



The Pilot system is designed for precise product development processes to complement the research and development processes. The model is specifically suited to universities and industrial R&D departments of companies engaged in electrospinning over long time intervals requiring in-situ parameter optimization. It is possible to revise process optimization processes and carry knowledge to commercial production scale.

The pilot scale system comes with 44 needles and the polymeric solution distribution system designed to make feeding all nozzles uniformly. 500 mm width substrate can be coated with nanofibers homogeneously up to 30 meters length continuously.

Heat and relative humidity in the cabinet can be adjusted precisely. And all operation parameters and environmental conditions can be controlled by an automation system via a user friendly touch screen and with reliable components.

Nanospinner PilotLine is the best solution in the market for high throughput nanofiber mats production

MODEL

Pilot Devices

Description

Semi Industrial Scale Multi Nozzle Electrospinning Unit

Spinning-Type

Bottom-Up Spinning

CONSTRUCTION**Chassis**

Electrostatic Painted Sheet Metal

Feeding Area Material

PE 1000(High Density, Chemical resistant)

Collector Material

Stainless Steel

Total Weight

<400kg (can vary depending on additional accessories)

Dimensions

W: 1550 mm H: 1950 mm D: 1250 mm

HIGH VOLTAGE POWER SUPPLY**Voltage Range**

0- 40 kV

Voltage Precision

0.1 kV

Max Current

3 mA

HIGH PRECISION MICRO PUMP**Flow Rate**

0.1 - 1000 ml/h (2 pumps included)

Flow Rate Precision

0.1 ml

Available Syringes

All types are available

FEEDING AREA**Number of Nozzle on Each Feeding Pipe Set**

11pcs

Number of Feeding Pipe Sets

4 pcs

Number of Nozzles

44 pcs (Also compatible with single nozzle production)

Single Nozzle Production

Available

Feeding Pipe Material

Aluminum

Nozzle Material

Electrically Conductive Brass or Stainless Steel

Nozzle Inner Diameter

0.8mm, Different Diameters Available

Minimum Required Solution for Single Nozzle Feeding

3ml

Minimum Required Solution for Each Feeding Pipe Set	20ml
Minimum Required Solution for Full Loading	100ml

SPINNING DISTANCE

Distance Between Nozzle and Collector	30mm- 280mm
Distance Adjustment Precision	1mm

COLLECTOR

Roll to Roll Collector:

Fiber Deposition Width	530 mm
Substrate Winding Speed	0,01 m/min - 1 m/min
Coating Homogeneity System:	X-axis repetitive motion
Stroke of Coating Homogeneity System	30mm - 180mm
Speed of Coating Homogeneity System	5-80 mm/sec

AUTOMATION

Data saving and Recall	✓
Collector Block In/Out Motion	✓
Emergency Stop Button	✓
Safe Door On/Off Button	✓
LED Illumination On/Off	✓
Exhaust Fan On/Off	✓
Winding On/Off	✓
Winding Speed Adjustment	✓
Winding Direction Selection	✓
Coating Homogeneity System On/Off	✓
Coating Homogeneity System Stroke Adjustment	✓
Coating Homogeneity System Speed Adjustment	✓
Spinning Distance Adjustment	✓
Pump 1-2 On/Off and Flow Rate Adjustment	✓
High Voltage Adjustment	✓
Max. Current Limitation	✓
Temperature Indicator	✓

TECHNICAL REQUIREMENTS

Power	110-120VAC or 220-240 VAC @ Max 6A
Grounding	External
Recommended Installation Area	350cm x 280cm

EXPERIENCED POLYMERS

Polyurethane	Solved in DMF and THF
Polybenzimidazole	Solved in DMA with particle additives
Polycarbonate	Solved in DMF
Polyacrylonitrile	Solved in DMA and DMF
Polyvinyl Alcohol	Solved in Pure Water
Polylactic Acid	Solved in DMF
Polyethylene Oxide	Solved in HCl
Nylon 6.6, Polyamid 6.6	Solved in Formic Acid
PVC	Solved in THF
Poly Lactic co Glycolic Acid	Solved in DMF