



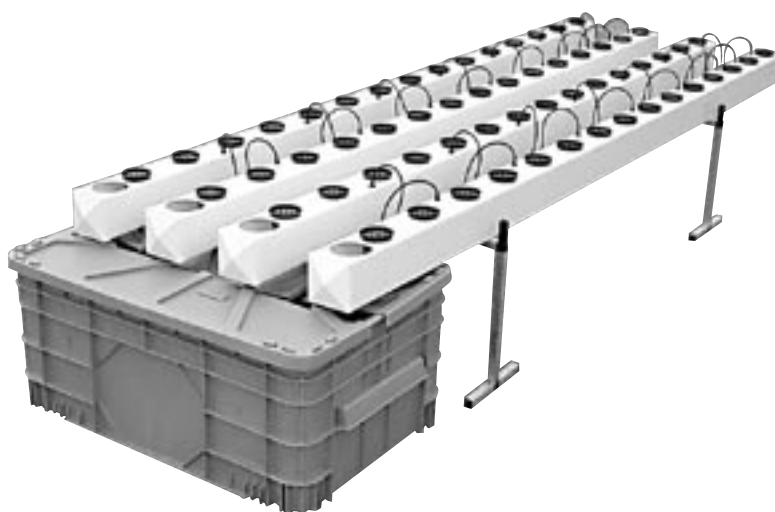
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# The AeroFlo 60 L™

***Thank you for purchasing an AeroFlo 60 «B»\*.***

***The AeroFlo is the highest quality growing system in our industry. It is designed to allow optimal oxygenation of the nutritive solution as well as maximum growth for your plants. It is the ideal system for beginners and professionals alike.***

***In January 1998, the AeroFlo was selected by the Cité des Sciences (Science museum) in Paris to be presented in their exhibition «Greenhouses: Gardens of the Future», a permanent window on the most efficient growing modules in modern agriculture.***



60 plants  
L = 290 cm, l = 140 cm, H = 32 cm

**To operate your system successfully:**

- ⌘ Always clean your system thoroughly between crops. See «cleaning between crops».
- ⌘ Get a water analysis from your local water company: to use the fertilizer best adapted to your water (hard or soft), it is important to know it's content.
- ⌘ Keep the water temperature under 24° C. Ideally between 16 - 20 °C. For your cuttings, always keep it between 22 & 24°C. Never under 22°C !
- ⌘ Give your plants good lighting, excellent ventilation and adequate humidity (65 - 70 %)
- ⌘ If you have questions about your water or about the development of your crop, please don't hesitate to contact us. We guarantee a free technical support and advice to all our customers.

**Bringing Nature and Technology Together**

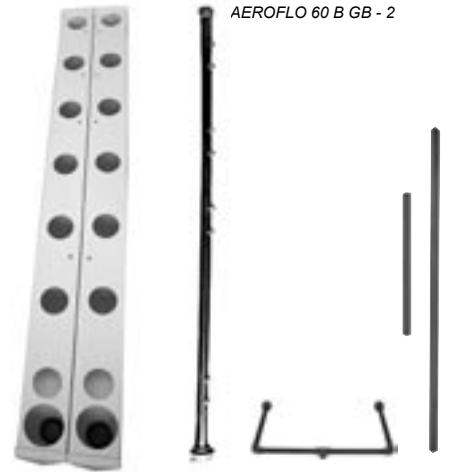


## DESCRIPTION

- A 1 Reservoir (200 L) and 2 cover in 2 parts
- B 4 3 m growing chambers (2 left and 2 right)
- C 2 3 m distribution lines
- C1 1 connection tubing for manifold
- D 2 aluminium cross bars + 4 side bars, for support structure
- E 1 Pump
- 1 **Large plastic bag containing :**
  - F 1 connection tubing (manifold to pump)
  - G 4 overflow tubes (Ø 50)
  - H 32 x 4,6 mm preassembled spaghetti tubing
  - I 32 red injectors (*new model reduces clogging*)
  - J 2 bags with silicone grease
  - K 16 connectors for support structure
  - L 8 small bars and caps for support structure
  - M 60 net pots Ø 7,5 cm
  - N CocoTek pots and linings (samples)
- O 1 Flora-series 1L
- 1 Detailed instructions



A



B

C

C1

D



E



F

G

H

I

J

K

L

M

N

O



## UNPACKING:

Check the packing list and familiarize yourself with the parts.

## LOCATION:

Plants can be grown almost anywhere using an AeroFlo. Greenhouses, patios and indoors under lights are wonderful locations. It can be installed anywhere there's warmth, light and fresh air. Choose a clean and level place to set up your system. Before assembling your system, choose the right space as leaks may always happen !!!.

## ASSEMBLY

The AeroFlos are easy and fast to assemble.

**Step 1 – The support system :** (designed to carry up to 300 kg/m<sup>2</sup>, it ensures top stability).

Assemble the aluminium tubing with the parts and connectors (D + L + K) . Use a small mallet if needed. (fig. 1)

Notice the tees (K) at the upper corners. They allow you to add a vertical structure to hang lights and yo-yos, or to build a protection frame.

**Step 2 – The reservoir :**

Place the reservoir (A) and the stands at a sufficient distance so that you can place the growing chambers properly. (fig 2). Place the largest cover to the back of the reservoir, leaving the opening to the front.

**Step 3 – The manifold:**

Assemble the distribution lines (C) and the connecting tubing (C1) and place on the reservoir and the stands (fig. 3). Introduce the spaghetti (H) into the distribution lines in a staggered way (fig. 3 & 4)

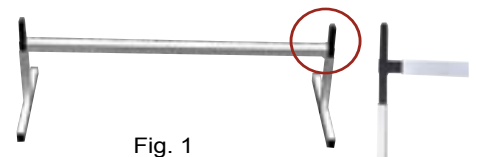


Fig. 1

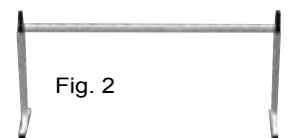


Fig. 2



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Fig. 3

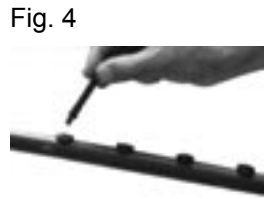


Fig. 4



Fig. 5

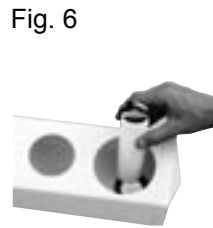


Fig. 6



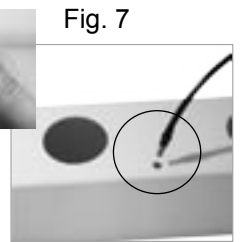
Fig. 6 bis



Fig. 6 ter



Fig. 7



#### **Step 4 – The pump :**

Assemble the pump and its connecting tubing (E+F). Place the pump at the bottom of the reservoir. Connect to the distribution line (Fig. 5).

**Notice :** leave electric plugs far from the water at all times! To prevent your pump from burning, never let it run while sucking air or when your system is empty.

#### **Step 5 – The growing chambers :**

- Introduce the overflow tubes (G) in the access holes in the chambers. To make things easier, spread silicone gel (J) around the overflows, then gently introduce them in the hole at the bottom of the chambers, making sure you don't undo the rubber grommets (fig. 6, 6 bis, 6 ter). Use the strap on the overflow to regulate the level of solution in your chambers.
- Place the chambers on the system leaving the overflow tubing to hang into the opened part of the reservoir. Then add the second cover so that your overflows are in between the 2 covers (see photo page 1).
- Introduce the injectors in the spaghettis, and the spaghettis into the chambers (fig. 7).

**Notice :** if the grommet on the chamber did come unglued, it is imperative to glue it back with silicone glue to secure the chambers from leaking. Indeed, in case of power failure, these parts will keep the solution in the root zone until electricity is restored.

## **START UP**

Your AeroFlo is now ready. The next step is to fill it with nutritive solution with adjusted pH, add a pinch of Mineral Magic (to prevent from disease and stabilise pH), and connect your pump. You are ready to grow.

As soon as your system starts running verify that all connections are tight enough to prevent leaks.

***A precious advantage in case of power failures:***

***Unlike most systems, the AeroFlo will keep the nutritive solution in the chambers preventing the plant from suffering or dying until electricity is restored.***

## **FILLING AND SYSTEM CAPACITY**

Before filling your system it is essential to know its capacity. Another advantage to the AeroFlo is that it secures a sufficient water supply to your plants, without using too large a reservoir. This is why it is important to fill it and empty it taking a few precautions.

1 - Fill your reservoirs first then start the pump to fill the chambers.

2 - When the chambers are full continue filling 2/3 of the reservoirs, not more: if there was a power failure or if you use a timer to run the system only during the day, the reservoirs will need to collect the water surplus without overflowing.

***Important:*** To empty the system start with the reservoirs first. Then empty the chambers one by one after pulling out the overflow tubes. (see § Cleaning the System).



**Low and high levels**

Each growing chamber holds

Low level

12 L

High level

24 L

Effective capacity or the reservoirs : 160 L

Total capacity of the AF56 B : 208 L «low level», and 256 L «high level».

***For cuttings and seedlings, the chambers must be full enough so that the bottom of the pot hangs into the solution and the clay pebbles stay damp. As the roots grow, press the overflow tubing down creating an empty space between the bottom of the pot and the nutritive solution. This increases the oxygen level in the chamber while preventing excess humidity in the net pot itself.***

**GROROX / HYDROCORN.**

Clay pebbles are a clean substrate, reusable and recyclable. Well chosen, they are one of the components of your success. Before using Grorox, it is important that you wash off all dust and residues. There are different kinds of rocks, the best ones have neutral pH.

After many years of good results working with Grorox, we recommend that you always check your rocks' pH. Put some pebbles in a glass of distilled water. Stir well and let it rest. Measure the pH. If it is high (7 or higher), soak them overnight in an acidic solution (use our pH Down). Then rinse thoroughly to wash the acid off and remove any sand or other particles. If it is neutral, soak them in plain tap water and rinse well.

A great advantage using Grorox is that it is reusable after each crop. You only need to wash them well to remove all organic debris. Between crops, specially if you had a disease or an insect infestation, it is recommended to disinfect the pebbles well. Soak them in pH Down overnight and rinse thoroughly, or, if you only have a small amount, simply boil them for a short while.

Another big advantage is that, unlike rockwool today submitted to European pollution regulations, Grorox are totally harmless to our environment.

**THE NUTRITIVE SOLUTION**

In hydroponics it is important to you know your water quality. Water analysis are available at your water company. If you need help interpreting the data, please call your supplier or contact us directly, we will be happy to help you.

If your water is too hard use our hard water formulas. For your cuttings and in small units like the AquaFarms, the WaterFarm or the CuttingBoard and the RainForest, you can mix 50% tap water and 50% distilled or rain water.

Flora-series (FloraGro, FloraMicro, FloraBloom) and One Part (Total Gro, Total Bloom) are available for best growth. They are both exhaustive formulas, constantly updated to the latest scientific discoveries. They need no booster nor additive to give you the most amazing crops. You will find detailed application charts on the labels, for easy use.

Other products are available to help you maximize your results even more: Diamond Nectar, Ripen, Mineral Magic and the pH regulators in liquid or powder form.

Flora-series™ was specially designed to allow you to closely monitor your plant's growth. The following formula is one favored by many growers, in BC (Canada), in the US, and in Australia. It is used for fast flowering annuals with amazing results on crop quantity and quality:

	FloraGro	FloraMicro	FloraBloom
<b>Cuttings and seedlings</b>	2	2	2
<b>Vegetative growth</b>	3	2	1
<b>Flowering and fruiting</b>	1	2	3

***These proportions are used to mix nutrient solutions in the following EC range:***

<b>Cuttings and seedlings:</b>	<b>0.4 to 0.8 EC</b>
<b>Vegetative growth:</b>	<b>1.0 to 1.3 EC</b>
<b>Flowering and fruiting:</b>	<b>1.0 to 1.8 EC</b>

Last days before harvest: add plain water with adjusted pH, without nutrients, or use Ripen. This range is a starting solution in hydroponics. Use an approximate 1/4 strength dilution for topping off".

In soil, use only 1/2 strength and apply every other watering.

Before mixing, adjust your water to a pH of 5.5 to 6.5. After mixing, readjust if needed.

*Important notice: At all times, and specially when your plants are growing rapidly, verify your pH levels regularly.*

***For measuring, use a ml graduated syringe, but if you can't, it is easy to use the cap of your 1liter bottles: Example: 1 cap = 10 ml.***

***For 20 Liters of pure water :***

***1 cap Gro + 2 caps Micro + 3 caps Bloom = 1.00 to 1.50 EC, depending on water quality***

***Important notice: To allow a balanced distribution of nutrients in your solution, add your fertilizers in the system through the round access hole, on the side reservoir.***

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Our nutrients are extremely concentrated. Very little is needed for your crop:  
To avoid precipitations when you mix your solution, make sure to rinse your measure after pouring each component and never mix the components together.

## MAINTENANCE

***Note: City water being often rather hard, it is recommended to change your solution regularly according to your plant's growth. Between waterings don't hesitate to irrigate with plain tap water with adjusted pH.***

For cuttings, seedlings, and young plants, change the solution every 3 weeks. For adult plants, it is best to change it every 15 days and even more often if you wish to keep your solution at top efficiency.

## CLEANING THE SYSTEM

To avoid disease and get the best out of your system, keep your growing area clean at all times.

Between crops, clean well and you will avoid clogs and infestations.

Choose a day when your nutritive solution is very low in the system. Stop the pump and let as much the solution as possible drain down - in the reservoirs as described under «Filling and System Capacity».

Don't throw the water as you can add it (cut with water and adjusted pH) to irrigate your soil potted plants.

Empty your chambers, take out the pots, shake the rocks away from the roots and place them in a container, as you will wash them and use them again. Wash each chamber thoroughly. Undo the pump, rinse it well and clean the filter.

Take the manifold apart, clean the spaghetts thoroughly, flush debris out with a hose or under a strong flow of water. If needed (in case of disease or pest infestation), fill your system with water and an acidic solution (pH Down) and let it run for an hour to disinfect. Then rinse all parts thoroughly.

If you use Chlorine, rinse thoroughly to remove all traces of bleach and let it rest overnight to let the Chlorine evaporate completely before you start a new crop

If needed it is easy to unplug the caps at the end of your chambers . They are attached with plumbing silicone and easy to remove. To glue them back use the same product (easy to find in any drugstore).

## TROUBLESHOOTING

1 - In summer, when using lights in an enclosed space, and in order to avoid extreme temperatures, you could turn your lights on at night and take advantage of the cooler air.

Your nutrient solution should be kept as cool as possible, ideally around 18 ° C. As much as possible, do not let it exceed 24 ° C. The hottest days are a good time to turn off your room, clean it thoroughly and wait for a cooler season ...

2 - The grow area should be well ventilated. Outside weather allowing, continuous ventilation will eliminate excess humidity and bring in the much-needed CO<sub>2</sub> to your plants. Generally keep your humidity level around 65 - 70%. Circulation fans will homogenate the air in the room, eliminating pockets of hot, humid air.

3 - If plants are not growing well and you suspect "hard water":

1. IT IS IMPORTANT TO GET A WATER ANALYSIS FROM YOUR WATER COMPANY.
2. Collect rainwater or try distilled or purified water. You should see significant improvement within one week.
3. Inquire about our Hard Water formulas.

**General Hydroponics guarantees technical support and advice. If you have questions on your plant's growth or on the way our systems and nutrients work, please call, fax, or send us an E-mail.**

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