

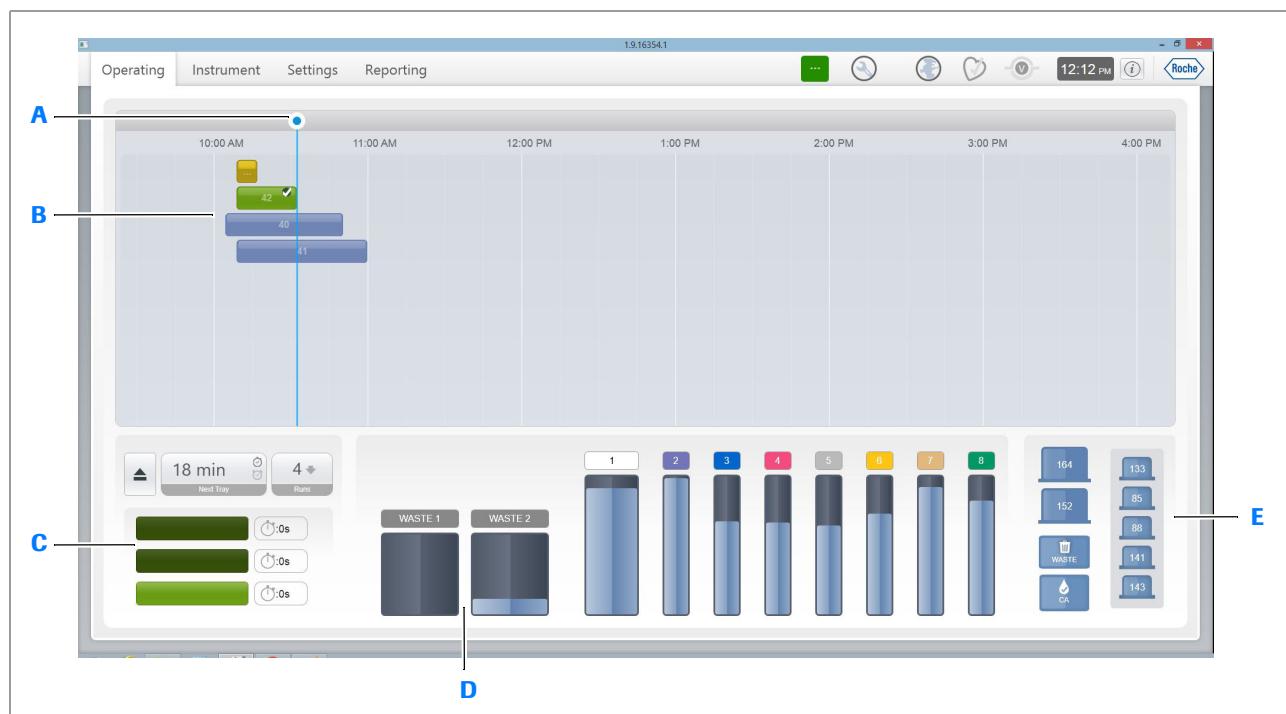
## About the user interface

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



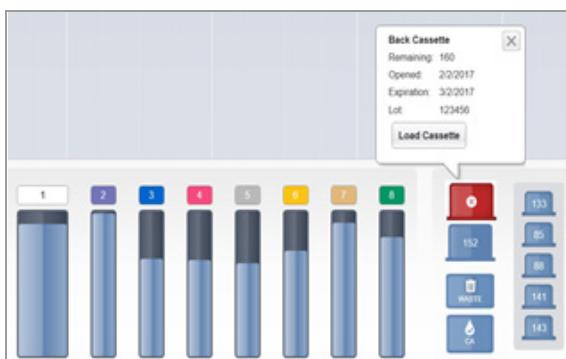
- A** Open portal button
- B** Portal status indicators
- C** Actual time the next tray will be completed or time remaining until tray will be completed
- D** Number of trays in the system
- E** Amount of time before the portal door will close

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.

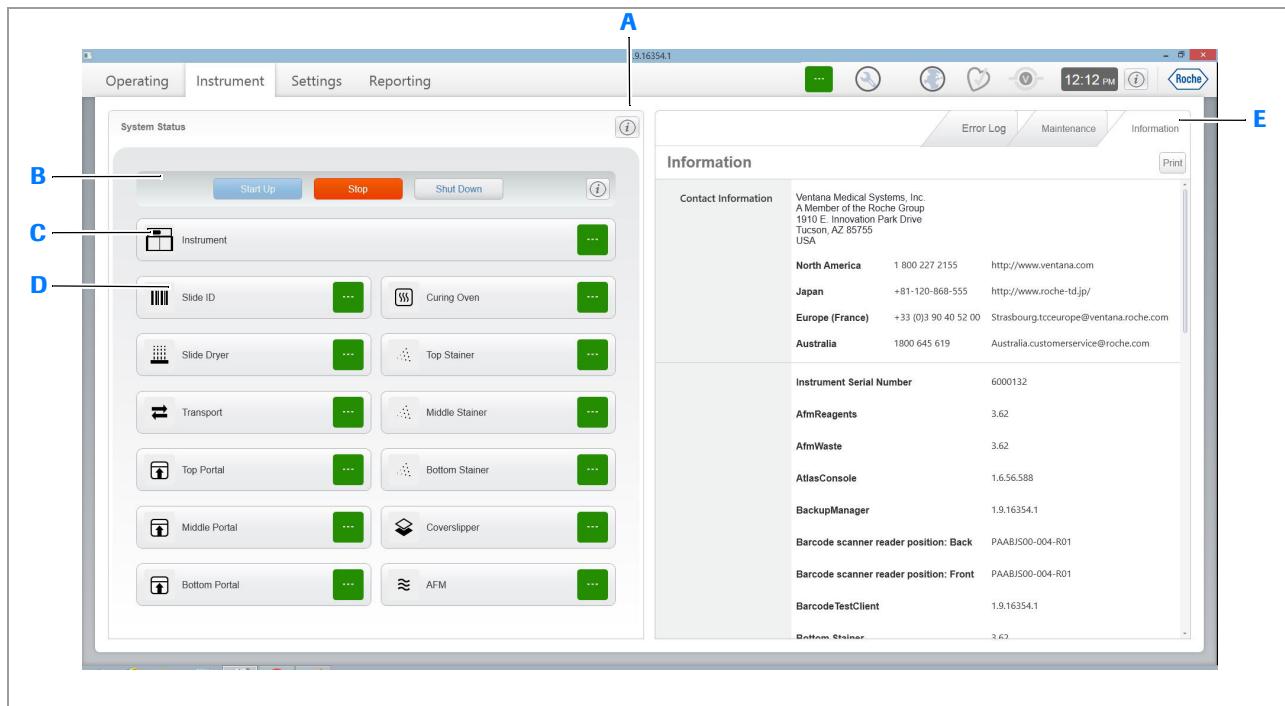
Color	Status of the reagent or consumable
Blue	Current amount of available consumable is adequate.
Yellow	Level of fluid is low.
Red	Empty. If x appears, the consumable is expired or it has the wrong RFID.
Gray	Not detected.
Yellow background surrounding cassettes	More cassettes needed.

Consumable status indicators

## Instrument view

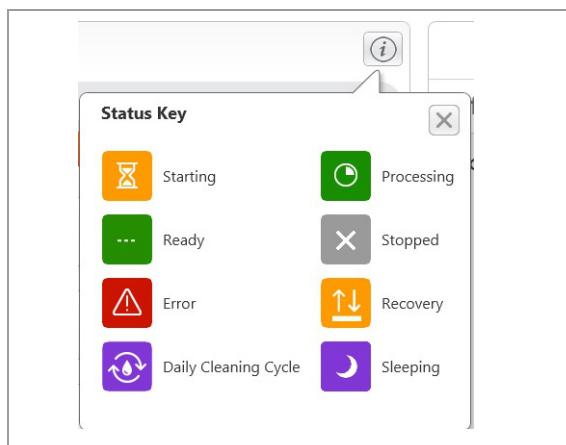
To navigate to the **Instrument** view, choose the **Instrument** tab.

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



**Settings view**

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

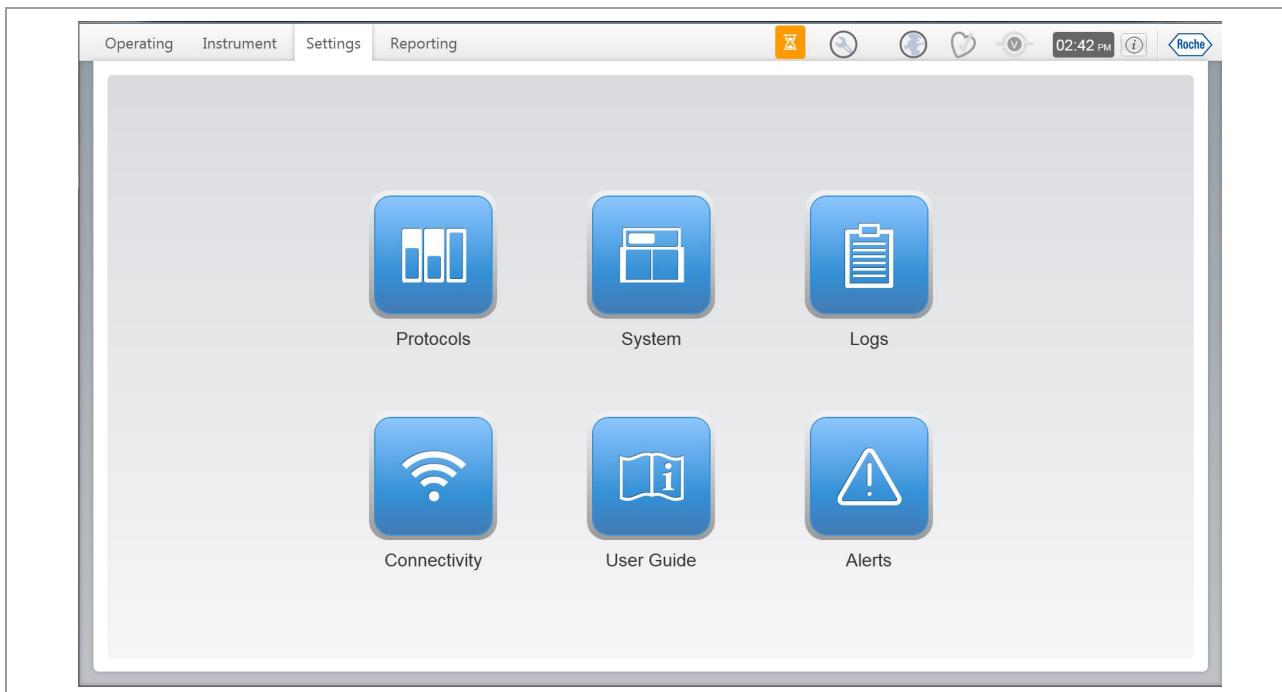
To view details about a system module, choose any of the tray portal, transportation system, barcode scanner, slide dryer, curing oven, AFM, coverslipping, and staining module indicators.

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

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.

If you have User Management enabled, users with assigned permissions can choose **Users** to manage user accounts. Users must log on each time they choose one of the password-protected functions on the Settings page: **Protocols**, **System**, **Connectivity**, or **Alerts**.



### 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.

Tray	Protocol, version	Loaded	Completed	# Slides	# Barcodes	User
1	Default Protocol, 1	5/31/2019 12:54:51 PM	5/31/2019 1:29:31 PM	1	0	VENTANA HE 600 User
Stainer: Middle Stain						

Detected Slide Barcode Values						
Reagent	Lot Number	Expiration				
Chromogenic Solution	64321	6/23/2019				
Burg	654321	6/27/2019				
Cleaning Agent	62222	6/14/2019				
Eosin	64321	6/27/2019				
Haematoxylin	62221	6/23/2019				
Organic Solution	62222	6/27/2019				
Covering Adhesive	654321	6/14/2019				
Transfer Fluid	64321	6/23/2019				
Wax	64321	6/19/2019				
2	Default Protocol, 1	5/31/2019 12:55:50 PM	5/31/2019 1:46:50 PM	4	0	VENTANA HE 600 User
Stainer: Bottom Stain						

#### Related topics

- About the computer and monitor (63)
- About the navigation toolbar and notification area (64)
- About Caregiver remote instrument support (70)
- About Vantage workflow solution (71)
- About user accounts and User Management (167)

## About Caregiver remote instrument support

VENTANA HE 600 system offers integration with Caregiver remote instrument support. Caregiver remote instrument 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 instrument 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 instrument support provides automated software downloads and proactive error messaging monitoring to drive laboratory efficiency.

To verify the connection between Caregiver remote instrument 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 instrument support.

Contact Roche support for details regarding connection and security.

#### NOTICE

##### Not intended for patient data assessment or diagnosis

Caregiver remote instrument support does not collect or transmit any personal healthcare information.

- ▶ Do not use Caregiver remote instrument support data for patient assessment or diagnosis.

**Related topics**

- About the computer and monitor (63)
- About the navigation toolbar and notification area (64)
- About the user interface (66)
- About Vantage workflow solution (71)

## About Vantage workflow solution

The 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 (63)
- About the navigation toolbar and notification area (64)
- About the user interface (66)
- About Caregiver remote instrument support (70)

# List of system specifications

## In this section

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

## 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	<ul style="list-style-type: none"> <li>• Dimensions: 25 mm x 75 mm or 26 mm x 76 mm</li> <li>• ISO certified</li> <li>• One end of slide must have label or painted opaque (not blue, green or frosted)</li> <li>• Slides do not have to be charged</li> </ul>
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 <sup>(1)</sup>

### ■ 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 (73)
- 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	80
Depth is less than or equal to	69	29
Width is less than or equal to	144	57
Weight - direct to drain system less than or equal to	621 kg	1370 lbs
Weight - waste collection system less than or equal to	645 kg	1422 lbs
Venting (highly recommended) <sup>(1)</sup>	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 (72)
- 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	Japan	International (Europe)
Voltage	120 V	100 V	230 V <sup>(1)</sup>
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 <sup>(2)</sup> 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 (72)
- Dimensions and weight (73)
- 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 (72)
- Dimensions and weight (73)
- Power ratings (73)

# Supported material

## In this section

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- [List of supported reagents and consumables \(75\)](#)
- [List of supported fixatives \(76\)](#)
- [List of supported barcodes \(77\)](#)
- [List of allowed cleaning substances \(78\)](#)
- [About supported slide types \(78\)](#)

## 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 10 mil 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.



Validate control tissue with your laboratory H&E protocol. Refer to the VENTANA HE 600 reagent method sheets for specific limitations.

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 \(72\)](#)

‣ [Slide labeling and loading guidelines \(101\)](#)

# Overview of User Assistance

**3****In this chapter**

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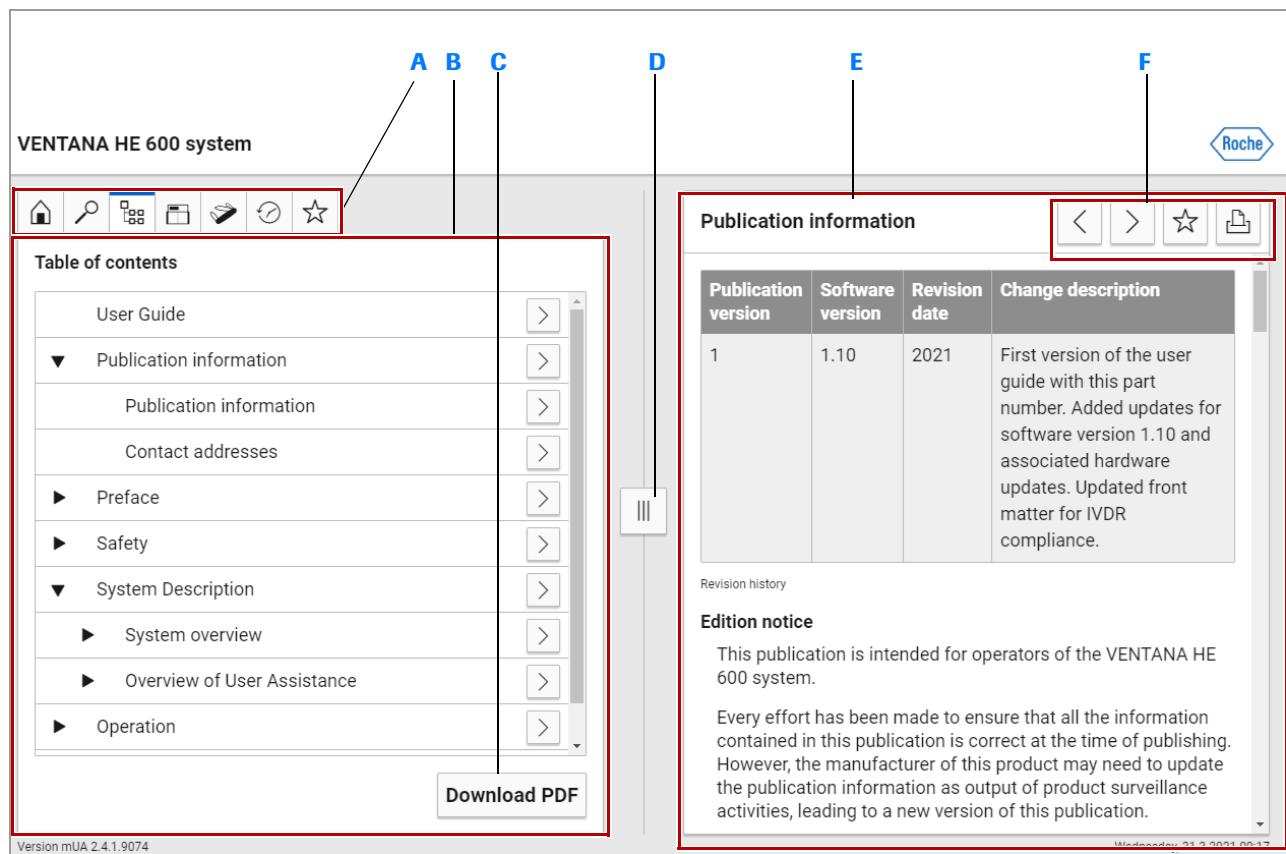


# Opening User Assistance

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

Type	Topic	More
Info	Reagents and other working solutions	>
Procedure	Cleaning the reagent access drawer	>
Procedure	Emptying a reagent hat drip trap	>
Reference	List of supported reagents and consumables	>

1 In the User Assistance, choose the tab.

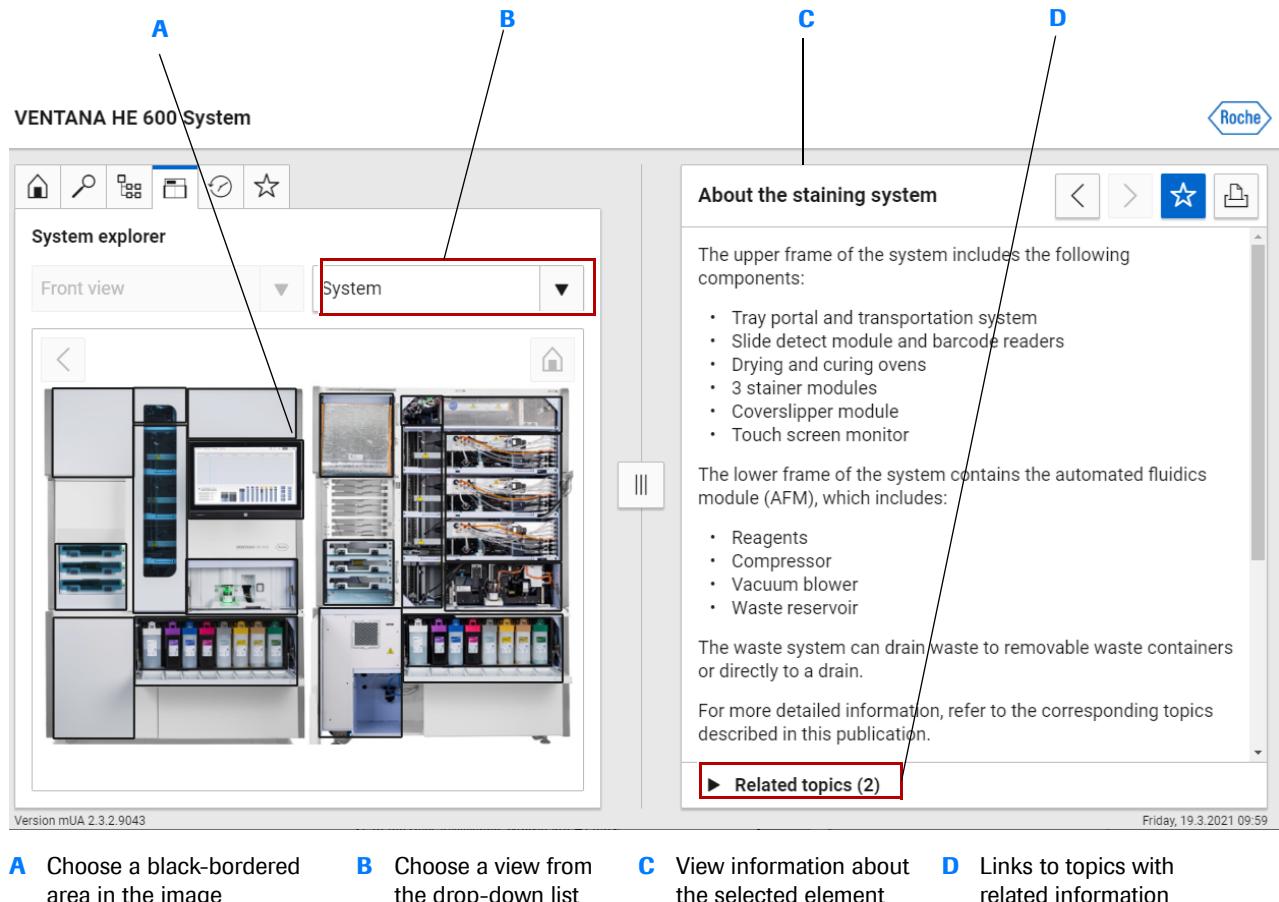
2 To perform a simple search, enter full or partial text entries, and then choose the button.

## ► 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

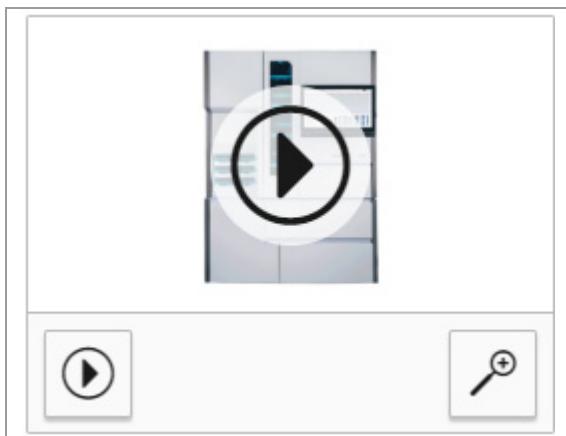
**C** View information about the selected element

**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.

<b>System overview</b>	Overview of the system components
	‣ About the staining process workflow (53)
	‣ About the transportation system (57)
	‣ About the barcode reader and slide detect module (58)
	‣ About the slide dryer (59)
	‣ About the slide stainer modules (60)
	‣ About the coverslipper module (60)
	‣ About the curing oven (61)
	‣ About the waste capture module (61)
	‣ About the automated fluidics module (62)
	‣ About the computer and monitor (63)
<b>System operation</b>	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 (116)
	Procedure on emptying a reagent hat drip trap
	‣ Emptying a reagent hat drip trap (130)
	Procedure on unloading used coverslip cassettes
	‣ Unloading used coverslip cassettes (137)
<b>Errors and troubleshooting</b>	Procedure on how to view the error log
	‣ Viewing and filtering the error log (193)

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 \(211\)](#)

›  **Related topics**

- [Exploring the system and playing videos \(85\)](#)

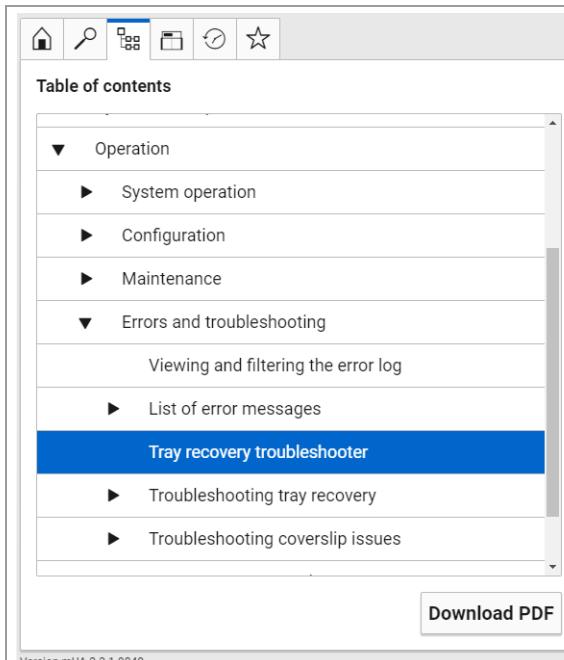
# Using the tray recovery troubleshooter

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

► [Tray recovery troubleshooter \(211\)](#)

## ► [To use the tray recovery troubleshooter](#)

1 Navigate to the tray recovery troubleshooter.



2 Choose the **Start** button.

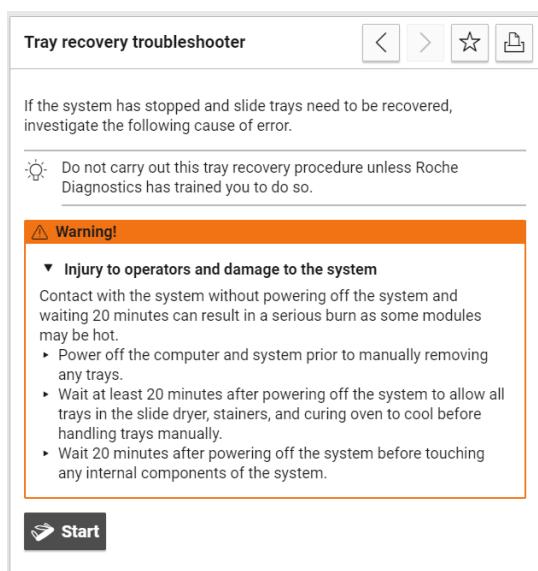
3 Follow the procedure and view the procedure video, if available.

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.

● 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

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# System operation

4

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# 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.	<p>1. Turn on the system Power switch.</p> <p>2. In the <b>Instrument</b> tab, choose the <b>Start Up</b> button.</p> <ul style="list-style-type: none"> <li>‣ Turning on the system power (98)</li> <li>‣ Starting up the system (99)</li> <li>‣ Enabling the Scheduled Start (157)</li> </ul>
2 Check system and slide readiness.	<p>1. In the <b>Instrument</b> tab, make sure that the transportation and portal indicators are green.</p> <p>2. In the <b>Operating</b> tab, check the status of consumables and waste, and address as needed.</p> <p>3. Make sure that slides meet guidelines and are prepared for processing.</p> <ul style="list-style-type: none"> <li>‣ Verifying system readiness (100)</li> </ul>
3 Load slides into a tray.	<p>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.</p> <p>2. Visually inspect the slides on the tray to make sure that they are vertically and horizontally level and aligned.</p> <ul style="list-style-type: none"> <li>‣ Loading slides onto a tray (103)</li> </ul>
4 Load the tray into a portal.	<p>1. In the <b>Operating</b> tab, choose  to open all portals that are ready to receive trays.</p> <p>2. Slide the tray into an open portal with the arrow on the tray pointing toward the portal.</p> <ul style="list-style-type: none"> <li>‣ Loading a tray into a portal (105)</li> </ul>
5 Select a protocol.	<p>1. In the <b>Load Trays</b> view, choose a tray for which you want to select a protocol.</p> <p>2. From the <b>Select Protocol</b> list, choose the protocol to apply to the tray.</p> <p>3. (Optional) To assign priority status to the tray, select the <b>STAT</b> check box.</p> <p>4. Choose the <b>Start</b> button.</p> <ul style="list-style-type: none"> <li>‣ Selecting protocols (107)</li> </ul>

■ Slide processing quick start guide

Step	User action
6 Unload slide trays from the system.	 <ol style="list-style-type: none"><li>1. Locate a portal that has a green flashing indicator.</li><li>2. In the <b>Operating</b> tab, choose  , and remove the completed tray from the portal.</li><li>3. If you have another tray ready to process, load the new tray into the open portal.</li></ol> <p>↳ <a href="#">Unloading a tray from a portal (117)</a></p>

■ [Slide processing quick start guide](#)

# Preparing to process slides

## In this section

---

- Turning on the system power (98)
- Starting up the system (99)
- Verifying system readiness (100)
- Slide labeling and loading guidelines (101)
- Loading slides onto a tray (103)

## 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:

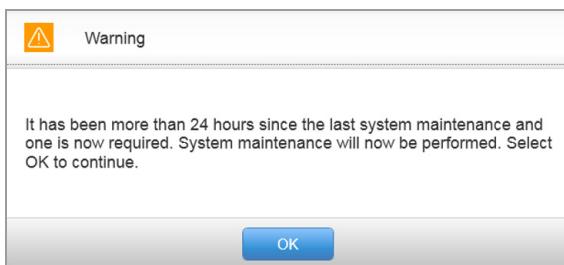
- System power must be on.
- [Turning on the system power \(98\)](#)

## ► **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 \(157\)](#)



## Verifying system readiness

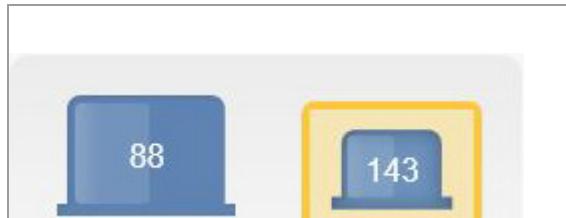
Make sure that the system is ready to start processing slides.



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)

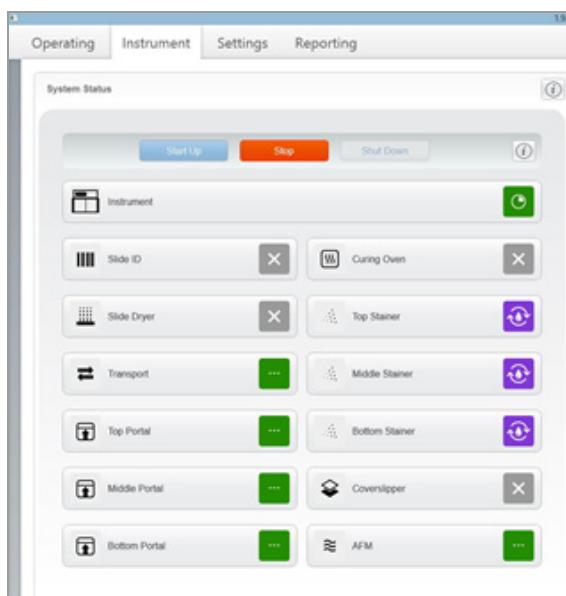
### ► To verify system readiness

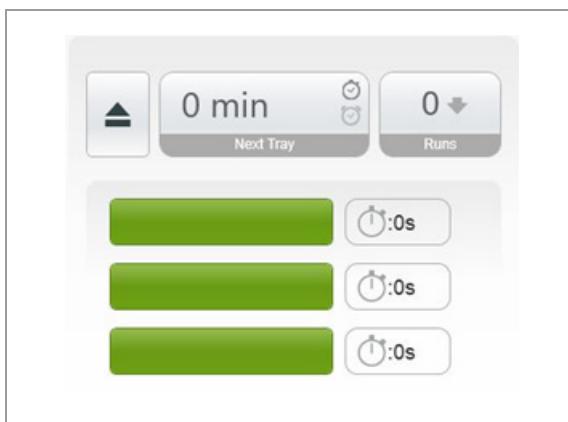


- 1 In the **Operating** tab, check the status of the following indicators. If any of the indicators are red, take the appropriate action.
  - **Reagents:** Replace empty bottles. See “Replacing reagent containers” (› 124).
  - **Coverslip cassettes:** Install new coverslip cassettes. See “Loading coverslip cassettes” (› 136).
  - **Coverslip cassette waste:** Discard empty coverslip cassettes. See “Unloading used coverslip cassettes” (› 137).
  - **Coverslip activator:** Replace the coverslip activator bottle. See “Replacing the coverslip activator” (› 139).
  - **Waste containers:** Empty waste containers. See “Emptying waste containers” (› 144).

- 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.

- 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.

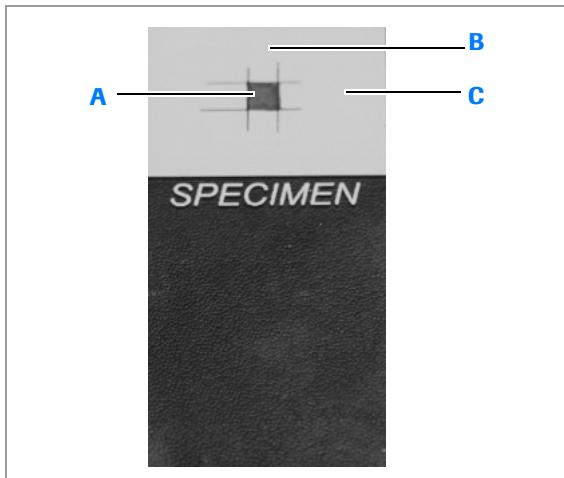
#### Related topics

- About the navigation toolbar and notification area (64)
- About the user interface (66)
- 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**

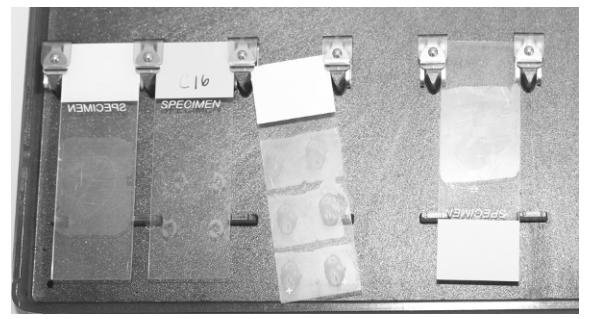
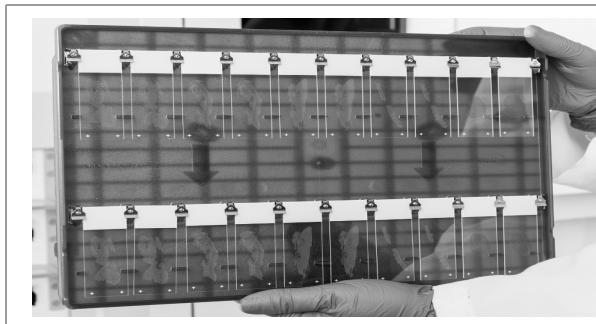
**Title:** Incorrect way to load slides

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 side 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 (157)

## Loading slides onto a tray

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

 Validate control tissue with your laboratory H&E protocol. Refer to the VENTANA HE 600 reagent method sheets for specific limitations.

#### 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 \(109\)](#)

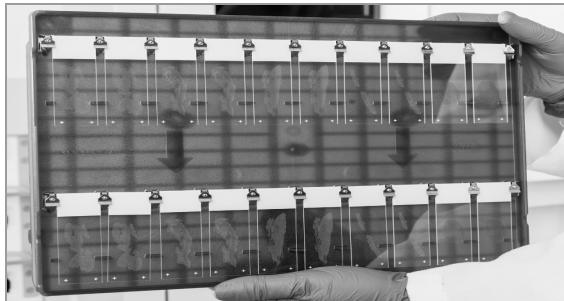
## ► **To load slides onto a tray**

- 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 (105)
- Selecting protocols (107)
- Monitoring a tray during processing (115)
- Aborting a tray (116)
- Unloading a tray from a portal (117)
- Cleaning and storing trays (118)
- Guidelines for archiving slides (119)
- Stopping and shutting down the system (119)

## Loading a tray into a portal

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

If tray tracking by user is enabled, you can select the user who loaded the tray for reporting purposes.

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:

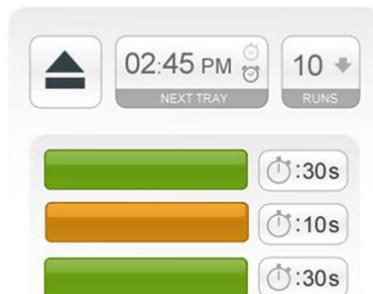
- A tray loaded with slides to be processed



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)
- Turning on tray tracking (175)

## ► 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.

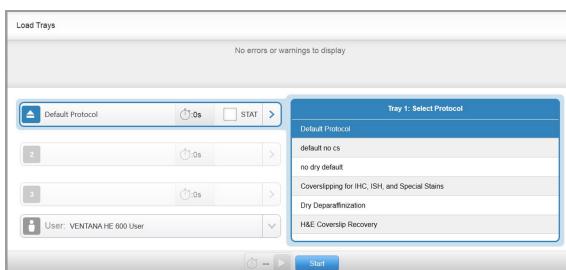
2 Do one of the following, depending on the behavior of the green portal status indicator.

- 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.

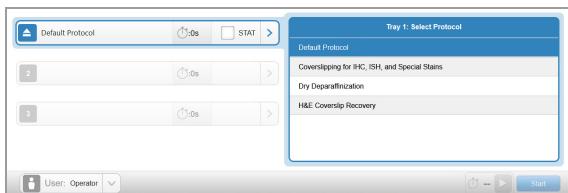
→ The portal closes, and the portal status indicator turns to solid yellow. After 10 seconds, the **Load Trays** dialog box displays.

If tray portal doors do not close, choose again.



4 Select a protocol to apply to the tray.

See the “Selecting protocols” topic for more information.



5 If tray tracking is enabled, select a **User** for the tray. The system remembers the last user you selected.

#### Related topics

- Loading slides onto a tray (103)
- Selecting a staining protocol (110)
- Monitoring a tray during processing (115)
- Unloading a tray from a portal (117)

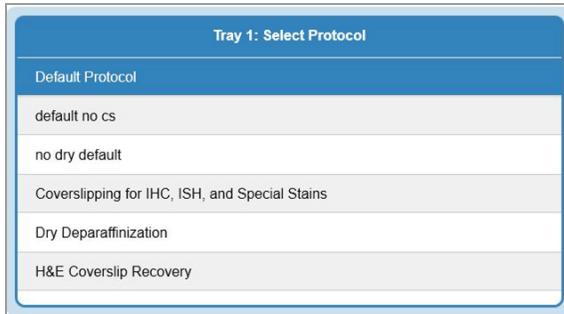
## Selecting protocols

### In this section

- [About selecting protocols \(108\)](#)
- [About the coverslipping protocols \(109\)](#)
- [Selecting a staining protocol \(110\)](#)
- [Using the H&E Coverslip Recovery protocol \(111\)](#)
- [Using the Coverslipping IHC, ISH, and Special Stains protocol \(112\)](#)
- [Using the Dry Deparaffinization protocol \(114\)](#)

### 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 instrument.
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 (109)
- Selecting a staining protocol (110)
- Using the H&E Coverslip Recovery protocol (111)
- Using the Coverslipping IHC, ISH, and Special Stains protocol (112)
- Using the Dry Deparaffinization protocol (114)

## 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 (111)
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 (111)
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 (112)
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 (112)

#### ■ Slide preparation guidelines

##### ↳ Related topics

- Using the H&E Coverslip Recovery protocol (111)
- Using the Coverslipping IHC, ISH, and Special Stains protocol (112)

## 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**

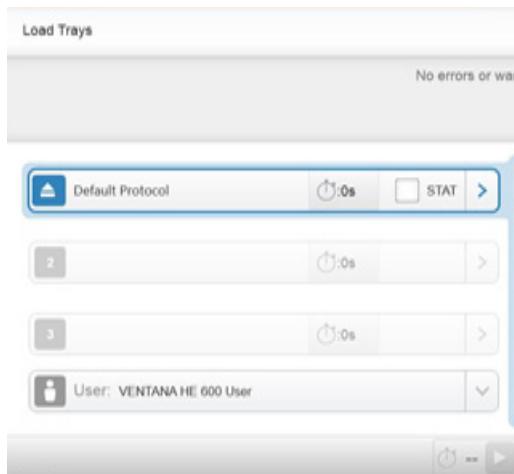
**1** Load 1-3 trays into open portals.

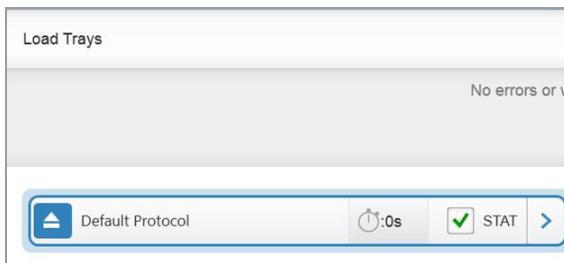
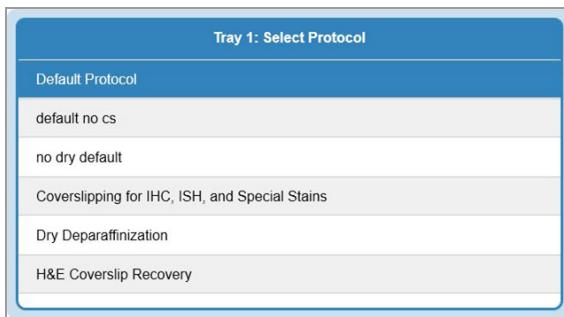
→ The **Load Trays** view displays, and if **Auto Start Delay** has been set, the counter at the bottom of the view begins to run.

**2** In the **Load Trays** view, check if the **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.

**Tip** 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.

**Tip** 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 (115)

## 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 (109)

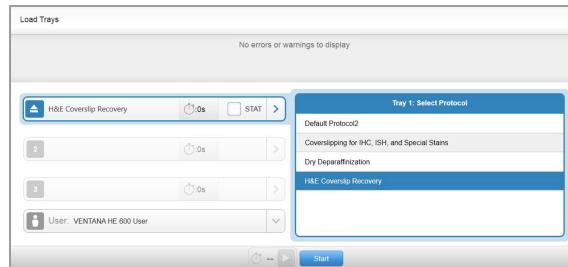
## ► **To use the H&E Coverslip Recovery protocol**

- 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 (109)
- Loading a tray into a portal (105)
- About selecting protocols (108)



## 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 instrument.



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.

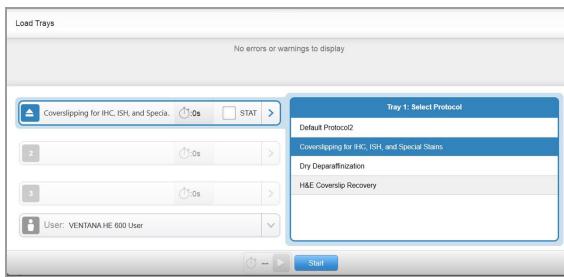
- 2 Prepare slides as appropriate:

- 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 (109)
- Loading slides onto a tray (103)
- Loading a tray into a portal (105)
- About selecting protocols (108)

## 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
- **Related topics**
- 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.

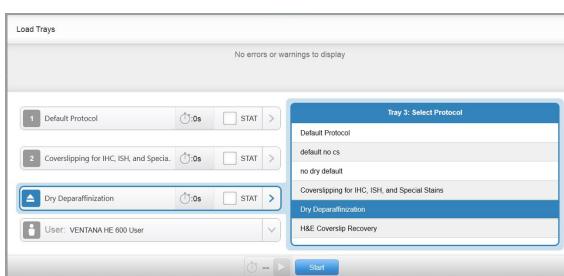
2 Load the tray into a portal.

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.

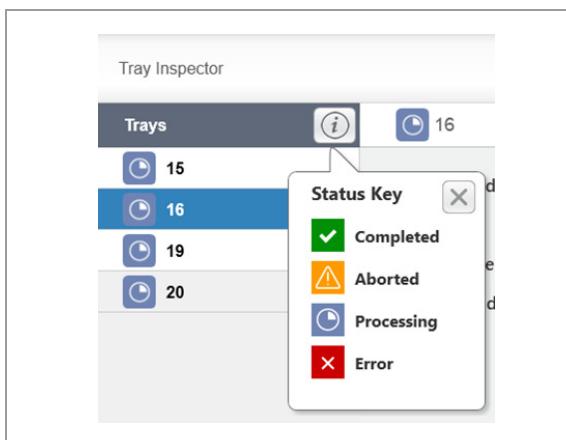
► **Related topics**

- Loading slides onto a tray (103)
- Loading a tray into a portal (105)
- About selecting protocols (108)
- Monitoring a tray during processing (115)



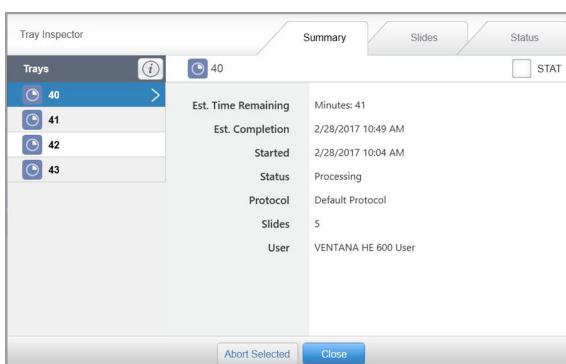
# Monitoring a tray during processing

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.  
➊ 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 \(66\)](#)
- [Loading a tray into a portal \(105\)](#)
- [Selecting a staining protocol \(110\)](#)
- [Monitoring a tray during processing \(115\)](#)