

# PLASMA CLEANING EQUIPMENT PROVIDER DIRECTORY

Company Address ☑ Founded	Model ☑ Introduced ☑ Type	Plasma Technology	Plasma Modes ☑ Gases	<b>S</b> Chamber Size Vol=Chamber Volume, cm <sup>3</sup> ; ES=Electrode Sizes, mm  <b>C</b> Capacity Max=Maximum Substrate Sizes, mm; Min=Minimum Substrate Sizes, mm; Dia=Wafers, maximum diameter, mm	<b>O</b> Throughput ☑ Applications  <small> <b>O</b> Throughput: P/H-Packages/Hour; S/H-Strips/Hour; M/H-Magazines/Hour; W/H-Wafers/Hour  <b>☑</b> Applications: PW-Pre-Wirebond; PD-Pre-Die Attach; PE-Pre-Encapsulation; PoD-Post-Die Attach/Pre-Encapsulate; B/H-Butterfly/Hermetic-type packages; SiP-SiP/MCM/MCP/Hybrid packages; WFR-WLP/wafer flux removal; WRS-WLP/wafer resist stripping; WC-WLP/wafer for other cleaning (specify); OP-Other Packages (specify)           </small>	Unique features	[web site] ☑ Customer Contact and E-Mail ☑ Phone ☑ Fax ☑ Additional Offices
<b>March Plasma Systems</b> 2470-A Bates Ave. Concord, CA 94520 ☑ 1984 (acquired by Nordson March 1999)	AP-1000 ☑ Jan. 2001 ☑ Batch	13.56MHz @ 0-1,000 W	D, RIE, DS, DIF ☑ Unlimited, including Ar, O, H, CF <sub>4</sub> , He, N	<b>S</b> Vol=128,000; ES=Max. 10 electrodes, ea. 350 x 405mm  <b>C</b> Min=No minimum; Dia=300mm	<b>O</b> S/H=1280, M/H=32, W/H=40  ☑ PW, PD, PE, PoD, B/H, SiP, WFR, WRS, WC	Self contained, PLC touchscreen interface, unique magazine treat- ment technology	[marchplasma.com]
	ITRAK ☑ Mar. 2000 ☑ Automated	13.56MHz @ 0-300 W	D ☑ Unlimited, including Ar, O, H, CF <sub>4</sub> , He, N	<b>S</b> Vol=N/A; ES=N/A  <b>C</b> Max=230mm L x 70mm W; min. 178mm W x 38mm W	<b>O</b> S/H=120  ☑ PW, PD, PE, PoD, B/H, SiP, WFR, WRS, WC	High uniformity, high throughput, self contained, PLC touchscreen interface	
	XTRAK ☑ June 2001 ☑ Automated	13.56MHz @ 0-600 W	D, DIF ☑ Unlimited, including Ar, O, H, CF <sub>4</sub> , He, N	<b>S</b> Vol=N/A; ES=N/A  <b>C</b> Max=305mm L x 152mm W; min. 50 mm L x 16mm W	<b>O</b> S/H=180, C/H=180  ☑ PW, PD, PE, PoD, B/H, SiP, WFR, WRS, WC	Ion-free plasma, servo- motor handling, high uniformity, high through- put, self contained, PLC touchscreen interface	
	FlexTRAK™ ☑ July 2002 ☑ Automated	13.56MHz @ 0-600 W	D, DIF ☑ Unlimited, including Ar, O, H, CF <sub>4</sub> , He, N	<b>S</b> Vol=N/A; ES=N/A  <b>C</b> Max=335mm L x 305mm W; min. 50 mm L x 25mm W	<b>O</b> S/H=480, C/H=480  ☑ PW, PD, PE, PoD, B/H, SiP, WFR, WRS, WC	High throughput, short cycle times, can be configured with attachable strip/carrier handling or automatic wafer handling equipment	
<b>NEXX Systems, LLC</b> 90 Industrial Way Wilmington, MA 01887 ☑ 2001 (Plasmaquest was the founder name. The Cirrus product line was acquired from Plasmaquest by ASTeX (Applied Science and Technology) which was subsequently merged with MKS Instruments. NEXX Systems purchased the Cirrus product line from MKS in 2001.)	Cirrus 80 ☑ 1995 ☑ Batch	2.45GHz @ 1,000 W	DS, Permanent magnet ECR source using microwaves  ☑ Ar, O, H, CF <sub>4</sub> , He, N	<b>S</b> Vol=175cm <sup>3</sup> for 600 x 600mm cylinder  <b>C</b> Min. substrate 500 x 500mm	<b>O</b> M/H=64  ☑ PW, PD, PE, PoD	ECR high density (1,012ions/cm <sup>3</sup> ) low pressure (7µTorr) plasma	[nexxsystems.com] ☑ Kathy O'Donnell, Product Manager Nimbus and Cirrus) NEXX Systems, Inc. 90 Industrial Way Wilmington, MA 01887-4610  ☑ 978.284.4916 ☑ 978.239.2359 ☑ 978.284.4970
<b>Panasonic Factory Automation Company</b> (Division of Matsushita Electric Corporation of America) 1711 North Randall Rd. Elgin, IL 60123 ☑ 1988	PC30B-HS model number KXF-919D and PC32P-M model number KXF-303P  ☑ NS ☑ Both auto- mated, inline	RF parallel electrode type, single substrate exposed to plasma, not batch or bulk type	☑ Ar, O	<b>C</b> PC30B-HS: 250mm L x 70mm W; PC32P-M: 330mm L x 160mm W; Min=50mm L x 20mm W	<b>O</b> NS  ☑ PW, PD, PE, PoD	Reliable use of ultra-thin gold plating, improved wetability of organic surfaces for overmolding and underfill processes	[panasonicfa.com] ☑ Tom Garvin, Application Engineer garvint@panasonic.com  ☑ 847.468.4459 ☑ 847.468.4599
<b>PacTech</b> 328 Martin Ave. Santa Clara, CA 95050 ☑ 1995	PlasPac 300 ☑ 1999 ☑ Batch	13.56MHz @ 2,500 W	RIE ☑ Ar, O, H, CF <sub>4</sub> , He, N, SF <sub>6</sub> , Carbon Tetrafluoride	<b>C</b> Vol=85; ES=75mm; Dia=300mm	<b>O</b> W/H=75 ea. 150mm, 60 ea. 200mm, 15 ea. 300mm  ☑ PW, WRS, O=substrate cleaning and wetability improvement by Ar plasma	Selective wafer cleaning, optimized for bumping and wire- bonding processes, high power and cleaning/etching homogeneity, flexibility	[pactech-usa.com] ☑ Ron Blankenhorn, President, PacTech USA ron@pactech-usa.com  ☑ 408.588.1925 x201 HQ: PacTech GmbH Am Schlangenhorst 15-17, 14641 Nauen, Germany
<b>Ultra Clean Processing (UCP)</b> Alte Landstrasse 6 9496 Balzers Liechtenstein ☑ 2003	LFC150 ☑ 2001 ☑ Batch	70 ADC @ 2,000 W	DIF ☑ Ar, H <sub>2</sub> (Generator) or N <sub>2</sub>	<b>C</b> 160L; 75- 200mm (24/run); 4 slotted magazines; 8 strips, 16mm W	<b>O</b> 8 slotted magazines; 75- 100mm wafer (24-20 each), or 4 slotted maga- zines; S/H=1,000	DC plasma chemical cleaning, high throughput, passivation layer, hydrogen generator	[ucpgroup.com] ☑ Albert Zueger, albert.zueger@ucp.li
	LFC060S ☑ 2002 ☑ Automated	13.56MHz @ 300/ 600 W	DS ☑ Ar/N <sub>2</sub> , Ar/O <sub>2</sub> or Ar/H <sub>2</sub> mixtures	<b>C</b> 6L; 75-200mm (24/run); 4 slotted magazines; 8 strips, 16mm W	<b>O</b> 8 slotted magazines; 75- 100mm wafer (24-20 each), or 4 slotted maga- zines; S/H=300	Single strip cleaner, stand- alone with integrated handler, excellent uniformity	