

## **Distillation Unit (for Distilled Water)**

### **Principle:**

Water is purified by **boiling and condensation**. Impurities remain in the boiling chamber, while vapors are condensed to obtain distilled water.

**Heating Source:** Electric heater

**Condenser:** Water-cooled (glass / stainless steel)

**Output:** Distilled water

**Capacity:** \_\_\_ L/hr (model dependent)

### **Standard Operating Procedure (SOP)**

#### **1. Pre-Operation Check**

- Ensure unit is clean
- Check water inlet and condenser connections
- Fill boiling chamber with raw water up to required level

#### **2. Instrument Start-Up**

- Switch ON cooling water supply
- Switch ON main power supply
- Switch ON heater

#### **3. Distillation Process**

- Allow water to boil
- Vapors pass through condenser
- Collect condensed distilled water in clean container
- Discard initial few milliliters

#### **4. During Operation**

- Monitor water level in boiling chamber
- Ensure continuous cooling water flow
- Avoid overheating

#### **5. Instrument Shutdown**

- Switch OFF heater
- Switch OFF power supply
- Stop cooling water
- Allow unit to cool
- Drain remaining water and clean unit

### **Applications**

- Preparation of distilled water
- Pharmaceutical & herbal drug preparation
- Laboratory reagent preparation
- Analytical & research work

**Precautions**

- Never operate without water
- Ensure proper earthing
- Do not block condenser outlet
- Use clean collection vessel