

# Handheld/portable apparatus to produce fine fibers

There is a strong interest in developing nanofibers structures in the biomedical field that provide scaffolding for tissue growth and support living cells as agents in wound care. Some of the wound care agents include hemostasis, protecting against infection, accelerating the healing process, and offering conformability (e.g., ability to adapt to 3D intricate sections).

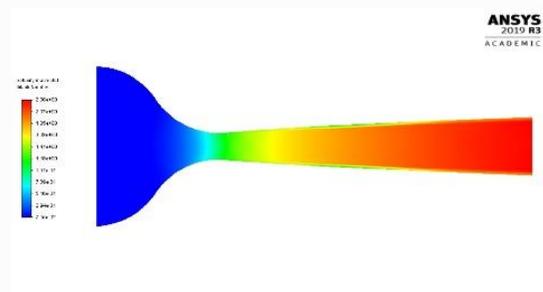
The proposed system is ideal/effective in producing Nanofibers (NF) and for use in healing wounds. The nanofibrous scaffolds mimic the extracellular matrix and enhance cellular growth and tissue regeneration.

## Problem

Currently, the available NF producing system in the market has many disadvantages. These machines are not easily portable and have parts rotating at very high speeds (forcespinning). Hence currently available NF machines have many safety/portability issues making them less feasible for use in operating rooms and places requiring medical attention.

## Solution

The proposed technology is handheld, small in size, easily portable nanofiber producing system. The system uses an innovative technology to produce nanofiber by using optimal pressure ratios while minimizing loss of pressure due to friction. The system is very portable and can be easily carried around, hence its ideal for use in Operating theaters and places that require medical attention.



## Competitive Advantages

- No electric fields nor rotating parts; No need for an air compressor, pressurized gas, or CO2 cartridges
- Nanofibers' adaptability to wounds of different geometries (e.g., deep, non-flat wounds).
- Ergonomic design like hair dryer or water gun.
- Nanofibers can be embedded with a variety of other substances including painkillers and enzymes to alleviate the healing process.
- The handheld technology is so developed as it can be used in operating rooms in treatment of liver/kidney cracks occur and bleeding is hard to control.
- Compatible in producing microfibers, submicron, and nanofibers.

## Stage of Development

- Prototype is near commercial grade and has been tested in an operational lab environment
- Seeking commercial partners

## IP Status

- Licensing Available,
- Patent pending

For further information regarding this Technology please contact:

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