

IS 3119: 1978 Hot Air Sterilizers

Sterilizers used in hospitals play a critical role in infection control by ensuring that medical instruments and equipment are free from harmful microorganisms. The selection of a sterilizer depends on various factors, such as the type of material being sterilized, the size of the items, the required sterilization time, and the level of sterilization needed. Hospitals use a combination of methods depending on the specific needs of their equipment and the procedures they are supporting. Various types of sterilizers used in hospitals are steam sterilizers, dry heat sterilizers, chemical sterilizers, ethylene oxide sterilizers, etc.

Hot air sterilizers (sterilizing ovens) are used to sterilize items through dry heat. This method is commonly used in laboratories, medical settings, and industries where equipment needs to be disinfected or sterilized without the use of liquids or chemicals.

IS 3119 provides specifications for **electrically heated hot air sterilizers**, designed to destroy bacteria, viruses, and fungus by dry heat at temperature ranging between **140° and 200°C**, intended for hospital and laboratory use. Continuous sterilizers are excluded from the scope of this standard.

In IS 3119, applicable clauses of IS 302 (Part 1) *Household and Similar Electrical Appliances — Safety Part 1 General Requirements* have been referred for construction, **general electrical safety**, testing methodology and marking.

In addition to the general construction as per IS 302 (Part 1), the particular requirements like design of cabinet, cabinet ventilation, design and positioning of **heating elements** and thermostat contacts have also been included. The routine tests include protection against electrical shock, high voltage test, insulation resistance test, leakage current test and test for earthing connection (as per IS 302). Type tests include test for mechanical strength (as per IS 302), heating-up time, performance test for thermostats, temperature variation test, temperature differential test, temperature drift test, test for time of temperature recovery, test for reproducibility of temperature setting and temperature overshoot test. The test conditions and schedule of tests have also been specified in the standard.

IS 3119 thus ensures conformity of sterilizers which is of utmost importance in hospitals for infection control.