

PD-1000 Plasma Deposition System

Features and Benefits

- 13.56 MHz RF generator has automatic impedance matching for high quality films
- Pulsed RF to enhance the properties of plasma polymerized films
- Gas vapor, or heated liquid monomer vapor delivery system to deposit coatings
- Flexible shelf architecture allows processing of a wide variety of parts
- Proprietary software control system generates process and production data for statistical process control
- PLC controller with touch screen provides an intuitive graphical interface and real-time process representation
- Optional intraluminal deposition capability



Uniform plasma polymerization for the most demanding production deposition requirements

The Nordson MARCH PD-1000 system is designed to meet the rigorous demands of 24-hour operation in high performance manufacturing environments. The system delivers uniform plasma deposition with unmatched reliability, safety and ease of operation.

The PD-1000 system 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. The vapor delivery system is expertly integrated into the base system for ease of access, maintenance and control. 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 parts.

Enhanced productivity for high-volume capacity requirements

The PD-1000 system combines the reliability and process quality of the AP-1000 system and proven benefits of Nordson MARCH's industry leading design. The PD-1000 system optimizes use of the reactive ions found in RF plasma, increasing deposition uniformity while decreasing process time.

The PD-1000 system allows selection from a range of process gases such as Argon, Hydrogen and Helium. It comes standard equipped with two mass flow controllers for optimal gas control. Additionally, various liquid agents can be heated, vaporized and deposited.

Specifications: PD-1000 Plasma Deposition System

Enclosure Dimensions	W x D x H – Footprint	1136W x 1186D x 1890H mm (44.7W x 46.7D x 74.4H in.)
	Net Weight	485 kg (1069 lbs)
Chamber	Maximum Volume	127 liters (7774 in ³)
	Variable Electrode Configurations	Power-Ground, Ground-Power, Power-Power
	Number of Electrode Positions	14
	Electrode Pitch	25.4 mm (1 in.) for 600 W 50.8 mm (2 in.) for 1000 W
Electrodes	Powered Working Area	349W x 425D mm (13.74W x 16.73D in.)
	Ground/Perforated Working Area	384W x 425D mm (15.12W x 16.73D in.)
	Floating Working Area	349W x 425D mm (13.74W x 16.73D in.)
RF Power	Standard Wattage	600 W
	Optional Wattage	1000 W
	Frequency	13.56 MHz
Gas Control	Available Flow Volumes	10, 25, 50, 100, 250, 500, 1000, 2000 or 5000 sccm
	Maximum Number of MFCs	4
Control & Interface	Software Control	PLC Control with Touch Screen Interface
	Remote Interface	PlasmaLINK, ProcessLINK, SECS/GEM
Vacuum Pump	Standard Purged Dry Pump	63 cfm
Facilities	Power Supply	220 V, 25 A, 50/60 Hz, 3-Phase, 8 AWG, 4-Wire 380 V, 25 A, 50/60 Hz, 3-Phase, 8 AWG, 5-Wire
	Process Gas Fitting Size & Type	6.35 mm (0.25 in.) OD Swagelok Tube
	Process Gas Purity	Industrial Grade or better
	Process Gas Pressure	0.69 bar (10 psig) min. to 1.7 bar (25 psig) max., regulated
	Purge Gas Fitting Size & Type	6.35 mm (0.25 in.) OD Swagelok Tube
	Purge Gas Purity	97% N ₂
	Purge Gas Pressure	2 bar (30 psig) min. to 6.9 bar (100 psig) max., regulated
	Pneumatic Valves Fitting Size & Type	6.35 mm (0.25 in.) OD Swagelok Tube
	Pneumatic Gas Purity	CDA, ISO 8573-1:2010[4:3:2]
	Pneumatic Gas Pressure	3.45 bar (50 psig) min. to 6.89 bar (100 psig) max., regulated
	Exhaust	NW 40 connection Negative Draw, -1.5in/-38.1mm WC Draw, 63SFCM/1780SLM Maximum flow rate
	System Coolant	5.52 bar (80 psig) max static 2.76 bar (40 psig) min. differential between machine inlet and outlet: 3.8 Lpm (1.0 gpm) min. Inlet temp: 15-35 °C (60-95 °F), 5 °C min above dew point. Distilled Water; Inlet Fitting: 12.7mm (0.5 in.) OD hose barb, Outlet Fitting: 12.7mm (0.5 in.) OD hose barb
	Compliance	SEMI
International		CE Marked
Ancillary Equipment	Gas Generators	Nitrogen, Hydrogen (Requires Additional Non-Optional Hardware)
	Facilities	Chiller, Scrubber

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