



Summary of IS 3829 (Part 3) : 1985 — Specification for steam sterilizers: Part 3 pressure sterilizers, vertical cylindrical type

Sterilization is the process of eliminating all forms of microbial life, including bacteria, viruses, fungi, and spores, from an object or surface. Sterilization ensures that these products and surfaces are free from bacteria, viruses, fungi, and spores, making them safe for use in surgeries and other medical procedures, and prevents infections.

There are different mechanisms used to achieve sterilization; for example, **Steam Sterilization**, Dry Heat Sterilization, Chemical Sterilization, Radiation Sterilization etc. Steam sterilizers, *also known as autoclaves*, uses high-pressure saturated steam at temperatures of **121 – 134°C** to achieve sterilization.

In Hospitals, the steam sterilizers are used for **sterilization of surgical instruments, medical devices and equipment, dressings, bandages, linens** etc.

The vertical cylindrical type steam sterilizers operate at a lower pressure of **1.05 kgf/cm²** (about 121°C) and are intended for **longer sterilization cycles** (up to two hours) for items that require deeper steam penetration.

While looking for a vertical cylindrical type steam sterilizers for their use in Hospitals, one should check for qualities like effective sterilizer capability i.e. it should be capable of sterilizing surgical instruments swiftly, it should be equipped with features like robust safety valves, pressure control, and low-water protection etc. for enhanced user safety, it should be built from high-grade material, and shall have standardized designs ensuring interoperability.

The Indian Standard, IS 3829 (Part 3), ensures quality by specifying durable and reliable materials of construction. It mandates the use of reliable materials like stainless steel, sets clear guidelines for operational safety through safety valves, temperature control features, and hydrostatic testing requirements aimed preventing pressure-related accidents.

Optional accessories such as thermographs and trolleys are also standardized, allowing customization based on consumer needs. This Indian Standard thus assures consumers of a high-quality, safe, and efficient sterilizer that adheres to stringent medical requirements.

The Indian Standard is one of the series of Indian Standard published for Steam Sterilizers, other parts are, IS 3829 (Part 1) — Specification for steam sterilizers: Part 1 horizontal cylindrical and horizontal rectangular steam sterilizers, pressure type (for Hospital and Pharmaceutical Use), and IS 3829 (Part 2) — Specification for steam sterilizers: Part 2 horizontal cylindrical high speed steam sterilizers, pressure type