



Water Bath

Introduction: Its medical instrument used in sterilized by the heat by the use of water as a media of heat transmission.

The parts of water bath

- A. Mechanical part.
- B. Electric part.

A. Mechanical part:

1. The Coat (cover).
2. Fiber glass.
3. The external form.
4. The container.
5. The shelves (mesh).



1. The coat (Outside shields)

The coat is made of aluminum or stainless steel because resisting the mechanical shocks, resisting the oxidation & rectangle solid shape to be easily placed anywhere. The coat consists of several surfaces an isolator material prevents heat from getting outside.

2. Fiber glass: There are two type of it first:

a) **Brown fiber glass:** be somewhat cheap, but it is a dangerous substance because it causes inflammation in the chest should be wary of dealing with.



b) Yellow fiber glass:

Available by many and is also a serious but less dangerous than brown, because the sensitivity and cause him to be careful to wear gloves. The advantage of fiberglass as a good insulator of heat and use it in your wax bath due to lack of access of heat from inside the device to the outside and maintain the internal temperature, [very bad conduction heat so it is suitable for heat insulation purpose].

. The container: Its material must be from a very low conductive to heat such as stainless steel and to be resistance to mechanical shock and the volume of the container must be available to contain acertain amount of the tools to be serialized or cleaned. and it has water level (max- min)

. 4. The shelves (mesh): The mesh is made of aluminum or steel it contains of group of holes to increase thermal conductivity.

B. Electric part:

1. The power supply.
2. The heater.
3. Thermostat.
4. Temperature indicator (thermometer).
5. Timer.
6. Fuses.
7. Control panel.



1. Power supply:

The used supply in dry sterilized bath is 220v — 50Hz the step down transformer and rectifying circuit (AC to DC convert) to run the control panel if the parameters, numeric or other departments in the modern fashion.

2. The Heater:

The electric heating system is the system in which heating produce by rising of temperature caused by the passing of electric current through a conductor having a high resistor to current flow; it is only placed in base of the instrument.

3. Thermostat :

Is a sensor of heat connecting directly with heater and the separation of heater in certain degrees so as to obtain the temperature we need as needed and also used to protect the device.

4. Temperature indicator:

Tows way are used in temperature indicator there are thermometer (used to measure temperature of material) and thermocouple & Identified for the internal temperature

There are several types of thermometer:-

- 1) *Mechanical thermometer*: the principle of it is depending on the expanding factor of different material like mercury where it is used more than alcohol because its wide thermal range for mercury from (-70 -350).
- 2) *Electrical thermometer*: - the principle of it is depend on electrical conductive property for the material.



5. Timer: There are two type of timer electrical or mechanical at range 5-60 min given period of time required for sterilization.

6. Fuse: To protect the circuit from high current, high loads, short circuits..

7. Control panel: Contains several elements and the most important about indicator power lamp usually green & indicator heater lamp usually red & contain switch on-off and timer & knob.