

NanoSpin Humidity/Temperature Control System



Brief Description

Ambient conditions play a crucial role in the electrospinning process, directly influencing **fiber morphology, uniformity, and reproducibility**. Unstable temperature or humidity can cause **variations in fiber diameter, bead formation, and poor adhesion**.

The **NanoSpin AC System** provides **precise control of temperature and humidity**, ensuring an **optimal and stable environment** for high-quality nanofiber production. This system enhances process reliability, reduces inconsistencies, and improves **fiber uniformity** — making it ideal for both **academic research** and **industrial-scale nanofiber production**.

Key Features

- ✓ **Precise Environmental Control:** Temperature 18–45 °C (± 1 °C), Humidity 10–80% RH ($\pm 5\%$)
- ✓ **Fully Integrated:** Humidifier, dehumidifier, cooler, and heater in one system
- ✓ **Optimized for Electrospinning:** Maintains ideal conditions for consistent fiber formation
- ✓ **Versatile & Scalable:** Compatible with NanoSpin Lab-Scale Machines and other controlled chambers
- ✓ **Centralized Operation:** 4.3" HMI touchscreen with PLC-based control
- ✓ **Robust Design:** Metallic body with advanced safety and reliability features
- ✓ **Placement:** Can be installed beneath the chamber and used as a work table

Specifications

Temperature Range	▪ 18–45 °C (±1 °C)
Humidity Range	▪ 10–80% RH (±5%)
Power Input	▪ 100–240 V AC, 50–60 Hz
Max Air Flow	▪ 200 m ³ /h
Duct	▪ Insulated, 100 mm inner diameter
Dimensions (L×W×H)	▪ 140 × 80 × 80 cm
Weight	▪ ~150 kg
Control System	▪ PLC integrated
HMI Panel	▪ 4.3" touchscreen
Modes	▪ Cooling ▪ Heating ▪ Humidifying ▪ Dehumidifying
Chassis	▪ Metallic body
Room Requirements	▪ Temp: 20–25 °C ▪ Humidity: 30–40 °C
Supported Volume	▪ 1 m ³ (Insulated)
Placement	▪ Can be placed under chamber

