

KINPen[®] IND

Cold Plasma Microjet for Surface Treatment

- Compact and portable
- Low plasma temperatures of 37-40°C
- Diverse application areas:
 - Activation
 - Precision cleaning
 - Decontamination
- Flexible treatment of
 - Thermolabile and highly sensitive materials
 - Complicated shapes
 - Areas that are hard to reach
- Precise and pinpoint application
- Can be used with various noble gases and molecular gases



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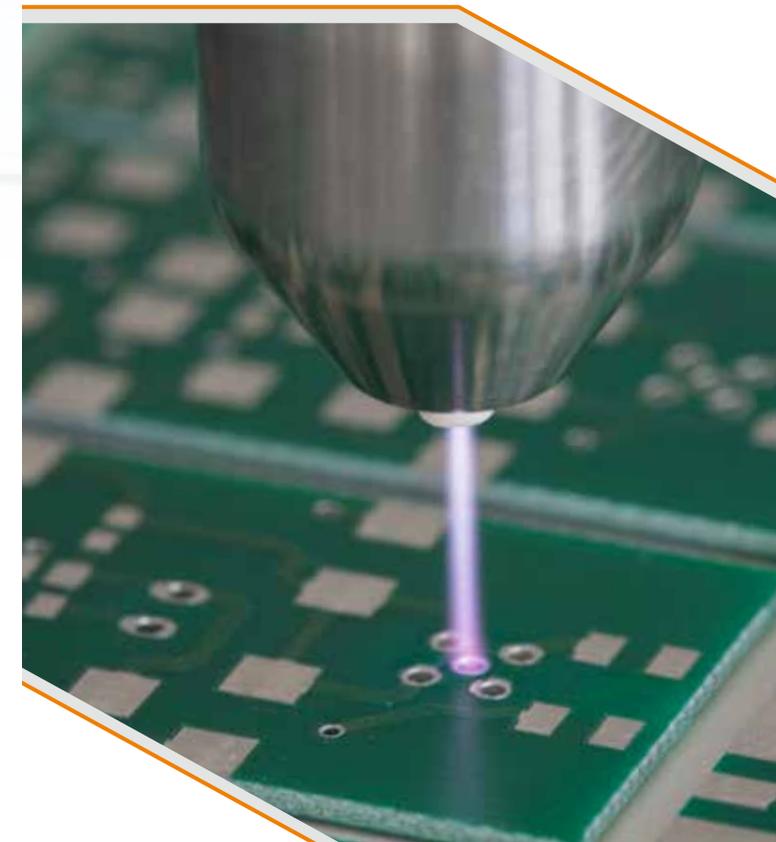
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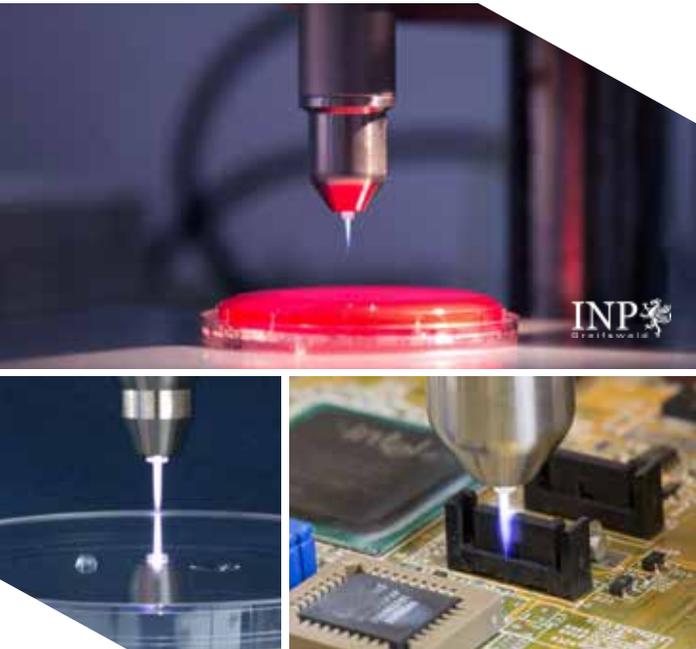
Small Plasma – Big Effect

FROM PROTOTYPE – TO PRODUCT – TO MARKET



Plasma Technology – the Innovation in Surface Technology

Plasma is seen as the fourth fundamental state of matter after solid, liquid and gas. A plasma is an ionised gas, in which ions, electrons and neutral particles move freely whilst at the same time having an effect on one another. Physical plasmas are an indispensable tool for surface treatment in industry, research and development. The plasma's reactivity can be used to precisely modify surface properties and accurately produce materials with specific properties. For example, a former hydrophobic surface can be made hydrophilic, which then allows even wetting with various fluids. Plasma is thus excellently suited for chemical-free treatment of surfaces prior to adhesion, coating or printing.



The kINPen®IND: Small Plasma – Big Effect

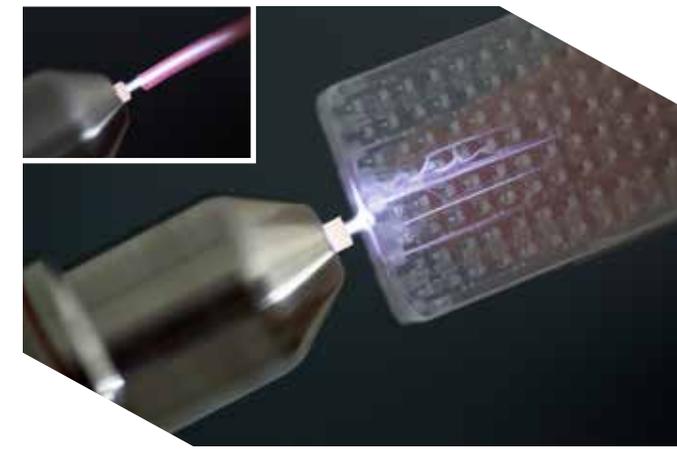
The handy kINPen® IND can clean, decontaminate and activate surfaces at atmospheric pressure. In comparison to other sources of plasma, the device does not only produce an extraordinarily small and stable plasma beam, but with a temperature of under 40° C, a truly cold one. It is therefore used in particular for treating surfaces of materials that are temperature-sensitive, such as plastic. Due to the plasma's very good ability to penetrate cracks, geometrically difficult surfaces such as capillaries, cracks and the smallest drill holes can be treated. The standard version of the kINPen® IND uses argon. Reducing or oxidising gases can be added in very little amounts of up to less than 2 percent. Furthermore, by simply changing the electrode head, the device can be converted to use molecular gases such as air or nitrogen.

Application

Plasma technology from the neoplas GmbH is used in all areas where quality, productivity, environmental compatibility, precision and flexibility are crucial.

Possible uses for atmospheric pressure plasma systems are for example:

- Synthetics industry
- Electronics and microelectronics
- Optical industry
- Printing industry
- Packaging industry
- Food industry
- Human and veterinary medicine
- Medical technology
- Biotechnology



Production & Development: neoplas GmbH

Customer-oriented solutions for surface treatment with atmospheric pressure plasma are at the focus of the neoplas GmbH's work. The high-tech company from Greifswald is a spin-off company from the Leibniz Institute for Plasma Science and Technology (INP Greifswald), Europe's largest non-university research institute for low temperature plasmas.

Atmospheric pressure plasma sources have been the key field of research at the INP Greifswald for many years. The neoplas GmbH has developed various series of the kINPen® IND for industrial use.

Services

- Application advice
- Application testing
- Process and product development
- Individual custom-made products
- Integration in production procedures
- Technical servicing