



Thank you for purchasing our device

Dosing pump / Dosing pump PRO

Dosing pump x3 / Dosing pump Large

Table of contents

I. Initial pump configuration.4

II. Pump operation configuration.7

III. Pump calibration.15

IV. Manual refill.....17

V. Additional pump functions.19

VI. Resetting the device.....22

VII. Smart Reef system.....22

IMPORTANT INFORMATION: This manual contains information about the features of a device with the latest firmware version installed (0.5.5). The firmware version is always displayed in the bottom right corner of the screen, below the product serial number. If your firmware version is older, update your device firmware to access the latest features.

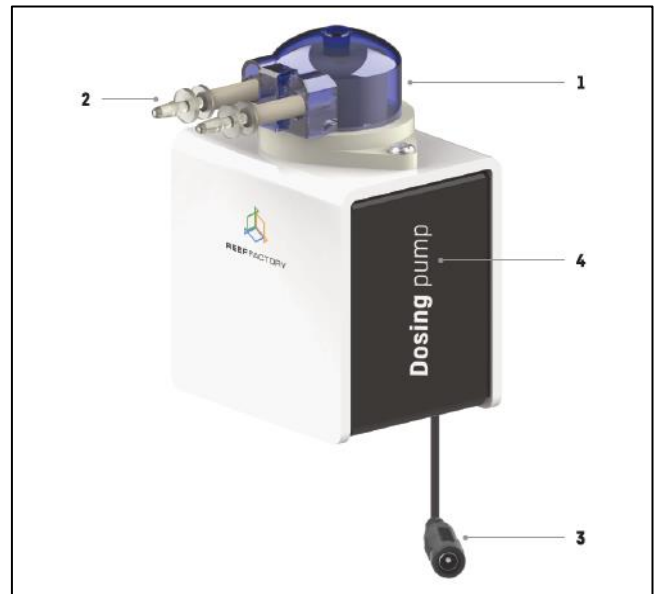
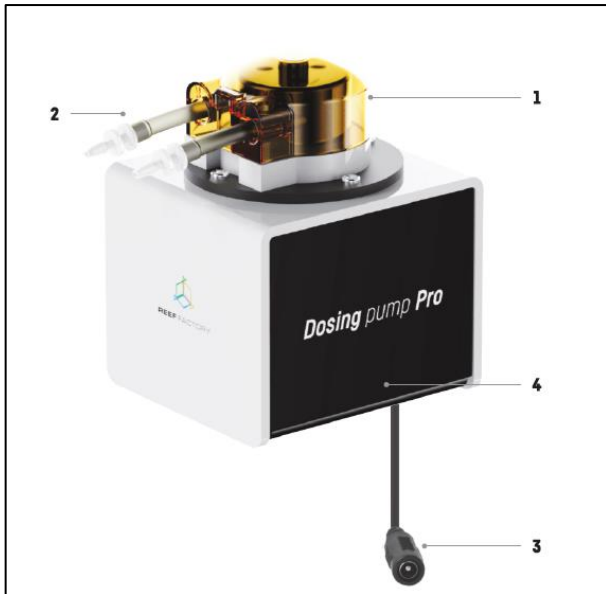
Apart from the *Dosing pump* / *Dosing pump x3* / *Dosing pump PRO* device itself, the package contains the following elements: a pump, a pump cylinder head, a 12 V power supply unit, a magnet that can be used to reset the device, an abbreviated manual and a silicone hose for dosing liquids (does not apply to Dosing Pump LARGE).

Dosing pump / *Dosing pump x3* and *Dosing pump PRO* have similar functionalities, but they differ in terms of dosing precision. *Dosing pump* / *Dosing pump x3* accuracy is equal to 0.1 ml, while *Dosing pump PRO* accuracy is equal to 0.01 ml. The largest pump, Dosing Pump LARGE, is a high-performance pump used for changing or refilling water (automatic refill). The basic unit of the amount of added water for Dosing pump LARGE is liter.

I. Initial pump configuration.

In order to set up the device correctly, follow the steps below.

1. See the figures below to learn how to connect the peripherals to the *Dosing pump* / *Dosing pump x3* / *Dosing pump PRO* device correctly. Notice the designations of individual elements, so as not to confuse them while connecting.





1 - pump head
2 - water hose connector

3 - power cord with plug for power connection
4 - place the magnet here to reset the device

2. Install the dosing head on the pump, cut the silicone hoses to the appropriate length (hoses should not be longer than 2 meters, as this may compromise the dosing accuracy), remove the connector guards from the pump cylinder head and then connect the hoses to the connectors. Place the ends of silicone hoses in the tank with a liquid to be dosed and in the aquarium tank.

CAUTION: check whether the pump flow direction is correct, that is whether the liquid is pumped to the aquarium and not the other way around.

3. After performing these actions, place the pump in a safe location in a convenient position (the pump may operate in any position) and connect the power supply using a dedicated 12 V power supply unit.

NOTE: the dedicated power supply unit has a different supply voltage than our other products and it must not be replaced by another power supply unit. If you use a power supply unit from one of our other devices, the pump may not operate correctly or become permanently damaged.

4. The device can be set up via a browser on a computer, laptop, tablet or smartphone. To do so, you'll first need to view the list of Wi-Fi networks available on the device. Then connect to the network with the name corresponding to the serial number of your device, in accordance with the following pattern:

- in the case of *Dosing pump*: **RFDPXXXXXXXXXXXXX.**

- in the case of *Dosing pump PRO*: **RFPPXXXXXXXXXXXXX.**

- in the case of *Dosing pump x3*: **RFDXXXXXXXXXXXXX.**

- in the case of *Dosing pump LARGE*: **RFDLXXXXXXXXXXXXX.**

Our devices are compatible with 2.4 GHz networks.

To log in, enter the following password:

reeffactory

5. Open an Internet browser on the same device and type the following address in the "website address" field:

www.dosingpump.io

If you entered the address correctly and you still see the following message, it means that a connection with the device couldn't be established, so the connection with your home Internet network (wired or wireless) is still active.



Try to reconnect to the device and repeat the steps described above.

II. Pump operation configuration.

Set up your device in five simple steps.

Step one - choose the language you want to use when operating the device.

Welcome!

Thank you for purchasing our device!

Now you will need to set it up and connect it to the **Smart Reef** system.

Select a language and press "Next".

<input checked="" type="radio"/> English	<input type="radio"/> Italiano
<input type="radio"/> Deutsch	<input type="radio"/> Nederlands
<input type="radio"/> Français	<input type="radio"/> Polski
<input type="radio"/> Español	<input type="radio"/> 中文

STEP 1/5

NEXT

Step two - set the amount of a selected liquid to be dosed during a day, the number of dosing cycles and the hour of the first dosing. Using this information, the pump will automatically calculate the size and frequency of doses.

Device setup

Dose configuration

Liquid amount: ml

Number of doses:

Start time:

Days: ☒ Mon ☒ Tue ☒ Wed ☒ Thu
☒ Fri ☒ Sat ☒ Sun

BACK

STEP 2/5

NEXT

For the Dosing pump x3 in the menu, you can configure all 3 dosing pumps at once.

Device setup

Dose configuration

Pump A liquid amount:

ml

ml

Pump B liquid amount:

ml

ml

Pump C liquid amount:

ml

ml

Number of doses:

1

Offset between pumps:

minutes

Start time:

0:00

Days:

☒ Mon ☒ Tue ☒ Wed ☒ Thu

☒ Fri ☒ Sat ☒ Sun

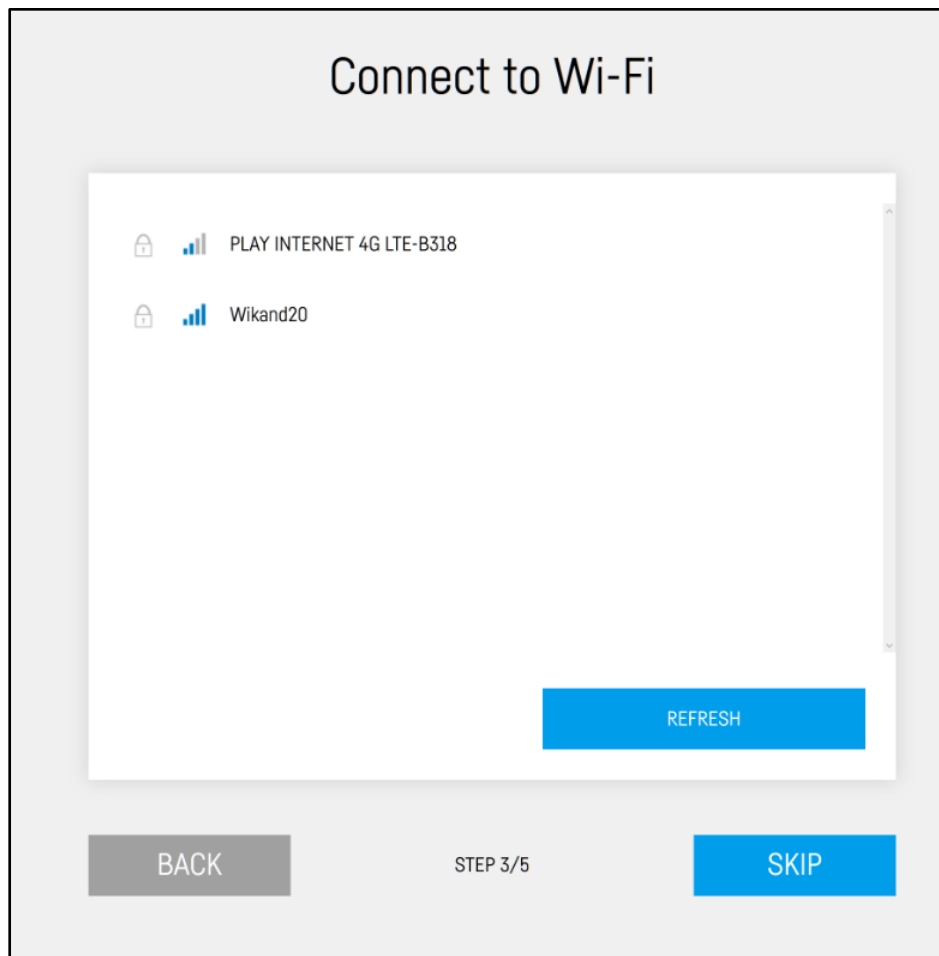
BACK


STEP 2/5

NEXT

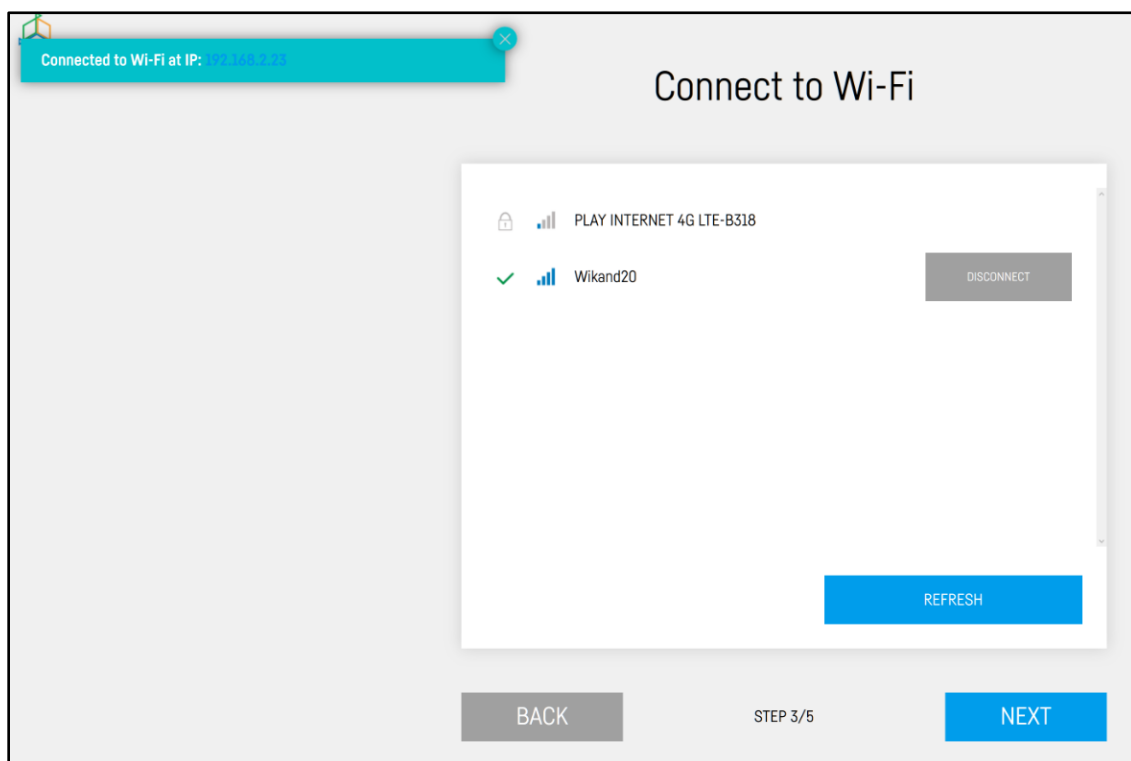
In the Dosing pump x3 pump, it is also necessary to set the start time between the pumps because for safety reasons of your tank (mixing of dosed fluids) the pumps cannot be started simultaneously.

Step three - connect the device to your home Wi-Fi network. If the network is secured, enter the password that protects your home network against unauthorized access.



If the device cannot connect to your home Wi-Fi network at first, repeat the procedure. Successful connection may depend on the type of network device you use and its manufacturer. The signal of your wireless network  should be as strong as possible. Remember that in order to enable communication with the *Smart Reef* system, the network device which is connected to *Dosing pump* / *Dosing pump x3* / *Dosing pump PRO* / *Dosing pump Large* needs to have Internet access.

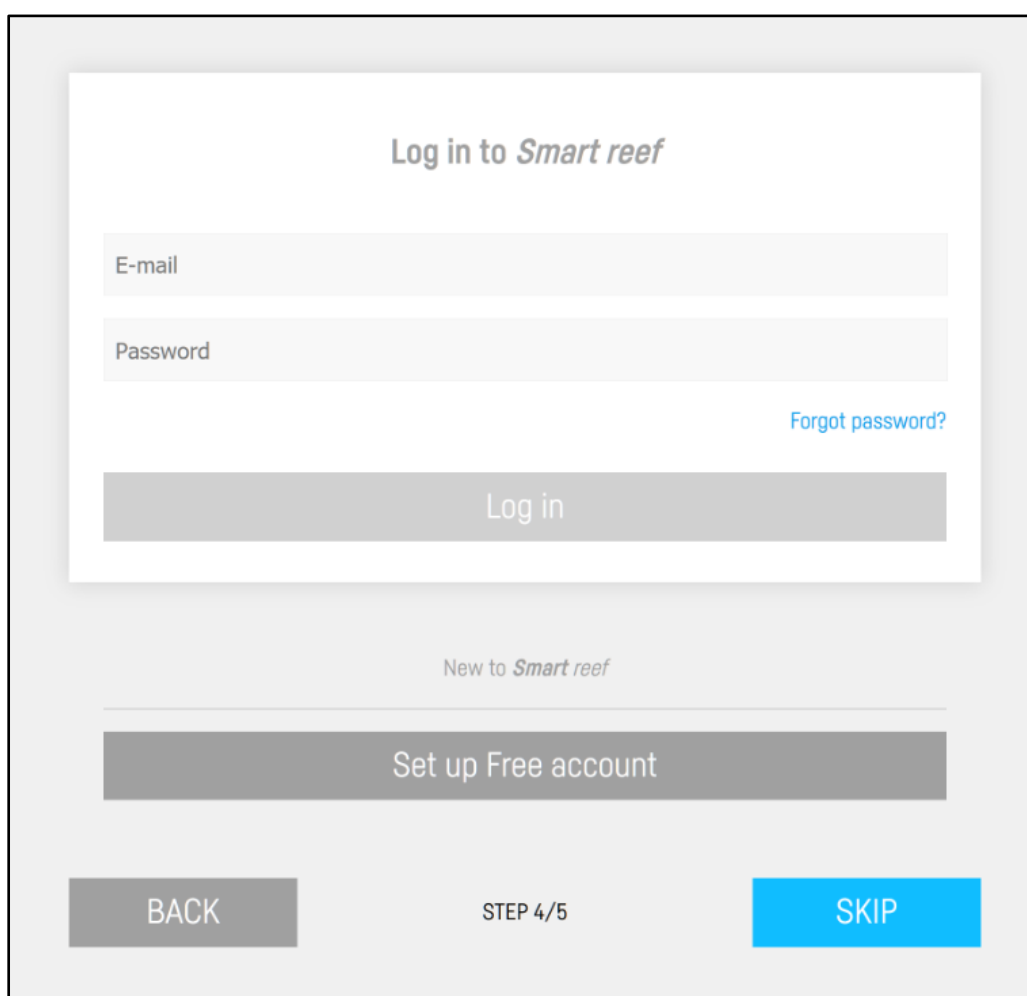
When the *Dosing pump* / *Dosing pump x3* / *Dosing pump PRO*/ *Dosing pump Large* device successfully connects to your Wi-Fi network, its IP number will appear in the upper left corner of the screen. The appearance of the IP number means that everything is alright.



Step four - create a free *Smart Reef* account, by pressing the “Create a free account” button. Please note that in order to do so, you will need to connect to the wireless Internet network via your home Wi-Fi router.

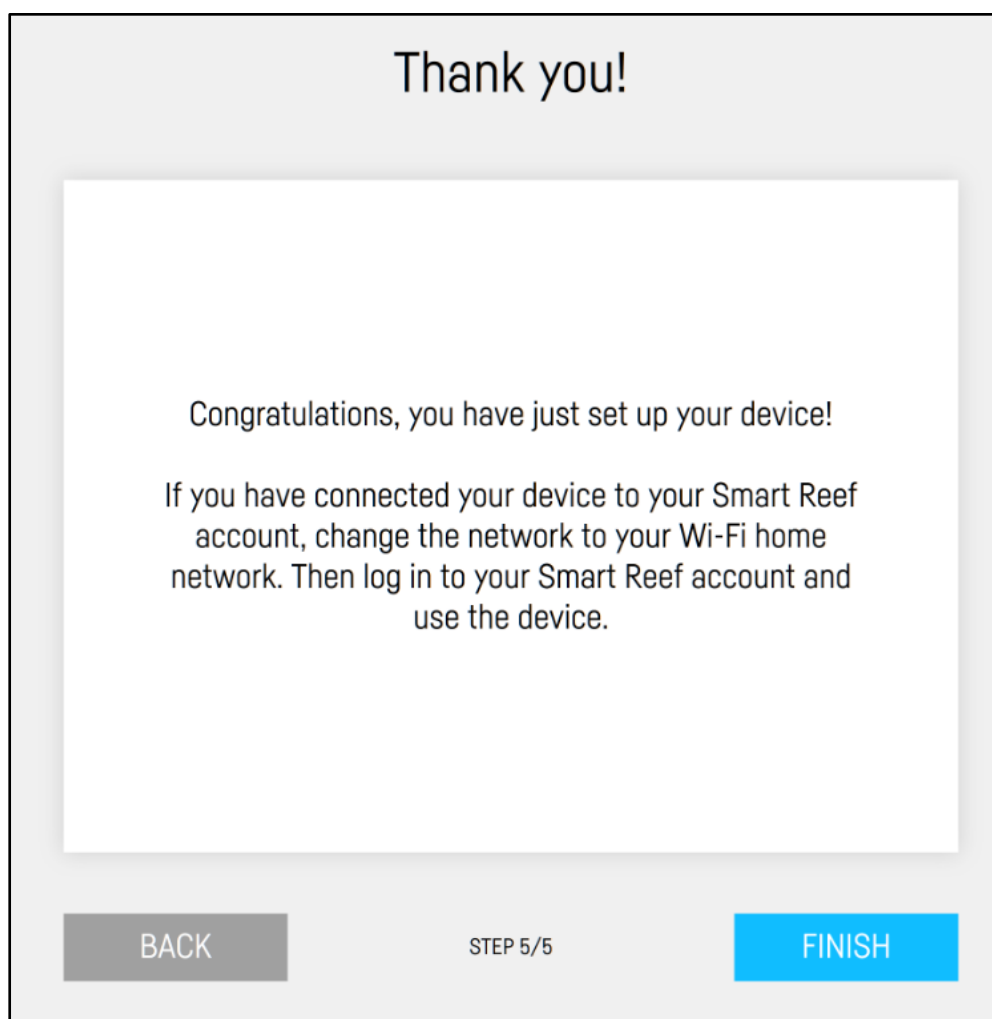
Your account password should be appropriately obscure and difficult to crack.

Connecting the device to your *Smart Reef* account will enable you to operate the device remotely, control the water purity and use additional functionalities. If you already have a *Smart Reef* account, enter your login data to add your new device. If you don't need to manage your device remotely, you may ignore this step. However, by doing so you will miss out on several additional features, such as access to device updates.

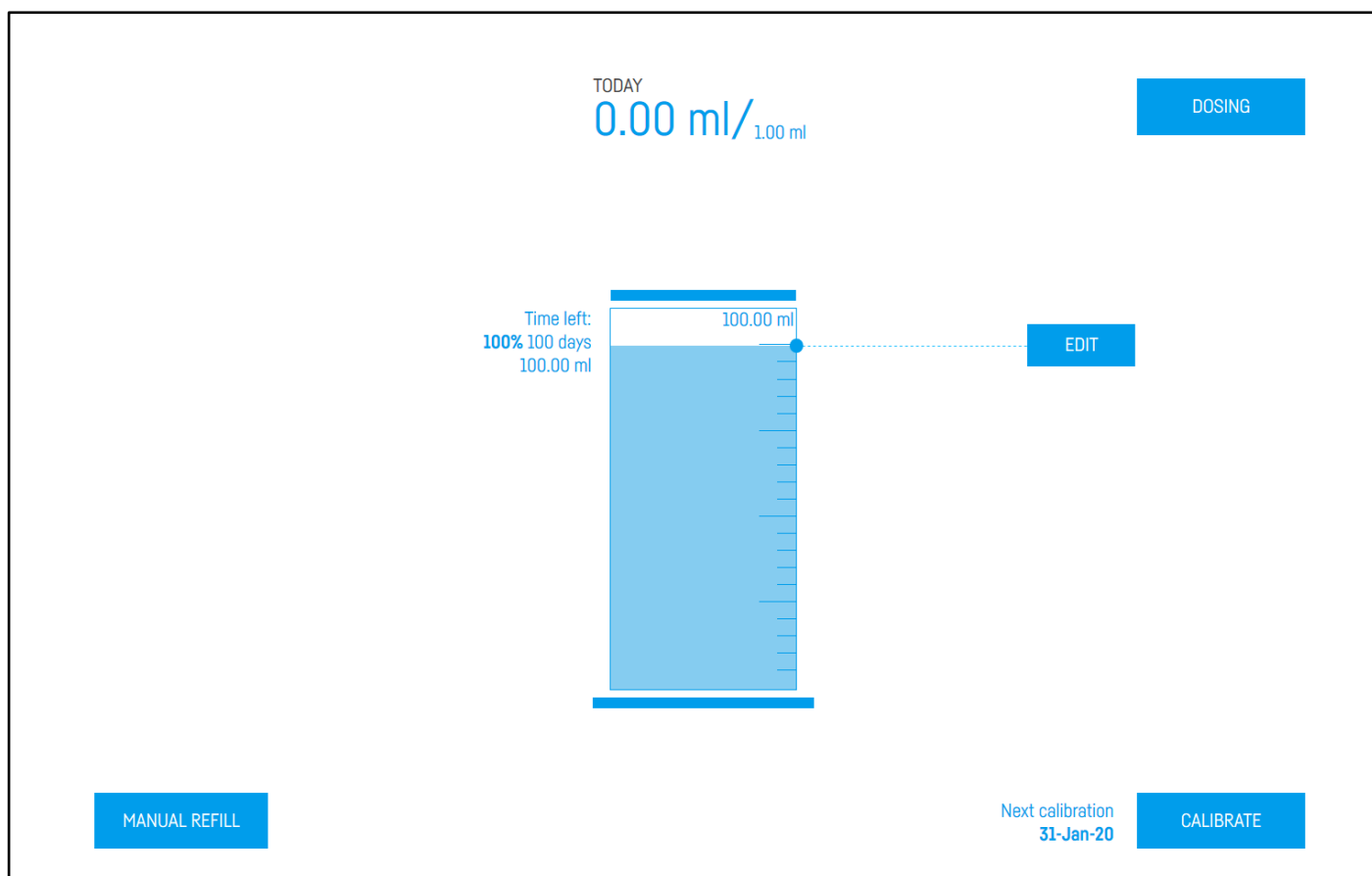


The image shows a digital screen for the Smart Reef application. At the top, it says "Log in to *Smart reef*". Below this are two input fields: "E-mail" and "Password". To the right of the password field is a blue link that says "Forgot password?". Below these fields is a large grey button labeled "Log in". Underneath the login section, it says "New to *Smart reef*" followed by a large grey button labeled "Set up Free account". At the bottom of the screen, there are three elements: a grey button labeled "BACK", the text "STEP 4/5" in the center, and a blue button labeled "SKIP".

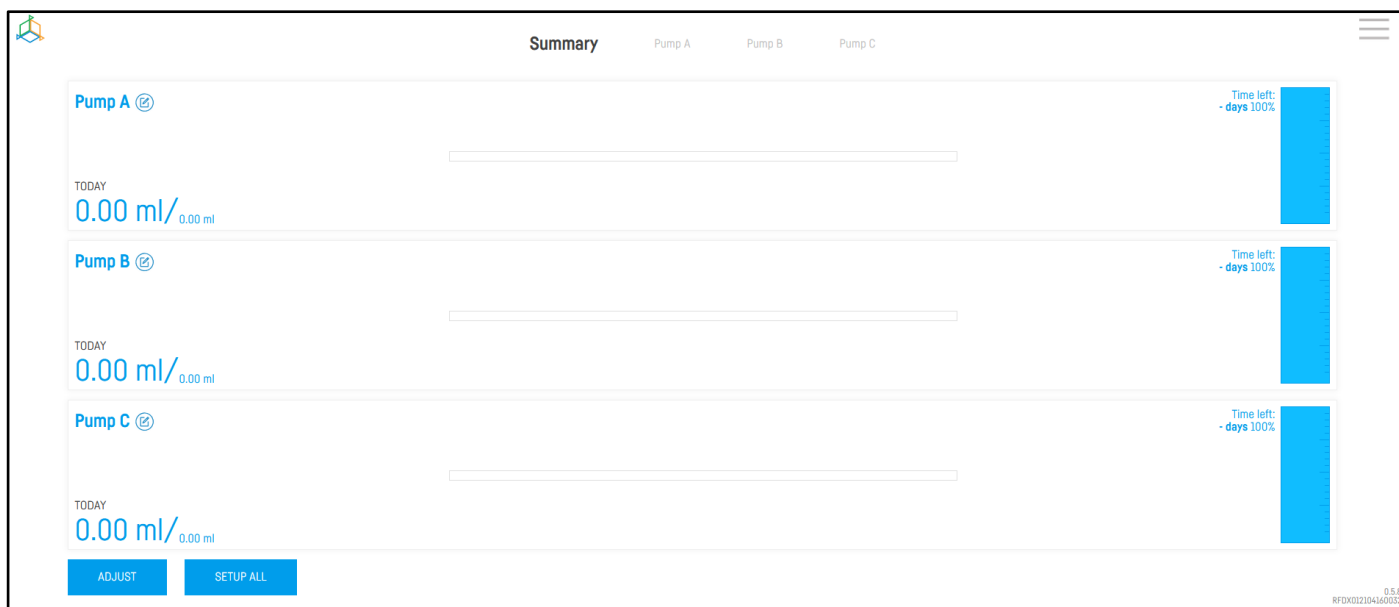
Step five - congratulations, you have successfully set up your *Dosing pump* / *Dosing pump x3* / *Dosing pump PRO* / *Dosing pump Large* device.




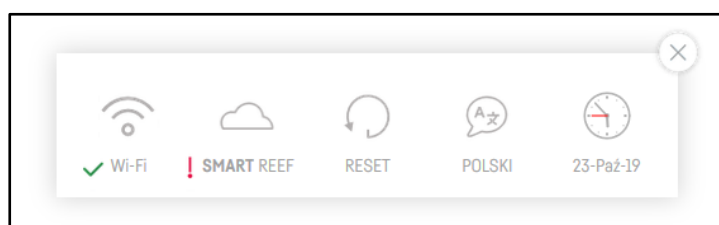
After the setup procedure is finished (after pressing the “FINISH” button), the current status of your device will appear on the screen. Please note that your new smart dosing pump has some additional features. They will be described in the following sections of this instruction. For Dosing pump Large, all values are given in liters.





The current status screen of the device differs for the Dosing pump x3 set, so we present it separately below, but for ease of configuration it is functionally very similar to our other dosing pumps. When selecting one of the pumps, detailed information for that pump will be displayed on the screen.



In the upper right corner of the screen you will find a drop-down menu icon . There you can introduce any necessary changes or repeat the device setup procedure. It also contains additional functions, including options for Wi-Fi network management, device network password, which protects your device against any unauthorized remote access, *Smart Reef* account management, time and date setting, language selection and the possibility to restore your device to default settings. Moreover, the icons show the current status of connection to your wireless network and to the *Smart Reef* system.

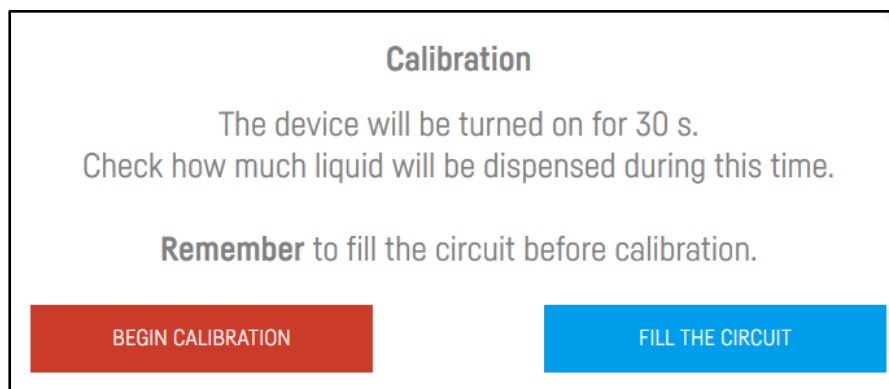


The  symbol means that the connection is OK, while the  symbol means that there is no connection.

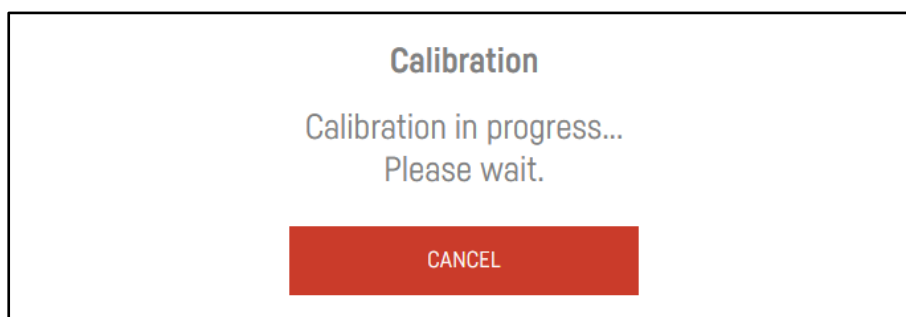
III. Pump calibration.

1. In the lower right corner of the screen you can find the device calibration function. Proper calibration is very important, because it influences the dosing precision. The device should be calibrated according to the prompt. The calibration process makes it possible to

automatically fill the hoses with liquid ("FILL THE CIRCUIT" button) and set the amount of liquid poured into your tank in a specified time frame ("BEGIN CALIBRATION" button).



2. The device should be calibrated right after the set up procedure, so that the dosing process is carried out appropriately and the pump is able to correctly indicate the amount of liquid poured to the tank. Before starting the calibration procedure, prepare a container for the liquid poured during the process. During calibration, the device activates the pump for 60 seconds and then automatically deactivates it.



3. Next, you will have to check the amount of liquid poured into the prepared container.

Calibration

Specify how many ml have been dispensed.

ml

OK CANCEL

4. In the next step enter the time after which the device should remind you to recalibrate the device. You will receive a reminder in the form of a *Smart Reef* system notification.

Calibration

Thank you for calibrating the device. Please specify when you want to receive a reminder about device recalibration.

Choose period

- 1 week
- 2 weeks
- 1 month
- 3 months

Information about the amount of added liquid is displayed in the upper part of the screen in the middle.

IV. Manual refill.

The "Manual refill" function can be accessed in the lower left corner of the screen. It makes it possible to increase/decrease the size of liquid dose once or multiple times (cyclically, for a specified number of days). Entering a positive number increases the liquid dose, while entering a negative value decreases the daily dose. After activating the abovementioned function, enter the amount of liquid per a dose and the number of days for which such a dose should be added.

EXAMPLE: If you plan to dose 6 ml of liquid a day in 6 cycles 1 ml each, then:

- after increasing the daily dose (entering a positive dose value) by 3 ml, the pump will dose 9 ml of liquid a day in 6 cycles 1.5 ml each;

- after decreasing the daily dose (entering a negative dose value) by 3 ml, the pump will dose 3 ml of liquid a day in 6 cycles 0.5 ml each;

For Dosing pump Large, the dosed amounts are correspondingly larger.

Manual refill

Specify how many ml of liquid should be refilled.

ml

Select dosing time

For 6 days

OK

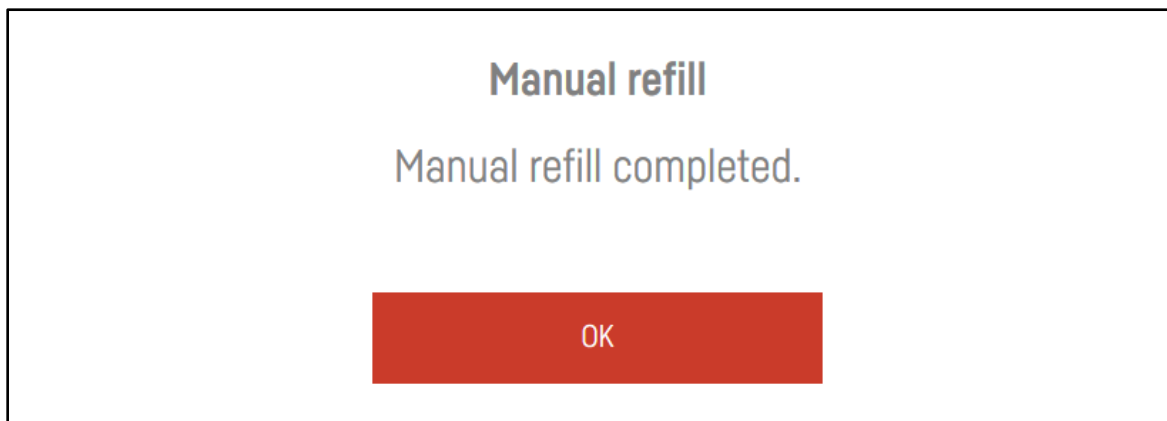
CANCEL

After selecting the "Now" option, the device will immediately refill the given amount of liquid.

Manual refill

1.67/5.00 ml of liquid added.

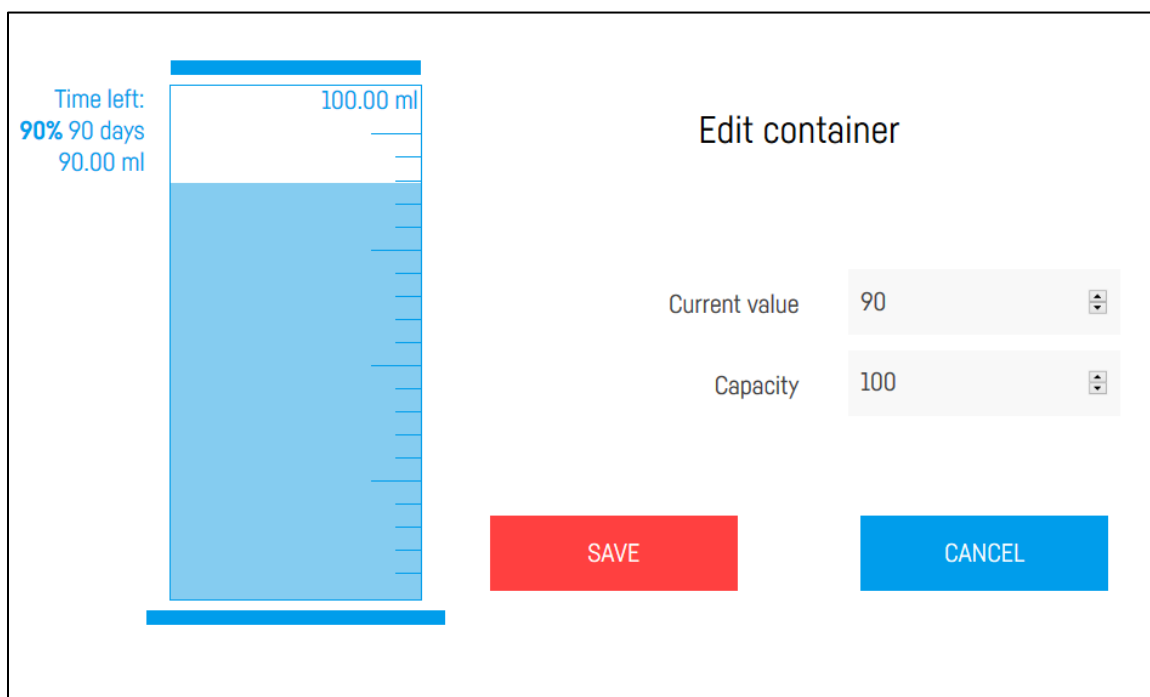
CANCEL



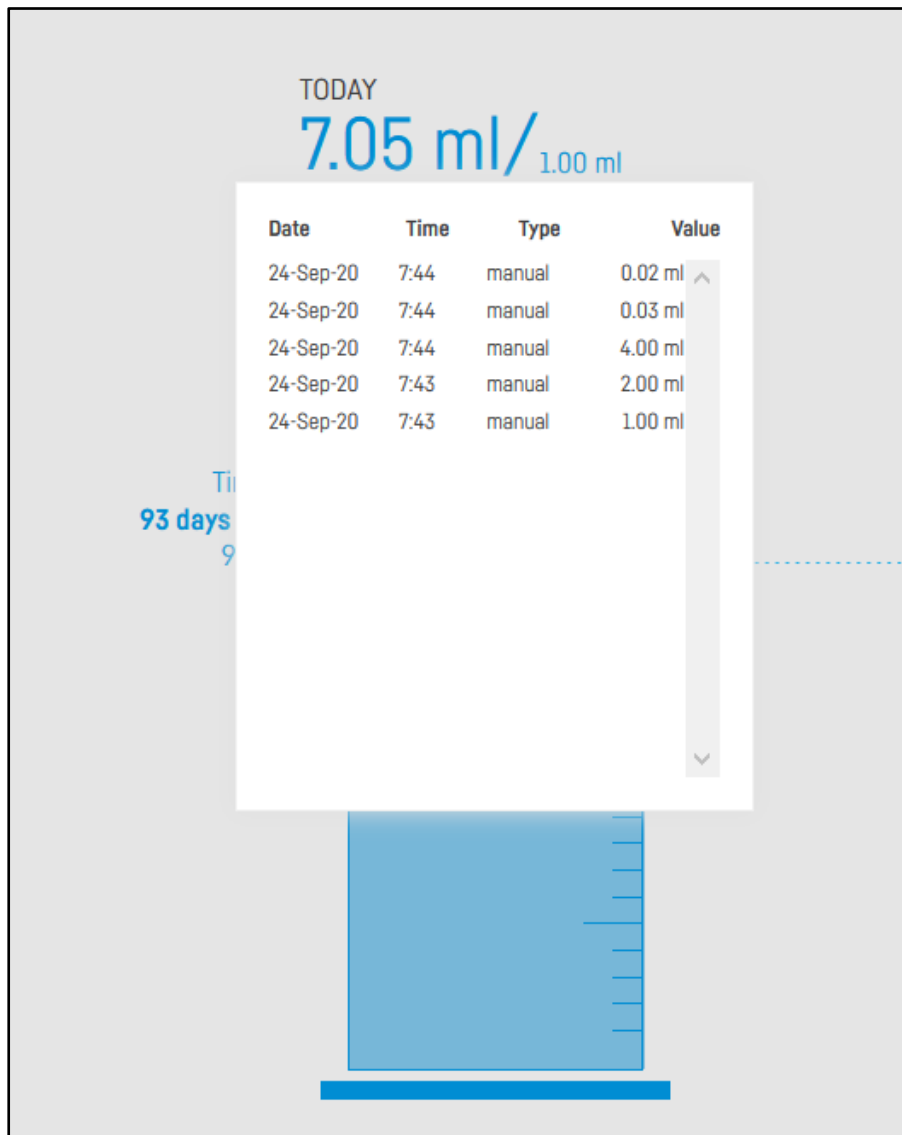
After the specified period of manual refilling expires, the pump returns to the previously configured cycles.

V. Additional pump functions.

The middle part of the screen shows the level of liquid in the container from which the pump adds it to the aquarium tank. This information helps the user to control the amount of liquid left in the container, so the liquid can be ordered before it is needed. Editing options make it possible to manually set up the liquid container size and the amount of liquid currently held in it.



When the level of liquid in the tank drops down to 10%, the pump will inform you about that fact to allow you to buy new liquid beforehand. You can display the dosing history by clicking the blue text "Show more...". You will receive a reminder in the form of a *Smart Reef* system notification.



In the upper right corner of the screen you will find additional, advanced dosing functions (the "Dosing" button) that will help you to specify the number of daily doses and the amount of liquid dosed. The information you provide will be used by the pump to automatically calculate and set the dosing hours and indicate a percentage share of each dose in relation to the scheduled daily dose of the liquid.

After pressing this button, additional functions will appear:

- **edit** - it allows you to change (add, delete, increase and decrease) scheduled doses.

ADJUST

ADD A DOSE

Liquid amount: 27.00 ml
 Number of doses: 5

Days: ☒ Mon ☒ Tue ☒ Wed ☒ Thu
☒ Fri ☒ Sat ☒ Sun

ID	Time	Value	Percent
1	0:00	1	3.7%
2	4:48	13	48.15%
3	9:36	5	18.52%
4	14:24	7	25.93%
5	19:12	1	3.7%

SAVE
CANCEL

- **skip next dose** - this function allows you to skip or reduce the next scheduled dose. Enter a percentage [%] from 1 to 100 to reduce the dose. A value of 100 means that the next dose is skipped. If you want to cancel the "skip next dose" function, in the "dosing" menu press the "remove missed dose" button.

Skip next dose

Enter how many percent of the next dose to skip.

%

↕

OK

CANCEL

- **export** - this function allows you to export your pump configuration (including programmed doses) to a file, so you can easily archive the configuration file in case you need to reset the device or transfer it to another user.

- **import** - the function allows you to import your pump configuration (including programmed doses) from a file, so you can easily restore your pump settings after it has been reset or load configuration from another user.

You can schedule up to 24 daily doses (for very large tanks, where considerable volumes of liquids need to be dosed). In the case of standard tanks (up to 300 liters) the recommended number of doses in a daily cycle should not be greater than 10. You may increase the volume or percentage share of a daily dose of the liquid by using the "Adjust" function.

The latest firmware versions (0.5.5 and later) allow specific days to be chosen during which the pump will dose the liquid. If your device does not have such a feature, add it to your Smart Reef system and update the firmware to the latest version.

VI. Resetting the device.

If your device does not work properly, or you want to repeat the setup procedure, or you cannot connect to it despite several attempts, you may restore it to its default settings by placing a magnet (included in the package) in the place shown in the picture at the beginning of this manual.

VII. Smart Reef system.

Connect to your Internet network via a computer or a mobile device. Next, go to www.reeffactory.com and log in to your *Smart Reef* account. Check, if your device has been properly added to the list of your devices. You can change its name and assign it to one of your aquariums. The serial number of your device and its firmware version are displayed in the lower right corner of the screen. Our devices are SMART; therefore, we constantly improve them. From time to time, you will receive information about firmware updates that will make your device work even better.

Notice the icons located in the upper right corner of the screen. They make it possible to change the language, view the history of notifications registered by the device, contact us and access many more interesting features offered by the device.



Additional and up-to-date information about the device, its operation and setup can be found at our website www.reeffactory.com, in the relevant product tab.