



Plasmod® Plasma System



Economical Process Developmental Tool

Improved Design

Since its introduction 20 years ago, the March Plasmod has established itself as the compact plasma system. The Plasmod has been used in over 1000 laboratories and facilities throughout the world. It has been used in applications, ranging from etching to deposition. As its reliability and flexibility increased, the Plasmod's applicability extended from the laboratory into production and manufacturing.

The Plasmod now comes with a 250 watt, 13.56 MHz, solid state generator, making the Plasmod capable of delivering the highest power/plasma density available. Also available is a process control module that produces accurate and repeatable runs, as well as providing a one button semi-automatic system.

The strength of the Plasmod lies in the people and expertise behind the product. Our Applications and Customer Service Departments can bring you more than 20 years of experience in Plasma and RF Technology.

Hybrid Cleaning

Plasma cleaning of thin film and thick film hybrid circuits with argon is a safe and effective way to remove epoxy bleed out, baked photoresist, solder flux, or other organic contaminants. Plasma cleaning improves wire bond strength and increases yield and throughput. In fact, documented tests have shown up to a 70% decrease in wire bond failures after plasma cleaning.

To operate, load devices on a perforated aluminum tray and process with argon plasma. A 5-10 minute cycle is generally sufficient. For details, request our Application Notes on cleaning hybrids.

Failure Analysis

Oxygen and CF₄ plasma are used in failure analysis to remove passivation layers including silicon nitride, silicon dioxide, polyimide and oxynitride. It is also used for removing the plastic encapsulation prior to failure analysis. Plasma is a safe, non-destructive process which doesn't damage interconnection patterns, lead bonds or the device itself. For details, request our failure analysis Application Notes.



Analytical Chemistry

Low temperature ashing is an effective means of preparing samples for a wide variety of analytical methods. For example, it is recommended by the EPA for preparing asbestos samples for analysis by microscopy. Oxygen plasma gently oxidizes organic material at low temperatures leaving inorganics such as asbestos structurally intact. Samples such as plant or animal tissue can be ashed leaving inorganics such as asbestos structurally intact. Samples such as plant or animal tissue can be ashed leaving the three dimensional structure intact for analysis microscopy. Since the process takes place at or below 100° C, cations of Na, K, Mg and Ca are 100% retained. Ashing rates are about 1 gram per hour, so adding autotuning and a GCM-200 Process Controller for unattended operation may be desirable. For details, request our Application Notes on low temperature ashing and asbestos analysis.

Stripping Photoresist

The Plasmod system is useful for stripping photoresist from wafers. Oxygen plasma effectively removes photoresist from silicon or GaAs wafers. The Plasmod was one of the first systems used for stripping in the early 1970's and is still used extensively today. Automation of the system allows easy and unattended operation. Stripping rates are approximately 1000 angstroms per minute.

Other Applications

The possibilities of the plasma technique are endless. Other applications for the Plasmod system include cleaning of optical devices, medical devices, and other glass, plastic or ceramic parts for improved adhesion and wettability. Our Applications Specialists are ready to help you with your particular application. To arrange for this service or to discuss your specific application, just give us a call.

PLASMOD Specifications

Dimensions:	11.1" H (27.9 cm) x 12" W (30.5 cm) x 17" D (43.2 cm)
Weight:	36 lbs.
Chamber:	Pyrex, 5.9"L (15 cm) x 4.15" D (10.5 cm)
RF Generator:	Solid State Power Level: 0 - 250 watts Output Frequency: 13.56 MHz
Tuning:	Automatic variable matching network
Facilities:	Process gas: delivery system to adapt to Required 1/4" Swagelock fittings and operate at 10 - 15 psi Power: 115 VAC 50/60 Hz 15 amp line service 100 V and 220 V units also available 2 outlets (for Plasmod and pump) Exhaust: filter or exhaust line to outside

PLASMOD Accessories

Gas Control Modules: The GCM-200 has automatic sequencing which automates the system so that pushing a single switch initiates the entire process.



	GCM-200
Digital Timer	0-99 min. 59 sec.
Timer Display	Displays elapsed time
Operating Pressure	0-1 torr adjustable setpoint
Gas Channels	2
Gas Flow	0-50cc/min of air at STP
Dimensions(H x W x D)	9" x 11.6" x 12.8"
Weight	13 lbs.

March's strength lies in the people and expertise behind the products. Our applications and customer service departments bring to you more than 20 years of experience in plasma RF technology.

Nordson Plasma Systems reserves the right to make design changes to products and components to improve their function. These changes may occur between printings.

March
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