PX Series
Plasma Treatment Systems

March
A NORDSON COMPANY

March is the leader in gas plasma technology. Successful implementation of plasma technology to improve yield and reliability depends on expert knowledge in both packaging and plasma science. The PX-Series batch systems from March incorporate over 20 years of applications experience in RF plasma technology.

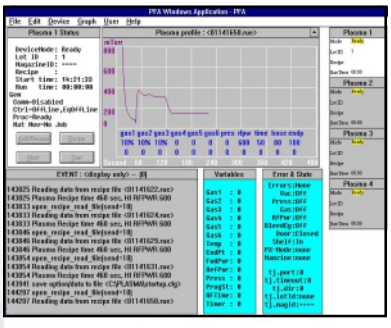
Applications

Gas plasma treatment provides a fast, efficient method for surface treatment and cleaning prior to wire bonding, die attach, encapsulation, conformal coating and other processes. Plasma processing enhances lamination bond strength, improves wire bond strength and uniformity, promotes underfill adhesion and enhances die attach.

The PX-Series is ideal for plasma treatment of:

- Hybrids
- BGAs
- Optics
- Flex circuit panel
- Medical/Device
- Flat panel displays
- Lead frames
- Multi-chip modules
- Plastics
- Automotive

March PX-500 and PX-250 (inset) plasma cleaning systems



Optional ROI software

Chamber Design

The chamber is constructed of stainless steel that is resistant to chemicals and easy to clean. Multiple removable shelves can easily be configured to provide downstream or direct plasma.

Process Control Module

The PX-Series control module monitors and controls the vacuum and gas flow, chamber pressure, and power level. Up to four mass controllers are connected to a gas-mixing manifold to provide process recipe flexibility.

The microprocessor provides automatic operation, is user friendly, and ensures precise, reproducible process conditions. Cycle duration is controlled by elapsed time and can be downloaded to a PC for further analysis.

Power and Matching Network

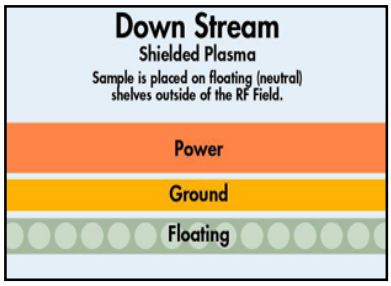
Different applications require different configurations and power densities. The PX-Series system is equipped with an automatic impedance matching network for ease of operation and consistent results. RF power supplies are available in either 300 or 600 watts depending on application requirements.

Safety

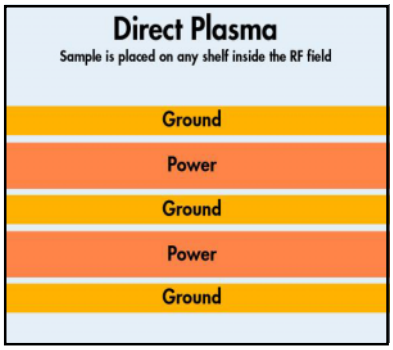
An emergency shut-off button, located on the front panel, immediately terminates the gas flow and RF power. Safety interlocks prevent activation of RF power when the chamber door is open. Safe viewing is ensured with a separate, full-length glass door that shields operators from plasma-generated UV energy.

	PX-250	PX-500
Dimensions	597 W x 413 H x 508 D (mm) 23.5 W x 16.25 H x 20.0 D (in.)	660 W x 508 H x 775 D (mm) 26.0 x 20.0 x 30.5 D (in.)
Weight	45.3 kg (100 lbs.)	83.9 kg (185 lbs.)
Stainless Steel Chamber	229 W x 229 H x 305 D (mm) 9.0 x 9.0 x 12.0 D (in.) Max. 3 adjustable electrodes/shelves: 177.8 x 203.2 mm (7.0 x 8.0 in.)	305 W x 305 H x 508 D (mm) 12.0 x 12.0 x 20.0 D (in.) Max. 3 adjustable electrodes/shelves: 209.6 x 330 mm (8.25 x 13.0 in.)
RF Power	13.56 MHz 300 W Solid state	13.56 MHz 600 W Solid state
Controll System	Microprocessor-controlled Mass flow controllers	Microprocessor-controlled Mass flow controllers
Pump System	11CFM Prepared, charged and tested with Krytox® fluid or hydrocarbon fluid	27CFM Prepared, charged and tested with Krytox® fluid or hydrocarbon fluid
Options	Contact angle meter (110 or 220V) Hydrogen generator Independent pressure controller Oil filtration system Oil mist eliminator for corrosive gas Remote Operator Interface software	Contact angle meter (110 or 220V) Hydrogen generator Independent pressure controller Oil filtration system Oil mist eliminator for corrosive gas Remote Operator Interface software

Shelf Configuration For Each Plasma Mode



Downstream or Shielded Plasma:
Sample is placed on floating shelves outside the RF field.



Direct Plasma:
Sample is placed on any shelf inside the RF field.

Our Applications and Customer Service departments bring to you more than 20 years of experience in RF 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.

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Leading Plasma Innovations

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