

Features

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

Remote and self-hosted modes of control

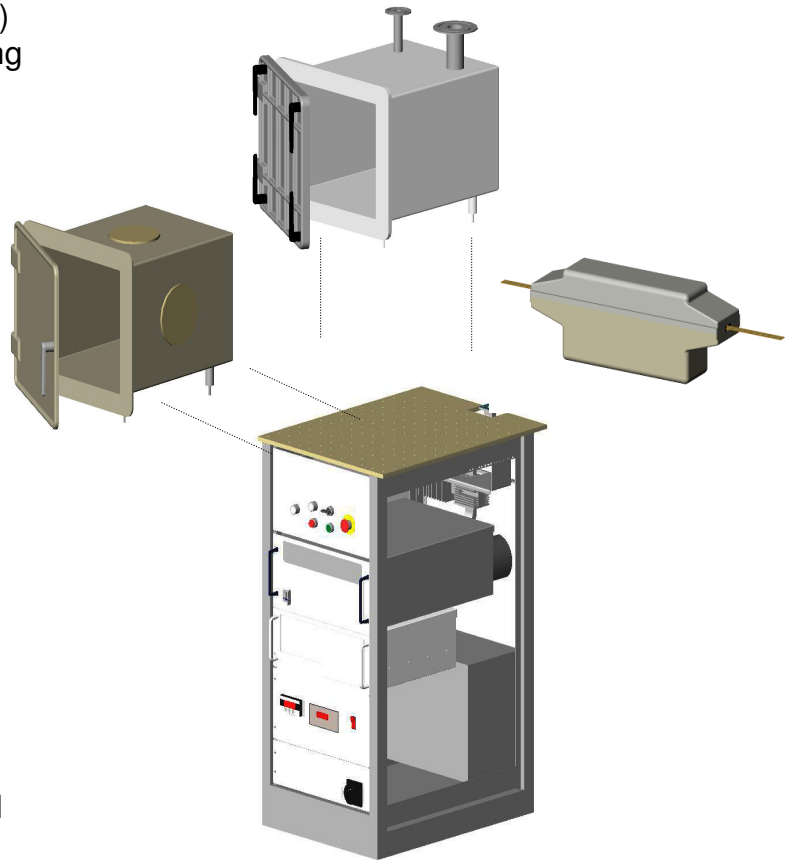
Agile control architecture for precise open or closed loop control of energy transfer

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 state of the art VFM technology can be integrated with conventional heating techniques when balance between the volumetric heating characteristics of VFM and the well known surface heating abilities of convection heating are required.



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

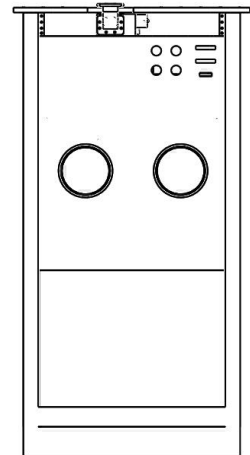
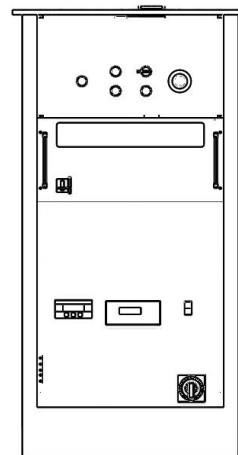
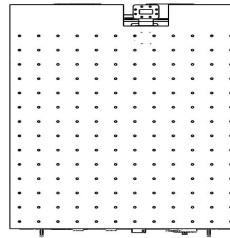
41"x24"x34" HWD

Weight

220 lbf.

19" Rank Mount Enclosure

Anodized aluminum tooling plate with 1/4-20 threaded holes for ease of cavity mounting and custom component fixturing.



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