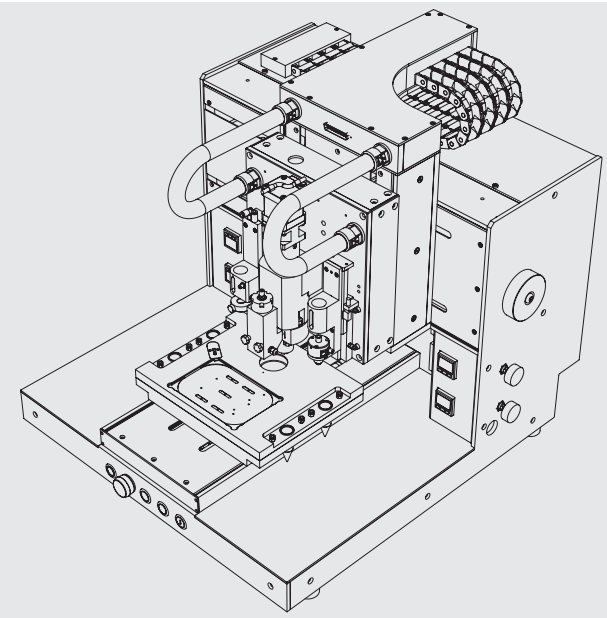
3DDiscovery™

CREATE THREE-DIMENSIONAL ORGANOMIMETIC MODELS FOR TISSUE ENGINEERING



ENABLING TECHNOLOGY

> Bioprinting is a rapidly evolving field; the FLEXIBILITY and MODULARITY of your bioprinting instrument are key factors for your future success.
> Tissue Engineering/ biotechnology Sciences are complex areas where multiple factors including material types, composition, cell viability and bio-architectures are crucial.
> Your needs and requirements for bioprinting hardware are following this rapid evolution and are thus constantly changing. The 3DDiscovery™ flexibility and modularity will assist you along the path.

BIOPRINTING PLATFORM

> The 3DDiscovery™ instrument is a cutting-edge platform to explore the potential of 3D tissue engineering through bio printing technology.
> Spatial control of cells, bioactives, and extracellular matrix in a three-dimensional cellular construct is an enabling approach to construct designed organomimetic tissues for drug discovery and regenerative medicine.

YOUR SOLUTION

> The high FLEXIBILITY of regenHU's bioprinting instruments can be adapted to any situation thanks to more than 80 accessories and nearly unlimited customization possibilities.
> The 3DDiscovery™ bioprinter offers an high MODULARITY. MODULARITY that permits you to follow your Research & Development objectives:
  • Modification or extension of instrument hardware at any time
  • Process customization to fit your needs
  • Worldwide technical and after sales support

APPLICATIONS TO STUDY & IDENTIFY BIOLOGICAL PROCESSES:

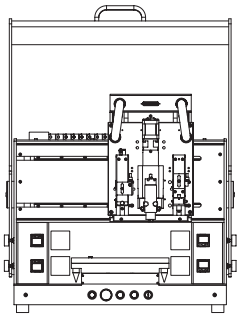
Cell-cell interactions
Differentiation
Response to stimuli
Differentiation, Proliferation and morphology
In vivo relevance
Drug metabolism and expression (gene, proteins)
Environment and Extracellular matrix contact

MATERIAL CANDIDATES

Cells, bioactives and signal molecules
Hydrogels and biopolymers
Polycaprolactone and thermopolymers
Calcium phosphates
Collagen, Hyaluronic acid, and gelatins

BIOPRINTING TECHNOLOGY IS EXPANDING IN RESEARCH AND INDUSTRY

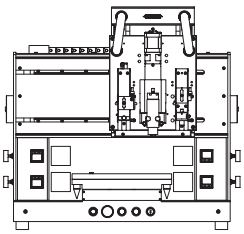
3DDiscovery™ Bench-Top



> The 3DDiscovery™ platform is a versatile and cell friendly instrument. It can create three-dimensional models that more closely mimic what happens in living organisms. It allows scientists to pattern cells, biomolecules, and a range of soft and rigid materials in desirable 3D composite structures.

GENERAL SPECIFICATIONS	
Working range	130 × 90 × 60 mm
SLAS standard compatible	
Precision	± 5 µm
Modular printhead concept	GENERAL
Nano liter dispensing resolution, minimal dead volume	
Printing under physiological conditions	
Temperature control	from 0°C up to 80°C (substrate holder, medias)
Overall dimensions (W × L × H)	600 × 700 × 670 mm

3DDiscovery™ Biosafety



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BIOSAFETY CABINET SPECIFICATIONS
Biosafety cabinet class II (Product /Operator/Environment)
Plug-Ready Interface for 3DDiscovery™ options/accessories
EN12469
Ultraviolet Germicidal Lamp for environment decontamination

TOOLS, OPTIONS AND ACCESSORIES

EQUIP YOUR BIOPRINTER WITH:

Laser or photo-crosslinking devices:	for hydrogel polymerization, bioactives encapsulation, signal molecule immobilization, coating or ablation processes
Printhead technologies:	for optimal processing of abroad biomaterial/bioactives portfolio: – cell-friendly Ink-jet; – thermopolymer extrusion; – 2 component printhead; – paste and hydrogel dispensing.
High precision temperature control devices:	for biomaterials, mediums, printheads and substrates
Electrospinning printhead:	printhead for micro & submicrometer bioarchitectures manufacturing
Software Suite:	to interact with bioprinting instrument, medical imaging, human machine interface
	– including BioCAD™, BioCAM™, BioCUT™ Industry standard interfaces (STL, DICOM, AMF, DXF)
Calibration systems:	calibration laser, needle, substrate / lab device

SWISS INNOVATION

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