

AP-300 Plasma System

Bench-Top Plasma Treatment

Features and Benefits

- **Touch screen control and graphical user interface give real-time process information**
- **Flexible shelf architecture allows processing of a wide variety of piece parts, components or carriers**
- **13.56 MHz RF generator with automatic matching network delivers excellent process repeatability**
- **Convenient facility hook-ups for periodic calibration requirements used in validation processes**



State-of-the-art plasma treatment in a compact, bench-top configuration

The AP-300 plasma system from Nordson MARCH is designed to deliver exceptionally uniform plasma cleaning and treatment with unmatched ease of operation, reliability and low cost.

The AP-300 plasma system is completely self-contained, requiring minimal bench space. The system chassis houses the plasma chamber, control electronics, 13.56 MHz RF generator, and the automatic matching network (only the vacuum pump is external to the system). Maintenance access is provided through an interlocked door or removable panels.

The plasma chamber is constructed of high-quality aluminum with aluminum fixtures for superior durability. The plasma chamber supports up to 7 removable and adjustable powered or grounded

shelves to accommodate a wide range of piece-parts, components, and part carriers including magazines, trays, and boats.

Plasma cleaning, surface activation and adhesion improvement

The AP-300 plasma system is suitable for a wide variety of plasma cleaning, surface activation and adhesion improvement applications. These capabilities are used for semiconductor manufacturing, microelectronic packaging and assembly, and by manufacturers of medical and life science devices.

The AP-300 plasma system can accommodate a wide range of process gases including argon, oxygen, hydrogen, helium, and fluorinated gases. The system comes standard with two (2) electronic mass flow controllers for optimal gas control, with another two (2) available optionally (4 total max.).

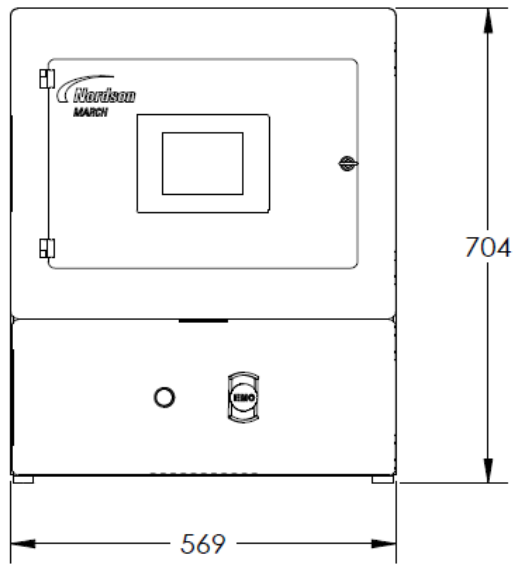

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Specifications: AP-300 Plasma System

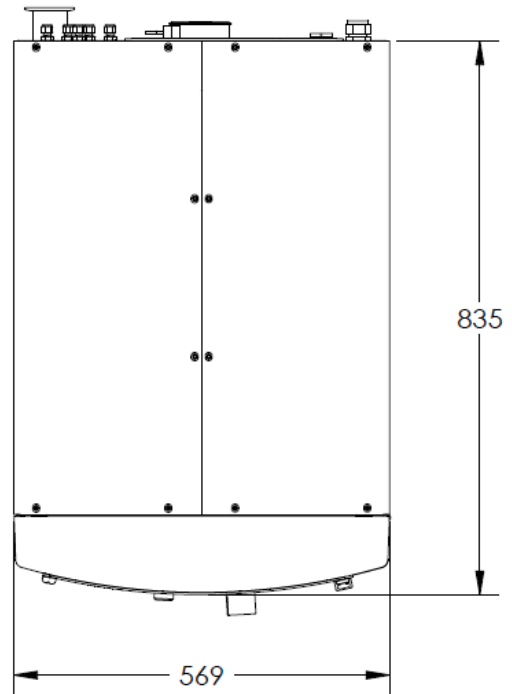
Enclosure Dimensions	W x D x H – Footprint	569 W x 869 D x 704 H mm (22.4 W x 34.2 D x 27.7 H in.)
	Net Weight	221 kg (488 lbs)
	Effective Footprint – Clearances	Right, Left, Front – 569 mm (23 in.), Back – 254 mm (10 in.)
Chamber	Dimensions	267 W x 465 D x 267 H mm (10.5 W x 18.3 D x 10.5 H in.)
	Volume	33.1 liters (2017.6 in ³)
	Variable Electrode Configurations	Direct and Downstream
	Number of Shelf Positions	7
	Shelf Pitch	25.4 mm (1 in.)
Electrodes	Powered Electrode Dimensions - Working Area	190 W x 330 D mm (7.5 W x 13 D in.)
	Ground (Perf.) Electrode Dimensions – Working Area	229 W x 330 D mm (9 W x 13 D in.)
	Floating Shelf Dimensions – Working Area	190 W x 330 D mm (7.5 W x 13 D in.)
RF Power	Standard Wattage	300 W
	Frequency	13.56 MHz
Gas Control	Maximum Number of MFCs	4
Control System	PLC Control with Touchscreen Interface	
Remote Interface	PlasmaLINK; ProcessLINK;	Optional
Vacuum Pump	Rotary Vane Pump charged for Oxygen Service	19.5 CFM at 60 Hz wet pump with oil mist eliminator
Facilities	Power Supply	110-240 VAC, 50-60 Hz, 1-phase, 10 A
	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
	Process Gas Purity	Industrial grade Nitrogen or CDA
	Process Gas Pressure	Regulated from 2 bar (30 psig) min. to 5.5 bar (80 psig) max.
	Pneumatic Valves Fitting Size & Type	.25-in. OD Swagelok Tube
	Pneumatic Gas Purity	CDA, Oil Free, Dewpoint <=7°C /45°F, Particulate Size <5 micron
	Pneumatic Gas Pressure	Regulated from 3.4 bar (50 psig) min. to 5.5 bar (80 psig) max.
	Exhaust	25.4mm (1 in.) OD Pipe Flange
Compliance	SEMI S2/S8 compliant	Yes
	CE Marked	Yes
	Cleanroom Compatible	Yes
	SEMI E-10	Yes
Shipping	Crate Dimensions	1397 W x 1067 L x 2032 H mm (55 W x 42 L x 80 H in.)
	Gross Weight	445 kg (950 lbs)

Optional / Ancillary Equipment	Oil Filtration Unit
	Nitrogen Generator
	Hydrogen Delivery Kit

AP-300 Plasma System Footprint Diagrams

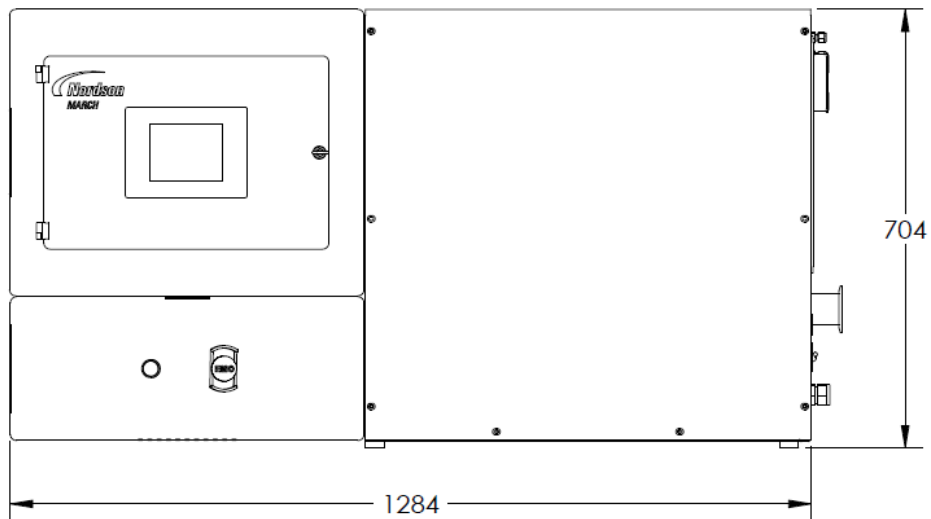


AP-300 – Front View



AP-300 – Top View

All measurements are in millimeters (mm)



AP-300 – Side View with Front Doors Open

Applications: AP-300 Plasma System

Semiconductor and Microelectronic Applications

- Pre-die attach for enhanced die adhesion
- Pre-wire bonding for improved wire bonds
- Pre-mold & encapsulation for reduced delamination
- Pre-flip chip underfill (FCUF) for faster, void-free fluid flow, improved filet height and uniformity, and better adhesion of the underfill material

Medical and Life Science Applications

- Stent & catheter cleaning and bonding
- Enabling adhesion of non-compatible materials
- Tack reduction of silicone molded parts
- Increasing lubricity



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