THE POWER TO ADHERE

2017

Revolutionary Technology for Powerful Adhesion on 3-D Parts

3DT™
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PolyDyne™ – 3DT’s versatile and effective corona treatment system designed for use in high-speed printing, assembly, extrusion and coating lines.

PolyDyne is particularly useful for treating the interior of needle hubs, syringes, synthetic cork, plastic sheets, thick foam material and many other applications. PolyDyne applies corona treatment to the exact area needed, greatly improving bonding properties.

The system features a generator, high-voltage transformer(s) and a custom-designed treating station with electrode assembly to meet your specific requirements.

The Widest Range of Applications

The Ability to Treat Thick Materials

3DT’s innovative approach to Corona Treatment goes beyond 3-dimensional parts. Our advanced designs allow quality treatment of thick materials like corrugated plastic boards and foam stock. These materials have been historically difficult – if not impossible – to treat. Now, our systems not only give you the ability to treat these materials, but to do it in a high-performance, highly efficient manner.

Solutions In Line With Your Needs

• Powerful corona treatment, even on high-speed production lines.
• Compact industrial-grade enclosure with integrated safety circuitry and provisions for safe ozone exhaust.
• State-of-the-art IGBT and closed-loop control circuitry yields consistent, high-performance output.

PolyDyne™ – 3DT’s versatile and effective corona treatment system designed for use in high-speed printing, assembly, extrusion and coating lines.
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 adhesion 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), including 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 supplies 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

3DT’s Philosophy:
3DT offers you system solutions including single-source design, manufacturing, installation and service, regardless of project size or scope. We combine our many years of experience with the most sophisticated and versatile generator and transformer technology in the marketplace. The result is a unique approach to your needs and requirements. Our solutions range from simple semi-automatic to complete fully-automatic systems integrated into your production line. Our systems and equipment are productively at work around the globe.
For Your Flexibility in Corona Treatment

FlexiDyne™ is a compact, self-contained floor model corona treating system designed to treat 3-dimensional plastic parts. The FlexiDyne system substantially raises surface energy and thereby improves bonding. It is ideal for the treatment of labware, Petri dishes, multiwell plates, eye lenses, headlight housings and many other applications. Any non-metallic item (up to 10 inches wide by 1 inch high) can receive uniform corona treatment of all exposed areas without set-up changes. FlexiDyne can be operated as a stand-alone workstation or integrated into existing or new production lines.

**FlexiDyne Advantages:**
- Alters surface chemistry for improved cell and tissue culture growth
- Improves adhesion for printing, painting, coating, and adhesive applications
- Recipe-based menu operation provides consistent results
- Line-speeds of up to 15 feet per minute
- Automatic part detection signals treatment only when parts are in the treating chamber
- System monitoring and fault detection ensure uniform treatment results

**Made in the USA**
All equipment from 3DT is designed and manufactured at our plant located in Germantown, Wisconsin, USA.

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

Utilizing corona treatment, 3DT’s self-contained BottleDyne™ system sets new standards for surface treatment technology. It is now possible to corona-treat PE, PET and PP cylindrical containers in fast-paced molding, printing, filling or labeling production lines. Bottles quickly rotate through the system receiving 360° of treatment on all exposed surfaces.

BottleDyne’s corona treatment is highly effective in improving adhesion, yet performs without adverse effects to the surface of containers. This self-contained floor model is built with state-of-the-art components and designed for easy installation into production lines or employed as a stand-alone workstation.

The PLC-controlled system includes an operator console with HMI, a touch screen with status menu, run-time and service hour logs, and a trouble-shooting screen.

BottleDyne Advantages:

• Powerful corona discharge ensures high treatment levels, even on polypropylene containers
• Treating levels up to 70 mN/m (dyne/cm) depending on the application
• Convenient touch screen user interface
• Utilizes a process-controlled system for repeatable, consistent results
• Effective with line speeds up to 7,000 parts per hour
• Conveyor system with guides and speed control
• Compact and maintenance-friendly with easy access for cleaning
• Optional equipment: piece counter, carton shift, ozone cleaning

The Solution:

While polymers – particularly materials such as polyethylene, polystyrene and polypropylene – offer many beneficial properties that make them an essential part of your business, but poor “wettability” causes limitations when it comes to designing for these materials. 3DT’s series of corona treatment systems solve these problems by increasing surface tension ensuring powerful adhesion for your printing, bonding, coating or cell culture applications.
The TubeDyne™ corona treating system is designed to improve adhesion on the outside treatment of tube ends.

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 2.00 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
- Enhances bonding of housing to catheter tube ends
- Powerful, repeatable and uniform treatment
- Treats up to ¼ inch (6mm) in diameter without set-up changes
- Please inquire about our system capable of treating tube diameter beyond ¼ inch (6mm)

**Advanced Technology**

3DT, a leader in 3-dimensional treating systems, takes corona treating a giant leap into the future. 3DT’s broad program of corona treating systems gives you the ability to treat virtually any 3-dimensional polymer surface regardless of shape, with superior quality results.
PlasmaDyne™ utilizes atmospheric plasma technology to effectively and uniformly treat surfaces for improved adhesion of glue, ink, paint, flocking, coatings and laminates. Additionally, PlasmaDyne cleans glass, metal and other surfaces by removing chemical and organic substances. This robust, process-controlled system is designed to treat molded and extruded polymer parts on demanding production lines.

**PlasmaDyne is ideal for:**

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

**PlasmaDyne Advantages:**

- Self-contained floor model system integrates into new or existing lines
- Customizable with up to 10 independently controlled treating heads
- Durable, all-metal treating heads and long-lasting electrodes
- Remote I/O interface that can be incorporated into the customer’s PLC control system
- Safe; produces no ozone and eliminates the risk of high-voltage shocks

**Superior Bonding**

PlasmaDyne radically improves adhesion by raising the surface tension on substrates, thereby ensuring consistent, repeatable bonding results.
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 adhesion applications. Our technology is uniquely designed to treat molded or extruded 3-dimensional parts, as well as many other applications requiring improved surface energy and long-lasting activation.

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

3DT is your single source for 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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