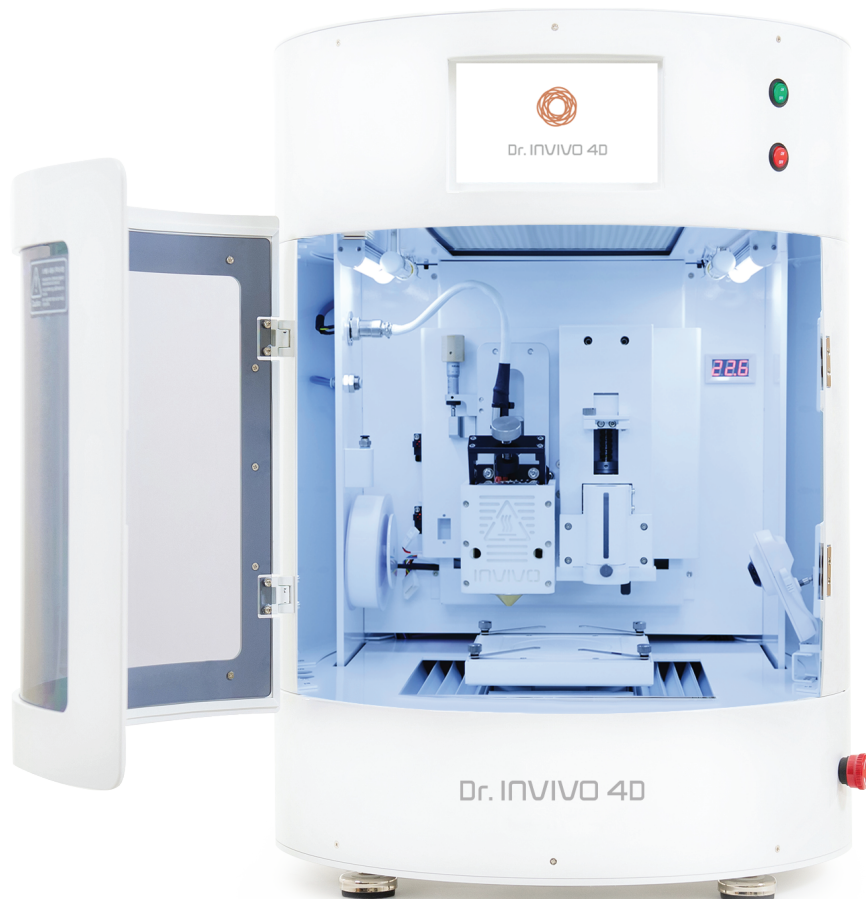




Inspired by Nature,
Healthcare Innovation by

Dr. INVIVO 40
ORGAN REGENERATOR

Dr. INVIVO 4D

Organ Regenerator

In-situ 4D Fabricating

The World's First Z-Axis Curved Surface Fabricating

Bio-Hyperspace Creation

Sterilized Environment : H14 HEPA Filter, UV Lamp

Diverse Material Usage

All US FDA-Approved Materials : Bioinks, Biopolymers, Ceramics, etc.

High Accuracy

High-Precision Step-Motor & Temperature Control

User-Friendly Interface

LCD Touch Screen, Android OS, Wi-Fi, Remote Monitoring

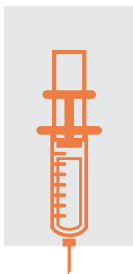
With Filament Extruder



Synthetic Polymers

PCL (Polycaprolactone)
PLGA (Poly Lactic-co-Glycolic Acid)
PLLA (Poly-L-lactic Acid)

With Syringe Dispenser



Bioinks

Hydrogel with Cell Mixtures

Powder Mixtures

Hydroxyapatite / Chitosan

Hydrogels

Collagen / Gelatin / Fibrin /
Hyaluronic Acid / Alginate

With Hot-Melting Pneumatic Dispenser



Pellet, Powder & Pastes

PCL, PLGA, PLA, Hydroxyapatite, etc.

Pneumatic Dispenser (Premium)

Nozzle Size : 100~400µm (optional)
High-Viscosity Material Fabricating
High Temperature : ~350°C
Pressure : Up to 900kPa

Extruder

Nozzle Size: 200~400µm (optional)
Stainless Steel Nozzle

Bio Filament

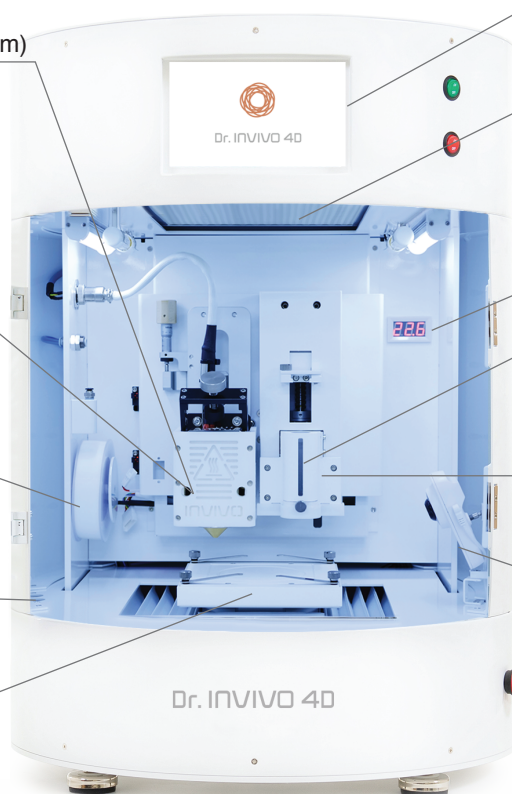
Detachable Magnetic Slot
for Bio-filaments

Bioink Warmer

Upgrade & Premium

Temperature Control Bed

Upgrade & Premium : -4°C~60°C



LCD Touch Screen

Android OS

Clean Bench System

H14 HEPA Filter
Sterilizing UV Lamp

Thermometer

Upgrade & Premium

Syringe Dispenser

Nozzle Size : 100~400µm (optional)
Temperature Control System
Upgrade & Premium: -4°C~60°C

UV LED

Photo Curing
Wavelength : 365nm / 405nm (optional)
Upgrade & Premium

Wi-Fi Camera

Upgrade & Premium

Emergency Switch

REGENERATING METHODS / PATTERNS

	STANDARD	UPGRADE	PREMIUM
Thermoplastic Filament Extruder	✓	✓	✓
Chemical Cross-linking		✓	
Photo Polymerization			✓
Temperature Control of Dispenser and Bed			
Custom Blending Use EX) Hydrogel / Inorganic / Synthetic			



Scaffold Print with Cells



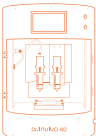
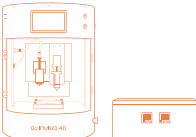
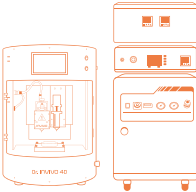
Various Pore Size and Porosity Control



Extruder-Dispenser Dual Cross Print



Curved Fabricating (Optional)

OPTION	A	B	C
STANDARD			
 Dr. INVIVO 4D	Dispenser - Syringe Dispenser	- Syringe Dispenser - Syringe Dispenser	- Syringe Dispenser - Filament Extruder
	Control -	-	-
	Bed -	-	-
UPGRADE			
 Dr. INVIVO 4D + Temperature Controller	Dispenser - Syringe Dispenser	- Syringe Dispenser - Syringe Dispenser	- Syringe Dispenser - Filament Extruder
	Control -Heating, Cooling, UV LED	-Heating, Cooling, UV LED -Heating, Cooling, UV LED	-Heating, Cooling, UV LED -Heating, Cooling
	Bed -Heating, Cooling	-Heating, Cooling	-Heating, Cooling
PREMIUM			
 Dr. INVIVO 4D + Temperature Controller + Air Dispenser Controller + Air Compressor	Dispenser - Syringe Dispenser - Syringe Dispenser	- Syringe Dispenser - Filament Extruder	- Syringe Dispenser - Hot-Melting Pneumatic Dispenser
	Control -Heating, Cooling, UV LED -Heating, Cooling, UV LED	-Heating, Cooling, UV LED -Heating, Cooling	-Heating, Cooling, UV LED -Heating, Pneumatic system
	Bed -Heating, Cooling	-Heating, Cooling	-Heating, Cooling

Dr. INVIVO 4D COMPOSITION



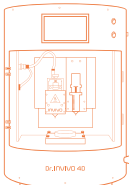
Syringe Dispenser



Filament Extruder



Hot-Melting Pneumatic Dispenser



Dr. INVIVO 4D
AC200-250V 4A



Temperature Controller
AC 200-250V 4A



Air Dispenser Controller
AC 200-250V 2A



Air Compressor
AC 200-250V 4A

INVIVO REFERENCES



Organ Regenerator

Dr. INVIVO 4D


Pharmaceutical
Formulation


Dental


Heart

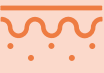

Liver


Bio-ink


Cell Culturing


Cosmetics

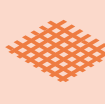

Cartilage


Skin


Stem cell

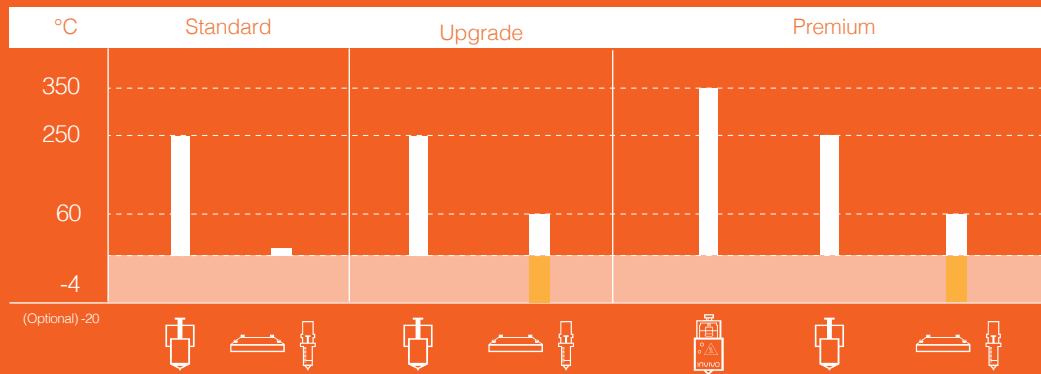

Bone


DDS


Scaffold


Material Science

Temperture Control Range

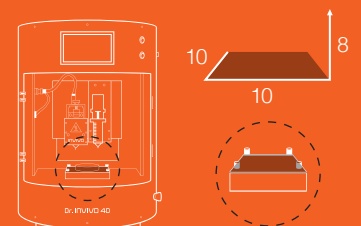


-  Syringe Dispenser
: 100 ~ 400 μ m(Optional)
-  Regenrating Bed
-  Filament Extruder
: 100 ~ 400 μ m(Optional)
-  Hot-Melting
Pneumatic Dispenser
: 100 ~ 400 μ m (Optional)
: Up to 900 kPa

Things in Common

	Standard	Upgrade	Premium
Curing Methods		Chemical Cross-linking	
Sterilization		UV Lamp (12W/254nm) H14 HEPA Filter	
Technical Capabilities		LCD Touch Screen (Android OS) Wi-Fi Remote Monitoring	
Fabricating Speed (MAX)		20 mm/s	

Build Volume
(10 cm x 10 cm x 8 cm)



- * Avoid looking directly at the UV light.
- * Upgrade Model can be upgrade into Premium Model.
- * The above specifications are subject to change without notice to improve performance.



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2017 Future Value Global
New Product
Masterpiece Part