

**Net Zero  
Agriculture Inc.  
(Net0Ag)**

Our goal is to put modular CEA systems within reach of educational institutions, individuals, restaurants, garden supply centers, and commercial farmers.



# MM432 Microgreens Maker

**Controlled Environment Agriculture (CEA)**

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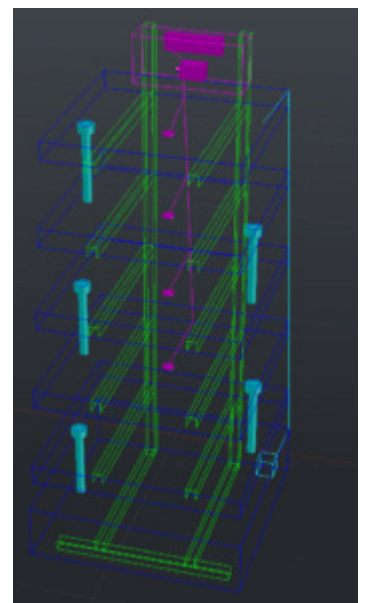
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**\*\*\* 25 % Educational Discount for K-12 controlled environment agriculture (CEA) education, community college applied technology, and university research to qualified institutions.\*\*\***



**MM432 Microgreens Maker kit for Controlled Environment Agriculture (CEA)** - An easily assembled modular closed-loop growth system readily adjusted and programmed to optimize growth of microgreens and clones for food production, education, research, and medical purposes. The controller is a WiFi 2.4 GHz Smart Power Strip Surge Protector that uses the Jinvoov app for Remote Control from a Mobile Device with individual timers for 4 outlets plus USB. Amazon Alexa and Google Assistant compatible. Includes the controller, rack, pans, lights, and pump. U.S. Patent Application No. 16/186,447 and International Patent Application No. PCT/US2018/060224: APPARATUS AND METHODS FOR A HYDROPONICS SYSTEM WITH ENHANCED HEAT TRANSFER.

- **Grow Areas** - 4 of 31"x31"x3" pans
- **Base Pan for Sump** - 32"x32"x9"
- **Rack** - 7' channel 1-5/8" legs with 24" brackets
- **LEDs** - 400 W 3500 K (100W each pan spaced 14" apart)
- **Power Efficiency** - 95%
- **Power** - 500 W maximum NEMA 5-15P 120 VAC GFCI
- **Wiring for LEDs** - 20 AWG 2-wire low voltage DC
- **Connectors for LEDs** - WAGO tool-less lever nuts
- **1 year [Limited Warranty](#)**

**Attention:**

Customer must have 3/4" wrench to assemble kit, and provide electricity with GFCI, uninterruptible power supply for the controller or manually turn on the controller upon power failure, hardware to mount rack to wall or other suitable structure, HVAC to control ambient temperature and humidity, mobile device with Jinvoov app, free Jinvoov account for Smart Power Strip, internet service with WiFi 2.4 GHz, water, seeds, media, filter for water, pH kit, electrical conductivity meter to measure nutrients, salts, and impurities, temperature sensor, humidity sensor, and method using 10"x20" plastic trays, 15"x30" floating trays, ceramic pebbles with rockwool plugs, coco mat, soil in fabric pots, or other media. The *minimum depth for the hydroponic solution is 0.5"* across the entire grow pan for proper heat transfer from the LEDs if using ebb/flow method with pump cycling on and off according to your settings on the timer in the controller unless hydroponic solution is continuously flowing with the thin film nutrient method. Warning - the temperature at the LED surface is extremely hot. Do not touch the LED when it is on, or let anything touch it. Keep the LED out of the reach of children. Although the LEDs should last 10 years, the *LEDs will burn out if the hydroponic solution that also serves as the coolant completely evaporates from the grow pans with LEDs. The customer is responsible for all LED replacements.*

**Keywords:**

tomatoes, hemp, strawberries, microgreens, clones, production, food production, education, research, medical, digital agriculture, urban agriculture, net zero energy, efficiency, off grid, controlled environment agriculture, CEA, controlled environments, sustainability, LED, LED lighting systems, photovoltaics, geothermal, earth ship, solar energy, closed loop, closed-loop, clean rooms, semiconductors, hydroponics, cultivation, thermodynamics, modular, scalable, nutraceuticals, horticulture, scale, container, cargo, cargo container

