For in vitro diagnostic use only.

Kylt®

Kylt® Purifier

High Throughput Purification Instrument

www.kylt.eu

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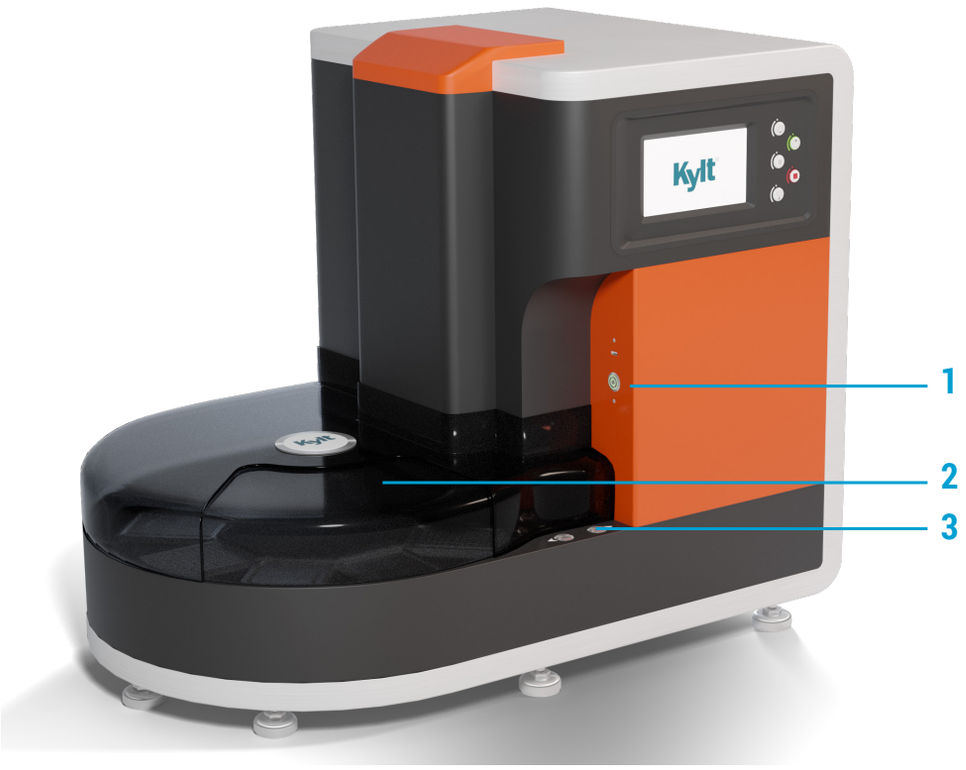
A. Introduction

- The Kylt® Purifier is an automated nucleic acid purification device, intended for high-throughput applications. Specialized spin tips enable superb mixing efficiency of magnetic beads and larger processing volume. With intuitive interface and flexible automation settings, the Kylt® Purifier can boost laboratory productivity by transforming routine operations into a walk-away solution.
- The Kylt® Purifier uses magnetic rods to collect and transfer magnetic beads and spinning tips to mix the suspension. Rotating the spin tips will mix suspension. Extended magnetic rods can collect magnetic beads efficiently. Purified nucleic acids can be obtained after lysis, nucleic acids absorption, wash and elution.
- The Kylt® Purifier can be used in combination with the Kylt® RNA / DNA Purification HTP kit and the Kylt® Salmonella Purification HTP kit.

B. Safety Instructions

- The Kylt® Purifier requires a table that can support its weight of 130 kg.
- Ensure good air circulation.
- The Kylt® Purifier may be used at a temperature range of 4°C to 40°C.
- High temperature variability and high humidity environments have to be avoided.
- This device can be used with potentially biohazardous materials.
- Use appropriate personal protective equipment (e.g. gloves, lab coat)
- Under normal condition, the noise level emitted by the Kylt® Purifier does not exceed 80 dBa and does not cause any hazard. Please contact technical support in case of higher noise level occurring.
- This device can be hazardous due to the use of chemical and biohazardous substances.
- Users should adhere to their institutional guidelines for the handling and disposal of all infectious substances used with this device.
- It is important to clean the device after every use. If samples or reagents have been spilled, it is important to clean the instrument immediately to avoid damage or contamination of samples.
- This device is to be used with the compatible Kylt® Purifier Spin Tips. Using incompatible labware may cause poor extraction performance or may damage the system.
- Prior to starting a new run, please make sure, that all previously loaded Kylt® Purifier Plates and Kylt® Purifier Spin Tips have been unloaded completely. Remaining Kylt® Purifier Plates or stuck Kylt® Purifier Spin Tips can damage the system.
- Read this user manual in its entirety prior to operating the device. Failure to read, understand, and follow the instructions in the manual may result in damage to the device, injury to laboratory and operating personnel or poor performance.

C. Instrument Overview



1. On / Off-switch. USB-port available above switch. Further USB and RS232 ports available on the backside.
2. Turntable with 8 positions and sliding cover. Position 8 is reserved for the Kylt® Purifier Spin Tips.
3. Turntable rotating buttons. Please avoid fast, repetitive pushing of these buttons.

Model:	Kylt® Purifier
Weight:	130 kg
Dimensions:	870 x 700 x 575 mm
Power Supply:	220 - 240 Vac
Processing Volume:	100 µl - 1600 µl
Rotational Speed:	500 - 3500 rpm
Heating:	Positions 1, 2, 3 and 6 can be heated up to 130 °C
Magnets:	96 rods, 30 mm, 2500 Gauss
Display:	7-Inch Touchscreen

D. Control Panel

The Control Panel features a Touchscreen to control and program the Kylt Purifier. Furthermore there are 5 direct access buttons to directly control the action of the device.

Turn alarm off.

Start the program.

Pause / resume the program.

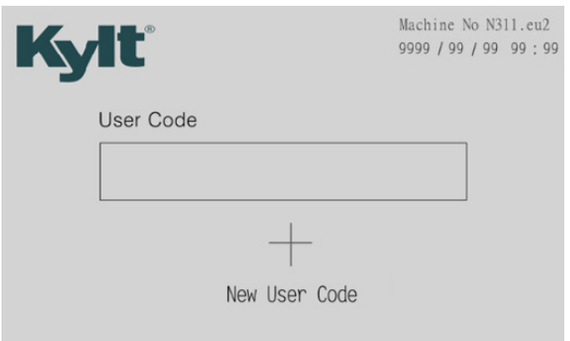
Stop the program.

Turn the LED light on / off.

E. Logging in

- Before the first run, please confirm power supply and voltage of 220V.

- After switching on the system, the Kylt® Purifier will boot.
- Once booted, either type a previously set user name or generate a new user.
- In case of a mistyped user code, an error message will be displayed.
- To set up a new user, press "New User Code".

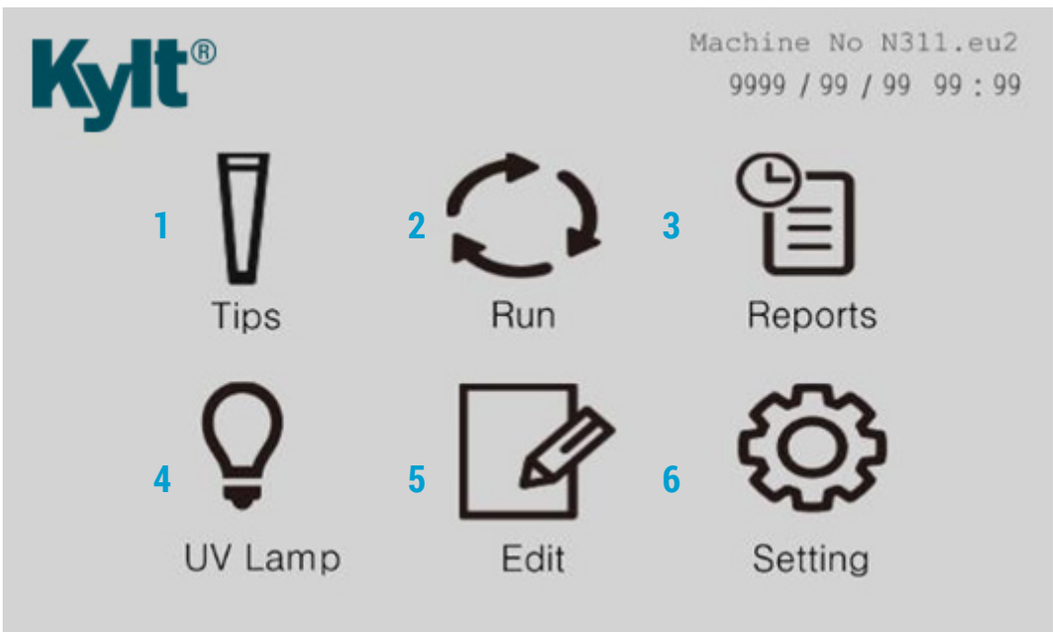


- A user code can consist of up to 12 characters.
- Press "ENT" to confirm new user code.

- The next screen displays the newly chosen user code
- Press "Add" to generate this user.
- If the user code already exists, an error message will be displayed.

F. Main menu

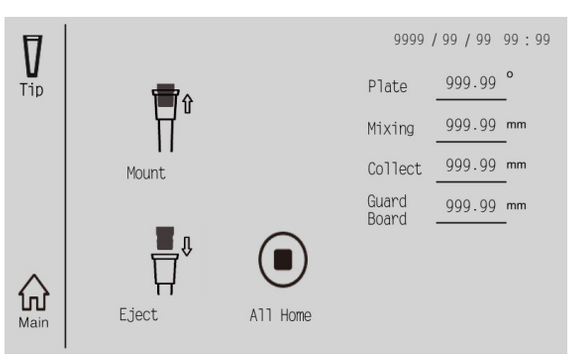
- After logging in, the home screen with the main menu will be displayed.



1. Tip loading and unloading.
2. Run an available protocol (choose from list).
3. Report data for every performed run.
4. UV-light decontamination.
5. Set-up and edit protocols. Software updates.
6. General settings.

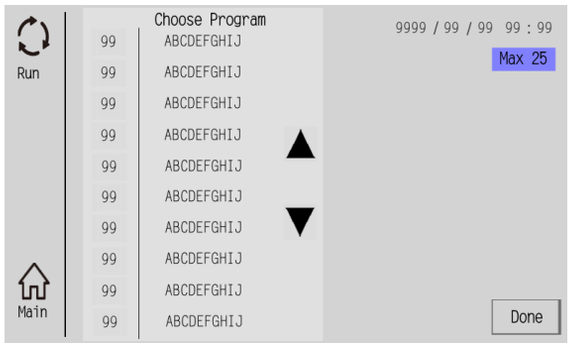
F.1. Tips

- Tips can be mounted and ejected from and to any plate.
- Rotate the carroussel as needed.
- Press "Mount" to mount tips.
- Press "Eject" to eject tips.
- Press "All Home" to rotate the caroussel to its origin.

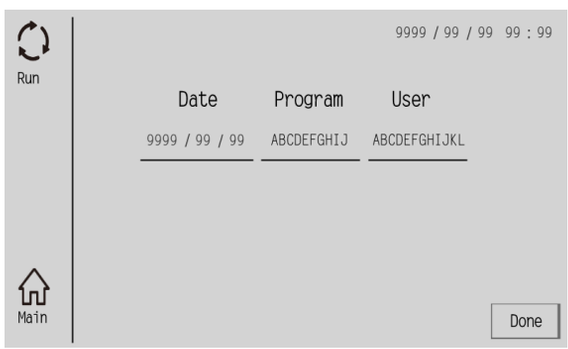


F.2. Run

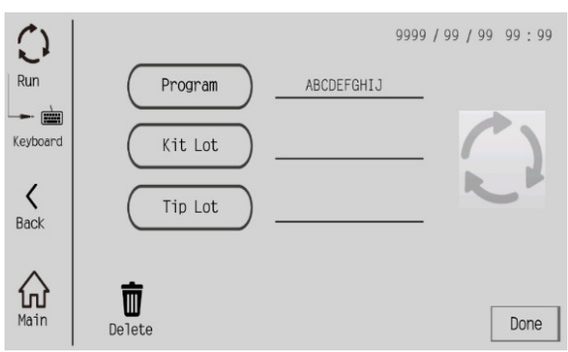
- Choose a program by pressing the number next to it.
- Press "Done" to confirm the selection.



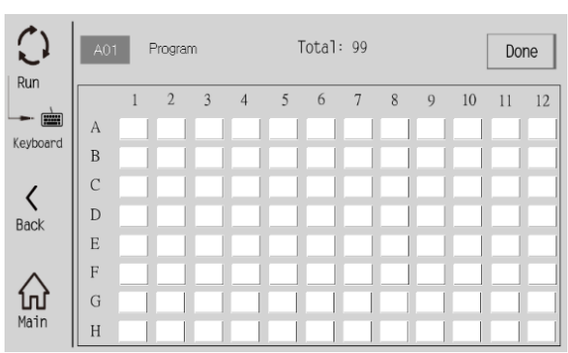
- Chosen program, current date and user will be displayed.
- Press "Done" to confirm the selection.



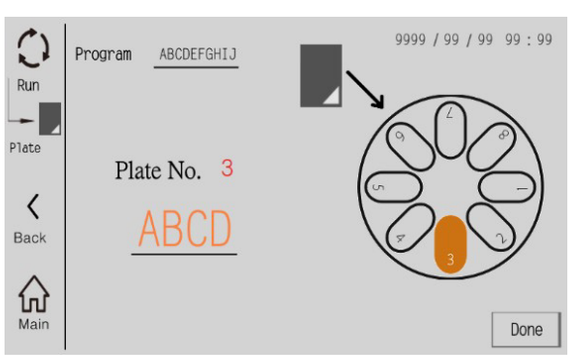
- Press the "Kit Lot" and "Tip Lot" buttons to enter the batches used, if needed.
- Press "Done" to continue.



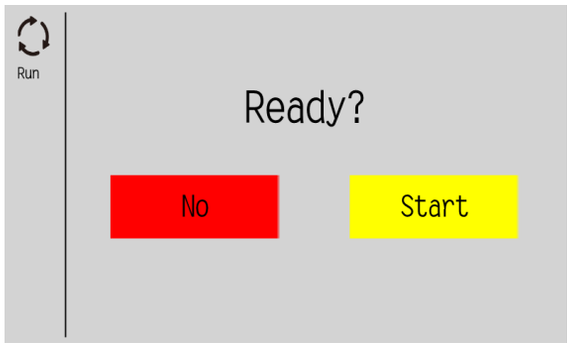
- Sample numbers can be entered per well, if needed.
- Press "Done" to continue.



- The Kylt Purifier will now guide you through the loading of the required plates.
- Place each plate on the highlighted position, that is moved to the front.
- Confirm each placement with "Done".



- Once Loading is complete, start the run.



- During the run, the current step is displayed.
- The settings, such as mixing speed and incubation temperature is shown.
- The elapsed and remaining time per phase can be observed.

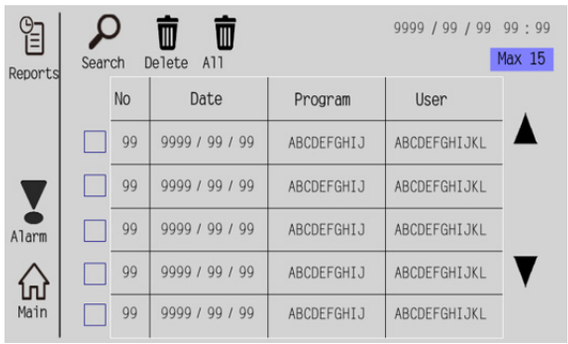
- Any program can be paused, if needed, by pressing pause.
- From there the program can either be continued or the tips can be unmounted or remounted.

- The program may be stopped by pressing the stop-button.
- The user is then prompted, if the program should really be stopped ("Yes), or if the method should continue ("No").

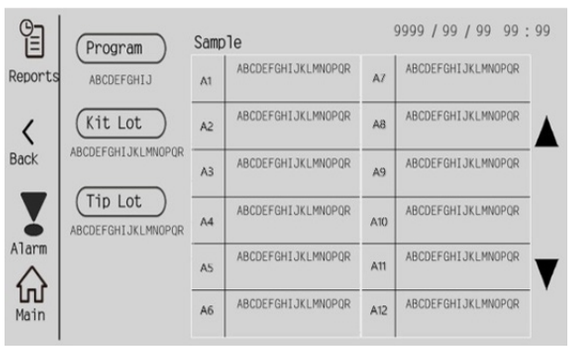
- When the method is finished, a message will appear.
- From here the display returns to the main menu.

F.3. Reports

- The Kylt Purifier logs performed runs and alarms.
- If sample numbers are entered, they are available here.
- Further, Kit and Tip-Lots are also recorded.
- To review a certain report, check the box and click on the search-button.



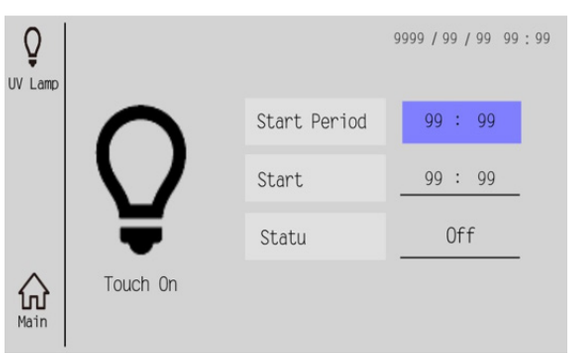
- In each report, the logged information is displayed.
- To navigate through the sample-information, click the up and down arrows.



- In the alarm screen, all registered alarms are displayed together with the time of occurrence.

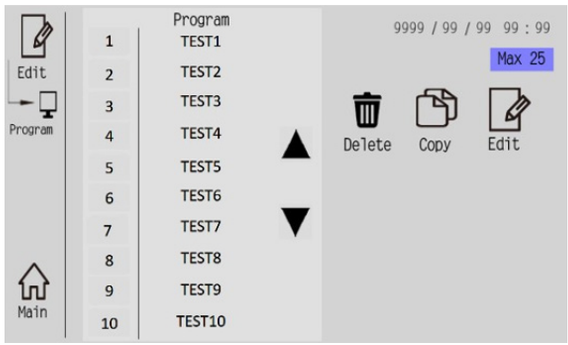
F.4. UV-Lamp

- The Kylt Purifier is equipped with a UV-Lamp to decontaminate the processing area.
- Click on the lightbulb to start and stop the UV-decontamination.
- The default duration is 15 minutes.

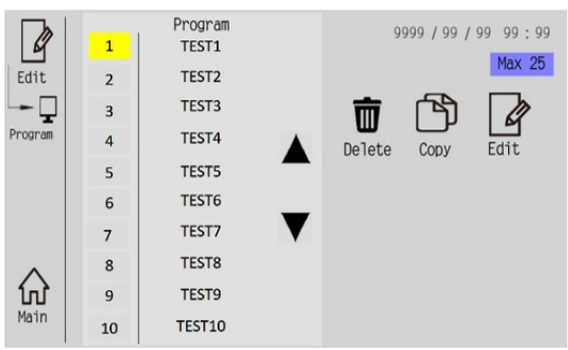


F.5. Edit

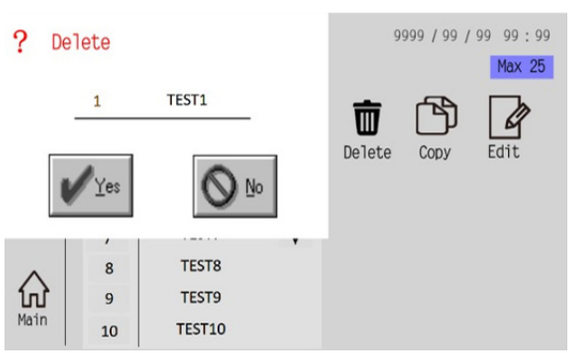
- In the Edit menu, the existing protocols can be managed.
- Protocols can be changed, copied or deleted.
- This menu is only accessible to administrators.



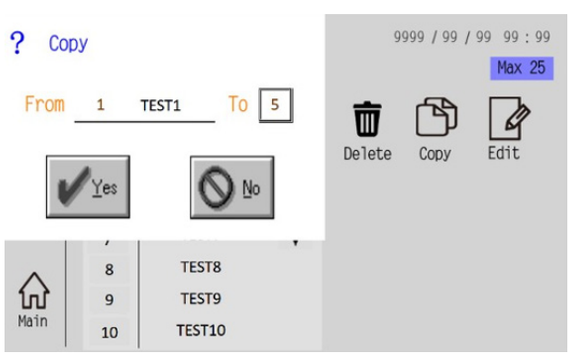
- If a specific program is chosen, it will be highlighted.



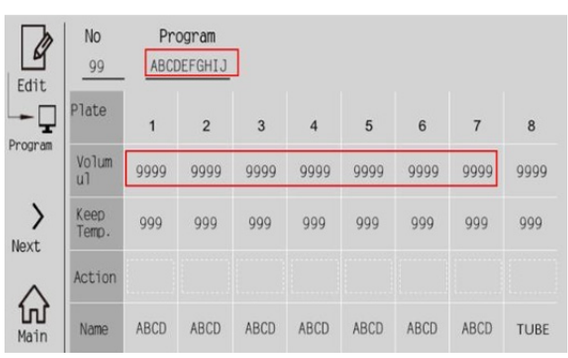
- After clicking the delete icon, a dialog will open to confirm the deletion of the chosen protocol.
- Delete protocols only, if absolutely necessary, i.e. if storage is full.



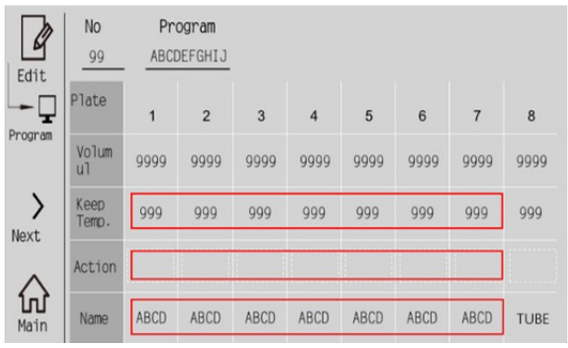
- After clicking the copy icon, a dialog will open to confirm, to which memory location the program should be copied.
- If the memory location is occupied, the program will be overwritten!



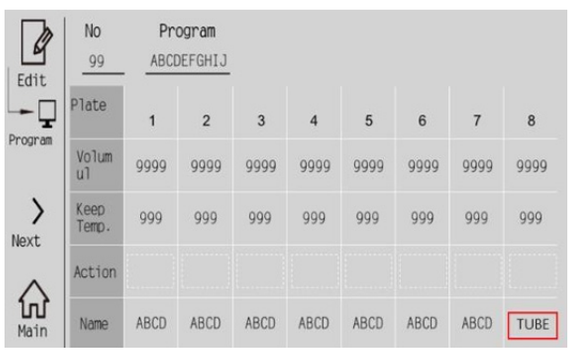
- After clicking the edit icon, the editing screen will show.
- The first screen displays the plate layout.
- Clicking on the program name (below program) will enable the change of the program name.
- The volume per well of each occupied plate position is entered next to Volume µl.



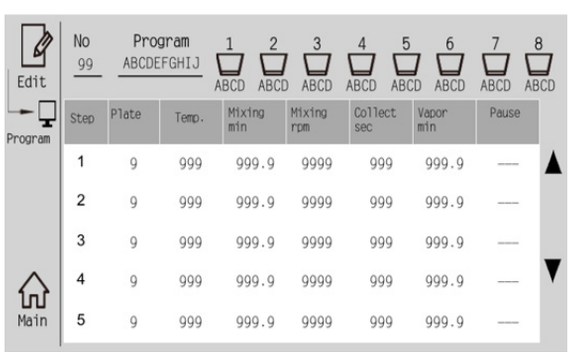
- Keep Temp. defines the preheating temperature.
- Action defines the behavior of the stirrers. Preferably choose Forward (For.).
- Name defines the name of each plate can be chosen from the list. This name is displayed during the program startup.



- Always choose Tip for position 8.
- Click Next, when all relevant information is entered.



- The subsequent screen defines the sequence of processing steps.
- For each step, the respetive plate is chosen.
- Temp.: The incubation temperature is set for each plate.
- Set temperature to 25°C if step is to be performed at ambient.

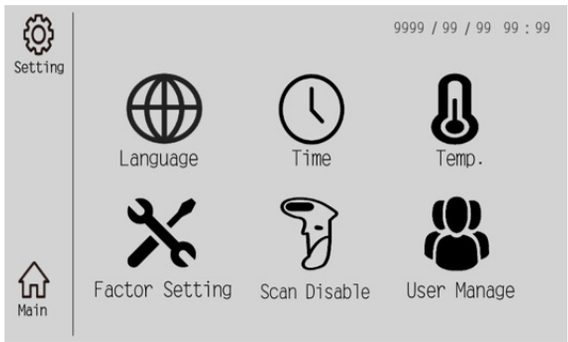


- Mixing min: Define the duration of the mixing step.
- Mixing rpm: Define the mixing speed. 3000 rpm is generally sufficient for optimal resuspension.
- Collect sec.: Define the duration of the separation step.
- Depending on the fill volume, the type of beads and the viscosity of the liquid, 20-30 seconds generally work well.

- Vapor: Duration of the air-drying above this plate.
- Depending on the type and amount of beads, 5 to 10 minutes is a good starting point.
- Pause: Enables a user-interaction. Choose on or off.
- A maximum of 35 steps can be programmed.

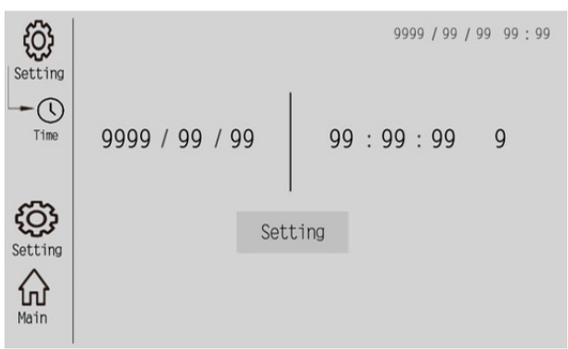
F.6. Setting

- The Setting-Screen enables changes to the Language, Time, Temperature-Control, Factory Settings, Barcode Scanner and User Management.

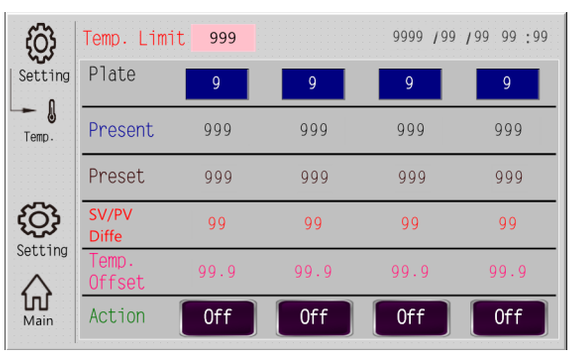


- The language can currently be set to English, German, Chinese and Korean.
- Click on the respective field to change the language.

- The time can be set according to the local requirements.
- Click on each value, year, month, day; hour, minute, second and set as needed by entering the value.

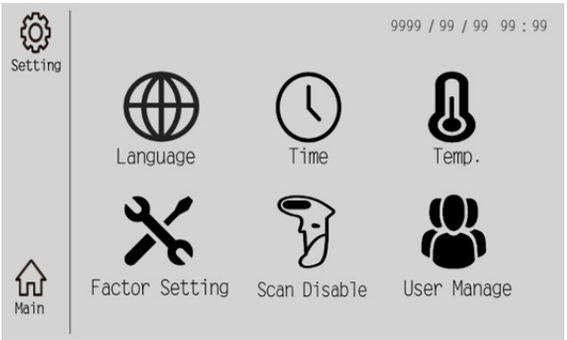


- The Temperature screen is where each position's temperature can be tested.
- The surface temperature, the heating & cooling behavior, as well as the temperature inside the plate can be tested.
- Click on Preset, to change the according value.
- Click on Action, to activate the respective heater.

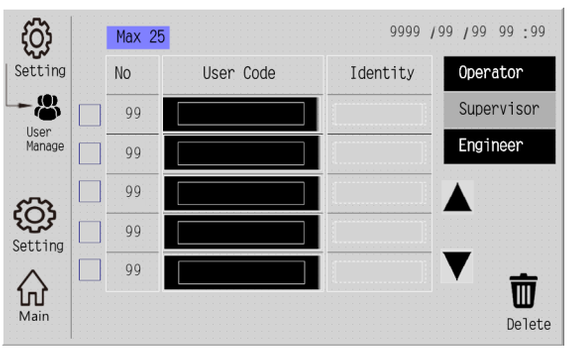


- Factory Settings can pose a risk to the instrument.
- Proceed with care.
- The default password is available upon inquiry.
- Note all changes, to be able to reset, if needed.

- The barcode scanner can be activated by clicking the icon.

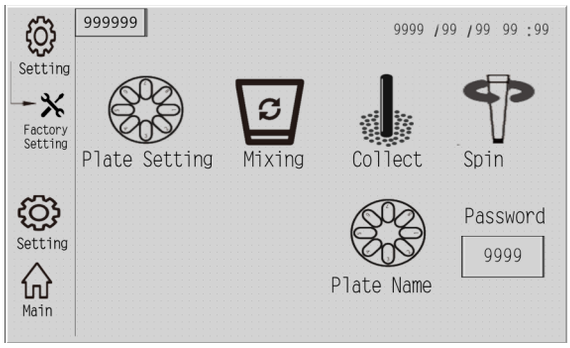


- The user management is used to manage accounts including the assignment of capability level.
- Operator is the default for new users. Operators can not change protocols or access settings.
- Supervisors can change protocols and access settings.

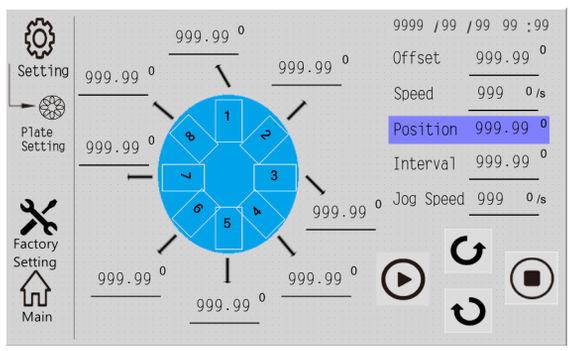


F.6.B Factory Settings

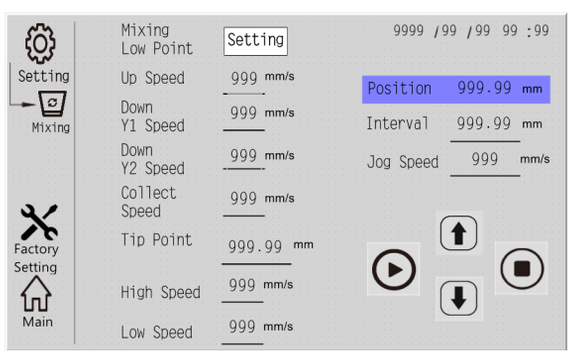
- The Factory Settings screen enables changes to:
- The Rotational alignment of the plate carousel.
- The Mixing parameters, i.e. movement of the Spin Tips.
- The Collection parameters, i.e. magnet movement.
- The spin settings and the plate names.



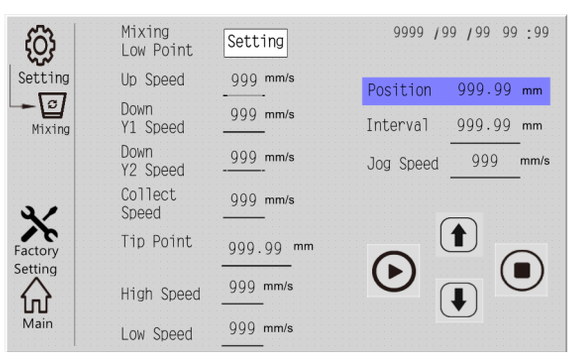
- Indicated around the turntable are the degree values, for when the respective plate is centered below the tips.
- The degree value increases in a clockwise direction.
- To align the rotational setting, load a empty tip plate on 8 and attach tips to the left and right inner cones manually.
- (Current Value) - (270°) = Offset



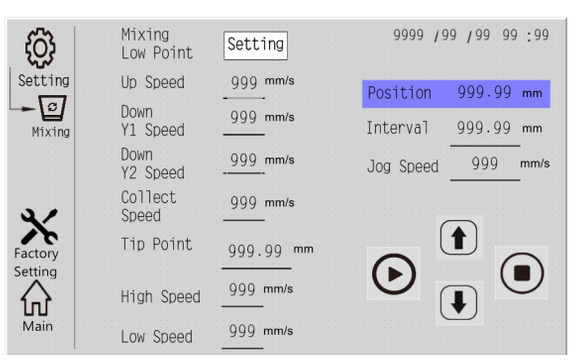
- The major value in the Mixing Setting is the Tip Point.
- The Tip Point defines the position at tip pick-up.
- Tip pickup should be relatively quiet.
- If it isn't, the Tip Point needs to be adjusted.
- Put a tip plate without tips on position 8.



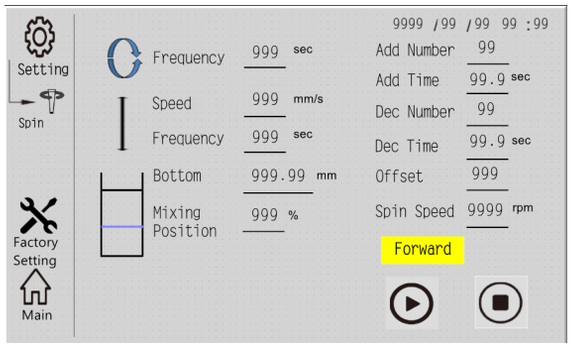
- Rotate the carousel to put the plate on the tip loading position.
- Change the value at "Interval" to about 73mm.
- Press "Play" button to move the Y-axis down.
- Change Jog Speed to 1 mm/s.



- Move the Y-axis down until the distance to the plate surface is < 0.2 mm and > 0.1mm.
- Subtract 0.3 mm from the current value.
- Set this value as tip point.



- In the Spin Setting, values regarding the position of the tips during the mixing step can be adjusted.
- Generally, these values do not need to be changed.



G. Related and Accessory Products

Product	Art. No.	Content	Description
Kylt® Purifier	31436	1	Instrument for the purification of nucleic acids with magnetic beads.
Kylt® Purifier Spin Tips	31434	5 Sets	1 set used per run of up to 96 samples.
Kylt® Purifier Plates	31435	20 Plates	Plates for use with the Kylt Purifier. 4 plates are needed per Salmonella Purification HTP run. 5 plates are needed for the RNA/DNA Purification HTP Kit per run.

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