

ETO Sterilizer



"Ethylene oxide sterilizer" is defined as equipment which uses ethylene oxide as a biocide to destroy bacteria, viruses, fungus and other unwanted organisms. Ethylene oxide is used in sterilization of items that are heat and moisture sensitive. E.T.O consists of a closed chamber mostly double jacketed , corrosion resistance, gas resistant of suitable alloy (mainly mild steel).The middle jacket is surrounded with the hot water to raise the temperature of the product. The outer jacket of ethylene oxide sterilizer is insulated with proper insulation material for heat resistant. This e.o gas sterilizer equipment is provided with vacuum pump, pressure gauges, temperature gauges, and nozzle connection for hot & cold water. It consists of one door which is made with radial locking arrangement in order to make chamber close tight.

Types of Sterilizer

- E.T.O Gas Sterilizer
- E.TO. Steam Sterilizer

Applications of Eto Sterilizers

- In hydration plants (where onion powder , onion flakes, garlic powder, garlic flakes
- Products are manufactured and exported.
- In plywood industries where ply woods are sterilized against white ants and residual bacteria.
- In food industries where various seeds like sesame seeds are sterilized and exported. Wheat flour, grains, all types of spices etc.
- Used in industries where all the food products are exported.

Outstanding Features Of Eto Sterilizers

- Compact design to suit all environmental conditions.
- Radial locking arrangement for seal proof condition.
- Internal cage provided for non sticking of bags inside the chamber.

Working Of Eto Gas Sterilizer

Pre Sterilization Cycle:- This process begins with the end cycle of previous batch, when sterilization gets complete and complete eto gas is removed from the chamber through vacuum pump. Aeration cycle process is carried out by drawing fresh air inside the chamber until the pressure inside the chamber becomes atmospheric. The door is opened, sterilized material is taken out and new batch is started. The material to be sterilized is fed into the eto chamber before making a radial lock.

Vacuum Cycle: - Vacuum is done in two stages. 1) After feeding material into the chamber, the chamber inside is vacuumed to 250 to 300 mm of HG. Air is removed completely and Air nozzle vent is closed. 2) After sterilization is complete to remove eto gas from the chamber.

Sterilization Cycle: - E.T.O gas is fed inside the chamber in appropriate proportion and simultaneously hot water is supplied in the jacket. This water inside the jacket is maintained at 80° C. The gas inside the chamber goes under thermal process thus increasing the pressure inside the chamber. When the pressure approaches the desired value i.e. (1.5 kg/cm² or 14.7 k pas) , this pressure and allowable temperature is maintained for specific time (5 To 7 or 8 to 10 hours) depends upon the material to be sterilize.

Aeration Cycle: - This process involves extracting residual gas out of the sterilized material followed after vacuum cycle. The air vent nozzle is kept open. The fresh air is allowed to pass inside the chamber until it attains atmospheric.

We at Silver Star engineers have manufactured different size of eto gas sterilizer and utmost care has been taken during its manufacturing stages. Our eto gas sterilizer undergoes different test (hydro test, vacuum test, pressure test) before its is finally dispatched to our consumers.