

7Series

Instructions for Use

Original Instructions for Use

Model DW-7-140



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1. About this guide

These Instructions for Use are valid for the product life cycle of your device and its software unless new instructions are published within this period.

The provided instructions contain important information on the safe and appropriate use of your scanner and its software. Make sure to have read and understood this document prior to working with the device. In case of questions, contact your local distributor.

Please keep this document for future reference.

Electronic Instructions for Use

Instructions for Use for your scanner are provided in electronic form. They are stored on your scanner. Additionally, Dental Wings Instructions for Use may be accessed from our IFU website at:
<http://ifu.dentalwings.com>

1.1 Disclaimer

This device is designed for use by persons who have appropriate knowledge in dentistry and dental laboratory technology.

The user of this device is solely responsible for determining whether or not this device is suitable for a particular patient case and circumstances. The user is solely responsible for the correctness, completeness and adequacy of all data entered into this device and the provided software. The user has to check the correctness and accuracy of the results and to assess each individual case.

Dental Wings products must be used in accordance with their accompanying instructions for use. Improper use or handling of Dental Wings products will void the warranty, if any, given for Dental Wings products. If you require additional information on the proper use of Dental Wings products, contact your local distributor. The user is not allowed to modify Dental Wings products.

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Updates to hardware and software components are made regularly. Therefore, some of the instructions, specifications and pictures contained in these Instructions for Use may differ slightly from your particular situation. Dental Wings reserves the right to revise or make changes or improvements to this product or documentation at any time without obligation to notify any person of such revisions or improvements. The user is obliged to study the latest developments regularly.

Third party products and product data

When scanning and designing cases, the user may work with third party products and/or product data. Dental Wings, its subsidiaries, or distribution partners disclaim any liability for damages in connection with or arising from such third party product data or products being used within this scope.

1.2 License, trademarks and other rights

Software licenses

Your scanner software is protected by a license agreement and may be used or copied only in accordance with the terms of this agreement. It is illegal to copy or use the software on any medium except those permitted in the license agreement.

Some of the software applications may require an additional license key. Contact your local distributor for more information.

Availability

Some of the products and accessories mentioned in these Instructions for Use may not be available in all countries.

Trade names and trademarks

Dental Wings, DWOS[®] and coDiagnostiX[™] are trademarks or registered trademarks of Dental Wings.

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Copyright

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2. Introduction and overview

2.1 Intended use

The 7Series is intended to be used by dental laboratory professionals as dental 3D scanner for positive and negative models (impressions).

2.2 Device description and features

This device is an optical 3D scanner.

Device variants and configuration

The device is delivered in the following variants and configuration:

- With the distributor logo and color
- With a distributor-specific set of accessories
- With a distributor-specific software configuration
- With a country-specific power cord
- With or without standard PC peripherals

If standard PC peripherals are not included in the delivery, the following items will be required to use the scanner as intended:

- Monitor (21 inches) with DVI, VGA or HDMI ports and a minimum screen resolution of 1600 X 1080 pixels
- Keyboard (USB or PS/2)
- Two-button mouse with scroll wheel (USB or PS/2)
- Network cable (RJ45)
- Uninterruptible power supply to protect against power interruption and voltage fluctuation; for the operating voltage of your device see *Technical data and label (p.36)*.

The multi-die holder contains mounting putty to hold the dies. You may replace the delivered mounting putty with an equivalent material which:

- is non-reflecting, non-staining, non-toxic, removable without trace
- has sufficient plasticity in the operating temperature range

Principles of operation

Cases scanned and designed with DWOS are called "order". The order number is a unique identifier used to identify the order and manage the case during the entire process. Generation of such order number is the first of four main steps most commonly used in the system.

The four main steps are:

1. Creating the order (*see Step-by-step scanning instructions, p. 22*)
2. Scanning the physical model to create a digital 3D model (*see Step-by-step scanning instructions, p. 22*)
3. Designing the restoration
4. Exporting the order for production (choose between in-house and out-sourced production)

For complete software instructions, refer to DWOS User Help.

2.3 Accessories and products used in combination

Only use accessories specified by the manufacturer. A list of accessories and products which may be used in combination with this scanner is included in chapter *Technical data and label (p.36)*.

The scanner scans all lambertian materials. Scanning accuracy has been validated with the material LeanRock XL5 (Whip Mix Corporation). Other plaster, wax-up and impression materials may, in principle, be suitable as well. However, the user has to validate their compatibility with the device. Surface coating may improve the scannability of the material.

Please note, the scanner is available in different configurations. For device variants and optional PC peripherals, see chapter *Device variants and configuration (p.8)*. Information on distributor specific accessory sets can be obtained from your local distributor.

2.4 Indications

The scanner is a non-contact optical 3D scanning device for use in dental laboratories or dental practice. The device is designed for use by persons who have appropriate knowledge in dentistry and dental laboratory technology. Users must also have basic skills to operate a computer. The device combines laser triangulation technology with free movement of axes and scans both positive and negative models (impressions). The software digitally replicates the obtained data on the PC screen.

2.5 Contraindications

The scanner is not intended to be used in direct contact with the patient nor is it intended to be used with life-sustaining devices.

2.6 Precautions

This scanner is capable of very precise scanning. To achieve scanning accuracy, comply with all the given instructions. Keep the scanner door closed while scanning.

The scanner is suitable for use in laboratories, dental offices and equivalent environment. However, the protection against dust and water has not been specifically tested.

Install the scanner in accordance with the instructions. Before any maintenance action, unplug the scanner from the power outlet.

Keep the original packaging of the scanner for safe transportation in case of service, repair and disposal. Unpack and pack your scanner following the instructions.

The scanner is a class 1 laser product. Do not open the scanner door while scanning (power button fading in and out blue). Viewing directly or with optical instruments into the laser beam will lead to physical injury of your eyes.

According to applicable EMC regulation, this is a class A product. In a domestic environment this product may cause radio interference, in which case the user may be required to take adequate measures.

The scanner contains moving parts. Do not open the scanner door while scanning (power button fading in and out blue). Reaching into moving scanner parts will lead to physical injury of body parts or damage your scanner, accessories or objects.

Disinfect physical models, which had been in patient contact, according to the material manufacturer's instructions before placing them into the scanner. Never put contaminated physical models into the scanner.

Cleaning & disinfection shall be done before and immediately after each use, and prior to service, repair and disposal to prevent cross-contamination.

Calibrate the scanner after each transport, when the scanner had been exposed to high temperature changes and in all cases when you are requested by the software or when you are not sure of the device's scanning accuracy.

Be very careful with your calibration elements, their surface is fragile. The calibration elements have to be protected from any alteration. If not in use, the calibration element should be stored in the accessory box. If you are running several scanners, take care not to exchange calibration elements.

Always ensure a biunique relationship between patient, scan and treatment case.

Backup your data at regular intervals. It is the responsibility of the user to perform and maintain data backups in order to prevent loss of data.

Use a strong password to reduce the risk of intrusion.

Do not install or uninstall software on the system.

Use surface coating only if it is absolutely necessary. Apply a uniform and very thin layer to ensure model characteristics are not modified by the coating. Do not apply surface coating directly within the scanner. Always comply with the instructions given by the surface coating manufacturer.

Make sure the scanner is placed in a safe and stable position.

Do not dispose of this device as unsorted municipal waste. Collect separately.

2.7 Compatibility information

This scanner is compatible with DWOS version 5.0 and higher.

2.8 Further information

Dental Wings and its products are registered in the main markets. If you have any questions, please contact your local distributor.

For more information on the products used in combination with your scanner, please refer to the following sources of information:

DWOS:

- DWOS Instructions for Use
 - Open the **Dental Desktop**, navigate to the **Resources** panel and click the **DWOS Instructions for Use** icon. In addition to this, DWOS Instructions for Use may be accessed from our IFU website at: <http://ifu.dentalwings.com>
- DWOS User Help providing complete software instructions
 - Click on the **Help** icon in the toolbar to open the **DWOS User Help**. 
 - For context-sensitive help, click the small icons placed in the designer windows throughout the software. 

coDiagnostiX

- coDiagnostiX Instructions for Use
- coDiagnostiX User Help

2.9 Scope of delivery

Your scanner is delivered in a box.

For accessories which are included with your delivery, see chapter *Technical data and label* (p.36). Information on the contents of distributor specific accessory sets can be obtained from your local distributor.

PC peripherals do not come standard with your delivery, but may be included in distributor specific configuration variants. Contact your local distributor for information.

For instructions on how to unpack and install your scanner, see chapter *Installation* (p.14).

2.10 Disposal

Caution

Clean & disinfect prior to disposal to prevent cross-contamination.

Electrical and electronic devices must be disposed of separately from normal household waste in order to promote reuse, recycling and other forms of recovery, to avoid adverse effects on the environment and human health as a result of the presence of hazardous substances in some of their components and to reduce the quantity of waste to be eliminated with a view to reducing landfill. This includes accessories such as remote controls, power cords, etc.



 **Caution**

Do not dispose of this device as unsorted municipal waste. Collect separately.

For details on how to dispose of your device and its packaging, please contact your local distributor.

3. Installation

Your scanner is sent in a box.

⚠ Caution

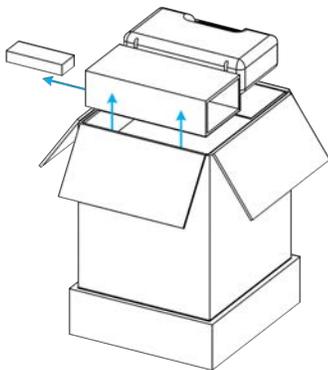
Keep the original packaging of the scanner for safe transportation in case of service, repair and disposal. Unpack and pack your scanner following the instructions.

For instructions on how to unpack your delivery and set up your system, see below. For instructions on how to pack the scanner, see chapter *Packing the scanner* (p.34).

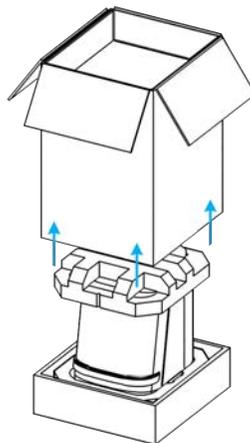
Unpacking the scanner

Remove the individual components (foam parts) while unpacking the scanner. Store the foam components in a safe place in case you need to transport or ship the scanner in future.

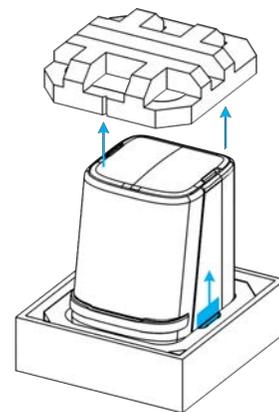
1.



2.



3.

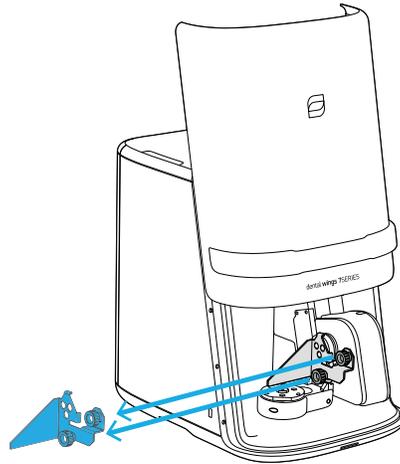


Removing the transportation bracket

There is a bracket inside the scanner to protect the device during transportation. The bracket must be removed before use.

To remove, open the scanner, unscrew the two knobs and remove the bracket.

The bracket and knobs should be stored for later use and reinstalled prior to transportation. We suggest that they be stored in the accessory case.



Setting up the scanner

Caution

Install the scanner in accordance with the manufacturer's instructions.

The scanner is suitable for use in laboratories, dental offices and equivalent environment. However, the protection against dust and water has not been specifically tested. For details see chapter *Technical data and label* (p.36).

Do not install the scanner in places with high temperature differences, near heat sources, in direct sunlight or in damp environment (e.g. exposed to splash water). Do not expose this device to rain or moisture. Do not install the scanner in dusty environment.

To prevent fire or shock hazard, do not use the plug with an extension cord.

Protect the power cord from being walked on and from pinching.

Do not block any ventilation openings.

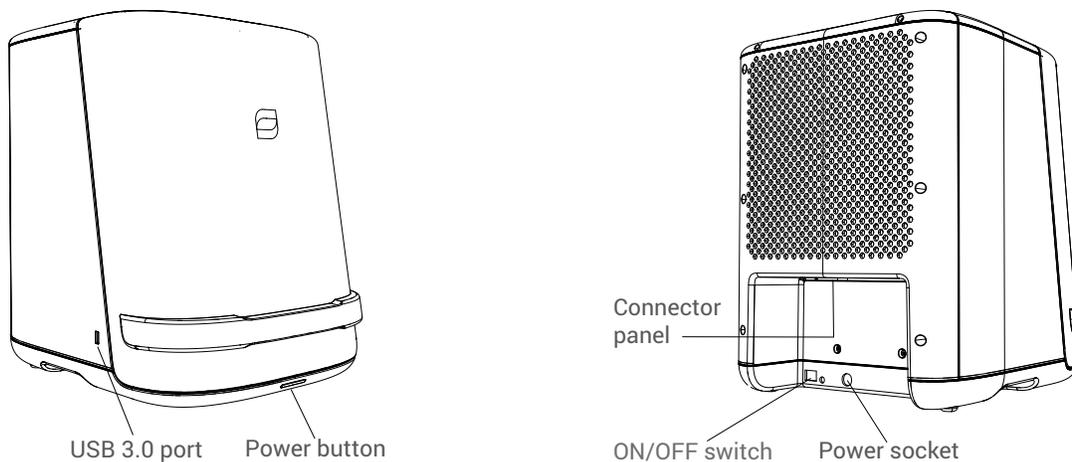
To reduce the risk of electric shock, do not remove the cover (scanner top panel). Refer servicing to authorized service personnel.

The scanner must be turned off before plugging or unplugging any device or cable.

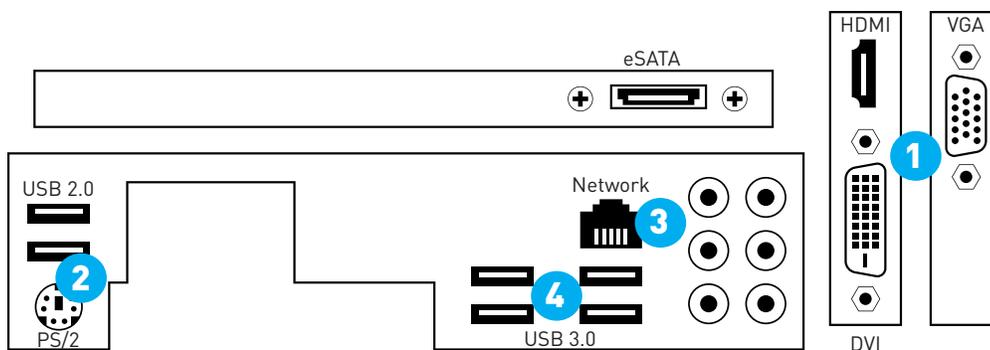
You must unplug the power supply cord to disconnect the device from the power supply. With this in mind, the power outlet should be located close to the device and should also be readily accessible.

Do not install or uninstall software on the system.

Scanner control elements and ports



Connector panel



- Plug the monitor in the DVI (white), HDMI or VGA (blue) port [1].
- Plug the mouse and the keyboard in the USB 2.0 ports [2].
- Plug the network cable in the network port [3].
- Plug the dongle in a USB 3.0 port [4].
- Assemble the power supply. Plug it into the scanner first and then into the power outlet. Turn on the ON/OFF Switch on the back.

You must unplug the power supply cord to disconnect the device from the power supply. With this in mind, the power outlet should be located close to the device and should also be readily accessible.

To start the scanner, press the Power button on the front of the scanner. The button will light up in white.

After booting, your scanner is ready to be driven by DWOS[®] (Dental Wings Open Software). For further instructions read *Basic principles and user interface* (p.18) and *Scanning* (p.21).

Please note, the dongle holds the software license information. Without the dongle, the software of the scanner will not start.

Installation check

To confirm correct installation of your device, proceed as follows:

- Calibrate your scanner (see *Calibration (pre-use check)*, p. 28).
- Scan a model or an impression (see *Step-by-step scanning instructions*, p. 22).

If you are satisfied with the results, the device has been installed correctly.

System language

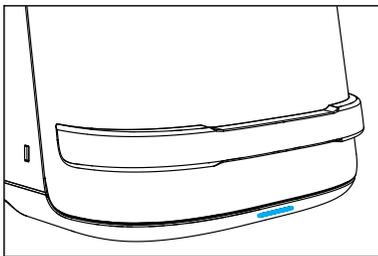
The system language is usually preset. If this is not the case, contact your local distributor.

4. Basic principles and user interface

4.1 Starting scanner and software

Scanner controls

The Power button is used to switch on the scanner. Its color indicates the status of the scanner.



Color	Scanner status
White, fading in	Power on
White, fading out	Power off
Blue, fading in & out	Scanning

Starting scanner and software

1. Make sure the ON/OFF switch on the back is turned on.
2. Press the Power button on your scanner.
3. Enter your Windows® login.
4. The Dental Desktop starts after you have logged in. Switch between the tiles by moving the mouse cursor and select an app or icon by clicking on the respective symbol.



Exiting the software and shutting down the scanner

- Click the cross in the upper right corner to exit the software.
If a multi-station configuration is installed, repeat the exit procedure on all PCs to completely shut down the DWOS application.
- Right-click on the DWOS icon in the lower right corner of the Windows taskbar and close the DWOS server.
- Shut down Windows® with the usual procedure.

4.2 User interface

DWOS software is mainly icon-driven. The main horizontal toolbar allows running DWOS software applications, such as order creation, scanning, restoration design etc. The symbols included in and functions available through the toolbar may vary and depend on the software package and the applications finally installed on your scanner (see *Software applications, p. 41*).



Order creation



Start model or impression scanning



Start multi-die scanning



Start restoration design



Exit the DWOS software

For complete software instructions, refer to DWOS User Help.

Mouse handling

DWOS software requires a mouse with two buttons and a wheel. Mouse interaction follows the principles below:

- Left click: menu, icon selection, point definition
- Right click: definition, validation, access to local menu
- Rotate the wheel: zoom in/out
- Press and hold the wheel while dragging the mouse: translate view
- Press and hold the right button while dragging the mouse: rotate view
- Press and hold the CTRL button while rotating the wheel: generates a cross-section of the view
- Double click on the left button: center and resize the view
- Double-click on the right button: switch between perspective and parallel projection

5. Scanning



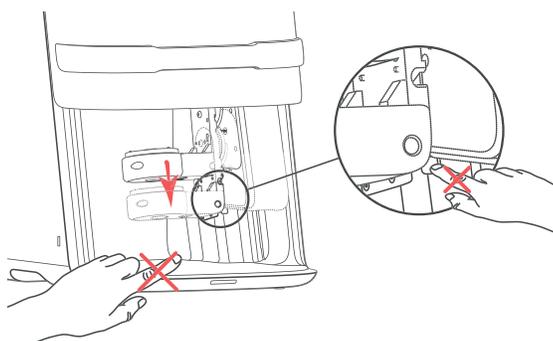
The scanner is a class 1 laser product.

Caution

Do not open the scanner door while scanning (power button fading in and out blue).

Viewing directly or with optical instruments into the laser beam will lead to physical injury of your eyes.

Reaching into moving scanner parts will lead to physical injury of body parts or damage your scanner, accessories or objects.



The scanner contains moving parts. Position your scan objects (positive and negative models) and accessory parts as described in this chapter and make sure they do not reach into the affected areas.

Scanning accuracy

This scanner is capable of very precise scanning. For scanning accuracy as measured according to Dental Wings testing standard, see *Technical data and label* (p.36). Make sure your scanner is appropriately calibrated, see chapter *Calibration (pre-use check)* (p.28).

For the material used to validate the scanner, see *Accessories and products used in combination* (p.9).

Caution

To achieve scanning accuracy, comply with all the given instructions. Keep the scanner door closed while scanning.

5.1 Scanning portfolio

The following cases can be scanned with your scanner:

- Complete models
- Single dies on a model
- Single dies on a multi-die plate
- Abutments
- Neighboring teeth (adjacent)
- Bite registrations
- Occlusion keys
- Wax-ups

5.2 Step-by-step scanning instructions

Preparation

For physical models, use only material which is intended to be used for scanning (*see Accessories and products used in combination, p. 9*). See the material manufacturer's instructions for use.

Disinfect physical models, which had been in patient contact, according to the material manufacturer's instructions before placing them into the scanner.

For reflecting surfaces, surface coating may be required. Suitable coating shall be intended to be used for intra- or extra-oral application in digital dentistry for matting surfaces and enhancing contrast on objects to be scanned. Follow all the instructions given by the surface coating manufacturer.

Caution

Never put contaminated physical models into the scanner.

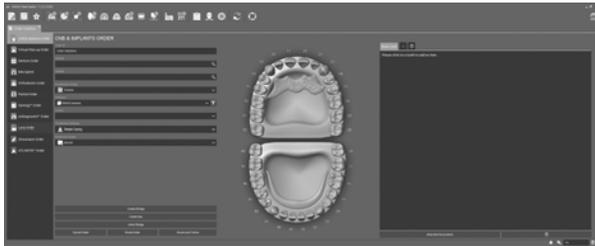
Use surface coating only if it is absolutely necessary. Apply a uniform and very thin layer to ensure model characteristics are not modified by the coating. Do not apply surface coating directly within the scanner.

Always comply with the instructions given by the surface coating manufacturer.

Creating an order

Order creation is an essential part of each scanning process

1. Create an order.
A new order number is automatically generated. This automatically generated number can be changed. However, it is not possible to re-use an existing order number.
2. Assign a dentist.
3. Assign a patient of this dentist.



Caution

Always ensure a biunique relationship between patient, scan and treatment case.

Scanning

Copings: For copings, only the associated dies need to be scanned.

Bridges: To model bridges, scanning must comprise the following sub-steps:

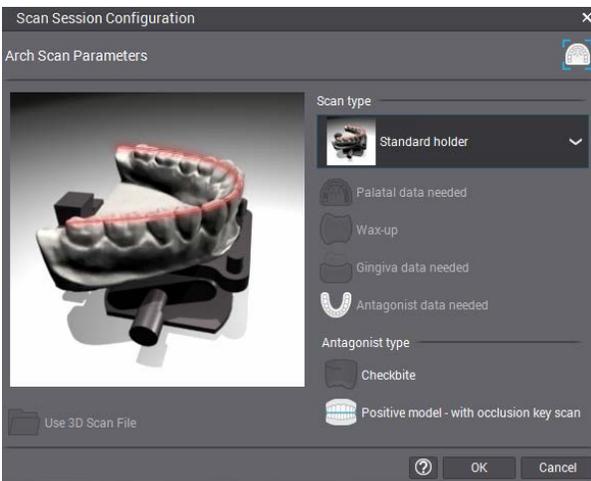
- Model
- Associated dies and, if required, neighboring teeth
- If necessary, bite registration, antagonist or wax matrix

Scanning a model

1. Place the plaster model in the holder.
2. Screw to fix it.
3. Create an order.
4. Open the scan application.



5. Choose the model holder



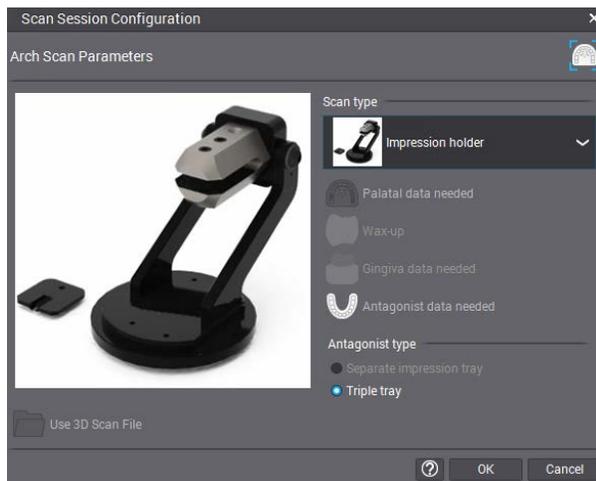
6. Start the scan and follow the instructions on the screen.

Scanning an impression

1. Create an order.
2. Open the scan application.



3. Select the impression holder.



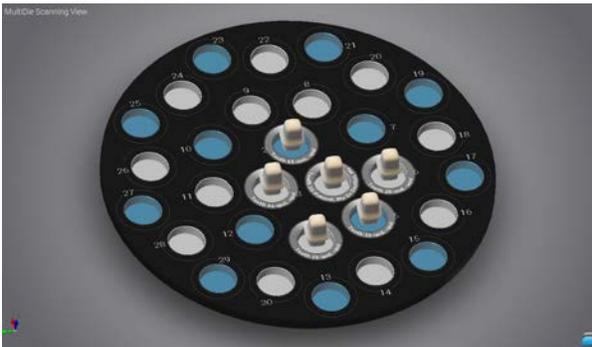
4. Place the impression tray (individual or triple) and/or wax-up inside the holder and follow the instruction on the screen to scan.

Scanning with the multi-die holder

1. Create an order.
2. Open multi-die application.



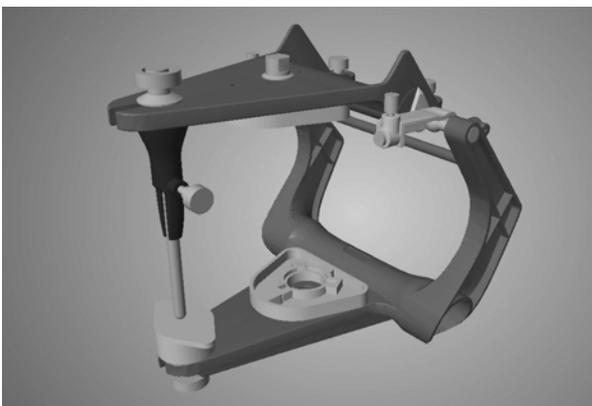
3. Assign the die on the multi-die plate.



4. Start the scan and follow the instructions on the screen.

SAM Articulator calibration and use

1. Assemble the articulator (further referenced as virtual articulator).
2. Calibrate the virtual articulator to match the real articulator.

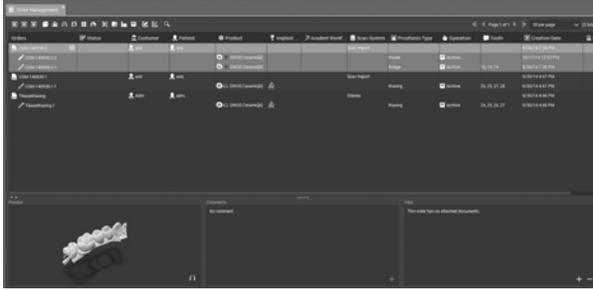


3. Create an order.
4. Create a model assembly with the proper mounting plates and use the interface plate for scanning.
5. Use the virtual articulator when designing a case.

For detailed scanning instructions see the DWOS User Help.

Archiving/backup

1. Open the **Order Management** view.
2. Select the order to be archived or backed up.



3. Right-click and select **Backup** and **Purge**.
4. Select the directory.
5. Click **OK**.
6. The order will be exported and removed from the database. If required, the order can be re-imported at a later point of time.

Caution

Backup your data at regular intervals. It is the responsibility of the user to perform and maintain data backups in order to prevent loss of data.

Use a strong password to reduce the risk of intrusion.

6. Maintenance

6.1 Calibration (pre-use check)

This scanner is capable of very precise scanning. For scanning accuracy, see *Scanning accuracy* (p.21).

Calibration adjusts scanner parameters and ensures accuracy of the scans. It is a fully automatic process based on the measurement of known specific physical elements (plate, sphere...) that are specific to your scanner.

Caution

Calibrate your scanner as advised to ensure scanning accuracy.

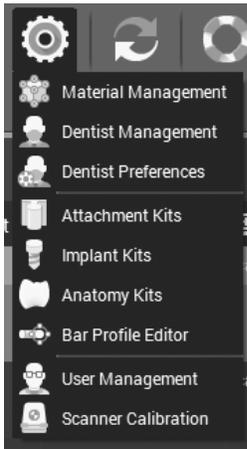
Calibrate the scanner after each transport, when the scanner had been exposed to high temperature changes and in all cases when you are requested by the software or when you are not sure of the device's scanning accuracy.

Fast calibration

Fast calibration is required in the following cases:

- Scanner has been moved.
- Scanner had been exposed to great temperature changes.
- Quality of scanning results declined.

1. Press the gear icon in the main toolbar and select **Scanner Calibration**.



2. Select the calibration option and press the **Fast** button.
3. The software request to insert the calibration element and close the scanner door.
4. Do so and press **Start**.
5. The software displays the status of the calibration process.
6. Confirm completion of calibration.
7. Remove the calibration element from the scanner.

For a detailed description refer to the DWOS User Help.

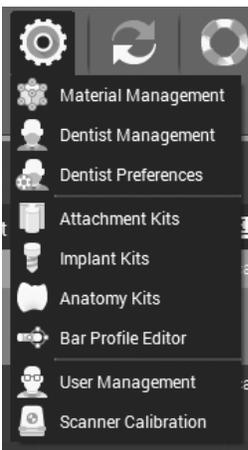
Caution

Be very careful with your calibration elements, their surface is fragile. The calibration elements have to be protected from any alteration. If not in use, the calibration element should be stored in the accessory box. If you are running several scanners, take care not to exchange calibration elements.

Loading a calibration file

The software may request you to load a calibration file, e.g. after system reinstallation.

1. To start calibration, press the gear icon in the main toolbar and select **Scanner Calibration**.



2. Select **Load Calibration File**.
3. Navigate to the following directory :
C:\DWOS\ScanNNNN\Calibration
(NNNN stands for the serial number of your scanner)
4. Select the calibration file (file with the ".cal" extension) and load it.

6.2 Handling

Unplug this device during lightning storms or when unused for long periods of time. Please note that the product warranty does not apply if damage to the product is the result of a lightning strike.

Caution

Before any maintenance action, unplug the scanner from power outlet.

To reduce the risk of electric shock, do not remove the cover (scanner top panel). Refer servicing to qualified service personnel.

Transportation

Always use the original packing to transport the scanner. For instructions on how to pack and unpack the scanner, see *Packing the scanner (p.34)* and *Installation (p.14)*.

Caution

Calibrate the scanner after each transport.

6.3 Cleaning and disinfection

Scanner, accessory parts and PC peripherals

Make sure your scanner is always clean, dry and dust-free. Unplug from mains when cleaning. Use a damp cotton cloth to clean the outside. Use a vacuum cleaner to clean the inside. Keep a safe distance to any parts of your scanner while doing so. Never use compressed air to clean the inside. Never clean optical components.

Make sure your accessories are always clean, dry and dust-free. Never clean them inside your scanner. Take them out and close the scanner door before cleaning. Use compressed air to clean accessories. Always comply with the instructions given by the manufacturer of your compressed air device.

Clean your standard PC peripherals as recommended by their manufacturers.

Caution

Before any maintenance action, unplug the scanner from power outlet.

Clean and disinfect before and immediately after each use, and prior to service, repair and disposal to prevent cross-contamination.

Physical models

Physical models, which had been in patient contact, must be disinfected according to the material manufacturer's instructions before being placed into the scanner. Never put contaminated physical models into the scanner.

6.4 Service

Caution

Clean & disinfect prior to service to prevent cross-contamination.

To reduce the risk of electric shock, do not remove the cover. Refer servicing to authorized service personnel.

Do not replace components of the scanner without the prior authorization from your distributor. Refer servicing to authorized service personnel.

Service is required when the device has been damaged in any way, has been exposed to rain or moisture, does not operate normally, or has been dropped. Contact your local distributor.

When returning your scanner for service or repair, pack the scanner as described in *Packing the scanner* (p.34).

7. Troubleshooting

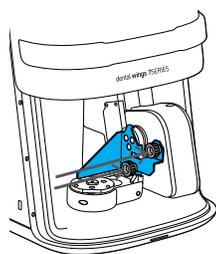
Question: My plug does not fit into the power outlet.

Answer: Consult your local distributor and check if the correct power cord has been delivered. If you received the correct power cord for your country or region, but your power outlet is obsolete or not in compliance with local standards, consult an electrician for replacement of your power outlet.

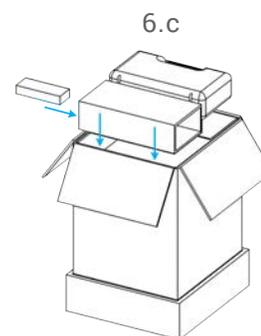
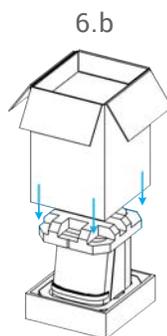
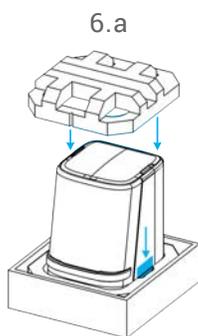
Do not defeat the safety purpose of the polarized or grounding-type plug. A polarized plug has two blades with one wider than the other. A grounding type plug has two blades and a third grounding prong. The wide blade or the third prong is provided for your safety.

8. Packing the scanner

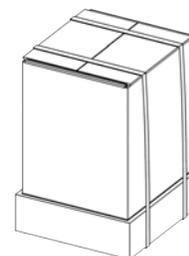
1. Set your scanner to **Transport** position:
 - Click the gear icon in the toolbar.
 - Select **Scanner Calibration** from the menu.
 - Click the **Transport Position** option.
2. Exit the software and shut down your scanner (for details see *Basic principles and user interface (p.18)*).
3. Turn off the ON/OFF Switch on the back of the scanner.
4. Unplug your scanner.
5. Reinstall the transportation bracket.



6. Pack the scanner as shown in the pictures below:



7. When returning scanners for repair or service, seal the packaging with reinforced tape (3M 8915 STANDARD STRAPPING TAPE or equivalent) to avoid damage to the device and accessory parts during shipment. Ensure the tape is securing bottom and top component of the packaging by applying a minimum of two straps of tape all around the two packaging parts.



9. Distributors and service

Refer servicing to authorized service personnel. Contact your local distributor if your scanner needs to be repaired or if you need technical support for the scanner software.

Alternatively, contact support@dental-wings.com (in English, French or German).

10. Technical data and label

Technical data	
Model designation	DW-7-140
System input (scanner plus external power supply)	100–240 volts AC, 50–60 Hz, 230 W
Scanner input	24 volts DC, 11.67 A
LED risk group (acc. IEC 62471)	Exempt
Laser class (acc. IEC 60825)	Class 1
Laser diode power	5 mW
Laser wavelength	405 nm
Protection class	IPX0; No special protection.
Protection class (electrical)	Class 1 Equipment; Basic insulation, relies on an earth for protection. The earth connection is achieved with a 3-conductor mains cable ending in a 3-prong AC connector which shall be plugged into a corresponding AC outlet.
Pollution degree	2; Normally only non-conductive pollution occurs. Temporary conductivity caused by condensation is to be expected.
Dimensions crated (W x L x H)	590 mm x 640 mm x 780 mm (23.2" x 25.2" x 30.7")
Dimensions uncrated (W x L x H)	375 mm x 470 mm x 480 mm (14.8" x 18.5" x 18.9")
Weight crated (scanner, standard accessories & shipping box)	35 kg (77 lbs)
Weight uncrated (scanner only)	23.5 kg (52 lbs)
Computer/OS	Integrated computer, Core i7-6700k, 16 GB RAM 500 GB SSD Graphic card R7 240, 2 GB of dedicated RAM Windows 7, 64 bits
Screen ports	DVI, HDMI & VGA

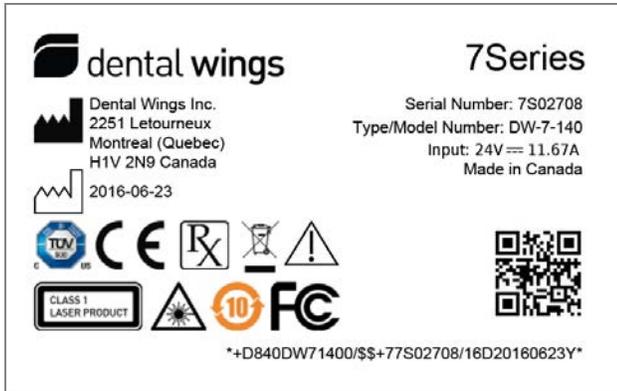
Technical data	
Dataports/network port	2 x USB 2.0; 5 x USB 3.0 1 x eSATA 1 Ethernet port
Output format	Open 3D geometry data (e.g. STL files)
Data transfer	File sharing with removable devices (e.g. USB stick), via network, or cloud sharing through DWOS Connect

Ambient conditions	
Operating temperature	10°C to 40°C
Relative humidity	20 % to 80 %
Storage conditions	-20°C to 40°C, controlled moisture (no condensation)

Scanning parameters	
Scanning volume	140 mm x 140 mm x 140 mm
Optical technology	Laser light 2 high-speed measuring cameras 1 color video camera
Number of axes	5 (3 rotative, 2 linear)
Scanning accuracy	15 µm according to Dental Wings testing standard
Scannable material	Plaster, wax-up and impression materials (see <i>Device description and features</i> , p. 8)

Scanner label

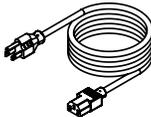
This is an example of the label on your device.

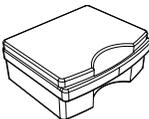
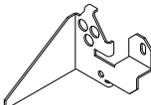
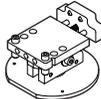
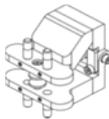
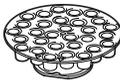


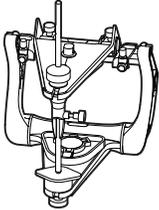
The label on the device shows its legal manufacturer. The country of origin of the legal manufacturer defines which certifications and Declarations of Conformity apply to your device.

Certifications

Dental Wings Inc. Canada CE, OHSA, Canada (SCC)

Accessory part	Standard	Optional	Part No.	Image	Intended use
External power supply with power cord	●		21-0041		The external power supply connects the scanner to mains.
Country-specific power cord	●		22-025 (US) 22-026 (EU) 22-044 (UK)		The country-specific power cord connects the power supply to mains.
Dongle	●		28-0003		The dongle holds the license information for the scanner software.

Accessory part	Standard	Optional	Part No.	Image	Intended use
Shipping box (for 7Series)	●		2170-2		This box serves as (replacement) box for return shipment.
Accessories box, empty (for 3Series & 7Series)	●		70-0017		The accessories box protects the scanner accessories when not in use.
Shipping blockage angle (for 7Series)	●		40-0048		The shipping blockage angle is installed during transportation to prevent scanner parts from moving.
Calibration plate (for 3Series & 7Series)	●		2050-2		The calibration plate is used to calibrate the scanner.
Hexagonal key 3 mm	●		19-0013		The hexagonal key is used to tighten the model inside the model holder to ensure the model is really tied up.
Model holder (for 3Series & 7Series)	●		2003-2		The model holder is used to scan a plaster model and/or occlusion key.
Occlusor		●	2163-1		The occlusor is used to create a virtual model and to keep this model in occlusion.
Multi-die plate holder – 30 slots	●		2160-1		The multi-die holder (also referenced as multi-die plate) is used to scan single segmented dies.

Accessory part	Standard	Optional	Part No.	Image	Intended use
Impression holder (for 3Series & 7Series)	●		2004-2		The impression holder is used to scan wax-up and impression tray.
SAM [®] articulator model holder (for 3Series & 7Series)	●		2151-1		The articulator simulates the positioning and movements of both arches for scanning and design purposes.
Universal articulator calibration kit	●		2150-2		The SAM [®] articulator is delivered not assembled, in a plastic case, along with its own user manual and accessories.
SAM [®] articulator	●		03-0009		
Axis Finder holder (for 3Series & 7Series)		●	2005-2		The axis finder holder is used to scan a Vertex [®] model.
Artex [®] articulator compatible model holder (for 3Series & 7Series)		●	2152-1		The Artex [®] articulator compatible model holder is used to scan an Artex [®] compatible model.
Interface plate (for 3Series & 7Series)		●	35-0013		The interface plate provides an alternative method to scan positive models.

Software applications	Included with Synergy package	Included with Productivity package	Optionally available
Crown & Bridge	●	●	
Implant Prosthetics	●	●	
Partial Frameworks	●	●	
Full Dentures	●		●
Model Builder	●	●	
Bite Splints	●		●
Orthodontic Archiving	●		●
Rapid Prototyping	●	●	
CAM Module			●
Guided Surgery	●		●

11. Explanation of symbols

	Indicates the device's legal manufacturer
	Indicates the date when the device was manufactured
	Caution, consult Instructions for Use for important cautionary information.
	Laser radiation
 	Class 1 laser product acc. to IEC 60825-1
	Direct current
	Device fulfills the requirements of the European directives given on the EU Declaration of Conformity.
	Compliance with U.S. Occupational Safety and Health standards as well as SCC requirements (Canada)
	Device complies with part 15 of the FCC rules.
	Environment friendly use period acc. to China RoHS
	Caution: US Federal law restricts this device to sale by or on the order of a licensed health-care practitioner.
	Contents of the transport package are fragile. Handle with care.



Indicates the correct upright position of the transport package



Do not dispose of this device as unsorted municipal waste. Collect separately.



EU Declaration of Conformity

Manufacturer

**Dental Wings Inc.
2251 Letourneux
Montreal, Quebec
Canada, H1V 2N9**

declares under sole responsibility that the dental 3D scanner

7Series (Model DW-7-140)

meets the relevant provisions of the applicable directives, whereas the following directives require CE marking:

**Directive 2006/42/EC on machinery
Directive 2014/35/EU relating to electrical equipment
Directive 2014/30/EU relating to electromagnetic compatibility
Directive 2011/65/EU on the restriction of the use of certain hazardous substances
(RoHS) in electrical and electronic equipment**

A Technical File has been compiled in accordance with the requirements set out in the applicable directives. The Technical File is available with our authorized representative: Dental Wings GmbH, Düsseldorf Platz 1, 09111 Chemnitz, Germany.

The following information is part of the product:

**Quick Start Guides
Instructions for Use**

To verify the requirements of the directives, the following harmonized standards were applied:

**IEC 61326-1:2012 / EN 61326-1:2013
IEC / EN 61010-1:2010
IEC / EN 60825-1:2007
IEC 62471:2006 / EN 62471:2008**

The appropriate conformity assessment procedures were carried out in accordance with the applicable directives.

Valid for:

SN 7S02689 and higher

Montreal, 2016-04-20

Location, date


Dental Wings Inc.
Michael Rynerson, C.E.O.

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7Series Instructions for Use

EN v. 3.2.1

Distributor stamp