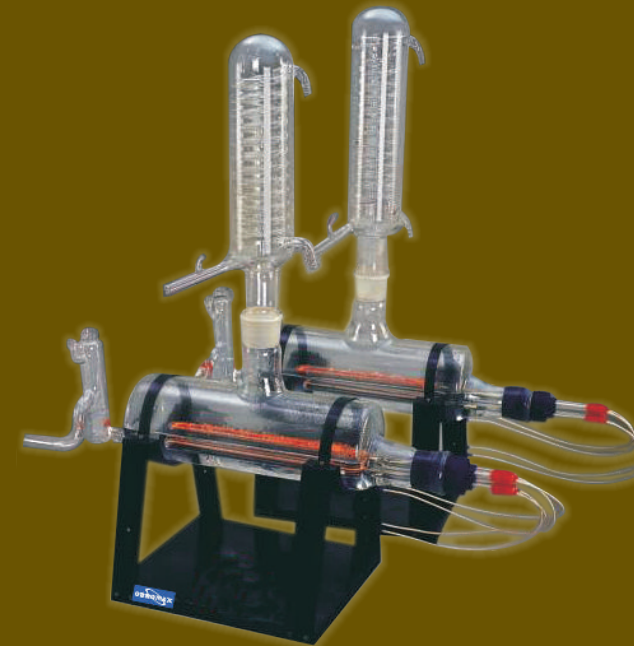




# Distillation Apparatus

# Distillation Apparatus



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Distillation is a water purification process that uses a heat source to vaporize water and separate it from contaminants and other undesirable elements commonly found in ground and surface water. Distillation heats raw (untreated) water until the water reaches its boiling point and begins to vaporize. The heat is then kept at a constant temperature to maintain water vaporization while prohibiting other undesirable elements from vaporizing. Water has a lower boiling point than salt and other mineral sediments. This process also separates the water molecules from microscopic, disease-causing organisms. Once all of the water has vaporized, the vapor is led into a condenser, where, upon cooling, the water reverts to the liquid form and runs into a receiving container. The remaining elements, whose boiling point was too high to permit vaporization, remain in the original container and constitute the sediment (Holland, Siqueiros, Santoyo, Heard, & Santoyo, 1999). Because the distillation process can never ensure a complete separation between water and other materials, it is often repeated one or more times with the treated water. Many alcoholic beverages, like brandy, gin, and whiskey, are distilled, using an apparatus similar in constitution to the water distillation apparatus.

Throughout history, people have experiment with the use of solar power in distillation (Holland et al, 1999). Because of the cost of a heating source to initiate the distillation process, solar power seems an efficient and environmentally friendly alternative to traditional power. Though solar power can be effective for distillation purposes, it works only with relatively small amounts of liquid. Also, the time required for multiple distillations is much greater when relying on

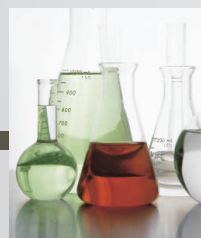


solar power than when using traditional power sources. Distillation Apparatus

We supply distillation apparatus. The glass Distillation has a elegant design. The unit is very economical. The special features of distillation apparatus are as under :

### Special Features

- Sufficiently more output: The Still yields an output of 4 Ltr/hr-distilled water for a Power consumption of 3kw Single Phase through a metal heater (chromium plated), which is mounted inside a horizontal Glass Boiler.
- The output temperature of the Still is 30 deg C to 40 Deg C (approx) which is taken care by efficient cooling by coiled Borosilicate condenser.
- The unit has two portions, one Boiler and the other Condenser.



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- The unit is mounted on a sturdy metal stand.
- The Boiler is provided with TEFLON screw cork for easy cleaning of the boiler.

**Quality of Distillate:** Best for general laboratory usage.

- The Conductivity of Water is Approx. 1.5 to 25 M-cm pH 5-6 pyrogen free
- The above quality of distillate is obtained by using treated water as boiler feed.
- All rubber tube connections can be made with threaded connectors.

### Special Features:

- Sufficient output: The Still yields an output of 1.5 Ltr/hr of distilled water for a power consumption of 1.25 kw Single Phase through a Silica heater which is mounted inside a horizontal Glass Boiler.
- The output temperature of the distillate is 30 deg C to 40 deg C (approx) which is taken care by efficient cooling by coiled Borosilicate condenser.
- The unit has two portions, one Boiler and the other Condenser.
- The unit is mounted on a sturdy metal stand.
- The Silica heater is provided with B29 silicon rubber sleeves which makes the cleaning of the Boiler easy.
- The Boiler can be cleaned with water as well as with acids for

maintenance, which is an advantage of Silica heater.

- The above quality of distillate is obtained by using treated water

### Technical Specifications

- OB-1: 1. Measure of Water Flow: 1800ml/h  
2. Heating Power: 1.5KW  
3. Power Voltage: AC 220±10% 50HZ

- OB-2: 1. Measure of Water Flow: 1600ml/h  
2. Heating Power: 3.0KW  
3. Power Voltage: AC 220±10% 50HZ

- OB-3: 1. Measure of Water Flow: 1500ml/h  
2. Heating Power: 4.5KW  
3. Power Voltage: AC 220±10% 50HZ



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