

Resist Ashing System GIGAbatch 360 P / 380 P

PVA TePla



- Photoresist removal after high-dose implant or dry etch process
- Premium version for high-end applications
- No device damage due to microwave plasma
- Automatic transfer unit for 150mm or 200mm wafers

Plasma Systems



Advanced Microwave Plasma Batch Ashing

The **GIGAbatch 360 P / 380 P** are compact microwave plasma reactors for resist removal and substrate cleaning, dedicated to high volume manufacturing of advanced semiconductor products at very low cost of ownership. A pristine glass front and stainless steel cabinet panels qualify the tools for leading edge cleanroom environment. The systems are able to handle various substrate sizes ranging from 2" to 8" and can accommodate up to 75 wafers per run. Wafer support arms, custom-designed for the respective wafer carriers (quartz boats), are included. The convenient motorized door allows wafer loading without touching the plasma chamber, reducing loading errors and particle defects. A wafer transfer unit is offered optionally for automatic wafer loading. In combination with this unique loading platform up to 50 wafers can be transferred directly into the chamber simultaneously. Microwave plasma is ideal for resist removal in modern device fabrication, since it produces a very high concentration of chemically active species along with low ion bombardment energy, guaranteeing fast ash rate and a damage-free plasma process.

Applications

- Removal of photoresist after high dose implant or dry etching
- Wafer and substrate cleaning
- Suitable for various substrate technologies, like silicon, III/V-compounds, quartz, ceramic, lithium niobate, etc.

Technical Data

Wafer Size	Model 360 P: up to 150 mm Model 380 P: 200 mm
Throughput	Up to 150 wafers/hour, depending on type of process
Batch Size	Up to 75 wafers, depending on size
Wafer Loading	Manual wafer loading outside of plasma chamber optional automatic loading with WTU
Plasma Chamber	Quartz, depth: 395 mm (15")
Model 360 P	Diameter: 245 mm (9.6"), Volume: 18 l
Model 380 P	Diameter: 300 mm (12"), Volume: 28 l

Plasma Generation	Microwave source (2.45 GHz), maximum power 1000 W
Process Gas Supply	2 gas channels included, 2 optional
Vacuum Gauge	MKS Baratron capacitance manometer
Temperature Monitor	Infrared thermometer
End Point Detection	Optical emission EPD, plasma verification
System Control	PC-based controller, 10.4" color monitor, GUI with function keys
Operating System	QNX real time platform
Program Features	Manual or automatic operation, user password, multiple recipe storage (1-10 steps each), self test rou- tines, warning and error messaging
Process Tracking	Real time 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

Performance Data

Uptime	>95%
MTBF	>500 h
MTTR	<2 h
Particle level	<0.1/cm ² @ 0.3µm
Metal Contamination	Fe, Co, Ni <10 ¹⁰ Atoms/cm ²
Standards	CE-certified, Semi S2/S8 compliant

Supplies

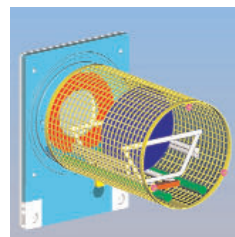
Electricity	230 V, 50/60 Hz, 15 A
Process Gas, Vent	1-2 bar (15-30 psi), 1/4" VCR female
Compressed Air	6 mm Festo QS, 4-6 bar, (60-90 psi)

Dimensions

W/H/D	795 x 1540 x 710 mm (32" x 61" x 28")
Weight	190 kg (420 lbs)

Options

Vacuum Pump	Oil rotary vane pump or dry pump, 65 m ³ /h or larger
Wafer Transfer Unit	Model A360P: 50 wafers up to 150 mm Model A380P: 25 wafers 200 mm
Host Communication	SECS GEM software protocol
Hydrogen Gas Supply	H ₂ generator, any mixture, compliant to ATEX regulations, TÜV certified



PVA TePla AG
BU Plasma Systems
 Ammerthalstrasse 34
 85551 Kirchheim (Munich)
 Germany

Phone +49(0)89-905 03-0
 Fax +49(0)89-905 03-185
 E-Mail plasma@pvatepla.com
 Home www.pvatepla.com
 www.tepla.com