

# 3D Printing Solution for 10+ Indications

Implants

Orthodontics

Fixed & Removable Prosthodontics

Shape 1+ Dental



**RAYSHAPE**



# 3D Printing Solution for 10+ indications

Print Your Surgical Guide in 30 Minutes



## Shape 1+ Dental Desktop 3D Printer



### ShapeWare

#### Professional Dental 3D Printing Software

The analysis engine of ShapeWare can automatically optimize the best placement angle of the parts with dental functions and features, enabling quick efficient operations.



### ShapeWash 020S

#### Ultrasonic Cleaning Machine (Optional)

ShapeWash 020S is a high-frequency ultrasonic cleaning machine designed to efficiently remove residual resin off the top surface of parts. The ShapeWash speeds up production and reduces tedious manual operations.



### Design Training

#### Professional Trainings on Guides and Orthodontics Design

In addition to the excellent products, RAYSHAPE attaches great importance to the training for our customers. Therefore, we have launched professional training guides and orthodontics design to ensure more efficient practical application and a shorter ROI cycle.



### ShapeCure

#### UV Curing Machine (Optional)

ShapeCure is for final post-curing of cleaned printouts to further enhance printout performance. Cure each printout in 10 minutes. Featuring fast programmed curing times for different resin materials wish uniform illumination for parts.



### Dental Series Resin

#### Professional Dental 3D Printing Material

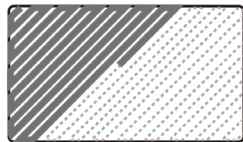
All RAYSHAPE's Dental Series resins are developed especially for specific dental purposes have a medical record qualification. Characterized by easy printing, low odor, and high precision.

# Print Your Surgical Guide In 30 Minutes

The resulting chairside immediate implantation remarkably improves the experience of diagnosis and treatment. It takes only 30 minutes to print 14 surgical guides.



RAYSHAPE incorporates the DLP technology to expose the entire layer instantly and offer extremely high printing speed.



SLA 3D printing technology works with dot scanning, which leads to extremely low printing speed.

# Guide Rings Ensure Accurate Positioning and Guidance

Thanks to the industry-leading distortion control technology of RAYSHAPE and high-performance photosensitive resin process, Shape 1+ Dental delivers excellent precision.

The guide ring is installed with moderate damping. With a "click", it would be assembled neatly, firmly in place and securely attached.



### High-precision installation of guide ring

Moderate damping without margin



### Easy support removal

Small contact surface of the support point

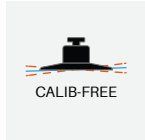


### Fit perfectly with the gum

High printing accuracy, no deformation or shrinkage after curing

# Intelligent Analysis Engine

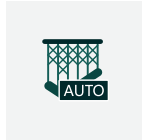
Thanks to RAYSHAPE's years of experience in 3D printing and the Dental Industries, the software and hardware of Shape 1+ Dental incorporates many intelligent, automated technologies and is user-friendly.



Calibration-free  
Printing Platform



"One-click"  
Automatic Rotation



"One-click"  
Auto Support



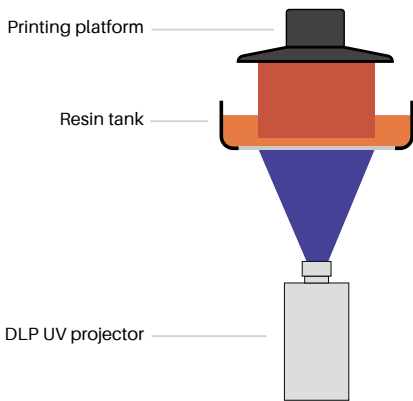
Labeling on  
Guide Surface



Ctrl+P for One-  
click Printing

## Reliable Industrial DLP Projector Service Life Over 5 Years

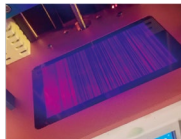
RAYSHAPE Shape 1+ Dental incorporates the DLP technology and is equipped with an industrial UV DLP projector based on Texas Instruments' DMD chip that ensures a long service life.



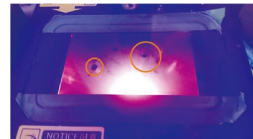
Why are 3D printers with cheap LCD technology not recommended?

LCD screen: The core component of an LCD 3D printer is normally designed with a few hundred hours of service life; Moreover, its high print failure rate is caused due to dead pixels, which frequently means shutdown for maintenance with LCD replacement is required.

Customers who require the printer to work daily without frustration need RAYSHAPE DLP 3D printer, which has a life span of 30,000 hours.



Conventional LCD 3D printer screens are prone to blurring.



Conventional LCD 3D printer screens are prone to dead pixels that may cause print failure.

## Dental SG Resin

RAYSHAPE Dental SG offers excellent light transmittance, which facilitates clinical observation. In addition, this resin features high strong hardness and impeccable toughness, which is ideal for clinical application of surgical guides, making them extremely easy to use.

### Other Features:

- Its dimensional accuracy is up to  $\pm 50 \mu\text{m}$ , which meets the accuracy requirements for clinical dental surgical guide;
- Iodophor disinfectable;
- Free of pungent odor



Property	Method	Value
Heat distortion temperature	ASTM D648	108 °C @ 0.45 MPa
Shore hardness	ASTM D2240	82 D
Tensile strength	ASTM D638	55 MPa
Tensile modulus	ASTM D638	2500 MPa
Elongation at break	ASTM D790	10 %
Notched impact strength	ASTM D256	20 J/m
Flexural strength	ASTM D790	84 MPa
Flexural modulus	ASTM D790	2550 MPa

## Dental OrthoShape Resin

RAYSHAPE Dental OrthoShape resin features excellent dimensional accuracy and superior detail performance and exhibits no deformation during lamination heating, which is ideal for formfitting invisible braces, otherwise known as aligners.

### Other Features:

- Its dimensional accuracy is up to  $\pm 50 \mu\text{m}$ , which perfectly meets the accuracy requirements for clinical dental models;
- Resistant to high lamination temperature, with no deformation;
- Free of pungent odor and environmental-friendly.



Property	Method	Value
Heat distortion temperature	ASTM D648	90 °C @ 0.45 MPa
Shore hardness	ASTM D2240	82 D
Tensile strength	ASTM D638	51 MPa
Tensile modulus	ASTM D638	3260 MPa
Elongation	ASTM D638	5.7 %
Notched impact strength	ASTM D256	13.5 J/m
Flexural strength	ASTM D790	89 MPa
Flexural modulus	ASTM D790	3050 MPa

## Dental C&B Resin

RAYSHAPE Dental C&B offers excellent surface texture that is easy to polish and naturally colorful.

### Other Features:

- High surface hardness, good strength, and convenient grinding and polishing;
- Extraordinary brightness, light transmittance, a bright color, color A2;
- Biocompatible;
- The resin is free of pungent odor, and environmental-friendly.



Property	Method	Value
Biocompatible	DIN EN ISO 10993-1	Compatibility
Water absorption	DIN EN ISO 10477	40 $\mu\text{g}$ / $\text{mm}^2$
Water solubility	DIN EN ISO 10477	7.5 $\mu\text{g}$ / $\text{mm}^2$
Flexural strength	DIN EN ISO 10477	110 MPa
Flexural modulus	DIN EN ISO 10477	2400 MPa



**Shape 1+ Dental**  
Dental 3D Printer

Build volume	144 × 81 × 200 mm
Pixel size	75 μm
Technology	Low Force Peeling DLP Technology
Dynamic layer thickness	0.025–0.1mm
Printing speed	Up to 40mm (1.5 inches) / 1 hour ( Depending on the resin type and slicer settings )
<b>Materials</b>	
Available materials	ShapeMaterials Basic/Functional/Advanced /Dental Series
Material packaging	1 kg
<b>Hardware</b>	
Light source	LED light source, Texas Instruments DMD chip
Wavelength	405nm
Resolution	1920 × 1080 pixels
Door control	Printing will be paused automatically if the cover is opened (Optional)
Building environment	Automatic heating resin tank
Air filtration	Build-in air filter in building chamber
Touchscreen	7" touchscreen
Connectivity	USB2.0, Wi-Fi(2.4GHz), Ethernet
Input	100~240 VAC, 3A, 50/60Hz
Rated power	250 W
<b>Software</b>	
Operating system	Windows 7/8/10/11
File format (input)	.stl, .obj
File format (Output)	.rs, .shape
Slicing software	ShapeWare
Advanced functions	Support editing, automatic repair, model cutting, hollowing, perforating, labeling
Wireless printing	Deliver printing tasks to specified printer in LAN environment via "One Click" operation
Cluster management	Manage the printing tasks of multiple devices in LAN environment
Language	Chinese, English
<b>Size &amp; Weight</b>	
Device dimension	420 × 400 × 604 mm
Device dimension (With open cover)	600 × 400 × 800 mm
Net weight	26 kg
Package size	570 × 540 × 850 mm
Package weight	40 kg



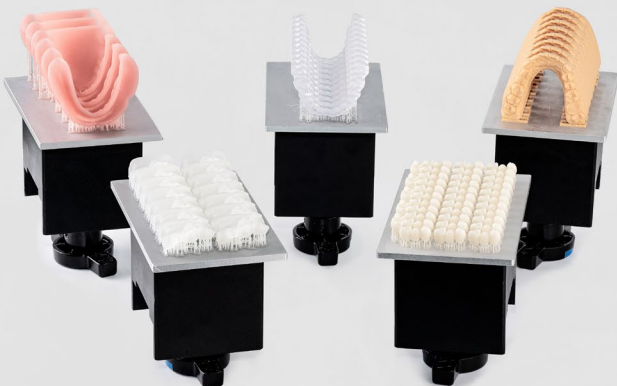
**ShapeWash 020S**  
Ultrasonic Cleaning Machine



**ShapeCure**  
UV Curing Machine

Main Parameter	
Washing volume	240 x 135 x 100 mm
Technology	Ultrasonic Cleaning
Cleaning solvent	IPA, Alcohol
Compatible resin materials	ShapeMaterials Basic/Functional/Advanced /Dental Series
Environmental requirement	Ambient temperature 18~28° C
Ultrasonic	
Ultrasonic frequency	40 KHz
Washing time	Customized setting (1-30 minutes)
Rinse tank	
Volume capacity	3.2 L
Raw material	SUS304
Power	
Input	100~120VAC, 50/60Hz 200~240VAC, 50/60Hz ( Depending on the country/region )
Rated power	120 W
Size and Weight	
Device size	270 x 185 x 230 mm
Device weight	3.25 kg
Package size	340 x 250 x 445 mm
Package weight	4.3 kg

Main Parameters	
Curing Volume	Diameter 7.87 inches × Height 11.81 inches 200mm × 300mm
Wavelength of curing light	405 nm
Curing power	72 W
Curing method	Multiple light sources for 360° surround array; Internal reflection
Compatible 3D printers	Shape 1 Series/Shape 1+ Series /Shape 1+ Dental/ P200 Series/P400 Series
Heating power	300 W
Working mode	Hot air convection
Materials	
Available materials	ShapeMaterials All Series
Hardware	
Control chip	STM 32 ARM chip
Operation interface	3.5" touchscreen
Input	100~120 VAC, 5A, 50/60Hz 200~240 VAC, 2.5A, 50/60Hz ( Depending on the country/region )
Rated power	Max. 450 W
Software	
Curing settings	Programmable
Firmware update	Via U drive
Language	English
Size and Weight	
Device size	340 × 340 × 400 mm
Device weight	12 kg
Package size	420 × 450 × 500 mm
Package weight	14 kg



## RAYSHAPE

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