



Product Brochure  
Medical

# J5 Digital Anatomy™ 3D Printer Solutions

Anatomical Realism  
Within Your Reach



# See and Feel

## Explore a world of endless possibilities with ultra-realistic 3D printed anatomical representations

The J5 Digital Anatomy 3D Printer’s software gives you the power to create clinically validated preset anatomy options that utilize 3D printing materials. These behave with biomechanical accuracy that mimics human tissue and bone like never before.

### Structural Heart

Experience the physiological response of native cardiac tissue. Create durable heart models that maintain compliance, as well as replicate reality, making them invaluable learning and development tools.

**See** the remarkably accurate details of the human heart, as the myocardium, the vasculature of the heart, valve leaflets, cords, and annulus – all in a 3D printed representation.

**Feel** realistic feedback while suturing, cutting, inserting and deploying devices.

A medical device company study compared the biomechanical properties of porcine tissue to 3D printed myocardium. It found that models printed on the Digital Anatomy Printer mimicked real tissue better than any other material.<sup>1</sup>

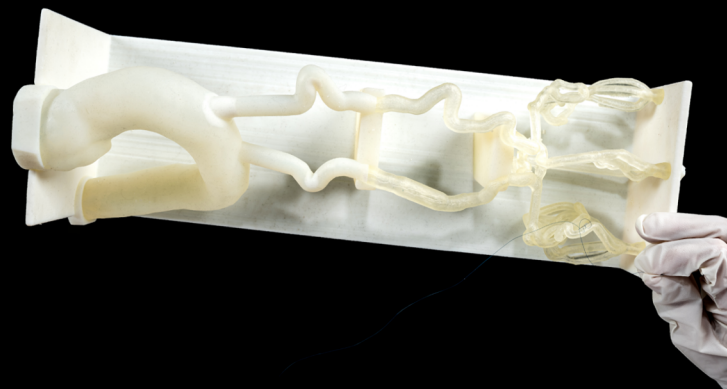
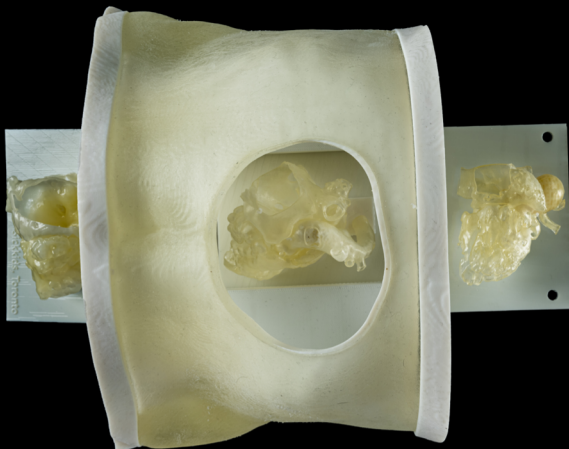
### Blood Vessels

Experience the arterial elasticity caused by changes in blood pressure and disease.

**See** how complex vasculature systems respond under simulated surgical procedures.

**Feel** realistic vessel responses while inserting and deploying guidewires and catheters, 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.

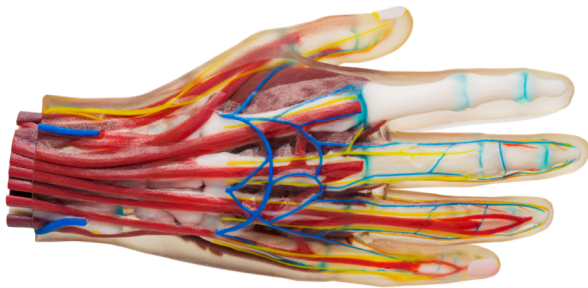
A Jacobs Institute study compared 3D printed aortic, carotid, and coronary artery models to native vessel behavior found that the Digital Anatomy Printer creates the most accurate arterial models available.<sup>2</sup>



# Visual model

## Demonstration

Using a combination of rigid Vero and Elastico materials, we created a visual hand model with fine details, colors, varying texture gradients, transparencies, and durometers to help visualize the hand's vessels, bones, nerves, muscles, and skin.



# Functional model

## Surgeon training and device testing

Using ultra-soft TissueMatrix, the subcutaneous fat preset in GrabCAD software, and BoneMatrix material for rigid internal bone structures, we created a functional hand model with the same biomechanical behaviors as human anatomy. Realistic haptic feedback allows cutting, suturing, drilling and device insertion just as you would into tissue, fat, or bone.



RadioMatrix adds radio-realism to the desired anatomy, creating radiopaque tissues that are visible under CT or fluoroscopy.



# All on a Certified System

- 510k cleared for clinical diagnostic use with leading segmentation software companies
- Biocompatibility certification
  - ISO 10993-1:2018 for limited contact to tissue and bone and permanent contact to intact skin
  - ISO 18562-1:2017 for breathing gas pathways in healthcare applications
- Sterilization methods
  - Steam, Gamma and EtO for MED610 and MED615RGD
  - Steam for Biocompatible Digital ABS Plus™ (MED531 and MED 5151+)
  - Steam, Gamma, and EtO for Rigid Transparent family
- ISO 13485 Certified (material and hardware manufacturing sites)



# Product Specifications

<b>Model Materials</b>	<p>Biocompatible materials:</p> <ul style="list-style-type: none"> <li><input type="checkbox"/> Biocompatible Rigid Transparent (MED610)</li> <li><input type="checkbox"/> Biocompatible Opaque (MED615RGD™ IV)</li> <li><input type="checkbox"/> Biocompatible Digital ABS Plus™ (MED531 and MED515+ )</li> </ul> <p>Rubber like:</p> <ul style="list-style-type: none"> <li><input type="checkbox"/> Elastico@Clear (FLX934)</li> <li><input type="checkbox"/> Elastico@Black (FLX984)</li> </ul>	<p>Rigid Transparent Colors:</p> <ul style="list-style-type: none"> <li><input type="checkbox"/> VeroCyan™V (RGD845)</li> <li><input type="checkbox"/> VeroMagenta™V (RGD852)</li> <li><input type="checkbox"/> VeroYellow™V (RGD838)</li> <li><input type="checkbox"/> VeroUltra™ClearS (RGD821)</li> <li><input type="checkbox"/> VeroUltra™Black (RGD864)</li> <li><input type="checkbox"/> VeroUltra™White (RGD824)</li> <li><input type="checkbox"/> VeroBlackPlus™ (RGD875)</li> <li><input type="checkbox"/> DraftWhite (MED858)</li> </ul>	<p>Digital Anatomy™ Materials:</p> <ul style="list-style-type: none"> <li><input type="checkbox"/> TissueMatrix™ (MED410)</li> <li><input type="checkbox"/> GelMatrix™ (FLG111)</li> <li><input type="checkbox"/> BoneMatrix™ (RGD526)</li> <li><input type="checkbox"/> RadioMatrix™ (MED410)</li> </ul>
<b>Support Materials</b>	<ul style="list-style-type: none"> <li>• SUP710S™ (WaterJet removable)</li> <li>• WSS™150 (Water soluble, not compatible with the Digital Anatomy materials)</li> </ul>		
<b>Supported Sterilization Processes</b>	<ul style="list-style-type: none"> <li>• Steam (4 minutes at 132 °C)</li> <li>• Gamma (25 – 50 kGy)</li> <li>• EtO (specifications available upon request)</li> </ul>		
<b>Digital Model Materials</b>	<ul style="list-style-type: none"> <li>• Composite materials including over 500,000 colors</li> <li>• Hundreds of presets available to mimic different anatomies with Digital Anatomy materials</li> </ul>		
<b>Build Tray</b>	<ul style="list-style-type: none"> <li>• Printing area: 1,174cm<sup>2</sup></li> <li>• Max Part Size: Up to 140 x 200 x 190mm (5.51 x 7.87 x 7.48 in.)</li> </ul>		
<b>Layer Thickness</b>	Horizontal build layers down to 18 microns (0.0007 in.)		
<b>Accuracy</b>	Deviation from STL dimensions with rigid materials, based on size: under 100 mm: ±150µ; above 100 mm: ±0.15% of part length.*		
<b>Network Connectivity</b>	LAN – TCP/IP		
<b>System Size and Weight</b>	651 x 661 x 1511mm (25.63 x 26.02 x 59.49 in.); 228 kg (503 lbs.)		
<b>Operating Conditions</b>	Temperature 18 – 25 °C (64 – 77 °F); relative humidity 30 – 70% (non-condensing)		
<b>Power Requirements</b>	100 – 240 VAC, 50 – 60 HZ, 10A, 1 phase		
<b>Regulatory Compliance</b>	CE, FCC, EAC		
<b>Software</b>	GrabCAD Print		
<b>Build Modes</b>	<ul style="list-style-type: none"> <li>• High Quality Speed (HQS) Compatible with Digital Anatomy materials.</li> <li>• Long Print (LP)</li> <li>• High Speed (HS)</li> </ul>		

## Get in touch

☎ 080-4150 6070  
 ✉ enquiry@altem.com  
 🌐 www.altem.com



<https://altem.com/j5-dap/>



**Address:** No 22, Altem EcoSquare, 3rd Floor, 9th C Main, 5th Block, Jayanagar, Bangalore - 560041, Karnataka