

AUTO BIO2000

Multi Channel Biophar- Maceutical 3D Printer AUTO BIO2000



Shenzhen Soongon Technology Co., Ltd.
Shenzhen Yuanyi Intelligent Medical Technology Co., Ltd
Guangdong Medical 3D Printer and Personalized Medical Engineering
Technology Research Center
Joint team of China Pharmaceutical University, University of Macau,
and Guangdong Pharmaceutical University

About Us

Shenzhen Soongon Technology Co., Ltd.(hereinafter referred to as "Soongon") is a Chinese national high-tech enterprise established in 2012. With a registered capital of 5 million yuan and a comprehensive ISO9001 quality management system, it is a leading 3D printer innovative enterprise in China that integrates research and development, production, and sales.

Shenzhen Yuanyi Smart Pharmaceutical Technology Co., Ltd. (hereinafter referred to as "Yuanyi Smart") is established by the master's and doctoral teams of China Pharmaceutical University, University of Macau, and Guangdong Pharmaceutical University, and is invested by Soongon. We will focus on the pharmaceutical field and continue to promote the research and application of 3D printing in the pharmaceutical field in the future. Committed to developing high-end biopharmaceutical 3D printers.

The Guangdong Provincial Medical 3D Printer and Personalized Medical Engineering Technology Research Center was established in 2017, relying on Guangdong Pharmaceutical University, one of the three independent pharmaceutical universities in China, and jointly built with Shenzhen Soongon Technology Co., Ltd. Our mission is to research medical 3D printing technology and personalized medical applications, and to promote innovation and development of personalized precision medicine.

Soongon, Yuanyi Intelligence, Guangdong Provincial Medical 3D Printer and Personalized Medical Engineering Technology Research Center, a strong alliance, as of March 2023, have applied for 18 invention patents, 33 utility model patents, 7 appearance patents, 3 software copyrights, 10 domestic and foreign trademarks, and more than 70 intellectual property related certifications.

As a provider of high-end biopharmaceutical 3D printing equipment and solutions in China, we will continue to make efforts to promote precision medicine and promote the development of great health!



During the 2016 China Mass Entrepreneurship and Innovation Week, former Premier Li Keqiang visited our company's 3D printing equipment

History



Qualification And Certification



Co-Construction Unit Of Guangdong Pharmaceutical University Intelligent Medical Device Industry College



Guangdong Provincial 3D Printing Standardization Technical Committee Member Unit



Guangdong Medical 3D Printer And Personalized Medical Engineering Technology Research Center



Guangdong Pharmaceutical University Postgraduate Teaching Practice Base



Director Unit of Additive Manufacturing Industry in Guangdong Province



Industry Excellence Brand Excellence Award



Guangdong Pharmaceutical University Postgraduate Teaching Practice Base



Chinese National High-Tech Enterprise



Dozens Of Invention Patents, Software Copyrights, Utility Model Patents, Etc.



ISO9001 System Certification



CE, FCC, ROHS Certification



Partners



Guangdong Pharmaceutical University



Shenzhen University



China Pharmaceutical University



Third Hospital of Wuhan City



Shanghai Institute of Ceramics of the Chinese Academy of Sciences (SICCAS)



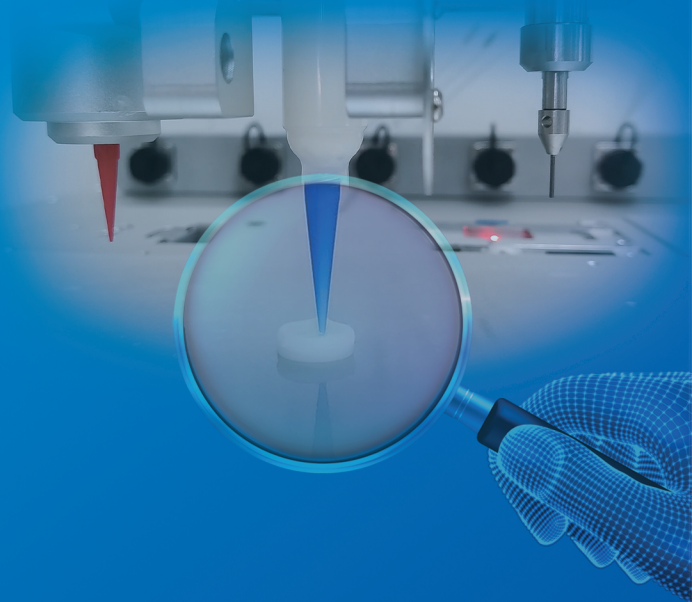
Guangdong Medical 3D Printer and Personalized Medical Engineering Technology Research Center



University of Macau

◁ About Drug 3D Printing

Drug 3D printing is a new technology for producing drugs, which uses a 3D printer to stack and solidify drug materials layer by layer to produce specific doses and shapes of drugs. This technology can more accurately control the release rate and efficacy of drugs, increase absorption and utilization, and achieve better therapeutic effects. 3D printing of drugs can also produce specific drugs and be used for the development of new formulations based on the personalized needs of different patients, greatly improving the accuracy and effectiveness of treatment.



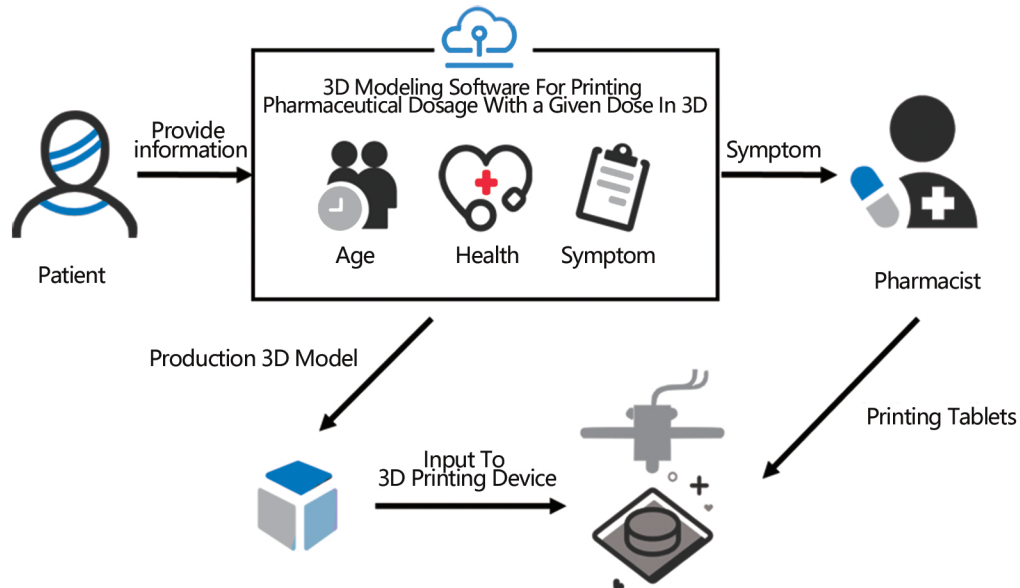
◁ Advantages And Significance

The high flexibility, digitization, continuous production process, and precise dosage control of 3D printing for drugs are not available in the traditional pharmaceutical manufacturing industry. Compared to the traditional pharmaceutical industry, drug 3D printing can better control the drug release cycle, release rate, and even release position by selecting materials, designing the appearance of drug models, and adjusting the internal structure to meet the medication needs of patients in terms of age, weight, organ function, and disease severity. In small-scale drug manufacturing and new dosage form research and development, the production process of drug 3D printing is simple. The smaller equipment and venue required, high flexibility, and digital continuous production process, as well as precise dosage control, make personalized and precise medication possible.

- 1 Personalized Appearance**
Personalize the appearance (size, shape, etc.) based on factors such as personality, hobbies, gender, age, etc.
- 2 Personalized Dose**
Personalize drug dosage based on factors such as symptom severity, weight, age, gender, and drug tolerance.
- 3 Programmed Release Tablets**
Programmed release formulations can be designed according to the patient's medication needs to achieve timed administration.
- 4 Personalized Structure**
Personalized structural design is carried out based on factors such as etiology, location, and degree of symptoms, in order to achieve drug positioning and speed control.
- 5 Personalized Formulations**
Customize drug formulations based on factors such as etiology, location, symptoms, complications, physical condition, genetic inheritance, etc.

Precision Medication Process

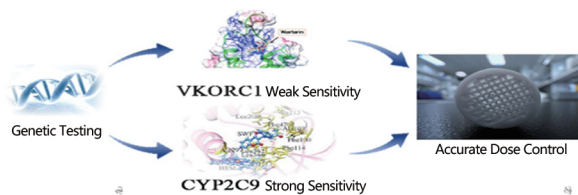
3D Printing Personalized And Precise Medication Process With Different Dosages



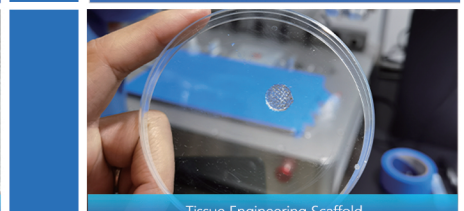
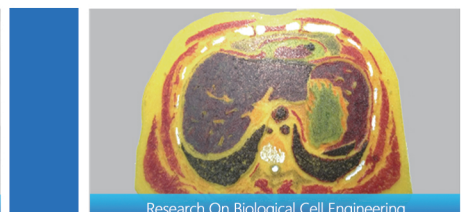
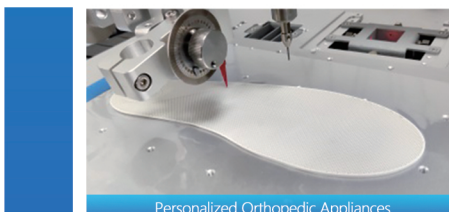
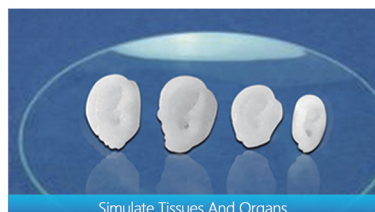
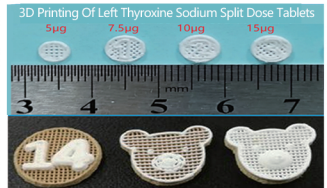
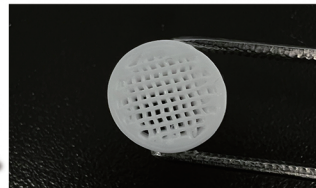
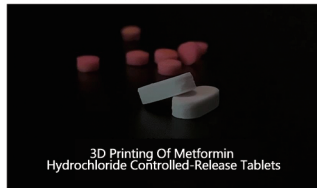
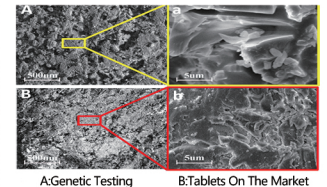
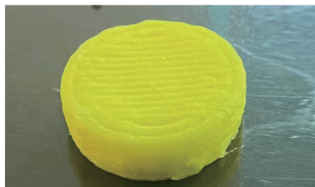
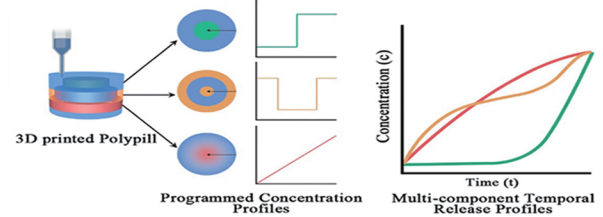
Application

Research And Development Of New Formulations/Personalized Dosing

The Relationship Between Genotype And Dose

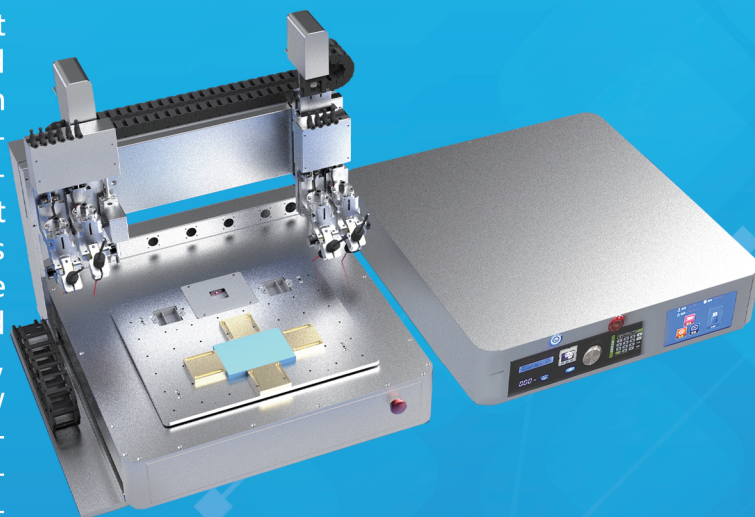


Example Of 3D Printing For Multi Drug Combination



About Auto Bio2000

AutoBIO-2000 is a domestic multi-channel biopharmaceutical 3D printing device that adopts ink direct writing technology and can support pharmaceutical materials such as slurry, liquid, suspension, melt, and various printing nozzles and functional modules. Through the combination of different materials and different modules, dozens of different printing process modes can be modulated, covering most biological and drug 3D printing application scenarios, such as drug dosage printing, drug new model research and development, biological hydrogel beauty research and development, bionic tissue organs, tissue engineering scaffolds, cell engineering cultivation and research.



Function

01

Independent Multi-Channel Drug Printing

Independent channel design, capable of achieving single formula drug printing, multi formula drug compound linkage printing, single drug parallel printing, multi drug parallel printing, etc.

02

Intelligent Automatic Calibration

Multi channel nozzle automatic calibration, height automatic calibration of different drug loading platforms, etc. make user operation more convenient and accurate.

03

Drug Forming Auxiliary Function

Supporting various auxiliary functions such as ultraviolet assistance, high-temperature assistance, low-temperature assistance, etc., to meet the various environmental requirements of the drug printing process.

04

Large Work Area

The working range of 300 * 200 * 100mm can meet larger printing needs.

05

Anti Clogging Design

Prevent nozzle blockage during use, ensure orderly printing, and enhance user experience.

06

Accurate And Precise Dosage

Precision and accuracy of dosage: real-time adjustable air pressure, precise power (fluctuation range $\pm 2\text{KPa}$), and comprehensive molding accuracy differences between individuals and batches less than 5% (including differences in tablet weight, content uniformity, and volume).

07

Drug 3D Printing Management System

Medical 3D Printing Special Management System

Multi channel nozzle automatic calibration, height automatic calibration of different drug loading platforms, etc. make user operation more convenient and accurate.

08

Reserved Expansion Interface

The equipment supports redundant design, reserves expansion interfaces in advance, and can be expanded and upgraded in the later application process to maintain the progressiveness of the equipment.

09

Extreme Details

Silent design ($\leq 50\text{DB}$), multifunctional clamp design, multifunctional platform design, platform tuning free quality.

Supporting Materials

Drug Formula

Spironolactone, Hydrochlorothiazide, Captopril, Warfarin Sodium, Levothyroxine Sodium, Mercaptopurine, Amino-phylline, Digoxin, Sildenafil, Phenobarbital, Etc

Medicinal Materials

Mannose, Povidone, Hydroxypropyl Methyl Cellulose, Ethyl Cellulose, Corn Starch, Cross-Linked Carboxymethyl Cellulose Sodium And Other Medicinal Excipients

Biomaterials

Matrix Glue, Gelatin, Silk Fibroin, Polyethylene Glycol, Polyvinyl Alcohol, Polycaprolactone, Polylactic Acid, Polyurethane, Gelled Adhesive, Chitosan, Etc

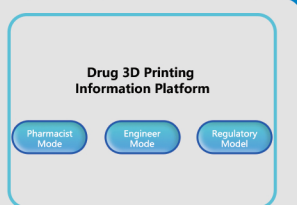


Medical 3D Printing Management System

- The specialized management system for medical 3D printing integrates three modes: pharmacist mode, engineer mode, and supervision mode, which are segmented and managed according to different application scenarios, making the operation more convenient and effective;
- Multilayer permission settings, local encryption of data, and traceability of operations to ensure the security of software operations;
- Multi scene and multi platform functions, supporting switching applications of different printing platforms such as glass plates, petri dishes, cellophane, etc;
- With independent intellectual property rights and modular high scalability, we can provide customers with personalized software customization services.

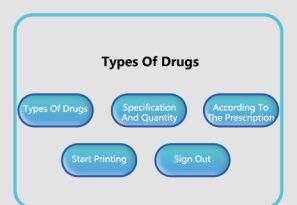
Different Modes

There are three modes: pharmacist mode, engineer mode, and supervision mode, which are segmented and managed for different application scenarios.



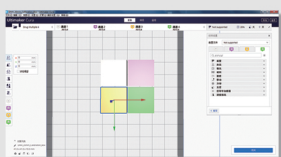
Easy And Fast Printing

Implement simple and fast printing in pharmacist mode based on permissions and scenarios.



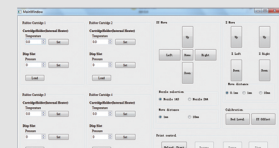
Joint Printing

Independent multi-channel can achieve single drug printing, multi drug compound linkage printing, single drug dual head parallel printing, multi drug dual head parallel printing, etc.



Real Time Adjustment

Real time adjustment, supporting real-time parameter adjustment, and able to respond to the complex needs of the printing process in real-time.



More Services

Intellectual Property Tutoring: Providing tutoring in areas such as invention patents, software copyrights, utility model patents, team standards, and papers;

Prescription Database: Provide commonly used drug formula databases; **Modeling Services:** Provide timely modeling services for users during their use, reducing their workload;

Function Customization: Tailor functions to meet the special needs of users.

Parameter

Equipment Size	Host Size≥670mm*720mm*610mm; Handling Size≥625mm*760mm*155mm
Equipment Weight	≥70kg
Display	7.0 Inch Full Color Touch Screen (Supports Multiple Languages)
Scope of Work	Single Head Mode Or Multi Material Linkage Mode≥300mm*200mm*100mm, Copy Mode Or Mirror Mode≥150mm*200mm*100mm
Print Layer Height	0.1-0.4mm
Print Head Aperture	100-400μm Or Greater, Maximum Wire Diameter ≤100μm
Supporting Materials	Slurry, Liquid, Suspension, Melt (Solution, Suspension, Slurry Or Melt Composed Of Silica Gel, Hydrogel, Gelatin, Hydroxyapatite, Drug Cell Suspension, Liquid, Etc.)
Printing Temperature Of Nozzle	Normal Temperature, Low Temperature, High Temperature
Power	Pneumatic Pump, Working Pressure ≤0.8Mpa
Weight Positioning Accuracy	≤±10μm
File Type	Stl, Gcode, Jpg, Etc
Operating Software	Cura, Medical 3D Printing Management System
Operating System	Windows/Linux/Mac
Power Input (AC)	100V-240V;50-60Hz