

PD-1500 Plasma Deposition System

Features and Benefits

- Pulsed 40 KHz RF generator to enhance the properties of plasma polymerized films
- Gas vapor, or heated liquid monomer vapor delivery system to deposit coatings
- Proven for fast, effective plasma deposition
- Patented designs maximize treatment performance and throughput
- Compact system enclosure minimizes footprint
- Simple system operation and data logging
- Easy loading and unloading of the chamber
- Low operational costs and cost of ownership
- Optional intraluminal deposition capability



Effective plasma polymerization with an extra-large chamber for batch processing

The Nordson MARCH PD-1500 system is designed to provide best-in class plasma treatment with its large chamber for batch-type plasma processing. Daily operating expenses, such as process gases and power consumption, are minimized through unique design concepts. The system delivers uniform plasma deposition with unmatched reliability, safety and ease of operation.

The PD-1500 system is a cost- and space-efficient plasma deposition system for processing all types of parts and components. It is completely self-contained, and requires minimal floor space. The pump, chamber, control electronics, and 40 KHz RF generator are all contained within its enclosure. The vapor delivery system is expertly integrated into the base system for ease of access, maintenance and control. Front and rear maintenance doors allow for convenient access to all interior components, and the pump is positioned on rollers for easy removal.

Plasma Polymerization Deposition

The PD-1500 system is designed to deliver superior performance for plasma polymerization deposition applications. The horizontal electrodes (shelves) allow for large batch loads.

The PD-1500 system is designed to maximize plasma deposition efficiency through the use of advanced power matching and control system algorithms. The intuitive touch screen control panel monitors and controls the plasma process in real-time. The control system can be password-protected at multiple levels to prevent unauthorized recipe modification. This ensures consistent performance of the system from the first batch to the last.

The PD-1500 system also offers slide-out horizontal shelves for ease of loading and unloading. Its compact and service-friendly design features a small footprint, and is designed for maintenance access from only the front and rear of the system. Therefore, multiple systems can be placed side-by-side to maximize floor space utilization.

Specifications: PD-1500 Plasma Deposition System

Enclosure Dimensions	W x D x H – Footprint	1581W x 1303D x 2407H mm (62W x 51D x 95H in.)	
	Net Weight	921 kg (2030 lb)	
Chamber	Maximum Volume	442.4 liters (27,000 in ³)	
	Variable Electrode Configurations	Power-Ground, Ground-Power, Power-Power	
	Number of Electrode Positions	14	
	Electrode Pitch	50.8 mm (2 in.)	
Electrodes	Powered Working Area	643W x 641D mm (25.3W x 25.2D in.)	
	Ground/Perforated Working Area	698W x 641D mm (27.5W x 25.2D in.)	
	Floating Working Area	643W x 641D mm (25.3W x 25.2D in.)	
RF Power	Standard Wattage	1000 W	
	Optional Wattage	2000 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	
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	S2/S8 (EH&S/Ergonomics)
		International	CE Marked
Ancillary Equipment	Gas Generators	Nitrogen, Hydrogen (Requires Additional Non-Optional Hardware)	
	Facilities	Chiller, Scrubber	

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