

Study of some equipments Spirit lamp, Inoculation Loop, Hot Air Oven, Laminar Air Flow (LAF) and Incubator



By

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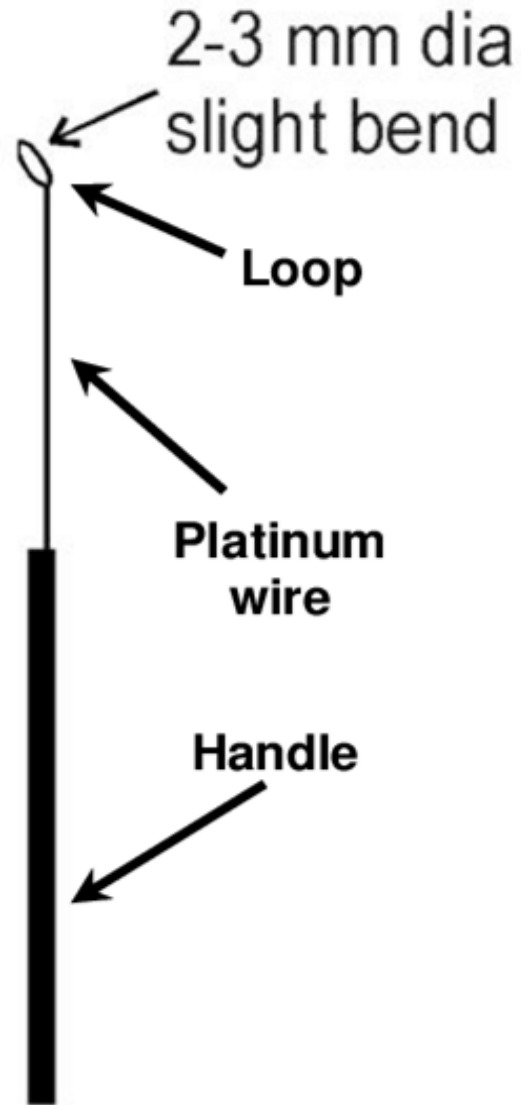
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Spirit Lamp



- Alcohol lamp
- Used for heating , sterilization and combustion.
- Ethyl alcohol or spirit used as a fuel.
- Used to produce open fire.
- Made of glass, brass, aluminum.
- Chemical or biological reaction need to heat to get desired product.
- Flame is limited i.e. (5 centimeters) in height.
- Lower temp. than glass flame.
- Flame sterilization of laboratory equipments.

Inoculation Loop



- Aseptic transfer.
- Loop consists of insulation Handle.
- screw device at the top.
- Heat resistance nichrome or platinum wire.
- Approximately 3 inch long.
- Wire end is bent round to form a loop.
- It sterilized by using heating or flaming until it is red hot.
- Loop mainly used transfer(sub culture) form liquid culture.

Hot Air Oven



- Used for Sterilizing.
- glassware, petri dishes, test tube, pipettes, metal instrument.
- Consist of isolated cabinet which held at a constant temp.
- Sterilization completed 150 – 180 c for 2-4 hrs.
- Fan fitted in hot air to circulating at a constant temp.
- Normal sterilization at 160 0C

Laminar Air Flow



- Its allowed to working for long period.
- Made up of stainless steel with no gaps or joint.

PRINCIPLE – based on flow of current to create uniform velocity along parallel line, which helps in transforming microbial culture in aseptic condition to avoid the dust and contamination.

- Working - filter pad a fan and HEPA filter (High Efficiency Particulate Air)

Fan suck the air through the filter pad where dust is trapped



Prefiltered air has to pass the HEPA filter where contamination fungi, bacteria, dust are removed



Ultraclean air which is free from fungal & bacterial contamination flows at the velocity of about 27 ± 3 m/minute through work area



UV lamp is fitted in working area



Before starting work, LAF is put on for 10 – 15 minute.

Incubator



- Similar to oven in contraction and consists of an insulated cabinet.
- Heating element at the bottom.
- Temperature is maintained at the desired level called as thermostat.
- Double door inner door inner most is made up of glass.
- Incubator is used for the incubation, i.e culturing of microorganisms at a constant temperature.
- Most of used as a dry heat.
- Some incubator are provided with fluorescent light.