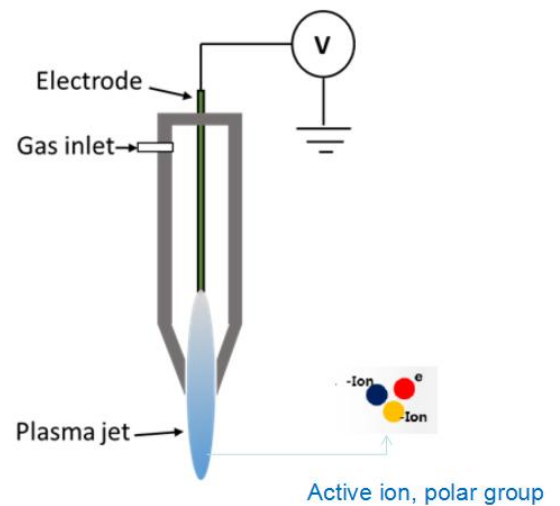# NE-ATD01

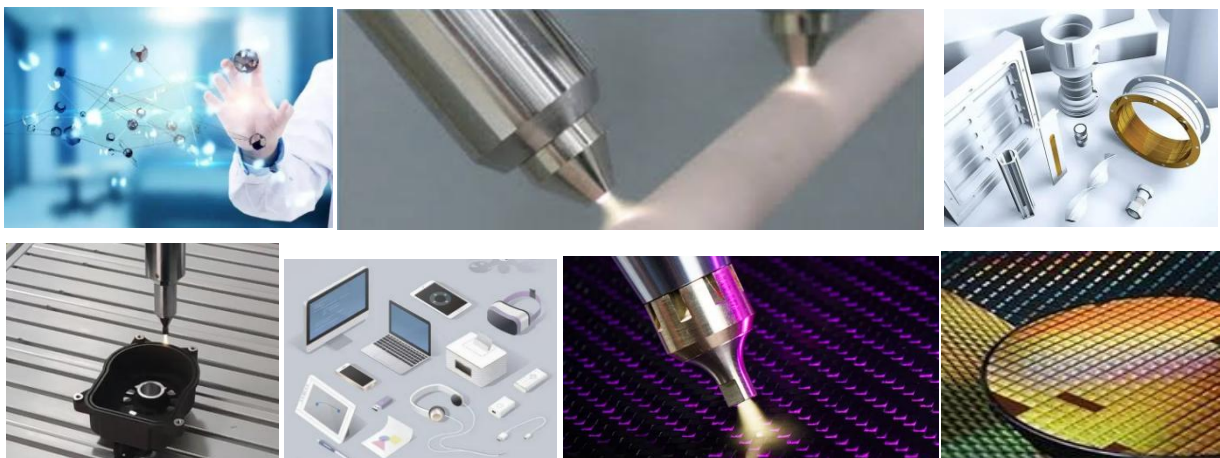# ATMOSPHERIC PLASMA TREATMENT SYSTEM-(DIRECT JET)

NE-ATD01 PROFILE

The atmospheric plasma cleaning machine is composed of plasma generator, gas conveying system and plasma spray gun. Due to a high voltage discharge an electric arc is generated, the pressurized air passing the electrodes is transferred into the Plasma state, and the plasma is sprayed to the treated surface with the help of the compression space, resulting in the corresponding physical and chemical changes on the treated surface. Through the nozzle the Plasma attains the substrate. To adjust the Plasma intensity, the distance between Plasma nozzle and substrate or the velocity of the movement device could be varied.

The surface of the treated object is cleaned, oil, additives and other ingredients are removed, and surface static electricity is eliminated. At the same time, the surface has been activated, increased adhesion. It is conducive to the product bonding, spraying, printing and sealing, it can be used on different materials, such as glass, metal, plastics, textiles and ceramics.

NE-ATD01 FEATURES

✧ Easy to install and use

The system must be connected to mains power and compressed air, no adjustment of air or power is necessary.

✧ Compact and Light weight

Compact and light weight makes ATR01 easy to integrate in almost any production line or robot cell.

✧ Potential free discharge

Allows treatment of both conductive,non-conductive as well as semi-conductive surfaces.

✧ High speed production

High power Plasma Discharge allows for high line speeds.

✧ Digital and analogue control signals

A large number of various signals are available on a digital interface to control and monitor the Plasma discharge at all times.

✧ Remote 485 communication

Using I/O communication mode, alarm output signal can control equipment start and stop, and obtain alarm data,seamless docking of any application scenario.

✧ Real-time detection of air pressure and power, fault alarm

✧ Accurately set air pressure and power, reduce interference, strong stability

NE-ATD01 SPECIFICATIONS

NO	Item	Specification	Remark
Plasma generator			
1	Size(L*W*H)	414.5mm*539mm*152.5mm	
2	Weight	21kg	
3	Power supply	220VAC±20% 50-60Hz	
4	output power	300~1000W(Adjustable)	Optional
5	Working intake joint	4×6mm Connector	
6	Configuration Space	Store in a well-ventilated place (ambient temperature less than 30℃). Reserve left, right and above the space with more than 150mm heat dissipation, reserve 150mm rear line space	
Plasma gunjet			
1	Size	188mm×48mm	
2	Nozzle size	10mm	Optional
3	Weight	2kg	
4	Distance between power supply and gunjet	3m	

Other specifications:

1	Effective cleaning range	2-10mm	
2	Processing speed	10-300mm/sec	
3	Processing distance	5mm-15mm to the object	
4	Control	Digital control Accurately set air pressure and power, reduce interference, strong stability	
5	Data detection	Detection of air pressure, motherboard temperature, transformer arc voltage.	
6	Alarm method	Light &Voice prompt	

COMPARISON BEFORE AND AFTER

The contact Angle of liquid on the surface of solid material is an important parameter to measure the wettability of liquid on the surface of material. If $\theta<90°$, the solid surface is hydrophilic, and the smaller the Angle, the better the wettability; if $\theta>90°$, the solid surface is hydrophobic.
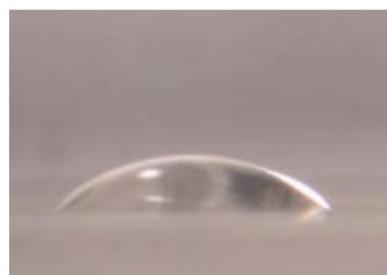

fig. 39: untreated surface

fig. 40: activated surface

The measurement of the dyne value is very common in printing, coating, laminating, welding and other applications. It can reflect the ability of the material surface to bond easily. In general, the greater the dyne value, the better the bonding performance of the surface with another material.
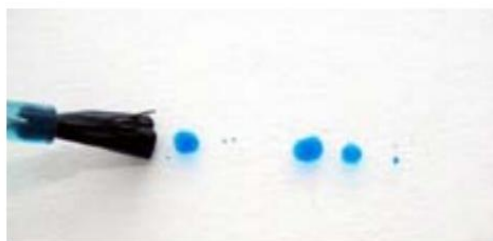

fig. 41: untreated surface (< 28 mN/m)

fig. 42: treated surface (72 mN/m)

ABOUT NAEN TECH

Naen Tech are an international leader in the design, development and manufacture of plasma surface treatment systems & advanced plasma processes.

Our products are installed worldwide and trusted to deliver consistent, reliable results in both leading research institutes and in critical manufacturing steps.

We are experts in plasma technology and surface science. We are trusted partners, valued for our courtesy, professionalism and dedication to delivering the correct solution for our clients.

OUR SERVICES

❖ **Contract plasma treatment**

We have more than 10,000 customer cases around the world, and we are equipped with technicians who can meet the plasma needs of various industries, and will provide a quick, no-nonsense feasibility solution for the surface treatment needs of different segments!

❖ **Surface testing laboratory**

With a comprehensive suite of surface analysis equipment, we are able to conduct a wide range of surface property tests, both before and after plasma treatment, in order to provide you a professional report with the whole pictures and videos.

❖ **After sales support**

The equipment is guaranteed for one year free of charge and provides lifetime technical services.

If the equipment fails (non-human damage), we will arrange after-sales personnel to follow up within 24 hours until the fault is eliminated.

❖ **Rental plasma systems**

We carry a wide range of our standard equipment in stock and available for short or long term hire. This is particularly useful for in-house proof of concept trials or to satisfy short term contract work.

❖ **Method development**

We have invested significantly in laboratory facilities to assess, test and investigate all aspects of plasma surface modification on a wide range of materials. Coupled with extensive in-house and real-world knowledge, we can usually deliver a tailored treatment quickly and efficiently to suit your individual product or production needs.