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# Black and White Hydroponic channels

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# PART ONE

## Hydroponic Channels

There are three main types : fully shaded hydroponic channels, fully shaded hollow hydroponic channels, and binary hydroponic planting channels. There are multiple types of channels in three categories, which can be used to grow vegetables and fruits and vegetables. Greatly improve the quality and yield of hydroponic products.

**F**ully shaded hydroponic channels



90 \* 50mm universal



100 \* 100mm universal

**F**ully shaded hollow hydroponic channels



100\*60mm hollow pipe



100\*80mm hollow pipe



100\*100mm hollow pipe



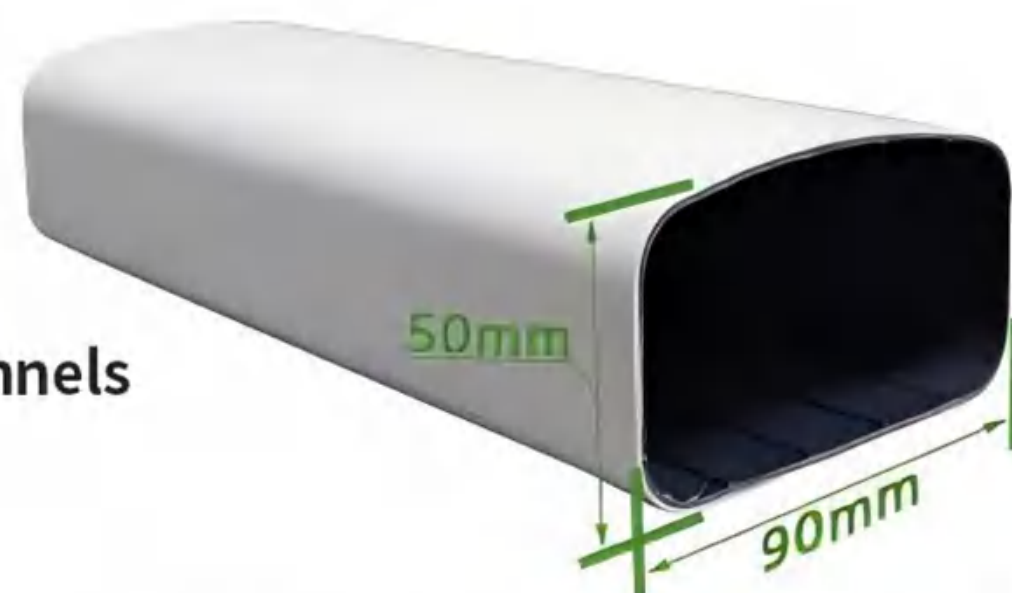
100\*160mm hollow pipe

**D**ual cultivation planting channels



# 90\*50mm

Specialized hydroponic channels for leafy vegetables



- 01 Outer white, inner black, fully blackout. Surface white can reflect sunlight and reduce heat absorption; The internal black color can block light, and when used, it forms a simulated ecological environment with full shading, which can promote better growth of plant roots, good roots, strong seedlings, and high yield.
- 02 Full shading can prevent algae growth, reduce nutrient loss, protect the plant growth environment, and reduce the hassle of cleaning pipelines.
- 03 Thermal insulation, UV protection. Compared to other types of channels, the insulation effect is better, and the white color reflects sunlight better, reducing the absorption of heat and ultraviolet rays, which can reduce the impact of ultraviolet rays on the nutrient solution inside the channels and make the nutrient solution more stable.
- 04 The 90 \* 50mm channels has a unique shape, with a curved upward planting surface to prevent rainwater droplets from leaking into the channels, and a flat upward planting surface, which is very suitable for shallow liquid flow planting methods. You can also plant it standing on the side to increase the space for roots to grow downward.
- 05 Each surface of the 90 \* 50mm channels can be perforated for planting green plants, suitable for various application scenarios.

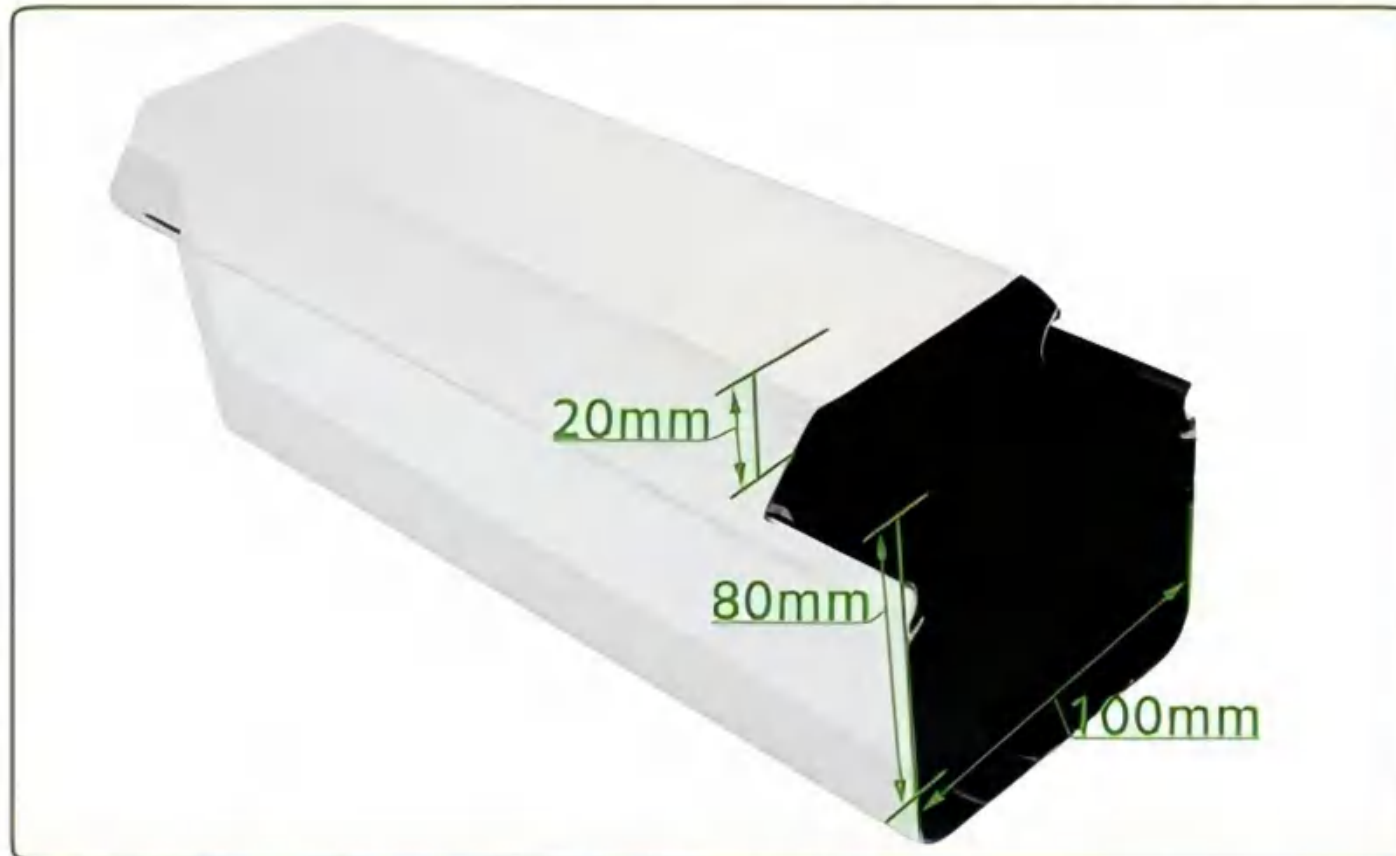


90 \* 50mm fully shaded hydroponic channels is more suitable for growing leafy vegetables, such as lettuce, small vegetables, amaranth, and lettuce.



# 100\*100mm

General hydroponic channels for leafy vegetables, fruits and vegetables



## Universal channels for leafy vegetables, fruits and vegetables

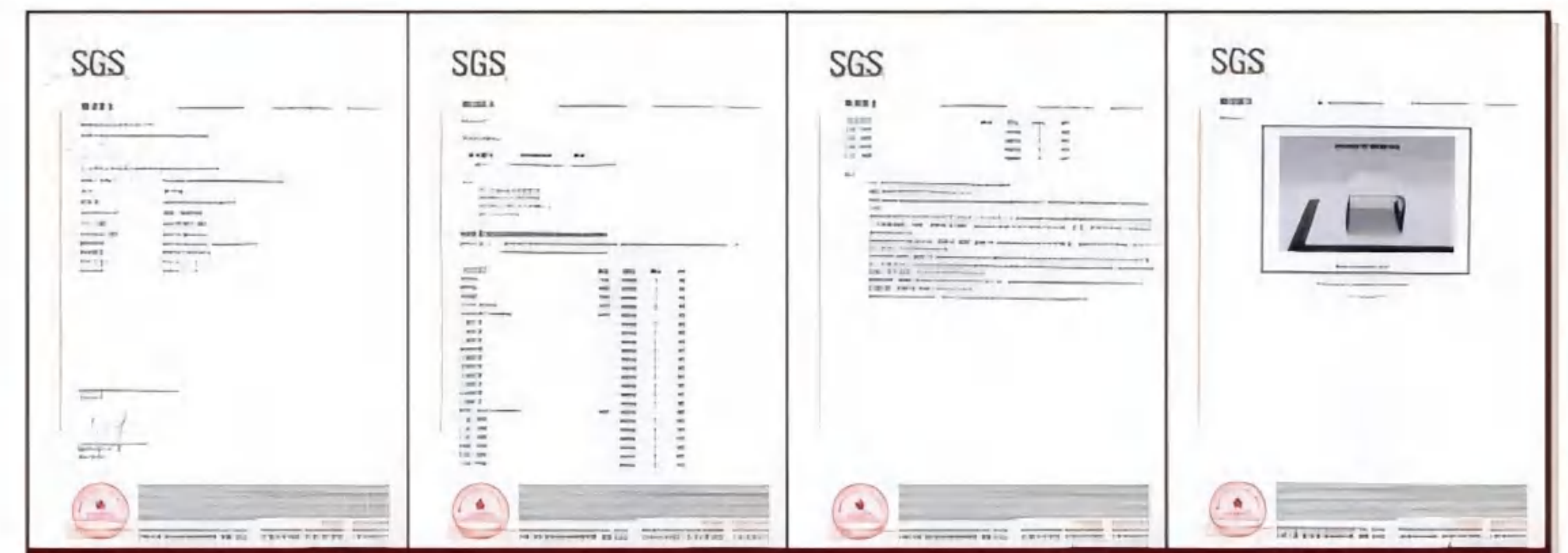
It is a channels designed by our company specifically for hydroponic vegetable production, with complete intellectual property rights and patent applications. The pipeline size is 100 \* 100mm, made of PVC U-U material, and meets the RoHS standard (EU drinking water pipeline production standard). The pipeline is suitable for hydroponic production of leafy vegetables and fruits.

### Product features:

1. Material: Made from PVC-U, compliant with ROHS standards and Chinese drinking water pipeline standards, ensuring safety for hydroponic production.
2. Design:
  - Outer Layer: White, reflects sunlight, reduces thermal radiation, and lowers channel temperature.
  - Inner Layer: Black, creates a dark environment beneficial for nutrient absorption and inhibits algae growth.
3. Structure:
  - Top Cover: Trapezoidal to prevent liquid seepage and secondary contamination.
  - Bottom: "U" shaped guide groove for easy cleaning and efficient nutrient circulation.
  - Channel Height: About 8 cm, promoting better oxygen absorption and reducing root rot.

Note: 1. Suggested opening spacing for fruit and vegetable varieties: 40-80cm, with planting options of No. 3, No. 5A, No. 5B, and No. 6;  
 2. Suggested opening spacing for leafy vegetable varieties: 20-25cm, paired with planting basket 2A; Under temperature conditions of 20-25 degrees, the roots of hydroponic seedlings can reach 15-20 centimeters in two weeks.

By obtaining ROHS certification (EU standard for the production of drinking water channels), users can use it with greater peace of mind.



# 100\*60mm

## Hollow energy-saving hydroponic channels (leafy vegetables)



### What are the advantages of hollow energy-saving hydroponic channels?



- The outer white meat is black, with a double-layer structure, and the interior is fully shaded to create a simulated ecological environment. It can promote better root growth.
- Combination structure, easy to disassemble and clean.
- The curved bottom and guide groove can facilitate better circulation of nutrient solution.

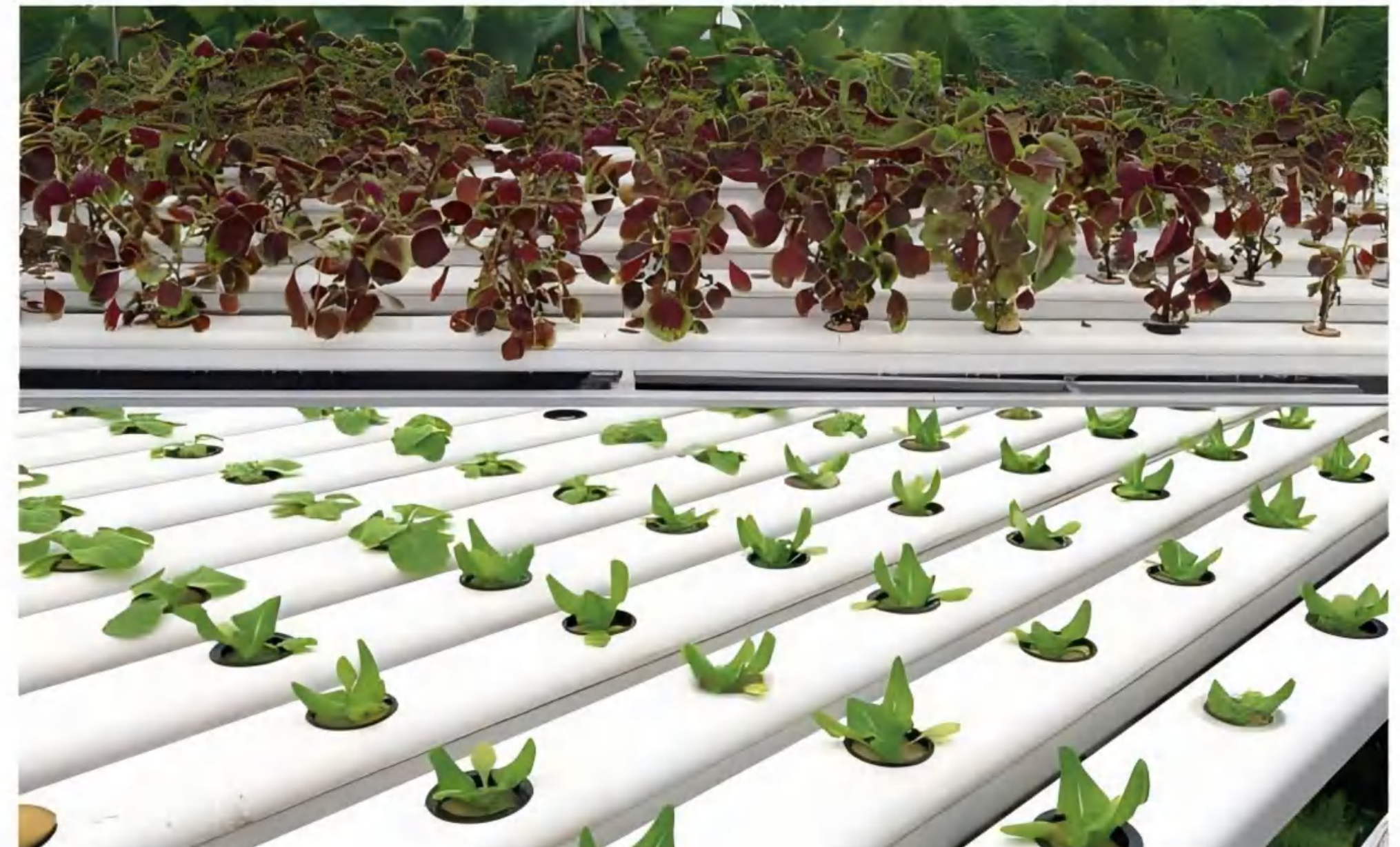
- 01 Like fully shaded channels, hollow energy-saving hydroponic channels also fully shaded with white on the outside and black on the inside. Can provide a simulated ecological growth environment for plant roots;
- 02 All the hollow energy-saving hydroponic channels currently produced by our company are assembled and disassembled, making pipeline cleaning particularly convenient;
- 03 Full shading and ecological simulation can prevent the growth of bathing plants;
- 04 Compared with fully shaded channels, the biggest advantage of hollow energy-saving channels is their double-layer structure, with white on the outside and black on the inside, which provides better thermal insulation performance! In winter, when placed indoors, the temperature inside the channels can reach 7 °C, which can help plants grow better; Reduce the evaporation of water and nutrient solution, and minimize the frequency of water changes, making it more energy-efficient.
- 05 The bottom of the channels is designed in an arc shape and equipped with a guide groove, which allows for better circulation of nutrient solution, better absorption of nutrients and oxygen by plants, and more efficient utilization of nutrient solution.



### Channels planting diagram

Suitable for a wide variety of plant growth  
A 100 \* 60mm hollow energy-saving hydroponic channels is more suitable for planting leafy vegetables, lettuce, bok choy, spinach, small dishes, queen vegetables, coriander, etc.

A 100 \* 60mm channels can be used with planting baskets 1, 2, 3, and 4. When laying the channels, it is recommended to have one support per meter.



# 100\*80mm

Hollow energy-saving hydroponic channels (universal for leafy vegetables, fruits and vegetables)



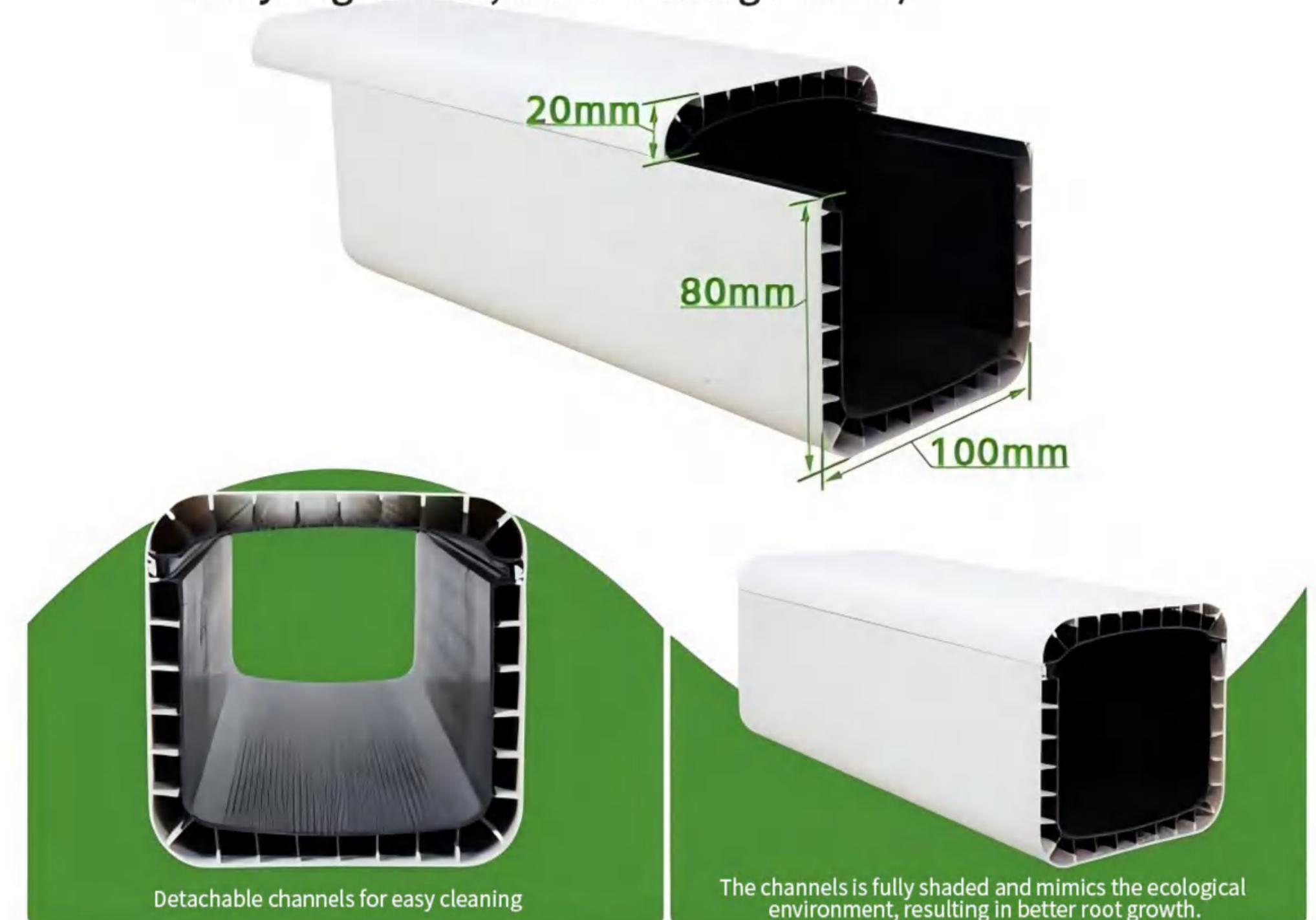
A 100 \* 80mm hollow energy-saving hydroponic channels can be used to grow leafy vegetables as well as fruits and vegetables. The internal space of the channels is larger, which allows more breathing space for the roots and better promotes nutrient absorption.



Planting hydroponic vegetables in restaurants allows customers to directly choose and make them on-site, fresh, healthy, and delicious.

# 100\*100mm

Hollow energy-saving hydroponic channels (universal for leafy vegetables, fruits and vegetables)



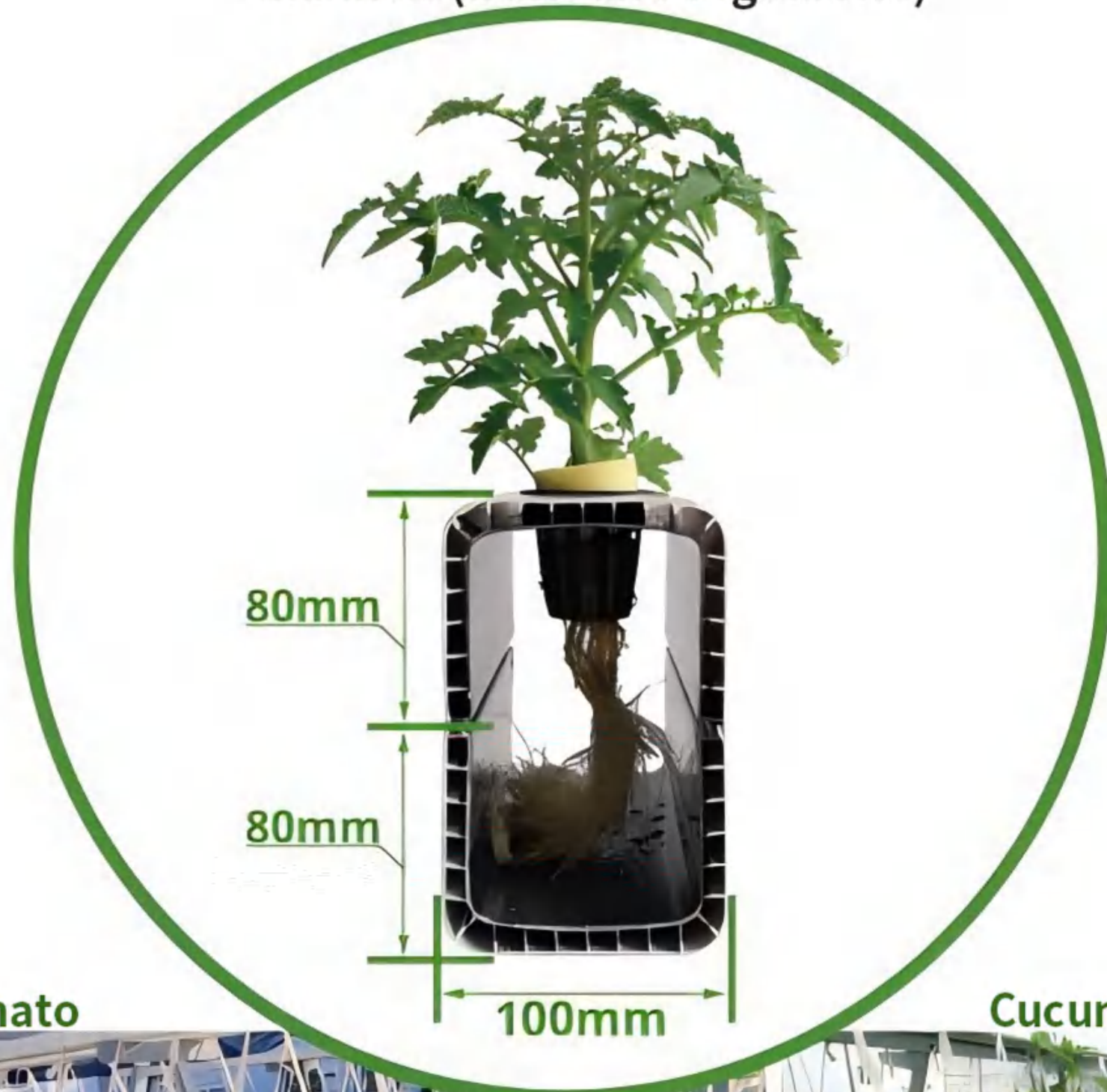
The 100 \* 100mm hollow energy-saving hydroponic channels can be used to grow leafy vegetables and fruits and vegetables. It is an upgraded version of the 100 \* 100mm universal channels for leafy vegetables and fruits and vegetables, with better hollow and thermal insulation performance. In summer, the temperature inside the tank will be lower than outside, which will reduce the evaporation of nutrient solution and maintain its stability, thus reducing the need for nutrient solution replacement and lowering costs; In winter, the temperature inside the trough will also be much higher than outside, which will allow plants to absorb nutrients better.



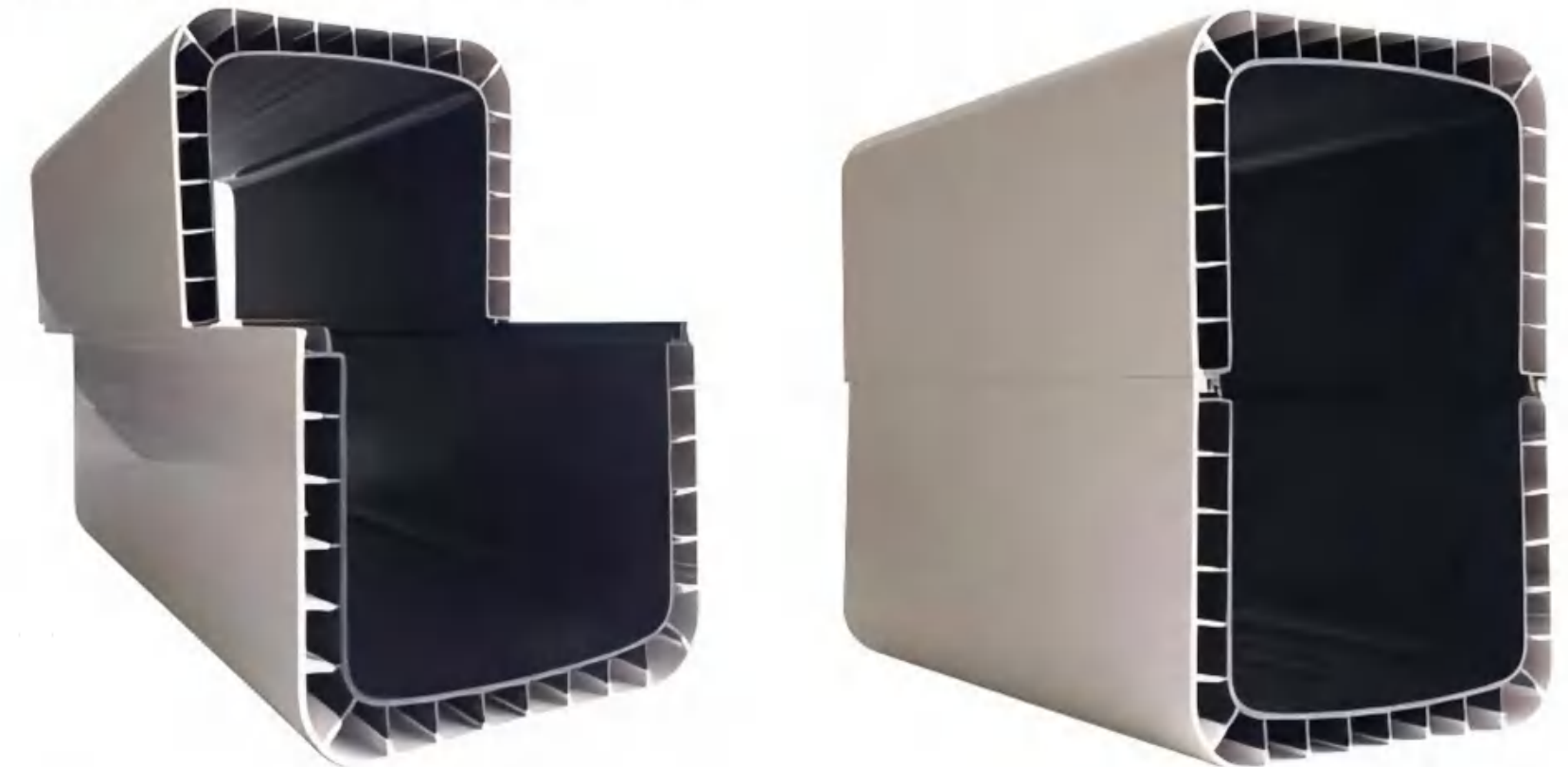
The bottom groove is deeper, allowing for a wider range of water level regulation, adjusting different water levels according to different plants. In planting, the liquid level is usually 2-3cm, and the water level will be higher during the seedling stage.

# 100\*160mm

Hollow energy-saving hydroponic channels (fruits and vegetables)



100 \* 160mm hollow energy-saving hydroponic channels is more suitable for planting fruits and vegetables, as well as green plants with well-developed roots. Its channels has a large space inside, so the roots have more space to grow and can better absorb nutrients.



It can be disassembled and cleaned conveniently, making it easy to plant.



Tomato

Cucumber

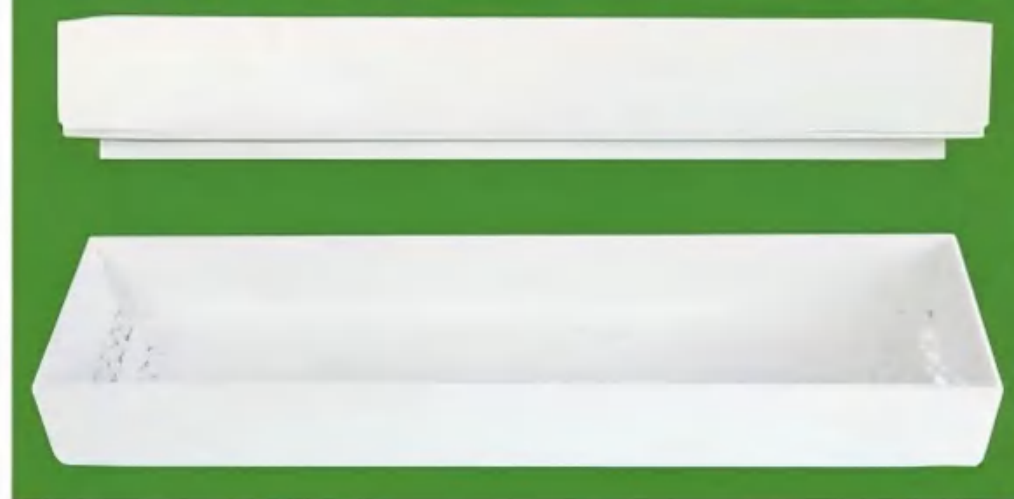




## Dual cultivation planting trough

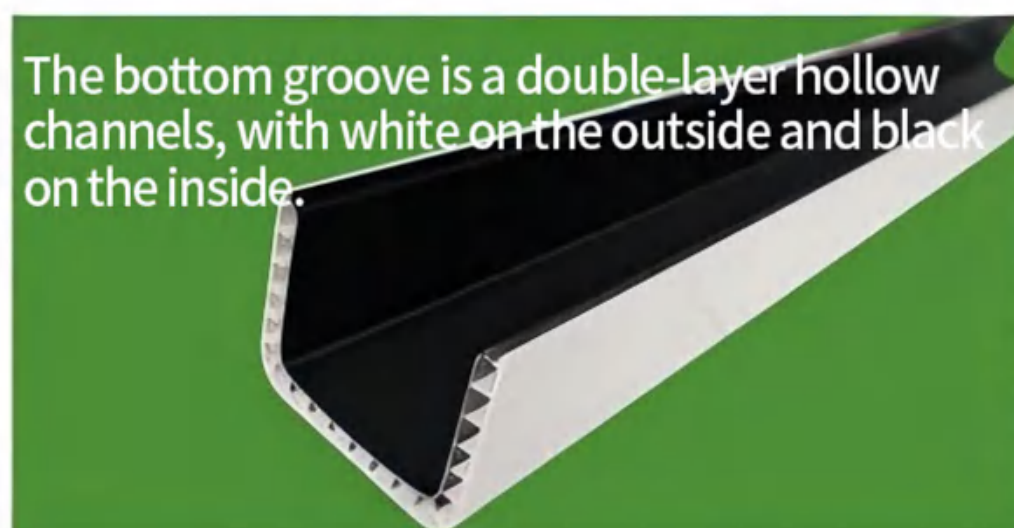
The dual cultivation planting trough consists of a bottom trough and a substrate trough, which is a soilless planting trough that combines substrate cultivation and nutrient solution cultivation. It has the common advantages of substrate cultivation and nutrient solution cultivation, with good breathability, sufficient water, and abundant nutrients, which can help plants grow better.

### Hollow grid at the bottom of the substrate slot

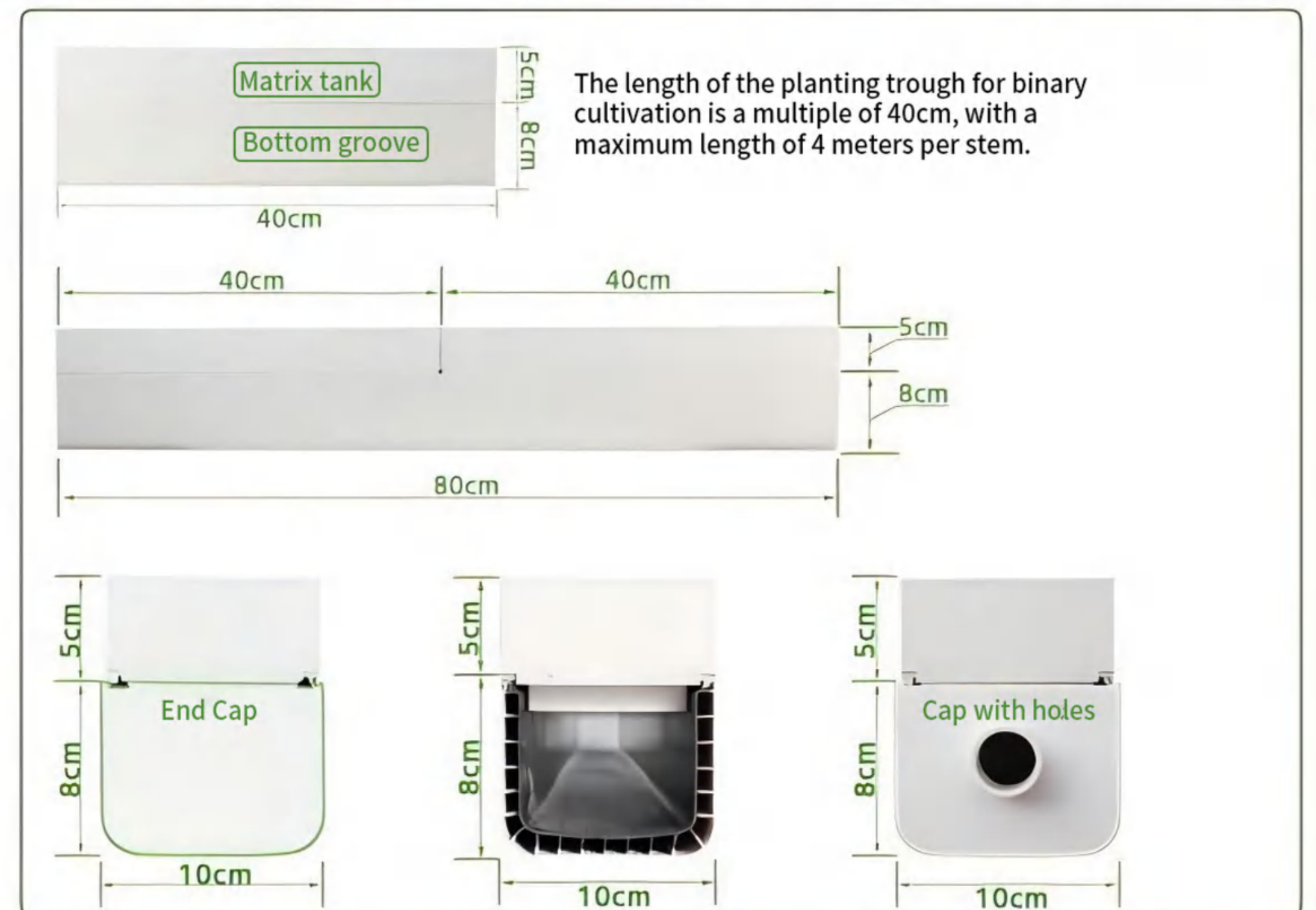


Lay non-woven fabric on top of the substrate tank, and place the substrate to plant plants on the substrate tank, so that the plants can grow more stably.

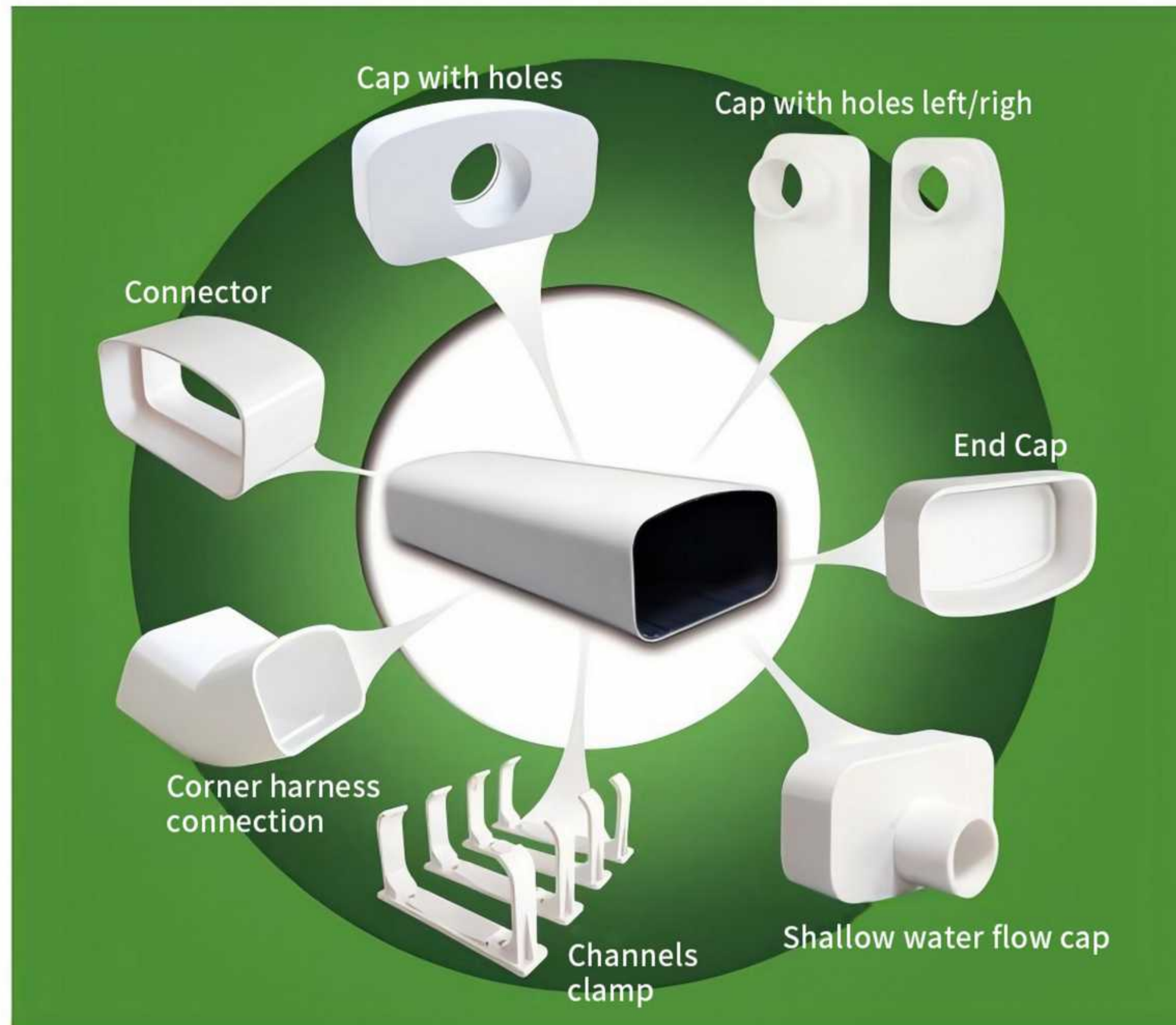
The bottom groove is a double-layer hollow channels, with white on the outside and black on the inside.



The bottom groove is a fully shaded hollow energy-saving channels, which can provide good insulation and keep the nutrient solution more stable. When the roots of a plant grow from the substrate trough to the bottom trough, the plant can absorb nutrients again, better absorb water, and the dual layer nutrient solution supply of substrate and nutrient solution can make the plant grow more vigorously.



## 90 \* 50mm Channels fittings



Name	Weight	Material	Role
90x50mm channels cap with holes	43g per piece	PVC-U	Both ends of the 90 * 50mm channels are plugged, and there are holes that can be connected to 32 pipe fittings.
90 * 50mm channels without hole plug	38g per piece	PVC-U	Both ends of the 90x50mm channels are plugged without holes
90 * 50mm channels with hole plug left/right	40g per piece	PVC-U	90x50mm channels ends with plugs, suitable for vertical planting in pipes
90 * 50mm channels shallow water flow cap	41g per piece	PVC-U	90x50mm pipe ends with plugs, suitable for vertical planting in pipes
90 * 50mm channels clamp	18g per piece	PVC-U	90x50mm channels can be clamped during installation to ensure stability
90x50mm channels connector	62g per piece	PVC-U	Two 90 * 50mm channels can be clamped during installation to stabilize the channels
90x50mm channels corner clamp	122g per piece	PVC-U	When two 90 * 50mm channels are connected, they act as intermediate links. (Angle 135°)



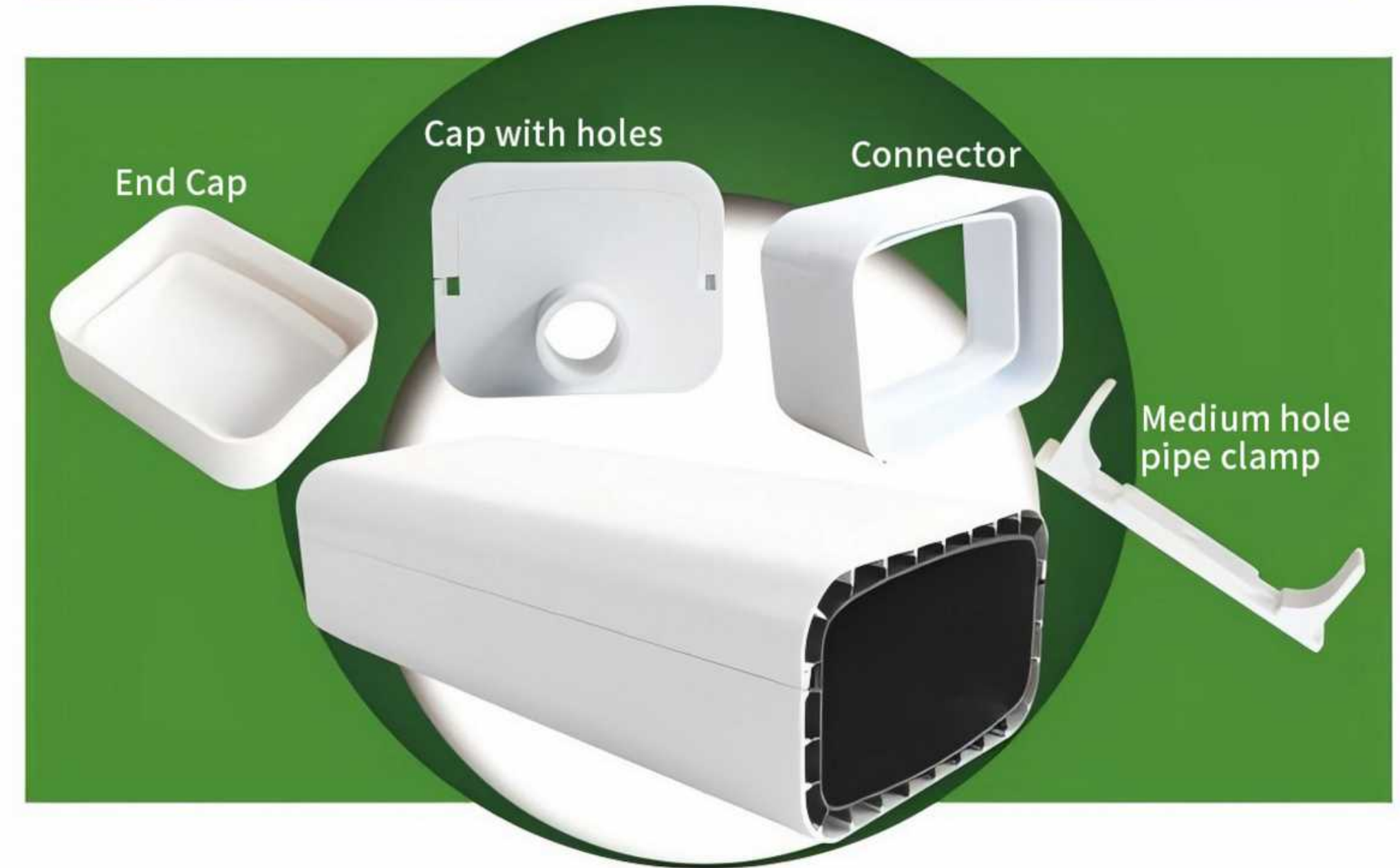
## 100 \* 60mm Channels fittings



Name	Weight	Material	Role
100 * 60mm channels cop with holes	68g per piece	PVC-U	100 * 60mm channels ends are plugged, with holes for connecting 32 fittings.
100 * 60mm channels end cap	61g per piece	PVC-U	100 * 60mm channels ends plugged without holes
100 * 60mm channels connector	80g per piece	PVC-U	When connecting two 100 * 60mm channels, placing them in the middle serves to fix the connection
Hollow pipe clamp	41g per piece	PVC-U	100 * 60mm channels, 100 * 80 channels, 100 * 100 hollow channels universal channels clamp



## 100 \* 80mm Channels fittings



Name	Weight	Material	Role
100 * 80mm channels cop with holes	75g per piece	PVC-U	100 * 80mm channels ends are plugged, with holes for connecting 32 fittings.
100 * 80mm channels end cap	65g per piece	PVC-U	100 * 80mm channels ends plugged without holes
100*80mm channels connector	72g per piece	PVC-U	When connecting two 100 * 80mm channels, placing them in the middle serves to fix the connection
Hollow pipe clamp	41g per piece	PVC-U	100 * 60mm channels, 100 * 80 channels, 100 * 100 hollow channels universal channels clamp





## 100 \* 100mm hollow Channels fittings



Name	Weight	Material	Role
100*100mm channels cap with holes	110g per piece	PVC-U	100*100mm channels ends are plugged, with holes for connecting 32 fittings.
100 * 100mm channels with end cap	94g per piece	PVC-U	100*100mm channels ends plugged without holes
100*100mm channels connector	110g per piece	PVC-U	When connecting two 100*100mm channels , placing them in the middle serves to fix the connection
Hollow pipe clamp	41g per piece	PVC-U	100 * 60mm channels , 100 * 80 channels , 100 * 100 hollow channels universal channels clamp



## 100 \* 160mm hollow Channels fittings



Name	Weight	Material	Role
100*160mm channels cap with holes	135g per piece	PVC-U	100*160mm channels ends are plugged, with holes for connecting 32 fittings.
100*160mm channels cap without holes	128g per piece	PVC-U	100*100mm channels ends plugged without holes
100*160mm channels connector	176g per piece	PVC-U	When connecting two 100*160mm channels, placing them in the middle serves to fix the connection
Fruit and vegetable pipe clamp	44g per piece	PVC-U	100*100mm channels, 100*100 channels, 100*160 hollow channels universal channels clamp



The channels can be extracted from the connector



Channels accessory combination diagram

100\*160mm Channels

## Dual cultivation planting trough accessories



Name	Weight	Material	Role
Bottom groove	1.1kg/m	PVC-U	Outer white and inner black hollow energy-saving pipeline, bottom of binary cultivation planting tank, water and water flow channels.
Matrix tank	420g per piece	PVC-U	The substrate slot on top of the binary cultivation tank plays a role in carrying the substrate
Cap with holes	176g per piece	PVC-U	The plugs at both ends of the bottom groove of the binary cultivation planting tank are empty and can be connected to 32 connectors.
Cap	44g per piece	PVC-U	The plugs at both ends of the bottom groove of the binary cultivation planting tank are non porous.
Matrix tank	41g per piece	PVC-U	Hollow pipes, universal pipe clamps.



When channels fittings are combined, it becomes an oasis, and then filled with substrate, green plants can be planted.

Dual cultivation planting trough accessories

**PART**

**TOW** Planting basket



The planting basket is a basket used in hydroponics to fix the roots of plants. Depending on the planting pipeline and the type of plant planted, the selected planting basket model also varies.

Our company has a unique patent for planting baskets and has developed more than ten different models of planting baskets, as well as customized sponges. In addition, our planting monitors are made of PE and PP materials and have passed SGS quality testing to achieve edible grade.

Our planting basket can not only fix the root system, but also be used for seedling cultivation, which is very convenient to use.

### SGS testing report for planting basket



### Planting basket No.1

The No.1 planting basket comes in two styles: No.1 B PE and No.1 B PP. No.1 B PE comes in black and white, while No.1 B PP is a transparent planting basket. The No. 1B planting basket is a small-sized planting basket that can be directly used for seedling cultivation.



- Weight: 1.6g
- Hole diameter: 23mm
- Suitable vegetables for planting:  
leafy vegetables such as spinach, lettuce, coriander, etc.



Schematic diagram of planting basket No.1 inside the channels



### Planting basket No.2

There are 4 models of customized baskets for size 2, each in black and white colors, with multiple styles to meet customers' needs. The No. 2 planting basket can be used for almost all leafy vegetables and is the most popular planting basket.





Name	Weight	Colour	Opening diameter	Suitable for planting plant species
Customized Basket No.2A	3.8g/piece	Black/White	32mm	Almost all leafy vegetables, some fruits and vegetables
Customized Basket No.2B	2.6g/piece	Black/White/Transparent	33mm	Almost all leafy vegetables, some fruits and vegetables
Customized Basket No.2C	3.3g/piece	Black/White	32mm	Almost all leafy vegetables, some fruits and vegetables
Customized Basket No.2E	3.2g/piece	Black/White	33mm	Almost all leafy vegetables, some fruits and vegetables

The black and white material is PE, and the transparent planting basket material is PP.



Planting baskets are hollow or bottomless, which does not affect root growth and is relatively convenient for harvesting. One planting basket for one vegetable, or one planting basket for one pot of vegetables, is easy to manage and harvest.

When using a planting basket to directly cultivate seedlings, transplanting becomes more convenient. Simply pick up the planting basket and the seedlings, and place them into the planting holes of the channels, which is simple and fast.



### Planting basket No.3

The No. 3 planting basket is available in black and white colors, with a large hole at the bottom and hollowed out areas around it. It is made of No. 3 planting sponge. Suitable for planting leafy vegetables and is also one of our popular products.



- Material: PE
- Weight: 3.6g
- Hole diameter: 45mm
- Suitable vegetables for planting:  
all leafy vegetables, tomatoes, cucumbers, and other fruits and vegetables.

## Planting basket No.4

There are 5 models of No. 4 Planting Sha, each with black and white colors. The material is PE and it is widely used for planting various categories such as leafy vegetables, fruits and vegetables, flowers, etc. And the design has been upgraded, with a bottom opening style that makes it more convenient to move and collect.

### Square planting basket No.4

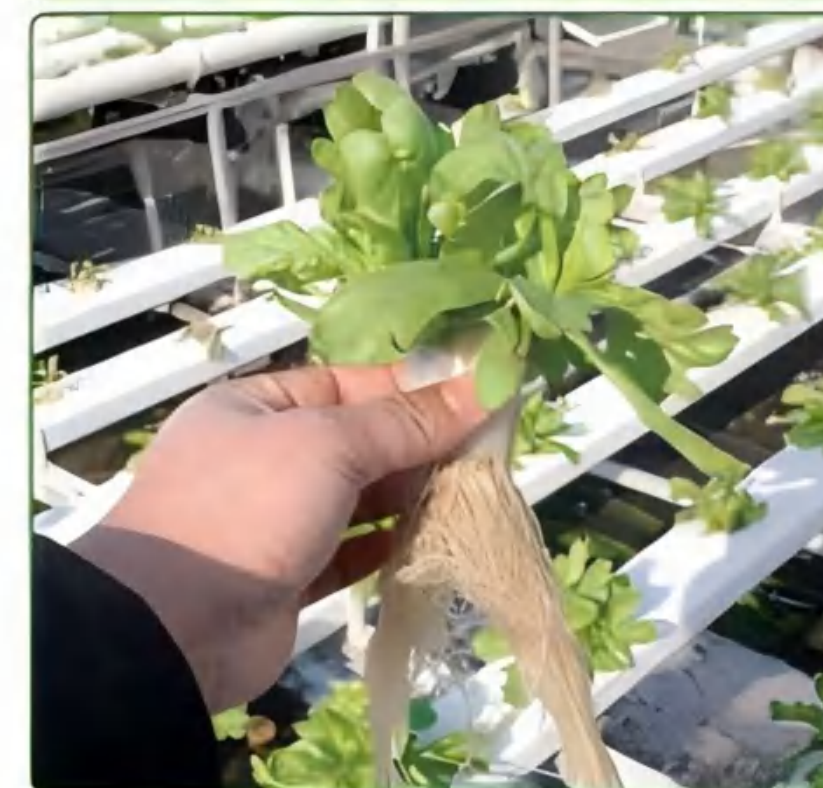


- Material: PE
- Weight: 5.2g
- Suitable for square holes, aperture: 44mm~54mm
- Suitable vegetables for planting:  
all leafy vegetables, tomatoes, cucumbers, peppers and other fruits and vegetables.

### No. 4 circular hole planting basket



Name	Weight	Colour	Material	Opening diameter	Suitable for planting plant species
Customized Basket No.4A	5g/piece	Black/White	PE	40mm	All leafy vegetables, tomatoes, cucumbers, peppers and other fruits and vegetables
Customized Basket No.4AD	5g/piece	Black/White	PE	40mm	All leafy vegetables, tomatoes, cucumbers, peppers and other fruits and vegetables
Customized Basket No.4B	4.2g/piece	Black/White	PE	40mm	All leafy vegetables, tomatoes, cucumbers, peppers and other fruits and vegetables
Customized Basket No.4BD	4.5g/piece	Black/White	PE	40mm	All leafy vegetables, tomatoes, cucumbers, peppers and other fruits and vegetables



The planting basket shown in the diagram is No. 4B, with a bottom opening type. The roots of the plants directly pass through the planting basket without any shade or affecting the growth of the roots. Moreover, when harvesting, the plants can be easily pulled out of the planting basket without damaging the planting basket or the roots. When transplanting, the roots easily pass through the bottom of the planting basket, so there is no need to reorganize the roots again, which also saves a lot of time.



Planting basket No. 4B, with a full seat



No. 4A planting basket, also a through seat

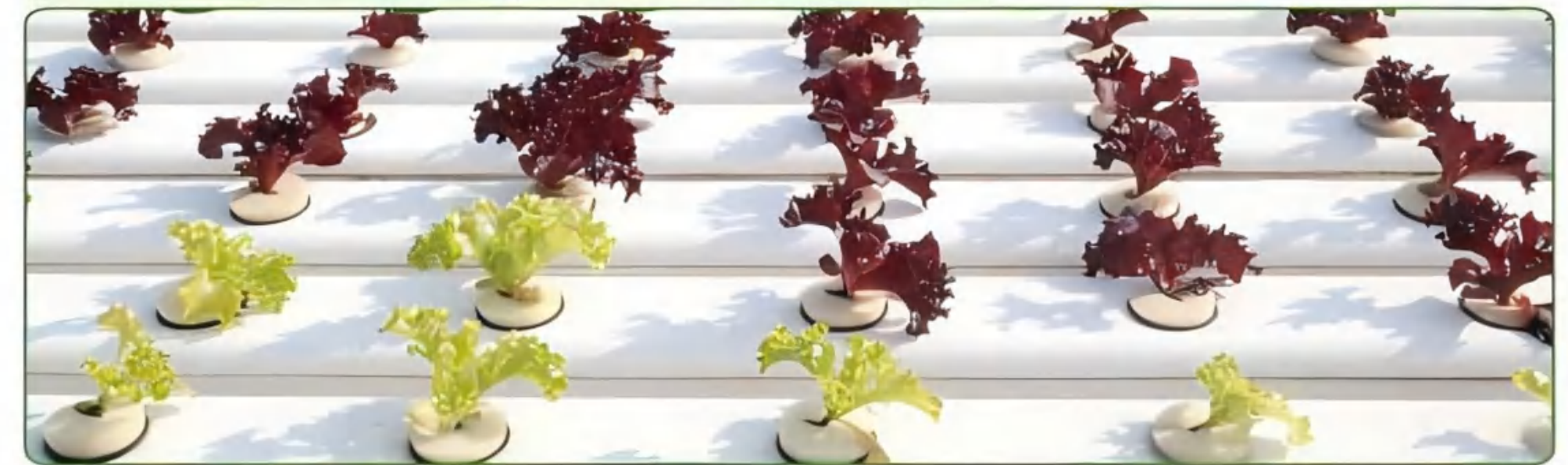
## Planting basket No.5



Name	Weight	Colour	Material	Opening diameter	Suitable for planting plant species
Customized Basket No.5A	10g/piece	Black/White	PE	49~56mm	All leafy vegetables, tomatoes, cucumbers, peppers and other fruits and vegetables
Customized Basket No.5B	5g/piece	Black/White	PE	48mm	All leafy vegetables, tomatoes, cucumbers, peppers and other fruits and vegetables
Customized Basket No.5C	4.5g/piece	Black/White	PE	50mm	All leafy vegetables, tomatoes, cucumbers, peppers and other fruits and vegetables
Customized Basket No.5CD	5g/piece	Black/White	PE	50mm	All leafy vegetables, tomatoes, cucumbers, peppers and other fruits and vegetables



As shown in the picture, the leafy vegetables in No. 5 C have roots that directly pass through the bottom of the planting basket, growing particularly lush and clean. When harvesting vegetables, the roots in the planting basket can be easily pulled out without any effort, making harvesting convenient.



## Planting basket No.6

The No. 6 planting basket is suitable for fruit and vegetable cultivation. The basket has a large space, which can make the roots more fixed. For fruits and vegetables with hard roots such as tomatoes and peppers, using the No. 6 planting basket provides better stability.





Planting celery, one planting basket can plant several plants, the basket space is large, and the fixation is also very good

- Product Name: Planting Basket No. 6
- Material: PE
- Weight: 17g
- Hole diameter: 60mm
- Suitable vegetables for planting:  
all leafy vegetables, tomatoes, cucumbers, and other fruits and vegetables.

### Matrix planting basket

There are three types of substrate planting baskets: substrate A, substrate B, and substrate C. The material is PP, which is sturdy and durable, suitable for growing all leafy vegetables and some fruits and vegetables.



Name	Weight	Colour	Material	Opening diameter	Suitable for planting plant species
Substrate A planting basket	2.8g/piece	Black/White	PP	50mm	All leafy vegetables, tomatoes, cucumbers, peppers and other fruits and vegetables
Substrate B planting basket	8.7g/piece	Black/White	PP	74mm	All leafy vegetables, tomatoes, cucumbers, peppers and other fruits and vegetables
Substrate C planting basket	23g/piece	Black/White	PP	98mm	All leafy vegetables, tomatoes, cucumbers, peppers and other fruits and vegetables

**Various models of planting baskets and matching planting sponges are available to meet different planting needs. Focus on hydroponic equipment.**





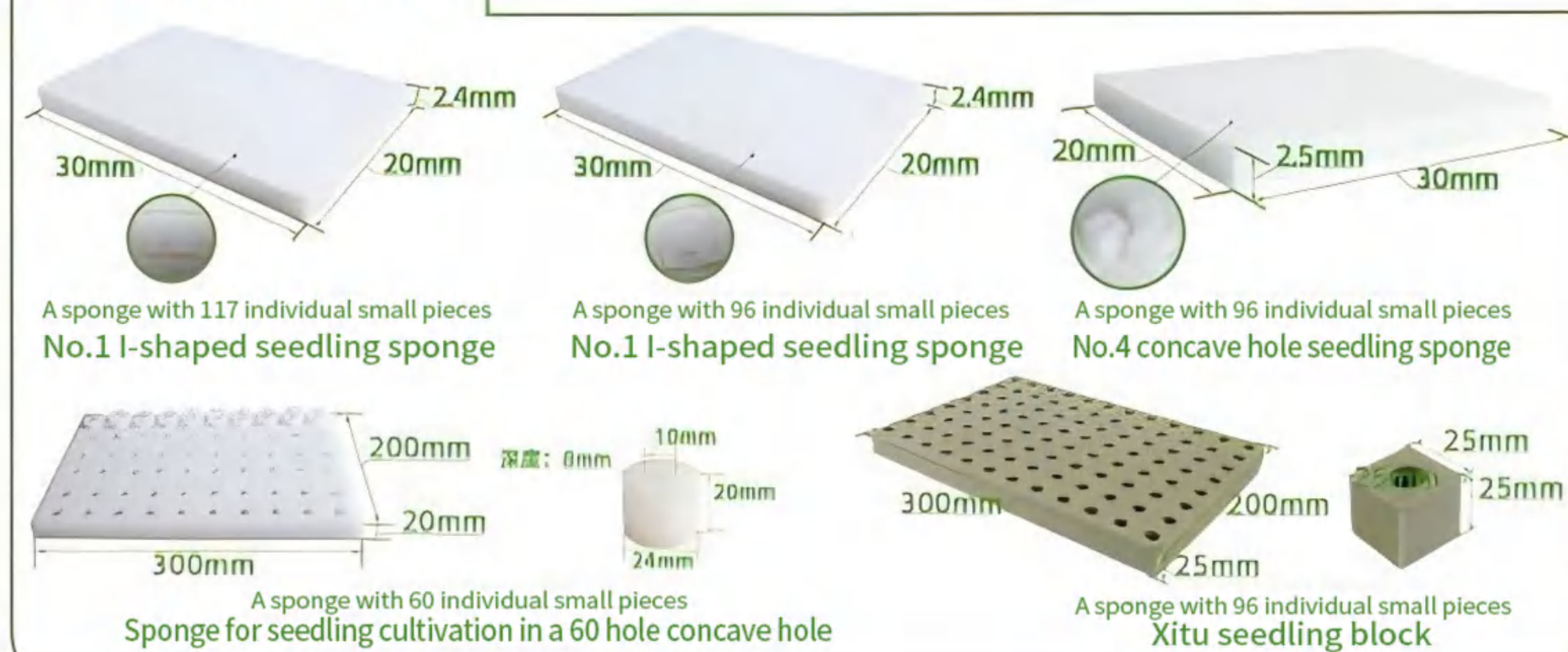
Planting sponge seedling sponge

# PART THREE

## PLANTING SPONGE



## SEEDLING SPONGE



The planting sponge is used in conjunction with our planting basket, which can fix the roots of plants in hydroponics. It has good breathability, allowing the roots to breathe well, while the sponge has good water absorption, which can provide sufficient water for the roots.



Seedling sponge, commonly used in hydroponics, is convenient for transplantation. It can be used as a whole seedling, and individual cells can be separated. The seedling sponge is relatively light and easy to use in the seedling room, with a particularly high germination rate.



# SGS TESTING REPORT

