

4. Membrane filters





4. Membrane filters



- **Construction:** Membrane filters are made of thin and flat membranes of cellulose derivatives, such as, cellulose acetate and cellulose nitrate. These filters are brittle when in dry condition and can be stored for an indefinite period. The filters are between 50 and 150 μ thick and are available in sizes upto 60 cm².

- **Working:** A membrane filter has 400 to 500 million pores per square centimetre of filter surface. The pores are absolutely uniform in size and occupy about 80% of filter volume. To avoid rapid clogging of a membrane, pre-filtration is often required. The selection of a membrane filter for a particular application depends on the particles to be removed.
- **Uses:** These filters are mainly used for sterilization of both aqueous and oily liquids. The membrane filters cannot be used for filtration of organic solvents, such as alcohols, ketones, esters and chloroform.

Seitz filter



Principal:

Filtration of asbestos pad filter disc

Construction:

- Funnel like structure.
- Upper part
- asbestos pad filter disc
- Lower part

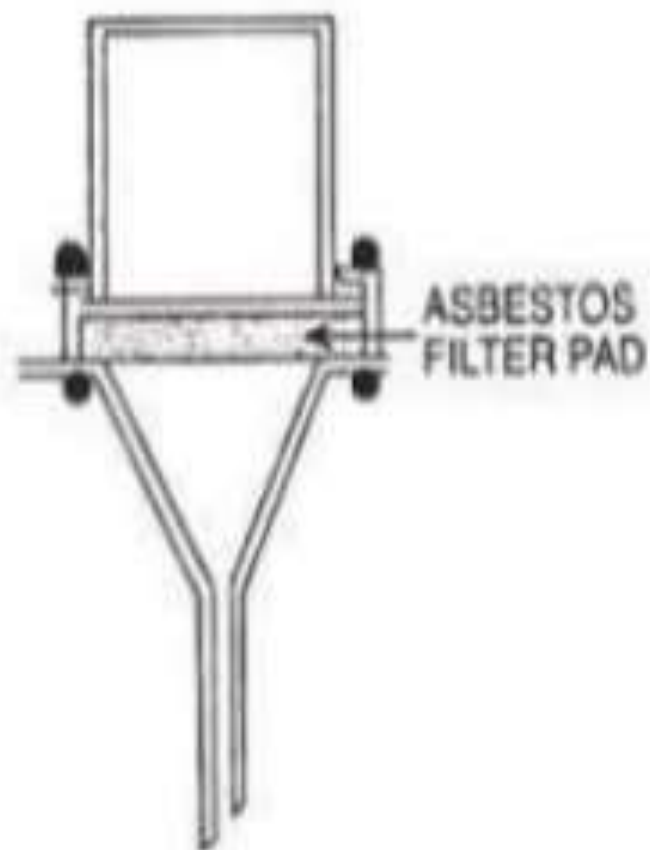


FIG. 21.6. Seitz filter (asbestos filter).



Working:

- Join parts.
- Add slurry.
- Slurry deposit on asbestos pad filter disc
- Filtrate will pass.

Application:

- Serum sterilization.
- Sterilization.



Advantages :

- Contaminate filters
- Simple to use
- Useful for viscous solutions.

Disadvantages:

- delicate