

Innovation in Corona & Plasma Surface Treatment Systems



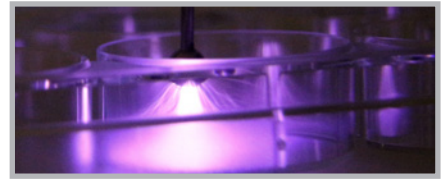
**THE POWER
TO ADHERE**

2020 Revolutionary
Technology
for Powerful
Adhesion

3DTTM

THE POWER TO ADHERE

POLYDYNE™ PRO



Intelligent, Powerful, Reliable Corona System

PolyDyne Pro™ – 3DT's most powerful and versatile corona treatment system is designed to improve bonding on materials resistant to printing, adhesive and coating processes. It easily integrates into high-speed printing, extrusion and coating lines.

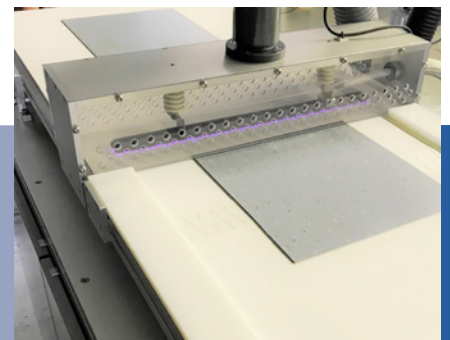
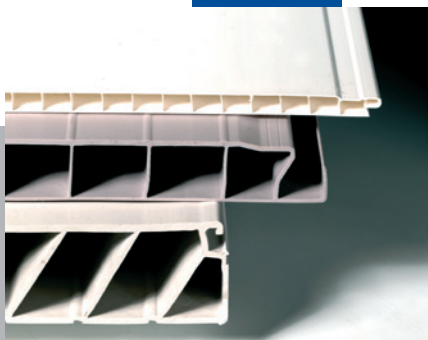
PolyDyne Pro has been thoroughly upgraded to include the latest in electrical engineering. It features precise, smart operation and feedback. It is adaptable to numerous applications such as 3-D plastic parts, plastic sheets, tubing, foam and more.

Treating Thick Materials IS Possible

3DT's approach to corona treatment goes beyond 3-dimensional parts. Our advanced designs are capable of treating thick materials such as corrugated plastic boards and foam stock. In the past these materials have presented numerous challenges. Now, 3DT makes it possible to treat these materials in a high-performance and efficient manner.

PolyDyne Pro's High-Performance Components:

- Compact, state-of-the-art generator and high-voltage transformer(s)
- Color touchscreen monitors all system parameters such as output level, treatment mode, fault log
- Sophisticated remote interface
- Downloadable USB operation log
- Custom features include: treating station, electrode assembly, ozone filtration, automation and product handling.



MULTIDYNE™

For Maximum Flexibility and Performance

MultiDyne™ utilizes corona discharge to uniformly and consistently increase surface tension on 3-D parts. MultiDyne's technology creates powerful bonding for printing, coating and adhesive applications and is especially suited for polymer parts. Simple and complex 3-dimensional shapes are treatable with the flexibility of the MultiDyne system.

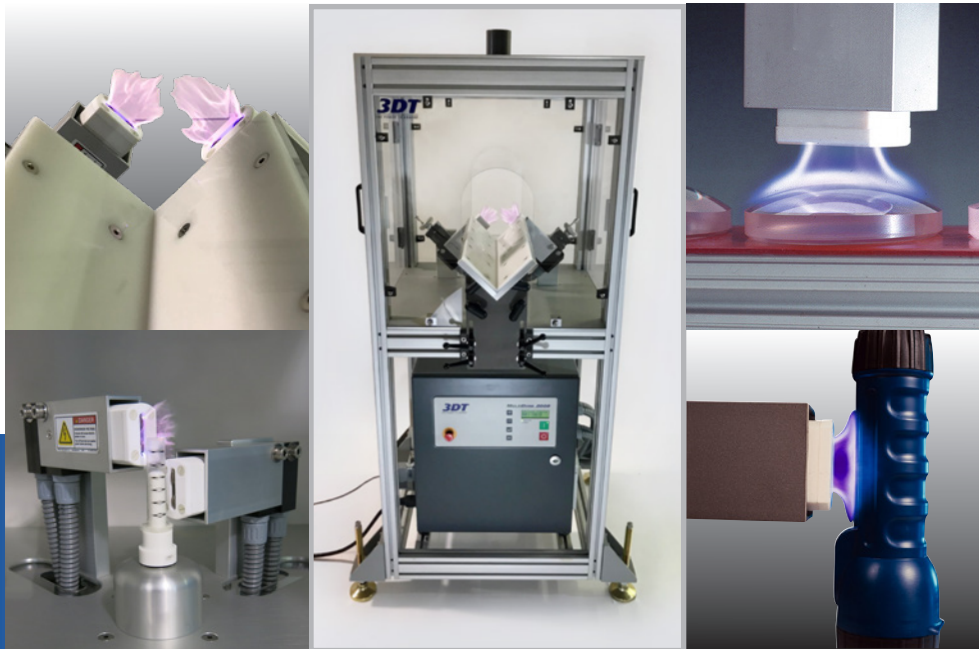
MultiDyne can be incorporated into existing or new production lines or as a stand-alone workstation. Each system is furnished as a complete set of standard components, including a generator with high-voltage transformer(s), air supply system, treating head(s), control panel and fault monitoring system. MultiDyne is available with single or multiple treating heads, depending on your application.

MultiDyne Advantages:

- MultiDyne is available with 1 to 4 treating heads. Custom systems with more treating heads are available.
- Corona treatment is delivered to unlimited lengths of material in widths up to 2.5 inches (65mm) per head.
- The generator supplies power to high-voltage transformer(s) which then directly supply the treating head(s), resulting in low-frequency corona discharge.
- Capable of treating surfaces adjacent to metal inserts or areas held in a metal fixture



Improve Adhesion with Customizable **MULTIDYNE™**



3DT's Commitment to Innovation

As part of our dedication to continual improvement and innovation, three of our systems were thoroughly re-engineered in 2018. The new Pro series includes: optimized control panels and software, a newly developed generator producing high powered discharge at adjustable levels, modular replacement parts, downloadable operation log, and more. At last, the most challenging applications are possible!

FLEXIDYNE™ PRO

Flexibility in Corona Treatment



FlexiDyne Pro™ is a self-contained corona treating system designed to treat 3-dimensional plastic parts. The FlexiDyne Pro system substantially raises surface energy and thereby improves bonding on polymer parts. It is ideal for the treatment of labware, eye lenses, headlight housings, container lids and numerous other applications. Any non-metallic item up to 12" wide by 1.5" high (300mm x 40mm) can receive uniform corona treatment of all exposed areas without set-up changes. FlexiDyne Pro can be operated as a stand-alone workstation or integrated into a production line.

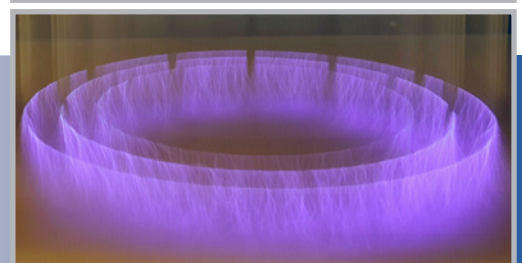
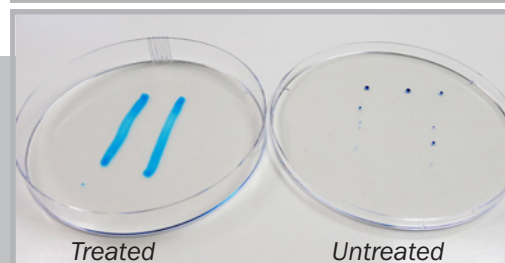
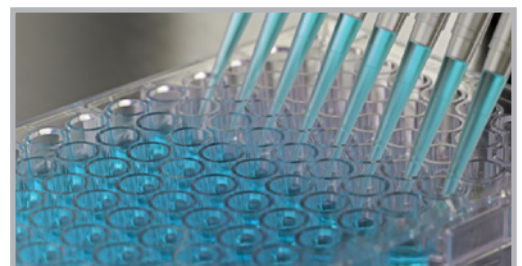
FlexiDyne Pro Advantages:

- Improves adhesion for printing, painting, coating, and adhesive applications
- Alters surface chemistry for improved adhesion of cell and tissue culture growth
- Recipe-based menu operation provides consistent results
- Treats different sizes and shapes without set up changes
- Automatic part detection signals treatment only when parts are in the treating chamber
- System monitoring and fault detection ensure uniform treatment results

The New FlexiDyne Pro

FlexiDyne has been an important system in 3DT's product line for years. But, changing technology has led to several improvements: a redesigned generator capable of producing a larger corona field, higher surface treatment levels, faster production and the ability to treat larger parts.

Note how the dyne solution adheres to the corona treated surface of the petri dish on the left, while the solution beads up and resists the untreated surface on the right.





Surface Treatment of Catheter Tubing

The TubeDyne™ corona treating system is designed to improve adhesion on the outside of tubing and catheters.

Any tubing up to ¼ inch (6mm) in diameter, with or without metal inserts, can be placed in the holding fixture and receive uniform corona treatment at a length of approximately 2 inches (50mm).

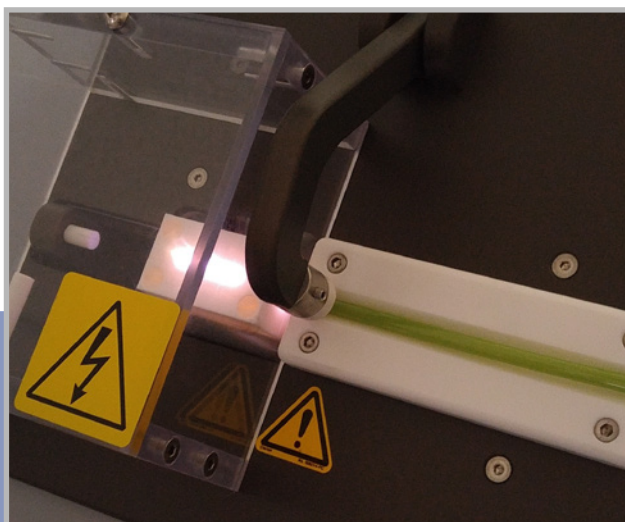
TubeDyne is a compact, self-contained tabletop corona treating system including integrated generator, transformer, electrode assembly, holding fixture and ozone filter.

The system is PLC-controlled and features an operator console with a human machine interface (HMI), including monochrome display screen with status menu, run time log, service hour log and alarm/troubleshooting screen.



TubeDyne Advantages:

- Improves surface tension on Pebax, PP, PE, nylon and more
- Self-contained compact tabletop system
- Improves bonding of catheter tube ends
- Powerful, repeatable and uniform treatment
- Treats tubing up to ¼ inch (6mm) in diameter without set-up changes
- Please inquire about our systems for treating larger tubing and customized for other specific requirements.



Advanced Technology

3DT is a leader in 3-dimensional surface treating systems. Our broad program of systems provide the ability to treat virtually any 3-dimensional polymer surface, regardless of shape, resulting in superior adhesion.

*PLASMA **DYNE™** PRO



Radical Improvement in Bonding

PlasmaDyne Pro™ utilizes atmospheric plasma technology to effectively and uniformly alter surfaces for the improved adhesion of glue, paint, ink, flocking, coatings, and laminates. Plasma surface treatment is adaptable to numerous applications. It raises the surface energy on polymers, rubber, glass, metal, ceramic, paperboard and composites creating powerful bonding.

PlasmaDyne Pro™ modifies the molecular structure of many difficult-to-bond materials without causing harm to the surface. Increased surface energy and improved wetting characteristics lead to significant adhesion improvements.

PlasmaDyne Pro is Ideal for:

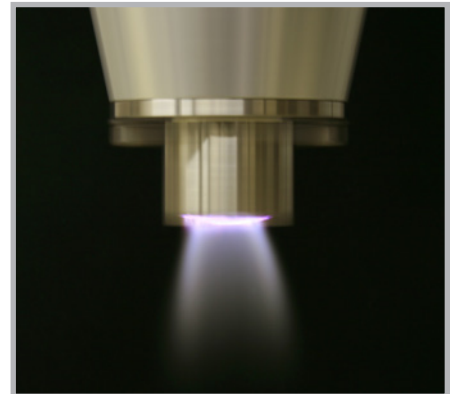
- Medical parts and packaging
- Automotive rubber seals
- Automotive components
- Solar panels and glass
- Silicon rubber window seals
- Glue lines on cartons

Plasma Micro Cleans Surfaces

PlasmaDyne Pro micro cleans glass, metal and polymer surfaces by removing impurities, contaminants, residue, and organic compounds. This process, also referred to as etching, provides another important aspect in improving adhesion and enhances surfaces for secondary processes.

Versatility

PlasmaDyne Pro is customizable for numerous applications, including options in treating width, types and number of treating heads, product handling and automation. Many design options are examined during process development.



Made in the USA

All equipment from 3DT is designed, fabricated, and manufactured in-house in



Germantown,
Wisconsin,
USA.



*PLASMA DYNE™ PRO

The New PlasmaDyne Pro

3DT's hardworking, classic plasma treatment system, PlasmaDyne, has been thoroughly updated as a part of the company's effort toward continual improvement. Updates include the newest in electrical engineering, components and design. Renamed PlasmaDyne Pro, the upgraded system features an optimized, sophisticated control panel, adjustable plasma treatment levels, energy efficiency, modular replacement parts, and is compact and economical. High volume, in-line production integration options are limitless because treatment is not conducted under vacuum pressure.

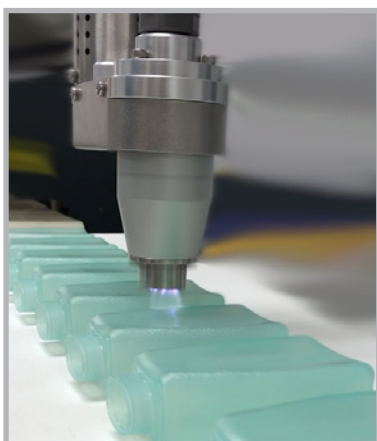
PlasmaDyne Pro: powerful, smart, dependable and safe

- Customizable with up to 16 independently controlled treating heads
- Self-contained floor model integrates into new or existing lines
- Durable, all-metal treating heads and long-lasting electrodes
- Treating widths from 3/8" – 1 1/2" (10mm - 40mm)
- Remote I/O interface that can be incorporated into the customer's PLC control system
- Downloadable USB operation log and fault log
- Color touch display- monitors all system parameters, includes troubleshooting and fault log
- For use on conductive and non-conductive surfaces
- Safe; produces no ozone and eliminates the risk of high-voltage shocks



Adjustable Treatment Levels

Adjustable power levels play an important part when treating thin or sensitive polymeric substrates, especially when printing with low viscosity inks. PlasmaDyne Pro's discharge can be easily adjusted to accommodate various substrates, treating modes and applications.



Note the improved adhesion of dyne solution in the treated area.



Superior, Versatile Surface Treatment Solutions

3DT manufactures a complete line of highly reliable, innovative corona and plasma surface treatment systems. Our systems improve adhesion on a wide array of plastics, composites, cardboard, rubber, foam, glass, and metal.

3DT's systems create powerful bonding for printing, painting, coating, laminating and adhesive applications. Our technology is uniquely designed for treating molded and extruded 3-dimensional parts, as well as numerous other applications requiring improved surface energy and a long-lasting bond.

3DT is a leader in the surface treatment industry because only 3DT provides continual technological advancement, truly customized application development, exceptional customer service, and reliable, long-lived systems made in the USA.

3DT is your single-source for process application design, manufacture, product handling, installation and service. With more than 25 years of experience, we offer the most advanced, adaptable and dependable systems worldwide.

Learn more on our website at www.3DTLLC.com and contact us today! For a list of 3DT sales agents please visit our website.

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