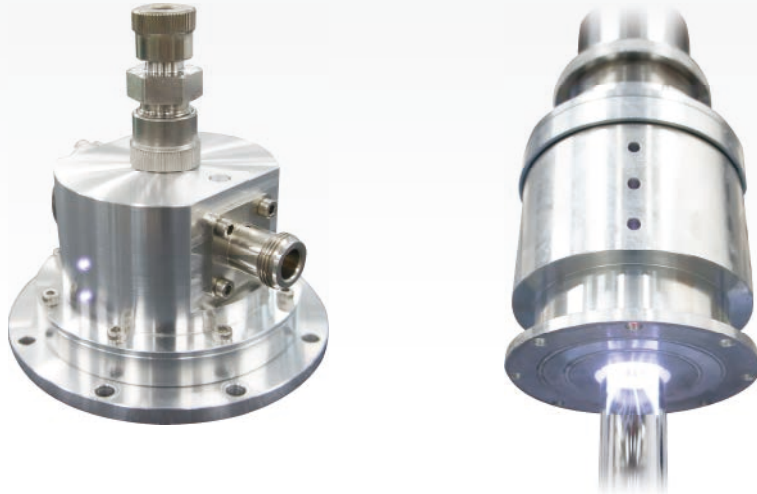


Compact Atmospheric Pressure Microwave Plasma Source



Compact atmospheric pressure microwave plasma source adopts a microwave hybrid mode type resonator developed by fusing the technology of three-dimensional electromagnetic field analysis considering charged particles/plasma and the design technology of high Q high power microwave resonator.

Because power can be supplied by coaxial cable, the setting of the plasma source with high flexibility is enabled, and system constitution with low cost is realized.

Plasma generated under atmospheric pressure is a non-equilibrium plasma, and the low plasma temperature enables plasma processing of the target object while suppressing thermal reactions. Therefore, it is suitable for continuous process (belt conveyor process). In addition, since it is possible to deal with organic matter including ecology, it is expected that a completely new plasma will be applied. In particular, plasma applications in the fields of nanoparticles such as carbon nanotubes, nanotechnology, biotechnology, and medicine have the potential to create new industries.

Applications

Industrial

- Processing for semiconductor manufacturing (Etching / Ashing / Deposition)
- Desmear processing of via holes on a PCB
- Processing of liquid crystal panels
- Surface modification of polyimide and epoxy materials
- Reduction processing of metal materials
- Washing after plating
- Increasing of junction strength
- Film processing
- Surface modification of lenses

Research / Medical / Pharmaceutical / Cosmetics

- Nano materials e.g. carbon nanotubes
- Nano particle synthesis
- Sterilization and washing
- Nano particle inactivation
- Nano particle composition
- Thin film deposition
- Organic compound composition

Plasma Source

Cavity Type Plasma Source

Features: Atmospheric pressure, Reduced pressure

Applications: Thin film deposition, Etching, Spectral analysis, Sterilization treatment, Hydrophilic treatment



APLC024-015/141

- Operating Frequency: 2450MHz
- Input Power: 300W-1kW
- Pressure Range: 300Pa-Atmospheric
- Gas: Ar
- Cooling: Water cooling
- Plasma Spout Diameter:
APLC024-015 (φ 20mm)
APLC024-141 (φ 10mm)
- Connector: WR430 or WR340



APLC024-359

- Operating Frequency: 2450MHz
- Input Power: 100W-300W
- Pressure Range: 300Pa-Atmospheric
- Gas: Ar
- Cooling: Water cooling
- Plasma Spout Diameter: φ 10mm
- Connector: 7/16 Connector

Reentrant Type Plasma Source

Features: Low power, Small size, Easy to install in vacuum chamber

Applications: Thin film deposition, Etching, Spectral analysis



APLC024-348

- Operating Frequency: 2450MHz
- Input Power: 50W-100W
- Pressure Range: 1Pa-Atmospheric
- Gas: Ar
- Cooling: Air cooling
- Plasma Spout Diameter: φ 7mm
- Connector: N Connector

System

