



Radar Transmitters



Advanced RF Systems



Power Converters

PowerMod™

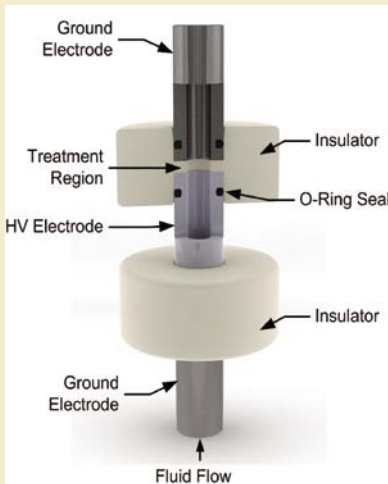
Pulsed Electric Field Equipment

Laboratory and Pilot PEF Units

Systems in Action

Lab and Pilot PEF Unit Characteristics	
Avg. Power Max	10 - 25 kW
Field Strength	to 50 kV/cm
Peak Voltage	10 - 30 kV
Peak Current	100 - 300 A
Pulse Frequency	to 7 kHz
Throughput	10 - 200 liters/hour*
All Systems Include Pump (for liquids) and Single Treatment Chamber	

*Processing capacity will depend on other parameters including conductivity



Cutaway view of a PEF treatment chamber for liquids showing a single treatment zone.

Note: Treatment chambers may be customized to accommodate a wide range of input materials (liquids or solids), flow rates, and power levels.

DTI builds a range of Pulsed Electric Field (PEF) systems for R&D, small-scale, and large industrial applications. DTI's Lab and Pilot PEF Units are ideal for research, determining optimized PEF parameters for application scale-up, and for low volume production. DTI's Lab and Pilot systems come with an easy-to-use touch-screen interface, and a single treatment chamber where high voltage pulses are applied to the product.

DTI can configure treatment chambers for either static or continuous applications. A static chamber is ideal for processing solids (i.e. plant tissue, etc.). A continuous treatment chamber (shown in the image to the left) allows pumpable product to flow continuously through the system, while assuring that all product receives the PEF treatment.

DTI has installed dozens of Lab and Pilot Units at universities and research centers around the world (including systems for food and biomass research). Many of these research centers are available to assist industry in assessing potential applications. DTI also offers rental units that can be shipped to the customer's facility for initial trials.

Laboratory/Pilot PEF Unit. The front-mounted PLC provides quick and precise control, while the treatment chamber is located on the side to allow for ease of cleaning and assembly. DTI can configure treatment chambers for either static or continuous processing applications. Electric field is applied to the fluid as it flows through the treatment zone.



Pulsed Electric Field Equipment



Industrial PEF Unit

DTI's Industrial PEF Systems range in power from 25 to 600 kW, suitable for processing multiple tons per hour of product. Specification ranges are as shown in the table to the right.

DTI's PEF systems are electrically and physically customizable over a wide range of specifications, allowing for optimization for specific applications. For solids, such as whole fruits and vegetables, a water bath conveyor with a customized treatment chamber is used while liquids are continuously treated in a co-field flow chamber (as shown on the front page). All DTI systems employ the inherent advantages of solid-state electronics such as long system lifetime, high efficiency, and low operating costs.

Industrial PEF Unit Characteristics	
Avg. Power Max	25 - 600 kW
Field Strength	to 50 kV/cm
Peak Voltage	40 kV
Peak Current	300 A
Pulse Frequency	to 4 kHz
Throughput	200 - 10,000 liters/hour*

**Processing capacity will depend on other parameters including conductivity*



Industrial PEF Unit (150 kW) built to NEMA 4 standards.



A water bath conveyor belt used for PEF treatment of solids.

