

LED lighting equipment optimized
for vegetable plants.

Water Culture Plant with LED

Features

- Provides a light intensity of 10,000 lx with an input of 20 W, thus making it possible to grow leaf vegetables, the energy consumption of which is less than half the energy consumption of fluorescent lighting equipment.
- Employs a new method that increases the luminous efficiency of high-power LEDs by 30%.
- Contributes to the reduction of CO₂ by using power from solar panels.

Overview

(Technical principles, actions, etc.)

This equipment applies high-power LEDs to the cultivation of vegetables indoors or in places with insufficient sunlight, thus ensuring the stable and safe growth of the vegetables with the use of agricultural chemicals suppressed. Saves at least 50% of energy with suppressed waste heat emissions and low power consumption compared with conventional lighting equipment.

Applies both water circulation and air ventilation in combination to the cooling of the high-power LED lighting equipment, thus increasing the luminous efficiency of the equipment.



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Introductory Track Record

- The equipment, which will come into actual operation, is now under verification test for the collection of digitalized data.



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Effects

- The power consumption of the equipment is 50% lower than that of fluorescent lighting equipment, which enables the low-cost cultivation of vegetables indoors. Therefore, the stable supply of vegetables and the producers' profits will be expected from the equipment.

Applicable field
Leaf vegetable cultivation facilities
PVC greenhouse, warehouse, unoccupied stores, office building

Water

Energy saving/Energy/recovery

Energy storage/Energy creation

New energy

Waste disposal/
Recycling/
Resource saving

Air

Soil

Other

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