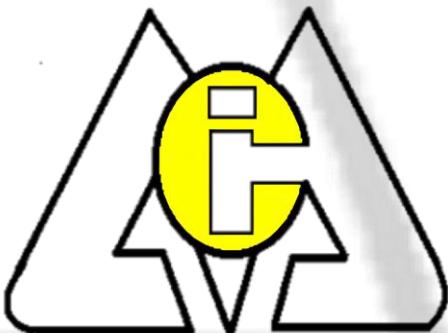




Metal Chem Equipments Pvt. Ltd.

Decades of Sterile Solutions, Build on Trust



Metal Chem: Decades of Sterile Solutions, Build on Trust

Founded in 1982 by promoters with over 40 years of experience, Metal Chem Equipments Pvt Ltd (Formerly known as Metal Chem Industries) was built on a foundation of integrity and an unwavering commitment to quality. Our core belief is in delivering exceptional value to our customers through world-class processes.

Today, we are a leading manufacturer of sterilizing equipment for the pharmaceutical industry. Our team of experienced technocrats and skilled engineers combines deep knowledge with innovative thinking to adapt new technologies. This dedication has earned us the trust of respected pharmaceutical manufacturers worldwide.

We offer a comprehensive range of purpose-built equipment for demanding sterile environments, including:

- Steam Sterilizers (Autoclaves)
- Bung Dryers / Processors
- Dry Heat Sterilizers
- Multi-Column Distilled Water Plants
- Pure Steam Generators
- Ventilator & Super-Heated Water Spray Sterilizers
- Sterilizing & Depyrogenation Tunnels
- Leak Testing Units
- E.T.P. Sterilizers

Our Valuable Clients

<ul style="list-style-type: none">* AHLCON PARENTERALS (I) LIMITED* ALKEM LABORATORIES LIMITED* AUROBINDO PHARMA LIMITED* BHARAT SERUM & VACCINE PVT. LIMITED* BIOLOGICAL E. LIMITED* BORROUGHS WELCOME (I) LIMITED* BROOKS LABORATORIES LIMITED* CIPLA GROUP OF COMPANIES* DR. REDDY'S LABORATORIES LIMITED* ELDER PHARMACEUTICALS* EMCURE BIOTECH LIMITED* GLAXO INDIA LIMITED* GLENMARK PHARMACEUTICALS PVT. LIMITED* GLOBAL PARENTERALS PVT. LIMITED* HAFFKINE BIO-PHARMACEUTICAL CORPORATION LIMITED* HETRO DRUGS LIMITED* IND - SWIFT LIMITED	<ul style="list-style-type: none">* KORTEN PHARMACEUTICALS LIMITED* LUPIN LIMITED* MATRIX LABORATORIES LIMITED* MICRO LABS LIMITED* NICHOLAS PIRAMAL INDIA LIMITED* PANACEA BIOTEC* RANBAXY LABORATORIES LIMITED* RHONE-POULENC INDIA LIMITED* SHANCHA BIOTECHNICS PVT. LIMITED* SHREYA LIFE SCIENCES PVT. LIMITED* SIPRA REMEDIES LIMITED* SUN PHARMA GROUP.* SYMBIOTEC PHARMALAB PVT. LIMITED* TORRENT PHARMACEUTICALS LIMITED* UNICHEM LABORATORIES LIMITED* VENKATESHWARA HATCHERIES PVT. LIMITED* VENUS REMEDIES LIMITED
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Vertical Sliding Door Steam Sterilizer

Our sterilizers are designed for the complete sterilization of a wide range of materials, including glassware, containers, vessels, linen, rubber articles, and culture media.

Precision & Control

- **Sliding Doors:** Equipped with high-temperature resistant, food-grade silicone gaskets for a secure seal.
- **Fully Automatic Operation:** A PLC-based control system manages all parameters, with an independent manual mode for maintenance.
- **Cycle Versatility:** Offers standard, HPHV (High Pressure High Vacuum), Bowie-Dick, and test cycles to meet your specific needs.
- **Temperature Uniformity:** Guarantees precise chamber temperature uniformity as per EN554 & HTM 2010 standards.
- **21 CFR Part 11 Compliance:** Includes online printing and recording capabilities to ensure compliance with 21 CFR Part 11.

Customization & Quality

- **cGMP Models:** Our equipment is built to meet various international specifications and are available as complete cGMP models.
- **Material Options:** Choose from a full SS 316 construction or an economical model with only the contact parts in SS 316.
- **Optional Accessories:** Customize your unit with accessories like an electrical steam generator, vacuum pump, carriage, trolleys, chart recorders, data loggers, and Dx stations.
- **F Value Display:** The F Value display and printing option provides an additional layer of control and documentation.

Horizontal Sliding Door Steam Sterilizer

Our sterilizers are built for the complete sterilization of a wide range of materials, including glassware, containers, vessels, linen, rubber articles, and culture media.

Design & Performance

Versatile Design: We offer both rectangular and cylindrical chambers in a variety of sizes to fit your specific needs.

Secure Doors: Seal.

Precision Control: Our units guarantee precise temperature control and uniformity, meeting stringent standards like EN554 and HTM 2010.

Multiple Cycles: Choose from Standard, High Pressure High Vacuum (HPHV), Bowie-Dick, and Leak Test cycles. We also offer the option for rubber bung drying, sterilizing, or processing.

Advanced Automation & Compliance

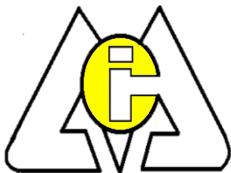
Fully Automatic PLC System: A comprehensive PLC-based control system manages all parameters. It includes a manual maintenance mode that is independent of the PLC.

Complete Compliance: All models are cGMP-compliant and adhere to various international specifications.

21 CFR Part 11 Ready: The system offers online printing and recording to ensure compliance with 21 CFR Part 11 regulations.

Customization & Options

Customize your unit with a variety of options, including an electrical steam generator, vacuum pump, carriage, trolleys, chart recorders, data loggers, and a Dx station.



Dry Heat Sterilizer / Class 100 Dry Heat Sterilizer

Our sterilizers are specifically designed for the sterilization of glass and metallic containers, including ampoules and vials.

Advanced Engineering & Design

- **Seamless Construction:** The unit features a one-piece, seamless construction for maximum durability and cleanliness.
- **Superior Airflow:** A detachable motor with dynamically balanced impellers, supported by heavy-duty bearings, ensures smooth and powerful operation.
- **Precise Temperature Control:** Incoloy tubular air heaters and a well-designed, adjustable baffle provide uniform temperature distribution throughout the chamber.
- **Secure Sealing:** Floating hinges ensure perfect door alignment, while high-temperature, food-grade silicone gaskets create a tight, reliable seal.

Automation & Compliance

- **Reliable Controls:** The automatic operating system, which is either relay or PLC-based, has a built-in feature to either abort or continue a cycle in the event of a power failure.
- **21 CFR Part 11 Compliance:** Sensors continuously monitor temperature on a scanner, printer, or data logger, with optional printing of F values for complete documentation and 21 CFR Part 11 compliance.

Specialized Models

- **Class 100 Units:** These models are equipped with high-temperature HEPA filters on one complete side and a separate HEPA-filtered exhaust system to meet stringent cleanliness standards.
- **Rubber Stopper Unit:** A specially designed, compact unit is available for the drying of rubber stoppers.
- **Material Quality:** All contact parts are made from SS 316L stainless steel for exceptional durability and corrosion resistance.

Hinged Door Rectangular / Cylindrical Steam Sterilizer

Advanced Engineering & Design

- This sterilizer's core is its robust design, featuring SS316 construction and hinged doors with high-temperature silicon gaskets.
- It comes in both rectangular and cylindrical chambers and offers conventional or dimpled jackets for efficient heat transfer. You can choose a single or a more reliable double door sealing gasket.

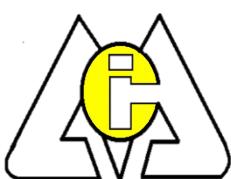
Automation & Compliance

- A fully automatic PLC control system runs all operations, including pre-programmed cycles like Bowie Dick and Leak tests.
- It is a cGMP model that guarantees precise temperature control and uniformity as per EN554 & HTM2010.
- For strict record-keeping, it supports 21 CFR Part 11 compliant printing and displays the critical F-value.



Specialized Model:

- Designed for a wide range of materials, including glassware, vessels, and linens, this unit is highly versatile.
- It offers optimal features like an electrical steam generator, vacuum pump and carriages.
- A unique provision for Rubber Bung Processing can also be added, making it a comprehensive solution for sterile processing.



Multi Column Distilled Water Plant & Pure Steam Generator

Advanced Engineering & Design

- This system is engineered to produce Water for Injection (WFI), adhering to all international standards.
- All contact parts are made of SS 316L stainless steel and are electro-polished for a smooth, sterile surface.
- The system is designed for low operating costs and ease of maintenance, with Triclover fittings on all pipelines for quick and hygienic assembly.

Automation & Compliance

- Quality and compliance are ensured through automated features.
- The system continuously monitors the conductivity of both distilled and feed water.
- It is designed for internal self-sterilization and uses a Grundfos (Denmark) centrifugal pump for reliable operation.
- The entire system is built to meet the rigorous standards required for WFI production.

Specialized Models & Features

- In addition to WFI, this unit includes a Pure Steam Generator that produces pyrogen-free sterile steam for sterilizing equipment like autoclaves and fermenters.
- This single-column unit can be optionally supplied with a deaerator.
- An optional Double Tube Sheet Construction provides extra safety against cross-contamination.



Sterilizing and Depyrogenating Tunnel

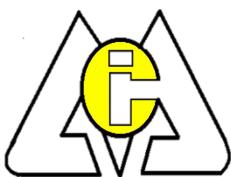


• **Integrated for Efficiency:** This system is built for the continuous, online sterilization of ampoules and vials, integrating seamlessly with both washing and filling lines to streamline production.

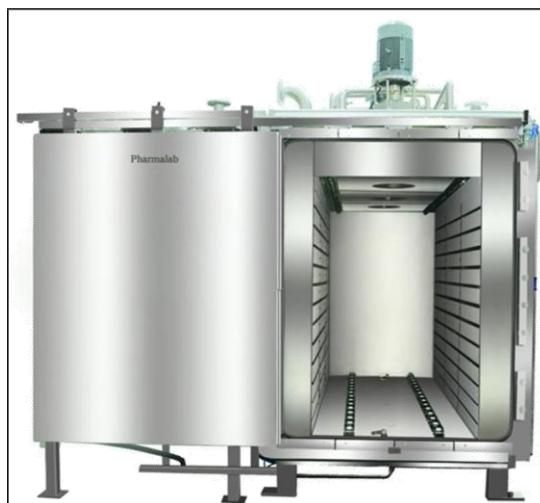
• **Contamination-Free:** It operates within a Class 100 laminar airflow environment, and by eliminating intermediate handling, it completely avoids contamination.

• **Advanced & Reliable:** Constructed from stainless steel and controlled by PLC automation, the system includes provisions for data logging and F-value printing for quality control.

• **Optional Upgrades:** You can add Thyristorized Temperature Control for precise heat regulation and VGD Drivers for enhanced conveyor control.



Ventilator Sterilizer



- Our Ventilator Sterilizer is engineered to protect the most delicate plastic containers, such as blood bags.
- With all contact parts crafted from medical-grade SS 316, we guarantee a sterile and non-reactive processing environment.
- This advanced material selection is key to preventing the yellowing of plastics, preserving product quality and transparency.
- The system features complete PLC automation, offering precise, hands-off control from start to finish.
- This not only maximizes efficiency and throughput but also ensures unwavering consistency and compliance for every single unit produced.

Super Heated Water Spray Sterilizer

- Engineered for the sterilization of fluids in both glass and plastic containers, our system is built for precision and reliability.
- All components that come into contact with the product are made from medical-grade SS 316, ensuring maximum purity and corrosion resistance.
- The system incorporates a Sterile Air Pressure Compensation feature, a critical function that balances the internal pressure of the containers.
- This prevents common issues like container deformation, cracking, and lid or seal damage during the high-temperature sterilization cycle.
- Full automation is achieved with advanced PLC controls.
- This ensures a repeatable and validated process by precisely managing all sterilization parameters.
- The system also includes the capability to generate a printout of F values, providing a verifiable record of the sterilization cycle's effectiveness for quality assurance and regulatory compliance.



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