SS1600 Stream Spinner

Industrial Scale Open Surface Electrospinning Unit

HIGH THROUGHPUT
PRODUCTION OF NANOFIBERS



+ SS1600

+ Industrial scale high-throughput electrospinning or electrospraying system
+ Open surface – needleless solution feeding mechanism
+ Bottom-up horizontal processing.

+ **High Production Rate:** 50% higher than SS1000

+ Up to **36 m2/min (PA6 0.1 GSM)** production of nanofibers.

+ **Smart Dynamic Feeding System:** Provides an extremely homogeneous production, and precise adjustment of the flow rate.

+ **Smart Winding System:** The software sets the desired thickness by automatically adjusting the flow rate and winding speed.

+ **Compatibility to work** with a wide viscosity range of polymeric solutions.

+ **Patent Pending Technology.**

inovenso

Open Surface Industrial Line

SS1600

+ CONSTRUCTION
Electrostatic painted sheet metal chassis
Exhaust fan system to remove solvent vapors
Air conditioning system for temperature and humidity control
Weight: 1000- 1500 kgs
Dimensions: W: 2500 mm L: 4200 mm H: 2200 mm

+ HIGH VOLTAGE SYSTEM
Positive and negative high voltage power supply system
For the spinneret 0 - 80 kV positive high voltage module
For the collector 0 – 40 kV negative high voltage module
Voltage Adjustment Precision: 0.1 kV
Maximum Current: 1.87 mA

+ SOLUTION FEEDING SYSTEM
Three streamspinner open surface spinnerets,
Three peristaltic pumps set individually connected to the spinnerets, All the spinnerets can be fed with different solutions to obtain composite structures,
Spinneret Length: 1600 mm
Tubing: Silicone Tubing ID:5mm x OD:8mm and PE Tubing of ID:4mm x OD:6mm
Flow Rate of Peristaltic Pumps: 0.1- 40 ml/min
Flow Rate Precision: 0.1 ml/min

+ SPINNING DISTANCE
Distance between Rods and Collector: 150 - 300 mm
Distance Adjustment Precision: 1 mm

+ COLLECTOR
Roll-to-roll collector, Width of the collector: 1700 mm
Substrate Winding Speed: min 0.2 m/min - 30.0 m/min
Effective Coating Width: 1600 mm

+ PROCESSING
Throughput mainly depends on polymer type but also solution and process parameters,
Available for 24/7 operation,
Easily cleaning of spinnerets and production area surfaces of the machine,
15 minutes of starting up time required,
65 L tank capacity for batch mode operation for solution feeding,
Minimum maintenance requirement.

+ AUTOMATION
PLC Controlled, 12” Touch screen control panel,
Well-designed user-friendly interface,
Data saving and calling, Automatic winding speed adjustment depending on the process and solution parameters to achieve the desired coating thickness.

+ SAFETY AND REGULATIONS
Safety door feature, Emergency Button & Safety Relays, HV Warning Light,
Electrical Isolated & Grounded Cabinet,
Over Current Protection,
Meets regulatory standards under CE Certification,
Static discharge bar.

+ SITE REQUIREMENTS
Power:12 kW 56 A. @220 - 240 VAC (1P1N1E)
19 A. for each phase @380 VAC (3P1N1E)
38 A. for each phase @208 VAC (3P1N1E)
External Grounding line is required
Pressurized air (3-4 bar) for winding-rewinding shafts
Ventilation: Hose channel and ventilating system to evacuate the evaporated solvents
Space requirement: 4 m x 6 m




