

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 (142)

About reagent waste container maintenance (143)

Emptying waste containers (144)

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 (143)
- Emptying waste containers (144)



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 (165)

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 (142)
- Emptying waste containers (144)

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.

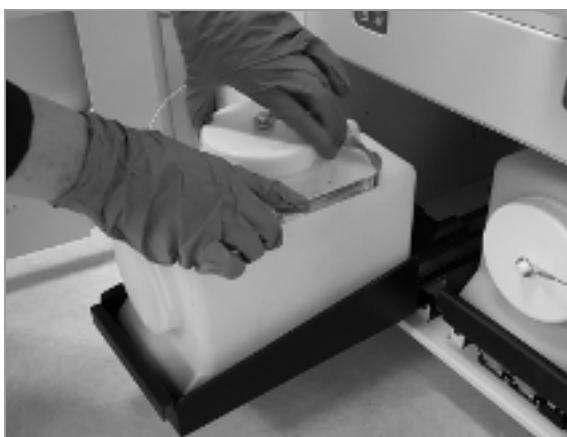


Empty a waste container as soon as possible after the status indicators for the waste container in the **Operating** tab and the waste container module turn red.

► 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 (142)
- About reagent waste container maintenance (143)

Generating reports

In this section

About report types (146)

About report navigation (147)

Creating and printing reports (147)

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 **Operators Report** is sorted by user and shows the User ID, User Name, and whether that person is an active user. If User Management is enabled, the report also displays what permissions have been assigned.

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:

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

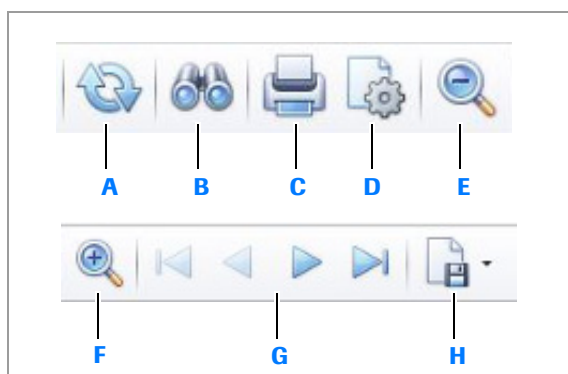
Protocol reports

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 user roles and permissions (171)

About report navigation



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

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

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

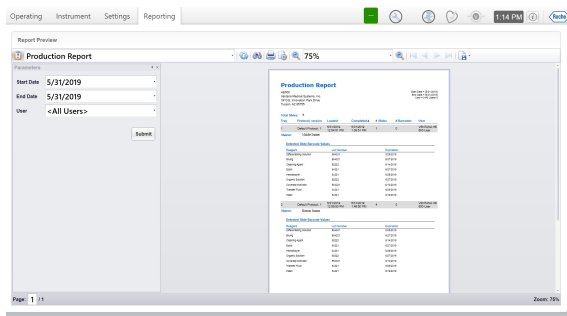
- About report types (146)
- Creating and printing reports (147)

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

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Creating and modifying staining protocols

In this section

Creating a new staining protocol (151)

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Deactivating a staining protocol (154)

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.



If User Management is enabled, you must log in before using this function. Make sure the following prerequisites are completed before starting this procedure:

- ☐ You have a valid user account.
- ☐ You have the necessary permissions assigned.
-  About user accounts and User Management (167)

► To create a staining protocol

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

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

Protocols		
Status	Name	Is Default
Active	Default Protocol	Default
Deactivated	Alpha	
Deactivated	my protocol	
Deactivated	my other protocol	

The **Protocol Details** panel includes a **Set as Default** button in the top right corner. The settings are as follows:

- Protocol Name:** Default Protocol
- Drying:** ☒
- Hematoxylin:** Slider set to 2 (scale 1-10)
- Differentiation:** Slider set to 1 (scale 0-3)
- Eosin:** Slider set to 5 (scale 1-10)
- Modified Eosin:** ☐
- Coverslip:** ☒

This panel shows the **Modified Eosin** and **Coverslip** settings, both with checked checkboxes. A dropdown menu is open, showing the following options:

- Option 1 (selected)
- Option 1
- Option 2

The **Tray Auto Start** section shows the **Auto Start Delay** checkbox checked. The slider is set to 25 seconds on a scale from 5 to 30.

- 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.
 - ❶ 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 protocols. 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.



If User Management is enabled, you must log in before using this function. Make sure the following prerequisites are completed before starting this procedure:

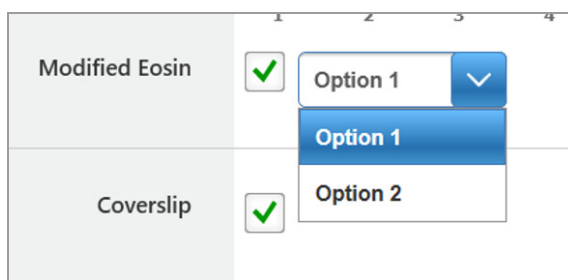
- ☐ You have a valid user account.
- ☐ You have the necessary permissions assigned.
-  About user accounts and User Management (167)

► 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.

Protocols		
Status	Name	Is Default
Active	Default Protocol	Default
Deactivated	Alpha	
Deactivated	my protocol	
Active	no dry default	
Active	default no cs	
Deactivated	sarah protocol	
Active	Protocol	
Active	Dry Deparaffinization	
Active	Coverslipping for IHC, ISH, and Special Stains	
Active	H&E Coverslip Recovery	

Protocol Details	
Protocol Name	Default Protocol
Drying	☒
Hematoxylin	<input type="range" value="2"/>
Differentiation	<input type="range" value="1"/>
Eosin	<input type="range" value="5"/>
Modified Eosin	☐
Coverslip	☒



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.

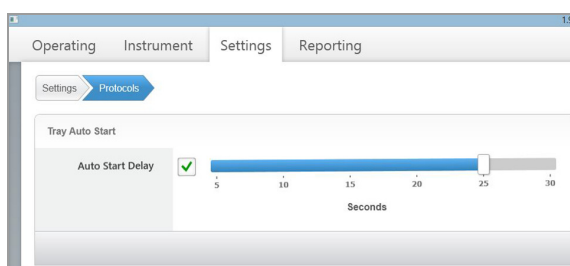
6 Choose the **Save** button.

→ 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.



If User Management is enabled, you must log in before using this function. Make sure the following prerequisites are completed before starting this procedure:

- ☐ You have a valid user account.
- ☐ You have the necessary permissions assigned.
- About user accounts and User Management (167)

► 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)

Protocols		
Status	Name	Is Default
Active	Default Protocol	Default
Deactivated	Alpha	
Deactivated	my protocol	
Active	no dry default	
Active	default no cs	
Deactivated	sarah protocol	
Active	Protocol	
Active	Dry Deparaffinization	
Active	Coverslipping for IHC, ISH, and Special Stains	
Active	H&E Coverslip Recovery	
Deactivate		

Changing system settings

In this section

- Updating the instrument name or institution (156)
- Enabling the Scheduled Start (157)
- Enabling Sleep mode (159)
- Enabling database backup (162)
- Viewing system logs (163)
- Testing connectivity settings (164)
- Viewing the user guide (164)
- Setting audible alerts (165)

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.



If User Management is enabled, you must log in before using this function. Make sure the following prerequisites are completed before starting this procedure:

- ☐ You have a valid user account.
- ☐ You have the necessary permissions assigned.
- » ☐ About user accounts and User Management (167)

► 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 (161)
- Viewing the user guide (164)
- Setting audible alerts (165)

System	
Instrument Name	Gertrude
Institution Name	Ventana Medical Systems, Inc.
Location Address 1	1910 E. Innovation Park Drive
Address 2	Tucson, AZ 85755
Address 3	

Enabling the Scheduled Start

In this section

About the Scheduled Start (157)

Setting up Scheduled Start (158)

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

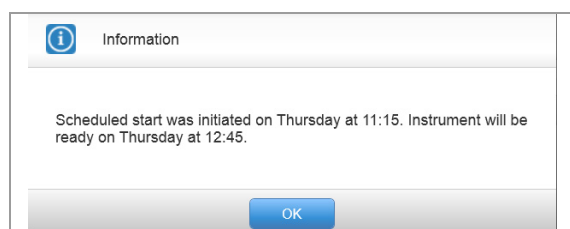
Scheduled Start will not begin if the instrument is in the following states:

- 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.

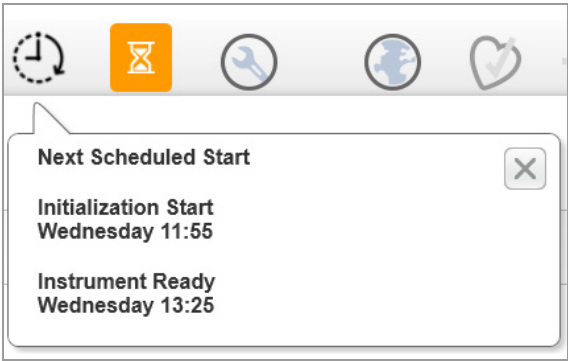
In addition, make sure the following prerequisites are completed before the Scheduled Start process begins:

- 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.



Setting up Scheduled Start

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

📖 [Setting up Scheduled Start \(158\)](#)

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

📖 [About the Scheduled Start \(157\)](#)



If User Management is enabled, you must log in before using this function. Make sure the following prerequisites are completed before starting this procedure:

- ☐ You have a valid user account.
 - ☐ You have the necessary permissions assigned.
- 📖 [About user accounts and User Management \(167\)](#)

► To set up or modify the Scheduled Start

Scheduled Start Enabled

On

	Instrument Ready	Initialization Start
Su:	☐ 6 : 00	
Mo:	☒ 6 : 00	Mo: 04:30
Tu:	☒ 6 : 00	Tu: 04:30
We:	☒ 6 : 00	We: 04:30
Th:	☒ 6 : 00	Th: 04:30
Fr:	☒ 6 : 00	Fr: 04:30
Sa:	☐ 6 : 00	

Scheduled Start Time

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 (159)

Changing Sleep settings (161)

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 (67)

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 (66)
- Changing Sleep settings (161)
- Errors and troubleshooting (191)

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.

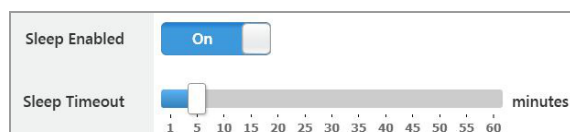


If User Management is enabled, you must log in before using this function. Make sure the following prerequisites are completed before starting this procedure:

- ☐ You have a valid user account.
- ☐ You have the necessary permissions assigned.
-  About user accounts and User Management (167)

► **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 (159)
- Viewing the user guide (164)
- Setting audible alerts (165)

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 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.

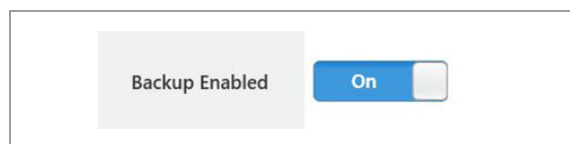


If User Management is enabled, you must log in before using this function. Make sure the following prerequisites are completed before starting this procedure:

- ☐ You have a valid user account.
- ☐ You have the necessary permissions assigned.
- About user accounts and User Management (167)

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



- 5 In the **Backup Location** field, enter the backup location.
 - ❶ 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 (161)
- Viewing the user guide (164)
- Setting audible alerts (165)

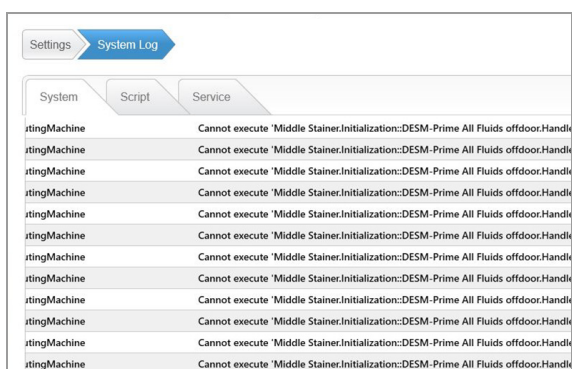
Viewing system logs

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.
 - ❶ To exit search mode, choose the **Clear** button.



Related topics

- Changing Sleep settings (161)
- Viewing the user guide (164)
- Setting audible alerts (165)

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.



If User Management is enabled, you must log in before using this function. Make sure the following prerequisites are completed before starting this procedure:

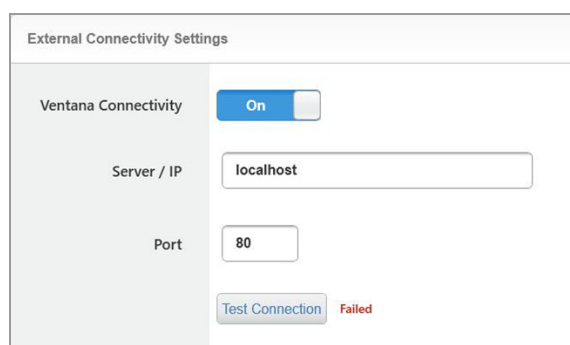
- ☐ You have a valid user account.
- ☐ You have the necessary permissions assigned.
- About user accounts and User Management (167)

► 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 (161)
- Viewing the user guide (164)
- Setting audible alerts (165)



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 (161)
- Setting audible alerts (165)

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

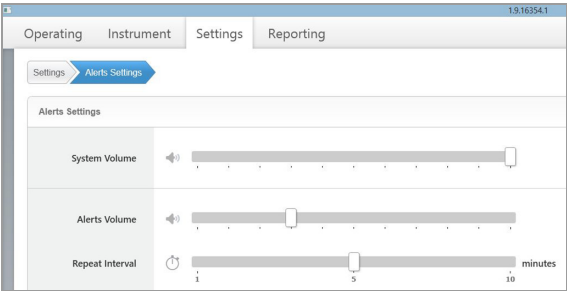


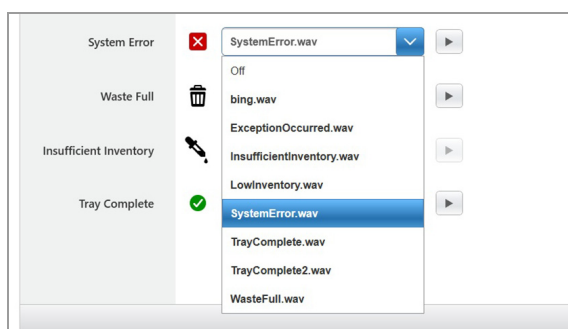
If User Management is enabled, you must log in before using this function. Make sure the following prerequisites are completed before starting this procedure:

- ☐ You have a valid user account.
- ☐ You have the necessary permissions assigned.
-  About user accounts and User Management (167)

► 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**.

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

4 Choose the **Save** button.

Related topics

- Changing Sleep settings (161)
- Viewing the user guide (164)

User Management overview

Authorized users can manage user accounts, passwords, and system permissions.

In this section

About user accounts and User Management (167)

About user passwords (168)

Navigating password settings (169)

Navigating the Users view (170)

About user roles and permissions (171)

About user accounts and User Management

Site administrators can create multiple user accounts with different permissions in User Management.

User Management

User Management is disabled by default, but it can be enabled by Roche support. Once User Management is enabled, you must log on each time you choose one of the password-protected functions on the Settings page: [Users](#), [Protocols](#), [System](#), [Connectivity](#), or [Alerts](#).



If you have a password for any of the password-protected functions, you can log on and view data in all of the functions. However, you can only change and save data in the functions you have assigned permissions for.

User accounts

There are two types of user accounts: regular users (operators) and administrators. System permissions determine the tasks that a user can perform in the software.

Administrator account

The default Administrator account has permission to manage users' names, passwords, and system permissions. Roche support must set up the Administrator account password before you can set up user names and passwords for other users.

Related topics

- About user passwords (168)
- Setting up password complexity (174)
- Managing user accounts (176)

About user passwords

In order to protect the integrity of your system data and patient information, make sure to set up passwords and keep password information safe.



The first time you log into one of the password-protected functions, you are prompted to change your password.

Mandatory password setup guidelines

Follow these mandatory guidelines to set up passwords:

- Change your passwords frequently (every 90 days at least).
- Passwords must contain 8 to 32 characters with at least one number and one letter:

Characters	Example
Uppercase alphabetic	A through Z
Lowercase alphabetic	a through z
Numeric	0 through 9
Non-alphabetic (special)	@ # \$ % ^ * () + = _ ? - !

Password guidelines

Keeping passwords safe

Users must keep passwords safe:

- Do not write passwords down.
- Do not disclose passwords with unauthorized users.

Additional tips for setting up passwords

Follow these guidelines for setting up passwords.

Do	Do Not
Use complex passwords.	Use dictionary words or the user name for passwords.
Use pass phrases, which are sentences that have random characters added.	Simply add suffixes and/or prefixes to obfuscate passwords.
Use acronyms with random characters and capitalization added.	Simply replace letters with other characters to obfuscate passwords. For example: \$ = s, 4 = h, 2 = a, 3 = e, 0 = o, 1 = l, 1 = i.
Use a completely random mix of characters.	Simply use random capitalization to obfuscate passwords.

Tips for setting up passwords

Navigating password settings

The password settings are located in the **Settings** view, Choose the **System** button, log in, and then choose the password settings for your site.

The screenshot displays the 'Settings' view with the 'System' tab selected. The 'System' section contains the following settings:

- Backup Location:** C:\Roche\Backups\BackupManager\HE600 (with a 'Backup Now' button)
- User Lockout Enabled:** On (Callout A points here)
- Minimum Password Length:** 8 (Callout B points here)
- Maximum Password Length:** 16
- Uppercase Alpha Characters:** On
- Lowercase Alpha Characters:** On (Callout C points here)
- Numeric Characters:** On
- Special Characters:** On
- Tray Tracking by User:** On (Callout D points here)

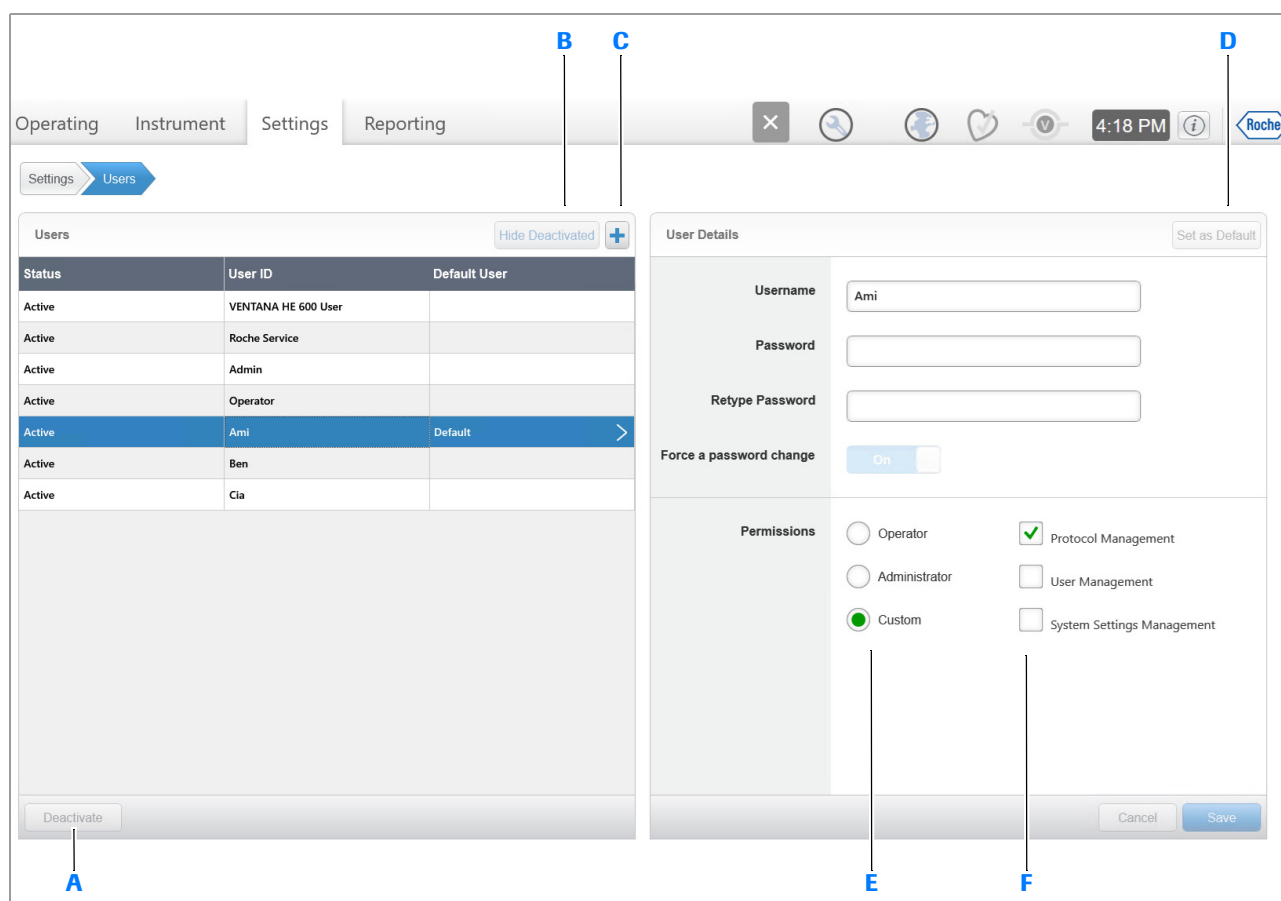
- A** Lock out users who enter wrong passwords multiple times
- B** Set the limits on password lengths
- C** Choose the characters that passwords must contain
- D** Track which user ran each tray for billing purposes

Related topics

- Setting up user lockout (173)
- Setting up password complexity (174)
- Turning on tray tracking (175)

Navigating the Users view

The user settings are located in the **Settings** view. If you are assigned the Administrator role with User Management permissions, you can set up users at your site. The left side of the Users view has a list of all the users. The right side displays details for the selected user.



A Deactivate or reactivate a user

B Hide deactivated users or show all users

C Add a new user

D Set this user as the default user for tray runs

E Choose the user's role

F Only choose permissions for a **Custom** user role

Related topics

- About user roles and permissions (171)
- Adding a user (176)
- Viewing a list of users (179)
- Deactivating a user account (179)
- Reactivating a user account (180)

About user roles and permissions

You can assign roles to users so they have permission to perform multiple tasks in the software. There are 3 roles in the VENTANA HE 600 system software: Operator, Administrator, and Custom.

Operator

The screenshot shows the 'User Details' dialog box. The 'Username' field is set to 'Operator'. The 'Password' and 'Retype Password' fields are masked with dots. The 'Force a password change' toggle is set to 'On'. In the 'Permissions' section, the 'Operator' role is selected with a radio button, and the 'Protocol Management', 'User Management', and 'System Settings Management' checkboxes are unchecked. The 'Administrator' and 'Custom' roles are also unselected. At the bottom, there are 'Cancel' and 'Save' buttons.

The Operator role includes permissions for System routine operation, insert a tray, log in or log out, and change password.

If you choose this role for a user, you do not need to choose additional permissions.

If you choose 1 or 2 permissions, the Custom role is automatically selected instead.

If you choose all permissions, then the Administrator role is automatically selected for the user.

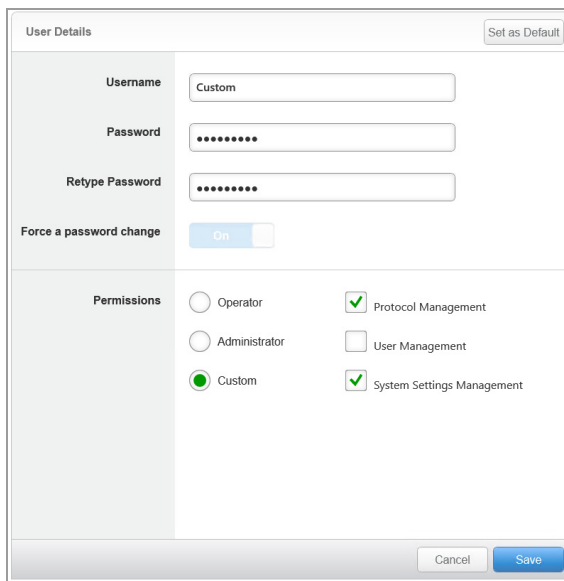
Administrator

The screenshot shows the 'User Details' dialog box. The 'Username' field is set to 'Admin'. The 'Password' and 'Retype Password' fields are masked with dots. The 'Force a password change' toggle is set to 'Off'. In the 'Permissions' section, the 'Administrator' role is selected with a radio button. The 'Protocol Management', 'User Management', and 'System Settings Management' checkboxes are all checked, each with a green checkmark. The 'Operator' and 'Custom' roles are unselected. At the bottom, there are 'Cancel' and 'Save' buttons.

The Administrator role includes the most permissions: System routine operation, insert a tray, log in or log out, change password, Protocol Management, User Management, and System Settings Management.

If you choose this role for a user, you do not need to choose additional permissions.

Custom



The 'User Details' dialog box is shown with the 'Custom' role selected. The 'Username' field contains 'Custom'. The 'Password' and 'Retype Password' fields are masked with dots. The 'Force a password change' toggle is set to 'On'. In the 'Permissions' section, the 'Custom' role is selected with a radio button, and the 'Protocol Management' and 'System Settings Management' checkboxes are checked. The 'Operator', 'Administrator', and 'User Management' options are not selected. At the bottom right, there are 'Cancel' and 'Save' buttons. A 'Set as Default' button is located in the top right corner of the dialog.

Users with the Custom role may have either 1 or 2 of the following permissions: Protocol Management, User Management, or System Settings Management.

If you choose all permissions, then the Administrator role is automatically selected for the user.

If you clear all permissions, then the Operator role is automatically selected.

 You might want to assign the Protocol Management, User Management, and System Settings Management permissions only to users that have specialized training.

Related topics

- Navigating the Users view (170)
- Adding a user (176)

Managing passwords and user accounts

You can manage password complexity at your site, add new users, and manage user permissions.

In this section

Setting up passwords (173)
 Managing user accounts (176)
 Managing the list of users (178)

Setting up passwords

You can lock out users with failed login attempts, configure password requirements, and enable tray tracking for reports.

In this section

Setting up user lockout (173)
 Setting up password complexity (174)
 Turning on tray tracking (175)

Setting up user lockout

Numerous failed log in attempts can indicate that an unauthorized user is trying to gain access to your system. You can block access to the password-protected functions of the VENTANA HE 600 system software for 10 minutes if a user enters the wrong password 5 times.

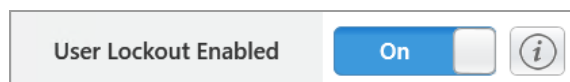
This feature is turned on by default when User Management is enabled.



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

- ☐ You have a valid user account.
- ☐ You have the necessary permissions assigned.
- About user accounts and User Management (167)

► To enable user lockout



- 1 In the **Settings** view, choose the **System** button, and then log in.
- 2 Choose **On** to enable **User Lockout Enabled**.
→ Users who enter the wrong password 5 times in a row are locked out for 10 minutes.
- 3 Choose the **Save** button.

• Related topics

- About user passwords (168)
- Navigating password settings (169)

Setting up password complexity

Password complexity helps to protect data integrity and access to the HE 600 system software. You decide on the password complexity by defining the password length and any special characters required in the password.

By default, the minimum password length is 8, the maximum password length is 16, and all character attributes are turned on. Until you change the settings, passwords must be 8 to 16 characters long, and they must contain at least 1 uppercase letter, 1 lowercase letter, 1 number, and 1 special character.



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

- ☐ You have a valid user account.
- ☐ You have the necessary permissions assigned.
- About user accounts and User Management (167)

Minimum Password Length	8 ▼
Maximum Password Length	16 ▼
Uppercase Alpha Characters	☒ On
Lowercase Alpha Characters	☒ On
Numeric Characters	☒ On
Special Characters	☒ On

► To set password complexity

- 1 In the **Settings** view, choose the **System** button, and then log in.
- 2 Choose the number of characters for password length in the **Minimum Password Length** and **Maximum Password Length** fields.
 - ❶ You can set the **Minimum Password Length** from 8 to 16 characters and the **Maximum Password Length** from 16 to 32 characters.
- 3 Choose which characters passwords must include. Choose **On** to enable any of the following:
 - **Uppercase Alpha Characters**: Requires at least one uppercase letter in user passwords.
 - **Lowercase Alpha Characters**: Requires at least one lowercase letter in user passwords.
 - **Numeric Characters**: Requires at least one number from 0 to 9 in user passwords.
 - **Special Characters**: Requires at least one special character in user passwords.
- 4 Choose the **Save** button.

📖 Related topics

- About user passwords (168)
- Navigating password settings (169)

Turning on tray tracking

You can enable tray tracking at your site for reporting and billing purposes. If tray tracking is turned on, you can select a specific user when you start a tray run. If no user is selected, the default user is automatically selected.

This feature is turned off by default when User Management is enabled.

► To enable tray tracking by user

- 1 In the **Settings** view, choose the **System** button, and then log in.
- 2 Choose **On** to enable **Tray Tracking by User**.
- 3 Choose the **Save** button.

Tray Tracking by User	☒ On
-----------------------	--

 Related topics

- Loading a tray into a portal (105)
- Navigating password settings (169)

Managing user accounts

Authorized users can assign permissions to users.

In this section

Adding a user (176)

Updating user accounts (177)

Adding a user

Authorized users can add new user accounts at their site.



You might want to assign the protocol management, user management, or system settings management permissions only to users that have specialized training.



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

- ☐ You have a valid user account.
- ☐ You have the necessary permissions assigned.
-  About user accounts and User Management (167)

► To add a new user

- 1 In the **Settings** view, choose the **Users** button, and then log in.
- 2 In the **Users** area, choose the **+** button.

A Choose a user role

B Only choose permissions for a **Custom** user role

- 3 In the **User Details** area, fill in the fields as follows:
 - **Username**: The name that the user will use to log in to the VENTANA HE 600 system software.
 - **Password**: The password that the user will use to log in to the VENTANA HE 600 system software.
 - **Retype Password**: Retype the password to verify that it matches the entry in the **Password** field.
- ❶ **Force a password change** is automatically selected and cannot be turned off. Users must change their password when they first sign in.
- 4 Choose any role in Permissions group: **Operator**, **Administrator**, or **Custom**.
 - If you are creating a user with the **Custom** role, choose any 1 or 2 check boxes next to the permissions that you want to assign to the user.
- ❶ If you choose all permissions, then the **Administrator** role is automatically selected for the user. If you clear all permissions, then the **Operator** role is automatically selected.
- 5 Choose the **Set as Default** button to make this person the default user for tray insertion.
 - ❶ Only one user can be designated as the default for tray runs. If a specific user is not assigned when you start a tray run, this default user is automatically selected for the run.
- 6 Choose the **Save** button.

Related topics

- About user passwords (168)
- Navigating the Users view (170)
- About user roles and permissions (171)

Updating user accounts

You can update assigned passwords and permissions for a user.



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

- ☐ You have a valid user account.
- ☐ You have the necessary permissions assigned.
- About user accounts and User Management (167)

► To update a user account

- 1 In the **Settings** view, choose the **Users** button, and then log in.
- 2 In the **Users** area, choose the row for the user that you want to update.
- 3 In the **User Details** area, choose any role in Permissions group: **Operator**, **Administrator**, or **Custom**.
 - If you are creating a user with the **Custom** role, choose any 1 or 2 check boxes next to the permissions that you want to assign to the user.
 - ❶ If you choose all permissions, then the **Administrator** role is automatically selected for the user. If you clear all permissions, then the **Operator** role is automatically selected.
- 4 Choose the **Set as Default** button to make this person the default user for tray insertion.
 - ❶ Only one user can be designated as the default for tray runs. If a specific user is not assigned when you start a tray run, this default user is automatically selected for the run.
- 5 Choose the **Save** button.

• Related topics

- About user passwords (168)
- Navigating the Users view (170)
- About user roles and permissions (171)

Managing the list of users

Authorized users can view the list of users, deactivate users who no longer need access, and reactivate user accounts.

In this section

- Viewing a list of users (179)
- Deactivating a user account (179)
- Reactivating a user account (180)

Viewing a list of users

You can view all users or only the active users.



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

- ☐ You have a valid user account.
- ☐ You have the necessary permissions assigned.
- » About user accounts and User Management (167)

► To view a list of users

- 1 In the **Settings** view, choose the **Users** button, and then log in.
- 2 To change the users that are displayed, do either of the following:
 - To show only the active users, choose the **Hide Deactivated** button.
 - To show all the users, choose the **Show All** button.

» Related topics

- User Management overview (167)
- Navigating the Users view (170)

Deactivating a user account

Deactivated users cannot log in to password-protected functions.



When the VENTANA HE 600 system software is installed, a default Administrator account is created. You cannot deactivate the default Administrator account until you create another Administrator account.



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

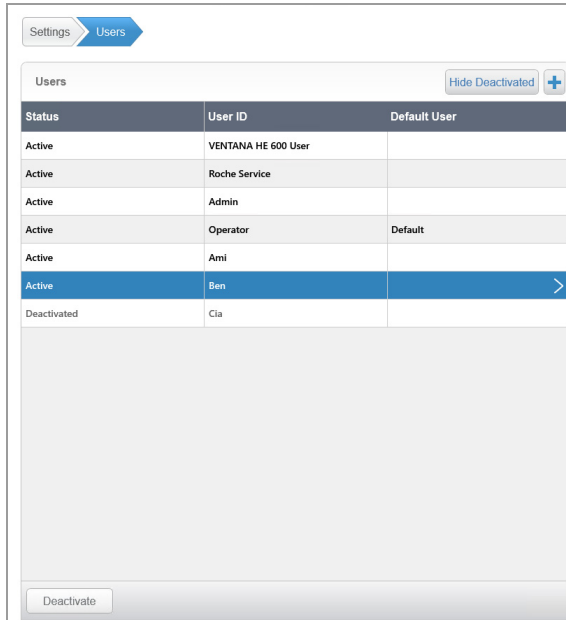
- ☐ You have a valid user account.
- ☐ You have the necessary permissions assigned.
- » About user accounts and User Management (167)

► To deactivate a user

- 1 In the **Settings** view, choose the **Users** button, and then log in.
- 2 In the **Users** area, choose the active user that you want to deactivate. Choose the **Deactivate** button.
→ The user status is changed to **Deactivated**.

► Related topics

- User Management overview (167)
- Navigating the Users view (170)



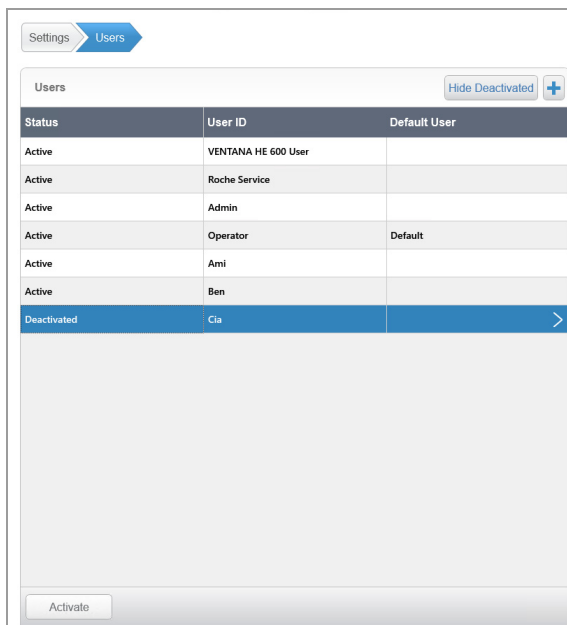
Reactivating a user account

You can control whether a user account is activated again.



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

- ☐ You have a valid user account.
- ☐ You have the necessary permissions assigned.
- About user accounts and User Management (167)



► To reactivate a user

- 1 In the **Settings** view, choose the **Users** button, and then log in.
- 2 In the **Users** area, choose the deactivated user that you want to reactivate. Choose the **Activate** button.
→ The user status is changed to **Active**.

► Related topics

- User Management overview (167)
- Navigating the Users view (170)

Using password-protected functions

You must log in to edit password-protected functions and to change your password. You can view system or protocol settings without logging in.

In this section

Logging in (182)

Changing your password (183)

Viewing system settings or protocols without logging in (184)

Logging in

You need to log on with a valid user account in order to change or edit data in password-protected functions.



The VENTANA HE 600 system software logs you out automatically when:

- You are inactive for 5 minutes.
- If User Lockout is enabled, you are logged out for 10 minutes after you enter the wrong password 5 times.



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

- ☐ You have a valid user account.
- ▶ ☐ About user accounts and User Management (167)

► To log in

- 1 In the **Settings** tab, choose one of the buttons for a password-protected function: **Protocols**, **System**, **Users**, **Connectivity**, or **Alerts**.
- 2 In the **Log In** box, enter your user name and password, and then choose the **Log In** button.
 - ❶ You must change your password the first time that you log in to a password-protected function.

▶ ☐ Related topics

- About user passwords (168)
- Changing your password (183)

Changing your password

If you need to change your password, you must log in first.

 The first time you log into one of the password-protected functions, you are prompted to change your password.



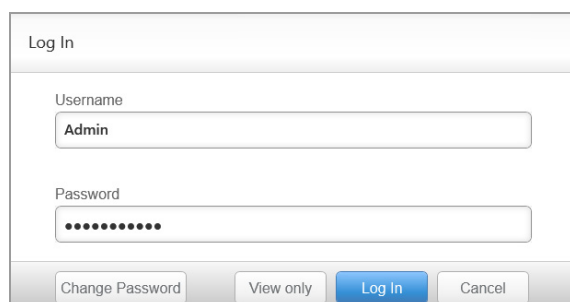
Change your password frequently (every 90 days at least).



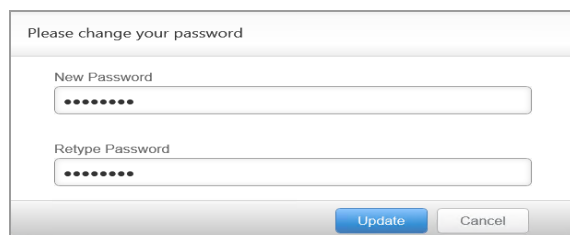
Make sure the following prerequisites are completed before starting this procedure:

- ☐ You have a valid user account.
-  About user accounts and User Management (167)

► To change your password



The 'Log In' dialog box contains two input fields: 'Username' with the text 'Admin' and 'Password' with masked characters. At the bottom, there are four buttons: 'Change Password', 'View only', 'Log In' (highlighted in blue), and 'Cancel'.



The 'Please change your password' dialog box contains two input fields: 'New Password' and 'Retype Password', both with masked characters. At the bottom, there are two buttons: 'Update' (highlighted in blue) and 'Cancel'.

- 1 In the **Log In** box, fill in your user name and password, and then choose the **Change Password** button.

- 2 In the change your password box, fill in the fields as follows:
 - **New Password:** Type a new password.
 - **Verify Password:** Retype the password to verify it matches the entry in the **New Password** field.

- 3 Choose the **Update** button.

• Related topics

- About user passwords (168)
- Logging in (182)

Viewing system settings or protocols without logging in

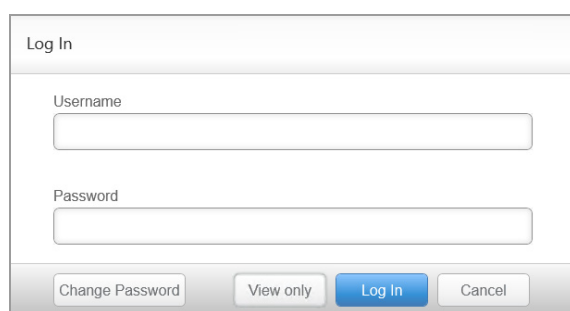
You can view password-protected system settings and protocols without logging in.

► To view settings or protocols without logging in

- 1 In the **Settings** tab, choose one of the buttons for a password-protected function: **Protocols**, **System**, **Users**, **Connectivity**, or **Alerts**.
- 2 In the **Log In** box, leave your user name and password blank, and then choose the **View only** button.

• Related topics

- About user passwords (168)



The image shows a 'Log In' dialog box with a title bar labeled 'Log In'. Inside the dialog, there are two text input fields: 'Username' and 'Password'. Below these fields, there are four buttons: 'Change Password', 'View only', 'Log In', and 'Cancel'. The 'Log In' button is highlighted in blue.

Maintenance

In this chapter

6

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User maintenance	187
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Preventive maintenance.	189
Preparing the system for non-use	190

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 (187)

System-performed maintenance (188)

Preventive maintenance (189)

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 (124)
Empty the waste containers	At system start-up and when waste containers are full	Emptying waste containers (144)
Replace the coverslip cassettes	When reserve cassette indicators are gray and the area around the cassette indicators is flashing yellow	Loading coverslip cassettes (136)
Empty the coverslip cassette waste bin	At system start-up and when used cassettes are in the waste bin	Unloading used coverslip cassettes (137)
Empty the coverslip waste dispensary	Daily and when loading new cassettes	Checking the coverslip waste dispensary (138)
Empty the reagent drip traps	As-needed	Emptying a reagent hat drip trap (130)
Clean the trays and slide clips	When excess fluid is on tray after processing slides or as-needed	Cleaning and storing trays (118)
Clean the reagent drawer	When reagent has spilled or leaked into drawer or as-needed	Cleaning the reagent access drawer (132)

☰ VENTANA HE 600 system user maintenance activities

• Related topics

- System-performed maintenance (188)
- Preventive maintenance (189)

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 (162)
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 (121) - Replacing reagents (124)

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.

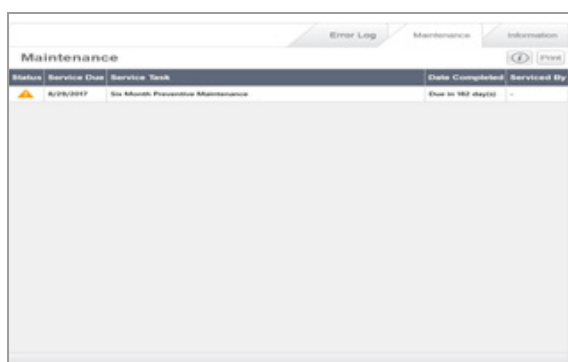
Related topics

- Enabling database backup (162)
- User maintenance (187)
- Preventive maintenance (189)

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 (187)
- System-performed maintenance (188)

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

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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: Viewing the Error Log

NOTICE

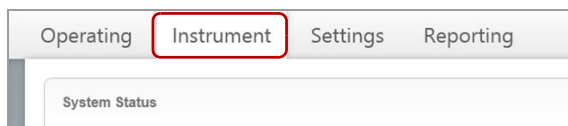
Insufficient error information due to clearing the error log

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**.



Error Log		
Error Log Maintenance Information		
Time	System Error	Type
3/21/2018 1:49 PM	5017: The slide dryer door failed to close. Contact your local support for help.	Dryer
3/21/2018 1:48 PM	1058: Transport motor stall detected on "X" axis. Allow modules to complete processing, and recover trays. If this doesn't solve the issue, contact local support for help. Restart the software.	Transport
3/21/2018 1:41 PM	1058: Transport motor stall detected on "X" axis. Allow modules to complete processing, and recover trays. If this doesn't solve the issue, contact local support for help. Restart the software.	Transport
3/21/2018 1:10 PM	5005: The slide dryer is operating below operating temperature. Restart the instrument or contact your local support for help.	Dryer
3/21/2018 1:07 PM	8004: Tray not properly loaded in portal bay 'Middle Portal'. Make sure the tray is inserted properly. Check to make sure the tray is not dirty on the side. Check the ball on the bottom to make sure that it isn't obscured. Using a dry cloth, wipe the sensor. Check to make sure the ball is still in the tray. Check the tray orientation. If none of this works, try a different tray.	Portal
3/21/2018 10:11 AM	23002: Failed to transfer tray, Bottom Portal station disabled.	System

Date ranges

☐ Starting from last day

☒ Custom date range

Start date: 3/22/2018 End date: 3/26/2018

Error types

☒ Transport	☐ AFM	☐ Stainer
☒ Coverslipper	☒ Dryer	☐ Curing Oven
☐ Slide ID	☐ Portal	☐ Garage
☐ System		

[Apply filters](#) [Reset filters](#)

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 (195)

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 (196)
- List of category 1000 messages - Transportation errors (197)
- List of category 2000 messages - AFM errors (199)
- List of category 3000 messages - Stainer errors (201)
- List of category 4000 messages - Coverslipper errors (202)
- List of category 5000 messages - Slide dryer errors (204)
- List of category 6000 messages - Curing oven errors (205)
- List of category 7000 messages - Barcode reader errors (206)
- List of category 8000 messages - Tray portal errors (206)
- List of category 11000 messages - RFID errors (207)
- List of category 12000 messages - Scheduler errors (207)
- List of category 13000 messages - Database errors (207)
- List of category 14000 messages - Communication errors (208)
- List of category 20000 messages - Maintenance errors (208)
- List of category 22000 messages - Station errors (209)
- List of category 23000 messages - Tray recovery (210)
- List of category 31000 messages - Module controller updates (210)

About error message number categories

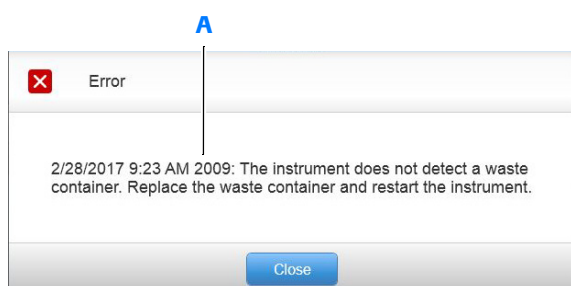
Each error message includes a number. The error message number corresponds with the area of the system that is encountering an error. Error message numbers are categorized according to the number that precedes it.

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



A Error message number

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.
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.

AFM errors

Message code	Message	What to do
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