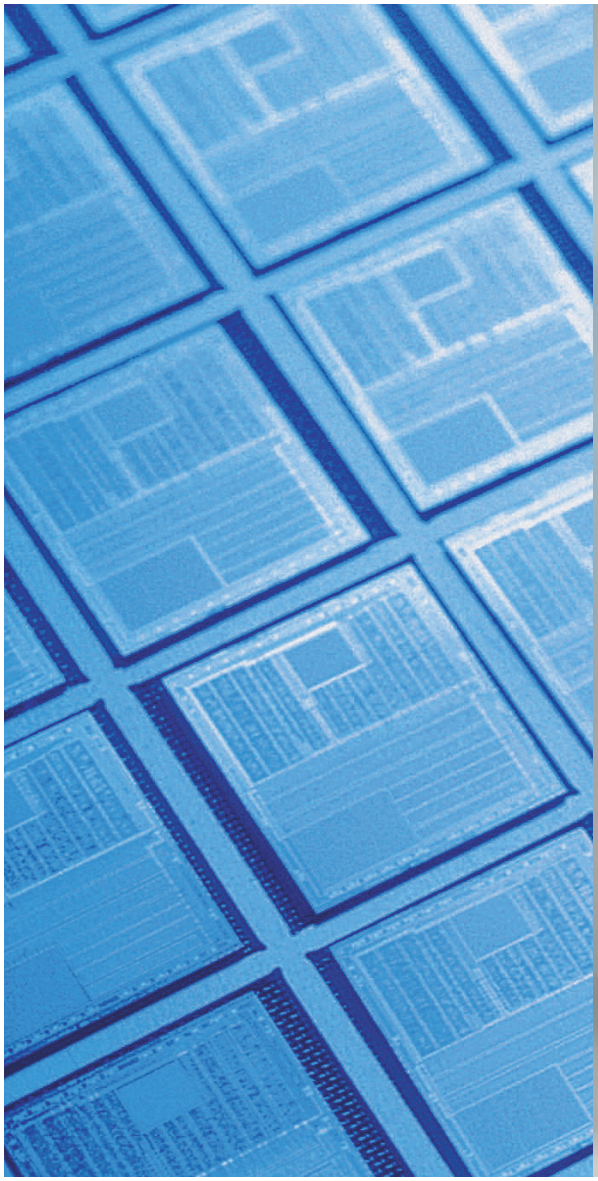
PVA TePla





Microwave Plasma System GIGA 690

- improved wire bonding
- improved underfill
- improved mold adhesion
- improved ball attach

Plasma Systems

PVA TePla

Microwave Plasma Excellence

The **Plasma System GIGA 690** is a low-pressure microwave plasma system for cleaning advanced chip packages prior to die attach, wire bond and encapsulation. The electrode-free energy feeding is the key factor for processing substrates in their original, unslotted magazines. Microwaves of 2.45 GHz are simply applied through a window in the wall of the vacuum chamber producing a largely extended plasma there. Unslotted magazines are processed in a downstream configuration, slotted magazines are more properly placed on a rotating platform. Any size of magazine can be processed.
Due to the use of microwaves the plasma system GIGA 690 provides for fast and damage-free plasma processing. In these plasma systems the plasma cleaning effect is based on chemical reactions of reactive plasma particles (radicals) guided through the substrate carriers. The system is easy to operate and feature simpliest loading and unloading, manually as well as automatically. The highly user- friendly system software complies with standards in semiconductor industries.

Technical Data

Process Chamber

Material	Aluminum
Volume	91 liters
Inner dimensions	450 x 450 x 450 mm
	No RF-electrodes inside chamber

Vacuum System

Vacuum connection	DN 63 ISO K
Process gas control	2 gas channels standard, each with MFC and solenoid valve
Base pressure	Approx. 2 x 10^{-2} mbar
Process pressure	Approx. 0.2–2 mbar
Evacuation time	Approx. 1 minute
Vacuum gauge	Capacitance manometer, 10^{-2} to 10 mbar
Venting	Solenoid valve

Plasma Source

Microwave Generator

Frequency	2.45 GHz Adjustable magnetron, air-cooled, proprietary antenna and coupling geometry
Power	0–1.000 W

Performance Data

Uptime	>95 %
MTBF	>500 h
MTTR	<2 h

System Control

Hardware	PC based system controller 10,4" monitor, GUI Light Tower system status r/g/y
Software	Realtime Operating System QNX Manual and automatic system control multiple recipe storage Process recipe up to 100 recipes with 1-10 steps each System selftest routine, warnings error message dialog Soft- and hardware safety interlocks, optical plasma intensity monitoring

Supplies

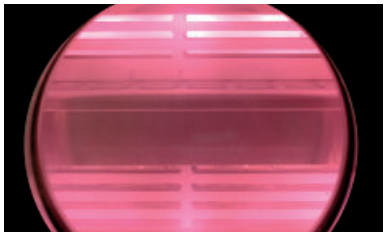
Electricity	230 V, single-phase, 15 A, 50/60 Hz
Process gas	1/4" Swagelok connector, input pressure 1–2 bar
Compressed air	1/4" Swagelok connector, input pressure 4–6 bar

Dimensions

W/H/D	Approx. 1.050 x 1.750 x 800 mm
Weight	195 kg (system only, excluding pump)

Options

Pumping system	Vacuum pump system comprising rotary vane pump or combination of rotary vane pump and 250 m^3/h (145 cfm) rootsblower, 400 V, 3 phase, 32 A max.
Rotary platform	Aluminum, 400 mm Ø
Gas channels	3–4
ECR setup	



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