

**Innovation in Corona & Plasma Surface Treatment Systems**

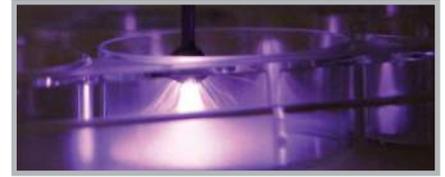


**THE POWER  
TO ADHERE**

**Revolutionary  
Technology  
for Powerful  
Adhesion**

**3DT<sup>TM</sup>**  
**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.

### We Provide the Best in PLC Systems

3DT's systems are controlled by either Allen Bradley or Siemens PLCs. These are expertly programmed with an intuitively designed touch display for setting and monitoring all system parameters. Our team carefully considers each customer's production requirements when programming for their unique application.

### 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, and fault log
- Sophisticated remote interface
- Downloadable USB operation log
- Custom features include: treating station, electrode assembly, ozone filtration, automation and product handling.



## 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.

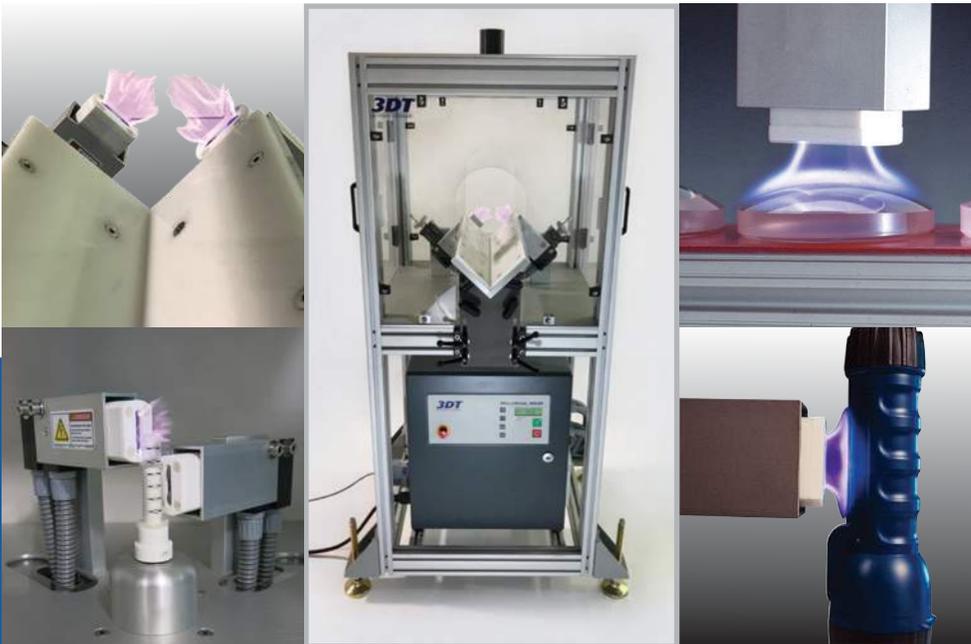
MultiDyne can be incorporated into existing or new production lines or as a stand-alone workstation. Each system is furnished as a complete set of standard components, including a generator with high-voltage transformer(s), air supply system, treating head(s), control panel and fault monitoring system.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



### Customization Options for Your Application

All 3DT's systems are customizable for unique applications. We work closely with customers to provide an optimal surface treatment solution- from application development, design, engineering, and manufacturing to material handling and in-line automation options. Customization may include the type and the number of treating heads, conveyors, mandrels, linear actuators, robotics, part sensing, and more.

# 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 (350mm x 35mm) 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.

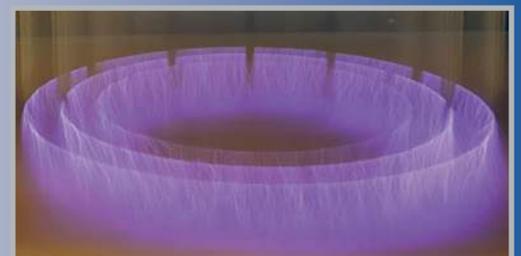
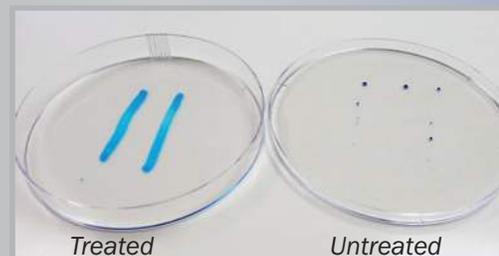
### FlexiDyne Pro Advantages:

- 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

### Next Generation FlexiDyne Pro

FlexiDyne has been an important system in 3DT's product line for years. But, changing technology has led to several improvements including, 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 which include an integrated generator, transformer, electrode assembly, holding fixture and ozone filter.

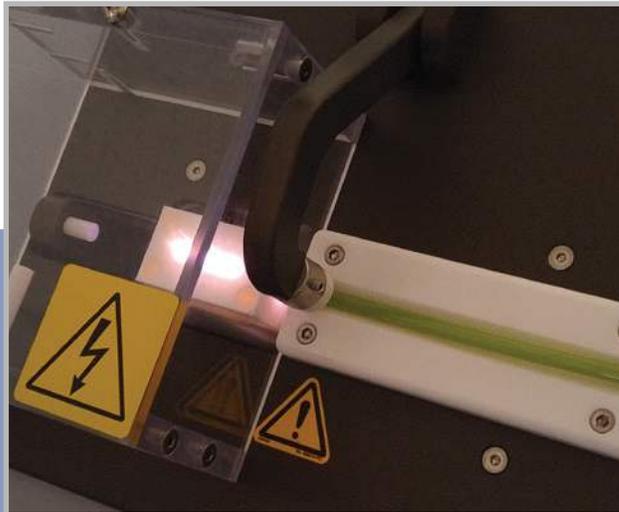
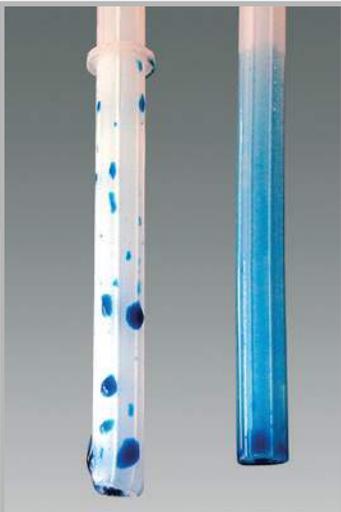
The system is PLC-controlled and features an operator console with a human machine interface (HMI), including monochrome display screen with status menu, run time log, service hour log and alarm/troubleshooting screen.

Please inquire about our custom systems for treating larger tubing and other specific requirements.



### 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



### 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.



### 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.



## Surface Treatment for Wide, Thick Materials

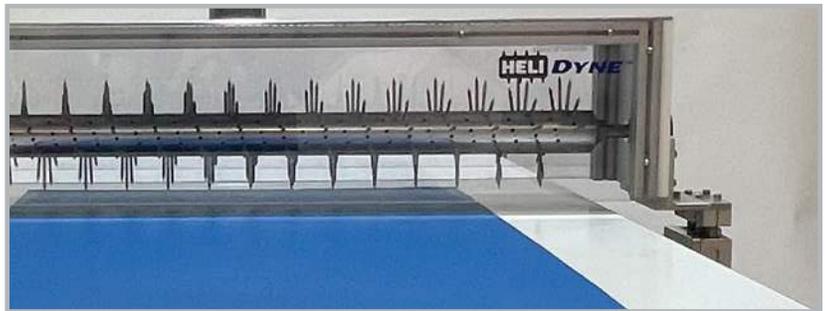
At last, surface treatment is possible for wide and thick products such as foam stock, honeycomb boards, polymer panels and more. 3DT's new, patent pending HeliDyne corona treatment system is engineered to produce strong bonding on substrates for adhesive, printing, coating and laminating applications.

HeliDyne's helix pattern of corona electrodes rotate while thoroughly treating material passed underneath. It accommodates materials with a thickness up to 1 inch and a width up to 80 inches. HeliDyne is fully customizable. It is equally effective for in-line applications and sheets cut-to-size. For these applications, HeliDyne can be engineered with a conveyor system.

HeliDyne's numerous electrodes produce a wide corona band raising the surface tension and functionality of many materials. This system radically enhances the surface of materials for long-lasting, powerful adhesion and a higher quality end product.

### System Features:

- AB PLC based control system includes a HMI with a programmable color touch screen menu with run time log, service hour log, and alarm/trouble-shooting screen
- Safe, fully enclosed electrode assembly
- Accommodates materials up to 1 inch thick and up to 80 inches wide.
- Options include:
  - Complete inline system
  - Stand-alone system
  - Single or double side treatment
  - Ozone exhaust system

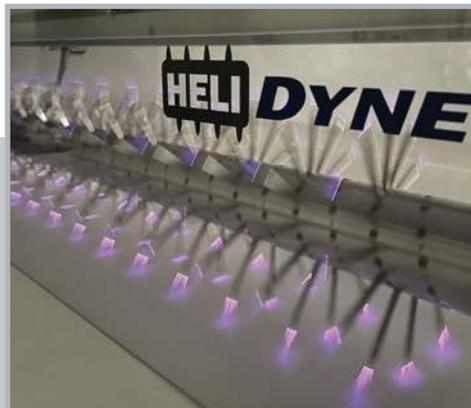


### Made in the USA

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



Germantown, Wisconsin, USA.



# \*PLASMA DYNE™ PRO

## Radical Improvement in Bonding

PlasmaDyne Pro™ generates atmospheric plasma to treat a wide variety of materials improving the adhesion of ink, paint, and adhesives prior to decoration, coating or the joining of parts. Our plasma technology also offers the benefit of micro cleaning surfaces of contaminants and residue. High-volume, in-line production is achieved versus slow and laborious batch processing in a vacuum chamber.

PlasmaDyne Pro™ produces a highly ionized plasma air stream that restructures the chemical properties of material passed under its treating head. The change is undetectable to the naked eye, but the surface is now capable of powerful bonding with another material. PlasmaDyne Pro is suitable for polymers, glass, metal, ceramic, paperboard and composites.



## PlasmaDyne Pro: Powerful, Smart, Versatile

- Self-contained floor model can integrate into new or existing lines
- Treats widths from 3/8" – 1 1/2" (10mm - 40mm)
- Remote I/O interface that can be incorporated into the customer's PLC control system
- Color touch display monitors all system parameters, includes troubleshooting and fault log
- Designed with modular replacement parts to keep systems running
- For use on conductive and non-conductive surfaces

## Flexibility in Treatment Levels

Adjustable power levels play an important part when treating thin or sensitive polymeric substrates. 3DT's PlasmaDyne Pro's discharge is easily adjusted to accommodate various substrates, treating modes and applications. One system – numerous applications!



# 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 30+ years of experience, we offer the most advanced, adaptable and dependable systems worldwide.

**3DT provides the option of fully integrated corona and plasma** surface treatment systems. From application development, engineering and manufacturing, to material handling and automation, we are the surface treatment experts to manage all aspects of your turnkey project.

**Learn more** on our website at [www.3DTLLC.com](http://www.3DTLLC.com) and contact us today! For a list of 3DT sales agents please visit our website.

# 3DT™

THE POWER TO ADHERE

3DT LLC • N114 W18850 Clinton Drive • Germantown, WI • 53022 • USA  
Tel 1-262-253-6700 • Tel 1-888-3-CORONA  
Email: sales@3DTLLC.com • www.3DTLLC.com

