**Features**

Advanced Variable Frequency Microwave (VFM) source provides uniform, component safe heating

Remote and self-hosted modes of control

Agile control architecture for precise open or closed loop control of energy transfer

Flexible interface design for embedding into process tools or manufacturing cells

**Benefits of VFM Technology**

- Faster, controlled cure of adhesives, epoxies, encapsulants and other chemical systems
- Rapid cure of polyimides at reduced temperatures
- Unique material assemblies and bonding geometries are possible due to selective and sub-surface energy absorption characteristics of VFM
- Less time at temperature as well as selective heating work to reduce stress and provide for a wider range of material choices
- Reduced heating time also saves on an assemblies’ valuable thermal budget allotment
- Less Work In Process (WIP) reduces loss incurred in cases when unscheduled production line stoppages occur
- VFM requires less energy and floor space

The Source 1600 is our most flexible Variable Frequency Microwave system for process development and OEM system development, allowing remote cavity placement for in-situ and inline processing.

**About Lambda**

Lambda Technologies has pioneered the application of Variable Frequency Microwave heating for materials processing. We develop and sell microwave process tools and provide microwave process development assistance.
Specifications
Microwave Source Options*

C-Band
100 Watt, 5.8–7.0 GHz  (1600-C100)
200 Watt, 5.8–7.0 GHz  (1600-C200)
400 Watt, 5.8–7.0 GHz  (1600-C400)
700 Watt, 5.8–7.0 GHz  (1600-C700)

X-Band
400 Watt, 7.9-8.4 GHz.  (1600-X400)

KU-Band
400 Watt, 13.75-14.5 GHz.  (1600-K400)
700 Watt, 13.75-14.5 GHz.  (1600-K700)

*Other bands and higher power sources are available by request.

Controls
Embedded PC for Self Hosting
• GUI Control application with recipe generation and data logging.
• Application Programming Interface libraries and examples for remote control.
• TCP/IP & RS232 host interface.
• SECS / GEM (option).

Standard Cavities
(NOTE: SPECIAL CAVITIES ARE ALSO AVAILABLE FOR APPLICATION SPECIFIC REQUIREMENTS)

General Material Processing
Dimensions  16”x14”x13” HWD
Construction  Aluminum
Ports  Std. 6” Cir., 3 sides.
Door  Manual front door, full opening.

Vacuum and Controlled Atmosphere
Dimensions  16”x14”x13” HWD
Construction  Stainless, Electropolished
Ports  2xCF40, 2xCF25, 3x 0.25” VCR
Door  Viton O-ring, manual operation.

Available Fittings
Cut-off Chokes  Sizes to 1” OD.  Brass.
Hybrid Chokes  Sizes to 10” W x 0.5” H
Doors  Rect. & Circular, w/ Safety Switches.
Vacuum  MW & IR transparent windows.

VFM / Convection Hybrid**
Option 1 : Independently controlled forced convection heating.
Option 2 : Independently controlled cavity wall heaters.
** Enables high temp. operation for low power MW sources.

Sensors
Standard
• Non-Contact IR Pyrometer
  (20 – 800 °C).

Optional
• Fiber Optic Contact Probes
  (1 to 4 Channels, 20 – 275 °C)
• Thermocouple Controller
  (20 – 1000 °C, specify junction type).

Electrical
700 & 400 Watt Systems:
  Single phase, 230VAC, 20 Amp
200 Watt and Below:
  Single phase, 120VAC, 20 Amp
Meets CE Safety Standards.

Mechanical
Dimensions  41”x24”x34” HWD
Weight  220 lbf.
19” Rack Mount Enclosure
Anodized aluminum tooling plate with ¼-20 threaded holes for ease of cavity mounting and custom component fixturing.

Lambda Technologies™
860 Aviation Parkway, Suite 900
Morrisville, NC  27560
Tel. (919) 462-1919  Fax (919) 462-1929
www.microcure.com