

Electrospinning

Nanofiber Electrospinning unit is a system for producing ultra-fine fiber with the diameter of 50-1000nm. The nanofiber has very high specific surface area and small diameter. The process uses electrostatic and mechanical forces to spin fibers from the tip of a fine spinneret. The spinneret is maintained at positive or negative charge by means of a DC power supply. When the electrostatic repelling force overcomes the surface tension force of the polymer solution, the liquid spills out of the spinneret and forms an extremely fine continuous filament.

This device is an easy-to-use model of electrospray deposition (electro spinning) equipment with fundamental functions and low price. This simple equipment makes samples in various sizes and purposes and is suitable for the experiment of a thin film, nano coating, nano fibers, and pattern.

Features:

- Various polymers and composites have the potential to be electruspun.
- Different product specifications such as porosity, morphology, diameter, and ability to load beads can be obtained.
- The process is easy and economical.
- Various types of polymers such as synthetic, biodegradable, natural polymers and/or polymer/composite may be processed.
- Aligned nanofibers can be produced by high speed rotating collector or using wire type collector.



Application

Textile industry

- Textile manufacturing

Biomedical Science

- Filtration
- Artificial organ components
- Tissue engineering
- Implant materials
- Drug delivery
- Wound dressing
- Medical textile materials

Energy

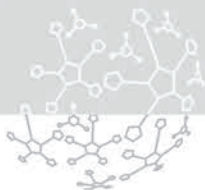
- Energy storage
- Solar cell and fuel cell electrodes
- Electrodes of Li-ion batteries

Chemistry

- Catalyst and enzyme carriers

Electronic/Optoelectronic

- Sensors
- Photoluminescence
- Super capacitors
- Actuators



SPECIFICATION

Model	Single Pump, Dual Pump, Pilot
Dimensions	70x70x60 cm
Weight	80 kg
Power Requirements	200-240 V AC, 50/60Hz, single-phase 5A
Spinnerets	
Number of Attachable Needles	2
Electrospinning Distance	5-17 cm
Spinneret Scanning Rate	0-30 mm/s
Motion Range (spinneret position)	0-30 cm
Syringe Pump Polymer Solution Injection Rate	0.01 – 500 ml/h
Modes of Operation	Constant Flow Rate and Volume Dispense
Collector	
Drum Rotation Speed	0-3000 rpm
Length of Drum	30 cm
Drum Diameter	8 cm
Collector with Minus Voltage up to -20 kV (optional)	
High Voltage	0-35 KV DC, Positive Polarity, Precise Adjustable
Digital Voltage Monitoring	
Heating System	room temperature to 45°C

