ACS Material Equipment Series

MicroSpin™ Microfluidic Spinning Machine

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I. Product Overview

1) Main Unit

Photo of MicroSpin™ Microfluidic Spinning Machine

II. Product Features

Compared with the MicroSpin™ Microfluidic Spinning Machine, this instrument does not need high voltage electric field, the polymer used does not need to conductive, conductive and non-conductive polymers are suitable for this device, so it is more broad-spectrum; at the same time, it has high spinnability, and it can achieve different solvents and different molecular weights of polymers spinning; it can be used for one-dimensional fibers and three-dimensional beads, and it can also be used to prepare inorganic-organic blended spinning; and it has high controllability: the fluid rate can be controlled, and the diameter of the fibers can be controlled. Highly controllable: fluid rate and fiber diameter. The instrument is safe and easy to operate.

Key Features:

- **Abundant spinnable material**
- **Fiber arrays can be realized to be arranged in an orderly manner as required**
- **Precision propulsion device to ensure uniformity of filament formation**
- **Multi-axis system with precise control**
- **Controllable fiber diameter, controllable array structure**
- **A variety of receiving devices, flexible and diversified**

III. Product Specifications

Product Name	MicroSpin™ Microfluidic Spinning Machine
SKU#	EMSMS001
Feed Rate Range	20.1 µl/h - 681.73 mL/min
Rotation Speed	0 - 1440 rad/min
Translation Speed	0 - 1000 mm/min
Temperature Curing System Power	200W
Temperature Control Range	RT~100℃
Temperature Control Accuracy	±1℃
Humidity Accuracy	±3%RH
Power Supply	220V±10%, 50Hz
Rated Power	600W
Overall Dimensions	950 x 550 x 600mm
Weight	55kg
Configuration Description	Includes 1x main unit, 1x electronic controlled mobile platforms, 1x spinning receiver, 1x microfluidic platform, 1x microfluidic chip, and 1 set of microfluidic needles.

IV. Applications

- **Biomedical Materials:** Tissue engineering scaffolds, drug delivery, artificial blood vessels, cell culture, blood filtration membranes, drug delivery
- **Filtration Materials:** Masks, air filters, oil-water separation, extraction, filtration membranes, seawater desalination, selective adsorption
- **New Energy:** Energy storage materials, fuel cells, lithium-ion battery membranes, solar cells, sensor materials, flexible wearables
- **Defense Industry:** Thermal insulation materials, electromagnetic shielding, stealth wave absorption
- **Catalysis:** Catalyst support, photocatalysis, chemical catalysis, exhaust and wastewater, catalysis
- **Others:** Cosmetics, food processing, waterproofing and anti-corrosion, heat and thermal insulation

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