

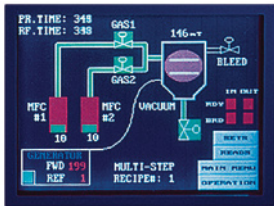
AP-1000 Plasma System

March
A NORDSON COMPANY

Uniform plasma treatment for the most demanding production environments.

March Plasma System's AP-1000 plasma system is designed to meet the rigorous demands of 24-hour operation. The system delivers uniform plasma treatment with unmatched reliability, safety and ease of operation.

The AP-1000 platform is completely self-contained, requiring minimal floor space. The pump, chamber, control electronics, and 13.56 MHz power supply are housed in a single enclosure. Full front access allows for convenient access to all interior components. The pump is positioned on rollers for easy removal.



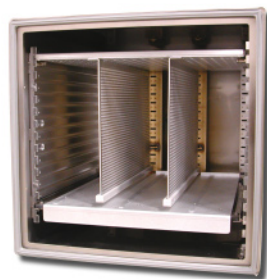
The plasma chamber is constructed of 11-gauge stainless steel with aluminum fixtures for superior durability. The chamber has multiple removable and adjustable shelves to accommodate a range of part carriers including magazines, trays, wafer and Auer boats.

Optional AP-1000 HTP for enhanced productivity

The AP-1000 plasma system with HTP (high throughput) shelves combines the reliability and process quality of the AP-1000 system with the proven benefits of March's proprietary shelf design. The AP-1000 HTP optimizes use of the reactive ions found in RF plasma, increasing treatment uniformity while decreasing process time.

The AP-1000 HTP system allows selection from a range of process gases such as argon, hydrogen, and helium. It comes standard equipped with four mass flow controllers for optimal gas control.


Slotted magazines are placed vertically inside the chamber. Typically, each magazine holds a minimum of 20 lead frames. The plasma chamber holds up to 12 magazines depending on magazine size.



March AP-1000 Plasma System

Features and Benefits

- PLC controller with touch screen provides an intuitive graphical interface and real time process representation
- Flexible shelf architecture allows processing of a wide variety of part carriers in either direct or downstream plasma mode
- The 13.56 MHz power supply has automatic impedance matching for unparalleled process reproducibility
- Proprietary software control system generates process and production data for statistical process control

System Specifications		AP-1000 HTP Configuration:	
Enclosure	Powder-coated aluminum Completely houses the process chamber, electronics, pump and generator	Magazines	Maximum Magazine Size
		6	105 W x 278 H x 216 L (mm); 4.13 W x 10.94 H x 8.5 L (in.)
		8	70 W x 143 H x 205 L (mm); 2.75 W x 5.63 H x 8.1 L (in.)
Footprint	697 W x 1513 H x 1127 D (mm) 27.44 W x 59.56 H x 44.4 D (in.)	12	105 W x 139 H x 216 L (mm); 4.13 W x 5.47 H x 8.5 L (in.)
Chamber	Construction: Stainless steel 11 AWG Aluminum fixtures Internal chamber dimensions: 457 W x 457 H x 610 D (mm) 18.0 W x 18.0 H x 24.0 D (in.) Maximum number of adjustable shelves: 14 Power shelf working dimensions: 349 W x 425 D (mm) 13.74 W x 16.73 D (in.) Ground shelf working dimensions: 384 W x 425 D (mm) 15.1 W x 16.73 D (in.)		
RF Power	600 W, solid state Variable automatic tuning		
Gas Control	Up to 4 mass flow controllers		
Controller	PLC with touch-screen interface		
Pump System	1415 LPM (50 CFM) with oil mist eliminator Prepared, charged and tested with Krytox® fluid for oxygen use		
Facility Requirements	Power: 200-240 VAC, 3 phase, 25A Purge Gas: 0.25 in. Swagelok compression fitting for 50-80 psi Nitrogen or Clean Dry Air (CDA) Process Gas: 0.25 in. Swagelok compression fitting for 10-15 psi		
Options	Two additional mass flow controllers (for a total of 4) Pump system: roots blower package or dry pump Oil filtration system Oil mist eliminator for corrosive gas Hydrogen generator Vertical lift door Contact angle meter (110 or 220V) RF generator upgrade to 1000 W PlasmaLink software for remote data capture & control		

**SEMI S2 S8 Compliant
CE Compliant**

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



Leading Plasma Innovations

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