

2017 GSE Dome

with Hydroponics



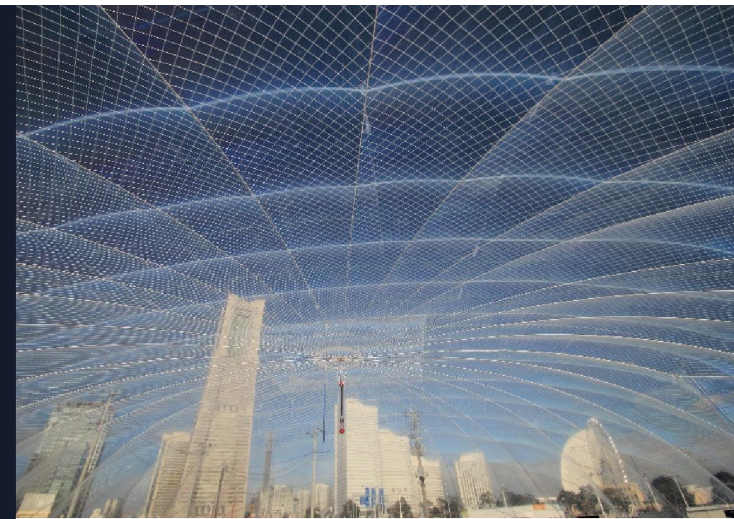
GRANPA
SYSTEM
ENGINEERING

High performance air dome. It' the GSE Dome

The dome using the highly transparent film receives the maximum amount of sunlight.

The dome does not use a steel structure for the roof. Its name is "Air Supported Structure".

We can set up anywhere in a short time.



We can install the GSE dome anywhere.
City, Mountain, Desert...
Let's try the cultivation!





Special dome for lettuce. The GSE Dome with Hydroponics.

The GSE dome is the air dome for hydroponic cultivation with a spacing system. Round cultivation water pool with a diameter of 20M will be installed in the air dome of 27M. And about 15,000 piece of the crop is grown. Crops planted on the inner circumference of the circular cultivation pool, will move to the wide outside of the area in accordance with daily harvest set quantity. By the setting automatic mode, the production of high efficiency is possible to perform the management of the facility.

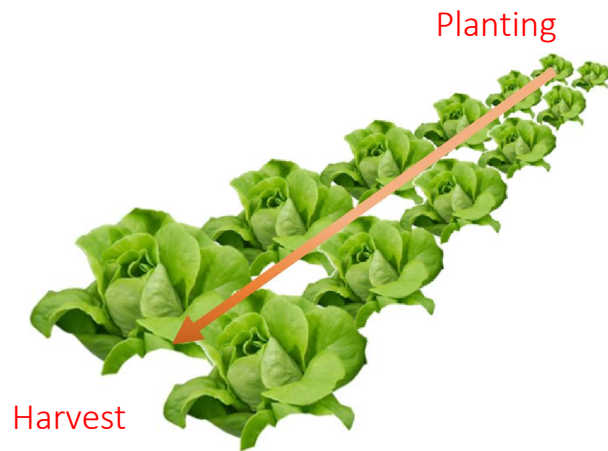


We are going to support the
production of lettuce
all of the world.



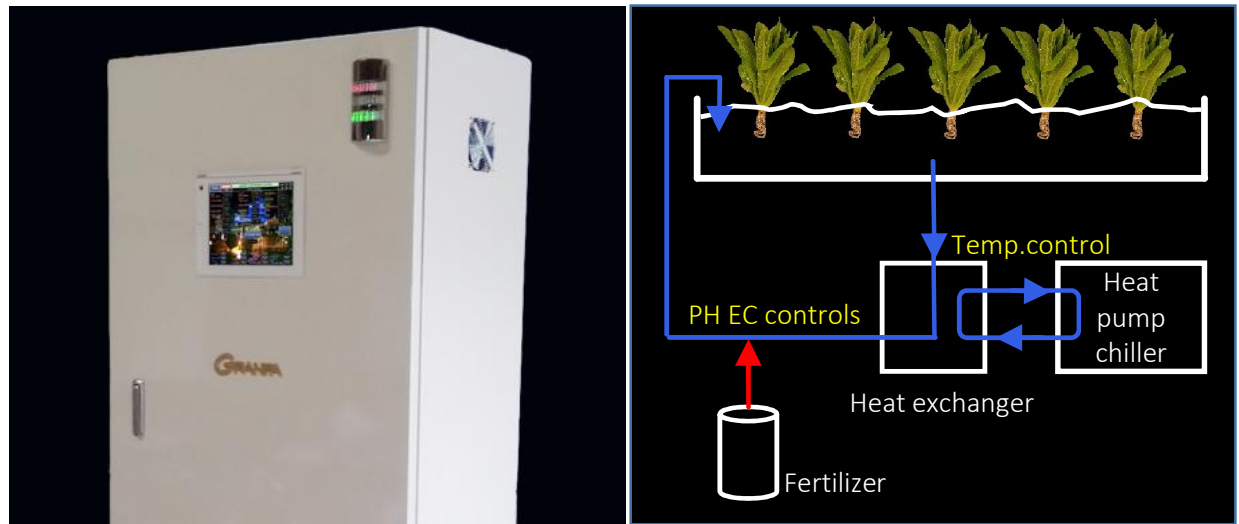
Cultivation Technology

The computer controls room temperature, humidity, water temperature, EC, PH and production speed for cultivation.
The GSE dome control will support your production.



Lettuce moves automatically from planting to harvest.

Automatic spacing



Easy cultivation management and operation by the graphic operation terminal.

Graphic operation terminal

Easy cultivation control by the automatic mode.

Automatic cultivation control

Air Dome Technology

Rain, snow, strong wind...

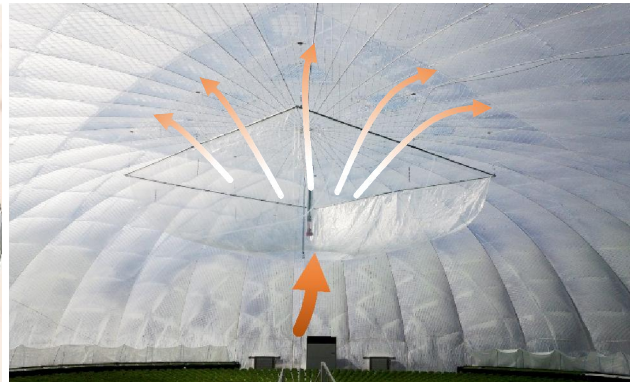
The computer automatically adjusts the pressure of the dome when the environment changes.

When a power failure occurs, the generator will automatically start and protect the dome.



ETFE² film withstands long-term use.
It is the highest class sheet for agriculture use.

F-CLEAN^{® 1} ETFE² Air dome



Hot air is drained from the top of the dome.

Ventilation



Double layer film saves energy for cooling and heating.

Double layer thermal insulation ETFE² film

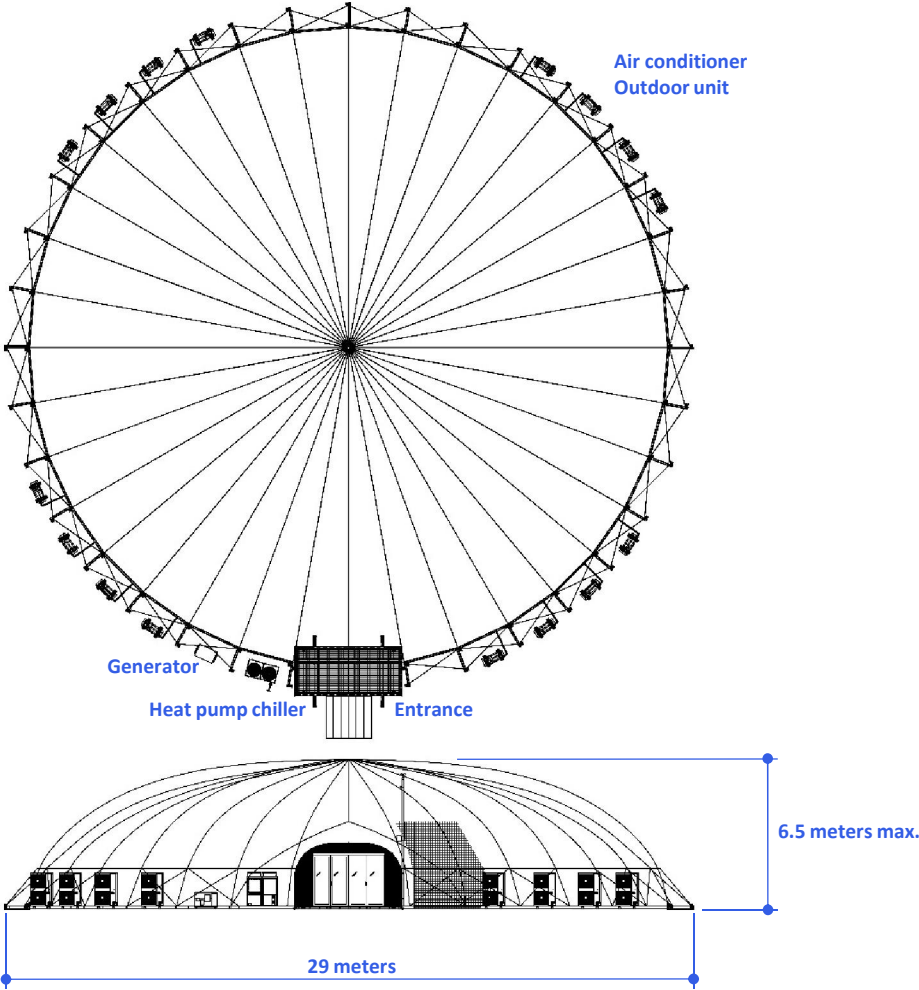
Cultivation



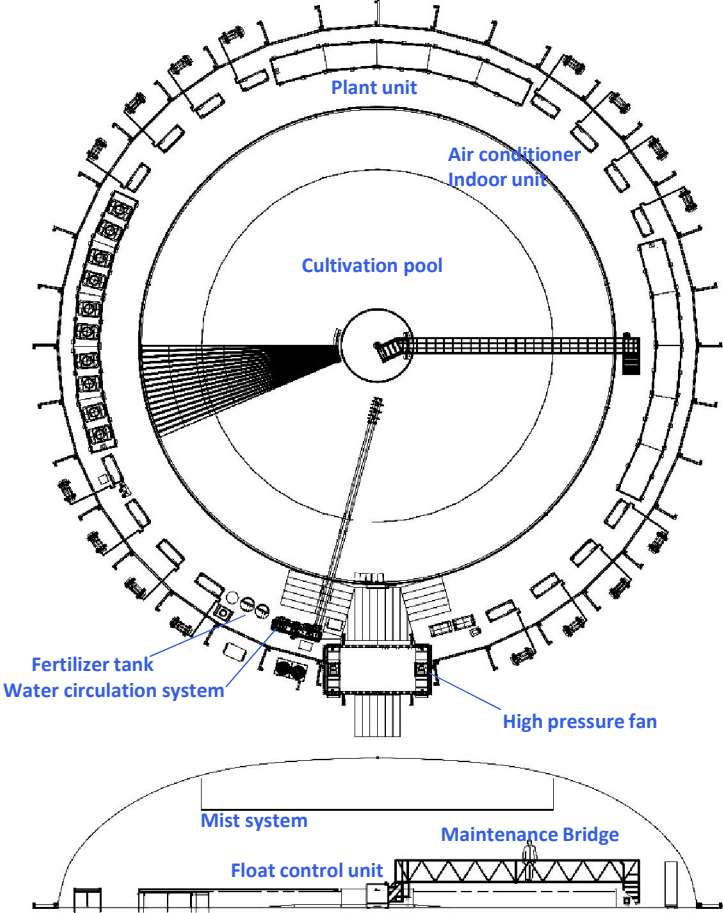
For the future.
Wonderful agriculture.
GSE

MECHANICAL DATA

EXTERIOR



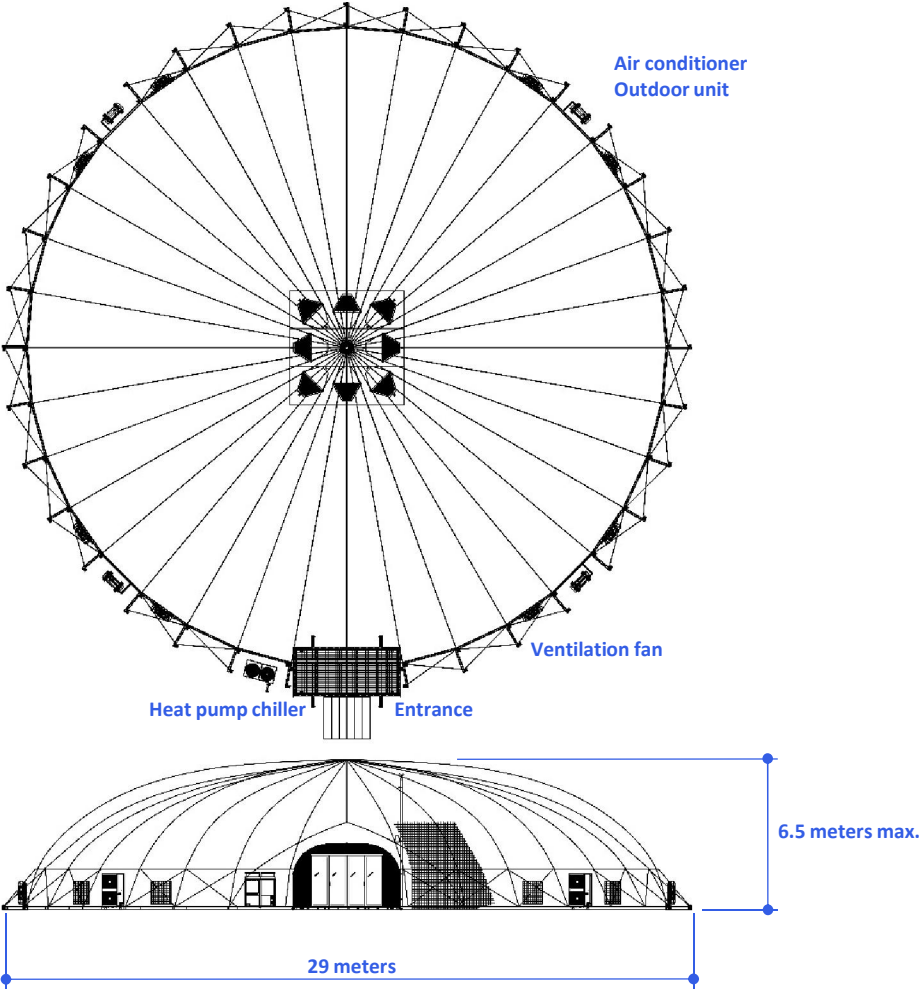
INTERIOR



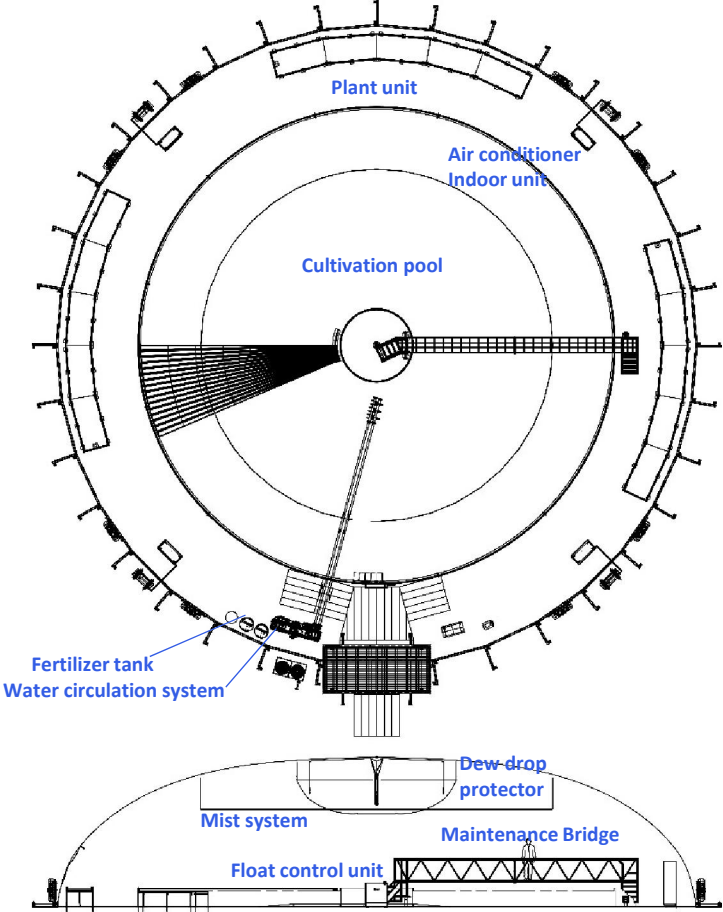
FULL TEMPERATURE CONTROL TYPE

MECHANICAL DATA

EXTERIOR



INTERIOR



VENTILATION TYPE

SPECIFICATIONS

AIR DOME	S=Standard O=Optional - =Not available	57,700,000 JPY	38,200,000 JPY
F-CLEAN ^{® 1} 100μm,60μm ETFE ² double layer film air dome with shading function	S	-	
F-CLEAN ^{® 1} 60μm ETFE ² double layer film air dome with ventilation function	-	S	
F-CLEAN ^{® 1} 100μm ETFE ² Dome protective sheet with shading function	S	-	
Tyvek ^{® 2} shading sheet	-	S	
F-CLEAN ^{® 1} 100μm ETFE ² snow sliding sheet	-	O	1,800,000 JPY
Dew drop protector	-	S	
Ventilation fan 0.75kW*8motors	-	S	
Ventilation fan upgrade 0.75kW→1.5kW	-	O	216,000 JPY
High pressure fan 2.2kW	S	O	840,000 JPY
High pressure fan 2.2kW with generator 3.5/4.0KVA	S	-	
Automatic switching circuit for power fail with generator 3.5/4.0KVA	-	S	
Galvanized steel base frame	S	S	
Anchor bolt for concrete foundation	S	S	
Spiral piles for soil foundation	O	separate estimate	O separate estimate
Entrance unit with pressure adjusting function	S	S	
Entrance plastic thermal insulation wall	S	-	
Entrance urethane thermal insulation wall	O	375,000 JPY	O 375,000 JPY
Entrance door heater	-	-	O 30,000 JPY
CULTIVATION			
Cultivation pool with the spacing function	S	S	
3section plant unit	S	S	
Float control unit for spacing function	S	S	
Water circulation system with temperature,PH and EC controls	S	S	
Heat pump chiller for temperature of cultivation nutrient solution controls	S	S	
Fertilizer solution tank set	S	S	
RO water treatment system	O	1,410,000 JPY	O 1,410,000 JPY
Maintenance bridge for cultivation work	S	S	
Sink unit for wash	O	75,000 JPY	O 75,000 JPY
ENVIRONMENT			
Air conditioner 10HP*16units	S	-	
Air conditioner 8HP*4units	-	S	
Delete air conditioner 8HP*4units	-	O	-3,400,000 JPY
Upgrade air conditioner 8HP*4units→10HP*4units	-	O	872,000 JPY
Additional air conditioner 10HP*2units	-	O	2,238,000 JPY
Additional air conditioner 10HP*4units	-	O	4,475,000 JPY
High pressure mist system for air cooling and humidity control ⁴	S	S	
Upgrade high pressure mist system 0.5HP→1.0HP	-	O	225,000 JPY
Carbon dioxide “CO2” supply system	S	O	330,000 JPY
Plant supplemental lightening system	-	O	1,500,000 JPY
CONTROLS AND COMMON EQUIPMENT			
Control system with graphic operation terminal for the air dome and cultivation	S	S	
Electric enclosure for additional air conditioners and lightening system ⁵	S	O	400,000–850,000 JPY
Weather observation system	S	S	
Air compressor 0.4kW for the water circulation system, float control unit and ventilation	S	S	
Electric cable and water hose set	S	S	

DISCLOSURES

1.F-CLEAN[®] are registered trademarks of AGC GREEN-TEC CO.,LTD. All rights reserved. 2.ETFE-Ethylene Tetrafluoroethylene. 3.Tyvek[®] are registered trademarks of DUPONT inc. All rights reserved. 4.Mist system is used only for humidity control if full temperature control type is selected. 5.The price of the electric enclosure depends on the quantity of additional air conditioner and plant supplemental lightening system.

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