GIGAfab Modular

Single Wafer Ashing System

- Fully automated plasma system for resist strip and descum process
- Bridging tool for wafer sizes 100 / 150mm or 150mm / 200mm
- Modular design with up to three process chambers
- Dual arm handling system with on-the-fly alignment for maximum throughput

Single Wafer Asher with proprietary Microwave Plasma Source

The **Automatic Single Wafer Asher GIGAfab LED** is designed to serve fabrication of opto-electronics, MEMS and power devices. It is equipped with a unique microwave plasma source for high uniformity, providing highly productive processing across a wide temperature range.

The modular platform can be configured for 100, 150 or 200 mm wafer size with multiple cassette stations and up to three process chamber modules. Each process chamber features a gravity wafer chuck with lift pins for loading and unloading. It is thermoelectrically controlled from 65°C to 250°C. Wafers are loaded and unloaded by an atmospheric robot with dual arm configuration for highest throughput. A cooling plate allows cool down of the wafers prior to re-loading into the plastic cassettes. The chamber lid is easy to open for maintenance access (clam shell opening).

System performance
Wafer throughput: varying from 30-180 wafer/hour, depending on process and number of process chamber modules.

Temperature range for stripping: 100-250°C

Uniformity: +/- 7.5% across 200 mm for Descum

Applications

- Resist strip and Descum for opto-electronics and MEMS
- Sacrificial layer removal of, polyimide, PMMA etc.
- Fast resist ashing after high-dose Implant and RIE

Technical Data

Process Chamber	Aluminum
Process Gas Supply	2 gas channels included, 2 optional
Vacuum Gauge	MKS Baratron capacitance manometer
Pressure Control	Down-stream control valve
Wafer Loading	Fully automatic wafer handling, 3-axis robot with vacuum end effector and wafer mapper, optional double arm robot
	Maximum Wafer Size 200 mm
Plasma Generation	Proprietary microwave source
	2.45 GHz, maximum power 1000 W
End Point Detection	Optical emission EPD, plasma verification
System Control	PC-based controller, with graphical user interface
Operating System	QNX real time platform
Program Features	Manual or automatic operation,
	Multiple recipe storage (1-10 steps each), user password, self test routines,
	Warning and error messaging
	Real time process monitoring,
	On-screen display of graphic plots,
	Data logging, export of process data
Interfaces Ethernet,	USB, RS232 interface
System State Signal	Light tower R/Y/G/buzzer

Supplies

Electricity	230/400 V, 50/60 Hz,
	3 phase, N, PE, 3 x 15 A installed power approx. 12 kW
Process Gas, Vent	1-2 bar (15–30 psi), 1/4" Swagelok
Compressed Air	6 mm Festo QS, 4-6 bar, (60-90 psi)
Vacuum	4 mm Festo QS, <20kPa, 50 l/min
Standards	CE-certified, Semi S2/S8 compliant

Dimensions	**(W/D/H)**
One chamber (straight)	750 x 1500 x 1850 mm
	(30" x 59" x 73")
One chamber (angle)	1200 x 950 x 1850 mm
	(48" x 38" x 73")
Three chamber	1750 x 1500 x 1850 mm
	(69" x 59" x 73")
Weight	
One chamber	450kg (990 lbs)
Two chambers	650kg (1450 lbs
Three chambers	850kg (1870 lbs)

Options

Vacuum Pump (one per chamber)

SECS GEM factory automation interface

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