



VIA Thaw™ L1000

Operating Instructions

Original instructions



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1 Introduction

About this chapter

This chapter contains important user information, descriptions of safety notices, regulatory information, intended use of the product, and lists of associated documentation.

In this chapter

Section		See page
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1.2	About this manual	6
1.3	Associated documentation	7

1.1 Important user information

Introduction

This section contains important user information about the product and this manual.

Read this before operating the product



All users must read the entire *Operating Instructions* before installing, operating, or maintaining the product.

Always keep the *Operating Instructions* at hand when operating the product.

Do not install, operate, or perform maintenance on the product in any other way than described in the user documentation. If you do, you can be exposed or expose others to hazards that can lead to personal injury and you can cause damage to the equipment.

Intended use of the product

VIA Thaw L1000 is intended for the thawing of a single frozen cryobag containing 10 to 275 mL of cryopreserved material.

VIA Thaw L1000 is intended for research or manufacturing use only. It is not intended for clinical procedures or for diagnostic purposes.

VIA Thaw L1000 should only be used by a specifically trained scientist or technician in a Process Development Laboratory or manufacturing environment.

1.2 About this manual

Introduction

This section contains information about the purpose and scope of this manual, notes and tips, and typographical conventions.

Purpose of this manual

This manual provides information needed to install, operate and maintain the product in a safe way.

Scope of this manual

This Operating Instructions describes the installation and operation of VIA Thaw™ L1000, as well as cleaning and routine maintenance procedures. For details on how to set up remote management of the thawing profiles and data logs using Chronicle™, visit <https://pre-gmp.chronicle.bio>.

Notes and tips

- Note:** *A note is used to indicate information that is important for trouble-free and optimal use of the product.*
- Tip:** *A tip contains useful information that can improve or optimize your procedures.*

Typographical conventions

Software items are identified in the text by **bold italic** text.

Hardware items are identified in the text by **bold** text.

- Tip:** *The text can include clickable hyperlinks to reference information.*

1.3 Associated documentation

Introduction

This section describes the user documentation that is delivered with the product, and how to find related literature that can be downloaded or ordered from Cytiva.

User documentation for VIA Thaw L1000

The user documentation listed in the table below is available in printed or PDF format. Translations of the *Operating Instructions* are provided in electronic form on a CD. Contact your Cytiva representative to obtain a copy of the documents.

Documentation	Main contents
<i>VIA Thaw L1000 Operating Instructions</i> (29492479) (this document)	Instructions needed to prepare and operate the VIA Thaw L1000 system in a correct and safe way. System overview, site requirements, and instructions for moving the system within the same building. Instructions for basic maintenance and troubleshooting.
<i>VIA Thaw L1000 Cue Card</i> (29492483)	A short set of instructions on how to perform a thawing process.
<i>VIA Thaw L1000 Privacy and Security Manual</i> (29492819)	Description of the privacy and security capabilities of VIA Thaw L1000.

Access user documentation online

Scan the QR code or visit cytiva.com/instructions. Enter the title or the document number to access the file.



2 Safety instructions

About this chapter

This chapter describes safety precautions, labels and symbols that are attached to the instrument. In addition, the chapter describes emergency procedures.

In this chapter

Section	See page
2.1 Safety precautions	9
2.2 Labels and symbols	11
2.3 Emergency procedures	12

Important



WARNING

All users must read and understand the entire contents of this general safety chapter, and the specific safety precautions information in each subsequent chapter of this manual to become aware of the hazards involved.

2.1 Safety precautions

Introduction

Before installing, operating or maintaining the system, you must be aware of the hazards described in this manual.

Follow the instructions in this section to avoid injury to the operator or other personnel, damage to cryobag contents, to the product, or to other equipment in the area.

Definitions

This user documentation contains safety notices (WARNING, CAUTION, and NOTICE) concerning the safe use of the product. See definitions below.



WARNING

WARNING indicates a hazardous situation which, if not avoided, could result in death or serious injury. It is important not to proceed until all stated conditions are met and clearly understood.



CAUTION

CAUTION indicates a hazardous situation which, if not avoided, could result in minor or moderate injury. It is important not to proceed until all stated conditions are met and clearly understood.



NOTICE

NOTICE indicates instructions that must be followed to avoid damage to the product or other equipment.

General precautions

The following general precautions must be considered at all times. There are also context related precautions, which are written in their respective chapters.



WARNING

Hazardous substances and biological agents. When using hazardous chemical or biological agents, take all suitable protective measures, such as wearing protective clothing, glasses and gloves resistant to the substances used. Follow local and national regulations for safe operation and maintenance of this product.



CAUTION

Do not place objects on top of the instrument:

- Objects can fall when opening/closing the lid of the instrument
- Objects can become warm due to warming up of the heater plates during normal operation of the instrument



NOTICE

VIA Thaw L1000 must remain upright during transport/handling, operation, and storage. Transporting/handling, operating, or storing the unit in another orientation can cause damage to the instrument.

2.2 Labels and symbols

Introduction

This section describes the nameplate, labels, and other safety and regulatory labels and symbols.

Description of symbols on the system label

The following symbols can be present on the instrument.

Label	Meaning
	This symbol indicates the serial number of the instrument.
	This symbol indicates Warning! , read the user documentation before using the system. Do not open any covers or replace parts unless specifically stated in the user documentation.
	This symbol indicates the location of a wired networking terminal.
	This symbol indicates the location of a fuse and the fuse rating.
	Year (YYYY) and month (MM) of manufacture in YYYY-MM format.
	Name and address of the manufacturer.

2.3 Emergency procedures

Introduction

This section describes how to shut down the VIA Thaw L1000 instrument in an emergency situation, and the procedure for restarting the VIA Thaw L1000 instrument.

The section also describes the result in the event of power failure.

Emergency shutdown



WARNING

In an emergency situation, follow the emergency shutdown procedure. Do not continue to use the system.

In an emergency situation, follow the steps below to stop the thawing process:

Step	Action
1	Press the power switch to the O position to completely turn off power to the instrument.
2	Unplug the instrument from the mains socket outlet.

Power failure

Power is required for the instrument to function.

The instrument does not contain an internal battery and in the absence of power it is not operable.



NOTICE

In case of a power failure:

- The thawing process is interrupted immediately
- The thawing process data is not recorded in the thaw logs nor on Chronicle
- The thawing process cannot be resumed

In case the mains power is restored following a power failure during a thawing process, the instrument will generate a mains power failure alarm. See [Section 8.1 Alarms, on page 84](#).

Restart after emergency shutdown or power failure

Follow the steps below to restart the instrument after emergency shutdown or power failure:

Step	Action
1	Make sure that the condition that caused the emergency shutdown is corrected.
2	Connect the power supply cord to the power outlet.
3	Switch on the instrument.

3 System description

About this chapter

This chapter gives an overview to VIA Thaw L1000, and a brief description of its function.

In this chapter

Section		See page
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3.1 System overview

Introduction to VIA Thaw L1000

VIA Thaw L1000 tightly controls the heating of cryopreserved samples stored in cryobags until it detects that the samples are thawed. Multiple sensors constantly monitor the condition of the sample to determine when thawing is complete.

The system operates using dry heat to minimize the risk of sample contamination.

During the thawing process, VIA Thaw L1000 records data relating to the cryobag, monitors the thawing process, and alerts the user to the following events:

- Loading temperature limit is exceeded
- Total thaw time limit is exceeded
- End-of-thaw temperature is exceeded
- Safe heater plate temperature is exceeded
- Loss of mains power

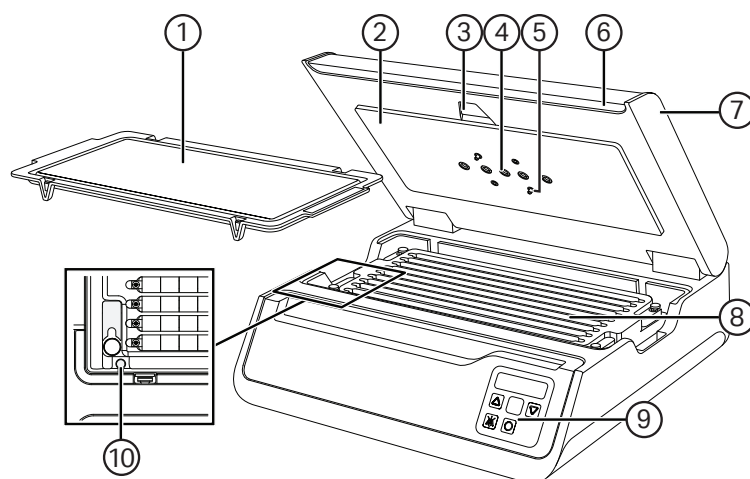
The cryobag data records are not indicated for the support of decisions related to the suitability of a thawed cryobag for research or manufacturing.

A complete record of the thawing process can also be uploaded and viewed on Chronicle web platform.

See [Chapter 9 Reference information, on page 91](#) for more information about the product.

Illustration of the instrument

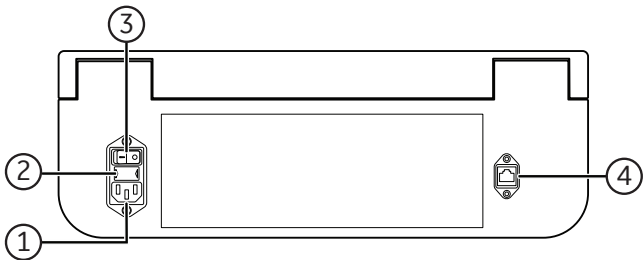
The illustration below shows an overview of VIA Thaw L1000.



Part	Description
1	Thawing tray
2	Top heating plate
3	Camera used as a barcode reader
4	Infrared (IR) sensors (x5)
5	Cryobag agitator (x4)
6	Grip
7	Lid
8	Bottom heating plate
9	Control panel
10	Drain plunger

Power and network connections

The illustration below shows the power and the network connections present on VIA Thaw L1000.



Part	Description
1	Appliance inlet
2	Fuse holder
3	Power switch
4	Network port

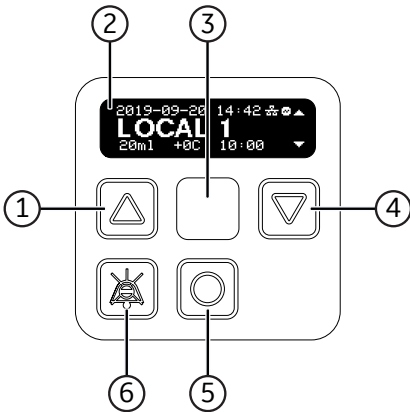
3.2 User interface

In this section

Section		See page
3.2.1	Control panel	18
3.2.2	Start-up menu structure	21
3.2.3	Admin menu	23

3.2.1 Control panel

The illustration below shows the control panel of VIA Thaw L1000.



Part	Description
1	Scroll up button
2	Display
3	Status indicator light
4	Scroll down button
5	Enter button
6	Acknowledge alarm button

User action symbols

The following table shows symbols that are used to highlight user actions in this manual.

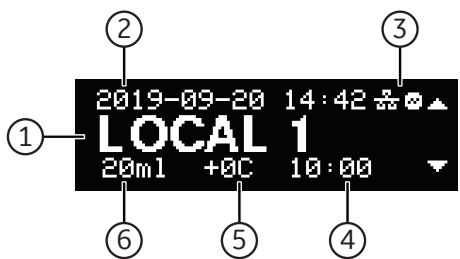
Note: To access a previous menu level, press and hold .

User action	Function
	Tap
	Wait
	Up
	Down
	Enter
	Acknowledge alarm

Thawing profile screen

The instrument is ready to start a thawing process when the **Thawing profile** screen is displayed.

The illustration below shows the thawing profile information that appears on the **Thawing profile** screen.



Part	Description
1	Profile name
2	Current date and time

Part	Description
3	Connectivity status:  Wired network link active  Wireless network link active  Connected to Chronicle  Wired network link not active  Wireless network link not active
4	Time alarm value for the selected profile
5	Load temperature value for the selected profile
6	Fill volume for the selected profile

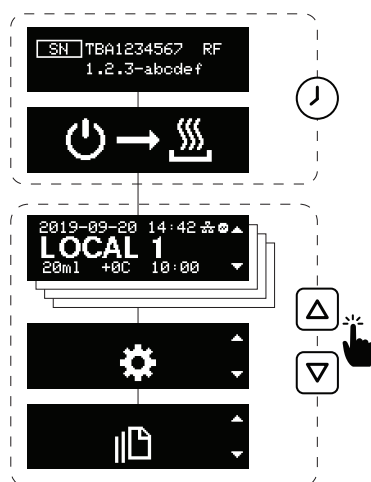
3.2.2 Start-up menu structure



NOTICE

On first power up, if the date, time, or timezone is entered incorrectly, the instrument may not accept the PIN code to access the **Admin** menu. Without access to the **Admin** menu, it is not possible to rectify the time and date.

The illustration below shows the **Start-up** menu structure after switching on VIA Thaw L1000.



Note: On first power up, VIA Thaw L1000 may request the current local date (year, month, day) and time (hours, minutes and time-zone) in order to maintain correct thaw logs for the cryobags. See [Section 4.4.2 Set date and time, on page 38](#).

Note: If a problem occurs during the start-up sequence, an alarm screen will be displayed. See [Section 8.1 Alarms, on page 84](#).

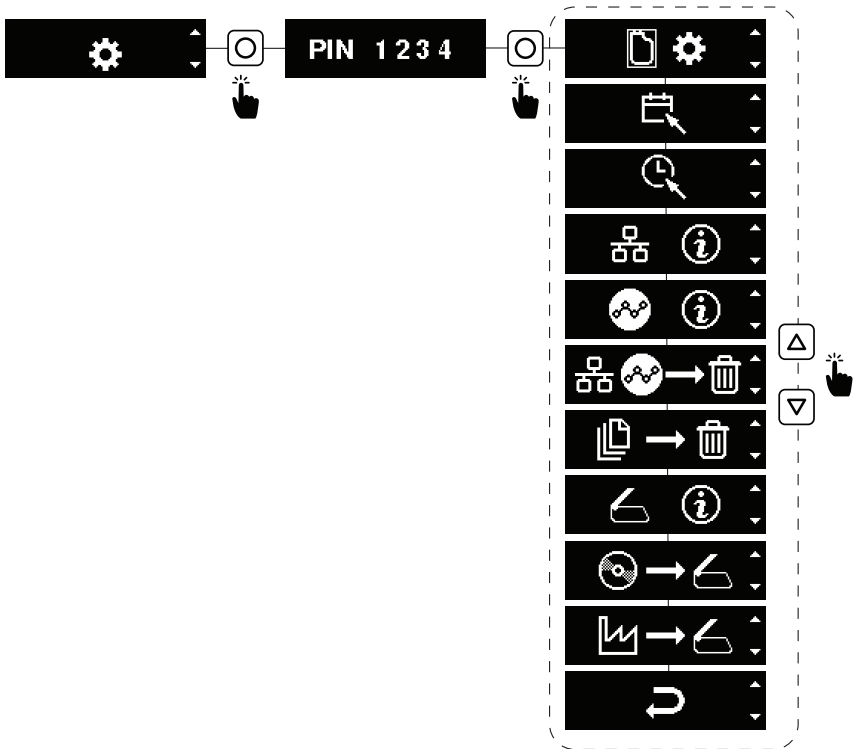
Screen	Name	Description
	Instrument properties	View the serial number (SN) and software version of the instrument. This screen is displayed only upon start of instrument.

Screen	Name	Description
	Pre-heating	The instrument is pre-heating the heater plates. This screen is displayed only if the plates are not heated to the correct temperature.
	Thawing profile	See Thawing profile screen, on page 19 .
	Admin menu	See Section 3.2.3 Admin menu, on page 23 .
	Thaw logs	See Section 6.6 Viewing thaw logs, on page 71 .

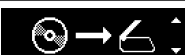
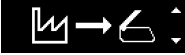
3.2.3 Admin menu

The thawing profiles, the settings and network of VIA Thaw L1000 can be managed through the **Admin** menu.

The following illustration shows the **Admin** menu structure. To access the submenus, see [Access the Admin menu, on page 25](#).



Screen	Name	Description
	Thawing profile	See Section 5.3 Manage thawing profiles, on page 53 .
	Set date	See Section 4.4.2 Set date and time, on page 38 .
	Set time	See Section 4.4.2 Set date and time, on page 38 .

Screen	Name	Description
	Network information	View the currently configured network settings on the instrument. To configure the network, see Section 4.6 Connect to the system network, on page 44 .
	Chronicle information	View the Chronicle server address and connection status.
	Network reset	Clear the network settings from the internal memory of the instrument and from Chronicle. ¹ Note: <i>After resetting the network settings, reconnect the instrument to the network manually. See Section 4.6 Connect to the system network, on page 44.</i>
	Delete thaw logs	Delete all thaw log files from the internal memory of the instrument. ¹
	Software version information	View the software version currently installed on the instrument.
	Software update	See Update the instrument software, on page 82 .
	Factory reset	See Section 4.4.3 Factory reset, on page 41 . ¹
	Back	Return to the previous menu.

¹ After selecting this action, the instrument will request confirmation. Choose one of the options below and confirm by tapping .



To cancel the selected action and go back to the previous menu



To complete the selected action

PIN code

The PIN code is a four-digit number required to access the **Admin** menu. The PIN code changes daily and can only be obtained after the user registers the instrument on Chronicle. See [Section 4.5 Chronicle, on page 42](#).

Follow the instructions below to obtain a PIN code.

Step	Action
1	Log on to Chronicle.
2	Select Instrument tab.
3	Search the instrument list and select the name of the VIA Thaw L1000 instrument currently in use. <i>Result:</i> The current PIN code is listed alongside other information about the instrument.
Note:	<i>A new PIN code is automatically generated by the instrument at 00:00 UTC every day, at this point any previous PIN code will become invalid.</i>
Note:	<i>The date, time and timezone settings of the instrument must be correct in order for the PIN code generated by Chronicle to work correctly on the instrument.</i>

Access the Admin menu

Follow the instructions below to access the **Admin** menu.

Step	Action
1	Access the PIN screen from the Admin screen. <i>Result:</i> The instrument requests a PIN code. PIN 0000
2	Enter the PIN code. Use  and  to select each digit and tap  to confirm. See PIN code, on page 24 for more information on how to get a PIN code. PIN 1234 Note: <i>It is not possible to correct a digit entry, the entire PIN code must be re-entered. VIA Thaw L1000 allows an unlimited number of attempts to enter the PIN code.</i>
3	Tap  to confirm the complete PIN code. <i>Result:</i>  The PIN code is correct. The Thawing profile screen appears.

Step	Action
------	--------



The PIN code is incorrect. The **Admin screen** appears. Try accessing the menu again.

Note: The **PIN** screen cannot be accessed from the **Admin** screen if the PIN is entered incorrectly 3 times within a 5-minute period. In this case, the **Locked PIN** screen appears, as shown below, and the user has to wait for the **PIN** screen to appear again.



3.3 Thawing profiles

Introduction

Thawing profiles are used to run the thawing process.

The profiles can be managed via either Chronicle or the instrument. See [Section 5.3 Manage thawing profiles, on page 53](#).

VIA Thaw L1000 is able to store up to a total of 16 thawing profiles. The profiles can be accessed on the instrument via the **Start-up** menu structure.



NOTICE

Prior to use, check that the selected thawing profile and alarm preset are appropriate.

Preprogrammed thawing profiles

VIA Thaw L1000 is preprogrammed with 8 thawing profiles as shown below:

Profile name	Fill volume (mL)	Load alarm (°C)	Time alarm (minutes)
LOCAL 1	10	-20	10
LOCAL 2	30	-20	10
LOCAL 3	55	-20	10
LOCAL 4	80	-20	10
LOCAL 5	100	-20	10
LOCAL 6	120	-20	10
LOCAL 7	190	-20	10
LOCAL 8	275	-20	10

4 Installation

About this chapter

This chapter provides required information to enable users and service personnel to unpack and install VIA Thaw L1000.



WARNING

Read the safety instructions [Chapter 2 Safety instructions, on page 8](#) before installing, operating or performing maintenance activities on VIA Thaw L1000.



CAUTION

Do not handle or lift the product using the lid. This can cause damage to the instrument and cause injury to the user.

In this chapter

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4.3 Install VIA Thaw L1000	31
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4.5 Chronicle	42
4.6 Connect to the system network	44

4.1 Site requirements

Introduction

This section describes the site planning and preparation that should be performed before the VIA Thaw L1000 system is installed.

Space requirements

Prepare a clean working area on a stable laboratory bench or a mobile trolley. The bench must comply with the specifications in the following table.

Parameter	Specification
Minimum bench area for operating VIA Thaw L1000 (width x depth)	550 mm × 450 mm
Load capacity	>50 kg
Surface inclination	±2°

Environmental conditions

The following precautions must be taken when choosing a location for VIA Thaw L1000:

- The instrument must not be located near liquids or areas where liquids can splash, spill, or drip onto the instrument, areas of high humidity or dampness, areas of direct sunshine, or outdoors.
- The mains socket outlet must be located near the instrument and operators must have easy access to it. Avoid mains socket outlet with narrow or difficult access.
- If the instrument is installed on a mobile trolley, the trolley must be equipped with wheel brakes.

See [Technical specifications, on page 92](#) for more information.

Electrical power requirements

See [Technical specifications, on page 92](#) for more information.

4.2 Unpack the product

Content checklist

Before installation verify that the product box contains the following items:

- VIA Thaw L1000
- Thawing tray (supplied in a separate box)
- Mains power supply cord
- Operating Instructions
- Cue Card
- CD box (containing user documentation CD)
- EU Declaration of Conformity

If any of these items are missing or damaged do not use the instrument and contact your local Cytiva representative or authorized distributor.

4.3 Install VIA Thaw L1000

Safety precautions



WARNING

Supply voltage. Before connecting the mains power supply cord, make sure that the supply voltage and frequency at the wall outlet corresponds to the marking on the instrument.



WARNING

Take care when handling the mains power supply cord.

- Do not subject the mains power supply cord to excessive tension, place in areas where it can be pulled, or create a trip hazard.
- Do not place the mains power supply cord in places where it can become trapped, crushed, have weight placed on top of it.
- Do not place the mains power supply cord in areas where it is subject to direct heat such as within the instrument, radiators, or heaters.
- Do not place the mains power supply cord near liquids or areas where it can become wet.
- Do not bend the mains power supply cord sharply.



WARNING

Do not use mains socket adapter in combination with the instrument. This can result in a risk of electric shock or fire.



WARNING

The instrument should only be used with a protectively earthed mains socket outlet. The instrument must be connected to a protectively earthed mains socket outlet to ensure safe operation.



WARNING

Power cord. Only use power cords with plugs delivered or approved by Cytiva.



WARNING

Take care when connecting and disconnecting the instrument from the mains socket outlet.

When connecting the instrument to the mains socket outlet, first connect the mains power supply cord to the instrument before connecting it to the mains socket outlet.

When disconnecting the instrument from the mains socket outlet, first disconnect the mains power supply cord from the mains socket outlet before disconnecting it from the instrument.



WARNING

Do not plug the mains power supply cord into mains socket outlet with narrow or difficult access. The mains power supply cord should be easily accessible when plugged into the mains socket outlet to allow the instrument to be disconnected safely.



WARNING

Do not use the mains power supply cord if it appears to be broken or damaged. Contact your Cytiva representative or an authorized distributor to obtain a replacement.



WARNING

Do not install the instrument on mobile trolleys without wheel brakes. The mains power supply cord can become accidentally detached whilst the instrument is in use.

If the instrument is installed on a mobile trolley, apply the wheel brakes on the mobile trolley before connecting the mains power supply cord.



NOTICE

Power cord. Do not use the supplied power cords for any other equipment.

Install the thawing tray

The thawing tray must be installed in VIA Thaw L1000 before any cryobags can be thawed.



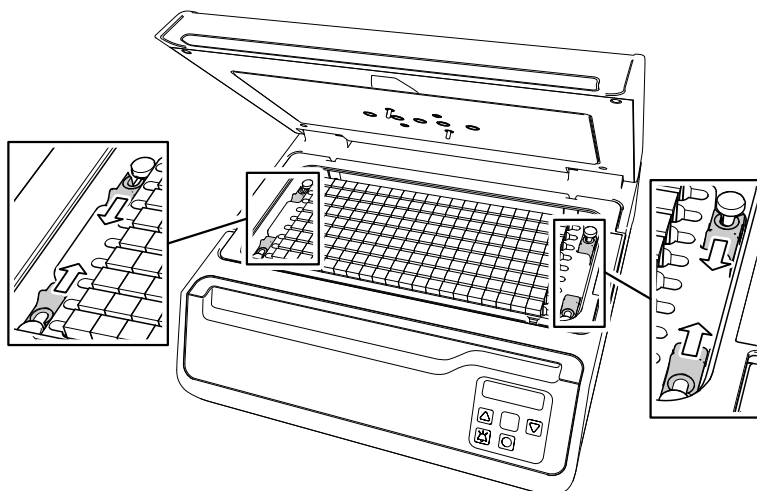
NOTICE

Unlock transport clips before operation. If not done this can cause the cryobags to thaw incorrectly.

Follow the instructions below to install the thawing tray.

Step	Action
------	--------

- | | |
|---|---|
| 1 | Open the lid of the instrument using the grip. |
| 2 | Slide the four transport clips to unlock the bottom heater plate. |



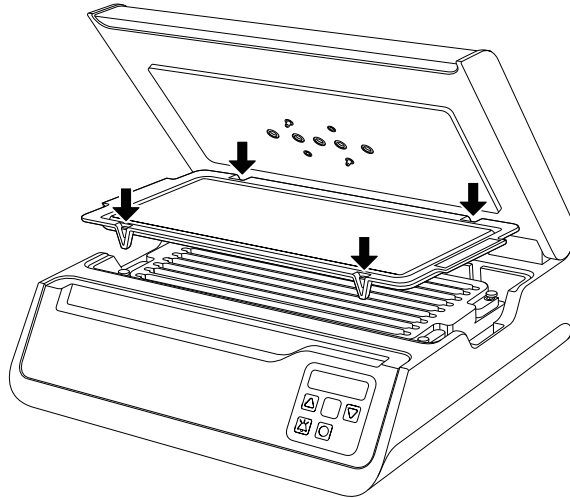
Result:

The bottom heater plate lifts to the top.

- | | |
|---|---|
| 3 | Unpack and inspect the thawing tray for damage. |
|---|---|

Step	Action
------	--------

- | | |
|---|---|
| 4 | Place the thawing tray on top of the bottom heater plate. Make sure the four tray clips are aligned in the dedicated slots on the instrument. |
|---|---|



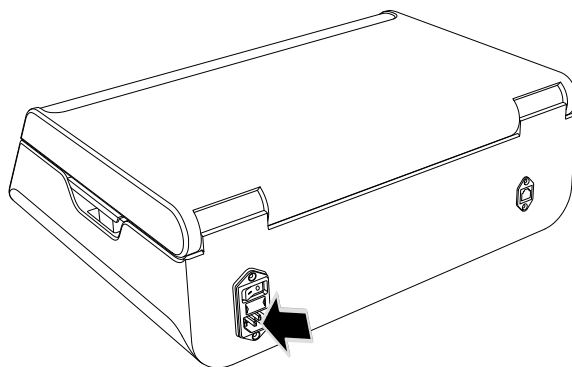
- | | |
|---|--|
| 5 | Press firmly around the edge of the tray.
<i>Result:</i>
The thawing tray clips into the instrument. |
| 6 | Verify that the outer edge of the thawing tray is aligned with the edges of the cavity and that the gap between the instrument and tray is even. |

Connect the mains power supply cord

Follow the instructions below to connect VIA Thaw L1000 to mains power.

Step	Action
------	--------

- | | |
|---|---|
| 1 | Connect the mains supply cord to the appliance inlet on the rear of the instrument. |
|---|---|



- | | |
|---|---|
| 2 | Connect the mains power supply cord to the mains socket outlet. |
|---|---|

4.4 Set up the system

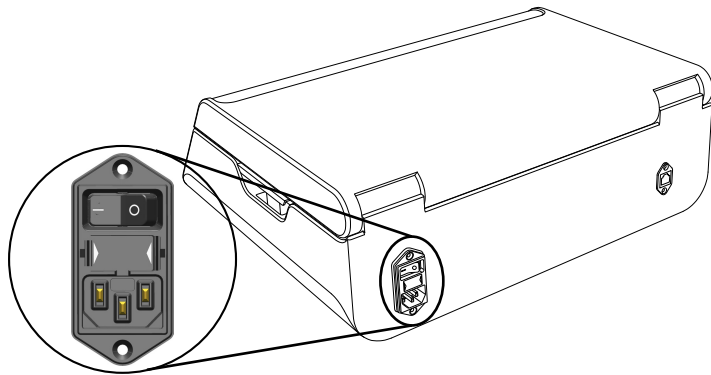
In this section

Section		See page
4.4.1	Start the instrument	37
4.4.2	Set date and time	38
4.4.3	Factory reset	41

4.4.1 Start the instrument

Follow the instructions below to switch on VIA Thaw L1000.

Step	Action
1	Make sure that the thawing tray is present. Remove any cryobag from the instrument.
2	Remove any liquid and condensation from the thawing tray and heater plates using a dry, lint-free cloth or wipe.
3	Press the power switch to the ON (I) position to switch on the instrument.



Result:

The status indicator light turns green and the start-up screens appear on the display. See [Section 3.2.2 Start-up menu structure, on page 21](#).

Note:

During this time, the instrument performs a sequence of self-checks. If a problem is detected, the display shows an error code. See [Section 8.2 Error codes, on page 87](#) for more information.

4.4.2 Set date and time

Introduction

The date (year, month, day) and time (hours, minutes and time-zone) on VIA Thaw L1000 can be set either:

- On start-up, when the current settings are invalid.
- By accessing the **Admin** menu.

VIA Thaw L1000 features a real-time clock (RTC) which stores the current system date time and time-zone information. The RTC is powered by an internal non-rechargeable battery to allow it to operate when no power is present.

Note: *If the instrument has previously been powered on, the date and time will default to previously stored values.*

Note: *Connect the instrument to Chronicle to update automatically time and date. A network connection is required to access Chronicle.*

Note: *The instrument does not automatically adjust for daylight savings time, regardless of Chronicle connection status. The user must always check and adjust for daylight savings time by manually changing the time and time-zone.*

On first start-up



NOTICE

On first power up, if the date, time, or timezone is entered incorrectly, the instrument may not accept the PIN code to access the **Admin** menu. Without access to the **Admin** menu, it is not possible to rectify the time and date.

VIA Thaw L1000 may request the date and time on start-up, when the current settings are invalid.

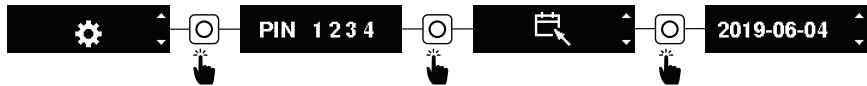
Use and to select the desired value and tap to confirm your selection to set the following:

1. Year
2. Month
3. Day
4. Hour
5. Minutes
6. Time-zone (hours : minutes)

After setting all date and time values the instrument starts pre-heating the heater plates. See [Section 3.2.2 Start-up menu structure, on page 21](#).

Set the date

The following illustration shows how to set the date on VIA Thaw L1000.

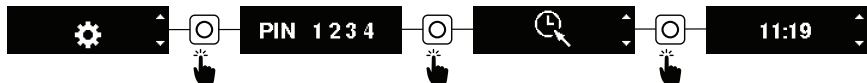


Follow the instructions below to change the date on the instrument.

Step	Action
1	Access the Set date screen from the Admin menu.
2	Use and to select the year and tap to confirm.
3	Use and to select the month and tap to confirm.
4	Use and to select the day and tap to confirm.
	<i>Result:</i> The Confirm screen appears.
	The Admin menu will appear shortly after.

Set the time and timezone

The following illustration shows how to set the time and time-zone on VIA Thaw L1000.



Follow the instructions below to change the time and time-zone on the instrument.

Step	Action
1	Access the Set time screen from the Admin menu .
2	Use and to select the hour and tap to confirm.
3	Use and to select the minutes and tap to confirm.
	<i>Result:</i>
	The Set time-zone screen appears.

Step	Action
	Time-zone +00:00 is the time-zone offset from Universal Coordinated Time (UTC).
4	Use  and  to select the time-zone and tap  to confirm. The time-zone is set concurrently to hours and minutes. <i>Result:</i> The Confirm screen appears. 
	The Admin menu will appear shortly after.

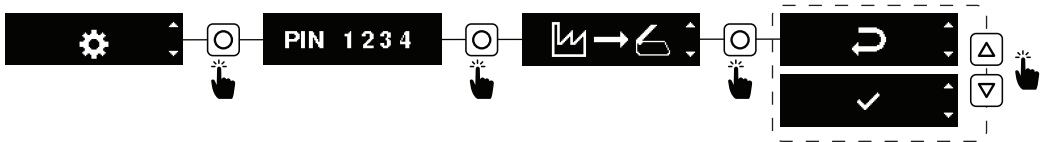
4.4.3 Factory reset

VIA Thaw L1000 can be restored to its factory supplied condition by performing a factory reset.

The factory reset eliminates all stored information relating to thawing profiles, network settings, and thaw logs. The preprogrammed thawing profiles are restored.

Note: The factory reset does not restore to a previous version of VIA Thaw L1000 software if this has been updated under the **Software update** menu.

The following illustration shows how to perform a factory reset on VIA Thaw L1000.



Follow the instructions below to delete a thawing profile from the instrument.

Step	Action
------	--------

- | | |
|---|--|
| 1 | Access the Factory reset screen from the Admin menu. |
| 2 | Use and and tap to select either: |

Option	Description
	To cancel the factory reset and return to the Admin menu.
	To proceed with the factory reset.

Result:

If chosen to proceed with the factory reset, the instrument switches off and restarts after a brief period.

4.5 Chronicle

Introduction

Chronicle automation software is a web based fit-for-purpose digital solution to view and store information about the instrument, processed samples and thawing profiles. Access Chronicle via <https://pre-gmp.chronicle.bio> or the custom URL for your organization. For more detailed information on how to use Chronicle, visit <https://support.chronicle.bio>.

VIA Thaw L1000 thawing profiles can be also be managed on Chronicle, see [Section 5.3.1 Manage thawing profiles on Chronicle, on page 54](#).

Contact your local Cytiva representative or an authorized distributor for more information about access to Chronicle.

Note: *Chronicle is not a part of VIA Thaw L1000 and it is not required for the functioning of the instrument.*

Register the instrument on Chronicle

Follow the instructions below to register VIA Thaw L1000 on Chronicle.

Step	Action
1	Log on to Chronicle.
2	Select the Instrument tab.
3	Add VIA Thaw L1000 as a new instrument.
4	Enter the information required for registration.

Note:

*The serial number of VIA Thaw L1000 can be found on the rear of the instrument or on the **Instrument properties** screen after turning on the instrument.*

Connection to Chronicle

The  symbol appears on the **Thawing profile** screen when the instrument is connected to Chronicle.

Transfer of data from the instrument to Chronicle

A network connection is required to transfer data from the instrument to Chronicle. The data is automatically transferred when connected to the network.

Note: *It can take several minutes for the thawing process data to be transferred from the instrument to Chronicle.*

Note: *The transfer of thawing process data from the instrument to Chronicle does not occur during a thawing process.*

4.6 Connect to the system network

Introduction

VIA Thaw L1000 requires a network connection to access software updates and the Chronicle functionality.

The instrument supports both wired and wireless connections.

The following symbols appear on the **Thawing profile** screen when the instrument is connected to a network:

-  Wired network connection
-  Wireless network connection
-  Wired network connection error
-  Wireless network connection error

Wired network connection



WARNING

The instrument is fitted with a network isolator to protect against electrical shock. To remain effective, the instrument must only be connected to networks which are protected against voltage transients above overvoltage category II. Consult with your facility manager or network administrator if you are unsure whether the network in your facility complies with these requirements.



NOTICE

Use a shielded network cable to ensure safe operation of the instrument. An unshielded network cable can create electromagnetic interference causing the instrument or other electronic equipment to malfunction. Consult your facility manager or network administrator if you are unsure if your network cable is shielded.

Follow the instruction below to connect the instrument to your network via a wired network connection.

Note: *Network cables are not supplied with the instrument.*

Step	Action
------	--------

1	Switch on the instrument.
---	---------------------------

- | Step | Action |
|------|---|
| 2 | Reset any existing network settings by accessing the Network reset screen from the Admin menu. See Section 3.2.3 Admin menu, on page 23 . |
| 3 | Access the Network information screen from the Admin menu. See Section 3.2.3 Admin menu, on page 23 . The Network information screen will timeout after 5 minutes if no network settings are configured. |
| 4 | Connect the instrument and a computer with a network cable. |
| 5 | On the computer access <code>http://169.254.1.1/</code> in a web browser.
<i>Result:</i>
The network configuration web page opens. The network and Chronicle settings can be configured. |

Settings

Chronicle

Chronicle Domain .chronicle.bio

Device API Password

Ethernet

MAC : --

DHCP ☒

Save

- 6 Optional: to configure the connection of the instrument to Chronicle, fill the fields **Chronicle Domain** and **Device API Password**.

Note:

If connection to Chronicle is not configured, and will be needed at a later stage, the user will have to repeat the entire procedure to configure the network connection and add the Chronicle settings.

- 7 Select the **DHCP** box to automatically assign the information necessary to network configuration. If the **DHCP** box is not selected, fill the fields:
- **IP Address**
 - **Gateway**
 - **DNS Server**

Step	Action
	• Netmask Note: <i>If you leave the fields listed above, blank or as 0.0.0.0, they are automatically assigned by the network dynamic host configuration protocol (DHCP).</i>
8	Click Save on the web page to save the current network settings on VIA Thaw L1000.
9	Switch off the instrument using the power switch.
10	Connect the network cable to the instrument and to a compliant network terminal.
11	Switch on the instrument.
	Result:  appears on the Thawing profile screen.

Wireless network connection

Follow the instructions below to connect the instrument to your network via a wireless network connection.

Note: *Wireless networking is disabled by default and is only available in certain regions. A software update is required to enable wireless networking. For more information, see [Update the instrument software, on page 82](#).*

Step	Action
1	Switch on the instrument.
2	Reset any existing network settings by accessing the Network reset screen from the Admin menu. See Section 3.2.3 Admin menu, on page 23 .
3	Access the Network information screen from the Admin menu. See Section 3.2.3 Admin menu, on page 23. The Network information screen will timeout after 5 minutes if no network settings are configured. Result: VIA Thaw L1000 creates a secure wireless network access point.
4	Connect a computer, with a wireless network adapter, to the wireless network access point using the information below: • The SSID is the serial number of the instrument to be configured.

Step	Action
------	--------

Note:

The serial number of VIA Thaw L1000 can be found on the rear of the instrument or on the **Instrument properties** screen after turning on the instrument.

- The wireless network access point is password protected. The password to access the network is the current PIN repeated (for example if the PIN is 1234, the password is 12341234). See [PIN code, on page 24](#).

5 On the computer access <http://192.168.1.1/> in a web browser.

Result:

The network configuration web page opens. The network and Chronicle settings can be configured.

The screenshot shows a web interface titled "Settings". It contains three main configuration sections: "Chronicle", "Wireless", and "Ethernet".

- Chronicle section:** Includes a "Chronicle Domain" text field followed by ".chronicle.bio", and a "Device API Password" text field.
- Wireless section:** Includes a "MAC --" label, an "SSID" text field with the value "none", and a "Password" text field with the value "none".
- Ethernet section:** Includes a "MAC : --" label and a "DHCP" checkbox which is checked.

At the bottom of the settings area is a "Save" button.

6 Optional: to configure the connection of the instrument to Chronicle, fill the fields **Chronicle Domain** and **Device API Password**.

Note:

If connection to Chronicle is not configured, and will be needed at a later stage, the user will have to repeat the entire procedure to configure the network connection and add the Chronicle settings.

Step	Action
7	Fill the fields Wireless SSID, and Wireless Password to configure the wireless network connection. Note: <i>VIA Thaw L1000 supports WEP 128, WPA-PSK (TKIP), and WPA2-PSK (AES) network security protocols. See the Privacy and Security Manual 29492819 for more information on wireless network security.</i>
8	Click Save on the web page to save the current network settings on VIA Thaw L1000.
9	Switch on and off the instrument in order for the instrument to connect to the network. <i>Result:</i> The wireless hotspot and the network configuration are no longer accessible.  appears on the Thawing profile screen.

5 Preparation

About this chapter

This chapter gives the required information to prepare VIA Thaw L1000 for operation, before thawing a cryobag.

In this chapter

Section		See page
5.1	Prepare the instrument for a thawing	50
5.2	Cryobags	51
5.3	Manage thawing profiles	53

5.1 Prepare the instrument for a thawing

To thaw cryobags, switch on the instrument. See [Section 4.4 Set up the system, on page 36](#) for more information on how to start the instrument.

Once powered, VIA Thaw L1000 pre-heats the heater plates. During this time, the user will not be allowed to select a thawing profile.

Tip: *Close the lid of the instrument before use. This allows the system to reach the set temperature more quickly.*

Note: *Make sure you have a backup thawing system ready for use, in case of an unexpected system failure.*

5.2 Cryobags

List of compatible cryobags



NOTICE

The cryobags listed in this Operating Instructions were tested and shown compatible for use on VIA Thaw L1000. Use of other cryobags than the ones listed must be validated by the user, as these can cause errors in end-of-thaw detection.

The following table identifies cryobags that are compatible with VIA Thaw L1000:

Manufacturer	Item/Part number	Fill volume (mL)	
		Minimum	Maximum
Charter	CF-50	10	20
	CF-250	30	70
	CF-500	55	100
	CF-750	80	190
OriGen	CS 50	10	30
	CS 250	30	70
	CS 500	55	100
	CS 750	80	190
	CS 1000	120	275
Miltenyi	CryoMACS 50	10	20
	CryoMACS 250	30	70
	CryoMACS 500	55	100
	CryoMACS 750	80	190
	CryoMACS 1000	125	270

Overwrapped cryobags

Overwrapped cryobags can be used with VIA Thaw L1000. Make sure to exclude air from between the cryobag and the overwrap. The presence of air or other fluids within the overwrap may interfere with the end-of-thaw detection.

Note: *It is recommended to close the overwrap by heat sealing. Other methods to close the overwrap, for example using a knot, should be avoided as it may lead to difficulties in closing the lid, and the **Lid open** alarm to be generated.*

5.3 Manage thawing profiles

In this section

Section	See page
5.3.1 Manage thawing profiles on Chronicle	54
5.3.2 Manage thawing profiles on VIA Thaw L1000	55

5.3.1 Manage thawing profiles on Chronicle

On Chronicle, thawing profiles can be:

- created
- edited
- deleted

For information on how to download thawing profiles from <https://pre-gmp.chronicle.bio> onto VIA Thaw L1000, see [Download thawing profiles from Chronicle, on page 57](#).

For more information, visit <https://pre-gmp.chronicle.bio> or the custom URL for your organization.

5.3.2 Manage thawing profiles on VIA Thaw L1000

On VIA Thaw L1000, thawing profiles can be:

- created
- downloaded from Chronicle
- deleted

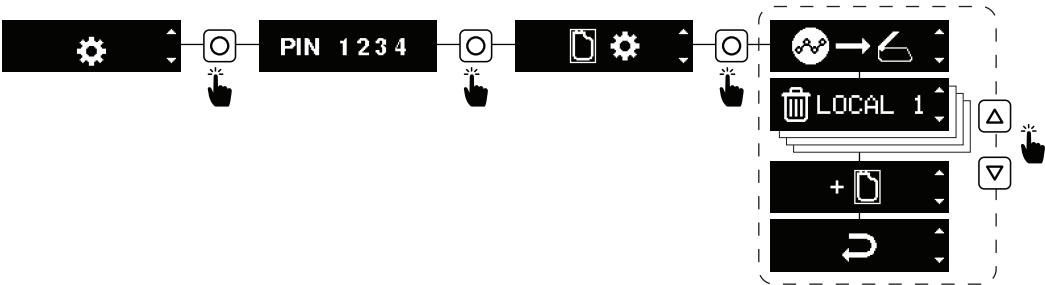
The instrument is able to store a maximum of 8 thawing profiles created locally, and 8 thawing profiles downloaded from Chronicle.

Thawing profiles are managed via the **Thawing profile** menu. The profiles can be accessed via the via the **Start-up** menu structure.

Note: Thawing profiles stored on the instrument cannot be edited.

Thawing profile menu

The illustration below shows the **Thawing profile** menu structure.



Screen	Name	Description
	Download profile	See Download thawing profiles from Chronicle, on page 57.
	Delete profile	See Delete a thawing profile, on page 58.
	New profile	See Create a new local thawing profile, on page 56.
	Back	Return to the previous menu.

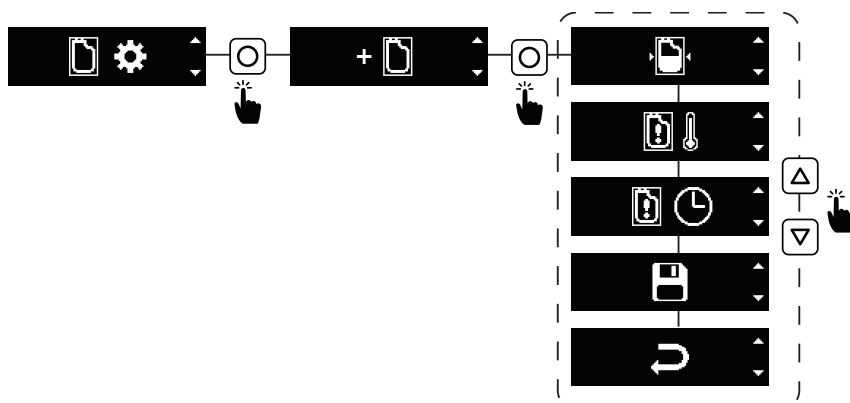
Parameter values

The following parameters can be set for each thawing profile.

Screen	Name	Description
	Fill	This parameter specifies the fill volume of the cryobag during the thawing process. The instrument adjusts the duration of the thawing process according to this parameter. Select a value from 10 to 275 mL, in 5 mL increments (default value : 100 mL).
	Load alarm	This parameter informs the user at the start of the thawing process if the bag is too warm. See Section 8.1 Alarms, on page 84 . Select a value from -70°C to 0°C in 5°C increments (default value : -30°C).
	Time alarm	This parameter informs the user that the duration of the thawing process has prolonged. See Section 8.1 Alarms, on page 84 . Select a value from 2 to 20 minutes in 30 seconds increments (default value : 10 minutes).

Create a new local thawing profile

The following illustration shows how to create a new local thawing profile on VIA Thaw L1000.



Follow the instructions below to create a new thawing profile on the instrument.

- | Step | Action |
|------|---|
| 1 | Access the New profile menu from the Thawing profile menu.

Note:
<i>If there are already 8 profiles created locally present in the instrument memory, the New profile menu is not available. You will have to delete a thawing profile before being able to access the New profile menu again. See Delete a thawing profile, on page 58.</i> |
| 2 | Use  and  to select the parameter you want to modify and tap  to confirm. See Parameter values, on page 55 . |
| 3 | Use  and  to select a value and tap  to confirm. |
| 4 | Use  and  and tap  to select either: |

Option	Description
	To cancel the creation of the new local thawing profile and return to the Thawing profiles menu.
	To save the new local thawing profile to the instrument memory.

Note:
*Thawing profiles created locally on the instrument cannot be named and have the default name LOCAL YYYY-MM-DD HH:MM:SS displayed on the **Thawing profile** screen.*
For example, LOCAL 2019-08-14 16:20:15 corresponds to a local profile created on the 2019 August 14 at 16:20:15.

Note:
The new thawing profile is displayed at the beginning of the thawing profiles list.

Download thawing profiles from Chronicle

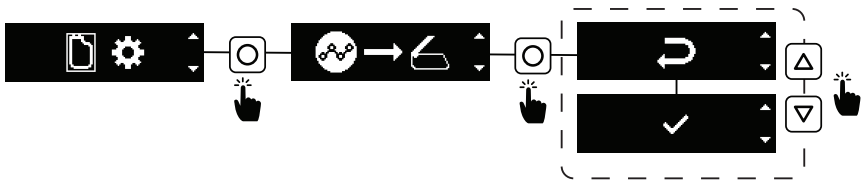
When VIA Thaw L1000 is connected to Chronicle via a network connection, the user may download up to 8 thawing profiles from Chronicle on to the instrument.

Note: *All previously downloaded Chronicle thawing profiles will be overwritten on the instrument during the next download.*

Thawing profiles created on Chronicle can be identified on the instrument by the presence of the symbol  next to the profile name. The revision is appended at the end of the thawing profile name.

Note: Thawing profiles downloaded from Chronicle cannot be edited on the instrument. These profiles must be edited on Chronicle and re-downloaded to the instrument.

The illustration below shows how to download a profile from Chronicle on to the instrument.



Follow the instructions below to download thawing profiles from Chronicle.

Step	Action
1	Access the Download profile screen from the Thawing profile menu.
2	Use ▲ and ▼ and tap ○ to select either:

Option	Description
	To cancel the download of thawing profiles from Chronicle and return to the Thawing profile menu.
	To confirm the download of thawing profiles from Chronicle on to the instrument.

Delete a thawing profile

On VIA Thaw L1000, only thawing profiles created locally can be deleted. Thawing profiles downloaded from Chronicle must be adjusted on Chronicle and re-downloaded to the instrument.

The following illustration shows how to delete a thawing profile (named *LOCAL 1* in this example) on VIA Thaw L1000.



Follow the instructions below to delete a thawing profile from the instrument.

Step	Action						
1	Access the Delete profile screen from the Thawing profiles menu.						
2	Use  and  to select the thawing profile you want to delete and tap  to confirm.						
3	Use  and  and tap  to select either: <table><tr><th>Option</th><th>Description</th></tr><tr><td></td><td>To cancel the deletion of the selected thawing profile and return to the Thawing profile menu.</td></tr><tr><td></td><td>To delete the selected thawing profile from the instrument memory.</td></tr></table>	Option	Description		To cancel the deletion of the selected thawing profile and return to the Thawing profile menu.		To delete the selected thawing profile from the instrument memory.
Option	Description						
	To cancel the deletion of the selected thawing profile and return to the Thawing profile menu.						
	To delete the selected thawing profile from the instrument memory.						

Note: If the last thawing profile stored in the instrument is deleted, the 8 preprogrammed profiles will be activated again.

6 Operation

About this chapter

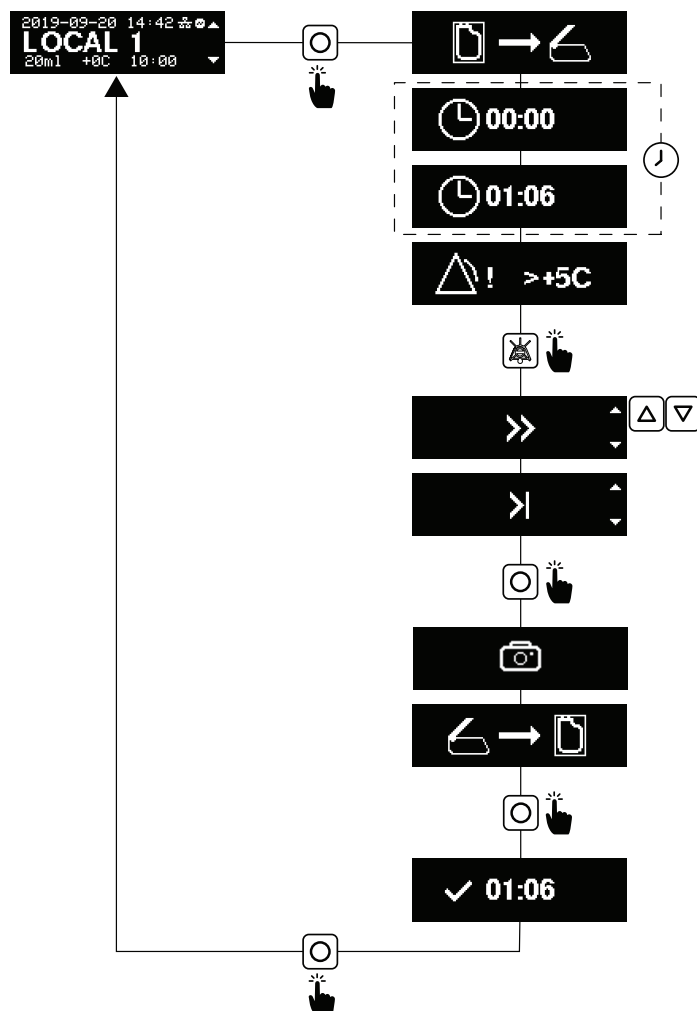
This chapter gives instructions on how to operate VIA Thaw L1000 in a safe way.

In this chapter

Section	See page
6.1 Overview	61
6.2 Select a thawing profile	63
6.3 Load a cryobag	64
6.4 Thawing process	68
6.5 End of a thawing process	69
6.6 Viewing thaw logs	71

6.1 Overview

The following illustration shows an overview of a thawing process.



Screen	Name	Description
	Load cryobag	Place the cryobag in the instrument.
	Monitor thaw	See Monitor a thawing process, on page 68 .
	End-of-thaw	See Section 8.1 Alarms, on page 84 .

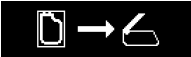
Screen	Name	Description
	Continue thaw	To continue with additional thawing.
	Complete thaw	To confirm the cryobag is completely thawed.
	Take picture	Take picture of the cryobag.
	Remove cryobag	Remove the cryobag from the instrument.
	Summary of thaw	See End summary of a thawing process, on page 70.

6.2 Select a thawing profile

Before starting, see [Chapter 5 Preparation, on page 49](#).

Follow the instructions below to select a thawing profile, before loading a cryobag on the instrument.

Step	Action
1	Use  and  on the Start-up menu structure to select the profile you want to use.
2	Tap  to confirm. <i>Result:</i> The Load cryobag screen appears.



6.3 Load a cryobag

Safety precautions



WARNING

Only use the product to thaw cryobags. Do not attempt to heat or thaw other objects, they can cause the instrument to malfunction or create a risk of electric shock or fire.



CAUTION

Take care when handling cryobags. Frozen cryobags and other objects at cryogenic temperature must be handled using suitable personal protective equipment such as cryogenic gloves to avoid injury.



NOTICE

Unlock transport clips before operation. If not done this can cause the cryobags to thaw incorrectly.



NOTICE

Do not use the product without a thawing tray. The thawing tray helps prevent liquids and condensation from collecting inside the instrument.



NOTICE

Inspect the thawing tray before use:

- Do not continue to use the product with a punctured or leaking thawing tray.
- Replace a punctured or leaking thawing tray.
- Contact your local Cytiva representative or authorized distributor to obtain a replacement thawing tray.



NOTICE

Never attempt to thaw more than one cryobag at a time in the instrument. Loading multiple cryobags can result in incomplete thawing and cause the end-of-thaw detection to work incorrectly.



NOTICE

Cryobags with labels must have the label placed face down on the thawing tray. Labels on the top surface of the cryobag can cause the end-of-thaw detection to work incorrectly.



NOTICE

Cryobags must be flat, and of uniform thickness on both sides, for the thawing process and end-of-thaw detection to work correctly. Deformed cryobags can result in poor thawing performance and cause the end-of-thaw detection to work incorrectly.



NOTICE

Overwrapped cryobags containing trapped air can result in poor thawing performance and cause the end-of thaw detection to work incorrectly.



NOTICE

Use cryobags listed in this Operating Instructions. Different cryobags can cause end-of-thaw detection to not work correctly.



NOTICE

Use of different cryoprotectants than the ones listed in this manual can cause the end-of-thaw detection to work incorrectly.



NOTICE

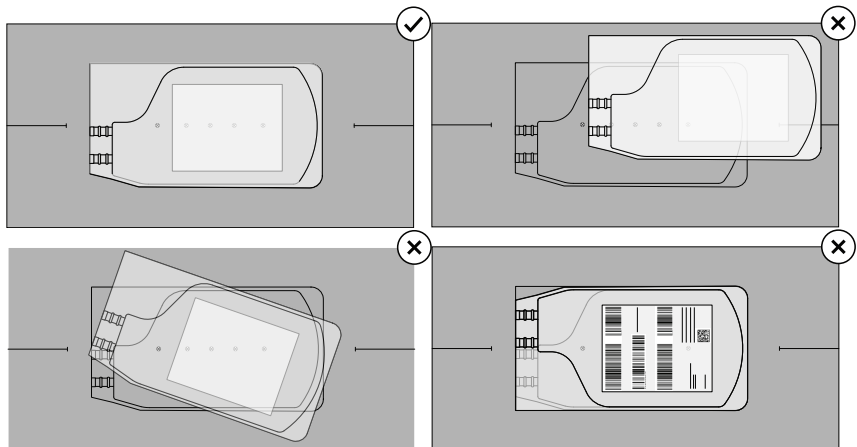
Remove the cassette and/or freezing aids before loading the cryobag in the instrument.

Place the cryobag in the instrument

Follow the instructions below to load a cryobag in the instrument.

Step	Action
1	Open the lid of the instrument.
2	Optional: scan the label of the cryobag. See Scan the cryobag label, on page 66 .
3	Position the cryobag in the center of the thawing tray. Place the cryobag with the label face down on the thawing tray.
4	Make sure that the portion of the cryobag containing the sample covers as many of the IR sensors as possible.

The IR sensor positions are marked on the thawing tray as shown below to aid with positioning of the cryobag.



Scan the cryobag label

Note: You can scan the barcode of a cryobag label only when the lid of the instrument is open and the barcode reader emits a beam of red light.

Note: If you cannot scan the label at the start of the thawing process, the barcode reader will turn on again at the end of the process, allowing for the cryobag label to be scanned.

Follow the instructions below to scan the barcode on the cryobag label.

Step	Action
1	Remove any frost covering the cryobag label.
2	Open the lid of the instrument.
3	Center the barcode under the green strip of the red light beam emitted from the barcode reader. <i>Result:</i> The instrument beeps and the light of the barcode reader turns off, indicating that the label was successfully scanned . Note: <i>Information from the barcode is stored in the instrument log and uploaded to Chronicle.</i> Note: <i>To avoid the scanning of identifiable patient data, the barcode module only accepts Code-128 barcodes containing donation identification numbers (DIN) as per the ISBT128 standard.</i>

6.4 Thawing process



NOTICE

Start the thawing process immediately after loading the cryobag. Leaving a cryobag in the instrument without starting the thawing can cause uneven or premature thawing in an uncontrolled manner.

Note: *When the instrument is running a thawing process, it does not synchronize the thawing data with Chronicle.*

Start a thawing process

Close the lid of the instrument to start the thawing process.

If the process does not automatically start, tap  to start it.

Monitor a thawing process

During the thawing process, the **Monitor thaw** screen is displayed.

This screen shows the elapsed thawing time (minutes:seconds).

Cancel a thawing process

The thawing process can be canceled at any time.

To cancel a thawing process, press and hold .

After canceling a thaw, a **Summary of thaw** screen appears. See [End summary of a thawing process, on page 70](#).

Note: *The date and time of the canceled thaw is recorded in the thaw log.*

6.5 End of a thawing process

Indication of an end of thaw

Once the cryobag temperature has reached the end-of-thaw setpoint, the instrument generates an end-of-thaw alarm. See [Section 8.1 Alarms, on page 84](#).

Inspect the cryobag

Follow the instructions below after the instrument generates an end-of-thaw alarm.

Step	Action
1	Open the lid of the instrument. <i>Result:</i> The Continue thaw screen appears.
2	Inspect the cryobag and verify if the content is completely thawed.
3	If additional thawing is required: a. Place the cryobag back in the instrument and close the lid. <i>Result:</i> The Monitor thaw screen appears. Note: <i>The instrument will not indicate an end-of-thaw alarm again. Thawing will continue until the user selects End thaw or the time alarm is reached.</i>
4	If the content is completely thawed, see Complete the thaw, on page 69 .

Complete the thaw



CAUTION

Remove the cryobag from the instrument immediately after confirming the content is completely thawed. The viability of the cells can be reduced if the cryobag is left in the instrument for a longer period.

Make sure the content of the cryobag is completely thawed.

Step	Action
1	Use and to select the Complete thaw screen and tap to confirm.

Step	Action
------	--------

Result:

The **Take picture** screen appears, and the instrument takes a picture of the cryobag accompanied by a short red flash originating from the camera module. After the picture is taken, the **Remove cryobag** screens appears.

2	Remove the cryobag from the instrument.
---	---

3	Optional: scan the label of the cryobag. See Scan the cryobag label, on page 66 .
---	---

4	Close the lid or tap  to complete the thawing process.
---	---

Result:

The **Summary of thaw** screen appears. See [End summary of a thawing process, on page 70](#).

5	Tap  to return to the Thawing profile screen.
---	---

End summary of a thawing process

The illustration below shows the information displayed on the **Summary of thaw** screen.



Part	Description
1	Status of thawing process:  Successful  Canceled  When alarms have been generated
2	Elapsed thawing time (minutes:seconds)

Note: Basic information regarding the thawing process is stored in the instrument system logs.

Note: Switch off the instrument if no longer in use.

6.6 Viewing thaw logs

Introduction

Thaw logs in VIA Thaw L1000 contain records of each performed thawing process. The instrument records information regarding the start and end of the thawing process, as well as the alarms generated during the thaw.

Thaw logs can be accessed from the **Thaw logs** screen under the **Start-up** menu structure. See [Section 3.2.2 Start-up menu structure, on page 21](#).

A maximum of 100 records can be saved in the instrument. When the maximum number is reached the oldest log entry will be replaced by the latest entry.

Thaw logs can be cleared from the instrument by:

- Accessing the **Delete thaw logs** screen under the **Admin** menu. See [Section 3.2.3 Admin menu, on page 23](#).
- Performing a factory reset. See [Section 4.4.3 Factory reset, on page 41](#).

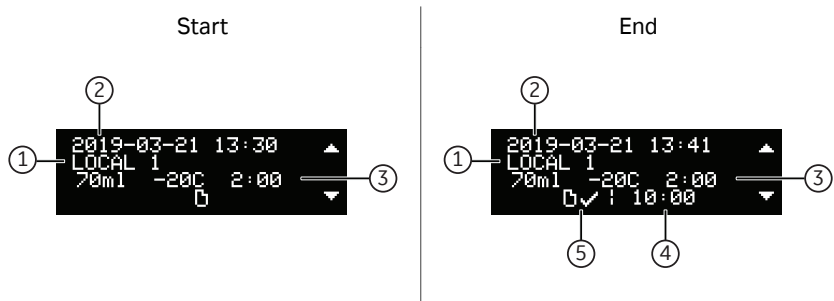
Note: Thaw logs are no longer available in the instrument once uploaded to Chronicle.

Note: Connect VIA Thaw L1000 to Chronicle to view additional thawing process information.

Note: VIA Thaw L1000 thaw records are not GMP compliant.

Thaw logs

The illustration below shows the information, recorded at the start and end of a thawing process, displayed on the **Thaw logs** screen.

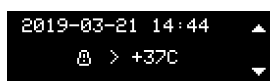


Part	Description
1	Profile name
2	Date and time at the start or end of the thawing process
3	Thawing parameters (fill volume, load temperature and time alarm)
4	Thawing duration (minutes:seconds)

Part	Description
5	Status of thawing process: ☒ Successful ☒ Unsuccessful

Thaw logs with alarm warnings

If an alarm is generated during the thawing process, a warning will be displayed in the **Thaw logs** screen. The illustration below shows an example of when the **Over temperature** alarm was generated during a thawing process.



Damaged or corrupted thaw logs

If thaw log data cannot be retrieved, the **Damaged thaw log** screen appears.



7 Maintenance

About this chapter

This chapter provides instructions for cleaning and replacement activities that should be performed by the user of the VIA Thaw L1000 system, and information about annual maintenance that should be performed by Cytiva.

In addition, instructions for software maintenance are included.

Contact your Cytiva representative or an authorized distributor to arrange, repair or replacement of the instrument.



WARNING

Do not disassemble or modify the instrument. Doing so invalidates the product warranty and can pose a risk of electrical shock, fire, and/or cause VIA Thaw L1000 to malfunction.

In this chapter

Section	See page
7.1 Maintenance program	74
7.2 Cleaning before planned service	75
7.3 Cleaning and disinfection	76
7.4 Replacement procedures	80
7.5 Software maintenance	82

7.1 Maintenance program

User maintenance

Interval	Maintenance action	Instructions
Daily	Clean the exterior of the instrument	Clean the instrument, on page 77
After every use	Clean the thawing tray and heating plates	
After every use	Inspect the thawing tray	If damaged, Replace the thawing tray, on page 80
When required	Decontamination in the event of leakage	See Clean the instrument, on page 77 and Replace the thawing tray, on page 80
When required	Clean the barcode reader lens	Clean the barcode reader lens, on page 79

Planned maintenance

It is recommended that VIA Thaw L1000 undergoes annual maintenance to verify the integrity and performance of the instrument. Contact your local Cytiva representative or authorized distributor to arrange a service.

7.2 Cleaning before planned service

Cleaning before planned maintenance/service

To protect the safety of service personnel, all equipment and work areas must be clean and free of any hazardous contaminants before a Service Engineer starts maintenance work.

Complete the checklist in the *On Site Service Health and Safety Declaration Form* or the *Health and Safety Declaration Form for Product Return or Servicing*, depending on whether the instrument is going to be serviced on site or returned for service, respectively.

Health and safety declaration forms

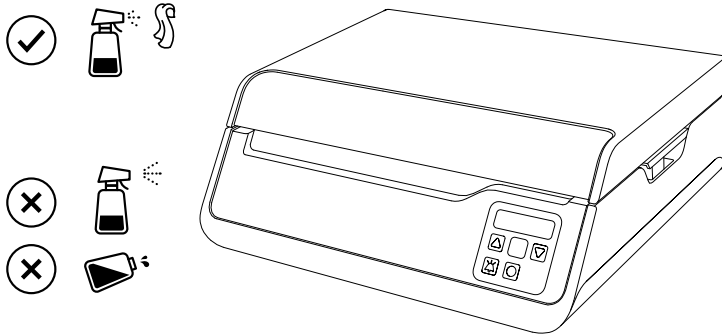
Health and safety declaration forms are available for copying or printing in the *Reference information* chapter of this manual, or on digital media supplied with the user documentation.

7.3 Cleaning and disinfection

Introduction

This section gives instructions for cleaning and disinfecting VIA Thaw L1000.

The illustration below shows the correct way to clean VIA Thaw L1000.



Safety precautions



WARNING

Disconnect the product from the power supply before cleaning.



WARNING

Do not spray or pour liquids or cleaning agents directly onto any part of the instrument.

- Spray or pour the liquid or cleaning agent onto a cloth or wipe, and then apply to the instrument.
- Do not immerse the instrument.



CAUTION

Wait for the product to cool to ambient temperature before cleaning.



CAUTION

Read the instructions, guidance notes, and safety information associated with the cleaning agents and use as directed.



NOTICE

Do not use acetone, corrosive agents, solvents, or strong detergents to clean the thawing tray or the product. These can cause damage to the instrument and cause it to malfunction.

Recommended substances for cleaning and disinfection

The following substances have been tested with VIA Thaw L1000 and been found to be compatible with all the components.

Function	Substance
Cleaning	De-ionized or purified water
	Ethanol solution (up to 70% v/v)
	Isopropyl alcohol (IPA) solution (up to 70% v/v)
Disinfection	STERIS Environ Vespene st Sterile Phenolic Sterilant (0.8% v/v)
	STERIS Environ LpH st Sterile Phenolic Sterilant (0.8% v/v)
	STERIS Spor-Klenz Ready to Use (RTU) Cold Sterilant

Note: *Some of the substances specified above might alter the color or appearance of the surface finishes in the product if applied repeatedly or for prolonged periods of time. However, the underlying component functionality is unaffected.*

Clean the instrument

Follow the instructions below to clean the instrument.

Step	Action
1	Press the power switch to the O position to completely turn off power to the instrument.
2	Remove the thawing tray.

Step	Action
------	--------

- | | |
|---|---|
| 3 | Wipe the accessible surfaces with a disposable lint-free wipe using the recommended cleaning substances and following your standard operating procedures. |
|---|---|



NOTICE

Take particular care when cleaning around the IR sensors of the instrument to avoid posterior errors in end-of-thaw and load temperature detection.



NOTICE

Avoid any contact with the IR sensor.

If the device is placed in a long-term storage, cover the IR sensors to minimize dust accumulation and avoid subsequent errors in end-of-thaw and load temperature detection.

- | | |
|---|--|
| 4 | Let the cleaned surfaces dry completely before using the instrument. |
|---|--|

Disinfect the instrument after spillage

Follow the instructions below to disinfect the instrument after spillage.

Step	Action
------	--------

- | | |
|---|---|
| 1 | Use suitable material to absorb the spilled liquid from the thawing tray. Dispose of the spilled liquid and cleaning material in accordance with your local waste regulations. |
| 2 | Press the power switch to the O position to completely turn off power to the instrument and wait for it to cool. |
| 3 | Remove the thawing tray. |
| 4 | Disinfect the accessible surfaces of the instrument and the thawing tray following your standard operating procedures. Use one of the recommended disinfectants. See Recommended substances for cleaning and disinfection, on page 77 . |

Note:

Follow the instructions of the manufacture for correct use of the disinfectants.

Step	Action
------	--------



NOTICE

Take particular care when disinfecting around the IR sensors of the instrument to avoid posterior errors in end-of-thaw and load temperature detection.

- | | |
|---|---|
| 5 | If any liquid was spilled on the area around the instrument, clean and decontaminate the bench. |
| 6 | Let the disinfected surfaces dry completely before using the instrument. |

Clean the barcode reader lens

Use a damp lint-free cloth or wipe to clean the barcode reader lens. Take care not to scratch the window.

7.4 Replacement procedures

Replace the thawing tray

The thawing tray should be replaced every 50 thawing cycles to ensure correct operation of VIA Thaw L1000 or in the event of leakage.

Follow the instructions below to replace the thawing tray.

Step	Action
1	Open the lid of the instrument using the grip.
2	Remove the thawing tray away from the bottom heating plate using the tray grips.
3	Dispose of the old thawing tray in accordance with your local waste regulations.
4	Install a new thawing tray. See Install the thawing tray, on page 33 .

Replace fuses



WARNING

Disconnect the mains power supply cord from the mains socket outlet before replacing any fuse in the instrument.



WARNING

Replacement fuses must be of the same type and rating as specified in the Operating Instructions and on the back of the instrument.

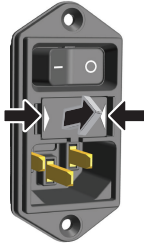


WARNING

If a fuse requires repeated replacement, do not continue to use the instrument. Contact your Cytiva representative or an authorized distributor.

VIA Thaw L1000 has user replaceable fuses located next to the appliance inlet on the rear of the instrument.

Follow the instructions below to replace fuses.

Step	Action
1	Press the power switch to the O position to completely turn off power to the instrument.
2	Disconnect the mains power supply cord from the appliance inlet on the instrument.
3	Press the tabs and pull out the fuse holder from the appliance inlet.
	
4	Remove both fuses.
5	Fit two new fuses of the same type and rating.
Note: <i>The correct type and rating of the fuses is specified in the label on the rear of the instrument and in this manual. See Technical specifications, on page 92.</i>	
6	Push the fuse holder into the appliance inlet, until it clicks into place.
7	Reconnect the mains power supply cord.

Clock battery



WARNING

The battery is not a user-replaceable item. Contact your local Cytiva representative or authorized distributor to arrange for a replacement battery to be fitted to the instrument.

VIA Thaw L1000 contains a built in lithium-ion coin cell battery to power the real-time clock and store time and date information if disconnected from the power supply.

Note: *Loss of the date and time information when the instrument is switched off and on, can indicate a depleted clock battery.*

7.5 Software maintenance

To view the software version information or to reset the network setting of the instrument, see [Section 3.2.3 Admin menu, on page 23](#).

Update the instrument software



NOTICE

Do not disconnect the instrument from the network or mains socket outlet during the software update, this can corrupt the process and cause the system to stop working correctly.

Once the system has been connected to Chronicle, VIA Thaw L1000 is able to access any software updates made available through Chronicle.

Note: *It is only possible to update the VIA Thaw L1000 software by connecting the instrument to Chronicle.*

Follow the instructions below to update the VIA Thaw L1000 software.

Step	Action
1	Access the Software update menu from the Admin menu.
2	Tap  to update the software. <i>Result:</i> The instrument will go through a re-start procedure.
3	Wait for the network connection error symbol  or  , to change into  or  , respectively.
4	Power cycle the instrument. <i>Result:</i> All parts of the update are installed and the instrument is ready for use.
5	Verify that the software version has been updated correctly, via the Software version information menu in the Admin menu. See Section 3.2.3 Admin menu, on page 23 .

8 Troubleshooting

About this chapter

This chapter provides information to assist users and service personnel to identify and correct problems that may occur when operating the product.

If the suggested actions in this guide do not solve the problem, or if the problem is not covered by this guide, contact your Cytiva representative for advice.

In this chapter

Section		See page
8.1	Alarms	84
8.2	Error codes	87
8.3	Instrument performance	88
8.4	Thawing performance	89
8.5	Get Help	90

8.1 Alarms

Introduction



WARNING

A hazard can exist if different alarm presets are used for the same or similar equipments operating in any single area.



NOTICE

The functionality of the alarms in VIA Thaw L1000, will be periodically verified by a service engineer during servicing, using the service mode available in the instrument.

The following alarms can be generated by VIA Thaw L1000. As a result of an alarm, a warning will be displayed in the thaw logs. See [Thaw logs, on page 71](#).

Screen	Name	Description
	Over temperature	The heater plate temperature has exceeded maximum allowable temperature.
	Mains power failure	The mains power is restored following a power failure, during a thawing process.
	Time	The total thawing time exceeds the thawing profile time alarm setting. ¹
	End-of-thaw	The cryobag temperature has reached the end-of-thaw setpoint. ²
	Load	The initial temperature of the cryobag exceeds the thawing profile load temperature alarm setting. ¹
	Lid open	The lid of the instrument has remained open longer than 15 seconds during the thawing process.

¹ The threshold for this alarm is set by the value of the selected thawing profile.

² If the alarm is acknowledged and the thawing process is not completed by the user, the **End-of-thaw** alarm is repeated each time the temperature increases by 5°C. The current temperature is shown (e.g., **> +10°C**, **> +15°C**, etc.).

Alarm indicators

Three different types of alarm priorities (High, Medium, and Low) are assigned to alarms generated by VIA Thaw L1000.

To acknowledge an alarm signal, tap .

Note: *The audible signal will stop but the visual signal will continue to be generated until the problem is resolved.*

The table below shows how each alarm priority is indicated on the instrument:

Alarm priority	Symbol	Visual signal	Audible signal
High immediate operator response is required		Red blinking light	10 beeps repeating every 2.5 seconds
Medium prompt operator response is required		Yellow blinking light	3 beeps repeating every 7.5 seconds
Low operator awareness is required		Yellow steady light	2 beeps repeating every 30 seconds

Note: *Sound Pressure Level (SPL): 55 to 65 dB at 1 m.*

Alarm types



NOTICE

The **mains power failure** alarm will always be triggered following a power failure, regardless of the duration, and the time passed since the occurrence of the power failure.

The table below describes the alarms generated by VIA Thaw L1000 and the actions to be taken by the user to resolve the situation.

Alarm	Priority	Action
Over temperature	High	Immediately open the lid or tap  to acknowledge the alarm. Inspect the cryobag and heater plate temperature, and decide whether to stop or continue the thawing process using the residual heater plate temperature. Restart the instrument.
Mains power failure	High	Immediately open the lid or tap any button to acknowledge the alarm. Inspect the cryobag and decide whether to start a new thawing process.
Time	Medium	Open the lid or tap  to acknowledge the alarm. Inspect the cryobag and decide whether to stop or continue the thawing process. The alarm is generated only once during the thawing process.
End-of-thaw	Low	Open the lid or tap  to acknowledge the alarm. Inspect the cryobag and decide whether to stop or continue the thawing process. If the alarm is acknowledged and the thawing process is not completed by the user, the End-of-thaw alarm is repeated each time the temperature increases by 5°C.
Load	Low	Open the lid, inspect the cryobag and decide whether to stop or continue the thawing process. Close the lid or tap  to acknowledge the alarm. The alarm is generated only once during the thawing process.
Lid open	Low	Inspect the cryobag and decide whether to stop, complete or continue the thawing process. Close the lid or tap  to acknowledge the alarm.

8.2 Error codes

After being switched on, during the system self-checks, the instrument may display an error code.

The illustration below shows an example of a screen displaying an error code.



The table below describes the instrument error codes and the corresponding corrective action that should be taken to restore the instrument function.

NOTICE

Do not continue to use the instrument if an error is not solved by the corresponding corrective action. Make a note of the error code and provide it to you local Cytiva representative or authorized distributor.

Error code Description	Possible causes	Corrective actions
E03 IR sensor fault.	Cryobag is present in the instrument.	Switch off the instrument, open the lid and remove any materials loaded into the instrument.
E06 System memory full.	Chronicle connection not available.	Make sure the instrument is connected to the network and the network and Chronicle settings are correctly configured. See Section 4.6 Connect to the system network, on page 44 .
	Memory full. ¹	1. Perform a factory reset. See Section 4.4.3 Factory reset, on page 41 . 2. Switch off and on the instrument.
E07 Internal memory fault.	Internal memory fault.	
E08 Calibration error.	Cryobag sensor calibration data is invalid.	Switch the power to the instrument off and on.
E10 Internal communication fault.	Internal communication fault.	Do not use the instrument. Contact a Cytiva representative to schedule service.

¹ The instrument can still be used but new data, images, and logs are no longer stored.

8.3 Instrument performance

The table below describes the possible causes of poor instrument performance and the corresponding corrective action that should be taken before the instrument can be used again.

Problem	Possible causes	Corrective actions
The instrument does not start.	The power switch is off.	Make sure the power switch at the appliance inlet, and on the wall, is switched on.
	A fuse has blown.	Replace the fuse. See Replace fuses, on page 80 for more information.
	System fault.	Do not use the instrument. Contact a Cytiva representative to schedule service.
One or both heater plates do not feel warm ¹ , or	A thermal fuse has triggered.	Complete the ongoing thawing process. Contact a Cytiva representative to schedule service.
The instrument does not finish pre-heating (Pre-heating screen does not disappear)	Temperature sensing system fault.	Do not use the instrument. Contact a Cytiva representative to schedule service.
Lid does not close correctly. ¹	The cryobag is not flat or has uneven thickness.	Reposition the cryobag to maximize the contact with the heater plates. Tap  to start the thawing process and periodically press the lid.
	The cryobag is over-filled or over-sized.	Use an alternative thawing method.
Bottom heater plate does not deflect. ¹	Transport clips are still locked.	Unlock the transport clips. See Install the thawing tray, on page 33 for more information.

¹ This problem during a thawing process can cause a prolonged thawing time and ultimately an incomplete thawing of the cryobag.

8.4 Thawing performance

The table below describes the possible causes of poor thawing performance and the corresponding corrective action that should be taken before the cryobag can undergo a new thawing cycle.

Problem	Possible causes	Corrective actions
Thawing time prolonged, or Partial thawing.	Lid has been opened during the thawing process.	Continue the thawing process making sure to keep the lid closed during the thawing process.
	The cryobag ports are not in contact with the heater plate.	Remove the ice from the cryobag ports by gently massaging the cryobag. ¹
	The cryobag content is outside the view of the IR sensors.	Place the cryobag in view of the IR sensors. Make sure the label is facing down. See Place the cryobag in the instrument, on page 66 for more information.
	Labels obscure the cryobag contents from the IR sensors.	
	The cryobag is outside the reach of the agitator.	Make sure the cryobag is centered on the thawing tray. See Place the cryobag in the instrument, on page 66 for more information.
	The cryobag is not in full contact with the top heater plate.	Gently massage and reposition the cryobag making sure it is in full contact with the top heater plate.
Uneven thawing	Air inside the overwrap.	- Remove the overwrap to ensure better thermal contact. - or - Remove the air from the cryobag by gently massaging it.¹
Leaking cryobag	Rough handling or improper storage of the cryobag.	Handle the cryobags carefully, to reduce the risk of shock or impact.

¹ **Note:**

Make sure not to puncture or perforate the cryobag during the process.

8.5 Get Help

Introduction

You can submit your case online by creating an account on the Cytiva Web Portal at cytiva.com. To directly report the event, click on **My Account** and select **Support Cases**.

The following sections list the information that should be always reported in case of any event.

Product information

- Instrument serial number

Description of the issue

- Date and time of the issue
- Problem description:
 - Was an alarm or warning triggered?
 - Did the issue have an impact on your process or product?
 - Were there any irregularities during the thawing process?
 - Is it a repeated issue or an isolated occurrence?

Attachment of the relevant files

- Thaw summary of the affected run
- Picture of the instrument, if relevant

9 Reference information

About this chapter

This chapter lists the specifications, recycling information and regulatory information of VIA Thaw L1000.

In this chapter

Section	See page
9.1 Specifications	92
9.2 Recycling information	94
9.3 Regulatory information	95
9.4 Health and Safety Declaration Form	108

9.1 Specifications

Technical specifications

Parameter	Specification
Maximum cryobag dimensions	305 mm × 140 mm × 15 mm
Operating voltage	100 to 240 VAC (50/60 Hz)
Maximum voltage fluctuation	± 10% from the nominal voltage
Transient overvoltages	Overvoltage category II
Maximum power consumption	650 VA
Mains power supply cord coupler	IEC60320 C13
Networking	Wired LAN: IEEE 802.3 Wireless LAN: IEEE 802.11 b/g (≤100 mW)
External dimensions (W × D × H)	430 mm × 375 mm × 150 mm
Net weight	13 kg (VIA Thaw L1000)
Fuses rating	T 6.3A H 250V, 5 x 20 mm
Battery	Clock battery located in the computer module (Li-ion coin cell).

Environmental requirements



WARNING

Do not expose the instrument to moisture, environments with high ambient humidity, or use outdoors.

Parameter	Specification
Allowed location	Indoor use only
Ambient temperature, operation	15°C to 30°C
Ambient temperature, storage	-30°C to +50°C
Max. relative humidity, operation	30% to 75% (non-condensing)
Relative humidity, non-operating	10% to 95%

Parameter	Specification
Altitude, operation	Up to 2000 m
Pollution degree of the intended environment	Pollution degree 2

9.2 Recycling information

Introduction

This section contains information about the decommissioning of the product.



CAUTION

Always use appropriate personal protective equipment when decommissioning the equipment.

Decontamination

The product must be decontaminated before decommissioning. All local regulations must be followed with regard to scrapping of the equipment.

Disposal of the product

When taking the product out of service, the different materials must be separated and recycled according to national and local environmental regulations.

Recycling of hazardous substances

The product contains hazardous substances. Detailed information is available from your Cytiva representative.

Disposal of electrical components



Waste electrical and electronic equipment must not be disposed of as unsorted municipal waste and must be collected separately. Contact an authorized representative of the manufacturer for information concerning the decommissioning of the equipment.

Disposal of batteries

Waste batteries and accumulators must not be disposed of as unsorted municipal waste and must be collected separately. Follow applicable local regulations for recycling of batteries and accumulators.

9.3 Regulatory information

Introduction

This section lists the regulations and standards that apply to the product. Your product is marked or listed according to the applicable regulatory requirements for your region. Local language translations are only provided according to regulatory requirements.

In this section

Section	See page
9.3.1 Contact information	96
9.3.2 European Union and European Economic Area	97
9.3.3 Great Britain	98
9.3.4 Eurasian Economic Union (Евразийский экономический союз)	99
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9.3.1 Contact information

Manufacturing information

The table below summarizes the required manufacturing information.

Requirement	Information
Name and address of the legal manufacturer	Biosafe S.A. Allée des moulins 3 1274 Grens Switzerland
Telephone number of the legal manufacturer	+41 21 560 19 00

9.3.2 European Union and European Economic Area

Introduction

This section describes the information that applies to the product in the European Union and European Economic Area.

Conformity with EU Directives

Refer to the EU Declaration of Conformity for the directives and regulations that apply for the CE marking.

If not included with the product, a copy of the EU Declaration of Conformity is available on request.

CE marking



The CE marking and the corresponding EU Declaration of Conformity is valid for the product when it is:

- used according to the *Operating Instructions* or user manuals, and
- used in the same state as it was delivered, except for alterations described in the *Operating Instructions* or user manuals.

9.3.3 Great Britain

Introduction

This section describes the information that applies to the product in Great Britain.

Conformity with UK Regulations

Refer to the UK Declaration of Conformity for the regulations that apply for the UKCA marking.

If not included with the product, a copy of the UK Declaration of Conformity is available on request.

UKCA marking



The UKCA marking and the corresponding UK Declaration of Conformity is valid for the instrument when it is:

- Used according to the *Operating Instructions/Operator Manual*, and
- Used in the same state as it was delivered, except for alterations described in the *Operating Instructions/Operator Manual*.

9.3.4 Eurasian Economic Union (Евразийский экономический союз)

This section describes the information that applies to the product in the Eurasian Economic Union.

Introduction

This section provides information in accordance with the requirements of the Technical Regulations of the Customs Union and (or) the Eurasian Economic Union.

Введение

В данном разделе приведена информация согласно требованиям Технических регламентов Таможенного союза и (или) Евразийского экономического союза.

Manufacturer and importer information

The following table provides summary information about the manufacturer and importer, in accordance with the requirements of the Technical Regulations of the Customs Union and (or) the Eurasian Economic Union.

Requirement	Information
Name, address and telephone number of manufacturer	See <i>Manufacturing information</i>
Importer and/or company for obtaining information about importer	Cytiva RUS LLC 109004, Moscow internal city area Tagansky municipal district Stanislavsky str., 21, building 5, premises I, offices 24,25,29 Russian Federation Telephone: +7 985 192 75 37 E-mail: rucis@cytiva.com

Информация о производителе и импортере

В следующей таблице приводится сводная информация о производителе и импортере, согласно требованиям Технических регламентов Таможенного союза и (или) Евразийского экономического союза.

Требование	Информация
Наименование, адрес и номер телефона производителя	См. Информацию об изготовлении
Импортёр и/или лицо для получения информации об импортере	ООО "Цитива РУС" 109004, г. Москва вн. тер. г. муниципальный округ Таганский ул. Станиславского, д. 21 стр. 5, помещ. I, ком. 24,25,29 Российская Федерация Телефон: +7 985 192 75 37 Адрес электронной почты: rucis@cytiva.com

Description of symbol on the nameplate

Описание символов на заводской табличке



This Eurasian compliance mark indicates that the product is approved for use on the markets of the Member States of the Customs Union of the Eurasian Economic Union

Данный знак о Евразийском соответствии указывает, что изделие одобрено для использования на рынках государств-членов Таможенного союза Евразийского экономического союза

9.3.5 North America

Introduction

This section describes the information that applies to the product in the United States of America and Canada.

FCC compliance

This device complies with part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

Note: *The user is cautioned that any changes or modifications not expressly approved by Cytiva could void the user's authority to operate the equipment.*

This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense.



CAUTION

FCC RF Radiation Exposure Statement:

This equipment complies with FCC radiation exposure limits set forth for an uncontrolled environment. End users must follow the specific operating instructions for satisfying RF exposure limits. This transmitter must not be co-located or operating with any other antenna or transmitter.

Canada RSS: General statement

This device contains licence-exempt transmitter(s)/receiver(s) that comply with Innovation, Science and Economic Development Canada's licence-exempt RSS(s). Operation is subject to the following two conditions:

1. This device may not cause interference.
2. This device must accept any interference, including interference that may cause undesired operation of the device.

**CAUTION****IC RF Radiation Exposure Statement:**

To comply with IC RF exposure requirements, this device and its antenna must not be co-located or operating in conjunction with any other antenna or transmitter.

L'émetteur/récepteur exempt de licence contenu dans le présent appareil est conforme aux CNR d'Innovation, Sciences et Développement économique Canada applicables aux appareils radio exempts de licence. L'exploitation est autorisée aux deux conditions suivantes:

1. L'appareil ne doit pas produire de brouillage;
2. L'appareil doit accepter tout brouillage radioélectrique subi, même si le brouillage est susceptible d'en compromettre le fonctionnement.

**CAUTION**

Pour se conformer aux exigences de conformité RF canadienne l'exposition, cet appareil et son antenne ne doivent pas être co-localisés ou fonctionnant en conjonction avec une autre antenne ou transmetteur.

9.3.6 China

This section describes the information that applies to the product in the People's Republic of China.

有害物质声明 (DoHS)

Declaration of Hazardous Substances (DoHS)

根据 SJ/T11364-2014 《电子电气产品有害物质限制使用标识要求》特提供如下有关污染控制方面的信息。

The following product pollution control information is provided according to SJ/T11364-2014 Marking for Restriction of Hazardous Substances caused by electrical and electronic products.

电子信息产品污染控制标志说明

Explanation of Pollution Control Label



该标志表明本产品含有超过中国标准 GB/T 26572 《电子电气产品中限用物质的限量要求》中限量的有害物质。标志中的数字为本产品的环保使用期，表明本产品在不正常使用的条件下，有毒有害物质不会发生外泄或突变，用户使用本产品不会对环境造成严重污染或对其人身、财产造成严重损害的期限。单位为年。

为保证所声明的环保使用期限，应按产品手册中所规定的环境条件和方法进行正常使用，并严格遵守产品维修手册中规定的定期维修和保养要求。

产品中的消耗件和某些零部件可能有其单独的环保使用期限标志，并且其环保使用期限有可能比整个产品本身的环保使用期限短。应到期按产品维修程序更换那些消耗件和零部件，以保证所声明的整个产品的环保使用期限。

本产品在使用寿命结束时不可作为普通生活垃圾处理，应被单独收集妥善处理。

This symbol indicates the product contains hazardous materials in excess of the limits established by the Chinese standard GB/T 26572 Requirements of concentration limits for certain restricted substances in electrical and electronic products. The number in the symbol is the Environment-friendly Use Period (EFUP), which indicates the period during which the hazardous substances contained in electrical and electronic products will not leak or mutate under normal operating conditions so that the use of such electrical and electronic products will not result in any severe environmental pollution, any bodily injury or damage to any assets. The unit of the period is "Year".

In order to maintain the declared EFUP, the product shall be operated normally according to the instructions and environmental conditions as defined in the product manual, and periodic maintenance schedules specified in Product Maintenance Procedures shall be followed strictly.

Consumables or certain parts may have their own label with an EFUP value less than the product. Periodic replacement of those consumables or parts to maintain the declared EFUP shall be done in accordance with the Product Maintenance Procedures.

This product must not be disposed of as unsorted municipal waste, and must be collected separately and handled properly after decommissioning.

有害物质的名称及含量
Name and Concentration of
Hazardous Substances

产品中有害物质的名称及含量
Table of Hazardous Substances' Name and Concentration

部件名称 Component name	有害物质 Hazardous substance					
	铅 (Pb)	汞 (Hg)	镉 (Cd)	六价铬 (Cr(VI))	多溴联苯 (PBB)	多溴二苯醚 (PBDE)
29403109	X	0	0	0	0	0

- 0:** 表示该有害物质在该部件所有均质材料中的含量均在 GB/T 26572 规定的限量要求以下。

X: 表示该有害物质至少在该部件的某一均质材料中的含量超出 GB/T 26572 规定的限量要求。

 - 此表所列数据为发布时所能获得的最佳信息。
- 0:** Indicates that this hazardous substance contained in all of the homogeneous materials for this part is below the limit requirement in GB/T 26572.

X: Indicates that this hazardous substance contained in at least one of the homogeneous materials used for this part is above the limit requirement in GB/T 26572

 - Data listed in the table represents best information available at the time of publication.

9.3.7 South Korea

Introduction

This section describes the information that applies to the product in the Republic of Korea.

Compliance statement

**NOTICE**

Class A equipment (equipment for business use).

This equipment has been evaluated for its suitability for use in a business environment.

When used in a residential environment, there is a concern of radio interference.

**유의사항**

A급 기기(업무용 방송통신기자재)

이 기기는 업무용 환경에서 사용할 목적으로 적합성평가를 받은 기기

로서 가정용 환경에서 사용하는 경우 전파간섭의 우려가 있습니다.

9.3.8 General regulatory statements

Introduction

This section describes the information that is applicable to more than one geographical region.

EMC emission, CISPR 11: Group 1, Class A statement



NOTICE

This equipment is not intended for use in residential environments and may not provide adequate protection to radio reception in such environments.

9.4 Health and Safety Declaration Form

On site service



On Site Service Health & Safety Declaration Form

Service Ticket #:	
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To make the mutual protection and safety of Cytiva service personnel and our customers, all equipment and work areas must be clean and free of any hazardous contaminants before a Service Engineer starts a repair. To avoid delays in the servicing of your equipment, complete this checklist and present it to the Service Engineer upon arrival. Equipment and/or work areas not sufficiently cleaned, accessible and safe for an engineer may lead to delays in servicing the equipment and could be subject to additional charges.

Yes	No	Review the actions below and answer "Yes" or "No". Provide explanation for any "No" answers in box below.
☐	☐	Instrument has been cleaned of hazardous substances. Rinse tubing or piping, wipe down scanner surfaces, or otherwise make sure removal of any dangerous residue. Make sure the area around the instrument is clean. If radioactivity has been used, perform a wipe test or other suitable survey.
☐	☐	Adequate space and clearance is provided to allow safe access for instrument service, repair or installation. In some cases this may require customer to move equipment from normal operating location prior to Cytiva arrival.
☐	☐	Consumables, such as columns or gels, have been removed or isolated from the instrument and from any area that may impede access to the instrument.
☐	☐	All buffer / waste vessels are labeled. Excess containers have been removed from the area to provide access.
Provide explanation for any "No" answers here:		
Equipment type / Product No:		Serial No:
I hereby confirm that the equipment specified above has been cleaned to remove any hazardous substances and that the area has been made safe and accessible.		
Name:		Company or institution:
Position or job title:		Date (YYYY/MM/DD):
Signed:		

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For local office contact information, visit cytiva.com/contact.
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Product return or servicing



Health & Safety Declaration Form for Product Return or Servicing

Return authorization number:		and/or Service Ticket/Request:	
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To make sure the mutual protection and safety of Cytiva personnel, our customers, transportation personnel and our environment, all equipment must be clean and free of any hazardous contaminants before shipping to Cytiva. To avoid delays in the processing of your equipment, complete this checklist and include it with your return.

- Note that items will NOT be accepted for servicing or return without this form
- Equipment which is not sufficiently cleaned prior to return to Cytiva may lead to delays in servicing the equipment and could be subject to additional charges
- Visible contamination will be assumed hazardous and additional cleaning and decontamination charges will be applied

Yes	No	Specify if the equipment has been in contact with any of the following:		
☐	☐	Radioactivity (specify)		
☐	☐	Infectious or hazardous biological substances (specify)		
☐	☐	Other Hazardous Chemicals (specify)		
Equipment must be decontaminated prior to service / return. Provide a telephone number where Cytiva can contact you for additional information concerning the system / equipment.				
Telephone No:				
Liquid and/or gas in equipment is:		☐	Water	
		☐	Ethanol	
		☐	None, empty	
		☐	Argon, Helium, Nitrogen	
		☐	Liquid Nitrogen	
		☐	Other, specify	
Equipment type / Product No:			Serial No:	
I hereby confirm that the equipment specified above has been cleaned to remove any hazardous substances and that the area has been made safe and accessible.				
Name:		Company or institution:		
Position or job title:		Date (YYYY/MM/DD)		
Signed:				

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To receive a return authorization number or service number, call local technical support or customer service.



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