

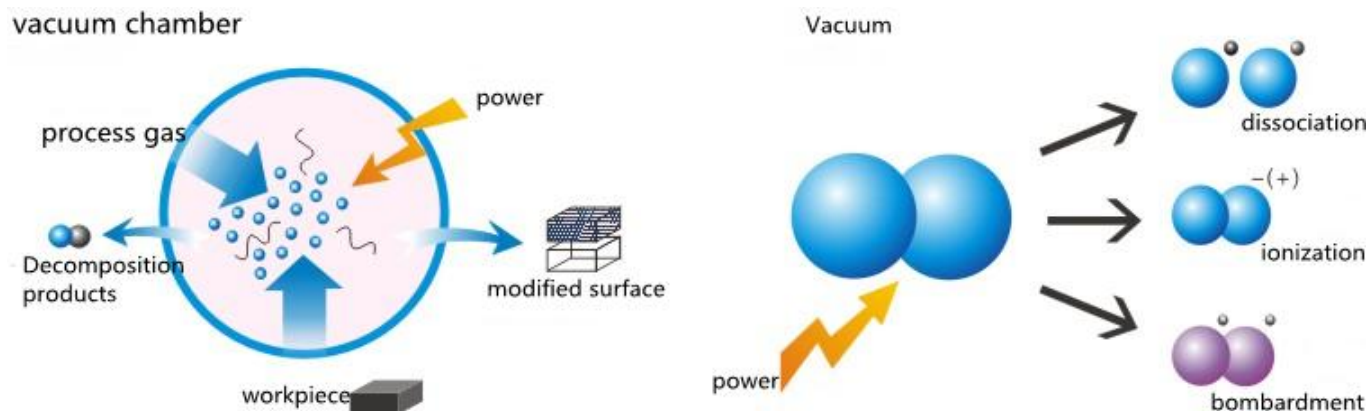
# **GD-5 Vacuum Plasma Cleaner Technical Specifications**

# I Theory of the Plasma Cleaning

Plasma is a state of existence of matter. Generally, matter exists in three states: solid, liquid, and gaseous, such as matter on the surface of the sun and the ionosphere in the earth's atmosphere. The state in which this type of matter exists is called the plasma state, also known as the fourth state of matter.

The following substances exist in the plasma: electrons in high-speed moving transition states, neutral atoms, molecules, atomic groups (radicals) in excited transition states, and ultraviolet rays generated during the dissociation reaction of ionized atoms, molecules, and molecules. reacting molecules, atoms. etc but the substance remains electrically neutral in general. The "active" components of plasma include ions, electrons, active groups, excited nuclides (metastable states). photons, and so on.

Plasma cleaning technology uses the characteristics of low-temperature plasma to make the plasma contact and react with the surface of the material, so that the surface of the processed material is chemically and surface etching and physically cleaned, improving the wettability of the surface, implanting new chemical functional groups.



## II Plasma Advantages

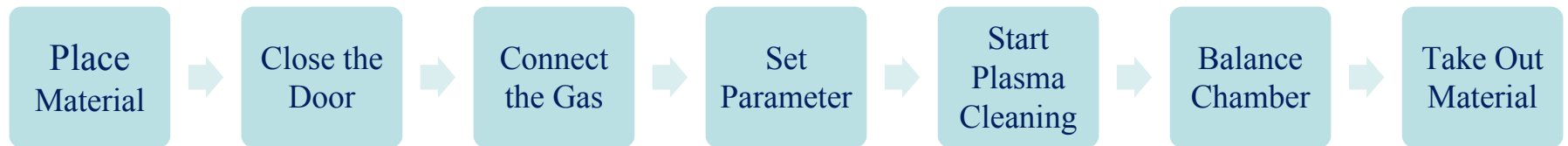
Compared with traditional processes, plasma surface treatment technology has the following advantages:

- **Strong function:** The modification only occurs on the surface of the material (about several to tens of nanometers), giving it one or more new functions without changing the inherent properties of the matrix;
- **Wide application:** It can be processed regardless of the type of substrate of the object to be processed, such as metal, plastic, glass, polymer materials, etc.;
- **Easy to operate:** The process is simple, the operation is convenient, the production controllability is strong and the stability is high;
- **High Efficiency:** Short processing time, high reaction rate, and good processing uniformity;
- **Energy saving and environmental protection:** The whole process of drying treatment method does not consume water resources, does not need to add chemicals, and does not produce pollution.

## III Product Introduction

GD-5 series plasma cleaners are positioned for small-scale production and scientific experiments in universities and colleges. They are widely used in electronics, solar energy, automobiles, textiles, packaging and printing, biomedical and general industries. They are characterized by high processing efficiency and repeatability. It is suitable for cleaning, activation, improving adhesion, adhesion and etching processes, and can be customized according to different needs of customers. Professional, efficient and stable solution.

## IV Equipment Work Flow Chart



## V Technical Parameter

Name	Vacuum plasma cleaner
Model	GD-5
Control System	PLC+ touch screen
Frequency	40 KHz / 13.56MHz
Voltage	AC 220V (±10V)
Power	300 W (Adjustable)
Gas Flow Control	2-way float flow control
Control Method	Automatic and manual methods
Cavity Size (mm)	Φ150×280
Cavity Material	316 Stainless Steel / Aluminum Alloy
Load Specifications (L*W) mm	120×230
Equipment Size (L*W*H) mm	550×560×400
Cavity Volume	5 L
Degree of Vacuum	30-100 Pa
Gas Select	Ar、N <sub>2</sub> 、O <sub>2</sub> 、Air、H <sub>2</sub> +N <sub>2</sub> (Mixed Composition)

## VI Equipment Main Configuration List

NO	Main Accessories Name
1	Vacuum Pasma Cleaner
2	Vacuum pump system and related accessories
3	Operation Manual

### ©Quality assurance and after-sales service

1. Our company is responsible for the one-year warranty for the equipment provided (except for consumables), and free maintenance and repairs for problems arising under normal application conditions;
2. After the one-year warranty expires, provide non-profit paid services to the equipment (only charge the cost of related services);
3. Provide long-term equipment maintenance, maintenance or improvement and other related matters.

## VII Appearance Drawing of Equipment

