

Yflow® Electrospinning & Electrospinning FibeRoller Machine



Yflow® S.D. offers a wide variety of **Electrospinning & Electrospay Equipment**, accessories and extensions for the design and production of Core-Shell and hollow nanofibers and nanoparticles. All the Equipment supplied by Yflow® S.D. allows clean operation with both **Yflow® Electrospinning and Electrospay Tech.** and are built under each customer requirements and needs.

For those companies which devote to perform mid-high scale production of nanofibers and nanoparticles via **Electrospinning & Electrospay Tech.**, **Yflow® S.D.** also has the right machine to satisfy their needs. Yflow® S.D. has designed **Yflow® FibeRoller Electrospinning Machine.**



YFLOW® FIBEROLLER ELECTROSPINNING MACHINE | FEATURES

- Y Made of Aluminum, white coated Iron, SS and Laminated Glass:** The unit has been designed to work in a laboratory/research as well as factories environment, having an excellent flexibility, ease of use and minimum setup time and maintenance. The transparent doors located at the front, rear and sides, allow the visualization of the process and an easy access to the cabinet. The only inputs required to operate the equipment is electricity and compressed air.
- Y Roll to Roll Collector:** Designed for rolls up to 1,7 m length. It is isolated by DELRIN® towers to avoid electrical leakages and arc discharges. The height of the collector is commanded via touch screen.

Yflow® Coaxial Electrospinning & Electrospay Equipment (Process/Product Design & Massive Production) and **Yflow®** R&D Microencapsulation Services.

Yflow® Electrospinning & Electrospinning FibeRoller Machine



Y **Touch Panel:** A 5,7" sliding touch screen, located on the front panel, allows the user controlling all the features provided with the equipment: injection platform movement, injection flow, roll speed, ... The software includes user friendly interface with the option of programming sleep-off mode (timer).



Y **Two High Voltage Power Supplies:** reaching up to 60.000 V of voltage drop from the 2D array of injectors to the roll to roll collector. The device is equipped with two power supplies: one positive (up to +30 kV) and one negative polarity (down to -30 kV) (respectively) which reduces losses of material. The voltages are fully controlled from two knobs, located at the front panel, which provide the user with a more accurate control of the process.



Y **Liquid infusion:** A pressure variation driven system pump the polymeric solution from the 2L deposit (protected to work up to 6 bar air pressure) to the injection platform through PTFE flexible tubing ensuring the correct flow rate sharing. The flow rate is adjusted by setting in the touch panel the length and diameter of tubing and needles and the viscosity of the polymeric solution.



Y **Multi-Nozzle Injector Platform:** A 2D array of 8 MultiNozzle Devices bearing 10 needles each is incorporated in the machine. The functioning range and operating conditions of the multi-nozzle injectors strongly depends on the liquid dissolutions to be electrospun or electrospayed.

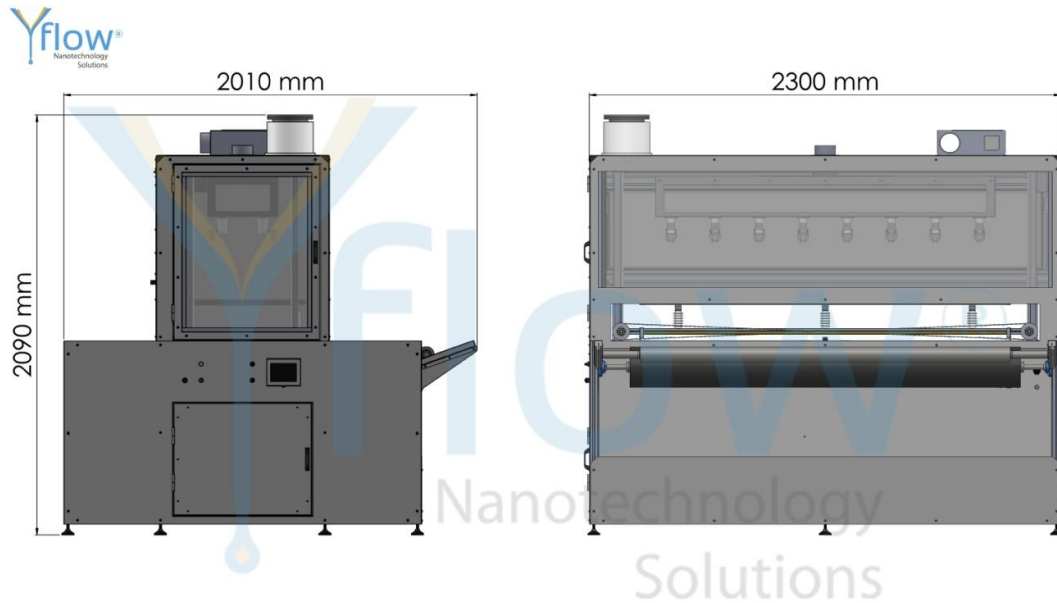


Y **Motion Platform:** In order to get homogeneous thickness membranes, transversal movement driven by automated platform system can be commanded (speed and position control) easily by the touch panel.

Y **Integrated Extractor Hood:** The equipment includes a fume hood exhaust fan that allows an efficient ventilation of the cabinet.

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YFLOW® FIBEROLLER ELECTROSPINNING MACHINE | DIMENSIONS



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YFLOW® FIBEROLLER ELECTROSPINNING MACHINE | GENERAL INFORMATION

CHASIS MATERIAL	Aluminum, Painted Iron, SS and Laminated Glass
Total weight (Kg)	750
Dimensions LxWxH (mm)	2010 x 2300 x 2090
Power supply	210-230 V; 50-60 Hz
Power Consumption (max)	<1000W
Operator interface	PROFACE Touch Screen 5.7"
Warranty	2 Years
HIGH VOLTAGE	
Polarization	Double polarization
Voltage range	-30 KV to +30 KV
Maximum Power	15W
Adjustment of voltage	Potentiometers 1.5kV/rev
FEEDING TANK	
Volume	2 L
Dead Volume	200 mL
Flow rate Air Pressure	0.01 to 6 bar
INJECTOR	
Spinnerets	8 units
Type	MultiNozzle Injector with 10x Needles Conical Thread (Rc 1/8'')
Needle OD/ID Diameter Length Screw	0.9/0.6 mm 25 mm R 1/8''
Material of needle	Steel (AISI 304)
Material of body	Peek
Distance injector-colector	0 up to 200 mm
Distance adjustment method (Z)	Automated via Touch Screen
COLLECTOR	
Type	Roll To Roll
Dimensions (mm)	1,7 m
ILLUMINATION	
TYPE	LED
SAFE AND SECURITY	
<ul style="list-style-type: none"> • Fume hood exhaust fan. Extraction flow rate: up to 150 m3/h. • NORMAL & SAFE MODES of operation. 	<ul style="list-style-type: none"> • Red beacon warns that voltages are ON. • Protected to peaks of voltage and current. • Smoke Detector. • Emergency stop button.

NOTE: Pictures along the document may differ from reality.

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