AP-1500 Plasma System

Features and Benefits

- Simple system operation and data logging
- Proven for fast effective plasma cleaning and surface preparation
- Patented designs maximize treatment performance and throughput
- Easy loading and unloading of the chamber
- Compact system enclosure minimizes footprint
- Low operational costs and cost of ownership



Effective plasma treatment with an extra large chamber for batch processing

The Nordson MARCH AP-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 AP-1500 system is a cost- and space-efficient plasma system for treating 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. Front and rear maintenance doors allow for convenient access to all interior components, and the pump is positioned on rollers for easy removal.

Plasma cleaning and surface preparation

The AP-1500 system is designed to deliver superior performance for plasma cleaning and surface preparation applications. The horizontal electrodes (shelves) allow for large batch loads.

The AP-1500 system is designed to maximize plasma 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 AP-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: AP-1500 Plasma System

Net Weight 921 kg (2030 lbs)	Enclosure Dimensions	W x D x H – Footprint	1118W x 1196D x 2407H mm (44W x 47D x 95H in.)
Equipment Clearances Right, Left - 153 mm (6 m), Front - 680 mm (27 in)		Net Weight	,
Chamber Variable Electrode Configurations Number of Electrode Positions Power-Ground, Ground-Power, Power-Power Electrode Pictode Positions 14 Powered Working Area 643W x 641D mm (25.3W x 25.2D in.) Floating Working Area 698W x 641D mm (25.3W x 25.2D in.) Floating Working Area 643W x 641D mm (25.3W x 25.2D in.) Standard Wattage 2000 W Frequency 40 KHz Available Flow Volumes 40, 25, 50, 100, 250, 500, 1000, 2000 or 5000 sccm Maximum Number of MFCs 4 Software Control PLC Control with Touch Screen Interface Interface Remote Interface PlasmaLINK, ProcessLINK Standard Wet Pump 53 cfm with Oxygen Oil Mist Eliminator Optional Wet Pump 53 cfm with Corrosive Oil Mist Eliminator Vacuum Pump N2 Purged Pump Flow 4 slm Cooling Water Purged Pump Flow 5 slm Power Supply 380 / 25 A, 50/60 Hz, 3-Phase, 8 AWG, 4-Wire 380 / 25 A, 50/60 Hz, 3-Palse, 8 AWG, 5-Wire Process Gas Pitting Size & Type 6.35 mm (0.25 in.) OD Swagelok Tube Purge Gas Pitting Size & Type 6.35 mm (0.25 in.) OD Swagelok Tube		Equipment Clearances	
Number of Electrode Positions 14	Chamber	Maximum Volume	442.4 liters (27,000 in³)
Number of Electrode Positions 14		Variable Electrode Configurations	Power-Ground, Ground-Power, Power-Power
Powered Working Area 643W x 641D mm (25.3W x 25.2D in.)		Number of Electrode Positions	14
Electrodes		Electrode Pitch	50.8 mm (2 in.)
Floating Working Area S43W x 641D mm (25.3W x 25.2D in.)	Electrodes	Powered Working Area	643W x 641D mm (25.3W x 25.2D in.)
Standard Wattage 2000 W		Ground/Perforated Working Area	698W x 641D mm (27.5W x 25.2D in.)
Frequency		Floating Working Area	643W x 641D mm (25.3W x 25.2D in.)
Frequency		Standard Wattage	2000 W
Maximum Number of MFCs 4		Frequency	40 KHz
Maximum Number of MFCs 4			10, 25, 50, 100, 250, 500, 1000, 2000 or 5000 sccm
Interface PlasmaLINK, ProcessLINK Standard Wet Pump 53 cfm with Oxygen Oil Mist Eliminator Optional Wet Pump 53 cfm with Corrosive Oil Mist Eliminator Vacuum Pump Optional Purged Dry Pump 63 cfm N2 Purged Pump Flow 14 slm Cooling Water Purged Pump Flow 5 slm 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 6.35 mm (0.25 in.) OD Swagelok Tube Process Gas Fitting Size & Type 6.35 mm (0.25 in.) OD Swagelok Tube Process Gas Pressure 0.69 bar (10 psig) min. to 1.03 bar (15 psig) max., regulated Purge Gas Purity Lab or Electronic Grade N2/CDA 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, Oil Free, Dewpoint ≤7°C (45°F), Particulate Size <5 μm Pneumatic Gas Pressure 2.45 bar (50 psig) min. to 6.89 bar (100 psig) max., regulated Exhaust 38 mm (1.5 in.) OD Pipe Flange SEMI S2/58 (EH&8/Ergonomics) International CE Marked Compliance		Maximum Number of MFCs	4
Standard Wet Pump 53 cfm with Oxygen Oil Mist Eliminator Optional Wet Pump 53 cfm with Corrosive Oil Mist Eliminator Optional Purged Dry Pump 63 cfm N2 Purged Pump Flow 14 slm Cooling Water Purged Pump Flow 5 slm Power Supply 220 V, 25 A, 50/60 Hz, 3-Phase, 8 AWG, 4-Wire 380 V, 25 A, 50/60 Hz, 3-Pahse, 8 AWG, 5-Wire Process Gas Fitting Size & Type 6.35 mm (0.25 in.) OD Swagelok Tube Process Gas Pressure 0.69 bar (10 psig) min. to 1.03 bar (15 psig) max., regulated Purge Gas Fitting Size & Type 6.35 mm (0.25 in.) OD Swagelok Tube 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, Oil Free, Dewpoint ≤7°C (45°F), Particulate Size <5 μm A 5 bar (50 psig) min. to 6.89 bar (100 psig) max., regulated 2.45 bar (50 psig) min. to 6.89 bar (100 psig) max., regulated Compliance Exhaust 38 mm (1.5 in.) OD Pipe Flange Compliance SEMI S2/S8 (EH&S/Ergonomics) International Nitrogen, Hydrogen (Requires Additional Non-Optional Hardware)	Control &	Software Control	PLC Control with Touch Screen Interface
Vacuum Pump Optional Wet Pump 53 cfm with Corrosive Oil Mist Eliminator N2 Purged Pump Flow 14 slm Cooling Water Purged Pump Flow 14 slm 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, 4-Wire 380 V, 25 A, 50/60 Hz, 3-Phase, 8 AWG, 4-Wire 380 V, 25 A, 50/60 Hz, 3-Phase, 8 AWG, 4-Wire 380 V, 25 A, 50/60 Hz, 3-Phase, 8 AWG, 4-Wire 380 V, 25 A, 50/60 Hz, 3-Phase, 8 AWG, 4-Wire 380 V, 25 A, 50/60 Hz, 3-Phase, 8 AWG, 4-Wire 380 V, 25 A, 50/60 Hz, 3-Phase, 8 AWG, 4-Wire 380 V, 25 A, 50/60 Hz, 3-Phase, 8 AWG, 4-Wire 380 V, 25 A, 50/60 Hz, 3-Phase, 8 AWG, 4-Wire 380 V, 25 A, 50/60 Hz, 3-Phase, 8 AWG, 4-Wire AWG, 5-Wire BAWG, 5-Wire Process Gas Pitting Size & Type Purge Gas Purity 6.35 mm (0.25 in.) OD Swagelok Tube Process Gas Pressure 2 bar (30 psig) min. to 6.9 bar (100 psig) max., regulated CDA, Oil Free, Dewpoint ≤7°C (45°F), Particulate Size <5 pur Process Gas Pressure 2.45 bar (50 psig) min. to 6.89 ba	Interface	Remote Interface	PlasmaLINK, ProcessLINK
Vacuum Pump Optional Purged Dry Pump 63 cfm N2 Purged Pump Flow 14 slm 14 slm Compliance 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 980 W, 25 A, 50/60 Hz, 3-Phase, 8 AWG, 5-Wire 980 W, 25 A, 50/60 Hz, 3-Phase, 8 AWG, 5-Wire 980 W, 25 A, 50/60 Hz, 3-Phase, 8 AWG, 5-Wire 980 W, 25 A, 50/60 Hz, 3-Phase, 8 AWG, 5-Wire 980 W, 25 A, 50/60 Hz, 3-Phase, 8 AWG, 4-Wire 380 W, 25 A, 50/60 Hz, 3-Phase, 8 AWG, 4-Wire 480 W, 25 A, 50/60 Hz, 20 Phase, 8 AWG, 20 Phase, 8 AWG, 20 Phase, 8 AWG, 20 Phase, 8 AWG, 20 Ph	Vacuum Pump	Standard Wet Pump	, 0
N2 Purged Pump Flow Cooling Water Purged Pump Flow 5 slm		Optional Wet Pump	53 cfm with Corrosive Oil Mist Eliminator
Cooling Water Purged Pump Flow 5 slm Power Supply 220 V, 25 A, 50/60 Hz, 3-Phase, 8 AWG, 4-Wire 380 V, 25 A, 50/60 Hz, 3-Pahse, 8 AWG, 5-Wire 970 cess Gas Fitting Size & Type 10.25 in.) OD Swagelok Tube 10.25 in.) OD		Optional Purged Dry Pump	63 cfm
Power Supply 220 V, 25 A, 50/60 Hz, 3-Phase, 8 AWG, 4-Wire 380 V, 25 A, 50/60 Hz, 3-Pahse, 8 AWG, 5-Wire Process Gas Fitting Size & Type Process Gas Purity Process Gas Pressure Purge Gas Fitting Size & Type Purge Gas Purity Purge Gas Purity Purge Gas Pressure Pneumatic Valves Fitting Size & Type Purge Gas Pressure Pneumatic Gas Purity Purge Gas Pressure Pneumatic Gas Purity Pneumatic Gas Pressure Pne		N2 Purged Pump Flow	14 slm
Power Supply 380 V, 25 A, 50/60 Hz, 3-Pahse, 8 AWG, 5-Wire Process Gas Fitting Size & Type Process Gas Purity Process Gas Pressure Purge Gas Fitting Size & Type Purge Gas Purity Purge Gas Pressure		Cooling Water Purged Pump Flow	5 slm
Process Gas Purity Lab or Electronic Grade Process Gas Pressure 0.69 bar (10 psig) min. to 1.03 bar (15 psig) max., regulated Purge Gas Fitting Size & Type 6.35 mm (0.25 in.) OD Swagelok Tube 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, Oil Free, Dewpoint ≤7°C (45°F), Particulate Size <5 μm Pneumatic Gas Pressure 3.45 bar (50 psig) min. to 6.89 bar (100 psig) max., regulated Exhaust 38 mm (1.5 in.) OD Pipe Flange SEMI S2/S8 (EH&S/Ergonomics) International CE Marked Ancillary Gas Generators Nitrogen, Hydrogen (Requires Additional Non-Optional Hardware)		Power Supply	
Process Gas Pressure Purge Gas Fitting Size & Type Purge Gas Purity Purge Gas Pressure Pneumatic Valves Fitting Size & Type Pneumatic Gas Purity Pneumatic Gas Purity Pneumatic Gas Pressure Exhaust SEMI S2/S8 (EH&S/Ergonomics) International Gas Generators Prequipment O.69 bar (10 psig) min. to 1.03 bar (15 psig) max., regulated Purge Gas Fitting Size & Type Purge Gas Pressure Purge Gas Purity Purge Gas Purity Purge Gas Pressure Purge Gas Purity Purge Gas Pressure Purge Gas Purity Pur	Facilities	Process Gas Fitting Size & Type	6.35 mm (0.25 in.) OD Swagelok Tube
Purge Gas Fitting Size & Type 6.35 mm (0.25 in.) OD Swagelok Tube Purge Gas Purity Lab or Electronic Grade N2/CDA 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 CDA, Oil Free, Dewpoint ≤7°C (45°F), Particulate Size <5 μm Pneumatic Gas Pressure 3.45 bar (50 psig) min. to 6.89 bar (100 psig) max., regulated Exhaust 38 mm (1.5 in.) OD Pipe Flange SEMI S2/S8 (EH&S/Ergonomics) International CE Marked Nitrogen, Hydrogen (Requires Additional Non-Optional Hardware)		Process Gas Purity	Lab or Electronic Grade
Purge Gas Purity Lab or Electronic Grade N2/CDA Purge Gas Pressure 2 bar (30 psig) min. to 6.9 bar (100 psig) max., regulated Pneumatic Valves Fitting Size & Type CDA, Oil Free, Dewpoint ≤7°C (45°F), Particulate Size <5 μm		Process Gas Pressure	0.69 bar (10 psig) min. to 1.03 bar (15 psig) max., regulated
Facilities 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, Oil Free, Dewpoint ≤7°C (45°F), Particulate Size <5 μm Pneumatic Gas Pressure 3.45 bar (50 psig) min. to 6.89 bar (100 psig) max., regulated Exhaust 38 mm (1.5 in.) OD Pipe Flange SEMI S2/S8 (EH&S/Ergonomics) International CE Marked Ancillary Nitrogen, Hydrogen (Requires Additional Non-Optional Hardware)		Purge Gas Fitting Size & Type	6.35 mm (0.25 in.) OD Swagelok Tube
Turge Cas Tressure 2 bar (50 psig) min. to 0.9 bar (100 psig) max., regulated Pneumatic Valves Fitting Size & Type 6.35 mm (0.25 in.) OD Swagelok Tube CDA, Oil Free, Dewpoint ≤7°C (45°F), Particulate Size <5 μm			Lab or Electronic Grade N2/CDA
Type Pneumatic Gas Purity Pneumatic Gas Pressure Exhaust SEMI SEMI Ancillary Ancillary Fouringment Description CDA, Oil Free, Dewpoint ≤7°C (45°F), Particulate Size <5 μm 3.45 bar (50 psig) min. to 6.89 bar (100 psig) max., regulated 38 mm (1.5 in.) OD Pipe Flange S2/S8 (EH&S/Ergonomics) CE Marked Nitrogen, Hydrogen (Requires Additional Non-Optional Hardware)			2 bar (30 psig) min. to 6.9 bar (100 psig) max., regulated
Particulate Size <5 µm Pneumatic Gas Pressure Exhaust SEMI Self Self Self Self Self Self Self Self		_	, ,
Pneumatic Gas Pressure regulated		Pneumatic Gas Purity	
SEMI S2/S8 (EH&S/Ergonomics)		Pneumatic Gas Pressure	\ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \
Ancillary Gas Generators CE Marked Nitrogen, Hydrogen (Requires Additional Non-Optional Hardware)		Exhaust	38 mm (1.5 in.) OD Pipe Flange
Ancillary Gas Generators CE Marked Nitrogen, Hydrogen (Requires Additional Non-Optional Hardware)	Compliance	SEMI	S2/S8 (EH&S/Ergonomics)
Ancillary Gas Generators (Requires Additional Non-Optional Hardware)		International	CE Marked
Facilities Chiller, Scrubber		Gas Generators	
		Facilities	Chiller, Scrubber

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