

PS- 500 Plasma Surface Treatment



Aluminum box chamber
high throughput production

Microprocessor touch screen controller
easy and precise operation

Patented electrode design
maximum process uniformity

Primary plasma operation
most effective plasma exposure to all parts

MFC gas input/mixing
precise, reproducible gas mixing and distribution

RF auto matching network
reliable and efficient gas plasma generation

Turnkey vacuum system
readily integrated for the most efficient operation



9 Linnell Circle
Billerica, MA 01821-3902
978.667.4500
Fax 978.667.9778
Please visit us at www.astp.com

PS-500 Specifications

Reactor Chamber

- Un-impeded work volume: 20 in. H x 13 in. W x 16 in. D
- Front-loading door
- Primary plasma driven shelf design
- Patented power distribution
- RF- and UV-shielded view port
- All-aluminum construction
- Isolation of electrodes prevents RF interaction with chamber walls.
- Front-to-back laminar distributed gas flow.

Control System

- Microprocessor controller with touch screen interface stores fourteen process recipes in nonvolatile memory.
- Digital displays for:
 1. PROCESS TIME
 2. PRESSURE
 3. GAS FLOW
 4. RF POWER
- Key switch selects PROGRAMMING modes
- Screen Displays indicate SYSTEM ALARMS, PROCESS STATUS and ACTIVE PARAMETERS
- Self-diagnostics displayed automatically on TOUCH SCREEN DISPLAY.
- Automatic error checking of gas flows, pressure RF power, and reflected power. An "out-of-tolerance" puts the process in HOLD, sounds an alarm, and displays an error message.
- Three gas lines with individual mass flow controllers and isolation valves.
- Fast and slow vent controls.
- Light tower for remote monitor.

RF Generator/Automatic Impedance Matching Network

- 0-600 watt, 13.56 MHz, solid-state generator
- Automatic impedance matching network with fast automatic tuning

Power Distribution Module

- Distributes power to all components, (including vacuum pump, if purchased from AST), providing single-point power connection
- Separate circuit breaker for main power
- SYSTEM OFF, EMERGENCY OFF (EMO) button

Optional Pump Packages

- Turn key installation when purchased from AST (includes flexible plumbing and all fittings)
- 50 cfm two stage rotary vane pump (or alternative, high-capacity 180 cfm roots blower package) with integral connection to process controller.
- EMERGENCY OFF button at system control and on the pump shuts down both the system and the pump.
- Pump option for lubricating with inert oil
- Optional External filtration system with pressure gauge
- Optional Oil-mist separator
- Integral pump starter with control panel (on blower packages)

System Dimensions

80 in. H x 25 in. W x 35 in. D

Installation Requirements

PS 350 Plasma System

- Electrical Power: 208 VAC, 3Ø, 20 Amp
- Gas inputs are ¼" compression fitting. Regulated dry air with an inlet pressure greater than 65 psig to be supplied by the user to a quick disconnect or ¼" compression fitting.

Vacuum pump

- Electrical Power: If purchased from AST the power source is pre-wired to system power distribution module
- Vacuum: Adequately-rated, sealed exhaust line at 50 cfm connected to pump with a 2" ID KF-50 fitting



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