6.5 Brief inspection before starting the coverslipping operation

The following points have to be checked again before starting the coverslipping operation:

- Before starting the coverslipping operation, remove the covers of the reagent vessels in the load drawer and check the level. If necessary, refill the corresponding solvent. The level should reach up to the label field on the slide for an inserted rack.
- When inserting the loaded rack, ensure that the slide receiving the coverslip has the side with the specimen pointing towards the user (instrument front).
- Furthermore, check and, if necessary, correct the following before starting the coverslipping operation:
    - Fill level of the mounting medium bottle (→ P. 79 – 6.3.1 Changing the mounting medium bottle) and of the coverglass cartridge (→ P. 83 – 6.3.3 Checking and replacing the coverglass cartridge).
    - Checking the proper mountant pump function (→ P. 125 – 7.3.1 Quick Prime).
    - Filling of the needle cleaning container (→ P. 82 – 6.3.2 Monitoring and refilling of the needle cleaning container).
    - Check for sufficient filling and correct position of the coverglass cartridge (→ P. 83 – 6.3.3 Checking and replacing the coverglass cartridge) and remove any dirt.
    - Empty the unload drawer (→ P. 90 – 6.3.7 Unload drawer) and check for dirt.
    - Check that the selected parameter set is capable of starting (→ P. 43 – 5.3 Process status display).
    - Check the skids, the suction cups and the coverglass sensor pins for dirt and broken glass (→ P. 88 – 6.3.5 Inspect Pick&Place module).
    - Check the waste tray for broken glass (→ P. 87 – 6.3.4 Emptying the waste tray).

6.5.1 Procedure of the coverslipping operation

ⓘ After an applicable rack has been inserted into the load drawer and the instrument is ready, the coverslipping operation begins.

1. The reagent vessel (→ Fig. 72-1) with the rack is moved to the interior of the instrument to the rotator (→ Fig. 72-2).
2. The gripper lifts the rack out of the reagent vessel and places it in the rotator (→ Fig. 72-2).
3. The rotator brings the slide into the correct position.

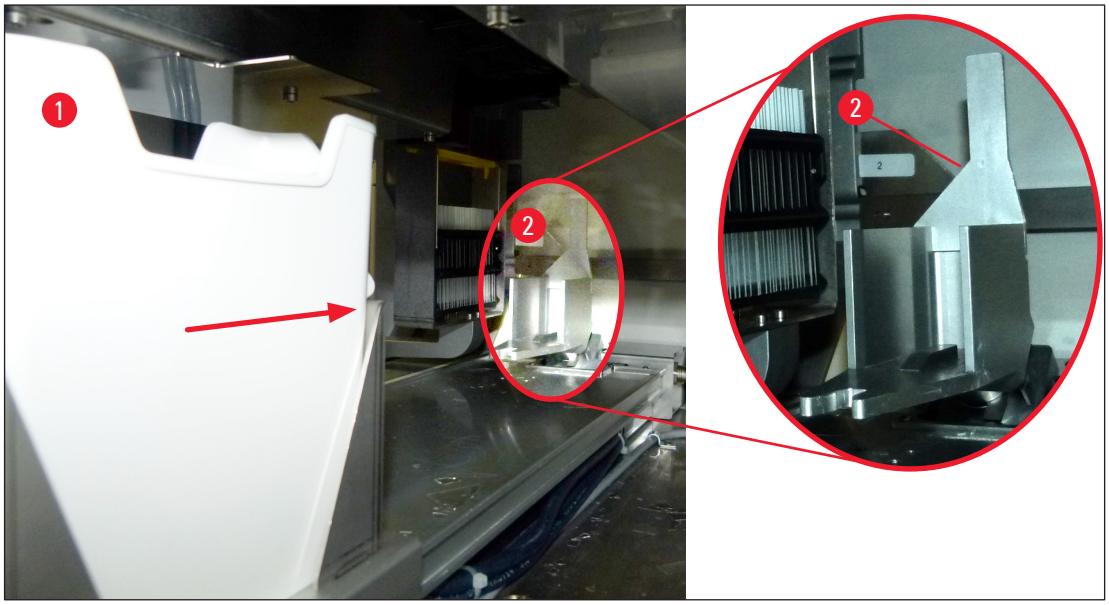

Fig. 72

4. The gripper picks up the rack once again and places it in the elevator.
5. The elevator moves the rack into the position of the first slide.
6. The shifter transports the slide out of the rack to the coverslipping position with the shifter tongue.
7. During this movement, the needle applies the mounting medium to the slide.
8. At the same time, the Pick&Place module removes coverglass from the coverglass cartridge and transports it – via the slide covered with mounting medium – and places the coverglass on the slide.
9. The lay-down movement provides for the uniform distribution of the mounting medium on the slide.
10. Afterwards, the shifter pushes the coverslipped slide back to its original position in the rack.
11. The elevator moves to the next slide, which the shifter transports to the coverslipping position.

Note

In order to prevent slides from drying out during processing, the first 5 slides are always coverslipped first. Then the rack moves upwards and continues coverslipping with the last slide in the rack (→ Fig. 75).

12. This sequence (steps 6 to 11) is repeated until all slides in the rack have been coverslipped.
13. When all slides are coverslipped, the elevator moves the rack downwards into the instrument.

14. The gripper removes the rack from the elevator and transports it into the oven to dry.
15. When the drying time period is complete, the rack is transported out of the oven and into the unload drawer by the gripper, and is put down in one of the three rear positions.
16. The user will be notified via an information message and can carefully remove the rack out of the unload drawer.

Note

If the oven step has been disabled or if the oven is completely shut down, the rack is transported – by the gripper – directly from the elevator into the unload drawer. Proceed carefully while removing out of the unload drawer, since the mounting medium is not yet completely dry and in the event of improper removal, coverglass may shift out of place.

6.6 Starting the coverslipping operation

Note

Once initialization is complete and the preparations have been made (→ P. 94 – 6.5 Brief inspection before starting the coverslipping operation) the coverslipping operation can be started by inserting a filled rack. It is important to make sure that the rack handle color matches the color of the parameter sets that is suitable for starting and being carried out.

Warning

- The rack can be inserted only using the load drawer. Accidentally inserting a rack into the unload drawer can lead to a collision and thus to an instrument fault and a possible loss of specimens!
- Direct insertion in the instrument is not possible!
- Exercise caution when opening or closing the drawers! Crushing hazard! The drawers are motorized and open or close automatically at the press of a button. Do not block the extension range of the drawers.

1. Fold the handle of the rack into the upright position (→ Fig. 69-2).
2. If the load drawer (→ Fig. 73-1) button is green, press it and open the drawer.
3. Insert the rack in an available position of the load drawer (→ Fig. 73-2).
4. Insert the rack so that both the Leica logo (→ Fig. 71-1) on the front side of the rack and the Front (→ Fig. 73-3) on the top of the colored handle are pointing toward the user. The arrow (→ Fig. 73-4) on top of the colored handle must point into the instrument.

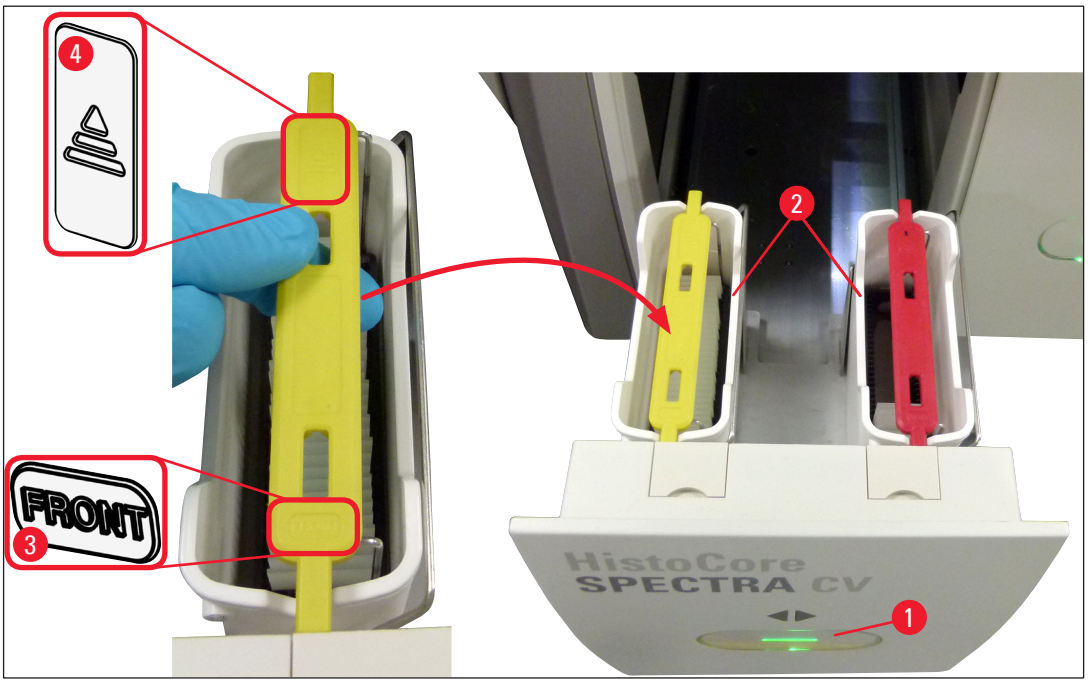

Fig. 73

5. Press the load drawer button again to close it again.
6. After closing the load drawer, the instrument detects the RFID chip in the colored handle.
7. The detected handle color is shown in the process status display (→ Fig. 74).

✓ Processing starts automatically.

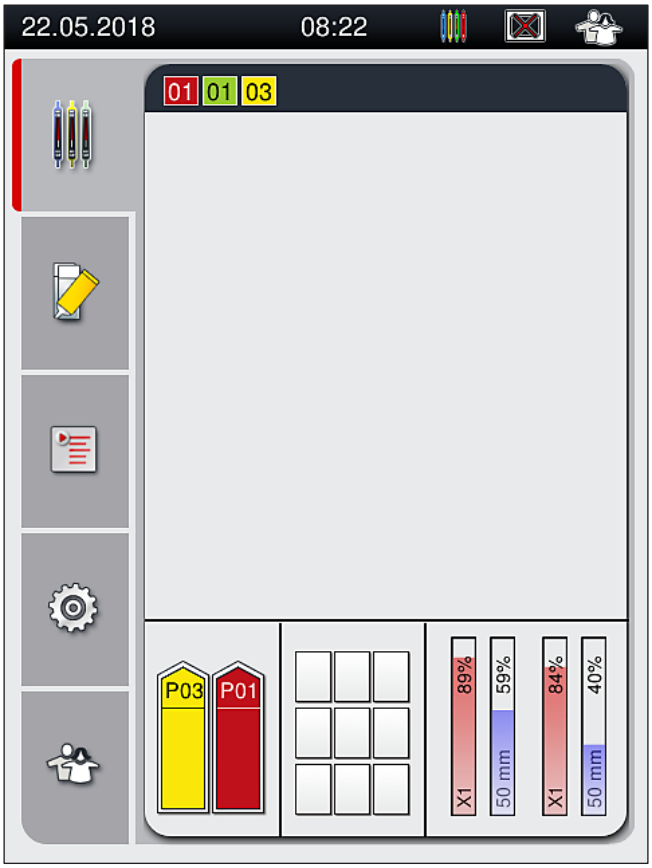

Fig. 74

Note

- The slides are not processed sequentially, i.e. they are not coverslipped in sequence.
- The schematic display (→ Fig. 75) of a rack (→ Fig. 75-1) with used slides (→ Fig. 75-2) shows the sequence during processing.
- The first five slides are coverslipped at the beginning (→ Fig. 75-3). Then the rack moves upwards and continues the coverslipping with the lowest slide (→ Fig. 75-4). The sixth slide (counted from above) is coverslipped last. This procedure prevents the lowest slide from drying out.
- Finished coverslipped slides are moved back to their original position within the rack.
- The instrument detects and indicates when a rack has been inserted in the wrong orientation and has to be corrected by the user.
- The system detects if a rack has been inserted into the load drawer with a rack handle color for which no parameter set is active, and the user is informed by a corresponding message. The rack must be removed from the instrument. Corresponding to the bootable parameter sets (→ P. 43 – 5.3 Process status display), attach the correct colored handle to the rack and re-insert it into the load drawer.
- Racks that are inserted into the left-side reagent vessel in the load drawer are coverslipped in the L1 coverslip line. Racks from the right-side vessel are coverslipped in the L2 coverslip line.

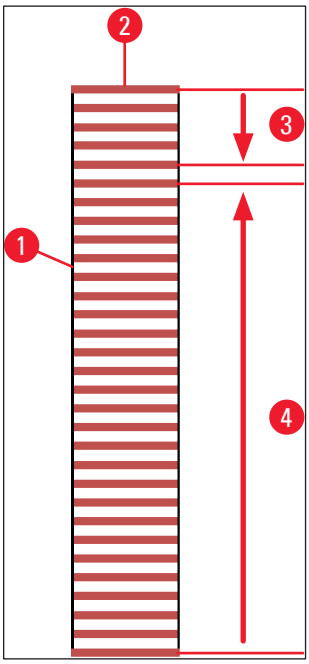

Fig. 75

6.6.1 Monitoring the coverslipping operation

The user can retrieve and monitor details regarding the ongoing coverslipping operations using the process status display (→ P. 43 – 5.3 Process status display):

- Process status display with calculated remaining coverslipping time, real time at the end of processing, coverslip line used, parameter set number (→ P. 43 – 5.3 Process status display).
- The status bar (→ P. 42 – 5.2 Elements of the status display) with the date, time, "process" icon, user status and icons indicating messages and warnings that occurred.
- The position of the rack is detected in the input and unload drawer using RFID.

Note

The last 20 active messages and warnings can be called up by touching the corresponding symbols in the status bar (→ Fig. 21-4) (→ Fig. 21-5). This allows the user to learn about past and current situations and to initiate any required actions.

6.6.2 Coverslipping operation finished

- If a rack ran the coverslipping operation, it will be transported in the unload drawer.
- The unload drawer can hold up to 9 racks. The racks are placed in the unload drawer in the sequence shown from A1 to C9 (→ Fig. 76).

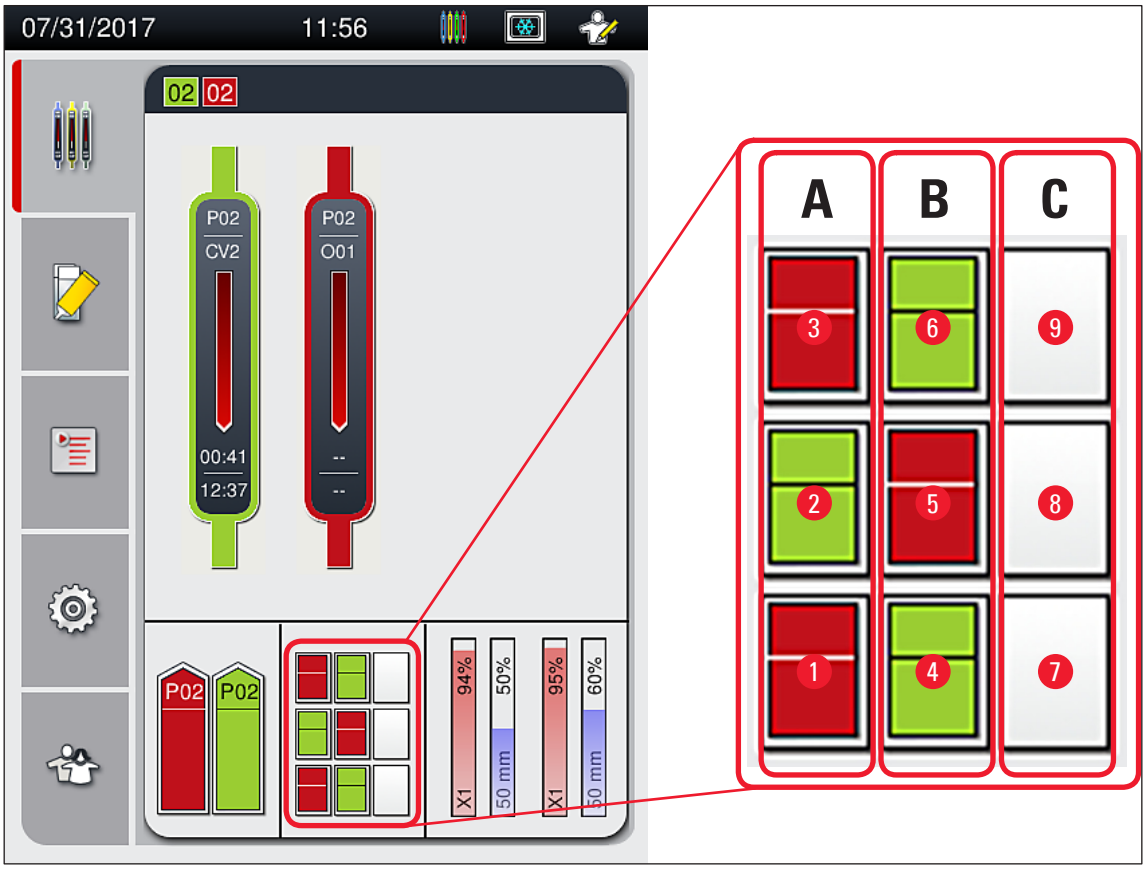

Fig. 76

Removing racks from the unload drawer

1. Press the button (→ Fig. 51-2) at the unload drawer to open and remove the rack.
2. Press the button again after removal to close the unload drawer.

✓ The status display for the unload drawer is updated after closing the drawer.

Note

- After the oven step has ended, the mounting medium is not completely dry. Treat the slides carefully during the removal from the rack to avoid a sliding of the coverglass.
- Ensure that all racks are always removed from the unload drawer.

Warning

- The unload drawer must be opened and all racks present must be removed – at the latest – when the message is received indicating that the unload drawer is completely occupied (→ Fig. 77). Failure to observe the message may lead to instrument faults and specimen impairment.
- Finished coverslipped racks remain in the oven until all racks are removed from the unload drawer. The longer dwell time in the oven can lead to specimen impairments.
- If not all racks are removed from the unload drawer, this can lead to sample destruction.

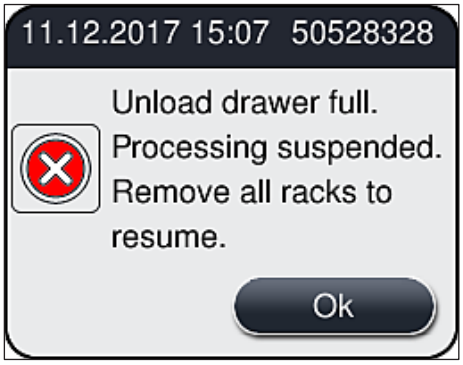

Fig. 77

- The user receives an information message (→ Fig. 78) if the unload drawer is open for longer than 60 seconds.

Fig. 78

Note

The warning message prompts the user to close the unload drawer in order to prevent possible delays in processing. When the unload drawer is open, the instrument cannot place completely coverslipped racks into the unload drawer.

- The message goes away as soon as the unload drawer is closed.

6.6.3 Pausing or canceling the coverslipping operation

Pausing the coverslipping operation

Note

Opening the hood automatically pauses any coverslipping operations in progress, during which coverslipping for the most recently processed slide is completed.

Closing the hood allows the coverslipping operations to continue.

Warning

Specimens that have not yet received a coverslip are unprotected at this point (risk of drying out)! Therefore the hood should only be opened in an emergency during the coverslipping operation (→ P. 135 – 8. Malfunctions and Troubleshooting).

Canceling the coverslipping operation

ⓘ Coverslipping operations can only be canceled using the process status display (→ Fig. 79).

1. To cancel a coverslipping operation, select the corresponding rack (→ Fig. 79-1) by touching it.

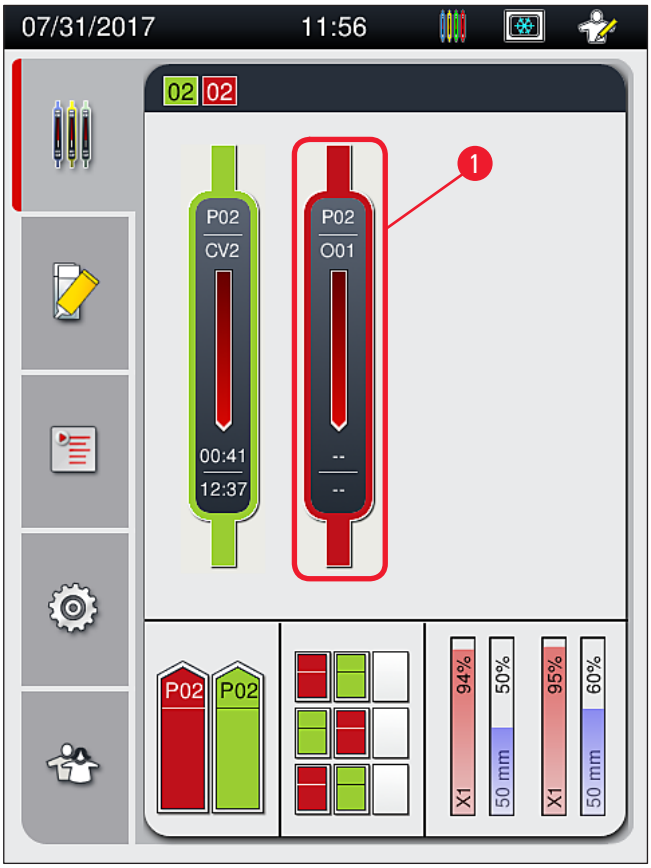

Fig. 79

2. An overview appears of the rack for which the process is being canceled (→ Fig. 80).
3. The border of the window shows the color assigned to the parameter set, the mounting medium used, the coverslip size used and the stored volume.
4. Press the **Abort Rack** (→ Fig. 80-1) button or the **Close** (→ Fig. 80-2) button in order to continue processing for the selected rack.

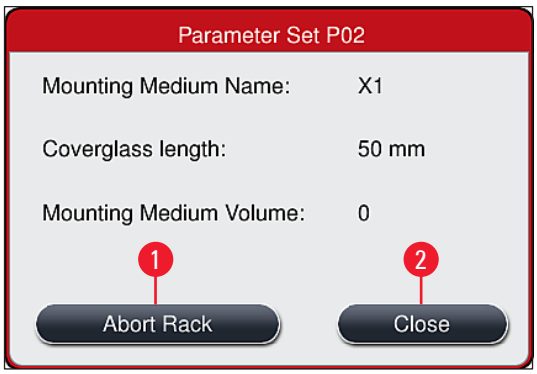

Fig. 80

After pressing the **Abort Rack** (→ Fig. 80-1) button, an information message is displayed (→ Fig. 81). Confirm the cancellation with the button **Yes** (→ Fig. 81-1) or press **No** (→ Fig. 81-2) to return to the process status display (→ Fig. 79).

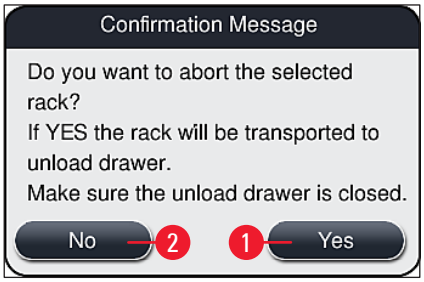

Fig. 81

Note

After confirming the cancellation, the rack is transported into the unload drawer and can be removed there.

6.7 Workstation operation

6.7.1 Notes on workstation mode

Warning

The user must adhere to the following in workstation operation!

- The last stations of the HistoCore SPECTRA ST must be filled with the same reagent (xylene) as the reagent vessels in the load drawer of the HistoCore SPECTRA CV in order to prevent compatibility problems with the mounting medium being used and to prevent drying out the specimens (→ P. 135 – 8.1 Troubleshooting).
- As a last step, the transfer station is to be indicated in the staining program of the HistoCore SPECTRA ST so that finished stained racks can be transferred to the HistoCore SPECTRA CV. The description on the correct generation of staining programs can be found in the Instructions for Use of the HistoCore SPECTRA ST.
- Using reagents that are incompatible with each other can lead to substantial impairments in specimen and coverslipping quality.
- If the HistoCore SPECTRA CV cannot accept a rack from the HistoCore SPECTRA ST (e.g. due to an instrument fault in the HistoCore SPECTRA CV or if the load drawer of the HistoCore SPECTRA CV is assigned), these will be transported to the HistoCore SPECTRA ST unload drawer.
- The reagent vessels in the unload drawer of the HistoCore SPECTRA ST therefore always have to be filled with a compatible solvent for the HistoCore SPECTRA CV in order to prevent the tissue sample from drying out.
- If a longer power failure occurs, proceed as described in (→ P. 139 – 8.2 Power failure scenario and instrument failure).
- Note that in workstation mode, the HistoCore SPECTRA CV cannot process any racks for 5 slides.
- The instrument detects the manual insertion of racks for 5 slides in the load drawer of HistoCore SPECTRA CV. An information message prompts the user to remove this rack again from the load drawer.

Warning

- If racks for 5 slides are used for staining in the HistoCore SPECTRA ST, select the unloader as the last step in the program. Remove the finished stained slides and place them into a suitable rack for the HistoCore SPECTRA CV.

Note

- The HistoCore SPECTRA CV can be operated as a workstation together with HistoCore SPECTRA ST. This allows an uninterrupted workflow from inserting into the stainer up to removing the completely stained and coverslipped slides from the coverslipper.
- In workstation mode, the racks in the HistoCore SPECTRA ST can either be passed directly to the unload drawer or directly to the HistoCore SPECTRA CV by means of the transfer station and placed into a reagent vessel for the load drawer of the HistoCore SPECTRA CV. In the Instructions for Use for the HistoCore SPECTRA ST, the notes on program creation must be observed.
- The time of transfer of the finished and colored rack to the HistoCore SPECTRA CV is then separately displayed in the process status display of the HistoCore SPECTRA ST (→ Fig. 82-5).
- After completion of the coverslipping operation, the racks are placed in the unload drawer of the HistoCore SPECTRA CV.
- If the racks from HistoCore SPECTRA ST are being transferred to the HistoCore SPECTRA CV, the load drawer of the HistoCore SPECTRA CV is blocked during this time period and racks cannot be inserted into the HistoCore SPECTRA CV manually.
- The brief inspection before the daily startup (→ P. 94 – 6.5 Brief inspection before starting the coverslipping operation) must be carried out.
- If the network connection between HistoCore SPECTRA ST and HistoCore SPECTRA CV is interrupted or HistoCore SPECTRA ST is shut down, the HistoCore SPECTRA CV can only be used as a standalone instrument. Workstation mode is no longer possible in that case. Only manual loading using the load drawer is still possible then.
- Both instruments have to be taken out of service separately using their own Operating switch after operation.
- In order to ensure operation free of interruptions, always leave both instruments switched on and follow the notes on daily startup (e.g. refilling consumables, removing the cover from the reagent vessels in the load drawer of the HistoCore SPECTRA CV).
- Resolve any faults immediately if the HistoCore SPECTRA CV has been stopped. Otherwise, altered staining results can occur in the HistoCore SPECTRA ST because racks where staining has been completed can no longer be transferred to the HistoCore SPECTRA CV, creating potential for a backlog.
- Stay within earshot of the instruments so that you can respond to the audible signals immediately.
- In workstation mode it is also possible to place a rack for coverslipping directly in the load drawer of the HistoCore SPECTRA CV. In doing so, however, the user must ensure that this rack, placed by hand, is detected by the instrument (→ P. 43 – 5.3 Process status display).

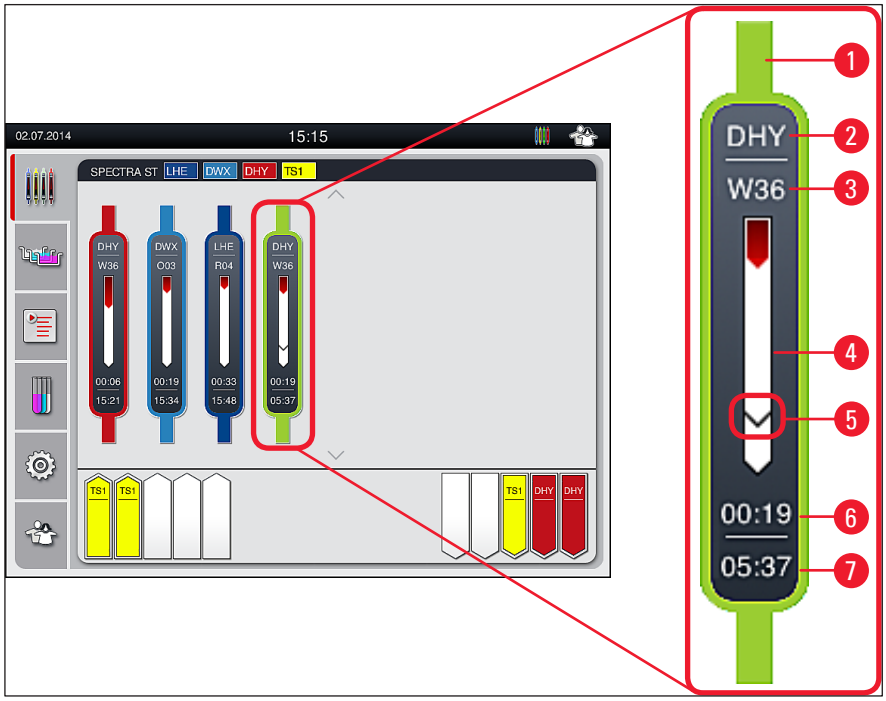

Fig. 82

1	Program color
2	Abbreviation of the program name
3	Current position of the rack in the instrument
4	Progress display of the entire staining process
5	Time of transfer to the connected HistoCore SPECTRA CV
6	Estimated remaining time (hh:mm)
7	Time at end of process

On the HistoCore SPECTRA ST status display, a symbol indicates whether there is a connection to a HistoCore SPECTRA CV or if the connection has been interrupted.

The connection between the HistoCore SPECTRA ST and the HistoCore SPECTRA CV has been established.

The connection between the HistoCore SPECTRA ST and the HistoCore SPECTRA CV has been interrupted.

6.7.2 Starting the coverslipping operation in workstation mode

ⓘ The coverslipping operation also starts automatically just like after manually inserting a rack in the load drawer.

1. Place the rack into the load drawer of the HistoCore SPECTRA ST.
2. Both the staining and coverslipping processes are controlled by the assigned rack handle color.
3. Racks where the staining and coverslipping processes have been completed are automatically placed in the unload drawer of the HistoCore SPECTRA CV and have to be removed by the user there.

ⓘ As soon as a rack is placed in the HistoCore SPECTRA ST that has to be transferred through the **transfer station** to the HistoCore SPECTRA CV, the **process** icon is displayed on the status bar (→ Fig. 21-7) of the HistoCore SPECTRA CV.

The **Process** symbol indicates that processing is currently active and that a rack may still be in the unload drawer or a rack from the HistoCore SPECTRA ST is expected.

Note

In workstation mode it is also possible to place a rack for coverslipping directly in the load drawer of the HistoCore SPECTRA CV.

7. Cleaning and Maintenance

7.1 Important notes about cleaning this instrument

Warning

- The instrument should always be cleaned after the end of work, but BEFORE the instrument is shut down. An exception from this is cleaning the interior (→ P. 111 – 7.2.4 Interior cleaning). We recommend cleaning while the instrument is shut down.
- The regular maintenance intervals must be observed.
- When using cleaners, please comply with the safety instructions of the manufacturer and the laboratory safety regulations.
- Proceed carefully and wear suitable protective clothing when cleaning the instrument (lab coat, cut-resistant gloves and safety goggles).
- Never use solvents (such as alcohol, acetone, xylene, toluene etc.) or cleaning agents containing solvents to clean the exterior of the instrument.
- Prevent liquids from entering the interior of the instrument or electrical contacts while the instrument is being cleaned or during operation.
- Solvent vapors can develop if solvents are left in the instrument after shutting it down. There is a risk of fire or poisoning if the instrument is not operated under a fume hood!
- Dispose of used reagents while observing applicable local regulations and the disposal regulations of your company/lab.
- Shutting down the instrument for longer breaks in work and unplug it at the end of the workday (→ P. 77 – 6.2 Switching on and shutting down the instrument).
- Immediately use a lint-free cloth to wipe off mounting medium that drips onto/into the instrument (e.g. during priming or exchanging a mounting medium bottle).
- Make sure that significant amounts of solvent are not spilled in the instrument (danger for the electronics!). If solvent has been spilled, immediately remove the liquid with an absorbent cloth.
- To prevent damage, never leave plastic accessories immersed in solvent or water for a prolonged time (e.g. overnight).
- Never clean plastic reagent vessels at temperatures higher than 65 °C since this can deform reagent vessels!

7.2 Description of cleaning individual instrument components and areas

7.2.1 Exterior surfaces, varnished surfaces, instrument hood

» The surfaces (hood and housing) can be cleaned with a mild, pH-neutral, commercially available cleaning agent. After cleaning the surfaces, wipe them off with a cloth moistened with water.

Warning

Varnished instrument surfaces and plastic surfaces (e.g. an instrument hood) may not be cleaned with solvents like acetone, xylene, toluene, xylene substitutes, alcohol, alcohol mixtures and abrasives! In case of long-term exposure, the surfaces and instrument hood are only conditionally resistant to solvents.

7.2.2 TFT touchscreen

» Clean the screen using a lint-free cloth. A suitable screen cleaner can be used in compliance with the manufacturer information.

7.2.3 Input and unload drawers

Warning

- To avoid an overflowing of a filled reagents, do not open the load drawer suddenly.
- Wear suitable protective clothing (lab coat, safety goggles, cut-resistant gloves).

1. Remove reagent vessels (→ Fig. 83-1) from the load drawer and store them outside the instrument.
2. Check the solvent in the reagent vessels, correct the level or replace the solvent if necessary (→ P. 33 – 4.6 Refilling consumables).
3. Check the inside of the load drawer for reagent residue and clean up any you find (→ P. 111 – 7.2.4 Interior cleaning).
4. Finally, insert the reagent vessels into the correct positions again.

ⓘ Observe the existing labeling (→ Fig. 83-2) for stations in the drawers.

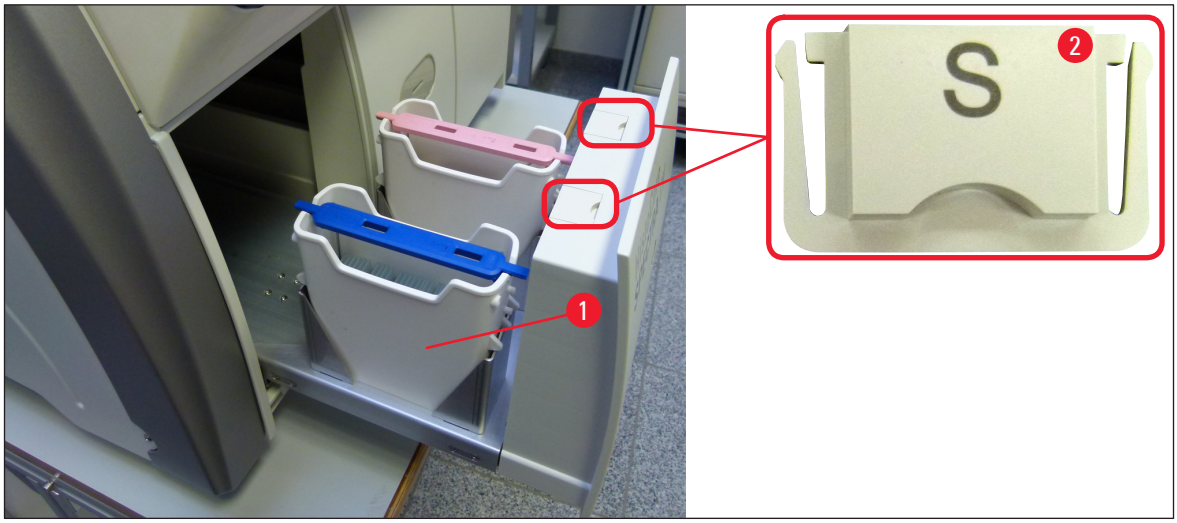

Fig. 83

Note

Reagent residue can also be present in the unload drawer from transporting the racks from the coverslip line to the oven. Therefore, check the inside of the unload drawer for reagent residue and clean if necessary (→ P. 111 – 7.2.4 Interior cleaning).

7.2.4 Interior cleaning

Warning

- There is a danger of cutting injuries during this cleaning step. Therefore, proceed with the necessary caution and wear cut-resistant gloves (→ P. 19 – 3.1 Standard delivery – packing list)!
- The warning messages in (→ P. 33 – 4.6 Refilling consumables) must be observed when handling solvents!

1. Open the input and unload drawers and check the interior space behind the drawers for broken glass and residual mountant.

Note

Remove all existing racks in the input and unload drawers before cleaning (→ Fig. 84).

Fig. 84

2. Carefully remove any dirt remnants.
3. Pull the retaining lever for the unload drawer (→ Fig. 85-1) upwards while slowly continuing to open the drawer as far as it will move.

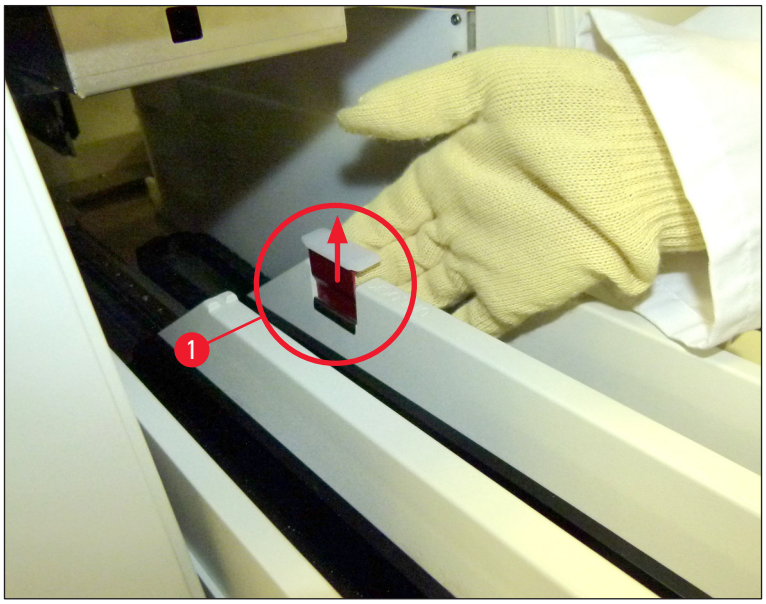

Fig. 85

4. Carefully fold the unload drawer down and support it with one hand to allow you to clean the rear area inside the instrument (→ Fig. 86).

Fig. 86

5. Soak a lint-free cloth with a compatible solvent and remove any mounting medium residue that may be present. You can use a commercially available vacuum cleaner to pick up any non-adhesive glass shards, splinters or dust.
6. Finally level the unload drawer again and move it in the instrument.

7.2.5 Cleaning the prime bottle

» Check the prime bottle for dried-out residual mountant and clean it with xylene if necessary. To prevent delays, keep a replacement prime bottle ready and insert it into the position provided for it in the instrument.

7.2.6 Cleaning the cannulas for the mounting medium bottle

» While changing a mounting medium bottle, check the cannula for dried mounting medium residue and contamination and, if necessary, moisten with a compatible solvent and clean with a lint-free cloth.

Note

There is a filter inserted in the cannula that prevents contamination from getting inside the internal hose system. This filter is replaced every two years by a Leica service technician as part of annual maintenance.

7.2.7 Cleaning the needle

1. Select the **Module Status** (→ P. 74 – 5.11 Module status) menu in the main menu and press the **Prime/Clean** button in the desired coverslip line.
2. The needle moves automatically to the maintenance position.
3. If the needle is heavily soiled (→ Fig. 87-1), remove it laterally from its holder (→ Fig. 87-2) and hook it into a container filled with a compatible solvent. Let it soak shortly (approx. 10 min.).

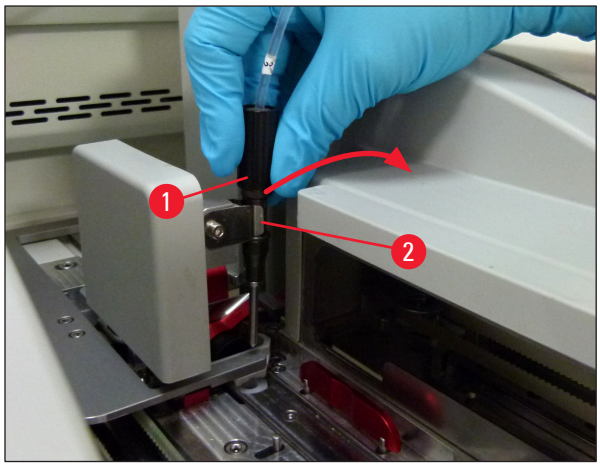

Fig. 87

4. Then remove the needle from the solvent, moisten it with a compatible solvent and wipe off the residual mountant with a soft, lint-free cloth.
5. Finally, insert the needle (→ Fig. 88-1) back into its holder (→ Fig. 88-2).

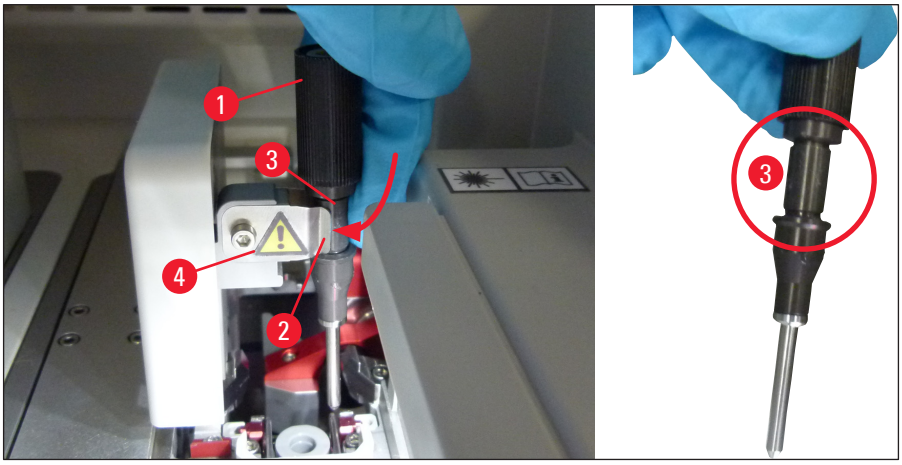

Fig. 88

Note

The needle has a notch (→ Fig. 88-3) that fits exactly in the holder. The Attention symbol (→ Fig. 88-4) on the holder (→ Fig. 88-2) indicates to the user that utmost care is required when inserting the needle into the holder. The needle must be inserted straight and all the way in order to make sure that no negative impact on the samples arises during processing.

Replace

Warning

- Only a Leica service technician may exchange a needle unit.
- An exchange of only the needle is not possible.

7.2.8 Filling and changing the needle cleaning container

- For handling the needle cleaning container, see (→ P. 82 – 6.3.2 Monitoring and refilling of the needle cleaning container).
- To clean the glass cylinder (without cap), immerse it in a compatible solvent overnight to dissolve the residual mountant.

Note

Replacement of a needle cleaning container:

- needle cleaning containers can be ordered (→ P. 155 – 9.1 Optional accessories) and be replaced. We recommend always having a spare vessel ready so that the vessel in use can be regularly cleaned with compatible solvent and routine operation can continue with the spare vessel.

7.2.9 Removing the complete unit of the needle cleaning container

The needle cleaning container is inserted into a red complete unit (→ Fig. 89-1), which can be removed by the user through the opening in the unload drawer. The complete unit is hooked into the coverslip line by two lateral pins (→ Fig. 89-3). The removal may be necessary if the needle cleaning container (→ Fig. 89-2) is stuck due to dried mounting medium and cannot be removed as described (→ P. 82 – 6.3.2 Monitoring and refilling of the needle cleaning container).

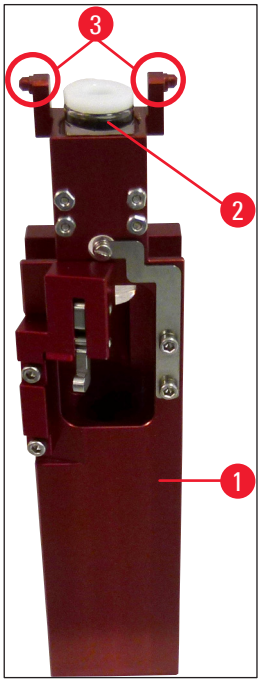

Fig. 89

Warning

- There is a danger of cutting injuries when removing the complete unit. Therefore, proceed with the necessary level of caution and wear cut-resistant gloves (→ P. 19 – 3.1 Standard delivery – packing list).
- The warning messages in (→ P. 33 – 4.6 Refilling consumables) must be observed when handling solvents!

1. Open the hood.
2. Call up the **Module Status** and press the Prime/Clean button of the respective L1 or L2 coverslip line.
3. The needle moves upwards out of the needle cleaning container.
4. Remove the needle from the holder and insert it into the prime bottle.
5. Open the input and unload drawers completely and remove all racks.

Note

The unload drawer is capable of being unlocked and folded down so the user has easier access to the interior of the instrument (→ P. 111 – 7.2.4 Interior cleaning). In doing so, make sure that the inserts do not fall out into the unload drawer.

6. Carefully reach into the interior of the instrument through the slot in the unload drawer and feel around the complete unit for the needle cleaning container (→ Fig. 90-1).
7. Grasp the complete unit from below and tilt it slightly in the direction of the back panel (→ Fig. 90-2).

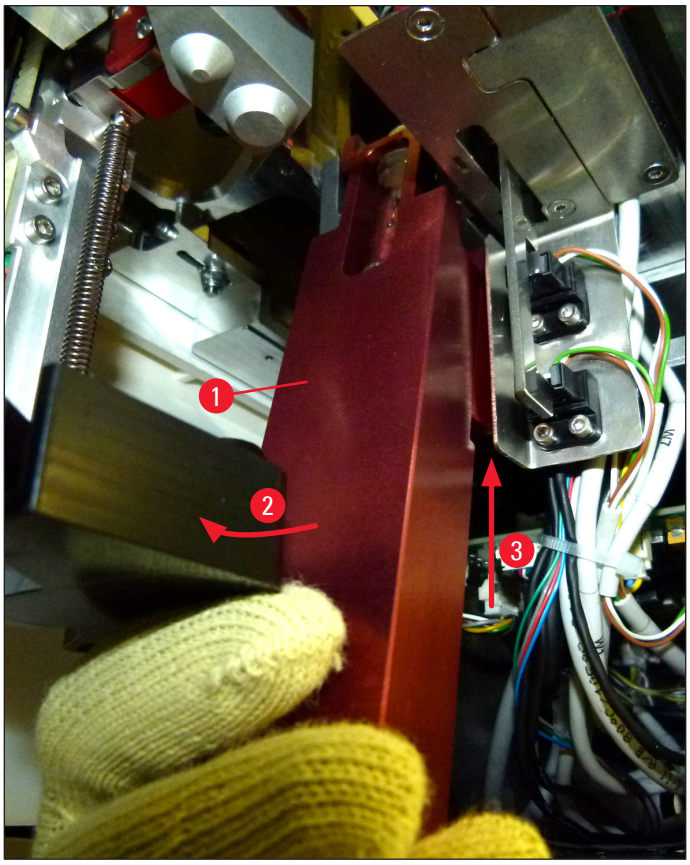

Fig. 90

8. Then lift the complete unit (→ Fig. 90-3) so that the pins (→ Fig. 91-1) are lifted back over the notches (→ Fig. 91-2).

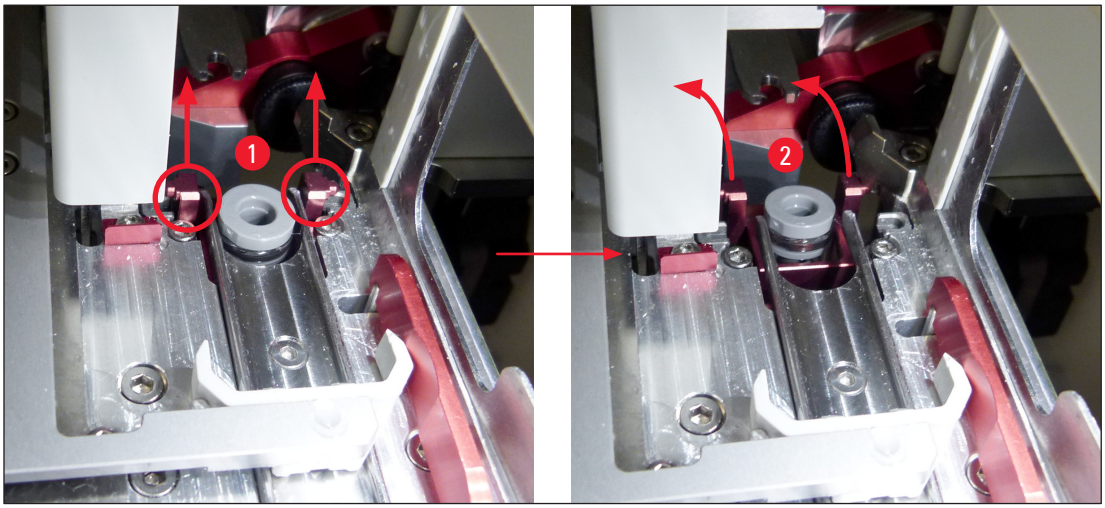

Fig. 91

9. In the next step, guide the complete unit back and down and carefully remove it through the slot in the unload drawer.

Warning

Remove the complete unit through the slot in the unload drawer, keeping it as upright as possible to prevent solvent from running out of the needle cleaning container.

10. Position the complete unit with the attached needle cleaning container upside-down in a container of sufficient size with solvent. Allow the solvent to take effect for approximately 10 minutes.
11. Then take the complete unit out of the solvent bath and let it drip off. Removing the needle cleaning container should now be easy.

Warning

- The needle cleaning container is very fragile. If the needle cleaning container cannot be removed after the solvent bath, the recommended course of action is to immerse the complete unit with the container in solvent for a long period.
- In the meantime, insert the needle into a container with a compatible solvent to prevent the needle from drying out.
- Please note that the coverslip line from which the complete unit was taken cannot be used during this time.

12. Wipe the complete unit, glass cylinder and cap with a lint-free cloth that has been moistened with solvent and dry.
13. Carefully insert the complete unit, without needle cleaning container, back into the correct position inside the instrument.
14. Fill the needle cleaning container with solution while it is outside the instrument (→ P. 82 – 6.3.2 Monitoring and refilling of the needle cleaning container) and insert it into the complete unit.
15. Insert the needle from the prime bottle back into the needle holder and press the **Close** button in the **Prime/Clean** menu.
16. Finally, close the hood.

7.2.10 Cleaning the Pick&Place module

- For handling the Pick&Place module, see (→ P. 88 – 6.3.5 Inspect Pick&Place module).

Clean the following areas of the Pick&Place module with a lint-free cloth soaked with a compatible solvent:

1. Check the front and rear suction cups (→ Fig. 92-2) at the Pick&Place module for dirt and damages. Remove dirt with a lint-free cloth and a cloth soaked in a compatible solvent. Deformed or damaged suction cups must be replaced (→ P. 118 – 7.2.11 Exchange suction cups).
2. Carefully clean the skids (→ Fig. 92-1) on the left and right on the Pick&Place module from dirt.
3. Control the coverglass sensor pin (→ Fig. 92-3) for glued-on materials and mobility.

ⓘ Dispose of glass shards, splinters and dust in accordance with laboratory specifications.

Note

At the bottom of the Pick&Place module is the coverglass sensor pin between both suction cups (→ Fig. 92-3). The coverglass sensor pin can be moved freely if you can move it up and down by touching it lightly with your fingertip.

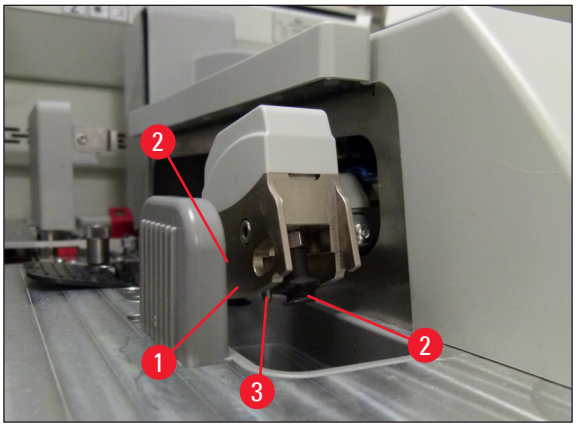

Fig. 92

7.2.11 Exchange suction cups

1. Unplug the deformed and/or dirty suction cups from the Pick&Place module and dispose in accordance with laboratory regulations.
2. Remove new suction cups from the package.
3. Attach the suction cups at the front (→ Fig. 93-2) and rear (→ Fig. 93-3) of the Pick&Place module using a bent tweezers (→ Fig. 93-1).