

# SIMPLE



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# SIMPLE

## 3D DIGITAL SYSTEMS



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ABOUT US

Our goal is to Make Healthcare Simple.To supply reliable recovery healthcare products and efficient services, help our partners boost their market, enhance the end-users healthcare experience and enable them to restore their daily life.

Simple Medical was founded in 2006 by a professional team with more than 20 years of accumulated experience. We are focused on the field of orthopedic rehabilitation and dedicated to providing 3D intelligent digital medical solutions. We have an ISO13485 production base integrated with R&D, production, and sales, which is committed to creating world-class orthopedic rehabilitation devices.

We have state-of-the-art rehabilitation product lines typically represented by our SIMPLE brand, which is featured in the lightweight human engineering design, better liability and user experience, exquisite craftsmanship, and 3D digital medical solutions.

Our complete product series covers the overall body joints, including OA solutions, and injury solutions for the upper and lower extremities and spine. We supply high-end orthopedic braces to the global market. In China, we also distribute physical therapy and sports therapy products from trusted international brands and bring in high-end equipment to help domestic patients. In addition, we are dedicated to providing more comprehensive orthopedic rehabilitation solutions with 3D digital medical technology.

Towards the goal, our excellent R&D team put sufficient innovations and tests into each product to ensure its liability with proven better results. Our production team keeps pushing the boundary of quality to a higher level.

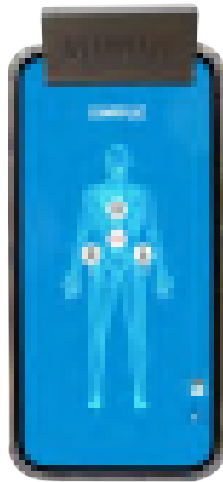


3D printing & application for medical



SIMPLE 3D Scanning System

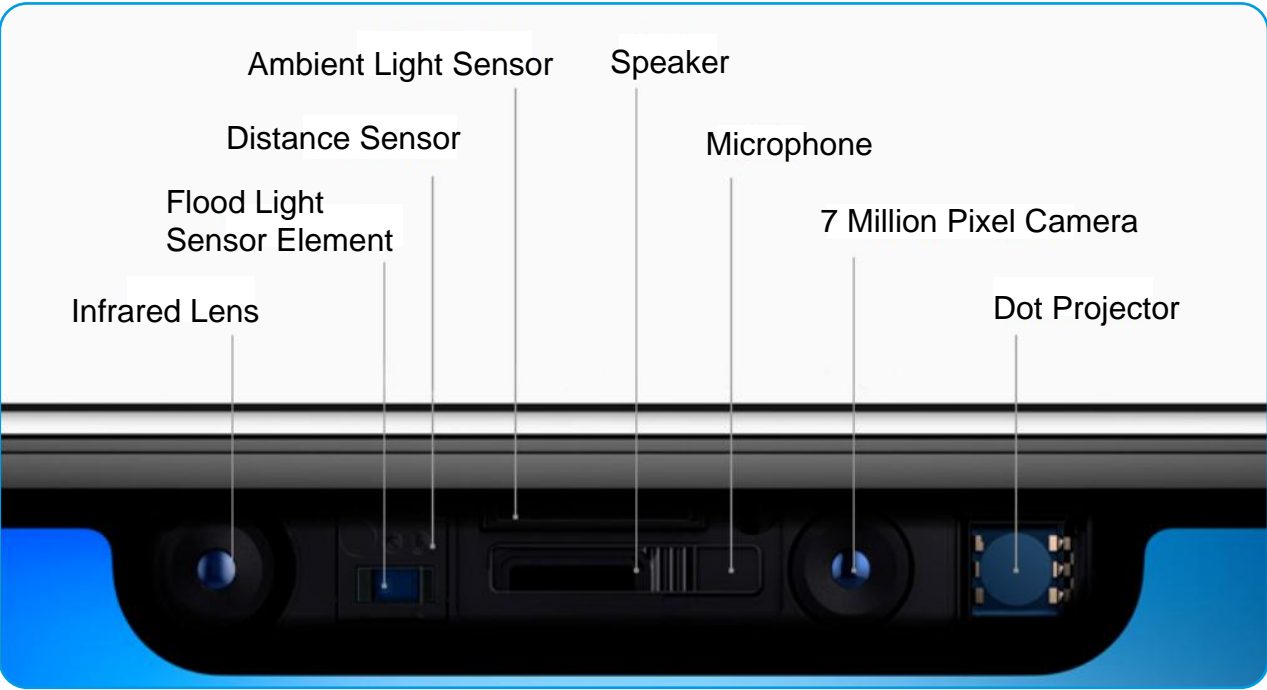
The Human Body 3D Data Scanning APP is developed through in-depth cooperation with the software research and development team of Tsinghua University. It supports 3D scanning function on iPhone X or above mobile phones or iPad Pro 11-inch (2nd generation) with True Depth camera hardware. After two years of continuous testing, simulating data, and deriving new spatial data algorithms, the accuracy of the collected model data is within 0.4 mm. This system uses non-contact scanning, including head, chest, hip joint, upper body, elbow, hand, knee, foot and other human body parts.



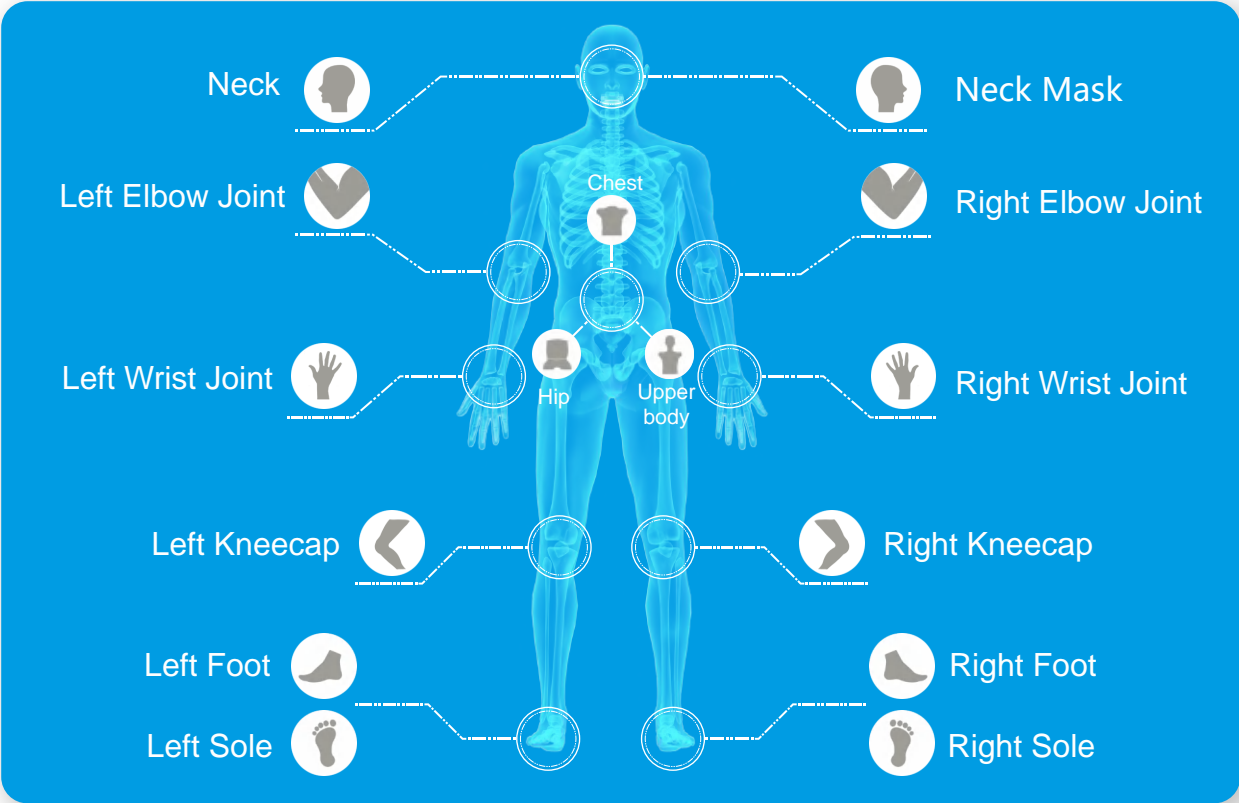
Example diagram



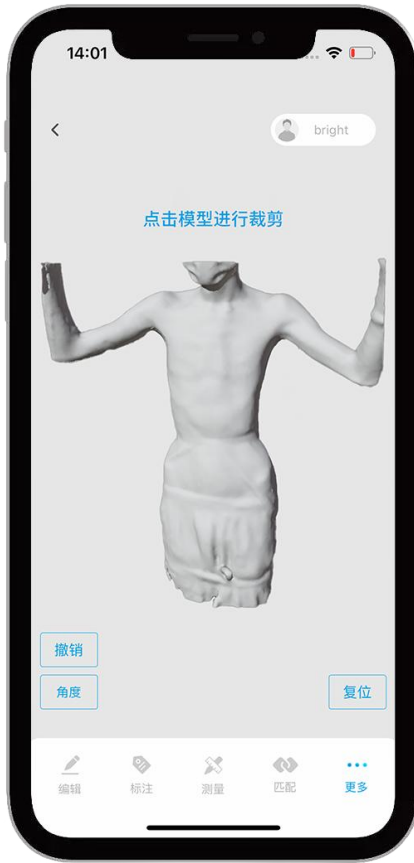
Download APP



Due to the new mobile phone camera scanning technology, our APP system only supports iPhone X and above Apple mobile applications.



The first picture of the APP operation interface



- Secondary editing and cropping of the scanned model.
- Label key parts.
- Measure diameter or circumference.
- Match options.
- Other operations.

Introduction to APP functions





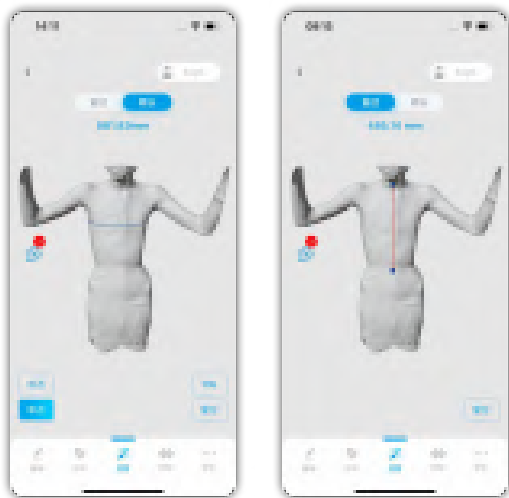
Select the cutting point of the model and the required cutting method according to the instructions



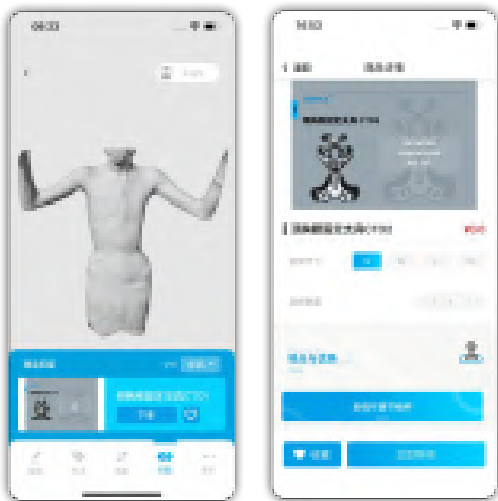
Select the point on the model and label it



Measure the distance between points of the model and the model's perimeter through the measurement page



Match the ready-made braces available for patients based on the scanned data of different body parts. (measurement unit: mm)



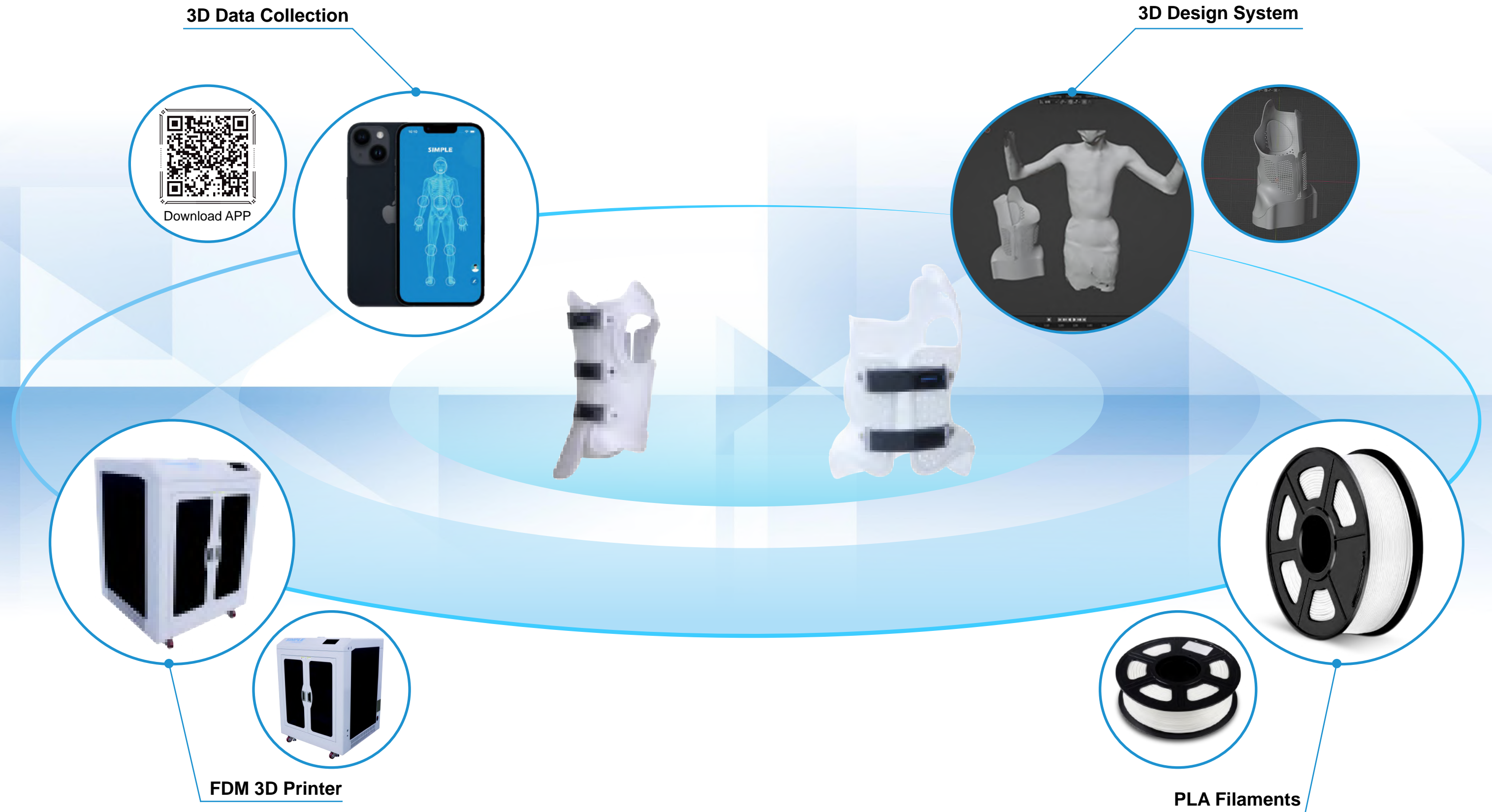
Download, save and share the scanned data



Simple scan converter



## 3D Printing System—External Fixation Series



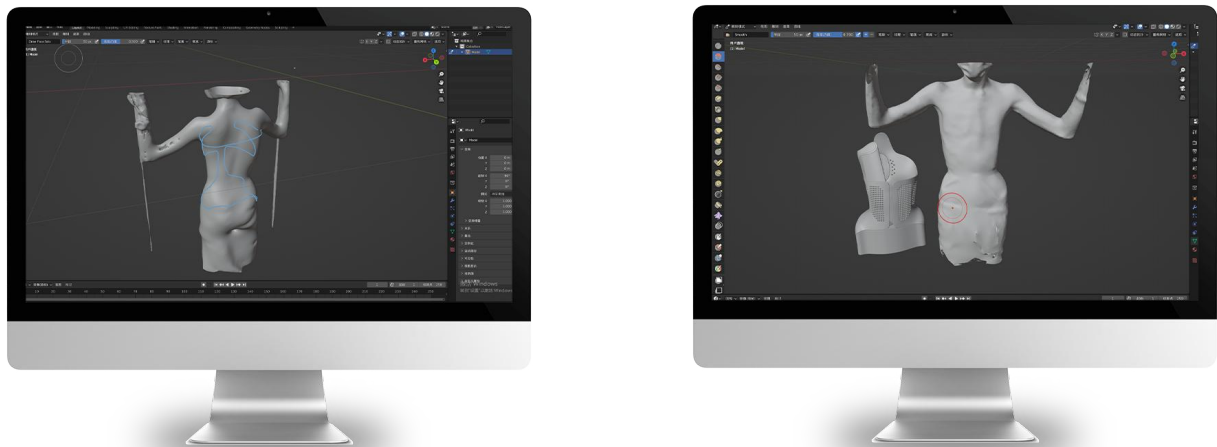
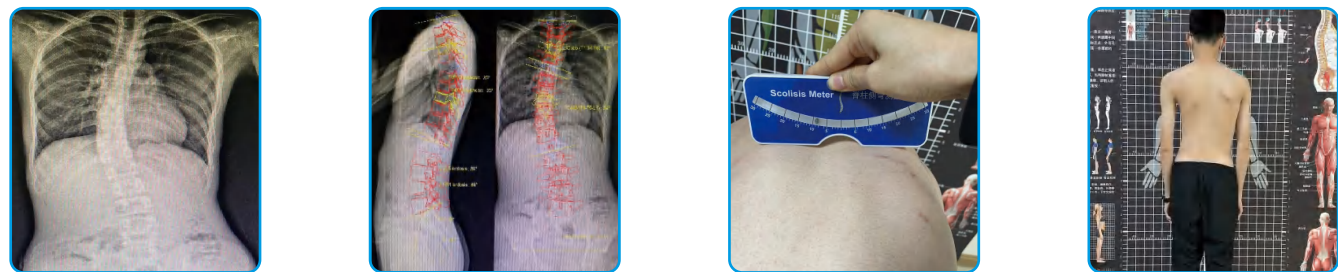


3D Data Collection



Modeling Software

Based on body measurements --chest, waist, hip, and spine anteroposterior and lateral views, full-length X-rays, and 3D scan data, modeling software is used to design the model.



Custom scoliosis brace modeling

FDM 6060 3D Printer

FDM 6060 intelligent 3D printer has efficient printing speed and high printing accuracy. The printing speed can be adjusted between 20-100mm/s (The recommended speed is 30-60mm/s). The temperature range of the platform hot bed is 0-60°C. The maximum temperature of the hot nozzle can reach 245°C, the nozzle diameter is 0.4-1.0MM, and the printing accuracy reaches 0.05-0.4mm. It supports a variety of printing materials such as ABS and PLA, and is mainly used to print medical scoliosis braces, joint fixation protective gear series, etc. It supports Windows XP, Win7, Win8, and other operating systems for easier operation and rapid customization.



FUNCTION			
Print size	600*600*600mm	Nozzle diameter	0.4mm-1.0mm
Layer thickness	0.05-0.4mm	Print speed	20-100m/s
Power outages	In the tank	Sprinkler temperature	Up to 245°C
Power failure detection	In the tank	Hot bed temperature	60
Supported file formats	.STL/.OBJ/.gcode	Sprinkler flow	24ml/h full solid filling
Feeding method	Short-range feeding	Print accuracy	0.05-0.3mm
SPECIFICATION			
Machine size	920*860*1250mm	Machine weight	Approx. 150Kg
MACHINE			
Machine material	Closed sheet metal construction	Connect	SD card, USB
Print the platform material	Heating platform	Cooling system	Air cooled
Display	7 inch color touch screen	Stepper motor	42 motors
POWER SUPPLY			
Power supply specifications	110/220V	Power	350W



## New Printing Filaments PLA-PCL

Printing materials determine the development trend and direction of 3D printing equipment. With the continuous exploration of printing materials in technology, our 3D printers currently use special new materials PLA-PCL copolymer biodegradable materials.

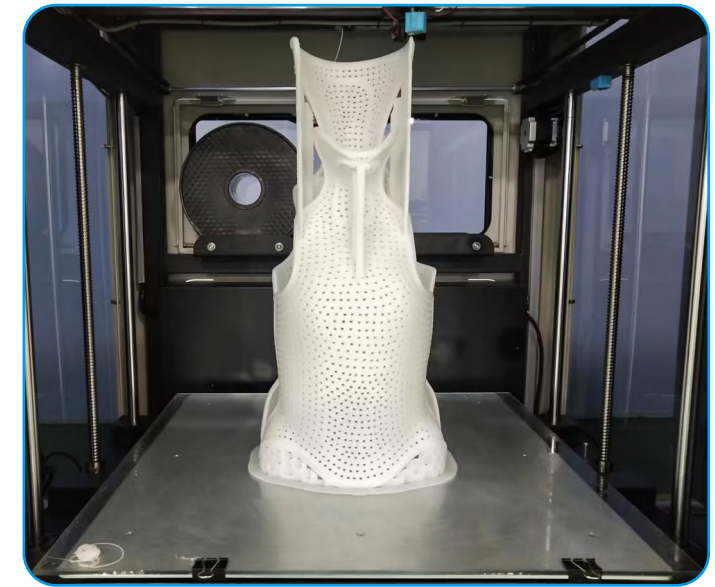
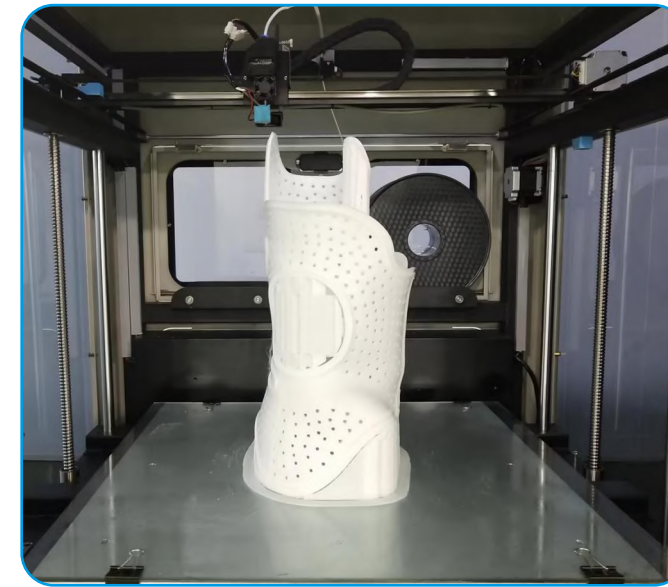


PLA is an aliphatic thermoplastic polyester material, and PCL is an aliphatic polyester material. After many long-term mixing and proportioning tests by our company, the resulting PLA-PCL copolymer has the following characteristics:

1. Derived from corn starch, sugar cane, and other renewable biomass products, it can be completely degraded by microorganisms in nature after use.
2. Good gloss, transparency, and tensile strength
3. Good thermal stability
4. It has good flexibility and processability and can be extruded, injection molded, wire drawn, and film blown.
5. Ability to change the mechanical properties of materials and obtain flexible biodegradable elastic materials
6. It can improve the thermal properties of materials and facilitate the thermal processing of materials.



## 3D-Printed Product Display



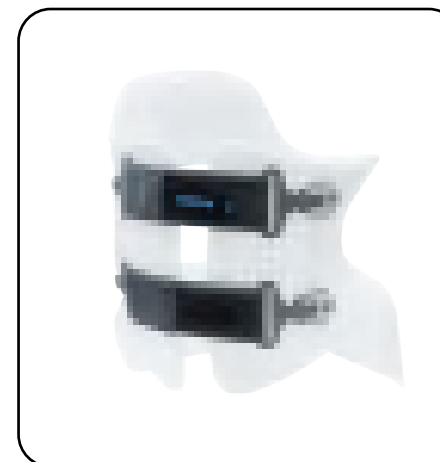
Scoliosis



Lumbosacral Immobilizer



Joint Immobilizer



Scoliosis



Thoracolumbar Immobilizer



Joint Immobilizer



## 3D Printing System——Insole



## 3D Printing System——Insole

Insoles are suitable for flat, clubfoot, boxed feet, high-arched feet, heel pain, and other foot pain diseases.

### Foot Data Collection Scanner Model



DSC02B Foot Scanner



DSC03B Foot Scanner



DSC01B Foot Scanner

Create a diagnosis report based on medical history by scanning the feet and ankles from multiple perspectives. Offer tailored nursing advice and make custom guards and shoes for personalized care. Obtain foot dimensions, ankle arch coefficients, multi-angle foot images, and a 3D model of the foot in order to create a customized design.



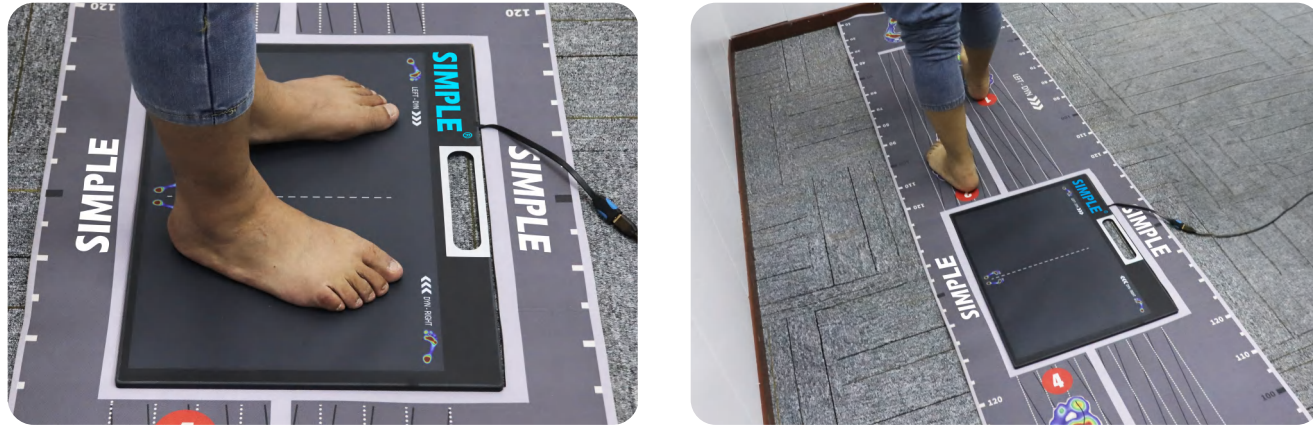
## Foot Scan Report

The scanner generates three-dimensional data about the foot, which is used to formulate effective solutions for formulating insoles, such as hallux valgus and valgus (varus). Professionally speaking, from foot scanning to big data foot shape analysis, the entire process is an emerging science and technology with extremely high accuracy, avoiding errors such as manual observation and measurement, and truly achieving a "perfect match" of foot shape.





## Gait Pressure Data Collection



DGA01 Foot Pressure Tester

Walking is a crucial motor ability that separates humans from other animals. While normal walking comes instinctively, individuals with neurological or musculoskeletal disorders may have abnormal gait patterns that require analysis through CoF gait analysis. By measuring the trend of changes in plantar pressure, healthcare providers can identify particular gait abnormalities and design treatment plans to correct them. Such analysis is essential in clinical work to evaluate the nature and degree of any abnormalities.

## Gait Pressure Data Collection

### Footprint Analysis

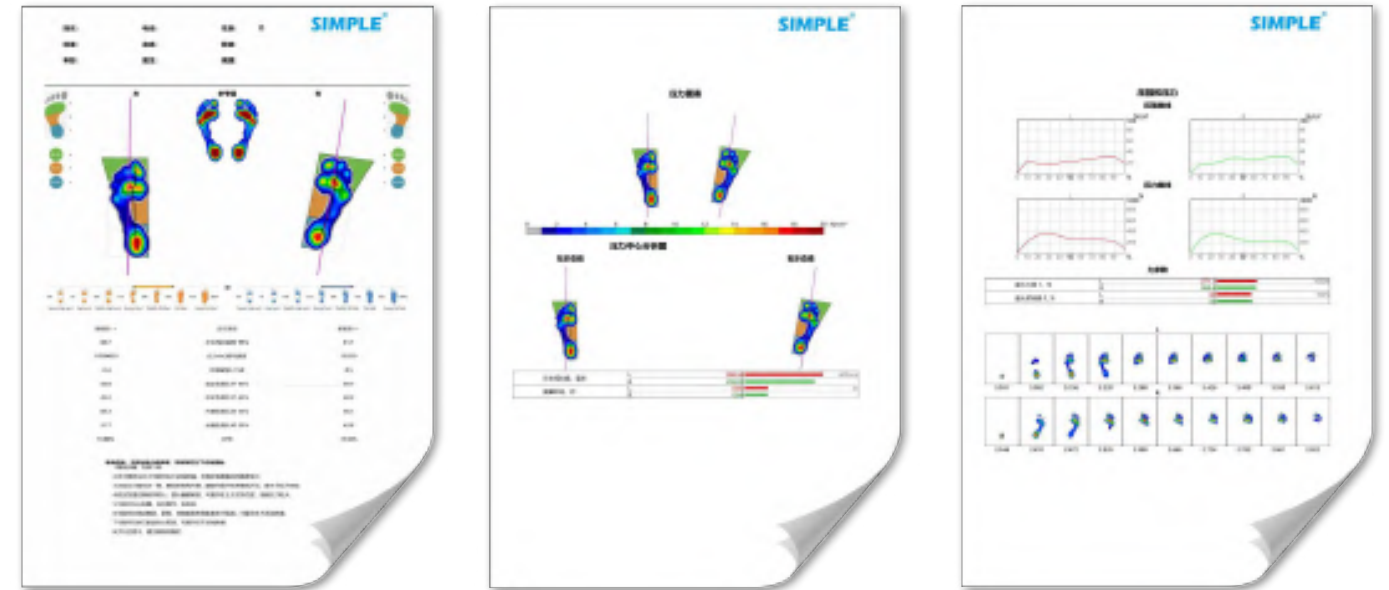
#### Cavus



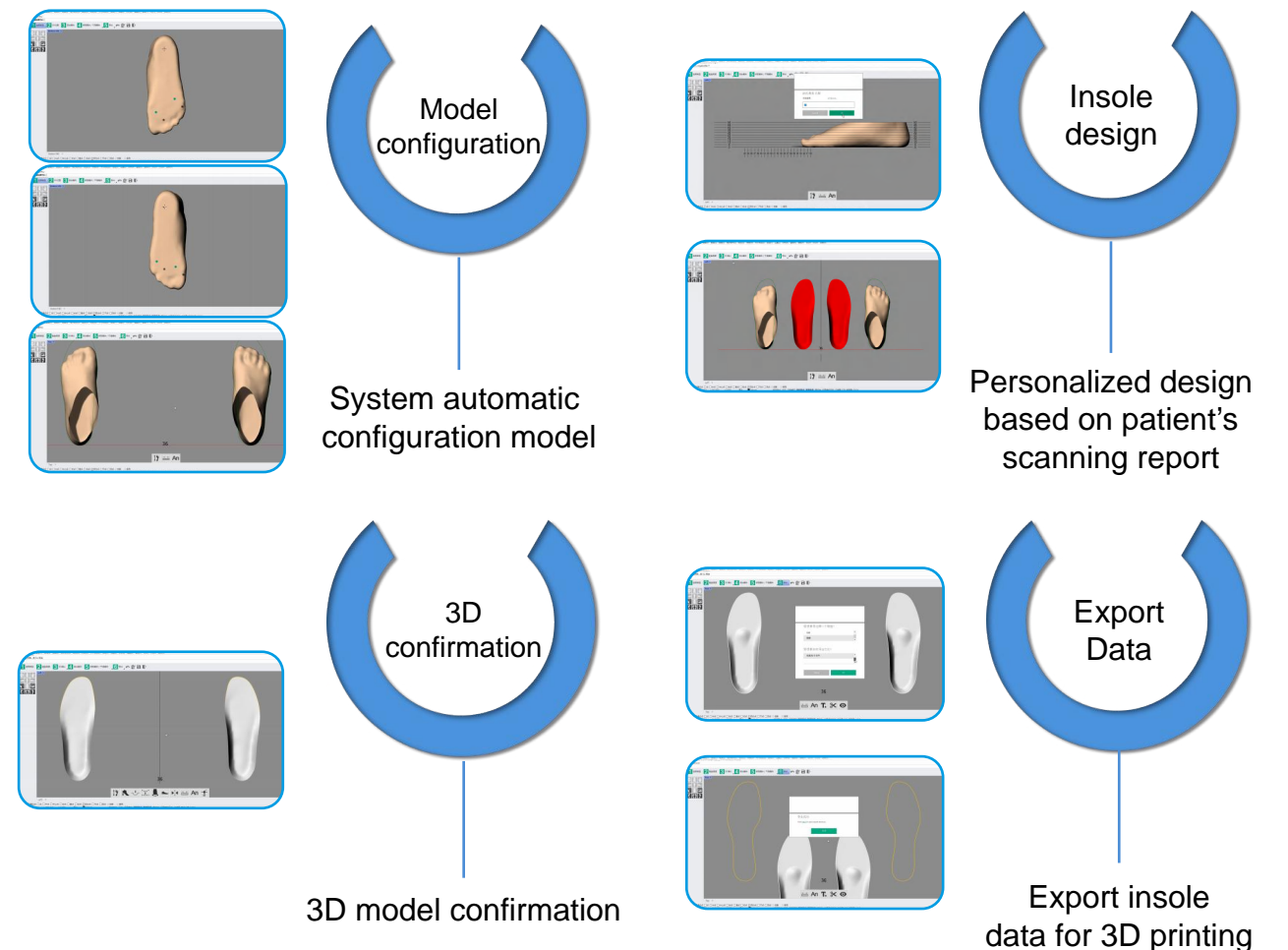
#### Flatfoot



## Foot Pressure Analysis Report

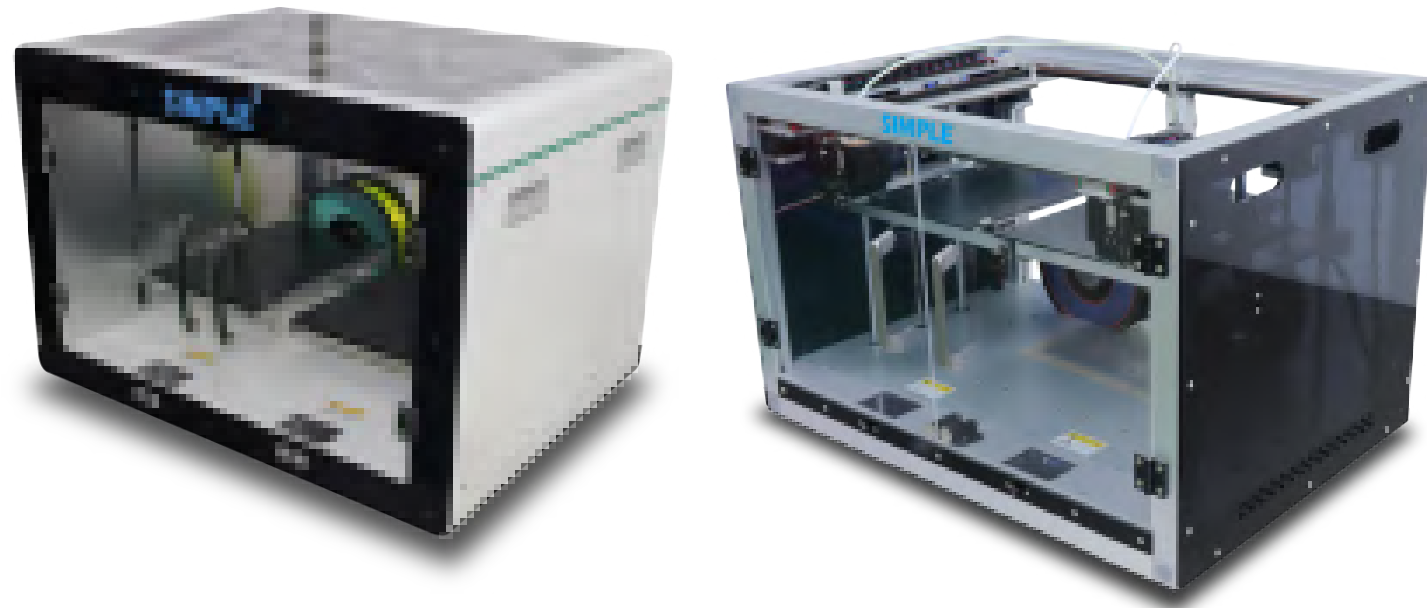


## 3D Modeling Process



## 3D Insole Printer

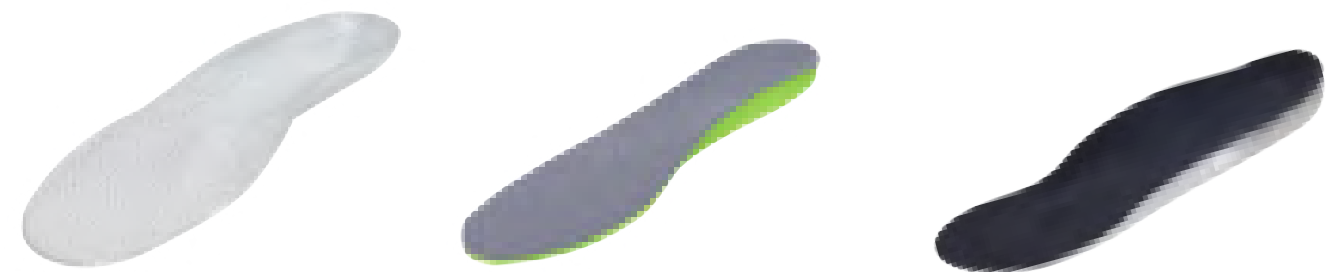
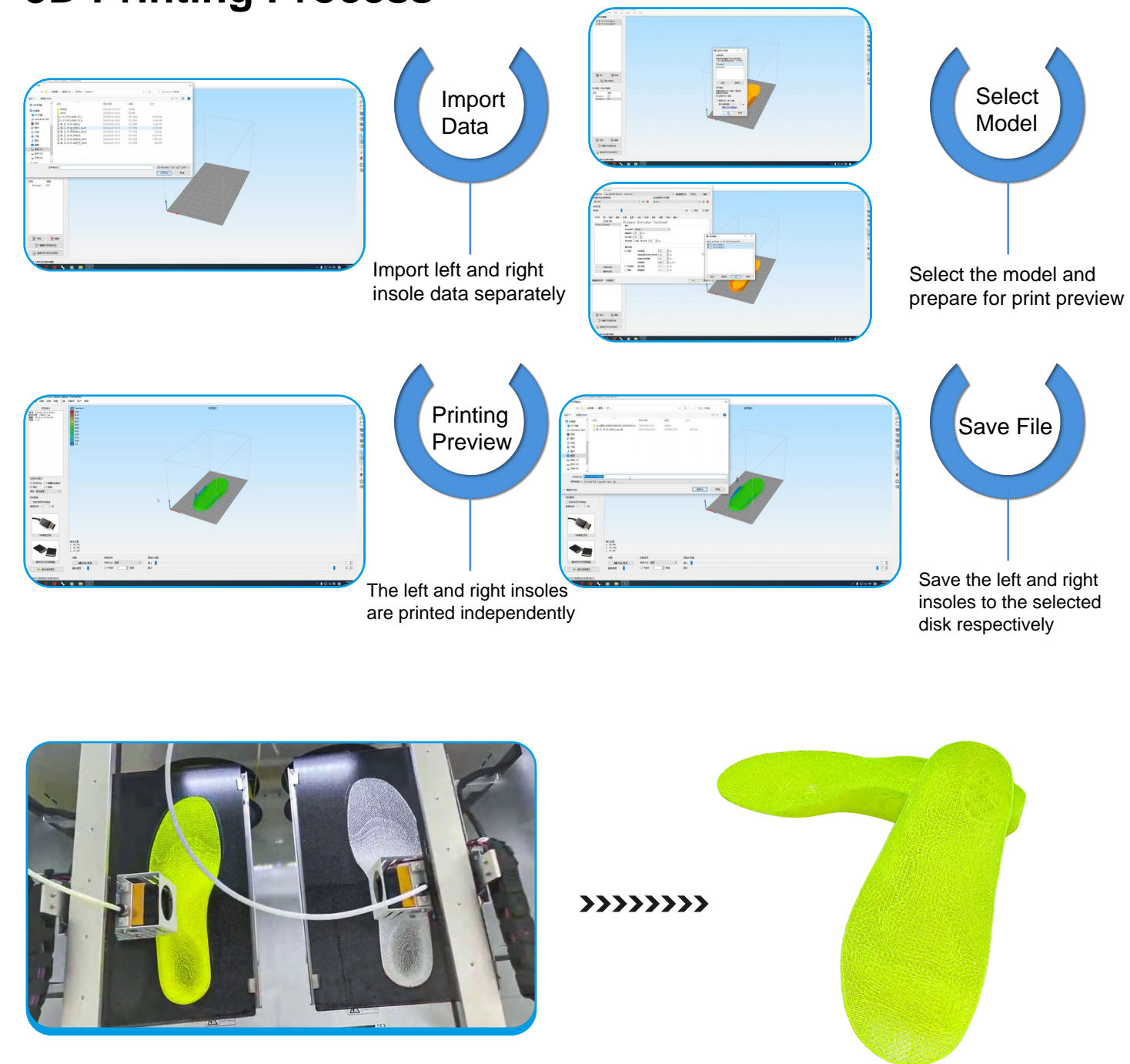
Using antibacterial thermoplastic TPU material, it has ultra-high fluidity and excellent elasticity. The product is not easy to deform and has good flexibility. It has high tear resistance, wear resistance and cut resistance, and has high hardness and good elasticity. Resilience. Integrated printing uses different hardness materials and multiple hardness structures to achieve different hardnesses in each area according to functions. The hardness stacking range can reach SHORE A 30-90. It only takes 30-50 minutes to print a pair of adult insoles. Even if worn for a long time, it will not become thinner or collapse, it can still maintain rebound and provide good support for the sole of the foot. It is more breathable, sweat-absorbent, anti-bacterial and anti-mildew. It can be truly durable and wear-resistant, greatly reducing the degree of wear and tear, and has a good effect on alleviating bad gait.



FDM 3017B Printer Technical Parameters			
Print Size	190*320*200mm	Input Voltage	AC100-240V, 50/60Hz
Dimensions	700*540*540mm	Input Power	≤350W
Hot Bed Temperature	0-100°C	Extruder Temperature	175~260°C
Product Weight	50kg	Operation Method	3.5 inch LCD screen
Structural Material	Metal Frame Structure	Nozzle Size	0.8mm
Supported Material Types	TPU, TPE, PLA, ABS	Supported File Formats	STL, OBJ, G-Code
Positioning Accuracy	X, Y axis positioning accuracy: 0.11mm; Z axis positioning accuracy: 0.025mm		
Ejection Hot End	Air-cooled heat dissipation, thermistor temperature control		

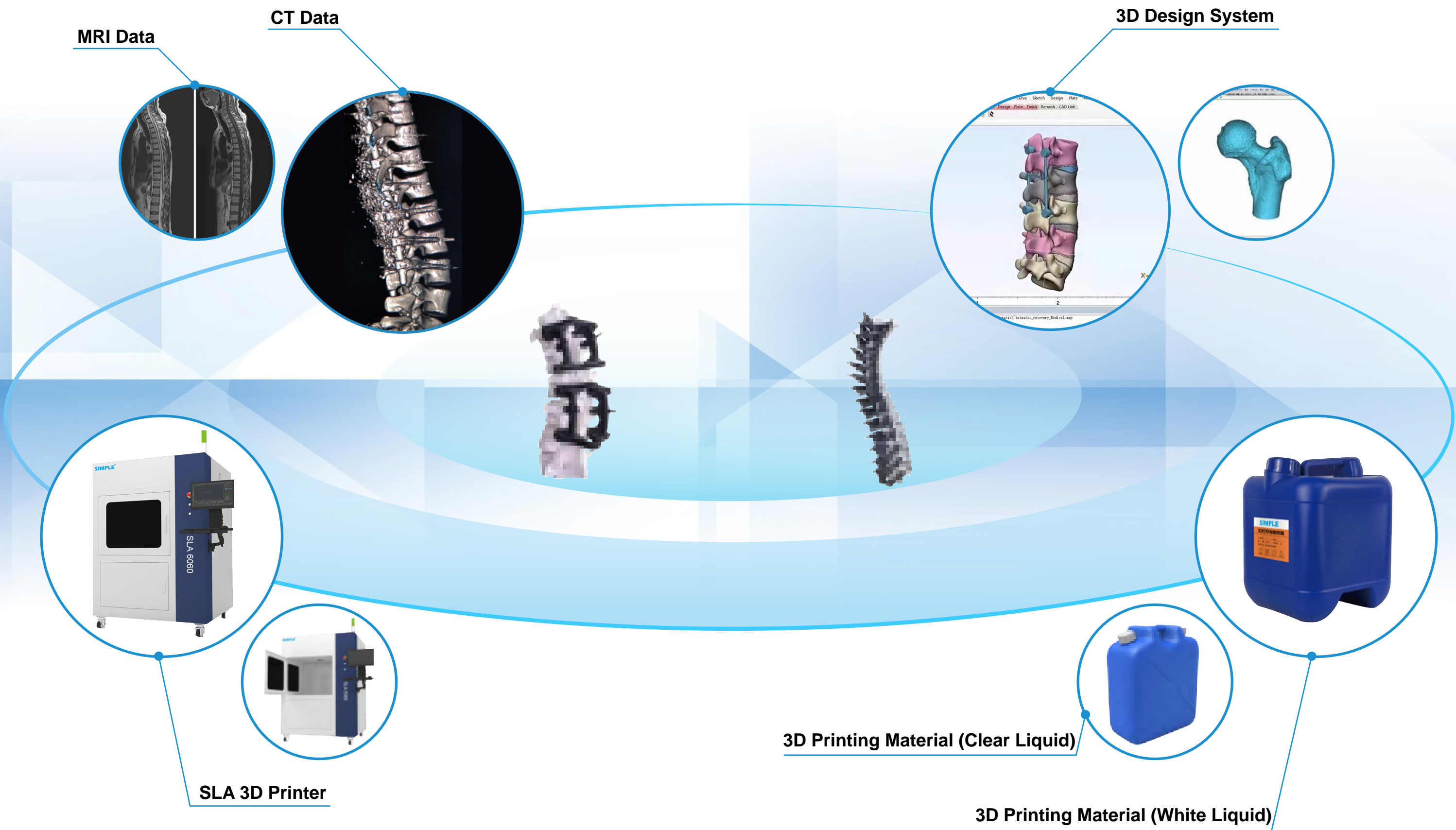
FDM 3218B Printer Technical Parameters			
Print Size	180*320*150mm	Input Voltage	AC100-240V, 50/60Hz
Dimensions	700*500*400mm	Input Power	350W
Hot Bed Temperature	0-100°C	Extruder Temperature	175~260°C
Product Weight	25kg	Operation Method	3.5 inch LCD screen
Structural Material	Metal Frame Structure	Nozzle Size	0.8mm
Supported Material Types	TPU, TPE, PLA, ABS	Supported File Formats	STL, OBJ, G-Code
Positioning Accuracy	X, Y axis positioning accuracy: 0.11mm; Z axis positioning accuracy: 0.025mm		
Ejection Hot End	Air-cooled heat dissipation, thermistor temperature control		

## 3D Printing Process





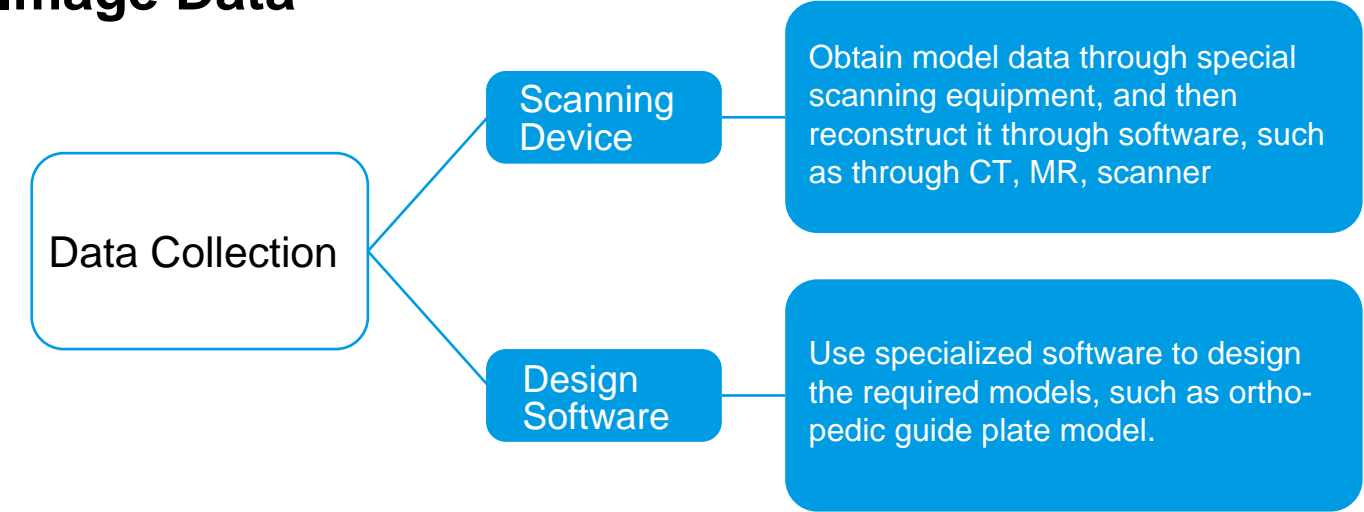
3D Printing System-Surgical Guide Plate & Model



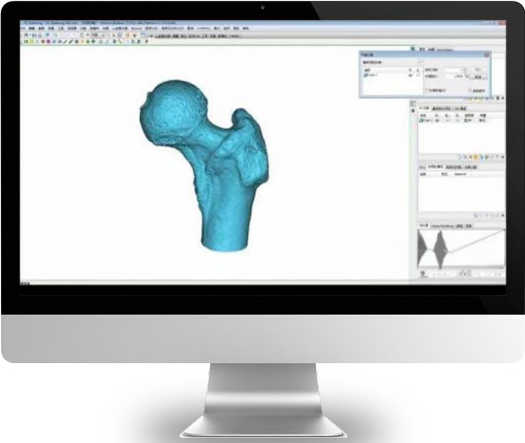
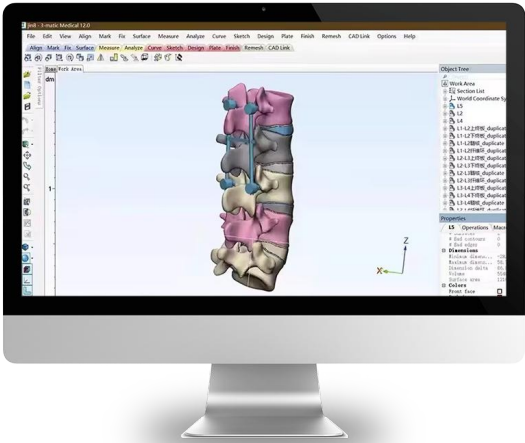
### 3D Printing System-Surgical Guide Model Series

The digitally designed surgical plan can focus the surgical planning on the 3D printed surgical guide. When using it, you only need to contact the guide plate to the pre-operative planned site, and it can guide the surgeon to smoothly perform intraoperative positioning and fixation according to the pre-operative plan, lines, surfaces and their direction and depth, thereby accurately guiding the direction and depth of the nail path, determining the cross-section, distance and mutual angular relationship, etc., greatly improving the accuracy and safety of the surgical operation, shortening the operation time, reducing intraoperative bleeding and reduce side injuries; make some complicated and difficult intraoperative operations easier in some traditional surgeries; reduce dependence on intraoperative C-arm X-ray machines and operating room radiation contamination, and reduce surgery-related complications; its technical advantages popularization and application have greatly improved and improved the level of orthopedic treatment and effectively improved the quality of orthopedic surgeries.

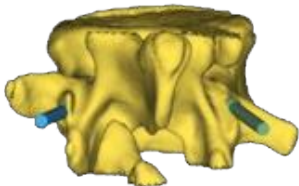
### Image Data



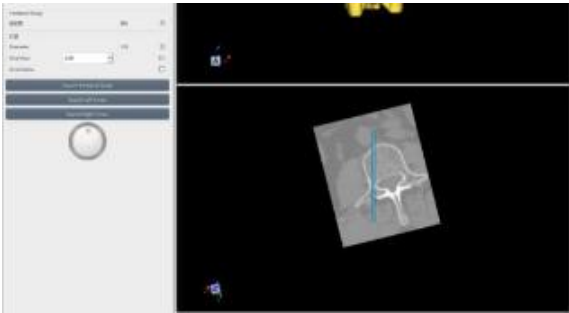
### 3D Design System



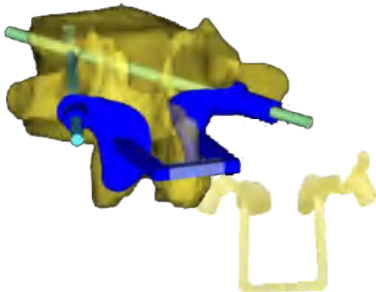
Select target area for modeling



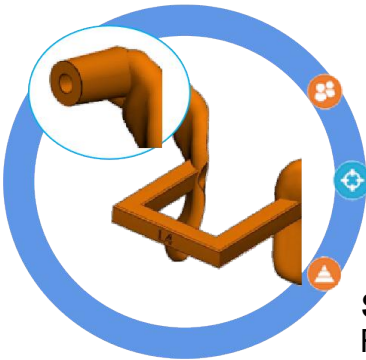
Nail track design



Nail track verification



Guide plate generation



- Improve accuracy and reduce risk**  
Design the nail path in advance to avoid damage to peripheral nerves and blood vessels.
- Shorten the number of fluoroscopy**  
Shorten the number of fluoroscopy sessions and reduce operation time.
- Shortening the needle is more stable**  
Round table guide hole design increases stability.



SLA 6060 Smart 3D Printer

SLA 6060 3D printer is used in the medical field for surgical guides, medical models, prosthetics, simulation models and other fields.



Max print size

SLA 6060 3DPrinter

Specification			
Model	SLA 6060	Exterior dimensions	1530*1300*1965mm
Device weight	Approx. 1100kg	Device power	350W
Laser system			
Number of lasers	1	Laser type	Diode-pumped solid-state laser ND: YVO4
Laser wavelength	355nm	Laser power	3W
Optical scanning system			
Spot diameter	0.12-0.6mm	Scan form	High-speed mirror scanning system
Part scanning speed	6m/s recommended	Part jump speed	10m/s recommended
Reference production speed	300-400g/h		
Coating system			
Coating method	Precise positioning vacuum adsorption	Normal layer thickness	0.1mm
Quickly make layer thicknesses	0.15mm	Precision fabrication layer thickness	0.05mm
Resin tanks			
Resin tank volume	230kg	Maximum molding size	600*600*400mm
Lifting system			
Base platform	Casting benchmark platform	Repeatable positioning accuracy	±0.01mm









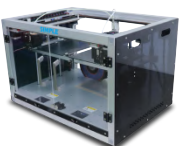

Product Display  
Model











Guide Plate



3D Printing System——Equipment List

	Category	Product Name	Product Images	Model (Specification)	Remark
①	3D Printing System   Brace & Support	SIMPLE 3D Scan System APP		DSC3D	 The APP only supports iPhone X and above versions for download. 1. Includes a set of scan conversion connectors 2. Apple mobile phones and desktop computers are not included. Customers need to purchase them by themselves. 3. Does not include modeling software system
		3D Printer		FDM6060	
		3D Printing Filaments		DPLA_PCL 1.75 White	
②	3D Printing System   Insole	Foot Scanner		DSC01B	/
		Foot Scanner		DSC02B	
		Foot Scanner		DSC03B	
		3D Insole Design System	/	DGE02	
		Foot Pressure Tester (Software Included)		DGA01	
		3D Insole Printer		FDM3218B	
		3D Insole Printer		FDM3017B	

	Category	Product Name	Product Images	Model (Specification)	Remark
		3D Printing Filaments		DTPU1.75 Fluorescent Green	1kg/coil
③	3D Printing System   Surgical guide plate & model	Smart 3D Printer		SLA6060	Medical modeling software not included
		UV Curing Cabinet		UV6835	
		Ultrasonic Cleaning Machine	/	CSB01	
		UPS Power	/	UPS01	
		3D Printing Material		W960EF	White Liquid
		3D Printing Material		TC50	Clear Liquid
④	Spare parts	Scan Converter		iPhone converter	/
		Strap		/	
		Buckle		/	