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HANGARAM PONICS CO.,LTD

- Advanced Greenhouse Construction
- Greenhouse Design
- Nutrient Solution System
- Complex Environmental Control System
- Controlled Horticulture Materials



Holistic Greenhouse Service System For Entire Cycle

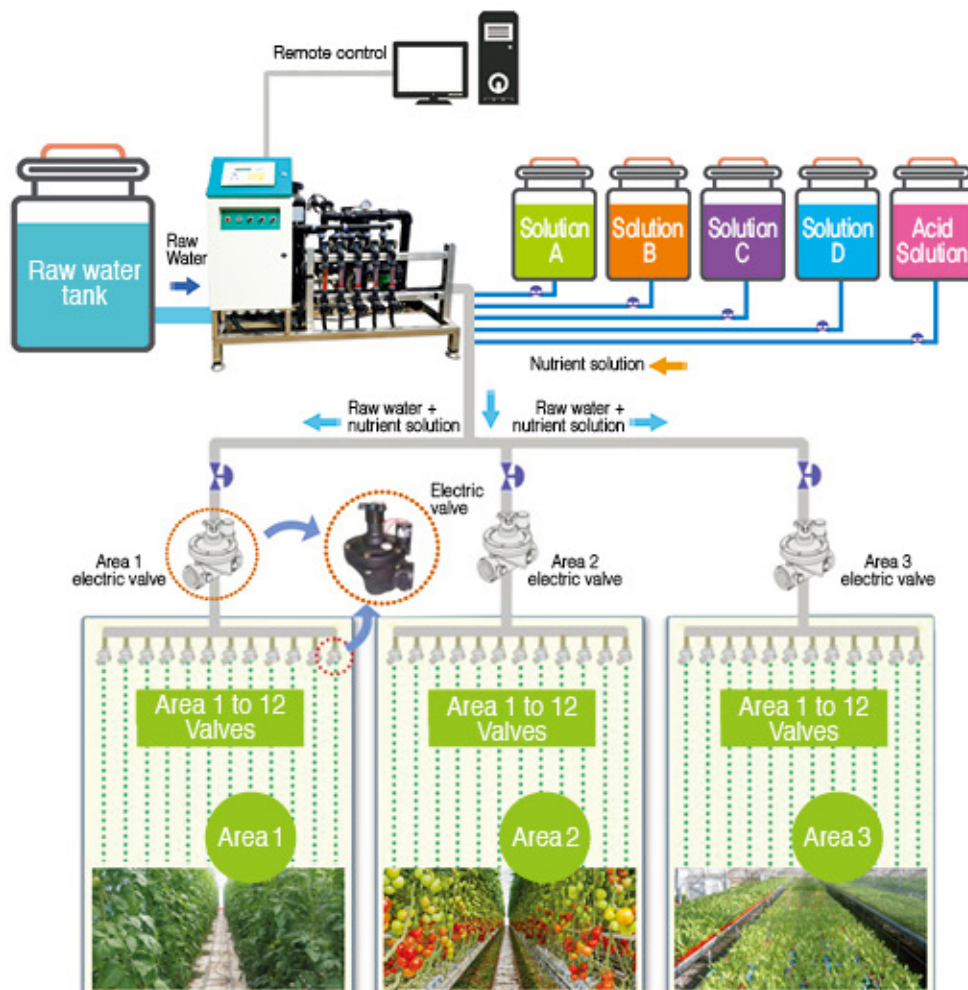


Product Information

Nutrient solution system overview

- The nutrient solution system is a mechanism that feeds nutrients when watering crops. The ability to provide the nutrients timely as required by the crops allows efficient use of nutrient solution, reduced labor time as well as maximized quality improvement effect.
- The nutrient solution machine is composed of an operating part made up of a pump, valve and piping; a sensor part that measures the amount of water, light intensity, soil temperature, and moisture level; and a control part that analyzes the data from the sensors and directs relevant processes for the irrigation pump and the electric valve to work.
- The nutrient solution machine is a system that mixes nutrient solution with raw water and continuously feeds it to the destination site. Once the desired time, flow rate, EC and pH values are set up on the computer, the solution is automatically supplied to the sites and the relevant data such as time, volume, EC, pH value and cumulative light intensity are stored in the computer.
- In addition, when the solution is not supplied in accordance with the configured data, an alarm can be triggered and the operation can be stopped. The process can be controlled remotely with the Complex Environmental Control system or over the Internet.

System overview



Product Information

The nutrient solution system of Hangaram Ponics Co., Ltd is a controller system dedicated for cultivating nutrient solution and irrigation and can be operated standalone or connected to a regular computer. Additionally, the system is designed to simplify the nutrient solution supply and irrigation control for cultivating nutrient solution for various crops such as vegetables and flowers, by incorporating integral light counter, water tray, temperature and humidity sensor, precipitation sensor, and total capacity meter.

Agronic 7000PC

- The Agronic 7000PC is capable of management of 24 different nutrient solutions, and 40 different valve controls. Irrigation control can be done separately for each area or simultaneously for multiple areas.
- Applicable area(4 crops)

Configuration	Specifications	Remarks
Irrigation valve	24V AC	40 valves
Raw water pump	Multi-level pump	(optional)
Irrigation pump	Stainless steel pump	(optional)
Solenoid valve	24V AC, 3/8"	8 nutrient solutions
Solenoid valve	24V AC, 3/8"	One for acid and alkali each
Liquefied fertilizer flow meter	25 to 250 liters / h	Chemical resistance
pH sensor	0 to 14 pH	One additional
EC sensor	0 to 10 mS	Two additional
Light intensity sensor	4~20mA	(optional)
Total capacity flow meter	1L/Pulse	(optional)
Sensors	Humidity, temperature, precipitation, moisture	(optional)
PC program	For WINDOWS	(optional)



Agronic 5000PC

- Agronic 5000PC can control five types of nutrient solutions and eight types of valves by default, and is also capable of separate and simultaneous irrigation control for each area.
- Applicable area (2 crops)

Configuration	Specifications	Remarks
Irrigation valve	24V AC	8 valves
Raw water pump	Multi-level pump	(optional)
Irrigation pump	Stainless steel pump	(optional)
Solenoid valve	24V AC, 3/8"	Four nutrient solutions
Solenoid valve	24V AC, 3/8"	One for acid type
Liquefied fertilizer flow meter	25 to 250 liters / h	Chemical resistance
pH sensor	0 to 14 pH	One additional
EC sensor	0 to 10 mS	Two additional
Light intensity sensor	4~20mA	(optional)
PC program	For WINDOWS	(optional)



Product Information

The nutrient solution system of Hangaram Ponics Co.,Ltd can be operated standalone with a dedicated controller for cultivating nutrient solution and customization for leaf vegetables(hydroponic cultivation). It is also designed to facilitate the nutrient solution supply and irrigation control for cultivating nutrient solution for various crops and vegetables with a water-tray method.

Agronic 54

- The Agronic 54 capable of controlling three water level sensors and each sensor can be set up with separate EC and pH configuration for the supply of water and nutrient solution.
- Applicable area(for leaf vegetables only)

Configuration	Specifications	Remarks
Irrigation valve	24V AC	Three valves
Raw water pump	Multi-level pump	
Irrigation pump	Stainless steel pump	(optional)
Solenoid valve	24V AC, 3/8"	Two nutrient solutions
Solenoid valve	24V AC, 3/8"	One for acid type
Liquefied fertilizer flow meter	25 to 250 liters / h	Chemical resistance
pH sensor	0 to 14 pH	
EC sensor	0 to 10 mS	
Water level sensor	ON/OFF	Three



Ambitrol 500PC

Ambitrol 500PC complex environmental control system is a computer system that automatically adjusts the greenhouse environment. It measures and records data including temperature, humidity, light intensity, carbon dioxide levels, wind direction and speed, precipitation, external temperature, external humidity and solar radiation. The top ventilator, side windows, screens, flow fans, circulation pumps, cooling system and alarm device are controlled with the system.

Sensor	measurement range	Output
Temperature and Humidity Sensor	-30 to 70 ° C, 0 to 100%	4~20mA
Wind direction and wind speed sensor	0~360, 0~50m/s	4~20mA
Light intensity sensor	0~2000W/m ²	4~20mA
Carbon dioxide sensor	0~2000ppm	4~20mA
Precipitation sensor	-	ON/OFF
Opening sensor	0 to 100%	0 to 2VDC



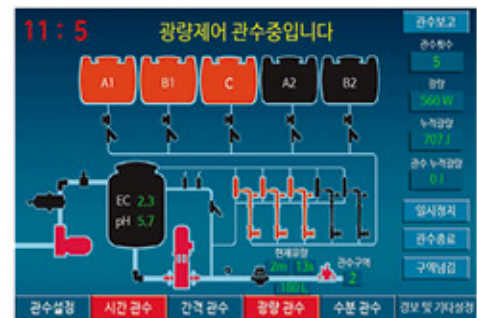
Product Information

The Nutrient solution system of Hangaram Ponics Co.,Ltd is a controller system dedicated for cultivating nutrient solution and irrigation, with an easy-to-use Korean interface, connectivity with regular computer or a mobile device, as well as a standalone controller workability. It is also designed to facilitate the nutrient solution supply for cultivating nutrient solution for various crops and vegetables with a use of a cumulative light intensity-based irrigation system and external sensors.

HPC-7000

- The HPC-7000 is equipped with a large, touchscreen display and a includes a Korean-language interface, making it easy to use.
- The system is designed to enable irrigation control based on time interval, cumulative light intensity and data from external sensors. Also, it allows for a targeted control of EC, pH, and flow rate values for each controlled area.

Configuration	Specifications	Remarks
Irrigation valve	24V AC	18areas
Raw water pump	Horizontal Pump	
Irrigation pump	Grain-form, multi-level pump	(optional)
Nitrogen SOL valve	24V AC, 3/8"	Four nutrient solutions
Acid SOL valve	24V AC, 3/8"	One for acid type
Liquefied fertilizer flow meter	5 LPM	Chemical resistance
Total capacity flow meter	10 Plus	(optional)
pH sensor	4~20mA	One additional (optional)
EC sensor	4~20mA	One additional (optional)
Light intensity sensor	4~20mA	(optional)
PC program	For WINDOWS	(optional)
Operating System	Support for 3 languages other than Korean	10.2" touch screen display



HPC-1000

- HPC-1000 is equipped with an LCD display and easy-to-use Korean interface.
- The system is designed to enable irrigation control based on time interval, cumulative light intensity and data from external sensors. Also, it allows for a targeted control of EC, pH, and flow rate values for each controlled area.

Configuration	Specifications	Remarks
Irrigation valve	24V AC	8areas
Raw water pump	Horizontal Pump	
Irrigation pump	Grain-form, multi-level pump	(optional)
Nutrient solution SOL valve	24V AC, 3/8"	Two nutrient solutions
Acid SOL valve	24V AC, 3/8"	One for acid type
Liquefied fertilizer flow meter	5 LPM	Chemical resistance
pH sensor	4~20mA	
EC sensor	4~20mA	
Light intensity sensor	4~20mA	(optional)
Operating System	Support for Korean and Japanese interface	



Product Information

Posmac Forming Gutter

- This gutter is designed with an optimized specifications for growing tomato and paprika plant, marked by its solid structure with a unique shape and height. The gutter allows for a high corrosion resistance of the raw materials.
- The depth of its drain minimizes the growth of green algae caused by the sunlight and nutrient solution, and allows for a smooth irrigation despite its length.

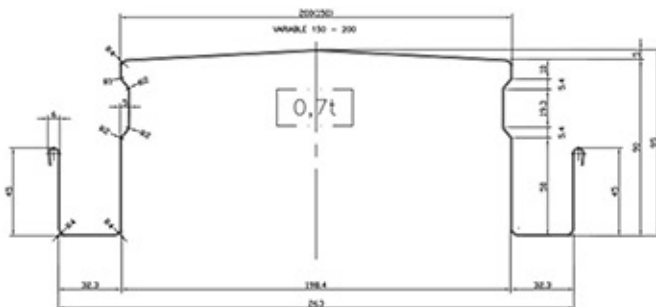
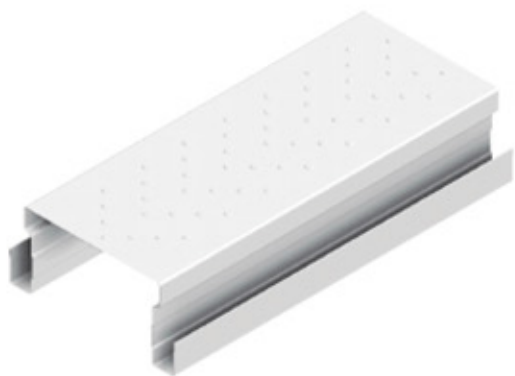
Products and equipment



Mobile Forming equipment



● Product Information



Forming gutters (paprika, tomato)



Tube Rail



Fixed gutter

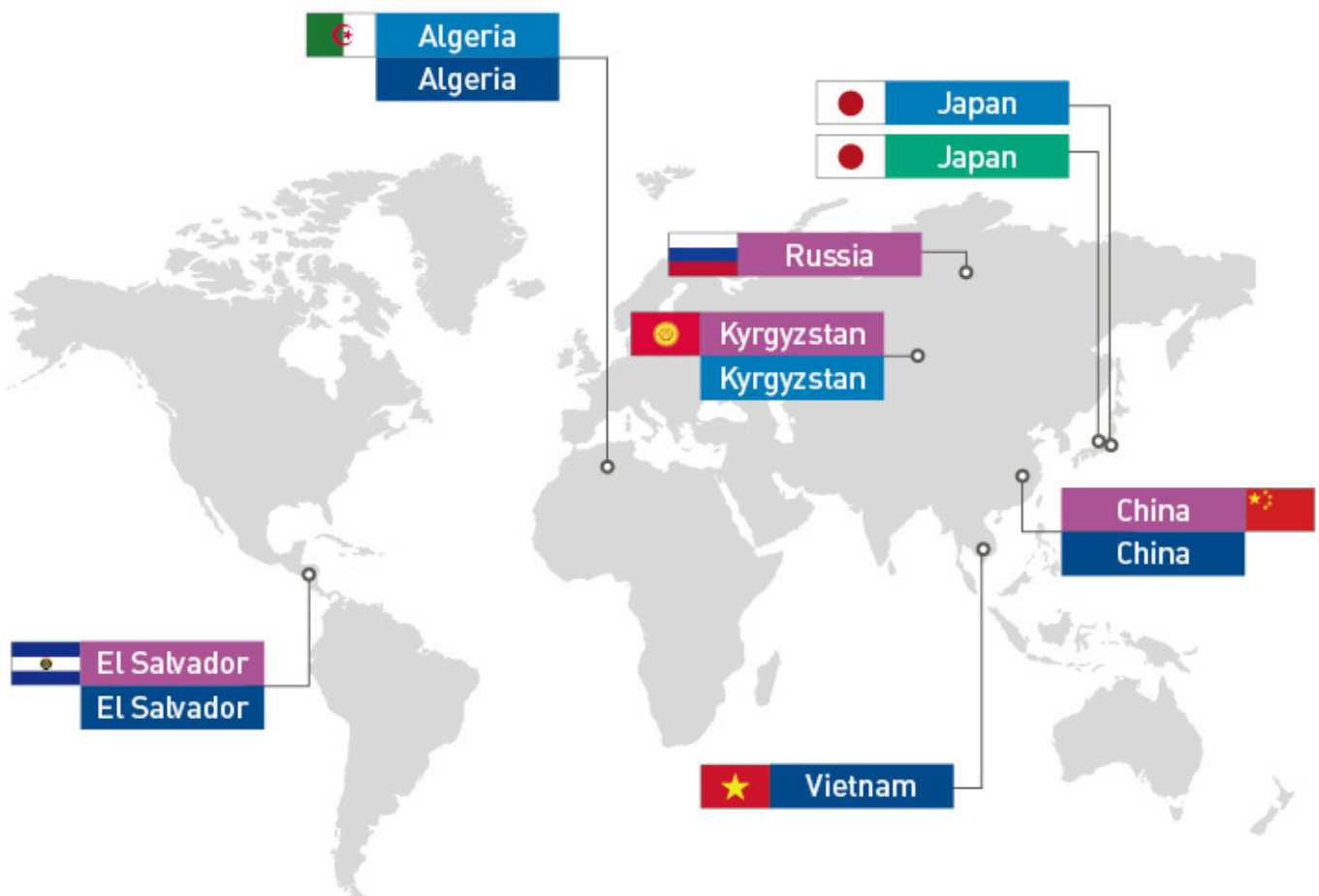


Hanging gutter



Installation Cases

Overseas cases



Nutrient solution system

Greenhouse construction

Control system

Cultivation system

● Installation Cases

Domestic installations





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