VENTANA HE 600 System

User Guide
1019125EN v2.0
Software version 1.9.5

Publication information

Publication version	Software version	Revision date	Change description
1	1.9.5	October 2019	First manual with this part number. Added updates for software version 1.9.5 and associated hardware updates. Made product terms consistent.
2	1.9.5	December 2021	Updated front matter for IVDR compliance. Updates to the User Assistance topics. New symbol in the Symbols used on product table.

Revision history

Edition notice

This publication is intended for operators of the VENTANA HE 600 system.

Every effort has been made to ensure that all the information contained in this publication is correct at the time of publishing. However, the manufacturer of this product may need to update the publication information as output of product surveillance activities, leading to a new version of this publication.

Where to find information

The **User Guide** contains all information about the product, including the following:

- Routine operation
- Maintenance
- Safety
- Troubleshooting information
- Configuration information

In addition, the **User Assistance** includes videos and a hardware explorer.

⚠ General attention

To avoid serious or fatal personal injury, ensure that you are familiar with the system and safety information before you use the system.

- Pay particular attention to all safety precautions.
- Always follow the instructions in this publication.
- Do not use the instrument in a way that is not described in this publication.
- Store all publications in a safe and easily retrievable place.

⚠ General attention

To avoid incorrect results, ensure that you are familiar with the instructions and safety information.

- Pay particular attention to all safety notices.
- Always follow the instructions in this publication.
- Do not use the software in a way that is not described in this publication.
- Store all publications in a safe and easily retrievable place.

⚠ Incident reporting

- Inform your Roche representative and your local competent authority about any serious incidents which may occur when using this product.

Training

Do not carry out operation tasks or maintenance actions unless you have received training. Leave tasks that are not described in the user documentation to trained Roche Service representatives.

Images

The images in this publication have been added exclusively for illustration purposes. Configurable and variable data in screenshots, such as tests, results, or path names visible therein must not be used for laboratory purposes.

Warranty

Any customer modification to the system renders the warranty or service agreement null and void.

For conditions of warranty, contact your local sales representative or refer to your warranty contract partner.

Always leave software updates to a Roche Service representative, or perform such updates with their assistance.

Copyright

License information

System software is protected by contract law, copyright law, and international treaties. The system contains a user license and only authorized users may access the software and use it. Unauthorized use and distribution may result in civil and criminal penalties.

Open Source and Commercial Software

VENTANA HE 600 system software may include components or modules of commercial or open-source software.

This open source and commercial software and VENTANA HE 600 system software as a whole can constitute a device regulated in accordance with applicable law. For more detailed information, refer to the user manual and labeling.

Please note that the respective authorization is no longer valid according to the corresponding legislation should any unauthorized changes be made to the VENTANA HE 600 system software. For further information on the intellectual property and other warnings, as well as licenses pertaining to the software programs included in VENTANA HE 600 system software, refer to the Appendix.

Open source license notifications and notices (225)

Trademarks

The following trademarks are acknowledged:

VENTANA, CAREGIVER, VANTAGE, and VENTANA HE are trademarks of Roche.

All other trademarks are the property of their respective owners.

Feedback

Every effort has been made to ensure that this publication fulfills the intended use. All feedback on any aspect of this publication is welcome and is considered during updates. Contact your Roche representative, should you have any such feedback.

Approvals

The VENTANA HE 600 system is manufactured and compliant to the following applicable international standards:

Regulation (EU) 2017/746 of the European Parliament and of the Council of 5 April 2017 on in vitro diagnostic medical devices and repealing Directive 98/79/EC and Commission Decision 2010/227/EU.

EN 61010-1:2010 Safety requirements for electrical equipment for measurement, control, and laboratory use – Part 1: General requirements.

IEC 61010-2-010:2014 Safety requirements for electrical equipment for measurement, control, and laboratory use, Part 2-010: Particular requirements for laboratory equipment for the heating of materials.

IEC 61010-2-081:2015 Safety requirements for electrical equipment for measurement, control, and laboratory use – Part 2-081: Particular requirements for automatic and semi-automatic laboratory equipment for analysis and other purposes.

EN 61010-2-101:2015 Safety requirements for electrical equipment for measurement, control, and laboratory use – Part 2-101: Particular requirements for in vitro diagnostic (IVD) medical equipment.

EN 61326-1:2013 Electrical equipment for measurement, control and laboratory use—EMC requirements - Part 1: General requirements.

EN 61326-2-6:2013 Electrical equipment for measurement, control, and laboratory use - EMC requirements – Part 2-6: Particular requirements - in vitro diagnostic (IVD) medical equipment.

EN ISO 18113-1:2011 In vitro diagnostics medical devices - Information supplied by the manufacturer (labeling) - Part I: Terms, definitions, and general requirements.

EN ISO 18113-1:2011 In vitro diagnostics medical devices - Information supplied by the manufacturer (labeling) - Part II: In vitro diagnostic reagent for professional use.

VENTANA HE 600 system complies with the Restriction of Hazardous Substances (RoHS) EU Directive 2015/863.

Compliance with the applicable directive(s) is provided by means of the Declaration of Conformity.

The following marks demonstrate compliance:

For *in vitro* diagnostic use.

Complies with the provisions of the applicable EU regulations.

Issued by Canadian Standards Association (CSA) Group for Canada and the US.

FCC information

This equipment generates, uses, and can radiate radio frequency energy; if not installed and used in accordance with the operator manual, it may cause interference to radio communications. Operation of this equipment in a residential area is likely to cause interference, in which case users will be required to correct the interference at their own expense. There is no guarantee that interference will not occur in a particular installation.

If this equipment does cause interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment to an outlet on a different circuit from the one the receiver is connected to.
- Consult the dealer or an experienced radio/TV technician for help.

Changes or modifications not expressly approved by the party responsible for compliance with Part 15 of the Federal Communication Commission (FCC) rules could void the user's authority to operate the equipment.

Contact addresses

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Roche affiliates

A list of all Roche affiliates can be found at:

www.roche.com/about/business/roche_worldwide.htm

eLabDoc

Electronic user documentation can be downloaded using the eLabDoc e-service on Roche DiaLog:

www.dialog.roche.com

For more information, contact your local affiliate or Roche Service representative.

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Intended use

The VENTANA HE 600 system is intended to automatically stain histologic sections of formalin-fixed, paraffin-embedded (FFPE) specimens on microscope slides, with hematoxylin and eosin. The system fully automates the process of baking, deparaffinization, staining, and coverslipping of specimens on microscope slides. The VENTANA HE 600 system is intended for use in the anatomic pathology (AP) laboratory environment by trained laboratory personnel who are knowledgeable in histology processes and have basic computer operation skills.

The VENTANA HE 600 system is intended for in vitro diagnostic (IVD) use.

Symbols and abbreviations

Product names

The following product names and descriptors are used in this publication.

Product name	Descriptor
VENTANA HE 600	system
VENTANA HE 600	user interface
VENTANA HE 600	system software
VENTANA HE 600	Wash
VENTANA HE 600	Hematoxylin
VENTANA HE 600	Bluing
VENTANA HE 600	Eosin
VENTANA HE 600	Organic Solution
VENTANA HE 600	Differentiating Solution
VENTANA HE 600	Transfer Fluid
VENTANA HE 600	Cleaning Reagent
VENTANA HE 600	Cleaning Solution
VENTANA HE 600	Coverslip Activator

Product names

Symbols used in the publication

Symbol	Explanation
•	List item.
	Related topics containing further information.
	Tip. Extra information on correct use or useful hints.
▶	Start of a task.

Symbols used in the publication

Symbol	Explanation
	Extra information within a task.
	Result of an action within a task.
	Frequency of a task.
	Duration of a task.
	Materials that are required for a task.
	Prerequisites of a task.
	Topic. Used in cross-references to topics.
	Task. Used in cross-references to tasks.
	Figure. Used in figure titles and cross-references to figures.
	Table. Used in table titles and cross-references to tables.
√xy	Equation. Used in cross-references to equations.
	Code example. Used in code titles and cross-references to codes.
	Search. Used on the search tab.
	Table of contents. Used on the table of contents tab.
	System explorer. Used on the system explorer tab.
	Recent. Used on the history tab to show previously viewed topics.
☆	Favorites. Used on the favorites tab and on the content panel.
	Enlarge. Button used on images.

Symbols used in the publication

Symbols used on product

Symbol	Explanation
GTIN	Global Trade Item Number.
SN	Serial number.
	Date of manufacture.
	Manufacturer.

Symbols used on product

Symbol	Explanation
EC REP	Authorized representative in the European Community.
	Indicates the entity importing the medical device into the European Union.
RoHS	Complies with the Restriction of Hazardous Substances (RoHS) EU Directive 2015/863.
UDI	Unique device identifier.

Symbols used on product

Abbreviations

The following abbreviations are used.

Abbreviation	Definition
AFM	Automated fluidics module
ANSI	American National Standards Institute
AP	Anatomic pathology
CFM	Cubic feet per minute
CSA	Canadian Standards Association
CSC	Customer support center
CSV	Comma-separated values
DOC	Department of Communications
dPGPE	Dipropylene glycol propyl ether
EC	European Community
EN	European standard
FCC	Federal Communications Commission
H&E	Hematoxylin and eosin
IEC	International Electrical Commission
IHC	Immunohistochemistry
ISH	In situ hybridization
ISO	International Organization for Standardization
IT	Information technology
IVD	In vitro diagnostic
IVDR	In vitro diagnostics regulation
LIS	Laboratory information system
PDF	Portable document format
PHI	Personal healthcare information
PPE	Personal protective equipment
QR code	Quick response code
RFID	Radio-frequency identification

Abbreviations

Abbreviation	Definition
RJ45	Registered jack 45
SDS	Safety data sheets
TCP/IP	Transmission control protocol/internet protocol
UA	User Assistance
UPS	Uninterruptible power supply
USB	Universal serial bus

Abbreviations

What is new in publication version 2.0

This section describes the changes between the *VENTANA HE 600 System User Guide* for software version 1.9.5, revision 1.0, and *VENTANA HE 600 System User Guide* for software version 1.9.5, revision 2.0.

Regulatory changes

Updated the following front matter sections for IVDR compliance:

- Added the Incident reporting section.
- Updated the Images section.
- Updated the Approvals section.

Publication information (3)

Contact addresses (7)

Intended use (11)

Symbols and abbreviations (11)

Safety

Safety

In this chapter 1

Introduction

⚠ General attention

To avoid serious or fatal personal injury, read this publication thoroughly before you use the instrument.

- Pay particular attention to all safety precautions.
- Always follow the instructions in this publication.
- Do not use the instrument in a way that is not described in this publication.

All safety-related regulations, local codes, and instructions that appear in this document or on equipment must be observed. To ensure personal safety and to prevent damage to the instrument or equipment connected to it, observe the safety information. If equipment is used in a manner not specified by the manufacturer, the protection provided by the equipment could be impaired.

Safety classifications

The safety precautions and important user notes are classified according to the ANSI Z535.6-2011 standard. Familiarize yourself with the following meanings and icons:

⚠ Safety alert

- The safety alert symbol is used to alert you to potential physical injury hazards. Obey all safety messages that follow this symbol to avoid possible damage to the system, personal injury, or death.

These symbols and signal words are used for specific hazards:

⚠ WARNING

Warning...

- ...indicates a hazardous situation that, if not avoided, could result in death or serious personal injury.

⚠ CAUTION

Caution...

- ...indicates a hazardous situation that, if not avoided, could result in minor or moderate personal injury.

NOTICE

Notice...

- ...indicates a hazardous situation that, if not avoided, may result in damage to the system.

Important information that is not safety relevant is indicated with the following icon:

Tip...

...indicates additional information on correct use or useful tips.

Safety training

All operators must be trained in the safe use of the VENTANA HE 600 system.

After training, operators must demonstrate an understanding of the following:

- The system must be connected to a grounded outlet.
- The system must be connected to a voltage source that complies with the rating label.
- Using the system in a manner not specified by Roche may impair protection provided by the equipment.
- Operators must keep their hands clear of potential pinch points.
- Operators must consult the Safety Data Sheets (SDS) for instructions for safe handling and disposal of reagents used with the instrument.
- In the rare event the system suffers a major malfunction and the interior must be accessed to manually recover trays, operators must turn off power to the system via the power switch, located on the left side panel of the system.

Safety precautions

⚠ **To avoid serious or fatal personal injury, read and comply with the following safety precautions.**

In this section

About operator qualification

Insufficient training to operate the instrument

As an operator, ensure that you know the relevant safety precaution guidelines and standards and the information and procedures contained in these instructions.

- Do not carry out operation and maintenance unless Roche Diagnostics has trained you to do so.
- Leave maintenance, installation, or service that is not described to trained Roche service representatives.
- Carefully follow the procedures specified in the instructions for operation and maintenance.
- Follow good laboratory practices, especially when you work with biohazardous material.

About safe and proper use of the system

Missing personal protective equipment

Working without personal protective equipment means danger to life or health.

- Wear appropriate personal protective equipment, including, but not limited to, the following items:
  - Eye protection with side shields
  - Fluid-resistant laboratory coat
  - Approved lab gloves
  - Face shield if there is a chance of splashing or splattering
- Follow good laboratory practices and regularly change lab gloves to minimize the risk of contamination (especially after contact with waste or sample material).

Regular cleaning

To help prevent inaccurate results and unsafe operation of the system:

- Follow good laboratory practices for cleaning.
- Ensure that the laboratory is regularly cleaned and is maintained in an orderly manner.
- Use only approved substances for cleaning. Contact Roche Service with questions regarding the compatibility of cleaning substances with the system.

List of allowed cleaning substances (78)

Errors in installation

Only trained Roche service representatives may install the system.

- Roche personnel are responsible for appropriately installing the VENTANA HE 600 system. Roche should be consulted if any adjustments are needed after the initial installation. Roche relinquishes responsibility for any performance issues that may arise out of any unauthorized alternations from the approved installation.

Exchange or removal of parts

Unauthorized exchange or removal of system parts can damage the system or stop it from functioning correctly.

- Do not exchange or remove any part of the instrument.
- Leave replacement of instrument parts to trained Roche service representatives.

Unsuitable environmental conditions

Operation outside of the specified ranges may lead to incorrect results or malfunction of the system.

- Use the system indoors only, and avoid heat and humidity outside of the specified range.
- Make sure that the system's ventilation openings always remain unobstructed.
- To maintain the environmental conditions of the system, perform maintenance in accordance with the specified intervals.
- Keep the operating instructions undamaged and available for use. Operating instructions must be easily accessible for all users.

Environmental conditions (74)

Non-approved spare parts

Use of non-approved spare parts or devices may result in malfunction of the system and may render the warranty null and void.

- Use only spare parts and devices approved by Roche Diagnostics.

Non-specified third-party software

Installation of third-party software is not approved by Roche Diagnostics and might result in malfunction.

- Do not install third-party software without consulting your information technology (IT) department.
- See the “Warranty” topic for more information.

Warranty (4)

Non-specified consumables

Use of non-specified consumables can lead to incorrect results.

- Do not use consumables that are not intended for use with the VENTANA HE 600 system.

Miscellaneous safety precautions overview

Power interruption

A power failure or momentary drop in voltage can interrupt system operation or lead to data loss.

- It is recommended to use an uninterruptible power supply (UPS).
- Ensure regular maintenance of the UPS.
- Perform regular backup of results.

Power ratings (73)

System-performed maintenance (168)

Damage in transit

- Do not attempt to relocate or transport the system.
- Leave relocation and transportation to Roche service representatives.

Warning messages

⚠ List of warning messages

Failure to observe warning messages may result in death or serious personal injury.

- Before operating the system, read the warning messages carefully.

In this section

Electrical safety

Dangerous voltages are present inside the system. Only approved Roche service representatives should remove system covers or access internal system components unless the operator needs to manually recover trays. If the operator needs to remove trays, read the instructions for recovering trays in the “Errors and troubleshooting” chapter.

Errors and troubleshooting (171)

The system’s operating voltage is set during installation and can be changed only by an approved Roche service representative.

Electric shock

Removing the covers of electronic or electrical equipment increases the risk of exposure to electric shock because there are high-voltage parts inside.

- Do not attempt to work on any electronic or electrical equipment.
- Do not remove any cover of the system except those covers specified in the instructions.
- Only Roche service representatives may install, service, and repair the system.
- If the blue transportation system door or the garage access door needs to be opened for manual tray retrieval, the system immediately stops the tray transport system and advises to turn off power. Turn off the power to ensure there is no possibility of electrical shock when retrieving the trays.

Smoke due to electrical malfunction

Electrical malfunction can result in the emission of hazardous smoke. Inhaling smoke emitting from the instrument can lead to personal injury.

- If you see smoke coming from the instrument, do the following:
  - Avoid inhaling
  - Disconnect the instrument from power the supply
  - After contacting the appropriate emergency service, contact a Roche service representative.

Waste

Environmental harm

The system generates liquid waste. Reagents are not formulated with biological content, nor do they promote or support biological growth. However, there is some possibility that the user environment may inadvertently introduce biological material to the system, which may then appear as waste. Improper disposal may contaminate the environment.

- Dispose of waste in accordance with the local regulations.

Disposal information (45)

Instrument location

The system is very heavy and is not designed to be moved by the operator. Contact an approved Roche service representative if the system needs to be relocated. This system is for indoor use only.

Moving an instrument can be dangerous to inexperienced users

Injuries and accidents can occur if you move an instrument without having the experience of a service technician.

- Only Roche service representatives should move the instrument.
- The system uses fans at the rear and top-right side to ensure it operates at the optimum internal temperature. Take care not to impede the airflow from these fans. Never store items on top of the system, which could block the fan outlet.

Instrument moving parts

Personal injury and infection due to sharps, rough edges, and/or moving parts

Good Laboratory Practice can reduce the risk of injury. Be aware of your laboratory environment, well-prepared, and follow the instructions for use. Some areas of the instrument may have sharps, rough edges, and/or moving parts. Wear personal protective equipment to minimize the risk of injury from bodily contact with such parts, especially in less accessible areas, or while cleaning the instrument. Your personal protective equipment should be appropriate to the degree and type of potential hazard, e.g. suitable lab gloves, eye protection, lab coat, and footwear.

Caution messages

⚠ List of caution messages

- Before operating, read the caution messages carefully. Failure to observe them may result in minor or moderate personal injury.

In this section

Burns due to hot surfaces

Hot surfaces inside

Contact with some surfaces may cause burns.

- Avoid contact with hot surfaces inside the instrument indicated with a warning label.
- No one but a Roche service representative should remove the nearby air filter or insert a hand or finger into the instrument at this location. A hot surface is present behind the heat exchanger (accessible when the filter is removed).

Mechanical safety

Damaged touch screen monitor

Damage to the touch screen monitor can expose sharp edges, which can cause personal injury if touched.

- Avoid touching the touch screen monitor if it is visibly damaged.
- Contact Roche support.

Touch screen monitor

Risk of personal injury when moving the touch screen monitor towards the system housing. Your hand can be pinched between the touch screen monitor and the housing.

- Use caution when moving the touch screen monitor in front of the system housing.
- Keep your fingers away from gap between the touch screen monitor and system housing when moving the touch screen monitor towards the housing.

Reagent access, coverslipper access area, and waste container doors

Risk of personal injury by colliding with an open reagent access, coverslipper access area, or waste container door.

- Close the reagent access drawer after replacing reagents.
- Close the waste container door after removing or replacing waste containers.
- Close the coverslipper access area door after handling coverslip cassettes, replacing coverslip activator, or disposing of coverslip waste.

Reagents and other working solutions

When working with any reagent or reagent container, take appropriate precaution. Reagents are not formulated with biological content, nor do they promote or support biological growth. However, there is some possibility that the user environment may inadvertently introduce biological material to the system, which may then appear as waste.

The reagent SDS should be consulted to ensure operators are aware of the content, in order to manage the reagents in accordance with any national, state, or local regulations.

There are chemical hazards that could result in minor hazards such as skin sensitivity or eye irritation. It is for these reasons that the use of suitable personal protective equipment (PPE) is recommended when handling the system reagents or waste containers.

Reagent may collect around the container lid during transit and storage and be released when the reagent lid is opened. Open containers carefully.

Because some reagents present a skin irritation, it is recommended that affected skin is washed after exposure to any reagent.

Skin inflammation or injury

Direct contact with reagents, detergents, cleaning solutions, or other working solutions may cause skin irritation, inflammation, or burns.

- When you handle reagents, exercise the precautions required for handling laboratory reagents.
- Wear appropriate personal protective equipment.
- Observe the instructions given in the package insert for the test.
- Observe the information given in Material Safety Data Sheets (available for Roche Diagnostics reagents and cleaning solutions).
- If reagents, detergents, or other cleaning solutions come into contact with your skin, wash the affected area immediately with soap and water. Consult a medical professional if needed.
- During system operation, reagent drip traps may collect reagent. Thus, routine precaution should be observed.
- When working with any reagent, reagent hat, or reagent container, take appropriate precautions.
- Open reagent containers carefully.
- Avoid unnecessary contact with reagents and reagent containers.
- Always wear approved eye protection, gloves, and protective clothing when handling reagents, reagent containers, reagent hats, and slide trays.
- If the system is supplied with the VENTANA HE 600 system waste capture option where emptying waste containers is periodically necessary, always wear approved eye protection, gloves, and protective clothing when changing the waste containers.
- If the system's waste is direct-to-drain, the direct-to-drain system should be installed by a Roche service representative. Roche should then be consulted for any adjustments necessary after the initial installation.

Adverse impact to staining due to incorrect handling of reagents

Incorrect handling of reagents or other consumables may adversely affect staining.

- Do not use reagents that were exposed to heat, cold or to light for an extended time.
- The system does not allow the use of expired reagents.
- Adhere to the storage conditions defined in the package insert for the reagents, controls, and consumables.
- Do not manipulate reagents in any way.
- Use only Roche-supplied reagents.

Electromagnetic interference

Electromagnetic interference

Strong electromagnetic fields (originating from unshielded radio frequency sources) can interfere with proper operation and may lead to malfunction of the system and incorrect results.

- This instrument was designed and tested to IEC 61326-2-6 and complies with the emission and immunity requirements.
- Do not use this system near sources of strong electromagnetic fields because these fields can interfere with proper operation.
- Evaluate the electromagnetic environment before you operate the system.
- This equipment has been designed and tested to CISPR 11 Class A. In a domestic environment this equipment may cause radio interference, in which case, you may need to take measures to mitigate the interference.

Wireless interference

Wireless devices in the instrument may lead to malfunction.

- Do not leave mobile phones or other wireless devices inside the instrument.

Data security

Data loss or unavailability of the system due to malicious software or unauthorized system access

Malicious software or unauthorized system access can result in data loss or system unavailability.

To avoid infection by malicious software or the unauthorized access and misuse of the system, the following recommendations are essential:

- Do not install and/or execute any other software on the system.
- Make sure other computers and services on the network (for example, the LIS, archiving share, backup share, or service) are properly secured and protected against malicious software and unauthorized access.
- Customers are responsible for the security of their local area network, especially in protecting it against malicious software and attacks. This protection might include measures, such as a firewall, to separate the device from networks as well as measures that ensure that the connected network is free of malicious code.
- Restrict physical access to the system and all attached IT infrastructure (computer, cables, network equipment, and so on).
- Make sure that system backup and archive files are protected from any unauthorized access and disaster, this includes: remote storage location; disaster discovery sites; secure transfer of backup files.
- If possible, use a firewall to restrict network traffic.

⚠ CAUTION

USB flash drives

USB flash drives can be used for several kinds of backups and restores. Wrong handling of a USB flash drive may result in data loss or malfunction of the instrument.

- Use only USB flash drives that are tested and installed by your local Roche support.
- At any one time only one USB device can be in use. Before inserting a USB flash drive, check that no other USB device is inserted.
- Before removing a USB flash drive, choose the Eject button in Windows.
- To prevent a virus from infecting the software, use the USB flash drive exclusively on the instrument. Do not store other data on this USB flash drive.

⚠ CAUTION

Roche provided firewall

To improve the security of Roche systems, a Roche provided firewall or customer provided firewall must be installed. All new systems connected to the customer network must be installed with the hardware firewall provided by Roche.

- Installation of the Roche provided firewall is mandatory. A Roche provided firewall is an effective method for adding an additional security layer between Roche products and the customer laboratory network.
- The use of the Roche provided firewall requires you to assign static IP addressed to Roche computers. The static IP addresses are reserved in order for the Roche computer to work properly.
- Do not move, unplug, or reconfigure the Roche provided firewall. Contact Roche support for assistance.

Notices

⚠ List of notices

Failure to observe the notices may result in damage to the system.

- Before operating, read the notices contained in this summary carefully.

Circuit breakers

Improper use may result in damage to the system.

- If the circuit breakers trip, do not attempt to operate the system before contacting Roche support.

Spills

Clean spills with an absorbent material in combination with a mild detergent. Hematoxylin and eosin stains can be removed with a 10% solution of chloride bleach.

- If spills of the coverslip activator occur, ensure there are no open flames in the vicinity.
- Wipe up spills immediately to avoid slipping.
- Place mats around the system to avoid risk of slipping in the event of reagent spills or leaks.
- Place caps on waste containers before removing them from the system.

Leaks

A leak can affect the instrument performance and cause injuries if the liquid is in areas of traffic.

- Contain and wipe up leaks immediately.
- Place mats around the instrument to avoid risk of slipping in the event of reagent leaks.

Opening the blue transportation system door or garage access door

Possible tissue damage or tissue staining deficiencies.

- Only open the blue transportation system door or the garage access door whenever a manual tray retrieval is required. Opening either door immediately stops the tray transport system and arrests normal operation of the instrument. There will also be some higher risk of electrical shock. See the Electrical safety warning information for more information.

Electrical safety (27)

Incorrect power supply voltage

Severe damage may occur to the system if it is connected to an incorrect power supply voltage.

- In the unusual circumstance that the system supply voltage is to change, contact a Roche Service Center for recommendations on a suitable transformer setup for the system.
- If the power cord needs to be replaced, it must be replaced with a Roche-approved cord rated for 30 amps.
- Observe good electrical safety practices.

Safety labels on the system

In this section

List of safety labels on the system

Warning labels are placed on the system to draw your attention to areas of potential hazard. Listed below are labels and the definitions according to the location on the system.

In addition to the safety labels on the system, there are safety notes in the corresponding parts of the user documentation.

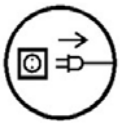
Only Roche service personnel are to replace damaged labels. For replacement labels, contact your local Roche representative.

The following symbols and formats are used to alert to a potential hazard.

General warning
Potential hazards located near this label may lead to death or serious personal injury.
Refer to the user documentation for instructions on safe operation.

Hot surface
The area near this label may be hot.
To avoid burns, do not touch this area.

Electrical
If you access a part of the system marked with this label, contact with electrical components may cause an electric shock.
Refer to the user documentation for instructions on safe operation.



Disconnect power before servicing.
This symbol is at the back of the system near the power cord. It is to remind Roche service representatives to disconnect the power cord before servicing the system.

The safety messages give more detailed information about potentially hazardous situations that may arise during daily operation or when carrying out maintenance actions.

When working with the system, observe both the safety labels on the system and the safety messages in the user documentation.

Location of safety labels on the system

On the system itself, only the general warning symbol (with exclamation mark), the hot surface warning (behind the waste compartment door on the system left front), and the disconnect power symbol (at the back of the system next to the power cord) are visible.

The other symbol stickers are on the inside of the system and are not visible to the operator.

A Waste management module

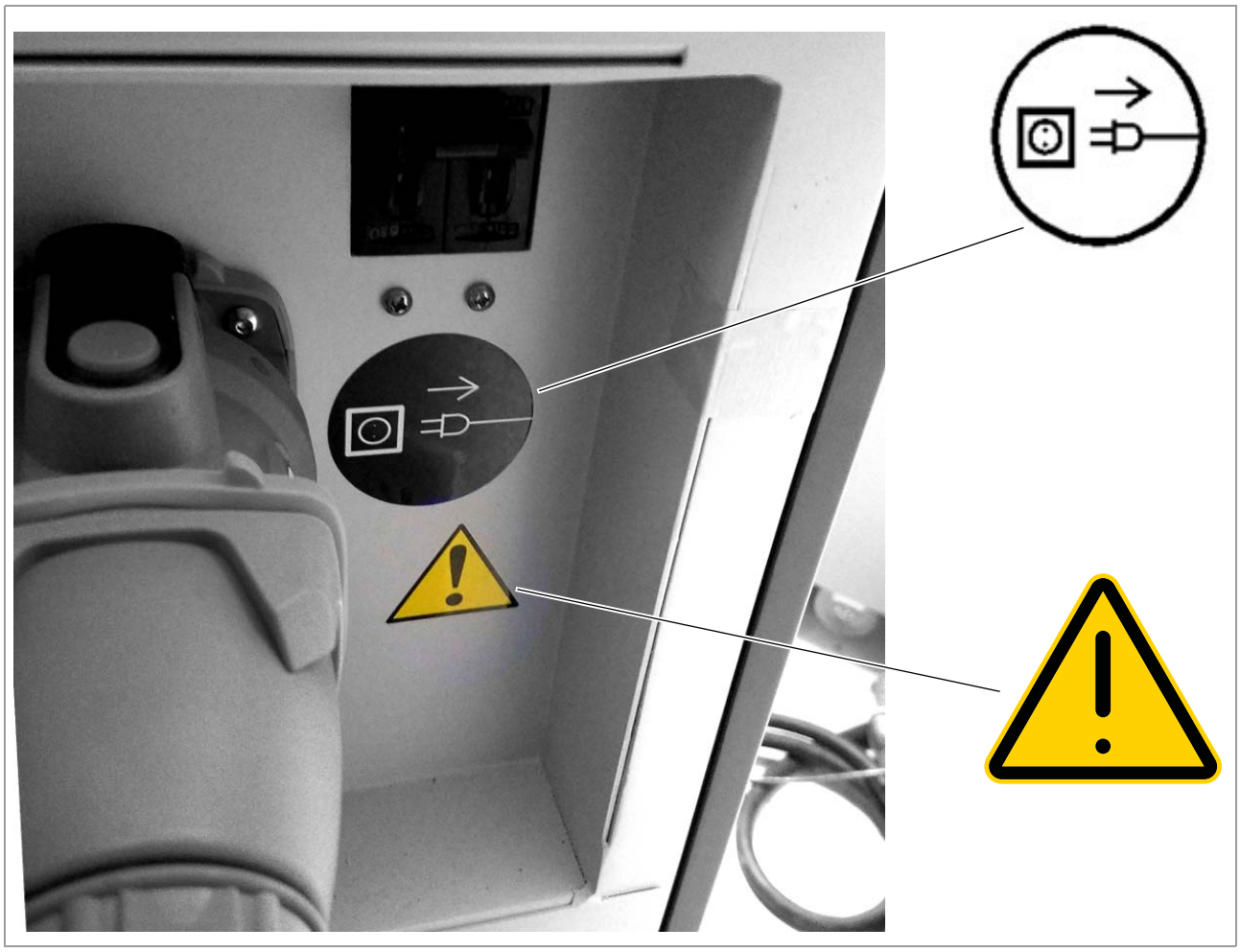
B Transportation system module

System (front, closed view)

Safety labels on the top of the transportation system module (bottom view)

Safety labels on each arm of the stainer crank and door in the transportation system module

Safety label on the waste management module



Power cord label next to the power cord on the back of the system

Safety information for lasers

The instrument includes a laser presence detector and a laser bar code reader.

- The bar code readers use LED technology with low output power.
- A laser bar code reader (class 2 laser) is used to scan the bar codes on samples.

Laser presence detector and bar code reader

This instrument contains a class 2 laser per IEC/EN 60825-1 Ed.2:2007 which can emit LED radiation. Do not view directly with optical instruments.

Safety information for disposal

Disposal information

Waste disposal

Waste must be managed in accordance with all applicable national, state, and local regulations, including applicable municipal codes. The laboratory is responsible for determining the appropriate waste disposal option, and ensuring the waste disposal method complies with all local and municipal regulations, codes, and guidance.

System Description

System overview

In this chapter

2

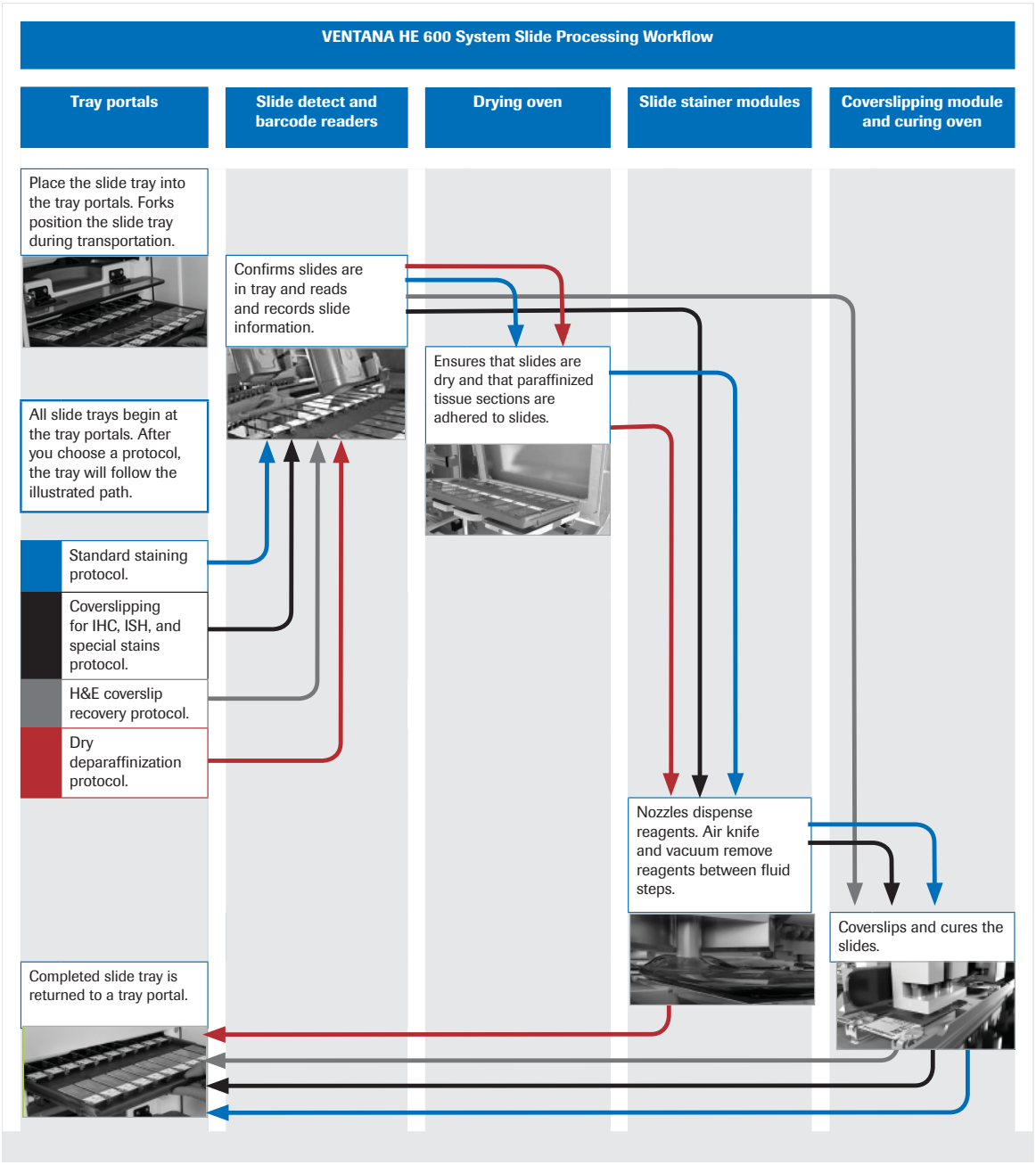
Staining process workflow

To view the journey of a slide through the VENTANA HE 600 system, view the following video.

Video clip (.mpg, .mp4): Stainers_Explorer-HE600-SlideJourney.mp4
Title: Journey of a slide through the HE 600 system

The following diagram shows the different paths that the following slide processing protocols take through the system modules:

- Standard staining protocol
- Coverslipping for IHC, ISH, and Special Stains protocol
- H&E Coverslip Recovery protocol
- Dry Deparaffinization protocol


VENTANA HE 600 System Slide Processing Workflow
Tray portals
Slide detect and barcode readers
Drying oven
Slide stainer modules
Coverslipping module and curing oven
Place the slide tray into the tray portals. Forks position the slide tray during transportation.
Confirms slides are in tray and reads and records slide information.
Ensures that slides are dry and that paraffinized tissue sections are adhered to slides.
All slide trays begin at the tray portals. After you choose a protocol, the tray will follow the illustrated path.
Standard staining protocol.
Coverslipping for IHC, ISH, and special stains protocol.
H&E coverslip recovery protocol.
Dry deparaffinization protocol.
Nozzles dispense reagents. Air knife and vacuum remove reagents between fluid steps.
Coverslips and cures the slides.
Completed slide tray is returned to a tray portal.

System overview

In this section

About the staining system

The upper frame of the system includes the following components:

- Tray portal and transportation system
- Slide detect module and barcode readers
- Drying and curing ovens
- 3 stainer modules
- Coverslipper module
- Touch screen monitor

The lower frame of the system contains the automated fluidics module (AFM), which includes:

- Reagents
- Compressor
- Vacuum blower
- Waste reservoir

The waste system can drain waste to removable waste containers or directly to a drain.

For more detailed information, refer to the corresponding topics described in this publication.

The following image displays the covered system on the left and the uncovered system on the right to show the location of the internal modules.

A Slide dryer (drying oven)
B Monitor and user interface
C Transportation system
D Tray portals
E Waste capture module (optional)
F Curing oven
G Slide stainer modules
H Coverslipper
I Automated fluidics module

VENTANA HE 600 system

Related topics

- System overview (53)
- User interface overview (61)

About tray portals

Trays are loaded into tray portals to begin slide processing and unloaded from portals when processing is complete.

Status indicators on tray portals let you know when portals are ready to receive trays or when trays are ready to unload. Status indicators can also help you diagnose an issue with the portals.

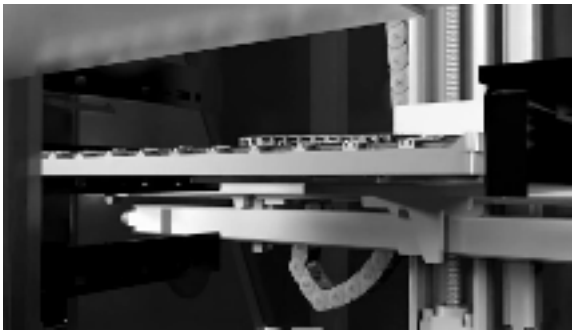
If a status indicator light is flashing yellow or is solid red, see the error log for details on the portal error.

Portal status (65)

Related topics

- About the staining system (53)
- About the transportation system (55)
- About the user interface (64)

About the transportation system



The transportation system moves slide trays between modules in the VENTANA HE 600 system.

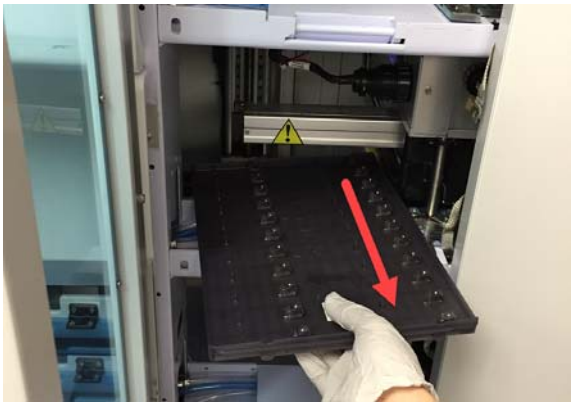
The transportation system moves the slide trays from the tray portals through the scanning, drying, staining, and coverslipper modules, and then back to the tray portal.

Forks are placed under the trays to hold them as they move between the modules.

The following video provides an overview of the transportation system.

Video clip (.mpg, .mp4): Stainers_Explorer-HE600-TransportSystem.mp4
Title: Transportation system

About manually removing trays from the system



⚠ WARNING

Injury to operators and damage to the system

Contact with the system without powering off the system and waiting 20 minutes can result in a serious burn as some modules may be hot.

- Power off the computer and system prior to manually removing any trays.
- Wait at least 20 minutes after powering off the system to allow all trays in the slide dryer, stainers, and curing oven to cool before handling trays manually.
- Wait 20 minutes after powering off the system before touching any internal components of the system.

Be mindful of the following items when manually pulling a tray out of the system.

- Rotate the tray 90°, so that it will fit through the elevator door (also known as the blue transportation system door).
- If necessary, the transportation forks may be manually moved in either x direction to allow for tray removal.
- Be careful to avoid contact between the slide tray and other components of the system.
- Be careful to avoid spills when you remove trays. The tray and slides might have excess fluid on them.

Related topics

- About the staining system (53)
- About tray portals (55)

About the barcode reader and slide detect module

The barcode readers and slide detect module are located on the upper left corner of the system.

The slide detect module shines a beam of light onto the label ends of slides to determine where slides are located on a tray. Only positions on the tray where slides are located are processed in the subsequent stainer and coverslipper modules.

When barcodes are present on slides, the barcodes are read by the VENTANA HE 600 system barcode reader. Slides with barcodes can be tracked to ensure positive patient identification.

The barcode reader on the VENTANA HE 600 system must be enabled for the system to read barcodes. If you want to use slides with barcodes, and the barcode reader was not enabled when the system was installed, contact Roche support to enable it.

The following video provides an overview of the barcode reader and slide detect module.

Video clip (.mpg, .mp4): Stainers_Explorer-HE600-BarCodeReader.mp4
Title: barcode reader and slide detect

Related topics

- About the staining system (53)

About the slide dryer

The slide dryer is a drying oven that ensures slides are dry and that paraffinized tissue sections are adhered to slides.

The slide dryer tilts the slide tray at an 80° angle to drain moisture from the slides. The tray is then heated in the oven at a temperature range of 72 °C +/- 3 °C.

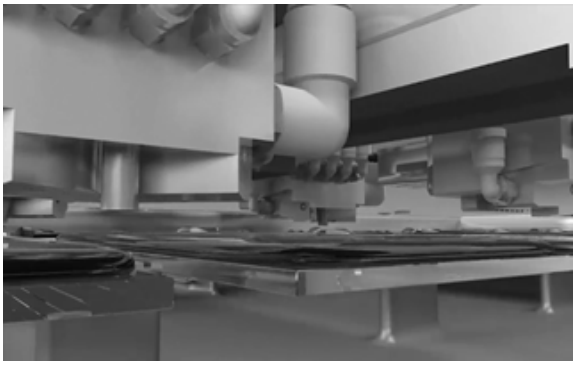
The following video provides an overview of the slide dryer.

Video clip (.mpg, .mp4): Stainers_Explorer-HE600-DryingOven.mp4
Title: Slide dryer

Related topics

- About the staining system (53)

About the slide stainer modules



The staining modules work together to perform the H&E staining process. The staining process begins with deparaffinization and rehydration, followed by slide staining.

The slide staining module uses a patented reagent dispensing and removal process with an air knife and vacuum port to decrease times between fluid steps and reduce the need for wash steps. This process avoids the use of xylene and alcohol. Fresh reagents are used on each slide.

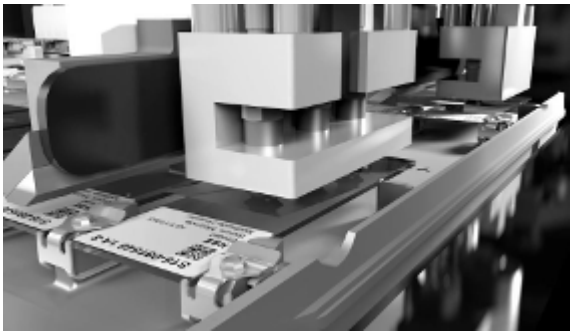
The following video provides an overview of the slide stainer modules.

Video clip (.mpg, .mp4): Stainers_Explorer-HE600-Staining.mp4
Title: Slide stainer modules

Related topics

- About the staining system (53)

About the coverslipper module



The coverslipper module uses coverslip cassettes and coverslip activator to apply coverslips.

The activator is dispensed onto a slide, and then a coverslip is applied. The coverslip activator is a natural solvent that is dispensed from the coverslipper module.

Coverslips are dispensed from cassettes. When the cassettes are empty, they are discarded in the empty cassette bin.

If the coverslipper position needs to be adjusted to better align the coverslip or prevent bubbles on slides, contact Roche support.

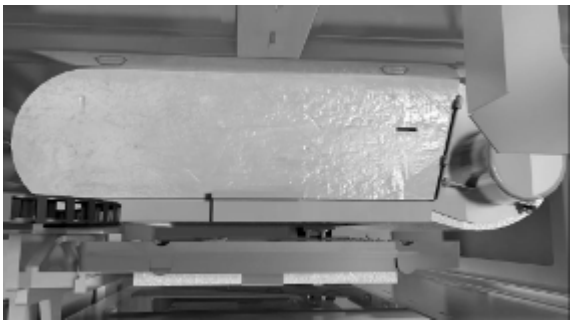
The following video provides an overview of the coverslipper module.

Video clip (.mpg, .mp4): Stainers_Explorer-HE600-Coversliper.mp4
Title: Coverslipper

Related topics

- About the staining system (53)

About the curing oven



The curing oven cures coverslip glue and helps remove residual fluid from the slide tray.

The temperature of the oven is 92 °C +/- 3 °C. After the slides are cured, the slide tray moves to the tray portal. The tray cools in the portal before you can remove it from the system. Slides are ready for review after they are unloaded from a tray portal.

The following video provides an overview of the curing oven.

Video clip (.mpg, .mp4): Stainers_Explorer-HE600-CuringOven.mp4
Title: Curing oven

Related topics

- About the staining system (53)

About the waste capture module

The VENTANA HE 600 system can collect liquid waste in waste containers or direct the waste to the drain.

Different laboratories have different regulations and guidance for liquid waste disposal. Laboratories that do not dispose liquid waste down a drain use an on-board waste capture module.

The waste capture module has a capacity of 9.2 L (2-5.8 L bottles each filled to 4.6 L capacity). This is enough to capture waste from approximately 350-430 slides.

The following videos provide an overview of the direct-to-drain waste and waste containers.

Video clip (.mpg, .mp4): WasteModule.mp4
Title: Direct-to-drain waste

Video clip (.mpg, .mp4): Stainers_Explorer-HE600-ReplaceWasteContainer.mp4
Title: Waste containers

Related topics

- About the staining system (53)

About the automated fluidics module

The automated fluidics module (AFM) stores and delivers the staining and cleaning reagents through a pressurized air and vacuum system. You can replace reagents by opening the AFM reagent access door.

The following video provides an overview of the AFM.

Video clip (.mpg, .mp4): AFM.mp4
Title: Automated fluidics module (AFM)

Related topics

- About the staining system (53)
- About the slide stainer modules (58)

User interface overview

In this section

About the computer and monitor

The VENTANA HE 600 system computer comes with a Windows operating system and the user interface installed.

The touch screen monitor is integrated with the computer. The monitor is mounted on the right side of the system and can swing left and right or tilt back and forth for easy access. Use your finger to navigate and select information or use the available keyboard to interact with the user interface.

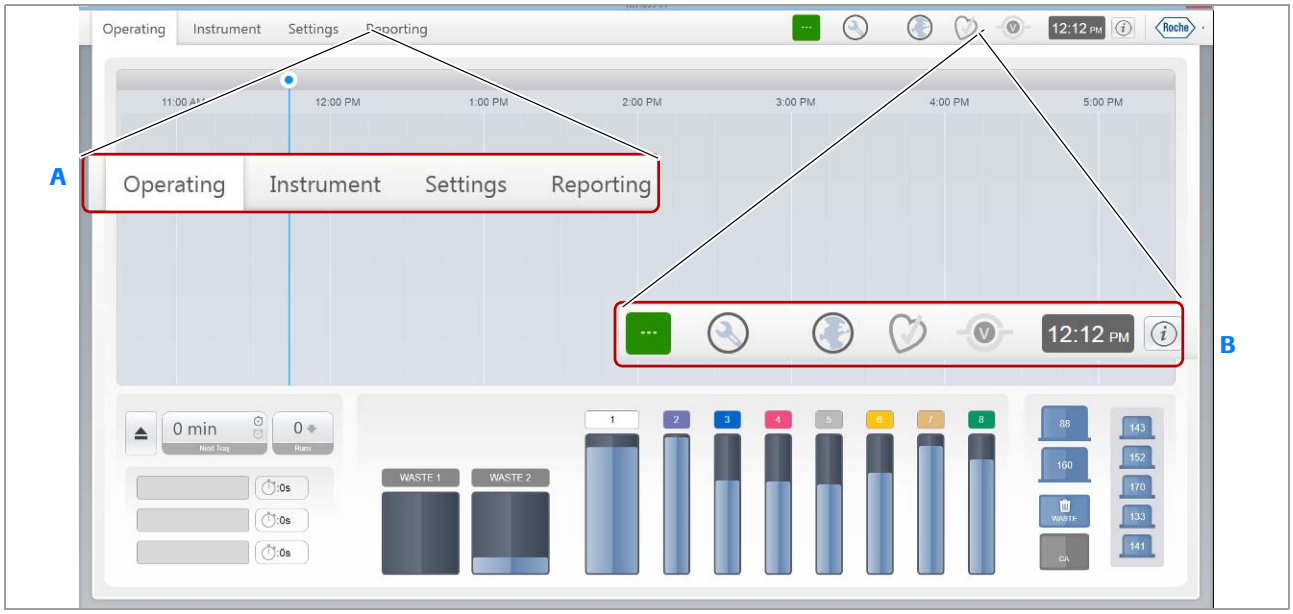
Video clip (.mpg, .mp4): Stainers_Explorer-HE600-UserInterface.mp4
Title: User interface

Related topics

- About the navigation toolbar and notification area (62)
- About the user interface (64)

About the navigation toolbar and notification area

The navigation toolbar and notification area are available from every view in the VENTANA HE 600 system software user interface. The navigation toolbar includes the tabs to the left of the screen and the notification area includes the status icons to the right of the screen.



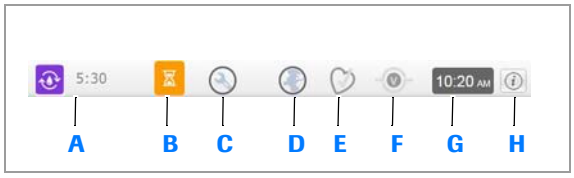
A Navigation toolbar

B Notification area

Navigation toolbar

Choose a tab to open the **Operating** view, the **Instrument** view, the **Settings** view, or the **Reporting** view.

Notification area



The image and the following table describes the functions of the icons in the notification area.

A Daily cleaning cycle and cycle time remaining.

B Instrument status

C Maintenance

D Internet connectivity

E CareGiver Remote Support

F VANTAGE Workflow Solution

G Current time

H Information

The image displays an example of icon states that can display in the notification area. The notification area on your system displays the icons that represent the current status for your system.

If you have Scheduled Start enabled, an additional icon displays next to the Instrument status.

Symbol	Description
	If the daily cleaning cycle is in progress, this icon displays in the navigation area, along with the amount of time left for the cleaning cycle. The icon does not display when the cleaning cycle is not running.
	This icon displays the current instrument status. This is the same icon as in the Instrument view.
	To view details about the scheduled instrument start and ready times, choose the Scheduled Start icon.
	To view due or overdue maintenance items, choose the maintenance icon. The icon displays a yellow exclamation point if maintenance is due or a red exclamation point if there is overdue maintenance.
	If the internet connectivity icon changes from a dark gray to a light gray, you are not connected to the internet.
	If the CareGiver Remote Support icon changes from a dark gray to a light gray, you are not connected to CareGiver remote support.
	If the VANTAGE Workflow Solution icon changes from a dark gray to a light gray, you are not connected to VANTAGE Workflow Solution.
	To display contact, file version, and copyright information, choose the information icon.

Notification area icon key

The clock displays in the notification area, at the far right of the toolbar.

Related topics

- About the computer and monitor (61)
- About the user interface (64)
- About CareGiver remote instrument support (69)
- About VANTAGE Workflow Solution (70)

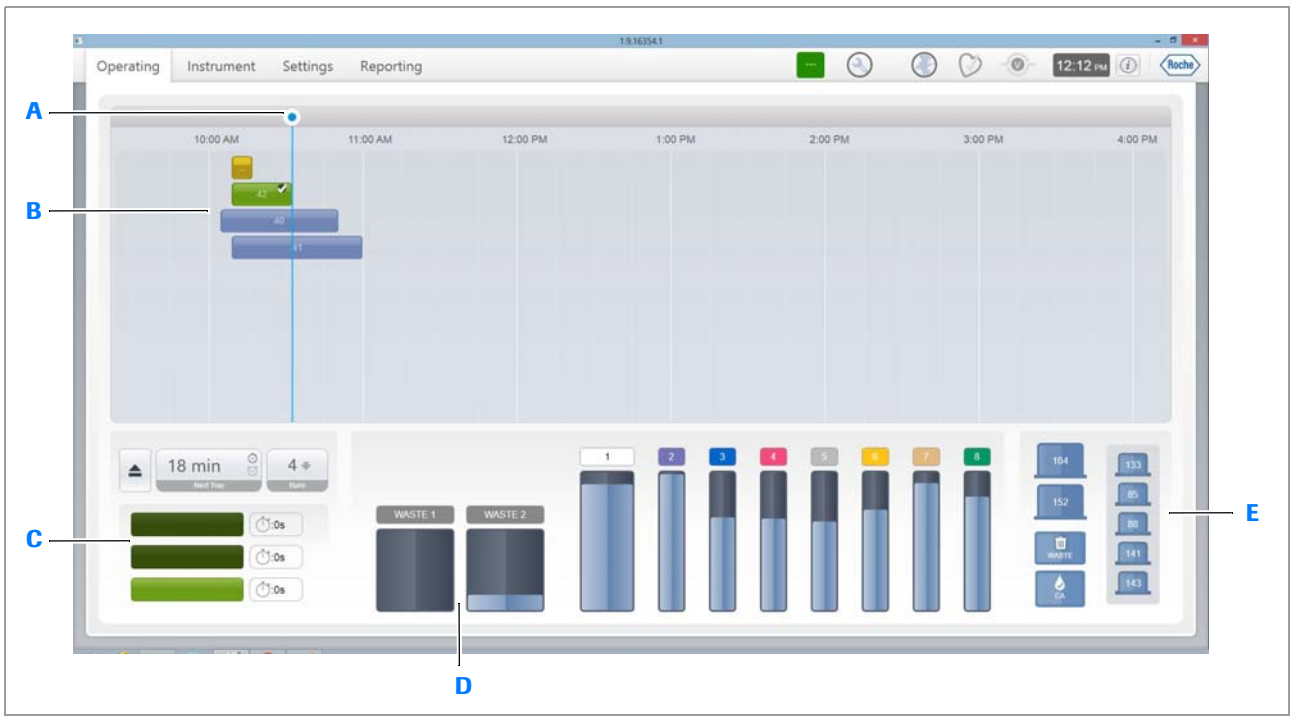
About the user interface

Use the user interface to perform VENTANA HE 600 system operator tasks.

Operating view

To navigate to the **Operating** view, choose the **Operating** tab.

The **Operating** view displays an overview of the trays and consumables currently in the system. You can view the status of the trays and consumables at a glance or choose an indicator to get more information.



A Current time indicator
B Tray status indicators
C Portal status indicators
D Waste status indicators
E Consumable status indicators

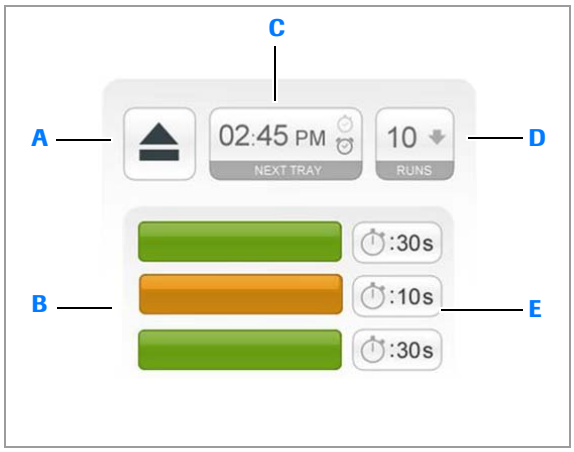
Tray status

To view the detailed status of a tray or slides, choose a tray status indicator. The blue line indicates the present time. The following list describes what the colors on the tray status indicators represent.

Color	Status of the tray
Green	Completed processing
Blue	Currently processing
Yellow	Aborted
Red	Attention required, error

Tray monitoring status colors

Portal status



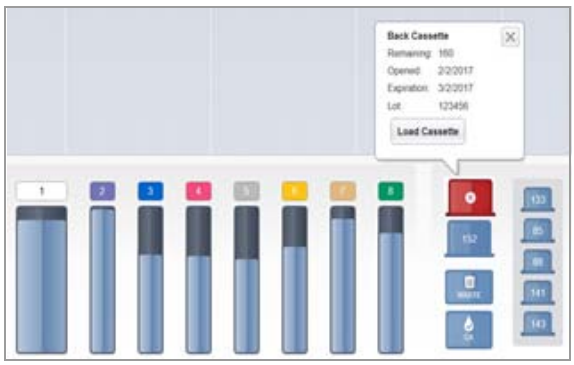
- **A** Open portal button
- **B** Portal status indicators
- **C** Actual time the next tray will be completed or time remaining until tray will be completed
- **D** Number of trays in the system
- **E** Amount of time before the portal door will close

To determine if tray portals are ready for new trays to be loaded, view the portal status indicators. To load new trays, choose . The following list describes the status indicators.

Color	Behavior	Description
Green	Solid	Portal is available to load a tray.
	Flashing	Portal contains a tray that is ready to be unloaded.
Yellow	Solid	Tray has been loaded successfully, or portal will receive tray soon, or tray is cooling in the portal.
	Flashing	Tray has been loaded backward.
Gray	Solid	Portal has been disabled, or system is off.
Red	Solid	Portal has an error.

Portal status indicators

Consumable status



To view the current status of consumables, choose the status indicator for the reagent, coverslip cassette, or coverslip activator. View the status at a glance, or tap an indicator for additional information. The consumable indicators have different colors and information associated with each. The following list describes the consumable status indicators.

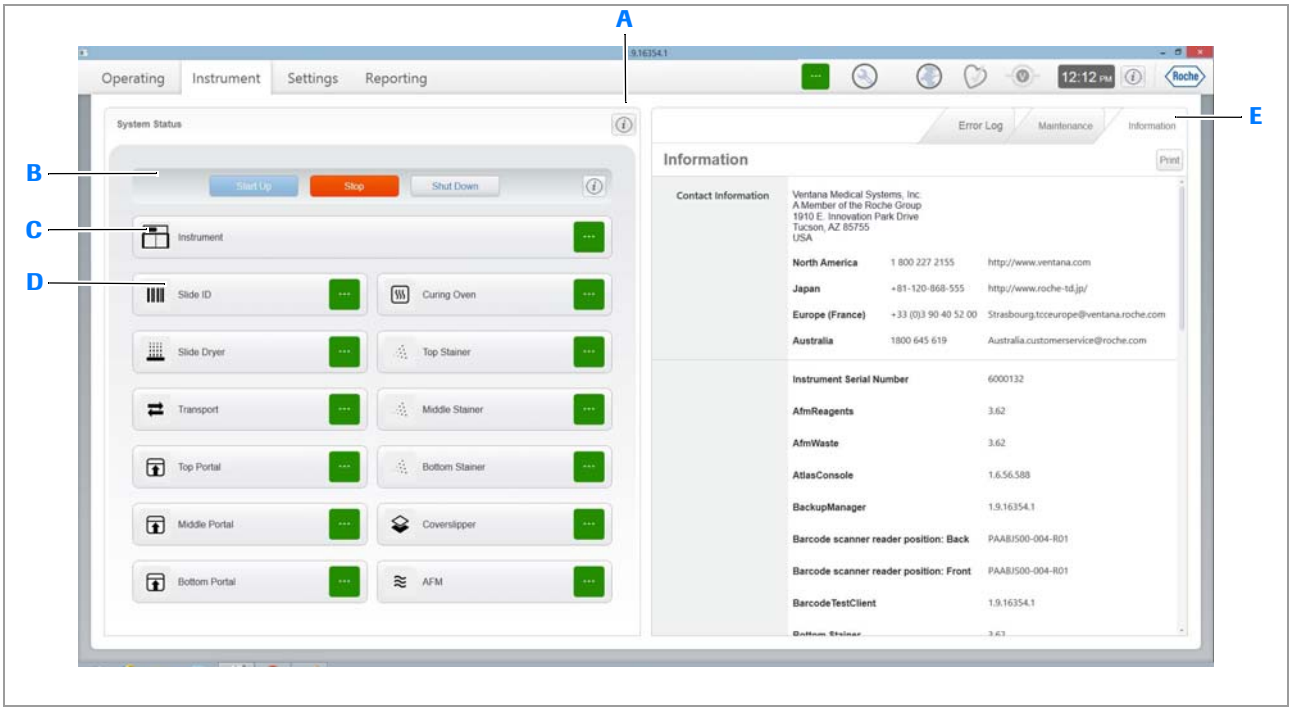
Color	Status of the reagent or consumable
Blue	Current amount of available consumable is adequate.
Yellow	Level of fluid is low.
Red	Empty. If x appears, the consumable is expired or it has the wrong RFID.
Gray	Not detected.
Yellow background surrounding cassettes	More cassettes needed.

Consumable status indicators

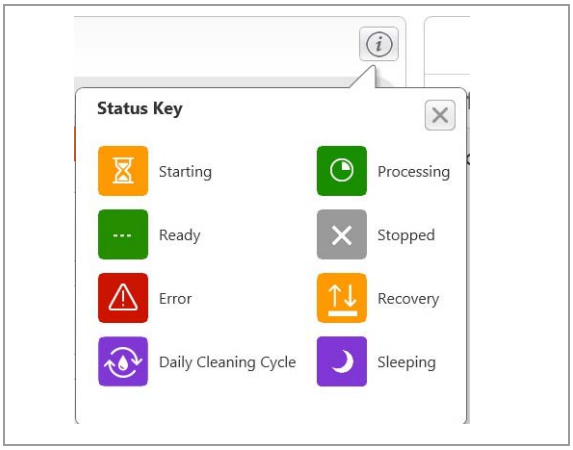
Instrument view

To navigate to the **Instrument** view, choose the **Instrument** tab.

The **Instrument** view displays an overview of the system modules on the left side and tabs to access error logs, instrument information, and a maintenance schedule on the right.



A System status key
B Power buttons
C Instrument status indicator
D System status indicators
E Error, Maintenance, and Information tabs



To view a description of each of the status colors, choose .

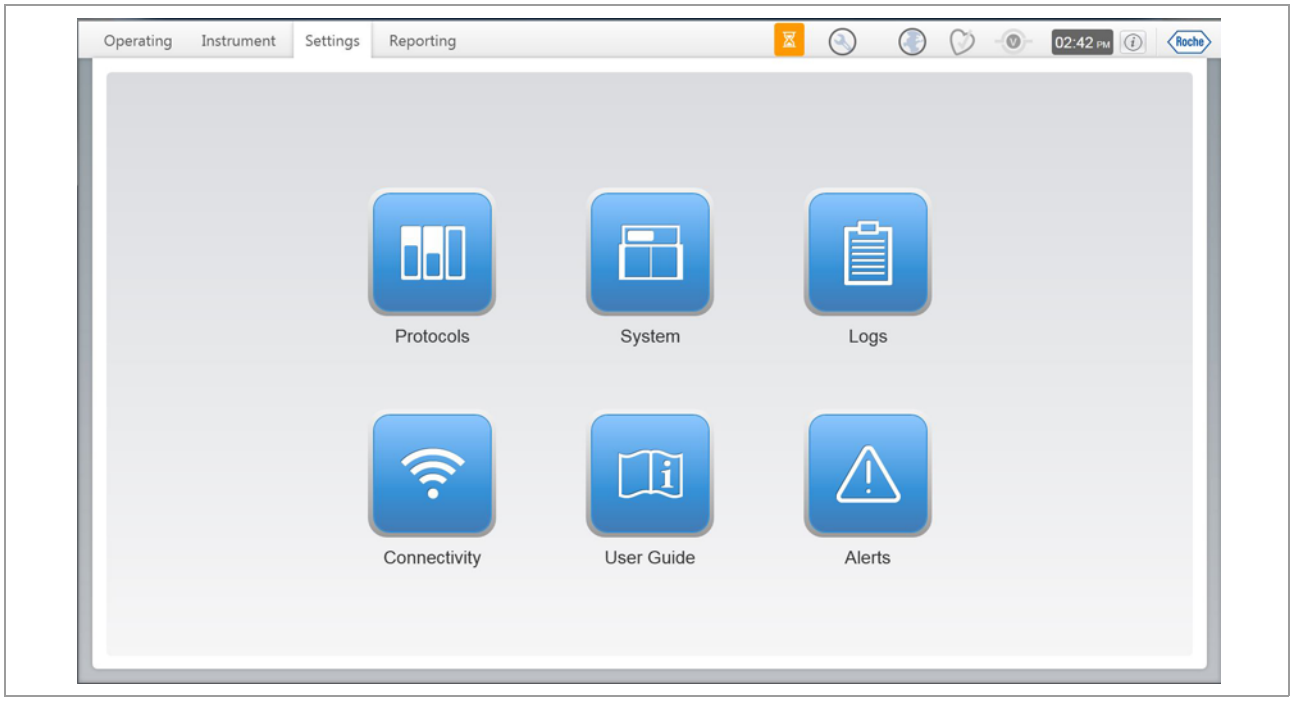
To view details about a system module, choose any of the tray portal, transportation system, barcode scanner, slide dryer, curing oven, AFM, coverslipping, and staining module indicators.

In the right pane, the error logs, instrument information, and a maintenance schedule are available.

Settings view

To navigate to the **Settings** view, choose the **Settings** tab.

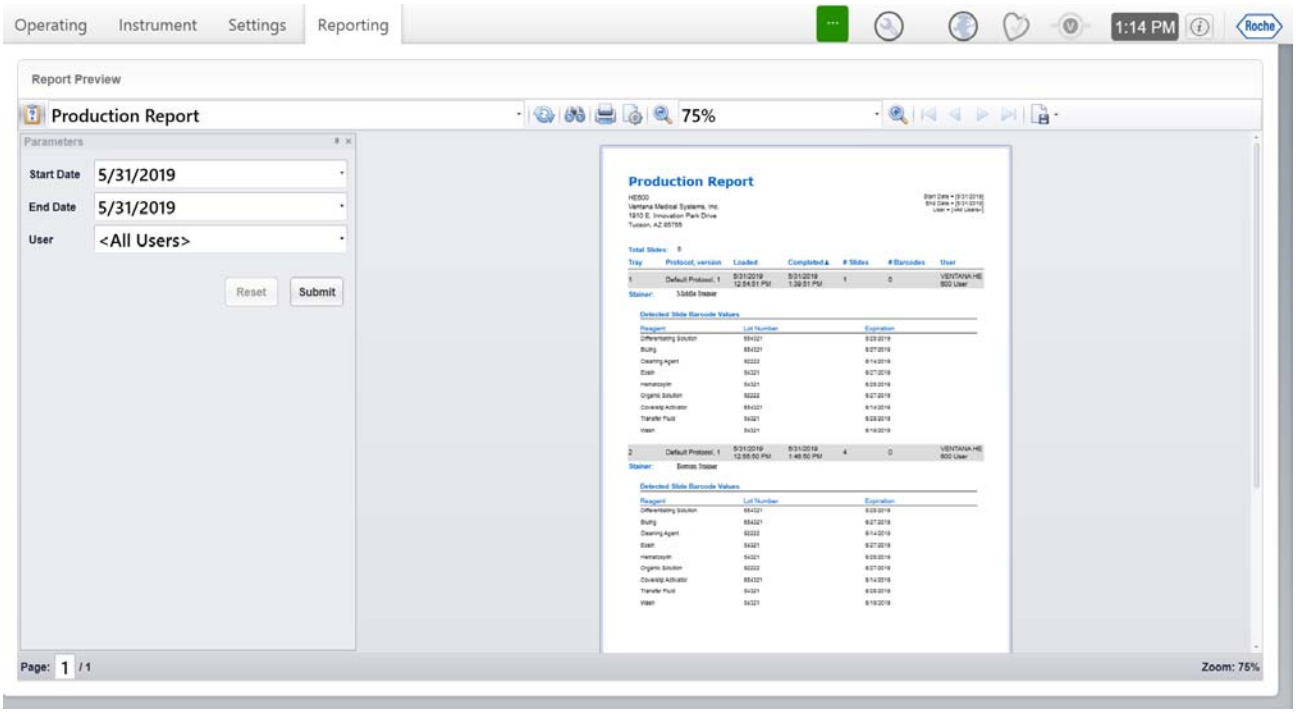
Choose **Protocols**, **System**, **Logs**, **Connectivity**, and **Alerts** to customize settings for each. Choose **User Guide** to open this manual from the touch screen.



Reporting view

To navigate to the **Reporting** view, choose the **Reporting** tab.

You can view protocol, inventory, production, operator, or preventive maintenance reports. You can also save reports as a PDF or CSV file to a USB drive inserted on the left of the monitor.



Related topics

- About the computer and monitor (61)
- About the navigation toolbar and notification area (62)
- About CareGiver remote instrument support (69)
- About VANTAGE Workflow Solution (70)

About CareGiver remote instrument support

The VENTANA HE 600 system offers integration with CareGiver remote instrument support. CareGiver Remote Support provides an interface between Roche service representatives and the VENTANA HE 600 system customer computer to help with technical services in real time.

CareGiver Remote Support uses a web-based interface and tool set to remotely identify, understand, and repair performance problems with connected systems. The ability to remotely share screens and performance data speeds the recovery process with connected Roche Tissue Diagnostics systems. Additionally, CareGiver Remote Support provides automated software downloads and proactive error messaging monitoring to drive laboratory efficiency.

To verify the connection between CareGiver Remote Support and the VENTANA HE 600 system, locate  in the notification area at the top of the user interface. If the icon changes from dark gray to light gray, the system is not connected to CareGiver Remote Support.

Contact Roche support for details regarding connection and security.

NOTICE

Not intended for patient data assessment or diagnosis

CareGiver Remote Support does not collect or transmit any personal healthcare information.

- Do not use CareGiver Remote Support data for patient assessment or diagnosis.

Related topics

- About the computer and monitor (61)
- About the navigation toolbar and notification area (62)
- About the user interface (64)
- About VANTAGE Workflow Solution (70)

About VANTAGE Workflow Solution

The VENTANA VANTAGE Workflow Solution is available for customers to incorporate VENTANA HE 600 system slide staining activity into their laboratory workflow. Reports can be downloaded within VANTAGE Workflow Solution.

The connection between VANTAGE Workflow Solution and the VENTANA HE 600 system can be verified from any screen by viewing  . If the icon changes from dark gray to light gray, the system is not connected to VANTAGE Workflow Solution.

Related topics

- About the computer and monitor (61)
- About the navigation toolbar and notification area (62)
- About the user interface (64)
- About CareGiver remote instrument support (69)

List of system specifications

In this section

General specifications

The following specifications apply to the system and the consumables used on the system.

Specification	Requirement
Automation	Fully automated baking, staining, coverslipping, and curing of H&E specimens
Slide transportation	20 slides capacity per tray
Throughput	Approximately 180-200 slides per hour, depending on the protocol and tray loading
Consumables	9 reagents plus coverslips (Roche-provided)
Slides	• Dimensions: 25 mm x 75 mm *or* 26 mm x 76 mm • ISO certified • One end of slide must have label or painted opaque (not blue, green or frosted) • Slides do not have to be charged
Slide tray capacity	10 trays can be present in the system at one time
Slide tray clip size	25 mm *or* 26 mm clip size
External DI water supply	Not necessary
Configuration	Floor unit
Recommended connectivity	USB cable for printer connector; Standard Category 5, RJ45 network port located within 9.84 ft (3 m) of the left side of the system with network port with TCP/IP ports 80 and 443 open(1)

General specifications

(1) Neither the USB or the Ethernet cable should be longer than 9.84 ft (3 m) to help minimize electromagnetic interference.

Related topics

- Dimensions and weight (72)
- Power ratings (73)
- Environmental conditions (74)

Dimensions and weight

The system has the following dimensions and weight.

Specification	Metric measurement (Europe)	Imperial measurement (US)
Height is less than or equal to	202 cm	80 in
Depth is less than or equal to	69 cm	29 in
Width is less than or equal to	144 cm	57 in
Weight - direct to drain system less than or equal to (imperial measurement US) and metric measurement updated.	621 kg	1370 lbs
Weight - waste collection system less than or equal to	645 kg	1422 lbs
Venting (highly recommended)(1)	60–70 CFM	1222–1426 ft/min

System dimensions and weight

(1) Venting is recommended. The ventilation connection should be within 15 ft of the top of the instrument. Refer to site requirements documentation for further ventilation requirements.

Related topics

- General specifications (71)
- Power ratings (73)
- Environmental conditions (74)

Power ratings

The power supply must fulfill the following requirements. Never operate the system if one of the requirements is not fulfilled.

Specification	U.S. and Canada requirements	Japan requirements	Europe requirements
Voltage	120 V	100 V	230 V(1)
Peak power	5 kW	5 kW	5 kW
Average power	3.5 kW	3.5 kW	3.5 kW
Frequency	50/60 Hz	East Japan 50 Hz West Japan 60 Hz	50 Hz
General power cords and transformers (consult your local service center for further details regarding your installation needs)	Transformer required if 230 V not available	Transformer required if 230 V not available	System is supplied with power cord, plugs, and sockets for 230 V +/- 10%, 30 A(2) installation where 230 V is available

System power ratings

(1) 240 V exceptions do occur.

(2) 30 A in this list and elsewhere in this manual is the rating for the electrical power cord and main circuit breaker.

Related topics

- General specifications (71)
- Dimensions and weight (72)
- Environmental conditions (74)

Environmental conditions

The location where the instrument is installed must comply with the following conditions. Never operate the system if one of the environmental conditions is not fulfilled.

Specification	Requirement
Operating temperature range	15 °C –32 °C (59 °F to 90 °F)
Operating humidity	10%–80%, non-condensing
Location	The system is expected to stain appropriately under normal operation at atmospheric pressures associated with altitudes up to 6000 feet

Environmental conditions for installation location

Related topics

- General specifications (71)
- Dimensions and weight (72)
- Power ratings (73)

Supported material

In this section

List of supported reagents and consumables

The following guidelines apply to all reagents and consumables:

- The expiration date for HE 600 Differentiating Solution is 120 days after it is opened and started to be used on the system.
- The expiration date for all other reagents and consumables is 28 days after they are opened and start to be used on the system. See the following table for expiration periods for unopened consumables.
- Reagents and consumables should be stored at between 15 and 30 °C.

The following table provides additional information about the reagents and consumables used in the VENTANA HE 600 system.

Position on the instrument	Reagent	Function	Ingredients	Label color	Volume	Expiration date when unopened
1	Wash	Dispensed after each reagent for surface preparation and rinsing, washing, and differentiating	Surfactant in propylene glycol and water solution	White	4 L	24 months
2	Hematoxylin	Stains nuclear details	Proprietary formulation based on Gills hematoxylin	Purple	2 L	12 months
3	Bluing	Shifts the color of the hematoxylin stained features from red/purple to purple/blue	Tris base in propylene glycol and water solution (pH 8.0-9.0)	Blue	2 L	24 months
4	Eosin	Stains cytoplasmic details (RBCs, smooth muscle, and collagen)	Eosin Y in propylene glycol, acid, and water solution (pH 3.65-4.25)	Pink	2 L	24 months
5	Organic solution	Removes paraffin from tissue and prepares slide for coverslipping	Mixture of 2 aliphatic hydrocarbons (Linpar and Drakesol)	Gray	2 L	24 months

Reagents and consumables overview

Position on the instrument	Reagent	Function	Ingredients	Label color	Volume	Expiration date when unopened
6	Differentiating solution	Reduces hematoxylin intensity and mucin staining	Acetic acid in propylene glycol and water solution (pH 2.9-3.1)	Yellow	2 L	24 months
7	Transfer fluid	Used to transition between from organic to aqueous states	Dipropylene glycol propyl ether (dPGPE)	Tan	2 L	24 months
8	Cleaning solution	Cleans hematoxylin lines and stainer manifold during daily maintenance	Diluted hydrochloric acid in propylene glycol and water solution	Green	2 L	24 months
	Coverslip activator	Activates coverslip glue	Limonene	White	2 x 120 mL	18 months
	Glass coverslips	Protects stained slides	Glass coated with adhesive	N/A	N/A	12 months

Reagents and consumables overview

List of supported fixatives

Tissue can be fixed according to your laboratory's best practices.

Refer to the manufacturer's safety data sheet for information about the fixative and its ingredients.

The fixatives shown in the following table were tested for use on the VENTANA HE 600 system when the instrument was released.

Fixative	Manufacturer
Acid Zinc Formalin	Newcomer Supply
Bouin's Solution	Richard-Allan Scientific
EverFix	Ever Scientific
Fix-All	Surgipath
Shandon Glyo-Fixx	Thermo Electron Co
GTF	StatLab
IBF	Surgipath
10% NBF	BDH/VWR
O-Fix	Surgipath
Stat-Fix	StatLab
Z-5 (aka Z-Fix)	Anatec
Zinc Formalin	Polysciences, Inc

Fixative specifications

List of supported barcodes

The VENTANA HE 600 system is able to identify specimens by barcode.

The following guidelines apply to all barcodes used on slides stained using the VENTANA HE 600 system:

- The barcode element size must be 5 mm or greater. The barcode must be printed at a resolution of 300 dpi or greater.
- Barcode reader can only be set up for 1 barcode at a time.

Optimized barcodes

The barcode reader has been optimized to decode the barcodes shown in the following table.

Barcode example	Barcode type
	Code 128
	Interleaved 2 of 5
	Data matrix
	PDF 417
	QR code

Barcodes optimized for the VENTANA HE 600 system

Non-optimized barcodes

The barcode reader has not been tested for the barcode symbologies shown in the following lists and requires user validation.

The following lists the one-dimensional symbologies:

UPC/EAN	Code 11
Bookland EAN	Discrete 2 of 5
UCC Coupon Code	Codabar
ISSN EAN	MSI
GS1-128	Chinese 2 of 5
ISBT 128	Matrix 2 of 5
Code 39	Korean 3 of 5
Trioptic Code 35	Inverse ID
Code 32	GS1 DataBar
Code 93	Composite Codes

The following lists the two-dimensional symbologies:

MicroPDF417
Data Matrix Inverse
Maxicode
MicroQR
QR Inverse
Aztec
Aztec Inverse

List of allowed cleaning substances

The following solutions are approved for cleaning external surfaces:

- Use mild dishwashing detergent to clean spills on reagent bottles or hats.
- Use a 10% solution of chloride bleach to remove hematoxylin and eosin stains.

About supported slide types

Slides must be either 25 mm x 75 mm or 26 mm x 76 mm with a typical thickness of 1.0 mm. A standard slide has square corners. Corner-cut slides (also called beveled or rounded corner slides) are also acceptable for use.

Additional guidance:

- Slides with adhesive coatings may cause non-specific staining.
- Some coated slides may require adhesive labels to prevent wet trays or staining issues.
- Positively charged slides are not required.
- The slide is divided into two parts: the label area and the sample area. The instrument stains slides in the sample area, which is defined as 0.5 mm inside the left, right, and distal (bottom) edge of the slide, and below a line 24 mm away from the top edge of the slide on the label.

General specifications (71)

Slide labeling and loading guidelines (101)

User Assistance

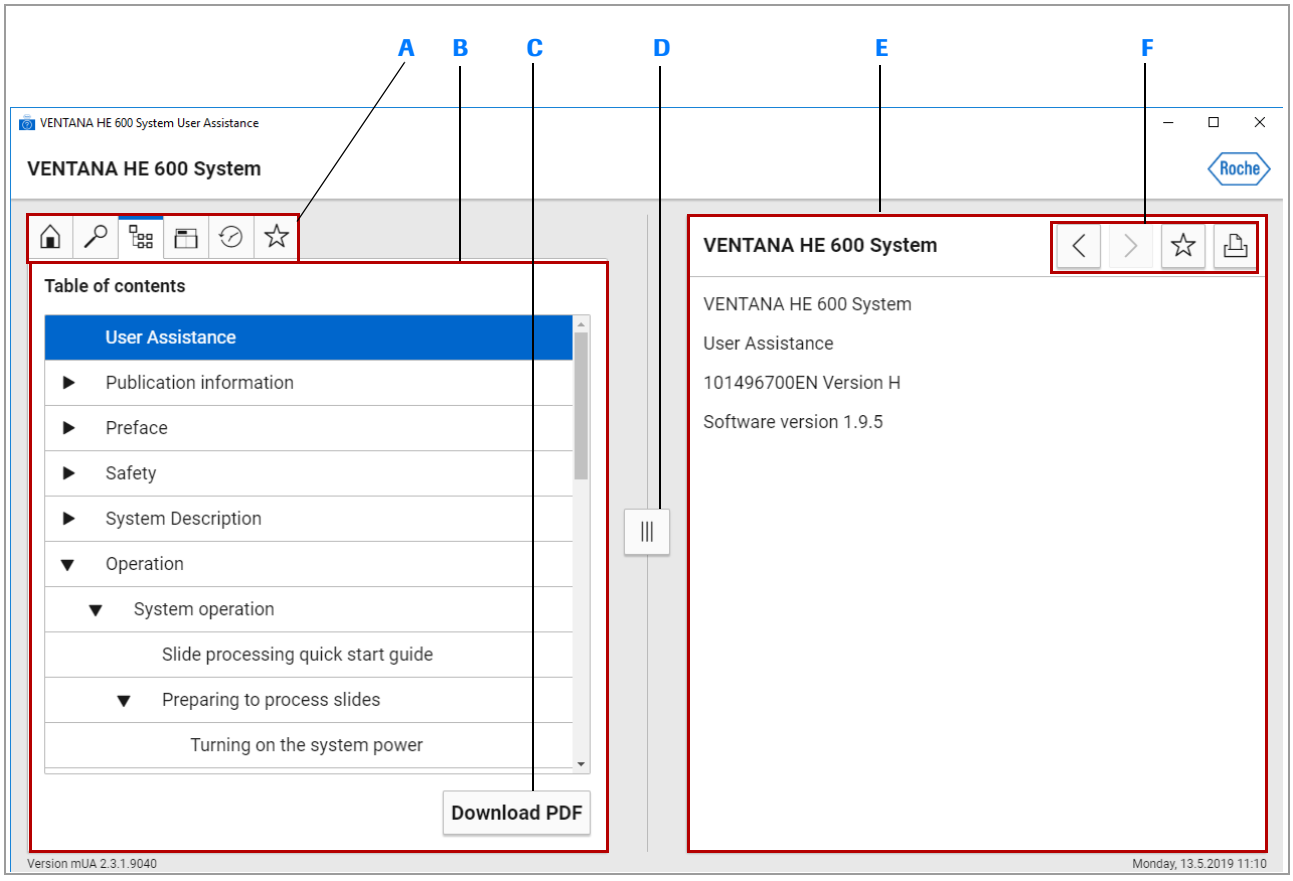
In this chapter 3

Opening User Assistance

User Assistance includes information about the software, a system explorer to zoom in on areas of the instrument, and videos to assist you with performing instrument tasks and functions.

User assistance is available in VENTANA HE 600 system software on the host computer.

The User Assistance window is divided into a main panel and a detail panel.



A Choose a tab to view information
B Main panel
C Download the PDF of the user manual
D Move the panel splitter to resize the main panel and detail panel
E Detail panel
F Buttons for navigation and other functions

Tabs in the main panel

The tabs in the main panel provide the following functions:

Home
To view the description of the available tabs. From here, you can access each tab directly.

Search in this publication
To search for information in the whole User Assistance.

Table of contents
To get an overview of the User Assistance publication.

System explorer
To explore the system in detail by zooming into areas of interest.

Recently viewed
To get a list of the most recent topics that you have viewed.

Favorites
To store your frequently used topics for direct access at any time.

To open user assistance

1 Double-click the **User Assistance** icon on the desktop of the host computer.

2 In the User Assistance, choose a tab in the main panel to search for information or choose the button to view the table of contents.

3 Choose the button to close User Assistance.

Related topics

- Searching in the User Assistance (83)
- Exploring the system and playing videos (85)

Searching in the User Assistance

Use the search function in the User Assistance to find information directly.

Search results

The **Search results** table lists the 20 topics with the highest ranking.

The term you searched for is highlighted. If you searched for a deprecated term, the preferred term is highlighted.

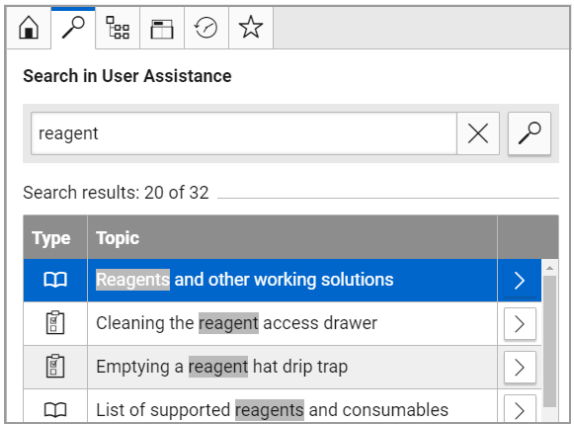
Topic types

The icon on the left of the search results shows you the topic type:

Description
Explains concepts and gives additional background information.

Procedure
Explains how to perform a task step-by-step.

Reference
Provides reference information.



To search in the User Assistance

1 In the User Assistance, choose the tab.

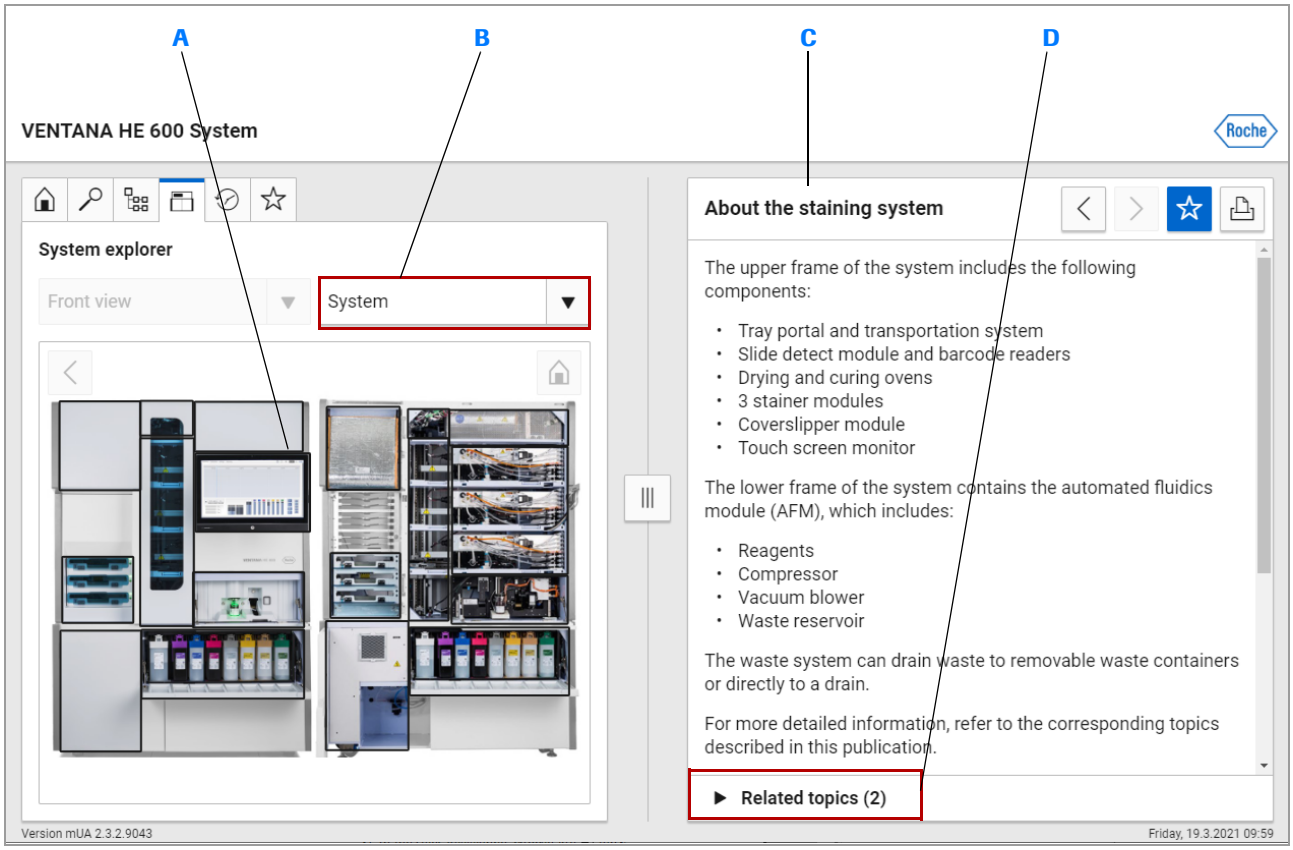
2 To perform a simple search, enter full or partial text entries, and then choose the button.

Related topics

- Exploring the system and playing videos (85)

Exploring the system and playing videos

On the **System explorer** tab, explore the system in detail by zooming into areas of interest, or view videos to assist you in performing certain actions.



A Choose a black-bordered area in the image

B Choose a view from the drop-down list

C View information about the selected element

D Links to topics with related information

To use the system explorer

1 In the User Assistance, choose the tab.
➔ The **System explorer** displays in the left pane.

2 From the drop-down list, choose a view from which to start, or choose a black-bordered area in the image view.

To view a video

1 Choose the button to expand the viewer.

2 To play a video, choose the button.

Related topics

- List of videos in the User Assistance (87)

List of videos in the User Assistance

The User Assistance includes videos to help you become familiar with the system.

Videos are provided on the following topics.

System overview

Overview of the system components

- Staining process workflow (51)
- About the transportation system (55)
- About the barcode reader and slide detect module (56)
- About the slide dryer (57)
- About the slide stainer modules (58)
- About the coverslipper module (58)
- About the waste capture module (59)
- About the automated fluidics module (60)
- About the computer and monitor (61)

System operation

Guidelines for loading a slide onto a tray

- Slide labeling and loading guidelines (101)

Procedure on how to load a tray into a portal after removing a tray.

- Loading a tray into a portal (105)

Procedure on aborting a tray

- Aborting a tray (115)

Procedure on emptying a reagent hat drip trap

- Emptying a reagent hat drip trap (129)

Procedure on unloading used coverslip cassettes

- Unloading used coverslip cassettes (136)

Errors and troubleshooting

Procedure on how to view the error log

- Viewing and filtering the error log (173)

The following videos are available in the troubleshooter:

- Procedure on removing trays from the transportation system
- Procedure on recovering a tray from the garage
- Procedure on recovering a tray from the slide dryer
- Procedure on recovering a tray from the slide stainer module
- Procedure on recovering a tray from the coverslipper module
- Procedure on recovering a tray from the curing oven
- Procedure on removing coverslips from slides

The tray recovery troubleshooter contains videos to demonstrate many of the tray recovery procedures.

Tray recovery troubleshooter (192)

Related topics

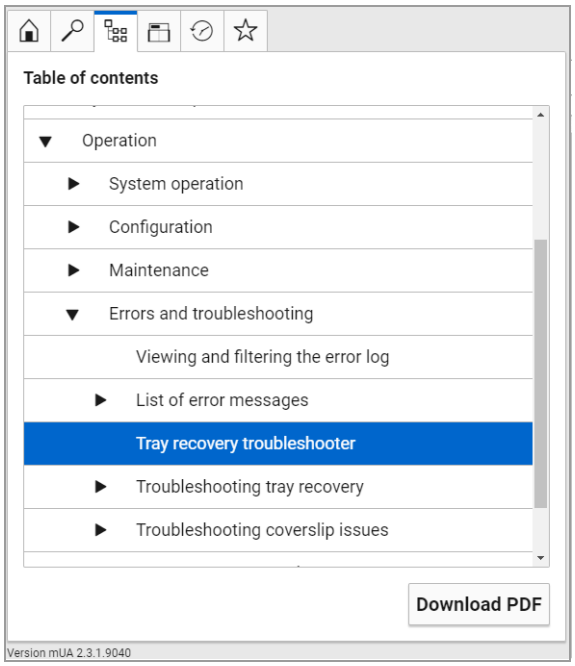
- Exploring the system and playing videos (85)

Using the tray recovery troubleshooter

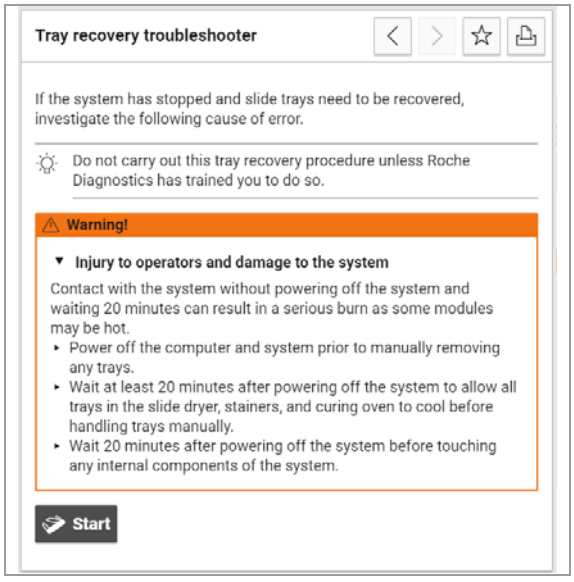
The tray recovery troubleshooter steps you through the process of removing trays from the system.

Tray recovery troubleshooter (192)

To use the tray recovery troubleshooter



1 Navigate to the tray recovery troubleshooter.



2 Choose the **Start** button.

3 Follow the procedure and view the procedure video, if available.

4 When you reach the question at the bottom of the procedure, choose the answer that best fits your situation, and press the **Next** button.

5 Continue to step through the procedures until you reach a resolution.

ℹ You can press the **Cancel** button to exit the troubleshooter at any time.

6 At the end of the process, a list of the troubleshooting steps that you completed displays.

Operation

System operation

In this chapter 4

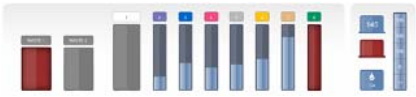
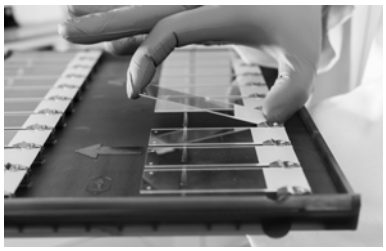
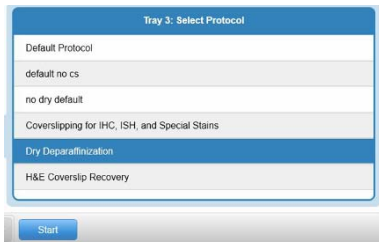
VENTANA HE 600 system Best Practices

The following are best practices for operating the VENTANA HE 600 system:

- At the beginning of a shift, empty the waste containers, replace empty reagents, and remove empty coverslip cassettes.
- Before loading trays, check that all slides are aligned properly. Use your thumb to check that slides are correctly seated in the clips.
- To improve throughput and reagent usage, load full trays.
- The system does not treat the back of slides. Clean any paraffin or dirt on the back of slides prior to review.
- Paraffin that collects on trays may transfer to the transportation system and modules. This may cause problems with tray detection and transportation.
- Cycle the power of the system at least once a week to improve computer and communication performance of the system.
- For overnight runs, make sure the bottle of Cleaning Solution is at least 50% full.
- Only skip the Clean Cycle on Shut Down during troubleshooting. The system requires a clean cycle on restart, which may delay slide processing more than an hour.
- When loading multiple trays at the same time, make sure to choose the correct protocol for each tray before you choose Start.
- Empty reagent hat drip catchers regularly to prevent spills and drips. Clean any drips with damp cloths.

Slide processing quick start guide

The following table provides an overview of the slide processing steps. For detailed information, see the links in each step.

Step		User action
1 Start up the system.		1. Turn on the system Power switch. 2. In the **Instrument** tab, choose the **Start Up** button. Turning on the system power (98) Starting up the system (99) Enabling the Scheduled Start (155)
2 Check system and slide readiness.		1. In the **Instrument** tab, make sure that the transportation and portal indicators are green. 2. In the **Operating** tab, check the status of consumables and waste, and address as needed. 3. Make sure that slides meet guidelines and are prepared for processing. Verifying system readiness (100)
3 Load slides into a tray.		1. Hold the slide at the top and bottom with your thumb and forefinger, and insert the end of the slide with the label into the metal clips. Push the slide until it is securely seated in the clips. 2. Visually inspect the slides on the tray to make sure that they are vertically and horizontally level and aligned. Loading slides onto a tray (103)
4 Load the tray into a portal.		1. In the **Operating** tab, choose ⏏ to open all portals that are ready to receive trays. 2. Slide the tray into an open portal with the arrow on the tray pointing toward the portal. Loading a tray into a portal (105)
5 Select a protocol.		1. In the **Load Trays** view, choose a tray for which you want to select a protocol. 2. From the **Select Protocol** list, choose the protocol to apply to the tray. 3. (Optional) To assign priority status to the tray, select the **STAT** checkbox. 4. Choose the **Start** button. Selecting protocols (107)

Slide processing quick start guide

Step		User action
6 Unload slide trays from the system.		1. Locate a portal that has a green flashing indicator. 2. In the **Operating** tab, choose ⏏, and remove the completed tray from the portal. 3. If you have another tray ready to process, load the new tray into the open portal. Unloading a tray from a portal (116)

Slide processing quick start guide

Preparing to process slides

In this section

Turning on the system power

Make sure that the system power is on before starting up the system. If the user interface is not visible in the monitor, the system power must be turned on.

To turn on the system power

1 Locate the Power switch on the left panel of the system.

2 Turn the Power switch from 0 to I.

➔ The user interface launches and displays on the monitor.

Related topics

- Starting up the system (99)
- Verifying system readiness (100)
- Loading slides onto a tray (103)

Starting up the system

If the system power has just been turned on or slide processing has been stopped, you need to start up the system so that it can prepare to process slides.

If the cleaning cycle has not been run in the past 24 hours, a **Warning** dialog box displays after you choose the **Start Up** button to indicate that the cleaning cycle will run before the system starts up.

If a cleaning cycle is currently running on the system, the system will not start up until the cleaning is completed.

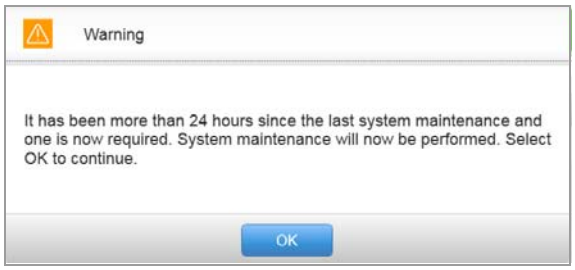
Make sure that the following prerequisites are completed before starting this procedure:

- ☐ System power must be on.
- Turning on the system power (98)

To start up the system

1 Navigate to the **Instrument** tab.

2 Choose the **Start Up** button.
   ➔ If the cleaning cycle was not run in the past 24 hours, a dialog box displays, prompting you to run the cleaning cycle before the system starts up.



3 If the dialog box for the cleaning cycle displays, choose **OK,** and run the cleaning cycle.

Related topics

- Turning on the system power (98)
- Verifying system readiness (100)
- Loading slides onto a tray (103)
- Enabling the Scheduled Start (155)

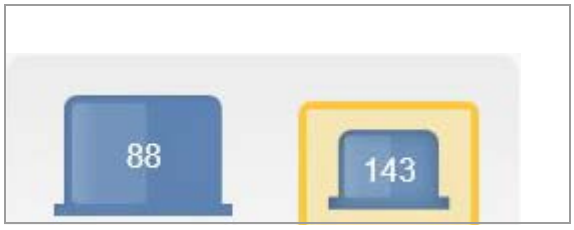
Verifying system readiness

Make sure that the system is ready to start processing slides.

Make sure that the following prerequisites are completed before starting this procedure:

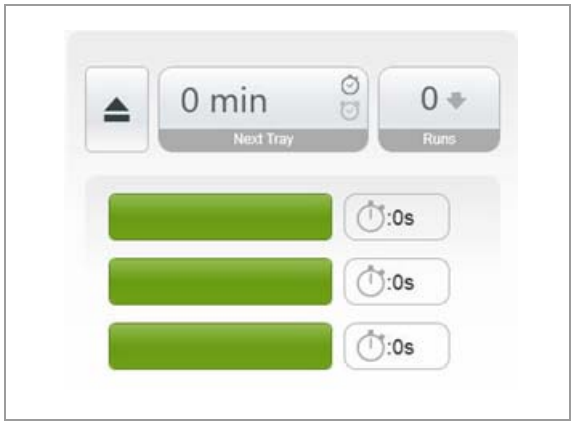
- ☐ If necessary, turn on the system power and start up the system.
- Turning on the system power (98)
- Starting up the system (99)

To verify system readiness



1 In the **Operating** tab, check the status of the following indicators. If any of the indicators are red, take the appropriate action.
   - **Reagents**: Replace empty bottles. See “Replacing reagent containers” (123).
   - **Coverslip cassettes**: Install new coverslip cassettes. See “Loading coverslip cassettes” (135).
   - **Coverslip cassette waste**: Discard empty coverslip cassettes. See “Unloading used coverslip cassettes” (136).
   - **Coverslip activator**: Replace the coverslip activator bottle. See “Replacing the coverslip activator” (138).
   - **Waste containers**: Empty waste containers. See “Emptying waste containers” (143).

2 In the **Instrument** tab, check the status of the **Transport** and **Portal** status indicators. If these indicators are green, the instrument is ready to receive trays.
   - ❶ You can load trays before all modules are ready, but slide processing will not begin until the slide dryer is available.



3 In the **Operating** tab, check the portal status indicators.
   - If a portal status indicator is solid green, the portal is ready to load a tray.
   - If the portal status indicator is flashing green, you need to unload the tray in the portal before loading a new tray.

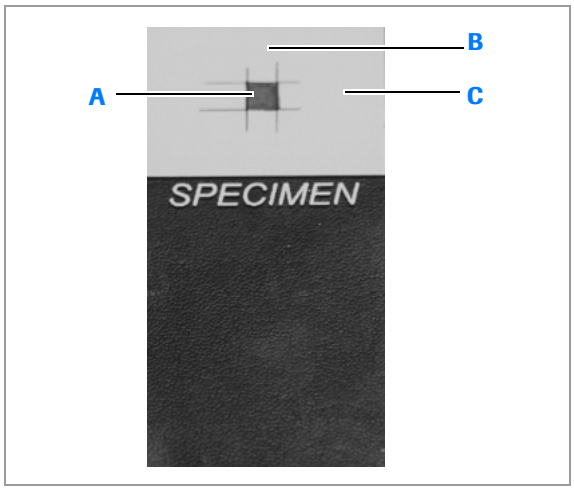
Related topics

- About the navigation toolbar and notification area (62)
- About the user interface (64)
- Turning on the system power (98)

Slide labeling and loading guidelines

To ensure proper slide identification and processing, the slides must be labeled and loaded onto the tray properly.

Slide labeling guidelines



A 3 mm x 3 mm area of the label that should not have any markings.

B 7.8 mm between the top and bottom edges of label and the edges of the 3 mm x 3 mm non-marked area that should not have any markings.

C 11 mm between the right and left edges of the label and the edges of the 3 mm x 3 mm non-marked area that should not have any markings.

Follow these guidelines for slide labeling to ensure that the slide detect module or barcode reader can correctly identify the slides.

- Do not mark the center of the painted slide area or the slide label. Refer to the illustration for specifics on the area that should not be marked.
- Avoid using slides with green labels (or painted label areas), if possible.
- Apply labels to the label area if:
  - The label area is frosted (not opaque).
  - The slides will be processed with coverslipping protocols.

If slides or slide labels do not meet these guidelines and reformatting of the labels is not possible, contact Roche support to assist you with adjusting the slide detect module or barcode reader.

Slide loading guidelines

Slides must be installed securely into the slide clips. The tops and bottoms of slides must be aligned parallel to the slides on the same row of the tray.

Use 25 mm trays for 25 mm slides and 26 mm trays for 26 mm slides.

The following video demonstrates the correct way to load slides into a tray.

Video clip (.mpg, .mp4): SlideInstallGood.mp4
Title: Correct way to load slides

The following video demonstrates the incorrect way to load slides into a tray.

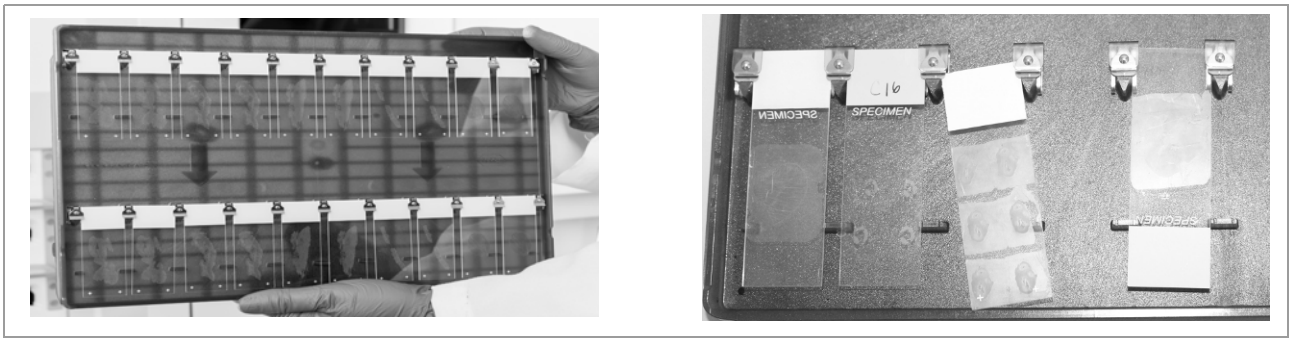
Video clip (.mpg, .mp4): SlideInstallBad.mp4
Title: Incorrect way to load slides

After loading slides into the tray, make sure of the following:

- The tissue slide is facing up.
- Barcodes are positioned at least 1 mm away from the tray clip.
- The slide is securely fastened by the slide clips.
- The opaque or labeled end of the slide is secured in the clips.

For more information, see the procedure for loading slides onto a tray.

Loading slides onto a tray (103)



Slides on left side are loaded and aligned correctly. Slides on right slide are loaded and aligned incorrectly.

Slide tray handling guidelines

When adding or removing slide trays from a stack, follow these guidelines to avoid damaging slides or clips:

- When stacking trays, make sure that the edges are aligned so that the edge of a tray does not touch the slide area of the tray below it.
- When removing a tray from a stack, lift the tray straight upward, making sure not to disturb the slides on the tray below.

Related topics

- List of supported barcodes (77)
- Loading slides onto a tray (103)
- Enabling the Scheduled Start (155)

Loading slides onto a tray

To ensure proper slide identification and processing, it is important to properly load slides onto the tray.

⚠ CAUTION

Possible cuts from broken slides.

The tray and slide clips are designed to allow a minimum of force when inserting slides. The clips have rounded edges to prevent cut hazards. However, care should always be taken when inserting slides. Broken slides and excessive force could result in a minor cut.

▶ If a slide breaks, exercise care when retrieving broken pieces of glass from the tray. Use safety gloves to help prevent cuts.

Before you begin the procedure, make sure that you have the following materials available:

☐ Slides prepared for processing

Make sure that the following prerequisites are completed before starting this procedure:

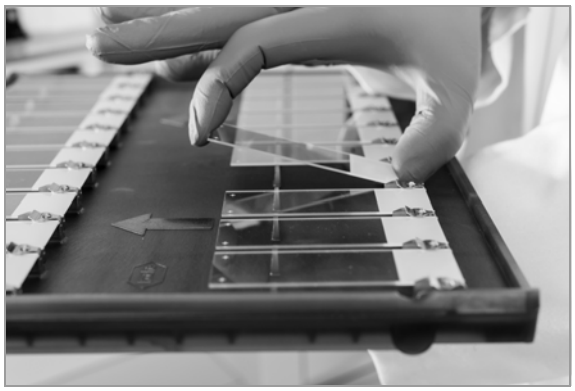
- ☐ Make sure that the slide labels or painted areas follow slide labeling guidelines.
- ☐ Review the slide loading guidelines.
- ☐ If you plan to use a coverslipping protocol, follow the guidelines to prepare the slides for coverslipping in the “About coverslipping protocols” topic.

Slide labeling and loading guidelines (101)

About the coverslipping protocols (108)

To load slides onto a tray

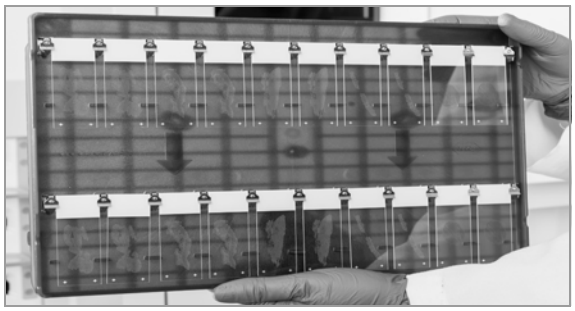
1 Choose an open position on the tray.



2 Holding the slide at the top and bottom with your thumb and forefinger, do the following:

- Insert the label or opaque end of the slide between the metal clips.
- Push until the slide is securely seated into the clips.

3 Repeat Step 2 for each slide.



4 NOTICE If slides are not aligned properly, improper staining or improper placement of the coverslip can occur.

Visually inspect the slides on the tray to make sure that they are vertically and horizontally level and aligned.

Related topics

- Slide labeling and loading guidelines (101)
- Processing a slide tray (105)

Processing a slide tray

In this section

Loading a tray into a portal

Slide trays must be loaded into the portal to begin processing.

Trays can be processed only when loaded correctly. If a tray is loaded backwards, an error message displays.

⚠ CAUTION

Possible personal injury or damage to system.

If hands, fingers, or foreign objects impede the opening or closure of portal doors, personal injury or damage to the system can result.

- Keep hands, fingers, and foreign objects away from portal doors as they are opening and closing.

The following video demonstrates how to load a tray into a portal directly after removing a tray. Continue reading the entire procedure for additional details.

Video clip (.mpg, .mp4): HotSwapTray.mp4
Title: Loading a tray directly after removing a tray

Before you begin the procedure, make sure that you have the following materials available:

☐ A tray loaded with slides to be processed

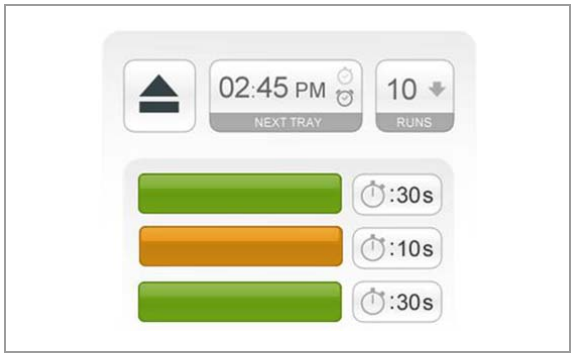
Make sure that the following prerequisites are completed before starting this procedure:

- ☐ At least one portal indicator is solid or flashing green.
- ☐ System readiness is verified.
- ☐ All slides to be processed are loaded on the tray.

Verifying system readiness (100)

Loading slides onto a tray (103)

To load a tray into a portal



1 In the **Operating** tab, choose ⏏ to open all portals that are ready to receive trays.

➔ The portal is open for 30 seconds. In the **Operating** tab, the portal status indicator shows the time that remains until the portal closes.

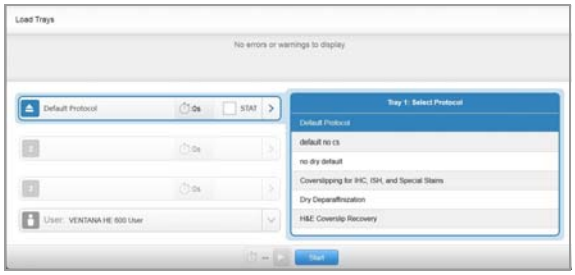
2 Do one of the following, depending on the behavior of the green portal status indicator.

- If a portal status indicator is flashing green, first remove the processed tray from the portal before loading a new tray.
- If the portal status indicator is solid green, the portal is available to receive a tray. Proceed to Step 3.

3 Slide the tray into the open portal with the arrow on the tray pointing toward the portal.

➔ The portal closes, and the portal status indicator turns to solid yellow. After 10 seconds, the **Load Trays** dialog box displays.

If tray portal doors do not close, choose ⏏ again.



4 Select a protocol to apply to the tray.

ℹ See the “Selecting protocols” topic for more information.

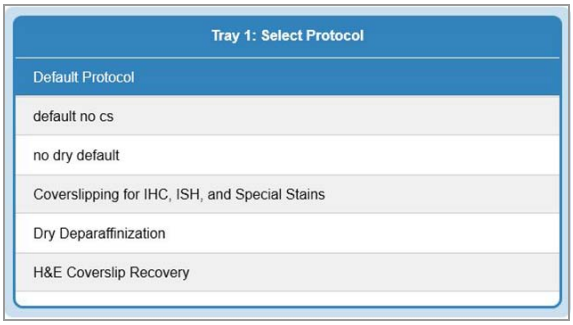
Related topics

- Loading slides onto a tray (103)
- Selecting a staining protocol (109)
- Monitoring a tray during processing (114)
- Unloading a tray from a portal (116)

Selecting protocols

In this section

About selecting protocols



After loading trays, select a protocol or use the protocol that has been set as the default. If you do not select a protocol for a tray that is loaded into a portal, the default protocol is used to process the slides on the tray.

In addition to protocols set up by your lab, the following Roche-supplied protocols are available.

Protocol	Description
Coverslipping for IHC, ISH, and Special Stains	Coverslips slides stained on IHC, ISH, or special stains platforms.
Dry Deparaffinization	Dries and removes the paraffin on slides before loading them onto a Roche Tissue Diagnostic system.
H&E Coverslip Recovery	Coverslips slides that were stained by the VENTANA HE 600 system, but were not coverslipped.

Roche-supplied protocols

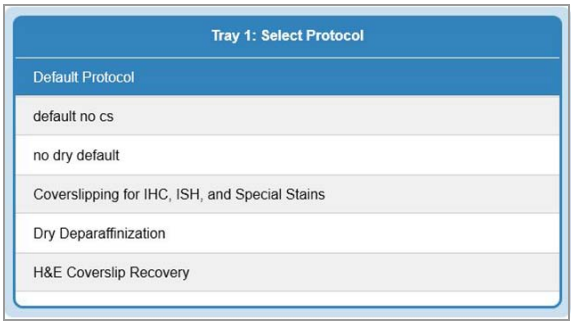
Slides processed using Roche-supplied protocols are for coverslip and deparaffinization only. Slides are not stained using the Roche-supplied protocols.

All protocols use significant system resources and can affect processing time for other trays in the system.

Related topics

- About the coverslipping protocols (108)
- Selecting a staining protocol (109)
- Using the H&E Coverslip Recovery protocol (110)
- Using the Coverslipping IHC, ISH, and Special Stains protocol (111)
- Using the Dry Deparaffinization protocol (113)

About the coverslipping protocols



You can use coverslipping protocols for slides stained on the VENTANA HE 600 system or on slides stained with Roche IHC, ISH, or special stains protocols. The Coverslipping IHC, ISH, and Special Stains protocol was tested with slides that were stained on Roche IHC, ISH, and special stains systems.

Make sure to validate the coverslipping protocols prior to performing any procedures with lab specimens.

NOTICE

Possible stain reading issues

Coverslipping protocols must be validated to ensure that the coverslipping process does not interfere with stains on the slide.

- Roche strongly recommends that customers validate each IHC/ISH and special stains product for coverslipping.

Read and follow the guidelines for post-processing slide treatment in the package inserts for the protocol detection kits. In addition, refer to the guidelines shown in the following table before coverslipping the slides using the VENTANA HE 600 system.

Slide type	Suggested coverslipping protocol	Guidelines	Link to procedure
H&E slides	H&E Coverslip Recovery	Remove coverslips and mounting media from previously coverslipped slides.	Using the H&E Coverslip Recovery protocol (110)
Slides stained with a red detection kit	H&E Coverslip Recovery	Remove liquid coverslip (LCS) from the front and back of slides with a mild dishwashing detergent, and rinse the slides with deionized water to remove soap. Completely dry the slides before they are coverslipped.	Using the H&E Coverslip Recovery protocol (110)
IHC and ISH slides	Coverslipping IHC, ISH, and Special Stains	Remove liquid coverslip (LCS) from the front and back of slides with a mild dishwashing detergent, and rinse the slides with deionized water to remove soap.	Using the Coverslipping IHC, ISH, and Special Stains protocol (111)
Special stains slides	Coverslipping IHC, ISH, and Special Stains	Drain fluid from the slides, but do not rinse slides.	Using the Coverslipping IHC, ISH, and Special Stains protocol (111)

Slide preparation guidelines

Related topics

- Using the H&E Coverslip Recovery protocol (110)
- Using the Coverslipping IHC, ISH, and Special Stains protocol (111)

Selecting a staining protocol

Use a staining protocol to stain slides with an H&E protocol.

NOTICE

Potential for slides stained with wrong protocol

If **Auto Start Delay** is enabled for the default protocol, a counter starts when the **Load Tray** view displays. The counter runs for a predefined amount of time, after which the default protocol is assigned to all trays loaded into the portals unless it is paused.

- If you do not want the default protocol assigned to all trays, do not enable **Auto Start Delay** when creating the default protocol. For more information, see the “Creating and modifying staining protocols” topic.

Creating and modifying staining protocols (151)

Make sure that the following prerequisites are completed before starting this procedure:

- ☐ Create the staining protocol that will be used to process the slides.
- ☐ If necessary, disable **Auto Start Delay** for the default protocol.

Loading slides onto a tray (103)

Loading a tray into a portal (105)

Creating a new staining protocol (151)

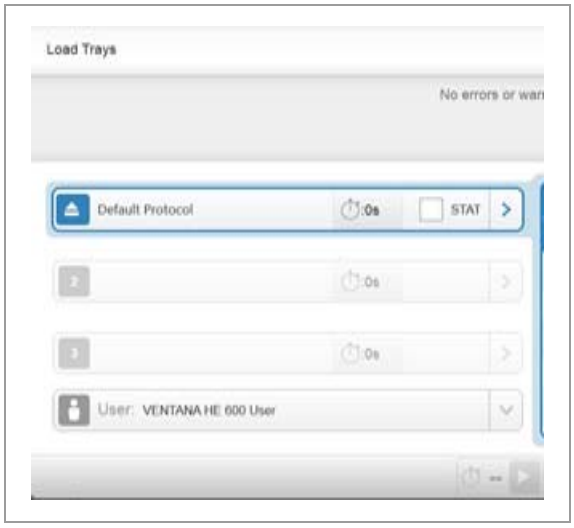
To select a staining protocol

1 Load 1-3 trays into open portals.

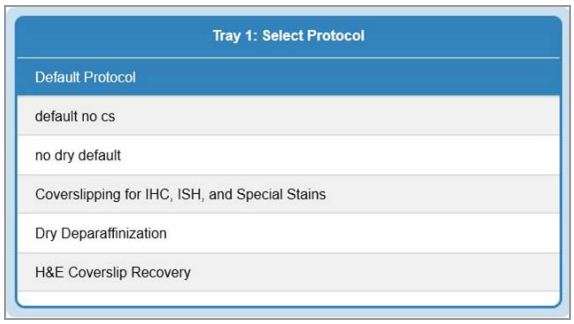
➔ The **Load Trays** view displays, and if **Auto Start Delay** has been set, the counter at the bottom of the view begins to run.

2 In the **Load Trays** view, check if the if **Auto Start Delay** is running at the bottom of the window.

- To disable the **Auto Start Delay**, choose the button, and proceed to Step 3.
- To continue the **Auto Start Delay** and apply the default protocol to all trays, do nothing. The procedure is complete.



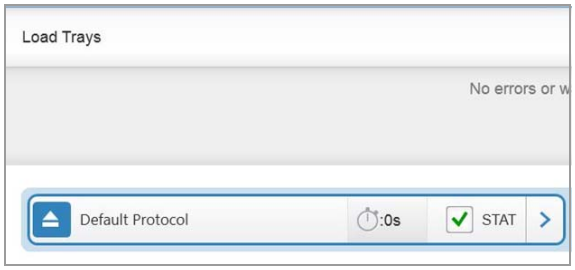
3 In the **Load Trays** view, choose a tray for which you want to select a protocol.



4 From the **Select Protocol** list, choose the protocol to apply to the tray.

ⓘ If you do not apply a protocol to each tray, the system applies the default protocol.

5 Repeat Steps 2–4 to apply a protocol to each tray.



6 To assign priority status to a tray, select the **STAT** checkbox.

ⓘ The STAT tray moves ahead of other trays that have not yet started processing.

7 To begin processing, choose the **Start** button.

Related topics

- Loading a tray into a portal (105)
- Creating a new staining protocol (151)
- Monitoring a tray during processing (114)

Using the H&E Coverslip Recovery protocol

Use the **H&E Coverslip Recovery** protocol if slides are not properly coverslipped during processing or the coverslips have been removed and need to be replaced. This protocol should also be used with slides that are stained with a red detection kit.

Before you begin the procedure, make sure that you have the following materials available:

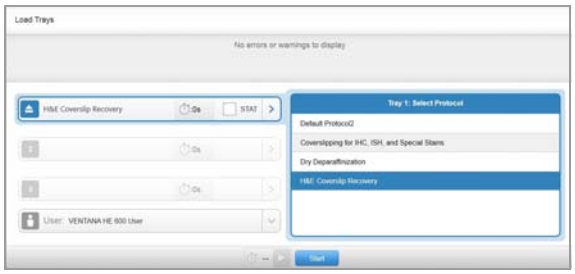
☐ A tray with slides that have been stained with an H&E protocol that do not have coverslips.

Make sure that the following prerequisites are completed before starting this procedure:

- ☐ Review the package insert for each detection kit or assay for exceptions or special dehydration recommendations.
- ☐ Wash the slides in a mild dishwashing detergent to remove the liquid coverslip solution. Rinse the slides in deionized water to remove detergent. Completely dry the slides before they are coverslipped.
- ☐ If the slides were previously coverslipped, remove any coverslips or mounting media from the slide.

- Loading slides onto a tray (103)
- Loading a tray into a portal (105)
- About the coverslipping protocols (108)

To use the H&E Coverslip Recovery protocol



1 Load the tray into an open portal.

2 In the **Load Trays** tab, choose the tray, and from the **Select Protocol** list, choose **H&E Coverslip Recovery** protocol.

3 Choose the **Start** button to begin the protocol.

Related topics

- About the coverslipping protocols (108)
- Loading a tray into a portal (105)
- About selecting protocols (107)

Using the Coverslipping IHC, ISH, and Special Stains protocol

Use the **Coverslipping IHC, ISH, and Special Stains** protocol to coverslip slides after they have been stained with an IHC, ISH, or special stains system.

With this protocol, the slides are dehydrated in the stainer prior to coverslipping.

The **Coverslipping IHC, ISH, and Special Stains** protocol was tested with slides that were stained on Roche IHC, ISH, and special stains systems.

NOTICE

Possible compatibility issues

Coverslipping protocols must be validated to ensure that the coverslipping process does not interfere with stains on the slide.

- Roche strongly recommends that customers validate each IHC/ISH and special stains product for coverslipping.

Before you begin the procedure, make sure that you have the following materials available:

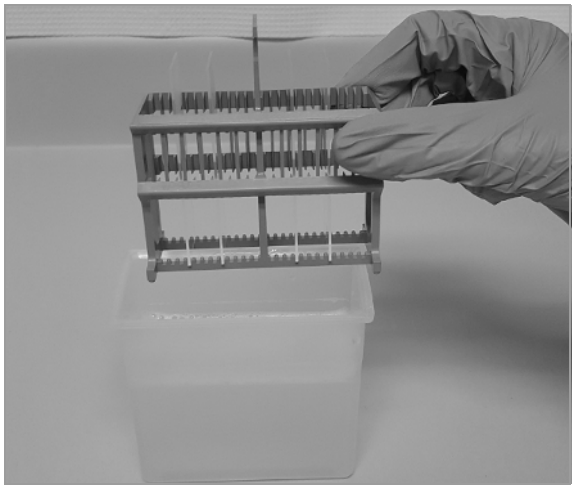
- ☐ Slides stained on an IHC, ISH, or special stains platform.

Make sure that the following prerequisites are completed before starting this procedure:

- ☐ Review the package insert for each detection kit or assay for exceptions or special dehydration recommendations.
- Loading slides onto a tray (103)
- Loading a tray into a portal (105)

Using the Coverslipping IHC, ISH, and Special Stains protocol

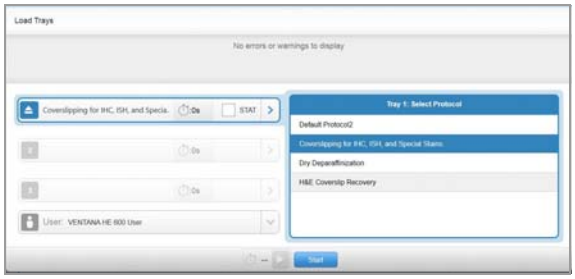
1 Follow the post-processing instructions in the package insert for the detection kit or assay.



2 Prepare slides as appropriate:
   - For IHC or ISH slides, wash the slides in a mild dishwashing detergent or alcohol to remove the liquid coverslip solution. Rinse the slides in deionized water to remove detergent.
   - For slides stained with a special stains protocol, drain fluid from the slides, but do not rinse the slides.

3 Load the slides onto a tray.

4 Load the tray into a portal.



5 In the **Load Trays** view, choose the tray. From the **Select Protocol** list, choose the **Coverslip IHC, ISH, and Special Stains** protocol.

6 Choose the **Start** button to begin the protocol.

Related topics

- About the coverslipping protocols (108)
- Loading slides onto a tray (103)
- Loading a tray into a portal (105)
- About selecting protocols (107)

Using the Dry Deparaffinization protocol

Use the **Dry Deparaffinization** protocol to dry and deparaffinize slides before loading the slides onto a Roche Tissue Diagnostic system without deparaffinization capabilities.

Before using this protocol, validate the process by following your lab's procedures.

Before you begin the procedure, make sure that you have the following materials available:

☐ Slides to process with the **Dry Deparaffinization** protocol

Loading slides onto a tray (103)

Loading a tray into a portal (105)

To use the Dry Deparaffinization protocol

1 Load the slides into a tray.

2 Load the tray into a portal.

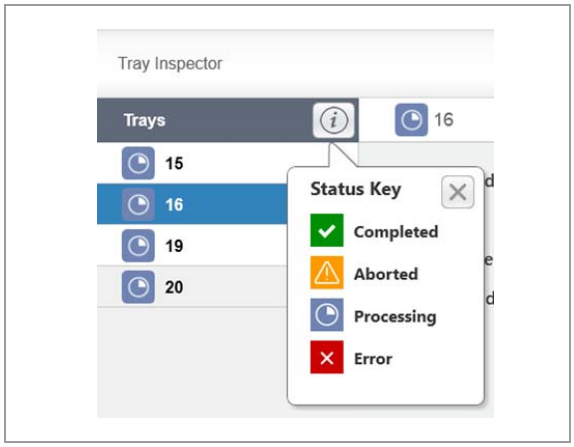
3 In the **Load Trays** view, choose the tray, and from the **Select Protocol** list, choose the **Dry Deparaffinization** protocol.

4 Choose the **Start** button to begin the protocol.

Related topics

- Loading slides onto a tray (103)
- Loading a tray into a portal (105)
- About selecting protocols (107)
- Monitoring a tray during processing (114)

Monitoring a tray during processing



You can monitor the status of trays while they are being processed from the **Operating** tab and the **Tray Inspector**.

The **Trays** list on the left side of the view displays an icon for each tray that is currently being processed in the system.

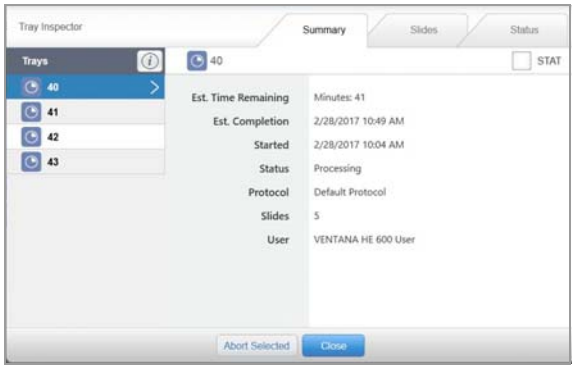
The icons provide a quick status of each tray. Choose the information icon for a status icon key.

To monitor a tray during processing

1 Navigate to the **Operating** tab.

ℹ The tray processing status is indicated in the **Operating** tab by the color and position of the tray icons.

2 To open the **Tray Inspector,** choose a tray.



3 In the **Tray Inspector**, do any of the following:

- In the **Trays** list, view the status indicators for each tray that is being processed.
- In the **Summary** tab, view details about the selected tray.
- In the **Slides** tab, view details about the slides on the selected tray.
- In the **Status** tab, view the processing status for the selected tray.

4 When you are finished with the **Tray Inspector**, choose the **Close** button.

Related topics

- About the user interface (64)
- Loading a tray into a portal (105)
- Selecting a staining protocol (109)
- Monitoring a tray during processing (114)

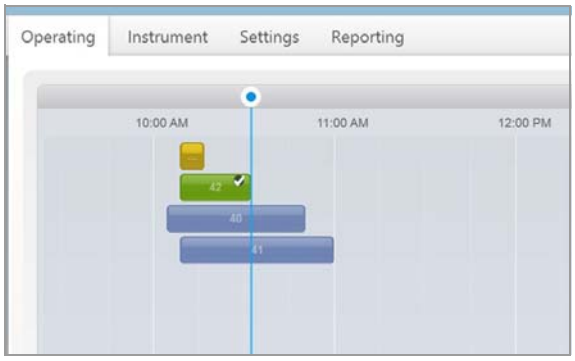
Aborting a tray

You can abort a tray that is being processed from the **Tray Inspector** view.

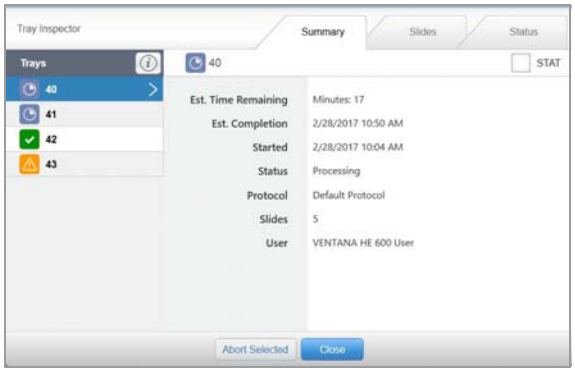
The following video demonstrates the process step-by-step. Continue reading the entire procedure for additional details.

Utility film (.hwls): ua_CancelTray/UA_CancelTray.hwls
Title: Abort a tray

To abort a tray



1 In the **Operating** tab, choose the tray that you want to abort.
➔ The **Tray Inspector** view displays.



2 In the **Tray Inspector** view, choose the **Abort Selected** button.
➔ The system delivers the selected tray to an open portal. If the tray was in an oven when aborted, it takes some time to cool in the portal before it is available to unload.

3 In the confirmation dialog box, choose the **Yes** button.

4 Unload the tray from the portal and examine the tray for any fluid that has spilled in the tray during slide processing. See the “Cleaning and inspecting trays” procedure (117).

Related topics

- Monitoring a tray during processing (114)
- Unloading a tray from a portal (116)
- Cleaning and storing trays (117)

Unloading a tray from a portal

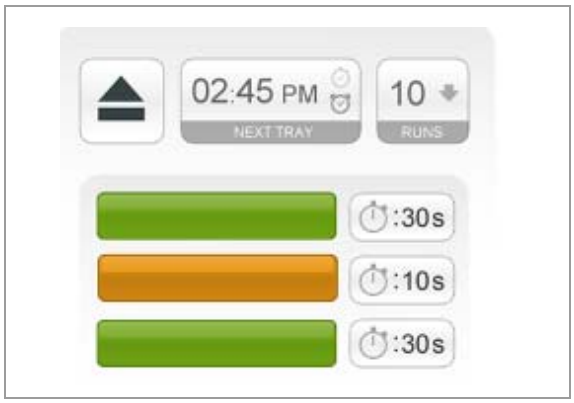
After a processing run, unload the tray from the system.

If you have a tray ready to load on the system, you can replace the completed tray with the new tray.

Before you begin the procedure, make sure that you have the following materials available:

- ☐ If you wish to load a new tray immediately after unloading a completed tray, have a tray with slides to be processed ready to load into the system.

To unload a tray from a portal



1 Locate a tray that has a status indicator that is flashing green.

2 In the **Operating** tab, choose ⏏ to open portals that contain completed trays, and remove a completed tray from the portal.

ℹ Portal status indicators flash green to indicate when trays are ready to remove.

3 If you are replacing the tray that you removed with a new tray, immediately insert the unprocessed tray into the portal.

4 Unload the slides from the tray, and check for the following:

- Make sure that the coverslips have been applied correctly to the slides. You can remove a coverslip that is not correctly applied to a slide. See the “Removing coverslips from slides” procedure (218)
- Examine the tray for any fluid that has spilled in the tray during slide processing. See the “Cleaning and inspecting trays” procedure (117).

Related topics

- Loading a tray into a portal (105)
- Cleaning and storing trays (117)
- Guidelines for archiving slides (118)

Cleaning and storing trays

If you see fluid in the bottom of the tray or under the tray slide clips, clean the tray before using it again. When not using trays, make sure that they are clean and inspect trays periodically and when fluid present is on the bottom of the tray.

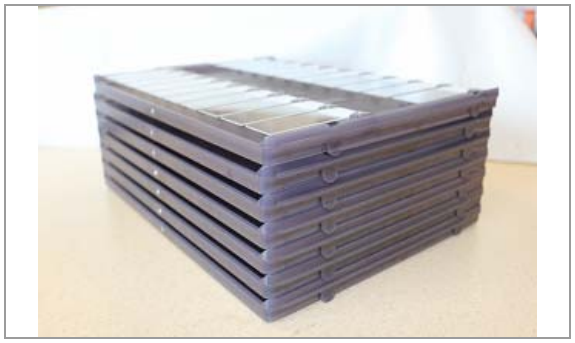
To clean and store a tray

1 Clean the tray using deionized water only. Do not use a dishwasher to clean trays.

ⓘ Make sure to clean any excess fluid underneath the slide clips.

2 Dry the tray before installing slides. Do not use an oven to dry trays.

3 Check the tray to ensure that it is in optimal condition, and discard trays that show any sign of damage.



4 To avoid damaging tray clips or slides, stack the trays so that the corners are aligned.

Related topics

- Slide labeling and loading guidelines (101)
- Loading a tray into a portal (105)
- Unloading a tray from a portal (116)
- Slide tray handling guidelines (103)

Guidelines for archiving slides

You can archive slides as early as 24 hours after they are removed from the system.

Make sure to follow these guidelines for archiving slides:

- Wait at least 24 hours after removing the slides from the system before archiving.
- Check slides to make sure they are not sticking together before archiving.
- Archive slides in a dark, dry environment.
- Adjust times and practices as necessary for your environment. Humidity might increase the time you need to wait before archiving the slides.

Make sure to validate these guidelines for your laboratory environment.

Stopping and shutting down the system

You can interrupt processing of trays by stopping or shutting down the system.

In this section

About stopping and shutting down the system

You have 3 different options for stopping system operations.

The following table describes the 3 options.

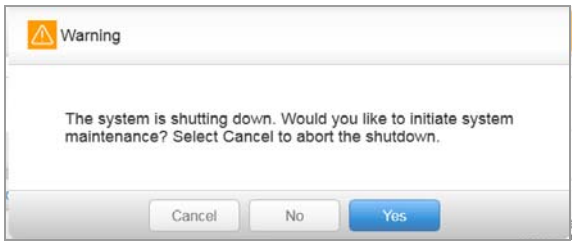
What do you want to do?	Follow this procedure	What happens after you choose the button?
Stop the processing of trays in case of an emergency.	Stopping the system to interrupt slide processing (120)	Immediately stops all tray processing.
Shut down the software and initiate the cleaning cycle.	Shutting down the software and initiating the cleaning cycle (120)	One of two dialog boxes displays, depending on when the cleaning cycle was last run. • Choose **Yes** in either dialog box to initiate the cleaning cycle before shutting down the system. • If the cleaning cycle has been run within the last 24 hours, you can choose **No** to shut down the system without initiating the cleaning cycle. **Note**: If the cleaning cycle *has not been run* in the last 24 hours, you can cancel the shut down to prevent the cleaning cycle from running.
Shut down the software and do not initiate the cleaning cycle.	Shutting down the software without initiating the cleaning cycle (121)	

Options for stopping and shutting down the system

Shut down options

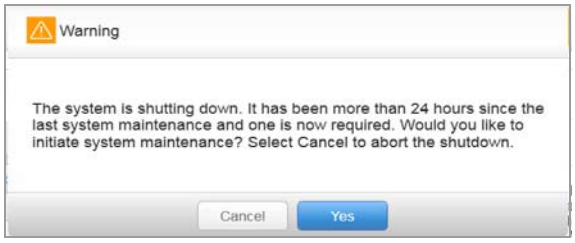
It is mandatory to run the cleaning cycle once every 24 hours. If the system is restarted after shut down and the cleaning cycle has not been run within 24 hours, the cleaning cycle runs when the system is restarted.

When you choose the **Shut Down** button, one of two dialog boxes displays, depending on whether or not the cleaning cycle has been run in the last 24 hours.



If the cleaning cycle has been run within the last 24 hours, the following options display in the **Warning** dialog box:

- **Yes**: Shuts down the system and initiates the cleaning cycle.
- **No**: Shuts down the system and does not initiate the cleaning cycle.
- **Cancel:** Cancels the system shut down.



If the cleaning cycle has not been run within the last 24 hours, the following options display in the **Warning** dialog box:

- **Yes**: Shuts down the system and initiates the cleaning cycle.
- **Cancel:** Cancels the system shut down.

Stopping the system to interrupt slide processing

You can stop the system to interrupt processing of any trays in the system.

When the system is restarted, processing does not resume. All trays in the system are delivered to the tray portals.

To stop the system to interrupt slide processing

1 Navigate to the **Instrument** tab.

2 Choose the **Stop** button, and choose **Yes** in the confirmation dialog box.
➔ Tray processing is stopped.

3 Recover any trays present in the system when the system was stopped. See the instructions for recovering trays in the “Errors and troubleshooting” chapter.

Related topics

- About stopping and shutting down the system (119)
- Starting up the system (99)
- Shutting down the software and initiating the cleaning cycle (120)
- Errors and troubleshooting (171)

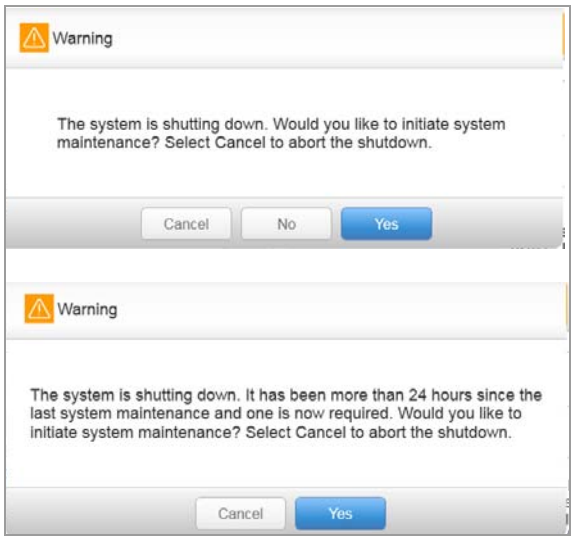
Shutting down the software and initiating the cleaning cycle

You can shut down the VENTANA HE 600 system software and initiate the cleaning cycle.

The **Shut Down** button is not available while trays are processing. Use the **Stop** button to stop the system while trays are processing.

Stopping the system to interrupt slide processing (120)

If you initiate the cleaning cycle when you shut down the system, you cannot process trays for at least 60 minutes while the system performs the cleaning cycle.



To shut down the software and initiate the cleaning cycle

1 Navigate to the **Instrument** tab.

2 Choose the **Shut Down** button.

3 To shut down the software and initiate the cleaning cycle, in the **Warning** dialog box, choose the **Yes** button.

ⓘ The text in the **Warning** dialog box varies, depending on whether or not the cleaning cycle has been run in the last 24 hours.

Related topics

- About stopping and shutting down the system (119)
- Stopping the system to interrupt slide processing (120)
- Shutting down the software without initiating the cleaning cycle (121)
- System-performed maintenance (168)

Shutting down the software without initiating the cleaning cycle

You can shut down the VENTANA HE 600 system software without initiating the cleaning cycle if the cleaning cycle has been run in the last 24 hours.

You will not have the option to shut down the software without running the cleaning cycle if the cleaning cycle has not been run in the last 24 hours.

The **Shut Down** button is not available while trays are processing. Use the **Stop** button to stop the system if necessary while trays are processing.

Stopping the system to interrupt slide processing (120)

To shut down the software without initiating the cleaning cycle

1 Navigate to the **Instrument** tab.

2 Choose the **Shut Down** button.

3 In the **Warning** dialog box, choose the **No** button.

ⓘ If the cleaning cycle has not been run within the last 24 hours, a different dialog box displays, which provides the option to either run the cleaning cycle or cancel the shut down.

Related topics

- About stopping and shutting down the system (119)
- Stopping the system to interrupt slide processing (120)
- Shutting down the software and initiating the cleaning cycle (120)
- System-performed maintenance (168)

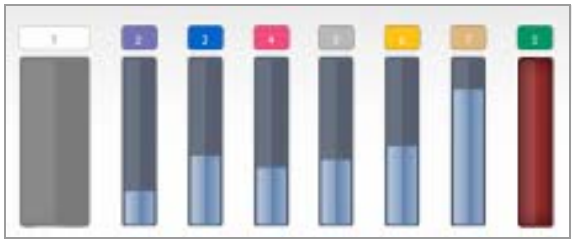
Managing reagents and consumables

In this section

Managing reagents

In this section

Replacing reagents



For the most efficient use of reagents, replace reagent bottles only when reagent status indicators in the **Operating** tab turn red, indicating that reagent bottles are empty.

Reagents are shipped and stored in disposable bottles with colored and numbered labels. Those labels match the color and number on the reagent hat assembly and on the **Operating** tab status indicator.

The reagent bottles are designed so that they cannot be inserted in the wrong position. Each bottle has an RFID tag that identifies the contents of the bottle to ensure it is placed accurately.

⚠ CAUTION

Possible skin irritation

Exposure to reagents can cause skin irritation.

- Wear personal protective equipment when working with reagents, reagent hats, or reagent containers.

Replace a reagent container when the status indicator turns red.

Make sure that the following supplies are ready before starting this procedure:

- ☐ A full reagent bottle for each reagent that needs to be replaced

Make sure that the following prerequisites are completed before starting this procedure:

- ☐ Make sure that the reagent status indicator in the **Operating** tab is red before replacing the reagent container.
- ☐ Put on the following personal protective equipment: approved eye protection, gloves, and protective clothing.

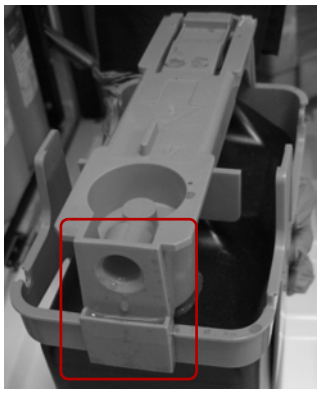
To replace reagents

1 NOTICE Do not stress the open access door with heavy weight. Do not place more than 8 reagent bottles at a time on top of the door.

Open the reagent access door.

2 Press down on the locking tab on the reagent container hat with your index finger looped around the bottle handle, and pull it straight out.

3 Grasp the sides of the bottle hat with one hand, and squeeze the release bands until the bottle disengages. Pull the hat off the bottle with your other hand.



4 Check the reagent hat drip traps and the reagent drawer for excess fluid.

5 NOTICE Placing the incorrect hat on the bottle could lead to staining errors.

Match the hat that you removed to the replacement reagent bottle.

ⓘ The color and number on the hat must match the color and number on the bottle and the label on the reagent drawer.

6 Unscrew and remove the bottle cap on the new reagent bottle.

7 Put the cap that you removed on the empty reagent bottle, and discard or recycle the empty bottle according to local regulations.

8 Guide the straw on the hat into the mouth of the replacement bottle, and press the hat down over the bottle until it snaps into place.

ⓘ To avoid spills, keep the assembled bottle-and-hat container upright, and grasp the bottle by the handle.

9 Align the bottle-and-hat with its mount, and slide the container into position until the locking tab engages.

➔ In the **Operating** tab, the status indicator for the reagent turns blue to show that the bottle is properly installed and fluid levels are sufficient.

10 Close the reagent access door.

Related topics

- List of supported reagents and consumables (75)
- Emptying a reagent hat drip trap (129)
- Cleaning the reagent access drawer (131)
- Managing coverslip cassettes and waste (133)

Recovering from incorrect reagent hat placement

If a reagent hat is placed on the wrong reagent bottle, contamination of the reagent can occur.

NOTICE

Possible staining issues

If the wrong reagent hat is placed on a reagent bottle, fluid from the hat could contaminate the fluid in the bottle and cause staining issues.

- As soon as the incorrect hat placement is discovered, wash and dry the reagent hat and straw with deionized water, and allow to dry. Putting wet straws into non-aqueous reagents is not recommended. Set aside the affected reagent bottle.

⚠ CAUTION

Possible skin irritation

Exposure to reagents can cause skin irritation.

- Wear personal protective equipment when working with reagents, reagent hats, or reagent containers.

Make sure that the following supplies are ready before starting this procedure:

☐ Deionized water to wash the reagent hat

Make sure that the following prerequisites are completed before starting this procedure:

☐ Put on the following personal protective equipment: approved eye protection, gloves, and protective clothing.

To recover from incorrect reagent hat placement

1 Remove the reagent hat from the reagent bottle.

2 Wash the reagent hat and tubing with deionized water. Allow to dry.

ℹ Putting wet straws into non-aqueous reagents is not recommended.

3 Set aside and label the contaminated reagent bottle.

4 Install the reagent hat on the correct bottle.

Related topics

- Replacing reagents (123)
- Cleaning the reagent access drawer (131)

Emptying a reagent hat drip trap

During system operation, the reagent hat drip traps can collect reagent.

⚠ CAUTION

Possible skin irritation

Exposure to reagents can cause skin irritation.

- Wear personal protective equipment when working with reagents, reagent hats, or reagent containers.

The following video demonstrates the process step-by-step. Continue reading the entire procedure for additional details.

Utility film (.hwls): ua_CleanDripTrap/UA_CleanDripTrap.hwls
Title: Emptying a reagent hat drip trap

Empty reagent hat drip traps when fluid is present.

Make sure that the following supplies are ready before starting this procedure:

- ☐ Clean absorbent cloth

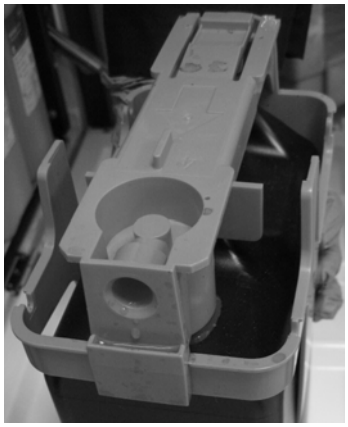
Make sure that the following prerequisites are completed before starting this procedure:

- ☐ Put on the following personal protective equipment: approved eye protection, gloves, and protective clothing

To empty a reagent hat drip trap

1 Open the reagent access door.

2 Remove the reagent bottle.



3 Check to see if fluid is present in the reagent drip trap on the back of the hat.

4 If fluid is present, remove the reagent hat from the reagent bottle.

5 Discard the fluid according to local waste disposal regulations.

6 Clean any additional fluid that is present on the reagent hat or mouth of the bottle with deionized water, if needed. Allow to dry.

ℹ Make sure the reagent hat is dry before replacing it on the bottle.

7 Replace the reagent hat on the bottle.

Related topics

- Replacing reagents (123)
- Cleaning the reagent access drawer (131)

Cleaning the reagent access drawer

When removing and replacing a reagent bottle, check the drawer around the bottle for fluid that might have spilled.

⚠ CAUTION

Possible skin irritation

Exposure to reagents can cause skin irritation.

- Wear personal protective equipment when working with reagents, reagent hats, or reagent containers.

Clean the reagent access drawer when fluid has spilled in the drawer.

Make sure that the following supplies are ready before starting this procedure:

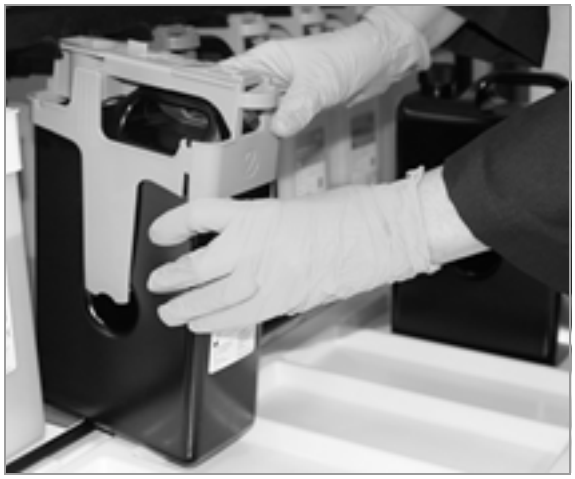
☐ Mild dishwashing detergent and a clean absorbent cloth

Make sure that the following prerequisites are completed before starting this procedure:

☐ Either the reagent status indicator is red, or no trays are currently being processed.

☐ Put on the following personal protective equipment: approved eye protection, gloves, and protective clothing.

To clean the reagent access drawer



1 Remove a reagent bottle from the reagent access drawer.

2 Look for reagent fluid around the area where the bottle has been removed.

3 If necessary, clean the drawer with a clean, damp cloth.

4 If you notice that the spilled fluid has spread under other bottles in the drawer, do the following;
   - Wait until all trays have finished processing.
   - Stop the system.
   - Remove any reagent bottles present in the drawer.
   - Clean the entire drawer with a clean damp cloth.

5 Replace any reagent bottles removed.

Related topics

- Replacing reagents (123)
- Emptying a reagent hat drip trap (129)

Managing coverslip cassettes and waste

In this section

Coverslip cassette handling guidelines

VENTANA HE 600 system coverslip cassettes contain pre-glued coverslips.

⚠ CAUTION

Possible damage to system or slides

Damage to the system or slides can occur if the wrong coverslips are used in the VENTANA HE 600 system.

- Use only coverslip cassettes that have been verified for use on the VENTANA HE 600 system.

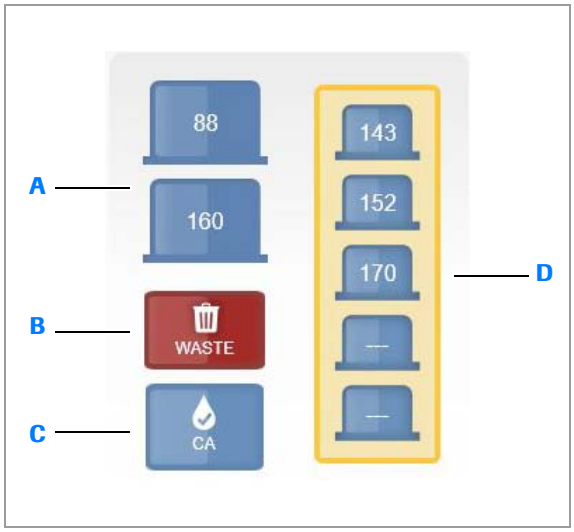
Follow these guidelines for storing and handling coverslip cassettes:

- Stack the shipping packages of coverslip cassettes horizontally with the arrow on the side of the box pointing up.
- Store cassettes horizontally with the labels facing up.
- Store cassettes in a clean, dry area and sealed in their plastic bags until they are loaded into the system.
- Do not use a cassette if it contains broken or cracked coverslips.

Related topics

- About the status indicators for the coverslipper (134)
- Loading coverslip cassettes (135)
- Unloading used coverslip cassettes (136)

About the status indicators for the coverslipper



In the **Instrument** tab, status indicators show the status of the coverslip cassettes, the coverslip activator, and coverslip waste.

Two coverslip cassettes are used in the coverslipper module, one for each row of slides in a tray. When an active coverslip cassette is empty, the coverslip cassette status indicator turns red, and the empty cassette is replaced with a reserve coverslip cassette.

The diagram and table describe the coverslipper status indicators and the actions to take when coverslipper maintenance is required.

	Status indicator	Color	Meaning	Action	Link to procedure
A	Active coverslip cassettes	Blue	The active coverslip cassette indicators show how many coverslips are currently available in the active cassettes.	n/a	n/a
B	Coverslipper waste	Solid red	The coverslipper waste bin is full, and the coverslipper module will be disabled after coverslipping the current tray.	Empty the coverslipper waste bin before you can proceed.	Unloading used coverslip cassettes (136)
C	Coverslip activator	Solid red	Coverslip activator bottle is empty. The activator bottle must be replaced before loading more trays.	Replace the empty coverslip activator bottle with a full bottle.	Replacing the coverslip activator (138)
D	Reserve coverslip cassettes	Flashing yellow	Reserve coverslip cassettes need to be replenished. In order to process new trays, 6 coverslips cassettes must be present in the system.	Add coverslip cassettes to the coverslipper access area.	Loading coverslip cassettes (135)

Coverslipper maintenance status indicators

Related topics

- Coverslip cassette handling guidelines (133)
- Loading coverslip cassettes (135)
- Unloading used coverslip cassettes (136)

Loading coverslip cassettes

Load a new coverslip cassette when the status indicator for reserve coverslip cassettes flashes yellow. You cannot load new trays until 6 coverslip cassettes are loaded into the system.

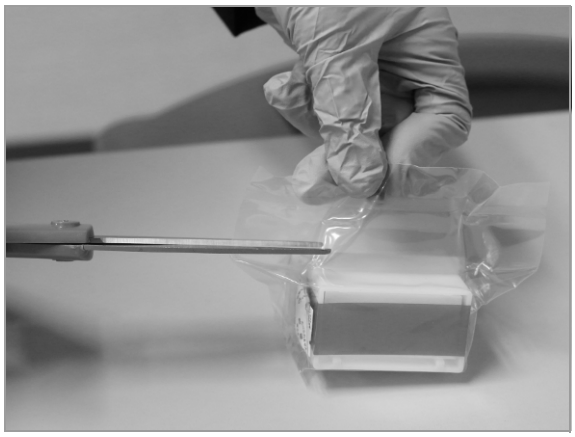
Two coverslip cassettes are used in the coverslipper module, one for each row of slides in a tray. Additional cassettes are held in reserve by the system.

Load coverslip cassettes when status indicators for the coverslip cassettes flash yellow.

Before you begin the procedure, make sure that you have the following materials available:

- ☐ VENTANA HE 600 system coverslip cassette filled with unused coverslips.

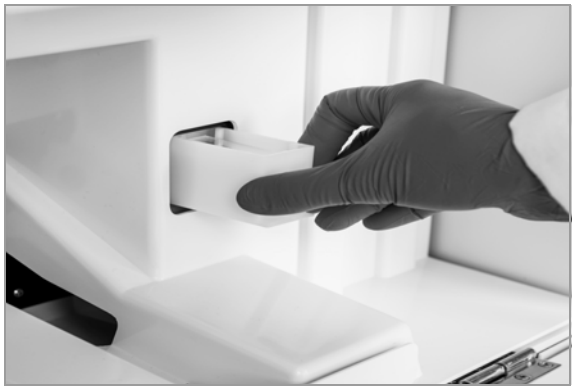
To load coverslip cassettes



1 Remove the coverslip cassette from the plastic bag, and remove the tape covering the top of the cassette.

ⓘ Make sure that the desiccant pouches are removed along with the tape.

2 Open the door to the coverslipper access area.



3 Place the cassette in the cassette portal with the label facing right. Insert the cassette until it is detected by the belt sensor and the belt starts moving.

ⓘ Coverslip cassettes are keyed to prevent incorrect loading.

4 Close the door to the coverslipper access area.

Related topics

- Coverslip cassette handling guidelines (133)
- About the status indicators for the coverslipper (134)
- Unloading used coverslip cassettes (136)

Unloading used coverslip cassettes

When the status indicator for a coverslip cassette waste bin turns red, that cassette waste bin is full. The empty cassettes must be removed immediately.

Once the cassette waste bin becomes full, the coverslipper module finishes coverslipping the current tray, and then the coverslipper module is disabled.

The module is re-enabled once the waste bin is emptied and any errors are acknowledged.

⚠ CAUTION

Possible minor cuts

The coverslip waste bin might contain broken coverslips.

- Proceed with caution when disposing of coverslip waste to avoid minor cuts. Use safety gloves to help prevent cuts.

The following video demonstrates the process step-by-step. Continue reading the entire procedure for additional details.

Utility film (.hwls): ua_EmptyCassetteWaste/UA_CassetteWasteBinFull.hwls
Title: Unloading used coverslip cassettes

Empty coverslip cassette waste when the status indicator for coverslip waste turns red.

To unload used coverslip cassettes

1 Open the door to the coverslipper access area.

2 Remove empty cassettes from the bin.

3 Discard the empty cassettes, following local waste disposal guidelines.

4 Close the door to the coverslipper access area.

Related topics

- Coverslip cassette handling guidelines (133)
- About the status indicators for the coverslipper (134)
- Loading coverslip cassettes (135)

Checking the coverslip waste dispensary

Each day, remove any glass debris that has collected in the dispensary.

⚠ CAUTION

Possible minor cuts

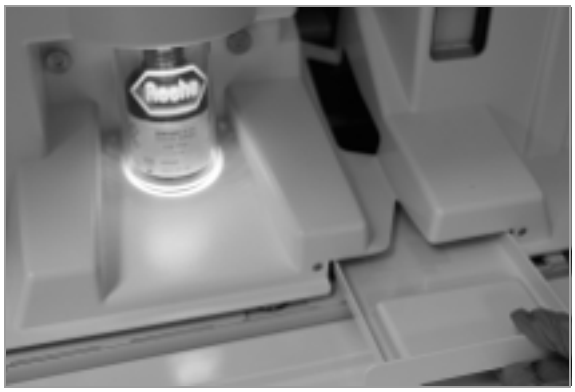
The coverslip waste might contain broken coverslips.

- Proceed with caution when disposing of coverslip waste to avoid minor cuts. Use safety gloves to help prevent cuts.

Check the coverslip waste dispensary daily.

To check the coverslip waste dispensary

1 Open the door to the coverslip access area.



2 Remove the coverslip waste dispensary located at the base of the coverslipper module.

3 Dispose of the broken glass debris according to your local procedure for handling glass waste.

4 Replace the coverslip waste dispensary, and close the door to the coverslipper access area.

Related topics

- List of supported reagents and consumables (75)
- About the status indicators for the coverslipper (134)

Replacing the coverslip activator

When coverslip activator is empty, the status indicator for the coverslip activator turns red. You are not able to load any additional trays until the activator bottle is replaced with a full one.

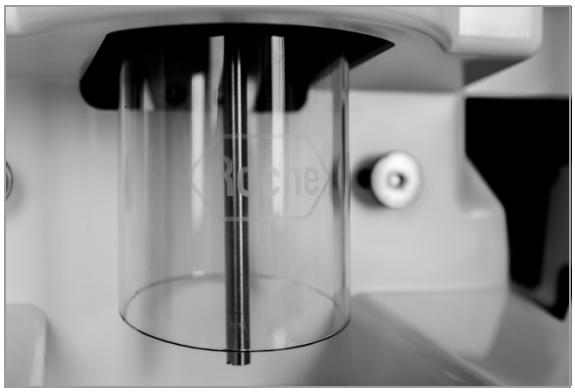
Replace the coverslip activator when the status indicator for the coverslip turns red.

Before you begin the procedure, make sure that you have the following materials available:

- ☐ New bottle of coverslip activator

To replace the coverslip activator

1 Open the coverslipper module door.



2 Verify that the Roche plastic cover is fully elevated, and the Roche logo is not green. Remove the empty coverslip activator bottle.

3 Remove the cap from the new coverslip activator bottle.

4 Insert the new bottle below the Roche plastic cover.

5 When the bottle is in place, the plastic cover descends and covers the entire bottle. When the system is using coverslip activator, the Roche logo is green.

Related topics

- About the status indicators for the coverslipper (134)
- Loading coverslip cassettes (135)
- Unloading used coverslip cassettes (136)

Managing waste containers

Your system can be set up to dispose of reagent waste directly down a drain or to capture the reagent waste in the waste capture module. If your system drains directly to a drain, this section does not apply to you.

In this section

About reagent waste management

Only VENTANA HE 600 system waste containers can be used in the waste management system.

Waste container capacity is determined as follows:

- The system initially allows capacity for 6 trays worth of waste in each waste container.
- When determining the capacity of the waste containers, the system assumes trays are full and uses a standard staining protocol.
- Each waste container fills to 80% waste container capacity. This eliminates the risk of overflow and reduces the risk of splashing when you remove a waste container.

Related topics

- About reagent waste container maintenance (142)
- Emptying waste containers (143)

About reagent waste container maintenance

To keep the system running at optimal capacity, make sure to monitor the waste containers and empty them immediately when a status indicator for a waste container turns red.

You can set an alert to let you know when a waste container is full.

Setting audible alerts (162)

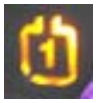
Status indicators for reagent waste status are available in the **Operating** tab and in the waste module right above the waste containers. The numbers on status indicators correspond to the numbers of the waste containers.

Reagent waste container status indicator	Description
	Blue indicates that the container has additional capacity.
	Yellow indicates that the waste container is nearly full, and it can be emptied if the container is unlocked.
	Red indicates that the waste container is full, and it must be emptied.

Status indicators in Operating tab for waste containers

Waste module status indicator	Description
	A green light on the lock symbol indicates that the waste container is locked and cannot be removed from the system.
	No light on the lock symbol indicates the waste container is unlocked and can be removed from system.
	A green indicator on the waste container symbol indicates that the waste level is low.

Status indicators for reagent waste on the waste capture module

Waste module status indicator	Description
	A yellow indicator on the waste container symbol indicates that the waste level is approaching full.
	A red indicator on the waste container symbol indicates that the waste level is full, and the waste container is no longer accepting waste.
	An unlit indicator on the waste container symbol indicates that there is no container in that position.

Status indicators for reagent waste on the waste capture module

Note the following about waste container management:

- During system operation, one of the waste containers locks in place and is used to actively collect waste.
- When one container is full, the system reverts to the container that is not full, and the full container can be emptied.
- If the system senses that the waste container does not have the capacity to support new trays, you cannot load a new tray until you empty a full container.
- The system locks waste containers to ensure proper waste disposal. It might be necessary to empty a waste container before loading a new tray. Once a container is unlocked, it can be emptied and new trays can be loaded.

Related topics

- About reagent waste management (141)
- Emptying waste containers (143)

Emptying waste containers

Empty waste containers before starting the system or when prompted by the system.

⚠ CAUTION

Possible skin irritation

Exposure to reagents can cause skin irritation.

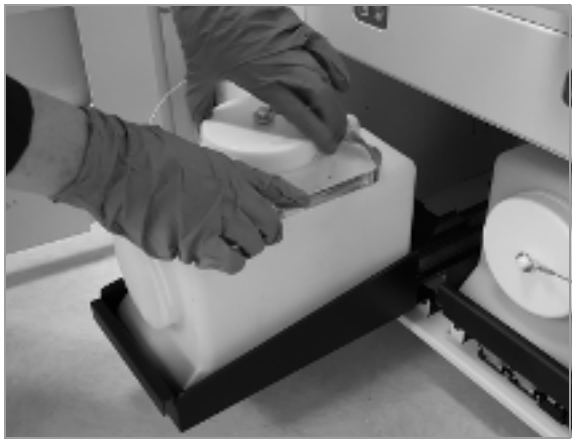
- Wear personal protective equipment when working with reagents, reagent hats, or reagent containers.

Empty a waste container as soon as possible after the status indicators for the waste container in the **Operating** tab and the waste container module turn red.

To empty waste containers

1 Open the door to the waste capture module.

2 Check the waste module indicator to make sure it is unlocked.

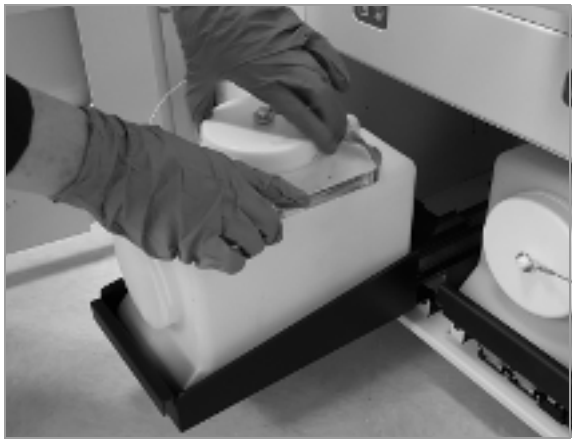


3 Slide the drawer out and secure the cap on the top of the container.

4 Using the handle, remove the container. Keep the container upright.

5 Empty the waste in accordance with local regulations.

6 Place the empty container back in the waste capture module.



7 Remove the cap from the top of the waste container, and replace the cap on the end of the container.

8 Slide the drawer back, and close the waste capture module door.

Related topics

- About reagent waste management (141)
- About reagent waste container maintenance (142)

Generating reports

In this section

About report types

There are 5 different types of reports that you can create in the **Reporting** tab: inventory, operator, preventative maintenance, production, and protocol reports.

Inventory reports

The **Inventory Report** provides an overall view of reagents and cassettes. The report shows a table of the reagent name, lot number, date loaded, date expired, and expiration date from when opened.

Operator reports

The **Operator Report** is sorted by user and shows the User ID, User Name, and whether that person is an active user.

Preventative maintenance reports

The **Preventive Maintenance Report** is sorted by date performed, in descending order. It provides the dates the maintenance was performed, who it was performed by, and task details. There is also a notes section for the Roche service representative to give further details.

Production reports

The **Production Report** is sorted by Tray Completed Date and Time. It has detailed information about each tray put in the system, including the following:

- Tray number
- Number of slides in the tray
- Total number of slides run
- Protocol name and version
- User name at the time the tray was run
- Date and time tray was loaded and completed
- Number of barcodes read with detected barcode values for each slide that has a barcode label
- Tray processing location (which stainer was used)

Protocol reports

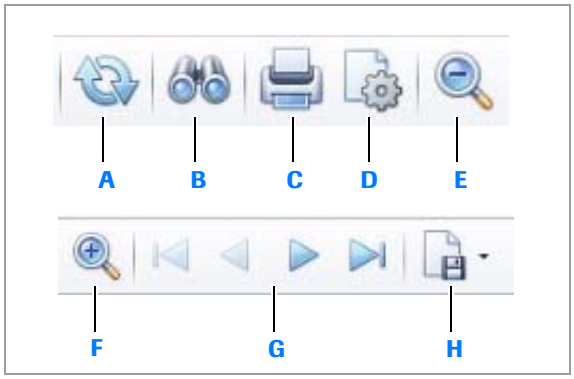
The **Protocol Report** is sorted by protocol name. It provides a list of the protocol name, version, and the user name at the time the protocol was assigned.

Related topics

- About report navigation (147)
- Creating and printing reports (147)

About report navigation

Navigational tools are available at the top of the **Reports** tab.



A Refresh icon
B Search icon
C Print icon
D Page setup icon
E Zoom out icon
F Zoom in icon
G Page navigation icons
H Save icon

After you have created a report, you can choose a navigation icon to do any of the following:

- Refresh the report data
- Search for text in the report
- Print the report
- Set up the page
- Zoom out for a wider view
- Zoom in for a more detailed view
- Navigate between report pages
- Save the report

Related topics

- About report types (146)
- Creating and printing reports (147)

Creating and printing reports

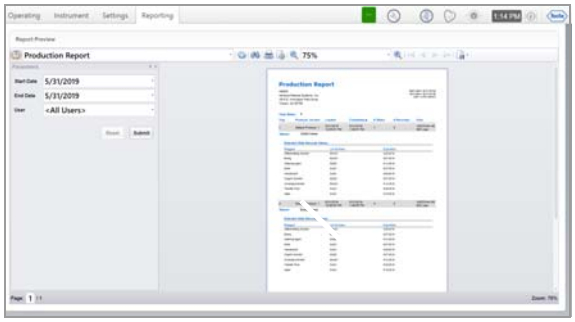
You can create and print reports from the **Reports** tab.

To create and print reports

1 In the user interface, navigate to the **Reporting** tab.

2 In the left panel, choose one of the following reports from the drop-down list:
   - **Inventory Report**
   - **Preventive Maintenance Report**
   - **Production Report**
   - **Protocol Report**
   - **Operators Report**

3 If applicable, enter dates into the **Start Date** and **End Date** fields.



4 Choose the **Submit** button.
➔ The report displays in the report preview to the right.

5 Use any of the navigational icons to navigate, save, or print the report.

Related topics

- About report types (146)
- About report navigation (147)

Configuration

In this chapter 5

Creating and modifying staining protocols

In this section

Creating a new staining protocol

Create or modify staining protocols by selecting staining options and intensities.

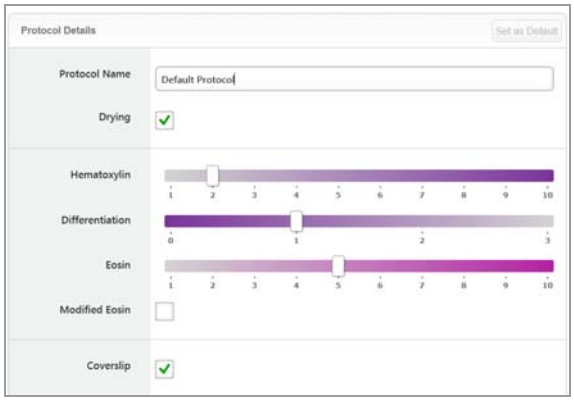
You can optionally set a protocol as default and start the protocol automatically after a tray is inserted into the portal by choosing the **Auto Start Delay** option. For information or support in creating protocol, contact Roche support.

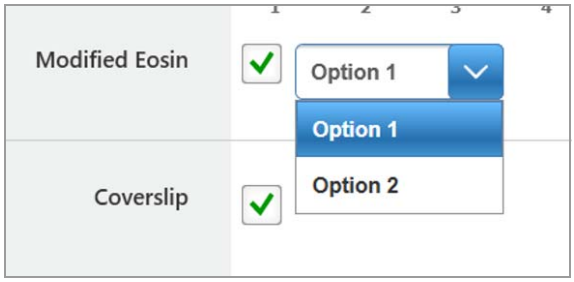
Normally, Hematoxylin staining levels are 1 to 10, and Differentiation levels are 0 to 3. However, if the Hematoxylin level is set to 1, additional levels for Differentiation are available.

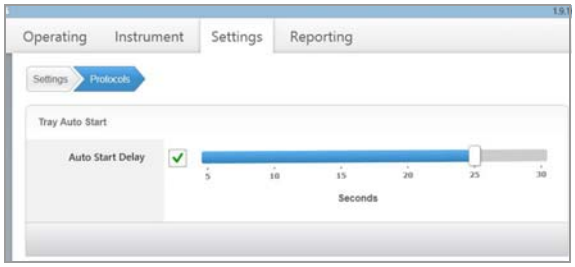
To create a staining protocol

1 In the **Settings** tab, choose the **Protocols** button.

2 In the **Protocols** panel, choose +.







3 In the **Protocol Details** panel, use the touch screen or wireless keyboard to enter a name for the protocol in the **Protocol Name** field.

4 In the **Protocol Details** panel, update the protocol details as needed.

- To send the slides through the slide dryer, select the **Drying** check box.
- To change the **Hematoxylin**, **Differentiation**, and **Eosin** settings, move each slider to the desired value.
- To send the slides through the coverslipper, select the **Coverslip** check box.

5 Select the **Modified Eosin** check box, and from the drop-down menu, choose one of the following options:

- **Option 1**: Uses Transfer Fluid instead of Wash after the eosin staining step.
- **Option 2**: Moves the Differentiating Solution (acid wash) step so that it is after the eosin staining step.

6 Choose the **Save** button.

➔ The new staining protocol is added to the **Protocols** list on the left.

7 (Optional) To set the new protocol as the default, choose the **Set as Default** button.

8 (Optional) If the protocol has been set as default, select the **Auto Start Delay** check box, and move the slider to set the delay time for protocol selection.

ℹ Best practice is to not assign **Auto Start Delay** to the default protocol unless the default is the only protocol that you plan to use.

Related topics

- Selecting protocols (107)
- Modifying a staining protocol (153)
- Deactivating a staining protocol (154)

Modifying a staining protocol

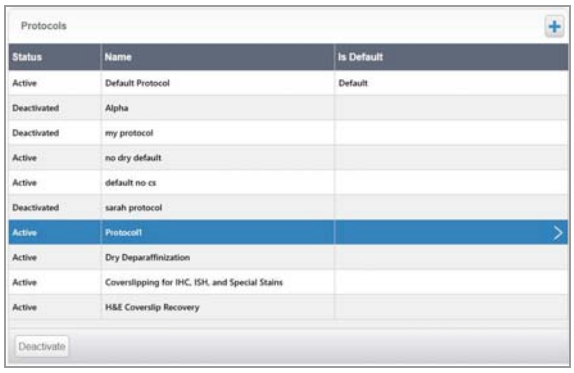
You can modify any user-created staining procotols. Roche-supplied protocols cannot be modified. For more information or support about staining protocols, contact Roche support.

Best practice is to create a new protocol, in case you want to reuse the original protocol later.

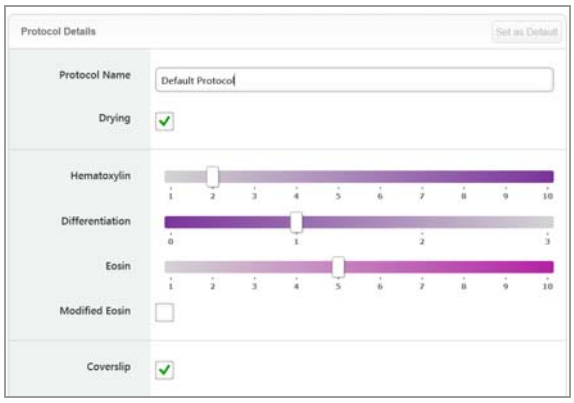
To modify a staining protocol

1 In the **Settings** tab, choose the **Protocols** button.

2 In the **Protocols** panel, choose a protocol to modify.

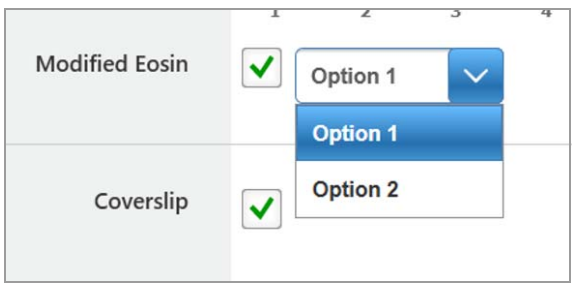


3 (Optional) Change the name for the protocol in the **Protocol Name** field.



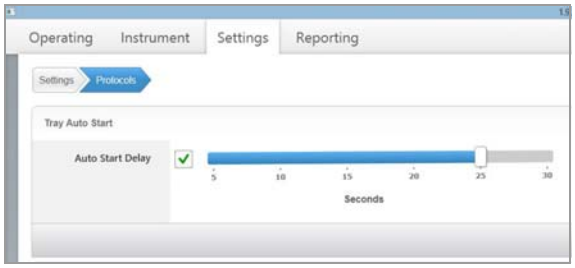
4 In the **Protocol Details** panel, update the protocol details as needed.

- To send the slides through the slide dryer, select the **Drying** check box.
- To change the **Hematoxylin**, **Differentiation**, and **Eosin** settings, move each slider to the desired value.
- To send the slides through the coverslipper, select the **Coverslip** check box.



5 Select the **Modified Eosin** check box, and from the drop-down menu, choose one of the following options:

- **Option 1**: Uses Transfer Fluid instead of Wash after the eosin staining step.
- **Option 2**: Moves the Differentiating Solution (acid wash) step so that it is after the eosin staining step.



6 Choose the **Save** button.
➔ The new staining protocol is added to the **Protocols** list on the left.

7 (Optional) To set the protocol as the default, choose the **Set as Default** button.

8 (Optional) If the protocol has been set as default, select the **Auto Start Delay** check box, and move the slider to set the delay time for protocol selection.
🛈 Best practice is to not assign **Auto Start Delay** to the default protocol, unless the default is the only protocol that you plan to use.

Related topics

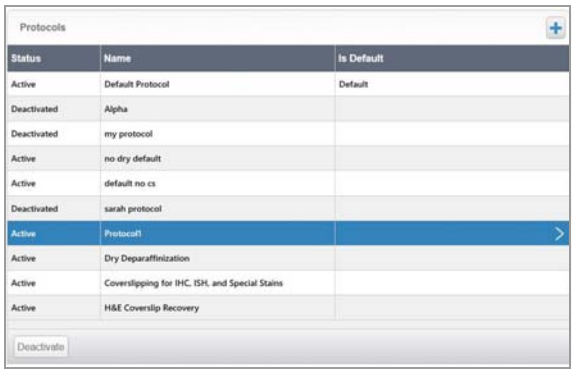
- Selecting protocols (107)
- Creating a new staining protocol (151)
- Deactivating a staining protocol (154)

Deactivating a staining protocol

Deactivating a protocol removes the protocol from the **Protocol List** in the **Load Tray** view, but it does not remove the protocol from the database.

You can deactivate user-created protocols in the protocols list, but you cannot deactivate the Roche-supplied protocols, which include the coverslipping protocols and the dry deparaffinization protocol.

To deactivate a staining protocol



1 In the **Settings** tab, choose the **Protocols** button.

2 In the **Protocols** panel, choose a protocol that you want to deactivate.

3 Choose the **Deactivate** button.
➔ The protocol remains on the **Protocols** list but is not displayed on the **Load Trays** view.

Related topics

- Selecting protocols (107)
- Creating a new staining protocol (151)
- Modifying a staining protocol (153)

Changing system settings

In this section

Updating the instrument name or institution

You can update the instrument name or institution information in the **System** view.

The instrument name and institution information appears on reports created on the VENTANA HE 600 system.

To update the instrument name or institution

1 In the **Settings** tab, choose the **System** button.

2 Enter text into the **Instrument Name**, **Institution Name** or **Address Fields**.

3 Choose the **Save** button.

Related topics

- Changing Sleep settings (159)
- Viewing the user guide (162)
- Setting audible alerts (162)

Enabling the Scheduled Start

In this section

About the Scheduled Start

Scheduled Start allows you to set a time for the instrument to be ready to run trays. The Scheduled Start process warms up the instrument, performs an exchange, and performs any tray recovery, if needed.

You can choose which days are scheduled and what time to start for each day.

The Scheduled Start process takes about 90 minutes to initialize the system, including a 45-minute warm-up period after the instrument is online.

You can load trays during the warm up period, but trays will not start processing in the stainer module until the warm-up period is complete.

Before the Scheduled Start process begins

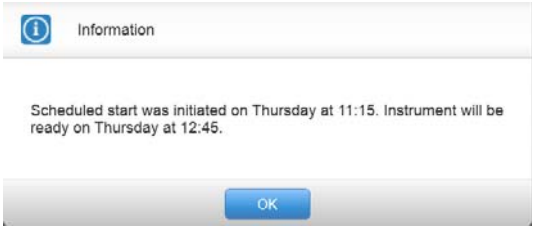
Scheduled Start will not begin if the instrument is in the following states:

- The instrument is already active.
- The system is powered down, or the software is closed.
- The elevator (blue transport) door is open.
- Critical modules are missing.
- The exchange soak time is in process.

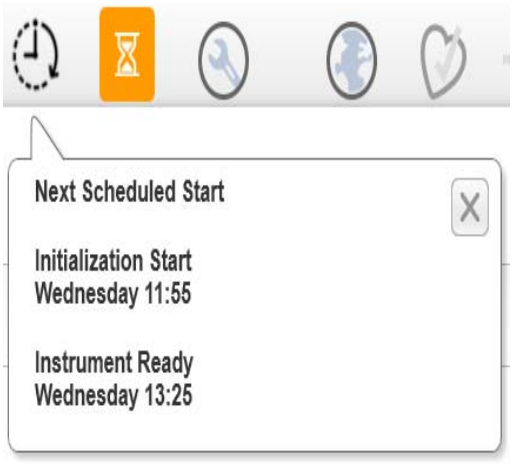
In addition, make sure the following prerequisites are completed before the Scheduled Start process begins:

- The application is open, and the instrument is ready.
- The instrument has adequate cleaning solution and hematoxylin levels.
- The waste containers are empty.

During the Scheduled Start process



A message displays when the Scheduled Start process begins to tell you when the instrument will be ready.



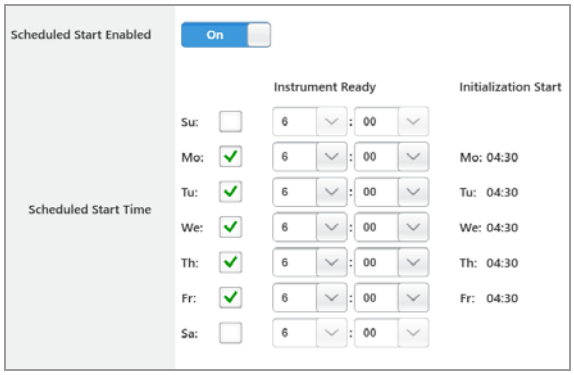
In the Notification area, choose the icon to view details about the scheduled instrument start and ready times.

Setting up Scheduled Start (157)

Setting up Scheduled Start

You can set up both the day and time for Scheduled Start in the **System** view.

About the Scheduled Start (156)



To set up or modify the Scheduled Start

1 In the **Settings** tab, choose the **System** button.

2 Do any of the following to set or modify Scheduled Start settings:
- In the **Scheduled Start Enabled** field, choose **On** to enable Scheduled Start.
- Choose a day of the week to schedule.
- For each day you schedule, choose hours and minutes for the **Instrument Ready** time.

ⓘ You must set both a day and a time. The default time is 6:00 AM. The **Instrument Ready** time uses the 24-hour clock.

➔ The **Initialization Start** field displays the time that is 90 minutes before the chosen **Instrument Ready** time for each day you schedule.

3 If a selected **Initialization Start** time conflicts with the **Daily Cleaning Cycle** setting, a message about the conflict displays. Adjust the **Instrument Ready** times as needed.

4 Choose the **Save** button.

Enabling Sleep mode

In this section

About Sleep mode

When the Sleep mode is enabled, the system enters a sleep state after it is initialized and either no trays have been loaded or a set time has passed since the last tray finished processing.

The system does not enter Sleep mode in the following situations:

- Trays are processing
- Cleaning cycle is being performed
- Modules are initializing
- Modules are in the process of stopping
- A critical error has occurred
- A tray is left in a portal after tray recovery.

For information on module status, see the status indicators in the **Instrument** view.

Instrument view (66)

The following table shows the states of the system modules while the system is in Sleep mode.

Module	Module state
Transport system	Stopped.
Portals	Doors are open and stopped. Portal status indicators stay in the state prior to entering Sleep mode.
Barcode/slide detect module	Remains enabled.
Slide dryer	Remains enabled.
Stainers	Remains enabled.
Coverslipper	Solvent shield is lowered, load cassettes buttons on the Operating tab are disabled, and the coverslipper is stopped.
AFM	Stopped.
Modules	The modules remain in their current state and cannot be enabled or disabled.

Module states in Sleep mode

The system wakes and gets ready to process trays when you do any of the following:

- Insert a new tray into a portal.
- Remove a processed tray from the portal.
- Choose ⏏ in the **Operating** tab.

The system needs approximately 2 minutes to begin processing trays once it is taken out of Sleep mode.

If you choose the **Stop** or **Shut Down** buttons, the system is taken out of Sleep mode and stops or shuts down.

Related topics

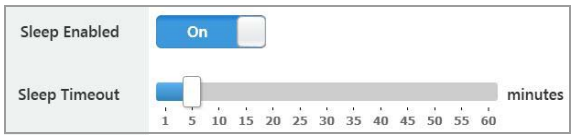
- About the user interface (64)
- Changing Sleep settings (159)
- Errors and troubleshooting (171)

Changing Sleep settings

You can change Sleep settings in the **System** view.

Best practice is to set the sleep timeout period higher than 10 minutes if you are actively processing new trays.

To change Sleep settings



1 In the **Settings** tab, choose the **System** button.

2 Do any of the following to set Sleep mode settings:
   - In the **Sleep Enabled** field, choose **On** to enable Sleep mode.
   - Move the **Sleep Timeout** slider to set the inactivity period to a 5 minute interval between 1 and 60 minutes.

3 Choose the **Save** button.

Related topics

- About Sleep mode (158)
- Viewing the user guide (162)
- Setting audible alerts (162)

Enabling database backup

The VENTANA HE 600 system database is backed up periodically when the backup function is enabled. Backing up the database allows the recovery of files in a recovery scenario.

When database backup is enabled, the VENTANA HE 600 system software creates a backup of the database once a day to a path on the local drive by default. You can also back up to a network location or USB drive.

The default backup is scheduled to occur at 3:15 a.m. by default to coincide with the default 3:00 a.m. time scheduled for the cleaning cycle.

To enable database backup

1 In the **Settings** tab, choose the **System** button.

2 In the **Backup Enabled** field, choose **On** to enable the backup.

3 In the **Backup Time of Day** drop-down lists, choose the time of day to run the backup.

4 In the **Days Between Backups** drop-down list, choose the days between backups.

   Best practice is to set up back up during a time of infrequent activity.

5 In the **Backup Location** field, enter the backup location.

   Best practice is to back up to a local network or USB drive. Work with your local IT support to determine a network location, if possible.

6 To back up the system immediately, choose the **Backup Now** button.

7 Choose the **Save** button.

Related topics

- Changing Sleep settings (159)
- Viewing the user guide (162)
- Setting audible alerts (162)

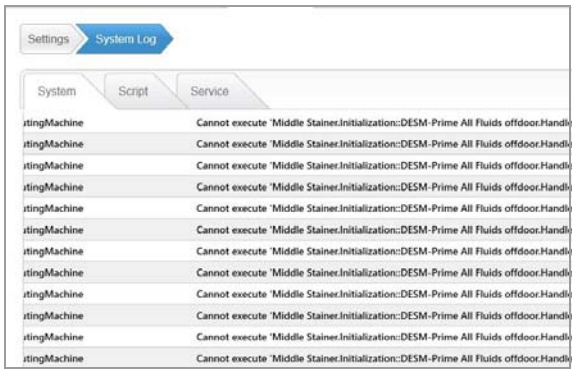
Viewing system logs

The **System Log** view displays logs of system activities.

You can view or search system, maintenance, and script logs. The **System Log** view is primarily used by Roche service representatives.

To view system logs

1 In the **Settings** tab, choose the **Logs** button.



2 Choose one of the following tabs to view specific logs:

- **System**
- **Maintenance**
- **Script**

3 To search the logs, enter a search term in the search field in the upper right corner, and choose the **Go** button.

ℹ To exit search mode, choose the **Clear** button.

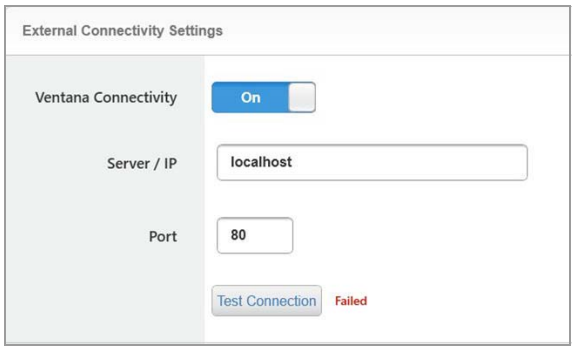
Related topics

- Changing Sleep settings (159)
- Viewing the user guide (162)
- Setting audible alerts (162)

Testing connectivity settings

In the **Connectivity** view, you can test to see if the system is connected to the internet.

Do not change any connectivity settings without consulting Roche support.



To test connectivity settings

1 In the **Settings** view, choose the **Connectivity** button.

2 Choose the **Test Connection** button.
- If the word **Pass** displays to the right of the button, the connection is active.
- If the word **Failed** displays to the right of the button, the connection is not active. Call Roche support for assistance.

Related topics

- Changing Sleep settings (159)
- Viewing the user guide (162)
- Setting audible alerts (162)

Viewing the user guide

Access the *VENTANA HE 600 System User Guide* from the **User Guide** view.

To view the user guide

1 In the **Settings** view, choose the **User Guide** button.
➔ The user guide displays.

Related topics

- Changing Sleep settings (159)
- Setting audible alerts (162)

Setting audible alerts

You can set audible alerts to let you know when certain system events occur.

Audible alerts can be changed or turned off at any time. Contact Roche support if you would like to customize the alert sounds.

All alerts repeat at the interval that you select, except for the **Tray Complete** alert, which sounds only once. The alerts continues to repeat at the selected interval until the alert condition is addressed or until a higher priority alert is triggered.

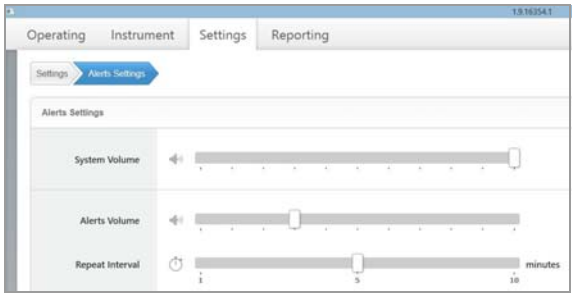
The system prioritizes alerts as shown in the following table.

Priority	Alarm	Description
1	System Error	System encounters an error.
2	Waste Full	Waste container is full.
3	Insufficient Inventory	Reagents or coverslip inventory is low.
4	Tray Completion	A tray has completed processing.

Audible alerts priorities

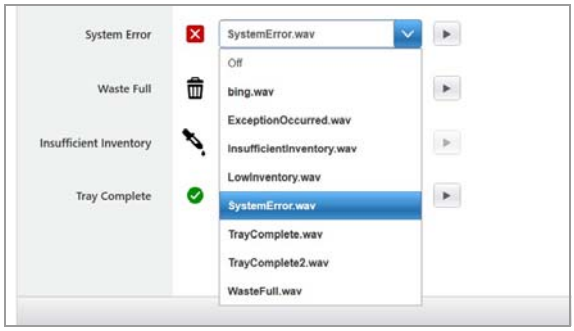
To set system alerts

1 In the **Settings** view, choose the **Alerts** button.



2 Move any of the following sliders:

- **System Volume**: Sets the volume for the system.
- **Alerts Volume**: Sets the volume for the alerts.
- **Repeat Interval**: Sets the alarm interval to **1**, **5**, or **10** minutes.



3 From the drop-down list next to each alarm type, chose an available alarm sound or **Off**.

ⓘ To play a sample of the selected sound, choose ▶ next to the alert.

4 Choose the **Save** button.

Related topics

- Changing Sleep settings (159)
- Viewing the user guide (162)

Maintenance

In this chapter 6

System maintenance

VENTANA HE 600 system maintenance tasks fall into one of three categories: user maintenance, system-performed maintenance, and preventive maintenance.

In this section

User maintenance

Perform user maintenance as needed. The following list provides the schedule that is suggested for performing these tasks.

Maintenance activity	Suggested frequency	Link to procedure
Replace reagents	When reagent bottles are empty	Replacing reagents (123)
Empty the waste containers	At system start-up and when waste containers are full	Emptying waste containers (143)
Replace the coverslip cassettes	When reserve cassette indicators are gray and the area around the cassette indicators is flashing yellow	Loading coverslip cassettes (135)
Empty the coverslip cassette waste bin	At system start-up and when used cassettes are in the waste bin	Unloading used coverslip cassettes (136)
Empty the coverslip waste dispensary	Daily and when loading new cassettes	Checking the coverslip waste dispensary (137)
Empty the reagent drip traps	As-needed	Emptying a reagent hat drip trap (129)
Clean the trays and slide clips	When excess fluid is on tray after processing slides or as-needed	Cleaning and storing trays (117)
Clean the reagent drawer	When reagent has spilled or leaked into drawer or as-needed	Cleaning the reagent access drawer (131)

VENTANA HE 600 system user maintenance activities

Related topics

- System-performed maintenance (168)
- Preventive maintenance (169)

System-performed maintenance

System-performed maintenance tasks include database backup and the daily cleaning cycle.

Both system-performed maintenance tasks are set up to perform daily during installation of the VENTANA HE 600 system software. However, some user interaction is needed to set up the system to perform the tasks.

Maintenance activity	Suggested frequency	Default software setting	User interaction	Link to procedure
Database backup	Daily	Database backed up at 3:15 am.(1)	Users can set time, location, and frequency of backup.	Enabling database backup (160)
Daily cleaning cycle	Daily (required)	Cleaning cycle runs at 3:00 am.(2)	• To run the cleaning cycle manually, choose the **Shut Down** button. • Make sure that cleaning solution bottle is at least one quarter full before the scheduled cleaning cycle is ready to be run.	Shutting down the software and initiating the cleaning cycle (120) Replacing reagents (123)

System-performed maintenance activities

(1) The database backup time can update by the user.

(2) The daily cleaning cycle default time can be updated by your Roche service representative.

Related topics

- Enabling database backup (160)
- User maintenance (167)
- Preventive maintenance (169)

Preventive maintenance

Roche preventive maintenance is performed by Roche service representatives.

Roche preventive maintenance for the system are based on the usage of your instruments. As a baseline, preventive maintenance is performed every 6 months (182 days) or 3,200 trays processed, whichever occurs first. Other options may also trigger preventive maintenance.

The due date for the next preventive maintenance displays in the **Maintenance** tab within the **Instrument** tab.

The projected downtime for preventive maintenance of the system is 8 hours. The downtime includes the testing procedures required to verify that the system is functioning after maintenance.

Related topics

- User maintenance (167)
- System-performed maintenance (168)

Preparing the system for non-use

Place the system in the state shown in the following table, depending on the period of planned non-use.

Days of non-use	Storage stage	Instrument setting	Reagent bottle state	Coverslip cassette state
1-6	Cleaning solution in Hematoxylin lines (exchange process)	Power on or shut down	Reagents left on the AFM	Cassettes on-board in the coverslipper
7-30	Cleaning solution in Hematoxylin lines (exchange process)	Power on or shut down	Reagents removed from the AFM, capped, and stored	Cassettes on-board in the coverslipper
> 30	All fluids drained from system, filters discarded and replaced	Shut down	All reagents removed from the AFM and disposed of following laboratory regulations	Cassettes discarded

Setting up the system for non-use

Errors and troubleshooting

In this chapter 7

Viewing and filtering the error log

Error messages are displayed in the user interface. Complete the steps that are provided in the error message to resolve the error and choose **Close** or view the error log for more details.

Utility film (.hwls): ua_ErrorLog/UA_UsingTheErrorLog.hwls
Title:

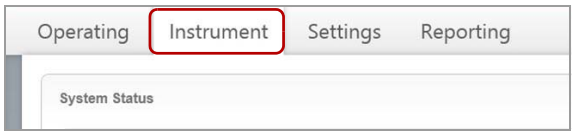
NOTICE

Insufficient error information due to clearing the error log

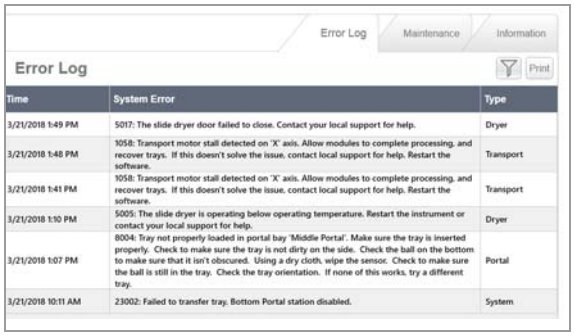
Roche Customer Support Center representatives might ask you to refer to the error log if you are working with them to resolve an issue. If you clear the log, they will not be able to quickly resolve the issue.

- Do not delete or clear errors from the error log.

To view and filter the error log



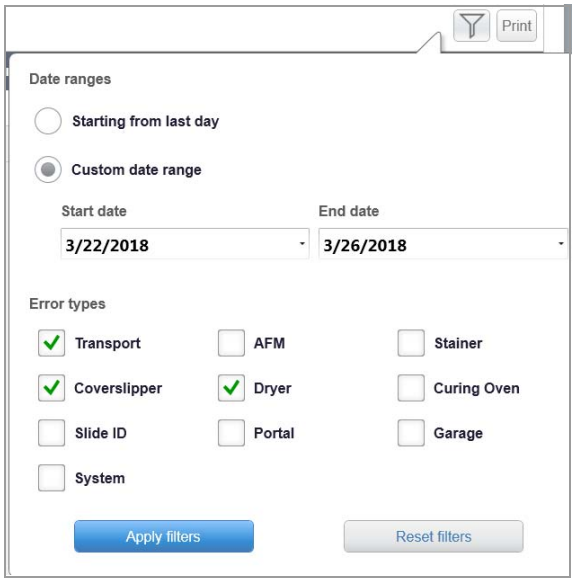
1 In the user interface, choose the **Instrument** tab.



2 To view a list of system errors, in the upper right corner, choose the **Error Log** tab.

3 To filter the error message list by date range and error type, choose the icon.

4 Choose **Starting from the last day** to show messages from the last 24 hours or choose **Custom date range** and enter the **Start date** and **End date.**



5 Select the check boxes next to the criteria that you want to use to filter the list of error messages.

6 Choose the **Apply filters** button.
➔ The filtered list of error messages displays.

Related topics

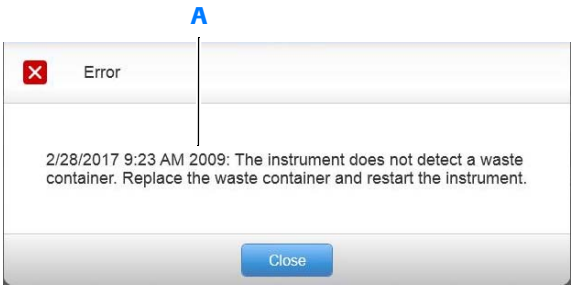
- List of error messages (175)

List of error messages

This section lists the error codes, the text of the error message that displays in the user interface, and a suggested course of action to resolve the error.

In this section

About error message number categories



A Error message number

Each error message includes a number. The error message number corresponds with the area of the system that is encountering an error. Error message numbers are categorized according to the number that precedes it.

Numbers in brackets (for example {0} or {1}) represent points on the system where the error has occurred. The error message you see on the system has these numbers filled in with the location of the error. They appear in the list of errors as placeholders for actual locations of the error.

The following table lists error message categories.

Message number	Category
1000-1999	Transportation system
2000-2999	Automated fluidics module
3000-3999	Slide stainer module
4000-4999	Coverslipper
5000-5999	Slide dryer
6000-6999	Curing oven
7000-7999	Barcode readers
8000-8999	Tray portals
11000-11099	RFID
12000-12999	Scheduler
13000-13999	Database
14000-14999	Communication
20000-20999	Maintenance
22000-22999	Station
23000-23999	Tray recovery
31000-31999	Module controller updates

List of message categories

List of category 1000 messages – Transportation errors

The following table lists error messages related to the transportation system.

Message code	Message	What to do
1004	Tray pickup from transport failed. The instrument is attempting recovery.	Wait while the instrument attempts recovery. Contact Roche support for help, if needed.
1009	Tray drop-off by transport failed. The instrument is attempting recovery.	Wait while the instrument attempts recovery. Contact Roche support for help, if needed.
1024	Transport failed to initialize. Contact your local support for help.	Contact Roche support.
1026	Attempt to move to safe location in elevator failed.	Contact Roche support.
1040	The communications port that controls motion failed to open. The motion control is now disabled.	Contact Roche support.
1050	The motion system move failed on the X axis.	Contact Roche support.
1051	The motion system move failed on the Z axis.	Contact Roche support.
1054	The elevator may not be clear. Ensure elevator is clear.	Ensure that the elevator is clear. Contact Roche support for help, if needed.
1055	This instrument is allowing the transport to move beyond its allowable boundaries.	Contact Roche support.
1057	A detected tray was no longer detected during transportation inside the instrument	Wait for other trays to finish processing in their respective modules. Stop the instrument with the Stop button and locate the tray. See User Guide for further guidance. Inspect the transportation forks. If they appear to be bent, DO NOT RESTART THE INSTRUMENT and call local support. Otherwise, restart the application. Reference the Tray Recovery Troubleshooter section of the User Guide for proper restart procedure.

Transportation system errors

Message code	Message	What to do
1058	Transport motor stall detected on '{0}' axis.	First, allow all modules to complete processing. Second, choose the shut down button to exit the application. Third, manually recover trays. Then, restart the application. Finally, choose the start button to initialize the instrument. If this error continues to appear, contact your local support for help.
1102	Tray {1} failed due to {0} error.	Contact Roche support.
1103	Failed to move a tray at {0}.	• **Slide dryer**: First, restart the application to activate tray recovery; the recovery icon is presented for the slide dryer. If the station is in an error state as denoted by the icon, wait at least 20 minutes for the tray to cool down. Second, shut down the instrument, then manually remove the tray, and finally contact local support for help. • **Curing oven:** CAUTION, tray may be hot, wait at least 20 minutes to cool down. First, shut down the instrument, then, manually remove the tray and contact local support for help. • **Coverslipper**: First, shut down the instrument, then manually remove the tray from the Coverslipper and contact local support. • **Stainer:** First, shut down the instrument, then manually remove the tray from the stainer and contact local support. • **Transport:** First, shut down the instrument, then, manually recover the tray from the fork, and contact local support for help. • **Portal or garage**: Manually recover the tray from the portal or garage, and contact local support for help.

Transportation system errors

List of category 2000 messages – AFM errors

The following table lists error messages related to the automated fluidics module.

Message code	Message	What to do
2006	The instrument could not drain the fluid from the pressure trap.	Restart the instrument or contact Roche support.
2009	The system was unable to detect a waste path.	Make sure the waste carboys are properly inserted. If this error does not resolve, DO NOT RESTART THE INSTRUMENT! Contact your local support for help.
2011	The waste cannot be purged because of a timeout issue.	Do not restart the instrument. First, manually recover trays still in the system. Second, shut down the instrument through the application and shut down the PC. Finally, turn the instrument power switch to off. Contact your local support for help.
2014	A sensor has detected an overflow of the waste reservoir.	Contact Roche support.
2026	Waste pressure exceeded threshold.	Restart the instrument or contact Roche support.
2027	The waste containers have reached capacity.	Empty the full containers.
2029	The sensor on the pressure trap float is registering as high.	DO NOT RESTART THE INSTRUMENT! Contact your local support for help.
2032	There is an error with the {0} reservoir float. The low sensor reports empty while the top sensor reports full.	Restart the instrument or contact Roche support.
2033	There is an error with the waste reservoir float. The top sensor reports not full, but the overflow sensor has been triggered. Sensors may be stuck or a failure has occurred.	Restart the instrument or contact Roche support.
2035	The accumulator pressure is too high.	Restart the instrument or contact Roche support.
2037	The reagent dispense pressure is too high.	Warning, trays may be wet. First, allow the system to finish processing and recover all trays. Second, choose the shutdown button to exit the application. Third, once complete, restart the application. Finally, choose the start button to initialize the instrument and report the error to your local support.
2038	The reagent dispense pressure at the Automated Fluidics Module is too low.	DO NOT RESTART THE INSTRUMENT! Contact your local support for help.
2039	The air knife pressure is too high.	Restart the instrument or contact Roche support.

AFM errors

Message code	Message	What to do
2040	The {0} stainer air knife pressure is too low.	Warning, trays may be wet. First, choose the shutdown button to exit the application. Second, once complete, restart the application. Finally, choose the start button to initialize the instrument and report the error to your local support.
2041	The waste manifold pressure is too high.	Restart the instrument or contact Roche support.
2042	The vacuum is too high in the waste reservoir.	First, choose the shutdown button to exit the application. Second, once complete, restart the application. Finally, choose the start button to initialize the instrument. If this error continues to appear, contact your local support for help.
2043	The vacuum is too low in the waste reservoir.	First, choose the shutdown button to exit the application. Second, once complete, restart the application. Finally, choose the start button to initialize the instrument. If this error continues to appear, contact your local support for help.
2044	There is an error with the {0} reagent reservoir float. The top sensor reports full while the bottom sensor reports empty. Sensors may be stuck or a failure has occurred.	Restart the instrument or contact Roche support.
2046	Cannot start the bulk reagent prime process.	Restart the instrument or contact Roche support.
2050	The waste cannot be purged because of a timeout issue.	Restart the instrument or contact Roche support.
2055	Unable to switch to a waste container - it cannot be found.	Replace the waste containers or contact Roche support.
2057	{0} is empty.	Replace the empty reagent.
2058	{0} waste container has an invalid fluid condition and will be disabled.	Restart the instrument or contact Roche support.
2059	Reagent startup (checking fluid volume and RFID tags) has failed.	Restart the instrument or contact Roche support.
2060	A leak was detected in the waste reservoir.	Contact Roche support.
2061	A leak was detected for reagent {0}.	Contact Roche support.
2062	A waste reservoir float is lower than expected. This could indicate a problem with the following float: {0}.	First, allow all modules to complete processing. Second, recover all trays. Finally, choose the shutdown button to exit the application. DO NOT RESTART THE INSTRUMENT! Contact your local support for help.
2063	Reagent startup (starting RFID reader) has failed.	Restart the instrument or contact Roche support.
2064	Reagent startup (configuring RFID reader) has failed.	Contact Roche support.

AFM errors

List of category 3000 messages – Stainer errors

The following table lists error messages related to the slide stainer modules.

Message code	Message	What to do
3000	{0} failed to prepare for handoff.	Contact Roche support.
3001	{0} failed to complete tray handoff.	Contact Roche support.
3002	The {0} stainer has failed to process a tray.	First, allow all other trays to finish processing. Second, choose the shutdown button to exit the application. Third, once complete, restart the application. Finally, choose the start button to initialize the instrument and report the error to your local support.
3003	{0} failed to Initialize.	Contact Roche support.
3004	{0} failed to stop processing.	Contact Roche support.
3007	{0} failed to abort process.	Contact Roche support.
3008	{0} failed to detect tray.	Contact Roche support.
3009	{0} Disable process failed.	Contact Roche support.
3010	{0} vacuum pressure is too low.	Restart the instrument or contact Roche support.
3011	{0} vacuum pressure is too high.	Restart the instrument or contact Roche support.
3012	No vacuum pressure is detected in the {0}.	Restart the instrument or contact Roche support.
3014	The following door failed to close: {0}.	Attempt to re-enable the stainer. If this does not work: First, choose the shutdown button to exit the application. Second, once complete, restart the application. Finally, choose the start button to initialize the instrument. If this error continues to appear, contact your local support for help.
3015	{0} door open failed.	Contact Roche support.
3016	{0} transport failed to go to home.	Contact Roche support.
3017	{0} airknife failed to go to home.	Contact Roche support.
3018	{0} door failed to go to home.	Contact Roche support.
3019	{0} temperature is too low (below threshold).	Contact Roche support.
3020	Temperature of the following component is too high (above threshold): {0}.	Make sure that all instrument ventilation is connected and within specifications. You may need to contact local facility support to make sure it is in the following specification: Venting specifications: 60–70 CFM; 1222–1426 ft/min. More information can be found in the User Guide. Contact your local support for help.

Slide stainer module errors

Message code	Message	What to do
3021	{0} cannot start up with tray present.	Contact Roche support.
3022	{0} temperature is extremely high (above extreme threshold).	The system module {0} is disabled due to high temperatures and will not finish the tray until it cools down. Wait for the module to cool down, and then re-enable the module through the Instrument view, or contact Roche support.
3027	Fluid overflow detected in {0}.	First, choose the shut down button to exit the application. Second, shut down the PC. Finally, turn the instrument power switch to off. DO NOT RESTART THE INSTRUMENT! Contact your local support for help.

Slide stainer module errors

List of category 4000 messages – Coverslipper errors

The following table lists error messages related to the coverslipper module.

Message code	Message	What to do
4000	Coverslipper failed to prepare for handoff. Contact your local support for help.	Contact Roche support.
4001	Coverslipper failed to complete handoff.	Contact Roche support.
4002	Coverslipper failed to process tray.	Contact Roche support.
4005	Coverslip Activator reservoir failed to fill.	Contact Roche support.
4006	Coverslip cassette failed to eject.	Restart the instrument or contact Roche support.
4007	Coverslipper abort process failed.	Contact Roche support.
4008	The coverslipper calibration values are not available.	Contact Roche support.
4009	Coverslipper disable process failed.	Restart the instrument or contact Roche support.
4010	Coverslipper start up failed.	Restart the instrument or contact Roche support
4011	Coverslipper failed to detect tray.	If necessary, manually remove the tray from the Coverslipper. Attempt to process another tray in the Coverslipper. If this error continues to appear, contact your local support for help.
4012	The coverslipper pressure is above the operating limits.	Restart the instrument or contact Roche support.
4013	The coverslipper pressure is below the operating limits.	First, choose the shutdown button to exit the application. Second, once complete, restart the application. Finally, choose the start button to initialize the instrument and report the issue to local support.

Coverslipper errors

Message code	Message	What to do
4016	The coverslipper tray carrier is not in the correct position.	Restart the instrument or contact Roche support.
4017	The coverslip cassette failed to reach the waste bin.	• Make sure the cassette is not stuck on the exit belt. • Check the coverslipper waste bin to ensure it is not full. • Check for broken coverslip debris on the exit track. • Re-enable the coverslipper module after removing any obstructions. If this error continues to appear, contact your local support for help.
4020	Coverslipper pressure sensor is generating invalid values.	Restart the instrument or contact Roche support.
4021	The coverslipper waste bin is full.	Remove empty cassettes from the waste bin.
4041	Coverslipper front head motor stalled after 10 attempts. Coverslipping has stopped.	Restart the instrument or contact Roche support.
4042	Front coverslip pickup failed after 3 attempts with 2 cassettes. Coverslipping has stopped.	Restart the instrument or contact Roche support.
4051	Coverslipper rear head motor stalled after 10 attempts. Coverslipping has stopped.	Restart the instrument or contact Roche support.
4052	Rear coverslip pickup failed after 3 attempts with 2 cassettes. Coverslipping has stopped.	Restart the instrument or contact Roche support.
4056	The coverslipper carriage did not return to home.	Restart the instrument or contact Roche support.
4057	The coverslipper carriage did not return to home during tray recovery.	Restart the instrument or contact Roche support.
4058	The coverslipper front vacuum head did not return to home.	Restart the instrument or contact Roche support.
4059	The coverslipper front vacuum head did not return to home during tray recovery.	Restart the instrument or contact Roche support.
4060	The coverslipper rear vacuum head did not return to home.	Disable and re-enable the Coverslipper. If this error continues to appear, disable the Coverslipper and coverslip the slides offline. Contact your local support for help.
4061	The coverslipper rear vacuum head did not return to home during tray recovery.	Restart the instrument or contact Roche support.
4111	The following Coverslipper motor failed: {0}. No further slides will be coverslipped until the problem is solved.	Let all trays finish processing in the current module. Contact your local support for more help.
4113	An unopened Coverslip Cassette is detected in the front position. Remove and then open the cassette before reinserting into the coverslipper.	Contact Roche support.
4114	An unopened Coverslip Cassette is detected in the rear position.	Remove and then open the cassette before reinserting into the coverslipper.
4115	Recovery from unopened coverslip cassette failed.	Restart the instrument or contact Roche support.
4116	Coverslipper failed to transition to stand by.	Restart the instrument or contact Roche support.
4117	Unable to eject cassette; waste bin full.	Remove empty cassettes from the waste bin.

Coverslipper errors

List of category 5000 messages – Slide dryer errors

The following table lists error messages related to the slide dryer.

Message code	Message	What to do
5000	Slide Dryer failed to prepare for handoff.	Contact Roche support.
5001	Slide Dryer failed to complete handoff.	Contact Roche support.
5002	Slide Dryer failed to process tray.	Contact Roche support.
5003	Slide Dryer initialization failed.	Contact Roche support.
5004	No tray is detected in Slide Dryer.	Contact Roche support.
5005	The slide dryer is operating below operating temperature.	Restart the instrument or contact Roche support.
5006	The slide dryer module temperature has exceeded the operating temperature threshold.	Allow all modules to complete processing. First, choose the shutdown button to exit the application. Second, once complete, restart the application. Finally, choose the start button to initialize the instrument. If this error continues to appear, contact your local support for help.
5008	Slide Dryer could not reach operating temperature.	Restart the instrument or contact Roche support.
5009	Slide Dryer heater is too hot (over temperature).	Restart the instrument or contact Roche support.
5010	Slide Dryer air temperature sensor failed.	Restart the instrument or contact Roche support.
5011	Slide Dryer heater temperature sensor failed.	Restart the instrument or contact Roche support.
5012	Slide Dryer could not reach the correct blower speed.	Contact Roche support.
5015	The slide dryer door failed to open.	Contact Roche support.
5017	The slide dryer door failed to close.	Contact Roche support.
5021	Slide Dryer failed to stop processing.	Contact Roche support.
5022	Slide Dryer is approaching over temperature.	Restart the instrument or contact Roche support.
5023	Slide Dryer is approaching under temperature.	Restart the instrument or contact Roche support.

Slide dryer errors

List of category 6000 messages – Curing oven errors

The following table lists error messages related to the curing oven.

Message code	Message	What to do
6000	Curing Oven failed to prepare for handoff.	Contact Roche support.
6001	Curing Oven failed to complete handoff.	Contact Roche support.
6002	Curing Oven failed to process tray.	Contact Roche support.
6003	The curing oven's process could not start.	Contact Roche support.
6004	The Curing Oven's heater is operating below operating temperature.	Restart the instrument or contact Roche support.
6005	The Curing Oven is operating below operating temperature.	Restart the instrument or contact Roche support.
6006	The curing oven temperature has exceeded the operating temperature threshold.	First, allow all trays to complete processing. Second, choose the shutdown button to exit the application. Third, once complete, restart the application. Finally, choose the start button to initialize the instrument. If this error continues to appear, contact your local support for help.
6008	The curing oven's sensor is reporting a lower than normal temperature.	Restart the instrument or contact Roche support.
6009	The curing oven's sensor is reporting a temperature that is above normal.	Restart the instrument or contact Roche support.
6010	The curing oven's air sensor is reporting the incorrect temperature.	Restart the instrument or contact Roche support.
6011	The curing oven's heater sensor is reporting the incorrect temperature.	Restart the instrument or contact Roche support.
6012	The curing oven could not reach the correct blower speed.	Contact Roche support.
6015	The door to the curing oven would not open.	Restart the instrument or contact Roche support.
6017	Curing Oven door failed to close.	Warning, trays may be wet. First, allow the system to finish processing and recover all trays. First, choose the shutdown button to exit the application. Second, once complete, restart the application. Finally, choose the start button to initialize the instrument and report the error to your local support.
6018	The curing oven will not shut down.	Contact Roche support.

Curing oven errors

List of category 7000 messages – Barcode reader errors

The following table lists error messages related to the barcode readers.

Message code	Message	What to do
7000	The slide ID process failed.	Contact Roche support.
7001	The barcode scanner failed.	Contact Roche support.
7002	The verification of the barcode scanner configuration failed.	Contact Roche support.
7003	The verification of the barcode scanner failed.	Contact Roche support.

Barcode reader errors

List of category 8000 messages – Tray portal errors

The following table lists error messages related to the tray portals.

Message code	Message	What to do
8001	During recovery, the portal door closed.	Restart the instrument or contact Roche support.
8002	The portal door failed to open.	Attempt to manually open the portal door without using excessive force. If this error continues to appear, contact your local support for help.
8003	The portal door failed to close.	Attempt to manually close the portal door without using excessive force. If this error continues to appear, contact your local support for help.
8004	The tray is not properly loaded in portal bay {0}.	Refer to the User Guide section on Loading Trays Into Portal for more information. If this error continues to appear, try a different tray. If a different tray does not resolve the issue, contact local support for help.

Tray portal errors

List of category 11000 messages – RFID errors

The following table lists error messages related to RFID readers.

Message code	Message	What to do
11000	There is an issue with the RFID: Unable to connect to reader on port {0:D}.	Contact Roche support.
11103	Unable to write to {0} tag. {0} is the name.	Contact Roche support.
11104	Unable to write to {0} tag.	Contact Roche support.

RFID errors

List of category 12000 messages – Scheduler errors

The following table lists error messages related to the scheduler.

Message code	Message	What to do
12008	Unable to abort schedule process, and it will continue.	Contact Roche support.

Scheduler errors

List of category 13000 messages – Database errors

The following table lists error messages related to the database.

Message code	Message	What to do
13002	Error occurred creating system backup. {0}	Contact Roche support.
13003	Attempted to execute backup/restore operation, while existing backup/restore operation in progress.	Contact Roche support.
13004	Error occurred restoring system from backup.	Contact Roche support.
13005	System backup completed.	Contact Roche support.
13006	System restore completed.	Contact Roche support.
13007	System backup completed. Backup was copied to fallback output location because copying to primary location failed: {0}	Contact Roche support.
13008	System backup completed. Old backup files could not be purged.	Contact Roche support.

Database errors

List of category 14000 messages – Communication errors

The following table lists error messages related to communication.

Message code	Message	What to do
14025	There is an issue with starting communications.	Contact Roche support.
14026	There is an issue connecting to the serial network provider.	Restart the instrument or contact Roche support.
14028	Failed to translate message {0} at {1} provider.	Contact Roche support.
14032	There is an incorrect firmware version. Contact your local support for help.	Contact Roche support.
14033	There is an incorrect FPGA version. Contact your local support for help.	Contact Roche support.
14034	An incorrect version of M-Code is being used.	Contact Roche support.
14035	An incorrect version of the transportation motor firmware is detected. Contact your local support for help.	Contact Roche support.
14036	There is an incorrect firmware version. Contact your local support for help.	Contact Roche support.
14037	There is an error with Ventana Connectivity communication settings.	Contact Roche support.
14038	Communication with the instrument has failed. Restart the instrument. If the problem persists, contact your local support for help.	Contact Roche support.

Communication errors

List of category 20000 messages – Maintenance errors

The following table lists error messages related to maintenance.

Message code	Message	What to do
20014	The following door appears to be open: {0}.	Verify it is completely closed. First, choose the shutdown button to exit the application. Second, once complete, restart the application. Finally, choose the start button to initialize the instrument. If this error continues to appear, contact your local support for help.
20016	The daily cleaning cycle cannot start.	Make sure that a full bottle of {0} is loaded. If the loaded reagent bottle is full, remove the bottle, wait 10 seconds, and then reload the bottle.
20019	The instrument is currently in its daily cleaning cycle. The instrument will be available and the start button is enabled after the displayed soak time has elapsed.	Wait until cleaning cycle is finished before processing slides.
20021	Initialization failed.	Contact Roche support.
20022	A preventive maintenance task is pending.	Contact Roche support.
20023	A preventive maintenance task is overdue.	Contact Roche support.
20024	The maintenance record could not be created.	Contact Roche support.
20025	A preventive maintenance task was completed.	Contact Roche support.

Maintenance errors

List of category 22000 messages – Station errors

The following table lists error messages related to the station.

Message code	Message	What to do
22000	Unable to create station: {0}.	Restart the instrument or contact Roche support.
22001	There is an invalid station configuration.	Restart the instrument or contact Roche support.
22002	There is an invalid device configuration.	Restart the instrument or contact Roche support.

Station errors

Message code	Message	What to do
22003	Unable to find {0} in instrument.	Restart the instrument or contact Roche support.
22007	One or more critical modules has failed its firmware update. The instrument start-up action is disabled. Please contact local support.	Contact Roche support.
22008	One ore more non-critical modules has failed its firmware update. Instrument functionality will be limited until the problem is corrected. Please contact local support.	Contact Roche support.

Station errors

List of category 23000 messages – Tray recovery

The following table lists error messages related to tray recovery.

Message code	Message	What to do
23000	A detected tray is no longer detected in {0}:	• **Slide dryer**: First, restart the application to activate tray recovery; the recovery icon is presented for the slide dryer. If the station is in an error state as denoted by the icon, wait at least 20 minutes for the tray to cool down. Second, shut down the instrument, then manually remove the tray, and finally contact local support for help. • **Curing oven:** Caution, the tray may be hot; wait at least 20 minutes to cool down. First, shut down the instrument, then manually remove the tray and contact local support for help. • **Coverslipper**: First, shut down the instrument, then manually remove the tray from the Coverslipper and contact local support. • **Stainer:** First, shut down the instrument, then manually remove the tray from the stainer and contact local support. • **Transport:** First, shut down the instrument, then manually recover the tray from the fork, and contact local support for help. • **Portal or garage**: Manually recover the tray from the portal or garage, and contact local support for help.

Tray recovery

List of category 31000 messages – Module controller updates

The following table lists error messages related to module controller (firmware) updates.

Message code	Message	What to do
31000	Update file corrupt or not found for module controller update.	Contact Roche support.
31005	Unable to update FPGA at address {0}. 24 volt control circuit failure.	Contact Roche support.

Module controller updates

Tray recovery troubleshooter

If the system has stopped and slide trays need to be recovered, investigate the following cause of error.

Do not carry out this tray recovery procedure unless Roche Diagnostics has trained you to do so.

⚠ WARNING

Injury to operators and damage to the system

Contact with the system without powering off the system and waiting 20 minutes can result in a serious burn as some modules may be hot.

- Power off the computer and system prior to manually removing any trays.
- Wait at least 20 minutes after powering off the system to allow all trays in the slide dryer, stainers, and curing oven to cool before handling trays manually.
- Wait 20 minutes after powering off the system before touching any internal components of the system.

About the staining system (53)

About the transportation system (55)

Turn off the system

Restarting the system usually recovers all trays and delivers them to the tray portals.

In an extreme situation, (for example, a fluid leak, fire, power outage, transport error, or computer issue) the system may not be able to restart. Determine if you can restart the system to proceed to recover trays.

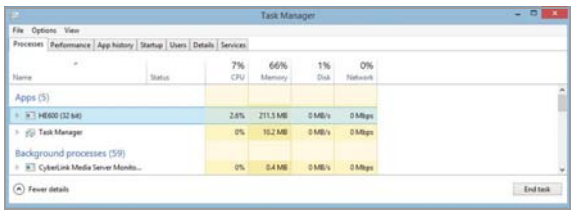
1 If the system is running, in the **Instrument view**, choose the **Stop** button.

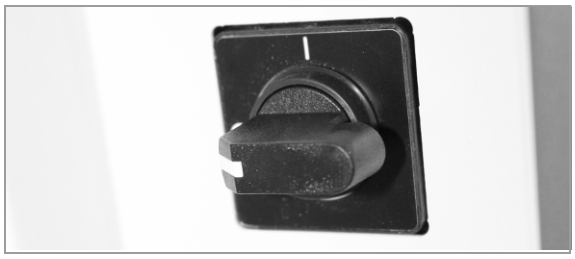
➔ If a prompt about initiating system maintenance displays, choose the **No** button.

2 To open **Task Manager**, press Ctrl+Alt+Delete on the keyboard, or press and hold the Windows taskbar at the bottom of the screen and choose **Task Manager**.

ⓘ Do not shut down the system by choosing the **Shut Down** button or the red **X** in the user interface. A full shut down initiates the 60 minute cleaning cycle and delays tray recovery.

➔ Windows Task Manager displays.





Can the system be restarted?

3 Choose **HE600 (32bit)** and then choose the **End Task** button.

4 Choose the Windows icon in the lower left corner of the screen.

5 In the menu that displays in the lower left corner, choose and choose then **Shut down**.

6 On the left-hand side of the system, turn the power switch from I to O.

7 Wait 20 minutes for the electricity to discharge and the trays and modules to cool.

8 Call Roche support to let them know you experienced a critical system error.

- Yes. The computer can be accessed and the system can be restarted. ► Remove a tray from the transportation system (193)
  or,
- No. The computer cannot be accessed, or there is an environmental hazard. ► Contact Roche Service (204)

Remove a tray from the transportation system

The following video demonstrates the process for removing a tray from the transportation system step-by-step. The blue door that you open to access the transportation system is called the elevator door. Continue reading the entire procedure for additional details.

⚠ CAUTION

Injury to operators and damage to the system

- Contact with the system without powering off the system and waiting 20 minutes can result in a serious burn as some modules may be hot.
  Wait at least 20 minutes after the system has been shut down before manually recovering a tray from the garage.

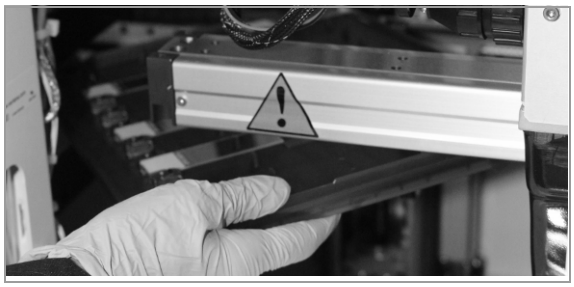
Utility film (.hwls): ua_RemoveTrayTransSystem/UA_RemoveFromTransSystem.hwls
Title: Removing a tray from the transportation system and restarting the system

You need a 4 mm hex key to complete this task.

1 CAUTION! Wait at least 20 minutes after the system has been shut down before manually recovering a tray from the transportation system.

Place a 4mm hex key into the slot on the bottom right of the elevator door (the blue transportation system door).

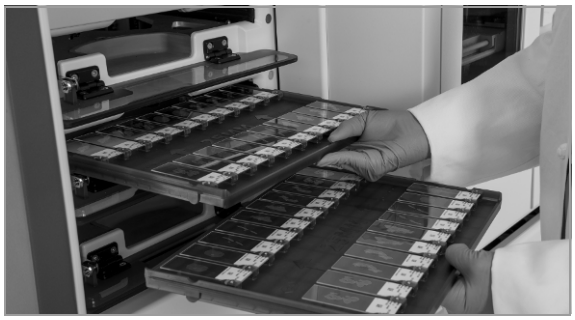
2 Rotate the hex key to unlock the elevator door.
➔ The elevator door is open.



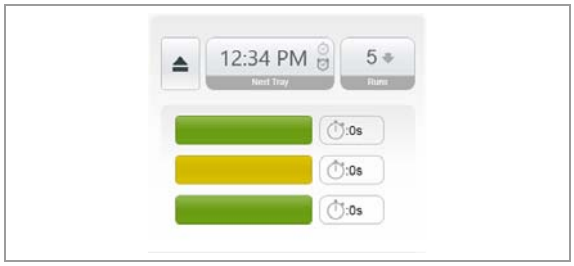
3 Gently lift the slide tray from the transportation forks to bring the tray out of the system.

4 Close the elevator door.

5 Restart the system by turning the power switch from O to I, and pressing the power button on the computer.
➔ The auto-recovery feature automatically moves all remaining trays to the tray portals.



6 Remove all trays from the tray portals.



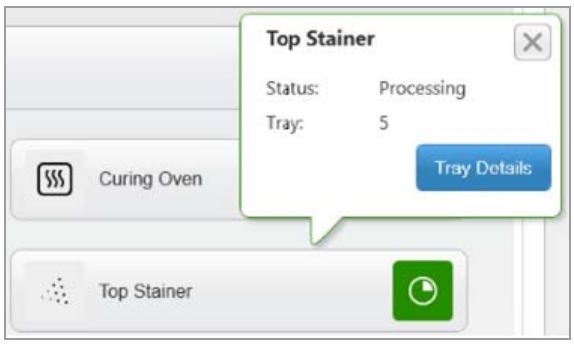
7 In the **Operating** tab, determine number of trays in the system.

Are there trays remaining in the system?

- No. In the Operating tab, the tray count is zero.
  ► Review troubleshooting (204)
  or,
- Yes. In the Operating tab, the tray count is above zero.
  ► Prepare to remove the tray from other modules inside the system (195)

Prepare to remove the tray from other modules inside the system

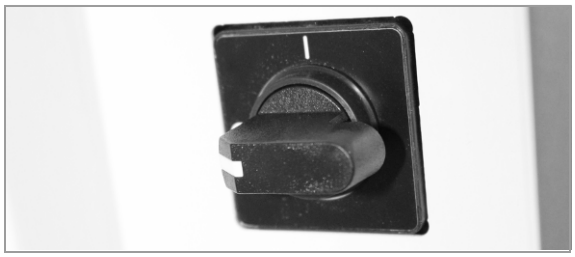
If the auto-recovery process has not moved all available trays to the tray portals, you must power down the system again to prepare to recover the trays from other parts of the system.



1 In the **Instrument** tab, choose each of the system modules to determine the location of the remaining trays.

ℹ If the number of trays shown in the **Operating** tab is higher than the total number of trays shown in each of the modules, the remaining trays are probably in the garage.

2 Make a note of the locations of the trays in the system.



3 Shut down the system using **Task Manager** and turning the power switch from I to O.

ℹ Do not use the **Shut Down** button to turn off the system.

Where are the remaining trays in the system?

- ► Remaining tray is in the garage (196)
  or,
- ► Remaining tray is in the slide dryer (197)
  or,
- ► Remaining tray is in the slide stainer module (199)
  or,
- ► Remaining tray is in the coverslipper (201)
  or,
- ► Remaining tray is in the curing oven (203)

▸ Remaining tray is in the garage

⚠ CAUTION

Injury to operators and damage to the system

- Contact with the system without powering off the system and waiting 20 minutes can result in a serious burn as some modules may be hot.
  Wait at least 20 minutes after the system has been shut down before manually recovering a tray from the garage.

You need a 4 mm hex key to complete this task.

1 CAUTION! Wait at least 20 minutes after the system has been shut down before manually recovering a tray from the garage.

Place the hex key into the slot on the bottom right of the elevator door, and turn the hex key to open the door.

2 Reach through the elevator door to pull the tray out of the system.

3 Close the elevator door.

Are there trays remaining in the system?

- No, there are no trays remaining in the system. Restart the system.
  ► Review troubleshooting (204)
  or,
- ► Remaining tray is in the slide dryer (197)
  or,
- ► Remaining tray is in the slide stainer module (199)
  or,
- ► Remaining tray is in the coverslipper (201)
  or,
- ► Remaining tray is in the curing oven (203)

Remaining tray is in the slide dryer

The following video demonstrates the process step-by-step. Continue reading the entire procedure for additional details.

⚠ CAUTION

Injury to operators and damage to the system

Contact with the system without powering off the system and waiting 20 minutes can result in a serious burn as some modules may be hot.

- Wait at least 20 minutes after the system has been shut down before manually recovering a tray from the garage.

NOTICE

Damage to the instrument

If trays are removed from the slide dryer incorrectly, the module can be damaged and require engineer repair.

- Only remove trays from the slide dryer if the system cannot restart or if the module failed to detect the tray.

NOTICE: Newer slide dryers have delicate switch sensors. If the tray is not correctly lifted off this sensor, it can be damaged.

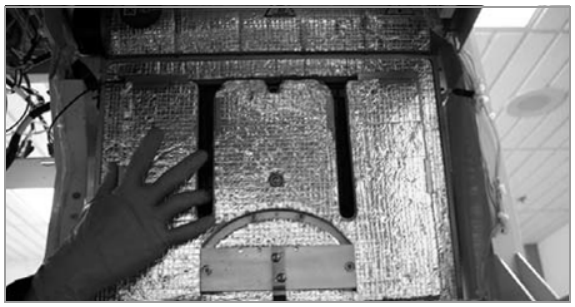
These photos show the switch sensor on the slide dryer door.

Utility film (.hwls): ua_RecoverTrayDryingOven/UA_RemoveFromDryingOven.hwls
Title: Recovering a tray from the slide dryer

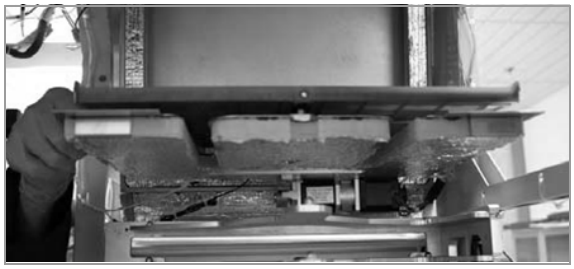
You need a 4 mm hex key to open the elevator door. After opening the elevator door, you can reach into the system to open the slide dryer.

1 CAUTION! Wait at least 20 minutes after the system has been shut down before manually recovering a tray from the slide dryer.

Place the hex key into the slot on the bottom right of the elevator door, and turn the hex key to open the door.



2 Open the slide dryer, reaching through the elevator door to grasp the slide dryer door.



3 With one hand, pull down the slide dryer door until it fully opens. Do not use excessive force.

4 With the other hand, lift the tray up and to the back of the system. Make sure to avoid contact with the switch sensor and tray arms. Gently pull the tray out of the system.

5 Gently close the slide dryer door.

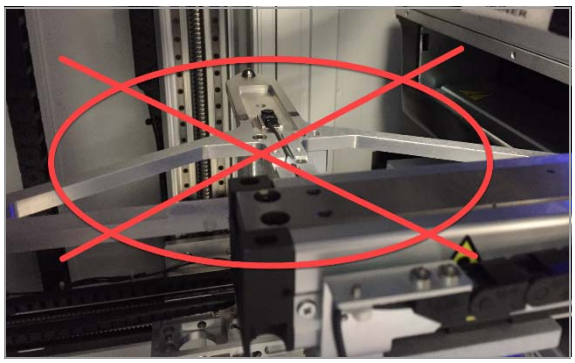
Are there trays remaining in the system?

- No, there are no trays remaining in the system. Restart the system.
  ► Review troubleshooting (204)
  or,
- ► Remaining tray is in the garage (196)
  or,
- ► Remaining tray is in the slide stainer module (199)
  or,
- ► Remaining tray is in the coverslipper (201)
  or,
- ► Remaining tray is in the curing oven (203)

Remaining tray is in the slide stainer module

The following video demonstrates the process step-by-step. Continue reading the entire procedure for additional details.

Utility film (.hwls): ua_RecoverTrayStainers/UA_RemoveFromStainers.hwls
Title: Recovering trays from the slide stainer module



⚠ WARNING

Damage to the stainer or components

Pulling out a tray or moving the stainer mount arms before all obstacles have been cleared can damage the stainer and other components.

- Wait to push or pull the stainer mount arms or grab and pull the tray until all obstructions are cleared and the moving parts are stopped.

⚠ CAUTION

Injury to operators and damage to the system

Contact with the system without powering off the system and without waiting 20 minutes can result in a serious burn as some modules may be hot.

- Wait at least 20 minutes after the system has been shut down before manually recovering a tray from the garage.

You need a 4 mm hex key to open the elevator door, and the stainer crank tool for the stainer module release. After opening the elevator door, you can reach into the system to open the stainer door.

Prepare wet paper towels in case of spills or wet trays that are stuck in a stainer module.

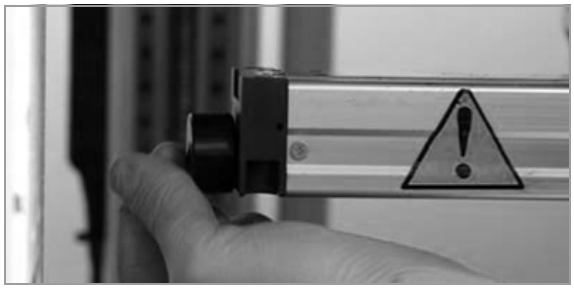
1 CAUTION! Wait at least 20 minutes after the system has been shut down before manually recovering a tray from the slide dryer.

Place the hex key into the slot on the bottom right of the elevator door, and turn the hex key to open the door.

2 CAUTION! Do not push or pull the stainer mount arms or grab and pull the tray. Use the crank to bring the tray out of the stainer.

Insert the stainer crank into the stainer release.

ⓘ If you do not have the stainer crank, you can use a 2 mm hex key instead.



3 Turn the crank clockwise until the tray and the tray mount are fully out of the stainer.

ⓘ Note that it takes some time to move the tray completely out.

4 Remove the tray from the stainer and carefully take it out of the system.

5 Reinsert the stainer crank into the stainer release.

6 Turn the stainer crank counterclockwise until the tray mount is inside the stainer.

Are there trays remaining in the system?

- No, there are no trays remaining in the system. Restart the system.
  ► Review troubleshooting (204)
  or,
- ► Remaining tray is in the garage (196)
  or,
- ► Remaining tray is in the slide dryer (197)
  or,
- ► Remaining tray is in the coverslipper (201)
  or,
- ► Remaining tray is in the curing oven (203)

Remaining tray is in the coverslipper

The following video demonstrates the process step-by-step. Continue reading the entire procedure for additional details.

⚠ CAUTION

Injury to operators and damage to the system

- Contact with the system without powering off the system and waiting 20 minutes can result in a serious burn as some modules may be hot.

  Wait at least 20 minutes after the system has been shut down before manually recovering a tray from the garage.

Utility film (.hwls): ua_RecoverTrayCoverslipper/ua_RecoverTrayCoverslipper.hwls
Title: Recovering a tray from the coverslipper access area

You need a 4 mm hex key to open the elevator door. When the door is open, turn the coverslipper's air release valve counterclockwise to lower the tray out of the coverslipper, and then turn it clockwise to open the valve.

1 CAUTION! Wait at least 20 minutes after the system has been shut down before manually recovering a tray from the coverslipper.

Place the hex key into the slot on the bottom right of the elevator door, and turn the hex key to open the door.

2 Locate the air relief valve to the right of the elevator opening.

3 To lower the tray, close the blue air relief valve by turning it 90 degrees.

➔ Releasing the air from the coverslipper lowers the tray safely.

4 Carefully pull out the tray from the coverslipper.

5 CAUTION! If you do not open the air relief valve after retrieving the tray, the coverslipper will not initialize properly on system restart.

Open the air relief valve by turning the air relief valve back to its original position.

Are there trays remaining in the system?

- No, there are no trays remaining in the system. Restart the system.
  ► Review troubleshooting (204)
  or,
- ► Remaining tray is in the garage (196)
  or,
- ► Remaining tray is in the slide dryer (197)
  or,
- ► Remaining tray is in the slide stainer module (199)
  or,
- ► Remaining tray is in the curing oven (203)

Remaining tray is in the curing oven

The following video demonstrates the process step-by-step. Continue reading the entire procedure for additional details.

⚠ CAUTION

Injury to operators and damage to the system

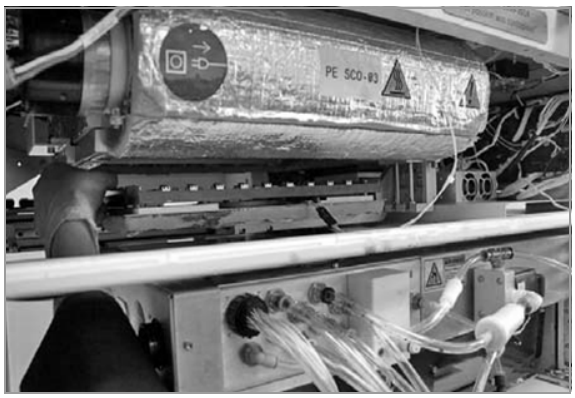
- Contact with the system without powering off the system and waiting 20 minutes can result in a serious burn as some modules may be hot.
  Wait at least 20 minutes after the system has been shut down before manually recovering a tray from the garage.

Utility film (.hwls): ua_RecoverTrayCuringOven/UA_removeFromCuringOven.hwls
Title: Recovering a tray from the curing oven

You need a 4 mm hex key to open the elevator door. The curing oven door opens automatically after the system is shut down.

1 CAUTION! Wait at least 20 minutes after the system has been shut down before manually recovering a tray from the curing oven.

Place the hex key into the slot on the bottom right of the elevator door, and turn the hex key to open the door.



2 On the top left of the system, locate the tray inside the curing oven.

ⓘ The curing oven door opens automatically after the system is shut down.

3 Lift the tray up and out of the curing over carefully to remove it from the system.

Are there trays remaining in the system?

- No, there are no trays remaining in the system. Restart the system.
  ► Review troubleshooting (204)
  or,
- ► Remaining tray is in the garage (196)
  or,
- ► Remaining tray is in the slide dryer (197)
  or,
- ► Remaining tray is in the slide stainer module (199)
  or,
- ► Remaining tray is in the coverslipper (201)
  or,
- ► Remaining tray is in the curing oven (203)

Review troubleshooting

Yes. The trays have been recovered and the system is working.

1 After all trays have been removed from the system, ensure all panels and doors are closed.

2 Review a summary of your performed troubleshooting steps below.

➔ {{ExecutedTroubleshooterSteps}}

Contact Roche Service

1 If you cannot recover a tray, or the system is unresponsive, contact your Roche Service representative.

Troubleshooting tray recovery

If the system turns off unexpectedly or the user interface freezes or experiences an error, you can manually remove trays from the transportation fork and use the auto-recovery to deliver the remaining trays to the portal upon restarting the system.

In this section

About tray recovery

To recover trays, you first turn off the system power, then remove all trays from the transportation forks, and then restart the system. This activates auto-recovery to move all the trays inside the system to the tray portals.

If all the trays were not recovered from the tray portals after restarting the system, or if it is not possible to restart the system, you can recover the trays manually from a different part of the system. You must turn off the power to the system completely before manually removing trays.

The following tasks detail the procedures for shutting down the system, restarting, and recovering trays from different modules in the system.

Related topics

- Turning off the system (206)
- Removing a tray from the transportation system and restarting the system (207)
- Determining the location of remaining trays (209)

Turning off the system

Turning off and then restarting the system usually recovers all trays and delivers them to the tray portals.

Do not carry out this tray recovery procedure unless Roche Diagnostics has trained you to do so.

⚠ WARNING

Injury to operators and damage to the system

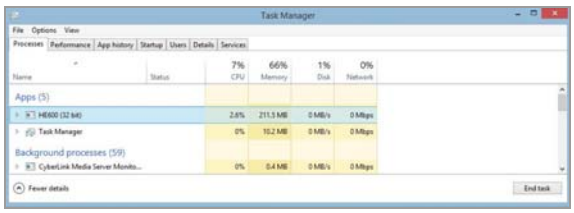
Contact with the system without powering off the system and waiting 20 minutes can result in a serious burn because some modules can be hot.

- Power off the computer and system prior to manually removing any trays.
- Wait at least 20 minutes after powering off the system to allow all trays in the slide dryer, stainers, and curing oven to cool before handling trays manually.
- Wait 20 minutes after powering off the system before touching any internal components of the system.

To turn off the system

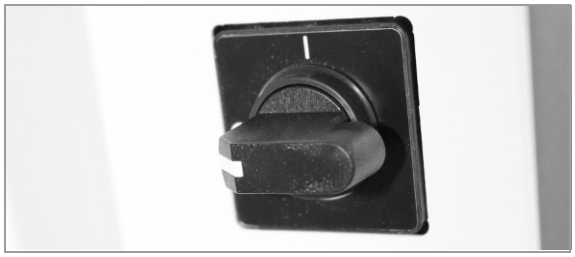
1 If the system is running, in the **Instrument view**, choose the **Stop** button.
   ➔ Added cleaning cycle info.
   ➔ A confirmation message displays. Choose **Yes** to shut down the system without performing cleaning.

2 If the user application is non-responsive, open the **Task Manager**. Press Ctrl+Alt+Delete on the keyboard, or press and hold the Windows taskbar at the bottom of the screen and choose **Task Manager**.
   ❶ Do not shut down the system by choosing **Shut Down** or the red **X**. A full shut down initiates the 60 minute cleaning cycle and delays tray recovery. If it has been more the 24 hours since the last cleaning cycle, the cleaning cycle will run when you restart the system.
   ➔ Windows Task Manager displays.



3 In the Windows **Task Manager** list, choose **HE600 (32bit)**, and then choose **End Task**.
   ➔ The monitor displays a purple Windows screen.

4 Choose the Windows icon in the lower left corner of the screen.



5 In the menu that displays in the lower left corner, choose and then **Shut down**.

6 On the left-hand side of the system, turn the power switch from I to O.

7 Wait 20 minutes for the electricity to discharge and the trays and modules to cool.

8 Call Roche support to let them know you experienced a critical system error.

9 Now continue with “Removing trays from the transportation system and restarting the system” (207).

Related topics

- About tray recovery (205)
- Removing a tray from the transportation system and restarting the system (207)
- Determining the location of remaining trays (209)

Removing a tray from the transportation system and restarting the system

After you have shut down the system, remove any tray from the transportation system, and restart the system to activate auto-recovery.

In an extreme situation, (for example, a fluid leak, fire, power outage, transport error, or computer issue) the system might not be able to restart. Complete this task to determine if you can restart the system after turning it off.

The system then moves all remaining trays to the tray portals.

Before you begin the procedure, make sure that you have the following materials available:

- ☐ A 4 mm hex key to open the elevator door

Make sure that the following prerequisites are completed before starting this procedure:

- ☐ Turn off the system.
- Turning off the system (206)

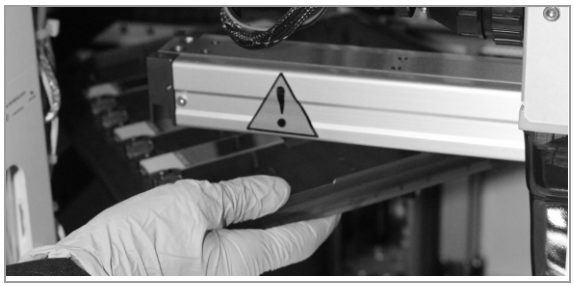
To remove trays from the transportation system and restart

1 CAUTION! Wait at least 20 minutes after the system has been turned off before manually recovering a tray from the transportation system.

Place a 4mm hex key into the slot on the bottom right of the elevator door.

2 Rotate the hex key to unlock the elevator door.

➔ The elevator door is opened.

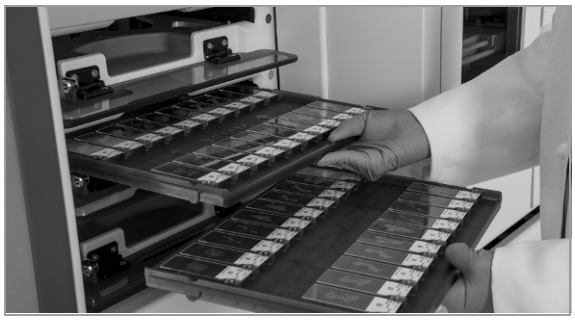


3 Gently lift the slide tray that is on the transportation fork to bring the tray out of the system.

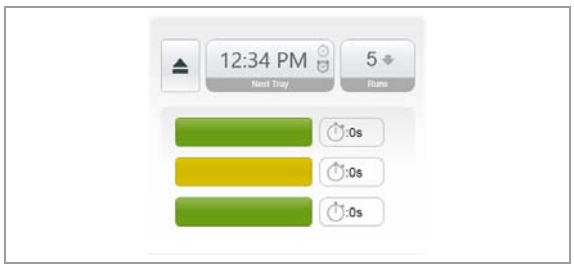
4 Close the elevator door.

5 Restart the system by turning the power switch from O to I.

➔ The auto-recovery feature automatically moves all remaining trays to the tray portals.



6 Remove all trays from the tray portals.



7 To determine if additional trays are in the system, choose the **Operating** tab, and view the number in the **Runs** box.

8 If the number of trays in the **Runs** box is higher than 0, then continue with “Determining the location of remaining trays”(🖃 209).

Related topics

- About tray recovery (205)
- Turning off the system (206)
- Determining the location of remaining trays (209)

Determining the location of remaining trays

If all the trays were not recovered after restarting the system or if the system could not be restarted, you need to determine where the remaining trays are.

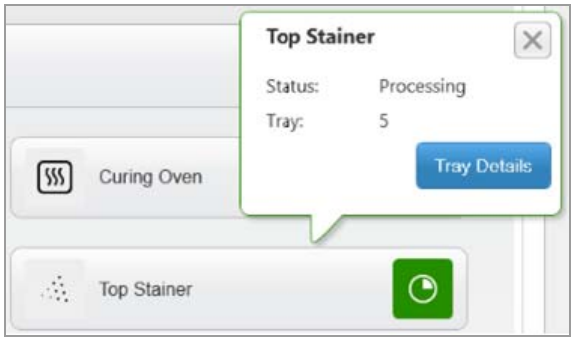
After using the **Instrument** and **Operating** tabs to determine which modules you have to recover trays from, you must power down the system again to prepare to recover the trays.

Make sure that the following prerequisites are completed before starting this procedure:

☐ Remove trays from the transportation system and restart the system.

Removing a tray from the transportation system and restarting the system (207)

To determine the location of remaining trays

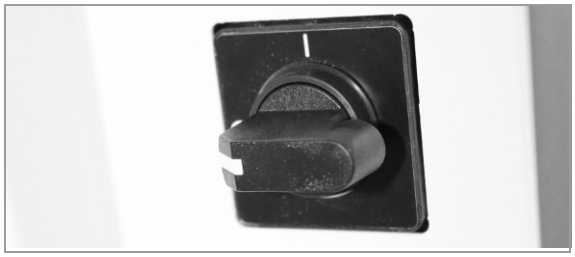


1 To determine the location of the remaining trays, choose the **Instrument** tab, and then choose each of the system modules.

➔ A dialog box displays to indicate which tray is present in the module (if any).

2 Note the locations of the trays in each of the modules.

If the total number of trays shown in the **Operating** tab **Runs** box is larger than the total number of trays shown in each of the modules, the additional trays are probably in the garage.



3 To prepare to recover trays, turn off the system using **Task Manager** and turn the power switch from I to O. For more information, see “Turning off the system” (206).

Do not use the **Shut Down** button to shut down the system.

4 Now continue with the topic corresponding to the location of the remaining trays:
   - 'Recovering a tray from the slide dryer' (210)
   - 'Recovering trays from the slide stainer module' (211)
   - 'Recovering a tray from the coverslipper access area' (213)
   - 'Recovering a tray from the curing oven' (214)
   - 'Recovering a tray from the garage' (216)

Related topics

- About tray recovery (205)
- Turning off the system (206)
- Removing a tray from the transportation system and restarting the system (207)

Recovering a tray from the slide dryer

If the remaining tray is in the slide dryer, you can recover it by opening the elevator door, and then opening the slide dryer door.

Before you begin the procedure, make sure that you have the following materials available:

☐ A 4 mm hex key to open the elevator door

Make sure that the following prerequisites are completed before starting this procedure:

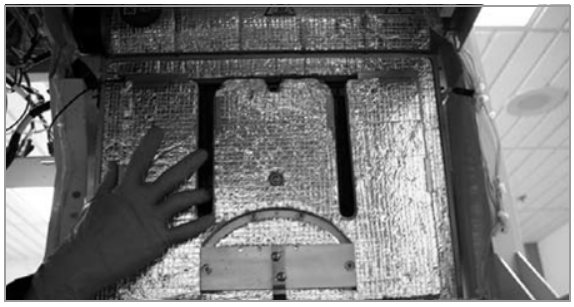
☐ Locate the tray in the Operating tab and turn off the system.

Determining the location of remaining trays (209)

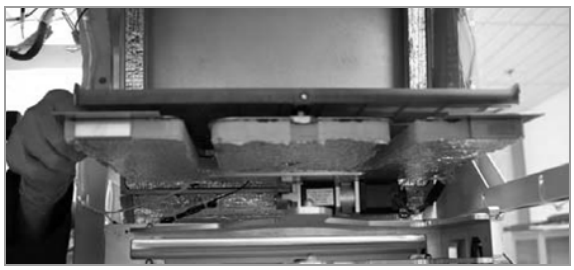
To recover a tray from the slide dryer

1 CAUTION! Wait at least 20 minutes after the system has been turned off before manually recovering a tray from the slide dryer.

   Place the hex key into the slot on the bottom right of the elevator door, and turn the hex key to open the door.



2 Reach through the elevator door to grasp the slide dryer door.



3 Pull down the slide dryer door until it fully opens.

4 Lift up the tray slightly, and pull it out of the system.

Related topics

- About tray recovery (205)
- Turning off the system (206)
- Removing a tray from the transportation system and restarting the system (207)
- Determining the location of remaining trays (209)

Recovering a tray from the slide stainer module

If the remaining tray is in the slide stainer module, you can recover it by opening the elevator door, and then opening the slide stainer door.

Before you begin the procedure, make sure that you have the following materials available:

- ☐ A 4 mm hex key to open the elevator door.
- ☐ A stainer crank to open the slide stainer door.

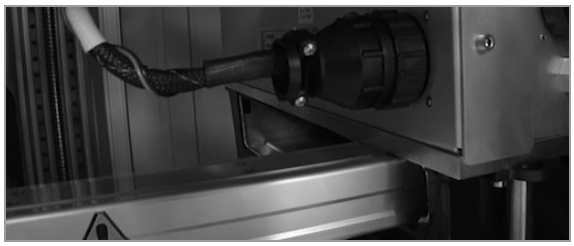
Make sure that the following prerequisites are completed before starting this procedure:

- ☐ Locate the tray in the Operating tab and turn off the system.
- Determining the location of remaining trays (209)

To recover trays from the slide stainer module

1 CAUTION! Wait at least 20 minutes after the system has been turned off before manually recovering a tray from the slide stainer module.

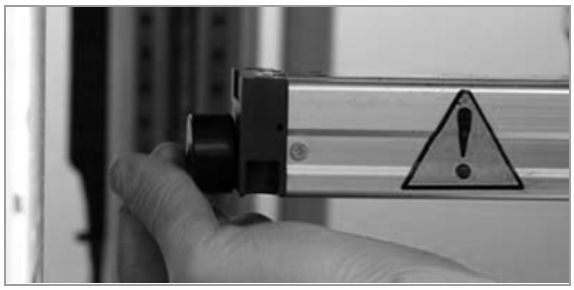
Place the hex key into the slot on the bottom right of the elevator door, and turn the hex key to open the door.



2 Push down the slide stainer door to open it.

3 CAUTION! Do not push or pull the stainer mount arms or grab and pull the tray. Use the crank to bring the tray out of the stainer.

Insert the stainer crank into the stainer release.



4 Turn the crank clockwise until the tray and the tray mount are fully out of the stainer.

5 Remove the tray from the stainer, and carefully take it out of the system.

ℹ There might be extra fluid in the tray.

6 Reinsert the stainer crank into the stainer release.

7 Turn the stainer crank counterclockwise until the tray mount is inside the stainer.

Related topics

- About tray recovery (205)
- Turning off the system (206)
- Removing a tray from the transportation system and restarting the system (207)
- Determining the location of remaining trays (209)

Recovering a tray from the coverslipper module

If the remaining tray is in the coverslipper module, you can recover it by opening the elevator door, and then closing the air relief valve to lower the tray.

Before you begin the procedure, make sure that you have the following materials available:

- ☐ A 4 mm hex key to open the elevator door.

Make sure that the following prerequisites are completed before starting this procedure:

- ☐ Locate the tray in the Operating tab and turn off the system.
- Determining the location of remaining trays (209)

To recover a tray from the coverslipper access area

1 CAUTION! Wait at least 20 minutes after the system has been turned off before manually recovering a tray from the coverslipper.

Place the hex key into the slot on the bottom right of the elevator door, and turn the hex key to open the door.

2 Locate the air relief valve to the right of the elevator door opening.

3 To lower the tray, close the blue air relief valve by turning it 90 degrees.

➔ Releasing the air from the coverslipper lowers the tray safely.

4 Carefully pull out the tray from the coverslipper.

ⓘ Do not pull the tray upwards when removing it. Lifting the tray upwards could damage the coverslipper heads.

5 CAUTION! If you do not open the air relief valve to raise the tray mount back into the coverslipper after retrieving the tray, the coverslipper will not work correctly.

Open the air relief valve, and raise the tray mount by turning the air relief valve back to its original position.

Related topics

- About tray recovery (205)
- Turning off the system (206)
- Removing a tray from the transportation system and restarting the system (207)
- Determining the location of remaining trays (209)

Recovering a tray from the curing oven

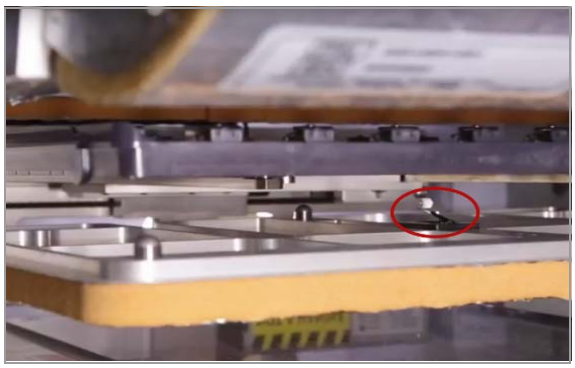
If the remaining tray is in the curing oven, you can recover it by opening the elevator door, and then reaching up to the top left of the system to retrieve the tray.

⚠ WARNING

Damage to the module

If a tray is incorrectly removed from the curing oven, the module can be damaged and require an engineer to repair it.

- Only remove trays from the curing oven if the system cannot restart or if the module failed to detect the tray.



Newer ovens have delicate switch sensors. If the tray is not properly lifted off of this sensor, it can be damaged.

Before you begin the procedure, make sure that you have the following materials available:

- ☐ A 4 mm hex key to open the elevator door.

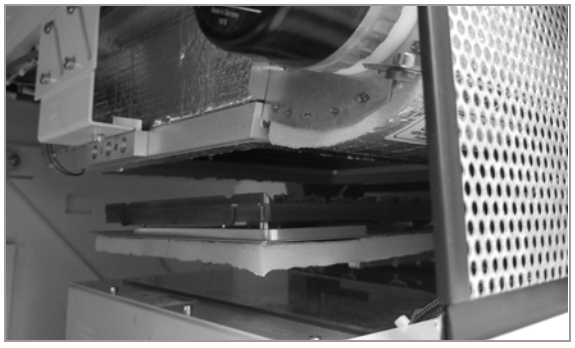
Make sure that the following prerequisites are completed before starting this procedure:

- ☐ Locate the tray in the Operating tab and turn off the system.
- Determining the location of remaining trays (209)

To recover a tray from the curing oven

1 CAUTION! Wait at least 20 minutes after the system has been turned off before manually recovering a tray from the curing oven.

Place the hex key into the slot on the bottom right of the elevator door, and turn the hex key to open the door.



2 On the top right of the system, locate the tray inside the curing oven.

ℹ The curing oven door opens automatically after the system is turned off.

3 Lift the tray up and out of the curing oven carefully to remove it from the system.

Related topics

- About tray recovery (205)
- Turning off the system (206)
- Removing a tray from the transportation system and restarting the system (207)
- Determining the location of remaining trays (209)

Recovering a tray from the garage

If the remaining tray is in the garage, you can recover it through the elevator door.

Before you begin the procedure, make sure that you have the following materials available:

- ☐ A 4 mm hex key to open the elevator door

Make sure that the following prerequisites are completed before starting this procedure:

- ☐ Determine the remaining number of trays and locations in the instrument.

Determining the location of remaining trays (209)

To recover a tray from the garage

1 CAUTION! Wait at least 20 minutes after the system has been turned off before manually recovering a tray from the garage.

Place the hex key into the slot on the bottom right of the elevator door, and turn the hex key to open the door.

2 Reach through the elevator door to the garage to pull the tray out of the system.

3 Close the elevator door.

Related topics

- About tray recovery (205)
- Turning off the system (206)
- Removing a tray from the transportation system and restarting the system (207)
- Determining the location of remaining trays (209)

Troubleshooting coverslip issues

In this section

Identifying coverslip issues

If you chose a protocol to coverslip slides, make sure that coverslips have been correctly applied to the slides after unloading them.

Make sure that the following prerequisites are completed before starting this procedure:

☐ Slides are processed with a protocol that includes coverslipping.

To inspect coverslips

1 Check each slide for the following:
- Coverslips that are misaligned with the slides
- Double or missing coverslips
- Coverslips that are not adhering to the tissue or upside down
- Bubbles between coverslip and tissue

ⓘ You can remove and reapply coverslips as necessary.

2 If any of these issues occur often, contact your Roche service representative. Adjustments to the coverslipper might be needed to restore proper operation.

Related topics

- Removing coverslips from slides (218)
- Unloading a tray from a portal (116)

Removing coverslips from slides

If you need to run a sample through the VENTANA HE 600 system again, you need to remove the coverslip from the slide first.

You can use a hot plate and forceps to remove a coverslip from a slide.

The following video demonstrates the process step-by-step. Continue reading the entire procedure for additional details.

Utility film (.hwls): ua_RemoveCoverslips/UA_RemovingCoverslips.hwls
Title: Removing coverslips from slides

⚠ CAUTION

Burns from direct contact with hot plate

Direct contact with the hot plate can result in a severe burn.

- Proceed with caution when using the hot plate.
  Use metal forceps to move the coverslip and slide and wear protective gloves.

Make sure that the following supplies are ready before removing coverslips from slides:

- ☐ Hot plate
- ☐ Metal forceps

Make sure that the following prerequisites are completed before starting this procedure:

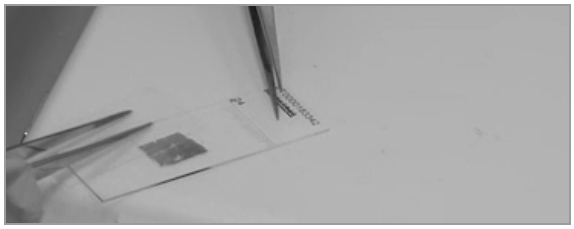
- ☐ Before performing this procedure on production slides, validate the procedure for your lab.

To remove coverslips from slides

1 Turn on a hot plate to the medium setting, 100 °C.

2 Place the slide on the hot plate for 10 seconds or more.

ⓘ The longer a coverslip has been on a slide, the longer it takes to remove the coverslip.



3 CAUTION! Do not lift up on the coverslip, or it may shatter, and be careful not to damage the tissue.

Remove the coverslip by sliding it down the slide using forceps.

4 Continue to slide the coverslip down and off the slide with the forceps to remove it.

ⓘ If there is additional mounting media on the slide, allow the slide to cool, then soak it in Xylene for 30 seconds.

Error recovery procedures

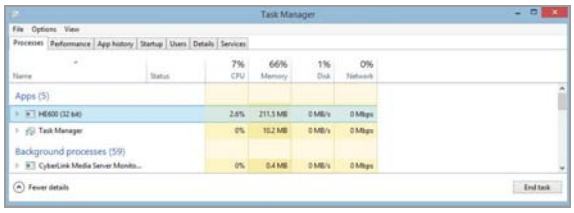
In this section

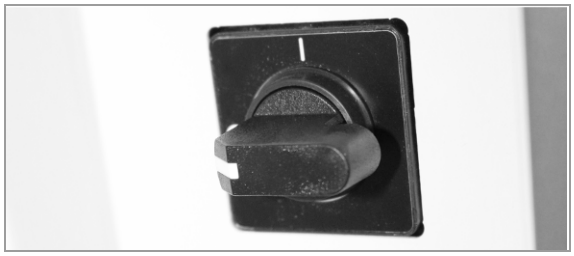
Restarting the user interface if software unresponsive

If the user interface freezes, and choosing tabs or buttons does not resolve the issue, you can restart the user interface by using Windows Task Manager.

The screen shots in the following procedure illustrate the steps for a system running Windows 8. If your system has Windows 10 installed, some Windows screen elements have a different appearance.

To restart the user interface





1 To open **Task Manager**, press Ctrl+Alt+Delete on the keyboard, or press and hold the Windows taskbar at the bottom of the screen and choose **Task Manager**.
   ➔ Windows Task Manager displays.

2 In the Windows **Task Manager** list, choose **HE600 (32bit)** and then choose **End Task**.

3 Choose the Windows icon in the lower left corner of the screen.

4 In the menu that displays in the lower left corner, choose and then **Shut Down**.

5 On the left-hand side of the system, turn the power switch from I to O.

6 Restart the system by turning the power switch from O to I.
➔ The user interface restarts when the system is turned back on.

Related topics

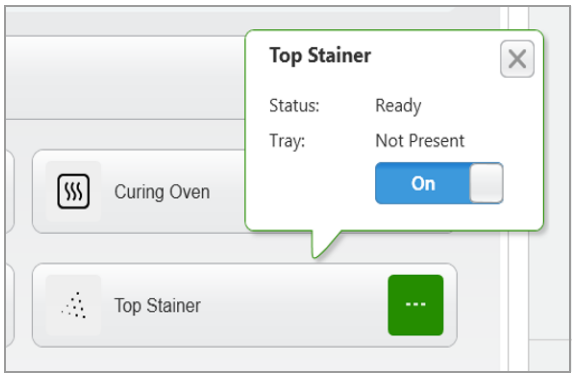
- Viewing and filtering the error log (173)
- List of error messages (175)

Disabling a stainer module

If you suspect that staining issues are specific to a particular stainer module, you can disable the stainer module until the issue is resolved. Follow this procedure with guidance from Roche support.

To disable a stainer module

1 Contact Roche support to determine which module needs attention.



2 Navigate to the **Instrument** view, and choose the stainer that needs to be disabled.
➔ A dialog box displays, showing that the stainer is enabled.

3 In the dialog box, choose **Off** to disable the stainer module.
➔ The dialog box shows the stainer is off and the stainer is disabled.

Ejecting coverslip cassettes

If needed, you can eject the expired cassette by choosing **Load Cassette** to move the expired cassette to the empty cassette position.

The coverslipper module can hold up to 7 cassettes.

NOTICE

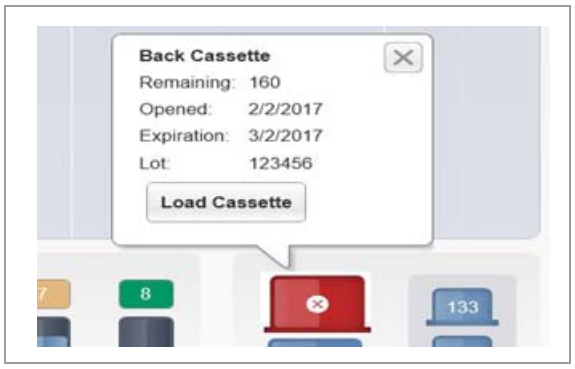
Possible staining issues

If you eject coverslip cassettes while trays are running in the system, the trays will be aborted.

- Complete this task when no trays are processing in the system.

To eject expired coverslip cassettes

1 Open the door to the coverslipper module.



2 In the **Operating** view, choose the expired cassette, and then choose **Load Cassette**.

3 Continue to choose **Load Cassette** until the expired cassette has been ejected.

4 Remove empty coverslip cassettes from the waste bin as they are available, and replace them with new ones quickly.

ⓘ If you complete this step while trays are processing, they will be aborted.

Appendix

Open source license notifications and notices

In this chapter 8

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b) Convey the object code in, or embodied in, a physical product (including a physical distribution medium), accompanied by a written offer, valid for at least three years and valid for as long as you offer spare parts or customer support for that product model, to give anyone who possesses the object code either (1) a copy of the Corresponding Source for all the software in the product that is covered by this License, on a durable physical medium customarily used for software interchange, for a price no more than your reasonable cost of physically performing this conveying of source, or (2) access to copy the Corresponding Source from a network server at no charge.

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d) Convey the object code by offering access from a designated place (gratis or for a charge), and offer equivalent access to the Corresponding Source in the same way through the same place at no further charge. You need not require recipients to copy the Corresponding Source along with the object code. If the place to copy the object code is a network server, the Corresponding Source may be on a different server (operated by you or a third party) that supports equivalent copying facilities, provided you maintain clear directions next to the object code saying where to find the Corresponding Source. Regardless of what server hosts the Corresponding Source, you remain obligated to ensure that it is available for as long as needed to satisfy these requirements

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