



Germitec

# Chronos

*User manual*

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MAN-N001-EN/ May 2019



**This manual must be read  
before using the Hypernova Chronos disinfecting system.**

This ensures that it is used under the safest and most efficient conditions.



CE<sub>0459</sub>

For any questions concerning the equipment, its maintenance, breakdowns, or end-of-life, please contact your after-sales representative.

The description of the disinfection system is accurate on the date this manual is printed.

Hypernova Chronos disinfecting system is called in short as Chronos or the Chronos in this document.

The model of the device is AS1-V2.

Chronos is a unit from the Hypernova product family.

Chronos and Hypernova are registered trademarks of Germitec.

The equipment's technology is protected by several Germitec patents.

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## 1 INTRODUCTION

### 1.1 Presentation of the Chronos

#### 1.1.1 Intended use

**The Chronos is a High-Level Disinfection system indicated for the disinfection of ultrasound transducers.**

#### 1.1.2 Certified probes

Contact your Germitec representative for information on certified probes.

#### 1.1.3 Users and environment

The Chronos is intended mainly for use in hospitals, radiology or sonography practices, and primary-care or specialist physician practices.

It is designed to be used under the supervision of healthcare professionals such as sonographers, radiologists, gynecologists, obstetricians, cardiologists, urologists, primary-care physicians, nurses, and healthcare assistants.

#### 1.1.4 Training

It is the responsibility of the owner of the device to ensure that:

- All users are trained with regard to the instructions and warnings contained in this manual.
- All users are aware of the risks and the preventive measures described in this manual.

## 1.2 Recommended use

- The Chronos is an automated disinfection system that forms part of a general probe-handling protocol.
- This device must be used in compliance with the operating procedure described in the Section 4 "Use".
- The Chronos is an enclosure strictly reserved for medical use. Only external (e.g.: abdominal) or endocavitary ultrasound probes may be placed internally.
- The disinfection data are saved in the Chronos. These data may be downloaded using a PC connected to the unit via the Germitrac communication interface.



*The equipment must be used in accordance with the instructions given in this manual, in particular:*

- *by the users and in the environment described in Section 1.3*
- *or the claimed use and intended use described in Sections 1.1.1 and 1.2, respectively.*

*Using the equipment in any other way is prohibited and contraindicated by the manufacturer as, if not, the equipment's interlocks could be undermined, the equipment may be damaged, the user and third parties may be seriously injured, the probes may be degraded, the adjacent equipment and environment may be at risk.*

## 1.3 Accessories

- The Chronos must be used on probes that have already had the ring installed. The installation of the rings must be performed by a Germitec-approved technician.
- The Chronos must be operated using the provided power cable.
- To communicate with the Germitrac communication interface, the Chronos must be used with the enclosed Ethernet cable.
- The Chronos may be used with a label printer, its power cable, and its USB cable. At the end of each cycle, a customizable number of labels are printed with the details of the disinfection.

## 1.4 Disinfection technology

The Chronos is a chemical-free disinfection device for ultrasound probes, which allows high-level disinfection through the use of UV-C radiation.

The Chronos ensures probe disinfection by exposure to UV-C radiation at 254 nm


This type of radiation has a powerful germicide effect: the absorption of UV-C photons by microorganisms causes DNA and RNA molecular dissociation.

The Chronos is equipped with a complete automated control and traceability system that allows healthcare professionals to verify the disinfection cycle between each patient. The traceability data, associating each probe with the conditions of the cycle performed (including the verification of the degree of disinfection reached), are archived and consultable. Healthcare professionals can thus provide proof of their disinfection procedures.

The Chronos allows the realization of cost-effective disinfection between each patient without the need to disconnect the probe. The disinfection step is safe and easy to perform.

## 1.5 Certification

The Chronos model is the AS1-V2: it is compliant with Medical Devices Directive 93/42/EEC. According to this directive, it is a class 2B device.

This model carries the marking:   
Date of first CE marking: April 17<sup>th</sup>, 2019

In accordance with the requirements of the Directive 93/42/EEC, the Chronos is compliant with the following standards:

| Standard                                | Application   |
|---|---|
| EN 61326-1:2012                         | Electromagnetic compatibility   |
| IEC 61010-1:2010<br>IEC 61010-2-40:2015 | Electrical safety including specific requirements for sterilizers and disinfecting washers.<br>Europe/US/CAN deviations |
| EN ISO 14971:2012                       | Risk management   |
| EN 62366-1:2015                         | Application of usability engineering  |
| IEC 62304:2015                          | Medical-device software   |
| EN 10993-1:2009 AC2010                  | Biological evaluation of medical devices - Part 1: Evaluation and testing   |

The Chronos also has the Curtis Straus marking .

## 1.6 Technical characteristics

|                                |  |
|--------------------------------|--|
| Dimensions                     | H102 x L38 x D43 cm                        |
| Weight                         | 36 kg                                      |
| Power supply                   | 120-240 VAC 50-60Hz                        |
| Power consumption              | 495 W                                      |
| Disinfection efficacy          | High-level disinfection                    |
| Disinfection-cycle duration    | In the range of 90 seconds                 |
| External operating temperature | +10°C to +40°C                             |
| Relative humidity              | Less than 90% without condensation         |
| Maximum operating altitude     | 2000m                                      |
| Acoustic power                 | 45 dB (excluding isolated noise emissions) |

## 2 REGULATORY INFORMATION, SAFETY RULES, AND OPERATING PRECAUTIONS

### 2.1 Safety rules

The following rules must be distributed by the equipment owner to all potential users of the Chronos. In the event of noncompliance with these rules, the equipment's interlocks could be undermined, the equipment may be damaged, the user and third parties may be seriously injured, the probes may be degraded, and adjacent equipment and the environment may be at risk.

#### 2.1.1 Handling

- The equipment weighs approximately 30 kg. Use safe handling techniques, in accordance with the health and safety rules at your place of work.
- Do not subject the Chronos to any impacts. If it falls or is damaged, return it to the manufacturer for repair.
- Do not use the Chronos if there is any suspicion of damage.
- Never force open the door, especially not during an operating cycle.
- Do not attempt to disassemble or repair the device. The Chronos must be repaired exclusively by the manufacturer. Opening the equipment's rear panels will result in voiding the warranty.
- Do not bypass the equipment's safety systems and interlocks.
- Incorrect loading of the probe in the disinfection chamber may damage the probe. The probe must not come into contact with the walls of the disinfection chamber. To find out more about the proper positioning of the probe, consult Section 3.3 "Installation".

#### 2.1.2 Environmental conditions

- Use the Chronos and its accessories at temperatures of between 10 and 40°C, and at a relative humidity below 90% without condensation.
- Do not store the Chronos or its accessories at temperatures below -10°C or above 50°C.

#### 2.1.3 Use

- The Chronos is intended to be used exclusively for the use described previously, in the environment described previously, and by the personnel described previously. Do not use this equipment in any other way.
- The Chronos is not intended for the reprocessing of single-use devices.
- The Chronos is not intended for pre-cleaning ultrasound probes.
- The Chronos is not a storage cabinet.

#### 2.1.4 Ultraviolet radiation

- Any attempt to disassemble one of the equipment's components may create a UV-C leak risk.
- Never expose yourself to UV-C radiation. Acute overexposure may result in:
  - Incapacitation due to eye discomfort, which will then subside after a few days without permanent lesions,
  - Skin lesions resulting in erythema, redness of the skin similar to sun burn, but without tanning.

### 2.1.5 Electricity

- The equipment must be connected to a grounded power outlet. Ensure that the power cable used is effectively that provided with the equipment.
- Connect the equipment only to a power supply having the appropriate voltage and frequency, as specified in Section 3.3 “Installation”. The use of an incorrect voltage may damage the equipment.
- Any attempt to disassemble one of the components of the equipment may cause electrocution.
- When shutdown is controlled by the switch on the control panel, certain parts of the cabling remain powered. The Chronos must therefore be disconnected from the power supply before any technical intervention.
- The user must take all precautions to avoid the ingress of liquid into the equipment other than for that intended for maintenance (see Section 5 “Maintenance”), which could create an electrical hazard.

### 2.1.6 Electromagnetism

- Warning: It is recommended to avoid using this equipment adjacent to other equipment or stacked on top of other equipment as this may result in incorrect operation. If this type of use is necessary, the operation of this equipment and any other equipment must be observed to verify normal operation.
- Warning: Portable RF communication devices should not be used (including peripherals such as antenna cables and external antennas) at less than 30 cm (12 inches) from any part of the Chronos, including the cables specified by the manufacturer. If not, the performance of such equipment may be adversely affected.
- Warning: The use of accessories, transducers, and cables other than those specified or provided by the equipment manufacturer may result in an increase in electromagnetic emissions or a reduction of the equipment’s immunity and cause inappropriate operation.

### 2.1.7 Upkeep and maintenance








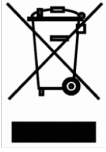


- Only the UV-C tubes provided by the manufacturer (which, in particular, do not emit ozone) must be placed in the Chronos.
- Protective glasses must be worn for all technical interventions.

### 2.1.8 Temperature

- Do not touch the tubes within 2 minutes of the end of a cycle to avoid burns to the hand. As a reminder, a symbol representing a hot surface is positioned at the entry to the disinfection chamber.



## 2.2 Marking

|   |   |
|---|---|
|  <p><b>GERMITEC</b><br/>3-5 allée de la Seine<br/>94200 Ivry-sur-Seine - FRANCE</p> <p>Chronos<br/>Model/Modèle : AS1-V2<br/>Serial number/Numéro de série :<br/><b>XX S1V2 XXXX</b></p> <p>120-240 V / 50-60 Hz - 4.5-2.5 A<br/>Fuse/Fusible: 6.3 AH</p> <p>Made in France/Fabriqué en France</p> <p>UVC disinfection chamber<br/>for ultrasound probe/<br/>Chambre de désinfection<br/>de sonde d'échographie par UVC</p>    <p>CE 0459</p> | <p><b>Rating plate:</b><br/>Manufacturer's identification<br/>Description of the equipment<br/>Model<br/>Serial number<br/>Electrical characteristics<br/>Country of manufacture<br/>Markings</p>   |
|    | <p><b>Electric shock risk</b><br/>Only authorized personnel may open the access drawer to the maintenance zone.</p>   |
|    | <p><b>Risk of burns</b><br/>Do not touch the tubes within 2 minutes of the end of a cycle.</p>  |
|    | <p><b>Risk of exposure to UV-C radiation</b><br/>This symbol acts as a reminder that UV-C radiation is emitted inside the equipment.<br/>The system is designed to prevent the exposure of users to UV-C radiation.<br/>Never expose yourself to UV-C radiation.</p>  |
|    | <p><b>Do not dispose of with municipal waste</b><br/>This symbol indicates that waste originating from electrical and electronic equipment (WEEE) must be handled with care and must not be disposed of with unsorted municipal waste. WEEE can pollute the environment and must be handled in a waste stream that is appropriate for WEEE. Contact the manufacturer or a company specialized in waste disposal to handle the disposal of this equipment.</p> |
|    | <p><b>Manufacturer</b><br/>This symbol adjacent to Germitec indicates that Germitec is the manufacturer of this equipment.</p>  |
|    | <p><b>Information in the manual</b><br/>This symbol indicates that the user must read the manual before using the device.</p>   |

## 3 INSTALLATION, ADJUSTMENTS, AND COMMISSIONING

### 3.1 Packaging contents

The packaging contains the following components:

- 1 x Chronos



- 1 x Quartz plate



- 1 x AC power cable



- 3 x Kits of anchor rings for probe



- 1 x Ethernet network cable



- 1 x User manual

- (option) 1 x Label printer



- (en option) 1 x Label roll



## 3.2 Presentation of the interfaces

### Connection to the AC power supply

The AC power connector is positioned on the lower rear of the equipment.  
Connection to AC power is via the IEC-standard cable provided with the equipment.  
The switch is in position 1 when the system is powered.



### Peripheral connection interface

The other connectors (USB and Ethernet) are located just above the equipment's rear panel.



### User interface

The user interface is at the top of the door.



## 3.3 Installation

### 3.3.1 Verification



*Any damage during transport or storage may be a source of danger.  
Therefore, the user must check the integrity of the device before installation.*

### 3.3.2 Placement

To facilitate the use of the equipment and take full advantage of its ergonomic design in the frame of dedicated use, it is recommended to position it close to the ultrasound equipment.

In the context of shared use, it may be centralized in an appropriate area.

The equipment must be installed on a hard and flat floor.

A gap of at least 20 cm must be left at the rear of the equipment.

Once the equipment has been installed, the quartz plate must be placed in its housing at the bottom of the disinfection chamber.

### 3.3.3 Connection to electrical power



**Warning**

*The Chronos must be connected to an electrical installation that is compliant with the current regulations. This connection must be performed by a qualified person.*

*The Chronos is connected to an AC power supply that must have a voltage between 120 and 240 VAC. Check that the power source is in accordance with that indicated on the label. This product is of electrical class 1, therefore designed to be connected to a protective ground. If this is not the case, this may expose persons to the risk of an electric shock.*

*Only power cables provided with the equipment may be used to connect it.*

*The power cable is used as a circuit-breaking system (cut-off of electrical power if necessary) and must therefore be accessible.*

- Connect the power cable to the IEC connector at the rear of the chamber.
- Connect the plug at the other end of the cable to a 16-Amp power outlet (2P+G). This outlet must be protected by a 3 A circuit-breaker on 240 VAC or a 6 A circuit-breaker on 120 VAC.

### 3.3.4 Connection of accessories



*Never connect peripherals other than those indicated below to the connectors.*

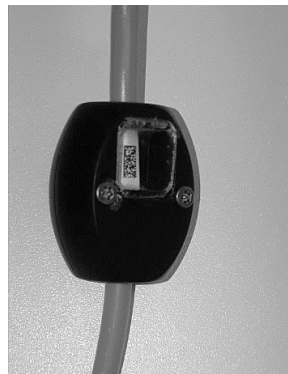
- To connect the equipment to a PC or a local Ethernet network, connect the Ethernet cable to the Ethernet connector at the rear and to a network connector.
- To connect the equipment to a label printer, connect the printer to one of the two USB connectors at the rear.
- Connect the printer to an AC power outlet using the power cable provided with the printer.



*Only printers provided by the manufacturer are compatible with the Chronos.  
The use of another printer does not guarantee the proper operation of the system.*

### 3.3.5 Installation of rings on probes

Each probe to be disinfected using the Chronos must first be fitted with a ring. These rings must be installed exclusively by a technician approved by the manufacturer. Contact your after-sales representative if there was no ring on the probe cable.



*Only probes fitted with their ring can be disinfected using the Chronos.*

## 4 USE

### 4.1 Switching on



*As for any electrical equipment, malfunctions may arise over the lifetime of the product. Therefore, before switching on, ensure that the installation steps described above have been properly completed and that the maintenance has been performed in accordance with the indications set out in Section 6 “Scheduled maintenance”. In the event that these operations are not performed, the equipment’s interlocks could be undermined, the equipment may be damaged, the user and third parties may be seriously injured, the probes may be degraded, and adjacent equipment and the environment may be at risk.*

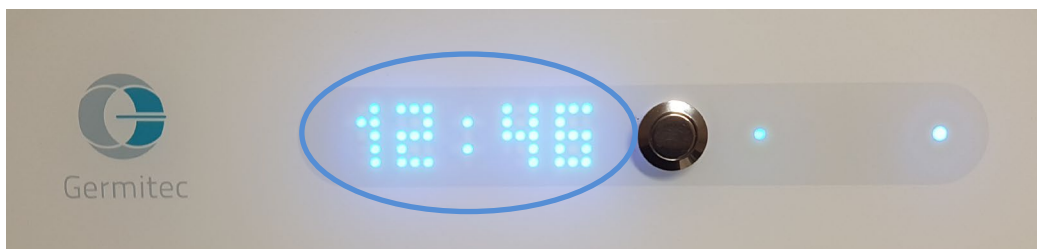
Only probes fitted with their ring can be disinfected by the Chronos.

1. Apply power to the equipment by pressing the power switch (located at the bottom rear of the unit). The green indicator lamp lights.
2. The equipment displays HELLO during its startup sequence (about 30 seconds).
3. A melody indicates the end of the startup.
4. The system is ready for use.

In the event of any malfunctions being observed when switching on, refer to Section 7 “Troubleshooting”.

Once the equipment is switched on and as long as a cycle has not been initiated, the interface displays:

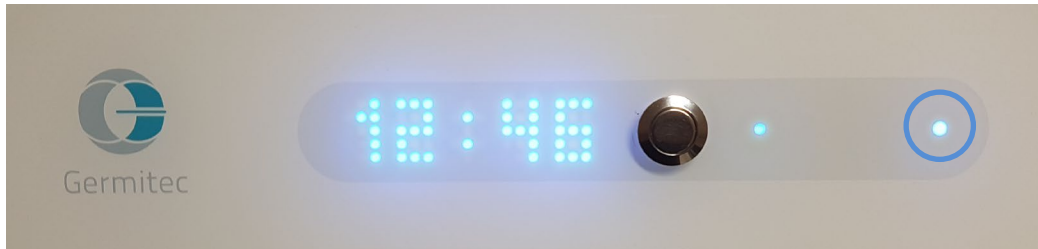
- the number of cycles remaining if the equipment has been purchased with a prepaid cycle plan,
- if not, the time.



The 6-LED gauge indicates equipment use before the next tube change. When the gauge ends with the orange LED (5th LED), it is recommended to ensure that a maintenance intervention has been scheduled. When the gauge ends with the red LED (6th LED), it is recommended to perform a maintenance intervention as soon as possible.



The indicator lamp on the right indicates the recognition of a probe if it is powered. The purple color corresponds to a probe that has not been disinfected, the blue color indicates that the probe has been disinfected.



To switch on the printer, press the ON button.



## 4.2 Switching off



*The system should never be switched off directly using the AC power switch at the risk of irretrievably damaging it and losing the saved traceability data.*

1. To switch off the unit, press the button on the door for at least 3 seconds.
  2. A melody sounds and the interface is switched off.
  3. Press the illuminated AC power switch at the rear of the unit. The green indicator lamp is switched off.
  4. The Chronos is now powered off.
- The AC power can be completely removed by disconnecting the AC power cable.

### 4.3 Prerequisites to probe disinfection

#### “Only clean items can be properly disinfected”

The probe must be cleaned before being placed in the Chronos for any high-level disinfection process. Consult the instructions of the probe manufacturer for information on suitable cleaning procedures.



*If the probe is not first cleaned, there is a risk that the disinfection cycle is unable to provide disinfection to a high level.  
In particular, ensure that all traces of gel or dirt on the probe are removed before being placed in the chamber.*

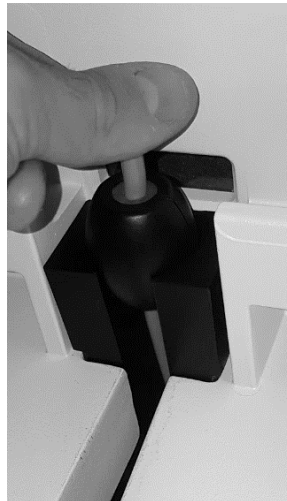
To print one or more labels, ensure that there are blank labels in the printer.

### 4.4 Disinfecting a probe



*Install only one probe at a time.  
Ensure that the probe does not come into contact with the equipment.*

1. Open the door of the Chronos.
2. Hang the probe in the chamber by installing its ring in its receptacle. The window must be turned towards the bottom.



The correct detection of the probe can be verified by the beep and indicator lamp confirming probe detection.

3. Bring the cable out via the side opening.
4. Gently close the door until you hear the locking click.
5. Visually check that the cable has not been pinched during closure.
6. Initiate the disinfection cycle by pressing the button on the door.

A beep confirms cycle initiation. A percentage is displayed indicating disinfection progress. The LEDs scroll during the cycle.

A melody indicates the end of the cycle. The display shows “CYCLE OK”. The probe indicator lamp (to the right) becomes blue.

The printer prints the defined number of labels.



The probe can be removed.

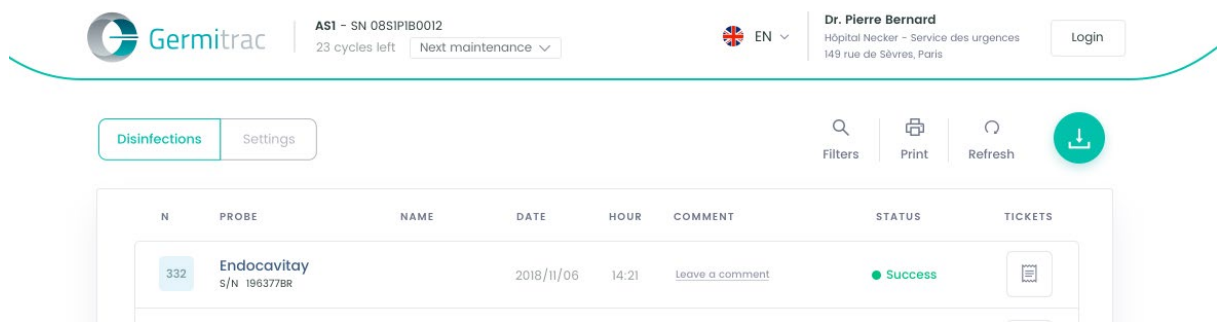
If a probe is inside the disinfection chamber and must be removed urgently, press long on the button. The cycle is stopped, a sound signal indicates when the door may be opened.

In the event of an error, the cycle is stopped automatically. In this case, refer to Section 7 “Troubleshooting”.

#### 4.5 Use of the Germitrac communication interface

Germitrac is the communication interface that allows you to consult and visualize all traceability data relating to the disinfection of your probes performed using the Chronos.

Germitrac is used with a Web browser.



The compatible browsers are indicated below:

| Browser           | Minimum version |
|-------------------|-----------------|
| Chrome            | 8.0             |
| Internet Explorer | 7.0             |
| Mozilla Firefox   | 2.0             |
| Opera             | 9               |

To use Germitrac, refer to the Germitrac User manual.

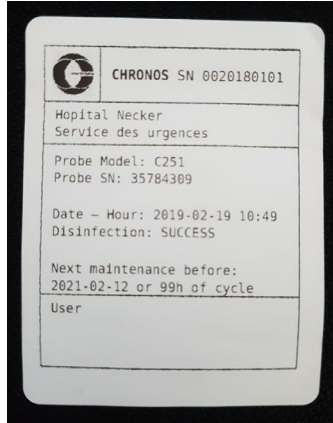


*It is recommended to backup data daily. It is also recommended to then perform a security backup on another drive. Germitec may not under any circumstances be held responsible for the loss of data stored in the equipment*

## 4.6 Label printing

### 4.6.1 Label traceability data

The printed labels comprise all traceability data demonstrating the successful completion of the disinfection.



System identification: product name and serial number

Site identification: establishment name, department name

Probe identifier: model and serial number

Characterization of the disinfection: date and time of the disinfection, daily and annual number, success or failure of the disinfection

Field that can be completed by the user

### 4.6.2 Example of a label in the event of a disinfection failure

In the event of a disinfection failure, regardless of the origin, the failed status of the disinfection is clearly indicated on the label.

In this case, consult the error messages to determine the origin of the failure and be able to proceed with another disinfection of the probe.



## 5 UPKEEP

### 5.1 External cleaning

For cleaning the outside of the equipment, use a cloth or paper cloth, dampened with water or a surface cleaner/disinfectant.



*Do not spread liquid inside and over the Chronos.*

### 5.2 Cleaning internal walls

A super-soft cloth (optical quality) soaked in a water-alcohol solution may be used to clean the quartz plate and the side surfaces.



*Do not perform cleaning in the 2 minutes following a disinfection cycle. The tubes are still hot and present a burn hazard.*

*Do not clean the tubes.*

*Do not clean behind and in immediate proximity to the tubes.*

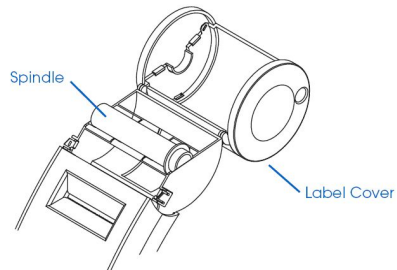
The remainder of the internal walls must be cleaned by personnel approved by Germitec during maintenance operations.

## 5.3 Replacing printer paper



*Only the label format sold by Germitec is compatible with the printer.*

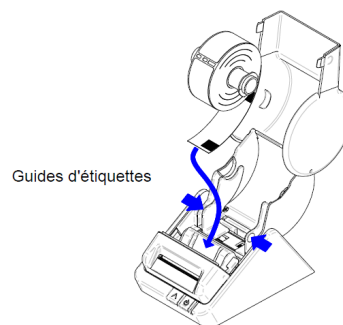
1. Disconnect the printer and open the top cover.



2. Place the cylindrical holder in the label roll.



3. Insert the end of the roll in the slot as shown in the photo:



4. Close the cover.
5. Re-connect and press the power button.

## 6 SCHEDULED MAINTENANCE

Scheduled maintenance must be performed every year.



*Non-compliance with this period and the recommended operations may result in dangerous situations as the equipment's interlocks could be undermined, the equipment may be damaged, the user and third parties may be seriously injured, the probes may be degraded, and adjacent equipment and the environment may be at risk.*

Only a technician approved by Germitec is authorized to perform maintenance operations on the Chronos.

The UV-C tubes must be changed every 2 years or every 100 hours of cumulative cycle time (whichever comes first).

Scheduled maintenance includes:

- A general system check
- A cleaning of external and internal parts if necessary
- The replacement of wear parts, the UV tubes, if necessary
- The calibration of the photodiodes
- The replacement of the ventilation filter if necessary

Only Philips UV-C tubes supplied by Germitec may be placed in the Chronos.  
The worn tubes are recovered by the Germitec-approved technician.

## 7 TROUBLESHOOTING

The Chronos is equipped with numerous sensors (temperature, optical, etc.) for proper operation.

If the Chronos detects a malfunction during the cycle, even if only temporary, UV emission is stopped and the system goes into error mode. This function guarantees the validity of a disinfection cycle at all times.

The system displays the code corresponding to this error on the interface on the door.

In the event of a malfunction, note the error code and follow the recommendations in the table below.

| <i>Symptom</i>  | <i>Checks to be performed / explanations</i>  |
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| Nothing is displayed.<br>No sound emitted by the equipment. | Check that the AC power connector is connected to power.<br>Check that the equipment is well connected to the AC supply.<br>Check that the button is in position 1. |

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|   | <p>Check that the green indicator lamp next to the power connector is illuminated.</p> <p>If nothing lights, disconnect and replace fuses.</p> <p>The fuses must be replaced in accordance with the characteristics indicated on the rating plate (6.3Ah).</p>  |
| <p>The equipment starts but indicates <b>ERR01 START</b>.</p>   | <p>A check during the initialization was not completed successfully.</p> <p>Acknowledge the error by pressing the button.</p> <p>If the error occurs again, switch off and restart the equipment.</p> <p>If the error still occurs, contact your after-sales representative.</p>  |
| <p>Impossible to open the disinfection chamber door.</p>  | <p>Check that a cycle is not in progress.</p>   |
| <p>Impossible to install the probe properly in the disinfection chamber (the probe indicator lamp to the right of the interface does not light)</p> | <p>Check that the ring has been installed on the probe.</p> <p>Check that the barcode is visible through the ring's window.</p> <p>Check that the ring's window is turned towards the reader (downwards).</p> <p>If the display indicates <b>ERR02 DETEC</b>, a barcode has been recognized but is illegible. Visually check that it is legible in the ring's window.</p> |
| <p>The probe indicator lamp is purple.</p>  | <p>This is normal if the probe has not been properly disinfected. The purple probe indicator lamp indicates the presence of a probe that cannot be confirmed as being properly disinfected.</p>   |
| <p>The LED gauge has reached the orange or red level.</p>   | <p>The orange level indicates that a maintenance intervention should be scheduled soon (about 2 months or 400 cycles remain when this indicator lights for the first time).</p> <p>The red level indicates that a maintenance intervention must be performed immediately.</p>   |
| <p>Impossible to start the cycle when pressing the button.</p>  | <p>Check that the unit has a probe inside.</p> <p>If the display indicates <b>ERR20 CREDIT</b>, contact your after-sales representative to reload cycle credit.</p> <p>If the display indicates <b>ERR04 DOOR</b>, make sure the door is closed properly.</p>   |
| <p>The cycle starts but ends with an error.</p>   | <p>If the display indicates <b>ERR04 DOOR</b>, it is possible that the door is not properly closed. Acknowledge</p>   |

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|  | <p>the error by pressing the button, open and close the door, and re-start the cycle.</p> <p>If the display indicates <b>ERR05 LOCK</b>, it is possible that the lock was not properly engaged. Acknowledge the error by pressing the button, open and close the door, and re-start the cycle.</p> <p>If the display indicates <b>ERR06 PROBE</b>, it is possible that the ring has moved during the cycle (for example if the cable has been pulled). Acknowledge the error by pressing the button and re-start the cycle.</p> <p>If the display indicates <b>ERR08 TUBE</b>, it is possible that a UV tube or its power supply is not operating properly. Acknowledge the error by pressing the button, open the door, check that nothing seems abnormal on the tubes, check that the LED bar does not indicate that the next maintenance has not reached the red level, and re-start the cycle.</p> <p>If the display indicates <b>ERR09 COHER</b>, <b>ERR10 EVO1</b>, <b>ERR11 EVO2</b>, <b>ERR12 PREV1</b>, <b>ERR13 PREV2</b> or <b>ERR16 UV3</b>, it is possible that something is obstructing the radiation in the disinfection chamber or that one of the sensors is not reacting properly. Acknowledge the error by pressing the button, open the door, check that no objects have been forgotten in the chamber and that everything is clean, then re-start the cycle.</p> <p>If the display indicates <b>ERR14 DELAY</b>, the cycle has exceeded the maximum time permitted. Acknowledge the error by pressing the button, open the door, check that no objects have been forgotten in the chamber and that everything is clean, then re-start the cycle.</p> <p>If the display indicates <b>ERR22 STOP</b>, the cycle has been stopped manually by pressing long on the button. Acknowledge the error by pressing the button.</p> <p>If the display indicates <b>ERR23 UVOFF</b>, it is possible that a sensor has given an erroneous signal. Acknowledge the error by pressing the button, open and close the door, and re-start the cycle.</p> |
| The message <b>ERR07 HOT</b> is displayed. | <p>Check if the ventilation is activated.</p> <p>Check that there is a free space of at least 20 cm behind the unit.</p>  |

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|                                | <p>Check that the ventilation outlets are not obstructed.<br/>Check that the external temperature is below 40°C.<br/>When all of the above conditions have been checked, wait 5 minutes for the system to cool, preferably leaving the door open, then acknowledge the error by pressing the button.</p> |
| An error occurs several times. | <p>Check that the verifications linked to this error have been performed.<br/>If the error occurs again, contact your after-sales representative.</p>  |

Your after-sales representative should be notified of each error requiring an acknowledgement.

## 8 TRANSPORT AND STORAGE

The equipment must be packaged for transport appropriate for an enclosure of this type such as that provided on initial delivery. Before moving the equipment, ensure it is disconnected, remove the quartz plate, and close the door. Once unpacked, the Chronos can be moved when carried by 2 persons. Each person carrying the equipment should grip it with one hand under the unit as close as possible to the door and the other hand at the top rear of the unit.

Comply with the equipment's storage and transport requirements:

- Storage temperature: -10 to +50°C
- Relative humidity: less than 90 % without condensation



## 9 DISPOSAL

When the Chronos reaches the end of its life, the owner must dispose of the equipment in accordance with the current applicable regulations (Decree No. 2005-829 of 20 July 2005 for France).

## 10 WARRANTY

The Chronos has a 1-year warranty as of the unit's date of delivery. This warranty covers defective parts and repair labor.

The Chronos must be repaired exclusively by the manufacturer or a repair center authorized by the manufacturer. Contact your after-sales representative to organize this repair before returning the equipment.

## 11 CONTACT

For any further information, contact your after-sales representative or the Germitec customer service:

Germitec customer service  
3-5 allée de la Seine, 94200 Ivry-sur-Seine, France  
Phone: +33 (0)1 49 87 18 00 – [support@germitec.com](mailto:support@germitec.com)