REG4LIFE BIOPRINTER (REGEMAT 3D)

TECHNICAL SPECIFICATIONS:

RESOLUTION:

- Real resolution in the X and Y axis (spindel movement) = 150 µm (0.15mm); Resolution in Z = 400 nm (0.4 microns)
- Theoretical resolution in the X and Y axis = 1.875 microns – 1875 nm
- Syringes. Several output diameters: 0.15 mm, 0.58 mm, 1.20 mm

TEMPERATURE CONTROL:

- Thermoplastic extruder by filament (Until 250ºC)
- Biomaterials extrusion (through syringes). From -20 to 100ºC.
- Biomaterials light-curing by Ultraviolet light

AVAILABLE COMPONENTS:

- **Extrusion syringe.** Several bioinks and materials can be extruded with a wide range of viscosities. The extrusion diameter is determined by the used needle or pipette.
- **Bicomponent syringe.** Simultaneous extrusion of two blended materials to produce homogeneous compounds.
- **Coaxial syringe.** A coaxial print-head is made up of two syringes that can be used to simultaneously print up two different types of biomaterials. It is employed to create constructs in which core and shell are different materials. It can be used with heated print-head.
- **Refrigerated syringe.** Uniform heating or cooling system to maintain a stable temperature in the whole surface. Temperature drop in the material through a heat exchanger from -20 up to 100ºC.
- **Heated syringe.** Uniform heating system on the whole surface to maintain a stable temperature. 0 to 50ºC (Customizable until 250ºC).
- **High temperature extrusion syringe.** Interchangeable printing head with uniform heat distribution. The metallic syringe and this special module has been specially designed for working at high temperatures until 250ºC.
- **UV Light-curing system (365nm y 405 nm)**. Light source with direct incidence over the extruded material either with automatic or manual control.
- **Thermoplastic extruder.** Nozzle output diameter 0,4 mm.

PRINTING SURFACES:

- **Glass plate**.
- **Petri dish and multiwell plate**
- **Heated bed.** Specific surface for temperature control up to 120ºC
- **Refrigerated bed.** Specific surface for temperature control from -20 to 100ºC.