

AP-300 Bench-Top Plasma System

March
A NORDSON COMPANY

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

The AP-300 plasma system from March Plasma Systems 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 has multiple (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 as an option (4 total max.)

Examples of 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 fillet height and uniformity, and better adhesion of the underfill material



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Examples of medical and life science applications:

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

AP-300 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

System Specifications	
Enclosure	Aluminum frame with thermoplastic panels Completely houses the process chamber, electronics, RF generator, and matching network (pump external)
Footprint	569 W x 704 H x 869 D (mm) 22.4 W x 27.7 H x 34.2 D (in.)
Chamber	Construction: Aluminum Aluminum fixtures Internal chamber dimensions: 267 W x 267 H x 465 D (mm) 10.5 W x 10.5 H x 18.3 D (in.) Maximum number of adjustable shelves: 7 Power shelf working dimensions: 190 W x 330 D (mm) 7.5 W x 13.0 D (in.) Ground shelf working dimensions: 229 W x 330 D (mm) 9.0 W x 13.0 D (in.)
RF Power	300 W, solid state 13.56 MHz RF generator Automatic tuning network
Gas Control	2 mass flow controllers
Controller	PLC with touch-screen interface
Pump System	19.5 CFM (@60 Hz) wet pump with oil mist eliminator Prepared, charged and tested with fluid for Oxygen use
Facility Requirements	Power: 110-240 VAC, 50-60 Hz, 1-phase, 10A (@208V) Purge Gas: 0.25 in. Swagelok comp. fitting for 10-100 psig Nitrogen or clean dry air (CDA) Process Gas: 0.25 in. Swagelok comp. fitting for 10-15 psig CDA/Nitrogen: 0.25 in. Swagelok comp. fitting for 50-80 psig
Options	2 additional mass flow controllers (4 total max.) Oil filtration system Oil mist eliminator for corrosive gases 23 CFM dry pump Nitrogen generator Hydrogen generator PlasmaLink software for remote data capture SEMI S2/S8 compliant CE marked



AP-300 Plasma System

Backed by the plasma experts

March Plasma Systems has a global team of scientists and engineers experienced in plasma technology. We work closely with you to determine the right plasma system and process that best fits your specific requirements. Our Applications and Customer Service departments bring you over 25 years of experience in plasma technology.

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

March Plasma Systems, Inc. 2470-A Bates Avenue Concord, California 94520 Telephone: 800-326-1151 Facsimile: 925-827-1189