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WE CREATE SOLUTIONS.

ABOUT US

With more than 30 years of experience, the Diener electronic competence team supports you with your challenges. From laboratory systems to fully automated production systems, we develop customised and future-proof solutions. As a global market leader, we have already sold more than 12,500 systems worldwide. We offer the tailor-made solution for efficient processes in the fields of low- and atmospheric-pressure plasma systems as well as for parylene and vacuum systems.
Let yourself be inspired by modern technologies and unique processes, so that you can benefit from numerous advantages. We are looking forward to hearing from you!

Comprehensive competence from one source
Our customers benefit from the experience and know-how of dedicated employees as well as from state-of-the-art production equipment.

Achieving success with advanced solutions
At several locations in Baden-Württemberg, we develop and produce innovative solutions for economic, precise and environmentally friendly plasma treatment of surfaces – and we do this with enormous success. Since the company was founded, we have grown continuously and are now one of the leading manufacturers of plasma systems worldwide.

~110
EMPLOYEES

28
REPRESENTATIVES

30
YEARS OF EXPERIENCE

ANNUAL SALES
APPROX.
20 MIO:€

WORLDWIDE
13.000
SYSTEMS

WHAT IS PLASMA?

To generate plasma, a gas is supplied with sufficient energy to make a critical number of electrons leave their atomic shell. Now we have positively charged ions surrounded by free electrons. This ionised gas is electrically conductive. Plasma is often called the "fourth state of matter" since this breakdown gives the matter a multitude of new properties. Actually, the aggregate state of plasma is much more frequent than the other three states, i.e. solid, liquid and gaseous. This is because stars primarily exist in the plasma state – which thus makes up for almost all the matter in the universe.

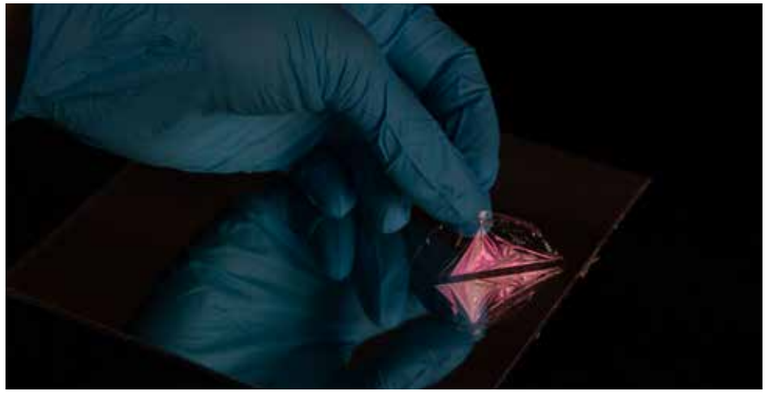
LOW-PRESSURE PLASMA

Low-pressure plasma offers a wide range of options for surface modification, for example fine-cleaning of contaminated components, plasma activation of plastic parts, etching of PTFE or silicon, and coating of plastic parts with PTFE-like layers. This means that low-pressure plasma is used in a great variety of industries when it comes to combining materials or changing the surface characteristics in a directly targeted manner.

ATMOSPHERIC PRESSURE PLASMA

Atmospheric pressure plasma is suitable for a wide range of applications. Primarily, however, the systems are intended for local pretreatment of different surfaces, e.g. cleaning and activation of polymers, metals, ceramic, glass and hybrid materials. But the Plasma Jet process can also be used for coating. Thanks to their unique and compact design, atmospheric pressure plasma systems by Diener electronic are suitable for use with robots and for integration in existing, automated production lines.

PARYLENE

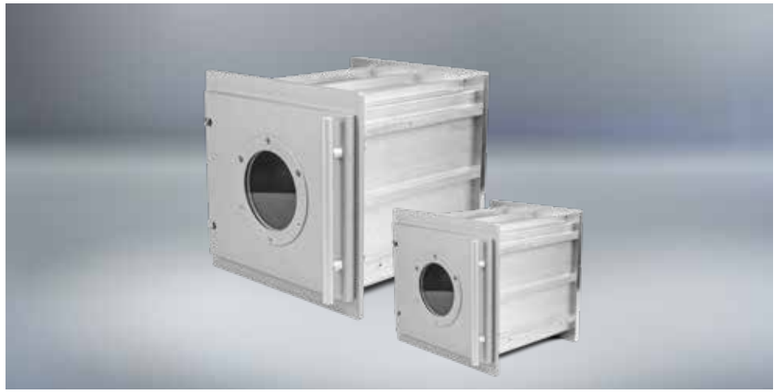


Parylene coating is the ideal solution for protecting high-quality components, assemblies or devices. Parylene is a group of polymers whose chemically exact name is para-xylylenes. In a process technology that can only be used for this material class, almost transparent protective layers can be produced. The coatings are fully compliant and adapt to any conceivable substrate contour, are water-repellent and biocompatible.

VACUUM SYSTEMS

Today, vacuum systems are used in a wide range of industries. Excellent systems and profound process know-how are the preconditions for reproducible results and competitive prices. Over almost 30 years, Diener electronic has acquired plenty of relevant experience to become a technology leader in the low-pressure plasma technology. Thanks to many innovative solutions and patents, we are able to offer also special vacuum systems tailored to the customer's individual requirements, for example systems for manual vacuum casting, for height simulation, degassing, sensor calibration, and leak testing.

VACUUM CHAMBERS



A vacuum chamber, a hermetically closed vessel, is the heart of every vacuum system. In particular patented vacuum chambers made of aluminium are unique, flexible chamber systems based on extruded aluminium profiles. The three meter long profiles are cut to the desired length and equipped with a bolted rear wall and a door. Slits are provided in the side walls of the profile for easy insertion of the product carriers. With our new modular chamber system, completely new doors are open to you. The system consists of individual modules milled from solid aluminum with a width of 500 mm.

CLEANING

In plasma cleaning, all organic residues are removed from any material. It is therefore the first step in each plasma treatment. Even components that are coming fresh from production and have been exposed to ambient air only for a short period of time are already covered with deposits from the atmosphere.

ACTIVATION

Activation allows the printing, pasting or painting of materials, even of those that are actually “non-adhesive”. Due to low surface energy, even perfectly cleaned surfaces may have a low adhesive strength. If these surfaces are treated with oxygen or air plasma, the surface energy is increased enormously because it creates binding sites. In the automotive industry, for example, plastic components are activated before they are painted or glued.

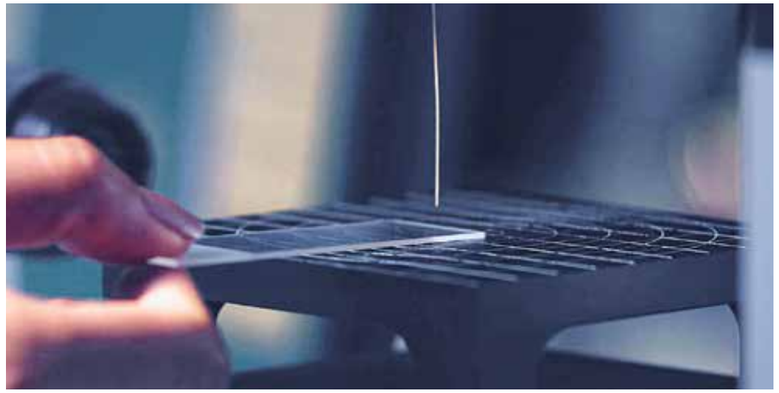
ETCHING

Using various etching methods (anisotropic, isotropic, together "reactive ion etching"), the surface structure is improved and thus also the adhesion of paint coats and prints. For example, this allows printing or gluing of materials that contain fluorine.

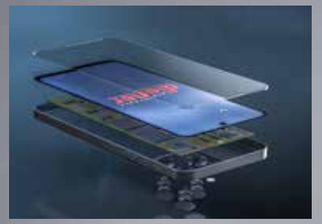
COATING

Through various coating methods in low-pressure plasma, process gases react to form polymers that leave a solid layer on the substrate. As a result, it is for example possible to provide textiles, smartphones or other electronic assemblies with a water-repellent and/or non-soiling layer.

APPLICATION



In all industries, ultra-fine cleaning of organic residues in the oxygen plasma is the step to be taken before any further surface treatment and enables further processing without hesitation. Our technology is already being used in a wide range of areas. These include, for example: car manufacturing, solar technology, medical engineering, textile industry, consumer goods, watch-making and jewellery industry, biotechnology, science, packaging industry.



PROCESS DEVELOPMENT & LABORATORY

Our company offers many different plasma processes and parylene coatings. Our process development department is always at your side to determine which system technology and processes best meet your requirements. We develop all processes in-house, from simple cleaning to complex coatings. We start by discussing your wishes and requirements in detail so that we clearly understand the task. Next, we do a series of tests on sample parts and evaluate different process parameters. For this, our Technical Centre is equipped with 30 test plants of different designs.

CUSTOMERS WHO RELY ON US

MADE
IN
GERMANY

THANK YOU FOR YOUR INTEREST

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diener

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