

SANANBIO -ARK/E

THE MOBILE FARM FOR ALL CLIMATES BROCHURE

SANANBIO ARK/E

the Mobile Farm for ALL Climates

SANANBIO ARK /E was created to grow local food for local communities. It integrates indoor vertical farming and hydroponics in one shipping container, ready to be deployed under any climate across the globe.



For All Climates



Flexible Deployment

365
days

4000-7000kg Annual Yield



Full Cycle Production



Education

SANANBIO ARK/E monitor and controls temperature, relative humidity, lighting, CO₂ concentration, and nutrient ratio through its sensors and climate control system. Islands, deserts, highlands, polar regions, or metropolises, ARK/E is applicable in these scenarios as a lab, a demonstration base, or a commercial farm.

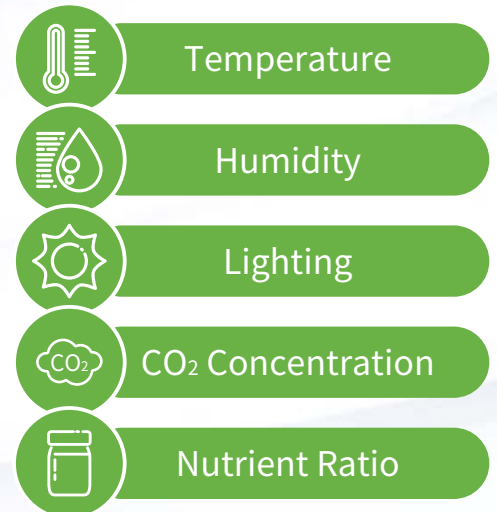
Versatile Application



Commercial



Research



Precise Automatic Control

Operation Division

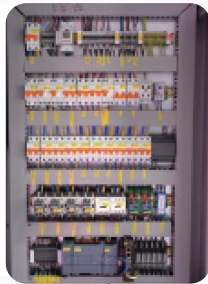
Integrated water

Peristaltic pump
EC&PH controller
Water tank
Workstation



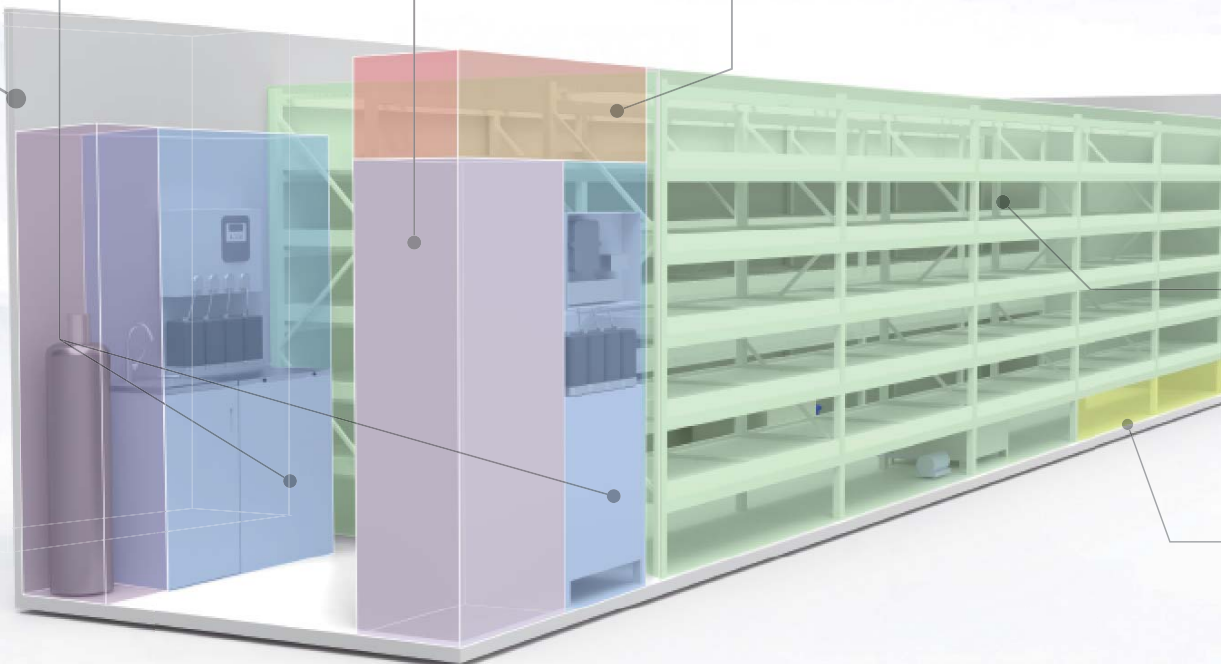
Electricity and CO2 control

Control screen
CO2 control
Locker



Air conditioner outdoor unit

Hidden design for
easy transportation
and aesthetics



Sananbio Ark/E is built in a 40-foot shipping container with exclusive grow racks. Operation and cultivation division is separated for handy control and hygienic maintenance.

40' Spacial Utilization

Modular design for high space utilization

Cultivation Division

Grow racks
Air conditioner indoor unit
Temperature & RH sensors
Vent
Seedlings Area

Customized Cultivation Equipment

Double-row multi-layer planting for high space utilization



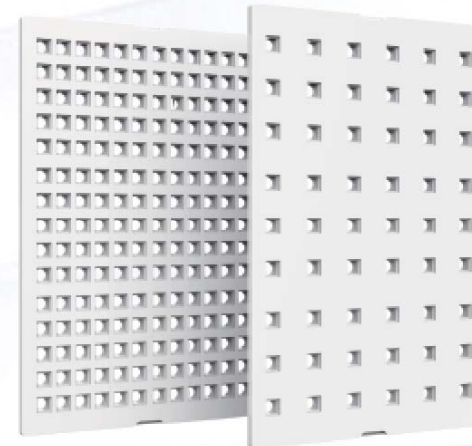
10 sets of cultivation racks/cabinets

Dimensions per set: 2088*630*2277mm

hosting up to

100 rafts

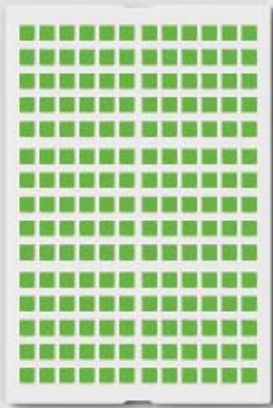
5400-18000 plant sites



10 planting trays per set

54/180 hole raft

Various Planting Densities Available



Density 180



Density 90



Density 54



Density 27

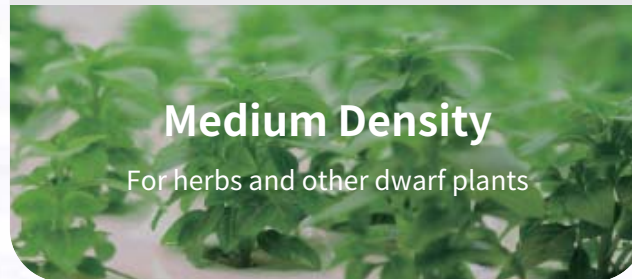


Density 15



High Density

For propagation



Medium Density

For herbs and other dwarf plants

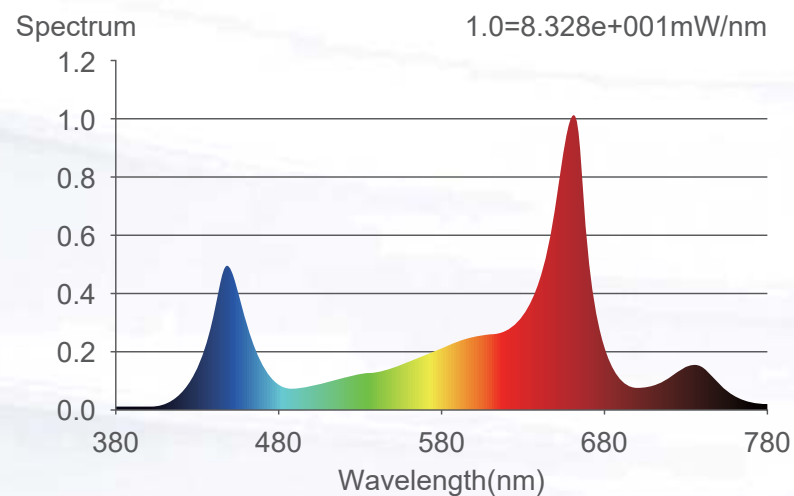
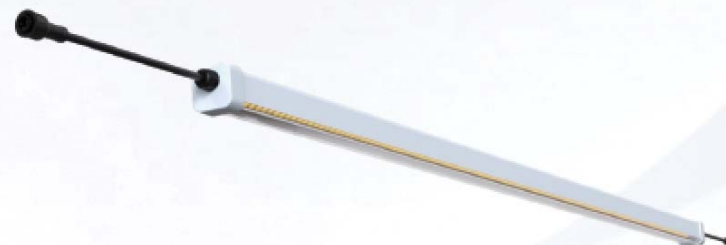


Low Density

For leafy greens' vegetative stage.

SANANBIO ARK/E utilizes SANANBIO Nightingale grow lights to empower the growth of 300+ varieties throughout their life stages with 80+ spectra available.

Lighting System



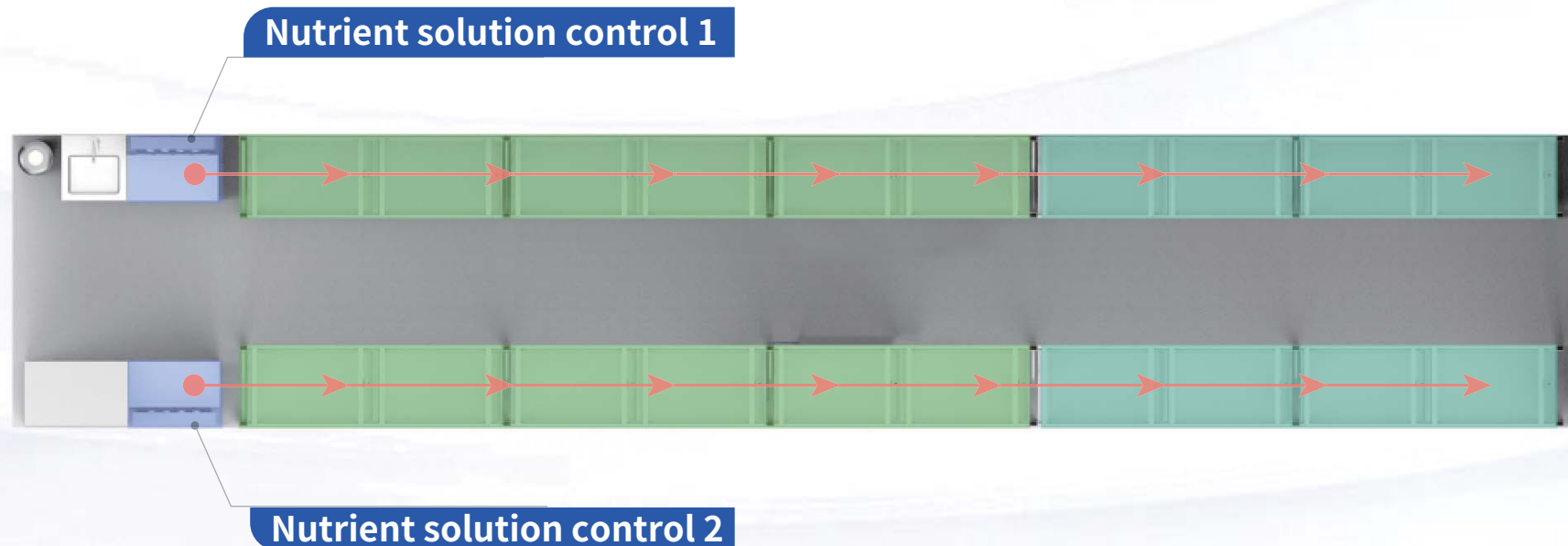
Nightingale cultivation lights	
Size	1845*37*41mm
Power	35W
PPF	95umol/s
PPE	2.7umol/J
Number of lights	3pcs/layer
Light-to-bed distance	235mm

Dual-channel Nutrient Solution Control System



Nutrient solution control equipment

To provide suitable growing conditions for various crop varieties, the container farming system uses a dual-channel control for the nutrient solution, allowing users to set different parameters based on the nutrient blend requirements of different varieties.



Environmental Control System

The environmental control system features production monitoring, light control, AC control, fresh air control, ECPH control, CO2 control, trend viewing, alarm records, and parameter settings. Users can perform data setting and viewing via the electrical cabinet panel, and can also monitor via a mobile app.

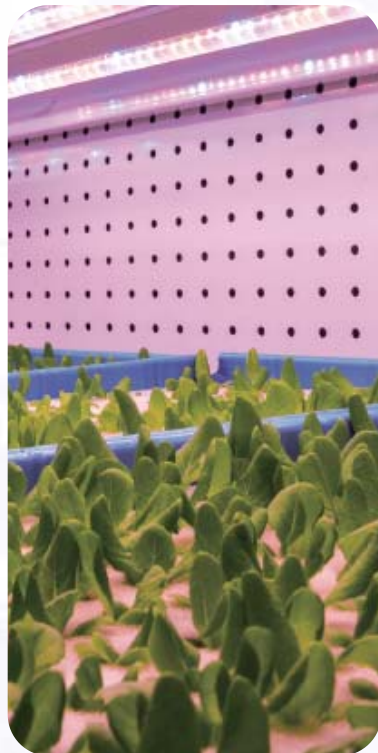


Sow the seeds and harvest an armful.
Seeding, propagation, transplanting,
vegetation and harvest, all happening
inside the containerized system.

From Seeding to Harvesting



Seeding



Propagation



Transplanting



Vegetation



Harvest

The ARK/E mobile farm cultivation equipment can be customized according to crop varieties, and can grow 11 major categories and over 300 types of crops including leafy greens, sprouts, fruits & veggies, edible flowers, herbs, medicinal plants, rice, etc.

Suitable Crops



Leafy Green



Aromatic Herbs



Medicinal Plants



Fruiting Crops



Paddy



Edible Flowers



Micro-Green



Pasture

Specs

Container Farm

	Products	ARK/E
Dimension	L*W*H	12190*2440*2900
	Product weight	13t
	Cultivation area	> 70m ²
Climate Control	Climate control sysytem	Sananbio
	Insulation material	75mm board (Customized)
	Air conditioning	Domestic / Highland
	CO ₂ supply	40kg of CO ₂ in gasholders
Electrical	Power	Up to 11KW
	Voltage	AC200~220V / AC380V (Customizable)
	Frenquency	50/60Hz
Data Collection and Transfer	Sensors	EC&PH sensor, 3 in 1 sensor (CO ₂ ,temperature and RH)
	Data traffic	1G/month (No picture transfer)
Consumption	Electricity	100-150kW.h(10-35°C outdoor temperature)
	Water	50-70L (Varies by crop variety and growth stage)
Annual yield	Lettuce	4000-7000kg (Yield varies by crop variety)

Grow System

L*W*H	10200*626*2277mm (5sets/row)
Lights	3pcs/layer
Grow Raft	2pcs/layer
Plant Sites	54 / 108 holes/raft
Layers	1-5
Material	Galvanized iron + Food-Grade PP

Lighting

Grow Light	Nightingale cultivation lights
Size	1845*37*41mm
Power	35W
PPF	95umol/s
PPE	2.7umol/J

Locating

The total weight of the ARK/E mobile farm is about 13 tons. It needs to be placed horizontally. It is recommended to build 6 concrete foundations of 400mm*400mm that are 50mm higher than the ground at the placement location to prevent rainwater flooding.

Input Voltage

Power voltage	AC200~220V / AC380V 50/60Hz(Customizable)
Three-phase / single-phase electrical power	Customizable
Total power rating	15KW

Water Consumption

Water pressure	Municipal water supply(0.15-0.35MPa in general)
Water intake	Rack-top water intake 4L/min

Consumables and Accessories

SANANBIO offers extra grow rafts and germination trays to growers.

Data Transportation

SANANBIO ARK 2.0 transfers data to growers via WiFi or IoT.
Estimated data traffic is 1G/month if there is no picture transfer.





SANANBIO is a diverse group of growers, engineers, scientists, designers, and business professionals working to build a sustainable and resilient global food system. We are empowering growers globally with cutting-edge indoor vertical farming and horticultural lighting technologies that allow them to meet local and global market demand for essential agricultural products. Our team of controlled environment agriculture (CEA) experts in conjunction with our industry leading technology, creates unmatched value. We are creating the STANDARD in indoor vertical farming and horticultural lighting. We solve complex problems to build you simple solutions.

GLOBAL PHOTOBIOTECH SUPPLIER



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