



佛山轻子精密测控技术有限公司
Foshan Lepton Precision M&C Tech Co.,Ltd.

TECHNICAL PROPOSAL

FOR E06-001 MULTIFUNCTION ELECTROSPINNING MACHINE



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1. Technical Specifications

1.1 Product Name&Model: Multifunction Electrospinning Machine E06-001

1.2 Equipment Parameters and Standard Configuration

E06-001 Standard Configuration Parameters				
No.	Item	Parameters and Configuration	Installation position	Qty.
1	Double High Voltage Power Supply	-Output voltage 1: DC 0—50KV, current<1mA, input voltage AC220±10%	Power supply placed in the cabinet at bottom	1 PCS
		-Output voltage 2: DC 0— -30KV, current<1mA, input voltage AC220±10%		1 PCS
2	Solution Supply Pump System	Injection pump solution supply system with independent control -Automatic solution supply speed range:0.01-100ml/h; manual solution supply speed range: 0.1-80 ml/min; -Applicable syringe size: 1, 10, 20ml; -Solution tube: outer dia 4mm×inner dia 2mm;Materials: PTFE;Connection: metal Luer taper. -Injection pumps are all single channel.	Installed on the back side wall; can be installed on the motion platform	2 Set
3	Nozzle System	-Single needle nozzle, can change with needle freely within range: 13-34G;	Mounted on the moving platform	1 Set
		-Four needles &single channel array nozzle;		1 Set
		-Double shell coaxial nozzle 1 PCS, 17G/22G;		1 Set
4	Nanofiber Collection System	-Roller collection: effective length 200mm, dia Ø80mm; rotating speed: 0.01-800r/min, adjustable;	Horizontally install on the right side	1 Set
		-Flat plate collection: L shape 180mm*220mm;		1 Set
5	Nozzle X-Y-Z Three Axes Motion System	-X axis manual displacement stroke range: 0—250mm; -Y axis automatic motion platform: effective stroke 200mm; positional accuracy≤0.03mm;	On the right back top side	1 Set



		-Z axis manual lifting platform: 0-110mm, adjustable.		
6	Camera Observation System	-Focus Mode: manual focus; -Resolution ratio:1080P, 60Hz	On the top of the spinning cabinet	1 Set
7	Environment Control System	-Temperature control: indoor temperature to 60°C, adjustable, precision: $\pm 1^{\circ}\text{C}$; -Humidity control: 40%-indoor humidity value, precision: humidity deviation $\pm 3\%\text{RH}$, humidity control speed: $\leq 10\text{min}$ -Exhaust: can set the exhaust duration, timing exhaust.	Control the experiment environment, make it relatively stable; installed inside the equipment	1 Set
8	Numerical Control System	-7 inches human-machine interface numerical control system (Integrated with nozzle movement device, solution supply system, heating, humidity control, exhaust, timing, illumination and other parts ,and monitor running status), realize the control function more humanization and visualization, provide a visual, flexible and operable way to explore the fiber quality. -Can set the spinning time, make the experiment be more data-intensive; when the time reach the setting time, the equipment will turn off automatically, insure the safety. -Automatically record and save the parameters, convenient for comparing the testing results. -Can custom set the exhaust time, insure the spinning environment stable(no fire, no explosion),harmless (waste gas doesn' t leak out).	Realize the control function more humanization and visualization, provide a visual, flexible and operable way to explore the fiber quality. Installed on the control panel.	1 Set



9	Safety Guarantee System	-Discharge short circuit protection; -Running pilot light; -Safety mark; -Electric leakage protection; -Organic waste gas exhaust: avoid the electric charge accumulating thus causing electric shock, fire, explosion and other accident, avoid the organic waste gas' s leakage which will influence the health; -Inert gas fill and control function.	Design and arrange the power circuit according to the national standard, insure the circuit is safe and reliable.	1 Set
10	Power Line	-220v, three pole plug		1 PCS

1.3 Optional Special Configuration

Optional Special Configuration				
No.	Item	Parameters	Remarks	
1	Small size continuous Winding System	Roller diameter 100mm, breadth 250mm, advised speed 0-5rpm		
2	Micro Sphere Nozzle	Fabricate micro sphere		
3	Triple shell Coaxial Nozzle	Can fabricate core-shell structure fiber and hollow fiber(must use the match one syringe three channels injection pump)		
4	One Pack Multiple Needles (2, 3, 4)	Can fabricate and develop multifunctional, multi-chambers nanofiber(used along with one syringe three channels injection pump as below item 7)		
5	Four needles & two channels nozzle	Array nozzle,and it can fabricate conjugate spinning fibers with high efficiency		
6	One Syringe Three Channels Injection Pump	Can simultaneously push out three different solutions		



7	Tube type collector	$\phi 1 \sim \phi 8$ with 8 specs available, column shape, the collecting speed 0~350 rpm	
8	High speed roller collector	Roller diameter: ϕ 80mm, breadth:150mm, adjustable rolling speed:0~3000rpm	
9	Eight needles & single channel array nozzle	Could fabricate nanofibers with higher efficiency	

1.4 Consumables and Delivery Materials

Consumables and Delivery Materials				
No.	Materials	Specification	Qty.	Remarks
1	Solution Tube	Inner diameter 2mm, outer diameter 4mm	2 PCS	
2	Needle	22G needle	1 Box	
3	Syringe	10ml	5 PCS	
4	Test Spinning Material	10%PVA test spinning solution	20ml	
5	Use and Maintenance Manual	A4	1 Set	
6	Product Acceptance Confirmation Letter	A4	1 Set	
7	After Sales Confirmation Letter	A4	1 Set	
8	Product Certificate of Quality	A4	1 Set	

2. After-sale Service

2.1 Generally, the whole machine free warranty period is one year since debugging and acceptance is over, lifetime paid maintenance, consumables excluded.

2.2 The equipment installation adjustment test is completed, and it cannot be shipped due to customer reasons, thus the warranty period is one year from the date of contract delivery, and



provide lifetime maintenance paid service.

2.3 For overseas service like assembly, installation, debugging or training service, etc., if required and necessary, all the expenses would be absorbed by buyer.

2.4 If the users use the product incorrectly or refit the product, the unnatural damage isn't in the range of above free warranty, the users shall pay for the repair cost.