HistoCore Arcadia C

Cold Plate

Instructions for Use
English

Order No.: 14039380101 - Revision O

Always keep this manual with the instrument.
Read carefully before working with the instrument.

CE

Version 2.0, Revision O - 08.2022

The information, numerical data, notes and value judgments contained in this Instructions for Use represent the current state of scientific knowledge and state-of-the-art technology as we understand it following thorough investigation in this field.

We are under no obligation to update the present Instructions for Use periodically and on an ongoing basis according to the latest technical developments, nor to provide our customers with additional copies, updates etc. of this Instructions for Use.

To the extent permitted in accordance with the national legal system as applicable in each individual case, we shall not be held liable for erroneous statements, drawings, technical illustrations etc. contained in this Instructions for Use. In particular, no liability whatsoever is accepted for any financial loss or consequential damage caused by or related to compliance with statements or other information in this Instructions for Use.

Statements, drawings, illustrations and other information regarding the contents or technical details of the present Instructions for Use are not to be considered warranted characteristics of our products.

These are determined only by the contract provisions agreed between ourselves and our customers.

Leica Biosystems reserves the right to change technical specifications as well as manufacturing processes without prior notice. Only in this way is it possible to continuously improve the technology and manufacturing techniques used in our products.

For the instrument serial number and year of manufacture, please refer to the nameplate on the back of the instrument.

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Assembly contracted to Leica Microsystems Ltd. Shanghai

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1. Important Information

1.1 Naming conventions

Note

The full name of the device is HistoCore Arcadia C Cold Plate. The device is called HistoCore Arcadia C to ensure that the Instructions for Use are well legible.

1.2 Symbols in the text and their meanings

Symbol:	**Title of the symbol:**	Warning
	**Description:**	Warnings appear in a white box, orange header and are marked by a warning triangle.
Symbol:	**Title of the symbol:**	Note
	**Description:**	Notes, i. e. important user information, appear in a white box, blue header and are marked by an information symbol.
Symbol:	**Title of the symbol:**	Item number
→ "Fig. 7-1"	**Description:**	Item numbers for numbering illustrations. Numbers in red refer to item numbers in illustrations.
Symbol:	**Title of the symbol:**	Caution
	**Description:**	Caution, consult the instructions for use for cautionary information.
Symbol:	**Title of the symbol:**	Power on
Symbol:	**Title of the symbol:**	Power off
		
Symbol:	**Title of the symbol:**	Consult Instructions for Use
	**Description:**	Indicates the need for the user to consult the Instructions for Use.
Symbol:	**Title of the symbol:**	Manufacturer
	**Description:**	Indicates the manufacturer of the medical product.
Symbol:	**Title of the symbol:**	Manufacturing date
	**Description:**	Indicates the date when the medical device was manufactured.

Symbol:	**Title of the symbol:**	Alternating current
		
Symbol:	**Title of the symbol:**	PE terminal
		
Symbol:	**Title of the symbol:**	Article number
	**Description:**	Order number for standard delivery or accessories.
Symbol:	**Title of the symbol:**	Serial number
	**Description:**	Designates the serial number of the instrument.
Symbol:	**Title of the symbol:**	China RoHS
	**Description:**	Environmental protection symbol of the China RoHS directive. The number in the symbol indicates the "Environment-friendly Use Period" of the product in years. The symbol is used if a substance restricted in China is used in excess of the maximum permitted limit.
Symbol:	**Title of the symbol:**	WEEE Symbol
	**Description:**	Symbol for labeling electrical and electronic equipment in accordance with Section 7 of the German Electrical and Electronic Equipment Act (ElektroG). ElektroG is the law regarding the sale, return and environmentally sound disposal of electrical and electronic equipment.
Symbol:	**Title of the symbol:**	Country of Origin
	**Description:**	The Country of Origin box defines the Country where the final character transformation of the product has been performed.
Symbol:	**Title of the symbol:**	CE Compliance
	**Description:**	The CE marking is the manufacturer's declaration that the product meets the requirements of the applicable EC directives and regulations.
Symbol:	**Title of the symbol:**	UKCA
	**Description:**	The UKCA (UK Conformity Assessed) marking is a new UK product marking that is used for goods being placed on the market in Great Britain (England, Wales and Scotland). It covers most goods which previously required the CE marking.
Symbol:	**Title of the symbol:**	UKRP

Description:	The UK Responsible Person acts on behalf of the non-UK manufacturer to carry out specified tasks in relation to the manufacturer's obligations.

UKRP
Leica Microsystems (UK) Limited
Larch House, Woodlands Business Park, Milton Keynes, England, United Kingdom, MK14 6FG

Symbol:	**Title of the symbol:**
	This product fulfills the requirements of the CAN/ CSA-C22.2 No. 61010.

Symbol:	**Title of the symbol:**	Fragile, handle with care
	Description:	The package contents are fragile and must be handled with care.

Symbol:	**Title of the symbol:**	Keep dry
	Description:	The package must be kept in a dry environment.

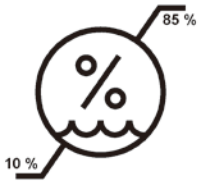
Symbol:	**Title of the symbol:**
	Indicates the correct upright position of the package.

Symbol:	**Title of the symbol:**
	It allows maximum 2 stacks layers.

Symbol:	**Title of the symbol:**
	Indicates the temperature range permitted for transporting the package. Minimum -29 °C Maximum +50 °C

Symbol:	**Title of the symbol:**
	Indicates the temperature range permitted for storing the package. Minimum +5 °C Maximum +50 °C

Symbol:	**Title of the symbol:**



Indicates the humidity range permitted for storing and transporting the package.

Minimum 10 % r.H.

Maximum 85 % r.H

Symbol: **Title of the symbol:**

Tip-n-Tell indicator to monitor whether the shipment has been transported and stored in upright position according to your requirements. With a pitch of 60° or more, the blue quartz sand flows into the arrow-shaped indicator window and sticks there permanently. Improper handling of the shipment is immediately detectable and can be proven definitively.

Symbol: **Title of the symbol:**

In the Shockwatch system, a shock dot shows shocks or impacts that are above a specified intensity through red coloration. Exceeding a defined acceleration (g value) causes the indicator tube to change color.

Symbol: **Title of the symbol:**

Indicates the item can be recycled where correct facilities exist.

Symbol: **Title of the symbol:** Regulatory Compliance Mark (RCM)

Description

The Regulatory Compliance Mark (RCM) indicates a device's compliance with applicable ACMA technical standards of New Zealand and Australia - that is, for telecommunications, radio communications, EMC and EME.

1.3 Instrument type

All information provided in these Instructions for Use applies only to the instrument type indicated on the cover page.

A nameplate is attached to the back of the instrument and a serial number label is on the side of the instrument.

1.4 Intended use of instrument

The HistoCore Arcadia C is a cold plate for chilling and blocking out histological tissue samples in paraffin blocks.

Any other use of the instrument will be considered as improper use!

1.5 Qualification of personnel

- The HistoCore Arcadia C may be operated by trained laboratory personnel only.
- All laboratory personnel designated to operate this instrument must read these Instructions for Use carefully and must be familiar with all technical features of the instrument before attempting to operate it.

2. Safety

2.1 Safety notes

Warning

The safety and caution notes in this chapter must be observed at all times. Be sure to read these notes even if you are already familiar with the operation and use of other Leica Biosystems products.

These Instructions for Use include important instructions and information related to the operating safety and maintenance of the instrument.

These Instructions for Use are an important part of the product, and must be read carefully prior to startup and use and must always be kept near the instrument.

This instrument has been built and tested in accordance with the safety requirements for electrical equipment for measurement, control, and laboratory use.

To maintain this condition and ensure safe operation, the user must observe all notes and warnings contained in these Instructions for Use.

Note

These Instructions for Use must be appropriately supplemented as required by the existing regulations on accident prevention and environmental safety in the operator's country.

Warning

The protective devices on the instrument and its accessories must not be removed or modified. Only service personnel qualified by Leica Biosystems may repair the instrument and access the instrument's internal components.

Warning

Use only the provided power cable - this must not be replaced with a different power cable. If the power plug does not fit in your socket, contact our service.

Warning

Residual risks

The instrument has been designed and constructed with the latest state-of-the-art technology and according to recognized standards and regulations with regard to safety technology. Operating or handling the instrument incorrectly can place the user or other personnel at risk of injury or can cause damage to the instrument or other property. The instrument may be used only as intended and only if all of its safety features are in proper working condition. Malfunctions that impede safety must be remedied immediately.

Note

For current information about applicable standards, please refer to the CE Declaration of Conformity and UKCA Certificates on our Internet site:

http://www.LeicaBiosystems.com

Warning

To prevent damage to the instrument or the specimen, only accessories authorized by Leica Biosystems may be used.

2.2 Warnings

The safety devices installed in this instrument by the manufacturer only constitute the basis for accident prevention. Operating the instrument safely is, above all, the responsibility of the owner, as well as the designated personnel who operate, service or repair the instrument.

To ensure trouble-free operation of the instrument, make sure to comply with the following instructions and warnings.

Warnings – Safety notes on the instrument itself

Warning

- This device may only be used by trained laboratory technicians. It must only be operated for the purpose of its designated use and according to the instructions contained in these Instructions for Use.
- Safety notes on the instrument itself, which are marked with a warning triangle, indicate that the correct operating instructions (as defined in these Instructions for Use) must be followed when operating or replacing the item marked. Nonobservance can cause accidents, injuries and/or damage to the instrument/accessories.

Safety instructions - Transport and installation

Warning

- After unpacking the instrument it may only be transported in an upright position.
- Before connecting the device to a power source, ensure that the voltage indicated on the type plate matches the voltage available at the place of installation.
- The unit must be connected only with the supplied power cable and only to a grounded power receptacle. Do not use an extension cord.
- The power socket to which the instrument is connected has to be near the instrument and easily accessible.

Warning

- The minimum voltage must be maintained while starting the refrigeration unit (→ p. 13 – 3.3 Technical Data).
- The compressor needs a start-up current of approx. 25 A. A stable power supply in accordance with the instrument's specifications is essential to its proper functioning. Please ensure that your electrical installation fulfills these preconditions prior to installing the unit. Nonobservance causes damage to the instrument.
- Switch off the instrument each time before servicing, repairing or cleaning, and pull out the power plug.
- Failure to observe the instructions specified by the manufacturer may result in damage to the protection provided by the instrument.

3. Instrument Components and Specifications

3.1 Overview – instrument components

Instrument front view

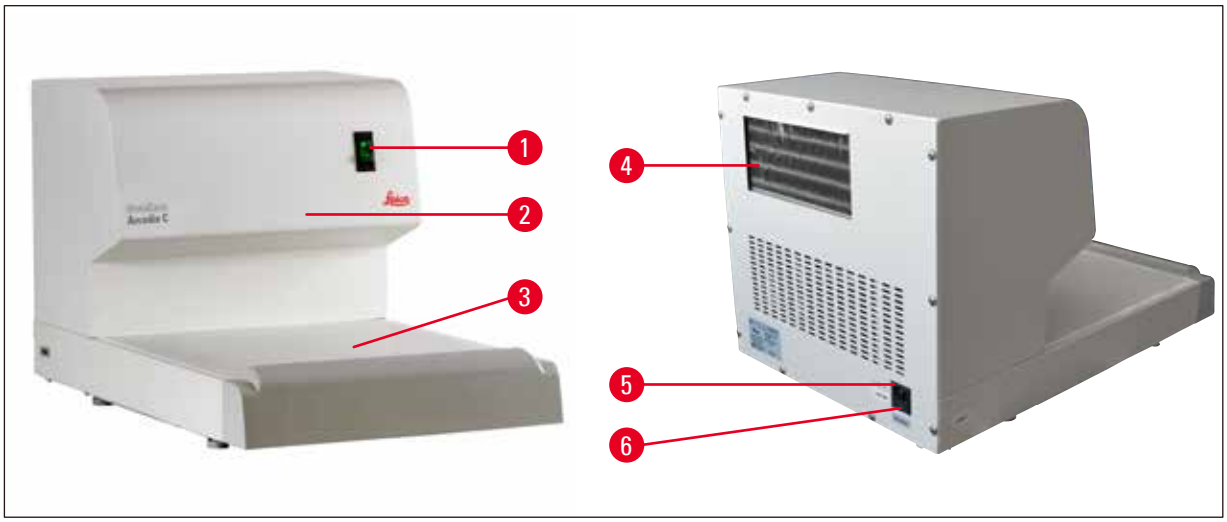


Fig. 1

1	Power switch	**4**	Heat sink
2	Refrigeration system (inside)	**5**	Port for power inlet
3	Cooling surface	**6**	AC fuses

3.2 Main features of the instrument

- The instrument is distinguished by a simple, modular design and a powerful refrigeration unit with precisely controlled cooling performance.
- The environment adaptive control module ensures the working temperature always stabilized at -6 °C.
- High cooling performance ensures that the instrument's working temperature is reached quickly.
- Optimized temperature distribution in the cold plate prevents dripping condensation.
- The generously-dimensioned cooling surface has room for around 65 blocks.
- Designed to be used with the HistoCore Arcadia H Paraffin Embedding Station.

3.3 Technical Data

General data	
Nominal supply voltage	100 VAC, 110-120 VAC, 220-240 VAC
Nominal supply frequencies	50/60Hz
Fuse	Time-lag fuses 5 x 20 mm 220-240 VAC: 2xT5A, 250V 100-120 VAC: 2xT10A, 250V
Nominal current	5 A max.
Maximum start-up current (5 s)	25 A

Environmental operating temperature range	+20 °C to +30 °C
Operating temperatures	-6 °C
Environmental relative humidity	20 to 80 % - non-condensing
Environmental operating altitude	Up to 2000 m
Permissible temperature range during storage	+5 °C to +50 °C
Permissible temperature range during transport	-29 °C to +50 °C
Permissible humidity range during storage and transport	10 to 85 % - non-condensing
Electromagnetic environment	Basic electromagnetic environment
Overvoltage category to IEC 61010-1	II
IEC 61010 classification	Protection class 1
Pollution degree	2
IP protection class (IEC 60529)	IP20
EMC class	Class B
Refrigeration unit	
Refrigerant type and filling weight	R 134a 115 g ± 2 g
Refrigeration capacity*	158 W(at 50Hz) ;185 W(at 60Hz)
Safety factor	3
Compressor oil	150 +10/-5 ml Ester RL7H, ISO 7

* according to ASHRAE, condensing temperature: 54.4 °C, evaporating temperature: -23.3 °C

Dimensions and weights	
Width:	400 mm
Depth:	636 mm
Height:	384 mm
Weight:	32 kg

4. Setting up the instrument

4.1 Site requirement

- Stable, vibration-free laboratory table with horizontal, flat table top, as far as possible vibration-free ground.
- No direct sunlight or strong temperature fluctuations. Room temperature consistently between +20 °C and +30 °C.
- Relative air humidity maximum 80 %, non-condensing.
- The instrument should be set up in such a way that the air circulation is not impaired.
- The instrument must be installed in a place that ensures an easy disconnection from the power supply. The power cable must be in a place that can be easily reached.

Warning

At a room temperature of > +30 °C, the working temperature of the cold plate of -6 °C may not be reached at all points.

Warning

To ensure proper function and an easy disconnection of the power cable from the instrument, there must be gap of at least 15 cm behind the instrument. Failure to observe this distance may result in serious damage to the refrigeration unit of the device. The instrument should not be operated in hazardous locations.

4.2 Standard delivery – packing list

Qty	Designation		Order No.
1	Basic unit HistoCore Arcadia C		
	220-240 VAC		14 0393 57262
	220-240 VAC, China		14 0393 57263
	110-120 VAC		14 0393 57261
	100 VAC		14 0393 57260
4	Sets of spare fuses:	220-240 VAC, 5A 250 V	14 6000 05015
		100-120 VAC, 10A 250V	14 6000 05078
1	Instructions for Use (printed English with language CD 14 0393 80200)		14 0393 80001

The country specific power cord needs to be ordered separately. Please find a list of all power cords available for your device on our website www.LeicaBiosystems.com within the product section.

Note

Please compare the delivered components against the packing list and your order. Should there be any discrepancy, please contact the Leica Biosystems distributor handling your order.

4.3 Unpacking and installation

Note

When the instrument is delivered, check the tilt indicators on the packaging. If the arrowhead is blue, the shipment was transported laying flat, was tilted at too great an angle or fell over during transport.

Note this on the shipping documents and check the shipment for possible damage.

Warning

These unpacking instructions only apply if the box is placed with the symbols  facing upwards.

1. Remove the packing strap (→ Fig. 2-1) and the adhesive tape (→ Fig. 2-2).
2. Open the package. Lift up and remove the carton wall (→ Fig. 2-3).

Fig. 2

3. Remove the foam pads (→ Fig. 3-1) one by one.

Fig. 3

Warning

The HistoCore Arcadia C always has to be transported upright and horizontally. It must not be inverted under any circumstances, even for short periods, or stored on one of its sides.

It is mandatory to observe a waiting time of 4 hours between the last transport and the first time the instrument is switched on. The oil present in the compressor needs this time to flow back to its original location.

4. Ensure that when removing the instrument (→ Fig. 4-1) from the pallet this is carried out by two people lifting four lower corners of the housing base (→ Fig. 4).
5. Place the instrument on a stable laboratory table.

Fig. 4

6. Remove the accessories from the accessory box (→ Fig. 5-1) on the base of the pallet.

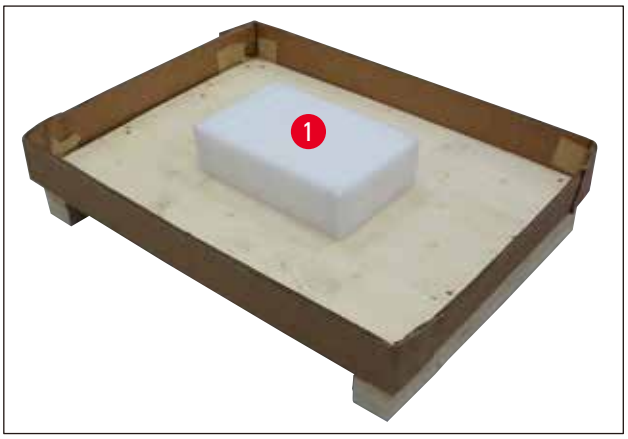


Fig. 5

Note

The packaging must be retained for the duration of the warranty period. To return the instrument, follow the instructions above in reverse order.

4.4 Moving the instrument

Warning

Do not move the instrument during operation.

Before moving the instrument, make sure that there is no specimen blocks on the cold plate, the instrument is at an ambient temperature, and the power cord is disconnected from the power supply.

Do not touch the metal parts of the compressor air outlet (→ Fig. 6-1) on the rear panel. It is mandatory to observe a waiting time of 4 hours before the instrument is switched on.

Hold the instrument at the front and rear part of the lower housing base and move.

Fig. 6

4.5 Power supply

The HistoCore Arcadia C refrigeration unit requires a specific voltage and frequency (→ p. 13 – 3.3 Technical Data), and is therefore always delivered with a power cord that fits the instrument.

Please observe the following notes to prevent damage to the instrument.

Warning

Before connecting the instrument to the power supply, it is mandatory to check whether the voltage specified on the identification label (rear side) matches the actual voltage values at the installation location.

If this is not the case, the connection must not be made!

The unit must be connected only with the supplied power cord and only to a grounded power receptacle.

Do not use an extension cord!

1. Connect the power cord plug (→ Fig. 7-2) to the connecting port (→ Fig. 7-1).

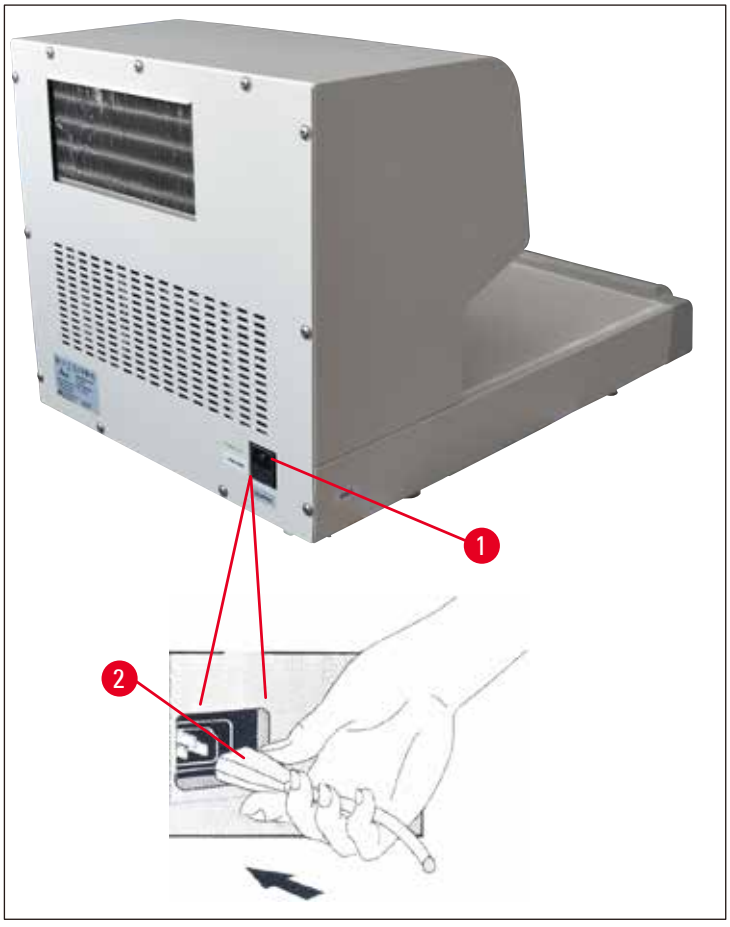


Fig. 7

2. Plug the power cord into the wall outlet.

5. Operation

5.1 Switching the instrument on

After installation as described in (→ p. 15 – 4. Setting up the instrument), the HistoCore Arcadia C is ready for operation. Switch on the device with the Power switch at the front left of the instrument ("I" = ON). A lamp lights up in the switch to indicate that the unit is operational and the refrigeration unit will start working.

Depending on the room temperature, the time to reach the target temperature of the cooling surface (-6 °C) will be around 25 minutes.

Fig. 8

Warning

The cooling surface may not be loaded with molds until the cooling time has elapsed. Otherwise, the working temperature of -6 °C may not be reached.

Note

The compressor will start to work in five minutes after the power is on.

5.2 Replacing the secondary fuse

A miniature fuse to protect the electronic components is located on the rear of the instrument.

Fuse rating: 220-240 VAC, 5A 250 V
100-120 VAC, 10A 250 V

Warning

Before replacing the fuse, always switch the instrument off and pull the power plug from the wall socket.

Only miniature fuses of the type specified can be used (→ p. 13 – 3.3 Technical Data).

To replace the fuse, please proceed as follows:

1. Use a screwdriver to open the fuse holder (→ Fig. 9-1) and remove the fuses (→ Fig. 9-2).

Fig. 9

2. Replace them with two new fuses of the same type.
3. Use the screwdriver to press the fuse holder back to its original location.
4. Reconnect the instrument to an AC power outlet and switch it on.

6. Maintenance and Cleaning

6.1 Cleaning the instrument

Warning

Switch off the instrument and pull out the power plug each time before cleaning.

While handling cleaning materials, observe the safety regulations of the manufacturer and the lab regulations valid in the country of use.

During cleaning, do not allow any liquid to penetrate inside the instrument!

To prevent scratching the surface of the instrument, do not use metallic tools with sharp edges under any circumstances.

Work surfaces

- All common laboratory cleaning products suitable for the removal of paraffin (e.g. Polyguard or xylene substitutes) can be used to clean the work area.
- Use a dry, lint-free tissue paper to clean the condensed water on the cold plate.

Instrument and exterior surfaces

- If necessary, clean the painted exterior surfaces with a mild household cleaner or soapy water and wipe with a damp cloth.
- Avoid prolonged contact of organic solvents on the surface of the instrument. Do not use xylol, acetone or alcohol on the painted surfaces!

6.2 Maintenance instructions

Warning

Only Leica Biosystems service technicians are authorized to open the instrument for maintenance and repair work.

Please observe the following points to ensure the instrument's reliable function over extended periods:

- Clean the instrument with care after each use.
- Regularly remove dust from the ventilation slots on the back of the instrument with a brush or vacuum cleaner.
- Enter into a service contract at the end of the warranty period. For more information, contact the relevant Leica Biosystems customer service organization.

7. Troubleshooting

Note

If you cannot solve your problem using the help in the following table, please contact your Leica Biosystems customer service organization or the Leica Biosystems dealer from whom you purchased the instrument.

Error condition	Possible causes	Corrective action
The cold plate cannot cool down to the target temperature and the alarm beeps twice.	Inadequate air supply to ventilation unit. Or The cold plate is malfunctioned.	1. Make sure that enough space is reserved between the wall and the instrument. It must be at least 15 cm. 2. Wait about 5 minutes and restart the instrument. 3. If the problem persists, contact customer service.
The cold plate cannot cool down to the target temperature but no alarm.	Ambient temperature is too high. Or Too much condensated water/ ice/frost on the cold plate surface.	1. Make sure that the room temperature is 20~30 °C. 2. Make sure that enough space is reserved between the wall and the instrument. It must be at least 15 cm. 3. Clean the cold plate and restart the instrument. 4. If the problem persists, contact customer service.
The temperature of the cold plate is too low and the alarm beeps steady (may cause cracks on the paraffin blocks).	The cold plate is malfunctioned.	1. Restart the instrument. 2. If the problem persists, contact customer service.

8. Warranty and Service

Warranty

Leica Biosystems Nussloch GmbH guarantees that the contractual product delivered has been subjected to a comprehensive quality control procedure based on the Leica Biosystems in-house testing standards, and that the product is faultless and complies with all technical specifications and/or characteristics warranted.

The scope of the warranty is based on the content of the concluded agreement. The warranty terms of your Leica Biosystems sales organization or the organization from which you have purchased the contractual product shall apply exclusively.

Service information

If you require technical service or replacement parts, please contact your Leica Biosystems sales representative or dealer who sold the product. Please provide the following information:

- Model name and serial number of the instrument.
- Location of the instrument and name of the person to contact.
- Reason for the service call.
- Date of delivery.

Decommissioning and disposal

The instrument or parts of the instrument must be disposed of in compliance with the local laws.

9. Decontamination Confirmation

Every product that is returned to Leica Biosystems or that requires on-site maintenance must be properly cleaned and decontaminated. You can find the dedicated template of the decontamination confirmation on our website www.LeicaBiosystems.com within the product menu. This template has to be used for gathering all required data.

When returning a product, a copy of the filled and signed confirmation has to be enclosed or passed on to the service technician. The responsibility for products that are sent back without this confirmation or with an incomplete confirmation lies with the sender. Returned goods that are considered to be a potential source of danger by the company will be sent back at the expense and risk of the sender.

www.LeicaBiosystems.com

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