Instruction manual

VWR® Media Preparator Premium 15

EU cat. no 710-2220



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Warning

These safety instructions must be read carefully before commissioning. The device may only be used by trained personnel.

Used Symbols



These precautions are essential and must be observed. The symbol warns of dangers that can lead to physical injury and / or damage to equipment, materials, or surroundings.



This symbol warns of possible material damage or loss of data and settings.



This symbol indicates important and useful information that may be helpful for the correct handling and operation of the device.

Symbols used on the device



It is mandatory to read the following safety instructions and the additional user manual thoroughly before using the device



The power cord must be unplugged from the wall outlet before the housing is opened by a service technician.



Caution, hot surface.



Alternating current



Caution, crushing of hands

General Safety Warnings



The Media Preparator Premium 15 must not be modified. Any modifications exclude any liability of VWR for resulting damages or injuries!

Do not remove any parts of the housing and do not open the Media Preparator Premium 15.

Never operate the device without the sterile filter installed

In addition to the safety regulations in these operating instructions, the general regulations for accident prevention and safety at work also apply.

Safety precautions



The venting hose, the cuvette, the work surface, and the lid can become hot. The device (except the display) may only be operated with protective gloves when it is hot. Otherwise, there is a risk of burns!

The power supply to the device must be protected with a 16A fuse and a residual current device (RCD).

The device must not be operated in very dusty or humid environments.

The device must not be moved during a sterilization process (T > 90°C).

Error case



In case of an error, the device must not be operated any further! Error cases can be:

- if steam escapes from the device (e.g. via the overpressure valve at the rear of the device).
- if the seal has been damaged
- if the temperature sensor (medium) has been damaged.

In this case, the device must be switched off immediately. Keep away from the device.

Installation

The device must be carried by at least two people

Installation may only be carried out by trained personnel

Leave at least 2 cm of free space on all sides of the device to allow free air circulation

The device may only be operated by trained persons who are familiar with the corresponding safety regulations.

Defective components may only be replaced with original spare parts in accordance with the spare parts and consumables catalog for the Media Preparator Premium 15

Install the device in a frost-free environment

Make sure that the device is set up in a solid, dry, and horizontal place that can withstand a minimum weight of 100 kg. The weight of the device is 64kg.

Maintenance

To ensure safe operation of the device, the service intervals must be carried out.

Attention

Pressure Fill required

If the coupling water has been completely drained before operation, pressure filling is mandatory (Additional Programs --> Pressure Fill). Otherwise, the circulation pump and the heater may be damaged.

Temperature Sensor

The flexible temperature sensor must be handled with the utmost care. When inserting the cuvette and closing the lid, make sure it is not pinched.

Coupling Water

Only decalcified water may be used as coupling water (e.g. deionized or distilled water).

Maintenance

Only use the cleaning agents described in the user manual

Note

Maximum stirrer speed

To guarantee correct functioning of the temperature sensor of the medium, a maximum stirrer speed of 50% is recommended.

Opening and closing the port covers

For the correct operation of the device, the port openings (vitamin and extraction port) must be closed correctly.

To open or close the ports manually, press Open Ports. Otherwise, the leak-tightness of the device cannot be guaranteed.

Minimum filling quantity

The minimum filling quantity for the Mediaprep program is 2.5 liters. If the filling quantity is too small, the temperature cannot be determined correctly.

For small filling quantities, check that the flexible temperature sensor points vertically into the medium so that the temperature is measured correctly.

Water connection

- The wastewater connection must not be higher than the outlet of the device at any point
- If the water supply is connected incorrectly, the device may be damaged.
- The water pressure must be between 0.8 and 5 bar

Maintenance

In order to ensure a correct function, the unit must be cleaned regularly, at the latest when the service message is displayed (start cleaning mode, then clean the unit manually).

The service intervals described in the user manual must be adhered to in order to ensure safe operation.

A dirty coupling water sieve (at the bottom of the vessel) reduces the functionality of the device.

Safety Information

The safety instructions above must be read thoroughly before use. This user manual describes the main functions of the device and contains all relevant information related to the installation, use and maintenance of the device.
This document is valid for devices using mainboard firmware version **1.4.00** and is valid until the publication of a new document revision.
Read the operating instructions carefully before using the device for the first time.

General Safety Instructions

- In addition to the safety regulations in these operating instructions, the general regulations for accident prevention and safety at work also apply.
- These operating instructions must be available at the place of operation of the device.
- VWR shall not be liable for any damage resulting from non-compliance with the safety instructions.
- The Media Preparator Premium 15 must not be modified. Any modifications exclude any liability of VWR for resulting damages or injuries!
- Never operate the device without the sterile filter installed.
- Do not remove any parts of the housing and do not open the Media Preparator Premium 15.
- Defective components may only be re-placed with original spare parts in accordance with the spare parts and consumables catalog for the Media Preparator Premium 15.

Operator Obligations

The operator of the device commits to the following:

- The device must be always operated in compliance with the safety regulations described.
- The device must be switched off and disconnected from the power supply before any repairs or maintenance work is carried out.
- Maintenance and repair work on the device may only be performed by trained personnel using original spare parts.
- The device may only be operated by trained persons who are familiar with the corresponding safety regulations.
- The prescribed service intervals must be carried out at the latest when the respective message appears.
- The device may only be used as specified by the manufacturer. Any other use may impair the operator’s safety.

Personnel Obligations

- The device may only be used by trained personnel.

Package Contents

Part Number	Description	Quantity
710-2220	VWR Media Preparator Premium 15 (MPP15)	1
710-2224	Medium vessel (cuvette)	1
710-2225	Magnetic Stirrer	1
710-2221	Filter-Set 0,2 µm, sterile	1
710-2226	Quick Connector	1
710-2223	Drain sieve, fine mesh steel	1

Unpacking

- After unpacking check the device for delivery damage.
- The device may only be installed by authorized persons.

Installation

Operating Environment

- Install the device in a frost-free environment
- The device is not suitable for an explosive environment
- This device is for laboratory use

Device Setup

Installation

- Make sure the device is set up in a solid, dry, and horizontal place that can withstand a minimum weight of 100 kg.
- The device must be carried by at least two people
- The device can be carried by grabbing it under the bottom plate



- The total weight of the device is 64 kg
- Leave at least 2 cm of free space on all sides of the device to allow free air circulation
- The device may only be moved when it has completely cooled down
- The device must be always easily accessible from the front that the main switch can be reached at any time

- To turn off the device there are two disconnection options:
    1. Turn it off by pressing the Main Switch
    2. Turn it off by detaching the power cord

Connections

Power Cable

- Adhere to the local regulations for the connection conditions.
- The device must be protected by a fuse and a residual current device (RCD) on the building side. The fuse should be placed as close as possible to the device.
- Do not operate the device if the power cable is damaged.
- Only use the power cable supplied by the manufacturer.
- Do not use power cables with inadequate rating.
- The device must be connected to a protective ground.

Cooling Water Connection

- To speed up the processes, it's recommended by the manufacturer to actively cool the device with cooling water.
- The temperature of the cooling water must be in the range of 5 to 30 °C.
- Make sure that the water pressure is between 0.8 and 5 bar. Otherwise use a pressure regulator.
- The cooling water must not contain any particles. Otherwise use the optionally available water filter.
- To adjust the cooling water flow, turn the screw above the hose connection using a screwdriver:
    - Rotate clockwise to decrease the flow.
    - Rotate counterclockwise to increase the flow.

Wastewater Connection

- The venting hose must be routed over its entire length no higher than the wastewater connection to enable correct draining of the vessel.
- Secure the end of the hose, as venting can occur impulsively.
- Hot steam may escape from the hose for a short period of time.
- The wastewater outlet must be connected to the drain.

USB Port

- The USB-port is located on the front side of the device below the display
- The USB port may only be used for connecting USB memory sticks. It is not allowed to connect other devices
- The size of the memory stick must not exceed 64 GB and must be FAT32 formatted.

First Use

- Check if the sterile filter is connected properly
- Connect power cable, cooling water connection, and wastewater connection.

Intended Use

The VWR Media Preparator Premium 15 is a single-user laboratory instrument for the preparation and sterilization of culture media. In addition, the following other main functions can be realized with the device:

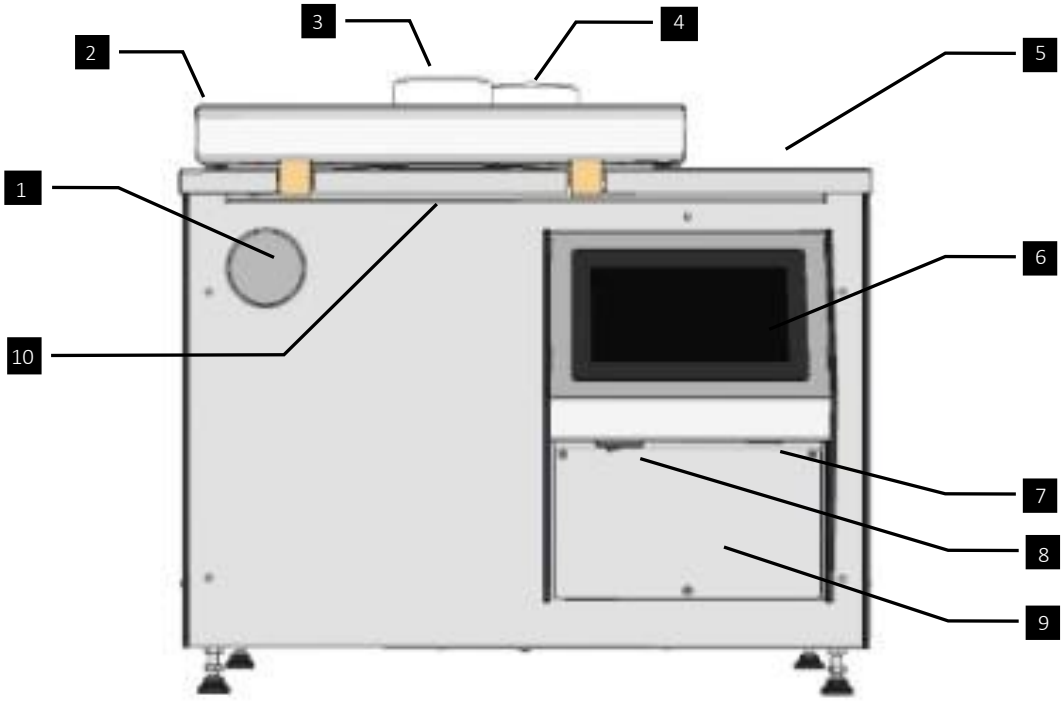
- Autoclaving / sterilization of smaller objects and liquids in separate containers.
- Heat bath for maintaining temperature conditions in media.
- Pressure dispensing of media.

Product Specifications

Description	Value
Dimensions (H x W x D)	50 cm x 56 cm x 58 cm (Lid open: H=83 cm)
Weight	64 kg
Filling volume	2.5-15 liters (cuvette)
Accuracy	+/- 0.5°C (resolution: 0.1°C)
Maximum sterilization temperature	122°C
Power consumption	3500 W
Operating Voltage	AC 200-240V ~ 50/60Hz
Fuse	16A
Water connection	3/4"
Maximum process pressure	1.8 Bar
Safety valve	2.0 Bar
Place of use	indoor use only
Altitude	0-2000m a.s.l.
Relative humidity	max 80%
Line voltage fluctuations	+/- 10%
Air Pollution level	Degree of pollution 2 (IEC EN 61010-1)
Overvoltage Category	II
Ambient temperature	10 - 30°C
Cooling Water:	5 – 30°C 0.8 – 5 bar

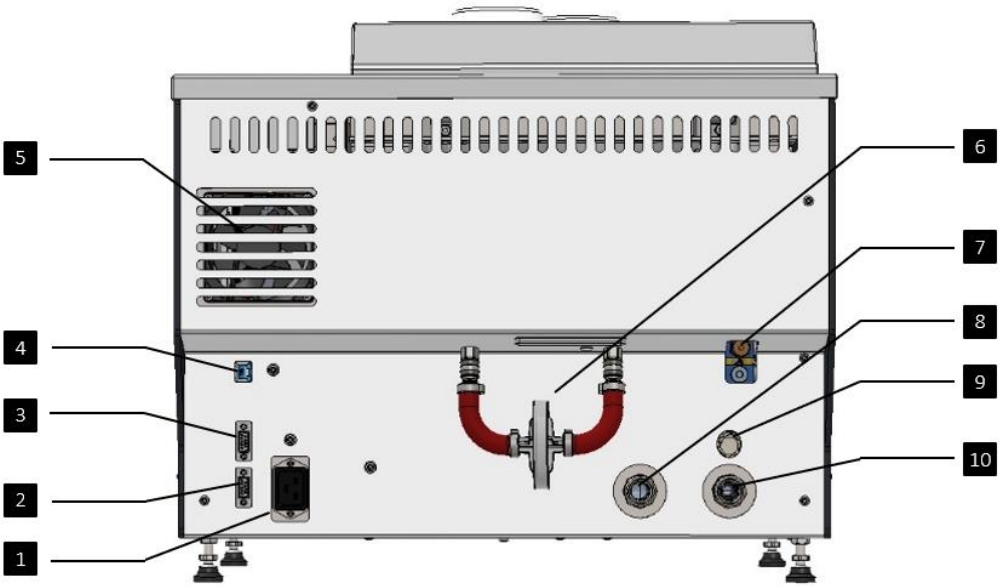
Device Overview

Front View



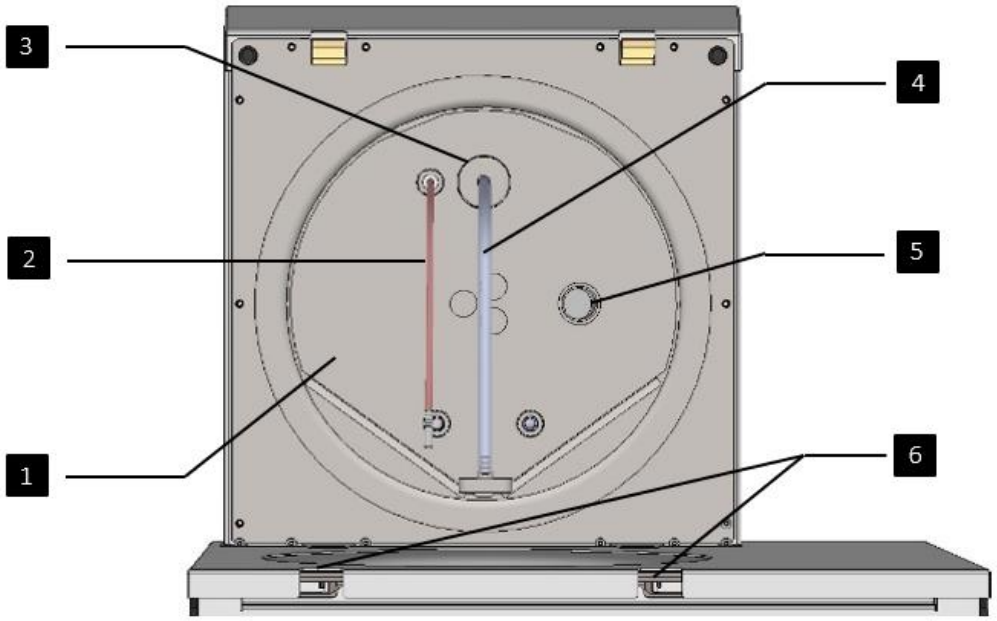
1	Manometer	6	Display
2	Device cover	7	USB port
3	Dispense port	8	Main switch
4	Adding port	9	Cover plate for options
5	Storage space	10	LED-Bar

Rear View



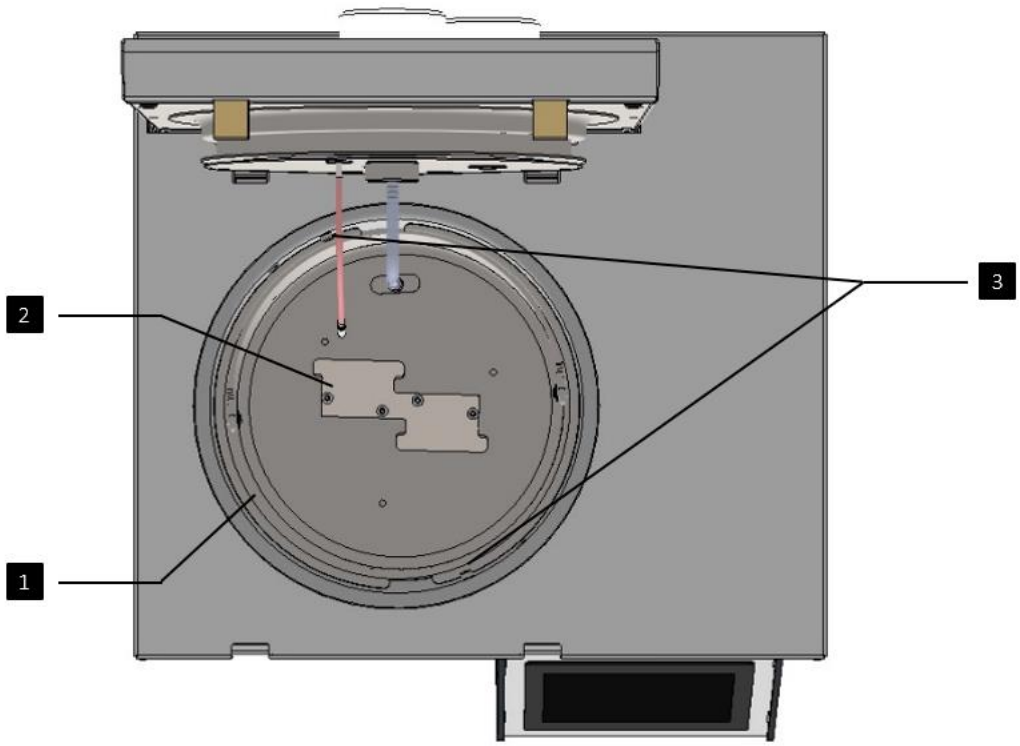
1 Power connector plug
2 RS232 connector
3 CAN connector
4 Ethernet connection (10 / 100 Mbit)
5 Fan
6 Sterile filter set
7 Safety valve
8 Outlet port (air / water / steam)
9 Cooling water flow adjustment screw
10 Cooling water inlet

Cover Interior View



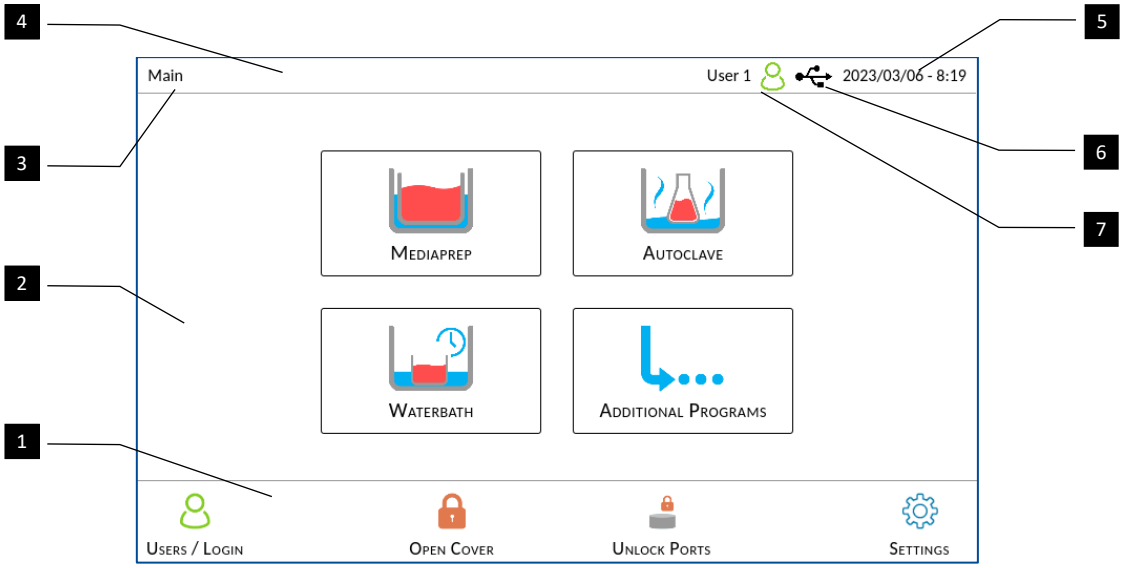
1 Protective plate
2 PT 100 temperature sensor
3 Connection for extraction
4 Dispensing tube with positioner
5 Adding port (inside)
6 Cover-closure monitoring sensors

Cuvette Interior View



1 Cuvette
2 Magnetic stirrer
3 Cuvette positioning bolts

Display Overview



1 Footer area
2 Main window
3 Selected program overview
4 Header area
5 Date / Time
6 USB connection status
7 Active User (logged in)

LED-Bar & Buzzer

The device has an LED-Bar and a Buzzer. This allows the device to inform the user about the status or an input request. The following table give an overview of the color and buzzer codes:

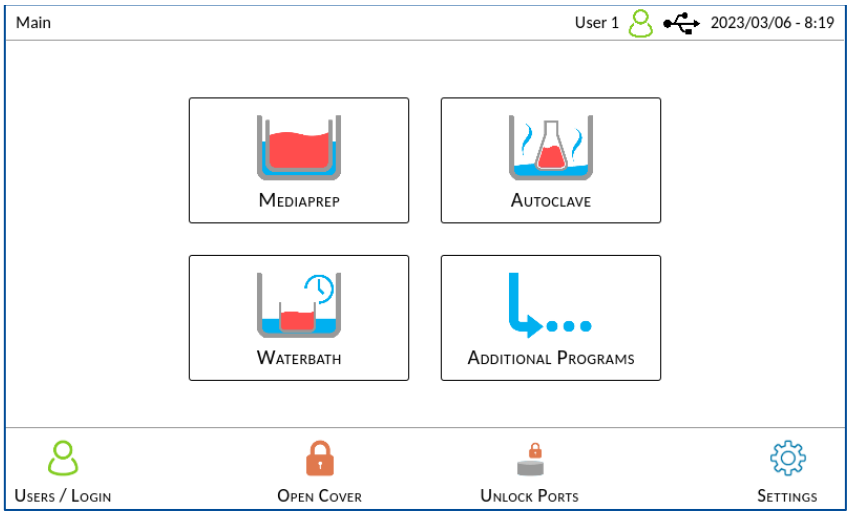
Device status	LED-Bar color
Device is ready	Blue
User input required	Cyan
During operation mode: Medium or coupling water temperature is below 45°C	Green
During operation mode: Medium or coupling water temperature is between 45°C and 80°C	Orange
During operation mode: Medium or coupling water temperature is above 80°C	Red
The device has detected an abnormal status at startup	Red

Device status	Buzzer
User input required	2x
If the pressure cannot be reached in a given time during Pressure Fill	2x repeating every 4s

Getting Started

The device may only be used as specified by the manufacturer. Any other use may impair the operator's safety.





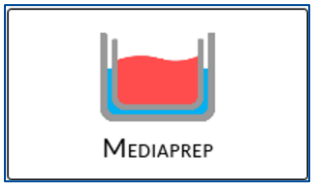
- When the unit is connected to the power cable and the two water connection hoses, it can be started up
- Press the green main-switch below the display to turn on the device
- It takes about 20 seconds until the device is ready for operation and the Start-up Screen appears. Press the **HOME** Button on the display to reach the main menu
- Set the correct date and time in the settings menu
- Since the device is completely drained, a pressure filling is necessary before the first use (see chapter **ADDITIONAL PROGRAMS**)
- Make sure, the drain sieve is correctly installed.

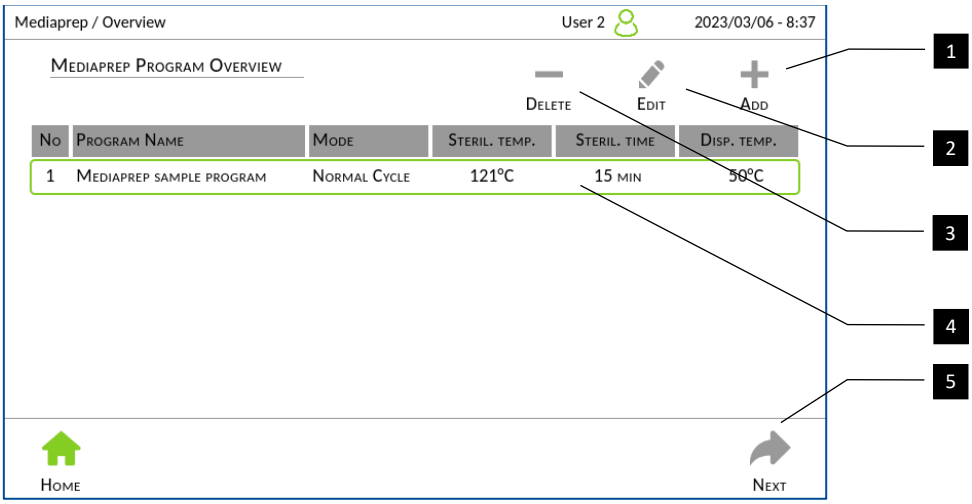
Daily Operation

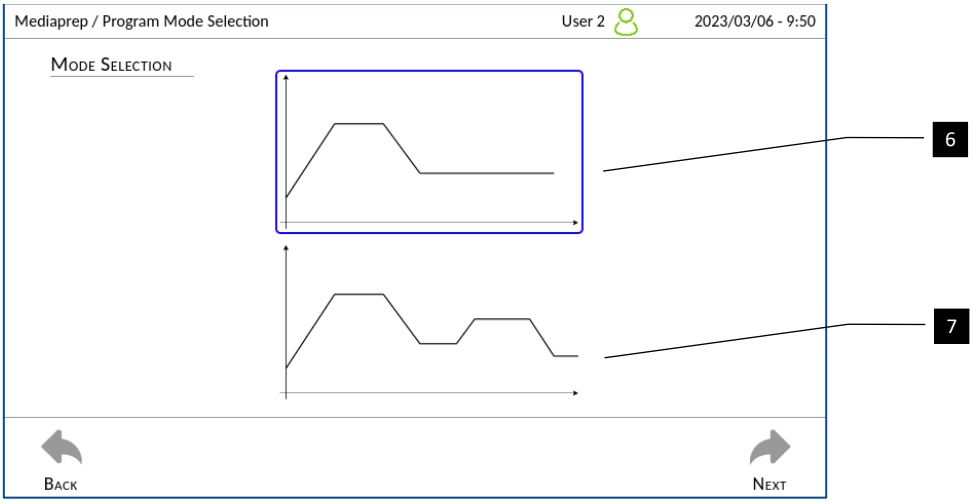
The following chapter explains the three main modes. These are **MEDIAPREP, AUTOCLAVE** and **WATERBATH**.
The **MEDIAPREP** mode is used to sterilize media directly in the supplied cuvette. Fluids of 2.5 liters or more can be sterilized in this mode. In **MEDIAPREP** mode, media can be sterilized most quickly and then also filled directly via the extraction port without having to open the cover.
If less than 2.5 liters or several small containers are to be sterilized, the **AUTOCLAVE** mode is recommended. In **AUTOCLAVE** mode, smaller vessels can be sterilized.
The third main mode is the **WATERBATH** mode. Using this, a water bath with a temperature of up to 80°C can be set. It is suitable for heating up liquids or keeping them warm. It is also possible to open the cover during this process or stir fluids in the cuvette at a predefined temperature.

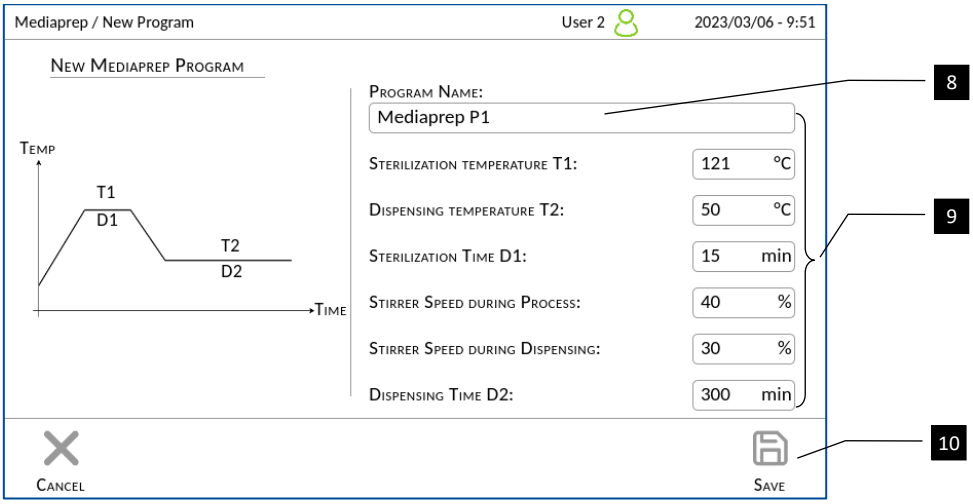
Mediaprep

The main purpose of this device is to sterilize liquids in a cuvette at up to 122°C. In the following chapter the procedure and correct use of the device is explained.
To start a **MEDIAPREP** program, start the device and select **MEDIAPREP** on the main screen.







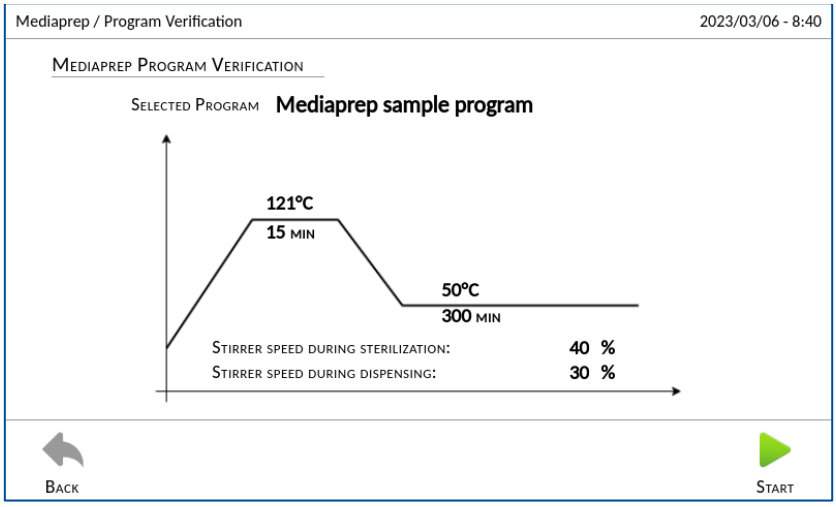


1. Add new program
2. Edit existing program
3. Delete existing program
4. Program selection
5. Next Button to continue
6. Default single cycle sterilization mode
7. Double cycle mode
8. Program name
9. Program parameters
10. Save program

Choose MediaPrep Program

- Choose one of the preinstalled or self-created programs and click **NEXT** or create a new program (according to chapter **Create/ Change Programs**).
- As a logged in **SUPERUSER** it is possible to create new programs.

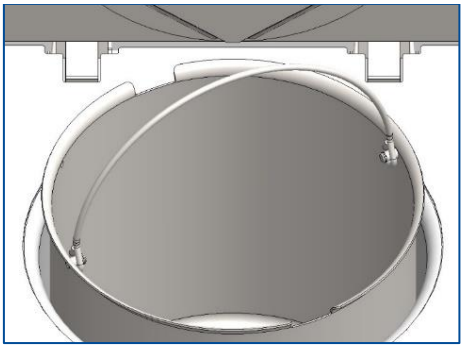
Check program parameters



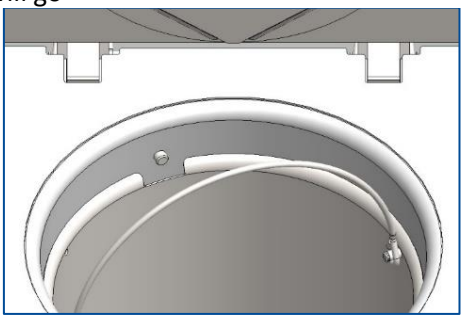
Cuvette Insertion

A **MEDIAPREP** run must always be performed with the cuvette inserted.
Before inserting the cuvette, open the cover and check that there is not too much coupling water in the vessel so that the water does not overflow when inserting the cuvette.
Continue inserting the cuvette like it is shown on the following pictures:

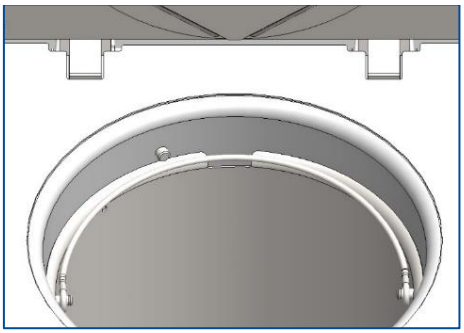
Step 1: Carefully insert the cuvette. Make sure that the flexible medium temperature sensor and the suction hose are not pinched.



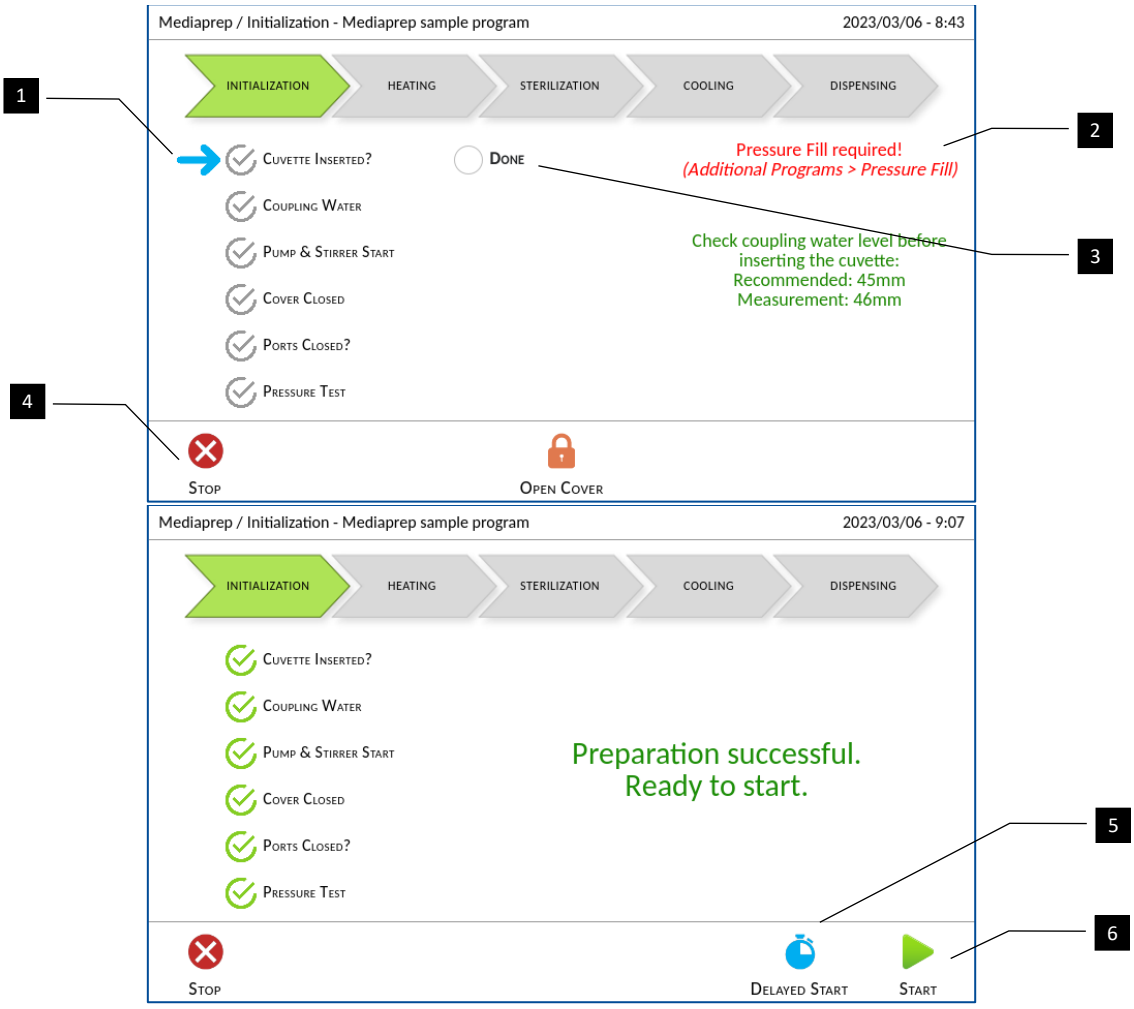
Step 2: Push the cuvette in as far as it will go



Step3: Rotate the cuvette clockwise until the stop is felt. If the cuvette has been inserted correctly, it should remain in place and cannot be pulled out again without first turning it counterclockwise.



Initialization



1. Current program step marked in green
2. Important Warnings
3. Radio button to confirm completed process steps
4. Abort button to stop initialization
5. Button to setup delayed start
6. Start button after completed initialization

To ensure a safe process, the program must first be initialized.

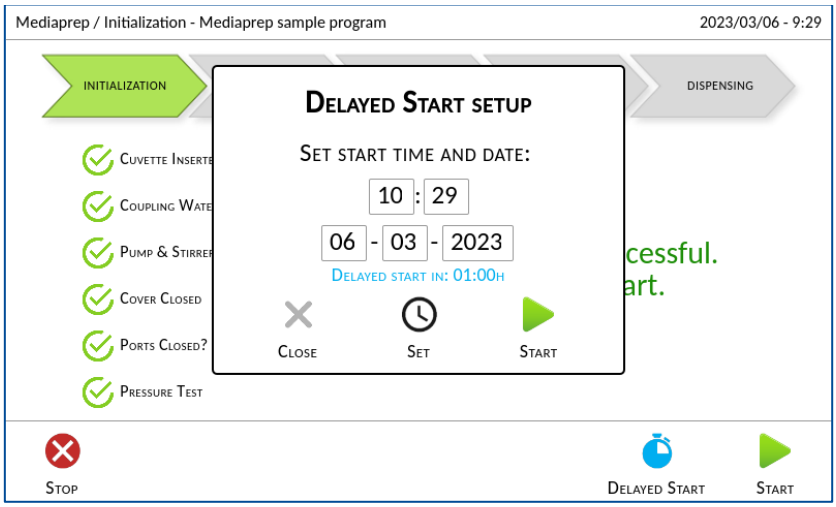
- The level of coupling water is measured and displayed graphically. If the coupling water level is not correct it can be adjusted by adding coupling water manually or release it by pressing the Button **RELEASE COUPLING WATER.** When the correct water level is reached, the process continuous automatically.
- As soon as the filling level is correct, the function of the circulation pump is automatically checked, and the stirrer is started. If the pump does not function as desired, an error message appears. Check the drain sieve and perform a pressure filling process again if an error message appears.
- Close the cover. Be careful not to pinch the flexible medium temperature sensor when closing the cover. Check if both ports are closed properly and confirm it manually.
- Finally, a pressure test ensures that the seal and the vessel are ready for operation. It last about 1-3 minutes depending on the medium volume.
- After a successful initialization, the sterilization process can be started by pressing the **START** button or with a delay by pressing the **DELAYED START** button.

If the pressure test is **not** successful, check the following options:

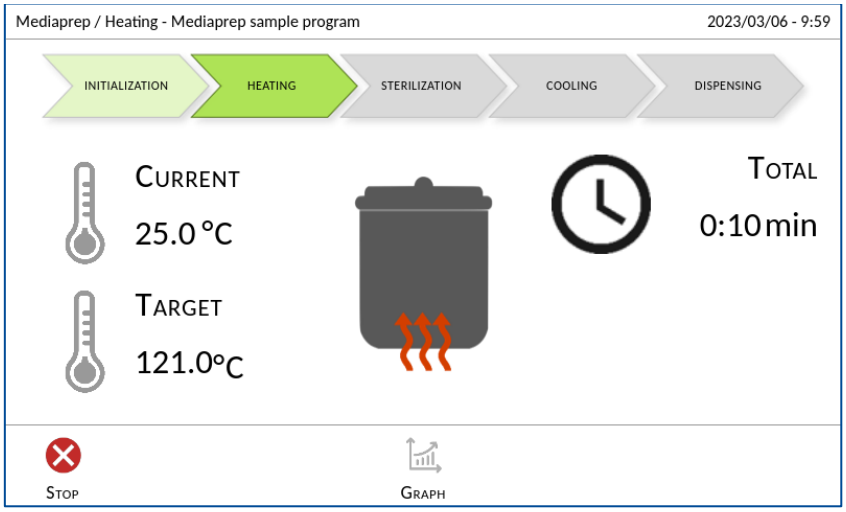
- Check whether the port covers are closed correctly by removing them completely and screwing them back on. Note that the **UNLOCK PORTS** button must also be pressed to close the ports.
- Check the lid seal for contaminants or signs of damage.
- Start the program again.
- If the error persists, please contact your service technician.

Delayed Start

The process start can be delayed up to 20 hours. After choosing the delay and pressing the **SET** button the input will be checked. If the delay is valid, a third button **START** appears in the popup window. The delayed start can be started after a successful initialization by pressing the **START** button. In the preparation window appears an information with a countdown and the starting date and time. A delay that has already been started can be aborted at any time. The process can then be started or aborted manually.

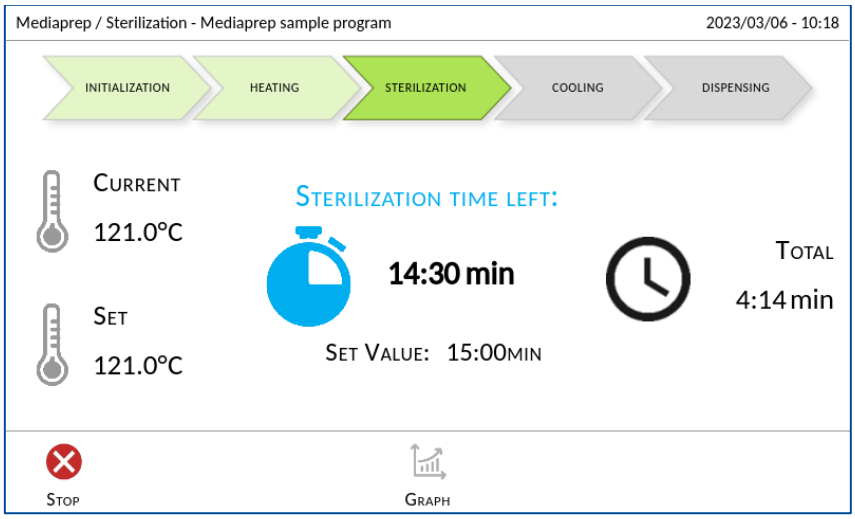


Heating



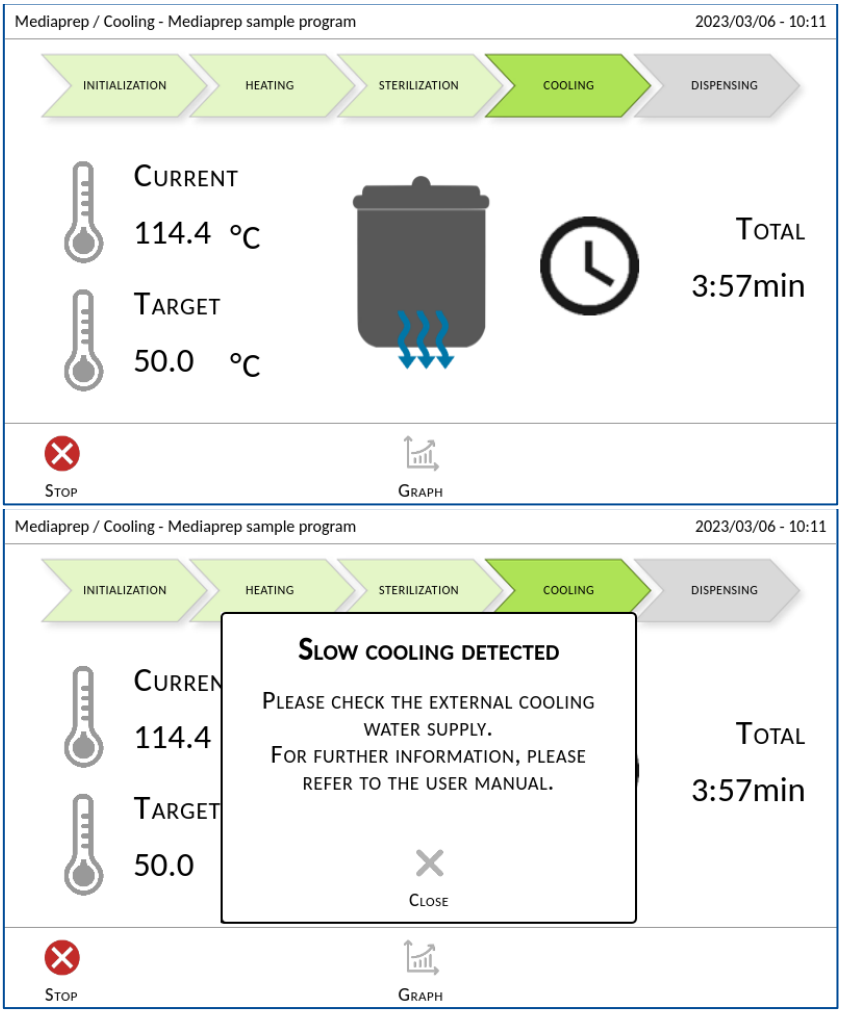
- The heating process heats the medium to the set sterilization temperature. The duration depends mainly on the volume of medium, the couple water and the target temperature.
- Click on **GRAPH** to display the temperature history.
- The running program can be stopped at any time with the **STOP** button. If the temperature is already above 80°C, the device automatically starts the cooling process to reduce temperature and pressure.

Sterilization



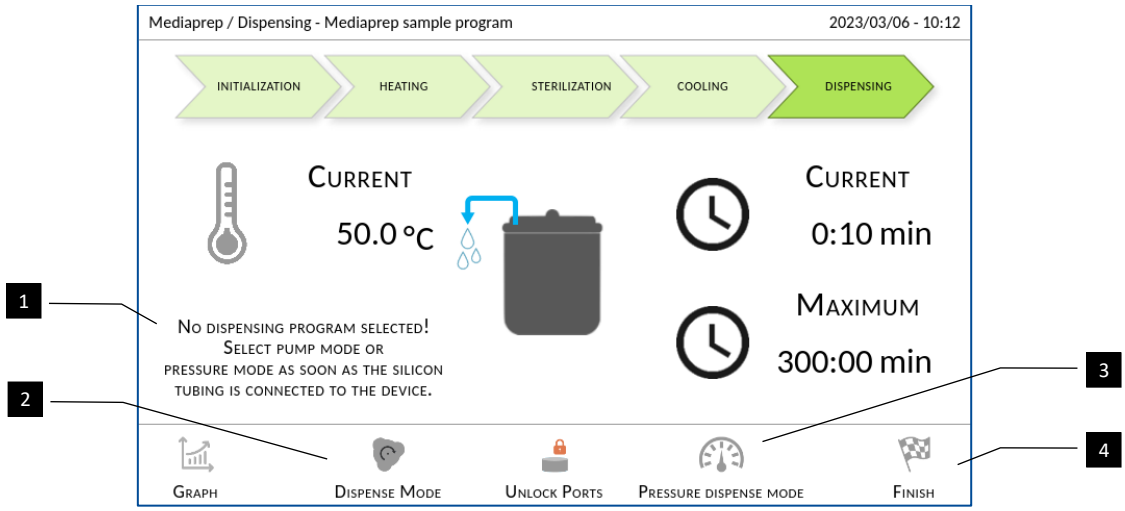
- In the sterilization process, the temperature is maintained for the set time. The remaining sterilization time is shown in the center of the display.
- After the preset time has been sterilized, the system automatically switches to cooling mode.

Cooling



- After the set sterilization time has elapsed completely, the cooling phase of the process begins.
- Make sure the cooling water inlet line is open.
- The device automatically checks the cooling efficiency. If the cooling process is too slow an information notification appears. Check whether the cooling water connection is correctly connected and switched on. If the error persists, wait until the unit has cooled down and check whether the water drain sieve is free of impurities.

Dispensing



1 Description of dispensing mode
2 Default dispensing mode using an external peristaltic pump
3 Pressure dispense mode
4 Finish button to terminate the process

- **CAUTION**: Danger of burns. The medium can be up to 80°C hot during dispensing.
- The **MEDIAPREP** program provides two dispensing modes: **DISPENSE MODE** and **PRESSURE DISPENSE MODE**
- To start the process, unlock the ports by pressing **UNLOCK PORTS** and remove the extraction port.
- To ensure a sterile process, the connection can be flamed briefly before the **QUICK DECANTING CONNECTOR** is plugged onto the connection.
- Continue by connecting the **QUICK DECANTING CONNECTOR** to the MPP15 on one side and to the filling device or pump on the other side.
- During the dispensing mode, the temperature of the medium is controlled to the pre-set value to be able to fill it into external containers.
- The **QUICK DECANTING CONNECTOR** is available for several hose sizes.

Dispense Mode (default)

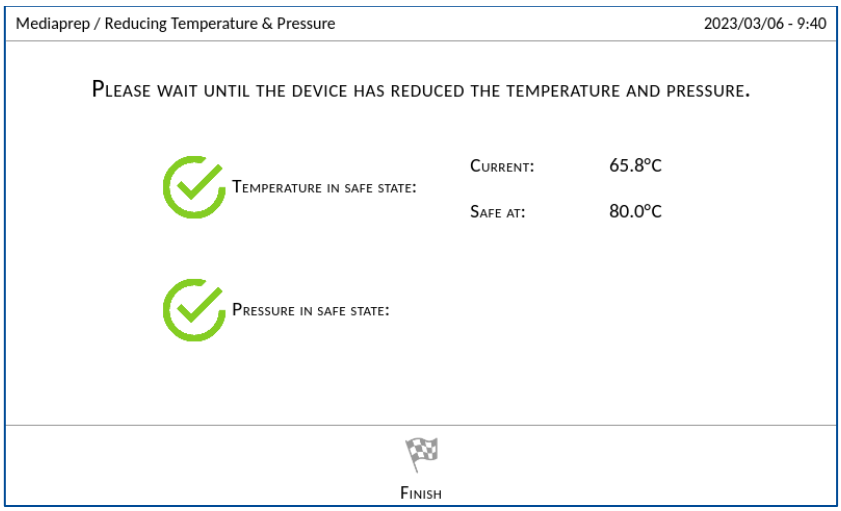
In this first mode the MPP15 is passive, and an external device is responsible for the active extraction of the medium, e.g., a dispensing pump. Press **DISPENSE MODE**, unlock the ports by pressing **UNLOCK PORTS** and remove the extraction port.
Continue by connecting the Quick Decanting Connector to the MPP15 on one side and to the filling device or pump on the other side.

Pressure Dispense Mode

Warning: Before starting, check that the hose is correctly connected, as the liquid is filled under pressure.

Unlike the previous mode, an external device with active extraction is not required when using the **PRESSURE DISPENSE** mode. The MPP15 builds up and holds a small pressure inside the vessel. This pushes the medium automatically out of the MPP15 via the dispensing port.
Be aware that the preparation needs to be done before starting this mode to prevent uncontrolled leakage of the medium. The preparation includes a correct connection of the Quick Decanting Connector to the MPP15 on one side and to the filling device on the other side.

Finish process and create report

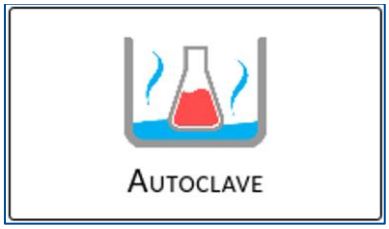


After the dispensing process has been completed and the device reduced its temperature and pressure, the report can be generated by pressing the **Finish** button. For more information, see chapter **Process Reports.**

Autoclave

The **Autoclave** process is used for sterilization of media in containers without the cuvette at a temperature up to 122°C.
If the flexible medium temperature sensor cannot be placed in the medium or cannot be completely immersed in the medium, another container must be placed in the sterilization area as a reference, filled with e.g. water. The flexible medium temperature sensor is then placed in this container.
The reference container must be at least the same size and volume than the largest container to be sterilized to guarantee that even the most temperature-inert medium is sterilized for the required time and temperature. There are no further special requirements for the reference medium.

Initialization and main process



To ensure a safe and error-free process, the system must first be initialized.

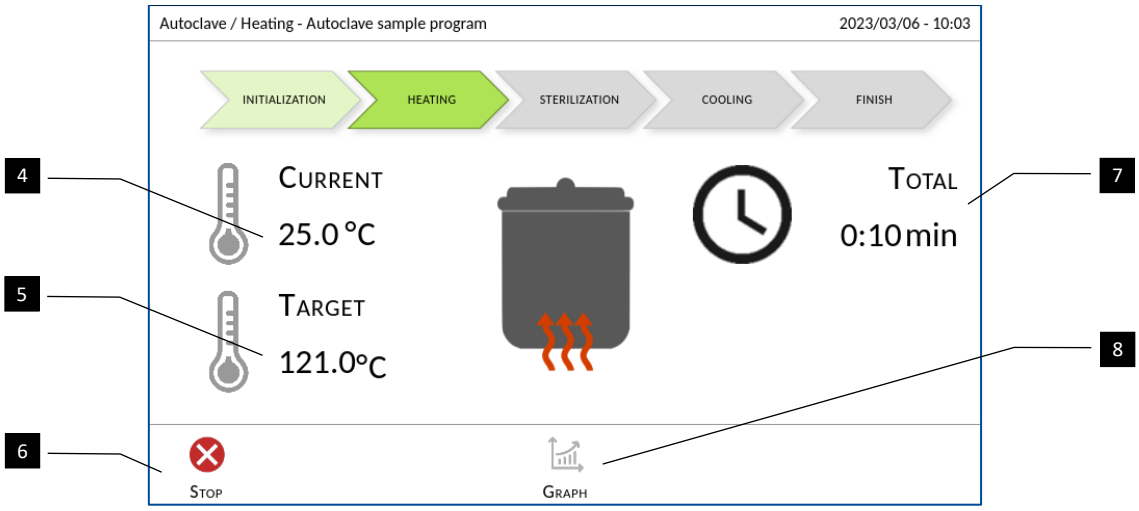
- When the correct water level is measured, the process continuous automatically, otherwise it is necessary to add coupling water.
- As soon as the filling level is correct, the function of the circulation pump is automatically checked. If the pump does not function as desired, an error message appears. Check the drain sieve and perform a pressure filling process again if an error message appears.
- When closing the cover, check if the flexible medium temperature sensor is correctly placed in the reference container.
- Check if both ports are closed properly and check the round radio-button to confirm.
- The last step of the process is the pressure test. This is done automatically and lasts about 1-3 minutes.

If the pressure test is successfully done, press **Start**.

If the pressure test is **not** successful, check the following options:

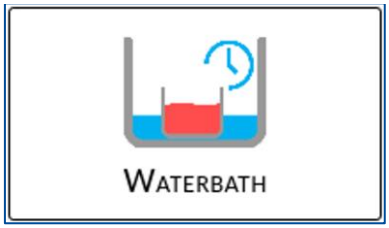
- Check whether the port covers are closed correctly by removing them completely and screwing them back on. Note that the **UNLOCK PORTS** button must also be pressed to close the ports.
- Check the lid seal for contaminants or signs of damage.
- Start the program again.
- If the error persists, please contact your service technician.





1	Coupling water level	5	Target temperature/ sterilization temperature
2	Delayed Start Mode	6	Stop-button: press to abort process and start fast-cooling
3	Start Button: pressable after pressure test	7	Elapsed process time
4	Measured temperature	8	Graph-Button: show graph

Waterbath



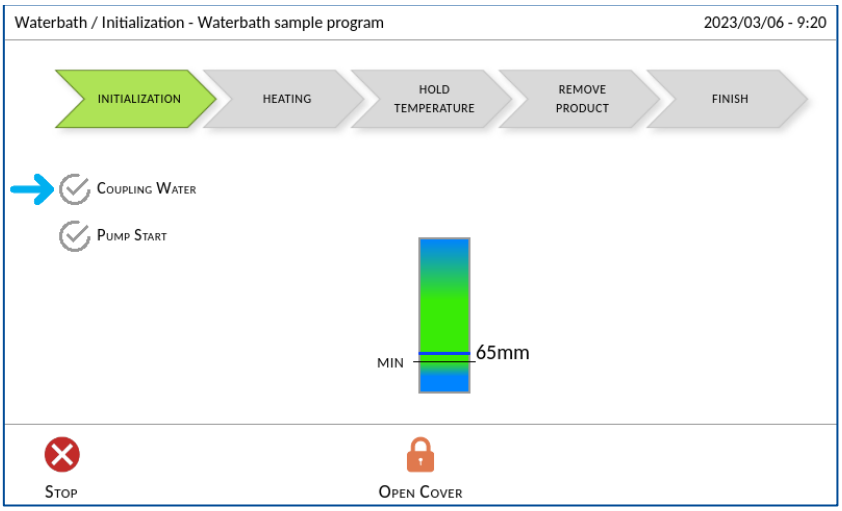
Warning: Danger of burns. The water can be up to 80°C hot.

The **WATERBATH** process can be used to heat or cool and then keep a medium warm at a specific temperature for several hours in a temperature range from 30-80°C. This process does not need support pressure and the cover can be opened at any time. The **WATERBATH** process can be used for both containers and cuvettes incl. stirrer. In contrast to the other processes, the coupling water temperature sensor is used as a reference here.

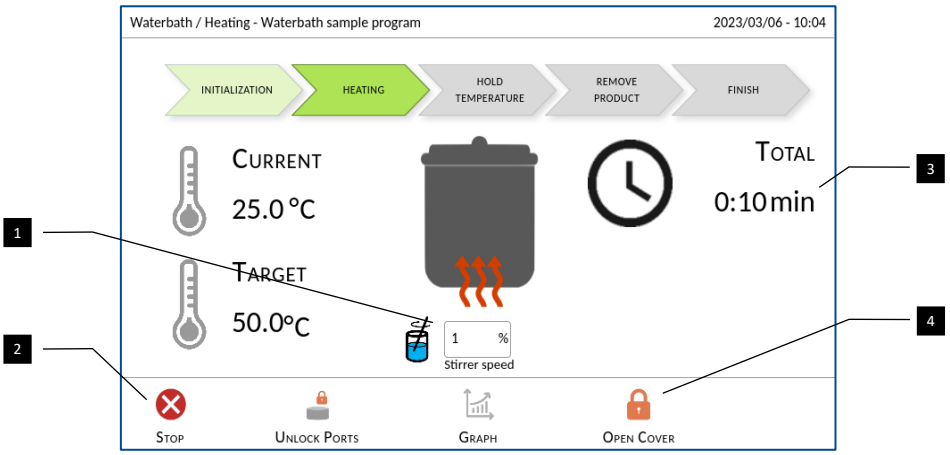
Initialization and Main Process

To ensure a safe process, the system must first be initialized.

- When the correct water level is measured, the process continuous automatically, otherwise it is necessary to add coupling water manually.
- As soon as the minimum filling level is reached, the function of the circulation pump is automatically checked. If the pump does not function as desired, an error message appears. Check the drain sieve and perform a pressure filling process again if an error message appears.
- If the initialization is successful, press the **START** Button.

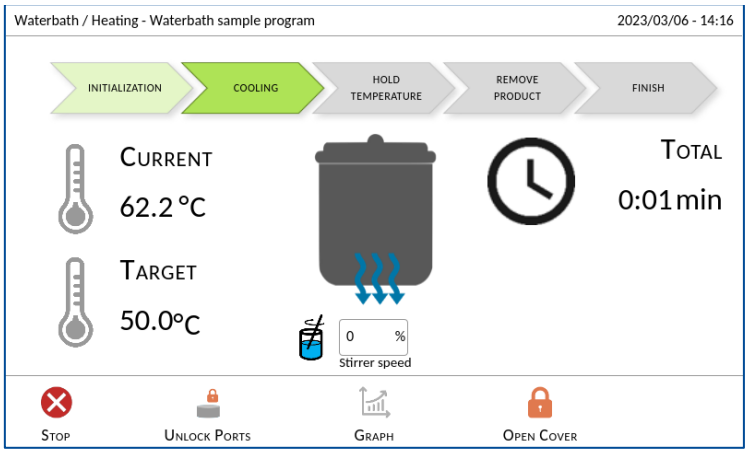


Waterbath in Heating Mode



1 Stirrer speed
2 **Stop**-button
3 Elapsed process time
4 **Unlock-Cover** button

Waterbath in Cooling Mode

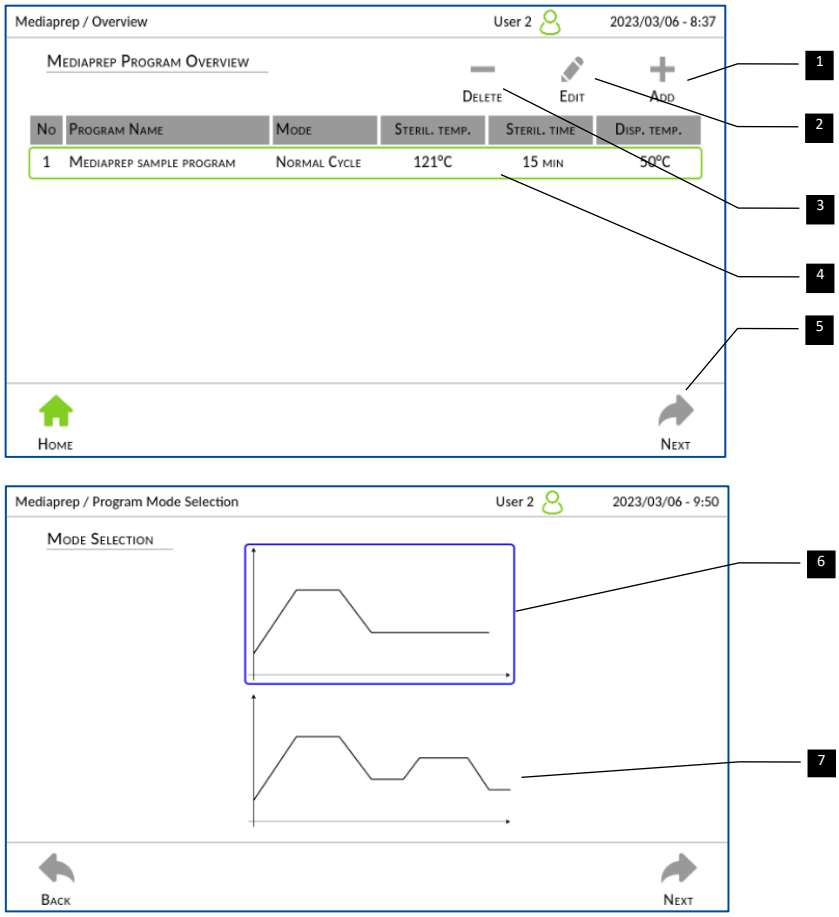


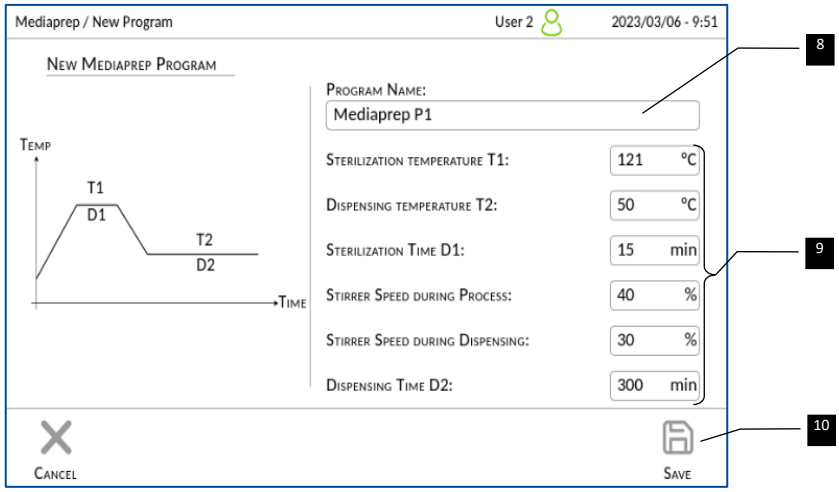
Press **Stop** to cancel the **Waterbath** process. By pressing **Stop**, a report is created.

Create/ Change Programs

The way of creating or changing a program is structurally very similarly in the **MEDIAPREP**, **AUTOCLAVE** and in the **WATERBATH** mode. It is only possible to create and change programs by user with user function **SUPERUSER.**
Above the list of saved programs there are three buttons: **ADD**, **EDIT** and **DELETE**.
The following example shows how to create a **MEDIAPREP** program:

- Step 1: Click the button **ADD**
- Step 2: Select mode. Upper mode for normal sterilization, lower mode for double cycle. In the double sterilization mode, the temperature and pressure are lowered after the first sterilization process so that an addition can be added. Then the medium is heated or sterilized again according to the settings. (e.g. to create chocolate agar). 6 7
- Step 3: Set all program values according to your agar specific cooking recipe. The defined program name will be visible in the program list for all users and will be printed on all reports. 8 9



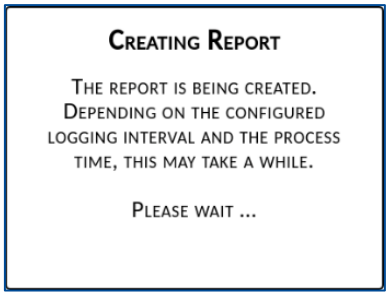


1 Add new program
2 Edit existing program
3 Delete existing program
4 Program selection
5 Next Button to continue
6 Default single cycle sterilization mode
7 Double cycle sterilization mode
8 Program name
9 Program parameters
10 Save program

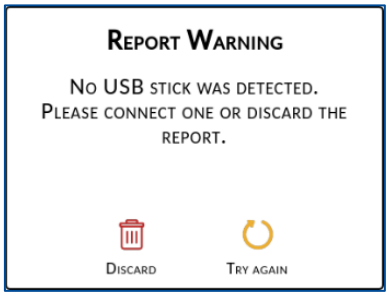
Process Reports

The Media Preparator Premium 15 provides two different ways to create a report:

- USB Memory Stick:
  After each process (**MEDIAPREP**, **AUTOCLAVE** or **WATERBATH**) a PDF-Report is created and directly saved on a USB Memory Stick underneath the display if there is one connected. In addition to the periodically recorded measured values, the report is provided with a graph that visually represents the temperature curve.



If the USB memory stick is not inserted, or if it is defective, the system detects this. The user is then prompted to insert a USB memory stick. Please note that the report will be deleted when the **DISCARD** button is pressed.



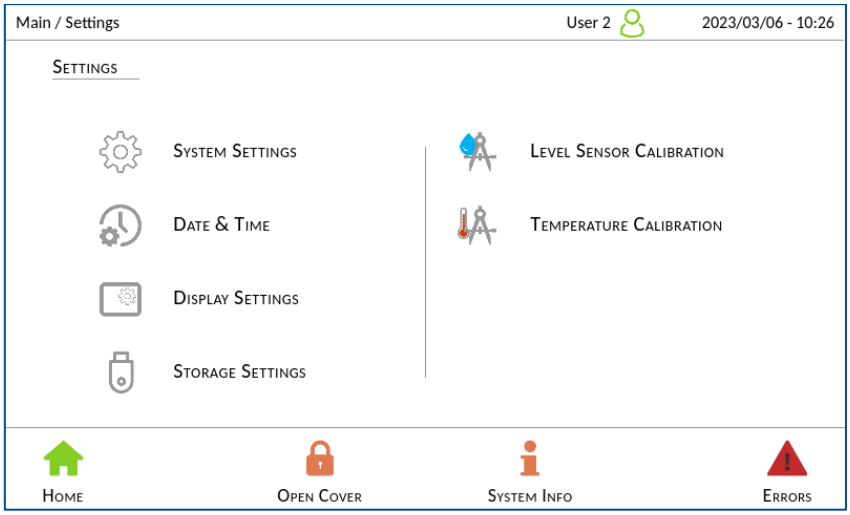
- Printer (optional):
  The optionally available panel printer prints the measured values directly onto a paper roll.

- Power outage:
  Please note that in case of a power failure, the report cannot be restored if it has not been generated before.

Settings

Introduction

In this chapter the general device settings and the setup of user accounts are explained



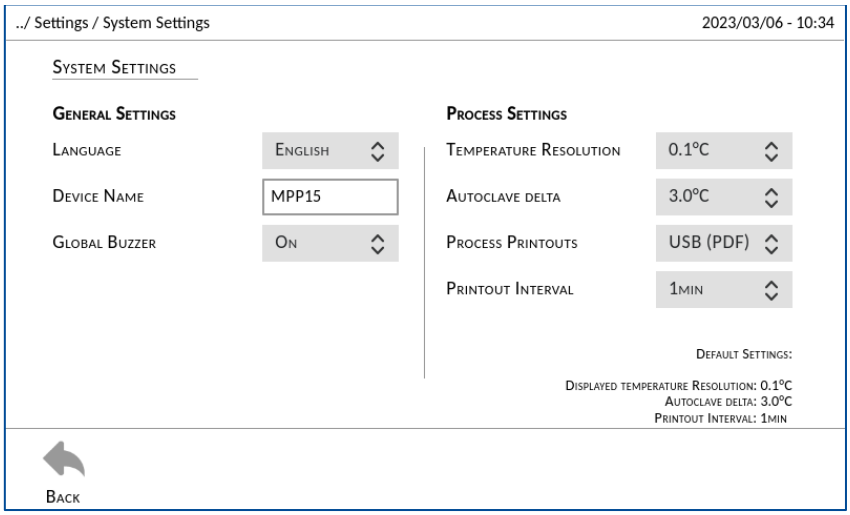
General Settings

On the main page of the settings all general device settings can be reached. Some settings can also be changed by logged in superusers

- System Settings
- Date & Time Settings
- Display Settings
- Storage Settings
- Level Sensor Calibration
- Temperature Sensor Calibration
- System Info
- Errors

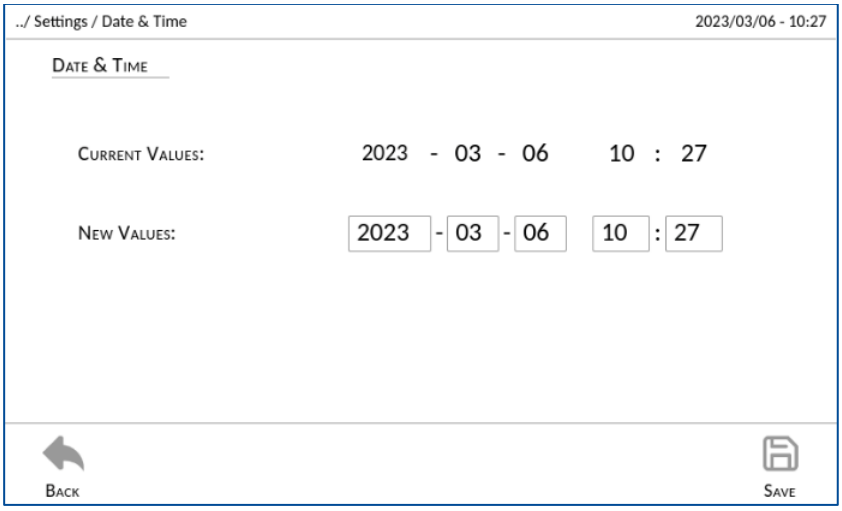
System Settings

- **Language:** Change language to your preferred language. Other languages than English will be optionally available and must be ordered separately (default: English).
- **Device Name:** This value will be printed on each program report and can be chosen freely (default: MPP15)
- **Global Buzzer:** Turn on or off the buzzer (default: on)
- **Temperature Resolution:** With this setting, the resolution of the temperature values on the display and printout can be adjusted. It is recommended to leave this value at 0.1°C. (default: 0.1 °C)
- **Autoclave Delta:** To prevent the formation of gel during the Autoclave cooling process, this setting defines how far the temperature of the coupling water may drop below the set dispensing temperature. A higher value accelerates the cooling process (default: 3.0°C)
- **Process Printouts:** This setting defines where the reports are documented. It can be chosen between Off, USB (PDF) or Printer. The panel printer is a device option and is available after activation.
- **Printout Interval:** Set the interval where a data point is created for the process reports (default: 1 Minute)



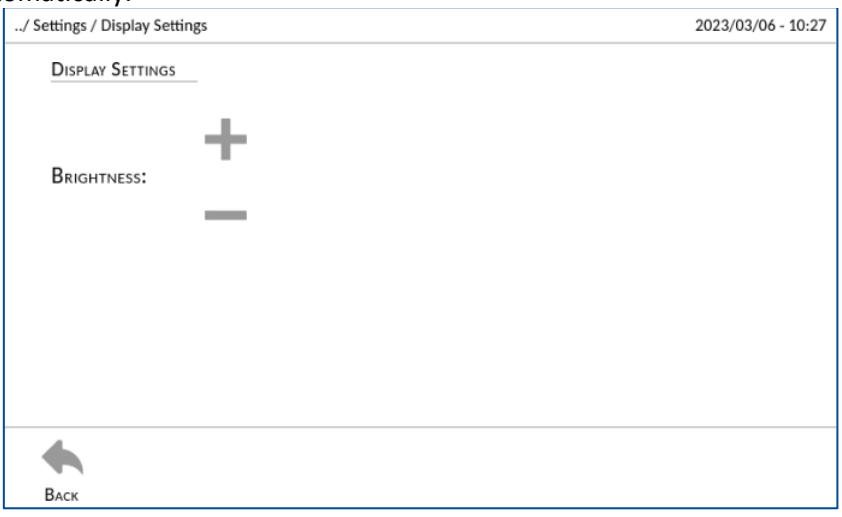
Date & Time Settings

Use this menu to set the correct date and time:



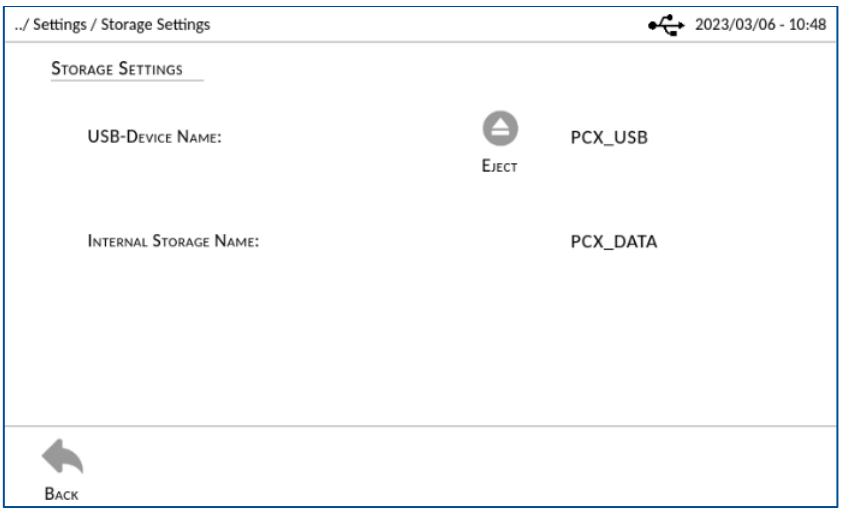
Display Settings

The brightness of the display can be adjusted in the display settings. Press **+** or **-** to adjust the brightness accordingly. The setting is saved automatically.



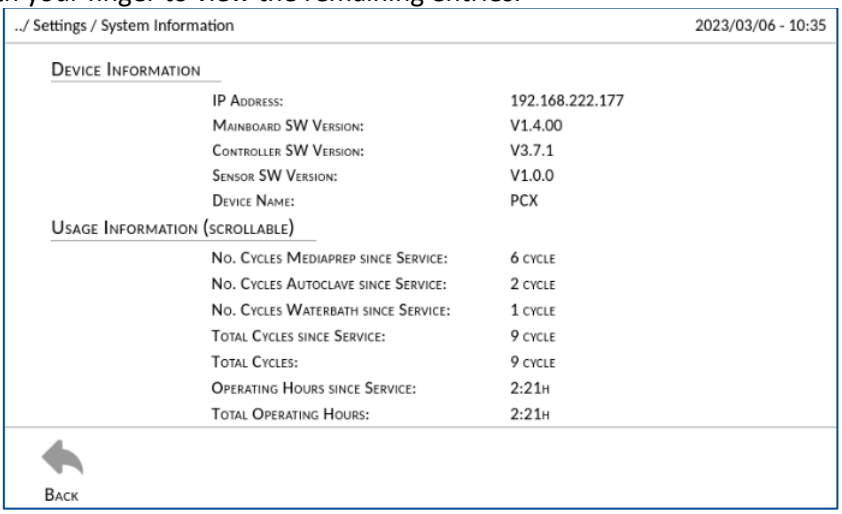
Storage Settings

If an external USB-device is connected to the MPP15, it is listed in this view. To safely eject an USB-Stick, press **EJECT.**



System Info

The System Info overview page displays some important information about the device. On the one hand, the software version, the device name, and the number of cycles is displayed and on the other hand important information about when the next service or filter change is necessary gets shown. Note that the lower table is scrollable. Swipe up with your finger to view the remaining entries.



Errors

When an error occurs, it is displayed in this list. Check the error code in chapter **Error Codes during Operation**.



Level Sensor Calibration

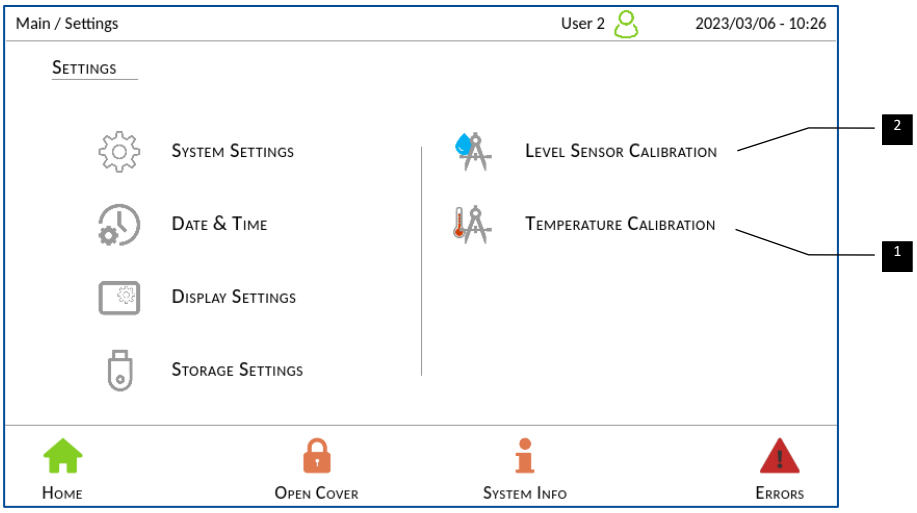
Attention: Before starting the level sensor calibration, make sure to start the **PRESSURE FILLING** program.

After transporting or installing the device to a new location, the water level sensor must be recalibrated.
Remove the cuvette and pour coupling water into the vessel until a level of approx. 50mm is reached. Measure now with a ruler the exact water level from the lowest point in the middle of the vessel to the water surface in mm.
Follow the instructions on the display [2] and insert the measured value in mm.
If the water level is not displayed correctly after calibration, this may be because the pressure filling did not remove all the air from the system. Perform a new **PRESSURE FILLING** and calibrate the level sensor again so that the water level is displayed correctly.

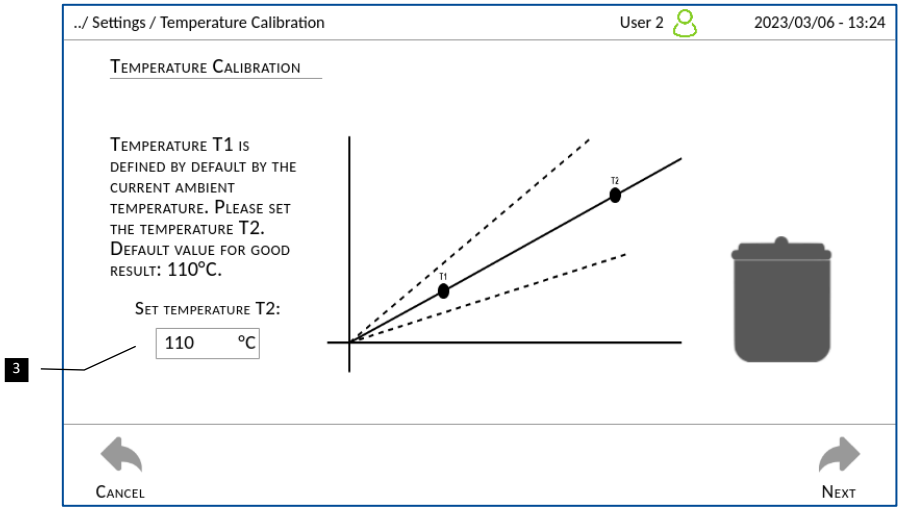
Temperature Sensor Calibration

This menu allows to calibrate the temperature sensors with an external device. This step is normally performed by a service technician and is only necessary during the annual service.
If you would like to perform temperature sensor calibrations by your own, please contact your service technician. He will help you to install the necessary connection cable.

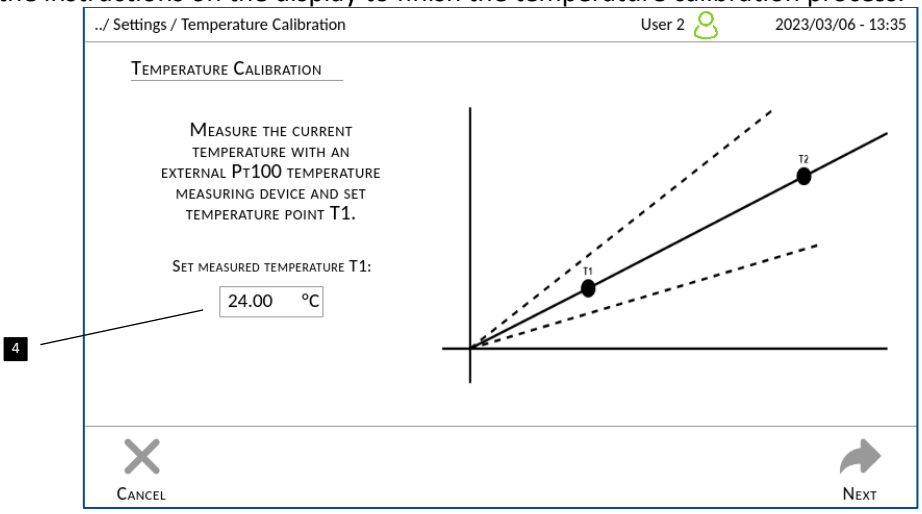
- Start the temperature calibration program [1]. This step may take about 30 minutes. There are two possible options:
  1. Use the flexible medium temperature sensor that is integrated in the device. To do this, it is necessary to connect your own external temperature measuring device to the connection cable, which should be installed by your service technician.
  2. Use your own custom-made sensor and connect it to the device through one of the port openings (separately available).



3. After starting the temperature sensor calibration program, set the calibration temperature [3]. The higher it is selected, the more accurate the calibration will be. A temperature of 110°C is recommended.



4. Now you will be asked to measure and enter the measured temperature at several temperature levels [4]. Follow the instructions on the display to finish the temperature calibration process.



User Overview

There are three different user functions available on the MPP15: **USER**, **SUPERUSER** and **SERVICE.**

USER: User Level 1 is only allowed to start processes but cannot change any process related settings nor create or change other users.

SUPERUSER: User Level 2 can add, edit, and delete programs. In addition, a **SUPERUSER** can also start a diagnostic run, calibrate the sensors, and create or customize other users.

SERVICE: The service user is intended only for your service technician and is required for the annual service.

To reach the user setting page click on **USERS/ LOGIN** on the main menu.

Recovery after password loss

The permanently existing user called **SUPERUSER** (user function: **SUPERUSER**) is used to reset passwords or create new users in case of password loss.
The password of the user **SUPERUSER** is factory-defined and cannot be changed. Please contact your service technician in case you need to use the **SUPERUSER** user.

Login

- To log into a user account, select the user and click **LOGIN** and enter the password.

Passwords

The default user names and passwords when the device is delivered are as follows:

- User 1: <No Password>
- User 2: **1234**

Add / Edit / Delete Users

- The option buttons are only visible to users with **SUPERUSER** rights.
- To add a new User, click **ADD.**
- To edit or delete a user, select the user and click the **EDIT** or **DELETE** button.

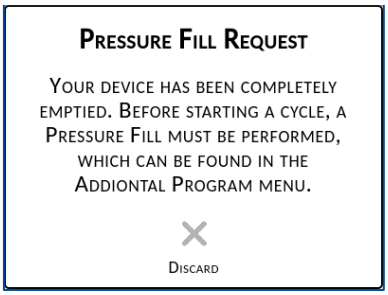
Logout

- Turning off the device automatically logs off all users.
- Users can also be logged out manually by pressing **LOGOUT.**

Additional Programs

Pressure Filling

Attention: The cuvette must be removed before starting the PRESSURE FILLING program.
To ensure a failsafe operation of the device, **PRESSURE FILLING** is necessary before the first operation. This program fills all hoses and the circulation pump inside the unit with water. Remove the cuvette from the device before starting the **PRESSURE FILLING**. At least 80mm water of **Type III Grade** (e.g. deionized, distilled water) must be used. This corresponds to approx. 5 liters.
The whole **PRESSURE FILLING** process takes about 2 minutes.
If your device requires **PRESSURE FILLING** because it has been completely emptied due to delivery or other reasons, it will show you the following information after the start up procedure:



Pressure Emptying

Attention: After the **Pressure Emptying** program, a **Pressure Filling** run must be carried out before the unit can be used again.
To completely empty the device a **Pressure Emptying** is recommended. This program is also used to empty the water circuit inside the unit.
If the device needs to be emptied particularly thoroughly the **Advanced Mode** can be activated by pressing the **Activate Advanced Mode** button. This empties the device twice, at a higher pressure. It is recommended to use this mode before the unit is shipped.

Empty Coupling Water

Choose **Empty Coupling Water** to release some coupling water without additional pressure.
This process must be started and stopped manually.

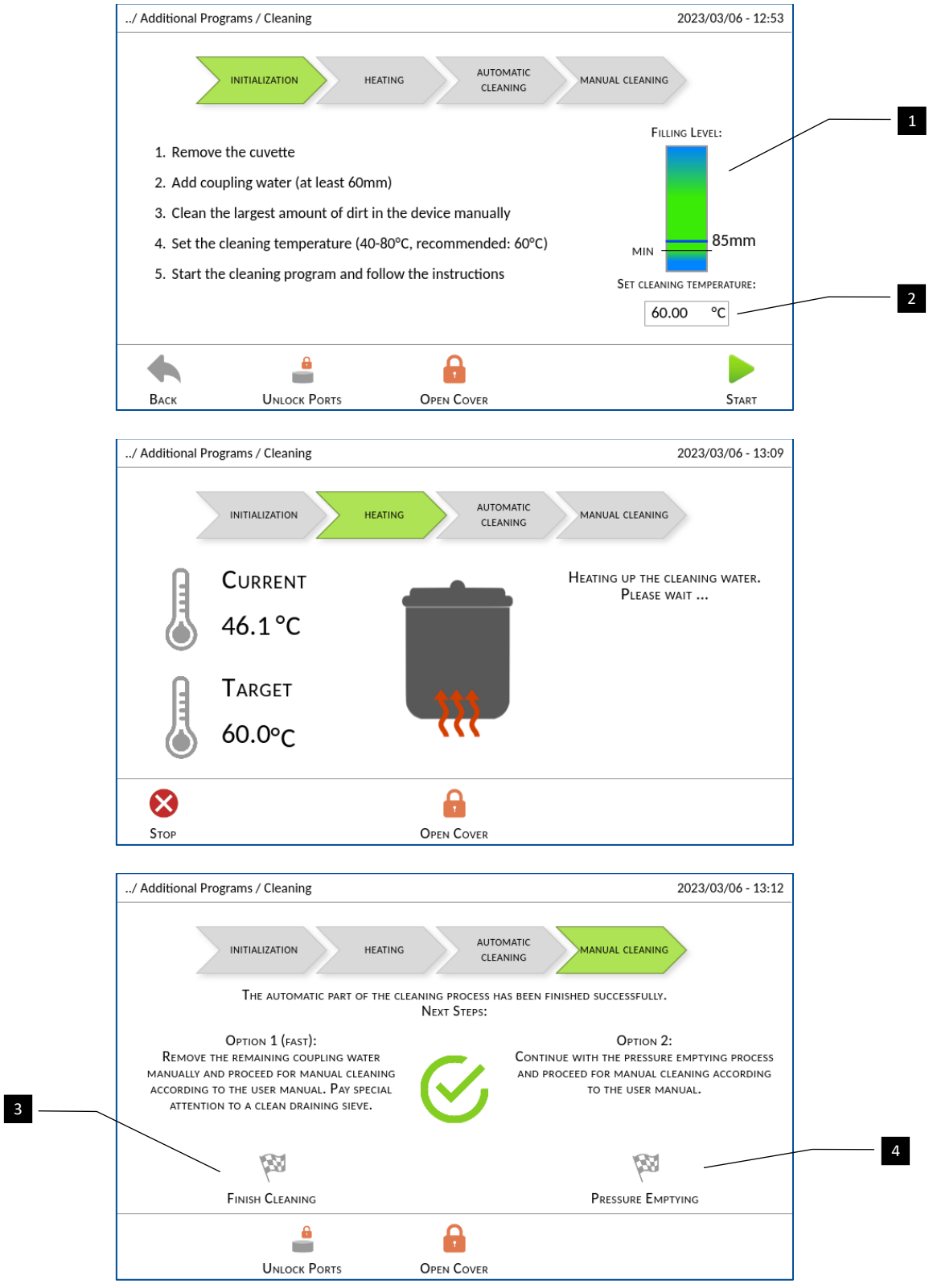
Cleaning Program

For the MPP15 to run reliably, the cleaning program must be carried out weekly, at the latest when the message: **Cleaning Required** appears.



- To start the cleaning process, choose **Cleaning** in the additional programs.
- Before starting the automatic cleaning process, follow the instruction on the screen of the initialization page and set the cleaning temperature.
- A higher cleaning temperature improves the result but takes longer. A temperature of 60°C is recommended to melt up any agar in the system and wash it out automatically.
- After a rough manual cleaning, the coupling water is heated to a pre-set temperature to dissolve agar residues. In addition, the coupling water is automatically circulated and slowly drained.
- The process takes about 15 minutes, depending on the filling level.
- After the automatic part of the cleaning process, the device must be cleaned and dried manually. In addition, the drain sieve should be cleaned well.

Before the next usage of the device, **Pressure Filling** must be performed.



1 Coupling water level. Must be greater than 60mm

2 Set cleaning temperature by clicking on temperature

3 Finish Cleaning (fast option)

4 Finish Cleaning with pressure emptying (recommended)

Diagnostic

The following diagnostic runs are only needed when something is not working, so that the service technician can better assess whether a repair is due. Users with User function **SUPERUSER** can start the diagnostic programs. The following programs are located on the screen **ADDITIONAL PROGRAMS** and only visible when logged in as **SUPERUSER.**

Seal Diagnostic

The additional program called **SEAL DIAGNOSTIC** may be used to test the tightness of the Sealing air circuit. It lasts about 5 minutes. Start the program and follow the instructions on the screen.

Vessel Diagnostic

The additional program called **VESSEL DIAGNOSTIC** may be used to test the tightness of the Vessel air- and water circuit. It lasts about 5 minutes. Start the program and follow the instructions on the screen.

Heater Diagnostic

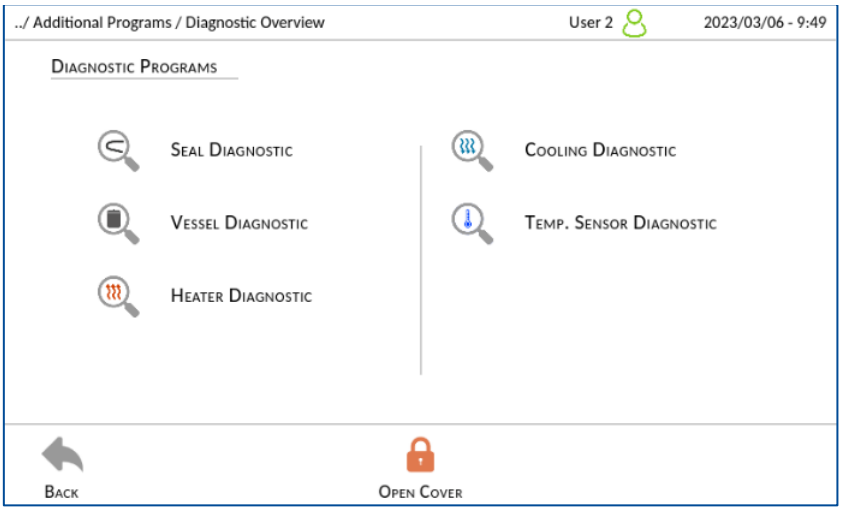
If it is not clear whether the heater is working as it should, the program can be used to test it. Before starting this process, it is necessary to run the **Pressure Filling** program. The coupling water is heated up and the software can automatically determine whether the heating rate meets the specifications.

Cooling Diagnostic

If cooling should ever take too long, the **Cooling Diagnostic** program can be used to determine whether there is a fault. **Pressure Filling** is necessary before starting the program. After that, this program can be started. Coupling water is heated up to a predefined temperature and then cooled down. The software automatically determines whether everything is in order based on the cooling rate.

Temperature Sensor Diagnostic

The **Temperature Sensor Diagnostic** program can be used to determine whether the temperature sensors are functioning properly. However, this tool can only output a guide value. If something is wrong with the temperature sensors, contact your service technician.



Maintenance

Overview

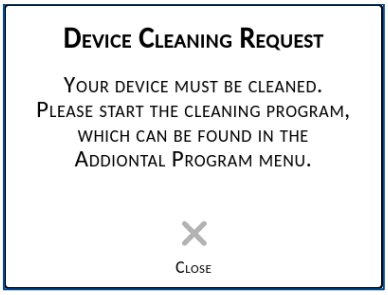
To ensure a safe use, the device must be periodically cleaned and maintained.
Only use the attachments and accessories specified by the manufacturer.

Daily Maintenance

- Clean the device with a microfiber cloth after each use
- visually check that the inflatable seal and the flexible temperature sensor for potential damages

Weekly Maintenance

- After 10 days or a maximum of 20 program sequences it is necessary to change the coupling water
- Start the cleaning program (additional programs) to change the coupling water
- Use a microfiber cloth to clean the vessel, the flexible temperature sensor, the stirrer and all visible impurities
- Please note that it is not a cause for concern if there are a few drops of water under the device. Due to the temperature differences inside the device, condensation may occur.



Semi-annual Maintenance

Attention: Do not change the sterile e until the unit has cooled down completely.

- Every six Month or after 250 program sequences the sterile filter must be replaced
- Turn off and unplug the device to replace the sterile filter
- The device must not be connected to the mains if the sterile filter is not plugged in correctly
- Only the manufacturer's original sterile filters may be used

Service Intervals

Every year (365 days after the last service or the first commissioning of the unit) or after 1000 cycles, whichever comes first, the unit must be serviced by an authorized service technician.



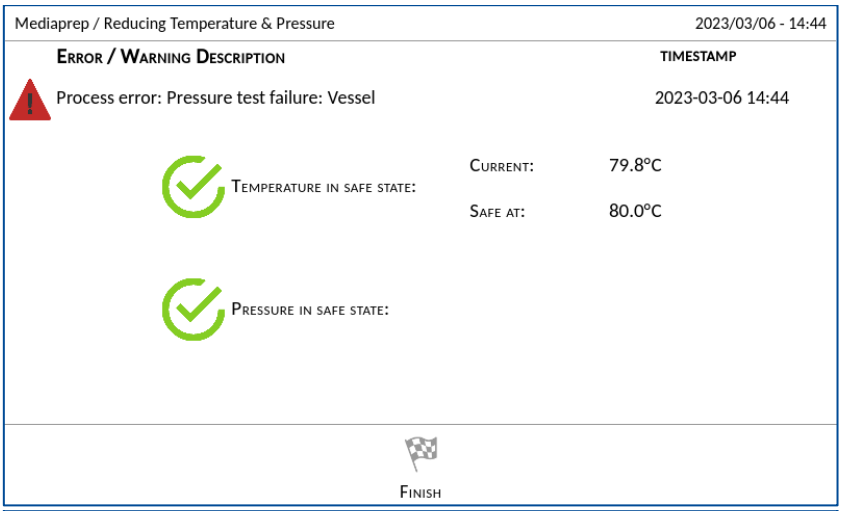
Replaceable accessories and spare parts

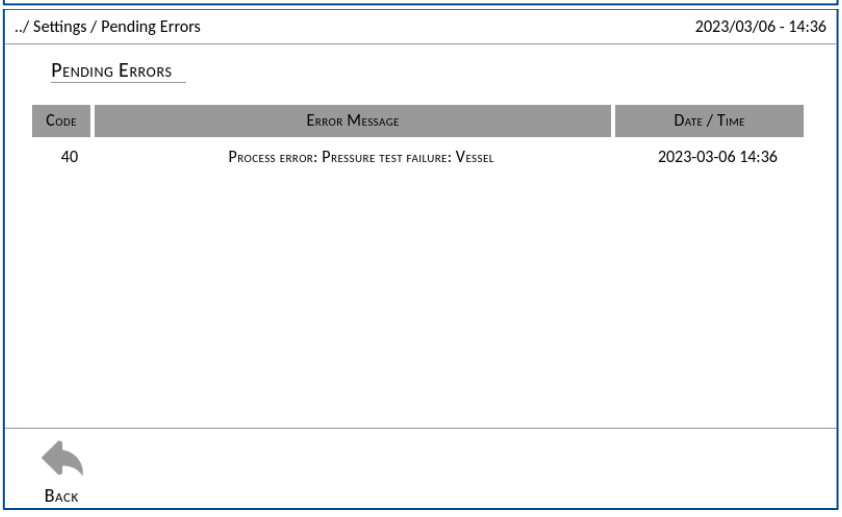
Description	Cat. No.
Filter-Set 0,2 µm, sterile	710-2221
Septum for Port (Set of 2)	710-2222
Drain sieve, fine mesh steel	710-2223
Medium vessel (cuvette)	710-2224
Magnetic stirrer	710-2225
Self-sealing quick connector	710-2226
Auto-lock port	710-2227
Magnetic extraction connector	710-2228
Flexible temperature sensor	710-2229
Cuvette spacer (Set of 3)	710-2230

Troubleshooting

Troubleshooting Overview

During operation, the device is continuously monitored. If any unusual behavior occurs, running programs are automatically aborted and the device is cooled down. In the main settings, the **ERRORS** overview can be called up at the bottom right. In case of an error, an error code is displayed, which is described in more detail in the table in the next chapter.





Error Codes during Operation

Code	Message	Cause	Possible solution
1	Communication error with mainboard	Problem with the electronics part of the device	- Restart the device. If the problem persists, contact your service technician
2	Communication error with sensorboard	Problem with the electronics part of the device	- Restart the device. If the problem persists, contact your service technician
3	Communication error with actuatorboard	Problem with the electronics part of the device	- Restart the device. If the problem persists, contact your service technician
31	StartUp error: Unsafe start condition	The device is in an abnormal state at startup. Either it is not depressurized or the temperature in the boiler is too high.	- Wait until the device has reduced the temperature and / or the pressure
32	StartUp error: Unsafe start condition: Temperature	One of the integrated temperature sensors measured a too high value during device startup.	- Wait until the device has reduced the temperature
33	StartUp error: Unsafe start condition: Pressure	One of the integrated pressure sensors measured a too high value during device startup.	- Wait until the device has reduced the pressure
38	Process error: Pressure test failure	Error detected during pressure test.	- Check if all ports are closed - Repeat the last step and check if the error appears again - Restart the device. If the problem persists, contact your service technician
39	Process error: Pressure test failure: Seal	Error detected during pressure test. Sealing is leaking.	- Check the position of the cover sealing. It must be completely in the intended position. - Restart the device. If the problem persists, contact your service technician
40	Process error: Pressure test failure: Vessel	Error detected during pressure test. Vessel is leaking.	- Check if all ports are closed - Repeat the last step and check if the error appears again - Restart the device. If the problem persists, contact your service technician

41	StartUp error: No internal storage medium	No storage SD card detected.	- Restart the device. If the problem persists, contact your service technician
82	Sensorboard: Medium temperature sensor issue	Medium temperature sensor may be defective.	- Restart the device. If the problem persists, contact your service technician
83	Sensorboard: Couple temperature sensor issue	Couple water temperature sensor may be defective.	- Restart the device. If the problem persists, contact your service technician
84	Sensorboard: Opened cover sensor detected	The device's sensors indicate an open cover, which should be closed in the current state.	- Check your device cover. - Restart the device. If the problem persists, contact your service technician
85	Sensorboard: Heater temperature sensor issue	Heater temperature sensor may be defective.	- Restart the device. If the problem persists, contact your service technician
86	Sensorboard: Vessel pressure sensor issue	Vessel pressure sensor may be defective.	- Restart the device. If the problem persists, contact your service technician
87	Sensorboard: Sealing pressure sensor issue	Sealing pressure sensor may be defective.	- Restart the device. If the problem persists, contact your service technician
111	Actuatorboard: Seal pressure timeout	Problem with seal pressure build-up. Sealing may be defective.	- Check the position of the cover sealing. It must be completely in the intended position. - Run the **SEAL DIAGNOSTIC** program - Restart the device. If the problem persists, contact your service technician
112	Actuatorboard: Vessel pressure timeout	Problem with vessel pressure build-up. Vessel may be leaking.	- Check if all ports are closed - Repeat the last step and check if the error appears again - Run the **VESSEL DIAGNOSTIC** program - Restart the device. If the problem persists, contact your service technician
115	Actuatorboard: Stirrer motor overcurrent detected	Problem with stirrer motor detected. The motor or the stirrer may be blocked.	- Restart the device. If the problem persists, contact your service technician

Technical service

Web Resources

Visit the VWR website at **www.vwr.com** for:

• Complete technical service contact information

• Access to the VWR Online Catalogue, and information about accessories and related products

• Additional product information and special offers

Contact us For information or technical assistance contact your local VWR representative or visit. www.vwr.com.

Warranty

VWR warrants that this product will be free from defects in material and workmanship for a period of two (2) years from date of delivery. If a defect is present, VWR will, at its option and cost, repair, replace, or refund the purchase price of this product to the customer, provided it is returned during the warranty period. This warranty does not apply if the product has been damaged by accident, abuse, misuse, or misapplication, or from ordinary wear and tear. If the required maintenance and inspection services are not performed according to the manuals and any local regulations, such warranty turns invalid, except to the extent, the defect of the product is not due to such non-performance.

Items being returned must be insured by the customer against possible damage or loss. This warranty shall be limited to the aforementioned remedies. IT IS EXPRESSLY AGREED THAT THIS WARRANTY WILL BE IN LIEU OF ALL WARRANTIES OF FITNESS AND IN LIEU OF THE WARRANTY OF MERCHANTABILITY.

Compliance with local laws and regulations

The customer is responsible for applying for and obtaining the necessary regulatory approvals or other authorisations necessary to run or use the Product in its local environment. VWR will not be held liable for any related omission or for not obtaining the required approval or authorisation, unless any refusal is due to a defect of the product.

Equipment disposal



This equipment is marked with the crossed out wheeled bin symbol to indicate that this equipment must not be disposed of with unsorted waste.
Instead it's your responsibility to correctly dispose of your equipment at lifecycle -end by handling it over to an authorized facility for separate collection and recycling. It's also your responsibility to decontaminate the equipment in case of biological, chemical and/or radiological contamination, so as to protect from health hazards the persons involved in the disposal and recycling of the equipment.
For more information about where you can drop off your waste of equipment, please contact your local dealer from whom you originally purchased this equipment.

By doing so, you will help to conserve natural and environmental resources and you will ensure that your equipment is recycled in a manner that protects human health.

Thank you

Appendix

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