

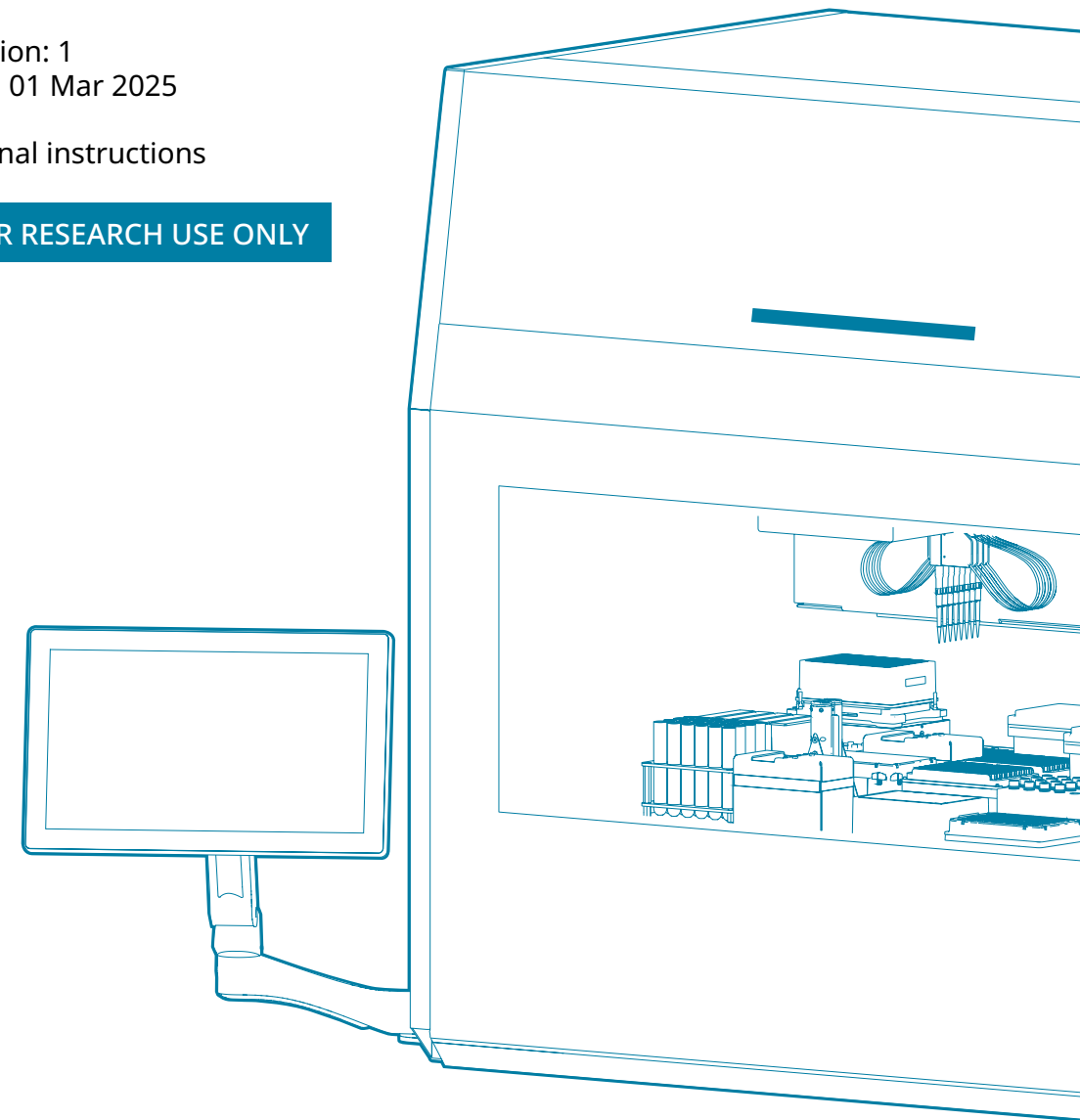
ElysION

Operating manual

Revision: 1
Date: 01 Mar 2025

Original instructions

FOR RESEARCH USE ONLY



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IMPORTANT

IF YOU ARE UNSURE ABOUT ANY INSTRUCTION OF THE ELYSION OPERATING MANUAL THAT MAY IMPACT THE SAFETY OF THE USER, CONTACT SUPPORT:

support@nanoporetech.com

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1. Introduction

This operating manual is for the ElysION™: an automated robot for liquid handling, DNA/RNA library preparation, and nanopore sequencing provided by Tecan and Oxford Nanopore Technologies plc (referred to as Oxford Nanopore sequencing herein). The manual contains all the instructions for operating the ElysION safely and for maintaining the device. Read the manual carefully before you perform any work with the ElysION.

Section 1 outlines the purpose of the operating manual and ElysION. Furthermore, this section explains the use of symbols and conventions, along with other general information.

 This operating manual contains no software description.

1.1. Applicable model(s)

This manual applies to:

- ElysION 6-grid model (referred to as the ElysION Sample Preparation Device)
- ElysION MinION™ Compute Unit*
- ElysION MinION Mk1D

*As an example of the support compute to operate the MinION Mk1D.

Configuration overview for ElysION model

Component	Type	Model number
ElysION Sample Preparation Device	Cavro Magni Flex 44A00-6G-XE	ELY-SPD001

For more information of the configuration on the **Cavro® Magni Flex 44A00-6G-XE**, see the technical specification in the table below:

Component part	Technology type
Pipetting system	ARP
Left arm	8 channels
Right arm	N/A

Component	Type	Model number
ElysION Compute Unit	ElysION MinION Compute Unit	ELY-MCU01

Component	Type	Model number
ElysION sequencing device	MinION Mk1D	MIN-101D

1. Introduction

1.2. Manufacturer

Address of Manufacturer:

Oxford Nanopore Technologies plc.
Gosling Building, Oxford Science Park
Edmund Halley Rd, Oxford
OX4 4DQ
United Kingdom

1.3. Intended use

The ElysION is an automated multipurpose liquid handling, library preparation and sequencing platform for Oxford Nanopore sequencing.

ElysION is not intended for use for health assessment or to diagnose, treat, mitigate, cure, or prevent any disease or condition.

Only trained and authorised personnel should operate the device and its components.

1.4. Improper use

Improper use will prevent the ElysION from being used safely.

- The ElysION configurations and modules are National Recognised Testing Laboratory NRTL (MET) recognised components.
- ElysION is not intended for use for health assessment or to diagnose, treat, mitigate, cure, or prevent any disease or condition.
- The ElysION is not explosion-proof and should not be installed in locations where there is a hazard of explosion.
- The ElysION liquid handler enclosing frame requires the user to be aware of all safety precautions and training, in and out of use, in order to prevent death, injury, or equipment damage (see Section 2).
- The user should evaluate additional safety features for any product requirements based on the user's intended use.

1.5. Warranty

The use of unapproved components may impair the safe use of the ElysION.

The use of unapproved components would invalidate any warranty of safety and compliance to national and international standards, as required for NRTL (MET) certification, by EC directives, etc.

1. Introduction


1.6. Trademarks

Whether registered or unregistered trademarks, the product names mentioned in this manual are reproduced solely for identification purposes and remain the exclusive property of their respective owners.

1.7. Reference documents

This section provides a link to the Nanopore Community for ElysION documentation.

The Doc IDs listed below do not contain information about the language, document version, or the medium (data storage medium, hard copy, downloadable file, etc.) of the document.

 Consult the operating manual for optional equipment.

Check the document is the latest version and corresponds to your ElysION version used.

The **Doc ID** does not refer to ordering information. When placing orders, please refer to the number on the document binder, CD case, etc.

1.8. Documentation

1.8.1. Oxford Nanopore documents for ElysION

For further information on Oxford Nanopore Technologies user manuals, protocols, troubleshooting, and support, use the Nanopore Community website below:

nanoporetech.com/documentation

The ElysION user guide will provide all necessary information for day-to-day use of the ElysION and MinION Compute Unit. Refer to the MinION Mk1D user manual for information on use of the MinION Mk1D inside your ElysION Sample Preparation Device. The ElysION user guide is found at:

nanoporetech.com/document/elysion-user-guide

1.8.2. Tecan documents for ElysION

- CPAC 2-TEC: INHECO CPAC devices (DocID 900650-001)
- Thermoshake AC: INHECO Shaker with clamping mechanism (DocID 901325-000)
- INHECO Multi TEC Control (DocID 900067-003)
- Inheco On Deck Thermal Cycler (DocID 900584-005)

1. Introduction

1.9. Document conventions

1.9.1. IMPORTANT

The statements in this document are of the utmost importance and must be read, abided by, and strictly not broken for the safety of the user and to prevent damage to the equipment and infrastructure.

1.9.2. Cross references

Cross references appear as follows, e.g.

➔ Refer to section 'Safety'*

*'Safety' refers to the corresponding section header.


1.9.3. Prerequisites

Prerequisites appear as follows, e.g.

P 'General safety' information has been read.

1.9.4. Tips

Additional tips appear as follows, e.g.

 For safety conventions and symbols refer to section 'Safety.'

1.9.5. Illustrations

Illustrations may show component versions that are not relevant to your ElysION.

1.9.6. Technical abbreviations

ARP: Air Restriction Pipettor
cLLD: Capacitive Liquid Level Detection
DiTi: Disposable Tip
EMC: Electromagnetic Compatibility
PSU: Power Supply Unit
RF: Radio Frequency
USB: Universal Serial Bus
XCA: Channel Arm
XCG: Channel Gripper
XEBU: Enclosed Frame Base Unit
XTA: Tool Arm

2. Safety





Section 2 describes the safety measures in place to use the ElysION safely and correctly, provides general rules for best-practices, and highlights hazards under all ordinary circumstances for use of the ElysION.

2.1. Safety: measures and messages







Tecan and Oxford Nanopore Technologies inform you that the ElysION components (i.e. the liquid handler, compute, and sequencing device) are a safety hazard under all circumstances. The safety measures highlighted in this document are preventative and must be followed with the utmost respect to prevent death or injury to personnel or damage to the equipment. You must refrain from using damaged equipment. The ElysION liquid handler must be treated as a continual hazard to avoid death or injury.

2.1.1. Safety messages

Signal words

Signal Word	Description
 DANGER	Indicates a hazardous situation that, if not avoided, will result in death or serious injury. It is important not to proceed until all stated conditions are met and clearly understood.
 WARNING	Indicates a hazardous situation that, 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	Indicates a hazardous situation that, 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	Indicates a situation that is not hazard-related but, if not avoided, could result in damage to or malfunctioning of the equipment, or the incorrect processing of results.

2.1.2. Safety symbols

Symbol	Description
	General warning
	Biohazard
	Magnetic field
	Electrical shock
	Crushing hazard
	Hot surfaces

➔ Refer also to the safety symbols in the Reference documents (refer to 'Reference documents').

2. Safety

2.2. Safety information

WARNING

ElysION is designed and built in accordance with state-of-the-art technology and the recognised technical safety regulations. Nevertheless, risks to users, property, and the environment can arise if the ElysION is used without care and attention.

The safety of all users and personnel depends on the strict observation of these safety instructions and awareness of the safety warnings provided in this manual. This manual must always be available to any person performing a task described in this document.

Please give great attention to the following general safety information below.

2.2.1. General

Legal regulations, such as local, state, and federal laws concerning the use or application, as well as the handling, of dangerous materials in connection with the ElysION must be strictly followed.

The operating company is responsible for defining instructions in accordance with company procedures and local legal requirements. The instructions provided by Oxford Nanopore Technologies must be strictly observed.

2.2.2. Installation, operation, and maintenance

Observe the correct environmental conditions for storage and operation.

Once installed, do not attempt to move the instrument. Moving the instrument must be done by or with the help of a trained Field Service Engineer (FSE).

The user is responsible for ensuring that the ElysION is always operated under proper conditions, and that maintenance, service, and repair tasks are performed with care, on schedule, and only by authorised personnel.

After system care or maintenance has been performed, operation must only be resumed after the correct system operating conditions (e.g. removing all labware from the ElysION, performing the ElysION initialisation and the sequencing device hardware check) have been verified.

Always use recommended consumables and original spare parts for maintenance and repair to ensure good performance and reliability.

Be aware of the height of the instrument when the front safety panel is fully opened. It may collide with the ceiling and cause damage to surrounding infrastructure.

➔ Refer to 'Dimensions and weights'

The ElysION Sample Preparation Device (liquid handler) must be on a workbench that supports at least 250 kg with minimum dimensions of 1,200 mm length by 790 mm depth. The workbench must be within the height range of 800–1,000 mm. The workbench must also provide a minimum clearance of 100 mm from the rear of the instrument, 355 mm from the top of the instrument, and 100 mm from the front of the instrument.

2. Safety

The operator is responsible to ensure that waste bin(s) are in the waste tray when the instrument is operating.

Be careful when closing the front safety panel. Keep your fingers away from the lower rail of the panel to prevent fingers being crushed.

Ensure the ElysION access door and front safety panel is closed when the device is in operation.

Where possible, lock the device door via the software to ensure maximum safety.

Do not insert any part of the body into the device while it is in operation under any circumstance.

Do not lubricate the Z-rod.

Ensure empty waste bin(s) are placed in the waste drawer prior to starting a run.

Remove all labware from the worktable before initialisation, including grippers or tips attached to the pipette channels. Grippers must be positioned on the gripper mount before initialising.

Only transport rigid labware using the grippers.

To transport labware, allow the compatible carriers' fingers access to the grip-point on the labware.

Ensure the arm can move freely and will not collide with any obstacles before initialisation.

Use approved cleaning agents only.

➔ Refer to 'Cleaning agent specifications'

2.2.3. Performance

Pretreat sample(s) and reagent(s) to eliminate foam and bubbles to ensure proper volume detection. Sample and reagents must be at the bottom of the carrying vessel as a single aliquot to avoid misdetection.

Ensure your sample(s) or reagent(s) are not covered by any barrier when using on the device (e.g. remove foil seal before use).

Do not apply force to the Channel Arm. The arm is designed for automatic movement and should not be operated manually or used as a handle.

Interference between the plate magnet and the magnets in the gripper may alter the treatment of the samples.

Use of incompatible labware risks breaking the device, pipette arm collision, labware, and/or incorrect placement of labware during transport by the grippers.

The user is responsible for ensuring that the correct DiTi size is selected by the ElysION. An incorrect DiTi size may pipette the wrong volume; liquid may be aspirated into the pipette body and potentially causing irreparable damage to the pipette. Suboptimal sample preparation can result from errors in pipetting.

2. Safety

Overflow of the waste bin(s) may cause a collision with the XCA when disposing of DiTis. Used DiTis may be contaminated with biohazardous material, which may contaminate your work area.

Labware must be moved with compatible carriers that allow the access of the installed gripper fingers at the gripping point on the labware to transport the labware securely.

Labware must only be located in positions specified by on-screen instructions. Failure to do so may lead to mishandling of samples, damage to the instrument, and liquid spillage.

There is risk of metal (ferrous) objects becoming stuck on the top and bottom of the magnet if removed from the device. This can prevent the magnet or labware from staying level and prevent effective liquid handling, or risk collision of the pipette arm.

Sample contamination may occur when using the Thermoshake Air Conditioning (AC); the shaking speed, plate type, and sample volume must be selected for the application. If the plate type is incompatible with the Thermoshake (i.e. not ANSI/SLAS compliant), or the shaking speed is not set according to the specification, the shaker table may not fix the plate to the shaker accordingly and will cause risks of liquid spillages and/or damage to the shaker.

Assays may be degraded by the UVC light. Evaluate the impact of the UVC light on chemicals and labware intended for use.

When using the ElysION compute, data loss due to a hard drive failure is a risk. Back up important data regularly.

2.2.4. Emergencies and hazards: chemical, biological, physical, and mechanical

Structural change to the device(s) is forbidden.

Damage to the protective safety mechanism (such as the door lock or its sensors) must be replaced immediately as described in this manual. For example, the liquid handler door, any sensors, electrical connections, or anything mentioned in this manual that could cause a hazard should be replaced immediately (e.g. stop the use of the platform and do not use until fixed/replaced/serviced according to this manual).

There is a fire hazard caused by the improper use of the ElysION. The ElysION should not be installed in locations where there is a hazard of explosion.

Chemical, biological, and radioactive hazards occur from the substances, the samples, and/or reagents processed with the ElysION. The same applies to waste disposal of these materials and substances. Always be aware of hazards from these materials and substances.

Use appropriate protective clothing, safety goggles, and gloves.

Restrict access to the ARP pump if the pump heats up in error.

The ElysION is not a Biosafety Cabinet (BSC). Ensure all samples processed are inactivated and do not pose any potential risk of biohazard.

The handling of substances and the disposal of waste may be subject to local, state, and federal law, or to regulations regarding health, environment, or safety. Strictly observe these corresponding regulations.

2. Safety

Any contamination must be dealt with immediately as described in this manual.

There is a risk of burns when touching the heating elements of Thermoshake, CPAC, and Thermocycler modules, even after the device is shut down. If contact with the device is required, allow sufficient time for the heating element to cool to room temperature.

Do not heat the plate heater/cooler when the cooling block is mounted in error.

The ElysION magnetic plate contains strong neodymium magnets; these can be harmful to people with pacemakers and or other medical implants (such as, implantable cardioverter defibrillators, insulin pumps, or similar devices). These individuals must stay at least 30 cm away from the ElysION and its components. Keep tools and other metal objects away. Failure to follow this warning can result in serious injury.

In case of an emergency, the mains plug of the power supply unit must be disconnected from the mains power immediately.

Ensure access to the mains power supply and the connected ElysION component plug(s).

Ensure any cables that are to be plugged into the device(s) are not stretched. Taut cables pose electrical and physical risks to the user.

Only use the bundled power cable shipped with the ElysION. Do not use any cables other than the ones provided with the ElysION.

Do not use the bundled power cables sent with other products.

Do not use any detachable mains cable with inadequate power ratings for the mains power supply to the ElysION.

Do not reach into the OTDC 'disposable area' lid when opening or closing to avoid crushing fingers.

There is a risk of pinching fingers when the magnet plate contacts other magnetic plates, magnets, or metal objects. These can result in a collision risk or inhibited liquid handling accuracy.

There is a risk of pinching fingers when opening and closing the ElysION door. The ElysION should only be used by one person at a time, and the door should be closed using both hands outside the ElysION.

There is a risk of pinching fingers when opening and closing the waste drawer. The ElysION should only be operated by one user at a time, and the waste drawer should only be opened and closed using both hands.

The deck layout and the use of the UVC light will affect its decontamination efficiency. Decontamination efficiency needs to be validated for applications. Decontamination efficiency must be checked with only 60% of irradiation duration (for a new lamp) to simulate the end-of-life of the UV lamp.

For California residents only: This product can expose you to chemicals such as lead which is known to the State of California to cause cancer and birth defects or other reproductive harm. For more information go to: www.P65Warnings.ca.gov/product

2. Safety

2.3. Operating company: Oxford Nanopore Technologies plc

2.3.1. Responsibilities

Oxford Nanopore Technologies ensures that the ElysION and the safety features function properly and that all the personnel in contact with the instrument are adequately trained in:

- Method and process validation
- Defining the processes in compliance with the Standard Operating Procedures
- Ensuring that Installation and Operational Qualifications (IQ/OQs) have been completed
- Ensuring that all personnel in contact with the ElysION are adequately trained
- Ensuring the availability of appropriate protective clothing and equipment
- Ensuring the maintenance and safe operation of the ElysION
- Requiring adherence to laboratory safety regulations and directives

2.4. User qualification

The laboratory personnel must be fully qualified and trained to operate the ElysION. The work described in this operating manual must only be performed by authorised personnel with the qualifications prescribed below.

Laboratory personnel must:

- Have suitable technical training
- Be familiar with the laboratory safety regulations and directives
- Be familiar with the instructions for the safety elements of the instrument
- Use protective clothing and equipment
- Be familiar with and adhere to good laboratory practices
- Have read and understood the instructions in the operating manual

➔ Oxford Nanopore Technologies recommend that the operator attends an operator training course. Refer to section 'Customer support'.

2.4.1. Operator

The operator (lab technician) works for the operating company.

Required skills include:

- No specific application or system knowledge
- Command of local languages
- Command of English is preferable

The operator has application software access to run methods and perform system checks.

2. Safety

2.4.2. Key operator

The key operator (application specialist) supports the operating company or works for the same company.

Required skills include:

- Extensive application knowledge
- Limited system knowledge
- Command of local languages
- Command of English
- In-depth knowledge of the corresponding software manual

Responsibilities include:

- Instructing the operator
- Writing, running, and validating methods
- Helping the operator to solve problems with the instrument

The key operator has application software access to run methods and perform system checks.

2.5. Decontamination declaration

In addition to regular system care and in accord with standard laboratory regulations, the ElysION, its parts, and its accessories must be thoroughly decontaminated in the following circumstances:

- Before maintenance or service work is performed on the device and before an FSE works with the device
- In the event of an accident (e.g. crash, spillage, etc.)
- Before returning the device, its parts, or accessories to Oxford Nanopore Technologies and/or Tecan (e.g. for repair)
- Prior to storage
- Prior to disposal
- Before moving the device or its parts from its location

The owner of the instrument has full responsibility to decontaminate the equipment.

Before any intervention on the device by an FSE, and before returning the device, its parts, or its accessories to Oxford Nanopore Technologies, the owner of the instrument must complete and sign the Decontamination Declaration form, confirming that the decontamination has been performed in accordance with good laboratory practice. Contact your local service organisation to obtain this form and refer to section 'Decontamination'.

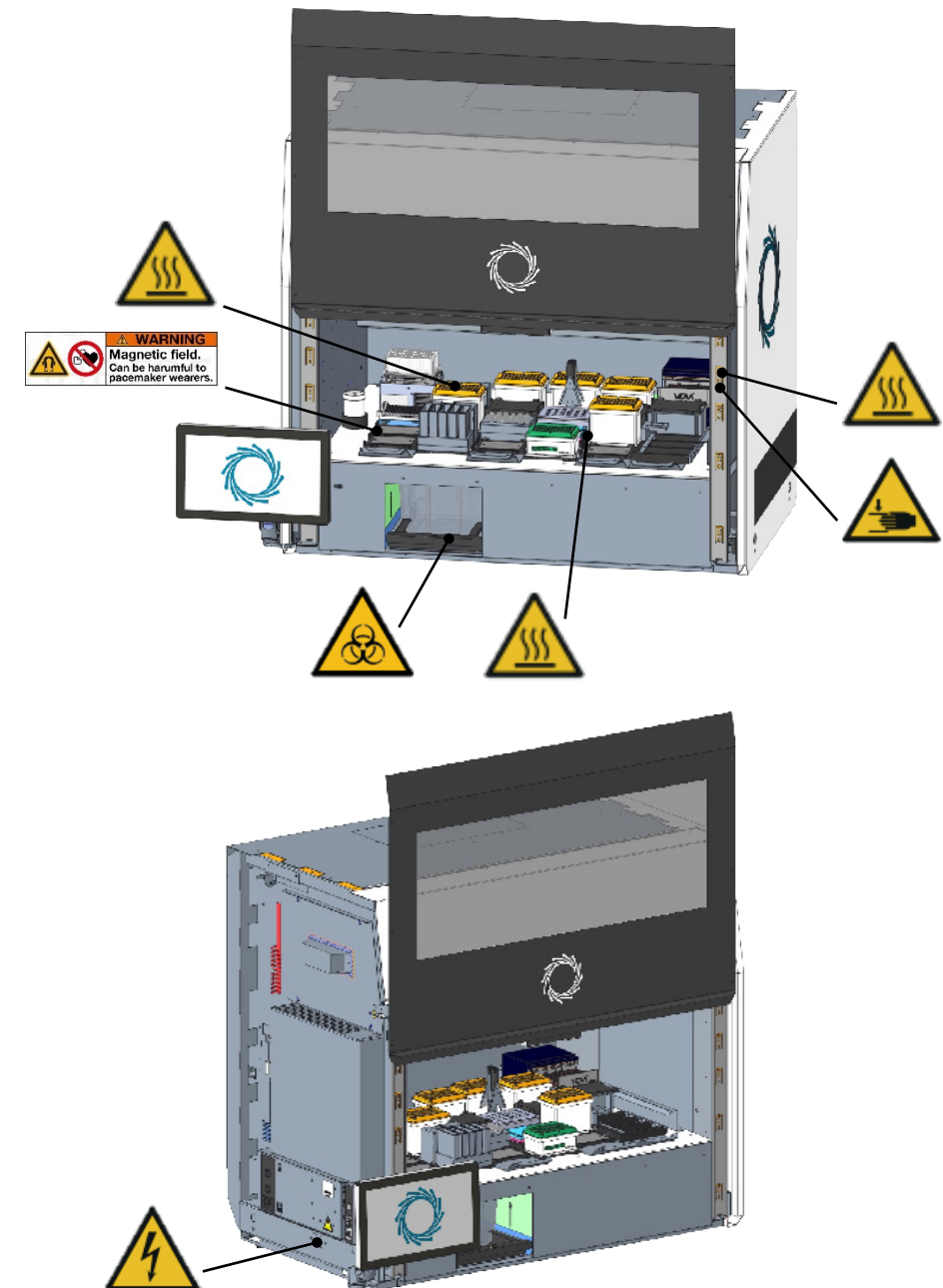


Tecan and Oxford Nanopore Technologies reserve the right to refuse to deal with any device, its parts, or its accessories that is not accompanied by the Decontamination Declaration form.

2. Safety






2.6. Product safety signs

- Safety signs are fixed to the ElysION for safety. Damaged, lost, or illegible safety signs must be replaced immediately. For safety symbols, refer to the 'Safety messages' section of this manual.



2. Safety

2.6.1. Product safety signs

Icon	Location	Message
	Thermoshake ODTC Inheco CPAC carrier	Temperature hazard Surfaces can reach high temperatures. Use caution before touching the surface.
	ODTC	Crushing hands warning Hazard to hands if you reach into the worktable while instrument components are moving.
	Waste drawer	Biohazard Hazard by opening the waste slide. Use gloves to remove the waste container. Avoid skin and eye contact after touching contaminated waste.
	Power supply	Electrical shock Potential hazard of electrical shock from compromising the power supply. Do not remove the instrument side panel nor open the power supply.
	Side of the Alpaqua MAGNUM FLX plate and on the worktable next to the Alpaqua plate.	Magnetic field hazard Magnetic fields can interfere with the proper functioning of cardiac pacemakers or surgically implanted medical devices. People entering magnetic fields should be carefully screened and should stay at least 30 cm (12 in) away from the device. Furthermore, these individuals should not move the magnetic plate and may be prohibited from accessing the device. Keep tools and objects that could be damaged by the magnetic field out of the working area. Avoid contact between two magnets. If contact is made, avoid pulling magnets apart. Twist magnets apart to prevent damage to unit and fingers.

2. Safety

2.7. Flammable liquids

To mitigate the risk of fire, the volumes of flammable liquids present at any time inside the instrument shall not exceed the volumes as provided in Table 2.7.1.

The provided volumes are only applicable in case only a single liquid type is used. In case multiple liquid types are used, the volumes need to be reduced proportionally.

- Example: if 15 ml of toluene are used (= 51.4% of allowance), only 29.6 ml of methanol can be used at the same time (= 48.6% of remaining allowance).

2.7.1. Volume limitations of flammable liquids

- The recent IEC 61010-1 standard stipulates to limit the maximum volumes of flammable liquids. The maximum volumes defined in Table 2.7.1 are considered safe for use in ElysION workflow settings. The volumes have been determined to stay below the lower explosive limit of the formed gas mixture inside the instrument in the event of a liquid spill followed by complete evaporation.
- **IMPORTANT:** Any amount exceeding Table 2.7.1 significantly increases the risk of fire and should not be used, processed, or stored within the instrument.

Maximum allowed volumes for various flammable liquids if used alone.

Liquid chemical	Maximum volume (ml)
Toluene	29.2
THF	31.3
DMSO	31.8
n-Hexane	31.9
Acetonitrile	38.4
Isopropanol	38.4
Ethanol	45.1
Acetone	46.2
Methanol	60.9
Dichloromethane	204.1

2.7.2. Restrictions

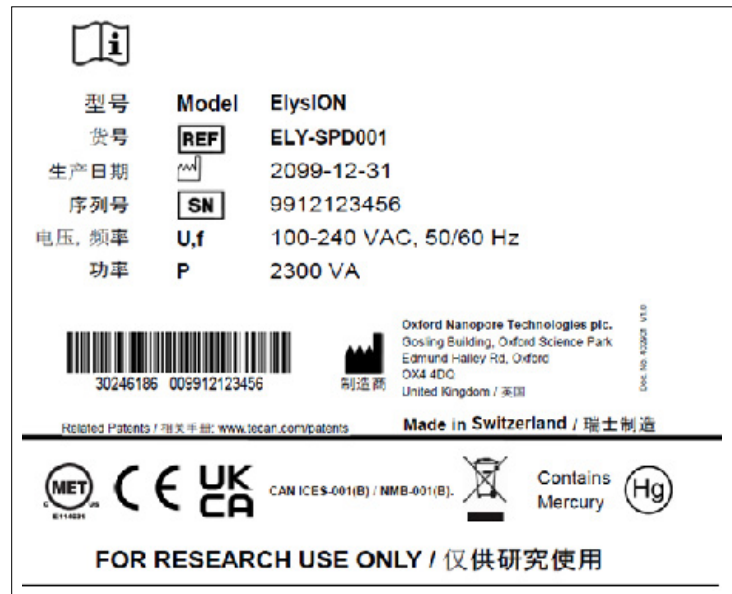
- **Operator compliance:** Operators must strictly adhere to the specified volume limit. Under no circumstance should an operator place or handle a volume of flammable liquid greater than those in Table 2.7.1.
- **Monitoring and enforcement:** It is the responsibility of the Safety Officer to regularly monitor the handling of flammable liquid and ensure compliance with these guidelines.

3. Technical information

Section 3 of this manual contains the technical instructions, specifications, and labelling needed to operate the ElysION and its components.

3.1. Type plate (label)

The following label is known as the 'type plate.' See the figure and Table 3.1.1. below for the information and how to interpret that information present on the 'type plate.'



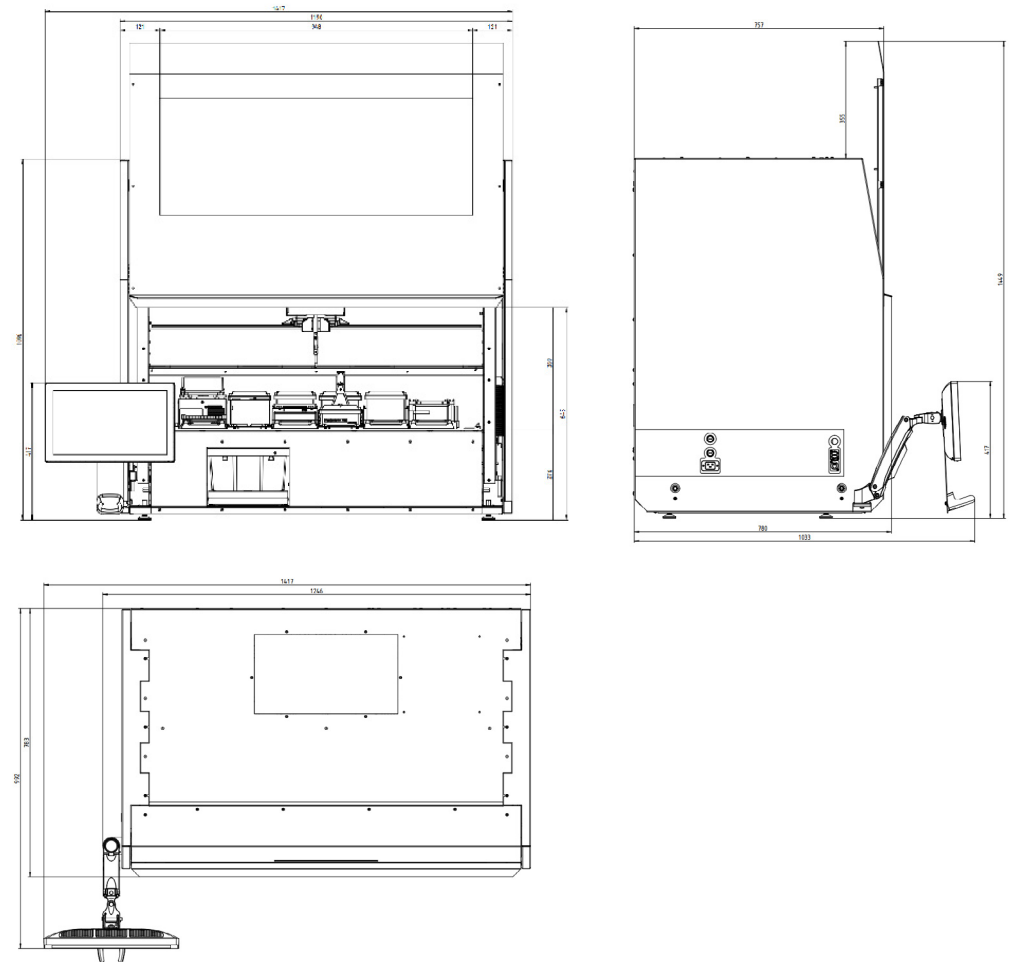
The 'type plate' is on the rear side of the device component and contains the following information:

Type plate description

Identification data	Model
	REF: Ordering information (material number and revision level)
	Date of manufacture (YYYYMMDD)
	SN: Serial number
Technical data	U, f: Supply voltage (Volts), frequency (Hertz)
Address data	Manufacturer's name and address
Conformity data	Conformity marking

3. Technical information

3.2. In-use dimensions and weights



Dimensions, ElysION Sample Preparation Device

Total height: 1,096 mm (43.15 in.) — with closed front safety panel

Total width: 1,190 mm (46.85 in.) — without touch screen

Total length: 783 mm (30.83 in.) — without touch screen

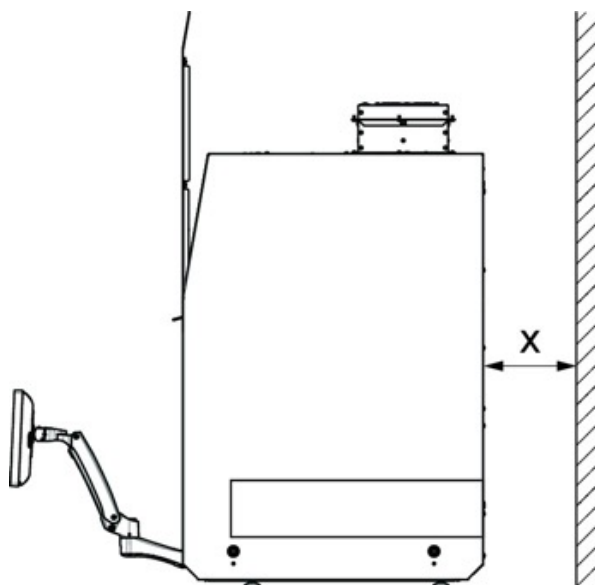
Note:

- The width increases by 332 mm (13.1 in.) with mounted carrying handles
- The total height increases by 360 mm (14.2 in.) with the front safety panel open. The total width increases by at least 227 mm (8.9 in.) with the touch screen. The total length increases by at least 224 mm (8.8 in.) by the touch screen
- **Note:** The weight below excludes the weight of the carrying handles; four handles weigh 2,052 g (4.52 lb.)

3. Technical information

Component	Dimensions Length (l) x width (w) x height (h)	Weight
ElysION	783 x 1,190 x 1,096 mm (30.8 x 46.9 x 43.1 in.)	243 kg (535.72 lb.)

3.2.1. Ventilation requirements:



Ventilation requirements

Minimum clearance (x) between instrument back and wall: ≥ 100 mm.

3. Technical information

3.3. Technical specifications

Specifications	ElysION Sample Preparation Device	ElysION MinION Control Unit	ElysION MinION Mk1D
Model Number	ELY-SPD001	ELY-MCU01	MIN-101D
Supply voltage (V)	200–240 AC \pm 10% (50/60 Hz)	200–240 AC \pm 10% (50/60 Hz)	5 DC
Maximum rated current (A)	10	10	1.5
Maximum rated power (VA or Watts [W])	2,300	750	7.5
Size (H x W x D) (mm)	1,096 (1,428 with door open) x 1,190 x 783	300 x 180 x 340	13 x 55 x 125
Weight (kg)	243	9	0.13
Installation ports	1 x Power socket 1 x Ethernet port 1 x USB-C 3.0 port	1 x Power socket 2 x HDMI port 6 x DisplayPort 2 x Ethernet port 4 x USB-A 2.0 port 1 x USB-C 3.0 port	1 x USB-C 3.0 port
Software installed	Windows 10 BotQL	Ubuntu 20.04 Sequencing Software	MinION driver
Compute specification	1 x Intel CPU 16 GB RAM 500 GB SSD storage	1 x Nvidia Ampere Series GPU 1 x Intel CPU (20-core) 64 GB RAM 6.7 TB SSD Storage	None
Environmental temperature	Functional range of electronics is within environmental temperatures of +5°C to +40°C	Functional range of electronics is within environmental temperatures of +5°C to +40°C	Functional range of electronics is within environmental temperatures of +5°C to +40°C
Humidity	Use within 30% to 60% relative non-condensing humidity limits	Use within 30% to 75% relative non-condensing humidity limits	Use within 30% to 75% relative non-condensing humidity limits
Sequencing temperature	Designed to sequence in environmental temperatures of +20°C to +27°C	N/A	Designed to sequence in environmental temperatures of +10°C to +35°C

3. Technical information

Specifications	ElysION Sample Preparation Device	ElysION MinION Control Unit	ElysION MinION Mk1D
Clearance	The user should maintain 10 cm clearance to all but the bottom face of the device	The user should maintain 30 cm clearance to all but the bottom face of the device	The user should maintain 5 cm clearance to all but the bottom face of the device
Altitude	Can be used up to altitudes of 2,000 m	Can be used up to altitudes of 2,000 m	Can be used up to altitudes of 2,000 m
Indoor use	Intended for indoor use	Intended for indoor use	Intended for indoor use
Pollution	The device has a Pollution Degree 2.	The device has a Pollution Degree 2.	The device has a Pollution Degree 2.
Overvoltage	This has an Overvoltage 2 category	This has an Overvoltage 2 category	This has an Overvoltage 2 category

3.4. Additional specifications: The ElysION Sample Preparation Device

3.4.1. Cable specifications

- **USB-C:** The USB cable must be rated 0.5 A or higher. The cable must not be longer than three meters.
- **RJ45:** The Ethernet cable must not be powered. The cable must be Cat 6, shielded, and not be longer than 30 meters.

3.4.2. Transport and storage specifications

Environmental type	Environmental range
Transport temperature	-20°C to +60°C
Storage temperature	+1°C to +60°C
Operating temperature	+20°C to +27°C
Operating humidity	30% to 60% relative (non-condensing)
Transport humidity	+20% to +80% relative (non-condensing)

3.5. Emissions and immunity: ElysION Sample Preparation Device

Model: Cavro Magni Flex 44A00-6G-XE

3.5.1. Noise emission

≤80 dBA (sound pressure), measured at 1 m from the instrument.

3. Technical information

Photobiological safety of lamps and lamp system

The device is tested according to Photobiology IEC 62471-1 standard.

3.5.2. Electromagnetic Compatibility (EMC)

The device complies with the emission and immunity requirements described in IEC 61326-1, FCC Part 15 and CISPR 11 Class A standard. However, the electromagnetic environment should be evaluated prior to the operation of the device. It is the operator's responsibility to ensure that a compatible electromagnetic environment for the device can be maintained in order that the device will perform as intended.

IC Compliance

This Class A digital apparatus meets all requirements of the Canadian Interference-Causing Equipment Regulations. «CAN ICES-001(B) / NMB-001(B)»

This equipment is designed for use in a basic electromagnetic environment. It is likely to perform incorrectly if used in an industrial electromagnetic environment. If it is suspected that performance is affected by electromagnetic interference, correct operation may be restored by increasing the distance between the equipment and the source of the interference.

Do not operate the device in close proximity RF sources (e.g., unshielded intentional RF sources), as these can interfere with the proper operation. Keep proximity magnetic sources (e.g. NFC, RFID) at least 10 cm away from the device.

3.6. The ElysION is for research use only

ElysION is not intended for use for health assessment or to diagnose, treat, mitigate, cure, or prevent any disease or condition.

3.7. IT and software requirements

ElysION is compatible with the following software packages:

ElysION software package:

- Sequencing Software
- BotQL



We strongly recommend the latest software version. For further information please consult the "Customer support" section.

3. Technical information

3.8. Specifications

3.8.1. Communication

Location	Type and rate
Internal communication	CAN2 * 500 kb/s CAN1 * 100 kb/s
To host	USB
Integrated modules communication	USB, COM, Ethernet

* Proprietary protocol

3.8.2. ARP pipetting precision

Volume	Coefficient of Variation (CV)
1 µl	≤5%
200 µl	≤2%
1,000 µl	≤2%

3.8.3. ElysION Sample Preparation Device modules

Module	Description
UVC light	UVC emitting lamp for decontamination of the inside of the instrument housing and work deck.
Integrated computer	The integrated computer option enables connectivity of the ElysION. Including an MS Windows Operating System, network port, and USB ports, this option can be equipped with the application software to operate the instrument.
Touch screen	The optional touch screen is an extension of the integrated computer and enables user interaction over the height adjustable touch screen.
Inheco Thermoshake AC	Compact 'all-in-one' heating, cooling, and shaking: unique heating and cooling, shaking solution with automated clamping for robotic integration.
Inheco CPAC	Compact cold plate air cooled heater/cooler.
Inheco on-deck thermal cycler	The ODTC is designed for use as an integrated thermal cycler in automated liquid handling workstations to heat and cool labware with biological or chemical samples.

3. Technical information

3.8.4. Maximum load weight

Gripper type	Load weight
DiTi XCG-1	400 g (0.88 lb.)

3.8.5. Software and programming

Type	Operating system
Required OS	Windows 10
Offered	Windows 10

4. Function

4.1. The ElysION

The ElysION is a comprehensive modular device designed to automate the sample extraction, library preparation, and sequencing using the Tecan liquid handling system and Oxford Nanopore Technologies MinION sequencing device.

Oxford Nanopore Technologies devices are electronic preparation and analysis systems for use in scientific research. The core technology is built around a nanopore that can detect single-molecule events including nucleic acids (DNA/RNA), proteins, and small molecules.

Key benefits:

- **Low barrier to entry, sample-to-answer:** The ElysION offers fully automated end-to-end solutions from sample input to sequencing, requiring minimal human interaction
- **Adaptable and scalable:** The device offers a range of sample input options, allowing for high throughput and scalability for the users' requirements
- **Reproducible and reliable:** The fully automated process ensures highest levels of reproducibility, reducing human error and minimising risk

4.2. Components

4.2.1. Overview

The ElysION requires three components to perform the end-to-end workflows. The three sub-component units of a complete ElysION set-up are:

- The ElysION Sample Preparation Device (e.g. the ElysION liquid handler)
- The compute control unit (e.g. the ElysION MinION Control Unit)
- The MinION Mk1D

4.3. The ElysION Sample Preparation Device (ELY-SPD001)

The ElysION Sample Preparation Device is a robot that pipettes, mixes, dispenses, and wastes liquid that can be in or go into a variety of vessels (tubes, plates, bins, etc.) to allow a biological sample to be processed from extraction to DNA/RNA sequencing. The ElysION Sample Preparation Device has an integrated MinION Mk1D, which can be loaded by the automated liquid handling arms of the robot. The ElysION Sample Preparation Device controls and performs all steps of preparing the DNA/RNA for the sequencing and is considered the central unit of the ElysION.

This section explains the basic principle of the ElysION, shows how it is structured, and gives a functional description of the components.

4. Function

4.3.1. Labware and nests

The following table lists the recommended labware and consumables that should be used with the ElysION.

Component	Type
Microplate	SBS Format, 96 well MTP, e.g. Hard-Shell 96-Well PCR Plates, low profile, thin wall, skirted, blue/clear #HSP9631
DeepWell plate	SBS Format, 96 well DWP, e.g. Nunc 96-Well Polypropylene DeepWell Sample Processing & Storage Plates with Shared-Wall Technology #95040452 Remark: Plate movement reliability validation
Tubes	Sarstedt microtubes 2ml with screw caps screen printed #72-694-006 Sarstedt X1000 Screwcap microtubes, 0.5 ml with skirted base #72.730.106
Pipette tips	ElysION Disposable Tips — 1,000 µl — 24 Boxes of 96, ELY-TIP1000 ElysION Disposable Tips — 200 µl — 24 Boxes of 96, ELY-TIP0200 ElysION Disposable Tips — 50 µl — 24 Boxes of 96, ELY-TIP0050 ElysION Disposable Tips — 10 µl — 24 Boxes of 96, ELY-TIP0010
Refillable tip boxes	ElysION Disposable Tips Box Small — Box of 10, ELY-TBS01 ElysION Disposable Tips Box Large — Box of 10, ELY-TBL01
Waste bins	ElysION Waste Bin — Box of 36, ELY-WB01

4.3.2. DiTi drop station

An ElysION equipped with an ARP requires the installation of a DiTi drop station on the worktable. For each DiTi drop station, a mounting frame is fixed on the worktable. The DiTi drop station itself can be removed for maintenance purpose by pushing it to the back and lifting it out of the frame. For each DiTi drop station, a waste bin must be placed in the waste drawer at sub worktable level to collect the used DiTi.

Note: Do not unscrew the mounting frame of the DiTi drop station.

4.4. Operating and display elements: ElysION Sample Preparation Device

4.4.1. Mains power input

The mains power input of the ElysION is protected by two 15 A fuses.

English disclaimer:

Only use the bundled power cable set with this product, which is rated 15 A or higher. Do not use the bundled power cable set with other products.

4. Function

Japanese disclaimer:

「製品には、同梱された電源コードセットを使用すること」及び「同梱された電源コードセットは、他の製品に使用しないこと」

Note: The operator must not exchange fuses.

The ElysION must be connected to a grounded power source using an approved power cable with grounding conductor. Always use a power cable rated 15 A or higher.

IMPORTANT
IN CASE OF EMERGENCY:
ELECTRICAL: REMOVE MAINS POWER
CHEMICAL: REVIEW COSHH PROCEDURES
BIOHAZARD: REVIEW SDS

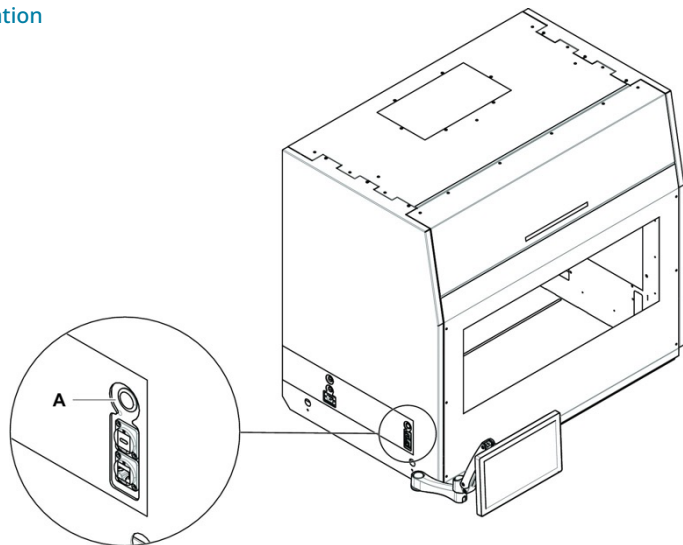
4.4.2. Power button

Location:

The power button (A) of the ElysION is located on the left-hand side of the instrument.

i In case of emergency, the disconnection of the power must be done by unplugging the power cable. Ensure that the power cable is always reachable.

Power button location

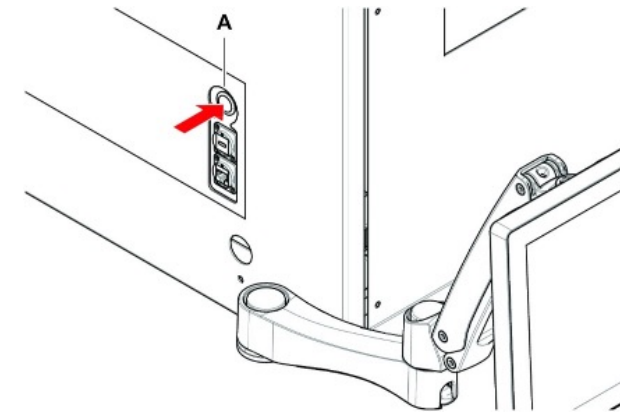


4. Function

4.4.3. Operating the ElysION

Powering on:

1. Switch on the power by pressing the power button (A).

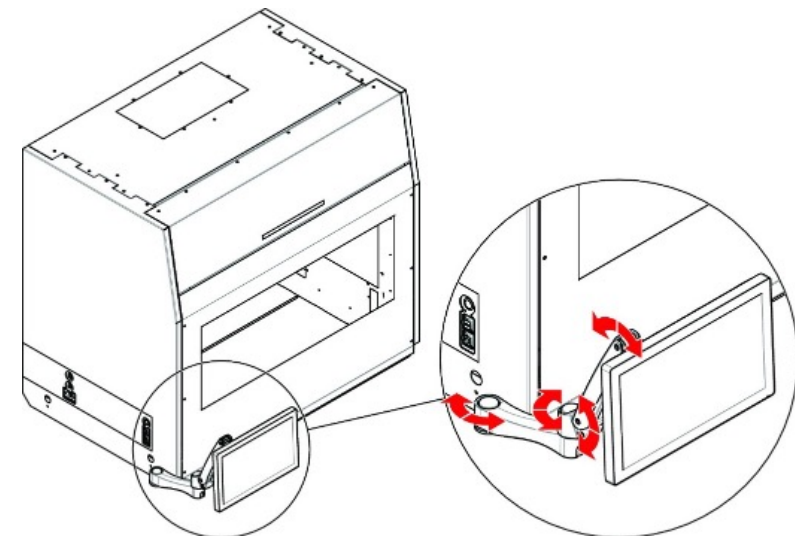


Powering off:

1. Switch off the ElysION by exiting the application/shutting down Windows OS via the touch screen.
2. For a forced shut down, press the power button (A) for 5 seconds to shut down the instrument and the optional computer.

4.4.4. Adjusting the touch screen

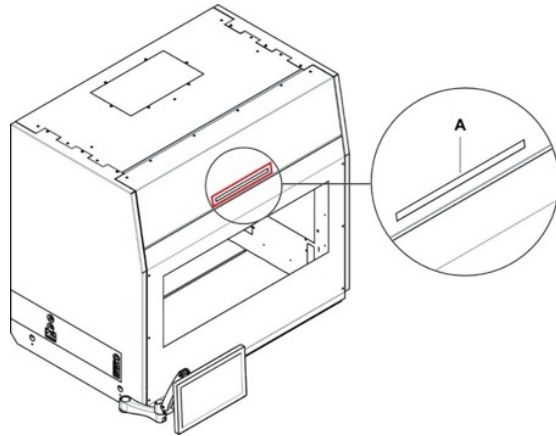
The touch screen can be adjusted for comfort using the hinges displayed below:



4. Function

4.4.5. Status LED

Above the housing opening there is an LED bar (A) showing the current status of instrument and the application software.



Note: Refer to the application software for the LED status.

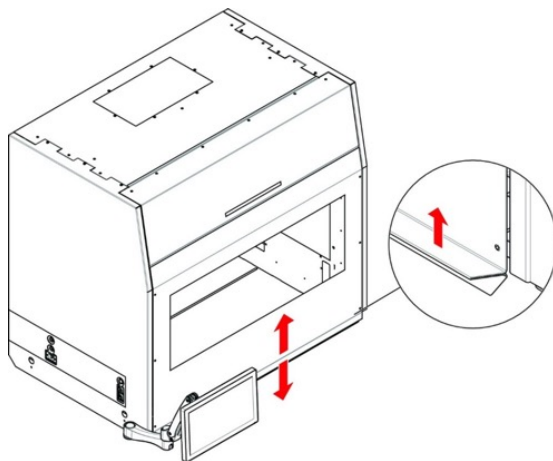
4.4.6. Opening the front safety panel

IMPORTANT

ONE-PERSON OPERATION AT A TIME. USE BOTH HANDS TO OPEN THE DOOR AS BELOW.

To open the front safety panel, the door lock is disengaged either by the application (e.g. at the end of a sequencing run) or after the instrument has been switched off. Then, the front safety panel can be elevated holding the rail at its bottom end. Keep your fingers away from the lower rail when lowering the front safety panel to prevent crushing fingers.

The front safety panel is monitored by a door sensor.



4. Function

4.4.7. Opening the waste drawer

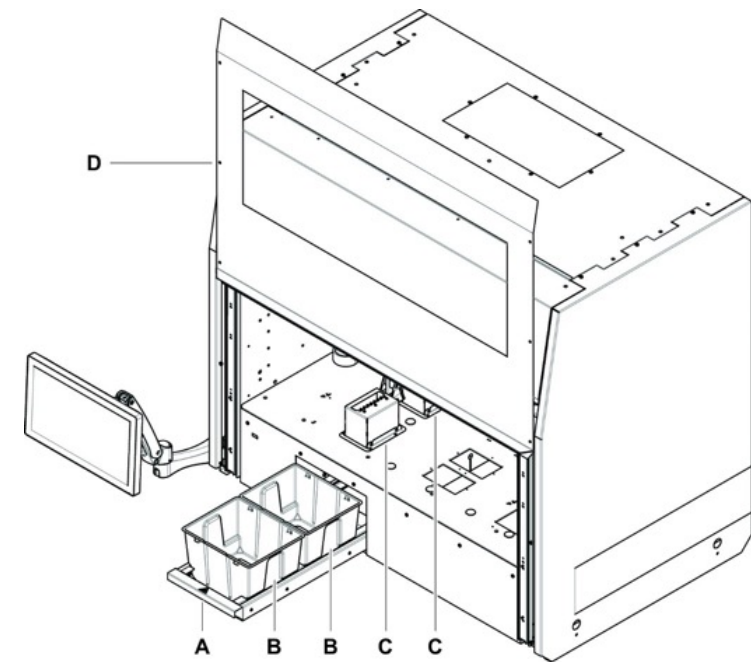
The waste drawer can host up to two waste bins to collect used DiTis. The waste bin is single use and can be disposed together with the DiTis. For disposal, refer to local regulations. Autoclaving before disposal reduces the risk of biohazard.

The waste bin must be exchanged according to the instruction of the application software.

NOTICE

Do not operate the instrument without waste bins inserted.

Used DiTis might contaminate the waste drawer.



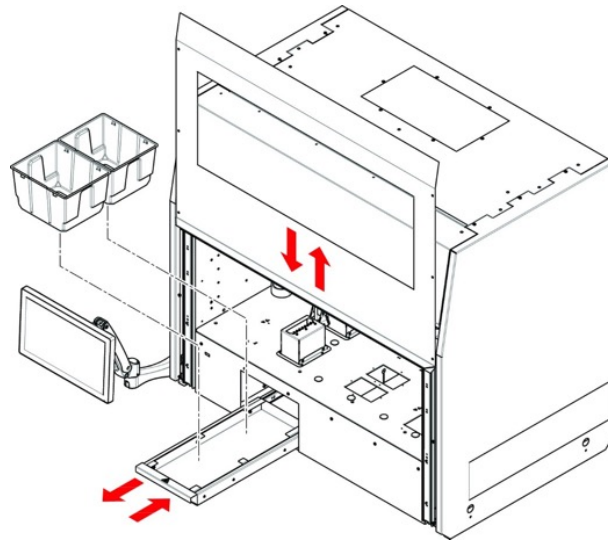
A Waste drawer B Waste bin
C DiTi drop station D Front safety panel

4. Function

4.4.8. Exchanging the waste bin

Ensure the application has released the door lock or the liquid handler is switched off.

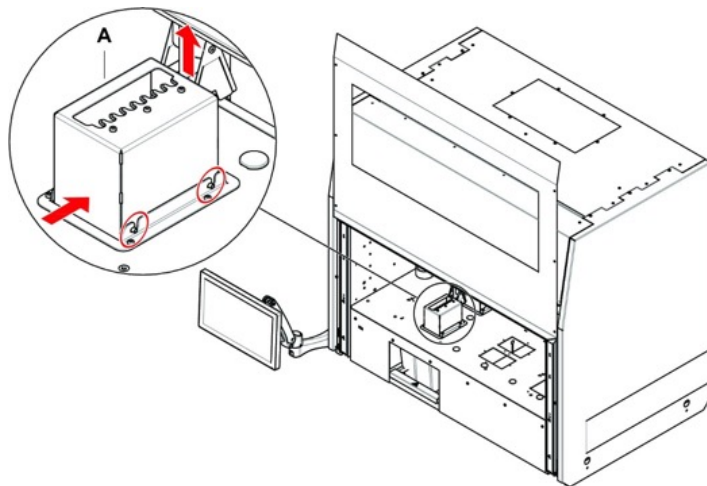
1. Lift the front safety panel.
2. Pull out the waste drawer.
3. Remove the waste bin(s).
4. Insert new waste bin(s).
5. Push the waste drawer back fully.
6. Lower the front safety panel.



4.4.9. DiTi drop station

Removal:

1. Push the DiTi drop station (A) slightly towards the rear of the liquid handler.
2. Lift the DiTi drop station and remove it.



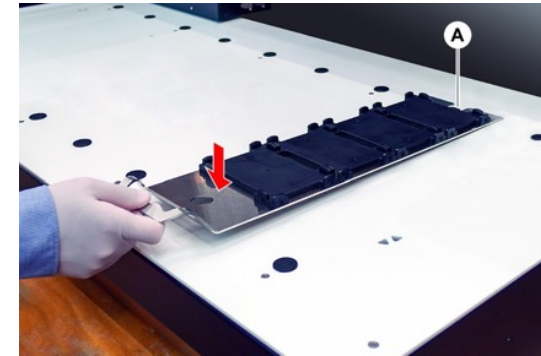
Installation:

1. Lower the DiTi drop station into its base frame. Ensure that the four pins are fully inserted in the corresponding recesses.
2. Pull the DiTi drop station towards the front of the liquid handler until the pins are fully engaged.

4. Function

4.4.10. Placing a carrier

1. Engage the carrier's notch (A) to the desired rear positioning pin.
2. Lower the carrier's front and engage the carrier to the front positioning pin.



4.4.11. Removing a carrier

1. Pull the carrier upwards to detach it from the positioning pins.

4.5. The MinION Control Unit (ELY-MCU01)

The MinION Control Unit is an example Compute Unit sold with the ElysION that provides above standard compute requirements for operating and servicing the MinION Mk1D.

The MinION Control Unit has the Sequencing Software installed, which runs the integrated MinION on the ElysION Sample Preparation Device worktable. The Compute Unit is connected to the ElysION Sample Preparation Device via an Ethernet cable, which allows data transfer to and from the MinION, enabling control and data storage of sequencing files produced. The compute also runs downstream analysis of basecalled data to provide sample-to-answer solutions using the latest bioinformatic workflows, which are integrated into the Sequencing Software.

The ElysION Sample Preparation Device integrates the MinION Mk1D nanopore sequencer into the end-to-end process. The MinION Control Unit services the MinION Mk1D by having the Linux Operating System to run the Oxford Nanopore Sequencing Software. The Sequencing Software controls the MinION, whilst the Dorado basecaller, within the Sequencing Software, converts per-base current changes from the nanopore into a genetic sequence. The MinION Control Unit has 6.7 Tb of data storage to save sequencing files produced during the assay.

The ElysION MinION Control Unit is an example of a Compute Unit that can be used to operate the MinION Mk1D alongside the ElysION Sample Preparation Device.

4. Function

4.5.1. Powering on

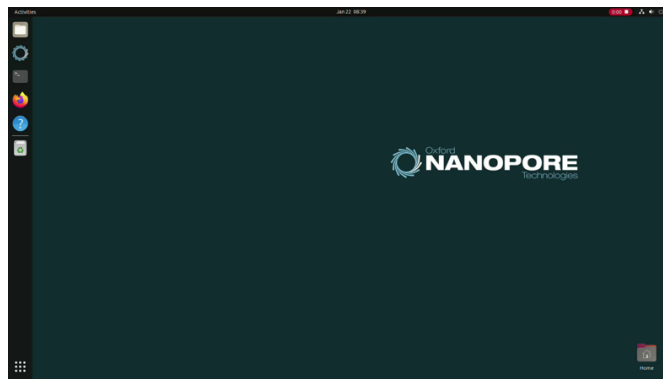
1. Press the power button on the front of the MinION Control Unit to power on the compute.
Wait ~30 seconds until you arrive at a login screen.

4.5.2. Log in

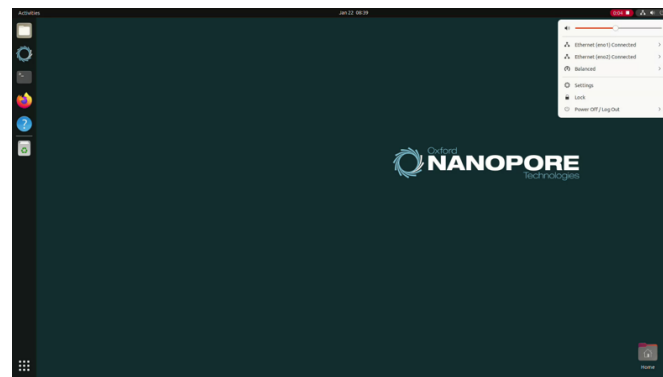
1. Log in to the MinION Control Unit with the password: **prom**

4.5.3. Powering off

1. Click on the power icon in the top right corner of the home screen.



2. Click **Power Off/Log Out** in the drop-down menu.



3. Click **Power Off**. Wait until the LED lights on the compute turn off to ensure the MinION Control Unit is fully powered off.

4. Function

4.6. The ElysION MinION Mk1D

The MinION Mk1D is a single MinION Flow Cell sequencer. See the Nanopore Community all the documentation you require for your integrated MinION Mk1D:

nanoporetech.com/documentation

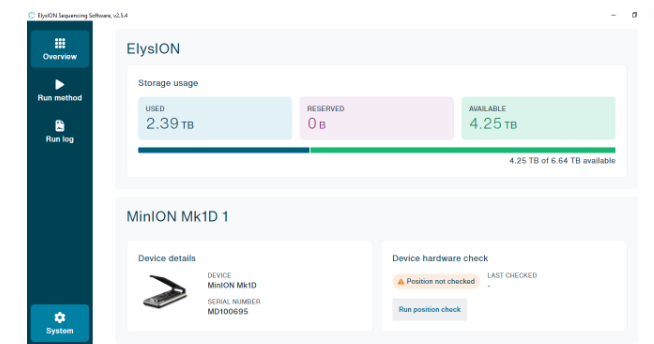
4.6.1. Position check

You are advised to perform a position check on your MinION Mk1D using the white Configuration Test Cell, Compute Unit, and its Sequencing Software whenever the components:

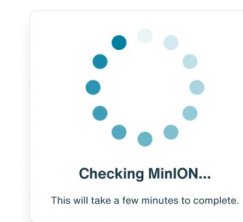
- Have their software updated
- Have been moved, relocated, reinstalled, or significant changes to the environment have occurred
- Have been disconnected and reconnected (between the MinION Mk1D and the Compute Unit)
- Have significant disturbance or disruption

Use the following instructions to perform a position check on your MinION Flow Cell position.

1. Open your Sequencing Software from the home screen.
2. Log in to your Sequencing Software using your Oxford Nanopore account credentials if you have not already done so.
3. Click **System** in the side bar on the left, then click **Device information**.
4. Click **Run position check** to start the position check for your flow cell position.

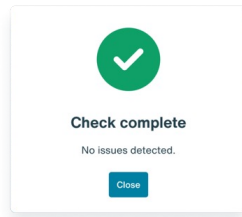


Note: The following progress wheel indicates that the position check is underway.



4. Function

5. A successful position check is highlighted with a tick.



6. If the position check fails, repeat the Position check by clicking Run position check.

Note: If the position check fails, contact the Oxford Nanopore Technical Support team via the fast-track route or support@nanoporetech.com

5. Maintenance and repair

IMPORTANT
TURN OFF THE ELYSION LIQUID HANDLER BEFORE ANY MAINTENANCE OR REPAIR (E.G. DECONTAMINATION).

5.1. Decontamination

- Decontamination, according to standard laboratory regulations, is required under the circumstances listed in section 'Decontamination declaration'.

WARNING

5.1.1. Contamination

Substance residues on the ElysION can cause personal injury and affect the integrity of the ElysION when used.

Decontaminate the ElysION, its components, and accessories before the user resumes use and operation of the ElysION.

The decontamination method must be defined by the key operator based on the type of contaminant and degree of contamination. Guidance on the selection of decontamination agents and application modes is provided in this section.

5.1.2. Cleaning agent specifications

Special cleaning agents are required for system care. All the recommended cleaning agents have been carefully selected and tested.

NOTICE

There is no guarantee for the effectiveness of cleaning agents and chemical compatibility if other cleaning agents than those recommended are used.

- Only use cleaning agents recommended by Tecan and Oxford Nanopore Technologies.
- Cleaning agents are defined for each specific use in the system care tables. Do not use cleaning agents if not specified for use in a specific task

5. Maintenance and repair

The following table specifies the cleaning agents referred to in this manual:

Cleaning agent	Specification
DI water	Distilled or deionised water
Alcohol	70% ethanol or 100% isopropanol (2-propanol)
Weak detergent	Liqui-Nox
Disinfectant	Bacillol plus, Bomix, Lysetol FF
System liquid	Distilled or deionised water
Base	0.025–0.25 mol/l NaOH
Bleach	6% sodium hypochlorite
RNAse Away Decontamination Reagent	Alkali hydroxide <0.1%

5.2. Maintenance schedule

To ensure optimum performance and reliability, perform the maintenance and cleaning tasks as recommended.

5.2.1. Daily maintenance

The following preventive maintenance tasks must be performed at the end of each day:

Component	Task	Reference
Waste bin	Empty and decontaminate waste bin with 70% ethanol or replace the waste bin with a new one	➔ Refer to section 'Cleaning the DiTi drop station and the waste drawer'

5.2.2. Weekly maintenance

The following preventive maintenance tasks must be performed at the end of each week:

Component	Task	Reference
XEBU	Clean the waste drawer	➔ Refer to section 'Cleaning agent specifications'
	Rinse the DiTi drop station with 70% ethanol	➔ Refer to section 'Cleaning the DiTi drop station and the waste drawer'
	Clean the touch screen with <70% ethanol	➔ Refer to section 'Cleaning agent specifications'

5. Maintenance and repair

5.2.3. Monthly maintenance

The following preventive maintenance tasks must be performed at the end of each month:

Component	Task	Reference
XEBU	Clean the waste drawer	➔ Refer to section 'Cleaning agent specifications'
	Rinse the DiTi drop station with 70% ethanol	➔ Refer to section 'Cleaning the DiTi drop station and the waste drawer'
	Clean the touch screen with <70% ethanol	➔ Refer to section 'Cleaning agent specifications'
	Clean the UVC light with <70% ethanol using a lint-free, non-abrasive tissue	➔ Refer to section 'Cleaning agent specifications'
XCA	Clean the arm housing with 70% ethanol	➔ Refer to the section 'Cleaning the XCA'
ARP	Clean the pipetting unit housing with 70% ethanol.	➔ Refer to the section 'Cleaning the ARP'
DiTi adapter	Check that the adapter is firmly screwed into the cLLD isolation block	➔ Refer to the section 'DiTi Cone'
XCG	Clean with 70% ethanol	➔ Refer to the section 'Cleaning the XCG'

5.2.4. Quarterly maintenance

The following preventive maintenance tasks must be performed every three months:

Component	Task	Reference
Inheco Thermoshake	Refill Thermoshake cooling liquid	➔ Refer to section 'Refill the Thermoshake'

5.2.5. Biannual maintenance

The following preventive maintenance tasks must be performed every six months or whenever an appropriate software prompt occurs:

Component	Task	Reference
Dehumidifier	Exchange	➔ Refer to section 'Dehumidifier'

5.2.6. Five-year maintenance

Following preventive maintenance tasks must be performed every five years or after 20,000 gripper pick-ups (whichever comes first):

Component	Task	Reference
XCG	Exchange the gripper.	➔ Refer to section 'Replacing the Gripper'

5. Maintenance and repair

5.3. Maintenance tasks

5.3.1. Cleaning the XCA

Gently wipe the XCA with a lint-free tissue impregnated with the appropriate cleaning agent.

5.3.2. Cleaning the ARP

Gently wipe the pipetting unit housing of the ARP with a lint-free tissue impregnated with the appropriate cleaning agent.

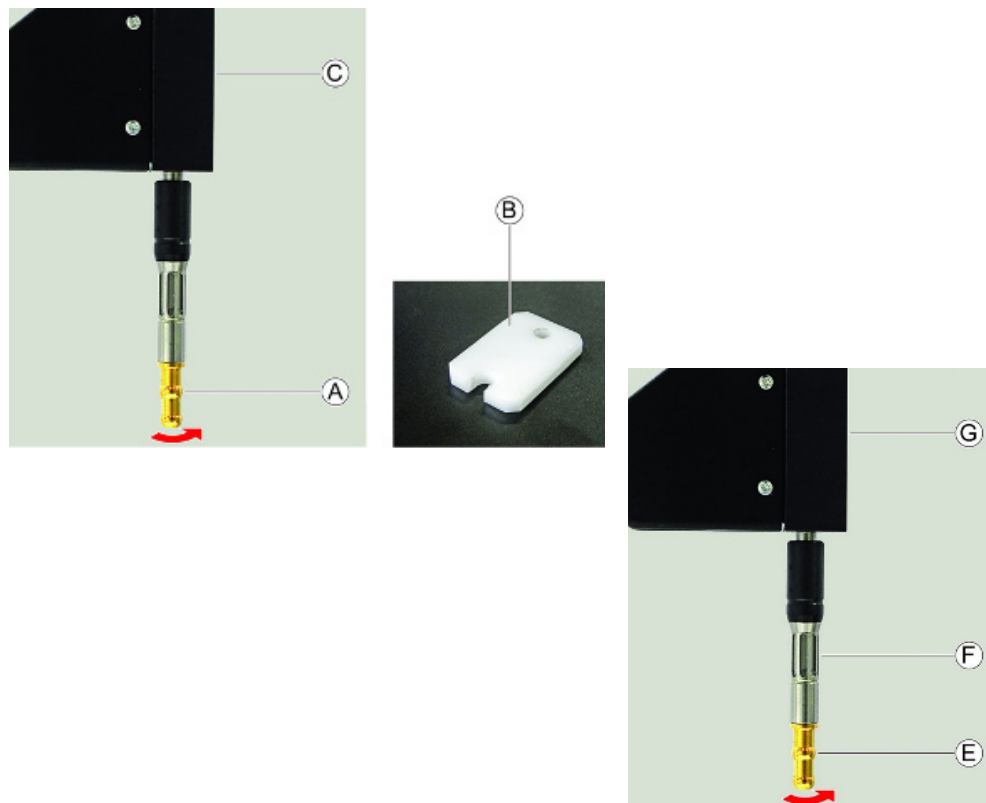
5.4. DiTi cone

Note: The DiTi cone must be handled with great care. Avoid any contact between cones and metal parts.

5.4.1. Check the DiTi cone

1. Check that the DiTi cone is tightly screwed.
2. If needed, screw the DiTi cone (A) with the wrench (B) while holding the cLLD insulation block (C).

Note: There must be no visible gap between the cone and the adapter.



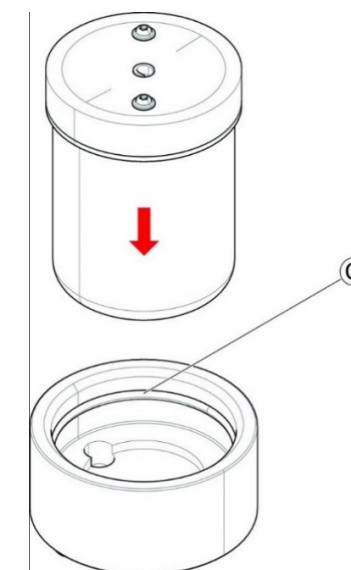
5. Maintenance and repair

5.5. Dehumidifier

5.5.1. Exchanging the dehumidifier



1. Pull the dehumidifier (A) straight out of its support (B).
2. Remove any dirt present in the support and ensure that the cap of the new dehumidifier cartridge is closed tightly.
3. Ensure that the O-ring (C) is correctly placed in the support groove, then insert the new dehumidifier into its support.



5. Maintenance and repair

5.5.2. Cleaning the XCG

Gently wipe the XCG with a lint-free tissue impregnated with the appropriate cleaning agent.

Note: Do not soak the tissue or XCG with the cleansing agent.

5.5.3. Replacing the gripper

1. Remove the grippers from the XCG station.
2. Dock the grippers on the XCG station.
3. Verify the gripper function with the MAPlinx Setup Software.

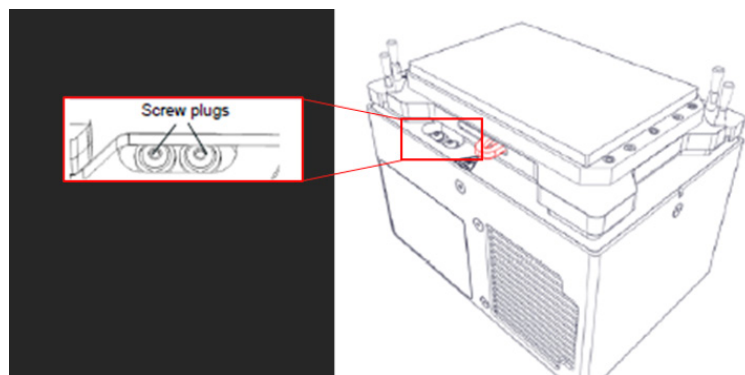
5.5.4. Cleaning the DiTi drop station and the waste drawer

1. Pull out the waste drawer and remove the waste bin(s) with the used DiTis, contaminated bin(s), and DiTis and, if required, autoclave these waste materials before disposal.
2. Remove the drop station(s) and clean the surface with suitable cleaning solution (e.g. 70% ethanol).
3. If necessary, autoclave the drop station(s).
4. Clean the drop comb(s) with a lint-free tissue impregnated with cleaning alcohol or 70% ethanol.
5. Clean the golden DiTi cones with a lint-free tissue impregnated by cleaning alcohol.
6. Fully re-insert the drop station(s).
7. Place empty waste bin(s) in the waste drawer.
8. Push the waste drawer back.

Note: Ensure the waste drawer is fully pushed back into the recess of the liquid handler.

5.4.5. Refill the Thermoshake

1. Switch off the power to the device.
2. Unplug the device from the mains power.
3. Loosen the screw plugs of the cooling fluid reservoir.



4. Fill the reservoir with the injection syringe delivered with the Thermoshake AC until the liquid is visible in the filling nozzle.
5. Insert the needle of the empty syringe as deeply as possible into the filling nozzle and extract as much of the fluid as possible.
6. Close the reservoir with the screw plugs including the seal ring of the cooling fluid reservoir.
7. Plug device into mains power.

6. Troubleshooting

Consult Section 6 for help on resuming operation after a problem has occurred with the ElysION.

➔ For further information or, in the event of problems not covered in this manual, or in insufficient detail, please consult the "Customer support" section.

6.1. Troubleshooting tables

6.1.1. Base Unit (XEBU) troubleshooting

Symptom	Possible cause	Corrective measures
No reaction by the ElysION (Remains static/the touchscreen is unresponsive)	Communication error.	Switch off the ElysION for 30 seconds, then switch it back on.

6.1.2. Channel Arm (XCA) troubleshooting

Symptom	Possible cause	Corrective measures
Communication error	Power is not ON. Power or communication is interrupted.	Switch off the instrument. Switch off the PC (external PC only). Check cable and plugs. Switch on the instrument and the PC. Contact support@nanoporetech.com for help.
X-, Y- or Z- drive is physically blocked	Blocking of the XCA.	Move the XCA manually out of the crash position and remove obstacle.
Initialisation error (The arm cannot be initialised [due to unresponsiveness to commands from the user])	Blocking of the XCA.	Check for obstacles. Ensure that the arm can move freely.

6. Troubleshooting

6.1.3. Air Restriction Pipettor (ARP) troubleshooting

Run the ARP functional test from the MAPlinx Setup Software after each troubleshooting run.

Symptom	Possible cause	Corrective measures
Disposable tip not fetched	Insufficiently tightened DiTi cone.	Check the DiTi box is placed correctly. Tighten the DiTi cone. ➔ (Refer to "DiTi Cone")
Disposable tip not discarded	Insufficiently tightened DiTi cone.	Tighten the DiTi cone. ➔ (Refer to "DiTi Cone")
Disposable tip drips	Dirty DiTi cone causes leakage.	Clean the DiTi cone. Tighten the DiTi cone. ➔ (Refer to "DiTi Cone")
High humidity in the dehumidifier (software error message)	Humidity level in the dehumidifier is too high.	Exchange the dehumidifier. ➔ (Refer to "Dehumidifier")

7. Shutdown, transport, storage, and disposal

7.1. Preventive notice

 Refer to 'Technical information' for more information on environmental conditions.

NOTICE









7.1.1. Prevent damage by unqualified or unauthorised personnel

Packing, unpacking, transport, and storage of the device should only be performed by Tecan or Oxford Nanopore Technologies personnel, or by personnel authorised by Tecan or Oxford Nanopore Technologies.

➔ For more information consult "Customer support".

7.1.2. Packaging labels

Correct and complete marking of packaging helps to prevent incorrect handling, accidents, incorrect delivery, loss of weight, and damage during storage.

Symbol	Meaning	Description
	Caution: Read instructions	Ensure instructions are read and followed for item storage, transport, delivery, installation, and use.
	Recycle	The packaging material can be recycled. Do not dispose of as domestic waste. Information on the material used for this packaging is provided beneath the symbol.
	This side up	Ensure that the package is transported and stored with the top side, indicated by the arrows, uppermost. Do not topple over.
	Keep dry	Ensure that the package does not get wet during transport and storage.
	Fragile	Handle the package with care. There are fragile goods inside.
	Keep away from sunlight	Ensure that the package will not be exposed to heat during transport and storage. Protect against strong sunlight.
	Do not stack	Do not stack packages. The package is not designed to carry extra weight.
	Do not use if damaged	Do not use device if the device or packaging shows evidence of damage.

7. Shutdown, transport, storage, and disposal

7.2. Disposal and recycling instructions

This section includes regulatory information about recycling that must be followed.

NOTICE


7.2.1. Recycling in accordance with applicable legal regulations.

Observe the laws applicable in your country for recycling.


7.2.2. Local requirements for the European Union

The European Commission has released the Directive on Waste Electrical and Electronic Equipment (WEEE; 2012/19/EU).

Since August 2005, producers have been responsible for taking back and recycling electrical and electronic equipment.

Marking	Description
	<p>There are negative environmental impacts associated with the treatment of this waste.</p> <ul style="list-style-type: none">• Do not treat electrical and electronic equipment as unsorted municipal waste• Collect waste electrical and electronic equipment separately

7.2.3. Other requirements

Marking	Description
	<p>This lamp contains mercury.</p> <ul style="list-style-type: none">• Recycle or dispose of as required by applicable local laws

7. Shutdown, transport, storage, and disposal

7.2.4. Oxford Nanopore Technologies product returns, recycling, and disposal

CAUTION:

When returning devices, ensure that the devices and/or flow cells are fully decontaminated and do not present any health risk to Oxford Nanopore staff.

Used plasticware, such as reagents, tubes, and pipette tips, must be collected and disposed of properly in accordance with local waste regulations and laboratory procedures.

The flow cell buffer, the sample preparation kit buffers, and wash kit buffers must not be mixed in ways other than those stated in the user protocols and must be kept away from strong acids, alkalis, and oxidisers.

The flow cell buffer, wash kit buffers, and sample preparation kit buffers must be disposed of according to the local waste regulations.

The Terms and Conditions for the use of an Oxford Nanopore Technologies device stipulate any flow cells that have been used with, or otherwise been in contact with, materials of agents above ACDP hazard group 2 and/or handled within CL3 or above laboratories must not be returned. The sequencing device shall be decontaminated before decommissioning, and all local regulations for electronic and electrical waste shall be followed regarding disposal of the components if they are not being returned to Oxford Nanopore Technologies.

The device shall be decontaminated before decommissioning, and all local regulations for electronic and electrical waste shall be followed regarding disposal of the components if they are not being returned to Oxford Nanopore Technologies.

ADVISORY:

Visit community.nanoporetech.com/support/returns/flow_cells for information on how to return your used flow cells.

When returning devices to Oxford Nanopore Technologies, visit community.nanoporetech.com/support/returns follow the instructions provided.

8. Spare parts and accessories

Section 8 lists spare parts and accessories that are needed for maintenance and repair of the ElysION, including their ordering information.

8.1. Spare parts

8.1.1. How to order spare parts

- Look up the ordering information in the tables.
- Order the parts from Oxford Nanopore Technologies.
- ➔ Refer to 'Customer support'.

i This section only contains spare parts that can be replaced by the operator. To order spare parts other than listed here, please consult 'Customer support'.

8.1.2. Spare parts list

Text description	Part/item number	Label designation
Channel Gripper DiTi (XCG-DT-1)	30143387	SET GRIPPER DITI XCG-1 SP
Set of 4 DiTi cones	30172595	SET DITI CONE ARP 4PCS SP
Inlet filter	30066883	INLINE FILTER AIR LIHA
Dehumidifier	30164606	DEHUMIDIFICATION UNIT ASSY ARP SP
Waste bin	30185747	WASTE BIN 36 PCE
Sarstedt adapter	30245506	ADAPTER SARSTEDT 2ML 24POS
Sequencer cover with triangle	30238702	FRAME POSITIONING MINION FLOWCELL ASSY
Valve opener	30238610	OPENER VALVE MINION

8.2. Accessories

Text description	Part/item number	Label designation
Power Cable EU	30188551	CORD POWER EU BLACK 2M 16A
Power Cable CH	30188550	CORD POWER CH BLACK 2M 16A
Power Cable AUS/NZS	30232566	CABLE MAINS 3*1.5MM2 2.5M SAA2_15- C19 AU
Power Cable UK	30188554	CORD POWER UK BLACK 2M 16A
Power Cable US	30188552	CORD POWER US BLACK 2M 15A
Power Cable CN	30188549	CORD POWER CHINA BLACK 2M 16A
Power Cable JP	30188553	CORD POWER JP BLACK 2M 16A
MinION Mk1D	MIN-101D	Not applicable

8. Spare parts and accessories

8.3. Modules and adapters

8.3.1. Plate Magnet 96

Text description	Part/item number	Label designation
ALPAQUA Magnet	30111595	PLATE MAGNET 96 MAGNUM FLX ALPAQUA P/N A00400

8.4. Disposables

Text description	Part/item number	Label designation
DITI LIHA 10µL CONDU.FIL.	ELY-TIP0010	ElysION Disposable Tips — 10 µl — 24 Boxes of 96
DITI LIHA 50µL CONDU.FIL.	ELY-TIP0050	ElysION Disposable Tips — 50 µl — 24 Boxes of 96
DITI LIHA 200µL CONDU.FIL.	ELY-TIP0200	ElysION Disposable Tips — 200 µl — 24 Boxes of 96
DITI LIHA 1000µL CONDU.FIL.	ELY-TIP1000	ElysION Disposable Tips — 1,000 µl — 24 Boxes of 96
LIHA DITI SBS BOX REFILL SMALL 10PC	ELY-TBS01	ElysION Disposable Tips Box Small — Box of 10
LIHA DITI SBS BOX REFILL LARGE 10PC	ELY-TBL01	ElysION Disposable Tips Box Large — Box of 10
WASTE BIN 36 PCS	ELY-WB01	ElysION Waste Bin — Box of 36
Hard-Shell 96-Well PCR Plates, low profile, thin wall, skirted, white/clear	ONT-07-02914-00	Hard-shell 96-well PCR Plate — Pack of 10
Nunc 96-Well Polypropylene DeepWell Sample Processing & Storage Plates with Shared-Wall Technology	ONT-07-02915-00	96-well PP Deep Well Plate — Pack of 5
Auto-Sealing PCR Plate Lid	ONT-07-02916-00	Auto Sealing PCR Plate Lid Thermocycler — Pack of 5
282 ml Reservoir plate: 6 columns Pyramid bottom	ONT-07-02918-00	282ml 6 Column Reservoir Plate — Pack of 5
Screw cap micro tube, 2 ml, sterile	ONT-07-02919-00	Screw cap tube 2 ml — Sterile — Bag of 100
Screw cap micro tube, 0.5 ml, sterile	ONT-07-02920-00	Screw cap tube 0.5 ml — Sterile — Bag of 100

8.5. Tools

Text description	Part/item number	Label designation
DiTi cone wrench	10619517	WRENCH CONE DITI OPTION 5 PCE.

9. Customer support

9.1. Oxford Nanopore Technologies contacts

Please contact your local distributor or one of the addresses below.

Also, see our homepage on the web: www.nanoporetech.com

To browse or order products, visit: www.store.nanoporetech.com

For additional support, visit: www.nanoporetech.com/support

For help with your ElysION platform, contact: support@nanoporetech.com

Country/region	Address	Telephone/telefax/online support	
United Kingdom Oxford Headquarters	Gosling Building Edmund Halley Road, Oxford Science Park, OX4 4DQ, UK	Phone:	+44 (0)845 034 7900
		Fax:	+44 (0)845 034 7901
		Online support:	www.nanoporetech.com/support
United Kingdom MinION Building	Becquerel Avenue, Harwell Campus, Didcot OX11 0RA, UK	Phone:	+44 (0)845 034 7900
		Fax:	+44 (0)845 034 7901
		Online support:	www.nanoporetech.com/support
United Kingdom Harwell	Rutherford Appleton Laboratories, Building R70, Room 5, Harwell, OX11 0QX, UK	Phone:	+44 (0)845 034 7900
		Fax:	+44 (0)845 034 7901
		Online support:	www.nanoporetech.com/support
United Kingdom Norwich	Quadram Institute, Norwich Research Park, Norwich, NR4 7UQ	Phone:	+44 (0)845 034 7900
		Fax:	+44 (0)845 034 7901
		Online support:	www.nanoporetech.com/support
USA Lexington	20 Maguire Road, Suite 102, Lexington, MA 02421, USA	Phone:	+1 (212) 202 1712
		Online support:	www.nanoporetech.com/support
USA New York	101 Avenue of the Americas, New York, NY 10013, USA	Phone:	+1 (212) 202 1712
		Online support:	www.nanoporetech.com/support
USA San Francisco	1000 Atlantic Ave, Suite 101, Alameda CA 94501-1170, USA	Phone:	+1 (212) 202 1712
		Online support:	www.nanoporetech.com/support

9. Customer support

Country/region	Address	Telephone/telefax/online support	
China Shanghai	RM 2208, No.1 Hongqiao Road, Office Tower I, Grand Gateway 66, Shanghai, 200030, China	Online support:	www.nanoporetech.com/support
China Beijing	Room 1565, China World Tower A, 1 Jian Guo Men Wai Avenue, Beijing, 100004, China	Online support:	www.nanoporetech.com/support
Japan Tokyo	Nihonbashi Life Science Bld7. 8F, 1-9-10 Nihonbashi horidomecho, Chuo-Ku, Tokyo, 103-0012, Japan	Online support:	www.nanoporetech.com/support
Singapore	Helios #12-07/08, 11 Biopolis Way, Singapore, 138667	Online support:	www.nanoporetech.com/support
UAE Oxford Nanopore Technologies Gulf Ltd	Office 303A, Entrance 3, Incubator Building, Masdar City, Abu Dhabi, United Arab Emirates.	Online support:	www.nanoporetech.com/support