



Microwave Plasma System GIGA 690 Solar

- Edge isolation (Junction separation) for solar cells

PVA TePla

Microwave Plasma Excellence

The **Microwave Plasma System GIGA 690 Solar** is a low-pressure microwave plasma system tailored for applications in solar cell manufacturing for edge isolation. The user may choose between the table top unit or the system that is packed in a stand-alone cabinet.

Key features are the especially designed large area microwave source with remote plasma discharge and the unique telescopic rotary stage.

Due to the use of microwave plasma generation, the system provides fast chemical reaction for high rates and low temperature load.

The system is easy to operate and features easy loading comfort in connection with the telescopic loading stage option with rotary table and cell clamp. The system software complies with the standards in the semiconductor industry.

Technical Data

Process Chamber

Material	Aluminum
Volume	64 liters
Inner dimensions	400 x 400 x 400 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. 2×10^{-2} mbar
Process pressure	Approx. 0.5–1 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
Software	Light Tower system status r/g/y 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

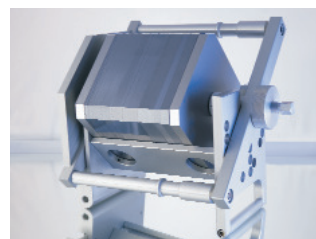
Electricity	230 V, single-phase, 15 A, 50/60 Hz
Process gas	1/4" Swagelok connector, input pressure 1–2 bar
Compressed air	1/4" Swagelok connector, input pressure 4–6 bar

Dimensions

W/H/D/Weight	Approx. 1.050 x 1.750 x 800 mm 195 kg (cabinet version, system only, excluding pump) Approx. 1.050 x 650 x 800 mm 150 kg (table top version, system only, excluding pump)
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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
Gas channels	3–4
Telescopic stage	Easy loading accessory includes rotating platform
Cell clamp	Cell stack holder with stacking accessory



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