







## "Better control, Better fiber formation..."



### Why Electrospinning and Why Nanofibers?

The size of an electrospun fiber can be on the-nano scale and the fibers may possess nano-scale surface texture and porosity, leading to different behaviours and interactions compared to equivalent macro scale materials. The ultra-fine fibers produced by electrospinning are expected to have two main properties, a very high surface-to-volume ratio, and a relatively defect-free structure at the molecular level. This first property makes electrospun material suitable for activities requiring a high degree of physical contact, such as providing sites for chemical reactions, or the capture of small sized particulate materials by physical entanglement such as filtration. The second property should allow electrospun versions of materials to approach their theoretical maximum strength, leading to extremely competitive mechanical performance.



## More functionality

More reliability

More security

## Nanospinner 416

#### Industrial Scale Nanofiber Production Unit



#### Nanospinner416 Project

Industrial Scale Nanofiber Membrane Production Unit The Nanospinner416 is the ongoing industrial project which waits today's electrospinning projects as tomorrow's nanofiber products.

Some Of Proven Polymer Solutions	
For All Nanospinners	
Polyurethane	Dissolved in DMF and THF
Polybenzimidazole	Dissolved in DMA with additives
Polycarbonate	Dissolved in DMF
Polyacrylonitrile	Dissolved in DMA and DMF
Polyvinyl Alcohol	Dissolved in Water
Polylactic Acid	Dissolved in DMF
Polyethylene Oxide	Dissolved in DCM
Nylon 6.6, Nylon 6	Dissolved in Formic acid
PVC	Dissolved in THF
Poly Lactic co-Glycolic Acid	Dissolved in DMF / Acetone

#### Provided free of charge, for all NANOSPINNERS

All necessary accessories, hydraulic components and fittings (valves, tubing, connections, etc.) in addition to those stated above Complete documentation including drawings, specifications, program source codes, operation procedures maintenance and troubleshooting guides and users manuals Warranty: minimum 1 year including spare parts, labor and transportation from the date of handover on completion of testing and commissioning.

## **Co-Axial Nozzles (Brass & High Chemical Resistant Stainless Steel)**

The Co-Axial Nozzles allows for the infusion of two different solutions at the same time to obtain coreshell nanofiber structures. It can be used with the Inovenso range of electrospinners as well as any other compatible model. The Luer-lock design allows for easy cleaning and maintenance and its only requirement is for two independent pump mechanisms.



"Brass Co-Axial Nozzle"

Co-Axial option package includes a Co-Axial nozzle, PE tubing for solution distribution from the pumps to the nozzle and an additional micropump.



# Bicomponent Fiber formation with the Co-Axial Nozzles







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