

Hot Air oven.



- An oven provides a temperature higher than that of Atmosphere.
- The temperature range covered by ovens is between 50-250 °C.
- These are used for rapid evaporation of materials, rapid drying & for sterilization of articles that can be dry heat.
- Higher temperatures than moist heat sterilization.

* Principle :-

Sterilizing by dry heat is accomplished by conduction. The heat is absorbed by the outside surface of the item, then passes towards the centre of the item, layer by layer. The entire item will eventually reach the temperature required for sterilization to take place.

* Working :- Time Temperature :-

- 170 °C (340 °F) For 30 minutes
- 160 °C (320 °F) For 60 minutes &
- 150 °C (300 °F) For 150 minutes or longer depending up the volumes.
- Used for glassware forceps, swabs, water impermeable oils, waxes & powders.

* Before placing in hot air oven :-

- dry glassware in completely
- plug test tubes with cotton wool
- wrap glassware in kraft papers.

* Quality control :-

* Advantages :- it penetrates materials.

- it is nontoxic & does not harm the environment

* Disadvantages :- Time consuming method because of slow rate of heat penetration. & microbial killing

- High temperatures are not suitable for most materials.

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