

PD-Pro Plasma Deposition System

Features and Benefits

- Pulsed 13.56 MHz RF to enhance the properties of plasma polymerized films
- Gas vapor or heated liquid monomer vapor delivery system to deposit coatings
- Patented system technologies produce superior process uniformity at high throughput
- High throughput of for maximum production flexibility
- Accommodates large product sizes within a small footprint to consume minimal floor space
- Fast units per hour (UPH) processing to meet today's demanding manufacturing schedules
- Optional intraluminal deposition capability



Superior Plasma Deposition Uniformity for High Throughput Treatment

Nordson MARCH's PD-Pro system is specifically configured to meet the demands of today's high-throughput manufacturing operations where plasma deposition uniformity is key to success. The PD-Pro system delivers!

The PD-Pro system is completely self-contained, requiring minimal floor space. The vacuum system, plasma chamber, control electronics, and 13.56 MHz power supply are housed in a single enclosure. Full front and rear access allows for convenient service to all interior components. The pump is positioned on rollers for easy removal. No side access is required allowing for even greater floor space savings. The vapor delivery system is expertly integrated into the base system for ease of access, maintenance and control.

Application-Specific Deposition Technology

The PD-Pro system incorporates the best of Nordson MARCH's market-leading technology combined with

novel, application-specific technology development that is based on our 30+ years of experience. Through extensive research and development, the PD-Pro system presents unique vacuum and gas flow technology, electrode designs, and superior temperature management. The careful balance of these critical design elements and process recipe parameters delivers a system that creates the most uniform plasma deposition for key applications.

The PD-Pro system's superior performance capabilities are complemented by low cost of ownership. The system features a compact and service-friendly design. The vertical or horizontal loading configuration and the use of loading carts minimizes idle time, which generates high levels of productivity. The fast vacuum pump-down and greatly enhanced process cycle times further add to the throughput and productivity of the system.

Equipped with a touch-screen PC Operator Interface, the PD-Pro system provides a wide breadth of control capability and data collection. Unlimited recipes can be stored for easily switching plasma deposition processes from batch to batch. Password protection ensures that no unauthorized entries can be made.



Specifications: PD-Pro Plasma Deposition System

Enclosure Dimensions	W x D x H – Footprint	1652W x 1939 D x 2502H mm (65W x 76.25D x 98.5H in.)
	Net Weight	1776 kg (3915 lbs.)
Chamber	Maximum Volume	0.86 m ³ (30 ft ³)
	Variable Electrode Configurations	Power-Ground, Ground-Power, Power-Power
	Number of Electrode Positions	14 electrodes (fixed) or 13 cells
	Electrode Pitch	63.5 mm (2.5 in.) (fixed)
Electrodes	Configuration	Temperature Controlled Power-Power
	Working Area	762D x 610H mm; (30D x 24H in.)
RF Power	Standard Wattage	5 kW
	Frequency	13.56 MHz
Gas Control	Available Flow Volumes	50, 100, 250, 500, 1000, 2000 or 5000 sccms
	Maximum Number of MFCs	5
Control	Interface	PLC with PC-Based Touch Screen Interface
Vacuum Pump	Standard Purged Dry Pump	63 cfm
	Standard Booster Pump	612 cfm
Facilities	Power Supply	208-230 VAC, 60 A, 3-Phase, 6AWG, 4 wire 50/60 Hz
	Process Gas Fitting Size & Type	6.35 mm (0.25 in.) Swagelok
	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	9.5 mm (0.375 in.) Swagelok Tube
	Purge Gas Purity	97% N ₂
	Purge Gas Pressure	4.83 bar (70 psig) min. to 5.17 bar (75 psig) max., regulated
	Pneumatic Valves Fitting Size & Type	9.5 mm (0.375 in.) Swagelok
	Pneumatic Gas Purity	CDA, ISO 8573-1:2010[4:3:2]
	Pneumatic Gas Pressure	6.2 bar (90 psig) min. to 6.9 bar (100 psig) max., regulated
	Exhaust	NW 40 connection Negative Draw, -38.1 mm (-1.5in) WC Draw, 1780 slm (63 SFCM) maximum flow rate
	System Coolant	5.52 bar (80 psig) max static 2.76 bar (40 psig) min. differential between machine inlet and outlet: 38 Lpm (10 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	USA	EH&S/Ergonomics
	International	CE Marked
Ancillary Equipment	Gas Generators	Nitrogen, Hydrogen (requires Additional Non-Optional Hardware)
	Facilities	Chiller, Scrubber, Transformer

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