

Vacuum Plasma



Since 1992

Eltech
ENGINEERS PVT. LTD.

An ISO 9001 - 2015 Company





Eltech's Vacuum Plasma

Eltech's Laboratory Vacuum Plasma unit is portable, small enough to fit onto a bench and is a cost effective solution to the problem of improving surface wettability.

The lab vacuum plasma unit is very simple to install and can be operational within minutes. It comes equipped with its own vacuum pump. Featuring operator friendly & easy to learn and use. The see-through door enables you to see your parts being treated in the chamber. All of the key parameters are adjustable (i.e. treatment power, time & vacuum level) allowing you to achieve total process control.

What is Plasma?

When matter is continually supplied with energy, its temperature increases and it goes from the solid through the liquid to the gaseous state. If the energy input is continued, the atomic shell breaks down and charged particles are created (negatively charged electrons and positively charged ions. This mixture is referred to as plasma or the "fourth state of matter".

Briefly: Change of state as energy is added:

solid liquid gas plasma

In nature, plasma can be found for example in lightning, auroras, flames and the sun.

How Could Vacuum Plasma Treatment Benefit You?

Eltech Engineers Pvt. Ltd. provides innovative surface modification technology and offers effective solutions to adhesion and wetting problems in many industries. Component preparation using plasma treatment is an important step prior to printing, bonding, painting, varnishing and coating processes. Plasma provides an economical solution for the cleaning and activation of part surfaces before further processing.

Eltech Engineers Pvt. Ltd. supplies plasma solutions to improve the surface energy of plastic and rubber components to ensure good adhesion of printing inks, paints, adhesives, coatings, potting materials etc. and for the surface cleaning of plastic, rubber and metal parts. Plasma surface modification equipment is widely used throughout a diverse range of industries and onto an ever increasing range of substrates.

Our growing list of customers includes many in the following industries: medical, automotive component, electronics, cable, pipe and many more. Through our many years of experience and continuous product development we have become one of the leading suppliers of Plasma Surface Modification equipment in India. Eltech Engineers is here to help you find the most appropriate surface modification technology and equipment to solve your problem





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How Does Vacuum Plasma Treatment Help to Solve The Problems of Adhesion?

To obtain good adhesion to low surface energy materials i.e. low or non-polar materials like PP, PE and HDPE etc. We need to modify the surface i.e. increase its polarity. Placing your components in the highly active environment that exists inside a plasma chamber is the ideal method to increase the material's polarity. The free radicals and other particles that exist in the highly active plasma discharge can attach to the material surface resulting in the formation of additional polar groups on the material surface, these have a strong chemical attraction to inks, paint, coatings, adhesives etc. leading to significantly enhanced surface energy and therefore adhesion.

Application field

1. Rubber and plastics industry.
2. Automotive industry.
3. The electronics industry.
4. Medical industry & many More...

Features

1. Easy to Use
2. Fast Treatment Times
3. Vacuum Level
4. Integrated Power Generator
5. Visible Plasma Process
6. Cost Efficient Surface Treatment

Benefits

1. ADVANCED IGBT Technology
2. Compact simple construction
3. Ultra High Frequency
4. Soft Start
5. Maximum Operator safety
6. Force cooled convertor for longer life

Technical Specifications

| | |
|----------------------|-------------------------------------|
| Vacuum chamber | 200 mm Dia x 280 mm long |
| Machine Type | VACUUM PLASMA |
| Mains Supply | 230 V, AC $\pm 5\%$, 1 \emptyset |
| Mains Frequency | 50 Hz $\pm 5\%$ |
| Output Frequency | 30 KHz |
| App. Output Power | 500 watt |
| Dynes Level | 38-48 dynes/cm |
| MOC of Machine | Mild steel powder coated |
| Treatment Gasses | Options..... O ₂ , Ar, |
| Treatment Time | 2 to 120 seconds |
| Chamber Pressure | 2 to 5 mbar |
| Electrical Potential | Potential-free discharge |
| Dimension | 600 mm X 500 mm X 330 mm |
| Weight | 25 kg |

Due to our policy of continuous Research & Development, Design & Specifications may change for improvement of the products.

Eltech Engineers Pvt. Ltd.

Manufacturers of :

Corona Treater, Plasma Treater,
3D Corona Treater, Static Eliminator
Ionizing Air Gun, Ionizing Air Blower,
Static Charger, Ozone Generator
Induction Cap Sealer

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