

Safe and Simple

# DIO 3D Printing Solution



# CONTENTS

**04** Faster Speed and Higher Precision  
DIO PROBO Z

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Introducing <DIO PROBO Z>  
DIO's new 3D printer

**06** Smaller and Lighter  
DIO PROBO Z

---

Specification

**08** Optimized for DIO PROBO Z  
DIO PROBO Slicer Software

---

Introducing the slicer S/W

**10** Upgraded Dual Light Source  
DIO PROBO Cure2

---

Introducing the 3D printer  
curing machine

**12** Core materials to lead the Global  
Dental 3D Printing technology

---

Introducing 3D Printing Materials

**14** Crown and Bridge

DIONavi-P. MAX

**15** Dental Model

DIONavi-Model03

**16** Denture

DIONavi-Denture02

**17** Surgical Guide

DIONavi-SG  
DIONavi-SG02

**18** Castable Resin

DIONavi-Cast02



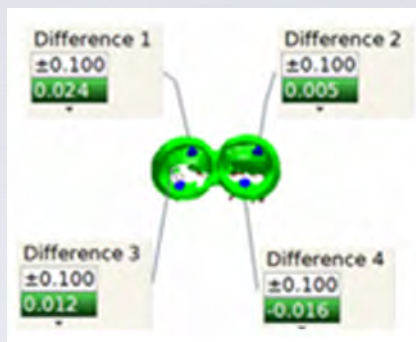


# Faster Speed and Higher Precision

## DIO PROBO Z

Meet the most detailed output possible with a 3D printer.

Faster and more powerful DIO PROBO Z shows top performance out of all other printers on the market.



Green part  $\pm 50\mu\text{m}$



Specially designed to work with DIO's proprietary printing materials

DIO's new dental 3D printer PROBO Z and accompanying software are optimized for manufacturing prostheses.

16% increase in printing speed with the new engine

DIO's new PROBO Z shows improved performance of 16% increase in printing speed compared with the original PROBO, featuring precision degree of less than  $\pm 50\mu\text{m}$  and Full HD (1920 x 1080) quality DLP. A single container of the material produces up to 1,000 prostheses.

High-quality prosthesis printed with increased details in printing

Using DIO's proprietary printing materials\*, batch printing speed is exceptionally fast for even more efficient production in the clinic.

\*15 minutes using "DIOnavi-C&B" and 30 minutes using "DIOnavi-P. MAX" for batch printing 30 single crowns.

User-friendly design

The intuitive UI and touch screen increased user convenience. DIO PROBO Z can be used easily by anyone in the clinic.

3D Printer  
**DIO PRO**



# Smaller and Lighter DIO PROBO Z SPECIFICATION



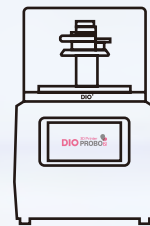
Higher quality  
and accuracy



Protects user's  
eyes and resin

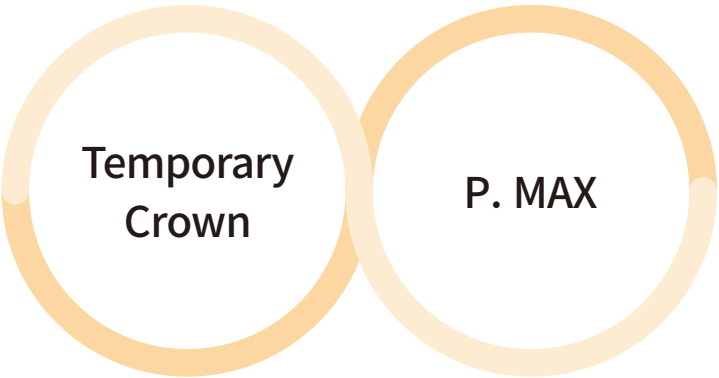


Touch screen



Smaller and  
lighter exterior

# Printer Optimized for Printing Prostheses



## Specification



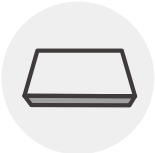
**Dimension**  
300x378x484mm



**Light Wavelength**  
405nm



**Weight**  
20kg



**Build Volume**  
105.6x59.4x80mm



**Type**  
DLP



**XY Resolution**  
55µm



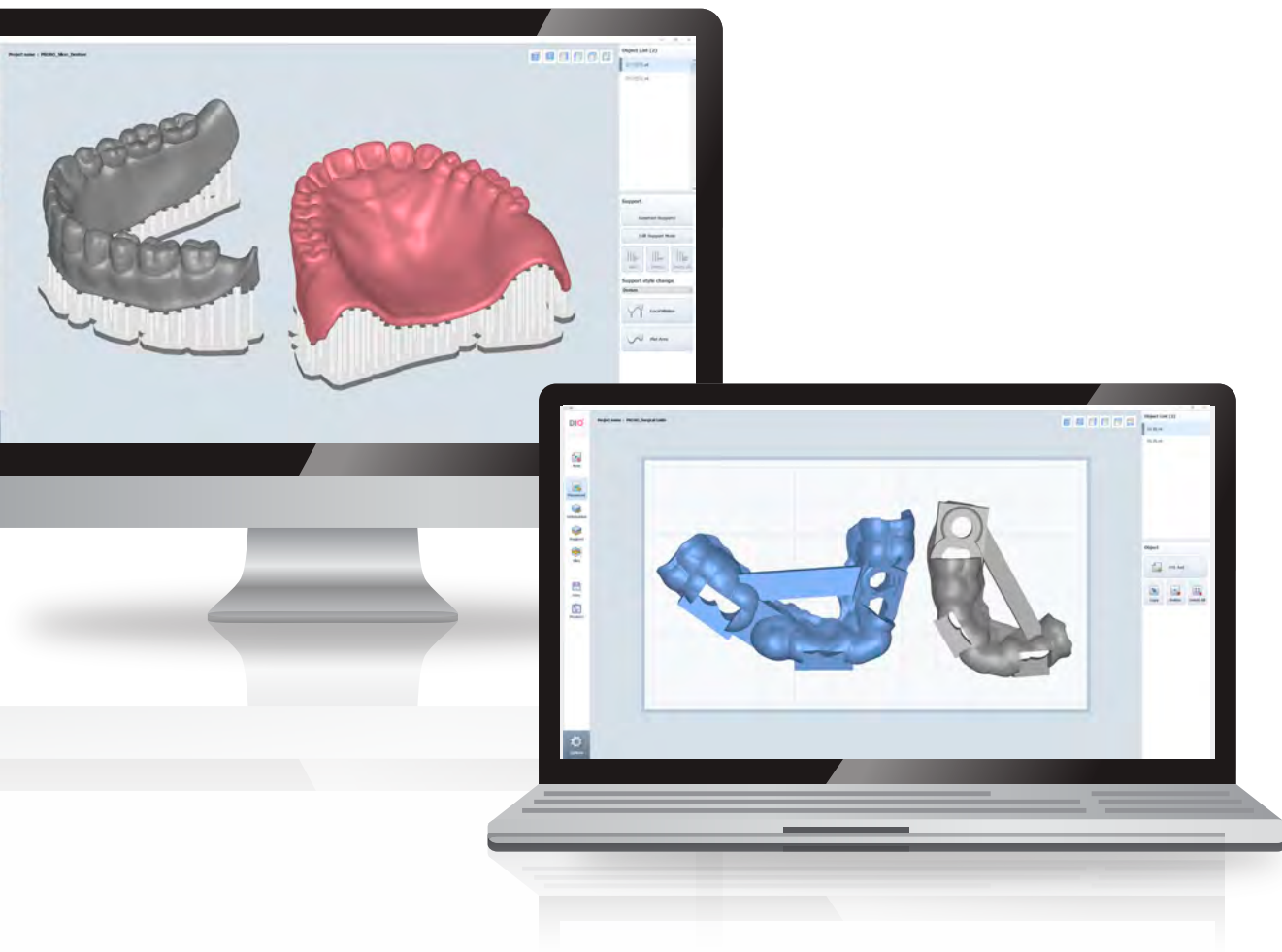
**Touch Screen**  
7inch



**Layer**  
25, 50, 100µm



# Easier to use, DIO PROBO Z **SLICER SOFTWARE**



## **Optimized for DIO PROBO Z**

Independently developed slicing software optimized for DIO PROBO Z.

## **Short Working Time**

Fast data processing with simple operation.

## **An Automated Workflow with Maximized Efficiency**

The location and the direction of the output and the supports are auto-generated by the system.





# Upgraded Dual Light Source

## DIO PROBO Cure2

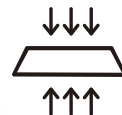
(Introducing the 3D printer curing machine)



Touch screen



Setting temperature,  
time, and curing level



Curing the upper and  
lower part at the same time



### Larger capacity

### 405 nm LED wavelength

### Double sided curing

The new DIO PROBO Cure2 introduces a double sided curing for more effective outcome to improve the prosthesis production process. Compared with the original curing machine, DIO PROBO Cure2 features a 16% stronger dual LED light sources with increased luminous intensity and uniformity.

### LED power level setting

### Enables curing time control

The LED Power level can be set from level 1 to 5. Curing time can be adjusted in 10-second units, so the optimal curing conditions can be matched with each material.

### Alarm function for safety

DIO PROBO Cure2 has a system that automatically stops when high temperature is detected due to LED overheating. It has a built-in alarm system that notifies the user when there is such an issue.

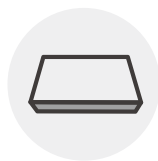
## Specification



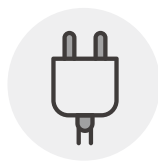
**Dimension**  
249x320x216mm



**Light Position**  
Top / Bottom



**Curing Volume**  
100x100x42mm



**Input Voltage**  
AC 100-240V, 50/60Hz



**Weight**  
7.5kg



**Power Consumption**  
160W



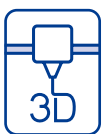
**Light Source**  
405nm / LED

# Core materials to lead the Global Dental 3D Printing technology

DIO Implant developed an innovative dental 3D printing material 'DIOnavi. 3D Printing Materials to increase efficiency in the clinic and increase the convenience of the users with the unrivaled technology.

DIOnavi. 3D Printing Material' is the latest photopolymer bio-compatible dental 3D printing material that is suited for digital dental treatment.

After successfully developing the five 3D printing materials (C&B, SG, Cast, Model, Denture) for the first time in Korea, DIO has been leading dental 3D printing technology with high-quality materials through its unique synthesis, composition, and evaluation technologies.



## High-quality output

Hybrid nanotechnology, which matches the combination and conditions of materials, has been combined to ensure high-quality output stability.



## Various 3D printing material line-up

A variety of 3D printed material line-ups (C&B, SG, Cast, Model, Denture) have broadened users' choices, and high-intensity, durable prosthetic printing is possible with robust, bio-friendly resins with outstanding properties.



## Natural tooth Shade

Prosthetic materials for different shades (A0, A1, A2, A3, B1) are all similar to natural teeth, so they have high aesthetic completeness.





# Crown and Bridge

## DIOnavi-P. MAX

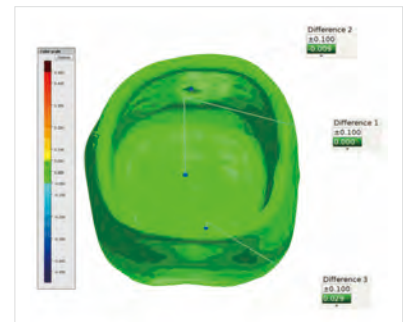
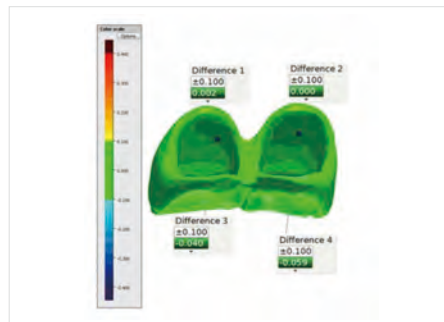
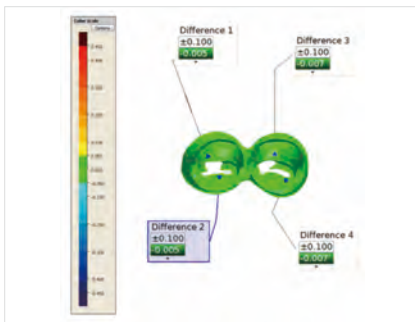
Up to 30 pcs simultaneous printing (for single crown) **30 min**

Curing time **15 min**



DIONavi-P. MAX is a photopolymer resin for printing prostheses such as dental crowns or bridges.

The material is biocompatible and the safety and strength of printed crowns and bridges have been proved through strength, toxicity, and biological tests. It is a material that has been tested for toxicity and biological test on the human body as well as its strength.



Property	Value	Method
Color	A0, A1, A2, A3, B1	Shade guide
Flexural strength	>80MPa	ISO 10477:2003
Water sorption	<40 $\mu\text{g}/\text{mm}^2$	ISO 10477:2003
Water solubility	<7.5 $\mu\text{g}/\text{mm}^2$	ISO 10477:2003
Hardness shore D	>80	ISO 868:2003



# Dental Model

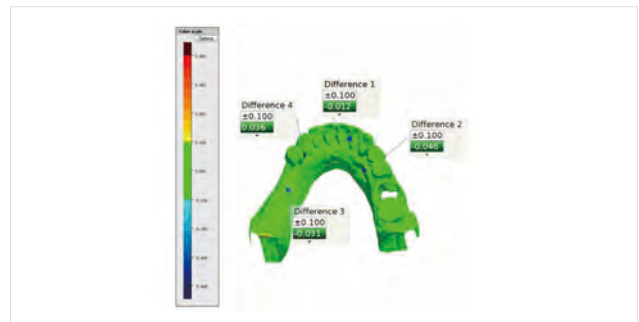
## DIOnavi-Model03

Up to 1 pcs simultaneous printing (for Full Arch) **40 min**

Curing time **2 min**



DIOnavi-Model is a photopolymer resin for printing dental models that are used for counseling and modeling. This material has a significantly lower shrinkage rate considering its fit and margin, and it also provides the same level of visibility as the impression model.



Property	Value	Method
Color	Orange	-
Flexural strength	>80MPa	ISO 178:2010
Hardness shore D	>70	ISO 868:2003





# Denture

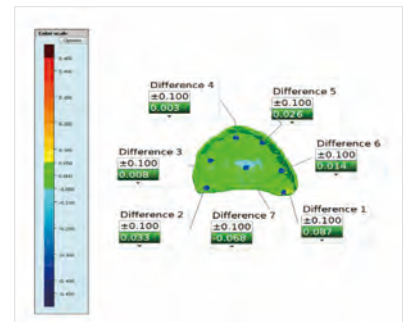
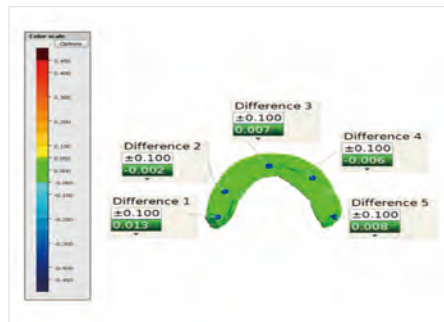
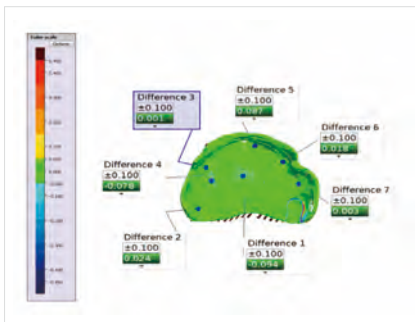
## DIOnavi-Denture02

Up to 2 pcs simultaneous printing (for vertical printing standard) **103 min**

Curing time **10 min**



DIONAVI-Denture02 is a biocompatible photopolymer resin that can be printed with a 3D printer to make denture bases. It can be used to manufacture Full Dentures or partial dentures. It is a material that has been tested for toxicity and biological test on the human body.






Property	Value	Method
Color	Pink (One color)	-
Flexural strength	>80MPa	ISO 20795-1:2013
Water sorption	<32µg/mm <sup>2</sup>	ISO 20795-1:2013
Water solubility	<1.6µg/mm <sup>2</sup>	ISO 20795-1:2013
Hardness shore D	>80	ISO 868:2003





# Surgical Guide

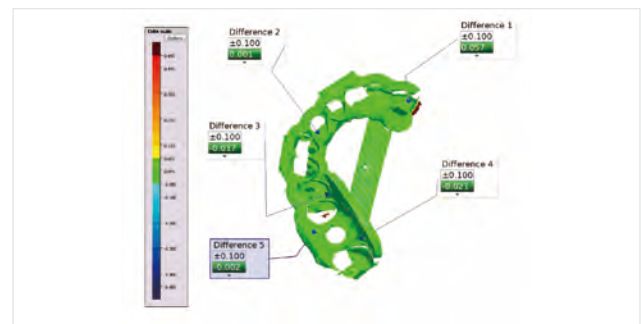
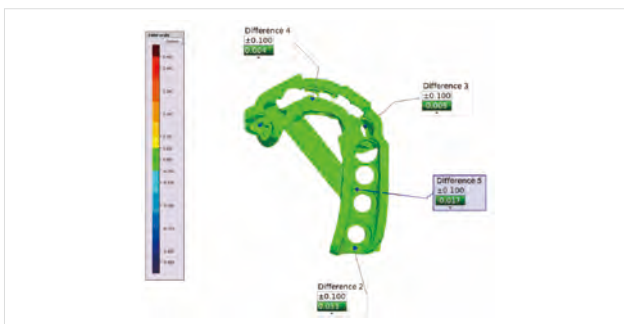
DIONavi-SG | DIONavi-SG02

 Up to 2 pcs simultaneous printing (for Guide)	35 min	50 min
 Curing time	2 min	10 min
 Color	Yellowish	Clear



DIONavi-SG and SG02 are a biocompatible photopolymer resin developed for printing surgical guides used in patient customized implant surgeries. The printed guide is placed on the patient's teeth before surgery, defining the exact angle, depth, and location of the implant. It is a material that has been tested for toxicity and biological test on the human body as well as its strength.

※ SG02 is esthetically favorable because of higher transparency compared with the original SG material



Property	Value	Method
Color	Yellowish	-
Flexural strength	>80MPa	ISO 20795:2013
Water sorption	<32 $\mu\text{g}/\text{mm}^2$	ISO 20795:2013
Water solubility	<1.6 $\mu\text{g}/\text{mm}^2$	ISO 20795:2013
Hardness shore D	>70	ISO 868:2003



# Castable Resin

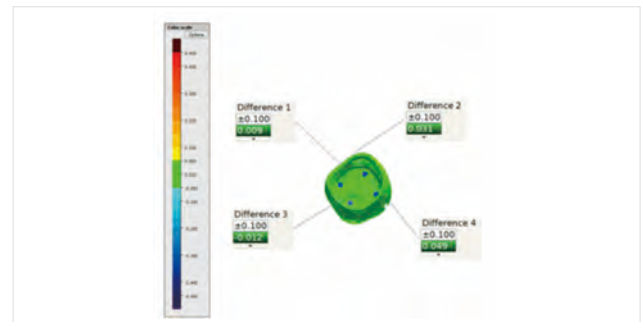
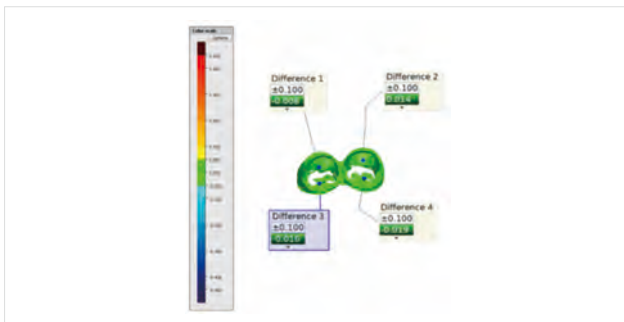
## DIOnavi-Cast02

Up to 40 pcs simultaneous printing (for single crown) **20 min**

Curing time **10 sec**



DIONAVI-Cast02 is a photopolymer resin used for printing casting patterns. It is a 3D printing material that is residue-free after burning out and it can be used for all casting purposes such as partial frames, metal crowns, and orthodontics appliances.



Property	Value	Method
Color	Dark red	-
Flexural strength	>65MPa	ISO 178:2010
Hardness shore D	>70	ISO 868:2003





