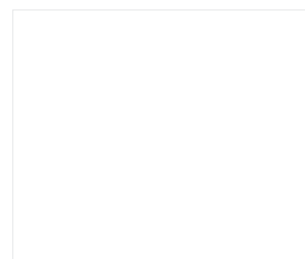


Distribution:



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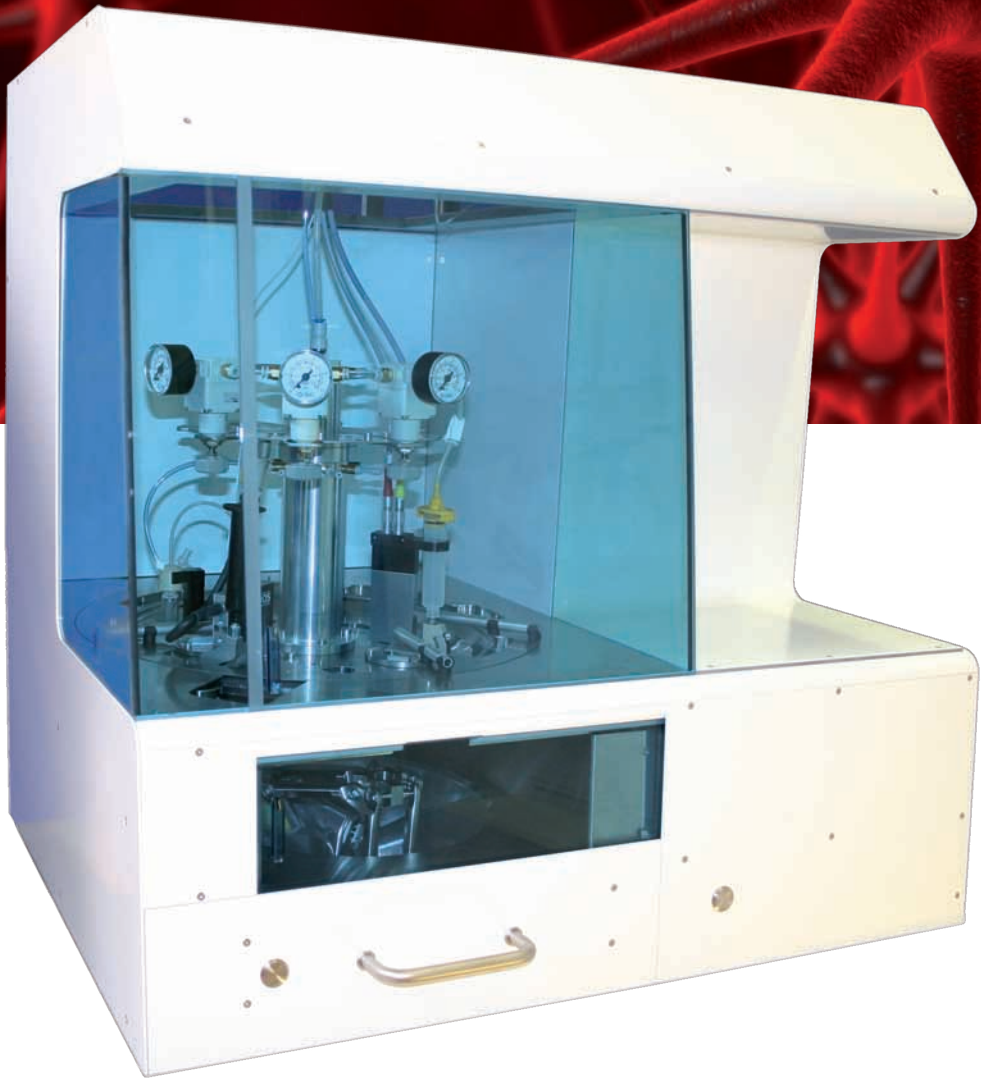
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# Bio Factory



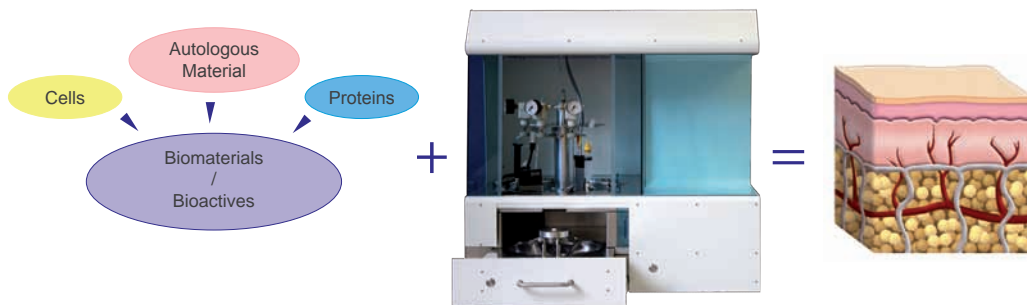
Delta Robotics is an innovative Tissue engineering start-up company located in Biel, Switzerland. We offer cutting-edge *bioprinting solutions* for biomedical research. Our **BioFactory®** is a versatile and cell-friendly inkjet printing platform. It allows researchers to pattern cells, biomolecules and a range of soft and rigid materials in desirable 3D structures, with micrometer precision and dimensions of up to several mm.

### Bioprinting technology

The BioFactory®'s core patented technology is a cell-friendly layer-by-layer structuring process.

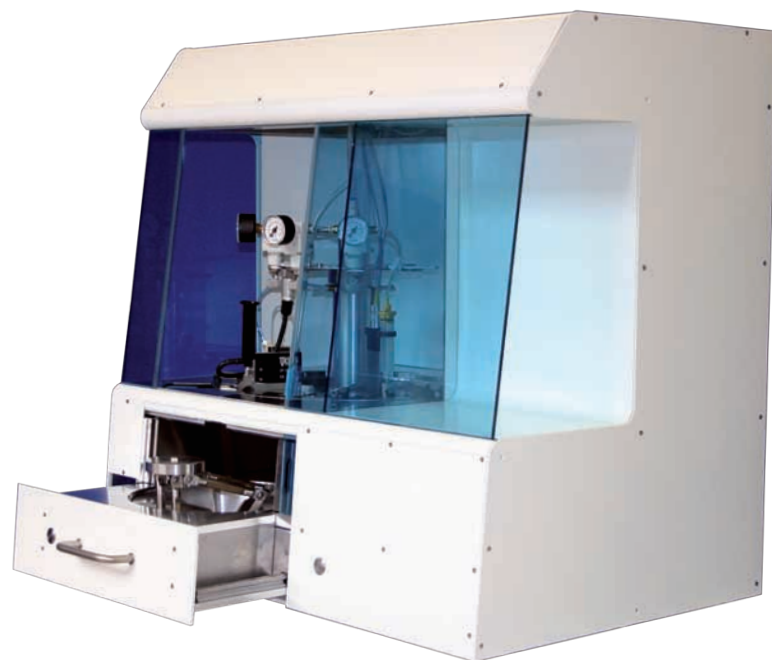
### Technical specifications

- Overall dimensions: W750/D710/H700mm
- Repeatability:  $\pm 10\mu\text{m}$
- Up to 8 dispensing units (The BioFactory® supports 5 key dispensing technologies)
- Visible light laser for photo-polymerization and hydrogel cross-linking
- Dispensing of fluids, gels and pastes demonstrating Newtonian or non-Newtonian behavior
- Temperature control of the printing medium
- Tissue modeling via standardized ISO code
- Vision system for real-time imaging and process control

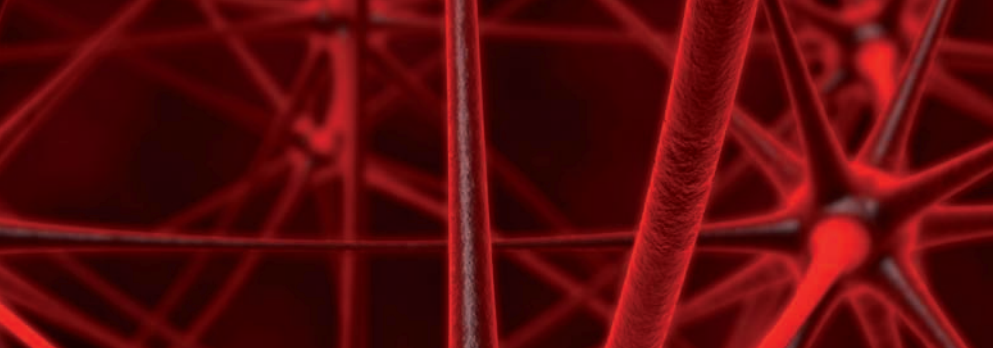


### Key advantages

- Printing under physiological conditions with Piezo-based printing heads.
- Modularity: Selection of multiple dispensing systems possible
- Small footprint (W750/D710mm). Bioprinting within a sterile laminar flow hood
- Bioprinting within controlled biological environments (i.e. controlled temperature, humidity and CO<sub>2</sub>/oxygen)
- Micrometer-scale process repeatability



# Bio Factory



## Emerging applications

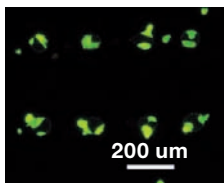
### • Complex 3D scaffold printing

- Adaptable software
- Desirable shapes
- Controlled inner and outer pore architecture ( $\mu\text{m}$  to  $\text{mm}$ )
- Combination up to 8 different materials on each layer



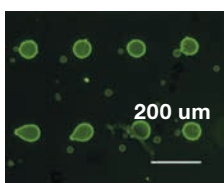
### • Cell printing

- Pico-liter resolution
- No reduction in cell viability
- Desirable spatial arrangements (i.e. dots, lines, arrays)



### • Biomolecule printing

- Bioprinting of fragile proteins such as growth factors
- Combination of proteins and materials such as hydrogels
- UV-assisted immobilization



## Modular and upgradable hardware

### • Dispensing stations

- Cell friendly, maximal cell survival
- Minimal dead volume ( $<10\mu\text{L}$ )
- Viscosity range from 20 – 30'000mPas
- Pico-liter resolution
- Abrasive particles (i.e. nano-hydroxyapatite)

### • Laser

- Visible light (cell friendly light controlled cross linking)

### • Camera

- Camera module for real time imaging and process imaging

### • Flow box

- Flow box integration for aseptic processing

