

FISHGUN L2 USER GUIDE



Congratulations, you have just acquired a FISHGUN L2, which we hope will bring you entire satisfaction. This user manual will help you get the most out of your FISHGUN.

The FISHGUN L2 is a semi-automatic live feed dispenser specially developed for aquatic facilities and aquaculture nurseries.

PLANKTOVIE

Marseille

01/01/2020

Table of contents

- Table of contents 1
- I. Description 2
 - 1.1. Components 2
 - 1.2. Descriptive schemes: 2
- II. Navigation and programming 3
 - 2.1. Choosing a mode of use 3
 - 2.2. Selecting a menu 3
 - 2.2.1. General menu 4
 - 2.2.3. Battery 5
 - 2.2.4. Sleep 5
 - 2.2.5. Light 5
- III. Hose holder installation 5
- IV. Docking to the fish tank 6
- V. The reservoir of the FISHGUN L2 7
 - 5.1. Filling the reservoir 7
 - 5.2. Maintenance and cleaning of the reservoir 7
 - 5.3. Maintenance and cleaning of the hose 7
- VI. Programming the NFC tag 7
 - 6.1. NFC Reader/writer 7
 - 6.2. The NFC Tools app 12
- VII. Charging 13
 - 7.1. Charging the gun 13
 - 7.2. Charging of the air pump 13
 - 7.3. Charging the reservoir battery 13
- VIII. Warranty 14
- IX. Security 14
- X. Troubleshooting 15
- XII. Specifications 15

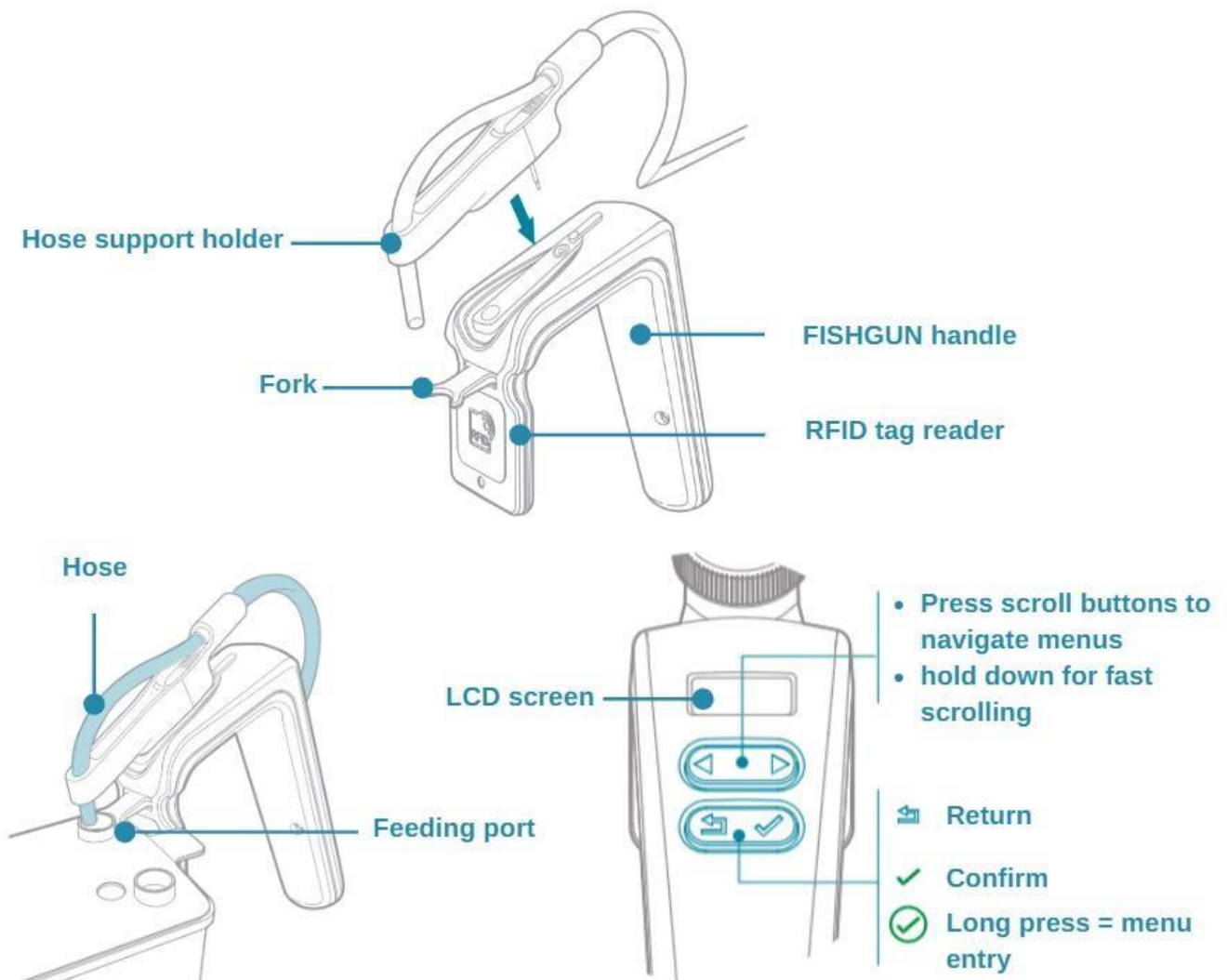
I. Description

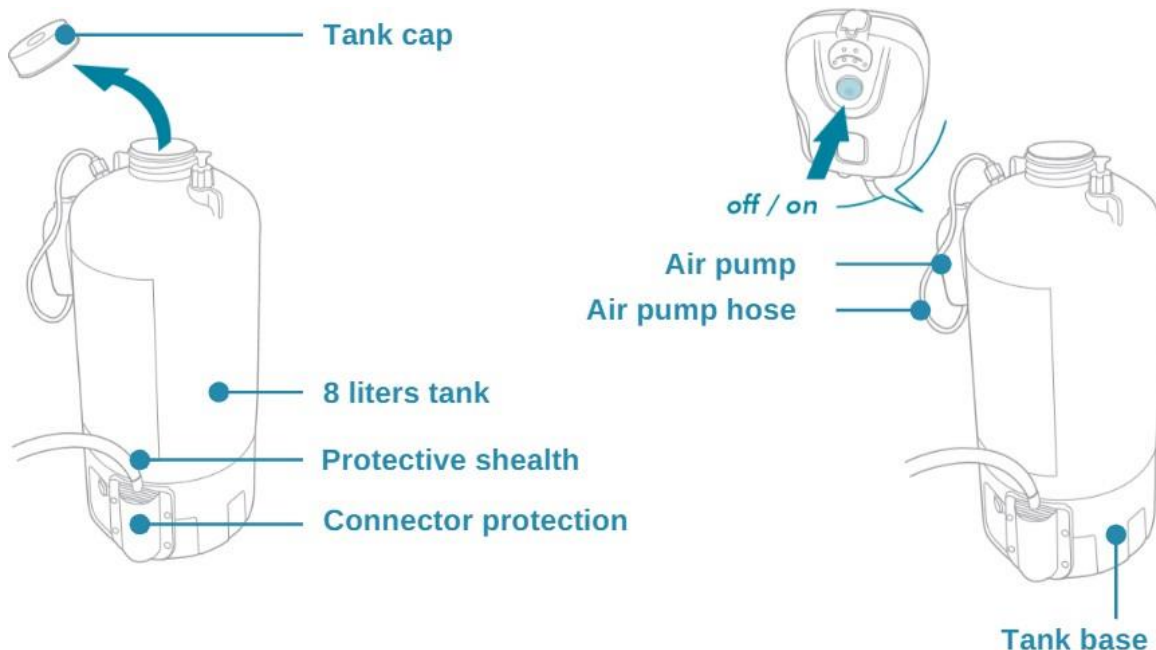
1.1. Components

- An ergonomic handle for easy and effortless use
- A digital screen for better control of operations,
- A technological system to deliver live feed (rotifer, artemia, ...) by means of vibrations,
- An induction charger for better security and robustness,
- An RFID scanner to identify aquariums and deliver the right amount of feed to zebrafish.

Weight: 0.5kg
Brand: Planktovie

1.2. Descriptive schemes:





II. Navigation and programming

Before using your FISHGUN L2, the battery must be charged to a voltage of at least 3000 mV.

2.1. Choosing a mode of use

Press any button to activate the FISHGUN, then use the scroll buttons (< >) to view the 3 operating modes:

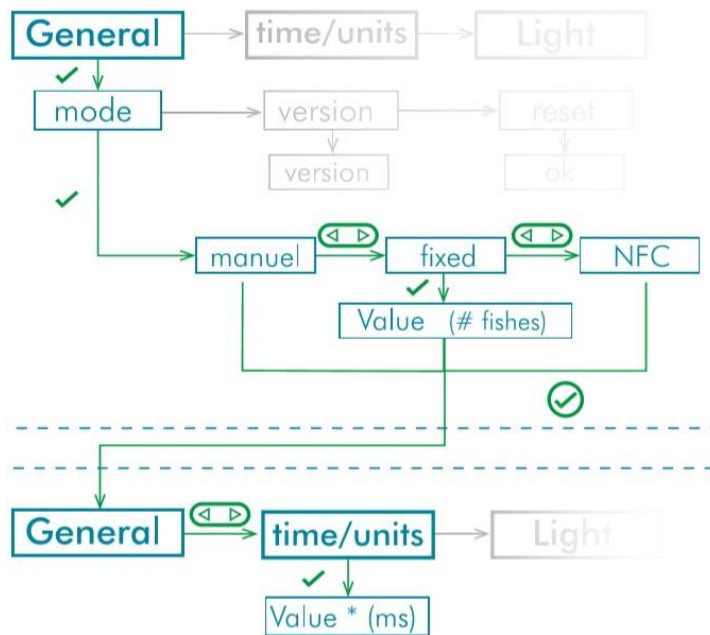
- Manual
- Fixed, this mode
- RFID (automatic)

2.2. Selecting a menu

To select the menu, press the ✓ button > 2 seconds. Press either scroll arrow to view the menus "general", "time per dose", "battery", "sleep", "light".

Press the ✓ button to confirm your choice.

2.2.1. General menu



Once the general menu is selected, use the buttons to navigate to the mode you wish to modify, then press the ✓ button to confirm your choice.

2.2.1.1. Fixed mode

When fixed mode is selected, enter the number of individuals to feed. While operating in Fixed mode, the FISHGUN L2 will always deliver the same amount of feed for the specified number of individuals.

2.2.1.2. Time per dose

This mode allows you to enter the FISHGUN L2 running time for each fish (= time per dose). The time is entered in milliseconds (ms), so the FISHGUN will deliver the amount of feed needed (shown in the table below). It then becomes possible to know how long the FISHGUN L2 should run for each fish to be fed. For the total amount of feed to be distributed, refer to the summary table on our website: <https://planktovie.biz/en/protocols/nutritional-solutions/>

You can setup easily the time per dose, considering the prey concentration in the reservoir.

TABLE 1: Quantity of feed delivered each ms

Prey concentration (ind./ml)	ms/fish (1x/day)
1	47630
10	4763
100	476
1000	48

Recommended time per dose settings depending on the live feed concentration and the assumption that an adult fish is fed daily 1000 preys. If you want to deliver that quantity of preys over several runs, then, you only need to divide the timer per dose by the number of runs.

Example: *Feeding adult fish three times a day*

Typically, in an adult fish tank, you should add daily, 1000 freshly hatched artemia or daphnia per fish. If you have 10 fish in a tank, you will have to add 10000 freshly hatched artemia or daphnia each day, meaning 3333 preys each feeding run if you feed your fish 3 times per day. Let's assume that you have 100 artemia/ml in your reservoir. To dispense this quantity of live feed the FISHGUN L2 will run automatically during $10 \times (476/3) = 1586 \text{ ms}$

2.2.3. Battery

This submenu allows you to view the remaining battery voltage by selecting "Voltage". Select "Low th." (voltage threshold) to enter a value (in mv) below which the low battery symbol will be displayed on the LCD screen. By default, this value is set to 3000 mv, which corresponds to the minimum voltage ensuring optimal accuracy of the FISHGUN.

2.2.4. Sleep

Scroll to "Delay" to enter the idle time (min) after which the FISHGUN will enter sleep mode.

Turn off the FISHGUN by scrolling to "Enter" and pressing ✓ to confirm.

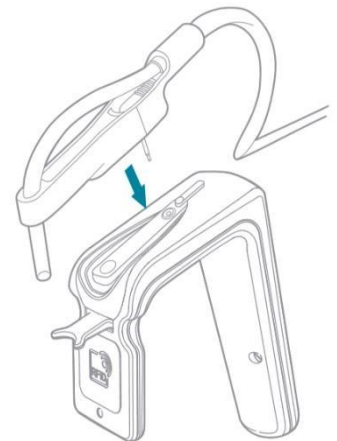
2.2.5. Light

This submenu allows you to set the color ("Color") and intensity ("Delivery") of the indicator light at the front of the FISHGUN L2, that confirms each delivery of feed. When the "Color" submenu is selected, these choices are available: Red, Magenta, Yellow, White, Blue, Green, Cyan, or None.

In the "delivery" sub-menu, you can choose the intensity of a value of 1-100%.

III. Hose holder installation

The hose holder must be placed on the back of the FISHGUN. This new version of the liquid FISHGUN allows to adjust the length of the tube holder. Thus, it adapts to the main brands of aquariums present on the market (Techniplast, Aquaneering, Pentair). The tube can thus be positioned in different positions thanks to a notching system at the level of the tube support. The latter is now divided into two distinct parts and can be adjusted according to the position of the distribution hole of each aquarium.



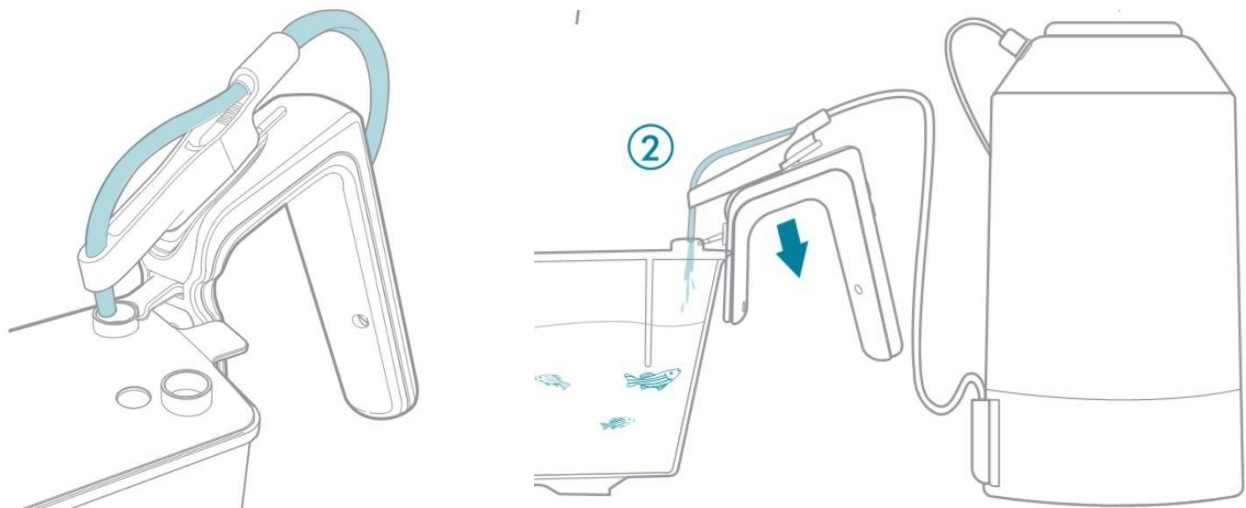
The hose holder is magnetized and must join the magnets of the FISHGUN, so it remains in the correct position. Pay attention not to overturn the FISHGUN during use, and do not make sudden movements.

IV. Docking to the fish tank

Position the FISHGUN L2 dispensing aperture over the tank's feeding port, making sure to place the triggering fork on the feeding orifice.

For optimal reading of the RFID code, it is important to position the RFID antenna on the front of the FISHGUN close to the NFC tag.

For optimal reading of the RFID code, it is important to position the RFID antenna on the front of the FISHGUN L2 close to the NFC tag.



NOTE: For Aquaneering aquariums specifically, we provide RFID tags holders to certify the reading of the RFID tags by the FISHGUN's scanner. If you have this type of aquarium, it is necessary to position a tag holder so that the scanner is perfectly in front of the tag during the reading. These tag holders are available on our website, and five units are offer with the purchase of a FISHGUN L2.

Table 2 : The notching level for each aquarium

Notching position	Tank volume	Tank brands
1	All volumes	Techniplast
2	All volumes	Pentair
2	0,8 L	Aquaneering
3		
4	1,8 L & 6 L	Aquaneering
5	2,8 L	Aquaneering
6 & 7	9,5 L	Aquaneering

V. The reservoir of the FISHGUN L2

5.1. Filling the reservoir

Place the reservoir on bare, flat, and level ground to fill it.

Fill in the reservoir by gently pouring live feed (Rotifers, Artemia type, etc.).

If the liquid touches the battery case, remove the case and dry the battery and the terminals with a cloth. The maximum capacity of the reservoir is 8 liters, moreover, we advise not to fill above 7 liters in order to avoid any overflow during transport while feeding.

5.2. Maintenance and cleaning of the reservoir

After use, turn the motor off by pressing the red switch because the battery discharges quickly when the motor of the plankton tank is turned on, even without being in active mode. Pour the unused liquid into a container suitable for future use and rinse it with distilled water. Clean the reservoir and the exterior surfaces with a damp cloth. Do not use abrasive cleaners or solvents as they may cause deterioration.

Store the reservoir away from sunlight and frost. In case of long-term storage or prolonged period of non-use, it is recommended to recharge the battery every 2 months in order to preserve it.

5.3. Maintenance and cleaning of the hose

After each use, passing at least 2 liters of water (preferably RO) through the flexible transparent tube in order to remove any debris that may result in long-term clogging.

VI. Programming the NFC tag

For programming NFC tags, two solutions are possible for you:

- 1/ Planktovie solution: Using an NFC reader/writer available on Planktovie's website
- 2/ Using a cell phone or tablet and downloading the NFC Tools app

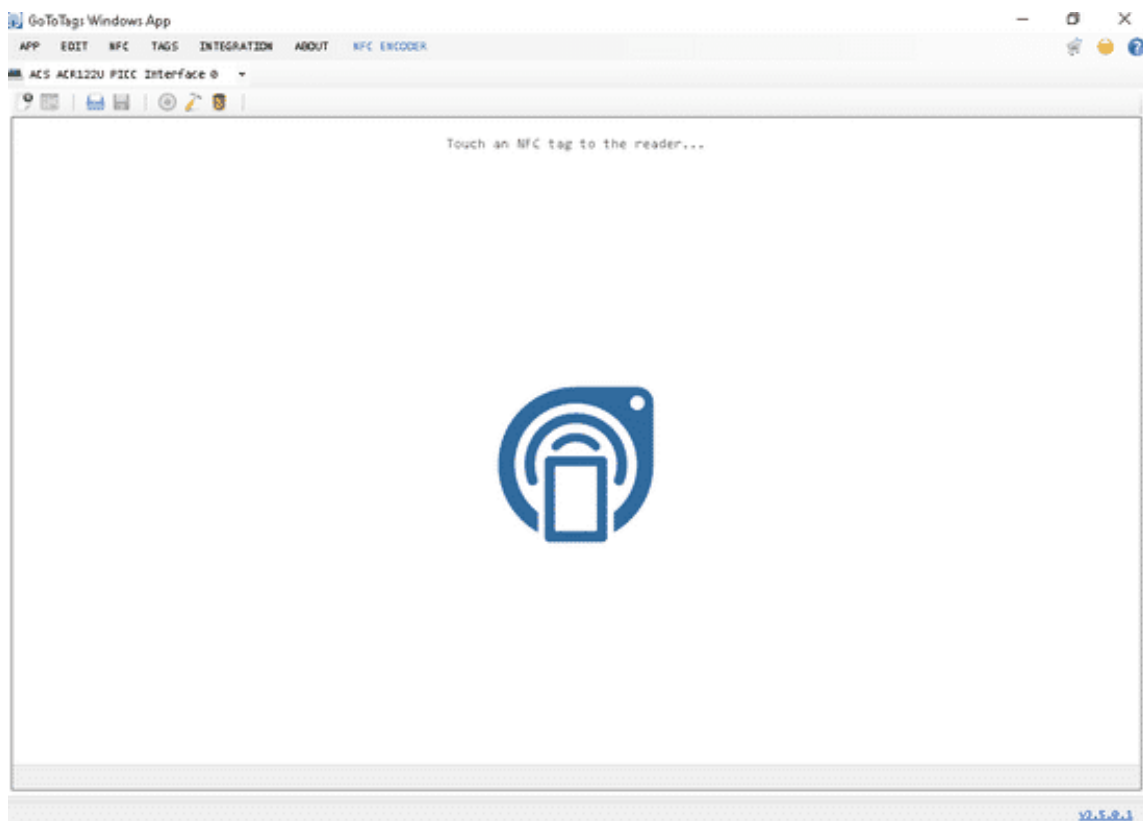
6.1. NFC Reader/writer

Planktovie offers the possibility to use an NFC reader/writer available on its website:

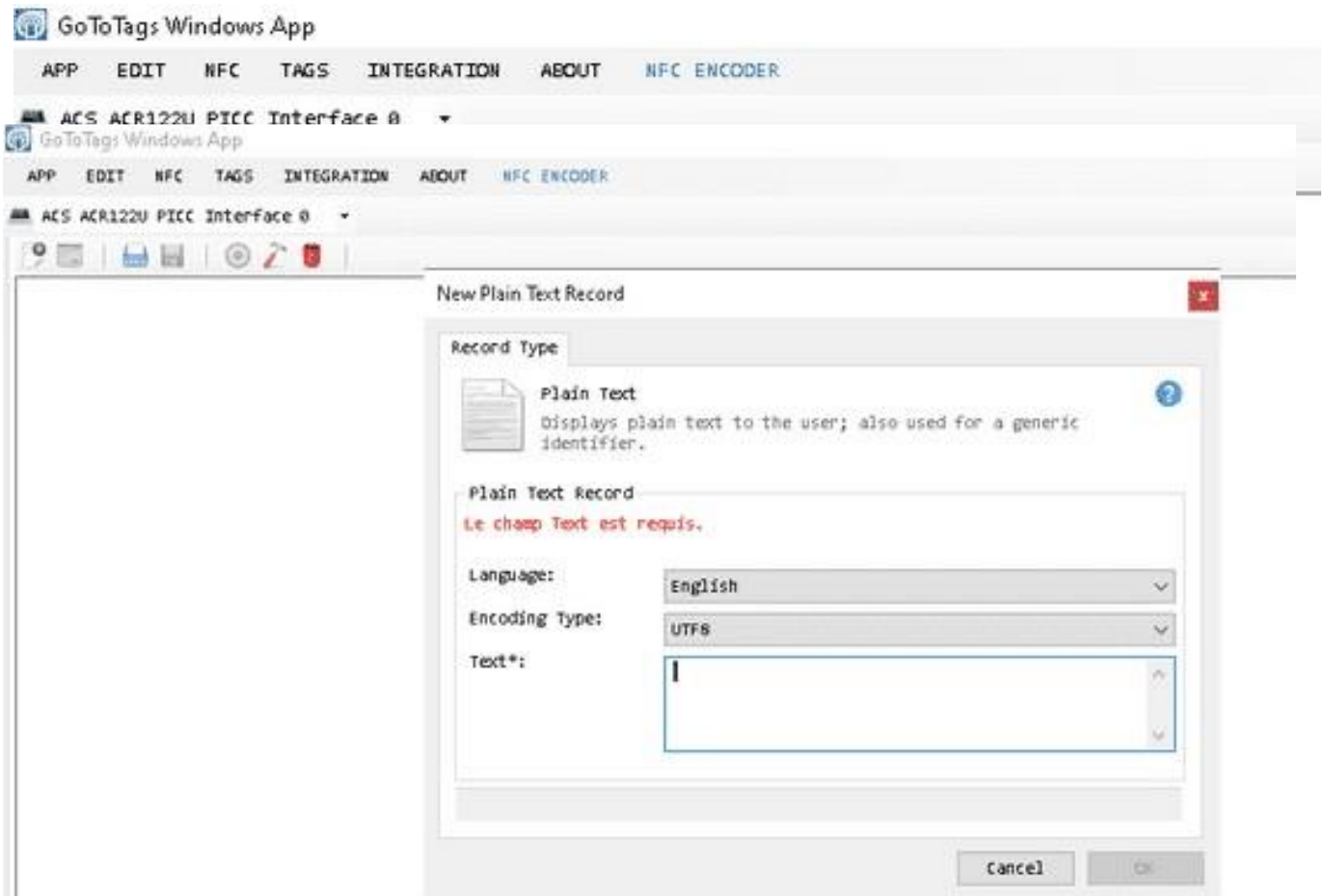
<https://planktovie.biz/en/product/nfc-reader-encoder/>

Please follow these few steps for using properly your NFC reader/writer. A tutorial video is also available on our Youtube channel and our website.

1. Download and install the free software "Gototags" available at the following link: <https://gototags.com/windows-app/download/>
2. Connect your NFC reader/writer via USB to your computer and launch the Gototags software.
3. The following software window opens:

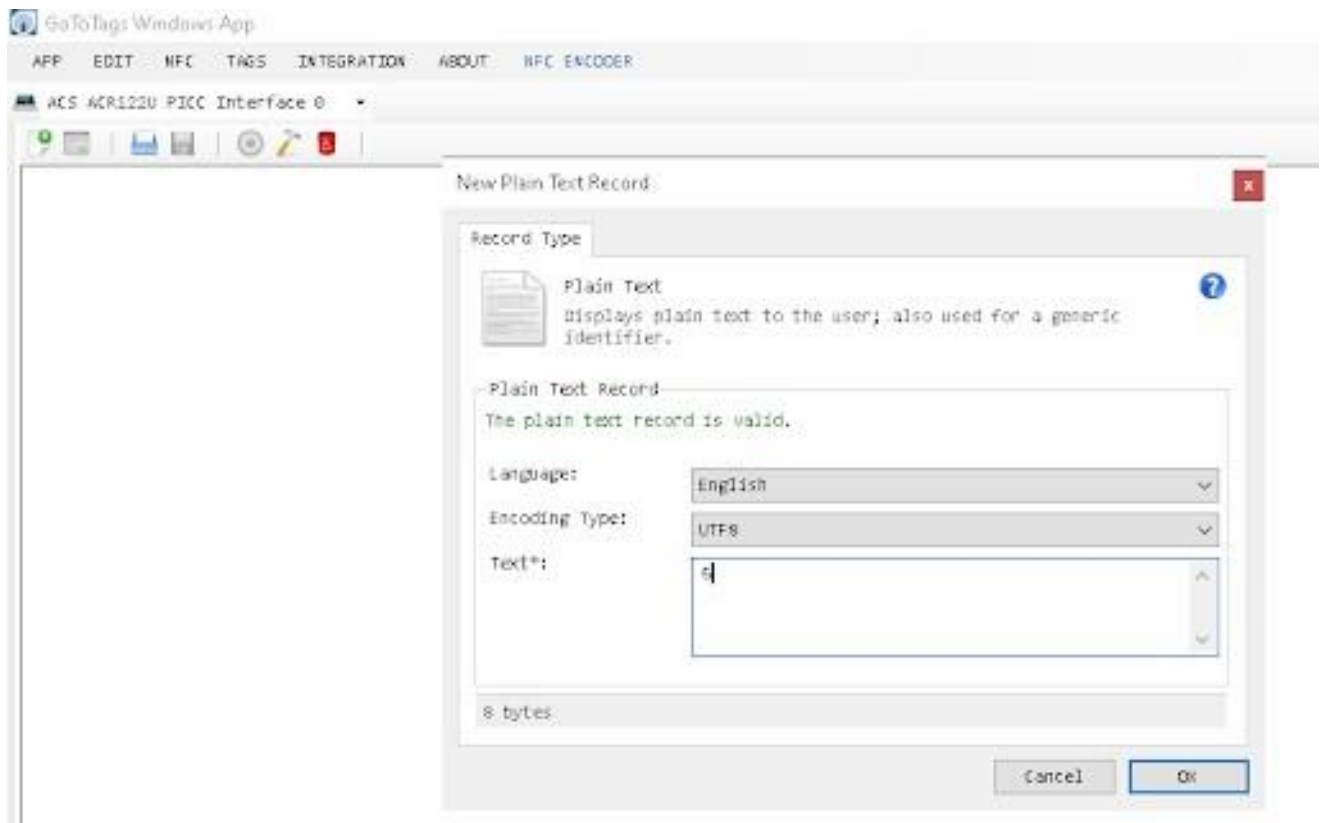


4. Program a tag by entering the "Add a New Record" icon: Then enter the "Plain text" submenu.



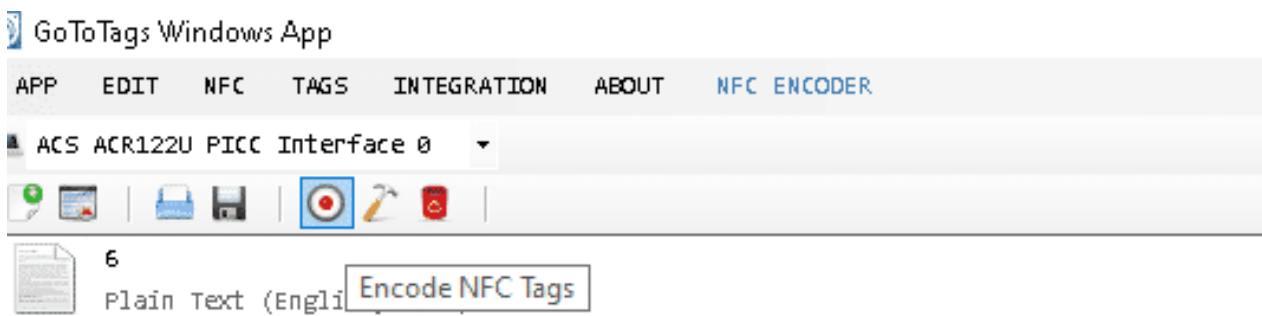
5. Enter in the text box, the number of fish you want to encode on the NFC tag.

6. Wait until the software validates the new data, then press OK.

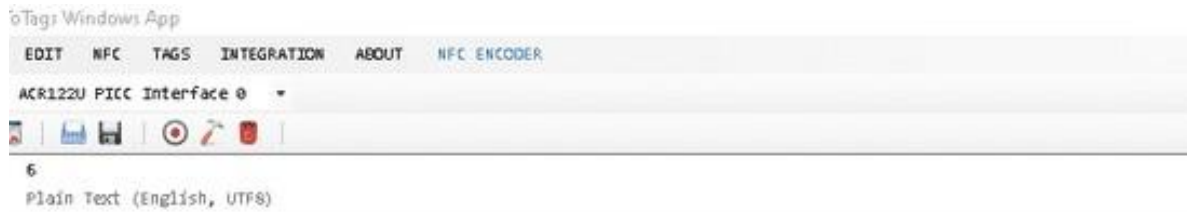


7. Then, the text data is saved in the box.

8. Click on the "Encode NFC Tags" icon.



9. A window opens, affix a blank NFC tag to the NFC reader/writer.



10. Wait until the software confirms that the NFC tag is properly encoded.



Your NFC tag is now ready for reading by the FISHGUN. For encoding a new blank NFC tag with the same number, proceed to step 9. Otherwise, you only need to erase the data entered in the box using the "Clear all records" icon.

To erase the encoded content on an NFC tag, click on the red trash icon "Erase NFC Tags".



Then as for writing, a window will open. Affix the tag to deprogram on the box and wait until the software confirms the deprogramming.

6.2. The NFC Tools app

[Download the NFC Tools](#)

Compatible phones for reading RFID tags

After having downloaded the NFC tools application available on Apple store or Wak Dev website (<https://www.wakdev.com/apps/nfc-tools-pc-mac.html>) you will be able to use your cell phone, or any other compatible device for writing and reading your NFC tags. Devices equipped with NFC are, for example, Android, BlackBerry, Windows Phones, etc. All compatible phones are listed on the NFCWorld website (<https://www.nfcw.com/nfc-phones-list/>).

On Android devices, the NFC function is activated in the "Wireless and networks" settings, on the BlackBerry in the "Manage connections" section. On Windows Phones, the function is already activated but may be deactivated in the "Touch + Send" settings.

Apple devices contain a low-power Bluetooth 4.0 contactless technology (BLE - Bluetooth Low Energy) introduced on iOS7 with the iBeacon system, that allows ranges greater than the NFC (up to 50 m) and hands-free use. To read RFID tags a minimum IOS 11 version is required, compatible with iPhones 7 or higher.

VII. Charging

7.1. Charging the gun

Ensure that the FISHGUN is correctly positioned on its charger.

To optimize the use of the FISHGUN L2, make sure that the battery level is not below 3000 mV before each use. If the level is below this threshold, it is necessary to charge it by placing it on the charging station.

Check that the FISHGUN is correctly installed on the charger and that the charging indicator light is illuminated (blue), indicating that charging is in progress.

The FISHGUN in charge quickly reaches the threshold of 3600 mV, which is sufficient for optimum use. For a full charge, wait 1 to 2 hours, the light will turn green.

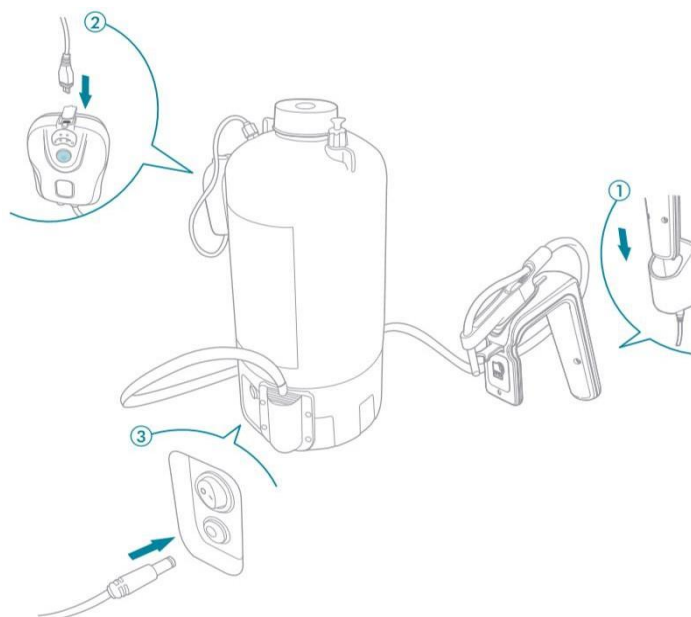
7.2. Charging of the air pump

The air pump battery is recharged using a universal charger. The air pump recharges in a few hours, it allows constant homogenization of the zooplankton inside the reservoir, it must be recharged before each use.

7.3. Charging the reservoir battery

The battery should be charged for 3-5 hours before first use. Then for 3 hours during the following uses.

It is a high capacity 12V battery that provides several hours of use. For maximum service life, this battery requires a low amperage recharge rate.



VIII. Warranty

We guarantee your product against any defect in material and workmanship, under normal conditions of use. If a product is found to be defective during the one-year warranty period, we repair or replace the defective product, at our option. The warranty period begins on the day of purchase. For validation of the warranty, proof of purchase must be provided.

For the FISHGUN L2 the following elements are exclusive of the warranty:

1. Incorrect use of the device causing a malfunction.
2. the device is repaired or modified by an unauthorized person
3. Damage affected by a disaster.
4. Poor maintenance causing damage
5. Use of reagent or sample causing corrosion;
6. Accidental damage or overload
6. Consumables such as NFC tag, etc.

For the PUMP (and the reservoir) the following elements are exclusive of the guarantee:

1. Normal wear and tear of the product or wearing parts
2. Improper use such as overloading the device or use of unauthorized accessories.
3. Abuse or damage to the product
4. Device partially or completely disassembled
5. Device partially or totally modified with parts not recommended.

For warranty assistance, you can contact our local technical support who will try to diagnose the problem to help you resolve it. If the problem cannot be resolved, our support technique will ask you to return the product which will be supported. You will be asked to provide proof of purchase to confirm that the product is still under warranty.

IX. Security

To avoid danger, you should observe the following rules:

- If you find any visible damage, please do not switch on
- Be sure not to expose the FISHGUN to any acid, alkali, or volatile solvents
- Temperature changes or mechanical wear may increase the dosing volume error.

You must stop any operation immediately if the equipment is damaged. The equipment may be damaged when the following situations occur:

- There is visual damage.
- The product suddenly does not work.

X. Troubleshooting

Symptoms	Possible causes	Solution
Feed does not flow, or not regularly	Feed can clog when its water content reaches a certain threshold, making flow irregular	Change the feed; keep a pouch of dry desiccant in the tube
RFID reading is not performed correctly	Incorrect positioning of the FISHGUN L2	Position the RFID scanner parallel to the aquarium. Be sure to place the NFC tag just under the feeding port, so it can be read by the RFID antenna
The braided sheath is worn	Normal wear of the consumable	Replace all the elements making up the sheath. Products available on order (info@planktovie.biz)
Reservoir pump does not work when Fishgun feed is triggered	<p>The reservoir pump is unloaded</p> <p>The jack on the braided sheath that connects to the Fishgun is poorly connected</p>	<p>Put the reservoir battery on charge</p> <p>Make sure the jack plug is fully seated in the Fishgun connector, otherwise insert it further</p>

XII. Specifications

Model: FISHGUN-L2

Adapter:

- input: AC 100-240V 50-60Hz 1.0A max
- output: DC 12V 1A; DC24V 1.9A Power supply: 12W

Precision: 5%

Working environment: Temperature 0-70°C

Storage environment : Humidity: 10%-90% (non-condensable)

Dimensions (L x W x H): 12.5 x 5.5 x 16 cm

Weight: 222g