

# NEW GARDEN SYSTEM HYDROPONIC TECHNOLOGY



WATCH VIDEO



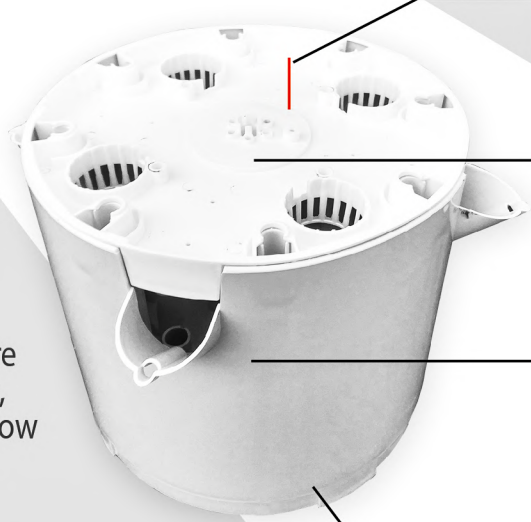
[newgardensystem.com](http://newgardensystem.com)

# CULTIVATION MODULE

**THE CULTIVATION MODULE** is the main piece of the cultivation system developed by New Garden System.

It is the perfect growing tool for technical horticulture of our time. It is a very versatile structure, easy to use, modular, stackable and efficient, in which you can grow up to 8 plants at the same time in a very small space and with only 11 liters of perlite substrate.

**MEASURES** Base **30,5cm** Height **27cm** Top **40cm**



## LEVEL SIGHT

Indicates the level of water stored inside.

## DOSING TRAY

Distributes the water evenly. It prevents the evaporation of water, it consists of 4 planting holes and holes for stakes.

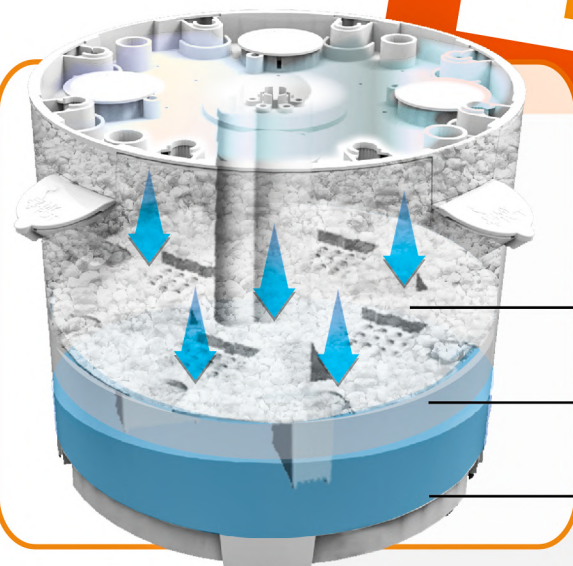
## POT MODULE

Exterior of the cultivation module, includes 4 side cultivation holes, holes for stakes, holes "rain effect" and holes for wheels or legs. Drainage grate Piece that creates the best conditions for the roots inside. Includes filters.

## PARRILLA DE DRENAJE

Pieza que crea las mejores condiciones para las raíces en el interior. Incluye filtros.

## HOW DOES IT WORK?



## PERLITE SUBSTRATE

## AEROPONICS

## ROOT FLOATING

The cultivation module is a unique high-tech plantation system in the world. It has been developed over several years of research by the New Garden System team. It is a modular system (you can stack it vertically) efficient, clean and very productive. It consists of 8 cultivation holes where you can easily grow up to 8 plants. The hydroponic technology it incorporates allows all kinds of plants (vegetables, fruits, flowers ...) to grow in a healthy and spectacular way in less space than a traditional pot would occupy.

In addition, it has a security system that will fill the module with 4 liters of water and nutrients after each irrigation cycle, thanks to which our plants will not be in any danger in the event of a power outage.

**This module integrates three hydroponic techniques used by professional farmers never before combined in the same growing system: Substrate Hydroponics, Aeroponics and Floating Root**

## MAIN FEATURES

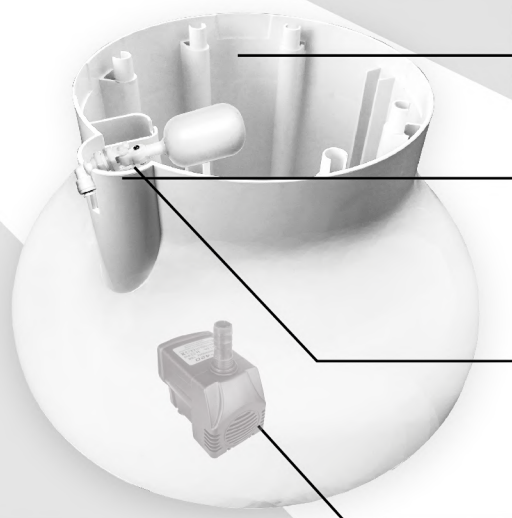
- Hydroponic growing system with international patent
- Works with 25 l / hour drippers
- Designed to function properly with only 11 liters of expanded perlite substrate per module.
- It has a security system (reserve 4 liters of water and nutrients after each irrigation cycle)
- Maximum space optimization (Up to 8 floors per module) Able to support plants with great root development



# TANK MODULE

The tank module acts as a support and expands the capacity of the planting module. It can be connected to drain through a drain or optionally with a pump and float for individual recirculation.

**MEASURES** Base **53cm** Altura **27cm** Top diameter **31cm**



## TANK MODULE

Stores a larger reserve of water to expand the capacity of the cultivation module

## TANK CAP

Closes the tank module. Avoid evaporation and dirt.

## OPTIONAL

## LEVEL BUOY

It allows to have the tank always full of water.

## BOMBA DE RECIRCULACIÓN

Allows to automate irrigation

## HOW DOES IT WORK?



The TANK MODULE is a multifunctional piece, it can be used as a base for the cultivation module and result in an autonomous system that can grow vertically to offer a reduced and very efficient cultivation frame. With its capacity of 14 liters, the tank module becomes a fundamental support. It can be used for joint irrigation, evacuating the water through the drain located in its lower part or individually, optionally adding a pump and a buoy to its interior to perform its own recirculation.

**In this module you can store 14L of nutrient solution for individual irrigation. In addition, it is prepared to be connected in series with other tank modules or with a larger tank to increase irrigation autonomy.**

# **CULTIVATION OPTIONS BY NEW GARDEN SYSTEM**



# **HORIZONTAL GROWING**

# 1 CULTIVATION MODULE ON HYDROPONIC GUTTER

When should I use hydroponic gutters as support for grow modules?

When you have height limitations. This option offers the possibility of collecting the excess water after each irrigation cycle without having to raise the cultivation modules, making the most of the height of the greenhouse.



## ADVANTAGES

-  Less investment
-  Easy installation
-  Easy to use

-  Versatility in planting pattern
-  Maximum use of vertical space
-  Indicated for cultivation of plants

## HOW DOES IT WORK?

### STEP 1

We will install a hydroponic gutter whose dimensions allow us to place the growing modules inside.

### STEP 2

We will distribute the cultivation modules at the desired distance according to the desired cultivation framework (remember that each growing module can be planted with 4 or 8 plants).

### STEP 3

We will place one or more drippers in each cultivation module. (The flow rate required by each growing module for the hydroponic growing system to function correctly will range between 16 and 25 liters per hour for each module)

### STEP 4

After each irrigation cycle, the water will be redirected through the gutters to the collection pit.

### STEP 5

The collection pit will house a pump inside that will be in charge of pumping the water to the main tank.

### STEP 6

In the main tank, the EC and PH will be adjusted to the desired levels (This process can be carried out fully automated)

### STEP 7

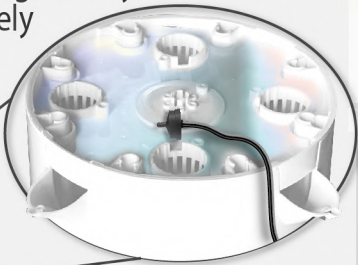
At the outlet of the main tank, a pump and a ring filter will be installed to supply the water and nutrients to the modules through the supply network in which we have placed the drippers.

### NOTE

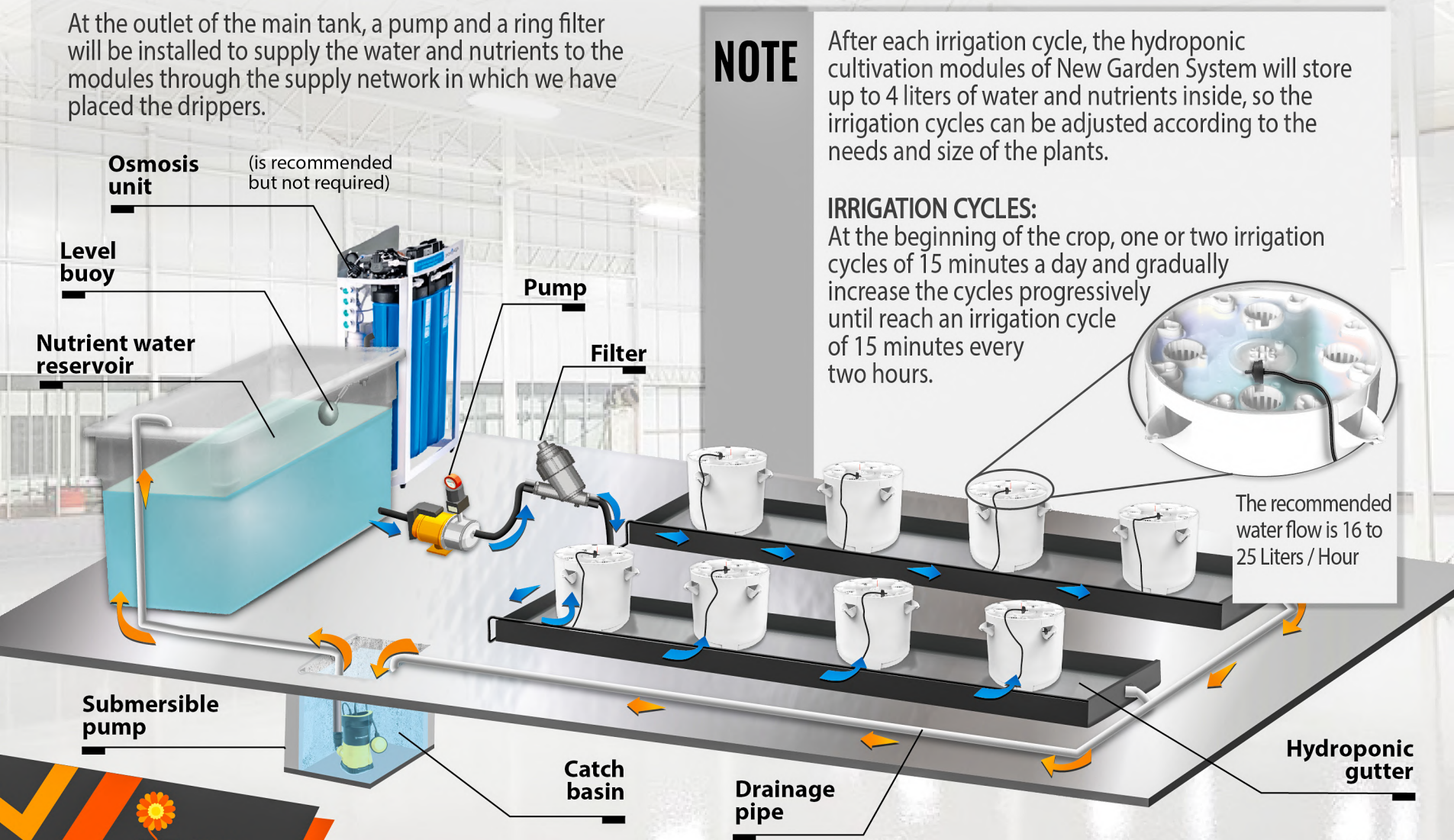
After each irrigation cycle, the hydroponic cultivation modules of New Garden System will store up to 4 liters of water and nutrients inside, so the irrigation cycles can be adjusted according to the needs and size of the plants.

#### IRRIGATION CYCLES:

At the beginning of the crop, one or two irrigation cycles of 15 minutes a day and gradually increase the cycles progressively until reach an irrigation cycle of 15 minutes every two hours.



The recommended water flow is 16 to 25 Liters / Hour



# 2

## CULTIVATION MODULE HYDROPONIC TRAYS

When should I use hydroponic trays to support the cultivation module?

It is ideal, when the height of your greenhouse allows it, since this option offers you the possibility of raising your cultivation surface to an ideal height to carry out maintenance work. They are the most used in greenhouses.

They are very practical and clean since they have conductive channels for collecting excess water and the drainage is collected at one point, they also have a drainage filter that prevents the entry of particles avoiding overflows.



### ADVANTAGES



Reuse  
of facilities  
already existing



Easy  
to use



Versatility in  
planting pattern



Recirculation  
of water and  
nutrients

### HOW DOES IT WORK?

#### STEP 1

We will place the grow modules on top of the hydroponic trays

#### STEP 2

We will distribute the cultivation modules at the desired distance according to the chosen cultivation frame (remember that each growing module can be planted with 4 or 8 plants).

#### STEP 3

We will place one or more drippers in each cultivation module. (the flow rate necessary for the hydroponic growing system to work properly, the flow rate will range between 16 and 25 liters per hour for each module)

#### STEP 4

After each irrigation cycle, the water will be redirected through the trays to the collection pit.

#### STEP 5

The collection pit will house a pump inside that will be in charge of pumping the water to the main tank.

#### STEP 6

In the main tank, the EC and PH will be adjusted to the desired levels (This process can be carried out fully automated)

#### STEP 7

At the outlet of the main tank, a pump and a ring filter will be installed to supply the water and nutrients to the modules through the supply network in which we have placed the drippers.

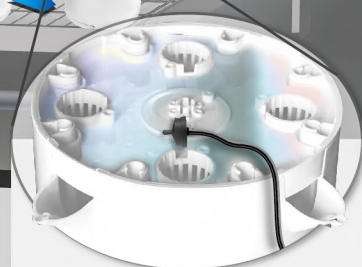
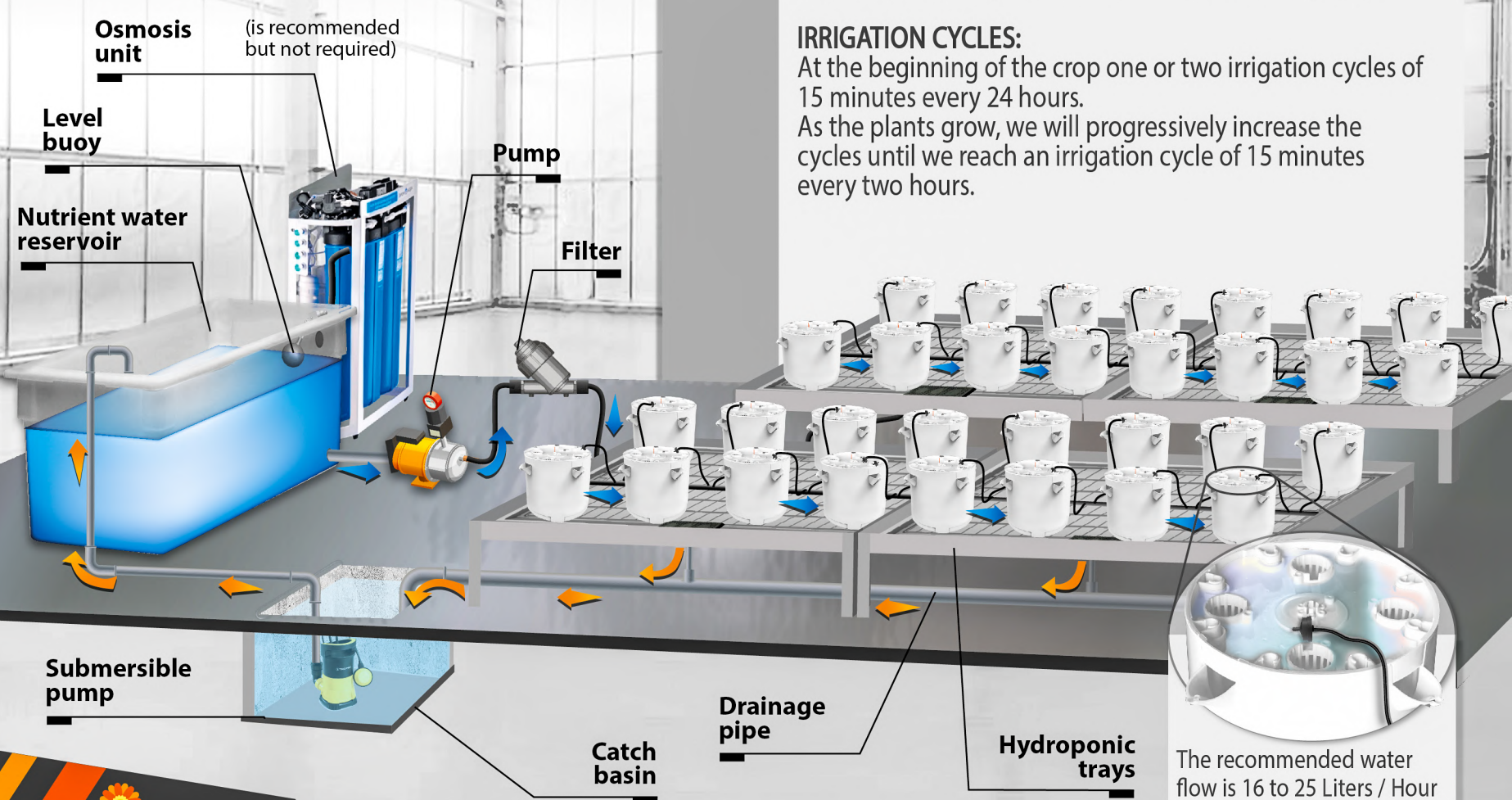
#### NOTE

After each irrigation cycle, the hydroponic cultivation modules of New Garden System will store up to 4 liters of water and nutrients inside, so the irrigation cycles can be adjusted according to the needs and size of the plants.

#### IRRIGATION CYCLES:

At the beginning of the crop one or two irrigation cycles of 15 minutes every 24 hours.

As the plants grow, we will progressively increase the cycles until we reach an irrigation cycle of 15 minutes every two hours.



The recommended water flow is 16 to 25 Liters / Hour

# 3

## CULTIVATION MODULE ON TANK MODULE

When should you use this option?

This kit is specially designed for:

- Cultivation of mother plants.
- Cultivation of large plants.
- Studies and tests of all kinds (R&D phase).

The tanks have the possibility of placing wheels on them, this will facilitate the handling since we can move the whole cultivation kit to the sides.

By placing the planting module on the tank module, the plants will be at an ideal height to carry out maintenance work.

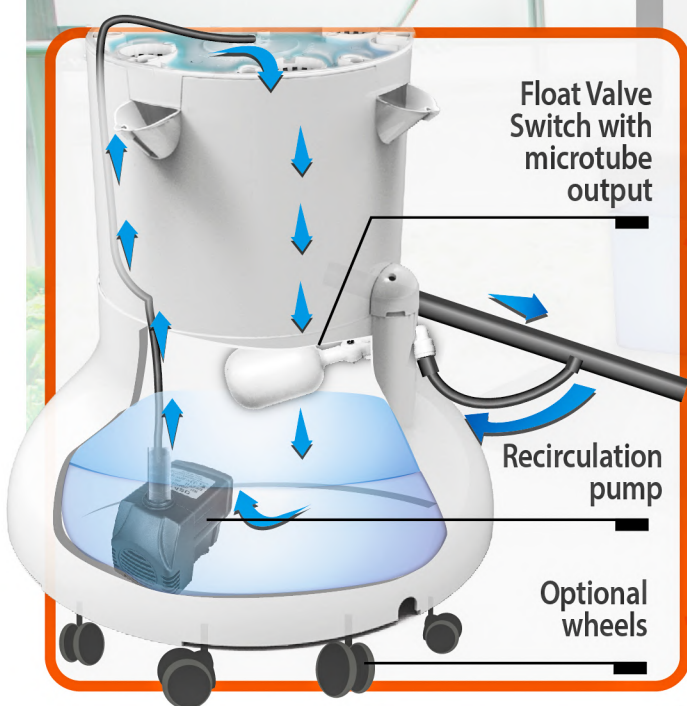
Recirculation can be individual, which allows us to take samples and comparative analysis to carry out multiple culture tests.



## OPCIONES

### OPTION 1

#### INDIVIDUAL RECIRCULATING



### HOW DOES IT WORK?

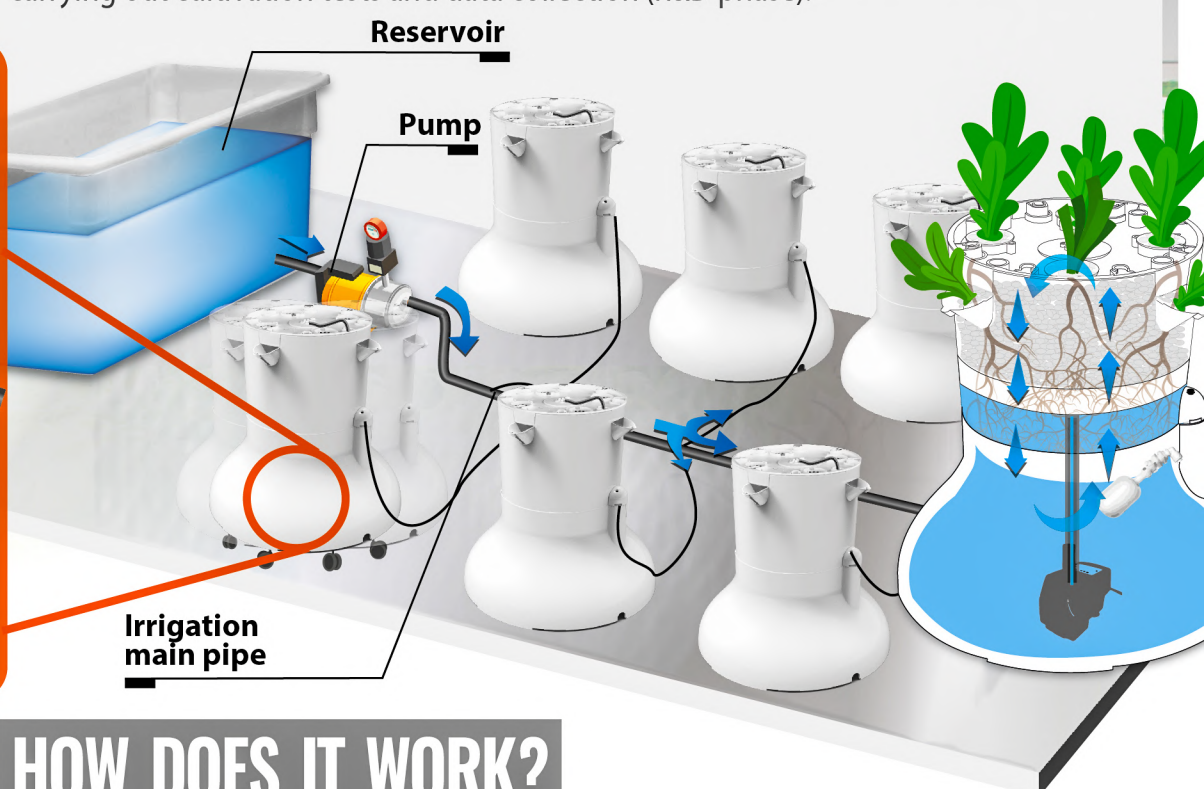
The operation is very simple and intuitive:

The tank module will always remain full of water and nutrients thanks to the level float that is incorporated inside. The cultivation modules will be placed on top of the storage module. Each tank module will have a recirculation pump that will be in charge of raising the water to the cultivation module according to our needs.

The tank modules are connected through a flexible microtube to the main pipe, this allows that if necessary, they can be moved sideways.

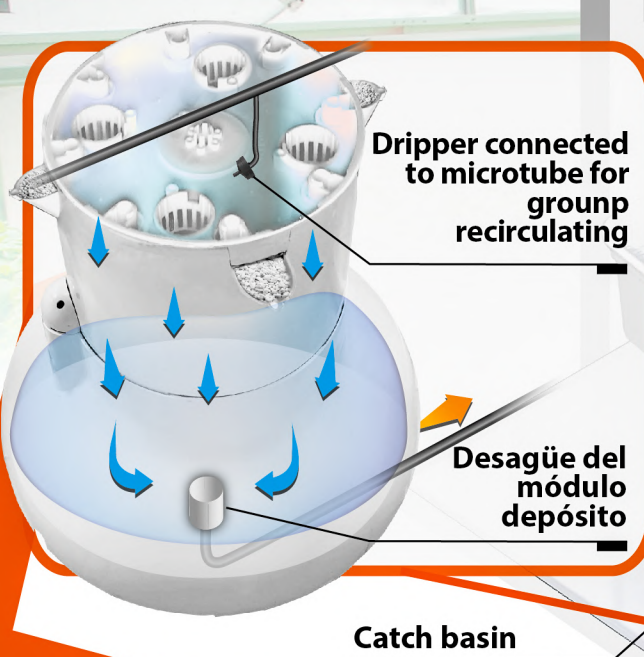
With this option, we can place wheels on the tanks to allow their movement.

This option is especially recommended for the cultivation of mother plants and for carrying out cultivation tests and data collection (R&D phase).



### OPTION 2

#### GROUP RECIRCULATING



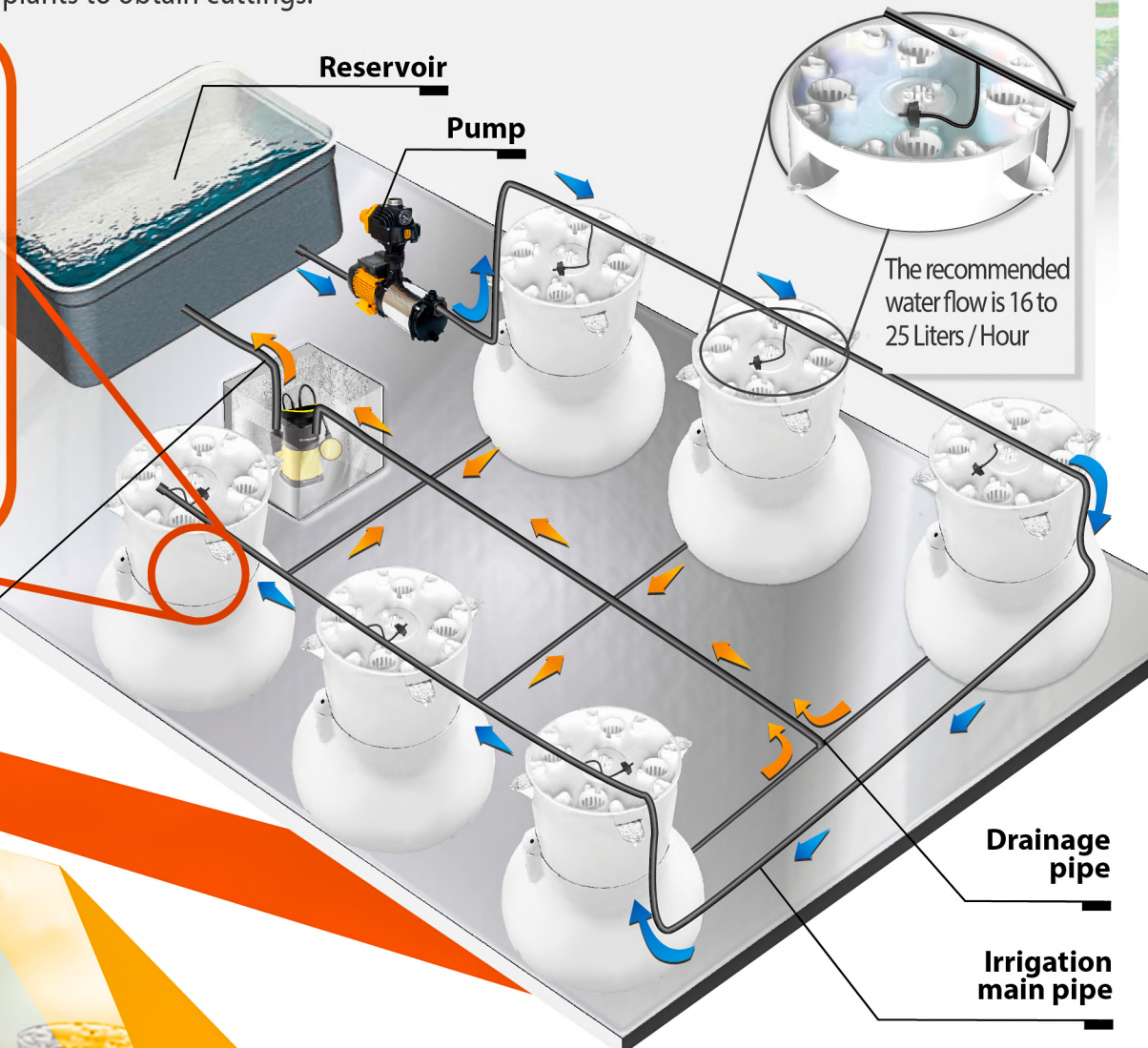
### HOW DOES IT WORK?

In option 2, the tank module will be connected to a pipe that will transport the excess water after recirculation, to the collection pit.

Inside the collection pit there is a pump that will be activated to raise the water to the main tank. The main tank will be in charge of storing the recirculation water and will always be full of water.

Fertilizer will be added to the water in the main tank and the PH and EC will be adjusted. The main tank at its outlet will have a pump that will be in charge of pumping the water and nutrients through the main pipe.

Droppers will be placed in the main pipe that will supply the water to the cultivation modules. This option is especially recommended for growing large plants or mother plants to obtain cuttings.



### WHAT DIFFERENCES ARE THERE BETWEEN OPTION 1 AND OPTION 2?

- In option 1 we can place wheels on the tanks that would allow us to move them from one side to the other, in option 2 this is not possible.
- In option 1 each tank must have a recirculation pump, in option 2 we will only need a single pump for the entire installation.
- In option 1 the emptying of the tank modules, if necessary, would be through the pump that carries each module inside, in option 2 the drains are connected and the tank module does not store water.
- Option 1 allows us to take samples of the water and nutrients in each of the modules, which makes it the perfect instrument to carry out all kinds of cultivation tests, in option 2 this is not possible

# **CULTIVATION OPTIONS BY NEW GARDEN SYSTEM**



# **VERTICAL GROWING**

# 1

# CULTIVATION MODULE ON CULTIVATION SHELVES

When should you use grow racks?

Grow racks are the most commonly used support for vertical growing.

This support allows us to regulate the space between the trays according to the type of plant we want to grow.

The New Garden System grow modules have a diameter of 30 cm and a height of 30 cm and allow you to place up to 8 plants per module, making it the perfect growing system to mount on top of the shelves.



## HOW DOES IT WORK?

### STEP 1

You will select the appropriate shelves for the crop you are going to make, taking into account the growing space you need.

### STEP 2

You will place the grow modules on top of the hydroponic trays of the shelves.

### STEP 3

We will place a dropper in each growing module.

### STEP 4

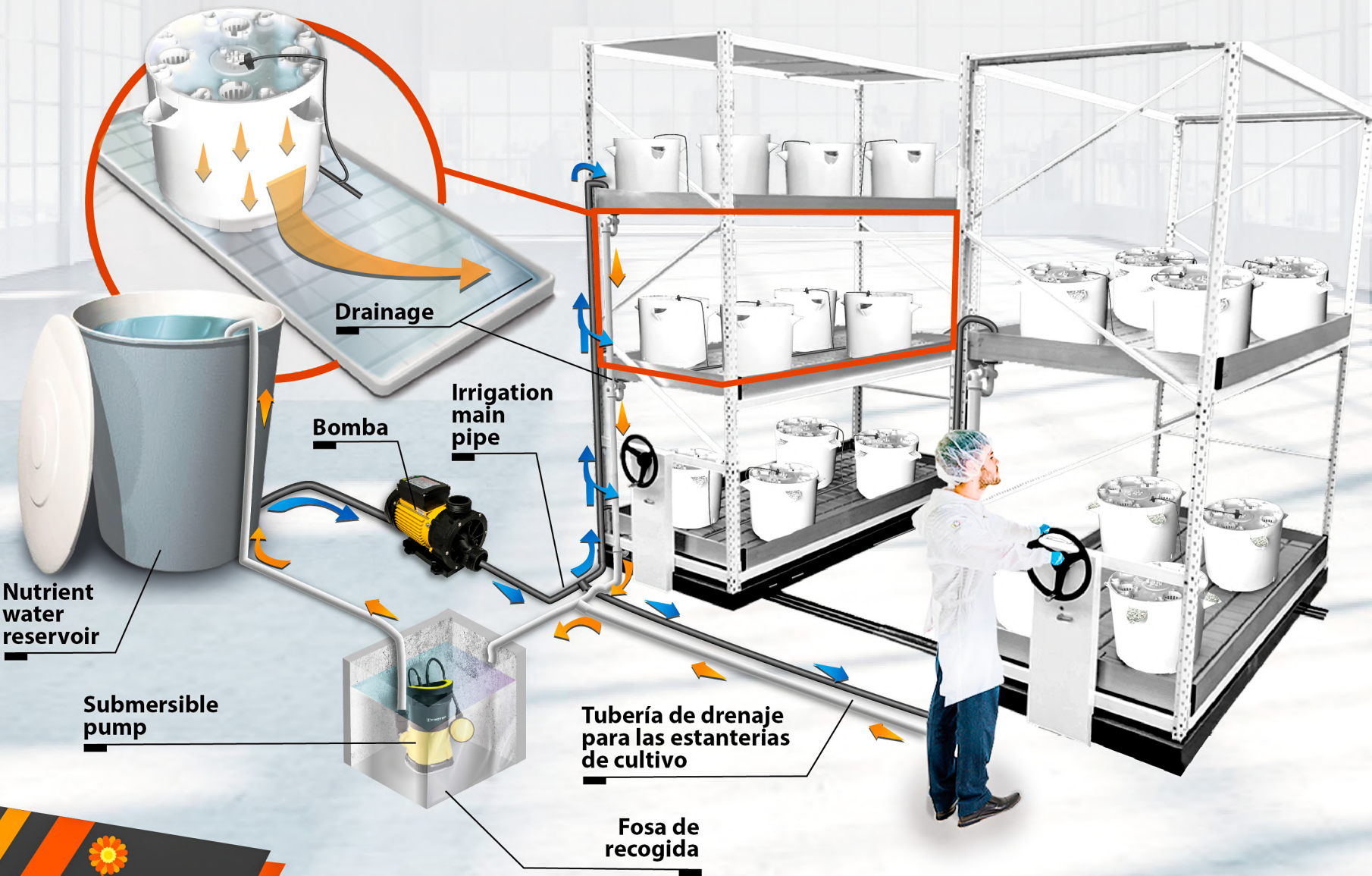
The trays must be connected to a drain that transports the excess water to a main tank.

### STEP 5

The main tank will supply water to the drippers periodically according to our needs.

### STEP 6

Once the cultivation is finished, we will remove the cultivation modules so that they can be planted again and ready for a new subculture.



# 2 HYDROPONIC PLANTING TOWER

This growing option is especially suitable for vertical growth in greenhouses with natural lighting or where we can use support lighting.

With these kits, we can create beautiful hydroponic growing towers that can be raised to the height we need and separated from each other to optimize the entry of light to our plants.

They are composed of the union of the Tank module with several cultivation modules.

The New Garden System Tank module is a very elegant support, but at the same time robust, capable of supporting the weight of all the cultivation modules you need for your project.

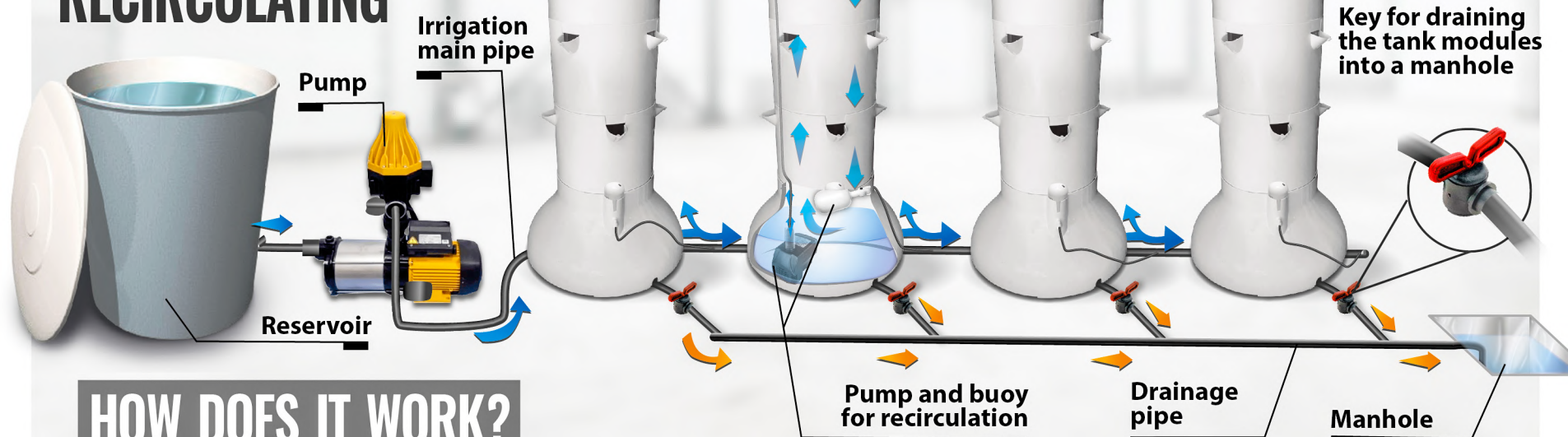
The cultivation module is modular and vertical growth, measures 30 cm high and 30 cm in diameter and is prepared to support 4 plants inside.



## OPTIONS

### OPTION 1

#### INDIVIDUAL RECIRCULATING



#### HOW DOES IT WORK?

The operation is very simple and intuitive:

The tank module will always remain full of water and nutrients thanks to the level buoy that they have incorporated inside and that will be connected to the main pipe, in this way the tank modules will always be full of water and nutrients, allowing the recirculation pump inside it, works correctly.

The deposit modules will be connected through the drainage system to a pipe that will lead the water from the recirculation to a drainage system. In this way, when we want to wash the system and empty the content of the deposits, all we have to do is open the general drainage tap.

The cultivation modules will be placed on top of the tank module and will be stacked one on top of the other until they reach the desired height, building hydroponic cultivation towers that adapt to our needs.

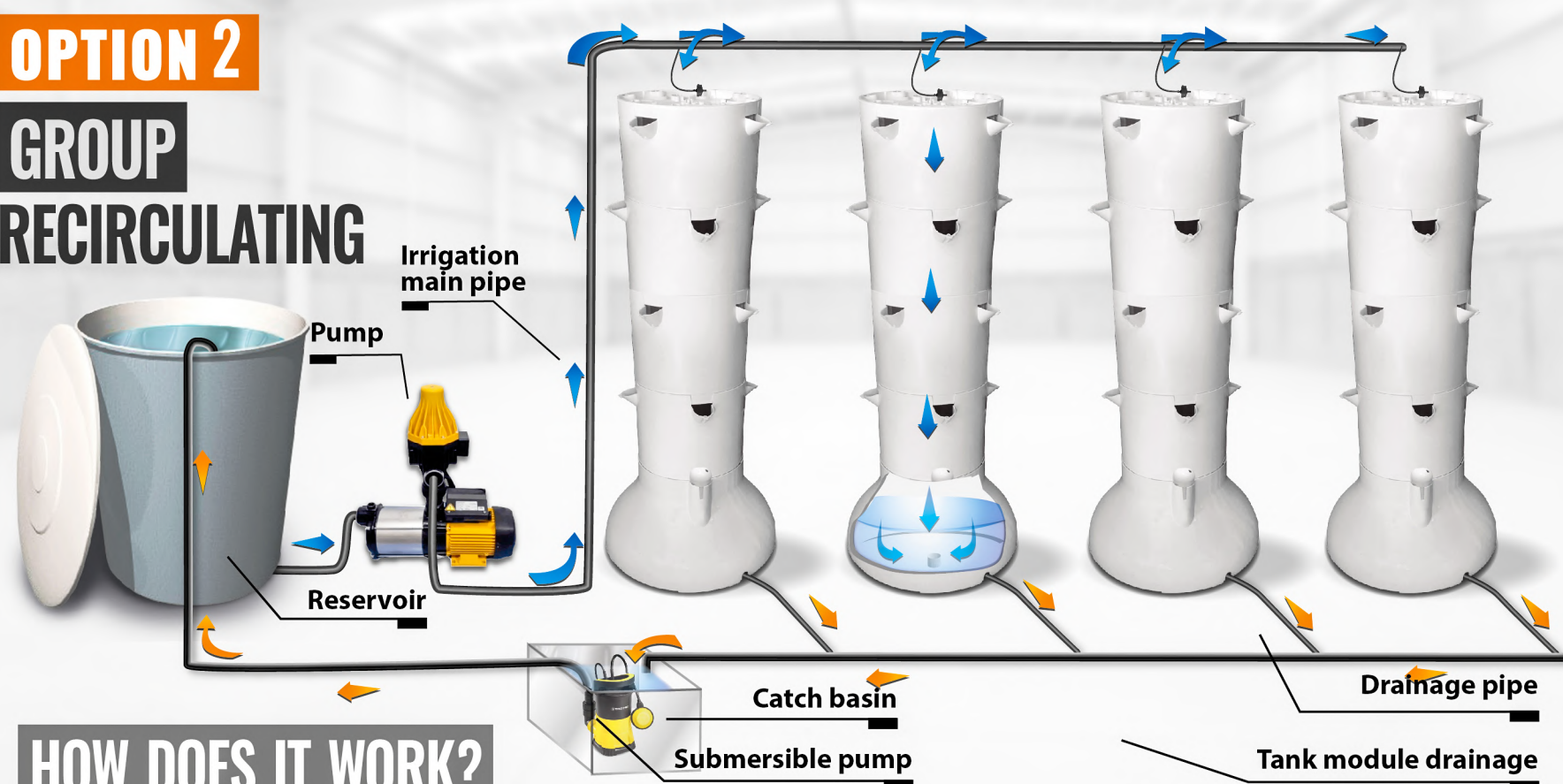
Each tank module will have a recirculation pump that will raise the water to the first planting module (the highest). The pumps installed in the tank are prepared to be able to build cultivation towers composed of a tank module and 6 cultivation modules, reaching a height from the base of the tank to the top of the first planting module of 175 cm and with a capacity to cultivate 24 plants.

#### NOTE

In the event that the client needs to raise the water to a greater height, we can study and budget the project by adapting a pump with a greater pumping capacity to the tank module.

### OPTION 2

#### GROUP RECIRCULATING



#### HOW DOES IT WORK?

In this case, the tank module will act as a support to give stability to the hydroponic growing tower and will be connected to a pipe that will transport the excess water after each irrigation cycle, to the collection pit.

Inside the collection pit there is a pump that will be activated to raise the water to the main tank. The main tank will be in charge of storing the water from the recirculation and will always be full of water.

Fertilizer will be added to the water in the main tank and the pH and EC will be adjusted. The main tank will have a pump at its outlet that will be in charge of pumping water and nutrients to the upper cultivation modules of each tower.

In the upper module of each growing tower we will place one or more drippers until reaching a flow rate of 16 to 25 liters per hour. The water and nutrients will descend from the first module until they reach the reservoir module where the drain is located, which will be connected to the pipe that will transport the water to the collection pit and with this the cycle of recirculating water is completed.



# TECHNICAL DATASHEET MODULES NGS

New Garden System has developed an innovative modular cultivation system. It hardly needs maintenance and has been designed to be very versatile and get the best performance. Our system combines several patents to create a unique cultivation method bringing together several hydroponics cultivation techniques to achieve optimum plant health. Comprised of three main modules (planting - separator - tank) it is highly adaptable to different vertical or horizontal configurations such as columns, orchards, walls or green roofs.



Sustainable



Easy to use  
and install



Greater  
productions



High quality  
material



Very efficient



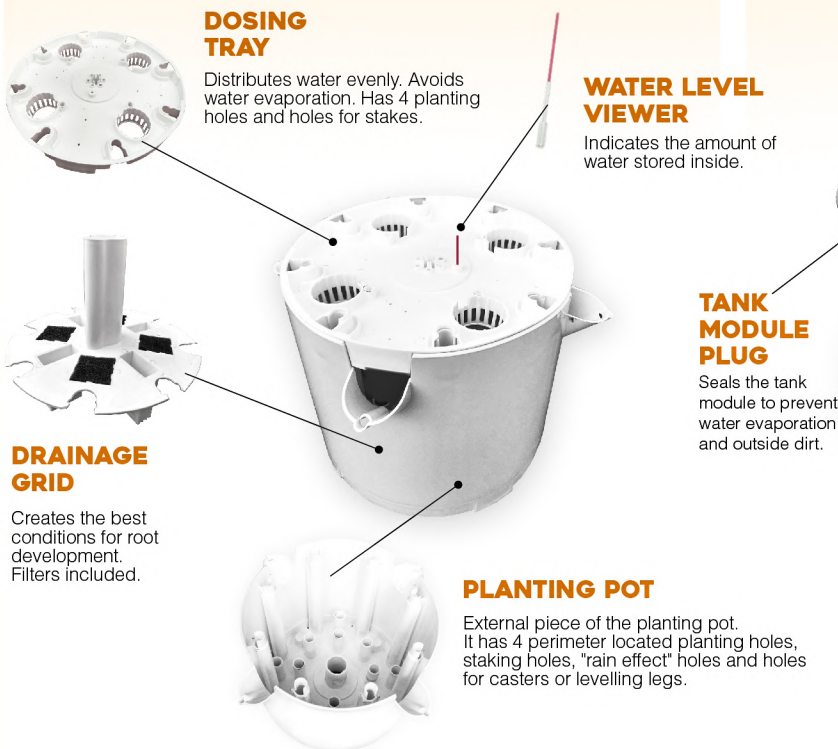
Domestic or  
professional use



Modular

## CULTIVATION MODULE

Comprised of three pieces,  
where the planting is  
carried out.



### DOSING TRAY

Distributes water evenly. Avoids  
water evaporation. Has 4 planting  
holes and holes for stakes.

### WATER LEVEL VIEWER

Indicates the amount of  
water stored inside.

### TANK MODULE PLUG

Seals the tank  
module to prevent  
water evaporation  
and outside dirt.

### DRAINAGE GRID

Creates the best  
conditions for root  
development.  
Filters included.

### PLANTING POT

External piece of the planting pot.  
It has 4 perimeter located planting holes,  
staking holes, "rain effect" holes and holes  
for casters or levelling legs.

## TANK MODULE

Holds the pump and nutrient  
solution. Float valve included.

### FLOAT VALVE

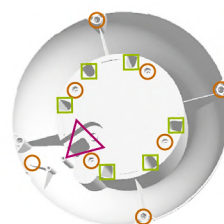
Ensures that tank  
is always full.

### TANK MODULE

Tank module fitted with various  
holes as shown below.

### MODULE BOTTOM

"Birds eye view" of tank  
module with location of  
various holes.



### OPTIONAL

### RECIRCULATION PUMP

Enables automatic watering.  
Not part of basic kit but option.

### Holes for:

- Casters and/or levelling legs
- Biostructures: Multiple NGS  
planting modules stacked to  
create vertical gardens.
- ▲ Drain (with plug)

| MODULES     | HEIGHT<br>(in) | DIAMETER<br>Ø (in)                     | VOLUME<br>(gal)                 | WEIGHT<br>(lb) | PALLET             |                    | CONTAINER      |                |
|-------------|----------------|----------------------------------------|---------------------------------|----------------|--------------------|--------------------|----------------|----------------|
|             |                |                                        |                                 |                | (43 x 43)<br>Units | (39 x 47)<br>Units | 20'<br>Pallets | 40'<br>Pallets |
| CULTIVATION | 10.6           | 11.8                                   | Total.....4.8<br>Sustrato...2.9 | 6              | 63                 | 72                 | 10             | 20             |
| TANK        | 10.6           | Superior.....11.8<br>Inferior.....20.5 | Total.....4.8<br>Agua.....4     | 7              | 28                 | -                  | 10             | 20             |



### MADE IN EUROPE

Designed, patented  
and produced in Europe

### COMPOSICIÓN

Polypropylene with  
UV treatment

### HS-CODE

3926.90

## Applications



### Farming

- Domestic agriculture
- Professional agriculture



### Decoration

- Outdoor landscaping
- Interior design
- Bioconstructions



## What you should know?

- ◆ It needs to be used with **perlite substrate**.
- ◆ **Watering** can be performed manually or automatically with timer equipped pump/drip.
- ◆ Accessories such as **casters, levelling legs, stakes and/or decorative bands** can be installed.
- ◆ The Automatic Watering;
  - ◆ Requires **pump and timer** (electricity).
  - ◆ It's recommended to **add external water deposit** to increase irrigation autonomy.
- ◆ Modules can be stacked up to 4 yards height using the **bioconstructions** holes.
- ◆ There is **no maximum stacking height**