

BIO X⁶

The most flexible bioprinting platform for bioprinting complex structures



MAKING IT EASY TO BIOPRINT THE MOST SOPHISTICATED CONSTRUCTS

The most flexible six-printhead bioprinting platform on the market, the BIO X6 is the preferred system for those ready to make history. With the BIO X6 in your lab, you can combine more materials, cells and tools — and get your results sooner — than ever before.

Just select and attach a printhead, load the bioink cartridges and press print, because the BIO X6 software and autocalibration will take care of the rest.





GENERATE MULTIFACETED MODELS WITH UNPARALLELED FLEXIBILITY.

The BIO X6 is the only six-printhead bioprinter containing CELLINK's adaptable modularity, making it the most flexible high-throughput bioprinting platform on the market.

Now you can use up to six materials simultaneously within your print. Designate printhead-specific parameters, cell densities and cell types to incorporate complexity that meets your project's needs. The innovative technology also lets you add more support structures and vascular networks. With leading-edge capabilities that enable you to print even the most complicated constructs, BIO X6 is a must-have for advanced tissue engineers, regenerative medicine labs and cancer biologists that require high-throughput bioprinting and dispensing.

COMBINING PERFORMANCE AND POWER WITH COMPACT SIZE



We understand how important space efficiency is to a lab. The BIO X6 is the only true benchtop bioprinter that combines six printheads with our patented Clean Chamber Technology in a compact package, taking up only a 78.1-cm footprint in your lab. The BIO X6 is a standalone unit that offers unbeatable scale, power and performance, coming fully equipped with a quiet internal oil-free air compressor and temperature-controlled printbed surface.

When printing cells, a sterile environment is essential and may require working in a laminar flow cabinet – but that’s impossible to do with most lab equipment. BIO X6 fits perfectly in any laminar flow cabinet and provides everything you need to bioprint without any cumbersome external connections.

Even though the BIO X6 works perfectly as a standalone platform, you may want to supplement its functionality to run a particular query. For this purpose, we designed the BIO X6 to easily connect to external air supply, enabling you to use higher pressures when bioprinting with highly viscous bioinks and thermoplastic polymers.

CLEAN, REINVENTED

BIO X6 is equipped with our patented Clean Chamber Technology and dual high-power fans that produce positive air pressure inside the chamber. The air travels downward through a prefilter to retain larger particles, and then through a HEPA H14 filter to sort out even the smallest of particles. The dual high-power fans fill the chamber with filtered air to keep your experiment environment clean and free of potential contaminants.

The BIO X6 is made without sharp corners, ensuring that no unwanted particles get trapped in the chamber. UV-C (287-nm wavelength) germicidal lights enable you to run sterilization cycles at any time and sterilize the printing environment before starting your experiments. The process is fast, easy and user-friendly. Together, these features create an unparalleled system of uncompromised cleanliness.



THE BEST TOOLS ARE INTELLIGENT AND EXCHANGEABLE.



We're dedicated to offering technology that exceeds expectations. The BIO X was the first bioprinter with exchangeable printheads in the world. When launched, it offered unparalleled flexibility that revolutionized the industry and set the standard for the future of bioprinting. To meet the needs of every project, we continually develop thoughtfully designed printheads and toolheads that integrate with the BIO X6 and ensure high-quality results.

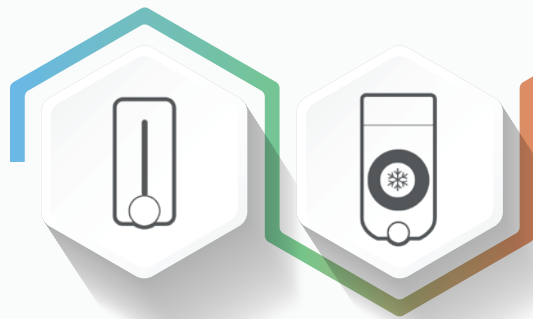
The BIO X6 is a versatile bioprinter equipped with intelligent printhead mounts, enabling you to easily upgrade your system as we continue to develop printheads that meet your evolving needs.

We only provide the highest quality printheads - we strive to exceed your standards and we compromise nothing in the process of supporting your research.

THE BIO X6 SUPPORTS:

TEMPERATURE-CONTROLLED PRINthead

Temperature-controlled printhead for bioprinting temperature-sensitive materials that require cooling and heating.



PNEUMATIC PRINthead

Pneumatic printhead for extruding a wide range of high- and low-viscosity materials.



THERMOPLASTIC PRINthead

Thermoplastic printhead for bioprinting thermoplastic polymers.



EMD PRINthead

Electromagnetic droplet printhead for fast drop-on-demand printing similar to inkjet capabilities.



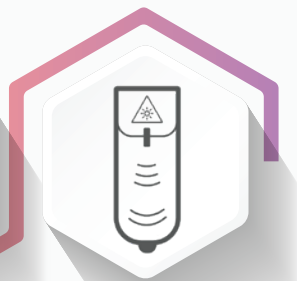
SYRINGE PUMP PRINthead

Syringe pump printhead for high-resolution and low-volume bioprinting.



HD CAMERA TOOLHEAD

HD camera for quality control and filament imaging.



PHOTOCURING TOOLHEAD

Photocuring toolhead for UV crosslinking.

COMPATIBLE MATERIALS

The BIO X6 leverages up to six different printhead technologies to fabricate constructs with any cell type, enabling you to produce any tissue found in the body.

One potential application involves leveraging BIO X6 to fabricate multifaceted dermal constructs. The six-printhead capacity enables fabrication of the most physiologically-mimicking constructs on the market. Using six printheads in a single print, you can create trilayered constructs comprised of distinct subcutaneous, dermis and epidermis layers, along with vascular networks, sweat glands and hair follicles.

BIO X6 provides unmatched flexibility that can be applied to drug screening to aid in the fabrication of complex metabolic tissue models. Users can fabricate live tissue models with hepatocytes and stellate cells, along with supporting structures like arterial structures, venous structures and biliary ducts in a single construct. This can also enable the fabrication of advanced organ-on-a-chip models, giving users the capabilities needed to connect multiple models through perfusable channels. In these cases, the BIO X6 can deposit cardiac tissue, liver tissue, renal tissue, pancreatic tissue and a perfusable network in a single print to enable rapid and reproducible organ-on-a-chip fabrication.

LIST OF BIOINKS AND THEIR EXTRUSION METHODS

	Pneumatic-driven Extrusion	Piston-driven Extrusion (syringe)	Inkjet	Thermoplastic Extrusion
Gelatin Methacryloyl	✓	✓	✓	
Collagen methacryloyl (Collagen solution and precipitated)	✓	✓	✓	
Hyaluronan	✓	✓	✓	
Alginate	✓	✓	✓	
Chitosan	✓	✓	✓	
Silk	✓	✓		
Nanocellulose	✓	✓	✓	
PEG/PEGDA	✓	✓	✓	
Fibrinogen/thrombin	✓	✓	✓	
Decellularized ECM	✓	✓	✓	
Pluronic F127	✓	✓	✓	
Propylene Glycol	✓	✓	✓	
Polycaprolactone	✓ (heated)	✓ (heated)		✓
Poly(lactic Acid)				✓

OUR BIOINKS

CELLINK was the first bioink company in the world and the creator of the world's first universal bioink. Our bioink gave scientists the capability to bioprint using any type of cells.

Today we provide more than 50 different sterile and ready-to-use bioinks for various applications, from bioprinting cancer models to skin models. Our bioinks are compatible with any 3D bioprinting system.

You can also check out our specialized kits tailored to specific applications and needs. Our Support Kit enables you to fabricate constructs from otherwise unprintable materials and take your research to the next level.

Bioink	Cartilage	Skin	Bone	Muscle	MSCs	Other Cell Types	Sacrificial Material	Thermoplastic Scaffolds
CELLINK A	✓		✓		✓			
CELLINK A - RGD		✓		✓	✓	✓		
CELLINK	✓	✓	✓		✓	✓		
CELLINK BONE			✓		✓			
CELLINK FIBRINOGEN		✓	✓	✓	✓			
CELLINK FIBRIN		✓	✓	✓	✓			
CELLINK RGD		✓	✓	✓	✓			
CELLINK SKIN		✓						
CELLINK SKIN+		✓						
CELLINK LAMININK 111						✓		
CELLINK LAMININK 121				✓		✓		
CELLINK LAMININK 411						✓		
CELLINK LAMININK 521						✓		
CELLINK LAMININK+						✓		
Coll1		✓	✓	✓	✓	✓		
CollMA		✓	✓	✓	✓	✓		
GelMA		✓	✓	✓	✓	✓		
GelMA A		✓	✓	✓	✓	✓		
GelMA C		✓	✓	✓	✓	✓		
GelMA HA	✓	✓	✓			✓		
GelMA high C		✓	✓	✓	✓	✓		
GelXA		✓	✓	✓	✓	✓		
GelXA-Bone			✓		✓			
GelXA-Fibrin		✓	✓	✓	✓			
GelXA-Skin		✓						
GelXA-LN111						✓		
GelXA-LN121				✓		✓		
GelXA-LN411						✓		
GelXA-LN521						✓		
GelXA-LN+						✓		
GelXG		✓	✓	✓	✓	✓		
CELLINK PCL								✓
PLA								✓
PLGA								✓
CELLINK Pluronic							✓	
CELLINK START							✓	
CELLINK START X							✓	
CELLINK Support							✓	
CELLINK Xplore							✓	
HAMA Kit	✓	✓						

BIOPRINT ANYTHING — EASILY AND INTUITIVELY — EVERY TIME.

BIO X6 is a standalone system containing everything you need to bioprint, designed to weave cutting-edge capabilities into your natural workflow.



CELL MIXING

Effortlessly mix cells using our innovative CELLMIXER. Load your bioink into a 3-mL syringe and load your cell suspension into a 1-mL syringe. Clip each syringe to the dispensing unit, connect the mixing unit to the tip of each syringe and connect the filling cartridge. Gently inject the bioink and cells through the mixing unit to fill the cartridge. Now your filling cartridge is ready for bioprinting.

BIOPRINTING

Disconnect the filling cartridge from the mixing unit. Screw a nozzle onto the cartridge, connect it to the air system and place it in the printhead. Enter your print settings in the application – including temperature, printing pressure and print speed. Choose a nozzle diameter based on your parameters and material. Select your desired design and press print. BIO X6 will calibrate itself to the print surface and start printing.

CROSSLINKING

Depending on the material you use, you might need to crosslink your printed construct. For UV crosslinking, you can select from the built-in LEDs and let BIO X6 do all the work for you. For other types of crosslinking, you can add our crosslinking agent directly onto your printed construct.

MULTIPLE DESIGNS TAILORED TO YOUR NEEDS

Wireless BIO X6:

Standalone bioprinting: Develop your most complex constructs without the need for external connections.

Flexibility: Detach the tablet to take it with you wherever you go. Simply reattach it when you're ready to print.



Wired BIO X6:

Ease of use: The tablet's surface makes it easy to enter your parameters with the swipe of a finger, even when your gloves are on.

Integrated Ethernet port: Leverage the built-in Ethernet capability with any traditional Ethernet cable.

Fast file and data transfer: Connect the tablet directly to your computer to drag-and-drop your models in seconds.





Learn more and request a quote at sales@cellink.com.

Massachusetts, U.S.

100 Franklin St.,
Boston, MA 02110

Virginia, U.S.

2000 Kraft Dr., Suite 2125
Blacksburg, VA 24060

Gothenburg, Sweden

Arvid Wallgrens Backe 20,
Gothenburg, 41346 Sweden

California, U.S.

470 Ramona St.,
Palo Alto, CA 94301

www.cellink.com

Kyoto, Japan

Med-Pharm Collaboration Building,
Kyoto University, 46-29 Yoshida-Shimo
Adachi-cho, Sakyo-ku, Kyoto

Stuttgart, Germany

Meitnerstraße 9,
70563 Stuttgart