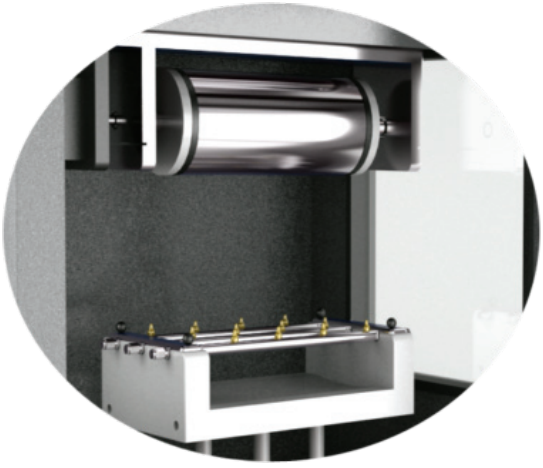
Nanospinner24

Advanced multi-nozzle model

1-12 Multinozzle spinning

L Size drum collector

Advanced automation

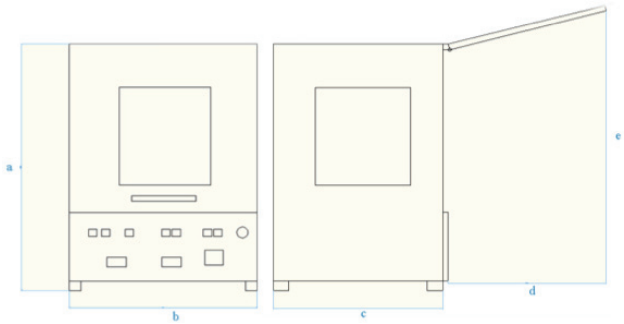


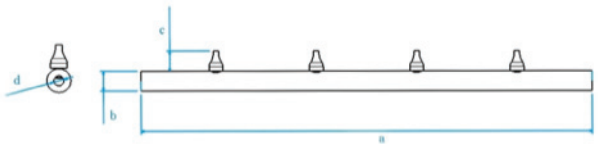
The Nanospinner 24 is designed to develop sample nanofiber membranes used primarily in textile and air filtration applications, but also in the chemical, medical, construction and agriculture industries. The model is specifically suited to universities and industrial R&D departments engaged in electrospinning over long time intervals requiring in-situ parameter optimization. This flexible, long-term electrospinning capability is supported by a number of customized accessories:

- Bottom-up spinning
- Up to 12 concurrently feeding nozzles
- 376mm by 280mm coating area
- High speed rotating drum up to 2000RPM
- Adjustable horizontal movement between 30-80mm to get more uniform membranes
- Automatic adjustable spinning distance between 30-230mm
- Extra safety options such as safe-door and warning light to prevent danger from high voltage exposure

General Description	
Model	NanoSpinner24
Description	Advanced Multi Nozzle Electrospinning Unit
Spinning Type	Bottom-Up Spinning
Produced in	Turkey
Construction	
Chassis	Electrostatic Painted(RAL7031+RAL7024) Sheet Metal
Feeding Area Material	PE 1000(High Density, Chemical resistant)
Collector Material	7000 Series Aluminium Alloy
Windows	4 mm Transparent Glass
Total Weight	<150kg(5291oz)
Dimensions	705mm(27.76") x 630mm(24.80") x 1060mm(41.73")

High Voltage Power Supplier	
Produced in	United States (CE and ISO Certified)
Voltage Range	0- 40 kV
Voltage Precision	100V
Voltage Display	LED Screen
Max Current	0.75 mA
High Precision Micro Pump	
Produced in	United States (CE and ISO Certified)
Flow Rate	0.01-1000ml/h
Flow Rate Precision	0.01ml/h
Flow Rate and Volume Display	LED
Available Syringes	Standard 1, 5, 10, 20 and 50ml
Feeding Area	
Number of Nozzle on Each Feeding Pipe Set	4 pcs
Number of Feeding Pipe Set	Up to 3 Sets
Number of Nozzle	Up to 12 Nozzles
Single Nozzle Production	Available
Feeding Pipe Material	Aluminium
Nozzle Material	Electrically Conductive Brass
Nozzle Inner Diameter	0.8mm(0.315")
Minimum Required Solution for Single Nozzle Feeding	1ml
Minimum Required Solution for Each Feeding Pipe Set	9.35ml
Minimum Required Solution for Full Loading	28.05ml





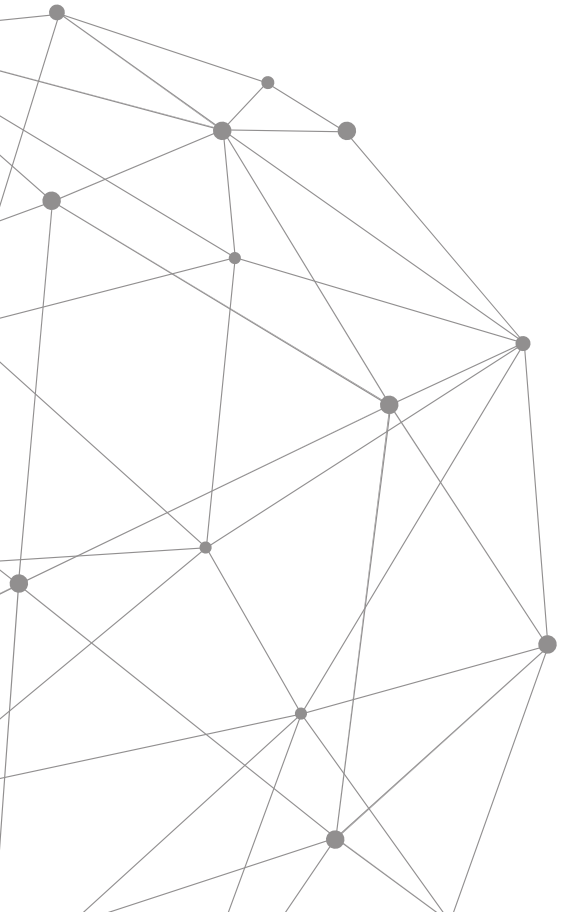
Chassis Dimensions	
a	1060mm(41.73")
b	705mm(27.76")
c	630mm(24.80")
d	629mm(24,76")
e	1205mm(47.44")

Feeding Pipe Set Dimensions	
a	365mm(14.37")
b	12mm(0.47")
c	12,12mm(0.48")
d	5.5mm(0,21")

Collecting Area	
Collector Type	Rotating Cylinder and Constant Plate
Cylinder Material	Aluminium
Constant Plate Material	Aluminium
Cylinder Driving Method	BLDC Motor
Cylinder Dimensions(D x L)	120mm(4.72") x 280mm(11.02")
Fiber Deposition Area	376.8mm(14.83") x 280mm(11.02")
Cylinder Speed	100-2000RPM
Cylinder Surface Speed	Max. 12560mm/sec(494,3inches/sec)
Coating Homogenity System	X-axis repetitive motion
Stroke of Coating Homogenity System	Adjustable Between 30mm(1.18") and 80mm(3.15")
Speed of Coating Homogenity System	Adjustable Between 0 and 8.3mm/sec(0.33inches/sec)
Spinning Distance	
Distance Between Nozzle and Collector	30mm(1.18") - 230mm(9.06")
Distance Adjustment Precision	1mm
Distance Adjustment Method	Linear Actuator
Distance Adjustment Speed	Constant / 6.6mm/sec(0.26 inch/sec)
Distance Indicator	Digital

Automation
System Power Button
Emergency Stop Button
Safe Door Button
LED Illumination On/Off
Exhaust Fan On/Off
Cylinder Rotation On/Off
Digital Cylinder Speed Indicator
Coating Homogenity System On/Off
Coating Homogenity System Stroke Adjustment
Coating Homogenity System Speed Adjustment
Spinning Distance Adjustment
Digital Spinning Distance Indicator
Pump On/Off
High Voltage Adjustment
Digital High Voltage Indicator
Digital Temperature Indicator
Digital Relative Humidity Indicator
Technical Requirements
220 V 50/60 Hz Power Plug
External Grounding Line

Nanospinner24 Users	
3M Corporation	USA
Stanford University	USA
Nanyang Technological University	Singapore
University of Freiburg	Germany
King Saud University	Saudi Arabia
Aksa Acrylic	Turkey
Uludag University	Turkey
National Bore Research Center	Turkey
Anadolu University	Turkey
Bursa Technical University	Turkey



Optional Accessories for Nanospinner24

- Changeable collectors
- Co-Axial nozzle system
- Heat controlled chamber
- Humidity controlled chamber
- Camera integrated chamber
- Atmosphere controlled tube
- Heating collector
- Vacuum holder collector