



Cassette Autoclave

ACA5

User Manual



** Picture for Reference Only*

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1 INTRODUCTION

The ACA5 Cassette Autoclave is suitable for the sterilization of dental and medical instruments designed to withstand steam sterilization.

1.1 Intended Use

This ACA5 Cassette Autoclave is intended to be used by healthcare professionals for the sterilization of dental and medical instruments, including hollow instruments, designed to withstand steam sterilization.

There is no absolute contraindication, but it cannot be used to sterilize medical instruments that are not suitable for steam sterilization.

1.2 Manual Contents

This manual consists of the information for the following purposes: installation, operations, and maintenance.

1.3 Expected Service Life

Under normal use and with adherence to the recommended maintenance schedule, the anticipated lifespan of the ADS ACA5 is 10 years. This general timeline is provided for planning purposes only and does not constitute any warranty extension.

Standard wear components are excluded from the expected lifespan estimate.

Regular preventive maintenance is essential for achieving the optimal lifespan and performance of the cassette autoclave.

1.4 Symbol Definitions

This user manual provides definitions for the symbols used throughout the user manual. These symbols are intended to convey important safety, warning, or cautionary information to the user. It is crucial to understand the meaning of these symbols to operate the equipment safely and effectively.

The following symbols can be used throughout this user manual or on the packing boxes:

Symbol	Description
	Protective earth (ground).
	Electrical and electronic waste - Do not dispose with domestic waste. Follow all local regulations for proper disposal.
	Manufacturer of equipment.
	Date of manufacture.
	General mandatory action sign. Not a caution. Take note of additional important instructions.
	Warning. Biological hazard.
	Warning. Failure to follow instructions might result in product damage or serious injury or death.

Symbol	Description
	Temperature shipping and storage limits.
	Relative humidity shipping and storage limits.
	Atmospheric pressure shipping and storage limits.
	This side up.
	Fragile.
	Keep dry.
	Keep away from sunlight
	Catalogue number.
	Serial Number.

Symbol	Description
LOT	Lot Code.
	Mandatory to consult the manual.
MD	Medical Devise
	Stack limit

Symbol	Description
	Warning; Electricity
	Warning; Hot surface
	Steam Distilled Water Only

2 IMPORTANT INFORMATION

2.1 Identification of Danger Levels

To prevent personal injury and property damage, users must carefully review all safety information presented throughout this manual.

Critical warnings and safety precautions are distinctly identified using formatting techniques designed to emphasize their importance. Disregarding these safety guidelines might result in serious harm to individuals or damage to equipment and facilities.

All operators have an obligation to thoroughly study and comply with the provided safety information. Please contact the manufacturer immediately if any part of the safety instructions is unclear or requires further explanation. We aim to promote safe, hazard-free usage of this equipment.



NOTE

It refers to a potentially damaging situation that could harm the product or its surroundings. Precautions must be taken to prevent damage.

2.2 General Safety Precautions

To ensure safe operation of the cassette autoclave, the following safety precautions must be observed:

- Read and understand all instructions fully before operating the cassette autoclave.
- For installation, comply with all local electrical and safety codes.
- Protect the power cable from damage. Do not kink it or let it contact sharp edges, oil, grease, heat, or chemicals.
- Ensure the power source matches the equipment requirements.
- Disconnect all power and control lines before servicing or maintaining the unit. Use lockout/tagout procedures.
- Do not service any parts while the cassette autoclave is running.
- Keep parts clean and protected during maintenance.
- Remove all tools, rags, and loose parts before operation.
- Do not use flammable solvents for cleaning.
- Inspect daily and correct any unsafe conditions.
- Inspect tubes before use. Ensure connections are secure.
- Use only steam-process distilled water in the cassette autoclave. Deionized, demineralized, or specially filtered water must not be used. Never use tap water.
- Only allow the certified personnel to supply parts, service, or maintain the cassette autoclave. The legal manufacturer is not liable for incidental, special or



DANGER

It refers to a serious and imminent danger that could cause severe bodily harm or death. Immediate action is required to prevent potential harm.



WARNING

It refers to a potentially dangerous situation that could cause severe injury or death. These situations must be clearly identified, and preventive measures provided. Users must be aware of the risks and comply with safety guidelines to prevent harm.



CAUTION

It refers to a potentially hazardous scenario that could cause minor bodily injury. These situations must be identified and safety measures provided to mitigate risk. Users must comply with safety guidelines to avoid injury.

consequential damages caused by any maintenance or services performed on the cassette autoclave by a third party, or for the use of equipment or parts manufactured by a third party, including lost profits, any commercial loss, economic loss, or loss arising from personal injury.

- Do not remove the cover of the unit and insert objects through holes or openings in the cabinetry. Doing so might damage the unit and / or pose a hazard to the operator.
- Follow local guidelines governing verification of the sterilization procedure.
- The placement, installation, and calibration of this unit must be performed by the manufacturer, personnel trained by the manufacturer, or other qualified professionals.
- Do not replace the power cord or plug without authorization.
- Do not operate the unit if the power cord or plug is damaged.
- Do not use sharp objects to scratch the screen.
- The equipment must be placed in position not difficult to operate disconnecting device.

2.3 Decommissioning of Equipment

When taking ADS ACA5 out of service, follow the proper decommissioning and disposal procedures in accordance with local regulations.

Electronic components such as circuit boards and electrical cables must be recycled as electronic waste. Metal parts made of aluminum, brass, steel, and iron might be recycled as scrap metal. Injection molded plastic parts are marked with an injection code indicating the type of plastic and must be recycled accordingly.

Appropriate personal protective equipment must be worn when handling contaminated autoclave unit components.

Any component that cannot be recycled must be disposed of through appropriate waste streams. Contact ADS Customer Service for guidance regarding material types and recycling/disposal options specific to your ADS dental equipment.

2.4 Product Safety Classifications

To ensure safe operation, ADS equipment is designed and tested to conform to the following international standards:

Type/Mode	Classification
Electrical Shock Protection	All ADS products with mains voltage are Class I Equipment per IEC 60601-1.

2.5 Working Principle

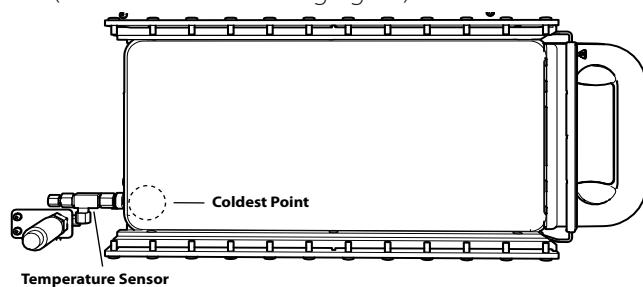
The ACA5 Cassette Autoclave consists of following modules:

- Water supply module
- Sterilization module
- Air drying module
- Steam condenser
- Control module

The main working principle is as follows: The water supply module supplies clean distilled water to the sterilization module. Inside the steam generator, the steam condenser generates high-temperature (250°F - 273°F) saturated steam. This steam is then utilized in a sealed cassette to sterilize instruments for 3.5 to 30 minutes. During sterilization, excess high-temperature steam is condensed in the exhaust steam processing module. After the sterilization, high-temperature steam and condensed water remain in the cassette. Air drying module works for ventilation and drying. Finally, the instruments in the cassette are dry and sterile.

2.6 Sterilization Effectiveness

To ensure the effectiveness of the sterilization, the sensor for the chamber temperature of a sterilization cassette is closed to the coldest point of the chamber (shown in the following figure).



3 PRODUCT OVERVIEW

3.1 Technical Specifications

Name	ACA5 Cassette Autoclave
Machine Dimensions (Depth x Width x Height)	24.65"**16.38"**8.35"
Cassette Internal Size (Depth x Width x Height)	19.5"**8.1"**3.3"
Maximum Load for a Single Sterilization	3.31 Lbs
Sterilization Chamber Volume	1.43 Gal
Gross Weight (without water)	94.8 Lbs
Maximum Steam Temperature	280°F
Maximum Operating Pressure (Rated Pressure)	49.5 psia
PRV Value (pressure relief valve)	Set at 59.7 psia to release pressure in overpressure situations

Illumination level	(215±15) lx to (1500±15) lx
Reservoir Volume	0.92 Gal
Power Input	110 V ~, 60 Hz
Rated Power	1300 VA
Fuse	15 A
Working Medium	Steam
Operating Mode	Non-continuous operation, with a maximum of 6 cycles per hour.
Water Supply	Steam-process distilled water containing 15 ppm or less total dissolved solids
Sound Levels	Less than 70 dB
USB Storage Device File System	FAT32

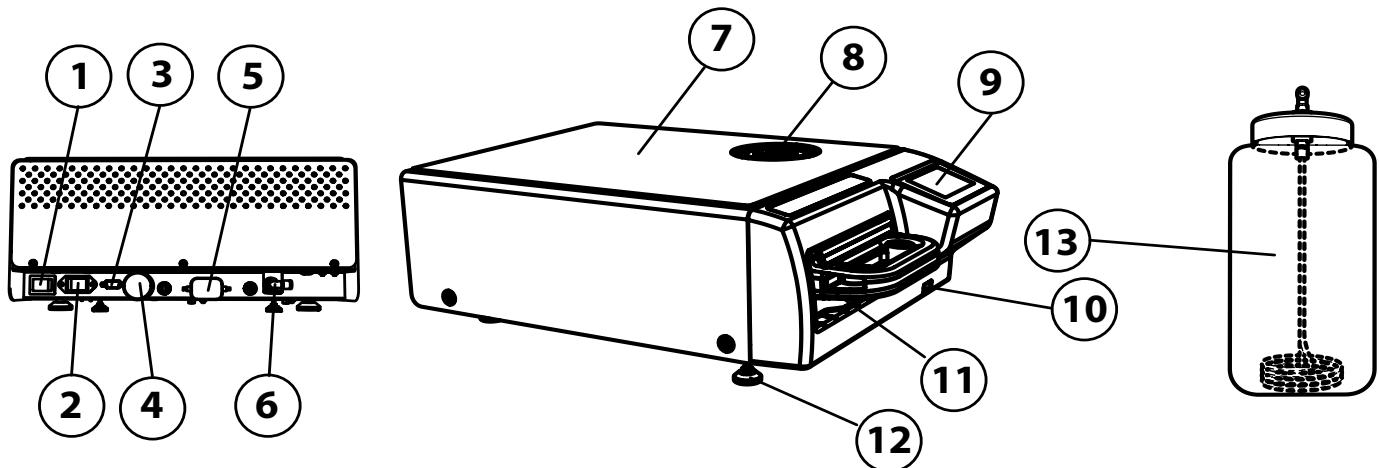
3.2 Transportation and Storage Environment

To ensure normal operation and avoid damage, the equipment must be transported, stored, and used under suitable temperature and relative humidity conditions:

Temperature/Relative Humidity	Details
Transportation and Storage	<ul style="list-style-type: none"> Temperature: 41°F ~ 104°F Relative Humidity: ≤ 85% Atmospheric Pressure: 10 Psi ~ 15.4 Psi

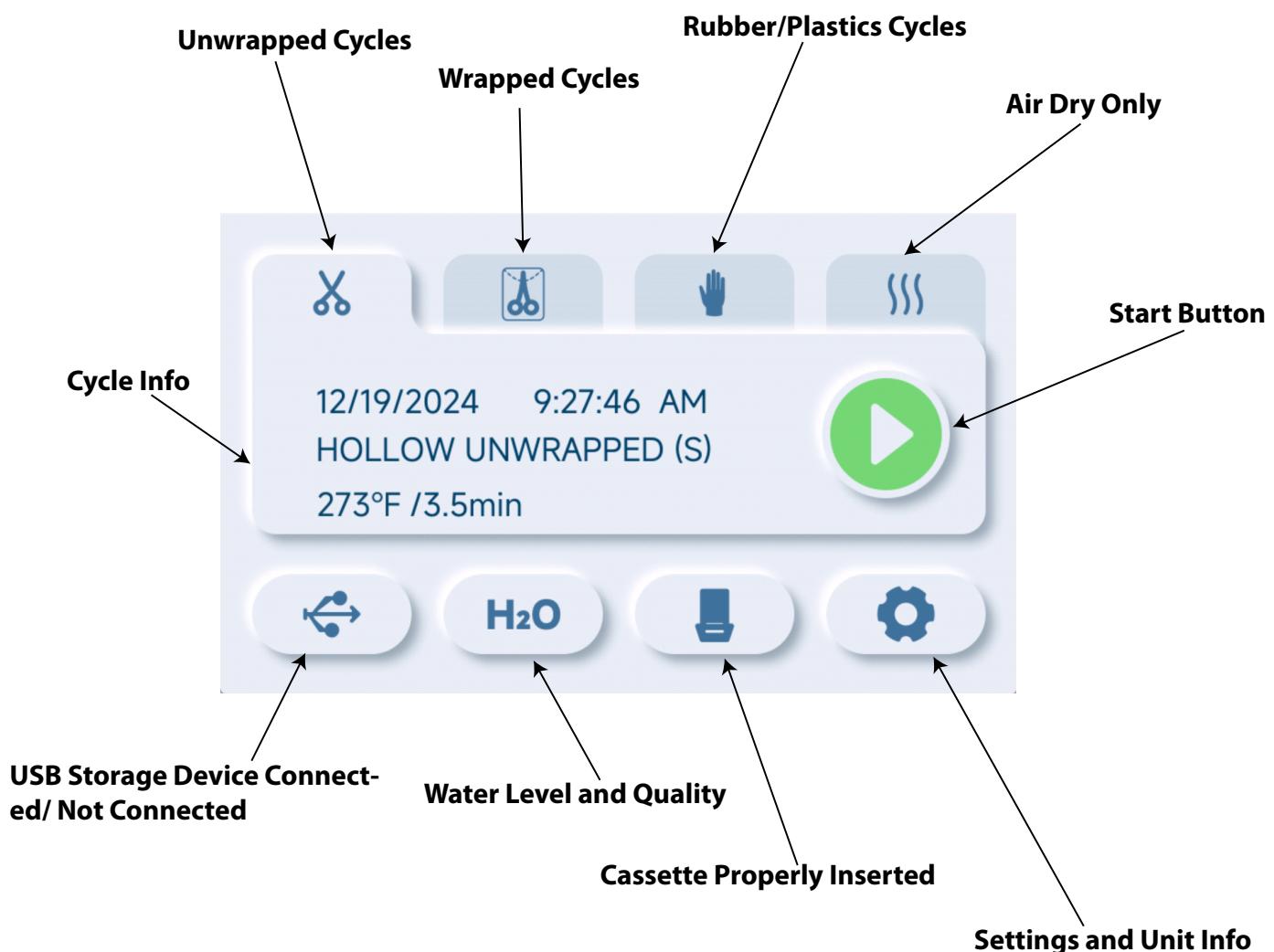
3.3 Unit Overview

The cassette autoclave consists of the main unit, cassette, and waste bottle. Component details are as follows.



Number	Name	Notes	Number	Name	Notes
1	Power Switch		8	Reservoir Cap/Water Filter	
2	Power Cable port		9	LCD Touchscreen	
3	RS232 Port	External printer interface	10	USB Port	Export Data to USB Storage Device
4	Air Filter		11	Cassette	
5	Biological Filter	Filter Precision: 0.2um	12	Leveler Feet	
6	Exhaust Tube Port		13	Waste Bottle	
7	Silicon Pad				

3.4 Touchscreen Overview



Icon	Name	Description
	STOP	Tap this button to interrupt a cycle.
	ENTER	Tap this button to view or select menu options.
	BACK	Tap this button to return to the previous menu.

4 SETUP THE UNIT

4.1 Position the Unit



CAUTION

The unit handling requires two or three persons.

Position the cassette autoclave unit by reviewing the following factors:

- Unit handler

The unit handling requires two or three persons.
- Temperature and humidity

Avoid placing the unit in direct sunlight or close to a heat source, such as vents or radiators. For the recommended operating temperature and humidity, see Section 3.1 on page 7.
- Spacing

The vents and openings on the unit must remain uncovered and unobstructed.

Leave a minimum of 50 mm between the top, sides and back of the unit and any wall or partition. For more details on clearances, see Section 3.1 on page 7.
- Venting

The unit must be operated in a clean, dust free environment.
- Work Surface

The unit must be placed on a flat, level, and water-resistant surface.

Never place and operate the unit on a sloped surface.
- Electromagnetic Environment

The unit is tested and meets applicable standards for electromagnetic emissions. While the unit does not emit any radiation, it might be affected by other equipment which does. Recommend that the unit is kept away from potential sources of interference.

4.2 Prepare for Electrical Connection

Prepare for electrical connections by following the following rules:

- Use properly grounded and fused power sources with the same voltage rating as indicated in Section 3.1 on page 7.
- Avoid multiple outlet receptacles. If using a surge suppressor power bar, connect only one unit to it.

4.3 Power On the Unit

1. Set the power switch of the unit to the OFF position.
2. Connect the power cord to the A.C. inlet receptacle at the back of the unit.
3. Connect the unit to the reserved power outlet.
4. Set the power switch of the unit to the ON position.

4.4 Level the Unit

To level the unit with the level indicator:

1. Tap  on the main menu.
2. Scroll to **Level**.
3. Tap  to select.
4. Adjust the leveler feet to move the bubble.
5. Position the bubble in the bottom right quadrant of the target as shown in following figure.

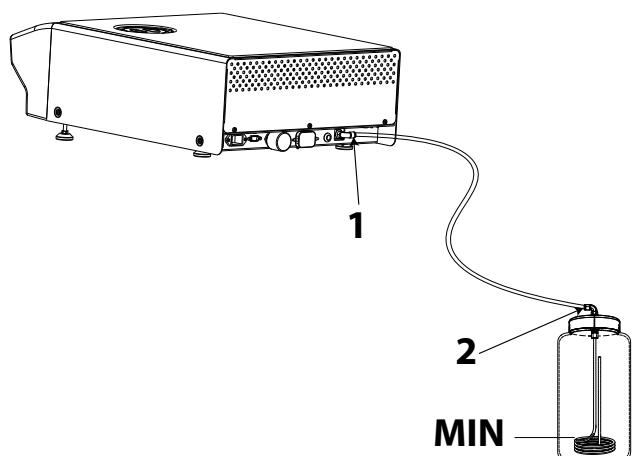


Ensure your ACA5 is stable and that all four feet are securely in contact with the counter surface.

When the unit is properly leveled, the bubble changes from red to green.

6. Tap  to return to the settings menu.

4.5 Connect the Waste Bottle



1. Take out the waste bottle from the packing box.
2. Insert the exhaust tube into the fitting (1) on the back of the unit.
3. Pull gently to confirm a tight fit.
4. Cut the tube to length.
5. Slide the waste bottle fitting (2) into place.
6. Place the free end of the tube into the hole in the lid of the waste bottle and hand-tighten the fitting.
7. Unscrew the lid and copper condenser coil assembly from the waste bottle.
The lid and coil must come out together.
8. Fill the waste bottle with water to the MIN level as shown in the figure.



NOTE

As a minimum, empty the waste bottle each time refilling the reservoir to avoid unpleasant odors and discoloration of the contents.

9. Place the waste bottle near the unit.

10. Store the bottle below the unit.

**NOTE**

The waste bottle and tubing contain high-temperature air during operation. There is high-temperature steam from the bottle lid during operation. Place the waste bottle in the proper position to avoid safety risks.

4.6 Fill the Water Reservoir

Prerequisites

Ensure only using steam-processed distilled water or deionized water containing less than 15 ppm total dissolved solids.

**NOTE**

The impurities and additives in other water sources can cause an error reading on the LCD.

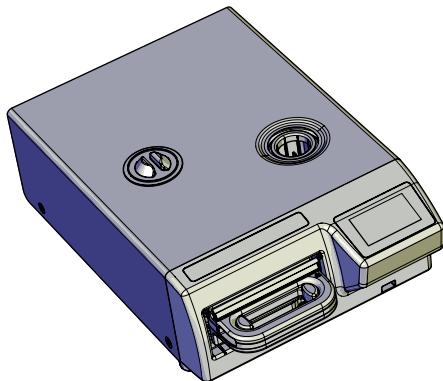
Procedure

1. Remove the reservoir cap.
2. Pour the steam-process distilled water or deionized water into the reservoir until almost full (a maximum of 0.9 U.S. gal).

**NOTE**

Pour slowly to avoid spillage.

3. Install and secure the cap.
4. If filling the water for the purposes other than the unit setup, empty and refill the waste bottle with tap water. For details, see Section 9.1.2 on page 33.

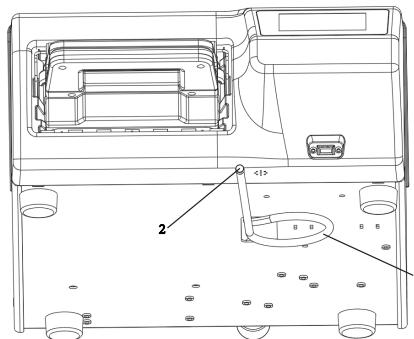


4.7 Prime the Pump

1. Move the unit to the edge of the work surface.
The front leveler feet must be approximately 0.5" from the edge.
2. Lift the front left corner of the unit upward.
3. Remove the drain tube (1) from the clip located on the underside of the unit.
4. Pull the drain tube outward
5. Fill the reservoir with steam-process distilled water.
6. Remove the plug (2) from the end of the drain tube.
7. Allow water to drain from the tube into a container for 30 seconds.

When the water flows in a steady stream, reinstall the plug.

8. Lift the front left corner of the unit upward.
9. Reinsert the tube into the clip on the underside of the unit.
10. Push the excess length of tubing back into the space provided.


NOTE

Make sure the plug in the drain tube is secured.

4.8 Set the Time

1. Tap  on the main menu.
2. Scroll to **Time**.
3. Tap  to select.
4. From the **Time** screen, scroll to the desired hour and minute respectively.
5. Tap  to save and return to the settings menu.
6. Scroll to **Time 12/24**.
7. Tap  to select.
8. From the **Time 12/24** screen, tap the desired time format.
Default time format: 24-hour.
9. Tap  to save and return to the settings menu.

4.9 Set the Date

1. Tap  on the main menu.
2. Scroll to **Date**.
3. Tap  to select.
4. From the **Date** screen, scroll to the desired year, month, and day respectively.
5. Tap  to save and return to the settings menu.
6. Scroll to **Date Format**.
7. Tap  to select.
8. From the **Date Format** screen, scroll to the desired date format.
9. Tap  to save and return to the settings menu.

4.10 Prepare the Unit for Use

To prepare the unit for use, once the unit is set up and before any instrument is sterilized:

1. Run two wrapped cycles (3.5 min) with an empty cassette.
For details, see Section 6 on page 24.
2. Remove the cassette once it is cooled.
For details, see Section 5.1.1 on page 18.
3. Open the cassette.
For details, see Section 5.1.2 on page 18.
4. Clean the lid and tray of the cassette using a soft cloth.
5. Rinse the lid and tray with city water.
6. Dry the lid and tray.

4.11 Perform Optional Tasks

4.11.1 Set the Language

1. Tap  on the main menu.
2. Scroll to **Language**.
3. Tap  to select.
4. From the **Language** screen, tap your desired language.
5. Tap  to save and return to the settings menu.

4.11.2 Assign the Unit Identifier Number

1. Tap  on the main menu.
2. Scroll to **Unit No.**.
3. Tap  to select.
4. Use the keypad, select three digits to be used as the unit identifier number.
5. Tap  to select.
6. Tap  to save and return to the settings menu.

4.11.3 Manage Digital Signatures

Once a digital signature is applied, the signature is printed on a cycle record printout. Therefore, a digital signature can help to identify the cycles run by a certain user.

1. Tap  on the main menu.
2. Scroll to **Digital Signature**.
The digital signature screen shows.
3. Do one or several of the followings:
 - Create a digital signature.
For details, see Section 4.11.3.1 on page 15.
 - Select a digital signature.
For details, see Section 4.11.3.2 on page 15.
 - Remove the signature selection.
4. Tap  to save and return to the settings menu.

<ul style="list-style-type: none">• Create a digital signature. For details, see Section 4.11.3.1 on page 15.• Select a digital signature. For details, see Section 4.11.3.2 on page 15.• Remove the signature selection.	<ul style="list-style-type: none">• For details, see Section 4.11.3.3 on page 15.• For details, see Section 4.11.3.4 on page 16.• For details, see Section 4.11.3.5 on page 16.
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4.11.3.1 Create a Digital Signature

Prerequisite

The digital signature screen shows on the touchscreen. For details of going to the digital signature screen, see Section 4.11.3 on page 14.

Procedure

1. Tap the **New** field.
The keypad screen shows.
2. Input a signature in the field using the keypad.
3. Tap **Enter**.
4. Tap an empty signature field.
5. Tap .

The signature shows on the selected signature field.

4.11.3.2 Apply a Digital Signature

Once a digital signature is applied, the signature is printed on a cycle record printout.

The current selected signature shows in the **Current** field on the digital signature screen.

Prerequisites

The following prerequisites apply:

- The digital signature screen shows on the touchscreen. For details of going to the digital signature screen, see Section 4.11.3 on page 14.
- There is at least one signature on the digital signature screen.

Procedure

1. Tap a signature field with a signature.
The selected signature shows in the **New** field.
2. Tap .

The selected signature shows in the **Current** field.

4.11.3.3 Revoke the Digital Signature

Once revoking the digital signature, no signature is printed on a cycle record printout.

Prerequisites

The following prerequisites apply:

- The digital signature screen shows on the touchscreen. For details of going to the digital signature screen, see Section 4.11.3 on page 14.
- A signature shows in the **Current** field.

Procedure

1. Tap an empty signature field.
If there is no empty signature field, see Section 4.11.3.5 on page 16 for instructions on emptying a signature field.
2. Tap .

The **Current** field becomes empty.

4.11.3.4 Update a Digital Signature

Prerequisites

The following prerequisites apply:

- The digital signature screen shows on the touchscreen. For details of going to the digital signature screen, see Section 4.11.3 on page 14.
- There is at least one signature on the digital signature screen.

Procedure

1. Tap a signature field with a signature to be updated.

The selected signature shows in the **New** field.

2. Tap the **New** field.

3. Input a new signature in the field using the keypad.

4. Tap **Enter**.

The new signature shows in the **New** field.

5. Tap .

The new signature shows on the selected signature field.

4.11.3.5 Delete a Digital Signature

Prerequisites

The following prerequisites apply:

- The digital signature screen shows on the touchscreen. For details of going to the digital signature screen, see Section 4.11.3.3 on page 15.
- There is at least one signature on the digital signature screen.

Procedure

1. Tap a signature field with a signature to be deleted.

The selected signature shows in the **Current** field.

2. Tap .

The selected signature field become empty.

4.11.4 Adjust the Screensaver Delay

1. Tap  on the main menu.

2. Scroll to **Screensaver**.

3. Tap  to select.

4. Drag the slider to adjust the length of time before the inactive touchscreen activates the screensaver.

5. Tap  to save and return to the settings menu.

4.11.5 Adjust the Screen Brightness

1. Tap  on the main menu.

2. Scroll to **LCD Brightness**.

3. Tap  to select.

4. Drag the slider to adjust the brightness of the screen.

5. Tap  to save and return to the settings menu.

4.11.6 Turn the Button Beep ON or OFF

1. Tap  on the main menu.
2. Scroll to **Button Beep**.
3. Tap  to select.
4. Tap the **ON** or **OFF** to turn on or turn off the button beep.
5. Tap  to save and return to the settings menu.

4.11.7 Adjust the Reminder Tone Volume

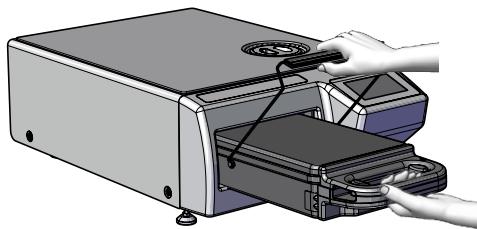
1. Tap  on the main menu.
2. Scroll to **Reminder Tone Volume**.
3. Tap  to select.
4. Drag the slider to adjust the volume.
5. Tap  to save and return to the settings menu.

5 PREPARE INSTRUMENTS

5.1 Use Cassettes

5.1.1 Remove a Cassette

1. If removing the cassette right after a cycle, wait for at least one minute to release the pressure. Otherwise, the cassette cannot be pulled out.
2. Grasp the cassette handle with one hand and pull out from the unit.
3. As the cassette emerges from the unit, grasp the carry handle with your free hand and lift it upwards.
4. Pull the cassette clear from the unit and set it down on a firm surface.

**CAUTION**

When removing the cassette after a cycle, exercise caution as the metal areas are hot and the cassette might contain hot steam.

5.1.2 Open a Cassette

1. Push the carry handle into the open position.
2. Put your hands on either side of the cassette handle.
3. Insert your forefingers in the slots and place your thumbs on the thumb pads.
4. Press down with your thumbs and pull up with your forefingers until the lid opens.
5. Raise the cassette lid and disengage from the tray.
6. Rest the lid on its outer surface.

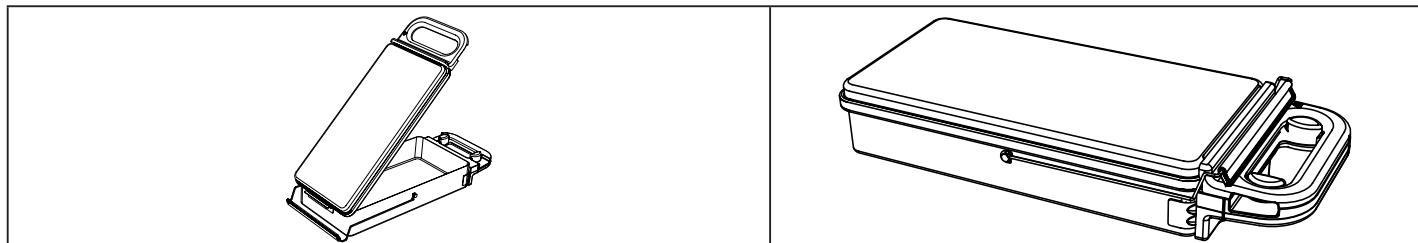
**CAUTION**

If the cassette contains wrapped instruments and the wraps are not dry when the cassette is opened, the instruments must be handled in a manner that maintains their sterility and must be used immediately or resterilized.



5.1.3 Close a Cassette

1. Align the hinge tab on the lid with the hinge slot on the tray.
2. Once to close the lid, the hinge tab and slot engage.
3. Place the carry handle into the closed position.



5.1.4 Insert a Cassette into the Unit

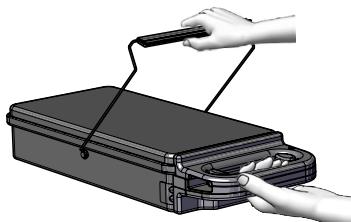
Prerequisites

The following prerequisites apply:

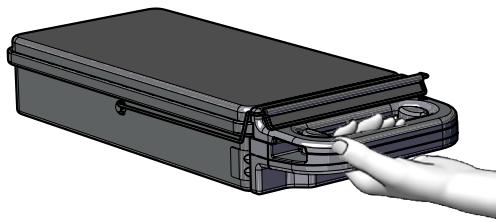
- There is no cassette in the unit. For details about removing a cassette, Section 5.1.1 on page 18.
-  shows on the main menu.
- The cassette to be inserted is closed. For details about closing a cassette, see Section 5.1.3 on page 19.

Procedure

1. Hold the cassette handle in one hand and the carry handle in the other.



2. Place the end of the cassette into the unit and drop the carry handle into its closed position.



3. Gently push inward until hearing a "Click" sound and  on the main menu changes to .



CAUTION

Do not force the cassette into the unit as the interior components might be damaged.

5.1.5 Disengage a Cassette



CAUTION

When not in use, the cassette must be disengaged.

Prerequisite

A cassette is in the unit.

Procedure

1. Grasp the cassette handle with one hand.
2. Pull the cassette out until there is a 15 mm to 20 mm (1 / 2 to 3 / 4") gap between the front of the unit and the cassette handle.

5.2 Prepare and Load Instruments



CAUTION

The cassette autoclave is not designed to sterilize liquids, cloth loads, bio-medical waste, or materials not compatible with steam sterilization. The processing of such loads might result in incomplete sterilization, damage to the autoclave, or both. For more information about instrument suitability for steam sterilization, refer to the reprocessing instructions of instrument manufacturers.

Do not sterilize instruments made of the following materials: polyethylene, ABS, styrene, acrylic, cellulose, PVC, acrylic, polyphenylene ether, latex, neoprene, and similar materials.

To prepare the load instruments:

1. Clean instruments.
For detail, see Section 5.2.1 on page 21.
2. Load instruments.
For details, see Section 5.2.2 on page 21 or Section 5.2.3 on page 21.



CAUTION

Instruments remain sterile after a successful cycle until the cassette is disengaged from the unit. Unwrapped instruments, once exposed to ambient or external conditions, cannot be maintained in a sterile state. If sterile storage is desired, wrap the instruments to be sterilized in autoclave bags, according to the instrument manufacturer's instructions. Then allow the wrapped cycle to run until the air-dry phase is complete.

Ensure that the instruments do not contact the sides of the sterilization chamber directly.

Do not stack or overload instruments, as this might result in ineffective sterilization and insufficient drying.

The loading capacity of the sterilizer must not exceed 80% of the sterilization chamber volume.



NOTE

Note for Ophthalmology Use

In the field of ophthalmology, proper wrapping or pouching of surgical instruments can reduce the exposure of instruments to any process residues during the sterilization cycle.

Due to the highly sensitive nature of some types of surgery (particularly in ophthalmology), recommend that all instruments be routinely packaged or wrapped and processed through the wrapped cycle of the sterilizer. This practice is the suggested approach for the majority of sterile surgical procedures and is referenced in most leading infection control publications and guidelines.

Best Practice Tip

Allow instruments (wrapped or unwrapped) to dry completely prior to handling. Wrapped or pouched instruments must not touch each other to promote drying and enable effective sterilization.

5.2.1 Clean Instruments

Clean all instruments with the following considerations:

- Disinfectant residues and solid debris might inhibit sterilization and damage the instruments, the cassette, and the autoclave unit.
- Lubricated instruments must be wiped thoroughly and any excess lubricant must be removed before loading.

5.2.2 Load Unwrapped Instruments

Arrange unwrapped instruments on the rack in the tray so that they do not touch one another.



CAUTION

Instruments must not be stacked or piled in the cassettes.

5.2.3 Load Wrapped Instruments (Single Wraps)

Prerequisite:

Ensure that all wrapped loads are dry before handling and /or storage to maintain sterility.

Procedure:

1. Place the instruments into single layer autoclave bags according to the manufacturer's instructions.
2. Orient the instrument rack in the cassette to ensure that wrapped instruments rest approximately 6 mm / 0.25" above the cassette base.
3. Place the wrapped instruments on the rack and arrange them to avoid overlap.



CAUTION

Ensure that all wrapped loads are dry before handling and /or storage to maintain sterility.
ADS recommends the use of paper / paper and plastic / paper autoclave pouches manufactured in accordance with EN 868.

Use pouches that have been cleared by the FDA for use with the respective cycle time and temperature of the ACA5 Cassette Autoclaves.

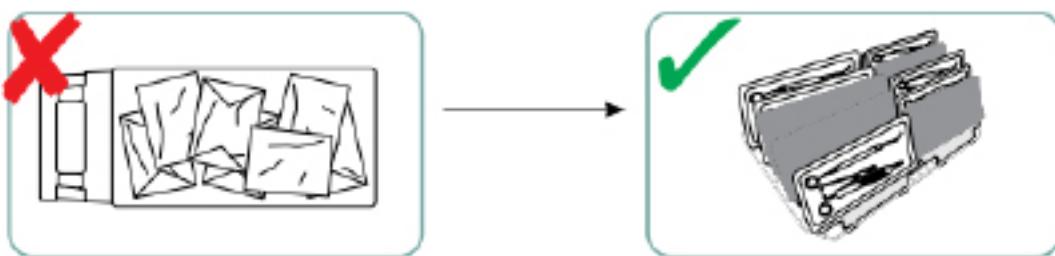
Pack instruments loosely in the bags.

Ensure that the combined weight of the loaded bags does not exceed 1.5 kg (3.3 lbs) for ACA5.

Do not use cloth for instrument packaging.

5.2.3.1 Use Drying Plates with Cassette

The cassette comes with two racks and 10 drying plates. Use the rack with drying plates to enhance the drying process for wrapped instruments.



The instrument rack fitted with a maximum of 10 drying plates can hold 10 autoclave bags.

5.2.4 Load Rubber and Plastic Instruments

Load rubber and plastic instruments with the following considerations:

- The following materials can be sterilized:
 - Nylon
 - Polycarbonate (Lexan™)
 - Polypropylene
 - PTFE (Teflon™)
 - Acetal (Delrin™)
 - Polysulfone (Udel™)
 - Polyetherimide (Ultem™)
 - Silicone rubber
 - Polyester
- The following materials **CANNOT** be sterilized:
 - Polyethylene
 - ABS
 - Styrene
 - Cellulosics
 - PVC
 - Acrylic (Plexiglas™)
 - PPO (Noryl™)
 - Latex,
 - Neoprene
 - Similar materials
- Leave a space between the instruments and the cassette walls. This ensures that steam reaches all surfaces, and can promote drying.



Use of these materials might lead to instrument or equipment damage. If not sure instrument materials or construction, **DO NOT** load into the unit until checking with the instrument manufacturer.

5.3 Use Biological and Chemical Indicators

For detailed instructions on how to handle, use, and dispose of both the biological and chemical indicators, consult the product literature accompanying the indicators or contact the manufacturer directly.

To use the indicators with the ACA5:

1. Place the appropriate biological indicator in the ACA5 chamber.
2. Process the load in the sterilizer according to your usual practice.



Ensure that message **CYCLE COMPLETED** is displayed on the LCD after the cycle is finished.

3. Recover the biological and / or chemical indicator and process further according to the literature that accompanied the indicator.

At the first indication of a potential sterilization failure, do as follows:

1. Do not process any more instruments until favorable test results are returned.
2. Ensure that the correct indicator type was chosen.
3. Ensure that the cassette was not overloaded.
For details, see Section 5.2 on page 20.
4. If the results do not change, do not process any more instruments within the ACA5 and contact your ADS dealer for further assistance.



ADS recommends that conduct tests so that the incubation period occurs during a period of planned downtime such as the last cycle before a weekend.

5.4 Instrument Weight Reference

Instrument	Typical Instrument Weight
Scissors	30 g / 0.96 oz
Dental scalers	20 g / 0.64 oz
Forceps	15 g / 0.48 oz
Dental handpiece	40 to 60 g / 1.29 to 1.92 oz
Wrapped instrument rack	260 g / 8.35 oz

Instrument	Typical Instrument Weight
Unwrapped instrument rack	225 g / 7.23 oz
Suction cannula	10 g / 0.32 oz
Plastic mouth mirror	8 g / 0.25 oz
Impression tray	15 to 45 g / 0.48 to 1.45 oz
Plastic x-ray positioning ring	20 g / 0.64 oz


NOTE

The above weights are ONLY for reference.
For exact weights of instruments, consult specifications from manufacturers..

6 RUN A CYCLE

The autoclave unit has seven sterilization cycles, each of which is designed to sterilize using specified parameters. For details of each cycle, see Section 6.1 on page 25.

Prerequisites

The following prerequisites apply:

- For the first time usage, ensure that pump is properly primed. For details, see Section 4.7 on page 12.
- Reservoir is full. For details, see Section 4.6 on page 12.
- The autoclave unit is on. For details, see Section 4.3 on page 10.
- The unit is prepared according to Section 4.10 on page 14.
- The instruments are prepared and loaded. For details, see Section 5.2 on page 20.
- A cassette with instruments is inserted to the autoclave unit. For details, see Section 5.1.4 on page 19.

Procedure

- Select a cycle by tapping a cycle icon on top of the main menu according to the following selection cycles:

-  The selection cycle for the unwrapped cycle icon is as follows:
 - Unwrapped (S) 273°F / 3.5 min
 - Unwrapped (S) 273°F / 18 min
 - Unwrapped (N) 273°F / 3.5 min
-  The selection cycle for the wrapped cycle icon is as follows:
 - Wrapped (S) 273°F / 3.5 min
 - Wrapped (S) 273°F / 18 min
-  The selection cycle for the rubber and plastics cycle icon is as follows:
 - Rubber/plastics (S) 250°F / 15 min
 - Rubber/plastics (S) 250°F / 30 min
-  The selection cycle for the air dry only cycle icon is as follows:
 - » Air Dry Only

The air dry only cycle duration can be adjusted. And the default duration is 60 minutes. For details, see Section 6.2 on page 27.

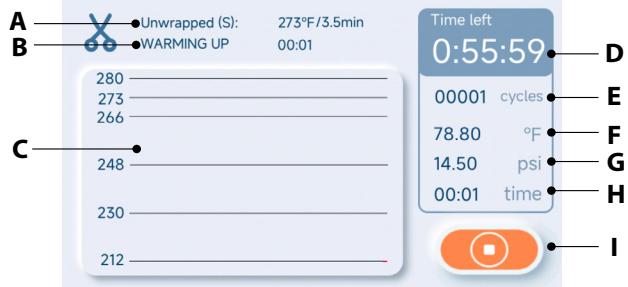
The name and parameter of the selected cycle shows on the main menu screen.

For details of the sterilization cycles, see Section 6.1 on page 25.

- Start the cycle by tapping .

If the unit is not level, the Leveling screen shows. For leveling details, see Section 4.4 on page 11. The leveling step can be skipped by tapping .

The cycle progress screen shows.



The description of the screen elements is as follows:

- Cycle name and parameters
- Current cycle phase duration (min)
- A graph charts the progress of the cycle
 - » X-axis value is time (min).
 - » Y-axis value is temperature (°F or °C).
- Estimated cycle time left (min)
- Number of cycles run on the unit (including the current cycle)
- Current temperature (°F or °C)
- Current pressure (psi or Kpa)
- Current cycle duration (min)
- STOP** button

As the cycle is running, various sounds are heard. This is the normal functioning of the unit.

The buzzing noise during the air drying stage is the compressor operating.

When the automatic air drying phase is finished and the sterilization cycle is successful, the touchscreen shows a message to indicate that the cycle is completed. And the reminder tone sounds for 10 seconds.

The cycle is interrupted in the following situations:

- The cassette is removed.
- An issue occurs.
- The cycle is stopped manually. For details, see Section 6.3 on page 27.



WARNING

The metal parts are hot and the cassette might contain hot steam.

- Tap .

The reminder tone stops, if any.

4. Tap  to return to the main menu.

The Main Menu screen shows.

5. Remove the cassette from the unit.

6.1 Sterilization Cycles

The autoclave unit has seven sterilization cycles, each of which is designed to sterilize using specified parameters.

The unit supports the following types of sterilization cycles:

- Type S cycle

The type S cycles are used to sterilize solid and hollow metal instruments, such as dental handpieces.

- Type N cycle

The type N cycle is used to sterilize solid metal instruments, such as pliers, burrs, scalers, and forceps.

The maximum load for each cycle is as follows:

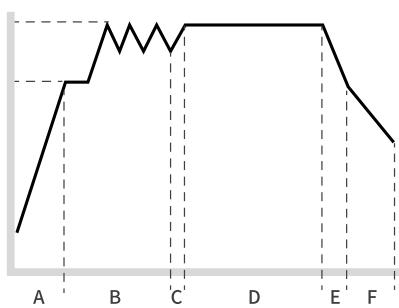
Sterilization Cycle	Maximum Load
Unwrapped (S) 273°F / 3.5 min	3.3 Lbs
Unwrapped (S) 273°F / 18 min	3.3 Lbs
Unwrapped (N) 273°F / 3.5 min	3.3 Lbs
Wrapped (S) 273°F / 3.5 min	3.3 Lbs
Wrapped (S) 273°F / 18 min	3.3 Lbs
Rubber/plastics (S) 250°F / 15 min	0.9 Lbs
Rubber/plastics (S) 250°F / 30 min	0.9 Lbs

6.1.1 Unwrapped Cycles

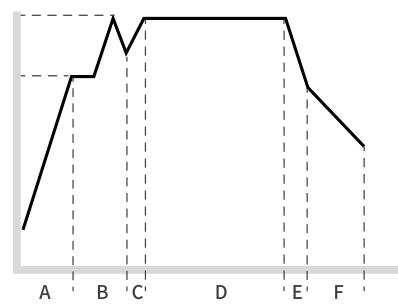
The Unwrapped Cycle is a general purpose sterilization cycle used to sterilize up to 3.3 lbs of solid and hollow metal instruments such as pliers, burrs, scalers, and forceps. Dental handpieces can be sterilized in this cycle.

The ACA5 has three unwrapped sterilization cycles at 273°F(S/N).

- Unwrapped (S) 134°C (273°F)/3.5min: The sterilization temperature in the cassette is 273°F and the holding time is 3.5 minutes.
- Unwrapped (S) 134°C (273°F)/18min: The sterilization temperature in the cassette is 273°F and the holding time is 18 minutes.
- Unwrapped (N) 134°C (273°F)/3.5min: The sterilization temperature in the cassette is 273°F and the holding time is 3.5 minutes.



A 212°F/101kPa
B 3 purges (Conditioning)
peak at 271°F/295 kPa
vent to 239°F/169 kPa
C Pressurizing
(Type S)



A 212°F/101kPa
B 1 purges (Conditioning)
peak at 271°F/295 kPa
vent to 239°F/169 kPa
C Pressurizing
(Type N)



CAUTION

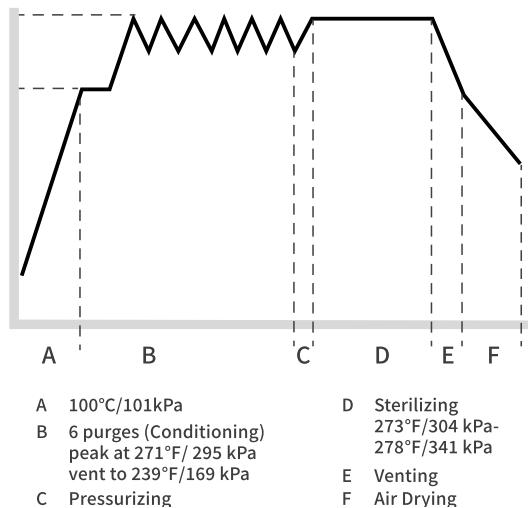
Once the sterilization cycle is complete, the air-drying is run for 60 minutes.
Air-drying can be interrupted at any time by tapping .

6.1.2 Wrapped Cycles

The Wrapped Cycle is used to sterilize up to 3.3 lbs of solid and hollow metal instruments which have been sealed in paper / paper, or paper / plastics autoclave bags. Dental handpieces can be sterilized in this cycle.

ACA5 has two Type-S wrapped sterilization cycles at 273°F.

- Wrapped (S) 273°F/3.5min: The sterilization temperature in the cassette is 273°F and the holding time is 3.5 minutes.
- Wrapped (S) 273°F/18min: The sterilization temperature in the cassette is 273°F and the holding time is 18 minutes.



CAUTION

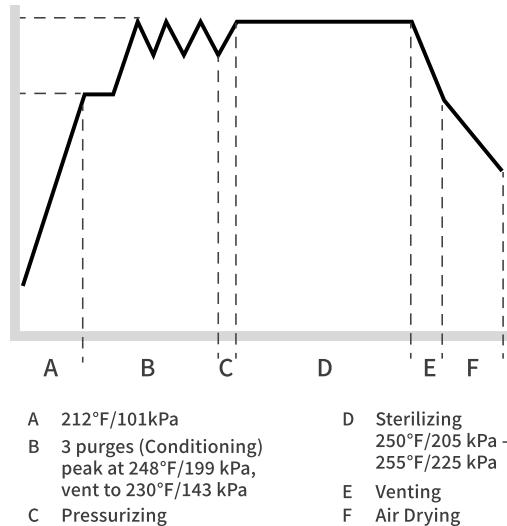
If wrapped instruments are intended for storage, the wraps must be dry when the cassette is removed from the unit and opened.

6.1.3 Rubber and Plastics Cycles

The Rubber and Plastics Cycle is used to sterilize up to 0.9 lbs of solid unwrapped instruments constructed of metal or the materials listed in Section Preparing and Loading Instruments.

ACA5 has two Type-S sterilization cycles at 250°F.

- Rubber/plastics (S) 250°F/15min: The sterilization temperature in the cassette is 250°F and the holding time is 15 minutes.
- Rubber/plastics (S) 250°F/30min: The sterilization temperature in the cassette is 250°F and the holding time is 30 minutes.



6.1.4 Air Dry Only Cycle

This is not a sterilization cycle.

The load is considered sterile after the successful completion of the sterilization phase of the cycle.

Therefore, air drying can be interrupted by tapping  anytime after the sterilization phase of the cycle is complete.

But dryness is important for unwrapped instruments to prevent corrosion. For wrapped instruments, a dry wrap is required to maintain sterility.

The Air Dry Only cycle can be run for promoting the further drying.

 NOTE	<p>If the air drying is manually stopped, pay attention to the followings:</p> <ul style="list-style-type: none"> • If the cassette is not removed, the Air Drying ONLY cycle can be run for promoting further drying. • If the cassette is removed, it CANNOT be reinserted for the Air Dry Only cycle.
 NOTE	<p>Sterilized instruments must only be handled once they are dry. Drying times can vary depending on the weight of the load.</p> <p>Drying time is adjustable, for more details, see Section 6.2 on page 27.</p>
 NOTE	<p>If the cassette contains wrapped instruments and the wraps are not dry when the cassette is opened, MUST do one of the followings:</p> <ul style="list-style-type: none"> • Handle the instruments in a manner that maintains their sterility and use immediately. • Resterilize the instruments.

6.2 Adjust Air Dry Only Cycle Duration

1. Tap  on the main menu.
2. Scroll to **Drying Duration**.
3. Tap  to select.
4. Drag the slider to adjust the drying duration.
5. Tap  to save and return to the settings menu.

6.3 Stop a Cycle Manually

The load is considered sterile after the successful completion of the sterilization phase of the cycle.

Air drying can be stopped manually anytime after the sterilization phase of the cycle is complete.

If necessary, a cycle can be stopped manually.

To stop a cycle manually:

1. Tap .
2. Tap  to return to the main menu.

7 STORE AND RETRIEVE CYCLE INFORMATION

The ACA5 has an internal Data Logger storing the information of each cycle. The cycle information can be accessed using the touchscreen or using a USB storage device.

7.1 Retrieve Cycle Information Using the Touchscreen

The touchscreen can show up to 10 latest cycle records.

To retrieve cycle information using the touchscreen:

1. Tap  with or without the red cross on the main screen.
2. Tap a cycle record on the screen.
3. Tap .

The details of the selected record show on the screen.

4. If required, tap  or  to show the next page or the previous page of the selected record.

7.2 Retrieve Cycle Information Using the USB Data Backup

The internal Data Logger can store up to 3000 cycle records. The records hidden from the touchscreen can be retrieved using a USB storage device.

After reaching cycle record storage limit, the latest record overwrites the oldest record.



CAUTION

To avoid the data loss, retrieve the cycle records using a USB storage device on a regular basis. Suggest retrieving the cycle records every three months.

To retrieve cycle information using a USB storage device:

1. Plug the USB storage device into the USB port.

The red cross on the upright corner of  disappears.

2. Tap  on the main screen.

The screen with cycle records shows.

3. Tap .

For time-saving purpose, the ACA5 only transfers the data that is not existed in a USB storage device.

The screen shows feedback once the data transfer is done.

7.3 Cycle Printout Overview of Full Cycle

The following figure shows a record printout example of a full cycle.

1 - - -	ACAS	241223V1.25	- - - 12
2 - - -	SN: ACA202413		
3 - - -	Unit # :	002	
4 - - -	WATER QUALITY		
	0.0uS/0ppm		
5 - - -	CYCLE NUMBER	000118	
6 - - -	09:52:57	2024/12/24	
7 - - -	SOLID UNWRAPPED (N)		
8 - - -	273F/3.5min		
	CYCLE START	00:00	
	CONDITIONING,	01:04	
	272.3F,46psi	05:17	
	240.6F,21psi	06:00	
	PRESSURIZING	06:00	
	STERILIZING	07:23	
9 - - -	276.8F,44psi	07:23	
	Min. steri. Values:		
	275.2F,42psi		
	Max. steri. Values:		
	278.6F,45psi		
	277.9F,44psi	10:54	
	VENTING	10:55	
	AIR DRYING	11:38	
10 - - -	CYCLE COMPLETE	00:12:39	
11 - - -	Digital Signature #		
	chen		

The description of the record items is as follows:

1. Product model
2. Serial number
3. Autoclave unit identifier
4. Quality of water in reservoir
5. Number of cycles run on the unit (including the current cycle)
6. Time and date when the current cycle starts
7. Cycle name
8. Cycle parameters
9. Name of each cycle phase with corresponding parameters (if any)
10. Duration of the current cycle
11. Digital signature of the user who starts the cycle
12. Software version

7.4 Cycle Printout Overview of Cycle with Manual Stop

The following figure shows a record printout example of an incomplete cycle.

1 - - -	ACA5	241105V1.21	- - - 13
2 - - -	SN: 001		
3 - - -	Unit # :	001	
4 - - -	WATER QUALITY		
	7.81uS/5ppm		
5 - - -	CYCLE NUMBER	000017	
6 - - -	11:22:09	2024/11/07	
7 - - -	Unwrapped (S)		
8 - - -	273F/3.5min		
9 - - -	CYCLE START	00:00	
10 - - -	STOP CYCLE AFTER 00:00:07		
11 - - -	STOP BUTTON PRESSED		
12 - - -	Digital Signature #		
	chen		

The description of the record items is as follows:

1. Product model	7. Cycle name
2. Serial number	8. Cycle parameters
3. Autoclave unit identifier	9. Duration of each cycle phase (mm:ss)
4. Quality of water in reservoir	10. Duration of the current cycle
5. Number of cycles run on the unit (including the current cycle)	11. Reason for the cycle stop
6. Time and date when the current cycle starts	12. Digital signature of the user who starts the cycle
	13. Software version

8 PRINT CYCLE INFORMATION

8.1 Connect to a Printer

The ACA5 can be connected to an external printer. For the suggested printer specifications, see Section 8.3 on page 31.

To connect the printer:

1. Connect the external printer to the RS232 port of the unit using the serial printer cable supplied with the printer.
2. Power on the printer.

8.2 Adjust Printer Settings

1. Tap  on the main menu.
2. Scroll to **Baud Rate**.
3. Tap  to select.
4. From the **Baud Rate** screen, scroll to desired baud rate.
5. Tap  to select.
6. Tap  return to the settings menu.
7. Scroll to **End of Line CR/LF**.
8. Tap  to select.
9. From the **End of Line CR/LF** screen, scroll to **CR/LF**, **CR**, or **-**.
10. Tap  to select.
11. Tap  to return to the settings menu.

8.3 External Printer Specifications

Suggested External Printers	CR/LF	Serial Port Bitrate
Epson TM-U220D	CR/LF	9600

8.4 Print a Cycle Record

1. Tap  on the main menu.
2. Tap a record to select.
3. Tap  to print the record.

9 MAINTENANCE

9.1 Perform Preventative Maintenance


CAUTION

Maintenance checks must be performed by the manufacturer, personnel trained by the manufacturer, or other qualified professionals, and must be carried out at the specified intervals.


NOTE

Refer to National, Regional, State or Safety laws for any additional reoccurring user testing that might be required.

To ensure trouble-free performance, both the operator and the dealer or technician must follow a preventative maintenance schedule.

Operator		
Frequency	Item	Task Description
Daily	Water Reservoir	Drain after each working day. For details, see Section 9.4 on page 37..
	Waste Bottle	Empty the waste bottle often to avoid unpleasant odors and discoloration of the contents. As a minimum, empty the waste bottle each time refilling the reservoir.
	Unit	To ensure optimal performance of the autoclave unit, recommend that a full sterilization cycle, which must include the full Air Drying phase, be completed at the end of each day of use. For instructions, see Section 6 on page 24. This is especially important when the unit is left idle over the weekend or for any extended period of time.
Weekly	Cassette	Clean the cassette. For details, see Section 9.1.1 on page 33.
	Water Reservoir Filter	Check the water reservoir filter and clean if necessary. For details, see Section 9.1.3 on page 34. Replace only if necessary.
	Biological Air Filter, Air Filter, or both	Check the filter for dirt and moisture. Replace if dirty. For details. see Section 9.1.7 on page 35. Call for service if wet.
Half a year	Air Filter	Replace every 500 cycles or six months (whichever comes first). For details, see Section 9.1.6 on page 35.
	Biological Air Filter	Replace every 500 cycles or six months (whichever comes first). For details, see Section 9.1.7 on page 35.
	Cassette Seal	Replace every 500 cycles or six months (whichever comes first). For details, see Section 9.1.8 on page 36.
Extended Period of NON-USE	Unit	If the autoclave is not going to be in use for a week (or more), prepare the unit according to Section 9.1.9 on page 36.

Technician		
Frequency	Item	Task Description
Once a year	Cassette	Check the tray, lid, and seal for damage. Replace if necessary.
	Biological Filter	Inspect the biological filter for moisture.
	Solenoid Valve	Inspect the valve and clean if dirty. Replace the plunger if defective.
	Pump	Clean the filters, replace if dirty.
	Check Valve	<ol style="list-style-type: none"> 1. Remove the exhaust tube from the back of the unit during the air drying phase. 2. Check for air coming from the fitting. 3. Remove the air compressor tube from the check valve inlet while running a cycle. 4. Make sure no steam is leaking from the valve. Replace if there are any leaks.
	Water Reservoir	Check the reservoir for dirt. Clean and rinse with steam process distilled water if necessary.
	Unit	Calibrate the unit.

9.1.1 Clean the Cassette

Cleaning the inside of the cassette is especially important if regularly sterilizing lubricated instruments. For recommended cleaning frequency, Section 9.1 on page 32.

To clean the cassette:

 CAUTION	<p>Do not use detergent that contain chlorine to clean the cassette.</p> <p>Do not use steel wire brushes or steel wool to clean the cassette.</p> <p>Use dishwashing soap or a mild detergent that does not contain chlorine.</p>
---	--

1. Remove the cassette.
For details, see Section 5.1.1 on page 18.
2. Add a small amount of enzymatic cleaner or neutral descaler to warm water around 40°C.
3. Scrub the inside of the cassette with a cleaning pad designed for use with Teflon™ coated surfaces and the prepared warm water.
4. Rinse thoroughly with water to remove all traces of the detergent.

9.1.2 Empty the Waste Bottle

The waste bottle must be empty regularly. For recommended frequency, Section 9.1 on page 32.

To empty the waste bottle:

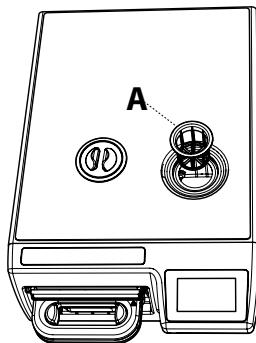
1. Unscrew the lid from the waste bottle.
2. Empty the waste bottle.
3. Fill the waste bottle with water to the **MIN** line.
4. (Recommended) Add low-level disinfectant, prepared according to the instructions of manufacturer, to the waste bottle.
This can help to avoid the unpleasant odors and discoloration of the contents.
5. Screw the lid to the waste bottle.

9.1.3 Clean the Water Reservoir Filter

The water reservoir filter must be cleaned regularly or when required. For recommended frequency, Section 9.1 on page 32.

To clean the water reservoir filter:

1. Remove the water reservoir cap.
2. Remove the water reservoir filter (A).
3. Place the filter upside down under running water to wash away the particles until clean.
4. Place the filter back into the reservoir opening.
5. Install and secure the reservoir cap.



9.1.4 Clean the Water Reservoir

Check the inside of the reservoir for dirt or particles. For recommended cleaning frequency, Section 9.1 on page 32.

To clean the reservoir:



CAUTION

Do not use chemicals or cleaning agents as these can cause damage to the unit.

1. Remove the reservoir cap.
2. Drain the water reservoir.
For details, see Section 9.4 on page 37.
3. Remove any visible particles.
4. Rinse with steam process distilled water ONLY.
5. Drain the water reservoir again.
6. Install and secure the reservoir cap.

9.1.5 Clean the Exterior Surfaces

Use a soft cloth moistened with soap and water to clean all exterior surfaces. For recommended cleaning frequency, Section 9.1 on page 32.



CAUTION

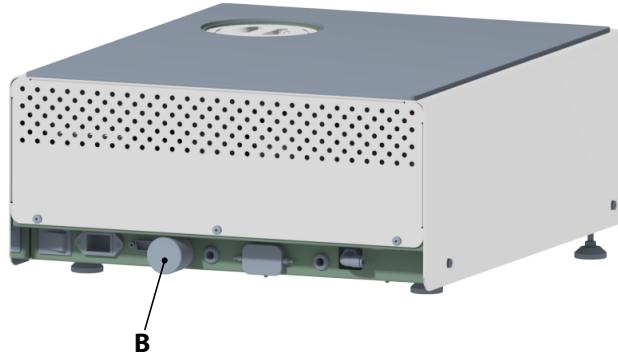
Do not use harsh cleaning chemicals or disinfectants.

9.1.6 Replace the Air Filter

The filter must be replaced regularly. For recommended replacing frequency, Section 9.1 on page 32.

To change the air filter (B):

1. Power the ACA5 OFF.
2. Unscrew the cylindrical air filter (B) in a counterclockwise direction.
3. Discard the air filter.
4. Screw the new filter, finger tight only, into place.



9.1.7 Replace the Bacteria Retentive Filters

The filter must be replaced regularly. For recommended replacing frequency, Section 9.1 on page 32.

To change the bacteria retentive filter (A):

1. Power the ACA5 OFF.
2. Disconnect tubes from both ends of the bacteria retentive filter (A).



CAUTION

The metal exhaust tube fitting nearby is hot during and after a cycle.

3. Remove the bacteria retentive filter.
4. Re-connect **both** tubes to each fitting of the new bacteria retentive filter.



CAUTION

Before connecting the replacement bacteria retentive filter, ensure that the arrow mark of the filter faces out and points to the left.

The metal exhaust tube fitting nearby is hot during and after a cycle.



9.1.8 Replace the Cassette Seal

To ensure optimum performance of the ACA5 cassette autoclave, replace the cassette seal regularly. For recommended replacing frequency, Section 9.1 on page 32.

To replace the cassette seal:

1. Place the cassette lid and the new seal on a clean work surface.
2. Examine the position of the old seal in the cassette lid.
3. Arrange the new seal in the same orientation, next to the lid.
4. Remove the old seal and discard.
5. Clean any residue out of the seal channel and flush out the channel with distilled water.
6. Lubricate the new seal with the liquid seal lubricant provided (medical Vaseline).
7. Insert the rounded edge of the seal under the round lip of the lid.
8. Align the holes in the new seal with the holes in the lid.



NOTE

At every corner and at the holes in the lid, two square nibs must be visible. The nibs must fit flush with the lid's outer surface.



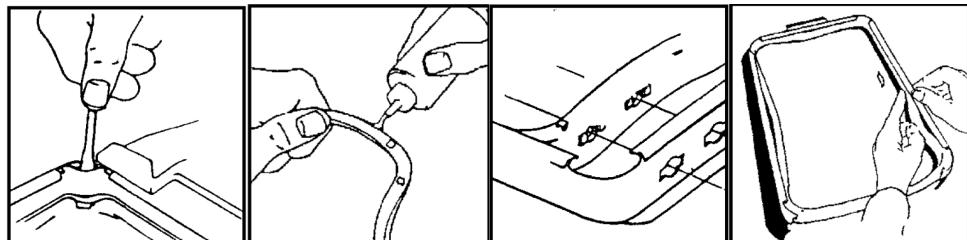
NOTE

During a cycle, steam might appear between the lid and the tray. If this persists, remove the cassette and check that the seal is correctly installed.



CAUTION

The metal parts are hot and the cassette might contain hot steam.



9.1.9 Prepare the Unit for the Extended Period of Non-Use

If the autoclave is not going to be in use for a week (or more), prepare the unit as described in this section.

9.1.9.1 Prepare the Unit BEFORE the Extended Period of Non-Use

Ensure that a full sterilization cycle, which must include the 60 minutes air drying phase, is completed. For instructions, see Section 6 on page 24.

9.1.9.2 Prepare the Unit AFTER the Extended Period of Non-Use

To prepare the unit after the extended period of non-use and before any instrument is sterilized:

1. Run three wrapped cycles.
For details, see Section 6 on page 24.
2. Once the cassette is cooled, remove the cassette.
For details, see Section 5.1.1 on page 18.
3. Clean the top (lid) and bottom (tray) sections of the cassette using a soft cloth to wipe the inside surfaces
4. Rinse the sections thoroughly with tap water.
5. Dry the cassette.

9.2 Maintain Fluid Levels

The water reservoir fluid level is continually monitored by the autoclave unit.

Prerequisite

Cycles cannot be started and  shows on the main menu.

Procedure

1. Tap .
2. If the  shows next to **Water Level**, fill the water reservoir.
For details, see Section 4.6 on page 12.

9.3 Read Water Quality

The water quality of the water reservoir is continually monitored by the autoclave unit. Only steam-process distilled water containing less than 15 ppm total dissolved solids can be used in the autoclave unit.

To read the water quality:

1. Tap on the main menu.
If beyond the water quality tolerances, a red cross shows on the icon and cycles cannot be started.
The water monitor screen shows with the water quality value next to **Water Quality**.
2. If  shows next to **Water Quality**, do as follows:
 - a. Drain water reservoir.
For instructions, see Section 9.4 on page 37.
 - b. If necessary, clean the water reservoir.
For instructions, see Section 9.1.4 on page 34.
 - c. Refill the water reservoir.
For instructions, see Section 4.6 on page 12.

9.4 Drain the Water Reservoir

Before moving the unit, it is necessary to drain the water reservoir.

To drain the water reservoir:

1. Place a water container below the unit.
2. Use the drain tube to empty the contents of the reservoir into the water container.
The drain tube is the one mentioned in Section 4.7 on page 12.
3. Remove any remaining water from the reservoir with a non-linting, absorbent towel.

9.5 Ship the Unit

1. Drain the water reservoir.
For details, see Section 9.4 on page 37.
2. Screw-in the three leveler feet found underneath the unit.
3. Repack the unit in the original packing materials, including all parts originally included with the unit.
4. Specify heated and insured shipping.

10 TROUBLESHOOTING

Problem	Solution
Unit does not power ON.	<ol style="list-style-type: none"> 1. Check that the unit is plugged into a properly grounded outlet and that the power cord is firmly seated at the rear of the machine. 2. Try another circuit. Power unit OFF for 10 seconds and then power ON again. 3. Check the condition of the line circuit breaker or fuse.
There is water under the machine.	<ol style="list-style-type: none"> 1. Check that water is not spilled when refilling the reservoir. 2. Ensure that the plug in the exhaust tube is secured. 3. Remove and reinsert the cassette. 4. Attempt another cycle to verify the solution. <div style="display: flex; align-items: center; justify-content: space-between;"> <div style="flex: 1;">  <p>CAUTION</p> </div> <div style="flex: 1; padding-left: 20px;"> <p>The metal parts are hot, and the cassette contains hot steam.</p> </div> </div>
	<ol style="list-style-type: none"> 5. If water drips from the underside of the unit during operation, check the cassette seal for misalignment or damage. 6. Replace the seal if required. 7. Attempt another cycle to verify the solution. <div style="display: flex; align-items: center; justify-content: space-between;"> <div style="flex: 1;">  <p>CAUTION</p> </div> <div style="flex: 1; padding-left: 20px;"> <p>The metal parts are hot, and the cassette contains hot steam.</p> </div> </div>
	<ol style="list-style-type: none"> 8. If it still leaks, attempt another cycle using a different cassette if possible. 9. If the leak persists, turn the unit OFF. 10. Remove and unload the cassette. 11. Unplug the unit. 12. Call your dealer.

Problem	Solution
Instruments do not dry.	<ol style="list-style-type: none"> 1. Allow the cycle to finish. Best drying occurs when the cycle continues to completion. 2. Make sure the instruments are loaded correctly in the cassette. For details, see Section 5.2 on page 20. 3. Check the unit leveling. 4. Check air filter, biological filter, or both. 5. Replace them if dirty. For details, see Section 9.1.6 on page 35 and Section 9.1.7 on page 35. 6. Clean the inside of the cassette. For details, see Section 9.1.1 on page 33. 7. Examine the exhaust tube (tube to the waste bottle) for kinks. If kinked, handle the issue according to Section 10.1 on page 42. 8. Make sure the compressor is working. <ol style="list-style-type: none"> a. Remove the exhaust tube from the waste bottle. b. Start the Air Drying Only Cycle and place the free end into a glass of water. c. Contact your dealer, if there is not a strong, steady flow of bubbles, which means the compressor is not functioning properly.
Message about that sterilization is interrupted	<ol style="list-style-type: none"> 1. Wait a few minutes 2. Attempt another cycle. 3. If the issue persists, remove the cassette. <div data-bbox="743 1215 959 1379" style="border: 1px solid black; padding: 5px; text-align: center;">  CAUTION </div> <div data-bbox="965 1266 1454 1334" style="border: 1px solid black; padding: 5px; text-align: left;"> <p>The metal parts are hot, and the cassette contains hot steam.</p> </div> <ol style="list-style-type: none"> 4. Inspect the cassette to ensure that the holes in the back of the seal are aligned, and that the flexible lip of the seal is completely free. 5. Check the exhaust tube for kinks or obstructions. If kinked, handle the issue according to Section 10.1 on page 42. 6. Check that the unit has not inadvertently been exposed to any electrical interference. For details, see Section 4.1 on page 10. 7. Attempt another cycle. 8. If the problem persists, contact your dealer.

Problem	Solution
Excessive steam issuing from the front of the machine.	<ol style="list-style-type: none"> 1. Remove and reinsert the cassette. 2. Attempt another cycle. 3. Remove and check the cassette seal for misalignment or damage. 4. Replace the seal if required. <div style="display: flex; align-items: center; justify-content: space-between;"> <div style="flex: 1;">  <p>CAUTION</p> </div> <div style="flex: 1; padding-left: 20px;"> <p>The metal parts are hot, and the cassette contains hot steam.</p> </div> </div> <ol style="list-style-type: none"> 5. If the leak persists, turn the unit OFF. 6. Remove the cassette. 7. Unload the cassette. 8. Contact your dealer.
Cycles cannot be started and  shows on the main menu.	<p>This issue can be caused by one or both of the following reasons:</p> <ul style="list-style-type: none"> • The water quality of the water reservoir is beyond the quality tolerances. For the solution details, see Section 9.3 on page 37. • The liquid level of the water reservoir is low. For the solution details, see Section 9.2 on page 37.
The printer does not work.	<ol style="list-style-type: none"> 1. Ensure that the printer cable is connected securely with the connector on the back of the unit. 2. Ensure that the printer is powered on. 3. Power off the unit for 10 seconds. 4. Power on the unit again.
Time and date are incorrect.	<p>Correct the time and date according to Section 4.8 on page 13 and Section 4.9 on page 13.</p>
Touchscreen is blank (white).	<p>This can be caused by that power is interrupted during a firmware upgrade. To fix the issue:</p> <ol style="list-style-type: none"> 1. Power off the unit. 2. Power it on again. It can take up to 6 minutes before the main menu screen appears.
Touchscreen is blank (dark).	<p>Check power source.</p>
USB storage device does not contain the last print out.	<ol style="list-style-type: none"> 1. Re-insert the USB storage device and wait for the data to be copied again. 2. If issue persists, back up all the information on the USB device. 3. Format the USB device.

10.1 Handle the Tube Kinks and Obstructions

1. Straighten the tube.
2. If the tube cannot be straightened, remove it from the push-in fitting attached to the unit.
3. Depress the collar on the fitting and with the other hand pull firmly on the tube.
4. Once the tube is free of the fitting, cut the damaged section of tubing away using a sharp instrument.
Be sure to leave enough tube to reach the unit when re-attaching the tube to the exhaust fitting.
5. Reattach the tube to the exhaust fitting.
6. If the tube is too short to remove a section, contact the dealer for a replacement.

11 LIMITED WARRANTY

ADS warrants the items portrayed within the table underneath against defects in material or workmanship beneath typical planning utilize when obtained from ADS or an authorized ADS dealer. The guarantee period is measured from the date of ADS's invoice. In the event that you've got questions about when your guarantee scope starts, it would be ideal if you contact ADS Client Service.

Product	Warranty Period
All Dental Chairs; Operator and Assistant Stools; Dental Lights, Delivery Systems; Monitor Mounts; Dental Furniture; Mechanical Room Compressors and Vacuums; and original components	5 years
Water Pump, Steam Generator, and Printed Circuit Board (PCB) of Cassette Autoclaves	2 years
Cassette Autoclaves	1 year
Electric Motors, Tubing, and Control Modules of the products other than Cassette Autoclaves.	1 year
Replacement components and parts	Remainder of original product warranty period or 1 year (whichever is greater)

Items (counting accessories, components, and replacement parts) not made by ADS are secured by the original manufacturer's guarantee and are not secured by ADS's guarantee. Illustrations incorporate, but are not restricted to, sterilizers, maintenance equipment, cameras, curing lights, ultrasonics, control modules, electric motors, attachments, handpieces, and turbines. If you don't mind contact ADS Client Service for specific guarantee information of the initial producer otherwise you may contact the original producer specifically.

Exclusions

ADS's Restricted Guarantee does not cover:

- ADS items that have been utilized in coordination or roundabout combination with unapproved third-party items, counting third-party parts (i.e., items not authorized or fabricated by ADS).
- Representations and guarantees made by any individual or substance other than ADS.
- The harm caused by typical wear and tear or the common breakdown of materials over time.
- The harm caused by inappropriate establishment, care, or upkeep, mischance, abuse, manhandling, disregard, carelessness, altering, disappointment to look for and get repair or substitution in a convenient way, changes, cargo harm, common catastrophe, or any other cause or constrain majeure past ADS's control (a disappointment to take after ADS's Enlightenment for Utilize and pertinent item operation and support enlightening, counting establishment enlightenment, will void the guarantee).
- The harm caused by schedule upkeep or in association with the utilization of chemicals and forms for cleaning, cleaning, or sterilizing.
- Changes in color caused by normal or fake light.

Consumable items are not secured by this Restricted Guarantee. Contact ADS Client Service with questions about guarantees or returns for these items.

Warranty Assistance and Contact Information

In case you obtained your product from an ADS dealer, for guarantee help, it would be ideal if you contact your authorized ADS dealer amid the guarantee period. The dealer will examine with you courses of action for the product(s) to be conveyed to them for assessment or for assessment to happen on location.

In the event that ADS decides that the item contains a deformity that's secured beneath this Restricted Warranty, the item will be repaired or supplanted with an item that's comparable to the initial execution. In case the item is secured beneath ADS's Constrained Guarantee, you'll not be charged for parts, but the ADS dealer performing the repair(s) will charge you a call-out charge (in the event that pertinent) and any applicable repair benefit expenses. In certain circumstances, you will be mindful of expeditiously shipping the item to ADS and related transport/shipping costs; ADS isn't capable of bundles misplaced or harmed in travel, and you're dependable for purchasing insurance. Please note that styles and color alternatives accessible at the time of benefit may change. In the event that an item or color has been suspended, a substitution within the item fashion or color that's the foremost comparative to the original will be given.

In case you have got a question that's not tended to in this Restricted Guarantee or on the off chance that you acquired your item straightforwardly from ADS and require guarantee help, it would be ideal if you contact ADS Client Service.

Reaction time is within 24 hours.

ADS Dental System

Add: 1590 S Milliken Ave., unit A, Ontario, CA 91761

Email: sales@adsequip.com

Tel: (626)620 0456

Customer service is available Monday through Friday, from 8:30 a.m. to 5:30 p.m.

Shipping

All prices are Ex Works Ontario California, U.S.A.

Standard shipping will be by ground. Air or expedited service is available upon request.

Return and Refund

ADS Equipment will accept return and unused product within 60 days of ship date, subject to the following conditions:

The product must be unused, saleable and returned in the original shipping materials. The box or boxes may have been opened but all contents must be returned.

Call: ADS Equipment at 626.620.0456 with the original purchase order number and request a return materials authorization (RMA) number be printed on the box (e.g., RMA 12345).

Ship product to: ADS Equipment 1590 S. Milliken Ave. Unit A Ontario, CA. 91761

Return shipping cost is the customer's responsibility.

After receipt and inspection of the returned product, ADS will either credit the customer's account or return payment via the payment card for the invoiced product price plus applicable taxes less a 25% restocking fee and payment discounts taken. Shipping and handling charges are not subject to a refund.

Damaged in Transit

If a product is damaged upon delivery to our dealer, it is the dealer's responsibility to notify the shipper immediately of the damage, so a claim can be assessed. They must also notify ADS immediately.

Special Order Items

Special orders cannot be returned

Warranty Limitations; Exclusive Remedy; Damages Disclaimer

ADS's sole commitment and your exclusive remedy beneath this Restricted Guarantee is the repair or substitution of defective items or components. ADS's Restricted Guarantee is in lieu of all other guarantees and commitments, express or inferred. ADS explicitly repudiates all inferred guarantees, counting but not restricted to inferred guarantees of merchantability, toughness, or wellness for a specific reason or utilization.

ADS might not be obligated for and explicitly repudiates any coordinate, uncommon, roundabout, coincidental, reformatory, uncommon, commendable, or considerable harms or delays, counting but not constrained to, harms for the misfortune of benefits or pay, the misfortune of utilize, downtime, property harm, or individual harm, in any case, caused, whether for breach of guarantee, breach of contract, tort (counting carelessness), strict obligation or something else.

Limitation of Liability

Without constraining the harms disclaimer above, the maximum liability of ADS and its providers, associates, dealers, affiliates, specialists, and each of their representatives, chiefs, and temporary workers to you are constrained to the purchase price you paid for the item. A few wards don't permit the restriction or prohibition of accidental or noteworthy harms, so the above restrictions or prohibitions may not apply to you in entirety or in portion.

Adjustment or Withdrawal of the Warranty

ADS reserves the correction in its caution to alter or pull back this Restricted Guarantee at any time without taking note. Any adjustment or withdrawal will not influence items as of now introduced and completely paid for earlier to the date of such alteration or withdrawal. No ADS merchant, affiliate, benefit supplier, agent, or representative is authorized to form any alteration, expansion, or expansion to this guarantee.



ADS Dental System

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