P1 PRO

DOSING PUMP

USER MANUAL

Index

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Version 1.0

Product Information

Introduction

The D-D P1 PRO is a single channel intelligent dosing pump with Wi-Fi control. This unit will allow the automated addition of liquid additives and elements in an accurate, controlled manor to your aquarium.

The D-D DDP1 PRO uses a Kamoer patented geared pump head to ensure that the pump head does not slip and rust.

Highly reliable threaded joints are used to ensure no leaks occur at connections to the pump head.

Product features

- Compact space saving design, 60Lx95Wx83H mm including pump head.
- Kamoer's patented gear-driven pump head ensures that the pump head will not slip or rust.
- Highly reliable threaded joints on pump head.
- Up to three units can be daisy chained together.
- Pharmed BPT pump tube offers long life, heat resistance, acid/alkali resistance and ozone/UV resistance.
- Up to 24 dosing plans per day, 1-99 day cycle or specified weekly dosing.
- Pump head can be calibrated.
- D-D P1 Pro has a real-time clock and will automatically run according to the APP setting parameters. In the case of power loss, the dosing pump setting parameters are retained.
- The Kamoer Remote app supports iOS and Android to control the dosing pump through Wi-Fi.
- The D-D P1 Pro firmware can be updated via the app.
- Requires 2.4G Wi-Fi connection.

Unpacking

Please check for delivery damage before unpacking.

Once opened, please inspect the product for any visible damage and check all parts are included. If any defects are found when unpacking, please contact your retailer immediately.

Box Contents

- D-D P1 Pro Dosing pump body.
- 12v DC Power adapter.
- Plastic measuring cylinder.
- Length of clear hose.

Product Layout

1.Inlet

2.Outlet

3. Status / Power indicator

4. Pump head (Counter clockwise rotation)

5. Reset button

Indicator	Status	Description
Status indicator Blue	On	Connected to the cloud via router
	Off	Disconnected from the router
	Fast Flashing	Pump is in configuration mode
	Slow Flashing	Disconnected from the cloud (Will also show when unit is initially powered up)
Power indicator Red	On	Unit is powered up normally
	Off	No power to unit

Note: When the blue status indicator is lit or flashing the red power indicator is off.

Installation

Positioning the pump

The dosing pump is a self-priming pump. When there is big difference between the inlet and the outlet height, siphoning may occur. In order to avoid siphoning, the dosing pump should be placed in a position to ensure that the height difference between the inlet and the outlet is within 0.5m.

The inlet tube should be as short as possible, and the outlet tube should not be submerged.

A length of clear tube is provided with the unit. Coloured hoses (Part code DDCT01) are available as an optional extra.

Please carefully check that the inlet and outlet tube connections are correct on the pump head and that the hoses are pushed fully onto the hose connection pipe collets before installation.

The pump should be secured into place or installed in a stable location not above open water or very humid environments. A specially designed mounting bracket is available as an optional extra for secure fixing (Part code DDP1BKPRO).

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Installing the App

Option 1: Scan the QR code on quick start guide included with the pump or in this manual and download the app corresponding to the icon below.
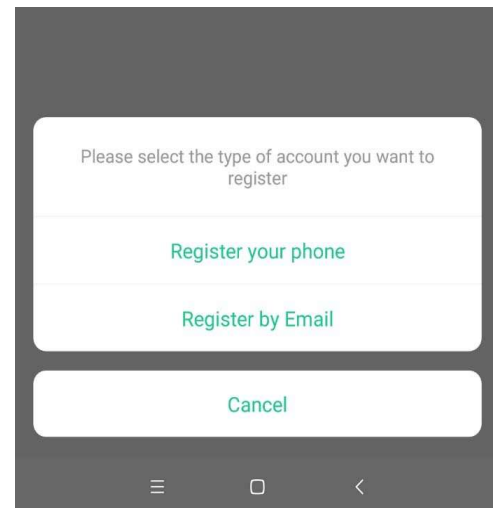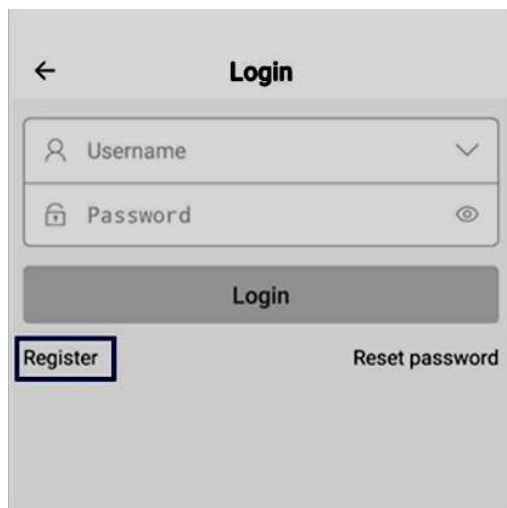

IOS   Android

Option 2: Apple users visit the App Store, Android users visit the Google Play store, search for "Kamoer Remote", find the app download of the corresponding icon.

Kamoer Remote app supports Android 4.4 and above and supports iOS 9.1 and above.

Register your cloud account

You will need to register an account and login on the Kamoer Remote app before using your dosing pump. Choose to register via E-mail or mobile then follow the onscreen instructions to complete registration and login.
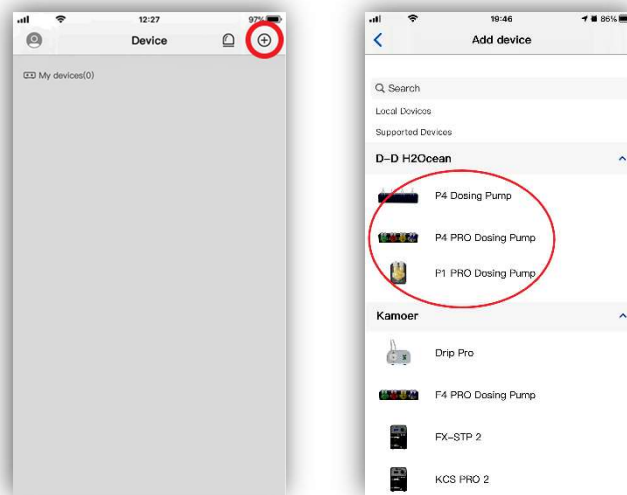
Connect the dosing pump to the cloud

Make sure your mobile device is connected to your home network, the location services on the mobile device are enabled and that the Kamoer Remote app permissions are set correctly from your mobile devices settings page.

Please note the device does not support 5G Wi-Fi and cannot use a 5G Wi-Fi hotspot. If your internet supplier's router is running a mixed mode 2.4ghz/5ghz Wi-Fi network please check their online instructions, website or support forum to de-synchronise the bands into two separate 2.4 and 5ghz networks before attempting to connect the pump.

Connect the power supply to the DC 12v input socket on the rear of the dosing pump and plug in to a mains power source

After the dosing pump is turned on for the first time, the blue status indicator will flash slowly. At this point you need to use the Kamoer Remote app to connect the dosing pump through a wireless router to the cloud.

Open the app, click the '+' button in the upper right corner of the device to add the device. Under the D-D H2Ocean heading select the P1 PRO in the list of supported devices.

Confirm that your mobile device is connected to your 2.4G Wi-Fi network. Enter you 2.4G Wi-Fi network password and then when prompted tap next.

Press and hold the reset button on the front of the dosing pump for 4 seconds then release. Wait another 6 seconds. The blue status indicator will then start to flash rapidly. The device has now entered configuration mode.

When the dosing pump is in configuration mode, click the blue bar at the bottom of the screen in the app to confirm that the status light is flashing quickly to start the connection. This may take a few moments.
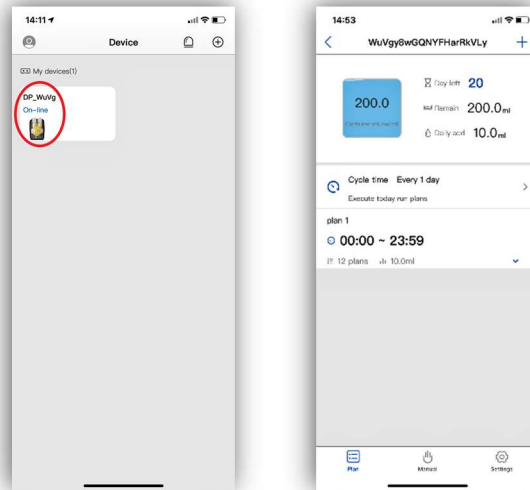
After the connection is successful, the app will confirm the successful connection and the status light on the dosing pump will show solid blue.

At this point the dosing pump is connected to the cloud and the dosing program can be set via the app.

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Programming the dosing pump

To Program the dosing pump, open the Kamoer Remote app and select the device you want to program from the available devices list.

With the device selected the main plan page will be displayed.
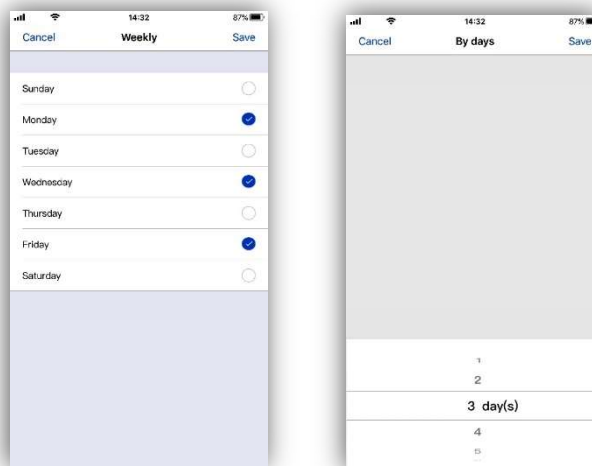

Setting the dosing plan

Tap on 'Cycle time' and choose if you want to set up the schedule dosing frequency 'By Days' or 'Weekly'

'By Days' will set the pump to dose every 'X' days, e.g. every 3 days. This can be set from every 1 day to a maximum of every 99 days.

'Weekly' will allow you to choose the days of the week that you want to dose, e.g. Monday, Wednesday and Friday.

When you have chosen the frequency tap 'Save' in the top right corner.

Version 1.0

To set the dosing volume tap on the '+' button in the top right corner. Then set the name of the dosing plan and the time period to dose. It is factory set from 00:00 to 23:59 so that the dosing volume will be added throughout the full day, it can set to dose for a limited period e.g. between 10:00 and 18:00. Once the times have been set tap 'Save' in the top right corner.

Select the 'Quick Add' tab. Enter the total amount that you would like to dose during the period selected in the previous step and how many times to split that dose. For example, if the 'Total add' is set to 10ml and the 'Add times' to 24 the pump would automatically split a 10ml dose in to 24 smaller doses throughout the set period.
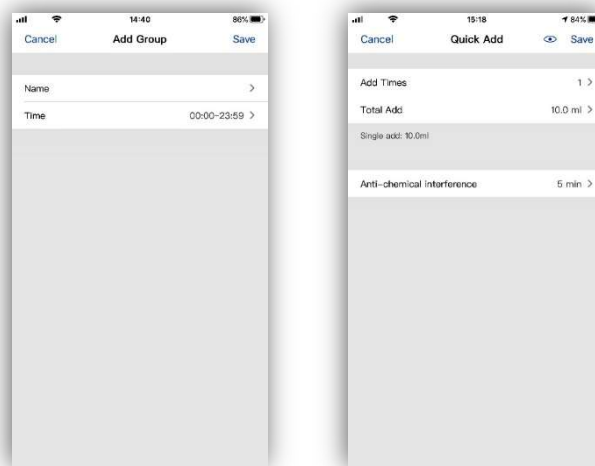
The number of times the dose can be split will be determined by the overall time period set for the plan and the total volume to be dosed.

By tapping on the Eye logo next to the save button a detailed plan preview will be shown based on the 'Add times' and 'Total add' figures. This will show when the pump will run and how much it will add on each dose.

From here set the Anti-chemical interference can also be set. If you are using multiple P1 PRO dosing pumps this can be used to prevent them dosing at the same time. The time set in here will delay the automatically calculated program for that pump.
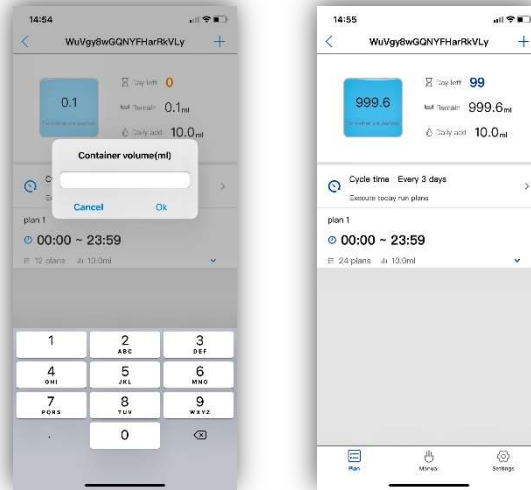
For example, if the two P1 PRO pumps are set to dose 10ml, between 12:00 and 23:00, over 8 doses with the chemical interference set to '0', both will enter the first dose at 12:00 at the same time. They will then continue to dose at the same time throughout the day until they complete their program. If the chemical interference is set to '0' on the first pump and '3' on the second, the first pump will run as described above but the second pump will start its first dose at 12:03 and then continue with an automatically programmed 3 minutes delay on every dose.

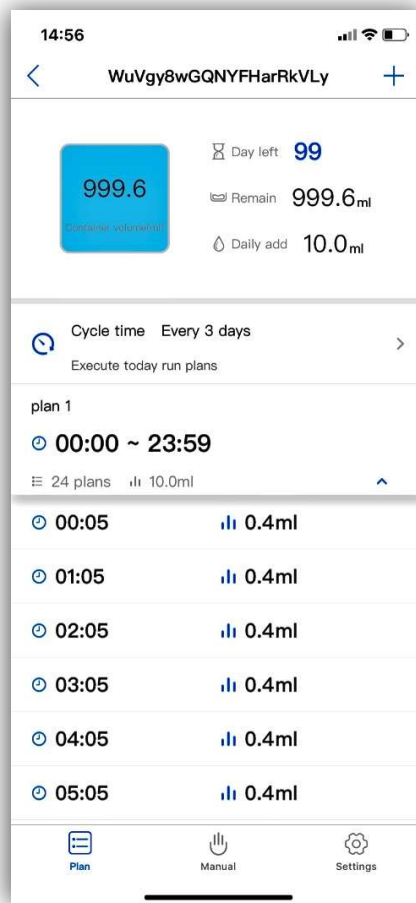When finished tap 'Save' in the top right corner to store the plan.

Finally set the amount of dosing solution available by tapping the dosing container volume. This gives a real time estimate of how much and how many dosing days of solution are available. When the dosing solution is low the icon will change to yellow.
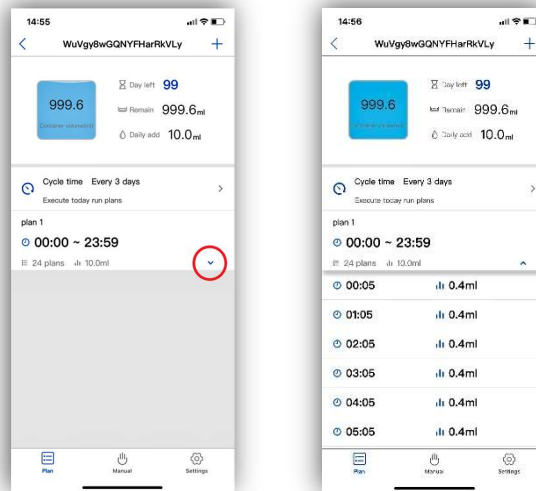
The plan page will now show the completed settings.

In the example below the pump has been set to dose every three days a total of 10ml, split into 24 doses, between 00:00 and 23:59. The dosing container has 999.6ml of solution left in it and should therefore last approximately 99 days.

Version 1.0

Advanced plan adjustments

When a plan has been created advanced manual adjustments can be made.

Open the app and choose the device. Tap on the blue arrow icon at the bottom right corner of the plan group and a detailed breakdown will appear. This shows the individual plan points and associated dosing volumes.
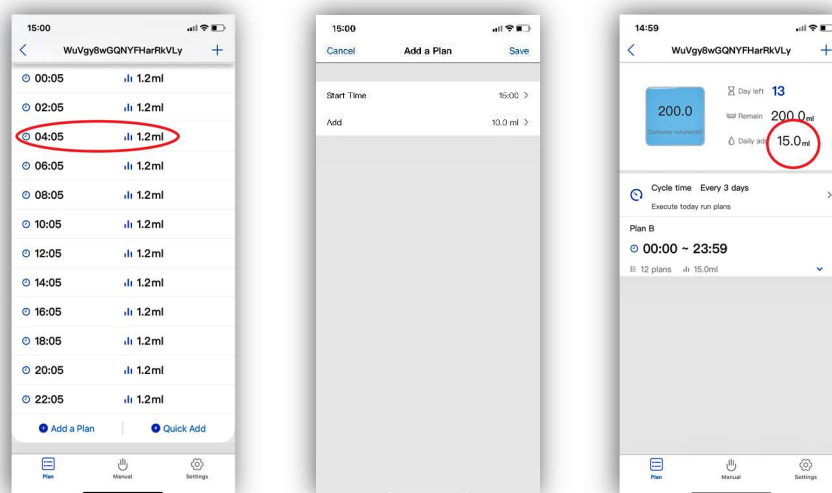

The time and volume of each individual plan point can be adjusted. Tap on the plan point and then adjust the time and dose amount as required, select 'Save' to confirm the change.
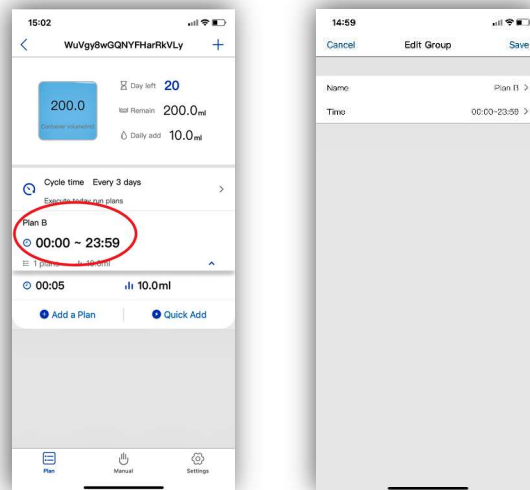
It is only possible to set a time within the period set for the plan group. Plan points will always be displayed in time order. If two points are set at the same time both doses will be performed together. For example, a 1ml and 2ml plan set at the same time will result in the pump dosing 3ml.

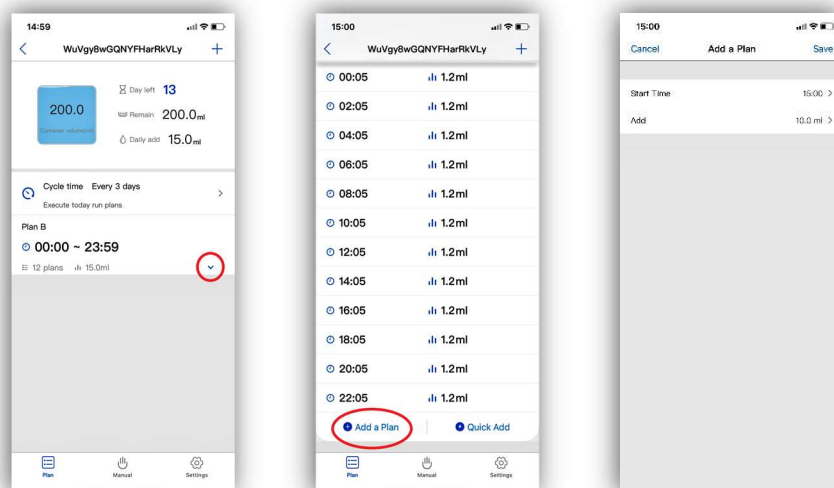Any chemical interference setting will be ignored for a plan point if the time is changed.

Changing the dosing amount will alter the overall dose for that plan group. This is automatically calculated within the app and displayed at the top of the pump page.
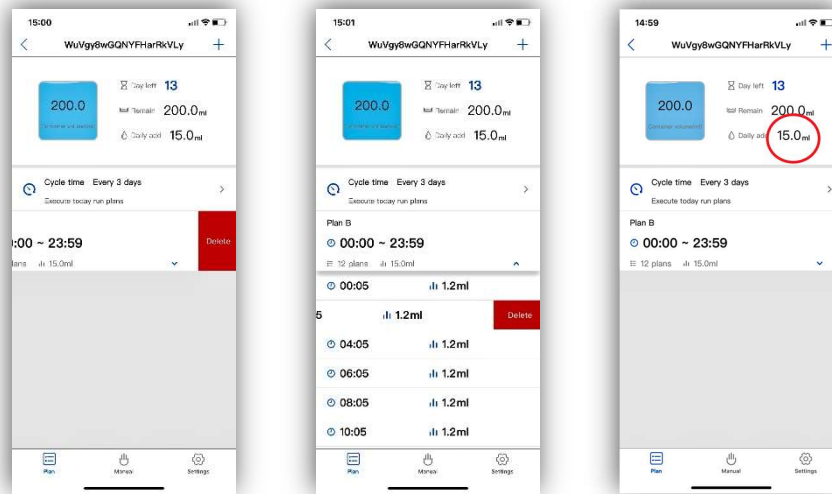
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The plan group name and time can be altered by tapping on the plan group and then entering the new name or time as required. Select 'Save' to confirm the changes. The individual plan points will not be changed by doing this. If the plan points fall outside the new time set for the plan group they will have to be manually changed as described in this manual. To alter the plan points with the plan group period it is best to delete the existing group plan by swiping the plan to the left and set up a new one as described in this manual.
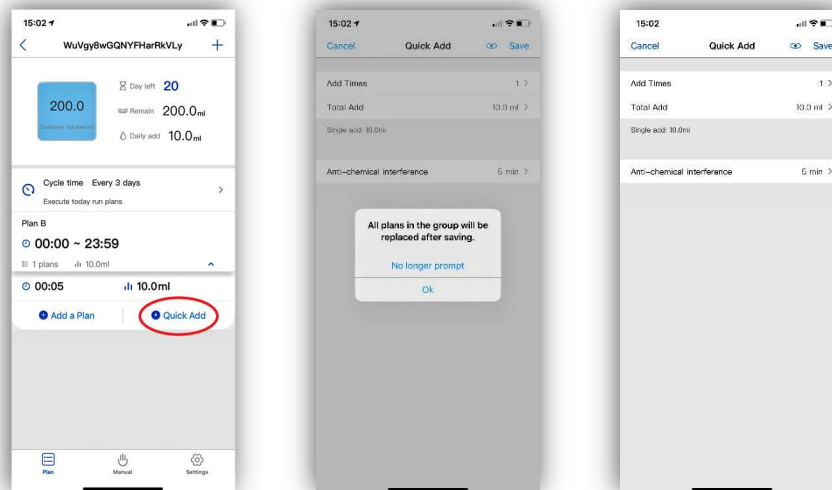

Plan points can be added to an existing group by selecting 'Add a plan' in the pump page. Enter the time for the additional plan point, the amount to be dosed and tap 'Save'. This will add to the total volume being dosed by that plan group and will be shown on the pump page. Any chemical interference set will be ignored by this point. The number of plan points available for each group will be determined by the overall time set for that group.
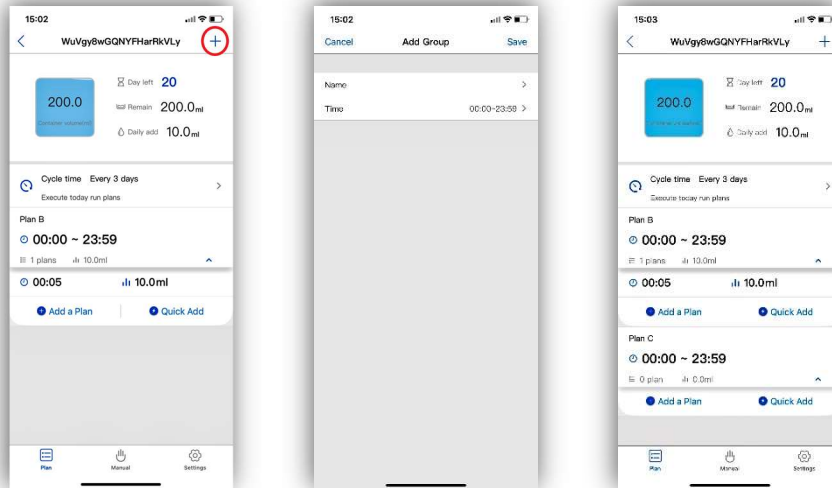
Version 1.0

Plan groups and plan points can easily be deleted by swiping them to the left. When a plan point is deleted it will remove the volume of that dose from the overall group. The adjusted volume will be shown at the top of the pump page.

To reset all the plan points in a group, select the 'Quick add' tab associated with that plan group. The dosing amount, times and chemical interference can then be adjusted. Tap 'Save' to confirm the changes. Once saved any existing plan points for that group will be overwritten.

Multiple plan groups can be added to the same pump. This will allow different plans to be set in a single day. To add a plan group, tap on the '+' symbol, enter the group name and time, then tap 'Save'. The new plan group will then be displayed in the pump page along with the other group(s) already set. Plan points can then be added using the 'Add a plan' or 'Quick Add' tabs as described in this user manual. Plan groups can overlap, any plan points that are set to the same time in different groups will be dosed at the same time. For example, if a dose of 1ml in plan A and a dose of 2ml in plan B are set for the same time the pump will dose 3ml in total.
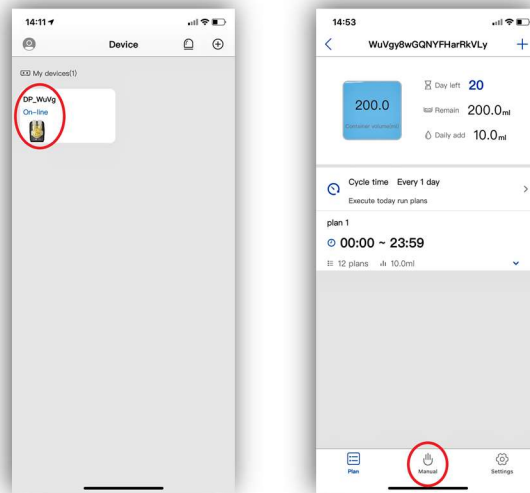
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Manual addition

The pump can be used to add a manual dose if required.

To achieve this open the app and select the device you want to program from the available devices list.

In the main plan page tap the 'Manual' icon at the bottom middle of the screen. This will open the manual settings page.
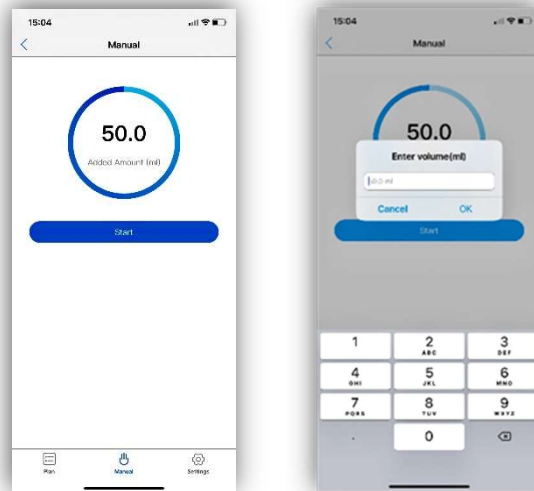

Tap on the number and enter the amount of liquid you would like to add.

The pump should now show the amount set for the manual dose.

Tap the 'Start' button and the pump will run. The value showing the amount chosen to add will decrease as the pump runs until it reaches zero at which point the specified addition has been made.

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If you want to stop the manual dose tap the 'Start' button (that will now be displaying 'Stop') again to cancel the operation. There is a lag when pressing the stop button so this should not be used as a method to stop the pump at an exact point. For accurate additions program the amount required and let the pump complete its program.
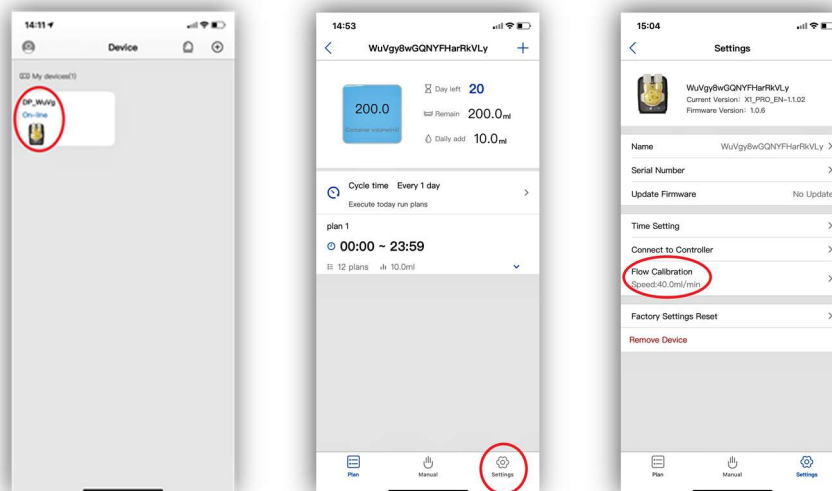

Calibration

When the dosing pump is initially set up, the pump head has been replaced, or if the unit has been in service for a period of time it is worth calibrating pump heads to ensure accuracy.

To calibrate open the app and select the device you want to calibrate from the available devices list. Tap the 'Settings' icon located at the bottom right of the 'Plan' page.
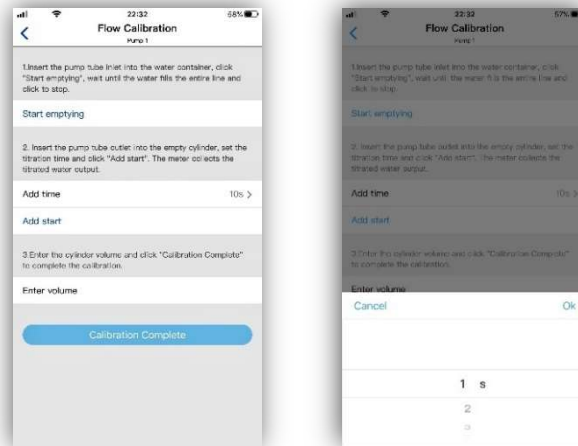
Select 'Flow Calibration' from the list.

Make sure the inlet hose for the pump is submerged and that the outlet hose is directed into a suitable collection container.

Version 1.0

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Tap on 'Start Emptying' to prime the pump head and hose. Once all air has been expelled and the line is fully primed tap 'Emptying, click to stop'.

Move the outlet hose into a suitable measuring cylinder.

Set the time for pump calibration by selecting 'Add time' and scrolling through to the desired time. This can be set up to 60 seconds. For increased accuracy, a longer calibration time is best. Please be aware the measuring cylinder needs to be large enough to hold the volume of the water for the calibration. For normal calibration, a time of 10-15 seconds is suitable for most general applications.
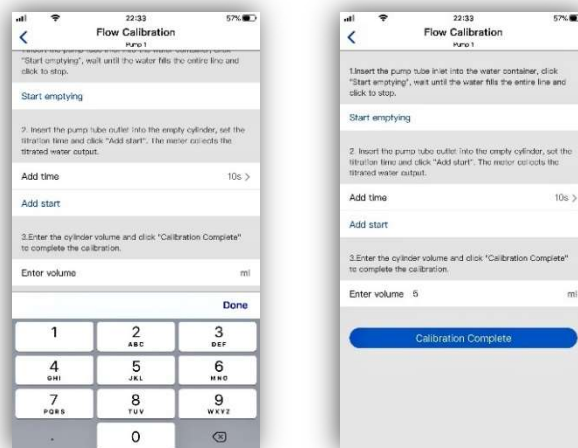

Tap on 'Add start' and the pump will run for the time selected in the previous step.

Once the pump has stopped remove the outlet hose from the measuring cylinder and stand the measuring cylinder on a flat surface. Use the scale on the side to determine the volume of liquid.

Enter the volume of liquid collected in ml by tapping in the space next to "Enter volume".

Select calibration complete at the bottom of the page and the pump will calculate the flow rate from the time and volume you have entered. The chosen pump head is now calibrated.
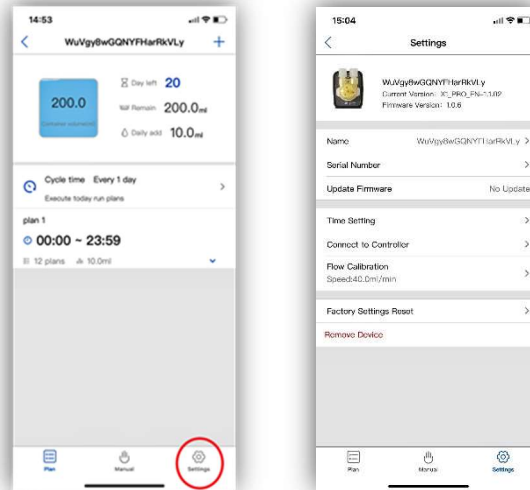

Please note the pump is only as accurate as the person completing the calibration. If high accuracy is needed it is recommended to use a measuring cylinder that can clearly read 0.05ml increments and is large enough to hold the volume of liquid produced in a full 60 second calibration run.

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Advanced

Settings

At the bottom right hand corner of the 'Plan' page there is a settings option.

In this you can:

Rename the Dosing Pump.

In settings tap on 'Name' and the settings page will open. Enter the new name and tap 'Save' in the top right corner.

Update firmware.

If the firmware on the device is up to date 'No Update' will be displayed. If updates are available tap on the update and follow the instructions on screen. Do not close the app or power down the unit during this process.

Time setting

The unit should automatically sync to the correct time when setup and keep the correct time during a power outage. If the time is incorrect and needs to be adjusted tap on 'Time Setting' and select 'Time Sync'. It is normal for the 'Firmware time' to lag behind the 'App Time' by 1-5 seconds due to the time taken to process data between the app and the device.

Flow Calibration

Used to calibrate the unit to ensure accurate dosing. Please see Calibration in this manual.

Factory Settings Reset

Use this function to factory reset the unit. This will remove all programmed settings from the unit. To reset the unit, tap on 'Factory Settings Reset' and select reset. The unit will temporally go offline. When the status light returns to solid blue the unit is reset. This will not remove the unit from the app or cloud. Do not power off the unit during this process.

Remove Device

To remove the device from the app tap on 'Remove Device' and select remove. The unit will still be connected to the associated router and the Cloud. The D-D P1 PRO can be added back onto a mobile device on the same Wi-Fi network using the Kamoer Remote App by tapping on the '+' symbol in the devices page and selecting from the 'Local Devices'.

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WARRANTY:

Should any defect in material or workmanship be found within

12 months of the date of purchase D-D The Aquarium Solution Ltd

undertakes to repair, or at our decision, replace the defective part free

of charge.

Our policy is one of continual technical improvement and we reserve the right to

modify and adjust the specification of our products without prior notification.

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Version 1.0