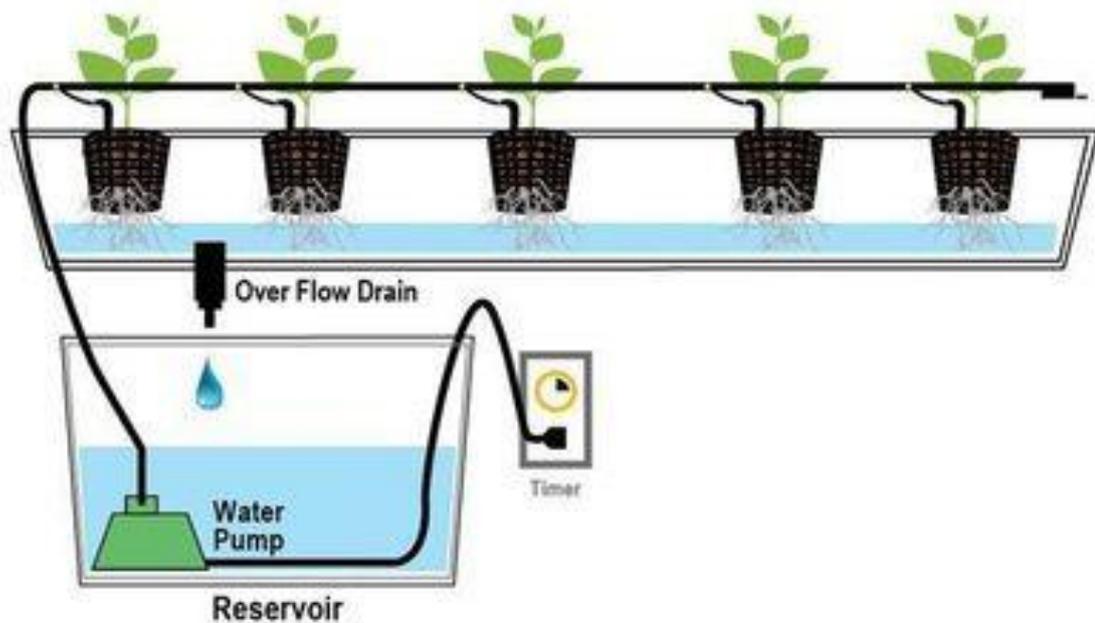


How hydroponics works

Hydroponic systems work by allowing minute control over environmental conditions like temperature and pH balance and maximized exposure to nutrients and water. Hydroponics operates under a very simple principle: provide plants exactly what they need when they need it. Hydroponics administer nutrient solutions tailored to the needs of the particular plant being grown. They allow you to control exactly how much light the plants receive and for how long. pH levels can be monitored and adjusted. In a highly customized and controlled environment, plant growth accelerates.

Hydroponics is clean, so it adapts easily to indoor culture, but may also be used outdoors and in greenhouses.



Components of a hydroponic system

➤ **Growing media**

Hydroponic plants are often grown in inert media that support the plant's weight and anchor its root structure. Growing media is the substitute for soil, however, it does not provide any independent nutrition to the plant. Instead, this porous media retains moisture and nutrients from the nutrient solution which it then delivers to the plant.



➤ **Nutrient Reservoir**

The nutrient reservoir is where the nutrient solution is kept before it is fed to the plants. It is usually an old fish tank, or a large plastic container, that can hold large quantities of water.

➤ **Delivery System**

The plants need to access the nutrient solution, and it is the job of the delivery system to feed the plants. The plants are grown in what is known as a grow tray, or grow chamber. The majority of hydroponic systems keep the grow tray separate from the nutrient reservoir.



➤ **Air stones and air pumps**

Plants that are submerged in water can quickly drown if the water is not sufficiently aerated. Air stones disperse tiny bubbles of dissolved oxygen throughout your nutrient solution reservoir. These bubbles also help evenly distribute the dissolved nutrients in the solution.

