

ModVIA™ Plasma System

Features and Benefits

- Incorporates VIA™ Series technology to minimize CF4 gas usage for desmear applications during PCB panel plasma treatment
- Field upgradeable to grow with production requirements and business operations
- Consumes minimal floor space and accommodates multiple panel sizes within that small footprint
- High-flux electrodes (HFE) with temperature-controlled cooling loop delivers superior process uniformity



Designed to Meet a Changing Production Environment

The ModVIA Plasma System maintains a perfect balance between its predecessors, the PCB-800/1600, and its contemporaries, the Pro- and MaxVIA™ systems. The chamber is still purely “PCB series” in size and function, but everything else has been upgraded to VIA series technology – ranging from gas distribution and pump package to user interface and control parameters.

By sharing similar components and interface, Nordson MARCH is making it easier to increase capacity for plasma-treating PCB panels. The ModVIA system can process low-volume, high-mixture products, which is ideal for small- to medium-sized businesses or R&D institutions. As production volume increases, the system can be upgraded from four plasma cells to a maximum of eight plasma cells.

The ModVIA system is self-contained and requires minimal floor space. The chassis houses the plasma chamber, control electronics, 40 kHz RF generator, pump/blower package and automatic matching network. Maintenance access is available from either front or rear access panels.

The plasma chamber is constructed of high-quality aluminum for superior durability. The chamber is designed to process PCB panels in separate plasma cells in order to deliver high etch rates with excellent treatment uniformity.

Application-Specific Technology

The ModVIA plasma system incorporates the best of Nordson MARCH's market leading technology. The High Flux Electrodes (HFE) design, used to generate plasma, was taken directly from the MaxVIA™-Plus plasma system. High flux electrodes are capable of producing uniform plasma for treatment of PCB panels; including applications such as desmear and etchback.

The ModVIA system can process rigid and flexible PCB panels of various shapes and sizes, and is suitable for both through-hole and blind via applications.

The system is designed to accommodate a wide range of process gases to meet every customer's specific requirements (typical process gases may include Ar, O2, N2, and CF4).

Three electronically controlled mass flow controllers (MFCs) are standard, which enable optimal gas control. An additional two MFCs are available as an option.

Specifications: ModVIA™ Plasma System

Enclosure Dimensions	W x D x H – Footprint	1652W x 1747D x 2445H mm (65W x 69D x 97H in.)
	Net Weight	1776 kg (3915 lbs)
Chamber	Number of Available Cells	4, upgradeable to 8
Electrodes	Configuration	Temperature Controlled Power-Power
	Working Area	1118D x 660H mm; (44D x 26H in.)
RF Power	Standard Wattage	5 kW
	Frequency	40 kHz
Gas Control	Available Flow Volumes	500, 1000, 2000 or 5000 sccms
	Maximum Number of MFCs	5
Control	Interface	PLC Control with PC-Based Touch Screen Interface
Vacuum Pump	Standard Purged Dry Pump	63 cfm
	Cooling Water Flow	5 slm
	N2 Pump Purge Flow	14 slm
	Standard Booster Pump	550 cfm
Facilities	Power Supply	208 VAC, 50 A, 3-Phase + Ground; 50/60 Hz
	Process Gas Fitting Size & Type	6.35 mm (0.25 in.) Swagelok
	Process Gas Purity	CF4 = 99.97%; O2 = 99.996%; N2 = 99.99%; Ar = 99.999%; H2 = 99.999%
	Process Gas Pressure	1.03 bar (15 psig) min. to 1.38 bar (20 psig) max., regulated
	Purge Gas Fitting Size & Type	6.35 mm (0.25 in.) Swagelok Tube
	Purge Gas Purity	N2 = 99.99%
	Purge Gas Pressure	1.03 bar (15 psig) min. to 1.38 bar (20 psig) max., regulated
	Pneumatic Valves Fitting Size & Type	6.35 mm (1/4 in.) Swagelok
	Pneumatic Gas Purity	CDA, Oil Free, Dewpoint ≤7°C (45°F), Particulate Size <5 µm
Compliance	USA	EH&S/Ergonomics
	International	CE Marked
	Exhaust	NW 40 @ Utility Panel
Ancillary Equipment	Gas Generators	Nitrogen, Hydrogen (requires Additional Non-Optional Hardware)
	Facilities	Chiller, Scrubber, Transformer

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