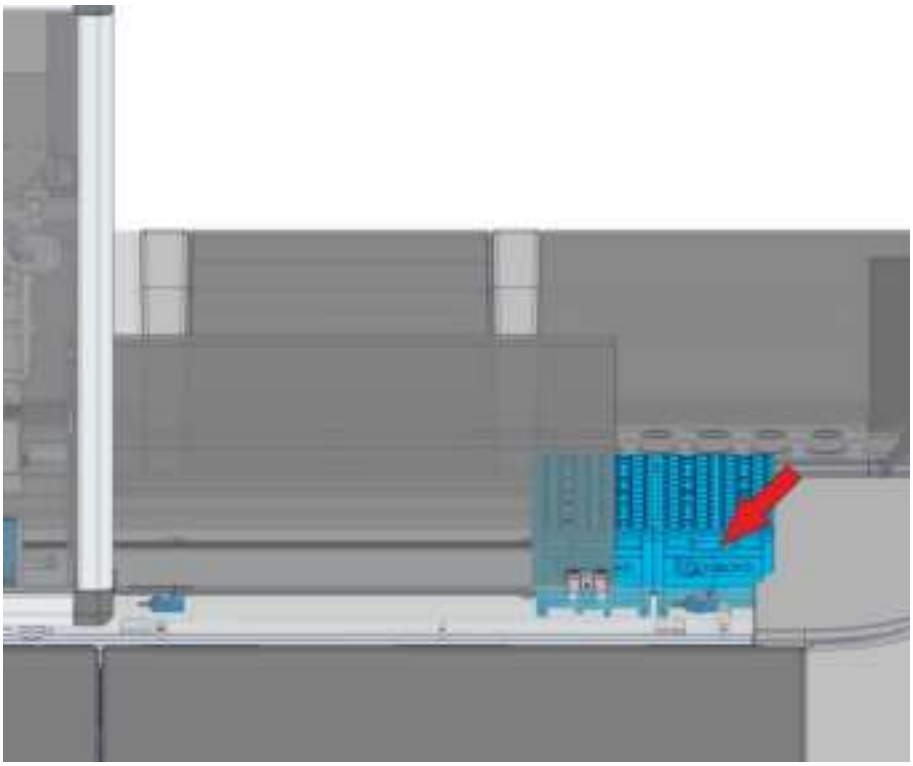


5.3.3.3 Verification steps

None.

5.3.4 How to do the emergency cleaning of the Rack Input Module

Perform this procedure in the event of sample spilling out of the tube(s) or in case of tube(s) damage.

5.3.4.1 Prerequisites

Authorized personnel:	Operator
Conditions:	Module off-line
Tools and materials:	• Lint-free cloth • 5% sodium hypochlorite solution
Procedures:	None.

5.3.4.2 Task steps

⚠ WARNING

Potential Biohazard.

Biohazardous material could be present on the surfaces.

Take appropriate precautions and follow laboratory standard operating procedures and guidelines when performing this procedure

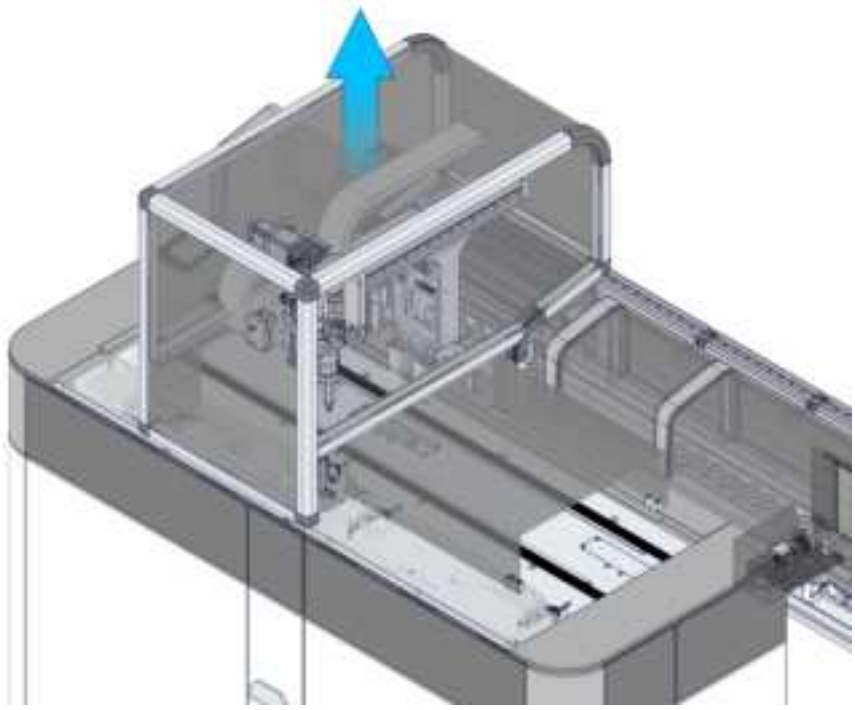
1. Set the module off-line:
   a. Select `Rack Input` in `Overview` screen.
   b. In Status screen, click on `Off-line`/`Do not Flush` button, the Module changes to Offline without flushing out carriers of the buffer lane.

   ⚠ WARNING

   Pinch Hazard.

   Ensure the Rack Input Module robot has stopped all movements before proceeding to the next step.

2. Remove all racks from the Rack Input Module worktable. If it is not possible to manually remove the racks, perform the following procedure to unlock the racks in process:
   a. Select `Rack Input` in `Overview` screen.
   b. Select `Lock/Unlock Rack` entry in the pop-up.
   c. Select `Unlock Rack` function button.
   d. Select `Stopper`.
   e. Select `Down` function button.
   f. Remove the cover over the robot.



g. Remove racks.

3. Manually slide the robot to the side of the Rack Input Module to allow easy access to clean the Module.
4. Using a cloth moistened with water or soapy water, remove organic substances.
5. Using a cloth moistened with 5% sodium hypochlorite, clean the contaminated area. Allow the solution to act for 10 minutes.
6. If racks need to be clean, use a lint-free cloth moistened with 5% sodium hypochlorite solution in order to remove the material. Allow the solution to act for 10 minutes.
7. Rinse with water and wait for the area to dry.
8. Write down the barcode ID of the tube(s) involved and notify this circumstance to the qualified personnel.
9. Restore the removed parts.
10. Set the module on-line:
    a. Select `Rack Input` in `Overview` screen.
    b. In Status screen, click on `On-line` button

5.3.4.3 Verification steps

Verify that the Module is back online.

5.4 Bulk Input Module

5.4.1 How to load the sample tubes to Bulk Input Module

This procedure describes how to load sample tubes to Bulk Input Module.

NOTICE

Do not load sealed tubes into the Bulk Input Module. Refer to 3 *Specimen preparation and management*, page 19 for loading tubes.

NOTICE

Do not load uncapped sample tubes in the Bulk Input Module. Loading uncapped sample tubes may result in sample spillage, causing potential samples contamination and injury to the User.

NOTICE

Loading glass tubes in the Bulk Input Module is not allowed. The glass tubes could be broken during the movements in the tray, resulting in the loss of the sample.

NOTICE

Sample tubes with see-through cap or tubes whose caps are translucent cannot be loaded on Bulk Input Module. Presence of sample or clot at the top of sample tube could change color of the cap and adversely affect Vision System color detection and assay results.

5.4.1.1 Prerequisites

Authorized personnel:	Supervisor
Conditions:	none
Tools and materials:	none
Procedures:	none

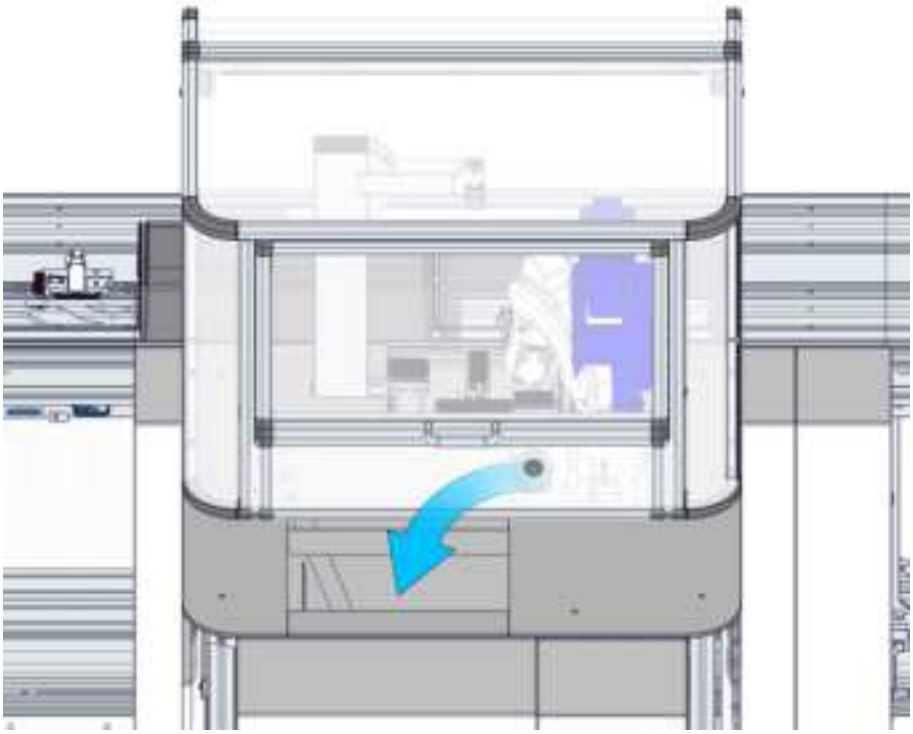
5.4.1.2 Task steps

1. Make sure that the Module is on-line.
2. Ensure the capped tubes to be loaded into Bulk Input Module are closed and their labels are very adherent to the tube and without wrinkles.

NOTE

Carefully handle the tubes to prevent them from being uncapped or damaged during loading.

3. Load the sample tubes into Bulk Input Module, placing them inside the hopper.



4. When the loading of the sample tubes is finished, the Tube Hopper is automatically restarted and tubes begin to be loaded on track.

5.4.1.3 Verification steps

None.

5.4.2 How to load the tube on quick loading area of the Bulk Input Module

This procedure instruct how to load the tube on quick loading area of the Bulk Input Module

NOTICE

Do not load sealed tubes into the Bulk Input Module. Refer to 3 *Specimen preparation and management*, page 19 for loading tubes.

NOTICE

Do not load uncapped sample tubes in the Bulk Input Module. Loading uncapped sample tubes may result in sample spillage, causing potential samples contamination and injury to the User.

NOTICE

Loading glass tubes in the Bulk Input Module is not allowed. The glass tubes could be broken during the movements in the tray, resulting in the loss of the sample.

NOTICE

Sample tubes with see-through cap or tubes whose caps are translucent cannot be loaded on Bulk Input Module. Presence of sample or clot at the top of sample tube could change color of the cap and adversely affect Vision System color detection and assay results.

5.4.2.1 Prerequisites

Authorized personnel:	Supervisor
Conditions:	none
Tools and materials:	none
Procedures:	none

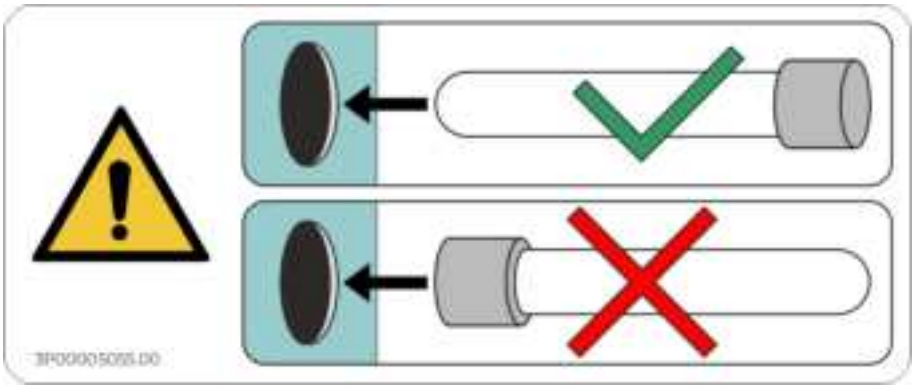
5.4.2.2 Task steps

1. Ensure the capped tubes to be loaded into Bulk Input Module are closed and their labels are very adherent to the tube and without wrinkles.

   NOTE

   Carefully handle the tubes to prevent them from being uncapped or damaged during loading.

2. Load the tube to Bulk Input Module paying attention to respect the direction loading showed in the figure below.



3. The Automation Module completes the last pending operation and it shall prioritize the loading of the sample tube loaded in the quick loading area instead of the ones loaded in the hopper.

5.4.2.3 Verification steps

None.

5.4.3 How to empty the discarded tubes container

This procedure instruct how to empty the waste

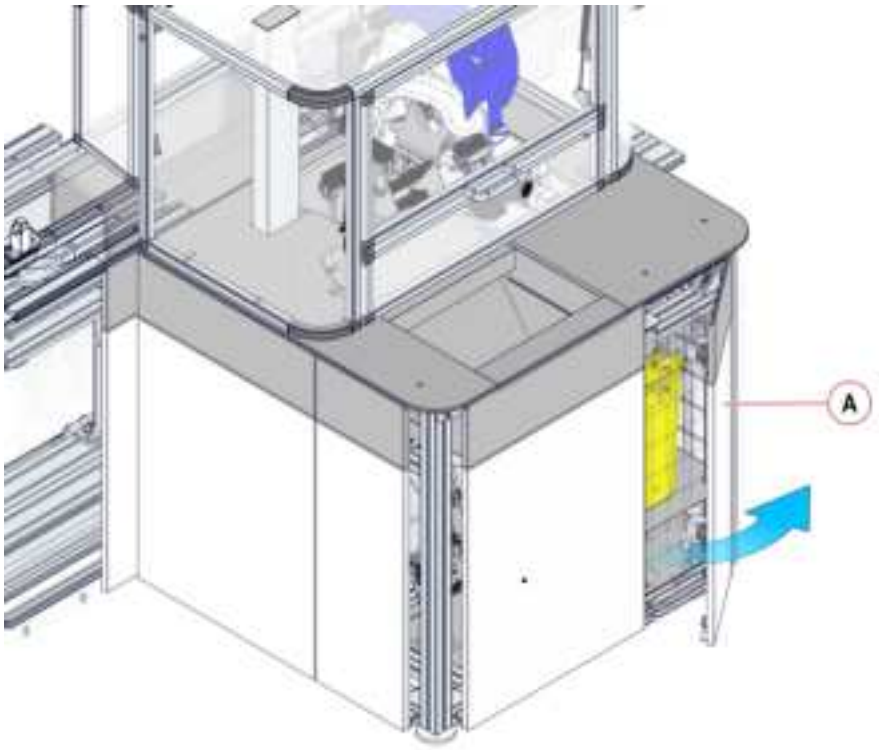
5.4.3.1 Prerequisites

Authorized personnel:	Supervisor
Conditions:	• Error message: `Discarded Tubes Container full`
Tools and materials:	none
Procedures:	none

5.4.3.2 Task steps

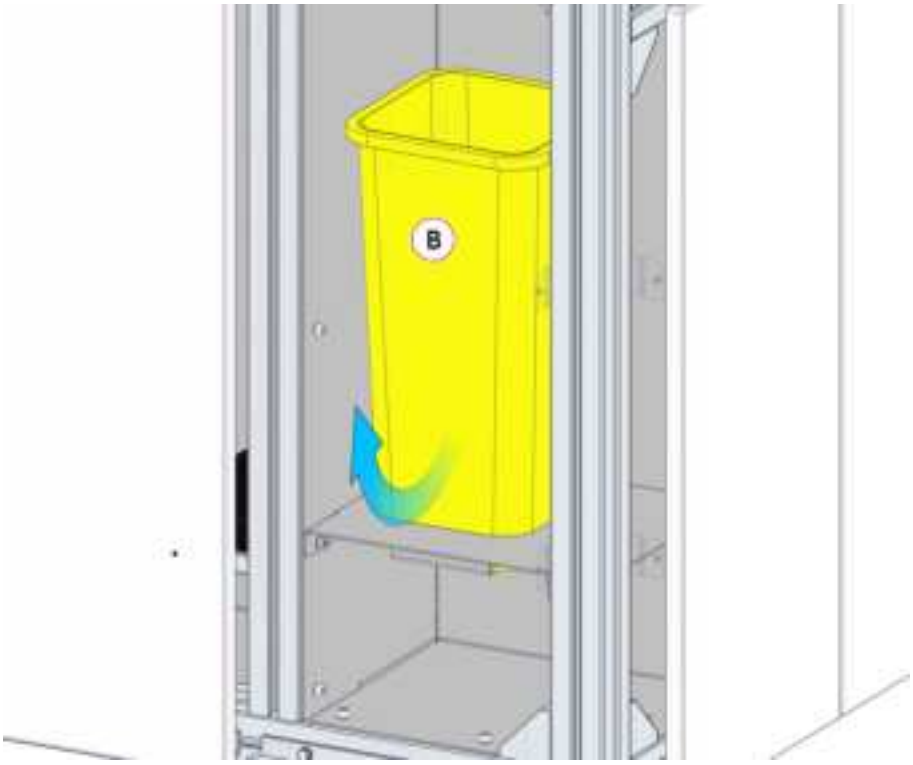
1. Open the module frontal panel (Figure 64 – A) to access the Bulk Input Module discarded tubes container.

Figure 64:



2. Remove the discarded tubes container (Figure 65 – B).

Figure 65:



3. Inspect the container and ensure that the capped tubes are closed and their labels are very adherent to the tube and without wrinkles. If not restore the state of the labels in accordance with the good laboratory practice.

⚠ WARNING

Potential Biohazard.

Biohazardous material could be present on Bulk Input Module discarded tubes container.

4. If the tubes inside the container are in a good state, try to reload them on the Bulk Input Module following the 5.4.2 *How to load the tube on quick loading area of the Bulk Input Module*, page 388 procedure for STAT tubes or 5.4.1 *How to load the sample tubes to Bulk Input Module*, page 386 procedure for other tubes. If the tubes are discarded again, load the sample tubes to Input Module.
5. Once the discarded tubes container are empty, put it back in its position.
6. Close the frontal panel of the Bulk Input Module.

5.4.3.3 Verification steps

None.

5.5 Centrifuge Module

5.5.1 How to start up the Centrifuge Module

The following procedure describes how to start up the Centrifuge Module.

5.5.1.1 Prerequisites

Authorized personnel:	Operator
Conditions:	None
Tools and materials:	None
Procedures:	None

5.5.1.2 Task steps

1. Turn on the Centrifuge power if it was turned off.

   NOTE

   If the LED in the “Open/Stop” button flashes after the Centrifuge is switched on, refer to the Hettich manual to recover the error.

2. Proceed with the startup of all Centrifuges connected to the Automation System.
3. If there are sample tubes in the Centrifuge Module, follow the steps to remove them. Please refer to the 5.5.2 *How to remove sample tubes from Centrifuge Module manually*, page 393.

   ⚠ WARNING

   Potential Biohazard.

   If in the Centrifuge area is located any broken glass, carefully remove the glass pieces from inside Centrifuge, input and output area and buckets. The presence of residual glass left in buckets could generate further damage. Follow laboratory guidelines reference for handling and disposing broken glass.

5.5.1.3 Verification steps

Verify that the Module is started up.

5.5.2 How to remove sample tubes from Centrifuge Module manually

The following procedure describes how to remove sample tubes from Centrifuge Module manually.

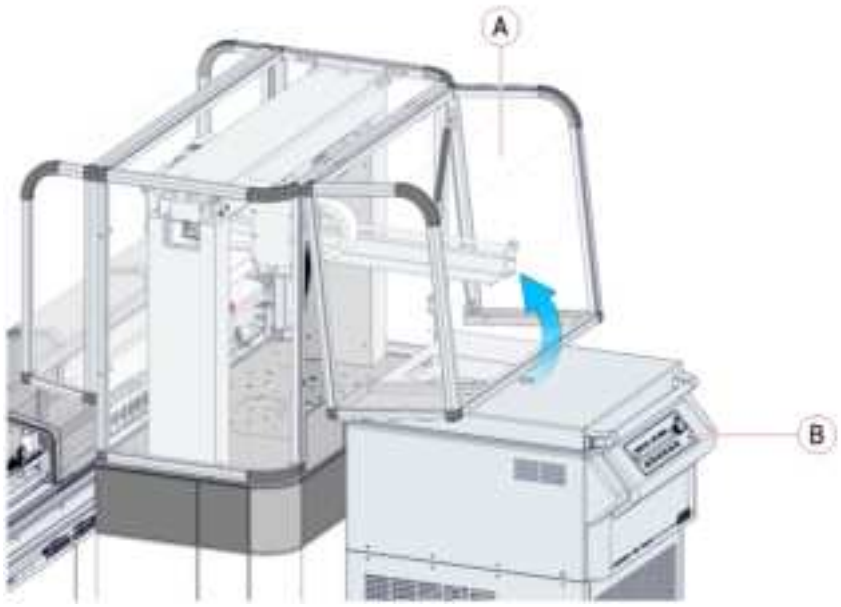
5.5.2.1 Prerequisites

Authorized personnel:	Operator
Conditions:	None
Tools and materials:	• Lamp • Hexagonal wrench key
Procedures:	None

5.5.2.2 Task steps

1. Lift up the Centrifuge Module cover (Figure 66 – A).

Figure 66:



⚠ WARNING

Potential Biohazard:

Biohazardous material may be present on the Interface Module and inside the Centrifuge. Take appropriate precautions when performing this procedure. Follow laboratory standard operating procedures and guidelines when performing this procedure.

⚠ WARNING

Potential Biohazard:

If there is broken glass in the Centrifuge area, carefully remove all fragments. Residual glass could cause further breakage. Follow your laboratory standard operating procedures and guidelines when handling and disposing of broken glass.

⚠ CAUTION

Lacerations, Punctures.

Entanglement due to User access to mechanical moving parts. Use caution when accessing parts of the module normally protected by safety shields.

2. Look into the hole of the Centrifuge lid using a lamp. Make sure the Centrifuge is not spinning. Proceed with the next steps only if it is possible to see bucket insert and rotor standstill looking into the Centrifuge door hole. If it is not possible to see bucket insert or the rotor do not open the Centrifuge lid.

NOTE

It is suggested to wait at least 30 minutes after the power supply failure.

3. Insert the hexagonal wrench key into the bore hole (Figure 66 – B) and carefully rotate by half a turn in clockwise direction until the lid opens.
4. Open the Centrifuge lid (Figure 67 – A).

Figure 67:

⚠ WARNING

Pinch hazard.

Check that the rotor is not rotating before opening the Centrifuge lid. Accessing to the moving rotor can cause pinching, shearing of the limbs.

⚠ WARNING

Potential Biohazard.

Aerosol particles generated through the sample centrifugation can be spread in the air and inhaled by the Operator when the centrifuge lid is open.

Use personal protective equipment (i.e. gloves, goggles and mask) prior to open the Centrifuge lid.

5. Proceed with the manual removal of the sample tubes.

⚠ WARNING

Potential Biohazard.

If in the Centrifuge area is located any broken glass, carefully remove the glass pieces from inside Centrifuge, input and output area and buckets. The presence of residual glass left in buckets could generate further damage. Follow laboratory guidelines reference for handling and disposing broken glass.

6. Close the Centrifuge lid.
7. Carefully rotate the hexagonal wrench key by half a turn in clockwise direction until the lid locks; then, extract the key.
8. Close the cover.
9. Remove from the database the occurrence of the sample tubes physically taken away:
   a. Click on `Overview` and select `Centrifuge`.
   b. Click on `Status` menu.
   c. Select `Remove Tube` function button and insert the sample ID of the tube removed.
   d. Repeat the previous step for all the sample tubes removed.

5.5.2.3 Verification steps

None.

5.5.3 How to use the Centrifuge in manual mode

The following procedure describes how use the Centrifuge in manual mode (i. e. use of the Centrifuge in standalone mode).

⚠ WARNING

When the Centrifuge is running, no persons, dangerous substances or objects may be within the safety margin of 300 mm [11.811 in] around the Centrifuge.

NOTICE

The Centrifuge accepts only capped sample tubes.

NOTICE

Refer to the Hettich documentation for the configuration parameters of the Centrifuge.

NOTE

The parameters `CM Bucket Maximum Spin Cycles` and `CM Bucket Spin Cycle Threshold` (refer to 4.10.4.12 *Settings*, page 294) for the rotor are preset and are not configurable. A warning and then an error will be displayed in the event of reaching the threshold (375000 cycles) and the maximum value (400000 cycles).

5.5.3.1 Prerequisites

Authorized personnel:	Operator
Conditions:	None
Tools and materials:	None
Procedures:	None

5.5.3.2 Task steps

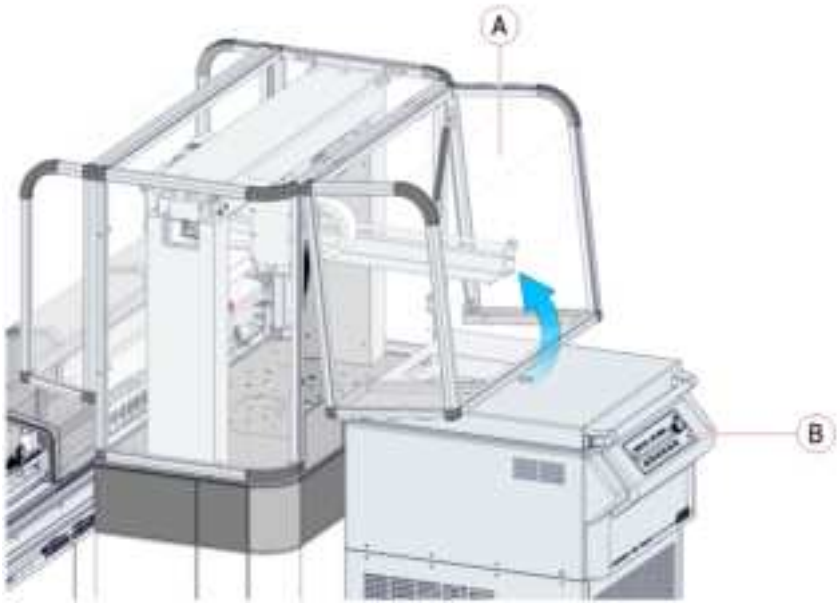
1. Set the Centrifuge Module Off-line:
   a. Click on `Overview` and select `Centrifuge`.
   b. Click on `Status` menu.
   c. Select `Going Off-line` function button and select the option `Now`.
   d. Wait until the Module is set to Off-line.

   NOTE

   In case of urgency need, refer to 5.5.4 *How to use the Centrifuge in manual mode for urgencies*, page 400.

2. Make sure that all tubes have been downloaded to the Module secondary lane prior to proceed.
3. Lift up the Centrifuge Module cover (Figure 68 – A).

Figure 68:



⚠ CAUTION

Lacerations, Punctures.

Entanglement due to User access to mechanical moving parts. Use caution when accessing parts of the module normally protected by safety shields.

⚠ WARNING

Potential Biohazard:

Biohazardous material may be present on the Interface Module and inside the Centrifuge. Take appropriate precautions when performing this procedure. Follow laboratory standard operating procedures and guidelines when performing this procedure.

⚠ WARNING

Potential Biohazard:

If there is broken glass in the Centrifuge area, carefully remove all fragments. Residual glass could cause further breakage. Follow your laboratory standard operating procedures and guidelines when handling and disposing of broken glass.

4. Turn the key-operated switch to “0” for working in standalone mode.

Figure 69:

5. Press the “Stop/Open” button on the Control Panel (Figure 68 – B) to request the Centrifuge lid opening. Wait until the lid unlocks and opens.
6. Lift up the Centrifuge lid (Figure 70 – A).

Figure 70:

⚠ WARNING

Potential Biohazard.

Aerosol particles generated through the sample centrifugation can be spread in the air and inhaled by the Operator when the centrifuge lid is open.

Use personal protective equipment (i.e. gloves, goggles and mask) prior to open the Centrifuge lid.

NOTE

Move the robot manually if it impedes the lid opening.

7. Refer to the manufacturer's manual for the manual loading of tubes in the Centrifuge.
8. Close the Centrifuge lid (Figure 70 – A).
9. Refer to the manufacturer's manual on how to carry out with the centrifugation of samples.
10. When done, check that no sample tubes have been left inside the Centrifuge prior to proceed with the following step.
11. Lower the Centrifuge Module cover (Figure 68 – A).
12. Turn the key-operated switch to "LOCK 2" for switching to Automation mode, refer to Figure 69 .
13. Set the Centrifuge Module to Online:
    a. In `Status` screen, click on `On-line` button
    b. Recover errors posted on UI.
    c. Wait until the Centrifuge completes its initialization and the Module sets to On-line.

5.5.3.3 Verification steps

Verify that the status of the Module is On-line.

5.5.4 How to use the Centrifuge in manual mode for urgencies

In case it is not possible to wait the end of the processing of samples on board of the Centrifuge, the following procedure describes how to use the Centrifuge in manual mode for urgencies.

⚠ WARNING

When the Centrifuge is running, no persons, dangerous substances or objects may be within the safety margin of 300 mm [11.811 in] around the Centrifuge.

NOTICE

The Centrifuge accepts only capped sample tubes.

NOTICE

Refer to the Hettich documentation for the configuration parameters of the Centrifuge.

NOTE

The parameters `CM Bucket Maximum Spin Cycles` and `CM Bucket Spin Cycle Threshold` (refer to 4.10.4.12 *Settings*, page 294) for the rotor are preset and are not configurable. A warning and then an error will be displayed in the event of reaching the threshold (375000 cycles) and the maximum value (400000 cycles).

5.5.4.1 Prerequisites

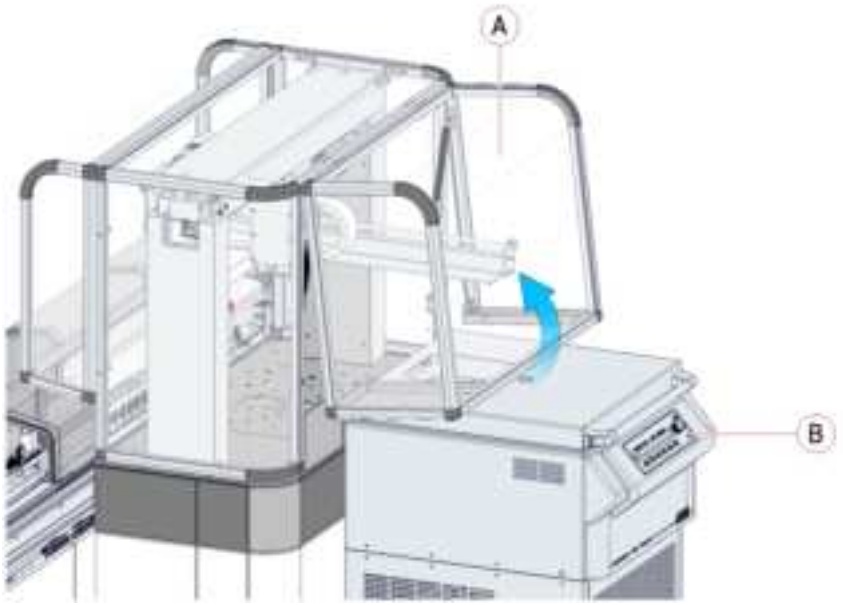
Authorized personnel:	Operator
Conditions:	None
Tools and materials:	None
Procedures:	None

5.5.4.2 Task steps

1. Set the Centrifuge Module Offline:
   a. In `Status` screen, click on `Off-line` button and choose the entry `Flush Carrier` in the popup.
   b. Wait until the Centrifuge sets to Offline.
2. Make sure that the secondary lane is empty.
3. Search for the tubes in Online status for the Centrifuge Module (refer to 4.6.1.1 *Extended search*, page 79 for using the search criteria). The Validation screen, with the list of these tubes, will be displayed.

4. Reset the location of these tubes by clicking on the command `Remove` (refer to Table 41 *Command buttons*, page 104).
5. Lift up the Centrifuge Module cover (Figure 71 – A).

Figure 71:



⚠ CAUTION

Lacerations, Punctures.

Entanglement due to User access to mechanical moving parts. Use caution when accessing parts of the module normally protected by safety shields.

⚠ WARNING

Potential Biohazard:

Biohazardous material may be present on the Interface Module and inside the Centrifuge. Take appropriate precautions when performing this procedure. Follow laboratory standard operating procedures and guidelines when performing this procedure.

⚠ WARNING

Potential Biohazard:

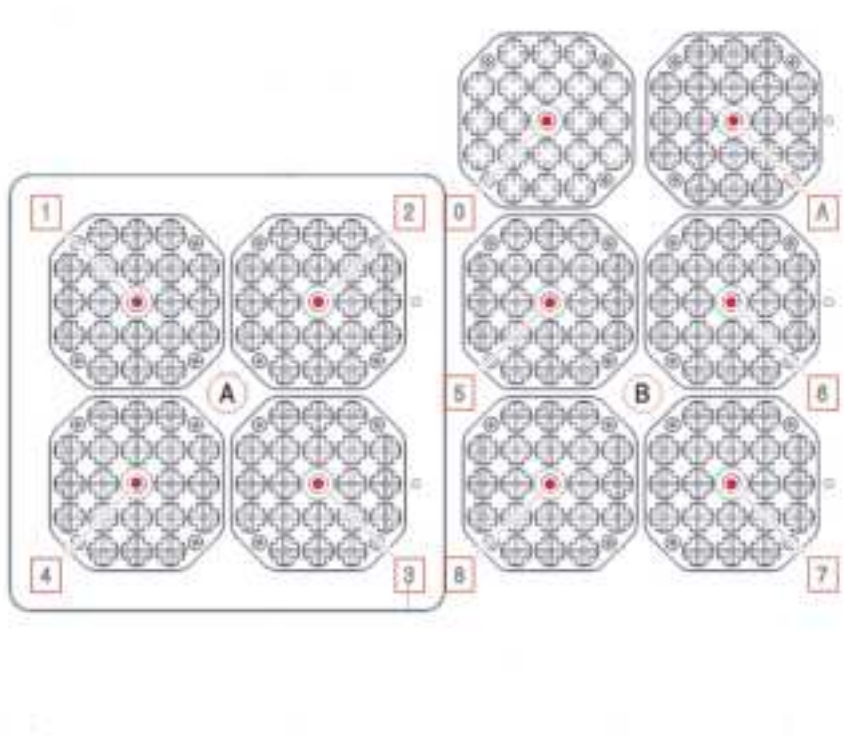
If there is broken glass in the Centrifuge area, carefully remove all fragments. Residual glass could cause further breakage. Follow your laboratory standard operating procedures and guidelines when handling and disposing of broken glass.

6. Turn the key-operated switch to “0” for working in standalone mode.

Figure 72:

7. Manually remove all tubes from the buckets placed both on the input area (Figure 73 – A) and output area (Figure 73 – B).

Figure 73:



8. Press the “Open/Stop” button on the Control Panel (Figure 71 – B) to request the Centrifuge lid opening. Wait until the lid unlocks and opens.
9. Lift up the Centrifuge lid (Figure 74 – A).

Figure 74:

⚠ WARNING

Potential Biohazard.

Aerosol particles generated through the sample centrifugation can be spread in the air and inhaled by the Operator when the centrifuge lid is open.

Use personal protective equipment (i.e. gloves, goggles and mask) prior to open the Centrifuge lid.

NOTE

Move the robot manually if it impedes the lid opening.

10. Remove all tubes from the buckets inside the Centrifuge.
11. Make sure that the buckets are in the right positions:
    - 4 buckets inside the Centrifuge;
    - 8 buckets on the Centrifuge table (no buckets in locations “0” and “A”, refer to Figure 73 , page 402).
12. Refer to the manufacturer’s manual for the manual loading of tubes in the Centrifuge.
13. Close the Centrifuge lid (Figure 74 – A).
14. Refer to the manufacturer’s manual on how to carry out with the centrifugation of samples.
15. When done, check that no sample tubes have been left inside the Centrifuge prior to proceed with the following step.
16. Lower the Centrifuge Module cover (Figure 71 – A).

17. Turn the key-operated switch to “LOCK 2” for switching to Automation mode, refer to Figure 72 .
18. Load again the tubes removed in the previous steps of this procedure to an Input Module.
19. Set the Centrifuge Module to Online:
    a. In `Status` screen, click on `On-line` button
    b. Recover errors posted on UI.
    c. Wait until the Centrifuge completes its initialization and the Module sets to On-line.

5.5.4.3 Verification steps

Verify that the status of the Module is On-line.

5.5.5 How to prepare the Automation to maintain the Hettich Centrifuge

The following steps describe how to prepare the Automation System to perform maintenance on the Hettich Centrifuge, in accordance with the manufacturer's documentation.

⚠ CAUTION

To prevent Centrifuge vibrations from being transferred to the Automation System, the Centrifuge is not physically attached to the Automation System. However, its physical position must be stable to maintain robot alignment. It is important to ensure the Centrifuge position is properly maintained during maintenance of the Centrifuge.

5.5.5.1 Prerequisites

Authorized personnel:	Operator
Conditions:	None
Tools and materials:	None
Procedures:	None

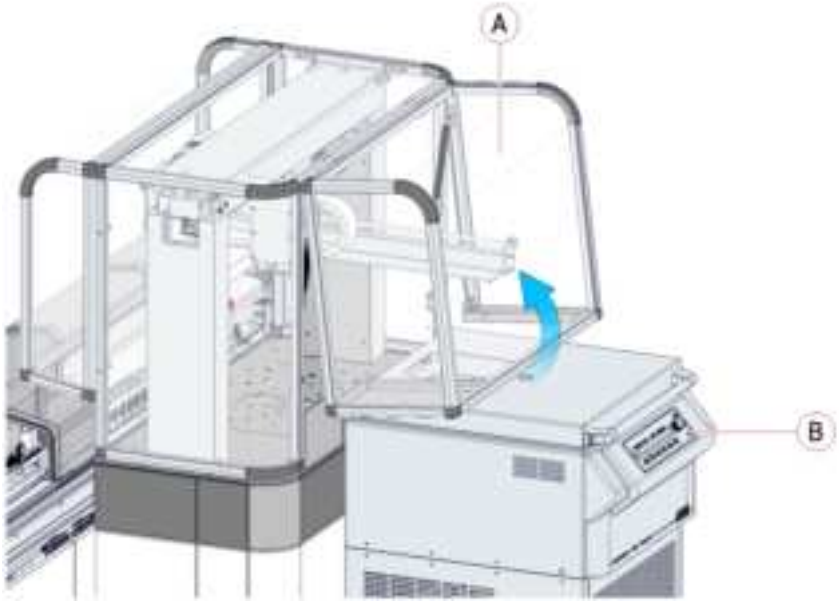
5.5.5.2 Task steps

1. Set the Centrifuge Module Off-line:
   a. Click on `Overview` and select `Centrifuge`.
   b. Click on `Status` menu.
   c. Select `Going Off-line` function button and select the option `Now`.
   d. Wait until the Module is set to Off-line.
2. Make sure that all tubes have been downloaded to the Automation track prior to proceed.

   ⚠ WARNING

   Ensure the Centrifuge Module has stopped all movements before proceeding to the next step.
3. Lift up the Centrifuge Module cover (Figure 75 – A).

Figure 75:



⚠ CAUTION

Lacerations, Punctures.

Entanglement due to User access to mechanical moving parts. Use caution when accessing parts of the module normally protected by safety shields.

4. Refer to the manufacturer's manual for specific maintenance operations and power disconnection.

⚠ WARNING

Potential Biohazard.

Aerosol particles generated through the sample centrifugation can be spread in the air and inhaled by the Operator when the centrifuge lid is open.

Use personal protective equipment (i.e. gloves, goggles and mask) prior to open the Centrifuge lid.

NOTE

Move the robot manually if it impedes operations.

⚠ WARNING

Potential Biohazard:

Biohazardous material may be present on the Interface Module and inside the Centrifuge. Take appropriate precautions when performing this procedure. Follow laboratory standard operating procedures and guidelines when performing this procedure.

⚠ WARNING

Potential Biohazard:

If there is broken glass in the Centrifuge area, carefully remove all fragments. Residual glass could cause further breakage. Follow your laboratory standard operating procedures and guidelines when handling and disposing of broken glass.

5. When done, check that no tools or materials have been left inside the Centrifuge and restore the Module covers prior to proceed with the following step.
6. Set the Centrifuge Module to Online:
   a. In `Status` screen, click on `On-line` button
   b. Recover errors posted on UI.
   c. Wait until the Centrifuge completes its initialization and the Module sets to On-line.

5.5.5.3 Verification steps

None.

5.5.6 How to do the emergency shutdown of the Centrifuge Module

This procedure describes how to do the emergency shutdown of the Centrifuge Module.

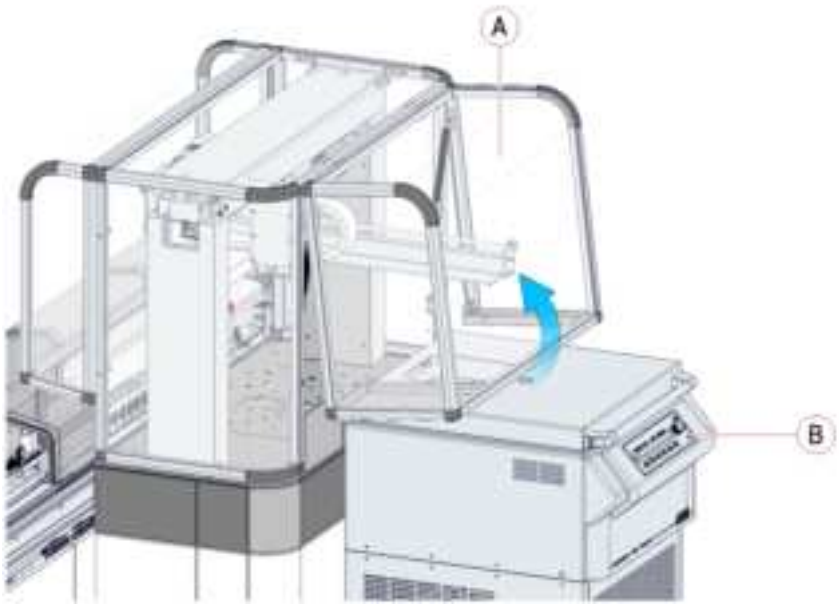
5.5.6.1 Prerequisites

Authorized personnel:	Trained operators
Conditions:	Module powered up
Tools and materials:	None
Procedures:	None

5.5.6.2 Task steps

1. Lift up the Centrifuge Module cover (Figure 76 – A).

Figure 76:



⚠ WARNING

Potential Biohazard:

Biohazardous material may be present on the Interface Module and inside the Centrifuge. Take appropriate precautions when performing this procedure. Follow laboratory standard operating procedures and guidelines when performing this procedure.

⚠ CAUTION

Lacerations, Punctures.

Entanglement due to User access to mechanical moving parts. Use caution when accessing parts of the module normally protected by safety shields.

2. Press the “Stop/Open” button on the Control Panel (Figure 76 – B) to request the Centrifuge lid opening. Wait until the lid unlocks and opens.
3. Switch off the Centrifuge by its power button.

Figure 77:

4. Unplug in the independent Centrifuge power cable if connected to a Laboratory outlet.
5. Lift up the Centrifuge lid (Figure 78 – A).

Figure 78:

⚠ WARNING

Potential Biohazard.

Aerosol particles generated through the sample centrifugation can be spread in the air and inhaled by the Operator when the centrifuge lid is open.

Use personal protective equipment (i.e. gloves, goggles and mask) prior to open the Centrifuge lid.

NOTE

Move the robot manually if it impedes the lid opening.

6. Remove any sample tubes from the Centrifuge.

⚠ WARNING

Potential Biohazard.

If in the Centrifuge area is located any broken glass, carefully remove the glass pieces from inside Centrifuge, input and output area and buckets. The presence of residual glass left in buckets could generate further damage. Follow laboratory guidelines reference for handling and disposing broken glass.

5.5.6.3 Verification steps

None.

5.6 Decapper Module

5.6.1 How to empty the waste container of the Decapper Module

The following procedure describes how to empty the waste container.

⚠ WARNING

Potential Biohazard.

Caps from sample tubes could be biohazardous. Follow your laboratory standard operating procedures and guidelines when handling and disposing of caps.

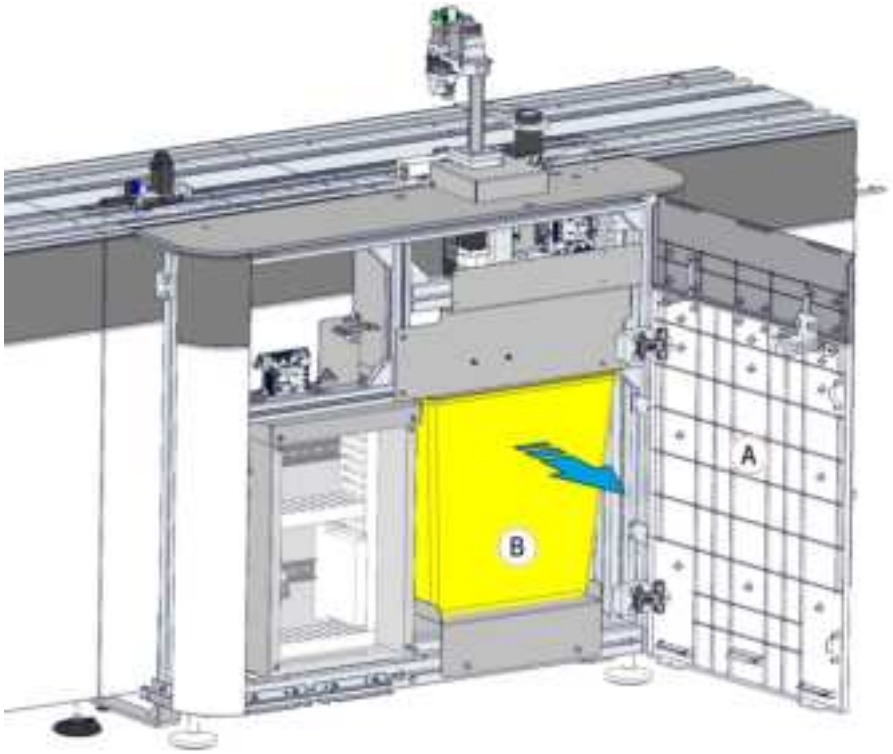
5.6.1.1 Prerequisites

Authorized personnel:	Operator
Conditions:	• Error message: `Basket Near To Full`
Tools and materials:	• Waste container • Biohazard waste bag (at the discretion of Laboratory)
Procedures:	None.

5.6.1.2 Task steps

1. Open the frontal panel (Figure 79 – A) to access the Decapper waste container.
2. Slide the waste container (Figure 79 – B) all the way forward.

Figure 79:



3. Remove the biohazard waste bag (if present) and discard the bag with its contents according to standard laboratory practice and guidelines.

⚠ CAUTION

Lift Hazard.

The approximate weight of the waste container when filled with caps is 6 kg [13.23 lb]. Use care when handling to reduce the risk of injury.

4. At the discretion of Laboratory, install a new biohazard waste bag in the waste container. Use biohazard bags provided by the Laboratory in accordance with the Good Laboratory Practices.

NOTE

The biohazard waste bag must fit snugly in the waste container and be fully opened to allow the caps to drop freely into the container.

5. Ensure the waste container has been out of the system for more than 3 seconds. This will automatically reset the waste counter.
6. Slide the waste container back into the waste area, pushing firmly against the rear wall to ensure the container is in the correct position.
7. Close the panel of the Decapper waste container.

5.6.1.3 Verification steps

None.

5.7 Sealer Module

5.7.1 How to do the emergency cleaning of the Sealer Module

Perform this procedure in the event of sample spilling out of the tube(s) or in case of tube(s) damage.

5.7.1.1 Prerequisites

Authorized personnel:	Operator
Conditions:	Module off-line
Tools and materials:	• Lint-free cloth • 5% sodium hypochlorite solution
Procedures:	None.

5.7.1.2 Task steps

⚠ WARNING

Potential Biohazard.

Biohazardous material could be present on the surfaces.

Take appropriate precautions and follow laboratory standard operating procedures and guidelines when performing this procedure

1. Set the Sealer Module off-line:
   a. Select `Sealer` button in `Overview` screen.
   b. Select `Off-line` entry in the pop-up, select `Flush Carriers` entry and confirm. The carriers are flushed out of the buffer lane, then the Module changes to Off-line.

   ⚠ WARNING

   Pinch Hazard.

   Ensure the Sealer Module robot has stopped all movements before proceeding to the next step.

2. Check the heater temperature. Wait until the value corresponding to the Sealer - Heater Analog sensor is 55°C/131°F or less before continuing this procedure. It will take approximately 30 minutes for the value to reach 55°C/131°F.

⚠ WARNING

Hot Surface.

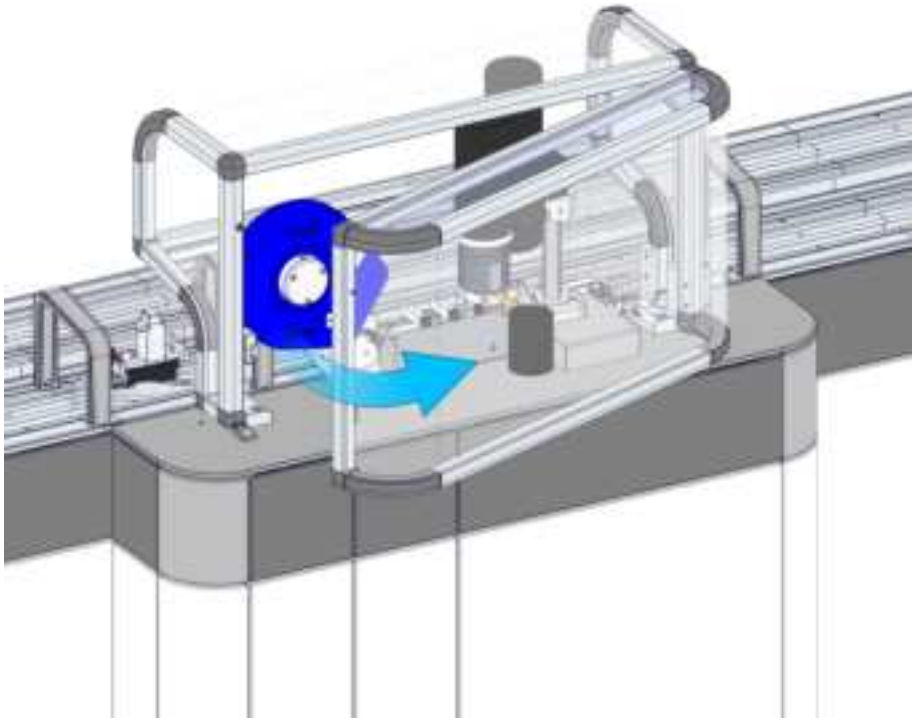
High temperature (> 65°C/149°F) could be present in the Sealer area at the heater. Ensure the Sealer heater is switched off and verify the value corresponding to the Sealer - Heater Analog Sensor is less than 55°C/131°F before performing this procedure.

3. Open the Sealer Module cover.

⚠ CAUTION

Lacerations, Punctures.

Entanglement due to User access to mechanical moving parts. Use caution when accessing parts of the module normally protected by safety shields.



⚠ WARNING

Potential Biohazard.

Biohazardous material may be present on the Tube Gripper surfaces. Take appropriate precautions when performing this procedure. Follow laboratory standard operating procedures and guidelines when performing this procedure.

4. Remove the overturned tube(s).
5. Using a cloth moistened with water or soapy water, remove organic substances.

6. Using a cloth moistened with 5% sodium hypochlorite, clean the contaminated area. Allow the solution to act for 10 minutes.
7. Rinse with water and wait for the area to dry.
8. Write down the barcode ID of the tube(s) involved and notify this circumstance to the qualified personnel.
9. Close the Sealer Module cover.
10. Set the Sealer Module to On-line status:
    a. Select `Overview` button.
    b. Select `Sealer` button.
    c. Select `Status` entry in the pop-up.
    d. Select `On-line` function button and confirm.

5.7.1.3 Verification steps

Verify that the Module is back online.

5.7.2 How to replace the coil

Perform this procedure to replace the Sealer coil.

NOTE

Ensure your laboratory is stocked with an adequate supply of Sealer coils to prevent excessive down time from a lack of Sealer coil inventory.

NOTICE

When the Sealer coil is empty, an error message will occur. Verify the coil is not jammed or obstructed before performing the following procedure.

5.7.2.1 Prerequisites

Authorized personnel:	Supervisor
Conditions:	• Module off-line • Error message: `Foil Reel End`.
Tools and materials:	Sealing aluminum coil. Foil should be allowed to reach operating temperatures, 18 – 22 °C [64,4 – 71,6 °F], for 24 hours before use.
Procedures:	None.

5.7.2.2 Task steps

1. If you carry out this procedure for a recovery, skip to step 2., if not, proceed as follows:
   a. Set the Sealer Module to off-line:
      i. Select `Sealer` button in `Overview` screen.
      ii. Select `Off-line` entry in the pop-up, select `Flush Carriers` entry and confirm. The carriers are flushed out of the buffer lane, then the Module changes to Off-line.
   b. Prepare the Sealer Module for reel change and release the aluminum stripe from the Foil Locker:
      i. Select `Sealer` button in `Overview` screen
      ii. Select `Diagnostics` .
      iii. Select `Reel` .
      iv. Select `Prepare For Reel Change` function button.
   c. Check the Heater temperature. Refer to `13 Actual Heater Temperature (°C)` item in Table 216 *Diagnostics list box*, page 510

      Wait until this value, detected by the sensor, is 55°C/131°F or less before continuing this procedure. It will take approximately 30 minutes for the value to reach 55°C/131°F.

⚠ WARNING

Hot Surface.

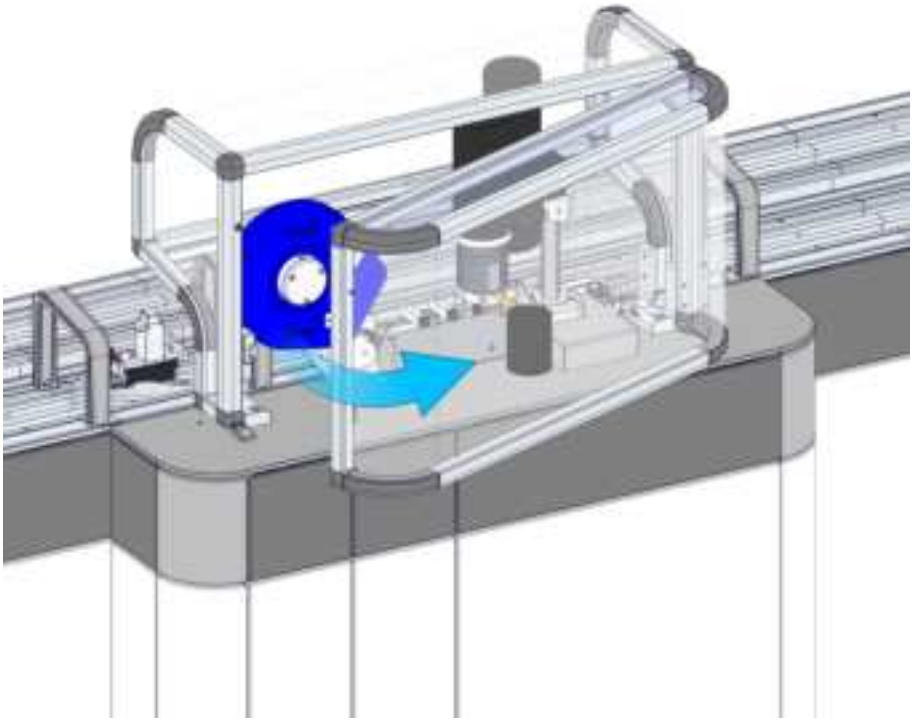
High temperature (> 65°C/149°F) could be present in the Sealer area at the Heater. Ensure the Sealer Heater is switched off and verify the value corresponding to Heater sensor is less than 55°C/131°F before performing this procedure.

2. Open the Sealer Module cover.

⚠ CAUTION

Lacerations, Punctures.

Entanglement due to User access to mechanical moving parts. Use caution when accessing parts of the module normally protected by safety shields.



⚠ WARNING

Potential Biohazard.

Biohazardous material may be present on the Tube Gripper surfaces. Take appropriate precautions when performing this procedure. Follow laboratory standard operating procedures and guidelines when performing this procedure.

3. With your thumbs on the reel axis (Figure 80 –A), grasp the Sealer coil ((Figure 80 – B) with your fingers. Pull the coil toward you while you push your thumbs against the reel axis and remove the Sealer coil.