

EdRack™ Quick Start Guide



Getting Started

Purpose of this guide

This guide is designed to help you set up, operate, and maintain your EdRack system quickly and efficiently. Our step-by-step instructions, essential safety tips, and troubleshooting solutions get you started confidently growing.

Whether you're a first-time user or an experienced educator, this resource ensures a seamless integration of EdRack into your classroom or learning environment.



What You'll Find in This Guide

- **Unboxing** Let's roll EdRack into your classroom
- **System Components** An overview of the system components and general terminology
- **Troubleshooting** What to do if things don't go as planned
- **Warranty & Support** Who to call if things don't go as planned

Thank you for putting your trust in us



RAYN HQ, Mazomanie, WI



Hey!



Scan here
for our
**instructional
videos**

Table of Contents

01

02



About the Quick Start Guide	02
 Purpose of This Guide	02
 What You'll Find in This Guide	02

Table of Contents	05
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Unboxing & Setup	06
1.1 Safety Guidelines	07
1.2 Introduction	08
1.3 EdRack Components	09
1.4 Setup	10

Warranty & Support	14
2.1 Warranty	15
2.2 Troubleshooting	16
2.3 Support	17



01

Unboxing & Setup



1.1 Safety Guidelines

EdRack is designed for safe, hands-on learning, but proper handling is essential to prevent potential risks. The system combines electric components and water, requiring careful setup and operation. Additionally, some maintenance materials may be hazardous and should be stored securely away from students and unauthorized users. Please follow the safety instructions in this guide to make sure you have a safe and successful growing experience.



WARNING - Risk of electric shock, fire, and water hazards. Contact with live electrical parts can cause serious injury or death. Water exposure increases the risk of short circuits and fire. Keep water away from electrical components, disconnect power before servicing, ensure proper insulation and grounding protection, never operate the EdRack with damaged electrical components or a damaged power cord, do not handle electrical components while in standing water.



CAUTION - Risk of electric shock, serious injury, and damage to equipment is likely if handled improperly. Users must be trained on safe practices for use of the EdRack in an environment where electricity and water can present a risk of electric shock. Always wear personal protective equipment (goggles and gloves) when handling chemical nutrients.

1.2 Introduction

EdRack arrives 90% ready to grow. We would love to make that 100%, but shipping the system full of water was not a viable option. All jokes aside, there are a few things to check on before you get started.

Make sure you have everything	Check section 1.3 below to see that nothing is missing
Have water ready	Tap water works well in many areas, but please test it. Too many minerals can lead to excess algae, pH instability, and more cleanup.
Call us	We are here to help. 844-907-7296

1.3 EdRack

Familiarize yourself with the different components to make life easier. Everything in EdRack is built for industrial use. This ensures an authentic experience with materials built to last. Please refer to our datasheet for an in-depth technical description of EdRack.

Components

- EdRack Frame with Polyurethane Castors
- (9) 36 W Commercial Grow Lights
- (3) 14 Gallon FDA Approved Reservoirs
- (3) 500 GPH Danner Pumps
- (3) Botanicare Grow Trays
- (1) Digital Timer
- (1) Analog LED Dimmer
- (2) Anti-Tip Wall Mount Brackets with Safety Wire
- (1) Step Stool
- (1) Battery Operated Fill/Drain Pump often referred to as “Wanda”



Consumables (incl. with your purchase)

Aside from water, we have included everything you need. We offer easy to use consumable kits to keep the good times growing when things start to run out. Be sure to check out RAYN.ag/edrack for the latest in labs, accessories, and consumables.

Item	Qty
Johnny's Seeds Butterleaf Lettuce Green	250
Johnny's Seeds Butterleaf Lettuce Breen	250
Styrofoam Raft	3
Plastic Net Pots	100
iHort Q-Plugs - Substrate	250
Sticky Traps	5
Sponge Filters	9
10 mL Pipets	4
Digital EC/pH Probe	1 Pack
Digital Gram Scale	1
Plant Label Wrap	100
Plant Label Sticks	100
500 mL Measuring Cup	1
General Hydroponic FloraMicro 1 L	1
General Hydroponic FloraGro 1 L	1
General Hydroponic FloraBloom 1 L	1
General Hydroponic pH Down 1 L	1

1.4 Setup



Power User(s)

We suggest identifying 1 - 3 students with an interest in hydroponics. Having a team will be beneficial when it's time to assign responsibilities, monitor experiments, and, most importantly, it presents a fantastic opportunity for leadership.

1. Remove from pallet



EdRack will arrive on a pallet. Follow our video instructions for detailed removal. The pallet is made of untreated wood. For example, you can turn it into a fun class project by making benches or a desk. Careful! There are nails and screws in the pallet.

2. Confirm everything is there

Find an even, flat surface for EdRack. If you can place it near a hose/sink, a floor drain, and a GFCI outlet, you're doing yourself a big favor. It is much easier to fill EdRack via a hose (granted your tap water is of good quality). You may want to test your water using our pH and EC Probe. Please watch our video on how to do this.



“Running pumps dry”

Running the pumps dry (without water) will render them useless in a very short period of time/almost immediately. These are commercial pumps with tight tolerances. It must be made clear that reservoirs must ALWAYS have a minimum of two inches (50 mm) of water ABOVE the pumps' input connection in the reservoirs.

3. Plug it all in (EXCEPT THE PUMPS)

Plug in your fans if they are not already. Watch our video on setting up the timer. A 21 hour photoperiod (the amount of time the plants are exposed to light) is a good start for the seedling and germination stage.

1.4 Setup - Cont.



Nutrients

CAUTION: RISK OF SERIOUS INJURY. KEEP ALL NUTRIENTS OUT OF REACH OF CHILDREN. DO NOT DRINK THE NUTRIENTS. Store all nutrients in accordance with local regulations. Wash hands, forearms and face thoroughly after handling chemical products.

4. Calibrate the pH probe

EdRack ships with a pH and EC probe. Use the included materials to properly calibrate the pH probe before use. We have made a video on our resource page for how to do this.

5. Fill your reservoirs

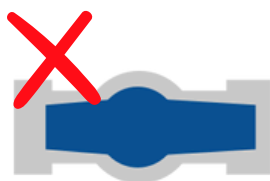


Ideally using distilled water, fill your reservoirs. If you are transferring from a container, use our included battery operated transfer pump “Wanda”. Be sure not to let it run dry as it will damage the transfer pump. We have made videos on our resource page on how to do this. We also show filling using a garden hose. Many sinks allow for the attachment of a hose. As stated previously, using tap water will put you at risk of pH instability and sediment build up.

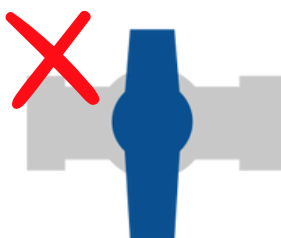
Fill each reservoir to one inch (25 mm) below the lids.

6. Check the ball valves

Due to the rate at which the water fills vs. drains on each tier, having the ball valve fully open risks overflowing a tray. If you want to keep your floors nice and dry, we suggest operating with the valve around 45 degrees open. This will slow the fill enough to have balance against the drain. Too slow puts a strain on the pump, Too fast risks overflowing.



Fully open



Fully closed

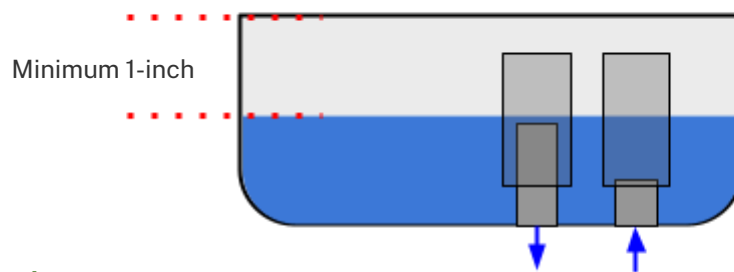


Partially open

1.4 Setup - Cont.

7. Test the pumps

It's time to test your pumps out. It takes approximately 3-5 minutes to fill a tray. Keep the DWC (Deep Water Culture) Styrofoam rafts out of the trays when you do this. Ensure your water level DOES NOT EXCEED one-inch (25 mm) from the rim of each tray.



8. Check for leaks

If you don't have any leaks, proceed with adding nutrients or doing a rinse of the system (if you notice any dirt in the water). Please watch our video tutorial on how to add nutrients before continuing. See the nutrient chart below for reference. This chart is courtesy of:

<https://generalhydroponics.com/resources/flora-series-feedcharts/>

	All amounts per 3.79 liters (1 U.S. gallon)								
	Grow (18H Photoperiod)				Bloom (12H Photoperiod)				
Week	1	2	3	4	5-6	6-8	8-9	10	11
Growth stage	Seedling	Early Growth	Early Growth	Late Growth	Early Bloom	Mid Bloom	Late Bloom	Ripen	Flush
EC range (mS/cm)	0.4-0.5	0.9-1.1	1.2-1.4	1.4-1.7	1.4-1.7	1.4-1.7	0.9-1.1	0.6-0.8	
FloraMicro (ml/gal)	1.8	3.6	4.9	6	5.3	4.6	3.3	2	Clear water
FloraGro (ml/gal)	1.8	3.4	4.6	5.6	4.6	4.6	3.3	2	
FloraBloom (ml/gal)	1.8	2.6	3.4	4.2	6	6.6	4	3.2	

Focus on one column at a time. For this first fill, you'll use this highlighted column as you're focusing on the "Seedling Stage".

1.4 Setup - Cont.

9. Good fill rate?



Each tray should take about two minutes to fill. The drain should keep up with the incoming fill. The tray should be about halfway full with the raft on top. The pump should not go dry in the reservoir and the tray should not overflow

10. Let's plant!

- Place a basket into each plant site on the raft
- Insert a Q-Plug into each basket
- Plant two seeds of lettuce into each Q-Plug
- Make sure each Q-Plug is moist and getting water. If not, push the Q-Plug into the basket a little bit
- Hang a sticky trap in the middle of each tray

Your EdRack is now set up and planted. Your seeds will take a couple of days to germinate. Grow them out for a week, then turn the light intensity to 100%. In 30 days, plants should be ready to harvest.

EdRack can be left alone for a few days if you ensure everything is set up correctly. Just be mindful that leaks are a normal part of hydroponics. To reduce the chance of problems:

- Top off reservoirs so they do not go dry
- Increase nutrient strength as plants get older (Following the General Hydroponic Feedchart)
- Check your filters and make sure the drains are working well

Follow our detailed videos to see how we get EdRack growing. Good luck and tell us how you're doing. We love seeing happy gardens in our inbox. Don't forget to tag us on social media @ed.rack.



02

Warranty & Support

Warranty



2.1 Warranty

As a business unit of ETC (Electronic Theatre Controls, Inc) we take great pride in offering strong service and support for our products.

If something can not be solved over the phone or via email, we will do everything in our power to make it right.

Please visit RAYN.ag for complete warranty details, terms and conditions.

Items Covered

➤ **Grow Lights** 5-Year Warranty

➤ **Non-Grow Lights** 1-Year Warranty

Troubleshooting

2.2 Troubleshooting steps

Issue	Potential Solution
No water flow	<ol style="list-style-type: none"> 1. Check for water in the reservoir. 2. Check the filters and clean and free of debris. 3. Make sure roots are not blocking drains. 4. Make sure ball valves are NOT CLOSED. 5. Check the pump is running. 6. If all the above does not work: <ol style="list-style-type: none"> a. Drain the reservoir and disconnect the pump from the system by unscrewing the two unions. One on the input of the pump and the other on the output of the pump. b. Submerge the pump in clear water and plug it in. Do you feel water/pressure pushing from the output? If not, the pump has failed.
Lights are not turning on	<ol style="list-style-type: none"> 1. Are the lights plugged into the power strip? Does it have power? 2. Is the timer on? 3. Is the dimmer set to a value greater than Off? 4. Disconnect the lights from power and insert a fan that was previously working into that plug. This will determine if the plug has power or not. If the fans do turn on using that outlet, plug the lights back into that same outlet. Contact support if the issue persists.
Algae buildup	<ol style="list-style-type: none"> 1. Make sure you don't have excessive standing water in the trays. Water should always be circulating. 2. Clean the system using our Deep Clean Instructions (found on our resources page).
Pumps are excessively loud	<ol style="list-style-type: none"> 1. It's possible there is an air bubble in the fill line. Turn off the pump, check inside the reservoir and ensure the water is sitting above the pump input. Turn back on the pump and wait five minutes. Try this again three times. If the problem continues, contact support.

Support



2.3 How to get ahold of us

PHONE



844-907-7296

EMAIL



[support@
rayngrowingsystems.com](mailto:support@rayngrowingsystems.com)

ADDRESS



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