PRODUCT DATASHEET

Electrospinning Nanofiber Membrane Production System



OVERVIEW

The Tech Inc. Electrospinning Nanofiber Membrane Production System is an advanced nanofiber fabrication platform engineered for membrane research, tissue engineering, filtration media development, and industrial nanofiber applications. Electrospinning uses high voltage electric fields to produce continuous nanofiber membranes from polymer solutions.

MODELS AND CONFIGURATIONS

- **PVDF Nanofibers** – For water treatment, membrane distillation, piezoelectric applications
- **PAN Nanofibers** – Carbon nanofiber precursors and filtration media
- **PVA Nanofibers** – Biomedical and water-soluble applications
- **PCL Scaffolds** – Tissue engineering and regenerative medicine
- **Nylon Nanofibers** – High-strength filtration and protective applications

TYPICAL DESIGN DATA

Parameter	Specification
Voltage Range	0-50 kV DC
Current Output	0-200 microamperes
Flow Rate	0.1-50 mL/hr
Drum Collector	100 mm dia x 250 mm, 100-3000 RPM
Flat Plate Collector	200 × 200 mm SS
Spinning Distance	5-30 cm adjustable
Needles	1-12 multi-nozzle

APPLICATIONS

Water filtration nanofiber membranes (MF/UF/NF); air filtration media (HEPA/ULPA enhancement); tissue engineering scaffolds (PCL, PLA, PLGA, collagen); drug delivery carrier membranes; wound dressings and biomedical textiles.

KEY ADVANTAGES

- **High voltage DC power supply** – 0-50 kV continuously adjustable (0.1 kV steps)
- Flat plate collector option for random nanofiber mats
- Enclosed chamber with humidity (20-80% RH) and temperature control (ambient to 60C)
- Automatic digital data acquisition for voltage, current, flow rate, humidity, temperature
- Safety interlocks, emergency stop, grounding system

Designed and built by Tech Inc. · **Part of the Davey Group since 1990**

Offices: Chennai · Toronto · Tallinn · Al Khobar

mail@techincresearch.com · +1 (289) 622-1032 · www.techincresearch.com

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