

# 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

<b>Enclosure Dimensions</b>	<b>W x D x H – Footprint</b>	1652W x 1939 D x 2502H mm (65W x 76.25D x 98.5H in.)
	<b>Net Weight</b>	1776 kg (3915 lbs.)
<b>Chamber</b>	<b>Maximum Volume</b>	0.86 m <sup>3</sup> (30 ft <sup>3</sup> )
	<b>Variable Electrode Configurations</b>	Power-Ground, Ground-Power, Power-Power
	<b>Number of Electrode Positions</b>	14 electrodes (fixed) or 13 cells
	<b>Electrode Pitch</b>	63.5 mm (2.5 in.) (fixed)
<b>Electrodes</b>	<b>Configuration</b>	Temperature Controlled Power-Power
	<b>Working Area</b>	762D x 610H mm; (30D x 24H in.)
<b>RF Power</b>	<b>Standard Wattage</b>	5 kW
	<b>Frequency</b>	13.56 MHz
<b>Gas Control</b>	<b>Available Flow Volumes</b>	50, 100, 250, 500, 1000, 2000 or 5000 sccms
	<b>Maximum Number of MFCs</b>	5
<b>Control</b>	<b>Interface</b>	PLC with PC-Based Touch Screen Interface
<b>Vacuum Pump</b>	<b>Standard Purged Dry Pump</b>	63 cfm
	<b>Standard Booster Pump</b>	612 cfm
<b>Facilities</b>	<b>Power Supply</b>	208-230 VAC, 60 A, 3-Phase, 6AWG, 4 wire 50/60 Hz
	<b>Process Gas Fitting Size &amp; Type</b>	6.35 mm (0.25 in.) Swagelok
	<b>Process Gas Purity</b>	Industrial Grade or better
	<b>Process Gas Pressure</b>	0.69 bar (10 psig) min. to 1.7 bar (25 psig) max., regulated
	<b>Purge Gas Fitting Size &amp; Type</b>	9.5 mm (0.375 in.) Swagelok Tube
	<b>Purge Gas Purity</b>	97% N <sub>2</sub>
	<b>Purge Gas Pressure</b>	4.83 bar (70 psig) min. to 5.17 bar (75 psig) max., regulated
	<b>Pneumatic Valves Fitting Size &amp; Type</b>	9.5 mm (0.375 in.) Swagelok
	<b>Pneumatic Gas Purity</b>	CDA, ISO 8573-1:2010[4:3:2]
	<b>Pneumatic Gas Pressure</b>	6.2 bar (90 psig) min. to 6.9 bar (100 psig) max., regulated
	<b>Exhaust</b>	NW 40 connection Negative Draw, -38.1 mm (-1.5in) WC Draw, 1780 slm (63 SFCM) maximum flow rate
	<b>System Coolant</b>	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
<b>Compliance</b>	<b>USA</b>	EH&S/Ergonomics
	<b>International</b>	CE Marked
<b>Ancillary Equipment</b>	<b>Gas Generators</b>	Nitrogen, Hydrogen (requires Additional Non-Optional Hardware)
	<b>Facilities</b>	Chiller, Scrubber, Transformer

**For more information, speak with your local representative or contact your regional office.**

**North America**  
Headquarters  
Concord, CA  
+1.925.827.1240

**China**  
Shanghai  
+86.21.3866.9166

**EMEA**  
Maastricht,  
Netherlands  
+31.65.155.4996

**S.E. Asia**  
Singapore  
+65.6796.9500

**Korea**  
Seoul  
+82.31.739.6374

**Taiwan**  
New Taipei City  
+886.2.2902.1860

**India & South Asia**  
Chennai  
+91.44.4353.9024

[www.nordsonmarch.com](http://www.nordsonmarch.com)

[info@nordsonmarch.com](mailto:info@nordsonmarch.com)

Published 2017-01-19

