



WEBSITE



VIDEO



Specialized Solution Provider for Facility Agriculture

SHINHAN A-TEC



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Through robust technological capabilities in agricultural automation equipment that lead the future, SHINHAN A-TEC continues to perfect quality standards with unwavering dedication as we advance agriculture's roadmap.

SHINHAN A-TEC stands with agricultural producers and nature.

Since our founding in January 1995, SHINHAN A-TEC has dedicated all efforts to research and development alongside our entire staff, driven by our mission to advance agriculture. Our research facility's lights remain on each day as we strive to produce more abundant and safer agricultural products with less labor.

We hope to share encouragement and strength as we work together with agricultural producers to overcome the challenges facing our agricultural reality. We promise to remain a company that consistently strives to repay the support of our valued customers.

Thank you.

SHINHAN A-TEC

CEO Kim Hyung-gyu

CEO Kim Jung-gyu



CORE VALUE



Technology Development

- ◆ Operation of R&D Institute
- ◆ Joint Research with Research Institutions



Production

- ◆ Quality Maintenance through Direct Manufacturing
- ◆ Quality Enhancement through Imported and Premium Materials



After-Sales Service

- ◆ Consultation with Professional Engineers
- ◆ Quick respond to Minimize Customer Inconvenience

SHINHAN A-TEC: Specialized Solution Provider for Facility Agriculture



Nutrient Solution Supply System

Automatically irrigates crops based on user setting such as time etc. EC and pH are automatically regulated. Premium and standard models are available depending on greenhouse environment requirements.

Environment Control System

Analyzes information from various sensors, including weather, greenhouse, and soil sensors, to maintain optimal growing conditions.

Recycling System

Reduces water and fertilizer costs by sterilizing and recycling previously discarded drainage water.

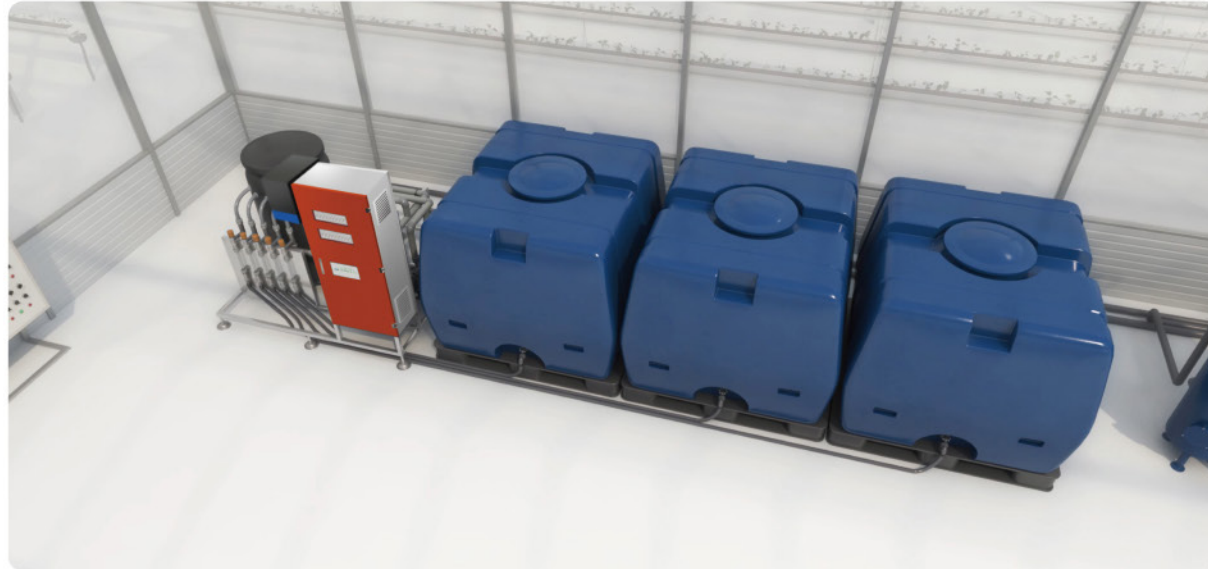
Smart Scale

Provides increased productivity, quality improvement, and cost reduction benefits by measuring and managing media moisture content for optimal growth conditions.

Growing Gutter

A cultivation system using elevated steel growing beds with gutter-shaped coating. Enables easy control of growing conditions and reduces risks of pest and disease through high cultivation.

Premium Nutrient Solution System Aqua-S | Aqua-M



Aqua-S



Aqua-M

System Features



Intuitive main screen shows comprehensive irrigation status at a glance



Web-based interface enables multi-device access from computers and mobile devices



User-specific ID issuance with customizable permission levels



Remote monitoring and control from control rooms and hub centers without additional data collection devices (suitable for research institutes, schools, etc.)

Aqua-S | Aqua-M

양액 장치 설정 정보

센서 모니터링 항목

구분

1구역

관수장치	시간관수
제어방법	정량제어
제어 시작방법	누적값사시작
총관수량 (리)	20
남은관수량 (리)	19

양액 동작 정보

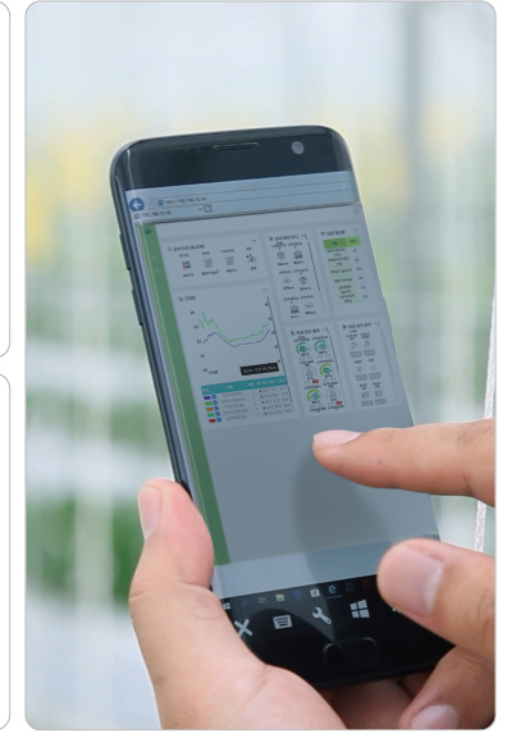
구분

1구역

마지막 관수 시작시간	8시 10분
다음 관수시작시간	정량제어
이전 관수시간 (사용:초)	09:40:00
다음관수시간 (사용:초)	11:20:00
현재 관수 상태	대기

양액 출력 장치 상태

관수 펌프	관수 펌프	양액 A 펌프
ON/OFF	ON/OFF	ON/OFF
양액용 펌프	양액 C 펌프	전라 펌프 1
ON/OFF	ON/OFF	ON/OFF
교반기		
ON/OFF		



- Complete control integration with recycling systems (UV sterilization, UF, plasma, microbubble, etc.)
- Monitoring and control of drainage collection tank, clean tank low/high water levels
- Recirculation 3-way valve connection and control (ON/OFF control, proportional control)
- Environment control systems utilizing all environmental values as variables (radiation, accumulated radiation, temperature, humidity, etc.)
- Selective use of multiple EC, pH sensors for average, maximum, and minimum values
- Individual recipe settings for zone-specific irrigation
- Control capability for up to 99 groups and 999 electronic valves
- Irrigation control based on external signals, media moisture content, and soil moisture content
- Individual control options for sand filter backwashing, dosing channel additions
- Emergency call and text message alert service available (optional)

Innovative Products



Circulating Nutrient Solution System
with Drainage Recycling Capability

Standard Nutrient Solution System SH-2000

Hardware Specifications

Model Name	SH-2000
Nutrient Supply	Venturi method (100 ~ 1,000 liters/hour)
Control Method	Microcomputer (automatic control based on user settings)
Overall Dimensions	Width 107cm x Depth 95cm x Height 108cm
Total Weight	110kg
Power Supply	Three-phase 4-wire AC380V / Single-phase AC220V (selectable)



Control Methods

- **Time Control** : Irrigation based on set time (min:sec)(up to 24 times)
- **Interval Control** : Irrigation based on set intervals (hour:min)(up to 99 times)
- **Radiation Control** : Irrigation based on accumulated radiation

Irrigation Methods

- **Flow Irrigation** : Zone-specific irrigation based on set flow volume in 10-liter units
- **Time Irrigation** : Zone-specific irrigation based on set time (min:sec)

Nutrient Solution Usage

- Solution A, B, C (3 tanks)

Electronic Valves

- Control for up to 10 zones

Additional Control

- Two separate terminals for controlling boiler and water curtain pump power
- **Other**: AC24V output

Program Features

- **EC/pH** : Zone-specific EC/pH value settings
- Irrigation period nutrient solution usage ON/OFF settings
- **Irrigation Report** : 7-day storage of irrigation volume (000L)/frequency/accumulated radiation
- **Solution Alert** : Alert and operation stop based on EC/pH upper and lower limit settings
- **Output Test** : Test for water supply, irrigation pumps, and various outputs
- **Emergency Irrigation** : One-touch single irrigation outside of the set time
- **Pause and Stop** : One-touch operation pause and stop (emergency stop)
- **Error Messages** : Display of error content and troubleshooting methods
- Display of malfunctioning zones without irrigation (during flow control)

Hardware Features

- Built-in lightning protection circuit
- Large LCD display (40 characters x 4 lines) providing a wide, bright screen
- **Hydraulic Valve** : Ensures continuous/safe water supply to mixing tank
- **Relief Valve** : Maintains stable irrigation pressure
- Extended durability with chemical-resistant valves and fittings
- Uses corrosion-resistant controller cabinet
- Sturdy main body using a stainless steel frame

Standard Nutrient Solution System SH-1400

Hardware Specifications

Model Name	SH-1400
Nutrient Supply	Venturi method (100 ~ 1,000 liters/hour) pH option
Control Method	Microcomputer (automatic control based on user settings)
Overall Dimensions	Width 107cm x Depth 95cm x Height 108cm
Total Weight	110kg
Power Supply	Three-phase 4-wire AC380V / Single-phase AC220V (selectable)



Control Methods

- **Time Control** : Irrigation based on set time (min:sec) (up to 24 times)
- **Interval Control** : Irrigation based on set intervals (hour:min) (up to 99 times)
- **External Control** : Moisture sensors and other ON/OFF sensors (sensors optional)
- **Other** : ON/OFF sensors (sensors optional)

Irrigation Methods

- **Time Irrigation** : Zone-specific irrigation based on set time (min:sec)

Nutrient Solution Selection

- **Basic** : EC control (Solution A + B)
- **Optional** : pH control (Solution C)

Irrigation Zones

- Basic control for up to 10 zones

Program Features

- **EC/pH** : Zone-specific EC/pH value settings
- Nutrient solution usage ON/OFF settings by irrigation period
- **Irrigation Report** : 15-day storage of irrigation volume (minutes)/frequency
- **Solution Alert** : Alert and operation stop for EC upper limit/pH lower limit
- **Output Test** : Test for water supply, irrigation pumps, and various outputs
- **Emergency Irrigation** : One-touch single irrigation outside of the set time
- **Pause and Stop** : One-touch operation pause and stop (emergency stop)
- **Error Messages** : Display of error content and troubleshooting methods
- **Other** : pH (optional)

Hardware Features

- Built-in lightning protection circuit
- Large LCD display (40 characters x 4 lines) providing a wide, bright screen
- **Hydraulic Valve** : Ensures continuous/safe water supply to mixing tank
- **Irrigation Pressure Control Valve** : Enables stable irrigation pressure adjustment
- Extended durability with chemical-resistant valves and fittings
- Uses corrosion-resistant controller cabinet
- Sturdy main body using a stainless steel frame

Standard Fertigation System SH-700

Hardware Specifications

Model Name	SH-700
Control Method	Time control, interval control, external control, temperature control
Irrigation Method	Time irrigation
Irrigation Zones	A total of ten zones
Additional Functions	Frost prevention
Nutrient Selection	Basic fertilizer use (Optional: EC, pH control functions)
Irrigation Report	7-day irrigation data storage capability



* Product specifications may be changed without notice for performance improvement and enhancement.

Control Methods

- Time Control** : Irrigation based on set time (up to 20 times)
- Interval Control** : Irrigation based on set intervals (hour:min) (up to 99 times)
- External Control** : Moisture sensor and other ON/OFF sensor functions (sensors optional)
- Temperature Control** : Frost prevention function based on set temperature (optional)

Irrigation Methods

- Time Irrigation** : Zone-specific irrigation based on set time (min:sec)

Irrigation Zones

- Control for up to 10 zones

Nutrient Selection

- Basic** : Fertilizer use
- Optional** : EC control (Solution A + B)
pH control (Solution C)

Program Features

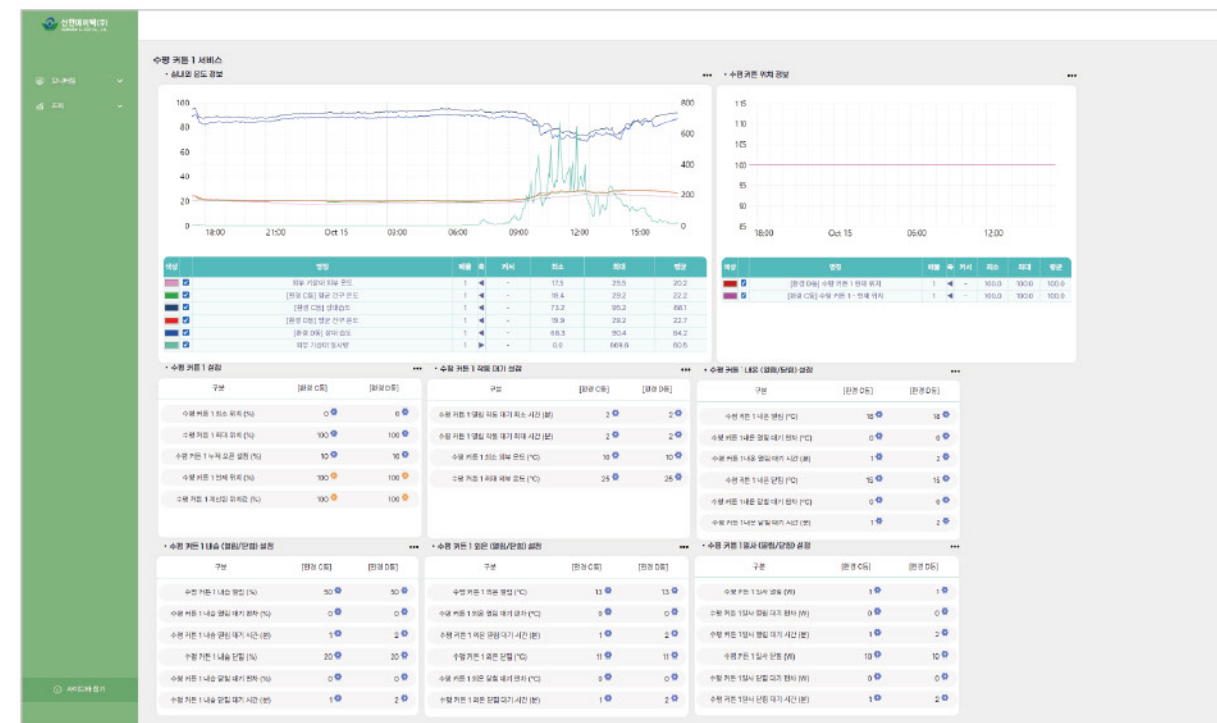
- Fertilizer Control** : Ratio (%) control of fertilizer supply volume
- EC pH Control** : Zone-specific EC pH value settings (EC pH optional)
- Fertilizer usage ON/OFF settings by irrigation time period
- Stop Time** : Configurable zone-specific stop time after irrigation when water is low
- Irrigation Report** : 7-day storage of irrigation frequency
- Solution Alert** : Alert and operation stop function for EC pH upper limits (EC pH optional)
- Output Test** : Test functions for water supply, irrigation pumps, and various outputs
- Emergency Irrigation** : One-touch single irrigation outside of the set time
- Pause and Stop** : One-touch operation pause and stop (emergency stop)
- Error Messages** : Display of error content

* EC pH Optional

Hardware Features

- LCD display (20 characters x 4 lines) providing a bright screen
- Extended durability with chemical-resistant fertilizer-specific valves and fittings
- Uses corrosion-resistant controller cabinet
- Sturdy main body using 30mm x 30mm aluminum profile

Integrated Environmental Control System GK-3000



System Features



Intuitive main screen shows comprehensive greenhouse status at a glance



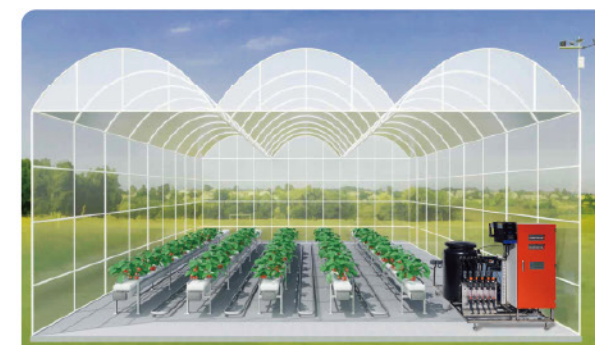
Web-based interface enables multi-device access from computers and mobile devices



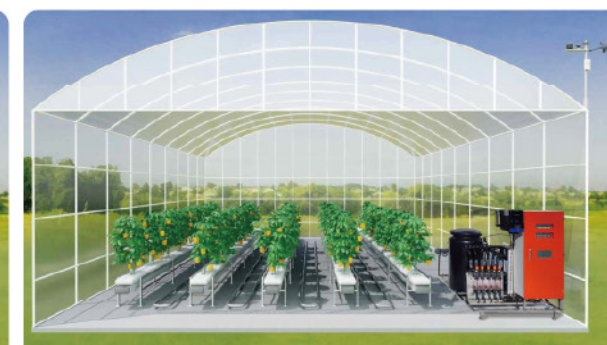
User-specific ID issuance with customizable permission levels



Remote monitoring and control from control rooms and hub centers without additional data collection devices (suitable for various research institutes, schools, etc.)



Multi-span Plastic Greenhouse



Single-span Plastic Greenhouse

GK-3000

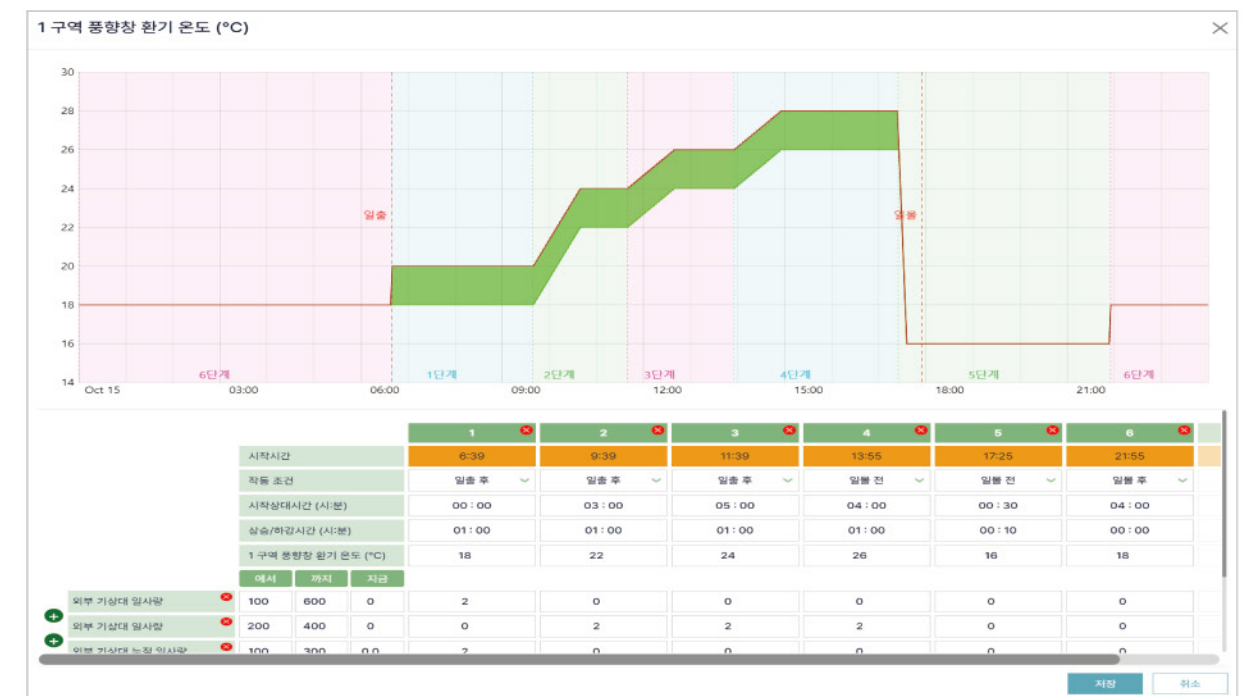


- Customizable interface allowing application of greenhouse images or actual site images with all values, including environmental settings, current values, and sensor readings for user-specific control environments

GK-3000



- Freely customizable setup screen configuration for user interface, with user-configurable screens for environmental settings, status monitoring, graphs, etc.



- Up to 10-level step settings and up to 10 environmental variable settings for environmental settings, monitoring values, and control status values, with conditional application capability
- Application capability using all environmental values regardless of environmental or nutrient solution control

SENSORS

- Sensors can be added as options regardless of the zone and can be controlled through service setting selection.
Control is also possible using sensor average difference values
- Emergency call and text message alert service available (optional feature)

SHINHAN Sensors



Other Sensors



- Provides compatibility above KSX standards
- Compatible with sensors from most domestic and international manufacturers

Hoogendoorn IIVO | iSii Process | iSii Compact



Hardware Features

Device Name	IIVO iSii Process iSii Compact
Control Zones	1 zone (basic) ~ optional additions
Control Area	Up to 20ha or more possible
External Weather Station	External temperature, external humidity, rainfall, wind volume, wind speed, radiation, etc.
Greenhouse Internal Sensors (Basic)	Temperature, humidity, CO2 (digital, analog selectable)
Greenhouse Internal Sensors (Optional)	Drainage EC-pH (up to 16 locations), drainage amount, substrate EC, substrate moisture, etc.
Environmental Control Output	AC24V / DC24V output switching available
Nutrient Solution System Connection	Compatible with own and other manufacturers' equipment (control aspects vary by hardware)
Alert SMS Sending (Optional)	Simultaneous sending to up to 10 recipients for power failure, high/low-temperature occurrence, selected alarms

Program Features

- Time setting and control based on regional sunrise/sunset
- 10-level settings available for ventilation/heating temperature, roof, side windows, curtains, side curtains, etc.
- All environmental variable values (influence) selectable for each setting
- Integration capability with auxiliary systems including drainage reprocessing (recycling) system, sand filter, UV sterilizer
- Multiple additions possible per zone for temperature sensors, roof windows, side windows, curtains (optional)
- User-customizable setting sheet configuration - user-centric
- All data values displayable in graphs - user-selectable by settings
- Automatic control based on Hoogendoorn's AI (IIVO)
- Learning and control based on user control settings (IIVO)

IIVO



Hoogendoorn

iSii Process



iSii Compact



Other Systems of Hoogendoorn



Hoogendoorn Nutrient Solution System



Pump System



Ozone Sterilization System



Sand Filter System

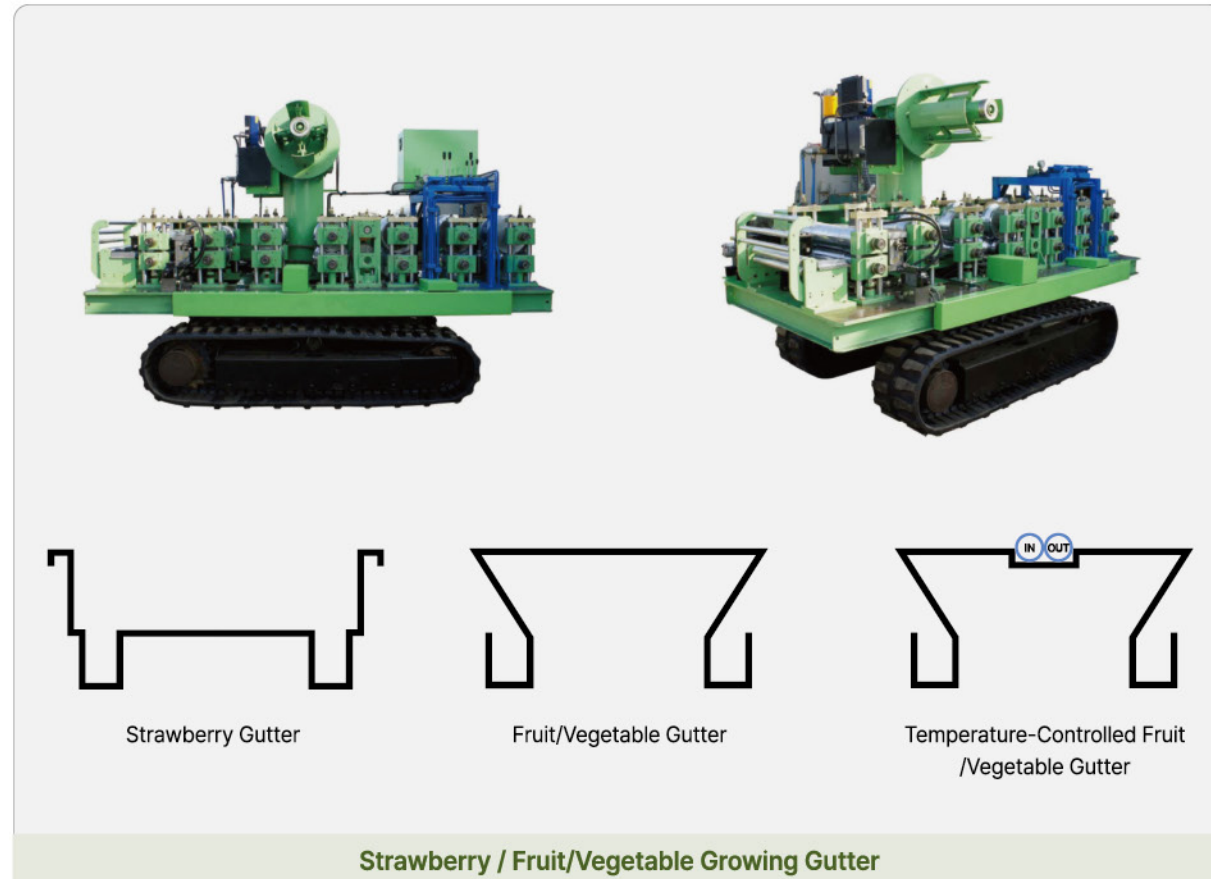


PRIVA-Connect



PRIVA-Maximizer

Growing Gutter



Product Features

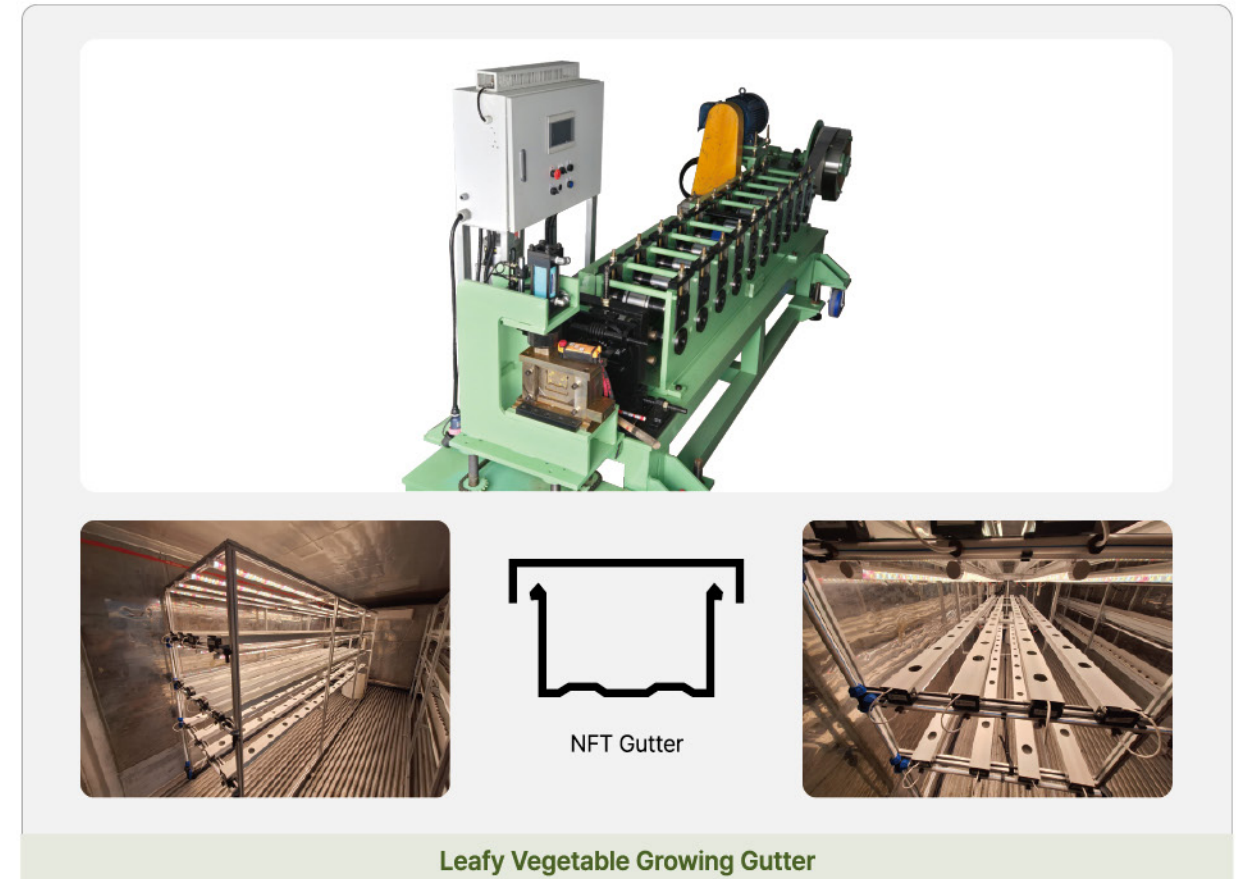
- A cultivation system using color-coated steel growing gutters elevated at a fixed height above the ground

Advantages

- Semi-permanent usage possible, reducing costs and inconvenience of floor material removal and reinstallation
- Elevation allows an improved crop growth environment through enhanced air circulation using air ducts beneath gutters, leading to increased production
- Fruit/vegetable gutters feature drainage channels positioned inside the gutter top plate, preventing plant debris from entering drainage channels and accumulating in collection tanks



Growing Gutter



Product Features

- A cultivation system using PVC or steel growing gutters designed for specific crops, elevated at a fixed height above the ground

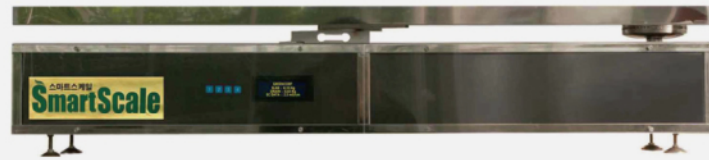
Advantages

- PVC growing gutters provide superior heat blocking during high-temperature cultivation
- Steel-growing gutters enable semi-permanent use, reducing reinstallation costs
- NFT is a circulating cultivation method that effectively reduces fertilizer costs by reusing most of the solution



Smart Scale

Precise Substrate Moisture Content Management System



System Overview

- **Wired/Wireless Substrate Moisture Content and Drainage Measurement System**
 - Real-time measurement of slab weight to monitor crop moisture content and irrigation/drainage volumes
 - System for adjusting irrigation timing and volume

System Features

- Domestically produced electronic slab wired/wireless weight measurement device
- Individual monitoring of up to 4 systems
- Nutrient solution irrigation system control possible using external signals based on moisture content
- Real-time data monitoring and date-specific data retrieval
- Analog signal output (slab weight, drain weight, EC/pH, substrate temperature)

System Specifications

- **Communication Method** : Wireless
- **Power Supply** : 220V 60Hz
- **Weight Measurement** : 0~30kg range
- **Maximum Connected Devices** : 4 channels
- **EC Measurement Range** : 0~9.9
- **pH Measurement Range** : 0~14
- **Substrate Temperature Measurement Range** : -30°C~+150°C



Drainage Recycling System

UV Sterilization System



System Features

Amalgam UV sterilization lamp with concentrated new UV lamp technology (High UV output, long lifespan, output maintenance at high temperatures, low maintenance cost)

- Integration or independent control possible with nutrient solution system
- Stainless steel sterilization chamber
- Automatic UV chamber and lamp cleaning function
- Integrated drainage pre-treatment system through sand filter
- Sand filter backwash function
- Integrated system environment with environmental control and nutrient solution systems
- Integrated fusion control using greenhouse environmental variables and nutrient solution system variables
- Remote monitoring and control are possible using the web browser method

System Specifications

- **UV Lamp Lifespan** : Amalgam Lamps 12,000 hours ~ 16,000 hours
- **UV Lamp Output** : 320W
- **UV Wavelength Range** : UV-C (short wave: 100nm ~ 280nm)
- **Sand Filter Processing Capacity** : 5~ 90m³/hour

UF Sterilization System (ULTRA FILTRATION SYSTEM)

System Features

- UF filter effectively removes microorganisms, bacteria, and viruses through precise filtration of 0.01-0.1μm while allowing minerals and ions to pass through for continued use
- Nutrient solution recycling enables fertilizer savings, water conservation, and environmental protection
- Applicable for nutrient solution recirculation, surface water and groundwater purification, and industrial wastewater recycling

