

# CLEANCARE<sup>®</sup>

**Manufacturer of Central Sterile Service  
Department (CSSD)**



# ABOUT US

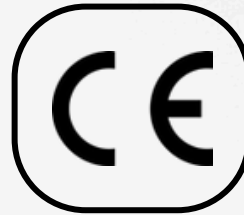
Cleancare today has been reckoned as the pioneering manufacturer, trader, and wholesaler of best-quality products. Our global reputation is achieved under the statutory responsibility to deal in an extensive range of many anticipated products, industrial products, including household items and components.

We procure best-suited inventory of raw materials and utilize cutting edge manufacturing technology to develop remarkable quality products that are globally demanded its practicable costs, durable performance, elegant design, appealing looks and industry-proven fabrication.

We understand that every customer comes with a unique set of needs, besides, we invest substantial resources in conducting worldwide market research to anticipate the client needs. Our line of products is carefully developed and rigorously inspected by using latest techniques to assure our patrons with its worth. Further, we work under deep scrutiny of quality controllers who make sure to conduct timely audits and verify every product range.

Cleancare India specializes in designing, manufacturing, and installing CSSD equipments .

## Manufacturing of Central Sterile Service Department (CSSD) Equipments



*One-stop destination for MOT, MGPS, CSSD, Industrial Laundry and premium kitchen equipment solutions*

# CSSD

CENTRAL STERILE SERVICE DEPARTMENT

## 1. Washer Disinfector (Single/Double Door)

Washer Disinfectors are essential components of the Central Sterile Services Department (CSSD), designed for the automated cleaning and thermal disinfection of surgical instruments, glassware, and reusable medical devices. These units ensure high-level hygiene, efficient workflow, and compliance with international standards.

### Features – Washer Disinfector (Single/Double Door)

#### 1.THERMAL DISINFECTION

- High-temperature disinfection cycle up to 93°C
- Complies with ISO 15883 and HTM 01-01 standards

#### 2. SINGLE OR DOUBLE DOOR OPTIONS

- Single Door: Ideal for compact spaces and standalone units
- Double Door (Pass-Through): Supports unidirectional workflow, preventing cross-contamination

#### 3.HIGH-CAPACITY CHAMBERS

- Accommodates up to 12 DIN trays per cycle
- Suitable for processing surgical instruments, MIS tools, and glassware

#### 4.TOUCHSCREEN CONTROL PANEL

- Intuitive interface with customizable programs
- Password protection and multilingual support

#### 5.HEPA-FILTERED DRYING SYSTEM

- Ensures fast, residue-free drying
- Maintains a sterile environment post-disinfection

#### 6. AUTOMATIC DETERGENT DOSING

- Integrated peristaltic pumps for precise chemical use
- Supports multi-chemical processing

#### 7.BUILT-IN WATER AND ENERGY EFFICIENCY

- Optimized spray arm design
- Reduced consumption with intelligent cycle management



## 8. FULL CYCLE TRACEABILITY

- USB, Ethernet, or network connectivity
- Integrates with hospital IT and CSSD management systems

## 9. STAINLESS STEEL CONSTRUCTION

- AISI 316L chamber and AISI 304 exterior
- Corrosion-resistant and easy to clean

## 10. SAFETY INTERLOCKS AND DOOR SEALING

- Automatic locking during operation
- Prevents simultaneous opening on double-door models

## 11. CUSTOMIZABLE RACKS AND TROLLEYS

- Modular loading options for surgical sets, instruments, and anaesthesia equipment

## 12. QUIET OPERATION

- Noise level typically below 65 dB for minimal disruption in hospital environments



## 2. HORIZONTAL/VERTICAL SLIDING DOOR AUTOCLAVE

A Horizontal/Vertical Sliding Door Autoclave is a high-performance sterilization system widely used in hospitals, laboratories, and pharmaceutical industries for the sterilization of medical instruments, surgical tools, dressings, and laboratory glassware.

### FEATURES OF HORIZONTAL/VERTICAL SLIDING DOOR AUTOCLAVE

#### 1. Door & Chamber Design

- Horizontal/Vertical sliding door (motorized or pneumatic) for space efficiency and ease of use
- Stainless steel chamber for hygiene and corrosion resistance
- Single or double-door (pass-through) models for sterile/non-sterile separation

#### 2. Sterilization Performance

- Pre-vacuum and post-vacuum cycles for effective air removal and drying
- Multiple sterilization programs for wrapped, unwrapped, porous loads, textiles, and liquids
- Conforms to EN 285, ISO 17665, and other hospital sterilization standards

#### 3. Control & Automation

- PLC-based control system for precise cycle management
- Touchscreen HMI display with real-time status and diagnostics
- Customizable cycles with password protection and user-level access

#### 4. Safety Systems

- Door interlock mechanism – prevents opening under pressure
- Overpressure and overtemperature protection
- Emergency stop button and visual/audible alarms

#### 5. Monitoring & Data Management

- Built-in printer, USB, or Ethernet for cycle data logging
- Barcode or RFID support (optional) for load tracking
- Cycle documentation for regulatory compliance

#### 6. Energy & Water Efficiency

- Water-saving vacuum pump systems
- Optimized steam usage for cost-effective operation
- Eco-mode/standby function to save energy when idle

#### 7. Hygiene & Maintenance

- Cleanable interior with smooth welds
- HEPA-filtered exhaust for biohazard control
- Automatic drain and cleaning cycles

#### 8. Sizes & Capacity

- Available in various volumes (e.g., 100L to 800L+) to accommodate



# 3. LOW TEMPERATURE STEAM FORMALDEHYDE

An LTSF Sterilizer uses a combination of low-temperature saturated steam (60–80°C) and formaldehyde gas to sterilize heat- and moisture-sensitive medical equipment. It is ideal for materials that cannot withstand the high temperatures and pressure of conventional steam sterilization.

## Features

- **Low-Temperature Operation (60–80°C)**

Suitable for sterilizing delicate and heat-sensitive instruments like endoscopes, plastic devices, and optical equipment.

- **Formaldehyde Gas Injection System**

Uses small quantities of 37% formalin solution vaporized into the chamber for efficient microbial inactivation.

- **Multi-Phase Sterilization Cycle**

Includes pre-heating, vacuum, steam injection, formaldehyde diffusion, exposure, and aeration phases.

- **Vacuum-Assisted Air Removal**

Ensures thorough air evacuation for better penetration and effective sterilization.

- **Stainless Steel Chamber Construction**

Made from SS 316L, ensuring durability and resistance to chemical corrosion.

- **Advanced PLC Control System**

Touchscreen interface with programmable cycles, cycle history, and real-time monitoring.

- **Built-in Safety Features**

Includes formaldehyde neutralization, pressure release, door interlock, and gas leak detection systems.

- **Cycle Documentation & Validation**

Integrated thermal printer or USB data export for audit trails, batch records, and compliance.

- **Compact or Pass-Through Models**

Available in single-door or double-door (barrier type) designs for cleanroom/CSSD environments



# 4. Flash Sterilizer

A Flash Sterilizer is a high-speed steam sterilizer designed for the rapid sterilization of unwrapped or lightly wrapped instruments in emergency or intraoperative situations. It uses saturated steam at 134°C under pressure, allowing quick turnaround times.

Flash sterilizers are commonly found in operating rooms where immediate instrument reprocessing is occasionally necessary.

## Features

- **Rapid Sterilization Cycles**

Typical cycles last 3–10 minutes at 134°C using high-pressure saturated steam.

- **Stainless Steel Chamber**

Constructed from SS 304 for maximum hygiene, corrosion resistance, and durability.

- **Programmable Control Panel**

User-friendly microprocessor or PLC-based touchscreen interface with pre-programmed cycle options.

- **Vacuum or Gravity Displacement Models**

Available with pre-vacuum cycles for more efficient air removal and steam penetration.

- **Compact & Space-Saving Design**

Ideal for point-of-use installation in OTs or procedure rooms.

- **Safety Interlocks**

Door interlock system prevents opening during cycle; includes over-temperature and over-pressure protection.

- **Thermal Printer or USB Logging**

Enables documentation of cycles for compliance and traceability.

- **Energy-Efficient Steam Generation**

Fast heating elements or integrated boiler (depending on model) to reduce downtime.



# 5. Water Distillation Plant

A Water Distillation Plant is a system designed to purify water by boiling it into steam and then condensing it back into liquid, removing impurities like salts, heavy metals, bacteria, and other contaminants. These plants are commonly used in hospitals, laboratories, pharmaceuticals, and industrial facilities where ultra-pure water is needed.

## Features

### 1. Distillation Process

**Boiling Chamber:** Heats the feed water to produce steam

**Condensation Unit:** Cools the steam back into purified water

**Collection Tank:** Stores the distilled water for later use

### 2. Types of Distillation Plants

**Single Effect Distiller:** One boiling-condensing stage; simple and low cost

**Multiple Effect Distiller (MED):** Uses multiple stages to increase energy efficiency

**Vapor Compression Distiller (VC):** Compresses steam to reuse heat energy, very efficient

**Solar Distillation Units:** Use solar energy, suitable for small-scale, remote operations

### 3. Construction & Materials

**Stainless Steel (SS 316L or 304):** Corrosion-resistant and suitable for pharmaceutical-grade water

**Borosilicate Glass (for lab use):** Allows visual monitoring of the process

### 4. Output Quality

Raw Water Supply

Electricity or Steam (depending on design)

Cooling Water (for condensation process, especially in large systems)

### 5. Capacity Options

Ranges from 2 liters/hour (small lab models) to thousands of liters/hour (industrial plants)

### 6. Automation & Control

PLC-based control panel with HMI screen

Auto shut-off for low water level or high temperature

Sensors for temperature, level, and pressure monitoring

### 7. Utilities Required

Produces distilled water free of salts, bacteria, pyrogens, and organic impurities

Conductivity typically  $< 1 \mu\text{S}/\text{cm}$

Complies with pharmacopoeia standards (USP, EP, BP) for purified or WFI (Water for Injection) quality

### 8. Safety Features

Overheat and dry run protection

Pressure relief valves

Automatic fault alarms

### 9. Applications

**Hospitals:** For autoclaves, lab use, and instrument sterilization

**Pharmaceuticals:** As part of WFI (Water for Injection) systems

**Laboratories:** For reagent preparation and experiments

**Food & Beverage:** Ingredient water and cleaning processes

**Power Plants:** Boiler feed water treatment



# 6. ETO Sterilizer

An ETO Sterilizer (Ethylene Oxide Sterilizer) is a specialized sterilization system that uses ethylene oxide gas to sterilize heat- and moisture-sensitive medical and surgical instruments, devices, and materials. It is widely used in hospitals, medical device manufacturing, and pharmaceutical industries due to its effectiveness in penetrating packaging and sterilizing complex devices.

## Features

### 1. Sterilization Method

**Ethylene Oxide (C<sub>2</sub>H<sub>4</sub>O) Gas** is used to kill bacteria, viruses, fungi, and spores. Works by **alkylating the DNA and proteins** of microorganisms, making it lethal. Effective at **low temperatures (30–60°C)**, making it ideal for sensitive items.

### 2. Chamber Design & Construction

**Stainless Steel Chamber** (typically SS 316L) – corrosion-resistant and cleanable  
**Horizontal rectangular chamber** – with sliding or hinged door  
**Single or double-door (pass-through)** for cleanroom applications

### 3. Cycle Phases

**Preconditioning Phase (Optional):** Humidification and heating to optimize sterilization  
**Gas Injection Phase:** ETO gas introduced under vacuum  
**Exposure Phase:** Items remain in ETO atmosphere for specified time  
**Post-Sterilization Aeration:** Removes ETO residues via vacuum or filtered air flushing

### 4. Control System

**PLC-controlled operation** with HMI (Touchscreen Interface)  
**Pre-programmed cycles** for different load types  
**Data logging, password protection, and cycle validation**

### 5. Safety Features

**Gas leak detection sensors**  
**Explosion-proof electrical components**  
**Vacuum & pressure interlocks**  
**Catalytic converter or ETO scrubber system** to safely exhaust or neutralize residual gas

### 6. Cycle Monitoring & Documentation

**Real-time monitoring of:**  
Temperature, Humidity, ETO concentration, Vacuum level  
**Automatic printout/USB/Ethernet** for compliance and traceability

### 7. Capacity & Size Range

**Small tabletop units:** For dental/clinic use  
**Medium-size sterilizers:** For hospitals (e.g., 100–300 liters)  
**Large-scale industrial systems:** 500–5000+ liters for device manufacturers



## 8. Compliance & Validation

Meets standards like:

**ISO 11135 (Ethylene Oxide Sterilization)**

**US FDA, EN 1422, GMP, and CE**

Supports validation with biological indicators and chemical indicators

## 9. Applications

**Heat-sensitive medical devices:** Catheters, endoscopes, syringes, plastic and electronic instruments

**Surgical kits and disposable devices**

**Pharmaceutical packaging materials**

**Complex or multi-layer packaging** where steam can't penetrate

### *Important Considerations*

**ETO is toxic, flammable, and carcinogenic:** Proper ventilation, leak detection, and aeration systems are essential.

**Longer cycle time** compared to steam/autoclave (up to 12+ hours including aeration)

**Requires trained personnel and strict safety protocols**

# 7. Plasma Hydrogen Peroxide (H<sub>2</sub>O<sub>2</sub>) Gas Sterilizer

A Plasma Hydrogen Peroxide (H<sub>2</sub>O<sub>2</sub>) Gas Sterilizer is a low-temperature, fast, and residue-free sterilization system used primarily in hospitals, clinics, and labs for sterilizing heat- and moisture-sensitive medical devices. It uses vaporized hydrogen peroxide combined with low-temperature plasma to effectively kill microorganisms, including spores, without damaging delicate instruments.

## Features of Plasma H<sub>2</sub>O<sub>2</sub> Gas Sterilizer

### 1. Sterilization Method

Uses **35–59% hydrogen peroxide vapor** as the primary sterilant.

A **plasma phase** (ionized gas created by radio-frequency or microwave energy) is used to decompose residual H<sub>2</sub>O<sub>2</sub> into non-toxic water and oxygen.

Entire process occurs at **low temperatures (45–55°C)** – safe for sensitive materials.

### 2. Construction & Design

**Chamber Material:** High-grade stainless steel or aluminum alloy

**Chamber Size:** Ranges from small benchtop (50L) to larger hospital-grade units (150L+)

**Cartridge System:** Pre-filled H<sub>2</sub>O<sub>2</sub> cartridges for safe, accurate dosing

**Compact Footprint:** Suitable for CSSDs, clinics, or surgical suites

### 3. Cycle Phases

**Vacuum:** Removes air from chamber and load

**Injection:** Hydrogen peroxide vapor introduced

**Diffusion:** Sterilant penetrates load surfaces

**Plasma Phase:** Ionizes residual gas to remove it safely

**Vent/Aeration:** Returns chamber to atmospheric pressure

### 4. Control System

**Touchscreen HMI Panel:** For real-time monitoring and operation

**Pre-programmed Sterilization Cycles:** For different device types (rigid, flexible, lumens, etc.)

**Data Logging:** USB/Ethernet/export to hospital network

**Printer or Digital Logs:** For documentation and traceability

### 5. Safety Features

**Sealed Cartridge System:** Minimizes operator exposure

**Door Interlock Mechanism:** Prevents opening during cycle

**Leak Detection:** Alerts and stops cycle in case of H<sub>2</sub>O<sub>2</sub> leakage

**HEPA-Filtered Exhaust:** Safe release of sterilized air



## 6. Performance & Efficiency

**Cycle Time:** Fast – typically 25 to 60 minutes

**Sterilant Residue:** None – byproducts are water and oxygen

**No Drying Required:** Fully dry process

**Highly Penetrative:** Effective on narrow-lumen and complex instruments (validated models only)

## 7. Regulatory Compliance

Complies with:

**ISO 14937**

**AAMI TIR 17 / TIR 28**

**CE, FDA, and GMP**

Supports chemical indicators (CI) and biological indicators (BI) for cycle validation



## 8. Limitations

Not suitable for cellulose-based materials (paper, cotton)

Limited lumen size: Long or narrow lumens may not be compatible unless validated

Cartridge cost: More expensive than steam or ETO per cycle

### *Typical Applications*

**Hospitals & Clinics:** Reusable surgical instruments, optics, and delicate devices

**Dental Clinics:** Plastic tools and heat-sensitive handpieces

**Endoscopy Departments:** Scopes and camera systems

**CSSDs:** Where fast turnaround and low-temperature sterilization are needed

# 8. INSTRUMENT DRYER / DRYING CABINET

An Instrument Dryer or Drying Cabinet for the Central Sterile Services Department (CSSD) is a specialized unit used to thoroughly dry surgical instruments and medical devices after washing and disinfection, but before sterilization or storage. Proper drying is essential to prevent corrosion, ensure effective sterilization, and maintain the integrity of surgical instruments

## Key Features & Benefits

- **High-Efficiency HEPA Filtration (H14)**

Ensures 99.97% air purity at 0.3 microns for contamination-free drying.  
Maintains ISO Class 5 environment inside the cabinet.

- **Rapid, Uniform Forced Air Drying**

Powerful fan-assisted air circulation for even drying of all instruments.  
Prevents pooling of moisture in complex or lumen devices

- **Flexible Racking System**

Removable and height-adjustable trays or baskets.

Accommodates a wide variety of instrument trays, containers, and accessories.

- **Touchscreen Control Panel**

User-friendly interface for program selection, cycle customization, and diagnostics.

Programmable cycles with temperature, time, and airflow settings.

- **Automatic Humidity Control**

Integrated sensors monitor and adjust humidity

Adjustable Drying Temperature Controlled drying range (typically 40°C–70°C).

Protects delicate surgical instruments and heat-sensitive devices levels during cycles.

Reduces drying time and ensures consistent outcomes.

- **Interior Made of AISI 304/316 Stainless Steel**

Corrosion-resistant, hygienic, and easy to clean.

Smooth welds and rounded edges prevent dirt accumulation.

- **Energy-Efficient Operation**

Optimized heating and airflow for reduced energy consumption.

Optional eco-mode for off-peak hours.

- **Integrated Drainage System**

Safe removal of condensate water to prevent re-contamination.

- **Compact & Modular Design**

Available in various sizes to suit different CSSD capacities.

Wall-mount, under-counter, and freestanding models available.

Full traceability and audit-ready logging system available.



# 9. Stainless Steel Static Pass Box

A Stainless Steel Static Pass Box is a cleanroom transfer chamber used to move materials between two areas of different cleanliness levels (e.g., from a non-cleanroom to a cleanroom) without letting contaminants enter the cleaner area. The "static" type means it does not have airflow or HEPA filtration—it relies on being sealed and cleaned manually.

It is widely used in pharmaceutical, biotech, electronics, food, and medical device manufacturing industries.

## Features of Stainless Steel Static Pass Box

### 1. Material Construction

Stainless Steel SS 304 or SS 316 (optional for higher corrosion resistance)  
Double-wall design with smooth internal corners for easy cleaning  
Electropolished or satin finish for GMP compliance and hygiene

### 2. Design & Configuration

Double Door System:

One door opens to the unclassified area  
One opens to the cleanroom or classified zone  
Mechanical or Electromagnetic Interlocking:

Prevents both doors from opening at the same time to avoid cross-contamination

Flush-mounted doors with EPDM or silicone gaskets to ensure airtight sealing

### 3. Operation Type

Static (non-ventilated): No fan or HEPA filter inside  
Suitable for non-critical materials or already disinfected/clean items  
Items are placed manually, and the pass box is cleaned externally

### 4. Standard Features

Toughened glass viewing windows on both doors  
SS door handles and hinges  
Indicator lights (optional) to show door lock/unlock status  
Leveling feet or wall-mountable design

### 5. Optional Add-ons

UV Germicidal Lamp: For added microbial control inside the chamber (timed or manual)  
Interlock buzzer system: Alerts when door is open or unauthorized access  
Digital display or door status indicators  
Flush-mounted doors with key locks for added security

### 6. Typical Dimensions (customizable)

External: 600 x 600 x 600 mm to 1200 x 1200 x 1200 mm  
Internal chamber: Sized to suit material handling needs  
Custom sizes available for trolleys, bins, or large equipment

### 7. Compliance

GMP, ISO 14644, and WHO cleanroom guidelines  
Used in Grade A/B/C/D areas depending on application  
Ensures material transfer without personnel movement, reducing contamination risk

### 8. Applications

Pharmaceuticals & Biotech: For transferring packaging, raw materials, and sterile components

Hospitals & Labs: To pass sterile instruments or samples between sterile and non-sterile zones

Semiconductor & Electronics: Moving dust-sensitive components

Food & Beverage: For packaging materials and tools



# 10. SS Ultrasonic Cleaner

The SS Ultrasonic Cleaner is a high-performance cleaning system designed specifically for hospital Central Sterile Services Departments (CSSD). Utilizing advanced ultrasonic cavitation technology, it ensures thorough and safe cleaning of surgical instruments, particularly those with complex or delicate structures. Constructed with medical-grade stainless steel, it offers unmatched durability, hygiene, and ease of maintenance.

## Key Features

### Premium Stainless Steel Body (SS304/SS316)

Corrosion-resistant and ideal for medical environments, ensuring long-term use and easy disinfection.

### High-Frequency Ultrasonic Cleaning (28–40 kHz)

Powerful cavitation action reaches into intricate crevices and lumens to remove blood, tissue, and biofilm.

### Digital Timer & Temperature Control

Adjustable cleaning cycles and solution temperatures (up to 60°C) to match instrument and detergent requirements

### Heater & Degas Function

Built-in heater for enhanced detergent activity and degas mode for optimal ultrasonic efficiency.

### Removable SS Instrument Basket & Lid

Allows safe placement of tools without damaging the tank; reduces noise and evaporation during operation.

### User-Friendly Interface

Digital touch panel for easy control and monitoring of cleaning parameters.



# 11. HOT AND COLD WATER STERILIZER

A hot and cold water sterilizer used in a CSSD (Central Sterile Services Department) is a specialized machine designed to sterilize medical instruments or containers using temperature-controlled water cycles. A hot and cold water sterilizer—also called a hot water shower sterilizer or terminal sterilizer—uses alternating cycles of hot and cold water to sterilize and cool medical products (like IV fluids, infusion bottles, or ampoules), especially those that are heat-sensitive.

## Key Features

### Dual-Phase Operation

Hot water spray for sterilization and cold water shower for rapid, uniform cooling — ideal for terminal sterilization of IV fluids, eye drops, and infusion bottles.

### High-Grade Stainless Steel Construction

Chamber and piping made from SS 316L for superior corrosion resistance, hygiene, and durability.

### Precision Temperature Control

Operating range from 121°C to 134°C with  $\pm 1^\circ\text{C}$  accuracy for consistent sterilization cycles.

### Automatic Pressure Regulation

Maintains internal pressure during heating and cooling to prevent breakage of sealed containers.

### PLC-Based Automation

Fully programmable cycles via PLC with HMI touchscreen interface for ease of use, monitoring, and customization.

### SCADA/Data Logging (Optional)

Real-time data monitoring and batch record storage — ideal for regulatory compliance and traceability.

### User Safety & Alarms

Built-in safety interlocks, over-temperature protection, and visual/audible alarms for safe operation.

### Water & Energy Efficient

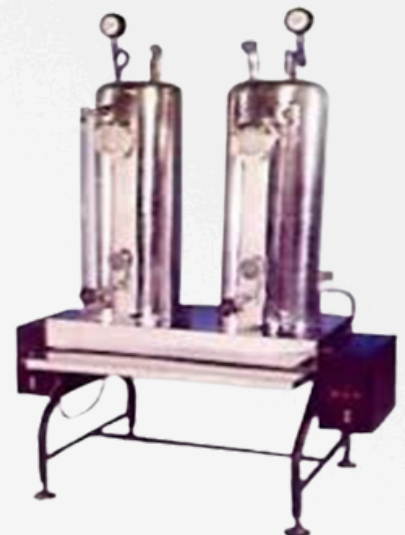
Recirculating system minimizes water use; efficient heat exchangers reduce energy consumption.

### Customizable Sizes

Available in 100L to 1000L+ capacities to suit various hospital or pharmaceutical workflows.

### Compliant with International Standards

CE Certified, ISO 13485, and WHO-GMP compliant.



# 12. WASHING TABLE WITH A DOUBLE SINK

A washing table with a double sink for a CSSD (Central Sterile Services Department) is a critical piece of equipment used during the decontamination phase of medical instrument reprocessing. A double-sink washing table in CSSD is used for manual cleaning and rinsing of surgical instruments and medical devices before disinfection and sterilization. It usually includes two distinct sinks:

**1st sink:** For initial gross soil removal and enzymatic soaking.

**2nd sink:** For rinsing and final cleaning.

## Key Features

### Premium Stainless Steel Construction

Fabricated from AISI 304 or AISI 316 stainless steel, offering excellent corrosion resistance, hygiene, and durability.

### Double Deep Sink Design

Two generously sized sinks (400–500 mm depth) support a two-step cleaning process: enzymatic soaking and final rinsing.

### Hands-Free Operation

Knee-operated or foot pedal-controlled faucets for improved hygiene and operator convenience.

### Integrated High-Pressure Spray Gun

Manual spray nozzle with flexible hose for efficient flushing of lumened and complex instruments.

### Ergonomic Work Surface

Smooth, sloped stainless-steel surface ensures fluid drainage; height-adjusted for operator comfort and safety.

### Backsplash Protection

High rear splash guard to prevent wall contamination and facilitate easier cleaning.

### Drainboard and Drying Area

Optional sloped drainboard for air-drying instruments or placing washed items in trays.

### Under-Sink Storage

Integrated shelves or lockable cabinets for safe storage of cleaning agents and tools.

### Thermostatic Water Control

Optional thermostatic mixing valve for precise temperature control during cleaning.

### Optional Task Lighting

Integrated LED lighting available for enhanced visibility during inspection and manual cleaning.

### Easy Maintenance Design

Rounded corners, seamless welds, and easy-access plumbing simplify cleaning and service.

### Standards Compliance

Designed in accordance with ISO 15883 and hospital infection control protocols for CSSD operations.

### Typical Dimensions:

Length: 1500–2000 mm

Depth: 600–800 mm

Height: 850–900 mm (customizable)



# 13. Water & Air Spray Gun

The integrated spray gun system allows for precise and efficient flushing of complex instruments using pressurized water, followed by air drying to reduce residual moisture. This not only enhances cleaning efficacy but also supports streamlined workflows in high-volume CSSD environments.

- **Dual-Function Spray Gun**

High-efficiency manual spray gun with both water and compressed air outlets for versatile cleaning and drying applications.

- **Water Jet Cleaning**

Pressurized water spray removes bioburden from instruments, lumens, and hard-to-reach areas during manual washing.

- **Air Blow-Off Function**

Controlled air stream helps remove residual moisture from instruments post-rinse, minimizing manual towel drying.

- **Flexible Hose Design**

Extendable, easy-to-clean hose with wall-mounted or sink-side holder for safe and convenient use.

- **Ergonomic Trigger Handle**

Lightweight, easy-to-operate handle reduces hand fatigue during extended use.

- **Safety Features**

Anti-backflow system and pressure-regulated valves ensure user safety and prevent contamination of clean water or air lines.



# 14. Holding Basket Rack

The Holding Basket Rack is a versatile, heavy-duty storage unit designed to safely hold sterilization baskets or instrument trays. Ideal for use in packing, drying, or transport areas of the CSSD, the rack ensures a clean, organized workflow while preventing damage or contamination of baskets.

## Key Features

- **Durable Stainless Steel Frame**

Constructed from high-grade AISI 304 stainless steel for corrosion resistance and easy cleaning.

- **Multi-Tier Configuration**

Available with 4, 6, or 8 levels to accommodate various basket sizes and volumes.

- **Removable Wire Shelves**

- Allows flexible spacing and easy cleaning between uses.

- **Anti-Tilt Design**

Prevents baskets from slipping or tipping during handling.

- **Open Design**

Promotes air circulation for efficient drying and visibility of contents.

- **Heavy-Duty Locking Casters**

Smooth mobility with braking system for safe positioning.

- **Optional Drip Tray System**

Prevents water accumulation and maintains dry floor surfaces



# 15. Control and Packing Table

The Control and Packing Table is an essential workstation designed for use in the Central Sterile Services Department (CSSD). It provides a clean, ergonomic, and well-organized surface for inspecting, assembling, and packaging surgical instruments prior to sterilization. Engineered for efficiency and hygiene, this table meets international standards for infection control and workplace safety

## Key Features

### High-Grade Stainless Steel Construction

Durable, corrosion-resistant, and easy to disinfect – ideal for sterile environments.

### Ergonomic Design

Height-adjustable table and footrests designed to minimize operator fatigue.

### Integrated LED Inspection Lamp

Provides focused, shadow-free lighting for precise inspection of instruments.

### Magnifying Lens (Optional Attachment)

Allows close examination of fine instrument details.

### Compressed Air Nozzle Port

Facilitates drying of internal instrument channels and lumens.

### Instrument Holders & Racks

Keeps tools organized and stable during packing and assembly.

### Built-in Storage Units

Drawers or shelves for sterile wraps, chemical indicators, labeling materials, and tools.

### Sharps Disposal Integration

Safe and accessible container for disposing of damaged or sharp instruments.

### Integrated Waste Bin

Hands-free operation for clean waste management.

### Optional Digital Integration

Barcode scanner and computer shelf for digital documentation and instrument tracking.



# 16. SS Storage Tank

A Storage Tank in a Central Sterile Services Department (CSSD) is a hygienically designed container used to store purified water, typically after it has been processed by Reverse Osmosis (RO) or Deionization (DI) systems. This stored water is essential for supplying washer-disinfectors, ultrasonic cleaners, and sterilizers with high-quality water that meets hygiene and sterilization standards.

## Key Features & Benefits

### High-Grade Stainless Steel Construction (AISI 304/316)

Corrosion-resistant and suitable for storing purified or softened water.

Smooth interior surfaces reduce biofilm risk and facilitate cleaning.

### Hygienic Design

Fully welded construction with rounded internal corners.

Designed to minimize stagnation and microbial growth.

### Capacity Range

Available in multiple sizes: typically from 100L to 2000L.

Custom-built tanks can be designed for large-scale CSSD facilities.

### Insulated and Jacketed Options

Thermal insulation maintains water temperature for consistent equipment operation.

Optional jacketed versions allow heating or cooling if needed.

### Integrated Level Indicators

Visual or electronic level gauges to monitor water volume at a glance.

Optional alarms for low/high water levels.

### Closed-System Design

Prevents contamination from airborne particles and environmental exposure.

Tight-sealing manways or hatches with silicone gaskets.

### Ventilation and Breather Filters

Equipped with hydrophobic HEPA or sterile air filters to maintain tank sterility.

### Drainage and Outlet Ports

Bottom drain with sloped base for complete emptying.

Configurable outlet ports for connection to RO units, washers, or boilers.

### Compliance with Health Standards

Designed per HTM 01-01, ISO 15883, and relevant local water hygiene guidelines.

Suitable for storing water post-RO or deionization, compliant with sterilizer requirements.



# 17. Storage Racks

CSSD Storage Racks are designed to ensure organized, clean, and efficient storage of surgical instrument sets, linen packs, and sterile consumables. These racks are engineered to comply with infection control standards and are suitable for use in both sterile and non-sterile zones of healthcare facilities.

## Key Features

### High-Quality Stainless Steel Construction

Built from AISI 304 grade stainless steel for excellent resistance to corrosion and easy cleaning.

### Adjustable Shelves

Flexible shelf height to accommodate various pack sizes, instrument trays, or containers.

### Open Frame Design

Allows optimal air circulation to maintain dryness and visibility, helping prevent microbial growth.

### Smooth Welded Edges

Designed for safety and to prevent tearing of sterile packaging.

### Heavy-Duty Load Capacity

Each shelf supports heavy instrument sets or bulk sterile packs without bending or warping.

### Caster Wheel Base (Optional)

For mobile racks, includes 4 castor wheels (2 with locks ) for easy repositioning.

### Drip Tray Option

For use in drying/storage areas to collect excess moisture and maintain clean floors.



# 18. Stainless Steel Working Table

The Stainless Steel Working Table is a robust, hygienic, and versatile work surface ideal for various tasks in sterile zones such as CSSD, laboratories, and procedure rooms. Designed for high durability and easy maintenance, this table is essential for preparation, packing, or inspection tasks where hygiene is a top priority.

## Key Features

### AISI 304 Grade Stainless Steel

Corrosion-resistant, non-magnetic, and easy to disinfect — perfect for sterile settings.

### Smooth, Seamless Top

Prevents accumulation of contaminants and facilitates thorough cleaning.

### Reinforced Undershelf (Optional)

Provides additional storage for tools, trays, or consumables.

### Adjustable Feet or Castor Wheels

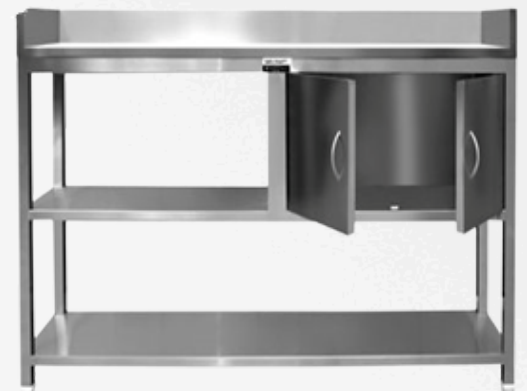
Non-slip adjustable legs for stability on uneven floors or optional wheels for mobility.

### Rounded Corners & Edges

Enhanced safety and ease of cleaning; reduces risk of tearing sterile packaging.

### Custom Sizes Available

Tailored to meet specific spatial and workflow needs.



# 19. Sealing / Packing Machine

The Sealing/Packing Machine is an essential tool in any Central Sterile Services Department (CSSD), designed for the reliable and hygienic sealing of sterilization rolls and pouches. This compact, high-precision unit ensures airtight, uniform seals to maintain sterility until point of use.

## Key Features

### Automatic Heat Sealing

Consistent temperature and pressure control for secure, leak-proof seals.

### Stainless Steel Body

Durable, easy to clean, and suitable for sterile environments.

### Digital Temperature Control

Adjustable sealing temperature (typically 100–200°C) for different packaging materials.

### Integrated Cutter

Smooth, straight-edge cutting mechanism for custom-sized pouch lengths.

### Fast Heating Time

Quick warm-up ensures minimal waiting and higher productivity.

### Energy Efficient Design

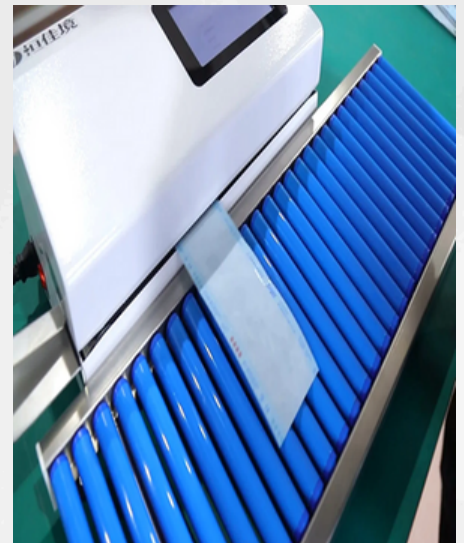
Low power consumption and standby mode for operational efficiency.

### Audible & Visual Alerts

For error detection and confirmation of successful sealing.

### Counter/Timer Function (Optional)

Helps track sealing cycles and productivity.



## 20. Stainless Steel Transport Trolley

The Stainless Steel Transport Trolley is a durable, hygienic, and mobile solution designed to safely transport instrument sets, sterile packs, and medical supplies within healthcare facilities. Commonly used in CSSD, operating rooms, and inpatient areas, this trolley supports efficient, contamination-free material handling.

### Key Features

#### AISI 304 Stainless Steel Construction

Non-corrosive, rustproof, and easy to disinfect – ideal for sterile zones.

#### Multi-Shelf Design

2 or 3-tier options for organized loading and separation of clean or soiled items.

#### Seamless Welded Finish

Ensures strength, reduces dirt traps, and facilitates easy cleaning.

#### Heavy-Duty Swivel Castor Wheels

Smooth, silent mobility with 2 wheels featuring brakes for secure parking.

#### Reinforced Frame

Supports high loads without flexing or Vibration during movement.

#### Optional Push Handles on Both Ends

Ergonomic grip for safe handling and easy maneuverability.

#### Protective Bumpers (Optional)

Prevents wall and equipment damage during transport.



## 21. Stainless Steel Stool

The Stainless Steel Stool is designed to provide hygienic, durable, and ergonomic seating in sterile zones such as CSSDs, laboratories, and operating rooms. Made entirely from AISI 304 stainless steel, this stool offers superior corrosion resistance, easy cleaning, and a stable, compact design ideal for healthcare settings.

### Key Features

#### Full Stainless Steel Construction

Made from AISI 304 grade steel for excellent resistance to rust, chemicals, and disinfectants.

#### Smooth, Rounded Edges

Enhances user comfort and safety; easy to clean and sanitize.

#### Optional Adjustable Height

Manual screw mechanism or pneumatic gas lift models available.

#### Non-Slip Rubber Feet

Ensures stability and protects flooring; available with castor wheels upon request.

#### Foot Ring Support (Optional)

Provides ergonomic foot support, especially in higher stool models.

#### No Upholstery or Seams

Fully weld-sealed construction prevents microbial accumulation – ideal for sterile zones.



## 22. INSPECTION LAMP WITH MAGNIFIER

The Inspection Lamp with Magnifier is designed for precise visual inspection of surgical instruments, trays, and linen within the Central Sterile Services Department. It features high-intensity shadow-free illumination and distortion-free magnification, ensuring that even microscopic contaminants can be easily identified.

### Key Features

**Magnification:** 3× / 5× / 8× options (glass lens)

**Lighting:** Cool white LED or fluorescent light ( $\geq 1,000$  lumens)

**Lens Size:**  $\varnothing$  127 mm (5")

**Mounting Type:** Table clamp / wall mount / mobile stand (optional)

**Arm Type:** Flexible or spring-balanced articulated arm

**Construction:** ESD-safe coated steel or ABS body

### Additional Features:

Dust cover for lens protection

Adjustable brightness (dimming control)

Ergonomic and glare-free design

Anti-static body finish suitable for sterile areas

### Applications:

Instrument cleanliness verification

Linen inspection

Visual quality control in sterile zones

Microscale defect detection



## 23. SS Roll Holder with Cutting Knife

### Product Description:

A robust and hygienic stainless steel roll holder equipped with an integrated cutting knife, designed specifically for use in sterile processing environments like CSSD. Ensures smooth dispensing and precise cutting of sterilization wrapping material, such as sterilization reels or pouches.

### Key Features

**Material:** High-grade, rust-proof Stainless Steel (SS 304)

**Construction:** Durable, easy to clean, and corrosion-resistant

**Design:** Wall-mountable or table-top model with non-slip base

**Cutting Mechanism:** Built-in, serrated stainless steel blade for clean, straight cuts

**Capacity:** Supports various roll widths (commonly 200 mm, 250 mm, 300 mm, 350 mm, 400 mm, and 500 mm)

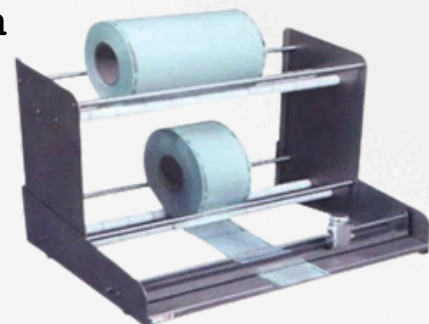
**Application:** Ideal for safe and efficient handling of sterilization packaging material in CSSD

### Benefits:

Enhances workflow and safety in sterilization areas

Minimizes material wastage with precision cutting

Easy maintenance and long-lasting performance



## 24. Storage Cupboard

A storage cupboard for CSSD (Central Sterile Services Department) is a specially designed cabinet used in hospitals or healthcare facilities to store sterile instruments, medical devices, and consumables after they've been cleaned, disinfected, and sterilized. These cupboards play a crucial role in maintaining the sterility and organization of medical supplies.

### Material:

Typically made from high-grade stainless steel (e.g., SS 304/316) for durability, corrosion resistance, and easy cleaning.

Non-porous surfaces to prevent microbial growth.

### Design:

Enclosed structure with lockable doors (solid or glass for visibility).

Adjustable/removable shelves for flexible storage.

Often ventilated or equipped with HEPA filters (for sterile storage).

May have seamless welds to prevent dirt accumulation.

### Mobility:

Fixed units are common, but mobile units with locking casters are also used for flexible storage in various zones (clean/sterile).

### Compliance:

Should comply with infection control standards like HTM 01-01, AAMI, or ISO 14644 standards for cleanroom environments.



## 25. Stainless Steel Linen Fold Table – Hospital Grade

The SS Linen Fold Table is a high-quality, ergonomically designed worktable used for folding, sorting, and handling sterile or clean linen in healthcare environments such as CSSDs, operation theatres, and hospital wards. Fabricated from premium-grade stainless steel, the table ensures excellent hygiene, corrosion resistance, and structural stability in sterile processing zones.

### Key Features

**High-Quality Stainless Steel:** Fabricated using SS 304 (optional SS 316) for long-term durability and resistance to rust and disinfectants.

**Smooth Work Surface:** Large flat or perforated top surface provides a convenient area for folding linen without snagging or tearing.

**Ergonomic Height:** Designed at 850–900 mm height for optimal user comfort during prolonged standing tasks.

**Robust Construction:** Reinforced SS tubular frame with cross-supports for extra strength and vibration resistance.

**Safe Edges:** Rounded corners and edges to enhance user safety and prevent fabric damage.

**Optional Perforated Top:** Allows for ventilation and moisture reduction in high-humidity areas.

**Easy Maintenance:** Seamless design ensures thorough cleaning and compliance with infection control protocols.

**Custom Options:** Available with lower shelves, wheels, or custom dimensions upon request.



# 26. Gauge Cutting Machine

A Gauge Cutting Machine is a mechanical or hydraulic device used primarily in metal fabrication, automobile workshops, sheet metal industries, and construction sectors to cut sheet metal or gauge plates to specific sizes and thicknesses.

## Key Features

### Heavy-Duty Construction

Built with a rigid steel frame for stability and precision during cutting operations.

### High Cutting Accuracy

Provides clean, accurate cuts with minimal burr, typically within  $\pm 0.5$  mm tolerance.

### Versatile Cutting Capacity

Suitable for cutting sheet metals ranging from 0.5 mm to 6 mm thickness, depending on model.

### Premium Blade Material

Equipped with hardened alloy steel or HCHC blades for long life and consistent cutting performance.

### Manual or Motorized Operation

Available in manual, mechanical, pneumatic, and hydraulic variants to suit different production needs.

### Safety First Design

Integrated with finger guards, emergency stop switch, and foot pedal control for operator safety.



### Smooth and Stable Operation

Flywheel or hydraulic systems ensure vibration-free and smooth cutting cycles.

### Compact Footprint

Space-efficient design fits well in workshops and industrial production lines.

### Low Maintenance

Designed for long-lasting performance with minimal servicing required.

# 27. DOCUMENTATION LABELLER

A Documentation Labeller is a specialized tool or device used in healthcare facilities, laboratories, pharmacies, or industrial settings to print and apply identification labels on documents, samples, equipment, or packaging. In a hospital CSSD or lab, this device helps ensure traceability, safety, and regulatory compliance.

## Key Features

### High-Resolution Thermal Printing

Produces crisp, smudge-free labels using Direct Thermal or Thermal Transfer technology.

### Supports Multiple Label Formats

Prints text, barcodes, QR codes, serial numbers, and expiry dates on a wide range of label sizes.

### User-Friendly Interface

Equipped with a touchscreen or keypad for easy operation, label design, and template selection.

### Fast Print Speed

Delivers rapid output up to 150 mm/second, ideal for high-volume hospital and laboratory environments.

### Compact & Durable Design

Space-saving unit built with robust materials, suitable for continuous operation in clean or clinical settings.

### Seamless Connectivity

Interfaces with systems via USB, LAN, Wi-Fi, or Bluetooth for real-time data transfer and label printing.

### Auto-Cutter & Label Peeler (Optional)

Increases efficiency by automatically cutting and dispensing labels for quick application.

### Integrated Memory & Data Logging

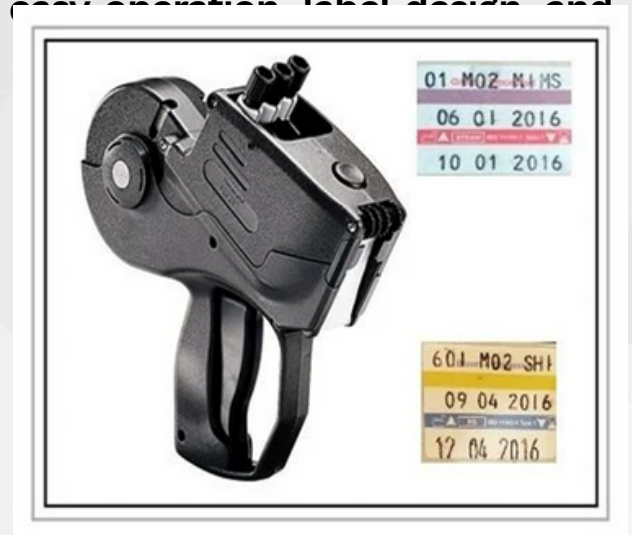
Stores print history, templates, and user logs for audit trails and documentation traceability.

### Compatible with Hospital Systems

Easily integrates with HIS, LIS, CSSD tracking software, and barcode inventory platforms.

### Low Maintenance

Simple loading mechanism and long-lasting print heads reduce downtime and servicing costs.



# CLEANCARE

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