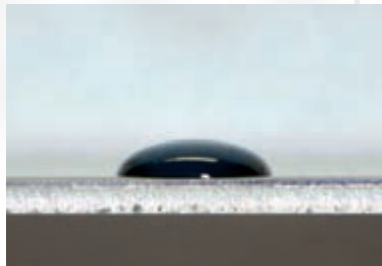


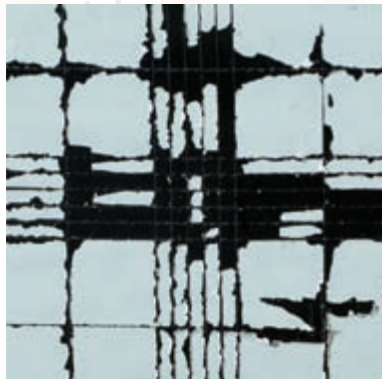
The pictures clearly show how different surfaces can be manipulated by means of targeted plasma treatment. The untreated materials can be seen in the left column, and the plasma treated surfaces on the right.



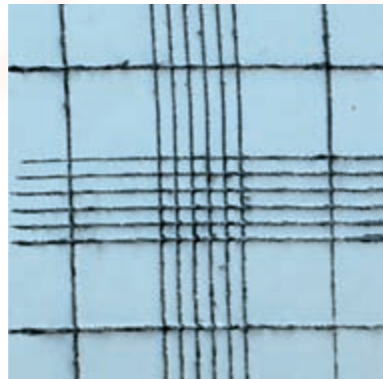
Water drop on untreated metal



Water drop on plasma treated metal



Grid cut test on untreated PP



Grid cut test on plasma treated PP



LABS-Test, which tests for silicone contamination, of a silicone containing sample



LABS-Test after plasma cleaning

### Applications

- Analysis (SEM,TEM)
- Archaeology
- Automotive industry
- Elastomer industry
- Medical technology
- Plastic industry
- Research and development
- Semiconductor industry
- Small scale manufacturing
- Sensor technology
- Textile treatment
- PDMS

...

## LOW COST Low Pressure Plasma Systems



Find us on the internet at:

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Plasma technology can be used on different materials such as glass, metal, plastics, textiles and ceramics.



● **Surface Cleaning**

(e.g. before bonding, soldering or gluing)

Organic remains are chemically transformed during the plasma process. The surface is subjected to a fine cleaning. Nearly all materials can be cleaned with an oxygen plasma.

● **Surface Activation**

(e.g. before printing, varnishing or gluing)

Plasma activation is used to transform non-polar surfaces such as plastics (PDMS, PE, PP, ...) into adhesive surfaces. The surface energy is increased without damaging the material's properties.

● **Surface Etching**

(e.g. before microstructuring of silicon or etching of PTFE)

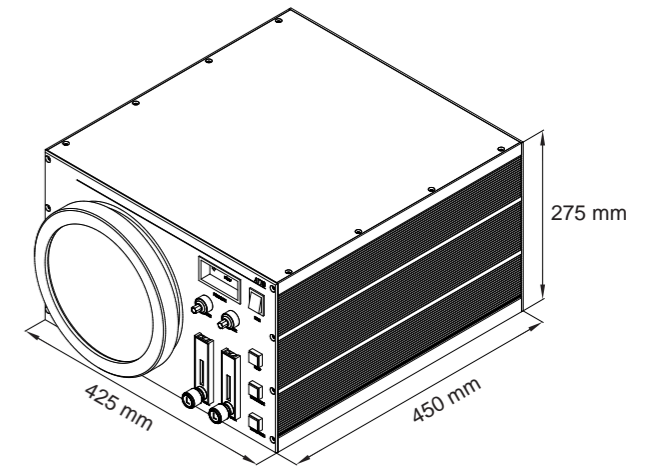
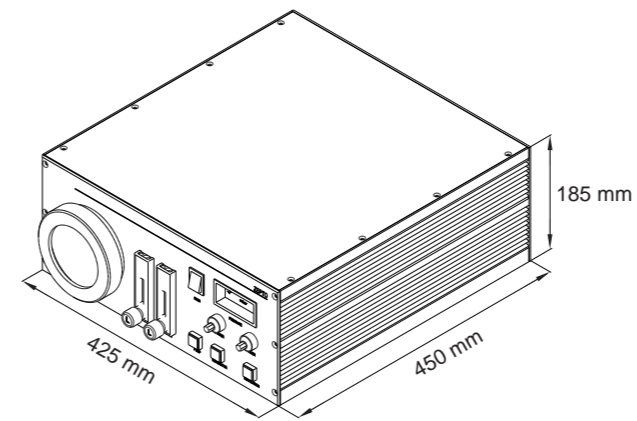
Teflon surfaces must be etched in order to become hydrophilic. Plasma etching is performed without aggressive chemicals.

● **Surface Deposition - plasmopolymerization**

(e.g. depositing of hydrophobic / hydrophilic layers)

Monomers with a suitable vapor pressure are implemented and used to produce various effects on the surface.

## Technical Data



### ZEPTO

**Weight:**

approx. 15 kg (33 lbs) without pump

**Plasma Chamber:**

Ø 105 mm (4.1 in), L 300 mm (11.8 in)  
Chamber volume: approx. 2.6 litres (0.69 gallons)

**Gas Connection:**

Two gas channels via needle valve without magnet valve opening

**Plasma Power Supply:**

40 kHz / 100 W, infinitely variable or optional 13,56 MHz / 50 W

**Electric Control:**

Manual, Timer, process time

**Connections:**

Gas: 6 mm Swagelok (0.24 in)  
Pipe: 4 mm in, 6 mm out (0.16 in, 0.24 in)  
Power supply: 220 V - 240 V AC / 6 A, 50 - 60 Hz  
Exhaust tube: Ø 10mm (0.4 in)

**Vacuum Pump:**

Rotary vane pump 2.5 m<sup>3</sup>/h (660 gallons / h)

### ATTO

**Weight:**

approx. 20 kg (44 lbs) without pump

**Plasma Chamber:**

Ø 211 mm (8.3 in), L 300 mm (11.8 in)  
Chamber volume: approx. 10.5 litres (2.77 gallons)

**Gas Connection:**

Two gas channels via needle valve without magnet valve opening

**Plasma Power Supply:**

40 kHz / 200 W, infinitely variable or optional 13,56 MHz / 50 W

**Electric Control:**

Manual, Timer, process time

**Connections:**

Gas: 6 mm Swagelok, (0.24 in)  
Pipe: 4 mm in, 6 mm out (0.16 in, 0.24 in)  
Power supply: 220 V - 240 V AC / 6 A, 50 - 60 Hz  
Exhaust tube: Ø 10mm (0.4 in)

**Vacuum Pump:**

Rotary vane pump 2.5 m<sup>3</sup>/h (660 gallons / h)