

AP-1000

Robust Plasma Treatment 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**
- **13.56 MHz RF generator has automatic impedance matching for unparalleled process reproducibility**
- **Proprietary software control system generates process and production data for statistical process control**



Uniform plasma treatment for the most demanding production environments

The Nordson MARCH AP-1000 Plasma System is designed to meet the rigorous demands of 24-hour operation in high performance manufacturing environments. 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 RF generator 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.

Enhanced productivity for high-volume capacity requirements

The AP-1000 Plasma System with optional HTP (high throughput) shelves combines the reliability and process quality of the AP-1000 system with the proven benefits of Nordson MARCH's unique 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.

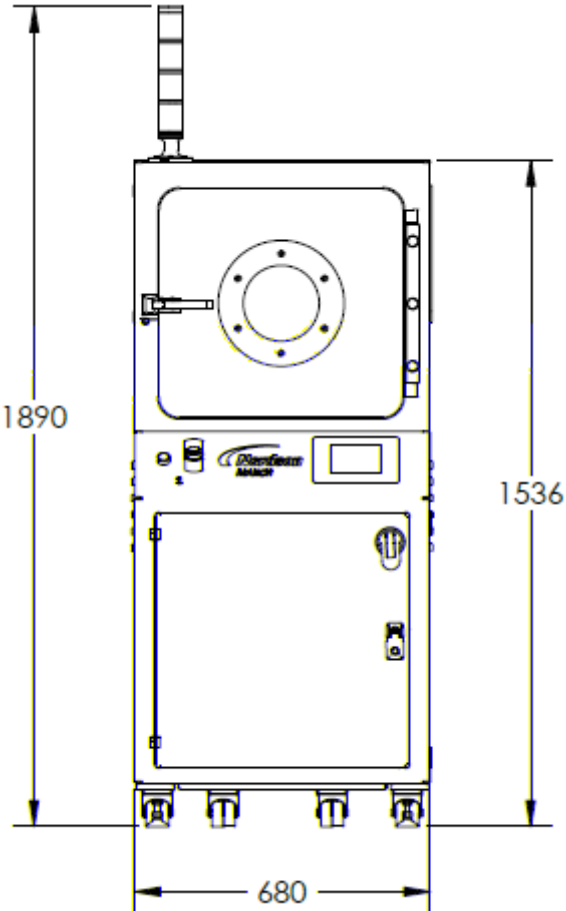
Additionally, slotted magazines can be placed vertically inside the chamber. Typically, each magazine holds a minimum of 20 lead frames. The AP-1000 plasma chamber can hold up to 12 magazines, depending on magazine size.

The logo for Nordson MARCH, featuring a stylized blue wave above the word "Nordson" in a bold, blue, sans-serif font, with "MARCH" in a smaller, blue, sans-serif font below it.

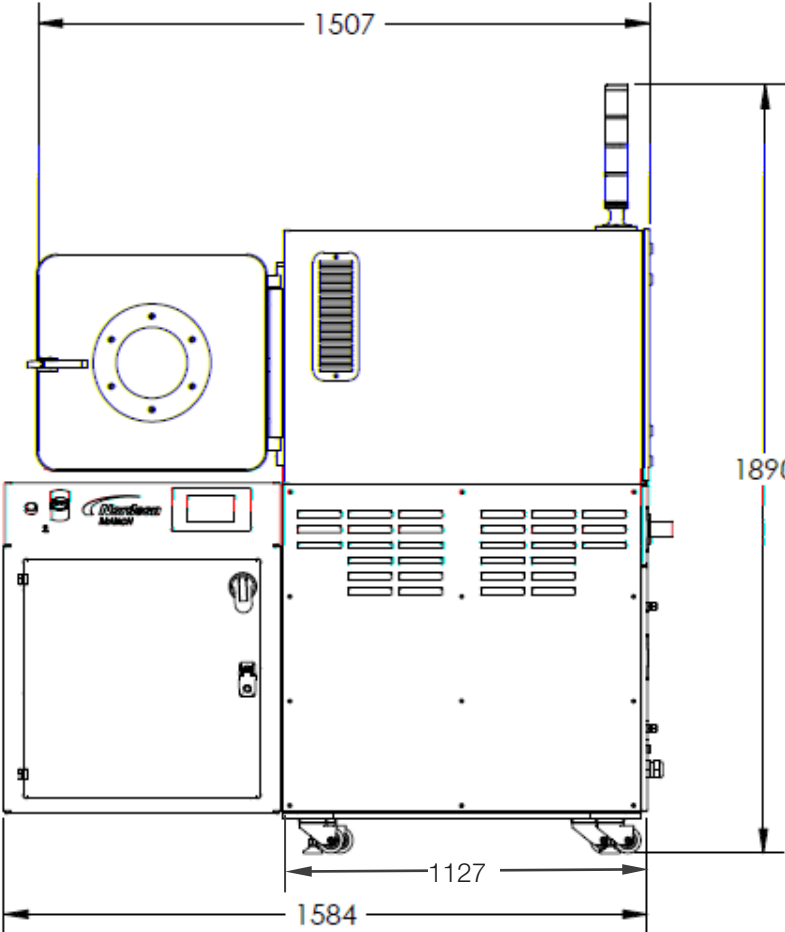
Specifications: AP-1000 Plasma System

Enclosure Dimensions	W x D x H – Footprint	680W x 1127D x 1536H mm – 1890H mm w/light tower (26.77W x 62.3D x 56.5H in – 74.4H in w/ light tower)
	Net Weight	485kg (1070lbs)
	Effective Footprint – Clearances	Right, Left – 153 mm (6 in), Front – 680 mm (26.8 in) Back – 483 mm (19 in) minimum
Chamber	Dimensions	457W x 610D x 457H mm (18W x 24D x 18H in)
	Volume	127 liters (7776 in ³)
	Variable Electrode Configurations	Direct, Downstream, HTP Wide, HTP Narrow
	Number of Shelf Positions	14
	Shelf Pitch	25.4mm (1 in) for 600W 50.8mm (2 in) for 1000 W
Electrodes	Powered Electrode Dimensions - Working Area	349W x 425D mm (13.74 W x 16.73D in)
	Ground (Perf.) Electrode Dimensions – Working Area	384W x 425D mm (15.1W x 16.73D in)
	Floating Shelf Dimensions – Working Area	349W x 425D mm (13.74W x 16.73D in)
RF Power	Standard Wattage	600W
	Frequency	13.56 MHz
Gas Control	Maximum Number of MFCs	4
Remote Interface	Software Controls	PlasmaLINK, ProcessLINK
Vacuum Pump	Standard Vacuum Pump	50 CFM (50/60Hz) wet pump with oil mist eliminator
Facilities	Power Supply	220V, 25A, 50/60 Hz, 3-Phase, 8AWG, 4-Wire 380V, 25A, 50/60Hz, 3-Phase, 8 AWG, 5-Wire
	Process Gas Fitting Size & Type	.25-in. OD Swagelok Tube
	Purity	Industrial grade or better
	Pressure & Flow	Regulated from .69bar (10PSI) min. to 1bar (15PSI) max.
	Purge Gas Fitting Size & Type	.25-in. OD Swagelok Tube
	Purity	Industrial grade Nitrogen or CDA
	Pressure & Flow	Regulated from 2bar (30PSI) min. to 5.5bar (80PSI) max.
	Pneumatic Valves Fitting Size & Type	.25-in. OD Swagelok Tube
	Purity	CDA, Oil Free, Dewpoint <=7°C /45°F, Particulate Size <5 micron
	Pressure & Flow	Regulated from 3.4bar (50PSI) min. to 5.5bar (80PSI) max.
	Exhaust	38mm (1.5 in.) OD Pipe Flange
Compliance	SEMI	S2, S8, E10, Cleanroom
	International	CE marked
Ancillary Equipment	Gas Generators	Nitrogen, Hydrogen
	Facilities Modules	Oil Filtration, Chiller, Scrubber
Shipping	Crate Dimensions	1520W x 1490L x 1850H mm (60W x 59L x 73H in.)
	Gross Weight	641

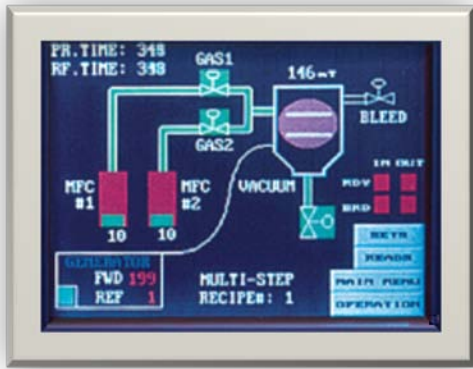
Dimensions: AP-1000 Plasma System



Front View of AP-1000 Plasma System



Side View of AP-1000 Plasma System



Intuitive Software and Graphical Interface

March's proprietary software and intuitive graphical interface allow easy touch-screen programming. With the option of PlasmaLINK, it is possible to remotely communicate with the system for real-time data collection and control.



Chamber view of AP-1000 Plasma System
with a vertical magazine configuration

**For more information, speak
with your local
representative or contact
your regional office.**

nordsonmarch.com

North America

Headquarters
Concord, CA, USA
+1.925.827.1240
info@nordsonmarch.com

China

Shanghai
+8621.3866.9166

Europe & Africa

Maastricht, Netherlands
+31.65.155.4996

S.E. Asia

Singapore
+65.6796.9500

Korea

Seoul
+82.31.736.8321

India

Chennai
+91.44.43539024

Nordson MARCH

+1.800.326.1151 Phone

info@nordsonmarch.com Email

2470-A Bates Avenue

Concord, CA, 94520-1122 U.S.A.

www.nordsonmarch.com

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