



# ROBOCOMB

## USER GUIDE



YOUR  
DIAGNOSTIC  
COMPANION

# PACKAGE CONTENT

## THE PACKAGE CONTAINS:

- RoboComb unit
- A 24-volt power supply
- User Guide
- A tablet
- A USB/ micro-USB cable
- Plate opener
- Absorbent strips pack (100 strips) \*
- Empty plate for alignment QC
- Empty Comb for alignment QC

\* Additional Absorbent strips are available from Biogal upon demand.

If, despite all the care we take in preparing the RoboComb system, an item is missing, please contact Biogal immediately. Keep the package until you have launched the system for the first time. The warranty is only valid for machines returned in the original package. RoboComb application software is already installed on the tablet.

## CAUTIONS

Read this user guide attentively before you use the equipment for the first time. Biogal is not liable if the equipment is not used in compliance with the user guide.

- For your safety, the equipment complies with the applicable standards and regulations (Low Voltage Directive, Electro-magnetic Compatibility, etc.). To disconnect the equipment, remove the connector from the equipment or disconnect the mains plug.

- The RoboComb is an electrical device and must be used under normal conditions of use. It is intended for professional use.

- The RoboComb is strictly reserved for indoor use at an altitude of up to 2000 meters.

- Working temperature must be adjusted to the ImmunoComb kit, optimal from 20°C up to 25°C, relative humidity from 20% to 80% non-condensing.

- The RoboComb must be powered only by the power supply provided (24 volts, 1.5 amps). If the power supply cable is damaged, do not use it.

- The RoboComb should be cleaned with moistened wipes. Avoid rinsing with liquid.

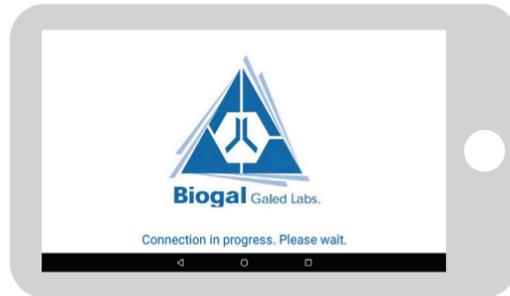
# INSTALLATION

1. Connect the tablet to the RoboComb using the USB cable provided. Turn on the tablet by pressing the On/Off button for few seconds. Wait for the main screen to appear (**Fig. 1**).
2. Connect the power supply to the RoboComb and to the mains power socket. Turn on (Black switch at the back of the RoboComb).

**Notice:** as soon as the RoboComb is turned on, the Comb holder arm and plate holder will move. The RoboComb App will launch automatically (**Fig. 2**) and the program menu appears (**Fig. 3**). If the RoboComb App does not launch automatically, press the RoboComb App logo on the Tablet screen (**Fig. 1**).



**Fig. 1** Tablet main screen



**Fig. 2** RoboComb launch screen



**Fig. 3** Program menu screen



**Fig. 4** Program menu opened

## SET-UP CHECK

The set-up check is recommended after installation and prior to each use of the RoboComb. The QC check takes two minutes and verifies that the unit operates properly.

1. Under the program menu select “Alignment QC” (**Fig. 4**). Press “Go”.
2. Follow the instruction in the next section (Operation) using the Alignment QC Plate and Alignment Comb, provided in the package.
3. Verify that the Comb enters smoothly into the Plate during the Alignment QC.
4. Verify that the Comb is moving into all wells A-F. If the arm skips wells, repeat the Alignment QC until successfully processed.

**Notice:** In case of misalignment, the Comb will be pushed by the well's edges. Refer to the Setting and Comb holder adjustment section below.



## OPERATION

Before starting the development of the kit, confirm that the RoboComb operates properly, see above Set-up check. Follow the instructions of the ImmunoComb kit to the step of loading the samples. Always load the samples only after the RoboComb set-up check is completed.

1. Under the program menu select the required test according to the ImmunoComb kit in use (**Fig. 3** and **Fig. 4**). Press “Go”.
2. Follow the instructions on the next screen (**Fig. 5-8**).
3. Make sure to place a clean absorbent pad (**Fig. 5**). Press “Next”.
4. Open the plate foil using the Plate opener (**Fig. 6**). All the wells A-F should be opened for all the samples that are tested. Place the plate (label facing you) in the plate holder (**Fig. 7**). Press “Next”.

## OPERATION

5. Wait for the Comb holder Arm to go to the lower position. Insert the Comb or number of teeth in use into the Comb holder (**Fig. 8**).

**Notice:** Hold the comb on both sides with your thumb and forefinger and insert it into the holder by gently pushing it down on both sides with the same strength until it reaches the stop. If testing a single tooth or partial Comb, make sure the position number matches the well number where the sample was loaded in the plate.

**Critical:** For a single tooth take extra care to position it straight, until it reaches the stop. See troubleshooting section for correct Comb and single tooth placement.

6. Press “Go”. The development will start and the process time remaining will show up on the screen.

**Notice:** Verify that the Comb enters smoothly into the Plate during the process. In case of misalignment, the Comb will be pushed by the wells’ edges. Refer to the Setting and Comb holder adjustment section below.



**Fig. 5** Absorbent strip pad placement



**Fig. 6** Foil opening



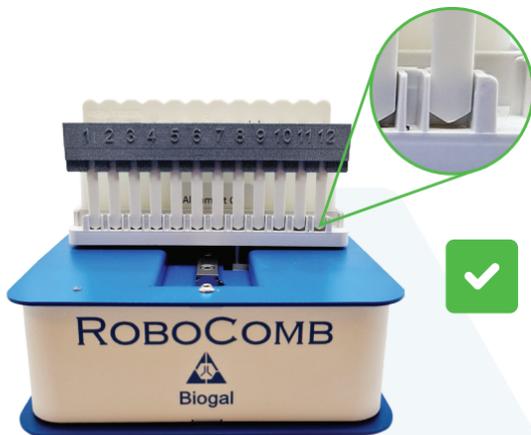
**Fig. 7** Plate placement



**Fig. 8** Comb placement

## TROUBLESHOOTING

**Notice:** The Comb Holder shape and color maybe different than depicted in the instructions. This will not alter the operation.



**Fig. 9 Correct Comb placement**

Comb is gently pushed down at both sides until reaches stop.



**Fig. 10 Incorrect Comb placement**

Comb is not pushed down until stop.



**Fig. 11 Correct Tooth placement**  
Straight.



**Fig. 12 Incorrect Tooth placement**  
Crooked.

# TROUBLESHOOTING

## Problem

The machine does not react when you press on “Next” or “GO”.

## Possible Causes

Equipment is not connected or Communication fault.

## Solutions

Turn the unit Off and On. A message should appear (e.g. “Accessory Attached”). If nothing happens, check the tablet charge indicator: if the tablet is not charging, the USB cable may be faulty. Change the USB cable.

The Comb Holder or Plate holder vibrate and not move to the next step.

Communication fault.

Restart the RoboComb.



Problem	Possible Causes	Solutions
The machine does not react when the power supply is connected.	Power supply fault or machine electronic fault.	If the diode on the front is not lit, the electronic board is faulty. Contact Biogal.
The Comb is pushed by the well edge.	The Comb holder is not aligned with the Plate holder.	Refer to the setting section.



## SETTING AND COMB HOLDER ADJUSTMENT

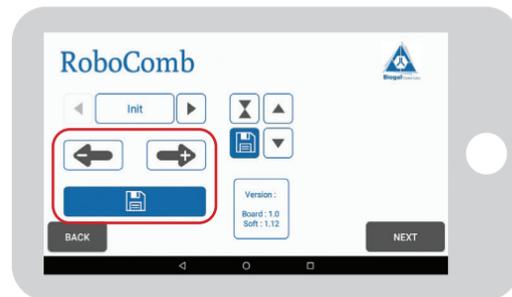
This step needs to be carried out only if there is misalignment of the Comb and Plate.

1. Enter setting by pressing the “setting” on the main screen (**Fig. 3**).
2. Press “Init” (**Fig. 13**). The “save” logos will change to blue color.
3. Press the left and right arrows (2 sides of the “Init”) to move the position of the calibration Comb to the different wells “Chambers” of the calibration plate. Using the horizontal “-” and “+” arrows (**Fig. 13 Red circle**) fine tune the position of the comb to enter smoothly into the plate.
4. Using the vertical arrows, confirm that the Comb is entering smoothly into the well.

**Critical:** Before moving the comb to the next well (step 3), make sure that the comb is at the upper position and not protruding from the wells.

5. Once the position is adjusted and fit all wells A-F, press the large save button (**Fig. 13 Red circle**).

6. Repeat the Alignment QC as in Set-up check section.



**Fig. 13** Setting screen



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For further assistance please  
contact your local Distributor,  
or Biogal Galed Laboratories:

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