

# RD-10 Roller Vacuum Plasma Cleaner

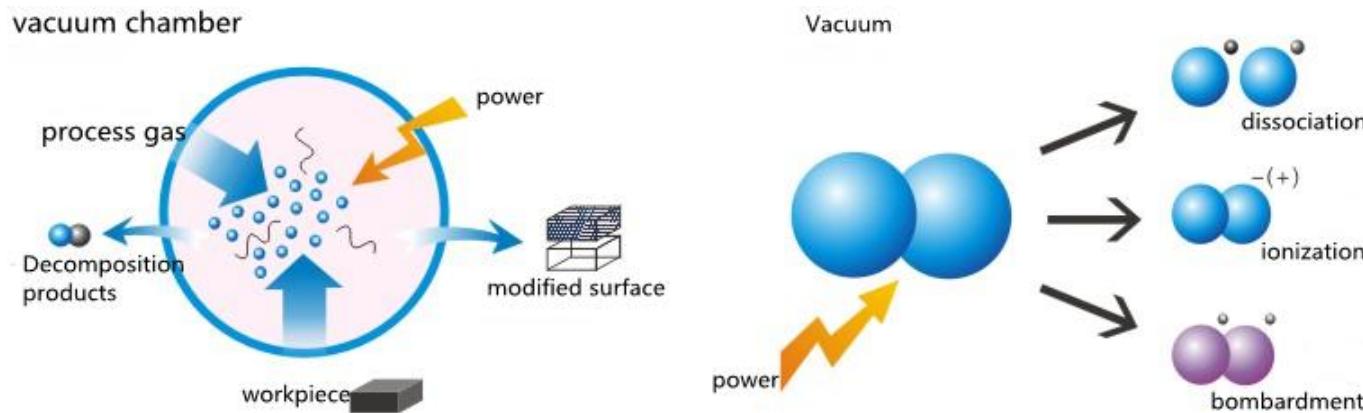
## Technical Specifications

# 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 shrinks 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

RD-10 vacuum plasma cleaning machine is a cleaning machine with a vacuum reaction chamber that can rotate 360°. It is widely used in small batch production in enterprises or scientific research in universities. The whole machine is compact, stable in performance, uniform and stable in treatment effect, and cost-effective. The vacuum reaction chamber can be rotated 360°. Widely used in powder, granular, and small irregular products. Its characteristics vacuum chamber body can be rotated 360° without dead angle, high processing efficiency, good uniformity and stability, convenient operation, high efficiency and stability, suitable for material surface cleaning, activation, improving adhesion, adhesion and other processes, and can be Tailor-made professional, efficient and stable solutions according to the different needs of customers.

## IV Equipment Work Flow Chart



## V Technical Parameter

Name	Vacuum plasma cleaner
Model	RD-10
Control System	PLC+ touch screen
Frequency	40 KHz
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)	Φ210*310mm
Motor Speed Range	< 10 r/min
Vacuum Reaction Chamber Size (mm)	Φ160*230mm
Equipment Size (L*W*H) mm	700×640×475
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 Plasma 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

