riton®

FULL-STACK OPERATOR OF DENTAL DIGITIZATION SCHEME

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Riton3D

THE
CONTENTS

MLAB
Desktop Metal 3D Printer

- With a compact size of 60×60×80cm, it supports highly flexible layouts

- Utilizing PLC and IPC dual-module control to effectively enhance equipment stability

- Upward powder filling structure design, allows for powder addition in the middle of printing

- 10.1-inch touchscreen, intelligent monitoring of the machine's operating status

- Wireless transmission of printing data enables remote operation of printing

- The filter cartridge can be pre-soaked during cleaning, avoiding spontaneous combustion

SMALL IN SIZE
BIG IN
PERFORMANCE

Laser Source	Single-fiber laser
Laser Power	250W
Maximum Scanning Speed	11200 mm/s
Melting Area	φ100×80mm
Layer Thickness	20-60μm
Protective Gas	Nitrogen or Argon
Productivity	In the fastest case, it only takes 2.5 hours to print 100 metal dental crowns or 7 metal frameworks (Actual time may vary due to different conditions)
Printing Materials	CoCr alloy / Stainless steel
Printer Weight	135kg
Printer Dimensions	60×60×80cm
Circulation System Dimensions	52×50×63cm
Input Voltage	220V
Installation Environment	15°C-35°C, Humidity: ≤95%, No vibrations
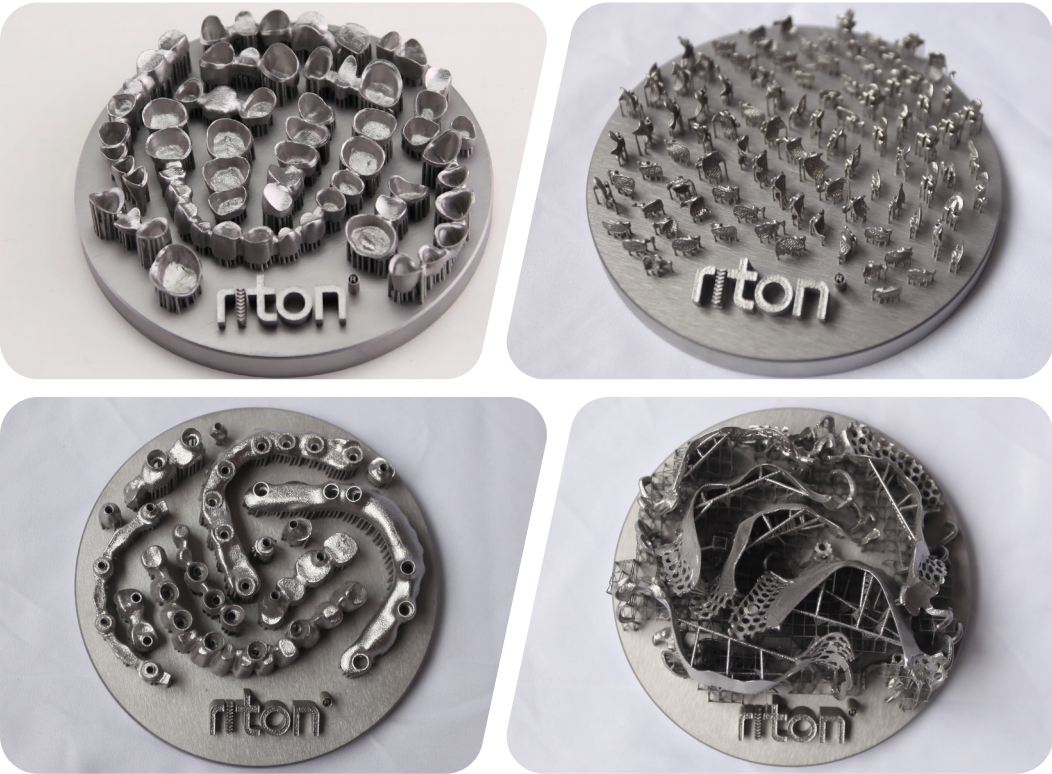
M-150 STANDARD

- Occupies only about 0.8m², the overall size significantly reduced

- Optimized powder spreading process, higher efficiency in printing

- Optimized performance of the forming chamber, higher precision in printing

- Hidden sealed structure design for moving parts, high stability of the equipment

- Automated deoxygenation and gas supply, time-saving and eco-friendly

- Supports printing with various metal powders

Compatible with single and dual lasers

Model	M-150
Laser Source	Single-fiber laser
Output Power	500W (Standard)
Laser Wavelength	1.064µm
Scanning Speed	≤14000mm/s
Melting Area	φ150mm
Layer Thickness	20-50 µm
Protective Gas	Nitrogen / Argon
Productivity	Prints 200 metal crowns or 17 metal frameworks in 4.5 hours
Power Supply	3KW 220V
Printer Weight	500kg
Printer Dimensions	790mmx1010mmx1670mm
Melting Materials	CoCr alloy
Environment Request	15 °C-35°C, Humidity≤95%, No vibration

EFFICIENT & SUPERIOR
FOR PRODUCTION

SMART JUMP
M-150 Ti Service

Configuration: Circulation System, Chiller

HIGH SECURITY
AND
STABILITY

Model	M-150 Ti
Laser Source	Single-fiber laser
Output Power	500W (Standard)
Laser Wavelength	1.064μm
Scanning Speed	≤14000mm/s
Melting Area	**φ150mm**
Layer Thickness	20-50 μm
Protective Gas	Argon
Productivity	**Prints 200 metal crowns or 17 metal frameworks in 4.5 hours**
Power Supply	**3KW 220V**
Printer Weight	500kg
Printer Dimensions	790mmx1010mmx1670mm
Melting Materials	Ti alloy
Environment Request	15 °C-35°C, Humidity≤95%, No vibration

M-150 Powder Changer
Powder Switching Dual System Structure

● **One Machine, Two Powder Printing Modes**

Printing CoCr and Ti products without changing machines, one machine to realize two materials printing, reduces production costs

● **One-Click Mode Switching**

Switch between different powder printing modes with one click, completed in 20 minutes, saving time and effort

● **Independent Circulation Pipes**

Two separate circulation system pipes prevent powder mixing contamination, ensuring printing precision and quality

● **Hidden Sealed Structure Design**

Electrical circuits and the dust forming parts are isolated, ensuring stable operation over long periods

● **Magnetic Fixed Printing Base Plate**

No manual leveling required, reduces printing errors

● **Automatic Gas Supply and Deoxygenation**

Reduces gas consumption, eliminating the waiting time for machine inflation

● **Easy Residual Powder Cleaning**

No need to clean pipes when replacing consumables, residual powder cleaning is easily accomplished

※ The original M-150/M-150 Ti models can be upgraded to M-150 Pro

Ti   CoCr
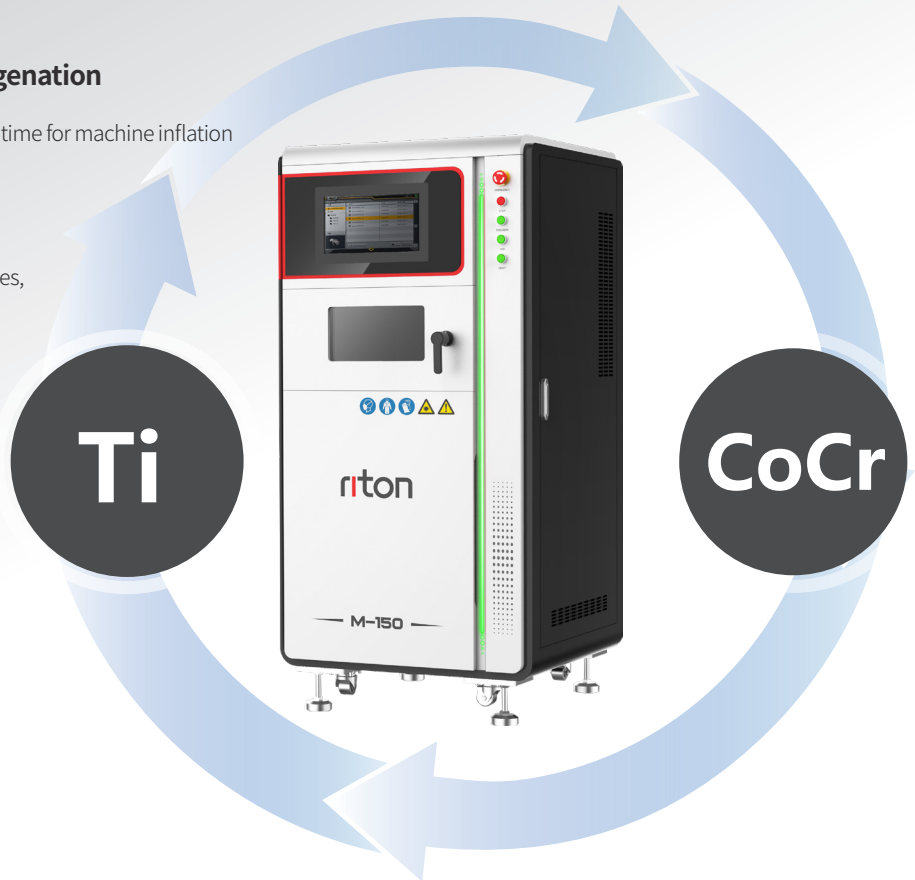
M-150 DUAL LASER SERVICE

● **Productivity:** Prints 200 metal crowns or 15-17 frameworks in 3 hours

● **Application Scenario:** Small dental labs

THE CHOICE OF
MASS PRODUCTION

Model	DUAL-150
Laser Source	Dual Fiber Lasers
Output Power of Single Laser	≤500W
Laser Wavelength	1.064μm
Scanning Speed	≤14000mm/s
Melting Area	**Φ150mm**
Layer Thickness	20-60 μm
Protective Gas	Nitrogen / Argon
Productivity	**Prints 200 metal crowns or 15-17 frameworks in 3 hours**
Power Supply	**4KW 220V**
Printer Weight	650kg
Printer Dimensions	1300mmx927mmx1650mm
Melting Materials	CoCr Alloy
Environment Request	Temp 15 °C-35°C, Humidity≤95%, No vibration
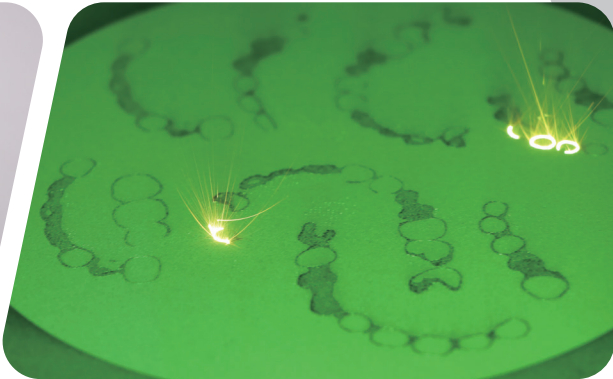
M-150 HYBRID MILLING

Additive & Subtractive Hybrid Manufacturing (ASHM) is is a comprehensive dental solution introduced by Riton to promote dental digitization, help dental laboratories reduce costs and increase efficiency, and improve product quality. It combines product design, software control, 3D printing, and subtractive manufacturing.

① Prosthesis Design → **②** CAM Software Programming → **③** SLM Data Preprocessing

OK Finished Product ← **⑤** CNC Machining ← **④** SLM Printing

WHY CHOOSE RITON ASHM?

● **Dedicated Database and Fixtures to Ensure Workpiece Precision**

Equipped with dedicated manufacturing parameters database and fixtures. From workpiece design to subtractive processing, comprehensive control over workpiece machining precision ensures quality from the source.

● **ASHM, Mass Production & More Efficient**

The metal 3D printer and milling machine collaborate in manufacturing, with each Riton milling machine completing the milling of a standard Malo Bridge in just 1 hour. Producing for 36 hours under Riton ASHM, the production of regular Malo Bridge is improved by approximately 163% compared to traditional CNC, making mass production more competitive.(Actual time may vary due to different conditions)

● **Support for Secondary Processing, Reduces Costs**

Supports secondary milling processing for strategic supplementation of workpieces, reducing rejects caused by surface detail quality not meeting expectations, thereby lowering production costs.

● **Compatible for Flexible Processing Needs**

Supports printing and processing of workpiece data from multiple brands and specifications, offering compatibility to meet personalized processing requirements.

● **Resource Conservation and Environmental Protection**

Precisely controls material accumulation and removal during additive and subtractive processes, reducing material consumption.

● **One-Stop Production Process**

From data import to workpiece production, the fully equipped one-stop solution enables autonomous production.

● CoCr Alloy Powder

The CoCr alloy powder used for laser selective melting is free from harmful elements such as nickel, cadmium, beryllium, and lead, ensuring good biocompatibility. It features high tensile strength, moderate hardness, and excellent metal-ceramic bonding properties. The product is suitable for both fixed and removable dental restorations.

● Ti Alloy Powder

The dental laser selective melting Ti alloy powder has good biocompatibility, allowing it to be well compatible with the oral environment. The formed restorations are corrosion-resistant, have high strength, and are not easily deformed, resulting in a longer service life. It has slow thermal conductivity, minimal foreign body sensation, comfortable wear, and reduces impact on the gums.

● Ni-based Alloy Powder

Ni-based alloy powders are commonly used in dental restorations. They are chemically stable and have good biocompatibility. After forming, the restorations possess advantages such as corrosion resistance, high hardness, and aesthetic appeal, making them a preferred material for many patients' dental restorations.

FULL-STACK OPERATOR OF DENTAL DIGITIZATION SCHEME

AUXILIARY EQUIPMENT

FULL-STACK OPERATOR OF DENTAL
DIGITIZATION SCHEME

Nitrogen Generator

Electric Vibrating Sieve Machine

Chiller

Mini Sawing Machine

Explosion-proof Vacuum Cleaner

Heat-treatment Furnace

RT 900

Plasma polishing machine

● Efficient polishing. From printing to post-processing, efficiency is increased by approximately **54%** compared to traditional manual processing

● **Precise** polishing effect with a gentle process

● Polishing is completed in **one step**, simplifying the workflow and saving time and effort

ACCURATE
EFFICIENT
IN ONE STEP

Areas of Application	Dental, Medical
Application Materials	CoCr alloy
Cooling System	Air cooling
Dimension	60*65*72cm
Current	0-30A
Voltage	220V
Weight	32kg
Power	AC220V/50-60Hz8.6A/2.9kw
Water Outlet	φ20mm
Water Inlet	φ20mm
Large Tank Volume	24L
Small Tank Volume	600*650*720mm
Production Capacity	3pcs

DIMS-V1

Automatic Orthodontic Steel Wire Bending Machine

● **Dedicated Fixture Equipped**

Dedicated fixtures and straighteners are equipped for wires of different diameters to ensure bending accuracy without the need for manual parameter adjustments

● **Quick Replacement**

The wire straightening module adopts a quick plug-and-play structure, enabling fast replacement with a single-person operation taking approximately 2 minutes

● **Automatic Calibration**

Equipped with a high-precision camera, the equipment can achieve one-key automatic calibration of the wire. Calibration parameters can be saved for future use, with a calibration time of approximately 30 minutes

● **Software Direct Connection**

Platform-designed data is directly transmitted to the equipment, allowing the software to operate the equipment directly without additional manual operation

● **Multi-machine Interconnection**

The platform and equipment can be interconnected many-to-many, suitable for different scales of production needs. Design data roam in the cloud and are not lost across equipment
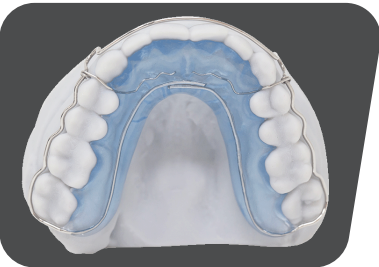
DIGITIZATION
AND
INTELLIGENCE
RITON

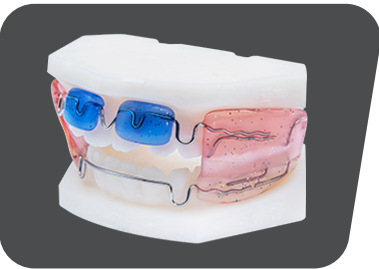|	
Input Voltage	
Control Voltage	
Rated Power	
Overall Dimensions	
Weight	
Feed Speed	
Feed Accuracy	
Bending Speed	
Bending Accuracy	
Consumables	0.5
Bending Efficiency	Within 60 seconds fo
Wire Change Efficiency (same specification wire)	Single

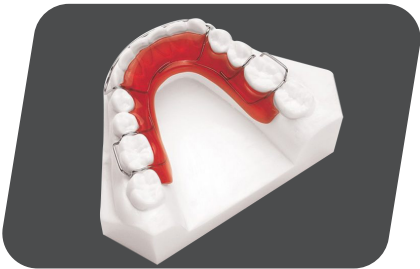# SAMPLE DISPLAY

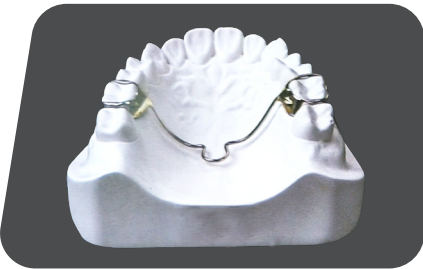Begg Retainer

Lip Bumper

Lip Bumper Wire

Frankel Appliance

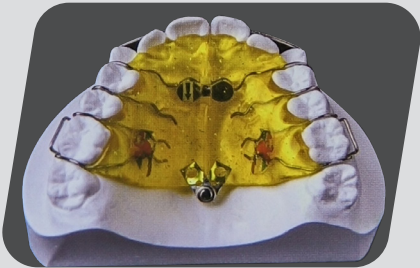Hawley Retainer

Transpalatal Arch
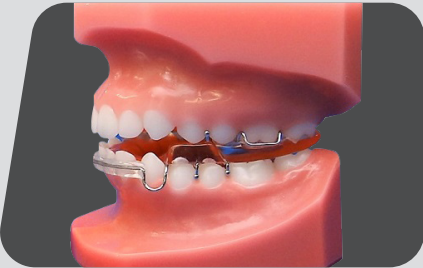
Activator

Pendex Appliance

Nance Appliance

Vestibular Shield

Fan-Type Expander

Twin Block Appliance

RITON CLOUD

Riton Cloud is a digital production management service platform built by Riton, providing entire process visualization. It features cloud data transmission, online treatment plan review, order management and tracking, delivering an efficient, user-friendly and reliable production management experience.
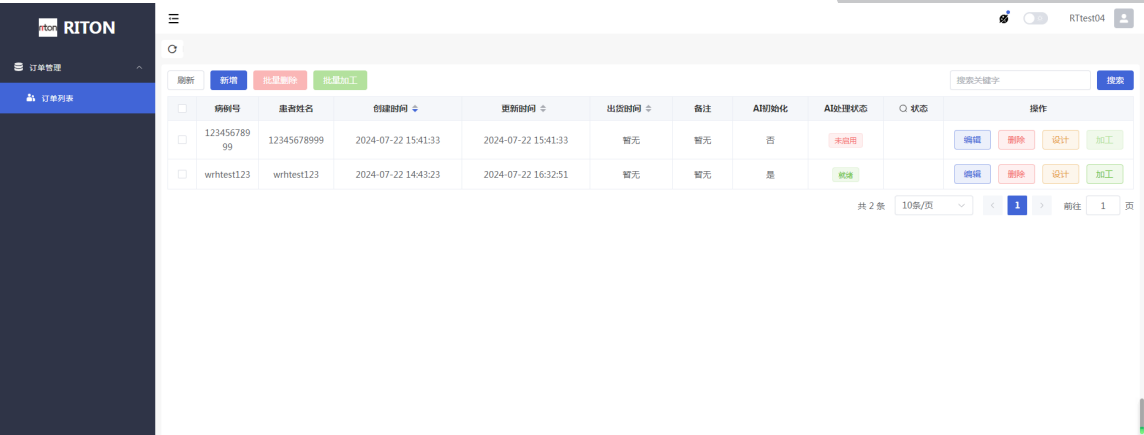
● **Cloud Data Storage, Clear Patient Information**

Doctors can review treatment plans online, facilitating convenient communication with technicians

● **Full Process Order Management and Tracking**

Efficiently manages workflows from order submission to delivery

RITON JAWDRAW SOFTWARE

Riton Jawdraw Software is an ultra-fast, intelligent, customized design platform tailored for the entire process of removable orthodontic appliances. With just one computer, users can complete treatment planning and seamlessly link production data to equipment, providing a new digital entire process solution experience.

RITON JAWDRAW SOFTWARE
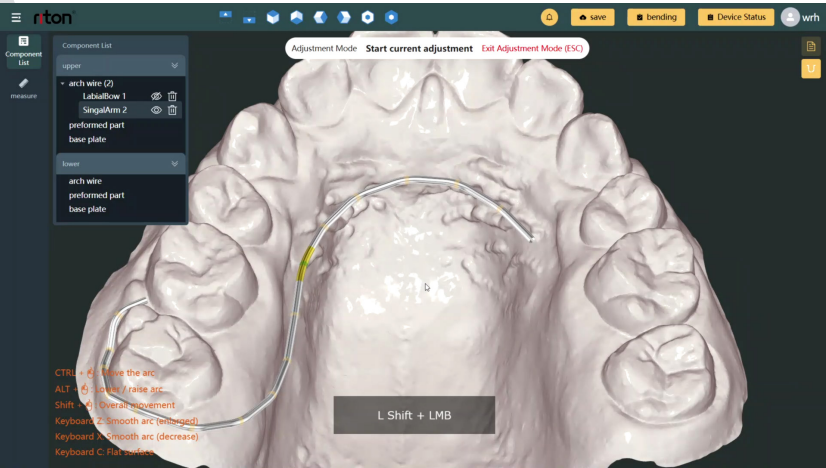
● **Versatile Applications, All-encompassing**

Suitable for designing various orthodontic appliances, with simple and quick operation

● **Intelligent Operation, Significantly Shortens Design Time**

The platform features AI algorithms that automatically generate wire models after marking

● **Smart Connection to Production Equipment**

Data can be remotely sent to automatically queue orders. It matches wire sizes to corresponding equipment, ensuring high-quality and efficient printing results

RXDent-L230

Born for speed, improve the efficiency of diagnosis and treatment in oral hospitals

8K HD Monochrome Screen	No Setup Leveling	Stable Light Intensity	8x Anti-aliasing	Silent Printing	Ultra-high Printing Speed
7680×4320 resolution	ready to use right out of the box for convenience and speed	light uniformity reaches over 95%	supports edge anti-aliasing	lower printing noise	only 6 seconds to print one layer
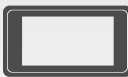
DESIGNED
FOR
SPEED

Molding Size	228X128X150 (mm)
Pixel Size	**30μm**
Layer Thickness	0.025-0.3mm
Printing Speed	6s/layer
Wavelength	405nm
Resolution	**7680X4320 (px)**
Total Power	300W
File Format	STL
Printer Dimensions	370×370×530mm
Printer Weight	27kg

RXDent-D190

Born for intelligence, transforming the plans of dentalhospital diagnosis and treatment

Imported DLP Light Engine	**No Setup Leveling**	**Stable Light Source**	**8x Anti-aliasing**	**Silent Printing**	**Ultra-high Printing Speed**
1292×1080 resolution	ready to use right out of the box for convenience and speed	lifespan up to 20,000 hours	supports edge anti-aliasing	lower printing noise	only 6 seconds to print one layer

BORN
FOR
INTELLIGENCE

RITON

Molding Size	192X108X150 (mm)
Pixel Size	**100μm**
Layer Thickness	0.025-0.3mm
Printing Speed	6s/layer
Wavelength	405nm
Resolution	**1920×1080 (px)**
Total Power	300W
File Format	STL
Printer Dimensions	520×430×960mm
Printer Weight	42kg

RXDent-W90S

Curing Box

Equipped with 9 UV light strips, which can quickly cure the surface of the model, thereby enhancing surface hardness

Dimensions	300×260×350mm
Wavelength	405nm
Light Power	80w
Weight	11.5kg
Total Power	400W

RESIN MATERIAL

Dental Model (Model V1.0/V3.0)

- Dental implant model
- Diagnostic dental model
- Movable restoration work model
- Fixed restoration dental model
- Periodontal medication tray
- Partial skull

Color: yellow, gray

Casting Wax

- Inlay (cast porcelain)
- Veneer (cast porcelain)
- Wax crown (metal casting/ceramic casting)
- Wax-up bracket (metal casting)

Color: Transparent Green

SurgicalGuide

- Tooth-supported implant surgery guide/partial guide
- Bone-supported implant surgery guide
- Mucosal-supported implant surgery guide
- Adaptive guide plate

Color: Transparent light yellow

Gingiva Mask

- Gum glue

Color: Pink

Individual ImpressionTray

- ndividual ImpressionTray

Color: Blue

Denture

- Removable denture base

Color: Pink

Flexible Denture

- Removable partial denture

Color: Transparent red

Temp C&B

- Single crown
- Long Bridge
- Veneer
- Inlay

Color: A1, A2, A3

Dental Model (washing)

- Orthodontic dental model
- Periodontal medication tray

Color: Blue

Hardsplint

- Jaw pad
- Bruxism Pad

Color: Transparent light yellow

TECHNICAL SERVICE

Installation Consultation Service

- Equipment consultation
- Site space consultation
- On-site installation

Professional Training Service

Design training ●

Printer operation training ●

Post-processing training ●

Worry-free After-sales Service

- Online technical support
- On-site repair within 48 hours
- Provide printing service during equipment maintenance

RITON

RITON DIGITAL

By applying internet technology, Riton closely connects doctors, patients, and Riton Bio's design center, processing center, patient referral platform, online training videos for clinical orthodontic techniques, and offline training classes for clinical orthodontic techniques, forming a digital ecosystem closed loop.

Riton Bio Cloud

Big data storage technology, 3D scanning technology, chairside scanning technology

Training Center

Dental school,lingual orthodontic technologycertification class, professional exhibitions, etc.

Design Center

Personalized implants, personalized tooth arrangement systems, personalized design systems

Referral Platform

Endorses the brand through new media, delivering patients to cooperating doctors, achieving a win-win outcome

Processing Center

Manufacturing of lingual orthodontic appliances, clear aligners, metals, and other 3D printing equipment

riton

FULL-STACK OPERATOR
OF DENTAL DIGITIZATION SCHEME

COMPANY PROFILE

Guangzhou Riton 3D, founded in 1997, is a high-tech enterprise focusing on laser technology, 3D printing, and digital dentistry innovation. The company integrates independent R&D, production, and sales, boasting over 27 years of experience in laser equipment production. Riton 3D is the first company in China to apply metal 3D printing technology to the dental industry. As one of the standard-setting units of the oral 3D printing industry, it has won the second prize in the Guangdong Science and Technology Progress Award and has passed a series of certifications, including ISO9000, CE, ROHS, FCC, IC, etc. The company owns 40 domestic invention patents, 5 appearance patents, 18 computer software copyrights, and 65 utility model projects.

Riton 3D has established in-depth cooperation with nearly 2,000 dental laboratories, including ADL, JGQ, LIERMEI, FUQIAO, DEPRAG, ZHENDE, PRO-TECH DENTAL GROUP, IDS, VUGIA, RHDIUM, etc. Riton 3D printers are exported to more than 50 countries worldwide, including North America, South America, Europe, East Asia, South Asia, West Asia, and the Middle East. More than 1,500 Riton metal 3D printers are in use all over the word. The company's sales turnover in metal 3D printing is leading in the dental industry.

Digitization and intelligence are the future development trends of the dental manufacturing industry. 3D printing is a significantly digital manufacturing technology and an important part of the dental digital processing chain. Riton 3D will always maintain its professionalism in dental 3D printing technology and accumulate rich experience in RPD and crown design. The company, based on equipment manufacturing, has gradually developed into the "Dental Digital Solution Full-Stack Operator." Riton 3D has created a digital design management platform to provide full-process services, including equipment, data processing, design, software, operation training, and after-sales service for dental laboratories.

5000 m² — Office Area and Production Workshop

30%+ — R&D Personnel

15%+ — R&D Investment Funds

FULL-STACK OPERATOR
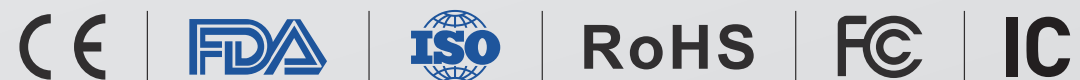OF DENTAL DIGITIZATION SCHEME

HONOR & QUALIFICATION

40+
Domestic Invention Patents

5
Appearance Patents

18
Computer Software Copyrights

65
Utility Model Projects

PERSIST IN
INDEPENDENT INNOVATION

- CE Certification
- FDA
- RoHS
- ISO-13485

- High-tech Enterprise in Guangdong Province
- Guangdong Province Orthodontic 3D Engineering Research Center
- Medical Device Operation License
- One of the Drafting Units for the Industry Standard in the Oral 3D Printing Sector

- Second Prize for Technological Progress in Guangdong Province
- Executive Director Unit of Guangdong Province 3D Printing Industry Innovation Alliance
- Leading Drafting Unit for National Standards
- Guangzhou "Specialization and Innovation" Private Enterprise Nurtured Enterprise under the Support Program

International authoritative certification

- All products comply with international standards and have passed authoritative certification

CE | FDA | ISO | RoHS | FC | IC

riton®

GLOBAL USERS

Exported Countries **50**+

Global Dental Laboratories We Have Deep Collaboration with **2000** Near

Riton Metal 3D Printers are Currently in Use Worldwide **1500**+

Russia
Belarus
Poland
Ukraine
Hungary Romania
Kazakhstan
Italy Moldova
Croatia Serbia Bulgaria Georgia Uzbekistan
Albania Macedonia
Greece Turkey Azerbaijan Kyrgyzstan
Cyprus Syria Tajikistan
Lebanon Iraq China South Korea Japan
Algeria Iran
Libya Israel Nepal
Egypt United Arab Emirates Guangzhou City
India
Sudan Cambodia Vietnam
Kenya
South Africa Australia

Canada
USA
Dominica
Ecuador Brazil
Peru

COOPERATIVE PARTNER