

# igro

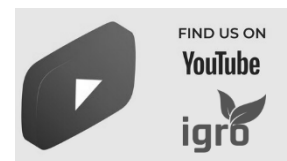
The word 'igro' in a bold, lowercase sans-serif font, with a stylized leaf graphic integrated into the letter 'o'.

## INSTALLATION AND OPERATIONS MANUAL

Applies to Model:  
Type 1

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Manual images may appear different from actual product images.

# SAFETY INSTRUCTIONS

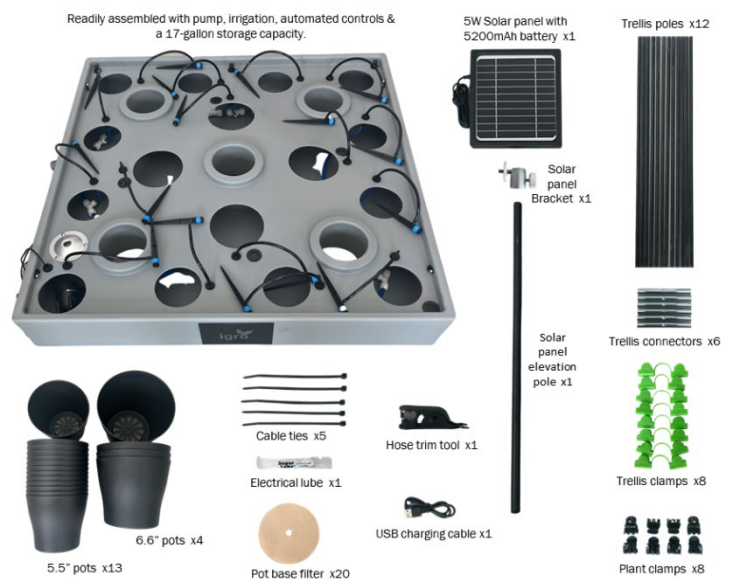
- 1 **Read Instructions** – All the safety and operating instructions should be read before the unit is installed or operated.
- 2 **Retain Instructions** – The safety and operating instructions should be retained for future reference.
- 3 **Heed Warnings** – All warnings on the unit and in the operating instructions should be adhered to.
- 4 **Follow Instructions** – All operating and other instructions should be followed.
- 5 **Water and Moisture** – The control unit is water resistant. However, please take care to avoid installing areas that may submerge or are in direct line with spray irrigation.
- 6 **Surface Mounting** – The igro base unit should be placed and positioned in a manner that is level and capable of supporting **up to 200 lbs.**
- 7 **Heat** – The unit should be situated away from heat sources such as radiators, exhaust pipes, or other appliances that produce intensive heat.
- 8 **Power Sources** – The unit should be connected to a power supply only of the type described in the operating instructions or as marked on the unit.
- 9 **Cleaning** – The unit should be cleaned only with mild, non-caustic agents.
- 10 **Object and Liquid Entry** – Care should be taken so that objects do not fall into, and liquids are not spilled into the inside of the control and connection box.
- 11 **Damage Requiring Service** – The unit should be serviced by qualified service personnel when:
  - a) The power-supply wiring has been damaged; or
  - b) Objects have fallen, or liquid has been spilled into the unit causing damage; or
  - c) The unit does not appear to operate normally or exhibits a marked change in performance; or
  - d) The unit has been dropped, or a pump has failed.
- 12 **Servicing** – The user should not attempt to service the unit beyond those means described in the operating instructions. All other servicing should be referred to qualified service personnel.
- 13 **The igro is not to be used as a thermal protection system for plants.** Plants should not be exposed to hot or cold temperatures outside their natural limitations.

**⚠ CAUTION: READ THIS BEFORE OPERATING UNIT ⚠**


- 1 Do not make power connections, or attempt to power the unit, until instructed to do so. Failure to follow instructions may cause damage.
- 2 Install this unit in a place – away from threat of vandalism, accidental damage, or forceful water intrusion. To prevent damage to electronics, avoid exposing the interior of the control and connection unit to rain or chemicals.
- 3 Do not use force on switches, controls, or connection wires. When moving the unit, first disconnect the power wires or pipework connected to other equipment. Never pull the wires or pipework for relocation.
- 4 Be sure to read the separate “TROUBLESHOOTING” guide regarding common operating errors before concluding that the unit is faulty.
- 5 The internal components of this unit operate at low 12v voltage. Caution should still be taken to avoid personal harm.
- 6 The igro unit will not function properly, and power should not be applied, until unit is fully assembled.
- 7 This unit has been preprogrammed to water three times per day, six hours apart. See Step 9 on programming to adjust.

## SUPPLIED CONTENTS

- 1x igro watering pan
- 13x 5” Plant pots
- 4x 6” Plant pots
- 1x Pack of plant pot filters
- 1x Solar panel with internal battery and usb charging cable
- 1x Solar panel mounting pole, bracket and bracket screws
- 1x Trellis kit (12 poles, 8 connectors, 8 plant support clips)
- 1x Pipe cutter tool
- 1x Electrical connection protectant
- 5x Cable ties



## PRE-ASSEMBLY CONSIDERATIONS

 Inspect for damage. Open box and look for any visible exterior damages. In the event of a broken unit item, prior to returning, please contact manufacturer for replacement parts if necessary.

Xero Technologies makes no suggestion or guarantee (expressed or implied) that this unit will or can resolve any pre-existing plant care deficiencies or diseases.

Easy to follow installation videos are also available at: <https://www.youtube.com/@xero-technologies/videos>

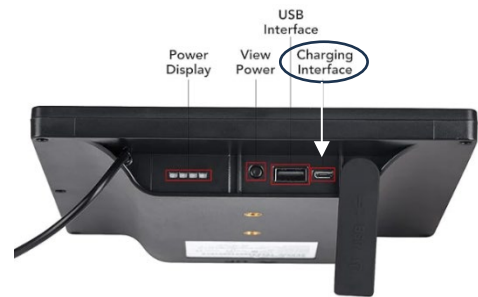
## ASSEMBLY INSTRUCTIONS

Please fully read all steps first. This will help you better understand the relationship between the components, streamline your installation and avoid mistakes. In preparation of installation, selecting the right location for the igro will greatly improve plant growth and ensure proper functionality.

### Step 1. Fully Charge the Panel's Internal Battery

Note: This may be easier to do prior to mounting on igro. It can also be done after being mounted but may require extension to an outlet.

- 1) Locate the panel and the provided usb micro charging cable.
- 2) Using usb power block (not provided), insert cable into panel's charging port and charge until all 4 power display markers are illuminated.



### Step 2. Positioning igro Watering Pan

The watering pan is specially designed to support the plants, as well as effectively recapture and reuse as much of the water as possible. To do that, the tank must be placed level, and on a flat surface or stable structure able to easily support up to 200 lbs.

- 1) Locate area with proper sun exposure for the type of plants you intend to grow. Indoor grow lighting may also be used with the igro. The igro fits perfectly within a 4' x 4' grow tent, with a little room to spare. (**Note:** If you plan to use the water auto fill kit with the igro, the pipe route and location of your water supply connection should also be considered.)
- 2) Check and tighten the pan's external drain/connection plug-caps before filling with water, as they may have loosened during transport. **Note:** Ensure it is watertight before using indoors.

### Step 3. Install Solar Panel

- 1) Locate and remove the components that have been zip-strapped to the watering pan surface's underside.
- 2) Locate the solar panel pole segment and mounting bracket, connect and attach it to the round, threaded, mounting plate on the pan's surface.
- 3) Locate the small tube of electrical connection protectant. Apply a small amount into the connection port, in the control box. Then insert the panel wire connector into the port.

#### **Step 4. Plant Pot Arrangement**

- 1) Place the 4x large 6" pots into the inner, larger holes. Place the 12x 5" smaller pots into the outer, smaller holes. It is best to keep unused pots in their openings, even when no plants are within them. This keeps evaporation down, discourages algae growth, and provides protection from pest intrusion.
- 2) Place 1 paper filter unit into the bottom of each pot, prior to filling with soil.

#### **START UP (Once panel is fully charged)**

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The igro will fail to operate properly if solar panel wire is not plugged in and connected.

#### **Step 5. Add Water**

- 1) Fill recycling pan with 15 gallons minimum, clean water (enough to fully submerge the pump.)

The igro pan recovers dispensed water, as well as collects natural rainwater. The pan is equipped with sensors that inform the main control center if it has sufficient water, keeping the pump from dry running unnecessarily.

- 2) Remove the clear protective cover from the timer face on control panel. Quick press the top right "manual" button until LCD screen display shows "ON". This will engage the pump on demand, allowing you to test the system as needed.
- 3) Allow the system to run while examining the pipework connections on surface of pan for water leaking. If no leaks, quick press "manual" button until LCD displays "OFF".

#### **Step 6. Igro Watering Head Units**

- 1) Adjust flow by rotating the blue distribution heads. Turn the heads clockwise to reduce flow. Turn the heads clockwise to increase flow. The flow rate should be adjusted so that water flows slowly down and does not spray/overflow the pot during the watering cycle, while meeting the need of the individual plant.
- 2) Once plants are potted, insert the spike mount of the distribution head into the soil, nearest to the center of the pot, without disturbing the plant.
- 3) Recharge the panel again to ensure it is full, while adding your plants.

#### **Step 7. Add Plants**

Using the supplied pots, prepare your plants as appropriate for the species, using a well-draining potting soil or media. Drainage stones may be used if desired. Do not over fill the pots. Maintain approximately 1" of void between the level of the soil surface and the rim of the pot. When using new soil, pre-water the new planting and soil until they have settled into the pot, to prevent soil overflowing the pot rim, prior to placing into the igro.

#### **Step 8. Install Trellis (If / When Needed)**

- 1) Combine the flexible, coated fiberglass poles using the connectors into 2x groups of 4, with 4x single poles left aside. Bend one group of 4 and mount cross corner, by inserting ends into black mounting clips located on the pan surface rim. Repeat with other group of 4 into the opposite corners, creating an "X" pattern.
- 2) Using the green pole connectors, attach the remaining 4x individual poles to the "X", to create a bracing square around the perimeter of the "X".

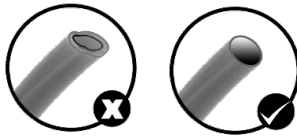
#### **Step 9. Program Timer for Local Time**

Once plants have been added, quick press the "manual" button until LCD reads "AUTO". At this point, the igro will begin to operate a 3 times-per-day watering routine. The system is pre-programmed to come on for a 1-minute duration, 6 hours apart. This is typically adequate for most situations. The amount of water each plant receives is determined by the flow at the individual distributor's head.

- 1) Press and hold clock symbol button. Simultaneously, Press “D+” key to set current day; Press “H+” button to set current hour; Press “M+” button to set current minute. Release clock button. igro will water at approx. 6am, 12 pm and 6 pm. Replace clear cover.
- 2) To adjust watering times and/or duration: Short press “P” button. Set 1st run time with the “H” and M” buttons. Then press “P” button again to set the off time the same way. Short press “P” button again to set the 2<sup>nd</sup> and 3<sup>rd</sup> run times in the same way. When complete, press the clock button to finish.

## TROUBLESHOOTING

### PIPE WORK INSTALLATION



Although Xero technologies makes every effort to ensure a leak proof assembly, a connection may come loose during transport. In the event that a water pipe comes loose from its connection, a quick and easy reseating may be required.

**NOTE:** It is important that any cut ends on pipe work are smooth and clean. Do not insert pipes into fittings if the pipe end has an angular cut or is dirty, as this may fail to create a complete seal. Use provided cutter tool if needed.

- 1) The cutter tool has two functions: The first is to cleanly cut pipes, and the second is to release the pipe from the quick connectors. Using the back end of the cutter tool, place the “U” shaped end around the pipe and onto the top of the connection. Press down on to the connector while gently pulling upward on the pipe. Use only as much force as is required. Cease applying downward force with the tool and reseat the pipe.
- 2) Should this fail to stop the leak, the pipe may need to have a re-trimmed end. Using the cutter, remove a very small amount of the pipe to create a new, clean-cut end. Reinsert pipe and test.

### FAILURE TO OPERATE

- 1) Check charge level on solar panel. If no indicators, see point 5.
- 2) Check to ensure adequate water level. When water level is too low, LED indicator on control box will light and pump will not engage.
- 3) If LED indicator is off, and water level appears full, press the “manual” button to engage “ON”.
- 4) Listen for pump.
- 5) If pump does not come on:
  - a. Ensure panel is receiving enough sun to charge battery. Examine charge meter on base of solar panel. Adjust location or panel angle.
  - b. If charge status is low, panel may be electrically charged. Connect usb power to panel. Wait one hour and do a manual retest.
- 6) If pump still does not come on, and panel meter shows charge:
  - a. Remove the first 2 plant pots on left side (controller side) of igro.
  - b. Manually engage the timer as above.
  - c. Reach into 2<sup>nd</sup> hold from front. On the pan wall interior, on the backside of the control box, there are two float sensor bulbs. Ensure the bulbs are not obstructed by lightly moving them up and down. Bulbs should be very loose and move freely up and down.
  - d. While holding both bulbs in the upward position, check that the LED is not illuminated. Pump should operate.
- 7) If pump still remains off, contact technical support at Xero Technologies.

For all other technical issues, contact technical support.

## TIPS FOR SUCCESS

As with all plants, proper fertilization and pH is critical for proper growth and overall health. Selecting plants with similar needs will enable a much higher level of success. Obtain a pH and EC meter and establish a routine to check the water quality. Most plants thrive in an environment between 5.8 and 6.5 pH, with an EC of 1.2 to 2.4. There are many excellent videos and articles online regarding how to test and adjust your pH and EC levels.

Use quality fertilizers and do not overfertilize. **Less is more.** If adding liquid fertilizers directly to the stored water, follow the manufacturer instructions carefully. Pre-fertilized soils will leach into the stored water and get recycled until consumed. This is a different process than in earth grown agriculture, where some gets consumed, and some just gets lost. Therefore, it is strongly recommended that anytime new plants are added with new, pre-fertilized soil, retesting is done after 48 hours. Over time, fertilizers may build up in the reservoir and flushing out with plain water may be beneficial.

## SPECIFICATIONS

**igro Control System: 12V <25 mA**

**igro capacity:** 17 Gallons

**Spray Pump:** DC 12V, 24 watt

**5W 12V Solar Panel kit**

CN (Origin)

Built-in Li-ion Battery: 5200 mAh/3.7V = 2600 mAh/7.4V

Solar Panel max Output Power: 5W(5V1A)

Output Voltage: 12V

Max Output Current: 1A(12V)

Power Adaptor: input AC110-220, output: 5V 2A

Waterproof: IP65

Cable Length: 1.7m(5.6ft)

Operation Temperature: -22 to +158°F

Operation Humidity: 5%-95%

**Battery**

Nominal Voltage: 3.7V

Charge Current: 5v up to 2A (10 watts)

Capacity: 5200 mA

Discharge Current: 2A

**Lithium Battery Warning**

SAFETY HAZARD WARNINGS FOR LITHIUM-ION BATTERIES

Rechargeable Lithium-Ion batteries are potentially hazardous and can present a serious FIRE HAZARD if damaged, defective, or improperly used.



[www.thegro.com](http://www.thegro.com)

Xero Technologies Inc  
1217 Cape Coral Pkwy East - Unit 395  
Cape Coral, FL USA 33904