.
- Electro polished process chamber insures rapid pump down.
- High reliability chamber design insures vacuum integrity.



SPECIFIC HIGH RELIABILITY APPLICATIONS (2 STEP PROCESS)



STEP 1

Insitu vacuum bake or optional extended vacuum bake accompanied by higher vacuum further improves the ability to remove residual moisture and organic contaminants. The ability to provide void free die attach through the application of precise repeatable programmable temperature control is further enhanced by the higher 10-2 Torr vac system die attach. Virtually void free may be accomplished by following the vac cycle by a positive pressure—to 30 psi nitrogen backfill during the eutectic reflow.

STEP 2

Gas valving allows for helium backfill to facilitate fine leak testing. No need for elaborate bombing systems. Rapid heating and positive backfill pressure result in a uniform eutectic fillet, easily achieving leak rate <10-8 ATM cc/sec

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Selected MV-2200 Optional Equipment

Cooling Fan Assembly P/N 500-B491

This is used to cool the graphite tooling when it is removed from the vacuum furnace chamber. This cuts cooling time by 3 to 4 times. The unit is 12" x 11" x 9" high and operates on 110 volts.

Computer for Program Storage P/N 20-0600

An IBM compatible computer system is available for storing unlimited amounts of programs. The computer is readily interfaced with the furnace through an RS-232 Data Link.

Cooling Water Recirculation System

The vacuum furnace requires a constant water flow to cool the chamber's, electrodes & heat exchanger. Two different capacity units are offered.

1. P/N 20-1530	5 K BTU/HR	DIM. 23"H x 14"W x 19"D
2. P/N 20-1260	12 K BTU/HR	DIM. 34"H x 37"W x 27"D

Moisture Analyzer w/ Digital Readout (Factory Installed) P/N 20-1280

This instrument is a hygrometer for application in the chamber gases and consists of a gold/aluminum oxide sensor probe. The microprocessor controlled electronics module continuously calculates dew point temperature (°C) and moisture in ppm. A 4-character display is mounted in the lower control panel.

Multiple Thermocouple Assembly (Factory Installed) P/N 20-2163

This assembly permits the use of four additional thermocouples within the vacuum chamber. The microprocessor pedestal includes a rotary selector switch and an extra digital readout.

General Specifications

• ELECTRICAL

VOLTAGE/AMP . . . . . 200, 208, 220, 240 VOLTS
50/60Hz Single Phase, 100 AMPS
MAX POWER CONS 21KVA

• MECHANICAL

COOLING WATER PRESSURE . 40 PSI MIN. 2-3 GPM 60-70 °F
DRY NITROGEN . . . . . .80 PSI MAX

• SIZE

HEIGHT . . . . . 48 INCHES
DEPTH . . . . . 33 INCHES
WIDTH . . . . . .34 INCHES
SHIPPING WEIGHT (APPROX.) . . . . . .900 POUNDS

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