

### Quality Test Plan

**Equipment name** : Nano fiber Electro spinning  
**Mode/ Serial no** : HO – NFES-040 /other models

Sl No	Specific Test Conducted	Test method	Spec./Accepted values	No. of times repeated
1.	Basic Inspection	Model No., Painting , Finishing , stability and other visual parameters		1
2.	MCB, Stop, lamps, Fan etc	Verify the functioning of MCB, emergency stop button, chamber lamp, exhaust fan, controller power switch and halogen lamp.		2
3.	PC Connectivity	Connect the system with computer using cables and check connection		2
4.	Vibration, noise & RPM checking	Run the Mandrel at max rpm and check vibration /RPM/Noise	1 % error in RPM allowed	1
5.	Electrical Continuity	Verify the electrical continuity from the mandrel body to the negative terminal, for all the mandrels.		1
6.	Syringe pump- Vibration and noise	Check the noise and vibration level of the syringe pump		1
7.	Limit testing	Run the syringe pump to home and far limits		3
8.	Limit adjustment	Adjust the far limit sensor position as suitable for 20ml glass syringe		1
9.	Flow rate	Measure the actual flow rates for different values of set flow rates	1 % error max.	1
10.	Limit switch- XYstage	Verify the functioning of home and far limit sensors of the XY stages		1
11.	XY stage	Verify proper operation of the XY stage at different speeds, by loading different programs		1
12.	Halogen lamp intensity	Verify the functioning of the intensity control knob of the halogen lamp		1



14.	Door safety lock	Verify the functioning of the high voltage interlock, by opening the door of the hood when the power supply is on		3
15.	High voltage test	Keep the positive and negative terminals of the high voltage power supply at a minimum distance of 30 cm from each other and 10 cm from any other objects. Then increase the voltage to different levels up to maximum 30kV and verify by measuring the voltage using a high voltage probe		1
16.	Electro spinning	Prepare the PCL precursor solution, load the syringe and perform electro spinning with stationary target, XY target and rotating mandrel. Repeat at different tip target distances and voltages..		5
17.	Coaxial spinneret	Verify the functioning of co-axial spinneret by connecting it to the syringe pump and dispensing solution through each of its needles		1
18.	Temperature controller and sensor	Set different temperatures up to 40 Degree Celsius in the chamber temperature controller and verify the chamber temperature at each set point		1