Doc. No: DOF-UM-ENG-002

User Manual

“FREEDOM Air” Intraoral Scanner

DOF Inc.

DOF Inc.

0. About this guide

The user manual provides general descriptions of and safety information for the 'FREEDOM Air' system and its SCANAPP i software. It describes how to use the system, how to install the software, how to start and shut down the system and how to clean and disinfect the device. Before using the product, it is recommended that safety checks be performed according to the user manual and that the system be operated according to the manual.

1. General information

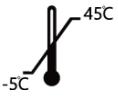
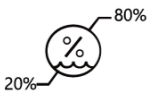
In this manual, the following special symbols are used to ensure the user's safety and provide information, and to prepare for hazards that may be caused by the equipment.

 Warning	Tells users to follow safety instructions correctly in order to avoid serious injury to themselves or others
 Caution	Describes situations that may cause minor problems to users or dangerous situations, such as system damage
 Hint	Provides additional information and helpful hints to the user while maintaining optimal system status when using the equipment

1.1. Copyright and trademark

1.2. Symbols

Symbol	Description
	Manufacturer and address

	Date of manufacture and country of manufacture (Korea)
	European representative and address
	Serial number
	Unique device identifier
	Medical device
	Prescription symbol (USA only)
	Non-sterile
	Caution
	Warning
	Refer to user manual
	Consult instructions for use
	Type BF applied part
	Class II electrical insulation
	Temperature
	Humidity
	Atmospheric pressure

	Fragile
	CE mark
	Federal Communications Commission (FCC)
	UL mark
	KC mark
	TELEC
	Alternating current
	Direct current

2. System overview

2.1. Usage

The 'FREEDOM Air' is a device that captures video images of intraoral conditions using a camera and reproduces them in three-dimensional form.

2.2. Operating principle

This product is a digital optical scanning device, used to record the surface characteristics of human tissues in the oral cavity, such as teeth and gums, and artificial structures in the oral cavity, such as implant structures, in 3D. Structured light is projected onto the tooth surface using an LED optical projector, and a 2D image of the tooth surface onto which the structured light is projected is obtained using a CMOS camera to reconstruct a 3D shape on a PC. 3D geometry data reconstructed with this product is used as basic data to make dental restorations or orthodontic devices, such as artificial teeth.

This product consists of the Main body, normal tip, small tip, PSM (Power & Signal Module)&

table holder, wall holder, power adapter, cables (USB Type-C communication, USB Type-B), software, etc.

2.3. User

- Users of the 'FREEDOM Air' system must comply with the contents of the operating manual.
- The 'FREEDOM Air' system must be used by dental professionals or technicians only.
- In addition, the user is responsible for determining the suitability and reliability of the data acquired with this system and judging whether it is applicable to patient treatment.
- The user cannot modify or change the 'FREEDOM Air' system and should contact the store where the product was purchased, or DOF Inc., if he has any questions or requires any information.
- This system may not be able to obtain normal 3D scan data if there are 4 or more consecutive teeth missing in the patient's oral cavity.
- Users of this system must check the contents of the Safety Guide in Section 6, which contains detailed safety information and precautions that must be followed before, during and after use.

2.4. Indication

- The 'FREEDOM Air' is an intraoral scanner system for dental professionals that is used to record morphological characteristics of teeth, gums and/or palates or stone models.
  ① Single crowns
  ② Up to 5-unit bridge
  ③ Inlays
  ④ Onlays
  ⑤ Veneers
  ⑥ Implants (single abutments)
  ⑦ Orthodontics
  ⑧ Implant guide
  ⑨ Diagnostic models

2.5. Exclusions

- 3D scans cannot be performed on parts of the oral cavity that are deformed, such as the tongue, cheeks and lips.
- 3D scanning cannot be performed normally if there is excessive saliva or blood on or around the tooth surface.
- The internal structure of teeth and gums, or the skeletal structure that supports them, cannot be 3D scanned.
- A normal 3D scan cannot be performed on areas with consecutive missing teeth or flat shapes.
- Excessively shiny metallic artificial teeth and structures in the oral cavity cannot be 3D scanned normally.
-

2.6. Contraindication

- Intraoral scanners are considered safe during pregnancy, as the amount of radiation exposure is minimal which is in the form of a light source. However, some pregnant women may experience nausea or discomfort during the scan when the scanner wand is placed in the mouth.

2.7. Intended Patient Population

Age	No limit
Gender	No limit
Weight	No limit
Height	No limit
Race	No limit
Health	- If Patients can control their own movement: No special requirement - If Patients cannot control their own movement: Use assistive device (wheelchair, patient table) or assistant, etc.

2.8. Environmental conditions

2.8.1. Computer system requirements

- It is recommended that a computer and monitor that are IEC-60950, IEC-55032 and IEC-55024 compliant be used.

⚠ ▪ Note: You must ensure that your current system configuration meets the computer system requirements for the 'FREEDOM Air' software.

Item	Requirement
CPU	Intel® i7 9th Gen or higher
OS	Windows 10 64 bit or higher
Memory	32GB or more
Hard drive	1TB or more (SSD 256GB or more)
GPU memory	NVIDIA 8GB or more
USB	USB 3.1 Gen1

2.8.2. Operating and storage requirements

Operating environment	
Operating temperature	18°C ~ 28°C
RF test temperature	0°C ~ 40°C
Humidity	20-75% relative humidity (non-condensing)
Air pressure	800 hPa to 1100 hPa
This equipment should only be used indoors at an altitude of 2000 m or less	
Storage environment	
Temperature	-5°C to 45°C
Humidity	20-80% relative humidity (non-condensing)
Air pressure	800 hPa to 1100 hPa
Transportation environment	
Temperature	-5°C to 45°C
Humidity	20-80% relative humidity (non-condensing)
Air pressure	620 hPa ~ 1200 hPa

2.9. Electromagnetic compatibility (EMC)

Guidance and manufacturer's declaration – electromagnetic emissions		
The 'FREEDOM Air' is intended for use in the electromagnetic environment specified below. The customer or the user of the 'FREEDOM Air' should assure that it is used in such an environment.		
Emissions test	**Compliance**	**Electromagnetic environment - guidance**

RF emissions CISPR 11	Group 1	The 'FREEDOM Air' uses RF energy only for its internal functions. Therefore, its RF emissions are very low and are not likely to cause any interference in nearby electronic equipment.
RF emissions CISPR 11	Class A	The 'FREEDOM Air' is suitable for use in all establishments including domestic and those directly connected to the public low-voltage power supply network that supplies buildings used for domestic purposes.
Harmonic Emissions IEC 61000-3-2	Class A	
Voltage Fluctuations/Flicker Emissions IEC 61000-3-3	Complies	

Guidance and manufacturer's declaration – electromagnetic immunity			
The 'FREEDOM Air' is intended for use in the electromagnetic environment specified below. The customer or the user of the 'FREEDOM Air' should assure that it is used in such an environment.			
Immunity test	**IEC 60601 test level**	**Compliance level**	**Electromagnetic environment – guidance**
Electrostatic discharge(ESD) IEC 61000-4-2	± 8 kV contact ± 15 kV air	± 8 kV contact ± 15 kV air	Floors should be wood, concrete or ceramic tile. If floors are covered with synthetic material, the relative humidity should be at least 30%.
Electrical fast transient/ burst IEC 61000-4-4	± 2 kV for power supply lines ± 1 kV for input/output lines	± 2 kV for power supply lines	Mains power quality should be that of a typical commercial or hospital environment.
Surge IEC61000-4-5	± 1 kV differential mode ± 2 kV common mode	± 1 kV differential mode	Mains power quality should be that of a typical commercial or hospital environment.
Voltage dips, short interruption, and voltage variations on power supply input lines IEC 60601-4-11	0% Ut (100% dip in Ut) for 0.5 cycle 0% Ut (100% dip in Ut) for 1 cycle 70% Ut (30% dip in Ut) for 25 cycles 0% Ut (100% dip in Ut) for 250 cycles 70% Ut (30% dip in Ut) for 30 cycles 0% Ut (100% dip in Ut) for 300 cycles	0% Ut (100% dip in Ut) for 0.5 cycle 0% Ut (100% dip in Ut) for 1 cycle 70% Ut (30% dip in Ut) for 25 cycles 0% Ut (100% dip in Ut) for 250 cycles 70% Ut (30% dip in Ut) for 30 cycles 0% Ut (100% dip in Ut) for 300 cycles	Mains power quality should be that of a typical commercial or hospital environment. If the user of the The 'FREEDOM Air' requires continued operation during power mains interruptions, it is recommended that the 'FREEDOM Air' be powered from an uninterruptible power supply.
Power frequency (50/60Hz) magnetic field IEC 61000-4-8	30 A/m	30 A/m	Power frequency magnetic fields should be at levels characteristic of a typical location in a typical commercial or hospital

Proximity magnetic fields IEC 61000-4-39	Test Frequency 134.2 kHz @ Test Level [A/m] 65 Test Frequency 13.56 MHz @ Test Level [A/m] 7.5	Test Frequency 134.2 kHz @ Test Level [A/m] 65 Test Frequency 13.56 MHz @ Test Level [A/m] 7.5	environment.
Note : U is the A.C. mains voltage prior to application of the test level.			

2.10. Certifications and regulations

2.10.1. CE mark

This product complies with the Medical Devices Regulation (EU) 2017/745, Directive 2011/65/EU on the restriction of the use of certain hazardous substances in electrical and electronic equipment, Directive 2012/19/EU on waste electrical and electronic equipment and ISO 15223-1 on symbols used on labels of medical devices with the CE mark.

This device can be operated in at least one Member State without infringing applicable requirements on the use of radio spectrum.

BE	BG	CZ	DK
DE	EE	IE	EL
ES	FR	HR	IT
CY	LV	LT	LU
HU	MT	NL	AT
PL	PT	RO	SI
SK	FI	SE	NO
IS	LI	CH	TR

2.10.2. Electrical safety

The system has been tested and is to be used for electrical medical equipment attached to the patient per IEC 60601-1, the common standard for the design of medical devices (Medical electrical equipment - Part 1: General requirements for basic safety and essential performance), IEC 60601-1-1 2 (Medical electrical equipment Part 1-2: General requirements for basic safety and essential performance - Collateral Standard: Electromagnetic disturbances - Requirements and tests), ETSI EN 301 489-1, 3, 17 Electromagnetic Compatibility standard for radio equipment and services (Part 1: Common technical requirements; Part 3: Specific conditions for Short-Range Devices (SRD) operating on frequencies between 9 kHz and 246 kHz; Harmonised Standard covering the essential requirements of article 3.1(b) of Directive 2014/53/EU; Part 17: Specific conditions for Broadband Data Transmission Systems), ETSI EN 301 893 5GHz RLAN; Harmonised Standard covering the essential requirements of article 3.2 of Directive 2014/53/EU, ETSI EN 300 440 Short Range Devices (SRD); Radio equipment to be used in the 1 GHz to 40 GHz frequency range; Harmonised Standard covering the essential requirements of article 3.2 of Directive 2014/53/EU, EN 62209-2 Human exposure to radio frequency fields from hand-held and body-mounted wireless communication devices - Human models, instrumentation, and procedures – Part 2: Procedure to determine the specific absorption rate (SAR) for wireless communication devices used in close proximity to the human body.

The system is confirmed to be in compliance with these standards.

2.10.3. Biosafety

Since this system comes into contact with the patient's oral cavity and mucous membranes, it has been confirmed to comply with ISO 10993-1 Biological evaluation of medical devices after performing cytotoxicity, oral mucosa irritation, sensitisation, acute systemic toxicity and pyrogen tests.

2.10.4. FCC

This device complies with part 15 of the FCC Rules. Operation is subject to the following two conditions:

(1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

This device complies with RF exposure requirements.

2.10.5. IC

This device contains licence-exempt transmitter(s)/receiver(s) that comply with Innovation, Science and Economic Development Canada's licence-exempt RSS(s). Operation is subject to the following two conditions:

(1) This device may not cause interference.

(2) This device must accept any interference, including interference that may cause undesired operation of the device.

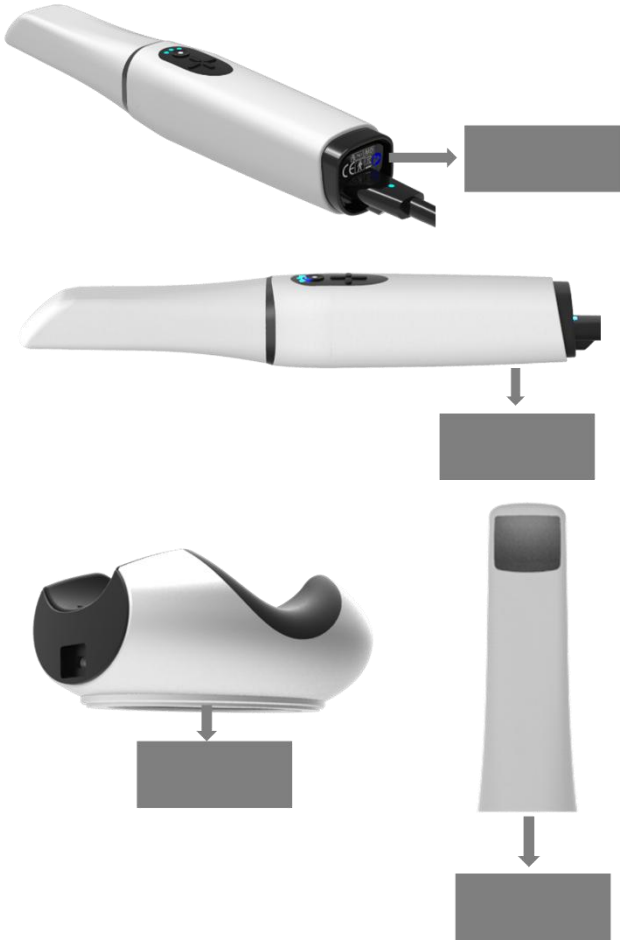
Cet appareil contient des émetteurs / récepteurs exempts de licence qui sont conformes aux RSS exempts de licence d'Innovation, Sciences et Développement économique Canada. Son fonctionnement est soumis aux deux conditions suivantes:(1) Cet appareil ne doit pas provoquer d'interférences.(2) Cet appareil doit accepter toute interférence, y compris les interférences qui peuvent provoquer un fonctionnement indésirable de l'appareil.

This device complies with RF exposure requirements.

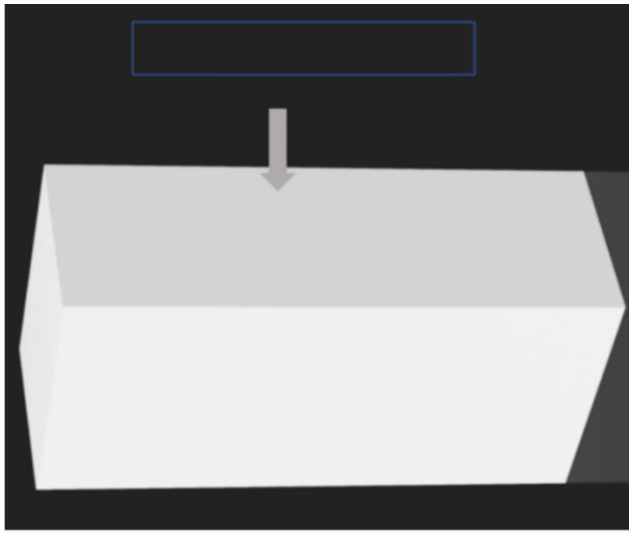
Cet appareil est conforme à l'exigence d'exposition RF.

2.11. Labelling location

2.11.1. Labelling locations by product



2.11.2. Labelling location on the main packaging



3. System configuration and functions

3.1. System specification

Item name		Stomatoscope, flexible, fibre-optic
Product name		Intraoral Scanner
Equipment		Certain low-power devices
Model name		DSI-200
Item approval number		written after approval
Camera resolution		1440 X 1080 pixels
Field of view		at least 18.5 X 15 mm
Depth		**at least 30 mm**
Remote control		Using the D-Pad on the intraoral scanner main body without using a mouse, it is possible to start and stop scanning, move before and after the scanning stage, and select tools
Light source		LED (white, blue)
Dimensions		219 x 35 x 36.6 mm (body + tip) without Cable
Weight		145g (body + tip)
Electrical rating	**Adapter**	·Input: 100-240 V~, 50/60 Hz, 1.0-0.6 A, ·Output: 12 V⎓, 2.5 A ·Manufacturer: MeanWell ·Model: NGE30I12-P1J
Power consumption		30 W
Communication standard	**Wired**	USB 3.1 Gen1
Electric shock protection type and class		Class II equipment, type BF equipment

3.2. Product composition

3.2.1. Description and features

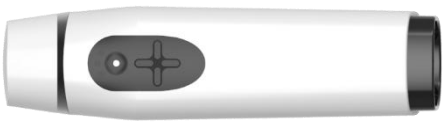
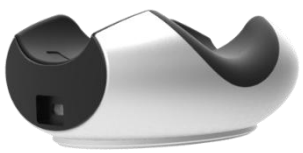
- 'FREEDOM Air': Hand-held wired intraoral scanner for scanning dental impressions and oral tissues.
- SCANAPP i: Software that controls the 'FREEDOM Air'. It is connected to the

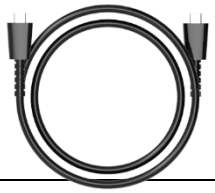
'FREEDOM Air' via a wired Ethernet cable or Wi-Fi and receives multiple 2D images from the device. It is a software/application, application/user interface that digitises the received 2D image in 3D and uses this for designing dental implants and prostheses.

- Normal tip: This is a reusable scanner tip that is attached to the 'FREEDOM Air' intraoral scanner. The tip is the part that is inserted into the patient's mouth during intraoral scanning and must be cleaned and sterilised before and after patient use.
- Small tip: This is a reusable scanner tip attached to the 'FREEDOM Air' intraoral scanner.
- "Freedom Air is characterized by a tip that can be used for young children or patients with a small oral cavity.
- Table Holder: Power & Signal Module. This module receives power from the power adapter for wired operation of the FREEDOM Air system, receives USB3.1 Gen1 signals from the PC and sends power and signals to the FREEDOM Air through the USB Cable.

3.2.2. External parts

- **Photos of external parts**

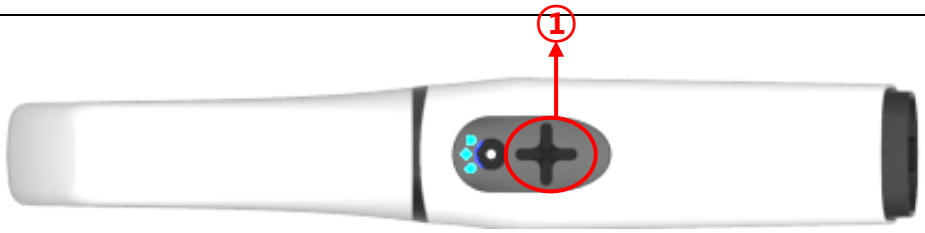
No.	Category	Quantity	Photo
1	Main body	1	
2	Normal tip	3	
3	Small tip	1	
4	PSM	1	

5	Wall holder	1	
6	Power adapter	1	
7	USB Type-C communication cable	1	
8	USB Type-B cable	1	
9	Cleaning cloth	10	
10	Thumb drive (Containing SCANAPP i software)	1	

Description of external parts

1) Main body (with basic tip)

Front view

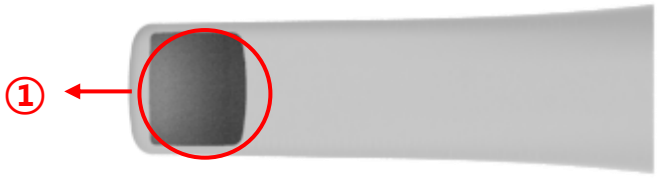
Side view

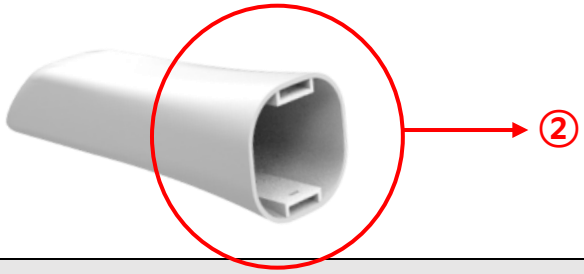
Back view

Rear view

No.	Category	Description
1	Main button	Power, Start/Stop Scanning, Scan Stepping and Tool Selection
2	LED status indicator	Power On/Off status, battery charge status display
3	Cooling air inlet	Cooling air intake
4	usb Type-C connection port	Connection port for USB cable, USB communication cable and power supply
Rating: 5V, 3A		

2) Normal tip

Front view

Side view

Rear view


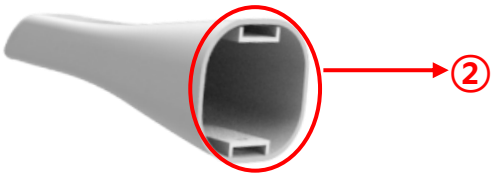
No.	Category	Description
1	Mirror	Reflects the structured light projected from the projector and the light entering the camera
2	Case	Tip case equipped with a mirror for intraoral scanning to be used in combination with the main body
3	Connector	To connect to the main body

3) Small tip

Front view

Side view

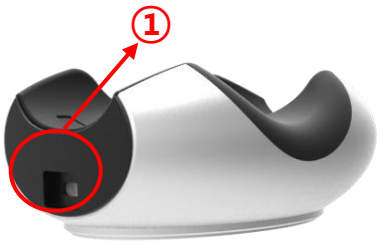
Rear view

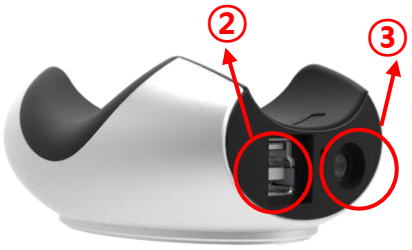


No.	Category	Description
1	Mirror	Reflects the structured light projected from the projector and the light entering the camera
2	Connector	To connect to the main body
3	Case	Tip case equipped with a mirror for intraoral scanning to be used in combination with the main body

4) PSM

Photo





No.	Category	Description
1	USB Type-C port	Port for USB signal and power connection
2	USB Type-B port	Port for Ethernet communication with PC
3	Power port	Power adapter connection port
Used as a support to stand the 'FREEDOM Air' on a table		

Rating: 12 V, 2.5 A

5) Wall holder

Photo

Description
Used as a mount for fixing to a wall or cart

6) Power adapter

Photo

Description
The power adapter supplies power to the 'FREEDOM Air' via the PSM
Rating: 100-240 V~, 50/60 Hz, 1.0-0.6 A

7) USB Type-C communication cable

Photo

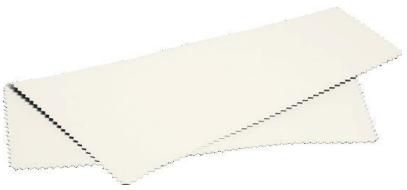
Description
The signal from the PC is transmitted to the PSM to send the signal to the 'FREEDOM AIR'-system, and the signal generated by the 'FREEDOM AIR' is transmitted to the PC via the PSM. The Ethernet communication cable (LAN cable) is 1.8 m long and is a shielded LAN cable.

8) USB Type-B cable

Photo

Description
The PSM supplies power to the 'FREEDOM Air' and sends and receives Ethernet signals

9) Cleaning cloth

Photo


Description
To clean the scanner tip's mirror.

10) Thumb drive (Containing SCANAPP i software)

Photo

Description
USB with built-in SCANAPP i software.

3.3. Battery status indicator

The battery charge level is indicated by the colour of the LED, as indicated below.

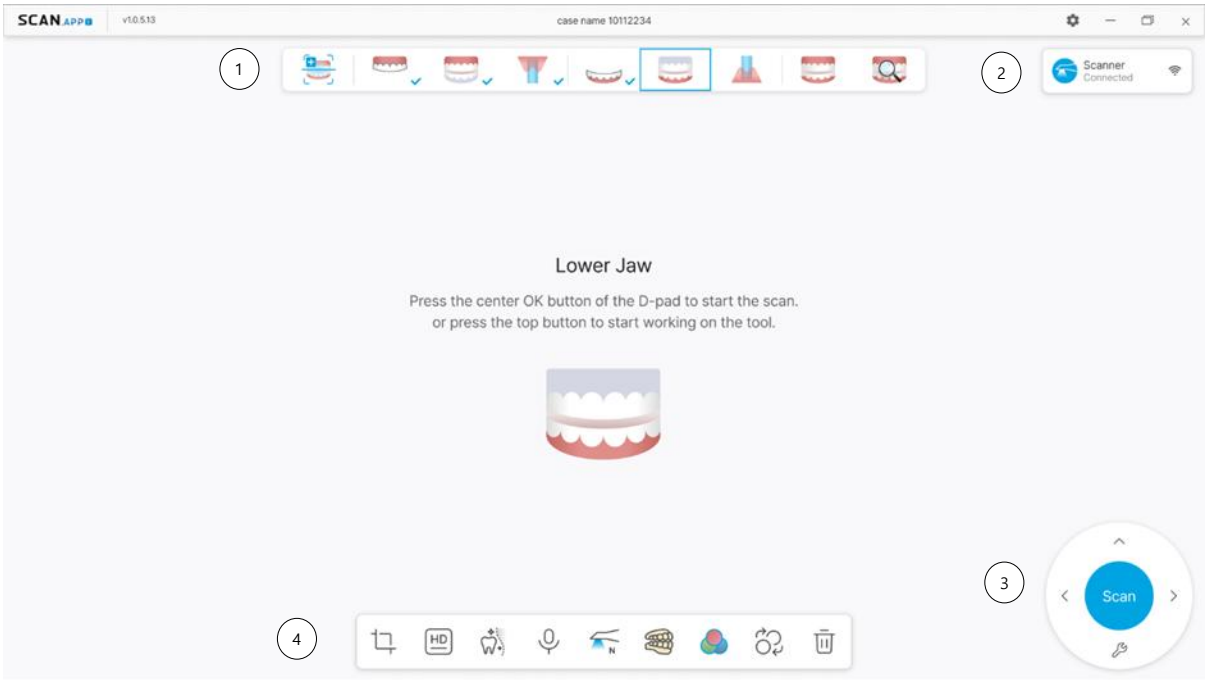
LED status indicator

LED Status	Description
Sky blue	Scan Ready
Flashing sky blue	Scanner error detected.

3.4. Software settings and functions

3.4.1. Default screen

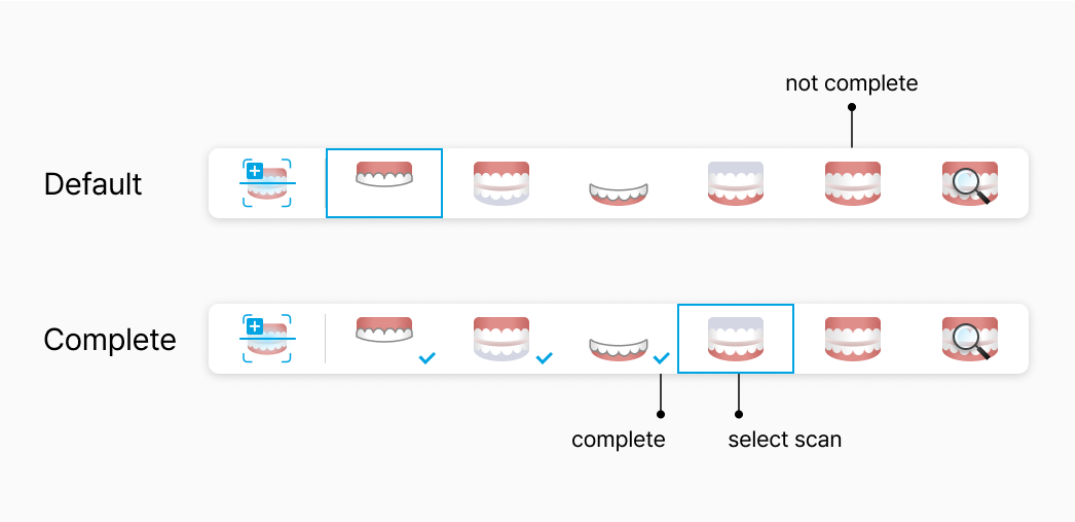
The default screen of the SCANAPP i software consists of the following:



No.	Item
①	Scan step indicator
②	Scanner status indicator
③	D-Pad indicator
④	Tool Screen

1) Scan step indicator

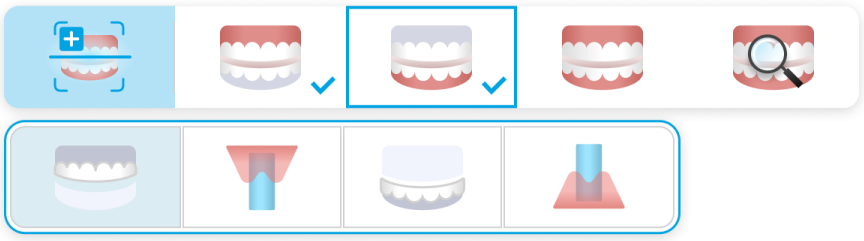
There are a total of 7 scanning steps and an icon to add new scanning steps, as shown in the figure below. Steps that have already been scanned are marked with a blue checkmark; steps that are currently being scanned are shown by a white background; and steps that have not yet been scanned are shown in grey. A detailed explanation of each step is given below.



Display format	Format name	Description
	Additional Scan	Perform additional scans of unscanned areas in various scan steps. Accessible at all scan stages
	Maxillary pre-op scan	Scans the pre-prep condition of the maxillary teeth
	Mandibular pre-op scan	Scans the pre-prep condition of the mandibular teeth
	Maxillary scan	Scans the prepped teeth and the surrounding teeth
	Maxillary Scanbody scan	Scans the Maxillary Scanbody
	Mandibular Scanbody Scan	Scans the Mandibular Scanbody
	Mandibular scan	Scans the prepped teeth and the surrou nding teeth
	Occlusal scan	Scans the upper and lower jaw in occlusion from the side

1) Additional Scan

- Clicking the Additional Scan icon displays the following menu at the bottom of the icon.



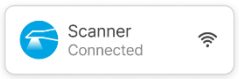
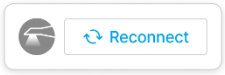
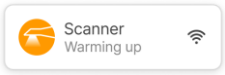
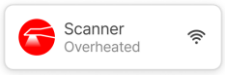
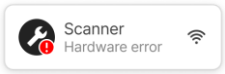
- Details of each tool are given below.

Display format	Format name	Description

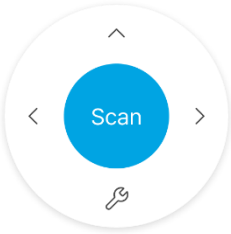
	Upper Pre-op	Scan the upper jaw before tooth preparation
	Upper Scanbody	Perform additional scan of the Upper Scanbody
	Lower Pre-op	Scan the lower jaw before tooth preparation
	Lower Scanbody	Perform additional scan of the Lower Scanbody

2) Scanner status indicator

Displays the connection status of the connected scanner.

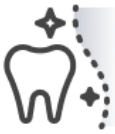
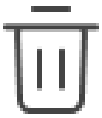
Display format	Format name	Description
	Connected	Confirms that the scanner is wired
	Not connected	Appears when the scanner is not connected to the software
	Warming up	Scanner warming up
	Overheated	Scanner overheating
	Hardware error	Hardware error detected

3) D-Pad indicator

Display format	Format name	Description
	D-Pad indicator	The scanner's D-Pad operation is reproduced in real time on the monitor display

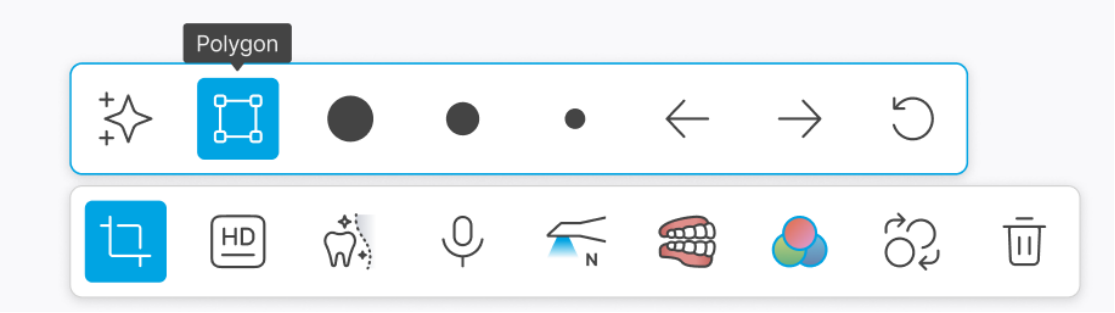
4) Tool Screen

Display format	Format name	Description
	Trim	Select and delete unnecessary parts of the scanned data

	HD Mode	Specify the desired area for high-resolution data
	Smart Filter	Select whether to remove soft tissues, except for teeth and gums, using the AI filter function
	Microphone	Click to record voice when needed
	Scanner Tip	Select the type of scanner to use
	Material	Choose the material of the model to be scanned
	Real Color	Select real color or monochrome rendering of the 3D model
	Data Swicth	Swap the maxillary and mandibular data
	Delete	Delete the scan data from the current step

1) Trim

- Delete unnecessary parts of the 3D data. Clicking the Trim icon displays the tool submenu at the bottom of the screen, as shown below.



- Details of each tool are as follows.

Display format	Format name	Description
	Patch	Delete the island data using left click, regardless of the patch size
	Polygon	Create a polygon by left-clicking or dragging the mouse, and close the polygon by right-clicking to delete the 3D data inside the polygon
	Brush size 3	Delete selected data with the 3-mm brush
	Brush size 2	Delete selected data with the 2-mm brush
	Brush size 1	Delete selected data with the 1-mm brush
	Undo	Recover deleted data (at most once)

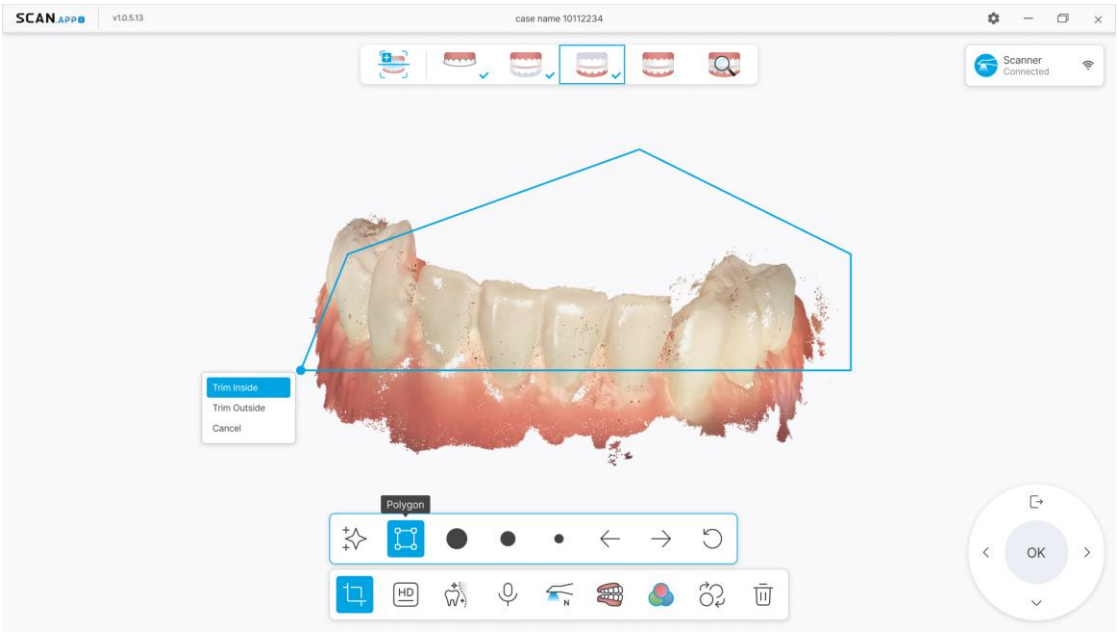
	Redo	Cancel undo
	Reset	Reset all previously performed tasks

- When you select the Polygon tool and left-click to close the polygon, the following three menus appear:

Trim Inside – Delete data inside the polygon.

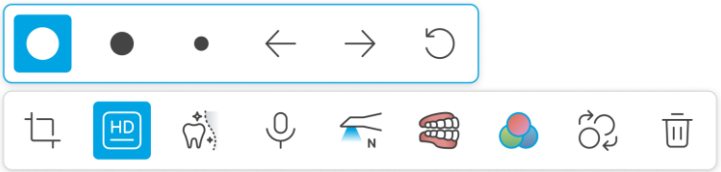
Trim Outside – Delete data outside the polygon.

Cancel – Cancel polygon selection.



2) HD Mode

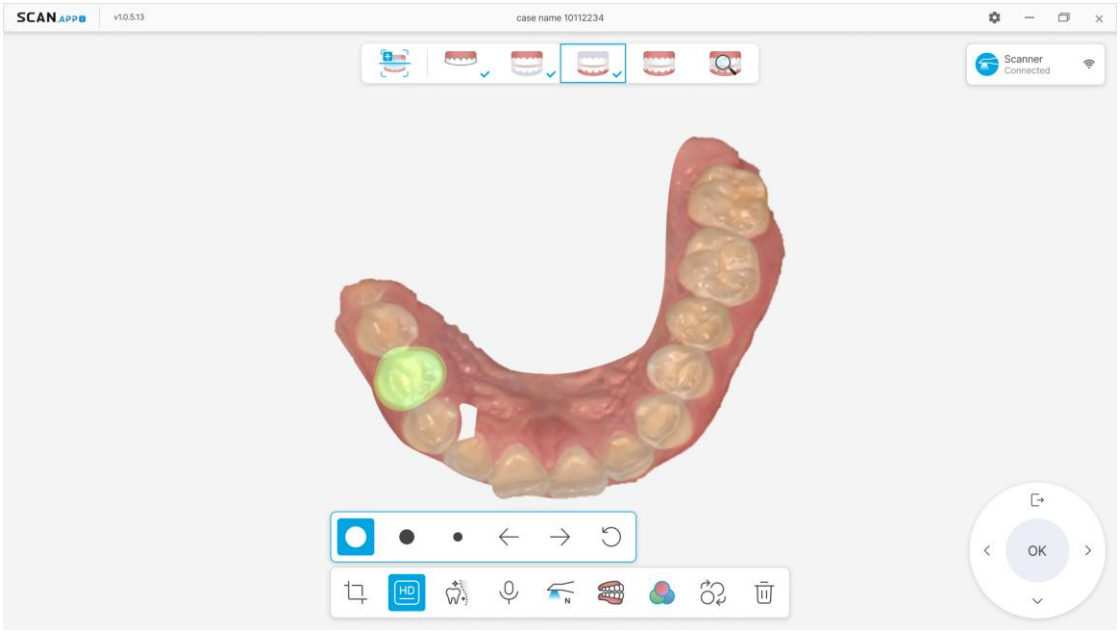
- Specify the desired area for high-resolution data



- Details of each tool are as follows.

Display format	Format name	Description

	Brush size 3	Draw the selected data using a 3mm brush
	Brush size 2	Draw the selected data using a 2mm brush
	Brush size 1	Draw the selected data using a 1mm brush
	Undo	Recover the last action.
	Redo	Cancel undo
	Reset	Reset all previously performed tasks



3) Smart Filter

- Select whether to remove soft tissues, except for teeth and gums, using the AI filter function.

4) Scanner Tip

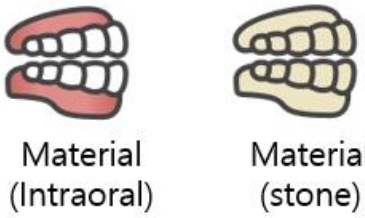
- Select the type of scanner tip to use.

- Details of each tool are as follows.

Display format	Format name	Description
	Normal Tip	A scanner tip provided by default

5) Meterial

- You can select the material of the object to be scanned and proceed with the scan.



- Details of each tool are as follows.

Display format	Format name	Description
	Intraoral	Recognizes the actual oral cavity more accurately

	Stone	Recognizes the stone model more accurately

6) Real Color

- Select whether to render the 3D data in real colour or monochrome.

- Details of each tool are as follows.

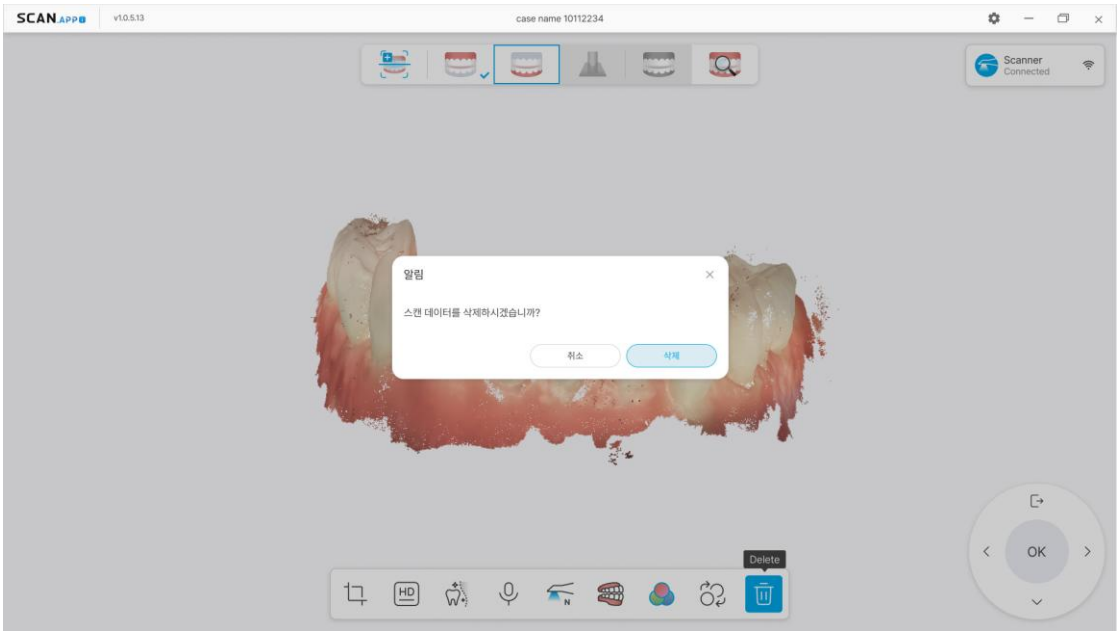
Display format	Format name	Description
	Mono Chrome	Render 3D data in monochrome
	Real Color	Render 3D data in real colours

7) Data Swicth

- Clicking the switch icon switches the maxillary and mandibular scan data.
- This tool cannot be used before obtaining scan data.

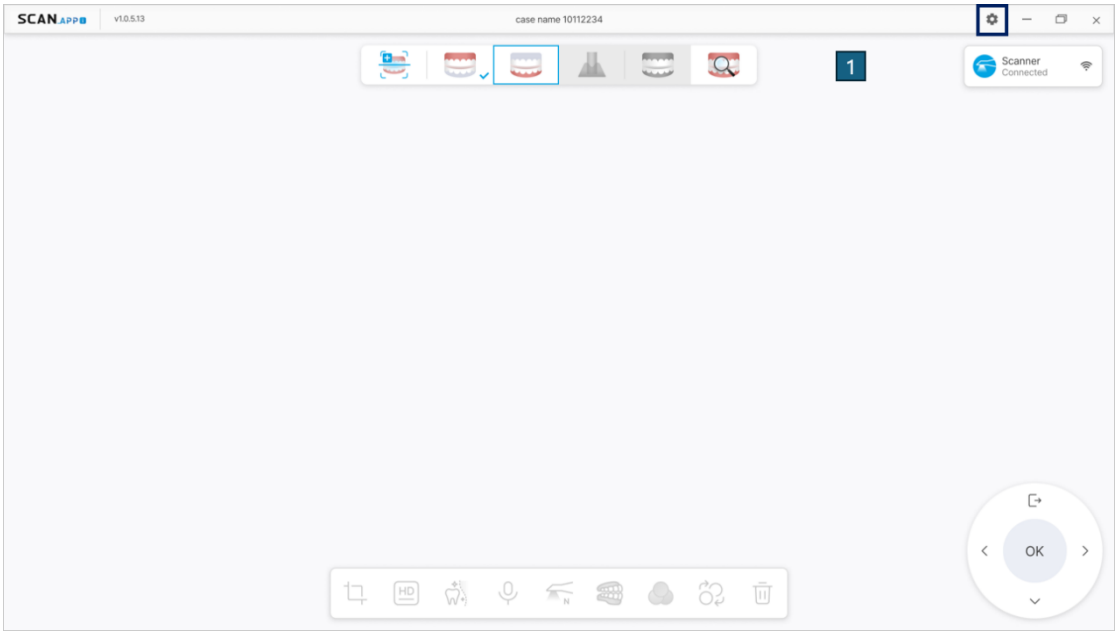
8) Delete

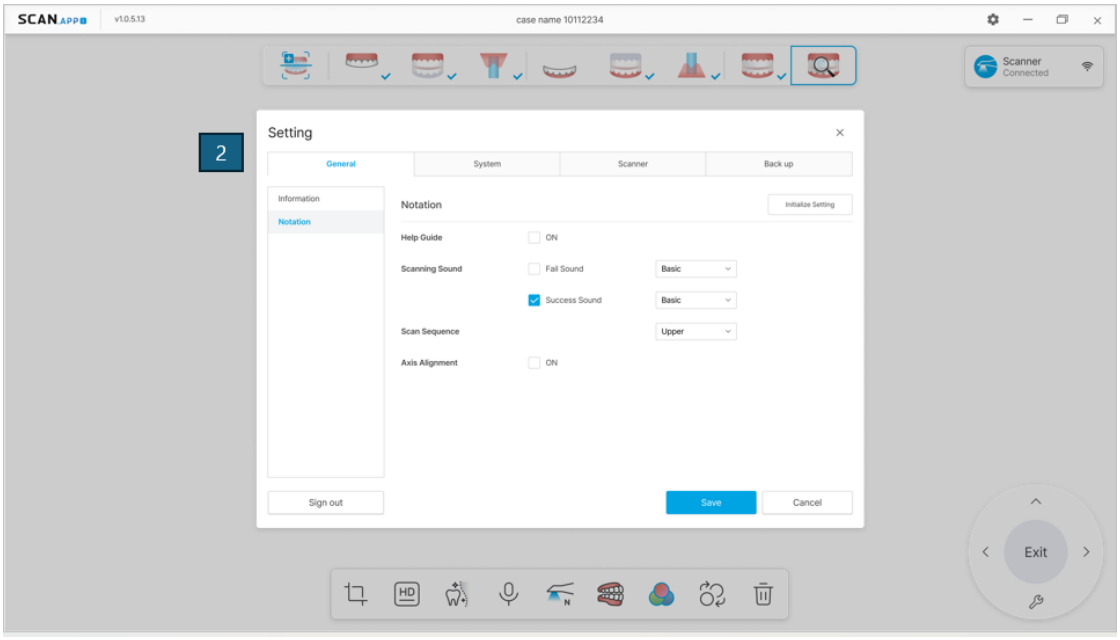
- Click the Delete icon to delete all data in the current step.



3.4.2. Settings and status display

Clicking the settings icon in the top bar allows you to change the overall settings of the software.





A detailed description of each item is given in the table below.

Display format	Description
Help Guide ON	Check whether to use the help guide
Scanning Sound Fail Sound Basic / Success Sound Basic	Select the failure sound and success sound for scanning
Scan Sequence Upper	Change the sequence of scan parts
Axis Alignment ON	Check whether to align the scan data after scanning is completed
Mesh Type OBJ PLY STL	Select the 3D data export file size
CAD 내보내기 할 때 항상 물어봅니다. / 중복된 이름의 파일을 덮어쓰기 합니다. / 새로운 폴더를 만들고 내보내기 합니다.	Scan file saving options
File Size Base Medium / scanbody High / Occlusion Low / Prep High	Set the file size
Occlusion File Export Yes No	Choose whether to save the occlusion scan data
Default Scan Zoom Level - +	Set the default size of 3D data displayed on

	the screen
Automatic Hole Close Size 2nd Step	Select automatic hole fill size
	The time set to turn off the power when there is no movement in the scanner

4. Preparation before use

4.1. Body assembly

Step 1: Connect the enclosed USB C to C cable to the USB Type-C connector on the back of the main body. When the connection is successful, the sky blue LED will turn on.

Step 2: A. Attach the sterilised replacement tip to the body in the direction of the arrow. When necessary, while wearing surgical protective gear, remove the tip by pulling it in the opposite direction of the arrow.

4.2. Cleaning and sterilising

4.2.1. Tip

- The manufacturer provides unsterilised scanner tips. Therefore, tips must be cleaned and sterilised before use.
- Wipe off contaminants with running water for more than 30 seconds.
- Soak in diluted detergent (Endozime) for more than 30 seconds. Wipe the contaminants from the crevices with a soft brush
- Wash with flowing purified water for more than 30 seconds.
- Remove moisture by wiping with a clean non-absorbent or soft cloth.(For cloth, use a dry, lint-free cloth.)
- If the stain is still present after following the above procedure, replace the tip. Wiping with strong force may scratch the mirror, which may affect the quality of the scanned data.
- Place cleaned and dried tips in a sterile bag (or pouch) and seal tightly.
- Place tips in the autoclave with the bag (or pouch) still sealed.
- Perform sterilisation under the following conditions. After sterilisation, allow the tips to dry completely before removing from the steriliser.
  [Steam (high pressure steam) sterilisation conditions]
  121℃, heating for 30 minutes / drying for 15 minutes
  134℃, heating for 15 minutes / drying for 30 minutes

- Autoclaving the tip in a sterile bag (or pouch) that is not completely sealed can leave

stains on the mirror that cannot be removed. For details, refer to the autoclave operating instructions.

- Visually inspect the scanner tip for signs of degradation before use.
- Use of damaged tips may cause unintentional injury to the patient. Discard the tip upon finding any damage.

4.2.2. Main body

- Clean and disinfect the intraoral scanner body after scanning is finished and the equipment is turned off.
- For general cleaning, use a soft cloth and disinfectant solution. For the disinfectant solution, the following products are recommended to prevent damage to the product.

  [Recommended product specifications]

  Ethyl alcohol or ethanol (60-70% Alc/Vol)
- For the front optical lens of the body, as with the mirror in the tip, care must be taken to avoid foreign substances and smudges.
- If washing is performed with the power on, be very careful as the cleaning solution may get into the product and may cause a malfunction. After washing, the body should be thoroughly dried before use.
- Read and follow the warnings and personal protection instructions provided on the safety data sheet (SDS) for the disinfectant used to prepare the scanner for reuse.
- Gloves must be worn when cleaning and disinfecting the scanner.
- Do not place the scanner in a steriliser or immerse it in water or disinfectant solutions.
- Excessive liquid may damage the scanner.
- When disinfecting the scanner, do not use cotton products, clothing or tissues soaked in disinfectant.
- If the scanner is contaminated with blood or bodily fluids, it must be cleaned prior to disinfection.
- The scanner must be thoroughly disinfected after each patient visit.

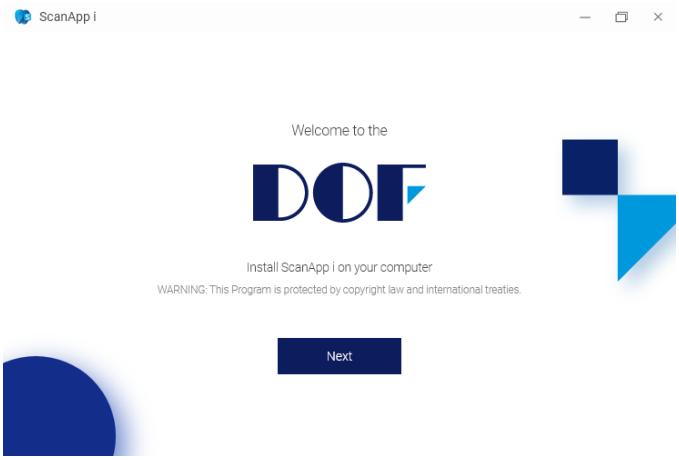
4.2.3. External parts

- Surfaces should be wiped with a soft, non-abrasive, lint-free cloth moistened with a non-drip disinfectant solution.
- Use only once the surface is completely dry.

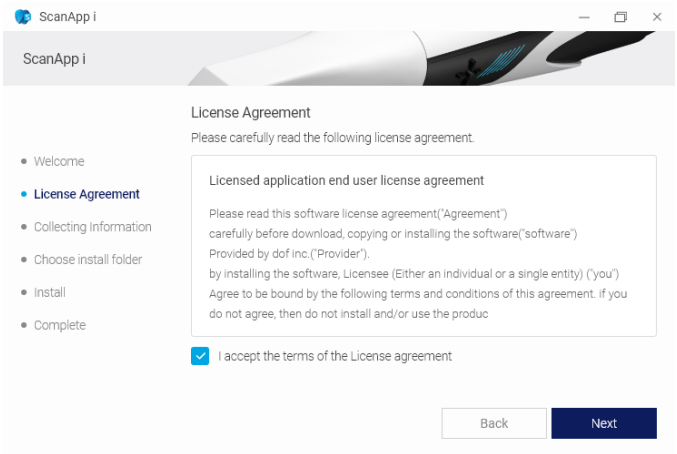
4.3. Software installation

- Only approved software should be installed and used for normal use of your 'FREEDOM Air' system.
- We recommend updating Windows before installation. If the installation does not work properly, contact the supplier.
- The SCANAPP i software installation file to run the 'FREEDOM Air' is included on the thumb drive included with the product.
- The installation file icon is shown on the right.

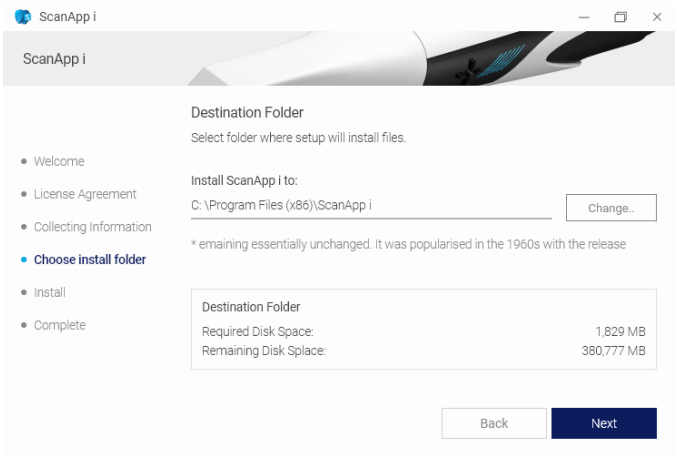
- Proceed through the installation wizard.



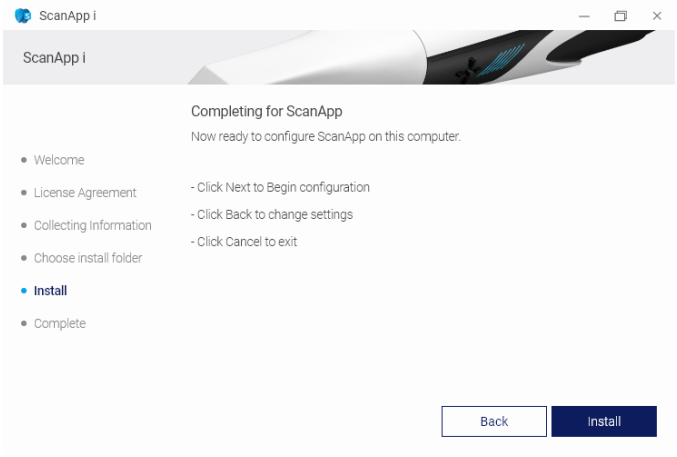
- Read the License Agreement carefully and check the Agree button.



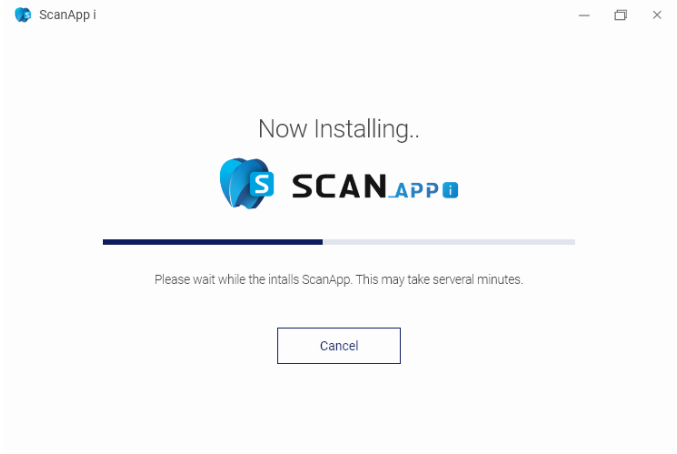
- Select the location for installation of the SCANAPP i software.



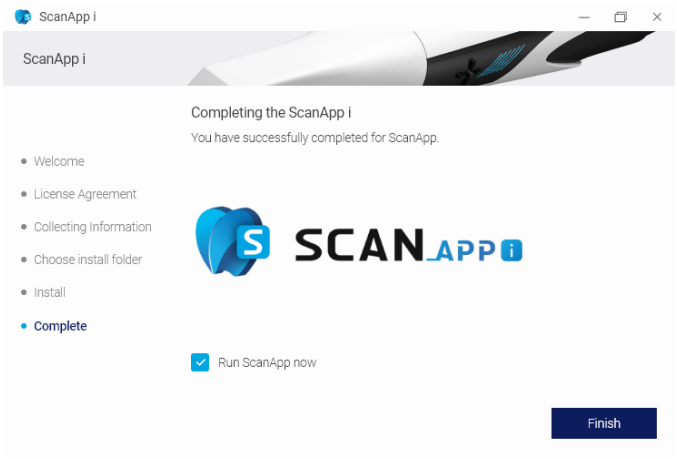
- Click the Install button to proceed with the installation.



- Installation may take several minutes. Do not turn off your PC during installation.



- Installation is complete. Click the Finish button.



- Reboot the PC after installation is complete.

5. System operation

5.1. Turning on and off

5.1.1. Turning on the 'FREEDOM Air' main system

Step 1:. Connect the cable for wired connection.

Step 2: Press and hold the Upper button on the D-Pad of the main unit for 3 seconds.

Step 3: Once the power is on, the LED lights up and the body vibrates.

5.1.2. Turning off the 'FREEDOM Air' main system

Method 1: Press and hold the Upper button on the D-Pad of the main unit for 3 seconds.

Method 2: Click the Power Off button in the SCANAPP i software.

Method 3: After exiting the SCANAPP i software, wait for more than 1 minute without performing any operation.

5.2. Connection

[connection flow diagram]

5.3. How to use the cradles

5.3.1. Table holder

Place the horizontal holder on a flat table to support the 'FREEDOM Air'.

5.3.2. Wall holder

① Place the wall mount vertically against the wall and mark the screw holes
(at least 2 locations depending on the surrounding environment).

② Use the 6-mm drill bit to drill a 30-mm deep hole and insert the knife block into the hole. (Depending on the installation environment, the knife block may not be necessary).

③ Secure the wall mount to the wall using the screws included.
(Six M3 30-mm countersunk head screws are provided).

④ Fixing method according to the material of the wall

A. Brick and concrete: Drill a hole in the wall and then follow steps 1 to 4. When inserting the screws using a drill, be careful not to distort or crack the wall.

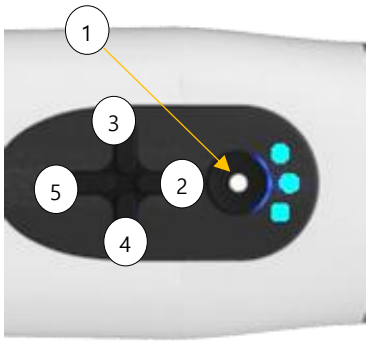
B. Gypsum board or plasterboard: Drill a hole in the wall and then use a drill according to steps 1 to 4 to insert the screws, taking care not to distort or crack the wall.

C. Wood or strand board: Drill a hole in the wall and then use a drill according to steps 1 to 4 to insert the screws, taking care not to distort or crack the wall.

5.4. Mouse interaction

Mouse button	Button name	Description
	**Left click**	Click icon to use associated functions. Select the 3D data “trim” area
	**Right click**	Rotate 3D data. Finish 3D data “trim” operation
	**Scroll**	Zoom in or out of 3D data

5.5. Functional button interaction

D-Pad button


Operation	Action
Power on	Press and hold button 1
Start scanning	Short press button 1
Stop scanning	Short press button 1 in scan mode
Go to the next step	Short press button 4
Go to the previous step	Short press button 3
Enter the tool menu	Short press button 2
Select tool icon to the right	Short press button 4
Select tool icon to the left	Short press button 3
View mode	Short press button 5
Click the selected icon	Short press button 1
Exit the tool menu	Short press button 5
Power off	Press and hold button 1

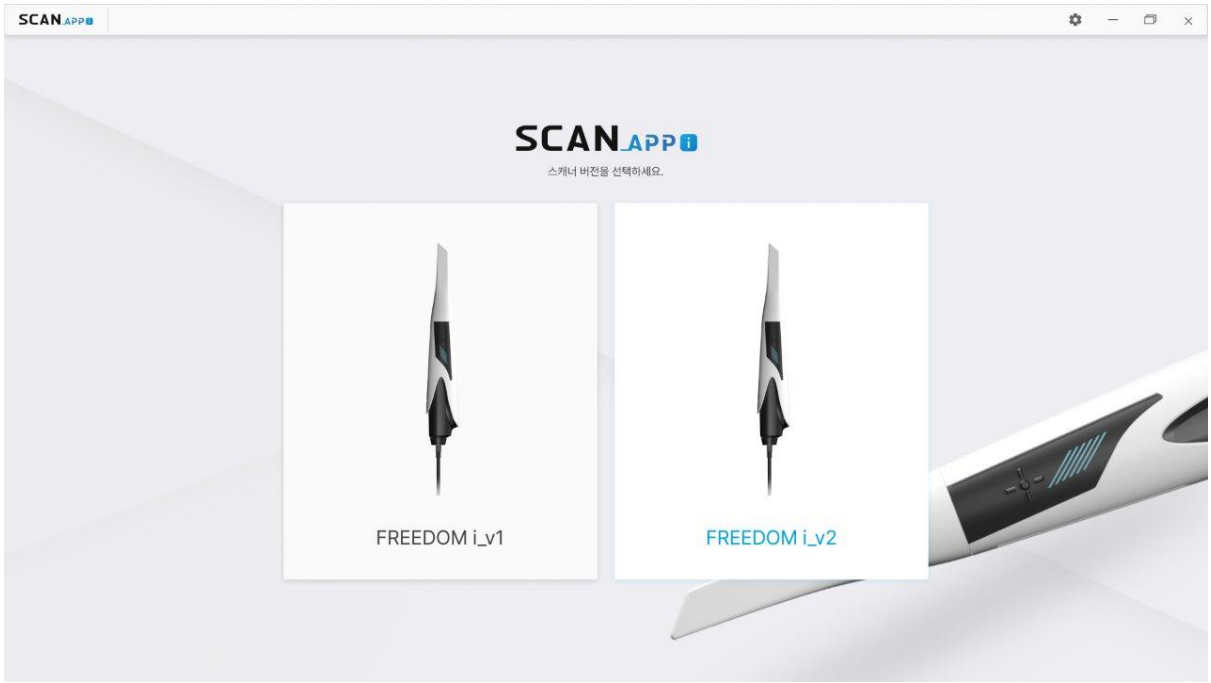
5.6. Scan

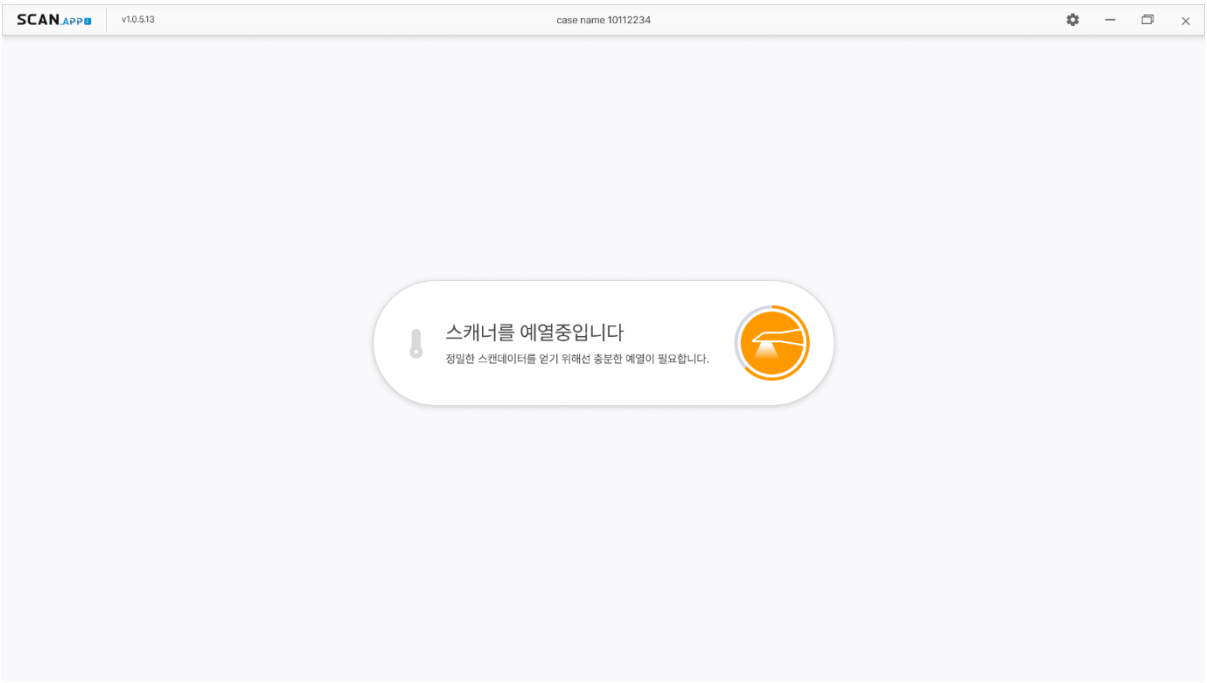
5.6.1. Intro screen

- Upon running SCANAPP i, it automatically searches for nearby scanners that can be connected.

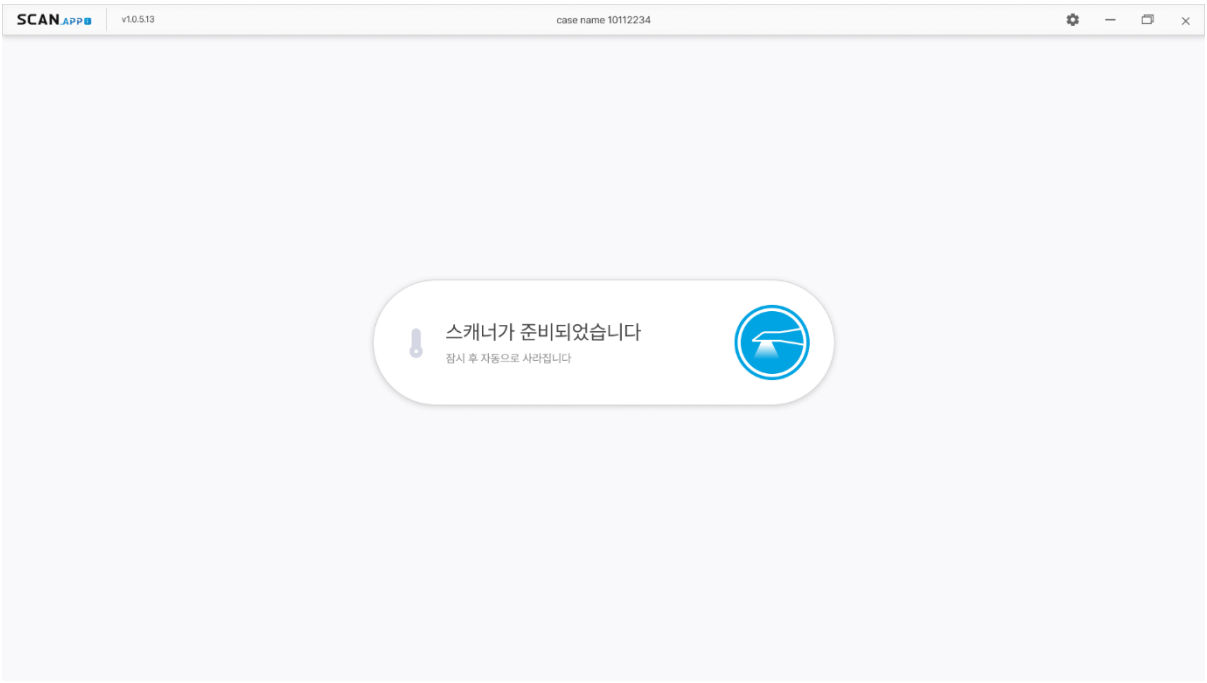
5.6.2. Scanner selection screen

- This screen will appear you can choose whether to use FREEDOM I or FREEDOM Air, Select the scanner you want to use.



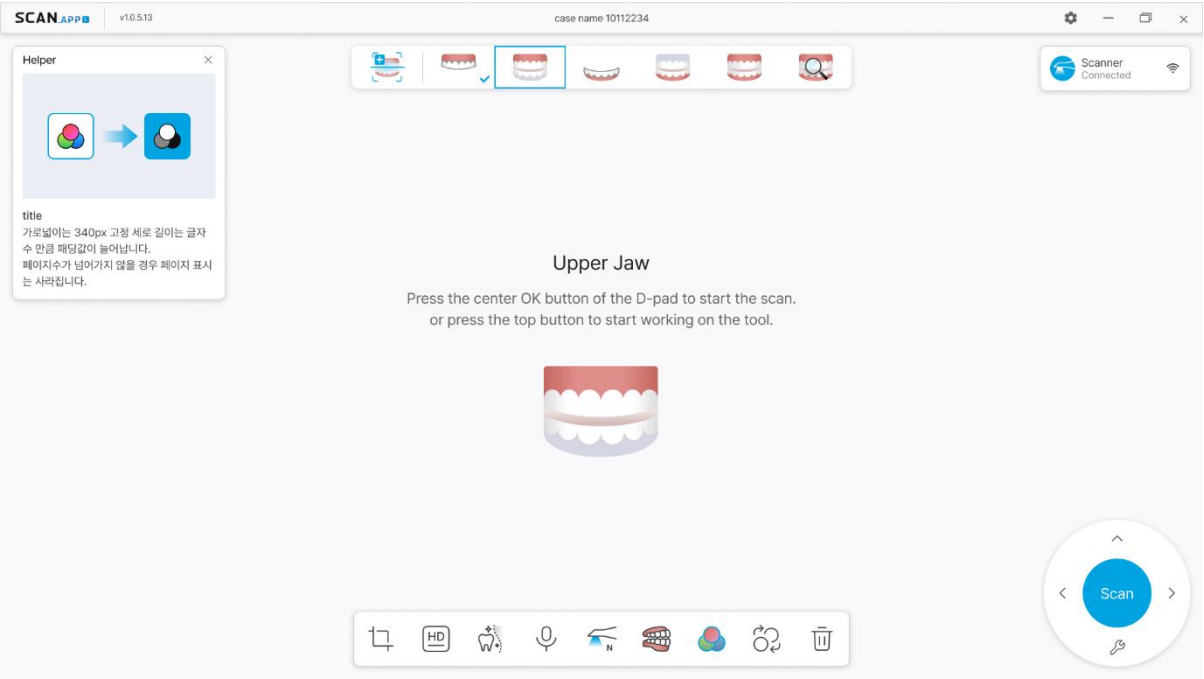


- If the connection with the software is successful, the "scan screen" will appear, as shown below.

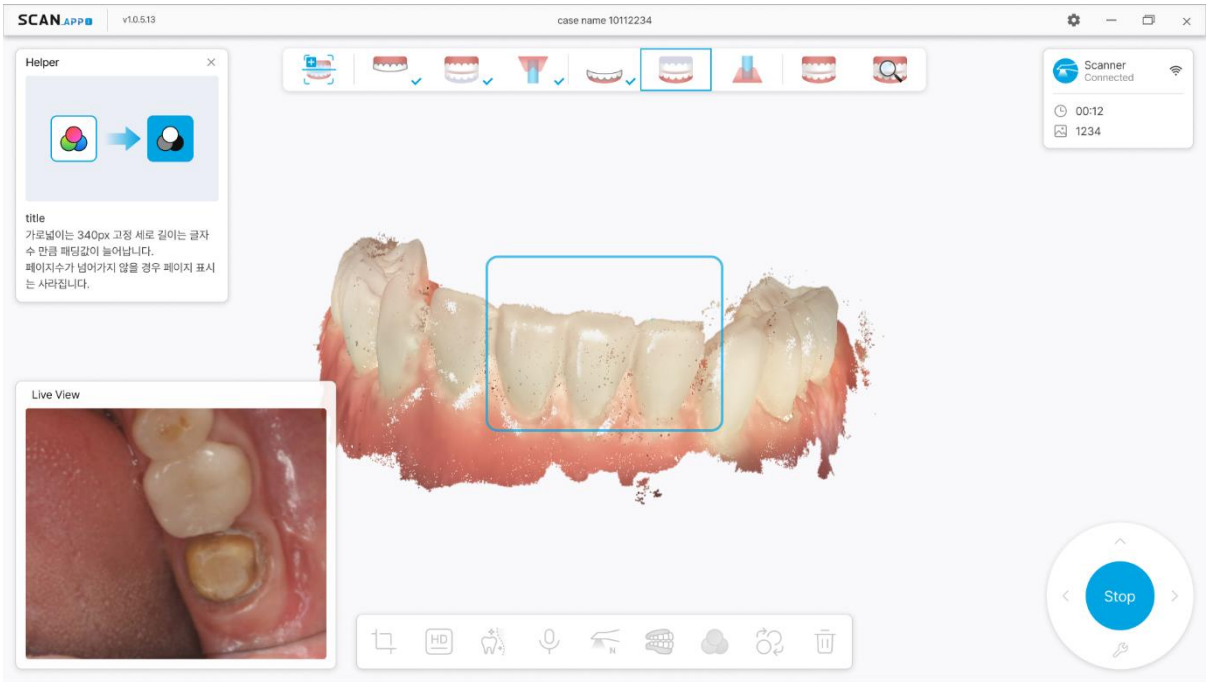


5.6.3. Scan screen

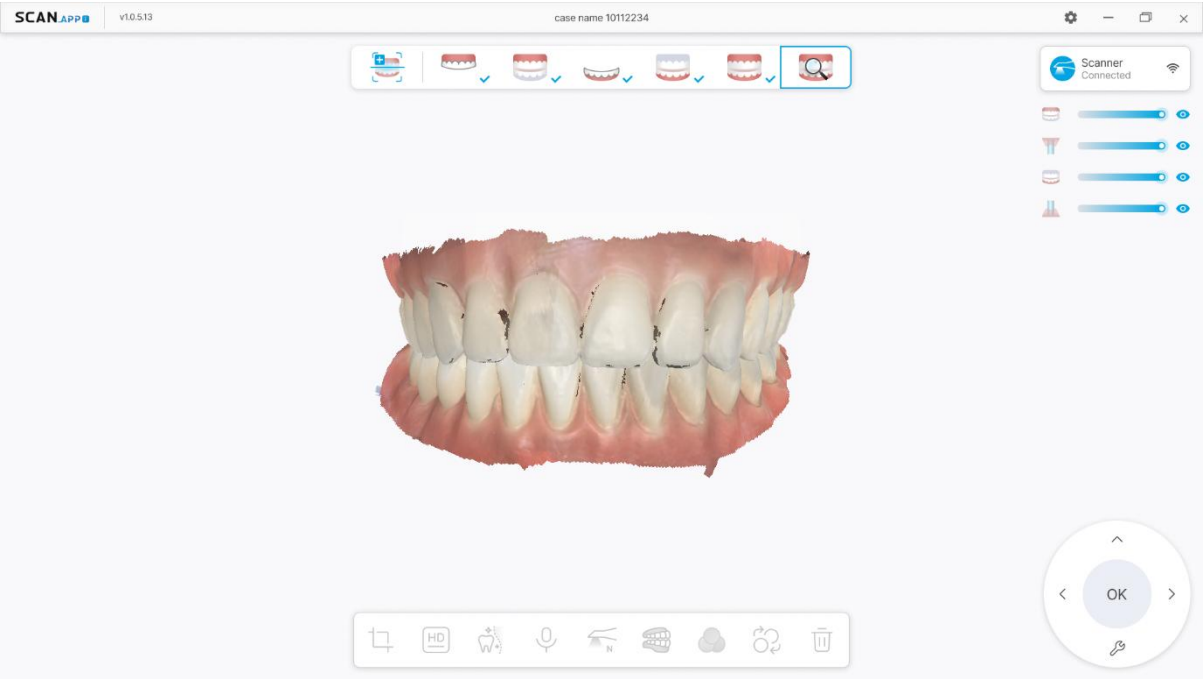
- The following screen is the main "scan screen" that users will most frequently encounter. Pressing the Center button on the 'FREEDOM Air' D-Pad starts scanning.



- When scanning starts, the camera's live image will be updated in real time at the bottom left of the screen and the scanned 3D data will be displayed in the centre.



- If scanning is successful, a blue square border is displayed on the recently scanned portion of the 3D data and a regular scanning sound is heard.
- If scanning is not successful, a red square border is displayed on the recently scanned area and a "scan error" sound is heard.
- If scanning is interrupted, position the scanner tip in the last scanned position to automatically match the previous data to continue scanning.
- Once you have finished scanning the required part, press the center button on the D-Pad to stop scanning. If there are still incomplete areas after stopping the scan, you can perform additional scans by pressing the scan button again.
- When scanning is complete, press the right button on the D-Pad to move to the next scanning step.
- Once all scans have been completed, click the export button or click the middle button on the D-Pad to save all scanned 3D data.



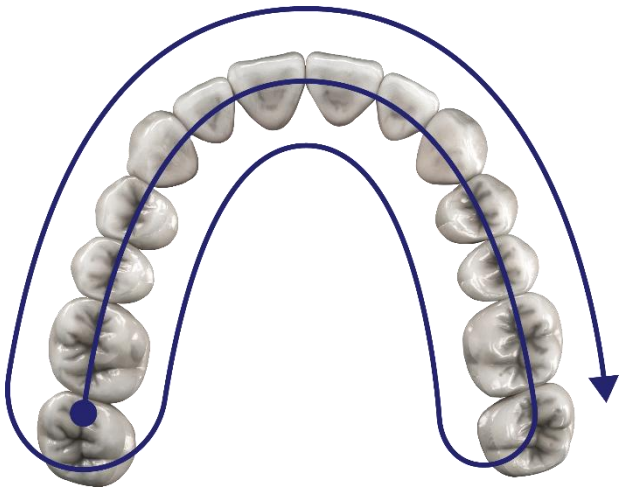
- The file type for exported 3D data is either STL or OBJ. The file is saved to the case's project folder.

5.6.4. Maxillary and mandibular full arch scan method

Move the scanner as indicated below to scan the oral cavity more accurately and quickly.

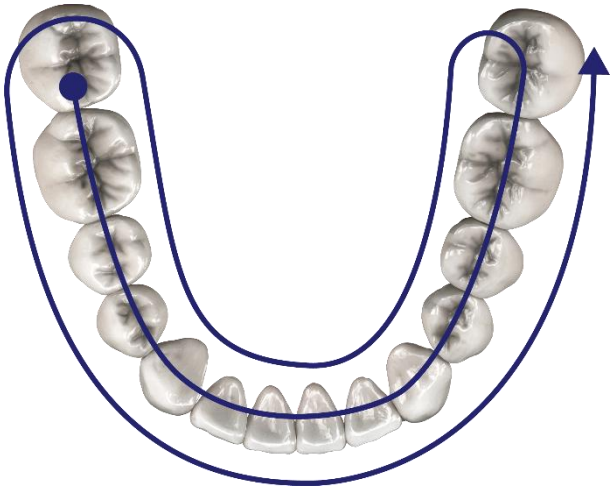
1) Maxillary full arch scan method

Scan by moving the scanner in the direction of the arrow as shown below.



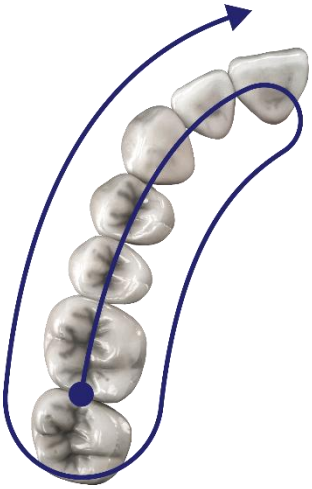
2) Mandibular full arch scan method

Move the scanner in the direction of the arrow as shown below to scan.



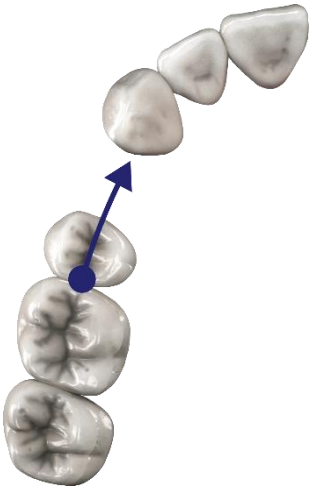
5.6.5. One-sided scan method

Move the scanner in the direction of the arrow shown below to scan.



5.6.6. Additional scan methods

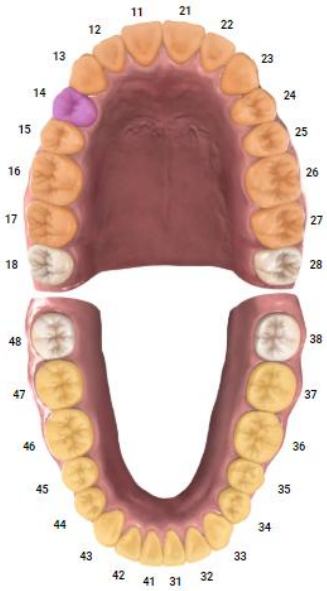
As shown in the figure below, when scanning an unscanned area, start the scan from the occlusal surface of the adjacent tooth and fill in the empty space.



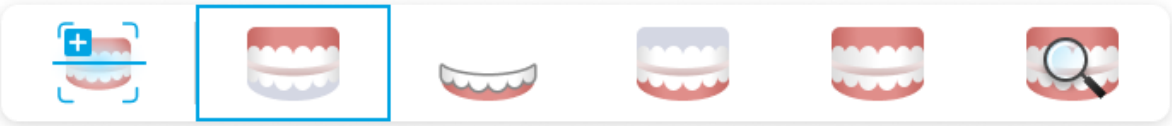
5.7. Scan methods for major cases

Here's how to scan for each major case:

5.7.1. Maxillary abutment case



For the case shown in the figure above, the software creates the following scan steps.



Scan the entire maxilla; scan the abutment only after stopping bleeding in the abutment area.

Step 1: Once the bleeding in the abutment area has ceased, scan the entire maxilla, including the abutment.

Step 2: Select the HD icon on the lower toolbar and use the brush tool to designate the abutment area. Depending on the situation, this step may be omitted.

Step 3: Scan the entire mandible.

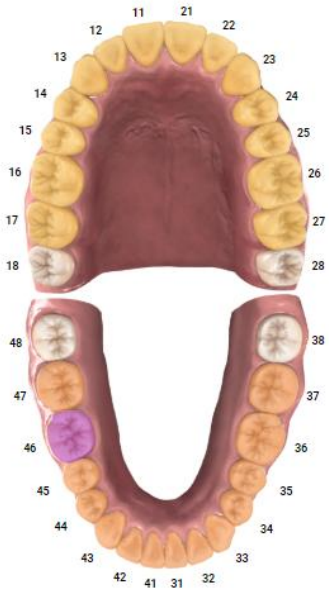
Step 4: Scan the buccal surfaces of the teeth by interlocking the upper and lower jaws.

- Scanning the buccal surface of the teeth automatically matches the upper and lower jaws.
- If an accurate occlusal relationship cannot be obtained with only one side, scan the buccal surface of the opposite tooth to match the upper and lower jaws.
- If the upper and lower jaw data are not automatically matched with the side scan data, match them manually. Using manual matching, select three matching points to match.

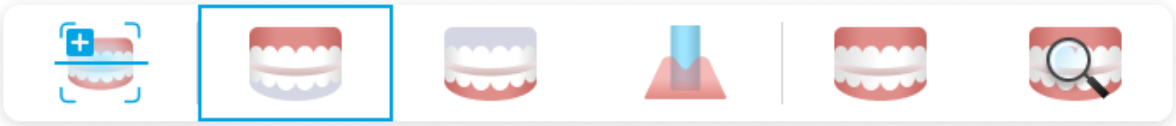
Step 5: If there is not a problem with occlusion matching, save and close the project.

5.7.2. Mandibular implant case

The next case is the mandibular tooth No. 46 implant case.



In this case, the mandibular scanbody step is created as shown below. First scan the antagonist. Then scan the entire mandible and the scanbody.



Step 1: Scan the maxillary teeth.

Step 2: After removing the healing cap, scan the entire mandible.

Step 3: Insert the scanbody and scan the scanbody and surrounding teeth in detail.

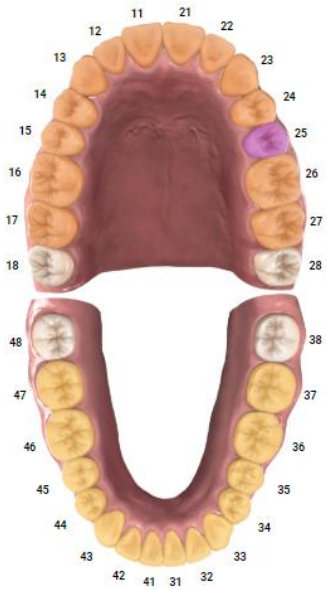
Step 4: Scan the buccal surface of the teeth by interlocking the upper and lower jaws.

Step 5: The software uses the buccal data to automatically match the upper and lower jaws.

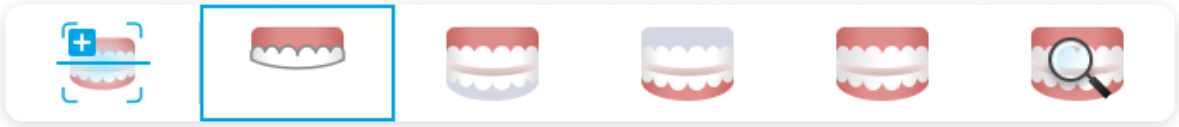
Step 6: If matching is determined to be incomplete, the opposite side is additionally scanned and matched to increase the accuracy of occlusion. If there is not a problem with the occlusion alignment, save and exit the project.

5.7.3. Pre-op scan added to the maxillary abutment

The following is a case where a pre-op scan was added to the maxillary tooth #25 abutment case.



In this case, the maxillary pre-op scan step is created as shown below.



Step 1: First scan the condition before tooth preparation.

Step 2: Review the scanned data from the previous step and designate the abutment area. In this step, data outside the designated area is locked and cannot be scanned, ensuring that only the abutment area can be scanned.

Step 3: Scan the antagonist of the mandible.

Step 4: Interlock the upper and lower jaws and scan the buccal surface to automatically match the upper and lower jaws. If there is not a problem with the occlusion, save and close the project.

6. Safety Guide

6.1. System basic safety

6.1.1. General precautions

- Before using the 'FREEDOM Air' system, users must read and understand the following safety information.
- Failure to follow the instructions given in the Safety Guide may result in injury to the user or patient or damage to the equipment.
- 'FREEDOM Air' system users are responsible for operation and maintenance of their scanners.
- You must complete training on how to use the scanner. It must be used only by trained dental professionals or technicians who understand and are familiar with all the contents of the user manual.
- If the 'FREEDOM Air' system is used for purposes other than those specified in Section 2, it may cause damage or defects to the equipment. Use the system in accordance with the Safety Guide to prevent injury to patients during use.
- Improper handling or use of this system may cause problems other than system malfunction, and this is not covered under warranty.
- If you connect to a wired network that has other devices connected, there may be a security risk. Therefore, when connecting to a network with peripheral devices, be careful not to connect the product to an unsecured network. Also, if you want to change your network, additional analysis may be required.
- Risky situations in wired networks can occur due to the following reasons:
    1) Data loss
    2) Improper data exchange
    3) Corrupted data
    4) Improper timing of data
    5) Receiving unexpected data
    6) Unauthorised access to data
- Consider the following situations that may lead to risky situations involving wired networks.
    1) Remote service (external access to the network)
    2) Operating system (operating system compatibility)
    3) Software modification/upgrade (operating system, application, etc.)
    4) Interface compatibility (data conflict, data format)

- Connections (hardware modifications, network connectors)
- Network interface board (compatibility)
- Network protocol (DICOM, HL7, etc.)

5) Packet address structure/timing
6) Normal network load/bandwidth
7) Maximum network load
8) Data medium (longevity and searchability)
9) Security (viruses, worms, unauthorised software updates or upgrades)
10) Maximum allowable response time
11) Network availability (planned and unplanned maintenance)
12) Fidelity loss during information transmission due to interface/format mismatch
13) Heterogeneous network topologies

6.1.2. Precautions before use

- Modification of the 'FREEDOM Air' system may affect the safety of users, patients or third parties and is therefore prohibited by law.
- Be sure to install and use only approved programs for normal use of the system.
- Before using the scanner, inspect the external surfaces of the scanner and all accessories to ensure that there are no rough surfaces, sharp edges or protrusions that could pose a safety hazard.
- If you find any problems with the appearance or parts, do not use the product and contact the manufacturer or the person in charge of the place of purchase.
- Do not place objects within the operating range of the device.

6.1.3. Precautions during use

- Use this product indoors only.
- Do not use the scanner in an oxygen-rich environment.
- This device must not be used with flammable anaesthetics or flammable substances.
- Be careful not to drop the scanner.
- Always hold the 'FREEDOM Air' body firmly when lifting it from the cradle or when holding it while scanning. If dropped, follow the measures outlined in Section 7.7 to prepare for problems other than poor scan quality during use.
- If the equipment does not operate properly, such as problems with precision during use, do not use the product and contact the manufacturer or the person in charge of the place of purchase.

- If the 'FREEDOM Air' system does not operate properly, or if the equipment is suspected of malfunctioning, take the following actions:
  - Remove equipment from the patient's mouth and discontinue use immediately..
  - Disconnect the device from the PC and check/confirm any abnormalities.
  - Contact the manufacturer or point of purchase representative.

6.1.4. Precautions after use

- When not using the scanner, turn it off and place it in a cradle or storage box.
- Do not expose the scanner to vibrations.
- Do not expose the scanner to an environment that emits ultraviolet rays for a long period of time.
- In the event of a serious incident associated with this system, report this to the competent authority of the Member State where the user and/or patient is located.

6.2. Eye safety

- Do not stare into the optical window on the front of the scanner or shine it into the eyes of others, including patients.
- When scanning with the 'FREEDOM Air' system, the bright light is reflected by the mirror on the tip end.
- If you look at the reflected light or shine it directly into the eyes of another person, such as a patient, glare may temporarily decrease their vision and leave an afterimage, which may increase the risk of hazardous situations and accidents.
- **RISK GROUP 2**

- **CAUTION:** Possibly hazardous optical radiation emitted from this product.
- Do not stare at operating lamp. May be harmful to the eyes**.**

6.3. Electrical safety

- If you use a cable that has been pulled or twisted, there is a very high possibility of danger, such as internal disconnection or short-circuiting of the cable, making scanning impossible.
- Do not remove any components from the scanner. When disassembling the main body, serious hazards to the safety of users and patients, other than the risk of electric shock and abnormal operation during use, may occur.
- The scanner does not contain user-serviceable parts and if repairs are required, contact the person in charge of the place of purchase or the manufacturer.
- Do not replace the power adapter supplied with the scanner with another power adapter. A replacement adapter may not provide the required level of protection

against electric shock.

- Do not connect multiple extension cords to the system and use a single power cable. When operating with the same power cable as other equipment, malfunctions may occur during equipment operation or scanning may not work properly due to electronic interference, such as noise between equipment.
- To connect the equipment and the system, the cable provided at the time of purchase must be used. The device may not operate properly if third-party and commercial cables are used.
- If an equipment error occurs during use, turn off the equipment and attach a warning tag, such as "Do not use", before contacting the person in charge of the place of purchase or the manufacturer.
- The use of accessories and spare parts not provided by the manufacturer may decrease the level of security and the scan quality and may be dangerous.
- If the scanner has been stored in a low-temperature environment during the winter, only use after leaving it at the temperature of the environment where it is to be used for at least 2 hours. If used right away, the electronic parts inside the device may be damaged due to internal condensation.

6.4. Managing peripheral devices

- Do not place computers and peripherals connected to the system in the immediate vicinity of the patient.
- The scanner should only be connected to a computer that conforms to at least IEC 60950 or an equivalent validated standard. (Compliance with Section 2.6.1. Computer system requirements)
- If the scanner is connected to other equipment, it may not work, or the scan quality may be unsatisfactory.
- Leave enough space around the computer to allow for adequate ventilation.
- Do not place the socket to which the power plug is connected in a place that is difficult to access.

6.5. Electromagnetic compatibility

- The radiation characteristics of the 'FREEDOM Air' system make it suitable for use in industry and hospitals (non-residential environments) (CISPR 11 Class A). Systems may not provide adequate protection to radiofrequency communications when used in a residential environment (CISPR 11 Class B).
- This product complies with part 15 of the FCC Rules. During operation, the following

conditions must be taken into account:

- This product generates, uses and can radiate radiofrequency energy. Therefore, if this equipment is not installed and used in accordance with the instruction manual, it may cause harmful interference with radio communications.
- Operation of this equipment in a domestic environment is likely to cause harmful interference and in this case, the user will be required to repair it at his own expense.
- This product uses RF energy for its internal operation only. Its RF emissions are very low and in most cases are not likely to cause any interference with nearby electronic equipment.

Status	Classification
Type of protection against electric shock	Class II Equipment
Degree of protection against electric shock	Type BF applied part
Degree of protection against harmful ingress	Class IPX0
Mode of operation	Continuous operation
Flammable anaesthetics	Not recommended for use in the presence of flammable anaesthetics or flammable anaesthetic mixtures containing air, oxygen or nitrous oxide

- Information on lengths of cables supplied with the unit can be found in the table below.

Part photo	Part name	Cable length (m)
	USB communication C to C cable	1.8 m
	USB Communication A to B cable	1 m

- Except for items sold by equipment manufacturers as replacement parts for internal components, use of cables or accessories other than those specified may reduce immunity or increase emissions from the medical equipment.

- Portable RF communications equipment (including peripherals, such as aerial cables and external aerials) must not be used within 30 cm (12 inches) of any part of the 'FREEDOM Air' device, including the cables specified by the manufacturer. Otherwise, the performance of this device may be impaired.

6.6. Subjects on which use is prohibited

- Do not use the 'FREEDOM Air' system on patients with pacemakers and ICD devices.
- Use of the 'FREEDOM Air' system in patients with pacemakers is prohibited due to the risk of interference.

6.7. Preventing the scanner from overheating

- Do not block the air vents on either side of the 'FREEDOM Air' main body.
- If the air vent is artificially blocked, heat circulation is not possible during use, which increases the risk of equipment damage or fire.
- The 'FREEDOM Air' system automatically stops operating if the equipment overheats (internal temperature of 55℃ or higher) during use.
- It can be reused once the equipment has cooled but if it automatically stops repeatedly due to overheating, stop using it and contact the manufacturer or the place of purchase.
- To prevent overheating, do not exceed 10 minutes per scan job.

6.8. Avoiding scanner hazards

- If a tip is dropped on the floor, it must be discarded and never used again. There is a risk that the mirror attached to the end of the tip will come away and fall off.
- If the 'FREEDOM Air' main body is dropped on the floor or knocked, check for any abnormality before use. If there is any abnormality in precision or scanning during use, contact the manufacturer or the person in charge of the place of purchase.
- Always place the 'FREEDOM Air' main body on the cradle when not in use.
- Do not install the horizontal cradle on a sloping surface.
- Carefully route all cables so that neither you nor the patient get caught on them. If the cable is pulled excessively, it may damage the main body.

7. Maintenance

- Maintenance of the 'FREEDOM Air' system equipment can only be performed by DOF Inc. or personnel certified by DOF Inc.
- Normally, the user is not required to perform any equipment maintenance other than software updates, cleaning, disinfection, sterilisation, and battery charging and replacement. Preventive inspections and regular maintenance are not required.

7.1. Calibration

- This product is shipped after being calibrated during manufacturing.
- In the following cases, calibration is performed by the place of purchase or the manufacturer.
  - When to perform calibration:
  ① If the wireless connection speed is delayed by more than 30 seconds.
  ② When the scan data quality is worse than before.

- For precise scanning with this product, periodic calibration by the place of purchase or manufacturer is recommended.

- **Contact us**
  - **Email: info@doflab.com**
  - **Phone: +82 070-5057-0001**
  - **Fax: 0303-3440-1827**

7.2. Cybersecurity

- For safe use of your 'FREEDOM Air' system, you must use a firewall and install antivirus software and keep it up to date.
- If the user detects a cybersecurity incident, he/she must immediately stop using the 'FREEDOM Air' device and block the external network. Then report the incident to the manager and take the necessary actions.

7.3. Maintaining scanner hygiene

- To ensure a clean working environment and patient safety, wear clean surgical gloves
  - when changing tips
  - when scanning the oral cavity of a patient
  - when touching the 'FREEDOM Air' system
- The 'FREEDOM Air' body and its lens unit should always be kept clean.
- Be sure to observe the following before using the 'FREEDOM Air' system on a patient.
- The 'FREEDOM Air' system must be disinfected.
- Sterile tips must be used.

7.3.1. Tips

- Since the tip provided comes into contact with the patient's oral cavity during scanning, it must be cleaned and sterilized before its first use and before reusing to prevent cross-infection.
- **The removable scanner tip can be autoclaved up to 150 times and must be discarded after 150 uses. Scanner tips can be repurchased from the manufacturer or the place of purchase.**
- For cleaning, use soapy water and a brush to clean the tip thoroughly, and if foreign substances or stains are found on the mirror inside the tip, clean again in the same way.
- The cleaning method is as follows.
- Wipe off contaminants with running water for more than 30 seconds.
- Soak in diluted detergent (Endozime) for more than 30 seconds. Wipe the contaminants from the crevices with a soft brush
- Wash with flowing purified water for more than 30 seconds.
- Remove moisture by wiping with a clean non-absorbent or soft cloth.(For cloth, use a dry, lint-free cloth.)
- If the stain is still present after following the above procedure, replace the tip. Wiping with strong force may scratch the mirror, which may affect the quality of the scanned data.
- Place cleaned, dried tips in a sterile bag (or pouch) and seal tightly.
- Place the tips in the autoclave while the bag (or pouch) is still sealed.
- Perform sterilisation under the following conditions. After sterilisation, allow the tip to dry thoroughly before removing the product from the steriliser.

  [Steam (high pressure steam) sterilisation conditions]

  121℃, heating for 30 minutes / drying for 15 minutes

134℃, heating for 15 minutes / drying for 30 minutes

- Depending on the condition of the mirror inside the tip, the scan data quality may be greatly affected.
- Be sure to check the condition of the mirror before using the tip.
- If there are any foreign substances or stains on the mirror inside the tip, clean before use. If there are scratches or stains on the mirror, discard the tip.
- Autoclaving the tip in a sterile bag (or pouch) that is not completely sealed can leave marks on the mirror that cannot be removed. For details, refer to the autoclave operating instructions.

- Visually inspect the scanner tip for signs of degradation. Discard if damaged.
- Use of damaged tips may cause unintentional injury to the patient.

7.3.2. Main body

- Clean and disinfect the intraoral scanner body after scanning is finished and the equipment is turned off.
- For general cleaning, use a soft cloth and disinfectant solution. For the disinfectant solution, the following products are recommended to prevent damage to the product.

  [Recommended product specifications]

  Ethyl alcohol or ethanol (60-70% Alc/Vol)
- For the front optical lens of the main body, as with the mirror inside the tip, care must be taken to avoid foreign substances and smudges.
- If washing with the power on, you must be careful as the cleaning solution may get into the product and cause a malfunction. After washing, the main body should be completely dried before use.
- Read and follow the warnings and personal protection instructions provided on the safety data sheet (SDS) for the disinfectant used on the scanner for reuse.
- Gloves must be worn when cleaning and disinfecting the scanner.
- Do not place the scanner in a steriliser or immerse in water or disinfectant solutions.
- Excessive liquid may damage the scanner.
- When disinfecting the scanner, do not use cotton products, clothing or tissues soaked in disinfectant.
- If the scanner is contaminated with blood or bodily fluids, it must be cleaned prior to disinfection.

- The scanner must be thoroughly disinfected after each patient visit.

7.4. Long-term safe storage

- After washing the scanner body and tip according to 7.5.1. above, put them in a designated storage box to prevent loss of the device or loss of components during storage.
-

7.5. Troubleshooting

Symptom	Cause	Solution
The margins are not scanned clearly	If there is too much saliva or blood around the margins	Clean the margins and scan again
Real-time matching is not possible because the scanner is lost during scanning	If matching failed because the scanner moved too fast	Place the scanner at the lost position and start scanning again. Scan around until you find a match
If the upper and lower jaws are reversed	If the lower jaw was scanned during the upper jaw scanning stage, and the upper jaw was scanned during the lower jaw scanning stage	Delete the existing data and scan again from the upper jaw
If automatic matching of the upper and lower jaw fails	1. If there is insufficient matching information due to insufficient lateral scan	Return to the Occlusion scan stage and scan the lateral side
	2. If the patient's tooth shape is not suitable for automatic matching	Click the Manual Matching button to manually match 1 point
If the scan data is not of good quality between the teeth	The area between the teeth may not be scanned well when scanning the side of the arch	The angled tip could be used to scan properly between the teeth
If occlusion is mismatched	Scanning only one side of the interlocked upper and lower jaws could result in misalignment during matching operation	Scan the other side to obtain the complete scan data. Using the complete scan data will give a correct match

The connection between the scanner and PC is lost	The scanner cannot connect to the PC via Wi-Fi or the PC is connected to another scanner's Wi-Fi signal	Check click "Reconnect" according to the software prompt
The device is not working	The power switch does not work	Check the power connection and supply status (external power supply)
	The connection does not work	Check your PC's network configuration
		In the case of wired connection, check the cable
	The LED indicator does not work	Check if the power is on
	The fan cannot be heard during operation of the scanner	Wait 60 seconds
	The function button does not work	Check if the device and the PC are connected and rerun the software
The software is not working	The device is operating but the program does not run	Check the software installation status and reinstall it
	The device is operating but the program is not connected to the device	Check the Ethernet connection status on the PC side
	When you run the program, a message appears telling you that certain files cannot be loaded	Uninstall and reinstall the software
	The scan is frequently interrupted while the program is running	Check the Ethernet connection status on the PC side
	During program operation, the program speed is very slow	Shut down all programs on your PC and reboot your PC
	An unresolved error message appears while the program is running	Exit the software and run it again
	It terminates unintentionally while the program is running	Run the software again
	It shuts down repeatedly while the program is running	Shut down all programs on your PC and reboot your PC

8. Disposal

8.1. Tip disposal

- Tips must be sterilised before disposal.
- Tips must be disposed of in accordance with standard operating procedures or national regulations for the disposal of contaminated medical waste.

8.2. Main body disposal

- The 'FREEDOM Air' main body contains certain materials and compounds used in the manufacture of electrical and electronic equipment that may pollute the environment if improperly disposed of at the "end of shelf life" of the equipment.
- Therefore, this product cannot be disposed of in the same way as normal household waste but must be disposed of in accordance with applicable national electrical and electronic waste regulations and directives, and must be disposed of as special disposal items within the EU.

9. Contact information

9.1. Manufacturer's address

DOF Inc

#B204,601,602,603, 77, Seongsuil-ro, Seongdong-gu, Seoul, Republic of Korea

Product usage and support inquiries

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9.2. Overseas

9.2.1. US branch

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9.2.2. European representative

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■ Revision History

No.	Rev. No.	Date revised	Description of changes	Comments
1	0	2025-01-02	Initial release	
2	1	2025-06-02	Corrections related to the calibration kit	