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**World Innovation HydroPlasma - Efficient and Sustainable Cleaning Solution for Highest Cleanliness Requirements**

New high-performance solution from Plasmatreat for the removal of organic and inorganic contaminants, including fingerprints

**Plasmatreat GmbH, the world leader in atmospheric pressure plasma technology, is expanding its portfolio with HydroPlasma - an innovative solution for the gentle, intensive and efficient removal of stubborn contaminants from glass and metal surfaces as well as plastics. This advanced technology combines the proven benefits of Openair-Plasma technology with the chemical reactivity of water, setting new standards in surface preparation for subsequent production steps.**

In many high-tech industries, such as automotive, electronics, aerospace and medical, the cleanliness of surfaces is a critical success factor. Even the slightest contamination can impair adhesion in subsequent processes such as bonding, printing, painting or coating, thus jeopardizing the quality and reliability of the end product. While conventional cleaning methods often rely on solvents or complex wet chemical processes, Plasmatreat offers a reliable and efficient alternative with HydroPlasma. The innovative technology works completely without chemicals, using only compressed air, electricity and water. HydroPlasma sets new standards in industrial surface cleaning - environmentally friendly, reliable and economical.

Most importantly, HydroPlasma enhances the effectiveness of proven Openair-Plasma technology and also enables the removal of inorganic residues, such as fingerprints, that have been difficult to remove in the past. This advanced solution offers companies a highly effective and resource-efficient alternative to conventional cleaning methods.

**World Innovation: HydroPlasma Reliably Removes Oil, Salt and Grease**

This innovative technology uses ionized water to efficiently remove even the most stubborn contaminants such as oil, salt and grease - completely chemical-free and environmentally friendly.

The cleaning process is based on the direct injection of water into the plasma jet, where it is ionized and converted into a highly reactive jet. A specially designed nozzle directs the jet onto the desired substrate surface. The ionized water molecules achieve a cleaning effect comparable to that of detergent in warm water, reliably dissolving and removing residues.

**Openair-Plasma - sufficient in many cases for lighter contaminants**

The Openair-Plasma process developed by Plasmatreat has been optimizing industrial production processes for many years. A process gas, usually air, is ionized by a high-voltage arc. This creates a plasma jet that, through a specially adapted nozzle, micro-cleans surfaces with pinpoint accuracy, activating metal, glass and plastic surfaces. It reliably removes contaminants such as dust and organic residues. At the same time, plasma treatment increases the surface energy, making materials more wettable and creating optimal conditions for subsequent processes.

Plasma surface treatment improves industrial processes such as bonding, painting, printing, sealing and coating. In many applications, Openair-Plasma is an efficient and proven solution, especially when gentle pretreatment is sufficient. For applications where Openair-Plasma alone is not sufficient and goes beyond ultra-fine cleaning - for example, in the case of difficult-to-remove contaminants such as oils, greases or salts - HydroPlasma complements the Plasmatreat portfolio with another powerful cleaning technology.

Both are VOC-free, sustainable cleaning processes that do not use environmentally harmful chemicals. As a result, they not only contribute to workplace safety, but also help companies reduce their carbon footprint and promote sustainable production processes.

**Versatile industrial applications**

HydroPlasma is particularly suitable for industries with high purity requirements and can be integrated into existing production processes as well as into existing Plasmatreat plasma systems. The process is extremely flexible and can be used for industrial processes such as battery production or applications in the electronics industry. Originally developed for metal and glass cleaning, HydroPlasma also demonstrates its advantages in the plastics sector. The cooling effect of the water supply minimizes the risk of thermal damage to sensitive surfaces, allowing for gentle but effective cleaning.

HydroPlasma's chemical-free and sustainable mode of action makes it ideal for industries such as automotive, medical and aerospace, where the highest standards of cleanliness are required. Companies benefit from improved process reliability, optimized surface quality and an environmentally friendly alternative to conventional cleaning methods.

For more information, visit: [www.plasmatreat.com](http://www.plasmatreat.com)

***Info box:***

**How Openair-Plasma® and PlasmaPlus® optimize industrial processes.**

When plasma with its high energy level comes into contact with materials, it changes the surface properties, for example from hydrophobic to hydrophilic. Plasma technology requires only compressed air and electricity for operation. Fine cleaning with Openair-Plasma® gently and reliably removes dust, release agents, additives, plasticizers and hydrocarbons from surfaces. Especially with non-polar plastics, plasma treatment achieves surface activation. It supports the increase of surface energy by introducing hydroxyl groups and thus improves adhesion in subsequent processes such as bonding, printing, painting and sealing. Even oxide layers on metal surfaces can be reliably removed inline during the production process using plasma technology. Plasmatreat's PlasmaPlus® technology can also be used to create targeted functionalized surfaces with defined properties by applying (depositing) nanocoatings, e.g. as an additional adhesion promoter layer. Plasmatreat's HydroPlasma® is used to remove stubborn organic and inorganic soils - an innovative cleaning method that uses only water, compressed air and electricity in an environmentally friendly manner.

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**About Plasmatreat**

Plasmatreat is an international leader in the development and manufacture of atmospheric plasma systems for the pretreatment of substrate surfaces. Whether plastic, metal, glass or paper - the industrial use of plasma technology modifies the properties of the surface in favor of the process requirements.

Openair-Plasma® technology is used in automated and continuous manufacturing processes in almost every industrial sector. Examples include the automotive, electronics, transportation, packaging, consumer goods and textile industry, but the technology, cost and environmental advantages of the plasma technology are used in medical technology and in the renewable energy sector as well.

The Plasmatreat Group has technology centers in Germany, USA, Canada, China, and Japan. With its worldwide sales and service network, the company is represented in more than 30 countries by subsidiaries and sales partners.

For more information, visit: [www.plasmatreat.com](http://www.plasmatreat.com)

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**Pictures and captions:**

**A machine with a hole in the middle of a piece of metal

AI-generated content may be incorrect.**

World first HydroPlasma: Gentle, intensive and efficient removal of stubborn residues on glass, metal and plastic surfaces. (Copyright: Plasmatreat GmbH)

A machine with a cylindrical object

AI-generated content may be incorrect.

Whether oil, grease, fingerprints or other stubborn stains - HydroPlasma is the cleaning agent of choice. (Copyright: Plasmatreat GmbH)

A machine with a blue surface

AI-generated content may be incorrect.

Ultra-fine cleaning with open-air plasma, e.g. to remove dust particles. (Copyright: Plasmatreat GmbH)