NEBULA
Advanced Plasma Surface Treatment Systems

NEBULA plasma surface treatment systems feature large format vacuum chambers along with many advanced features, all with the reliability of recipe driven PLC control.

They are configurable tools that are both robust enough for reliable, repeatable industrial processing and at the same time flexible enough for the research into, and development of, leading-edge plasma processes.

The NEBULA range has been designed around our core technologies in plasma surface treatment and plasma process development. With chamber volumes ranging from 50L to 150L, each instrument may be configured with multiple parts tray/electrodes for either horizontal or vertical mounting arrangements. Additionally, a high capacity rotary drum mechanism can be chosen for the treatment of large numbers of small parts for example.

NEBULA plasma systems are used for cleaning, adhesion improvement and enhanced wetting of surfaces via plasma surface activation. Treatments can be performed equally on metals, polymers, composites, glass and ceramics.

A unique feature of each NEBULA system is the addition of an optional monomer dosing inlet. This is a fully automated device for the introduction of a wide range of liquid monomers to produce permanently functionalised surfaces via plasma polymerisation, greatly extending the range of plasma surface treatment possibilities in a single machine.

Features

• 50L – 150L chamber volumes
• Horizontal, vertical and rotary drum parts tray options
• Plasma polymerisation inlet
• PLC control
• Fully automated, recipe driven processes

Touch-screen software
Rotating Drum option
Shelving options
**NEBULA SPECIFICATIONS**

**TYPICAL PROCESS RESULTS**

**PEEK sample**

- Gas: air
- Process pressure: 0.2mbar
- Power: 250W
- Total cycle time: 120sec

**BASE MODEL**

**OPTIONS**

**ENCLOSURE**
- Dimensions: W 612mm x H 1875mm x L 852mm (+200mm on side for cables)
- Weight: ~100-120kg depending on model

**CHAMBER**
- Material: Stainless Steel
- Form: Rectangular
- Dimensions: 30L (300x300x365mm), 50L (300x300x560mm), 100L (400x400x625mm), 150L (400x600x625mm)

**REMOVABLE PARTS CARRIER**
- Material: Aluminium/Stainless Steel
- Form: Flat horizontal trays, vertical carriers, rotary drum

**PLASMA POWER SUPPLY**
- Power: 0-1000W, continuously variable output
- Frequency: 40kHz

**PROCESS CONTROL**
- Interface: 15" Colour TFT, Windows10, PLC control
- Gas channels: 1-3 Digital Mass Flow Controllers
- Vent inlet: x1
- Purge inlet: x1
- Connections: 6mm compression, ¼" compression
- Pressure gauge: Pirani sensor
- Vacuum pump: 2-stage rotary* others to suit application, e.g. dry pump

**SERVICES**
- Electrical: 380-400 VAC/3~/N/PE, max. current 16A/phase, 50Hz
- Power cord: Suited to region
- Compliance: CE – ROHS - WEEE

**BENEFITS**

- compact standalone unit
- user friendly recipe driven interface
- unlimited recipes and steps per recipe
- fast treatment time
- precise & repeatable
- no hazardous emissions
- liquid dosing inlet option

Henekniker strive for continuous improvement and specifications are subject to change without notice.

**CONTACT ANGLE**

BEFORE TREATMENT

AFTER TREATMENT

**HENNIKER PLASMA**

UNIT B3, TRIDENT BUSINESS PARK
DATEN AVENUE
WARRINGTON, WA3 6AX
ENGLAND
TEL: +44 (0)1925 830 771
FAX: +44 (0)1925 800 035
WEB: www.plasmatreatment.co.uk

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