



## Water Still - Quartz

### "EFFECTLAB - India" Quartz Mono Distiller (SGB.127.01)

Supply of pyrogen free distilled water is a basic requisite for Research, Analytical & Industrial Laboratories.

"EFFECTLAB - India" Mono Quartz Distillers are very compact and are made out of high purity fused quartz tubing. These distillers provide distilled water free from metallic ions and bacteria.

#### Description of Apparatus

The boilers are of high purity quartz & condensers are of either Borosilicate glass or Quartz. The built in heaters provide for minimum loss of heat and production of distilled water is achieved within 2 to 3 minutes. The units are mounted on powder coated metal stands with electrical connections and are very easy to assemble and dismantle in the event of any maintenance. Fiber glass insulated wires and silicone rubber boots withstand high temperatures.

#### Advantages

- Distilled Water Output is immediate.
- Pyrogen free, free of heavy metals.
- Efficient Borosilicate or Quartz condenser.
- Can be easily converted into bi-distillation apparatus.
- Automatic cut off facility in case water falls below the heating coil.
- Powder coated metal stand for rust free operation.

#### SPECIFICATIONS

| Type                                   | .01                             | .02                               | .03                               | .04                          |
|--|---------------------------------|-----------------------------------|-----------------------------------|------------------------------|
| Model No.                              | SIQMD 1 L                       | SIQMD 2.5 L                       | SIQMD 5 L                         | SIQMD 10 L                   |
| Distillate Water Output Cap. (Approx.) | 1 lt/hr.                        | 2.5 lt/hr.                        | 5 lt/hr.                          | 10 lt/hr.                    |
| Electrical Requirement                 | 230-250 volts Single Phase 1 kw | 230-250 volts Single Phase 2.2 kw | 230-250 volts Single Phase 4.4 kw | 440 volts Three Phase 7.5 kw |
| Cooling Water consumption (Approx.)    | 30 lt/hr.                       | 50 lt/hr.                         | 70 lt/hr.                         | 130 lt/hr.                   |
| Biological Activity                    | Pyrogen Free                    | Pyrogen Free                      | Pyrogen Free                      | Pyrogen Free                 |
| Ph                                     | 6 - 7                           | 6 - 7                             | 6 - 7                             | 6 - 7                        |
| Conductivity S / cm                    | < 3x10 <sup>-6</sup>            | < 3x10 <sup>-6</sup>              | < 3x10 <sup>-6</sup>              | < 3x10 <sup>-6</sup>         |

The above results are obtained using soft water. Use of water softener is strongly recommended to prevent scaling in boiler and also to obtain a high quality distillate.

Distillers which have both boiler and condenser made out of quartz provide distilled water which is boron free and conductivity less than < 2x10<sup>-6</sup> S / cm.

### "EFFECTLAB - India" Quartz Double Distiller (SGB.127.02)

A supply of very pure water is basic requisite for many Research, Analytical & Industrial Laboratories. Moreover, the material to fabricate Distillation apparatus and storage vessels should be chosen so as to avoid diffusion of contamination into the Distillate.

"EFFECTLAB - India" Quartz Distillation Units are manufactured from Imported fused Quartz Tubes. The exceptionally high chemical purity and very low solubility of this material enable the production of very high performance system. The greatest possible attention has been



paid to technical performance, simplicity of use and efficiency.

## Description of Apparatus

The unit consists of Primary Boiler with a built in heater enclosed in a Quartz coil, Leveling tube with overflow tube and Bottom outlet tube. The Primary Boiler has a 'O' Ring groove at the top on which a Silicone 'O' Ring sits. The Secondary Boiler with condenser unit is mounted on the Primary Boiler.

A double wall condenser ensures separate condensation of vapor coming from the two Boilers using a single cooling circuit. The whole unit is mounted on powder coated stand with Electrical Terminals for easy connection to either to the mains or DAPS (Distillation Apparatus Power Supply). The bottom outlet is connected to a 'T' joint of which one limb is connected by a rubber tubing & pinch cock for cleaning sediments in Primary boiler by acid wash and other limb to water level controller of 'DAPS'.

## DEMOUNTABLE MODEL

In view of Calcium & Magnesium deposits occurring in Primary Boiler and the difficulty involved in cleaning these deposits, made us to think of designing the Apparatus, so that the Primary Boiler could be easily dismantled for easy cleaning of Calcium & Magnesium deposits.

## INNOVATIVE DESIGN

The Primary Boilers is being provided with a 'O' Ring which acts as a cushion on which Secondary Boiler and condenser unit is mounted.

## DEMERITS IN OTHER BRANDS OF DISTILLERS

The Distillers available in the market provide either glass flange with clamps or glass ball and socket connection. Glass connections are liable for breakages. The Calcium & Magnesium deposits forms around the ball joint, thereby freezing the unit. The steam leaking at Ball joint is a very common feature in other brands.

Silicone Rubber Boot & Fiber glass insulated Electrical connections withstands higher temperature and long lasting compared to Rubber boot & PVC insulated wire provided by other manufacturers.

## NEW CONDENSER UNIT

The condenser unit is modified to have both water inlet and water outlet at the top of the unit. This design is provided for repairing of the unit easily. An additional cooling column provides larger cooling surface area for Primary Boiler avoiding uncondensed steam escaping at the top.

## Advantages

- Pyrogen free, free of heavy metals.
- Instant distill water flow.
- Automatic cut off facility in case water falls below heating coil.

## SPECIFICATIONS

| Type                                   | .01                            | .02                             | .03                               | .04                          |
|--|--------------------------------|---------------------------------|-----------------------------------|------------------------------|
| Model No.                              | SIQDD 1 L                      | SIQDD 1.5 L                     | SIQDD 2.5 L                       | SIQDD 5 L                    |
| Distillate Water Output Cap. (Approx.) | 1 It/hr.                       | 1.5 It/hr.                      | 2.5 It/hr.                        | 5 It/hr.                     |
| Electrical Requirement                 | 230-250volts Single Phase 2 kw | 230-250 volts Single Phase 3 kw | 230-250 volts Single Phase 4.4 kw | 440 volts Three phase 8.8 kw |
| Cooling Water consumption (Approx.)    | 50 It/hr.                      | 60 It/hr.                       | 100 It/hr.                        | 150 It/hr.                   |

# Effective Laboratory Supplies



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# CHEMISTRY

| Biological Activity | Pyrogen Free | Pyrogen Free | Pyrogen Free | Pyrogen Free |
|---------------------|--------------|--------------|--------------|--------------|
| Ph                  | 6.9 - 7      | 6.9 - 7      | 6.9 - 7      | 6.9 - 7      |
| Conductivity S / cm | < 1x10-6     | < 1x10-6     | < 1x10-6     | < 1x10-6     |
| Distillate Temp.    | 75 - 80oC    | 75 - 80oC    | 75 - 80oC    | 75 - 80oC    |

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The above results are obtained by using soft water. Use of water softener is highly recommended to prevent scaling in boiler and also to obtain a high quality distillate. Since double distilled water is a weekly buffered solution, it is difficult to find Ph.



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