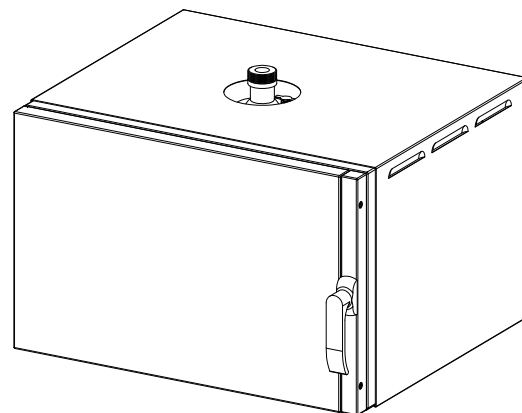


**Multimode Microwave Applicator,
2.45 GHz**

APPROVALS			REVISIONS			
	INITIALS	DATE	REV	DESCRIPTION	DATE	APPR
Drawn	JFG	29JUN07	6	Misc. updates	12APR12	JFG
Engineering			7	Revised part numbers	09AUG12	JFG
Manufacturing						
Marketing						

1.0 General Description

This document describes a high temperature multimode microwave applicator (MMA) designed for laboratory materials process research at 2.45 GHz. While similar to a conventional microwave oven cavity, the MMA is used with external microwave power components (available separately) and thus allows greater flexibility with regard to microwave power control and delivery than is possible using a conventional microwave oven. Standard features include ports for gas delivery and sensors, a mode stirrer for enhanced cavity field uniformity and interlock devices for the cavity door and temperature. Optional features include a gimbal mount for an IR camera, bell jar assemblies, internal cavity insulation and customization of gas and sensor ports. GAE can also provide assistance with design and manufacturing of custom apparatus for material processing.



The MMA is constructed almost entirely of stainless steel for rugged durability and high temperature operation. The applicator cavity is thermally isolated from the chassis and insulated to minimize heat transfer to external surfaces. Microwave leakage from the cavity door is nearly eliminated by the use of a dual sealing system consisting of a reactive choke and RF gasket. A removable panel at the rear of the MMA allows access to the rear of the cavity to facilitate the addition of ports or other features that may be required for processing.

2.0 General Specifications

Operating Frequency	2.45 GHz nominal
Microwave Power Input	3 kW continuous maximum with high loss cavity load 1.5 kW continuous maximum with low loss cavity load
Input Flange	CPR284F (UG-1725/U) with ¼-20 tapped holes (also available with CPR340F input flange)
Operating Temperature	250 °C maximum continuous, 500 °C maximum intermittent, 1600 °C with optional internal cavity insulation
Interlocks	Cavity door, cavity over-temperature
Mode Stirrer Power	24 VAC, 50/60 Hz, 30 mA
Electrical Connections	Interlocks: 4-pin "CPC" connector Mode Stirrer: 2-pin "MR" connector (mating connectors are provided)

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Feed-Thru Ports	Swagelok VCO Fitting, size 8, Stainless Steel (one port) Swagelok Tube Fitting, 1/4", Stainless Steel (two ports)
Dimensions	(see outline drawing)
Weight	50 lbs (23 kgm) approximate (standard configuration)
Options	Gimbal mount for IR sensor/camera Bell jar assemblies (vacuum or pressurized) Custom ports (specified by customer)

3.0 Ordering Information

Description

Multimode Microwave Applicator, 2.45 GHz, CPR284F Input Flange
 Multimode Microwave Applicator, 2.45 GHz, CPR340F Input Flange
 IR Sensor Gimbal Mount
 Vacuum Bell Jar Assembly, 12" OD

Part Number

GA6201
 GA6201-340
 912863
 912976

4.0 Outline Drawing

