



ACS Material Equipment Series

Modulated Pulse Low-temperature Plasma Experimental

Power Supply

(CTP-2000K/P)

- 1 – Product Composition
- 2 – Product Features
- 3 – Product Specifications
- 4 – Applications
- 5 – Application Examples

Contact Information:

ACS Material, LLC

Address: 959 E Walnut St., Suite 100

Pasadena, CA 91106, USA

Phone: (866)-227-0656

Fax: (781)-518-0284

E-Mail: contact@acsmaterial.com

Revision: 080824

Product Composition

1. Main Machine - 2000K/P

2. TDGC2-1 Contact Voltage Regulator

Rated input voltage: 220v | Rated capacity: 1kVA | Frequency: 50Hz | Output voltage range: (0-250) V

Rated output current: 4A | Number of phases: 1 | Weight: 6.5kg | Insulation heat class: F

3. Digital Pulse Modulator Pane

Frequency adjustment range: 1Hz ~ 1000Hz. Duty cycle adjustment: 1% to 99%.



Photo of Modulated Pulse Low-temperature Plasma Experimental Power Supply



Photo of Voltage Regulator



Photo of Digital Pulse Modulator Panel

Product Features

- Used to drive Dielectric Barrier Discharge (DBD) devices of various sizes of discharge gaps under various atmospheres (Air, oxygen, nitrogen and other inert gases)
- Suitable for use under varying pressure
- Lower heat energy of the reactor
- Adjustable power over a wide range
- Includes interfaces for input power measurement, high-voltage output voltage, current detection and synchronization
- The efficiency of the power supply can reach above 90%
- Pulse frequency adjustment range: 1~1000Hz
- Duty cycle adjustment range: 1~99%

Product Specifications

Product Name	Modulated Pulse Low-temperature Plasma Experimental Power Supply
Model	CTP-2000K/P
Output voltage (KV)	0~30
*Center frequency (fo) (KHz)	10 (Customizable 1~100)
**Frequency (KHz)	0.5 fo~2 fo (Adjustable)
***DBD discharge gap	Within 12mm
Frequency Range	Medium frequency
Output Signals	Single high-voltage output. Once connected to high voltage, one connected to ground.
Fundamental Wave	Modulated Pulse
Power (W)	0-500
Unit Dimensions W × D × H (mm)	250×250×360 (H)
Weight (kg)	9
Equipment Composition	1.Main Machine 2.Digital Pulse Modulator Panel 3.Voltage Regulator

*~10KHz calibrated using our [50mm Diameter DBD reactor \(SKU#EPDBD050\)](#).

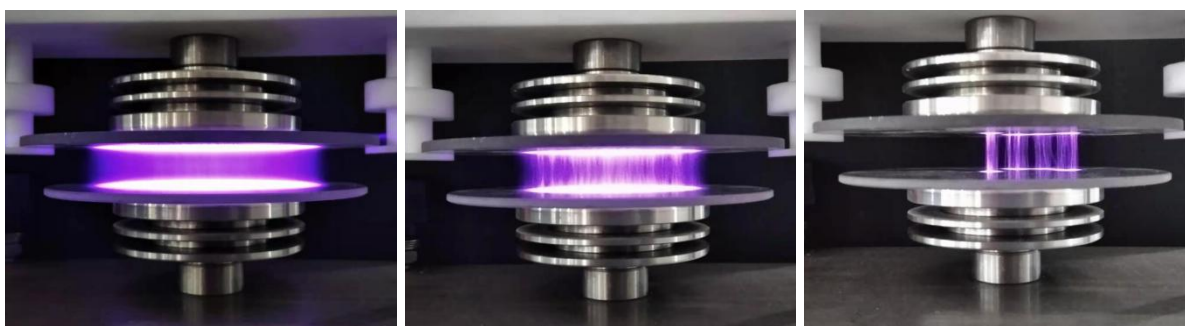
**The Center frequency of 1-40 khz has adjustable frequency range of 0.5 Fo~2 Fo; 40-70 khz has adjustable frequency range of 0.5 Fo~1.3 Fo; Above 75khz has adjustable range of 0.5 Fo~1.2 Fo.

*** DBD-50 only works with Models: [CTP-2000K](#), [CTP-2000K/P](#) and [CTP-2000K/L](#). For [CTP-2000K/S](#), this model will require a customized DBD reactor.

Applications

1. Surface modification treatment of organic and inorganic materials
 - Enhance compatibility of different polymer surfaces
 - Enhance suitability of biological surfaces
 - Clad nanomaterials
2. Preparation of organic or inorganic nanoparticles
3. Cleaning and sterilization

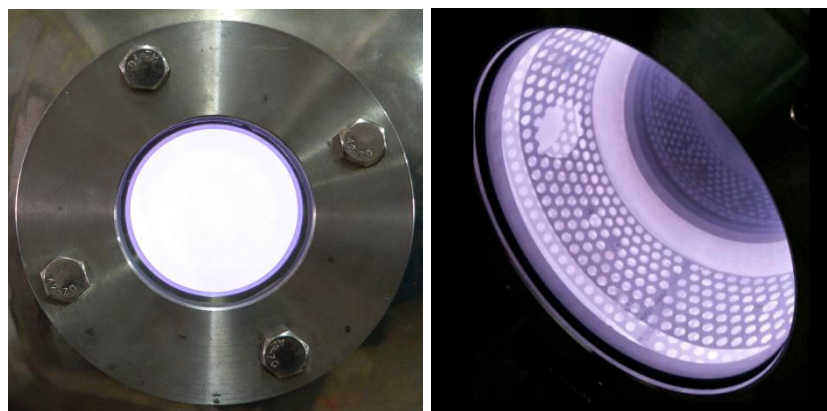
Application Examples:



(a)

(b)

(c)



(d)

(e)

Photo of Plasma Discharge

(a) DBD Strong Discharge (b) DBD Medium Intensity Discharge (c) DBD Weak Discharge

(d) Vacuum Argon Discharge (e) Vacuum Air Discharge

Disclaimer: ACS Material, LLC believes that the information in this Technical Data Sheet is accurate and represents the best and most current information available to us. ACS Material makes no representations or warranties either express or implied, regarding the suitability of the material for any purpose or the accuracy of the information contained within this document. Accordingly, ACS Material will not be responsible for damages resulting from use of or reliance upon this information.