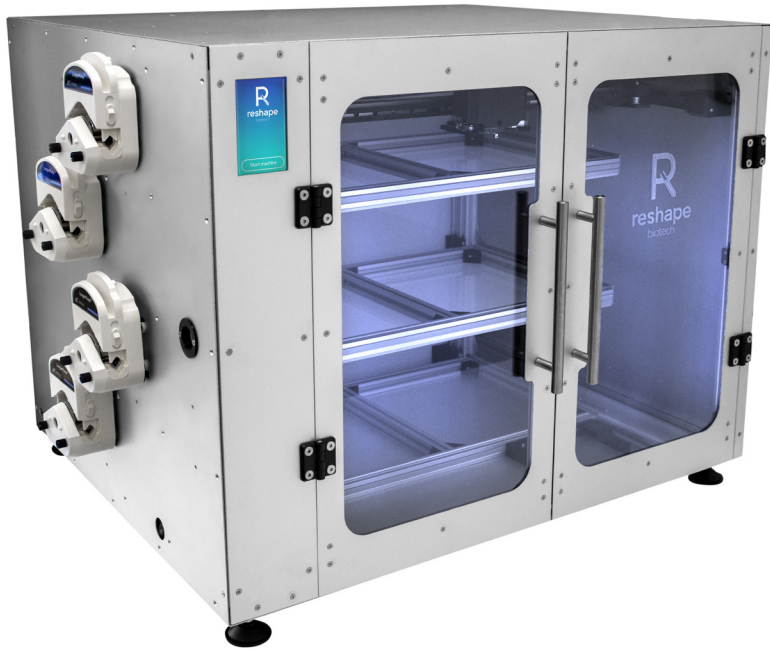




reshape
biotech



Media Plate Filler

User Manual

Safety



CAUTION

- The machine is only capable of running when the door is closed. If the door is opened during operation, the machine will immediately stop, and the pump will evacuate the tubing backwards into the media bottle.
- In case of failure, opening the door can be used as an emergency stop. Please be aware that this might contaminate the media.
- Hot water is used to clean the tubes between each run. Please be careful when handling heated containers and use gloves as appropriate. The silicone tubing will become warm during the cleaning operation.



WARNING

- Only use the Media Plate Filler with the power supply that was supplied with the machine on installation. Any other power supply might damage the electronics.
- Do not attempt to fill plate formats other than those described in this manual.
- Do not attempt to fill media without selecting the proper media profile in the user interface. Failure to comply might result failure of the machine, spilling of large quantities of agar and potentially breaking the equipment.

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Introduction

The user manual describes how to use Reshape Biotech's Media Plate Filler v1.0.

The following describes correct safety measures, how to operate the machine during normal use, and how to troubleshoot problems.

Product Specifications

Batch Size	Maximum of 30 plates or 45 petri dishes
Input	Empty SBS Omnitrays/4/8/24 well plates or petri dishes
Input	Pre-mixed agar in bottles. Required amount + 100 ml for priming
Agar Temperature	Kept at 60°C using water bath
Min. dispensing volume accuracy	+/- 80µL
Total dispensing flowrate (across 4 channels)	35mL/min
Dimensions incl. pumping system	90x70x65 cm (WxDxH)
Electrical	Supply: 230 VAC, 50 Hz, 320 mA

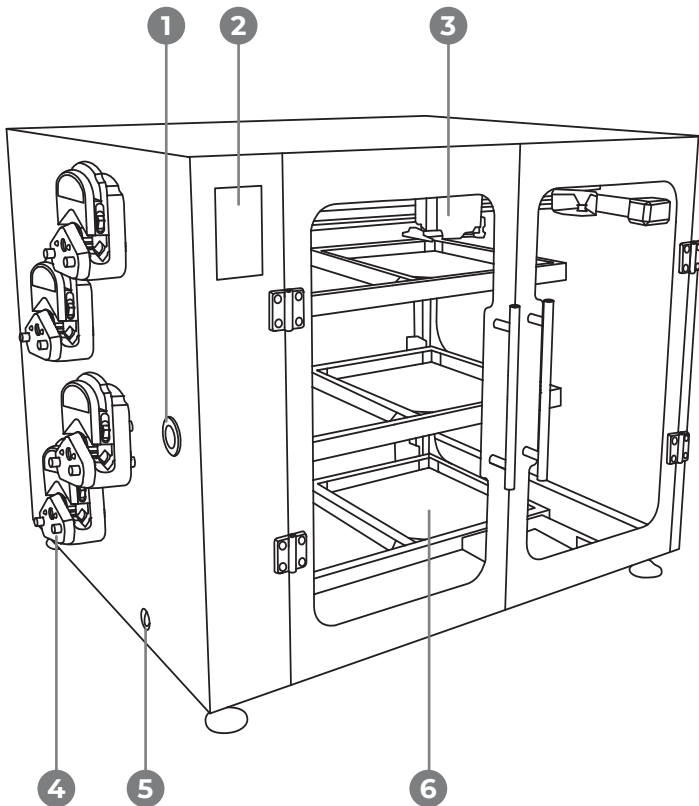


ELECTRONIC DEVICE: DO NOT THROW AWAY
Proper disposal is required. Refer to your local codes for disposal requirements.

Overview

Using a peristaltic pumping system, the Reshape Media Plate Filler is capable of filling batches of up to 30 SBS-format plates with various media.

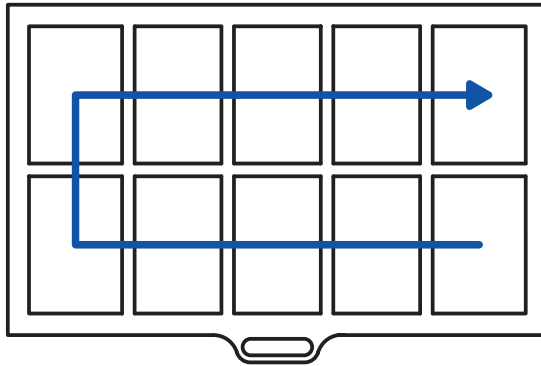
It consists of a 3-axis robotic platform with a toolhead, capable of gripping lid plates and dispensing media.



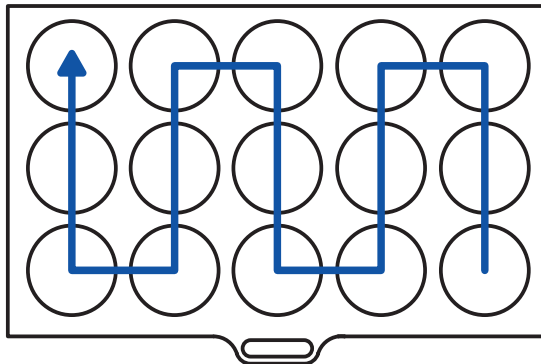
- 1 Tube entrance
- 2 Touchscreen
- 3 Gripper

- 4 Peristaltic pumps
- 5 On/off switch
- 6 Tray shelves

Overview



Tray for SBS plates.



Tray for petri dishes.

The machine supports both petri dishes and SBS plates. The blue arrow shows the filling route.

Please note that the type of trays delivered with the Media Plate Filler are specified by the customer upon ordering and both trays are therefore not automatically included.

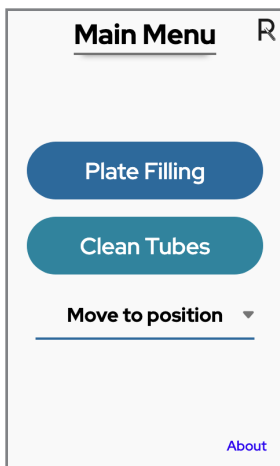
Operation

To operate the machine, the three trays are loaded with plates, and liquid media as well as hot water is prepared. A simple procedure is then followed by using the user interface and transferring silicone tubes between the media and cleaning water.

Load trays with the desired number of plates and place an omnitray into the priming container position as well as a 300 ml SBS-format reagent reservoir into the cleaning slot.

Plate Filling Flow

Below is a guide of the user interface, describing the intended process flow in a range of guiding steps.



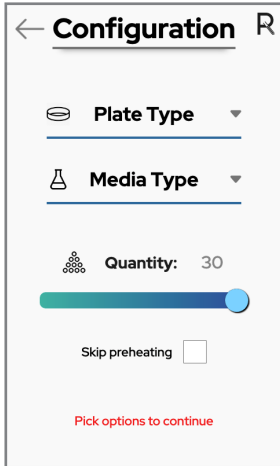
1. Main Menu

The main menu allows the user to select which program the machine should run.

It contains the plate filling option and the cleaning cycle option, in which hot water is used to rinse the tubing.

Tap the *Plate Filling* button to begin the process.

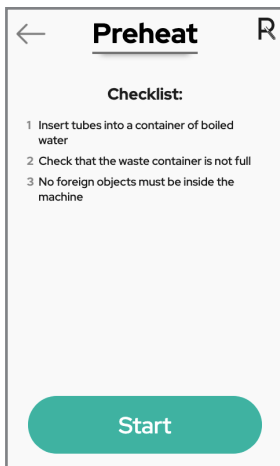
Operation



2. Plate Filling Menu

The Plate Filling menu allows the user to select the desired parameters, including the media type, the plate type, and the quantity of plates the machine should run, ranging from 1-30 plates (1-45 if petri).

Select the desired options in all the different categories and tap *continue*.



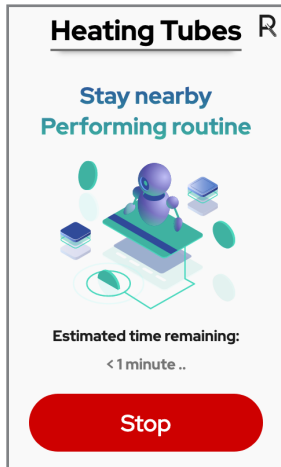
3. Preheating: Caution

Before the Plate Filling process can begin, the machine needs to preheat the tubes.

In order to continue the Plate Filling process, carefully read and follow the instructions on the Preheating screen.

Tap the button when you are ready to continue.

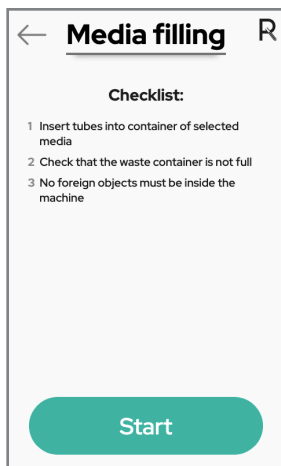
Operation



4. Preheating: Waiting

A waiting screen will now appear, indicating that the machine is preheating. The process will automatically continue when the count-down timer runs out.

If the process has to be cancelled, tap *Cancel*, which will result in the machine resetting position and returning to the *Main Menu*.

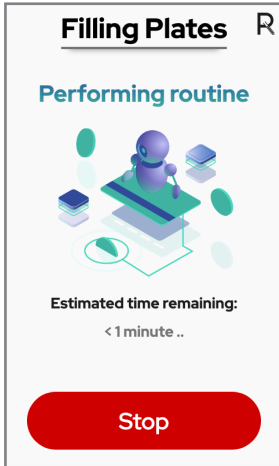


5. Plate Filling: Caution

In order to continue the Plate Filling process, carefully read and follow the instructions on the Preheating screen.

Tap the button when you are ready to continue.

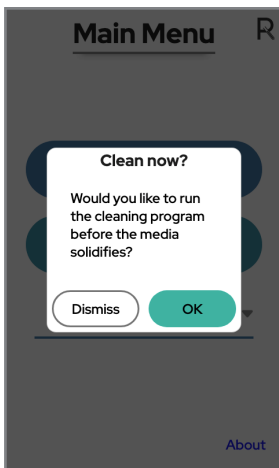
Operation



6. Plate Filling: Waiting

A waiting screen will now appear, indicating that the machine is filling the plates. The process will automatically continue when the count-down timer runs out.

If the process has to be cancelled, tap *Cancel*, which will result in the machine resetting position and returning to the *Main Menu*.



7. Success

After 5-10 minutes, the plates should have solidified and can be removed from the machine.

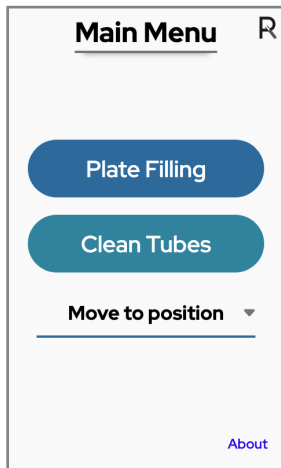
After the filling procedure is complete, immediately transfer the tubing back into the hot water container and tap on *Clean*.

The Cleaning Cycle flow will be described on the next pages.

Operation

Cleaning Cycle Flow

Below is a guide of the user interface, describing the intended process flow in a range of guiding steps.

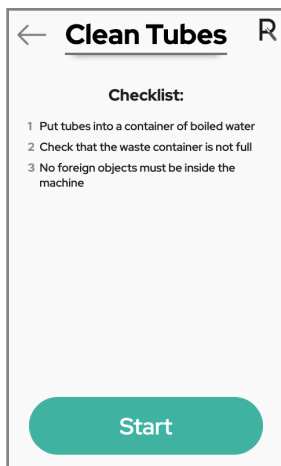


1. Main Menu

The main menu allows the user to select which program the machine should run.

It contains the plate filling option and the cleaning cycle option, in which hot water is used to rinse the tubing.

Tap the *Cleaning Cycle* button to begin the process.

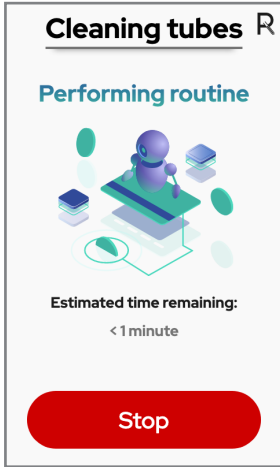


2. Cleaning Cycle: Caution

In order to continue the Cleaning Cycle process, carefully read and follow the instructions on the Cleaning screen.

Tap the button when you are ready to continue.

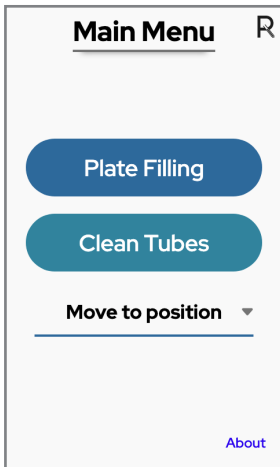
Operation



3. Cleaning: Waiting

A waiting screen will now appear, indicating that the machine is cleaning. The process will automatically continue when the count-down timer runs out.

If the process has to be cancelled, tap *Cancel*, which will result in the machine resetting position and returning to the *Main Menu*.



4. Finished

The machine has now successfully run the Cleaning Cycle program.

It will automatically return to the Main Menu and is ready to run the Plate Filling program again.

Wipe the dispensing end of the tubing with ethanol to remove any residual agar.

For instructional video on the cleaning process, please go to: www.reshapebiotech.com/media-plate-filler

Operation

Cleaning and consumables

The tubing ends should be wiped down after each use with a damp rag followed by ethanol to ensure that no residual agar is left on them.

The trays are easily removable and can be cleaned for dust or potential agar spills after removal with a damp rag and wiped down with ethanol.

The interior of the machine can be safely cleaned while the door is open with a wet rag and wiped down with ethanol as necessary.

The silicone tubing will be replaced during routine maintenance. Replacing the silicone tubing can also be done by the user. See the instruction video on our webpage: www.reshapebiotech.com/media-plate-filler

In case the silicone tubing clogs, it is possible to gently massage the input side of the tubes right before the peristaltic pump to unclog the tubing. If unable to clear the clog, please contact Reshape Biotech.

Document Applicability

Features released in the most recent versions of software may not be described in this document but are described in *Release Notes*, which can be found on the Reshape Biotech website.

If information provided in this document conflicts with information in the Release Notes, the Release Notes take precedence.

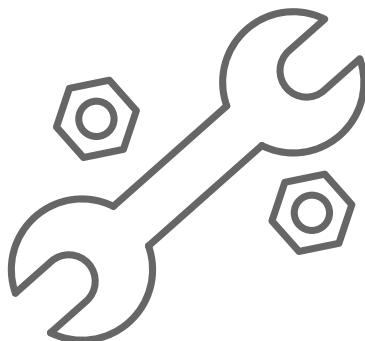
Service and maintenance

As per the service agreement, Reshape Biotech will service the machine in regular intervals of once every quarter, inspecting the equipment and replacing the silicone tubing and potentially other components as part of a preventative maintenance schedule.

In the event of a machine malfunction or breakdown, open the door and turn off the power to the machine using the button on the back.

Afterwards, contact Reshape Biotech, who will do an on-site check-up and reparation as soon as possible.

Do not transport, move or adjust the level of the machine without the assistance of a technician from Reshape Biotech. This might cause a loss of calibration and ultimately result in machine failure.



Troubleshooting

Machine won't start

- 1 Check to make sure that all trays are properly seated and in their correct positions.
- 2 Check to make sure the door is closed and aligned. Listen for the click of the microswitch by the door as you close it.
- 3 Check that the power button is switched on and that the power cable is properly seated in the connector.
- 4 If the problem persists, try restarting the machine. If that doesn't help, contact Reshape Biotech.

Lid lifted incorrectly/dropped

- 1 Press the *cancel* button on the user interface.
- 2 Open the door and remove the lid, placing it back on the tray.
- 3 Restart the machine.
- 4 Run the program again.
- 5 If lids are lifted incorrectly or dropped more than very rarely, contact Reshape Biotech.

Dispensing incorrectly (too much, too little, bad surface quality, bubbles)

- 1 Run the *Cleaning Cycle* program several times with freshly boiled demineralized water.
- 2 Visually inspect the end of the tube during cleaning to ensure that the tubes are not clogged.
- 3 Ensure that the tube clamp on each of the four pump modules is seated properly, meaning that the clamp handle is in a horizontal position.

Troubleshooting

One or more tubes clogged

- 1 Run the *Cleaning Cycle* program.
- 2 While the pumps are pumping or attempting to pump hot water, gently massage the clogged part of the tube, focusing on the part before the pump.
- 3 If the problem persists after several cycles of cleaning, contact Reshape Biotech.

If you notice a mistake after starting the machine (misplaced SBSplate, lid not seated properly)

- 1 Press the *cancel* button on the user interface.
- 2 Open the door and fix the mistake. You can simply take the lid out of the gripper in case the machine has been stopped while holding the lid.
- 3 Run the program again.

Irregular behavior

- 1 Press the *cancel* button.
- 2 Restart the machine.
- 3 Run the program again.
- 4 If the problem persists, contact Reshape Biotech.

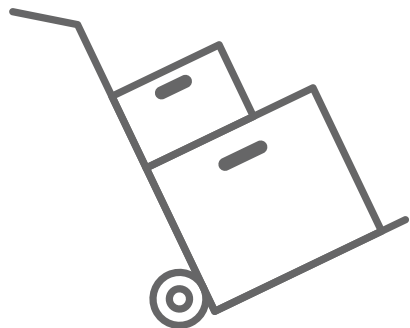
Component failure or other major errors

Contact Reshape Biotech. Try to describe the problem as well as possible. A service technician will be on site as soon as possible for troubleshooting and potential repairs.

Storage

In case the Media Plate Filler requires dismantling or moving, contact Reshape Biotech.

Contact information can be found on the back of the manual.



EU Declaration of Conformity

Manufacturer's name	Reshape IVS
Manufacturer's address	Christian X's Alle 89 2800 Kongens Lyngby Denmark
Product name	Reshape Media Plate Filler
Product model	MPF v1.1

Reshape declares under sole responsibility that the product complies with the essential requirements of the necessary directives when used and maintained in accordance with the manufacturer's instructions.

Safety

DIRECTIVE 2006/42/EC on machinery

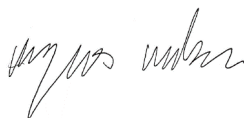
Safety requirements for electrical equipment

EN 61010-1

EN 61010-2-81

Electromagnetic compatibility

EN 61326-1



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