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ORIGINAL OPERATING INSTRUCTIONS

ULUF models

Ultra low temperature freezers -90°C
Ultra low temperature freezers -86°C
Low temperature freezers -40°C

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Introduction

Please take a few minutes to read and become familiar with the advantages of your appliance. To meet the high quality demands required by the medical and pharmaceutical industry, at least 10 % of all appliances leaving Arctiko are carefully checked and tested to ensure high performance and quality. If the operating and installation instructions describe different models, any differences will be pointed out at the relevant points in the text. Read these operating and installation instructions before switching on the appliance.

If you would like to obtain further information about this appliance, please visit our webside www.arctiko.com where downloads are available on the page of each specific product.

Symbols

WARNING
Performing this action can cause personal injury.

CAUTION - Risk of personal or material injury
Consult the instructions before attempting to use this equipment.

Prohibition
Action is strictly prohibited.

Follow procedures
Keep the instructions handy for convenient reference.

OFF
Disconnect power supply before operation.

Grounding
Be aware that the appliance is grounded.

Fragile - Handle with with care
Indicates a device that can be damaged or broken if not handled with care.

Abbreviations

A	Amps	**Min**	Minutes
V	Volt	**H**	Hour
W	Watt	**N/A**	Not applicable
C	Degree Celcius	**ULT**	Ultra-low temperature
Kg	Kilogram		
MM	Milimeter		

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Safety

Arctiko is obligated as a supplier to ensure the users safety when operating one of our appliances. To prevent personal and material injury or damage, please follow the instructions in this manual.

Intended use

Ultra low temperature and low temperature appliances are designed for storage of biomedical products at a constant temperature in clinical, pharmaceutical, research and laboratory fields. The appliances are designed to operate within a temperature range of -90°C to -40°C, -86°C to -40°C or -40°C to -20°C depending on the model and at a maximum ambient temperature of +25°C.

For safe and optimal performance of the appliance, it should only be placed indoors, in a well ventilated room and in elevations below 2000 m. The appliance should only be operated by instructed personnel.

Personal safety

When operating the appliance, your body is exposed to a variation of possible dangerous events.

- Read and understand this manual. If in doubt, contact your local Arctiko distributor.

- Use freezer gloves at all times when loading or unloading the appliance. The operating temperature is such that direct contact with the cold contents or inside the appliance can burn unprotected skin.

- Assure good cleaning practices at all times by keeping the appliance and the adjacent areas clean, dry and uncluttered.

Do not insert metal objects such as pins or a wires into any vent, gap or any outlet on the appliance. This may cause electric shock or injury by accidental contact with moving parts.

When removing the power plug from the outlet, pull on the plug, not the cord. Pulling the power cord may result in electric shock or fire by short circuit.

Handling & Transportation

Moving the appliance

Lifting, moving and transportation of the appliance without suitable equipment may cause personal or material damage. Always use suitable lifting equipment to load, unload and move the freezer to load, unload and move the appliance.

Disconnect thea power cord before moving the appliance. Make sure not to damage the power cord. A damaged power cord may cause electric shock or fire.

Be careful not to tip over the appliance during transport to prevent damage or injury.

Packaging

- Do not expose the package to rain.
- Always keep the package upright -
  DO NOT BRING THE PACKAGE TO A HORIZONTAL POSITION.
- Do not expose the package to bumps or shocks.
- Package contents are fragile.

Unpacking

1. Inspect the packaging carefully for any damage that may have occurred during shipping. If damage is observed, report to the shipping company and your local Arctiko distributor.

2. Remove all packaging materials, plastic and straps. All packing material is entirely recyclable. For more information on where to dispose of waste, contact your local authority or recycling station.

Plastic bags pose a suffocation risk. Keep away from children.

Inactivity for extended period

If the appliance must be switched off for a longer period and stored away, please take following precautions.

- Clean the appliance both inside and outside.
- Ventilate the appliance and make sure it is completely dry.
- Disconnect the power cord.
- Leave the door slightly open in order to prevent rot and mold.

Disconnect the power plug when the appliance is not in use for a longer period. Keeping the connection may cause electric shock, current leakage or fire due to the deterioration of insulation.

If the appliance is to be stored unused in an unsupervised area for an extended period, **ensure that children do not have access and that doors cannot be closed completely.**

Disposal

In the event of disposal of the appliance, observe relevant legal regulations to prevent harmful environmental effects.

Within the European community, EU directives regulate disposal of electrical devices.

This appliance is marked in compliance with the 2002/96/CE European Directive, WASTE ELECTRICAL AND ELECTRONIC EQIUPMENT (WEEE).

OFF
Disconnect power supply before operation.

Risk of personal or material injury during disposal of components.

Installation

Preparing the appliance

- **Unpack the appliance:** - Remove all packaging materials, plastic bags and straps.

- **Storing the key:** - The key for the door lock is placed strapped to the main cable in the compressor compartment. Remove the key from the cable carefully without causing damage to the cable. Keep the key in a safe place.

- **Read the Quick start guide:** - The quick guide is provided with the appliance.

- **Ventilate the appliance:** - Open the door for at least 20min in order to ventilate the appliance before first use. The appliance may contain odors from manufacturing.

- **Clean the appliance**: - Clean the appliance on the inside and outside with a soft cloth/sponge using a solution of water and light detergent. After cleaning all surfaces of the appliance, wipe the inside with a dry rag.

- **Remote alarm contact:** - The terminals for the remote alarm contact are located in the compressor compartment (see “Cabinet description”). The contact is designed for a maximum load of 2A and 30VDC. The remote alarm contacts work in synchronization with the acoustic alarm on the appliance. In order to cancel the remote alarm push the “Enter” button. However, in case of a power outage, the remote alarm contact cannot be controlled by the control panel of the appliance. The remote alarm can be set as normally open (NO) or normally closed (NC).

Refrigerant

Please see the rating plate affixed to the appliance to obtain information about the refrigerant.

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Location

Place the appliance in a location that satisfies the following conditions in order to achieve optimal operating results:

- **Firm and levelled floor:** - Placing the appliance on a firm and flat floor reduces the risk of excessive noise and vibration.

- **Away from any heat sources:** - Avoid placing the appliance near any heat dissipating devices such as a gas burner/stove, radiator, oven or other source of heat. Exposing the appliance to heat will lower the performance.

- **Place the appliance away from direct sunlight:** Placing the appliance in direct sunlight may cause reduced performance and shorten the life expectancy.

- **Dry area:** - Avoid placing the appliance near damp areas such as near water faucets and sinks.

- **Clean area:** - Placing the appliance in a clean environment will reduce risk of function failure. Avoid installing the appliance in or near chemicals and materials that might have outgassing property to avoid corrosion.

- **Well ventilated:** There must be sufficient space around the appliance to ensure air ventilation. Lack of such space will reduce the cooling capability of the appliance.

- **Do not place any objects on top of the appliance.**

An electrical power plug with a ground prong must be used to power the appliance. This is to prevent electrical shock.

Do not use the appliance outdoors.
Current leakage or electric shock may result if the appliance is exposed to rain.

Never install the appliance in a flammable or volatile location.
This may cause explosion or fire.

Install the appliance on a sturdy floor and take an adequate precaution to prevent the appliance from tipping.

Electrical connection

In order to ensure a reliable installation that complies with the limits of temperature and voltage drop, it is necessary to determine maximum load of appliances connected to the installation. In determining the maximum load for an installation or for a part of it, it is vital to take into account contemporaneous factors. For supply systems, the following must be determined:

- Power system (AC/DC) - Data regarding voltage and absorbed power/ current is given on the rating plate.

- Ground protection - To prevent the user of getting exposed to electrical shock, in the event of a insulation damage, the appliance must be grounded.

- The installation must always be secured with a minimum 10 A fuse.

- If more than one appliance needs to be installed, each appliance must be connected to an individual fuse group.

When installing the appliance, make sure the protected earth is grounded. If the connection is a 3-prong connection, use a three-pin plug and connect the conductor with yellow / green insulation to ground. In order to maintain a stable operation of the appliance, voltage variation cannot differ more than ±10 percent of the nominal voltage supply.

Always follow local regulations when preparing an installation. If in doubt always contact your local authorities.

Maximum current rating (ambient 20°C)

UNIT	AMPS (A)
ULUF 15	4
ULUF 65	5
ULUF 125	5
ULUF 450	7
ULUF 550	9
ULUF 750	12

Only qualified/authorized engineers or service personnel should install the appliance. Installation by unqualified personnel may cause electric shock or fire.

Always make sure the appliance is grounded to protect the user from electrical shock.

Do not use the power supply cord if it is damagaged. Such supply cord may cause fire or electric.

Never use a telephone line or lightning rod as ground protection. During lightening, there is a strong current present, which is extremely dangerous.

Do not use water pipes as ground protection. Modern water pipe systems are non-conductors such as PVC.

Replacing the power cord may only be done by authorized personal.

Never use gas lines as the ground protection for the appliance. This can cause an explosion.

Disconnect the power cord if there is something wrong with the unit. Continued abnormal operation may cause electric shock or fire.

Getting started

During the initial startup and continuous usage of the appliance, the following procedures shall be followed.

1. Plug the power socket into a dedicated outlet. For correct voltage requirement, follow the information on the rating plate.
   When started, let the appliance cool for 24 hours before placing any products into it.

2. When the appliance initially starts up, the high temp. alarm may be activated. This is normal as the chamber temperature may be outside the alarm limits during the temperature pull down. You can safely mute or cancel the alarm (see section “How to mute and accept alarms”).

3. This appliance has been set to operate at -80°C (ultra low temp. freezers) / -40°C (low temp. freezers) from the factory.

4. Check the functionality of the light by opening the door.

5. Once a thorough inspection of the appliance is completed, products can be loaded into the appliance. Products should be pre-frozen when inserted into the appliance, otherwise this can affect the cooling performance of the appliance.

Product description

The ULUF range offers the best ultra low and low temperature freezing with high performance and stability. Standard features is filter-less construction for less maintenance, low noise level, low energy consumption, low heat dissipation and excellent temperature stability.

The compressor and cooling system is located in the top of the appliance for easy maintenance and access; ergonomically work position and less generation of heat in your working area.

The appliances are equipped with insulated inner doors to minimize cold air loss while accessing samples, and heated door frame(s) for easy door openings.

The freezer is fitted with direct cooling system that ensures the best uniform temperature throughout the freezer.

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Cabinet description

Cabinet description

1. Top panel	Compressor compartment door, fitted with control panel.	**12. Inner doors**	Foam Insolated.
2. Display	See “Display G214”.	**13. Probe**	See “Probes and portholes”.
3. LED light	Secure work light.	**14. Heated door frame**	Prevents ice build up on the door.
4. Door switch	Monitors the door openings and control the lights.	**15. Portholes**	8 pcs. located on the back of cabinet.
5. Door with handle	The handle is integrated in the door.	**16. Evaporator shelves**	Provides a constant temperature in each compartment.
6. Door lock	For easy opening, closing and locking the door.	**17. Top panel latch**	For opening and closing the top panel.
7. Magnetic door gasket	Ensure proper door closing.	**18. Remote alarm connection**	For connection of additional alarm equipment/remote alarm
8. Frame gasket	PVC gasket.	**19. Power supply**	Inc. 1 x 12V DC fuse and 1 x 230V AC fuse.
9. Castors	2 pcs. front with brake, 2 pcs. back without brake.	**20. Main control unit**	Printed circuit board.
10. Vacuum valve	Equalizes the pressure in the appliance to ease door openings.	**21. Rating plate**	See “Rating plate” for more information.
11. *Racks and boxes	Optional.	**22. Backup battery**	Ensures logging/ display during power failure up to 72 hours.

Probes and portholes

As standard, the appliance is equipped with a temperature probe inside the appliance. The probe monitors the temperature in the chamber and controls the operation of the compressor.

The main probe also controls temperature alarms. It is possible to connect three different probes to the appliance in order to monitor the temperature different places in the appliance. You can change the settings on which probe is the main probe. (See “Probe at main screen”).

To install more probes you can use the premade portholes on the back of the appliance. Carefully push a screwdriver or drill through the holes. Always seal the holes with putty or similar, on both sides of the hole.

Never insert probes through the door, as this will danger the door gasket, increase the ice build-up and affect the temperature inside the appliance.

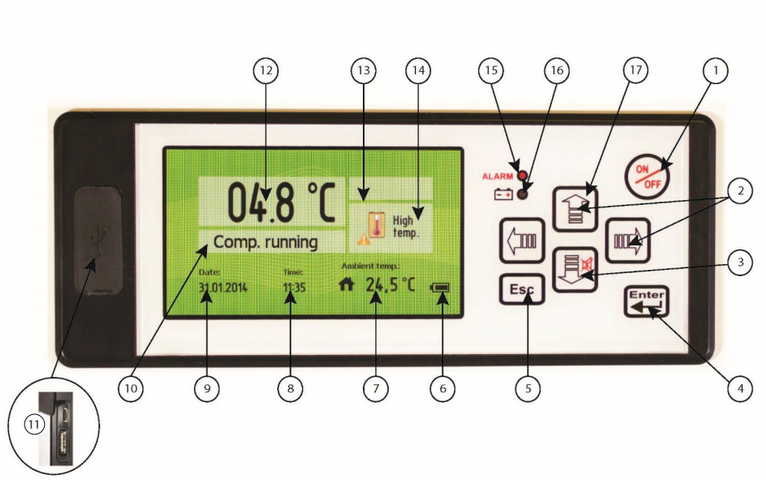
Display G214

The control panel is a multifunctional display designed for user-friendly operation. You can access a variation of settings, in order to adjust your appliance for your exact needs. For adjustments, see “controller settings”.

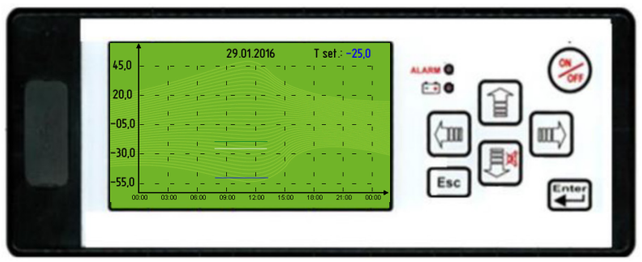
Controller features:

- 72-hour battery backup for alarms.
- Temperature display and data acquisition during power failures.
- Visual and audible alarm.
- Integrated memory and data logger.
- Contact for remote alarm. (Prepared for GSM alarm.)
- Memory capacity for more than 20 years - logging every 1 minute.
- High and low probe alarm.

The Main control unit is located in the compressor compartment behind the top panel. The display is mounted in the top-panel.



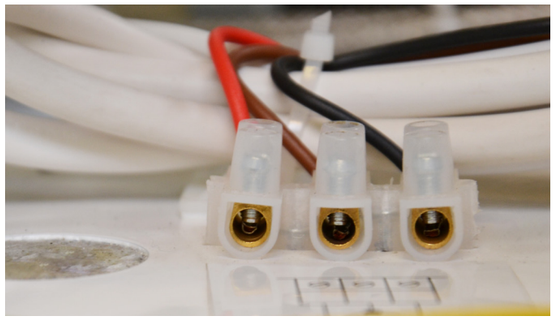
1. ON/OFF
2. Navigation arrows
3. Alarm mute button
4. Enter
5. Escape
6. Battery level
7. Ambient temperature
8. Time
9. Date
10. Compressor status
11. USB-port
12. Internal temperature
13. Alarm indicator
14. Alarm type
15. Alarm (red light)
16. Power failure
17. Access graph*

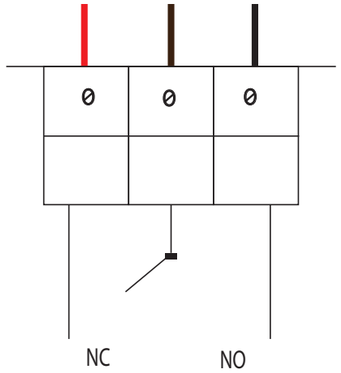


*17.
- Push the ↑ button in order to access a temperature graph.
- Push the ← → buttons to navigate the data history for up to 10 days.
- Push the Esc button in order to exit the menu.

Remote alarm contact

The remote alarm contact is located in the compressor compartment.





Vacuum valve

The vaccum valve helps equalizing the pressure inside the appliance, which allows the user to open the door without waiting for hours. The vacuum valve is located under the appliance - be aware of this when moving or transporting the appliance.

Cooling system

The ULUF range is fitted with a direct cooling system. The evaporator is an integrated part of the shelves in the appliance and divides the thermal radiation into levels inside the cabinet ensuring a uniformity of only ± 2°C.

Single compressor technology

The Arctiko ULUF range also comes with a single compressor technology. in comparison to the normal casade system, these appliances only needs 1 compressor to reach the desired temperature.

Dual cooling system (optional)

As an option you can purchase our ULUF models with dual cooling system. The dual cooling system is designed with two independent cooling cycles which offers optimal security of your stored products in the unlikely event of a failure in one of the cooling cycles. In case of failure, the other cooling cycle will serve as a backup, guaranteeing that your stored products will be kept at the set temperature.

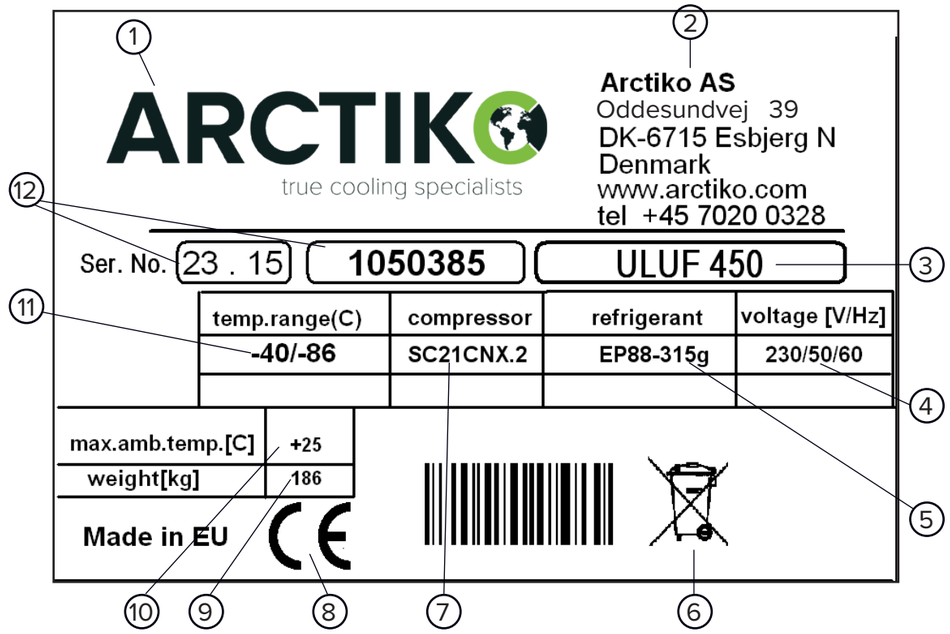
An Arctiko appliance which offers dual cooling system can be identified by the denomination of –D in the end of the model
designation (e.g. ULUF 700-D).

Filterless construction

Arctiko's single compressor system is designed as a filter-less system, which prevents problems caused by dust building up in the filter. This minimizes the maintenance of the cooling system and secures a more stable operation.

Rating plate

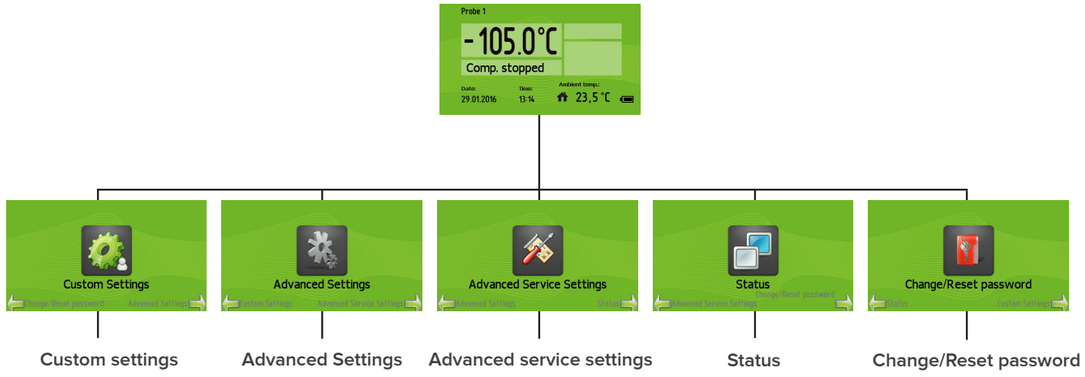
The rating plate is placed on the front right corner of the compressor compartment. On the small ULUF models (ULUF 65 and ULUF 125) it is placed on the back of the cabinet and on ULUF 15 it is placed on the right side.



1. Logo
2. Contact information
3. Model
4. Voltage range
5. Refrigerant and charge
6. WEEE "Waste from Electrical and Electronic Equipment"
7. Compressor type
8. CE mark
9. Weight in Kg
10. Max ambient temperature
11. Temperature. range
12. Serial no.

Controller operation/settings

Main menu



Enter custom settings

Press “ENTER” to access menu

Press “ENTER” to access custom settings

Press “ENTER” to type password

The password is “0000” - Press “ENTER” to enter the highlighted number and press “ENTER” to continue

Press “Esc” to exit menu/go back. The display will return to the main screen after 1 minute of inactivity. When you have entered the custom menu successfully, you will have the following options:

Setpoint

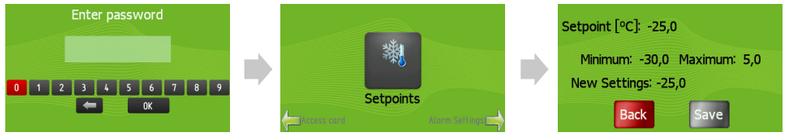
The setpoint defines the target temperature inside the appliance.
When changing the setpoint please check the “High/low temperature alarm” and make sure they are in accordance with the new temperature setting. The alarm temperatures are not automatically updated. Please refer to the “High/low temperature alarm” sections of the manual for information on these settings.

How to change the setpoint

Press “ENTER” to access main menu

Press “ENTER” to access ‘Custom settings’

Press “ENTER” to enter the password



The password is “0000” - Press “ENTER” to enter the highlighted number and press “ENTER” continue

Press “ENTER” to access ‘Setpoints’

Press ↑ ↓ to increase or decrease the value of the setpoint.

Press → to highlight “Save” and press “ENTER” to save the new setpoint

Attention!

The Setpoint can only be set between the minimum and maximum value.

Alarm settings

- **Temp. Alarm delay** - The temperatrure Alarm delay defines the number of minutes between the temperature in the appliance crossing the alarm limit and the alarm being activated. After changing the “Temp. Alarm delay” setting, the appliance has to be restarted for the changes to take effect.

Press **“Esc”** until the display returns to the main screen. To activate the settings, press the “On/Off” button to turn off the appliance, and then wait 10 seconds, press it again to turn on the appliance. The new settings are now in effect.

- Door open alarm - The appliance is equipped with a door contact to register whether the door is open or closed. If the door is not closed correctly or held open for period of time, the visual and audible “Door open alarm” will be activated. This is to make sure the door is properly closed and the integrity of the items placed in the appliance is maintained. The alarm will stop when the door is properly closed and the alarm has been accepted in the display.

Please note that the alarm may be activated when moving products in or out of the appliance or in other instances, where the door is held open for extended periods of time.

Attention!

The factory setting for door alarm activation is 5 minutes. To change this setting, contact the distributor/seller of the appliance. The user can only enable/disable this function.

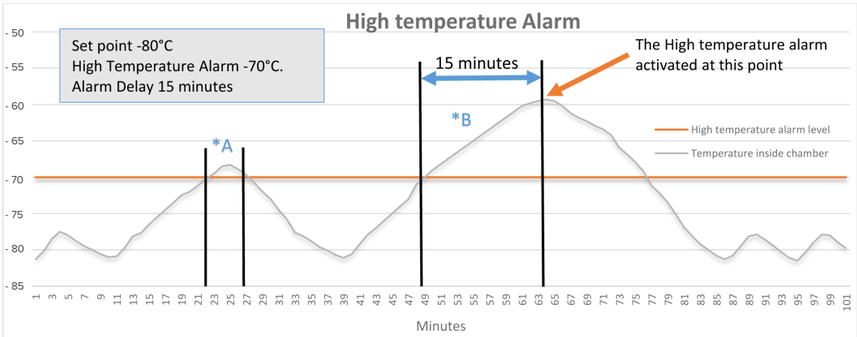
- **High temp. alarm** - If the temperature in the appliance rises above the “High temp” setpoint longer than the “Alarm delay” setting defines, the high temperature alarm will be activated.

If products with a temperature above the “High temp” setting is placed in the appliance near the temperature probe, it may trigger the high temperature alarm.

Example:

The setpoint is -80°C, the “High Temp.” is set to -70°C and the ”Alarm delay” is 15 minutes. When the temperature in the appliance rises above -70°C for 15 minutes or longer, the alarm will be activated.

Please note: The temperature probe is measuring the temperature of the air in the appliance, not the temperature of the products placed in the appliance. The temperature of the air will change more rapidly than the temperature of the products.



*A - Case 1: A door opening can cause the temperature to rise inside the chamber. In this case, the temperature rises above the High Temperature alarm level, but falls again within 15 minutes. In this case, no alarm is activated.

*B - Case 2: Loading products in the chamber can cause the temperature to rise inside the chamber. In this case, the temperature rises above the High Temperature Alarm Level, and the recovery time last longer than 15 minutes. – Therefore, the High temperature alarm will be activated.

Attention!

When changing the high temperature setting, remember to have the setpoint of the appliance in mind. If the “high temp.” is set lower than the appliance setpoint, this will activate the alarm. You can change the time settings for the “high temp” in the custom menu when accessing “temp. Alarm delay”.

- **Low temp. alarm** - If the temperature in the appliance falls below the “Low temp. alarm” limit for a period longer than the “Alarm delay”, the low temperature alarm is activated.

If products with a lower temperature than the low temperature alarm setting is placed against or close to the temperature probe inside the appliance, it may result in the low temperature alarm being triggered.

Example:

The setpoint is -80°C, the “Low Temp.” is set to -95°C and the ”Alarm delay” is 15 minutes When the temperature in the appliance falls below -95°C for 15 minutes or longer, the alarm will be activated.

Please note: The temperature probe is measuring the temperature of the air in the appliance, not the temperature of the products placed in the appliance. The temperature of the air will change more rapidly than the temperature of the products.

Attention!

When changing the low temperature setting, remember to have the setpoint of the appliance in mind. If the “low temp.” is set higher than the appliance setpoint, this will activate the alarm. You can change the time settings for the “low temp” in the custom menu when accessing “temp. Alarm delay”.

- Probe failure - The probe mounted in the appliance measures the temperature of the chamber and controls the operation of the cooling system. f the probe is disconnected or damaged, the probe failure alarm will be activated and the cooling system will stay in operation controlled by a timer function. If the probe errors, the temperature will show + 55°.

- Power failure - The appliance needs power to operate the cooling system. In case of power loss, the controller will go into power failure mode and the screen will go black. The alarm (red light) will start to flash.

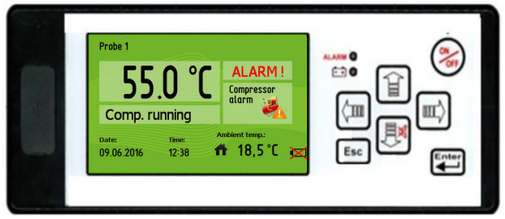
The appliance is equipped with a backup battery, which is able to maintain the controllers logging feature and visual, audible and remote alarm features for a minimum of 72 hours. By pressing the on/off button while in power failure mode, the display will light up and show the duration of the power failure and the current temperature for a brief moment, and then turns off again.

Please note that during power failure, the cooling system will not be operational! - When the power returns, the appliance will return to normal function. We highly recommend NOT to open the door during power failure, except for moving the products to another appliance or location. An open door will increase the temperature inside the chamber.

Attention!

The Power failure icon will remain in the display until the alarm is accepted.

Description of compressor failure alarm



The compressor failure alarm cannot be set in the settings menu. It is factory preset and will only appear in the display in case of compressor failure. The compressor failure alarm is only applicable for appliances with dual cooling system. The compressor failure alarm activates if a compressor operates outside normal conditions. The activation of the compressor failure alarm will switch off the compressor that operates abnormally and keep the other compressor running. The malfunctioning compressor is deactivated to protect the compressor from running outside normal conditions.

Important: Please note that the compressor will not be reactivated by accepting the alarm.

Recommended actions

If it is a non-recurring alarm, the compressor can be reactivated by restarting the appliance (switching the appliance off and on again using the ON/OFF button). If it is a recurring alarm, please contact your local distributor for technical support.

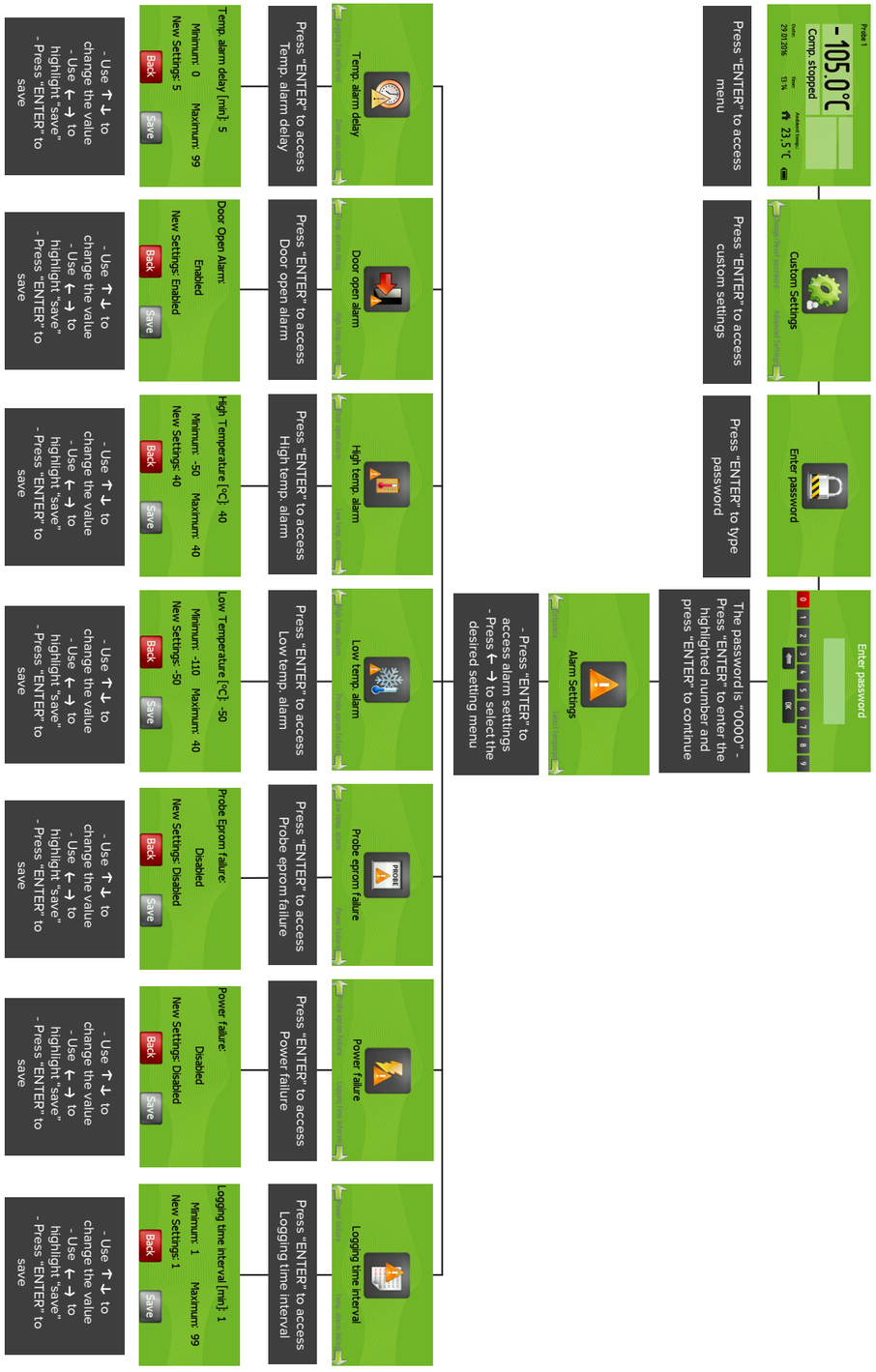
Logging interval

The controller has a built-in memory for logging the operating data of the appliance. The controller automatically logs the data at the set time interval. The time interval is adjustable in minutes.

Attention!

The factory log setting is one minute. To provide the best service and support Arctiko STRONGLY recommends keeping this setting. When logging every minute, the capacity of the memory is more than 20 years. Changes to the logging time interval will not be activated before the device is reset. Turn the appliance OFF and then ON.

Alarm setting instructions



Select language

The default language of the controller is English. The language can be changed in the "Select language" menu. The available languages are **English, German, Russian, French, Spanish, Swedish, Turkish** and **Polish**. Changing the language will change the text throughout the controller and can be done at any time without interrupting the operation of the appliance.

Light

It is possible to change the settings of the light in the appliance to suit your needs. You can choose from three different settings:

0. Light always on.
1. Light on, when the door is open.
2. Light on, when the door is closed.

Probe at main screen

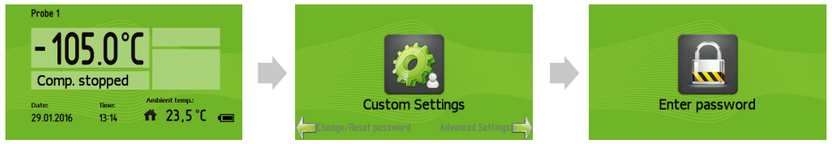
The temperature probe of the appliance (Probe 1) controls the cooling system. It is possible to add up to two optional extra probes (Probe 2 and Probe 3) for temperature monitoring.

The chamber probe is measuring the air temperature inside the appliance to control the operation of the cooling system, when the compressor turns on and off the temperature will rise and fall accordingly.

To get a better monitoring of the actual temperature of the products stored in the appliance, probe 2 and/or probe 3 can be installed and placed in a glycerol-filled bottle inside the appliance.

The probe related to the temperature monitoring shown on the main screen is changed in this menu. The probe, which is selected, is shown above the temperature in the main screen.

The temperature alarms will react to the probe selected in this menu. All three probes can be calibrated in the “Calibration” menu. The probe displayed on the main screen can be changed in this menu.



Press “ENTER” to access menu

Press “ENTER” to access custom settings

Press “ENTER” to type password

The password is “0000” - Press “ENTER” to enter the highlighted number and press “ENTER” to continue

- Press ← → until the “Probe at Main Screen” appears in the display

- Press “ENTER” to access

- Use ↑↓ change the value

- Use ← →to highlight “save”

Press “ENTER” to save

Attention!

Only Probe 1 is used for temperature control. Do not move or exchange for one of the other probes as this may affect the appliance’s performance.

Advanced settings

Enter advanced settings

Press “ENTER” to access menu

- Press ← → until “advanced settings” appears in the display

- Press “ENTER!

Press “ENTER” to type password

Factory settings for the password is “0000”

Press “Esc” to exit menu/go back.

The display will return to the main screen after 1 minute of inactivity.
When you have entered the Advanced settings successfully, you will have the following options:

Calibration

Temperature probes are mounted inside the appliance. Probe 1 controls the cooling system and monitors the temperature inside the appliance.
To ensure precise and consistent operation, the probes can be calibrated to offset potential changes and drifts in measurements. We recommend you to calibrate the probe temperatures once a year.

Automatic defrost

Automatic defrost is **NOT** possible on the ULUF range. – Please see Maintenance /defrosting.

Manual defrost

The manual defrost function of the G214 controller is **NOT** possible to be enabled on the ULUF range. – Please see Maintenance /defrosting.

Hysteresis

The hysteresis in combination with the setpoint defines the temperatures for starting and stopping the cooling compressor in the appliance. E.g. with a setpoint of -80°C and a hysteresis of 2, the compressor will start when the temperature in the appliance reaches -79°C and stop again at -81°C.

Attention!

Do not change the hysteresis setting without contacting a service representative. If set incorrectly, it may severely affect the stability and cooling performance of the appliance.

Temp. range limits

The temperature range limits define the highest and lowest temperature the setpoint of the appliance can be set to.

Attention!

Changing these parameters and operating the appliance outside of the specifications listed in the technical data may affect the performance of the appliance negatively or cause damage to the appliance. The technical data can be found on Arctiko's website or by contacting the seller of the appliance.

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Service

The service menu offers information on compressor and fan activation time, probe temperatures and firmware versions of controller. There are no changeable settings in the service menu.

Password protection ON/OFF device

When turning ON/OFF, the appliance password protection can be enabled to avoid accidentally switching off the appliance. If activated, a password for either the custom settings or advanced settings has to be entered to turn the appliance on or off.

Set date/time

The date and time is displayed on the main screen and has to be manually updated to match the local time.

Ambient temp. settings

If the ambient temperature shown in the display varies from the actual room temperature, the shown temperature can be calibrated to match the actual temperature.

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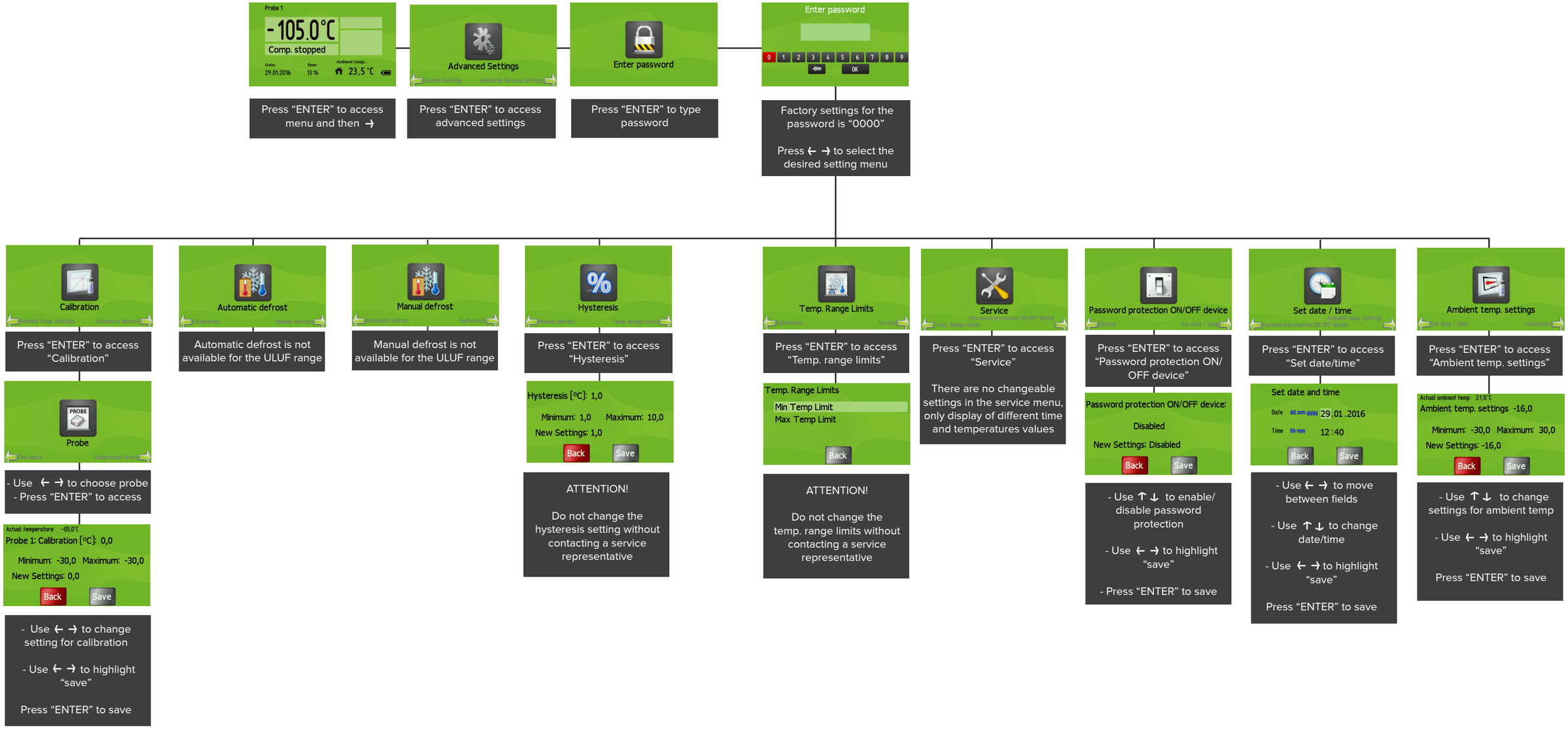
Advanced setting instructions



Advanced service settings

The Advanced service settings are only for qualified Arctiko technicians use only!

Status

Enter status

The status menu offers a range of monitoring options of the appliance. You can see a list of current alarms and the temperatures for the last 24 hours.

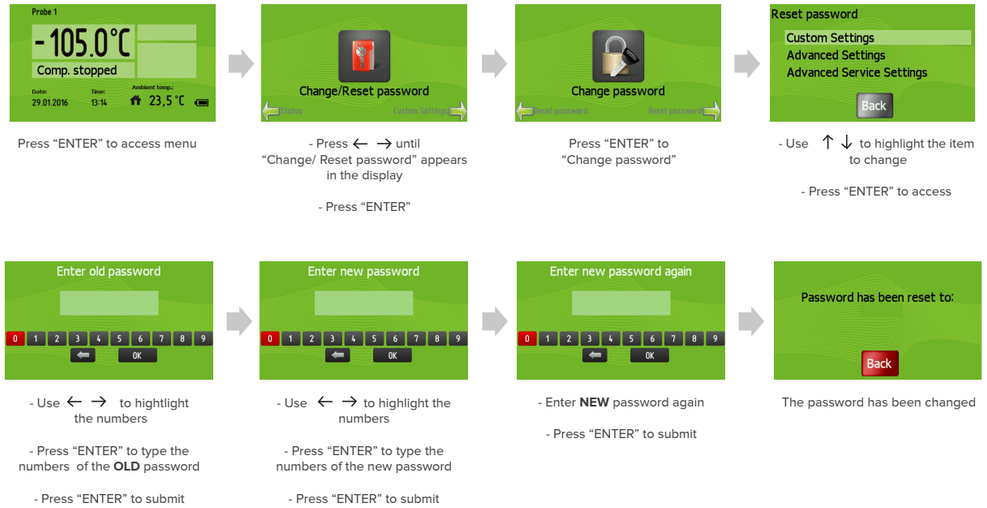
- Press "Esc" to exit menu/go back.
- The display will return to the main screen after 1 minute of inactivity.

Change/Reset password

You can change the password of the appliance to a personal code to increase security and prevent unauthorized access to the appliance.

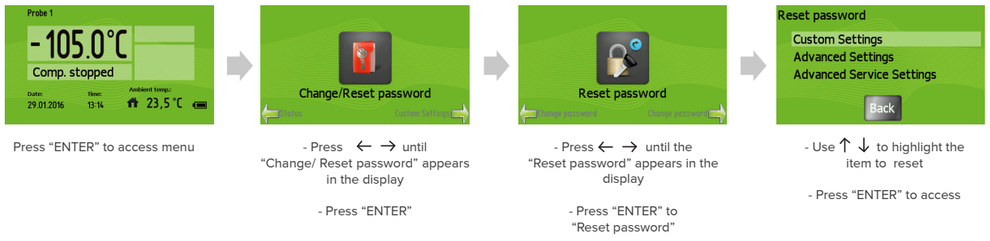
- The factory setting of the password is "0000".

Change password



Reset password

If you forgot the password for the appliance, it is possible to reset to the factory setting "0000". In order to reset the password, you need to require a "reset password" from your Arctiko distributor. - Contact your distributor for the code needed.



- Use ← → to hightlight the numbers

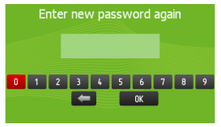
- Press “ENTER” to type the numbers of the **RESET** password

- Press “ENTER” to submit

- Use ← → until highlight the numbers

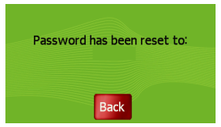
- Press “ENTER” to type the numbers of the new password

- Press “ENTER” to submit



- Enter **NEW** password again

- Press “ENTER” to submit



The password has been reset

After resetting the password, store the “reset code” in a safe location or destroy after use.

Data log

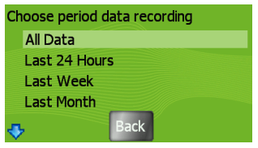
Download data from the controller

The log contains temperature and operational data which easily can be downloaded in support cases. The data can be downloaded to a USB drive for convenient viewing on a computer. The “dataXX.txt” and “paramXX.txt” files can be opened with Microsoft Excel or similar software.

This function also makes it possible for a service technician to analyze the data for troubleshooting in case of malfunctions for quick and accurate support.

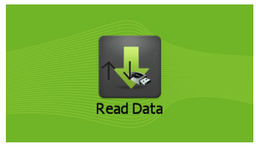
Insert USB drive in the USB-port

Press → to read the data



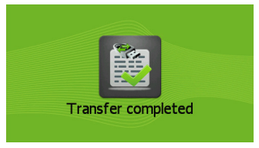
- Use ↑ ↓ to highlight the log you want to download

- Press “ENTER” select



- Wait! This may take some time

- DO NOT REMOVE THE USB DRIVE DURING TRANSFER



When the transfer is complete, remove the USB-drive

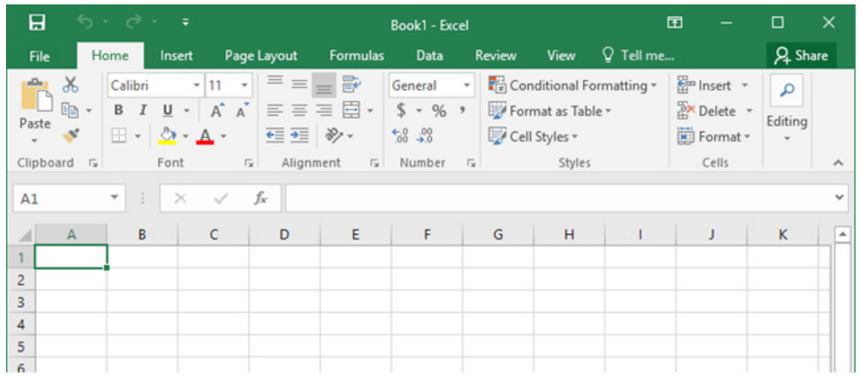
Attention!

Do not remove the USB drive while transferring data. Wait for the “Transfer completed” message to show before removing the drive.

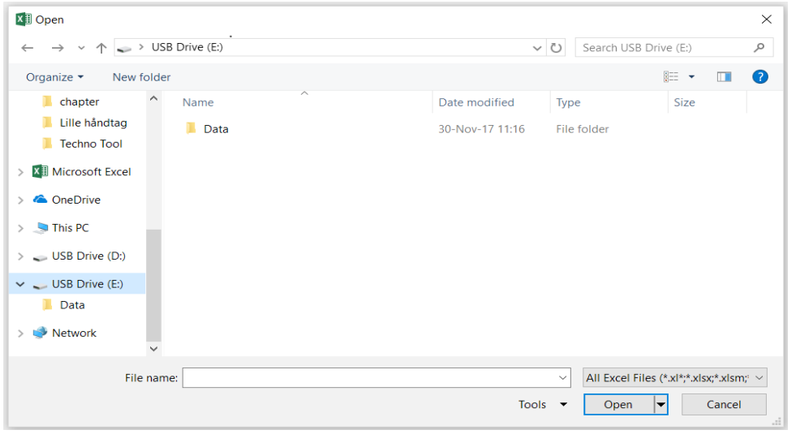
Open and process data on a computer

You can transfer the data to a computer in order to analyze, process or forward information. Insert the USB-drive to an USB port on the computer.

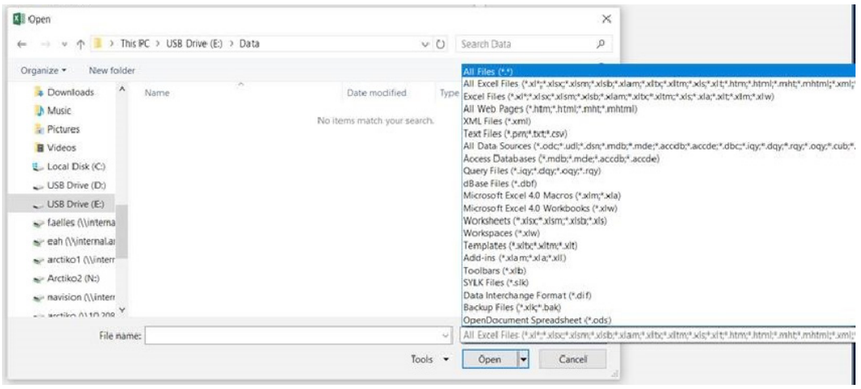
1. Open a new Excel file or similar spreadsheet software.



2. Open file and navigate to the USB-drive where the data folder is located.

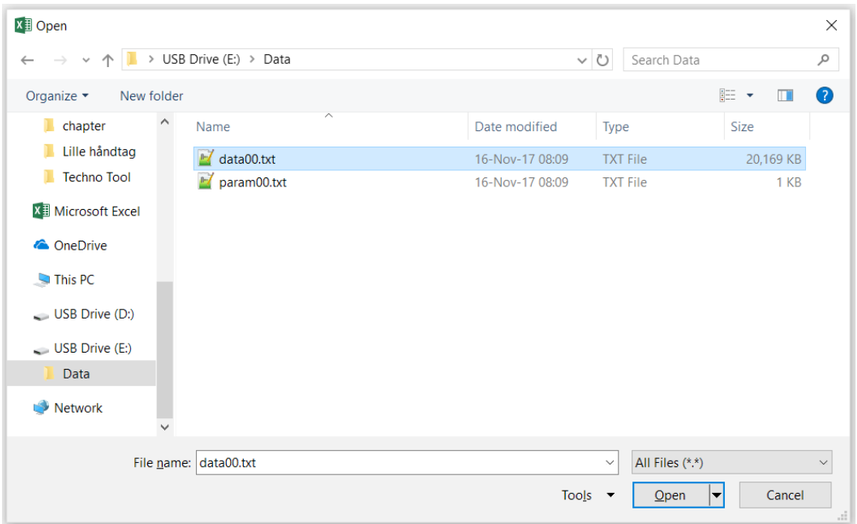


3. Select “ALL Files (*.*)” to make sure the relevant files are visable.



4. The files should now be visable. “data00.txt” and “param00.txt”. If more than one readout has been preformed, each readout will create a set of files with the number increased by one. The “data00.txt” file contains the most recent download. The “param00.txt” file contains the parameter settings.

- Open “data00.txt” or “param00.txt”.



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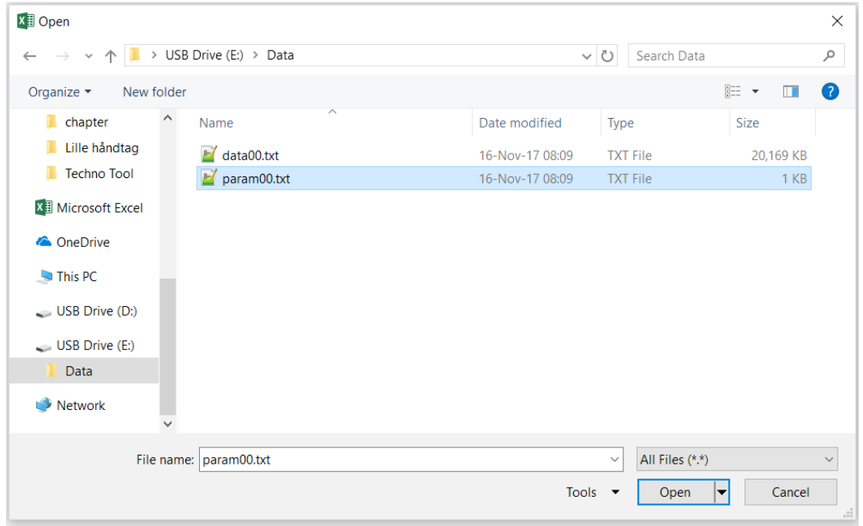
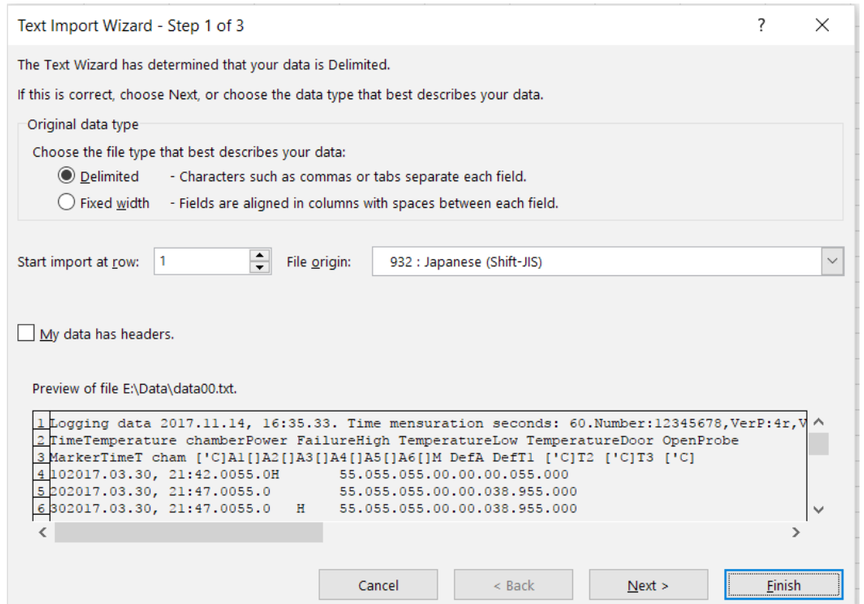
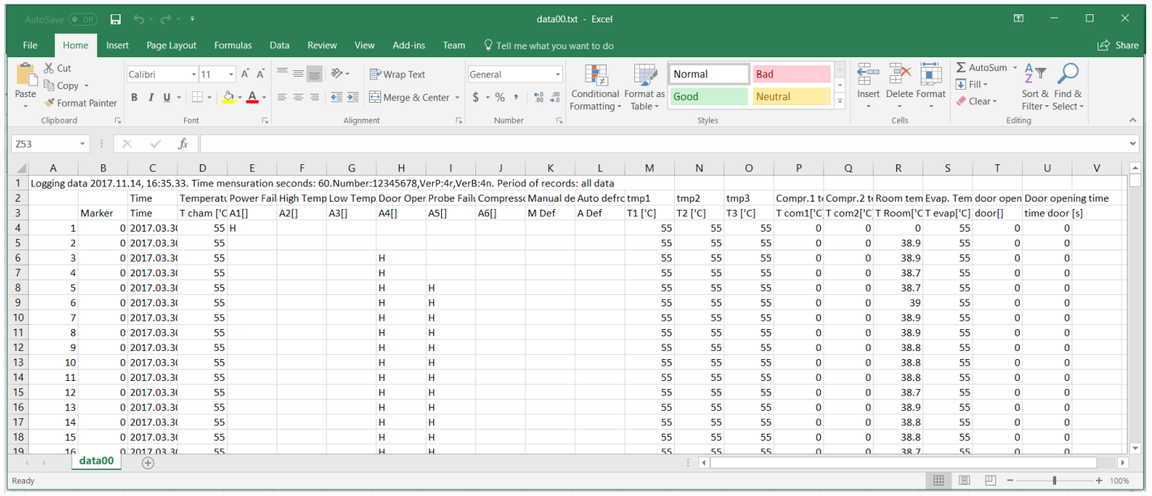


5. When the desired file is opened, the following window will appear. Proceed by clicking the “Finish” button.



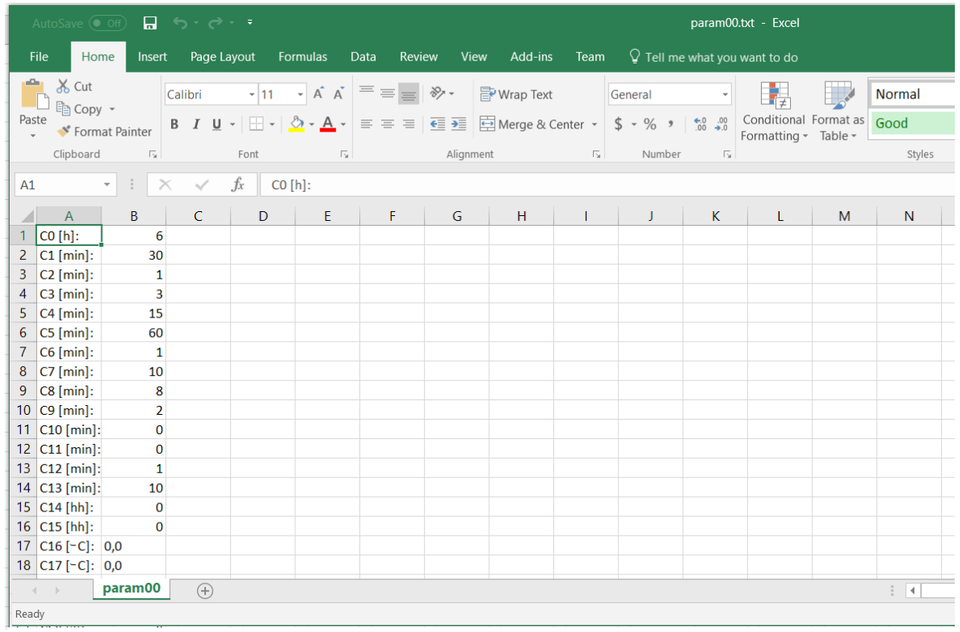
6. The following images are examples of the data/parameters.

- Data



Logging data 2017.11.14, 16:35.33. Time mensuration seconds: 60.Number:12345678,VerP:4r,VerB:4n. Period of records: all data																							
		Time	Temperat	Power Fail	High Temp	Low Temp	Door Oper	Probe Fail	Compress	Manual de	Auto defrc	tmp1	tmp2	tmp3	Compr.1 t	Compr.2 t	Room tem	Evap. Tem	door open	Door opening time			
	Marker	Time	T cham ['C	A1[]	A2[]	A3[]	A4[]	A5[]	A6[]	M Def	A Def	T1 ['C]	T2 ['C]	T3 ['C]	T com1['C	T com2['C	T Room['C	T evap['C]	door[]	time door [s]			
1	0	2017.03.3	55	H								55	55	55	0	0	0	55	0	0			
2	0	2017.03.3	55									55	55	55	0	0	38.9	55	0	0			
3	0	2017.03.3	55				H					55	55	55	0	0	38.9	55	0	0			
4	0	2017.03.3	55				H					55	55	55	0	0	38.7	55	0	0			
5	0	2017.03.3	55				H	H				55	55	55	0	0	38.7	55	0	0			
6	0	2017.03.3	55				H	H				55	55	55	0	0	39	55	0	0			
7	0	2017.03.3	55				H	H				55	55	55	0	0	38.9	55	0	0			
8	0	2017.03.3	55				H	H				55	55	55	0	0	38.9	55	0	0			
9	0	2017.03.3	55				H	H				55	55	55	0	0	38.8	55	0	0			
10	0	2017.03.3	55				H	H				55	55	55	0	0	38.8	55	0	0			
11	0	2017.03.3	55				H	H				55	55	55	0	0	38.8	55	0	0			
12	0	2017.03.3	55				H	H				55	55	55	0	0	38.7	55	0	0			
13	0	2017.03.3	55				H	H				55	55	55	0	0	38.9	55	0	0			
14	0	2017.03.3	55				H	H				55	55	55	0	0	38.8	55	0	0			
15	0	2017.03.3	55				H	H				55	55	55	0	0	38.8	55	0	0			
16	0	2017.03.3	55									55	55	55	0	0	38.7	55	0	0			

- Parameters



1	C0 [h]:	6
2	C1 [min]:	30
3	C2 [min]:	1
4	C3 [min]:	3
5	C4 [min]:	15
6	C5 [min]:	60
7	C6 [min]:	1
8	C7 [min]:	10
9	C8 [min]:	8
10	C9 [min]:	2
11	C10 [min]:	0
12	C11 [min]:	0
13	C12 [min]:	1
14	C13 [min]:	10
15	C14 [hh]:	0
16	C15 [hh]:	0
17	C16 [~C]:	0,0
18	C17 [~C]:	0,0

Description of data points:

Info	
Logging data	Number of log entries
Time	Date and time for log entry
Temperature chamber	Temperature measured by the main probe
Alarms	
Power failure	Marked with “H” if occurred
High Temperature	Marked with “H” if triggered
Low temperature	Marked with “H” if triggered
Door open	Marked with “H” if triggered
Probe failure	Marked with “H” if triggered
Compressor alarm	Marked with “H” if triggered
Manual defrost	Marked with “H” if cycle is running
Auto defrost	Marked with “H” if cycle is running
Measurements	
tmp1	Temperature measured by 1st probe
tmp2	Temperature measured by 2nd probe (if present)
tmp3	Temperature measured by 3rd probe (if present)
Compressor1 temp	Temperature of compressor 1
Compressor2 temp	Temperature of compressor 2 (if present)
Room temp	Ambient temperature
Evaporator temp	Temperature of evaporator (Not applicable for ULUF-models.)
Events	
Door open	“0” – door closed / “1” – door open
Door opening time	Duration opening duretion in seconds

Default settings ULUF 60/120/400/400-D/500/500-D/700/700-D/800/800-D:

Description	Arctiko default settings	Customer settings
Custom Settings (Password)	0000	
Set point		
Freezer	-40,0	
Alarm Settings:		
Alarm delay		
Freezer	15 min	
Door open alarm		
Freezer	Enabled	
High temp. alarm		
Freezer	-30	
Low temp. alarm		
Freezer	-50	
Probe/eprom failure		
Freezer	Enabled	
Power failure		
Freezer	Enabled	
Logging time interval		
Freezer	1	

Description	Arctiko default settings	Customer settings
Advanced Settings (Password)	0000	
Calibration		
Freezer	0,0	
Automatic defrost		
Freezer	0	
Manual defrost		
Freezer	OK	
Hysteresis		
Freezer	2,0	
Temp. range limits		
Freezer Max.	-20,0	
Freezer Min.	-40,0	

Default settings ULUF 15/65/125:

Description	Arctiko default settings	Customer settings
Custom Settings (Password)	0000	
Set point		
Freezer	-80,0	
Alarm Settings:		
Alarm delay		
Freezer	15 min	
Door open alarm		
Freezer	Enabled	
High temp. alarm		
Freezer	-70	
Low temp. alarm		
Freezer	-90	
Probe/eprom failure		
Freezer	Enabled	
Power failure		
Freezer	Enabled	
Logging time interval		
Freezer	1	

Description	Arctiko default settings	Customer settings
Advanced Settings (Password)	0000	
Calibration		
Freezer	0,0	
Automatic defrost		
Freezer	0	
Manual defrost		
Freezer	OK	
Hysteresis		
Freezer	2,0	
Temp. range limits		
Freezer Max.	-40,0	
Freezer Min.	-85,0	

Default settings ULUF 450/450-2M/550/550-2M/750/750-2M/850/850-2M:

Description	Arctiko default settings	Customer settings
Custom Settings (Password)	0000	
Set point		
Freezer	-80,0	
Alarm Settings:		
Alarm delay		
Freezer	15 min	
Door open alarm		
Freezer	Enabled	
High temp. alarm		
Freezer	-70	
Low temp. alarm		
Freezer	-90	
Probe/eprom failure		
Freezer	Enabled	
Power failure		
Freezer	Enabled	
Logging timeinterval		
Freezer	1	

Description	Arctiko default settings	Customer settings
Advanced Settings (Password)	0000	
Calibration		
Freezer	0,0	
Automatic defrost		
Freezer	0	
Manual defrost		
Freezer	OK	
Hysteresis		
Freezer	2,0	
Temp. range limits		
Freezer Max.	-40,0	
Freezer Min.	-85,0	

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Default settings ULUF 490/490-2M/590/590-2M/890/890-2M:

Description	Arctiko default settings	Customer settings
Custom Settings (Password)	0000	
Set point		
Freezer	-80,0	
Alarm Settings:		
Alarm delay		
Freezer	15 min	
Door open alarm		
Freezer	Enabled	
High temp. alarm		
Freezer	-70	
Low temp. alarm		
Freezer	-100	
Probe/eprom failure		
Freezer	Enabled	
Power failure		
Freezer	Enabled	
Logging timeinterval		
Freezer	1	

Description	Arctiko default settings	Customer settings
Advanced Settings (Password)	0000	
Calibration		
Freezer	0,0	
Automatic defrost		
Freezer	0	
Manual defrost		
Freezer	OK	
Hysteresis		
Freezer	2,0	
Temp. range limits		
Freezer Max.	- 0,0	
Freezer Min.	- 0,0	

Alarms

See “Controller operation /Alarm settings” for a detailed description of each alarm.

How to mute and accept alarms

Mute an alarm

Press the Alarm mute button to mute an alarm. This procedure will silence the alarm for 5 min, where after it will start sounding again until being muted or accepted.
Please note that muting an alarm will only silence the alarm, the alarm is still active.

Accept an alarm

Press Enter to show an alarm (if an alarm is active).
- Select Back to return to main screen
- Select Next to see other active alarms
- Select OK to accept the shown alarm

If multiple alarms are active, the next alarm will be shown after accepting the previous alarm.
Please note that accepting an alarm will definitively cancel the current alarm (if the alarm conditions remain unchanged, a new alarm will be activated according to the alarm settings).

Remote alarm contact
The alarm relay will not be switched off when muting an alarm.
If all alarms are accepted, the remote alarm will be turned off.

Maintenance

Frequent and correctly executed maintenance is essential to ensure high performance and functionality of the appliance. Arctiko recommends a thorough examination twice a year and cleaning at least once a month.

Never disassemble, repair, or modify the appliance yourself. Any such work carried out by an unauthorized person may result in fire, or electric shock or injury due to a malfunction.

Before performing maintenance or cleaning the appliance, **disconnect the electrical power supply.**

Ensure that you do not inhale or consume medication or aerosols from around the appliance at the time of maintenance. These may be harmful to your health.

Never splash water directly onto the appliance as this may cause electric shock or short circuit.

General maintenance

Perform following, at least twice a year:

- Lubricate hinges and gaskets. Wipe off all excess lubricant.
- Make sure the appliance is levelled. If necessary, adjust castors and/or feet.
- Inspect all gaskets. Make sure they are still soft and flexible.
- Check the battery with a voltmeter – should only be performed by authorized personal and according to the servicemanual which is available on our website.

WARNING!

Before any inspection or maintenance work is performed, the power plug on the appliance should be disconnected from the socket. This is to prevent any potential electrical shock or injury. During the maintenance work, do not breathe dust and aerosols ; as they might be harmful to your health.

Cleaning

Perform following instructions at least once a month:

- Always keep the appliance free of ice. Use a soft cloth or brush to remove loose ice. Never use sharp tools and be cautious not to damage the gaskets. Keeping the appliance free of ice will extend it's lifespan.

-Clean the outside and inside of the appliance using a dry, soft cloth or a soft cloth with a solution of water and mild detergent. If a thorough cleaning or disinfection is required, we recommend using ethanol.

- Clean all gaskets using a damp cloth and if necessary a mild detergent. Remove dirt and wipe with a dry cloth afterwards. Do not pour water into the appliance. By doing so, the water can damage the insulation materials and electrical components.

- Dust off the inside of the compressor compartment using only a dry brush or a vacuum cleaner. Parts of the refrigeration system of this appliance are completely sealed. These do not require any lubrication.

ATTENTION!

Do not use abrasive nor chlorine-containing products to clean the appliance.

Defrosting

This appliance does not offer automatic defrosting as such function would increase the chamber temperature (and stored samples) to a value that could destroy stored samples, that are temperature sensitive. Therefore you have to perform defrosting manually by following these instructions:

Defrost the appliance at least twice a year.

1. If the appliance is loaded with samples or products, move these to another appliance to maintain the temperature of the products.

2. Turn off the appliance on the display by pressing the ON/OFF button.

3. Unplug the main power cable from the power socket.

4. Open the door and inner doors of the appliance.

5. Place cloths or towels in the bottom of the appliance to collect any defrost water.

6. Leave the appliance open for a minimum of 24 hours allowing the ice to melt.

7. When the defrosting is completed, thoroughly clean the appliance inside. Wipe off all remaining water and leave the door open until the cabinet is completely dry.

8. Connect the main power cable to the power socket and switch on the appliance on the display by pressing the ON/OFF button.

9. Reload the appliance after reaching the set temperature.
   Pull down time:
   - Single cooling system pull down time: 7-8 hours.
   - Dual cooling system pull down time: 2-3 hours.

Service

Arctiko recommends that service is performed by authorized service personnel at least once a year.

Contact your Arctiko distributor for contact information. Always have the serial number of the appliance and model ready for the distributor.

Spare parts

For requirements of spare parts, contact your Arctiko distributor. Please inform the serial number of the appliance and model when contacting the distributor.

Arctiko strives for day-to-day delivery of spare parts. However, some special parts may take longer due to production time. Arctiko guarantees availability of spare parts for all appliances for at least 10 years after the delivery.

After-sales

If you would like more information about your device or you would like to purchase spare parts or additional equipment, please contact your local distributor. Always have serial number and model handy for the appliance you are referring to when contacting the distributor.

Warranty

For warranty information, Arctiko refers to your distributors terms and conditions.

Troubleshooting

Most malfunctions arise in wrong use of the appliance and can often be solved on the spot. In order to resolve some of the most common malfunctions, please see the following troubleshooting scheme:

Problem	Cause	Action
Appliance's refrigeration is not effective, temperature tends to operate out of range.	Overload or load of warm products may cause the temperature to rise.	Discharge warm or excess products.
	Products are packed too close in the appliance, preventing air to flow.	Relocate the products. Make sure there is an air gap between products.
	Make sure the appliance is not in direct sunlight or subject to any heat radiation.	Move the appliance away from the sunlight or heat source.
	Frequent door openings may cause the temperature to rise.	Check if there has been frequent door openings. Leave the door closed until the temperature in the appliance is stable.
	The ambient temperature is too high. The appliance is most effective in an environment under 25°C.	Control the room temperature in the room where the appliance is located.
The appliance is too noisy	The appliance is not levelled.	Adjust the castors/feet.
	The appliance is touching a wall or object.	Move the appliance away from the wall or objects.
Alarm light flashes, alarm sounds.	Warm products are loaded into the appliance. The alarm signal cancels when the temperature recovers to normal level.	Allow time for the temperature to recover. The alarm will stop when the temperature has recovered.
	Door is not shut properly. The door alarm will sound if the door is even slightly opened.	Shut the door.
	Unstable power supply might cause the alarm to switch on.	Allow time for recovery.

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Notes:

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