J750
Digital Anatomy Printer

Unrivaled Accuracy,
Realism and Functionality

iST
Integrated Systems Technologies

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Digital Anatomy Printer

The J750 Digital Anatomy Printer brings medical models to life with incredible realism that accurately represents both the appearance and response of human tissue. Whether for surgeon training or testing new medical devices, these models provide unmatched clinical versatility and reduce the costs and inconveniences of cadaver and animal labs.
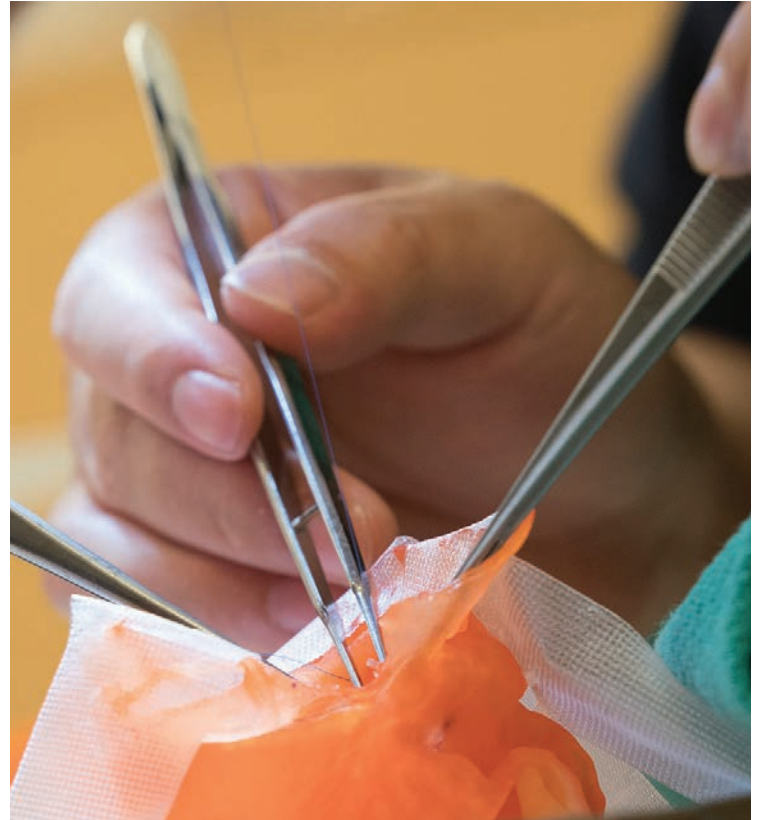
Medical Device Companies

Move Your Innovation Forward

With the J750™ Digital Anatomy™ solution, you can create lifelike in vivo environments in a range of pathologies for product testing and surgeon training. Test and train anywhere. Validate and verify new devices to achieve their intended objectives, faster and within budget, to accelerate time to market and adoption of your new technology.

Academic Medical Centers and Hospitals

Train More Efficiently and Cost Effectively

Integrate new technology into clinical practice sooner. J750 Digital Anatomy models give physicians the opportunity to develop skills prior to entering the operating room, in a risk-free surgical setting on a range of pathologies. This lets your hospital use operating room time more efficiently, reducing cost and improving patient outcomes.

The New Standard
in Medical Modeling

Bring Medical Models to Life

The J750 Digital Anatomy Printer takes PolyJet™ technology to the next level. Use its capabilities to create models with an incredible array of fine details and minute structures that look, feel and function like actual human tissue, with true haptic feedback. And do all of this in a single print operation with minimal to no finishing steps like painting, sanding or assembly.

Make Model Fabrication Easier

Take the guesswork out of material selection. Choose the anatomy, and the materials are automatically selected for you. You can also adjust the degree of each tissue attribute desired. The gel-like support material can be removed with little or no effort from complex structures, like small blood vessels with internal diameters and wall thicknesses as low as 1.0 mm, making post-processing quick and easy.

Create Complex, Multi-Texture Structures

Combine three new base materials exclusive to the J750 Digital Anatomy Printer to form over 100 unique digital materials. Use the proprietary validated applications offered to mimic human cardiac and vascular anatomy from actual patient scans. Select from a range of anatomical details and tissue properties to integrate into your model. Construct heart models with functional cords, annulus, valves and calcifications. Vary compliance in vascular models to replicate both healthy and diseased vessels.

Produce Anatomical Models As You Need Them

The J750 Digital Anatomy printer lets you maintain a digital inventory and print models on demand when you need them.

Achieve Efficiency Gains

Because the J750 Digital Anatomy printer allows you to produce anatomies that feel and behave like the real thing, it reduces the necessity for animal and cadaver labs allowing you to test and train anywhere. That means a reduction in training and procurement costs. It also means improved ethical practice, because it minimizes the use of animals for device testing and surgical training.

Digital Anatomy
Applications

The Digital Anatomy printer comes pre-programmed with a series of anatomical applications, developed in partnership with device manufacturers, world-class research institutions, hospitals and medical personnel.

Cardiac Applications

Create heart models that maintain compliance as well as durability and replicate reality. Their anatomically accurate structures allow cutting, suturing and patching, as well as device insertion and deployment, making them invaluable learning and development tools.

Vascular Applications

Vascular applications mimic reality and allow precision simulation of clinical procedures. You can insert guide wires and catheters into vascular models, deploy valves, grafts, and closure devices. Simulate actual blood flow with an active flow loop. Practice navigating tortuous anatomy with patient-specific models. Replicate calcifications and view them under fluoroscopy.

Innovative Materials Make It Possible

Accurate, realistic and functional, our materials make it possible to achieve the look, feel and behavior of the real thing.

- **GelMatrix™** — A gel-like support material for easy removal from blood vessels with inner diameters and wall thicknesses as low as 1.0 mm.

- **TissueMatrix™** — The softest translucent material commercially available. Ideal for replicating the look and feel of heart tissue.

- **BoneMatrix™** — A strong, yet flexible material with memory to maintain its shape for representing bones and connective tissue.

Powered by GrabCAD Print
Digital Anatomy Software

The J750 Digital Anatomy Printer uses GrabCAD Print™ Digital Anatomy software specifically designed for medical applications. Its preset anatomical settings and unique ability to accommodate these digital materials make producing lifelike anatomical models easy.

The unique voxel-based engine automatically generates your model's minute structures, enhancing both visual and tactile realism.

GrabCAD Print
Digital Anatomy Software
Key Attributes

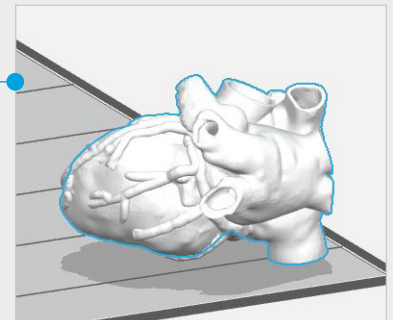**Icons for Anatomy Families**

Choose Anatomy not Materials

Choose Anatomical Elements

Choose Properties for Each Anatomical Element Selected

Anatomy Family

Heart

Anatomy Element

Myocardium

Attribute Properties

Rigidity: Soft 1

Soft 1   Soft 6

Validated Clinical Solution

Visual Model
For Demonstration

This heart model printed with rigid Vero™ materials highlights the J750 Digital Anatomy Printer's ability to produce anatomical models with fine details using multiple colors and materials, texture gradients, transparencies and durometers.

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Functional Model
For Surgeon Training and Device Testing

This heart model features functioning cords, annulus, and valves with leaflets, created with the J750 Digital Anatomy Printer's cardiac application. It combines the ultra-soft TissueMatrix™ material with Agilus30™ to mimic the feel and response of myocardium, giving realistic haptic feedback during device insertion and deployment.

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Versatility

Take advantage of the versatility offered by the J750 Digital Anatomy Printer. Use the 100+ anatomical presets or when full color capabilities are desired over biomechanical properties, select from over 500,000 colors. Define transparencies. Determine textures and finishes. Create an end product that's as close to the real thing as possible. With PolyJet technology and multi-material capabilities built-in, you can 3D print prototypes or anatomical models in the most intricate detail.

Innovation at its Best

Stay on top of the latest innovations by securing an annual J750 Digital Anatomy Printer software license. You will receive new anatomical applications as they are introduced along with periodic updates to your existing applications.
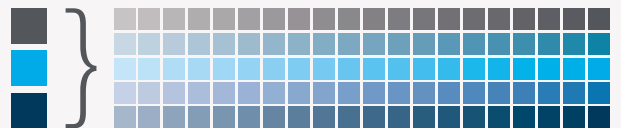

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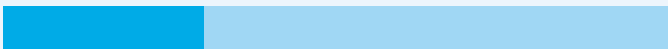
Achieve up to
70% cost reduction*

*Compared to fabricated simulators, animal studies and cadaver usage.

3 unique base materials provide
100+ anatomical presets

Product Specifications

Model Materials	Vero™ family of opaque materials including neutral shades and vibrant VeroVivid™ colors Agilus30™ flexible material VeroClear™, VeroUltraClear™ transparent materials TissueMatrix BoneMatrix
Digital Materials	**Unlimited number of composite materials including:** Over 500,000 colors Digital ABS Plus and Digital ABS2 Plus™ in ivory and green Rubber-like materials in a variety of Shore A values Ultra-soft rubber-like material with a Shore 00 value Translucent color tints User-developed digital materials with GrabCAD Voxel Print™
Support Materials	SUP705™ (waterjet removable) SUP706B™ (soluble) GelMatrix (waterjet removable)
Build size	490 x 390 x 200 mm (19.3 x 15.35 x 7.9 in.)
Layer Thickness	Horizontal build layers down to 14 microns (0.00055 in.)
Workstation Compatibility	Windows 7 and 8.1
Network Connectivity	LAN - TCP/IP
System Size and Weight	1400 x 1260 x 1100 mm (55.1 x 49.6 x 43.4 in.); 430 kg (948 lbs)
Material Cabinet	670 x 1,170 x 640 mm (26.4 x 46.1 x 25.2 in.); 152 kg (335 lbs)
Operating Conditions	Temperature 18 – 25 °C (64 – 77 °F); relative humidity 30-70% (non-condensing)
Power Requirements	100–120 VAC, 50–60 Hz, 13.5 A, 1 phase 220–240 VAC, 50–60 Hz, 7 A, 1 phase
Regulatory Compliance	CE, FCC, EAC
Software	GrabCAD Print Digital Anatomy, including the optional add-on GrabCAD Voxel Print
Build Modes	High Speed: up to 3 base resins, 27-micron (0.001 in.) resolution High Quality: up to 6 base resins, 14-micron (0.00055 in.) resolution High Mix: up to 6 base resins, 27-micron (0.001 in.) resolution
Accuracy	Typical deviation from STL dimensions, for models printed with rigid materials, based on size: under 100 mm: ±100μ; above100 mm: ±200μ or ± 0.06% of part length, whichever is greater. Please refer to material-specific spec sheets for accuracy estimates.

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**Please contact IST Ohio for information
regarding the Digital Anatomy Solution**

**info@istus.com
844.447.8644**