

cGMP

Steam & Terminal Sterilizers

Pharma, Biotech & CDMO

- | Steripro - Saturated Steam Sterilizer
- | Ventipro - Steam-Air Mixture Sterilizer
- | Aquapro - Hot Water Cascade Sterilizer
- | Combipro - Combination Sterilizer





Sterilization you can count on, for the patients counting on you

Every vial, syringe, and IV bag reaches a patient who is depending on them to be safe and effective. It is the role of a sterilizer to safeguard pharmaceuticals against contamination and loss of efficacy. Because no two drugs or solutions are the same, a sterilization cycle developed for one load may compromise another. Similarly, a sterilizer built to a catalog spec might fit one facility while requiring another to adapt its installation and workflow to a pre-defined chamber size, mechanical footprint, or utility connections.

BMT USA addresses both of these constraints with cGMP sterilizers that are purpose-built to your specific load and throughput requirements, as well as the size and layout of your facility.

Backed by the global engineering depth of the MMM Group, each BMT USA sterilizer is supported for its full service life by U.S.-based technicians who are experts in cGMP equipment, enabling your team to focus on delivering life-changing pharmaceuticals that give patients a healthier tomorrow.

The right process for your application

Different load types call for different cycles to reach sterility without damaging materials, products, or packaging.

Load Type	Process	Sterilizer
 Porous materials, wrapped goods Filters, linens, rubber stoppers, complex filling line components, bedding, cages	Vacuum steam sterilization	Steripro
 Glassware / utensils / waste Beakers, flasks, empty vials, pipettes, metal utensils, unwrapped goods, waste	Gravity air removal steam sterilization	Steripro
 Liquids in open or vented containers Media, water, LB broth, buffer solutions	Gravity air removal steam sterilization, jacket water cooling	Steripro
 Liquids in sealed / pressure-sensitive containers Vials, ampoules, pre-filled syringes, cartridges, ophthalmic solution bottles	Steam-air mixture terminal sterilization	Ventipro
 Large-volume liquids in sealed / pressure-sensitive containers IV bags, parenteral nutrition bags, flexible plastic pouches, plastic solution bottles	Hot water cascade terminal sterilization	Aquapro
 Multiple load types CDMOs and multi-product facilities sterilizing different products, containers, and formats	Vacuum, steam-air, hot water cascade sterilization	Combipro

Steam Sterilization (Dry Goods / Porous Loads)

Gravity

Air Displacement: Steam is introduced from the top of the chamber, forcing heavier air downward and out through a drain trap.

Sterilization Phase: Saturated steam fills the chamber, raising the load to the required sterilizing pressure and temperature (typically between 121°C and 134°C).

Cooling Phase: Steam is exhausted from the chamber, allowing moisture to evaporate and the load to return to ambient temperature.

Jacket Water Cooling (Liquids Cycle): Cooling water circulates through the chamber jacket, removing heat from the chamber walls and significantly reducing cooling times. Meanwhile, sterile compressed air is injected to maintain an overpressure, preventing liquid boil-over during the rapid drop in temperature.

Vacuum

Air Evacuation: A liquid ring vacuum pump removes air from the chamber before steam is introduced and sterilization begins.

Steam Penetration (Porous Loads): Optional alternating vacuum and steam pulses effectively remove air and allow steam to thoroughly penetrate complex, wrapped, or porous materials.

Sterilization Phase: Saturated steam is injected, raising the load to the required sterilizing pressure and temperature (typically between 121°C to 134°C).

Cooling & Drying Phase: A deep vacuum rapidly dries the load before the chamber safely returns to atmospheric pressure for unloading. Optional pressure pulses can also be added to the end of the cycle to aid in removing trapped moisture.

Terminal Sterilization (Sealed Liquid Loads)

Steam-Air Mixture

Conditioning: Compressed air and steam are injected into the chamber to establish a controlled overpressure and prevent liquid boil-over or damage to product packaging.

Heating & Circulation: Internal fans continuously circulate the steam-air mixture, ensuring uniform temperature distribution and eliminating cold spots throughout the load.

Sterilization Phase: A precise sterilizing temperature is held (typically between 121°C to 134°C) while maintaining the overpressure.

Cooling & Drying Phase: Cooling coils installed inside the chamber cool the air and steam. The steam condenses and drains from the bottom of the chamber while fans continue circulating the cooled air, cooling and drying the load.

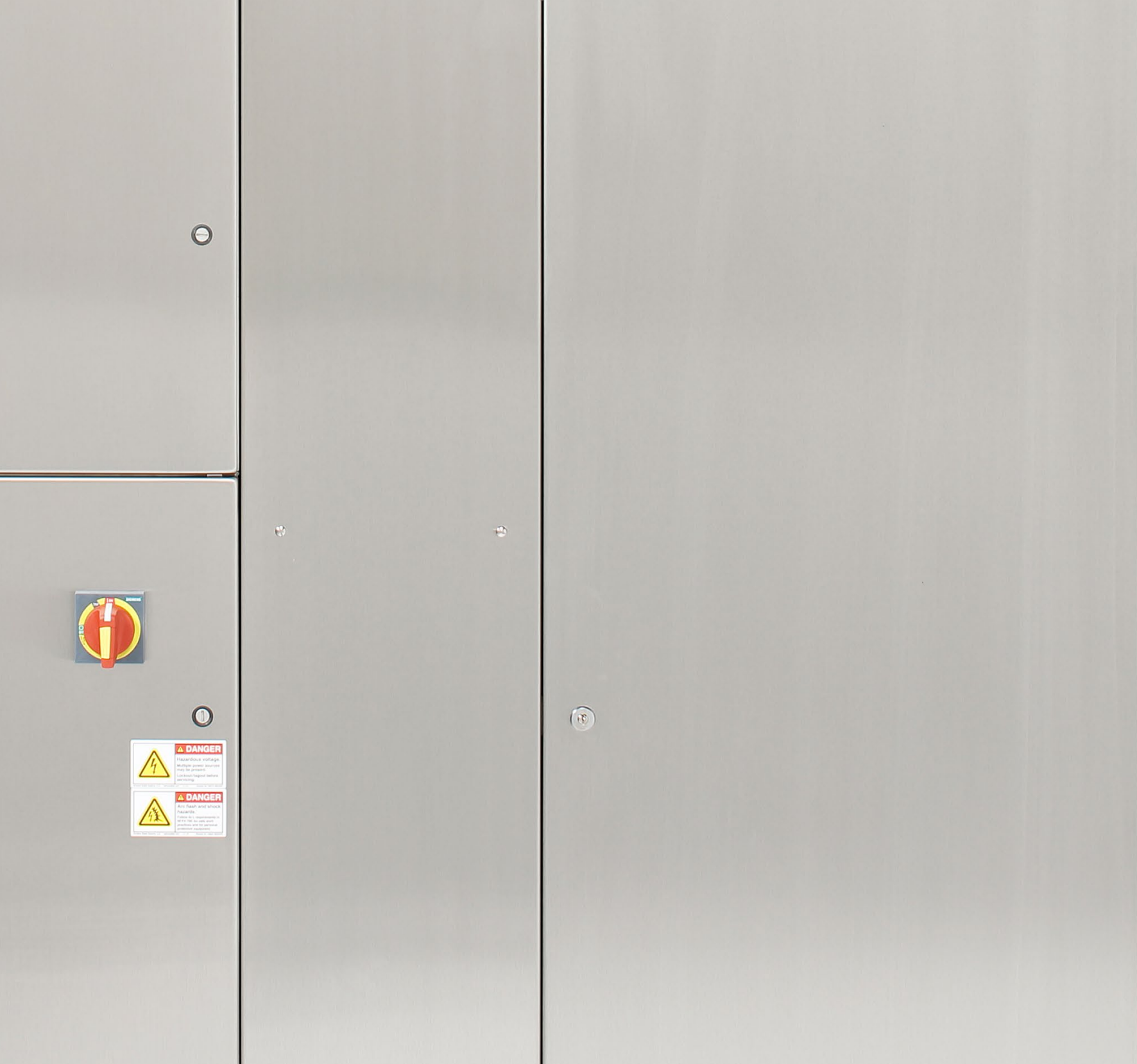
Hot Water Cascade

Heating & Cascading: External heat exchangers superheat sterile water to 110°C to 125°C. The water is then showered over the load from perforated distribution trays mounted at the top of the chamber, ensuring temperature uniformity and consistent load contact.

Sterilization Phase: The load is rapidly heated due to the efficient heat transfer properties of water. Meanwhile, compressed air is injected to create an overpressure, counteracting the rising pressure that builds inside liquid containers when heated.

Cooling Phase: The recirculating chamber water is cooled by an external heat exchanger and continuously sprayed over the load, bringing the temperature back to ambient.

Hot water cascade is the fastest and most gentle method of terminal sterilization, but the load remains wet at the end of the cycle.



Custom-built sterilization chamber

Central to every sterilizer is the sterilization chamber. Robotics and manual precision work together to produce high-quality chambers tailored to your exact size and capacity requirements.





Unlocking spare parts and service

Assembled with commercially available components, removing vendor lock-in and giving you the freedom to source spare parts and service on your own terms.

10–20
Years

The typical lifespan of a cGMP sterilizer. Over that time, the cost of spare parts and service can equal or exceed the sterilizer's original price. BMT USA reduces these lifecycle costs by using commercially available components, cutting out single-source markups and OEM-mandated parts and service contracts.

Purpose-built around your facility and load

There can be no compromise of the sterility of pharmaceutical products, and the engineering of your sterilizer should be held to the same standard.

That starts with building each sterilizer around your actual workflow, sized to the available space and load so your facility and process don't have to adapt to a fixed catalog spec.

Engineered to your process:

- Chamber and footprint**
Chamber size matched to throughput and load requirements. Overall footprint sized to the facility's available space.
- Door and access**
Single-door or pass-through configuration, floor or pit mounting, and mechanical space on the right or left side for service access.
- Steam generation**
Integrated or standalone generator, electric or steam-to-steam, matched to the facility's available utilities and steam output requirements.
- Process and handling**
Custom cycle recipes, loading equipment, and trays built around your throughput requirements and the load type, shape, and size.
- Utilities**
Water, electrical, steam, and drainage lines positioned to match existing or pre-planned utility layouts.

Serviceable on your terms:

	OEM-Proprietary	BMT USA
Spare Parts	Available only from the OEM	Available from BMT USA or multiple qualified suppliers
Pricing	Set by the OEM, with little room to negotiate	Competitive, through your preferred distributors
Maintenance	Black-box components that slow troubleshooting	Off-the-shelf, commercially available components that simplify maintenance
Lifetime Cost	Capital equipment price plus ongoing proprietary part markups or mandatory spare parts / service contracts	Full control over spare parts, service planning, and long-term operating costs

Built for cGMP Production

BMT USA sterilizers are built for demanding pharmaceutical environments. Chamber surfaces are finished to 25 Ra (0.64 µm) to simplify cleaning, and a seamless inner chamber leaves no interior weld seams to trap residue or moisture. The outer shell is fully welded for structural strength, and fully drainable chamber and piping leave no standing water, minimizing contamination risk and reducing maintenance requirements and unplanned downtime.

Commercially Available Parts

Assembled with commercially available components to support greater parts availability, lower long-term maintenance costs, and provide more control over spare parts inventory and service planning.



Sanitary Piping & Fittings

Constructed of 316L stainless steel and sloped to drain with no dead legs, eliminating moisture traps, reducing contamination risk, and simplifying cleaning validation throughout the system.



Stainless Steel Chamber

The chamber vessel and door are constructed entirely from 316L stainless steel with no dissimilar metals, avoiding galvanic corrosion and supporting long-term durability and cleanability.

Precision Sliding Doors

Automatic sliding chamber doors are pneumatically driven and equipped with photoelectric door sensors to improve operator safety. Lubricant-free door gaskets are long lasting and reduce particle shedding into cleanrooms.

Integrated Steam Generator

Electric or steam-to-steam clean steam generators integrate directly into the sterilizer, saving floor space and providing an all-in-one solution.

Precision control, repeatable performance

PLC controls developed in accordance with GAMP 5 to support your validation

Built on industrial-grade Allen-Bradley or Siemens PLC platforms and developed in accordance with GAMP 5 guidelines, the control system delivers the process repeatability, system reliability, and validation support that regulated production environments require.

Configure and store up to 50 cycle recipes all accessible through a large 10" touchscreen operator interface secured by multi-level user authentication. On pass-through units, a secondary 7" operator interface is mounted on the unload side of the sterilizer.

For facilities requiring electronic recordkeeping, the control system can be configured to support 21 CFR Part 11 compliance when connected to a PC or central computer system.

- Developed in accordance with GAMP 5 guidelines
- Programmable with any combination of applicable sterilization cycles with configurable parameters for each cycle phase
- Up to 50 cycle recipes securely stored in the control system memory
- Multi-level authentication prevents unauthorized recipe modifications
- Operation via large 10" touchscreen mounted on the load side of the sterilizer
- Optional 21 CFR Part 11 support for electronic records and signatures
- Available EtherNet/IP and OPC UA for integration with plant SCADA, building automation, and MES systems.
- Comprehensive factory documentation package



Steripro

Saturated Steam Sterilizer

Installed in pharmaceutical and biotech production facilities, the Steripro provides both vacuum and gravity cycles for sterilizing linens, filters, stoppers, glassware, and filling line components that enter aseptic and cleanroom operations. Gravity cycles with added jacket water cooling enable the Steripro to also prepare culture media and decontaminate biological waste before disposal. Cycle recipes stored on the PLC provide the process repeatability needed to deliver sterile components to production and support product quality.

Highlights

- Thorough air removal through a liquid ring vacuum pump or gravity cycles
- Steam baffles at the top of the chamber distribute steam evenly, minimizing cold spots across the load
- Closed-loop recirculation of the vacuum pump seal water reduces utility water consumption compared with once-through systems

Standard Equipment

- 316L stainless steel chamber, door, piping and fittings
- Fully insulated chamber and piping, sloped to drain with no dead legs
- Automatic pneumatically driven sliding door(s), vertical or horizontal, with photoelectric safety sensor(s) and lubricant-free gaskets
- PLC controls (Allen-Bradley or Siemens) developed in accordance with GAMP 5; optional 21 CFR Part 11
- 10" operator interface installed on the load side, 7" operator interface installed on the unload side
- Storage for up to 50 cycle recipes
- Liquid ring vacuum pump
- Factory documentation package with optional IQ/OQ protocols available



Available Processes



Vacuum Process with Drying
Porous or wrapped sterile goods



Gravity Air Removal Process
Glassware / utensils / waste



Gravity Air Removal, Jacket Water Cooling
Liquids in open or vented containers

Typical Loads

- Linens
- Filters
- Rubber Stoppers
- Hoses
- Bedding
- Filling Line Components
- Empty Vials
- Media
- LB Broth
- Waste
- Beakers / Flasks
- Pipettes
- Metal Utensils
- Water / Solutions

110°C to 135°C
Sterilization Temperature Range

±0.5°C
Temperature Uniformity

75%
Utility water savings compared with once-through systems

15 Years
Chamber Warranty

Ventipro

Steam-Air Mixture Terminal Sterilizer

Installed in pharmaceutical production and cleanroom facilities, the Ventipro provides terminal sterilization of parenteral products in their final sealed containers. A circulating steam-air mixture heats the load evenly within $\pm 0.5^{\circ}\text{C}$ while controlled overpressure protects containers and packaging from deformation throughout the cycle. Cycle recipes stored on the PLC repeat the same sterilization profile batch after batch, supporting product quality.

Highlights

- Overpressure control balances the pressure that builds inside sealed containers as they heat, protecting them from deformation
- Cooling coils and circulating fans leave containers dry and ready for labeling or packing

Standard Equipment

- 316L stainless steel chamber, door, piping, and fittings
- Fully insulated chamber and piping, sloped to drain with no dead legs
- Automatic pneumatically driven sliding door(s), vertical or horizontal, with photoelectric safety sensor(s) and lubricant-free gaskets
- PLC controls (Allen-Bradley or Siemens) developed in accordance with GAMP 5; optional 21 CFR Part 11
- 10" operator interface installed on the load side, 7" operator interface installed on the unload side
- Storage for up to 50 cycle recipes
- Internal circulation fans, with the fan wheel and all chamber-mounted parts in 316L stainless steel
- Cooling coils installed inside the chamber
- Compressed air and steam injection for controlled overpressure
- Liquid ring vacuum pump
- Factory documentation package with optional IQ/OQ protocols available



Available Processes



Steam-Air Mixture Process
Liquids in sealed, heat- or pressure-sensitive containers



Vacuum Process with Drying
Porous or wrapped sterile goods

Typical Loads

- Pre-filled Syringes
- Vials
- Ampoules
- Ophthalmic Solution Bottles
- Cartridges
- Rubber Stoppers
- Bedding
- Hoses
- Linens
- Filters



High Performance Fans

Ventipro sterilizers are equipped with high performance fans that intensify the streaming of the steam-air mixture through the chamber and around the load. The fan wheel and all parts mounted inside the chamber are made of 316L stainless steel. The motor is installed outside the chamber and connected to the fan wheel through a sealed shaft that simplifies inspection and maintenance.

Aquapro

Hot Water Cascade Terminal Sterilizer

The Aquapro is a cGMP hot water cascade sterilizer designed for terminal sterilization of large-volume liquid products in heat- or pressure-sensitive containers, including IV bags, parenteral nutrition bags, and flexible plastic pouches. Superheated recirculating water at 110°C to 125°C heats and cools the load quickly, shortening cycle times and minimizing thermal stress on products and packaging. Cycle recipes stored on the PLC repeat the same sterilization profile for high-throughput production.

Highlights

- Recirculating hot water cascades over the load for rapid heating and cooling. Plant steam heats the water through a heat exchanger, so no clean steam generator is required.
- A perforated distribution tray spreads water evenly across the load, holding temperature uniformity within $\pm 0.5^{\circ}\text{C}$.
- Compressed air maintains overpressure to counteract the pressure that builds inside sealed containers.

Standard Equipment

- 316L stainless steel chamber, door, piping, and fittings
- Fully insulated chamber and piping, sloped to drain with no dead legs
- Automatic pneumatically driven sliding door(s), vertical or horizontal, with photoelectric safety sensor(s) and lubricant-free gaskets
- PLC controls (Allen-Bradley or Siemens) developed in accordance with GAMP 5; optional 21 CFR Part 11
- 10" operator interface installed on the load side, 7" operator interface installed on the unload side
- Storage for up to 50 cycle recipes
- High-capacity recirculation pump
- External heat exchangers for heating and cooling the recirculating chamber water
- Perforated tray installed at the top of the chamber to evenly distribute water across the load
- Liquid ring vacuum pump
- Factory documentation package with optional IQ/OQ protocols available



Available Processes



Hot Water Cascade Process
Large-volume liquids in sealed containers



Vacuum Process with Drying
Porous or wrapped sterile goods

Typical Loads

IV Bags

Parenteral Nutrition Bags

Plastic Solution Bottles

Flexible Plastic Pouches

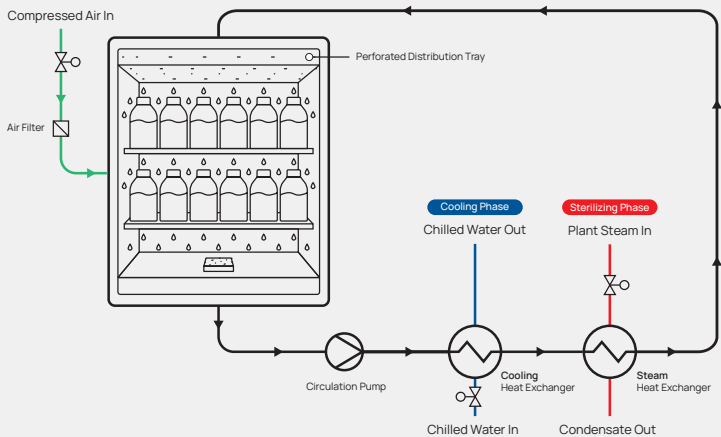
Linens

Filters

Hoses

Rubber Stoppers

Bedding



Operation Overview

Large-diameter piping and a high-capacity pump circulate chamber water through a heat exchanger to be heated by incoming plant steam. The heated water then flows into the chamber where it is directed over a perforated distribution tray and cascaded evenly across the load.

Filtered compressed air maintains an overpressure in the chamber to counteract the pressure that builds inside containers as they heat.

At the end of the sterilization phase, a separate heat exchanger supplied with chilled water cools the recirculating chamber water and, in turn, the load.

Neither the plant steam nor the chilled water ever comes into direct contact with the chamber water.

Combipro

Combipro

Combination Steam & Terminal Sterilizer

The Combipro combines multiple sterilization processes in one system, giving contract manufacturers and process development centers greater flexibility across changing products, container types, and development requirements. Equipped with vacuum capability for dry goods, a fan system for steam-air mixture sterilization, and recirculation piping for hot water cascade cycles, the Combipro supports the sterilization method best suited to each application. Ports and controls for vaporized hydrogen peroxide (VHP) sterilization can be added as an option for loads that cannot tolerate conventional steam sterilization.

Highlights

- Combination vacuum, gravity air removal, steam-air mixture and hot water cascade processes all in one sterilizer
- Optional ports and controls for vaporized hydrogen peroxide (VHP) sterilization
- Purpose-built to your process requirements with commercially available parts

Standard Equipment

- 316L stainless steel chamber, door, piping, and fittings
- Fully insulated chamber and piping, sloped to drain with no dead legs
- Automatic pneumatically driven sliding door(s), vertical or horizontal, with photoelectric safety sensor(s) and lubricant-free gaskets
- PLC controls (Allen-Bradley or Siemens) developed in accordance with GAMP 5; optional 21 CFR Part 11
- 10" operator interface installed on the load side, 7" operator interface installed on the unload side
- Storage for up to 50 cycle recipes
- Internal 316L stainless steel circulation fans for steam-air cycles
- Recirculation pump, external heat exchangers, and perforated distribution tray for hot water cascade cycles
- Cooling coils and compressed air overpressure control for terminal sterilization cycles
- Liquid ring vacuum pump
- Factory documentation package with optional IQ/OQ protocols available



Available Processes



Vacuum Process with Drying
Porous or wrapped sterile goods



Gravity Air Removal Process
Glassware / utensils / waste



Gravity Air Removal, Jacket Water Cooling
Liquids in open or vented containers



Steam-Air Mixture Process
Liquids in sealed, heat- or pressure-sensitive containers



Hot Water Cascade Process
Large-volume liquids in sealed containers

Typical Loads

- Linens
- Filters
- Rubber Stoppers
- Hoses
- Bedding
- Filling Line Components
- Empty Vials
- Media
- LB Broth
- Waste
- Beakers / Flasks
- Pipettes
- Metal Utensils
- Water / Solutions
- Flexible Plastic Pouches
- IV Bags
- Parenteral Nutrition Bags
- Ampoules
- Pre-filled Syringes
- Ophthalmic Solution Bottles
- Cartridges

Committed to supporting you at every stage

Each BMT USA sterilizer ships with a comprehensive documentation package and is supported by U.S.-based, factory-trained technicians who specialize in cGMP equipment.

01

Factory Acceptance Testing
Conducted at our facility. Customers are invited to attend and participate.

02

Installation Supervision
Field technicians guide installation and utility connection.

03

Commissioning
Startup, test cycles, and operator training with a startup report. Optional site acceptance testing.

04

IQ/OQ (optional)
BMT USA technicians execute BMT USA-supplied or client-provided protocols.

05

Ongoing Service
Preventive maintenance plans and commercially available replacement parts from our U.S. team.

Documentation Package

Drawings and specifications

P&ID, installation and electrical drawings, functional specification, mechanical and electrical components lists

Controls

Software design document, control system documentation

Testing

FAT protocol, optional SAT and IQ/OQ protocols

Materials and Fabrication

Materials and calibration certificates, welding logs, pressure vessel certificates

Manuals

Installation and operation manuals

Validation Support

IQ and OQ protocols are available as options, and BMT USA technicians can execute either BMT USA-supplied or client-provided protocols to verify correct installation and proper system operation. Controls are developed in accordance with GAMP 5 guidelines, with optional 21 CFR Part 11 support for electronic records and signatures, supporting your team's path from installation to qualified operation.

Service and Parts

Preventive maintenance plans include a full inspection, replacement of wear components, cleaning of steam traps and strainers, lubrication of moving parts, and a detailed service report, scheduled around your production. Commercially available components keep replacement parts easy to source.

15 Years

Chamber Warranty
(terms apply)

Parts Procurement

We help you source the parts that keep your equipment running and minimize downtime

cGMP Specialists

Field service technicians located throughout the U.S., ready to support your site

Support: +1 360-863-2252

Parts: parts@bmtusa.com

Service: service@bmtusa.com

Sample sterilizer chamber sizes

BMT USA sterilizer chambers can be built to meet almost any size or volume requirements. The table below contains examples of our standard chamber sizes; however, **custom sizes are available upon request to meet your exact specifications.**

Models	Internal Chamber Dimensions (w x h x d)	Estimated Overall Dimensions (w x h x d)	Chamber Volume	Door Slide Direction	Unit Mounting
202038	20" x 20" x 38" 508 x 508 x 965 mm	60" x 74" x 50" 1524 x 1880 x 1270 mm	8.8 cu. ft. 249 L	Vertical	Floor
262639	26" x 26" x 39" 660 x 660 x 990 mm	66" X 80" X 51" 1676 x 2032 x 1296 mm	15.3 cu. ft. 433 L	Vertical	Floor
262649	26" x 26" x 49" 660 x 660 x 1245 mm	66" x 80" x 61" 1676 x 2032 x 1549 mm	19 cu. ft. 538 L	Vertical	Floor
263639	26" x 36" x 39" 660 x 915 x 990 mm	66" x 96" x 51" 1676 x 2438 x 1296 mm	21 cu. ft. 595 L	Horizontal	Floor
263648	26" x 36" x 48" 660 x 915 x 1220 mm	66" x 96" x 60" 1676 x 2438 x 1524 mm	25.9 cu. ft. 733 L	Horizontal	Floor
263660	26" x 36" x 60" 660 x 915 x 1524 mm	66" x 96" x 72" 1676 x 2438 x 1829 mm	32.5 cu. ft. 920 L	Horizontal	Floor
363648	36" x 36" x 48" 915 x 915 x 1220 mm	128" x 96" x 60" 3251 x 2438 x 1524 mm	36 cu. ft. 1019 L	Horizontal	Floor
363660	36" x 36" x 60" 915 x 915 x 1524 mm	128" x 96" x 72" 3251 x 2438 x 1828 mm	45 cu. ft. 1274 L	Horizontal	Floor
375760	37" x 57" x 60" 940 x 1448 x 1524 mm	129" x 114" x 72" 3277 x 2896 x 1828 mm	73.2 cu. ft. 2073 L	Horizontal	Floor
375786	37" x 57" x 86" 940 x 1448 x 2184 mm	129" x 114" x 98" 3277 x 2896 x 2489 mm	105 cu. ft. 2973 L	Horizontal	Floor or Pit
484860	48" x 48" x 60" 1219 x 1219 x 1524 mm	148" x 108" x 72" 3759 x 2743 x 1829 mm	80 cu. ft. 2265 L	Horizontal	Floor or Pit
484872	48" x 48" x 72" 1219 x 1219 x 1829 mm	148" x 108" x 84" 3759 x 2743 x 2133 mm	96 cu. ft. 2718 L	Horizontal	Floor or Pit
484886	48" x 48" x 86" 1219 x 1219 x 2184 mm	148" x 108" x 98" 3759 x 2743 x 2489 mm	114.5 cu. ft. 3242 L	Horizontal	Floor or Pit
495748	49" x 57" x 48" 1244 x 1448 x 1219 mm	149" x 114" x 60" 3784 x 2896 x 1524 mm	77.5 cu. ft. 2195 L	Horizontal	Floor or Pit
495760	49" x 57" x 60" 1244 x 1448 x 1524 mm	149" x 114" x 72" 3784 x 2896 x 1829 mm	96.9 cu. ft. 2743 L	Horizontal	Floor or Pit
495772	49" x 57" x 72" 1244 x 1448 x 1829 mm	149" x 114" x 84" 3784 x 2896 x 2133 mm	116.3 cu. ft. 3293 L	Horizontal	Floor or Pit
495786	49" x 57" x 86" 1244 x 1448 x 2184 mm	149" x 114" x 98" 3784 x 2896 x 2489 mm	138.8 cu. ft. 3930 L	Horizontal	Floor or Pit
495796	49" x 57" x 96" 1244 x 1448 x 2438 mm	149" x 114" x 110" 3784 x 2896 x 2794 mm	155 cu. ft. 4389 L	Horizontal	Floor or Pit
488660	48" x 86" x 60" 1219 x 2184 x 1524 mm	148" x 133" x 72" 3759 x 3378 x 1829 mm	143 cu. ft. 4049 L	Horizontal	Floor or Pit
488686	48" x 86" x 86" 1219 x 2184 x 2184 mm	148" x 133" x 98" 3759 x 3378 x 2489 mm	205 cu. ft. 5805 L	Horizontal	Floor or Pit
548686	54" x 86" x 86" 1371 x 2184 x 2184 mm	166" x 133" x 98" 4216 x 3378 x 2489 mm	230.7 cu. ft. 6531 L	Horizontal	Floor or Pit

Loading & testing equipment

Loading carts, trays, and a validation flange built around your load, your space, and your validation

Loading Carts & Trolleys

Loading carts and transfer trolleys are designed to support safe, ergonomic movement of materials, containers, and equipment into the sterilizer chamber, whether by transfer trolley on floor-mounted units or directly from the facility floor on pit-mounted installations.

Loading carts are constructed of 316L stainless steel and feature height-adjustable shelves, while transfer trolleys are built from 304 stainless steel for durable daily use.

For pit-mounted sterilizers, non-marking wheels are available, and chamber tracks or rub rails can be configured to accommodate your wheel arrangement. Drop-down wheel carts are also available for facilities where space is limited.



Validation Flange

The BMT USA validation flange is designed to seal each thermocouple lead wire individually, making load probe replacement faster and less disruptive during validation work. If a single thermocouple fails, the affected wire can be replaced without disturbing the seals of the surrounding probes, reducing service time and simplifying maintenance. The validation flange is available for 16- or 24-probe configurations and can be fitted to 1.5" or 2" tri-clamp validation ports, with custom sizes available upon request.

Sterilizer Trays

For sterilizing vials and other materials that require special handling, BMT USA offers custom trays and boxes tailored to your specific load shape and size to maximize the capacity of your sterilizer. Trays and boxes are constructed from 316L stainless steel and available in a range of surface finishes.



Pure & clean steam generators

Fully integrated or standalone steam source for safe and effective steam sterilization.

BMT USA steam generators produce pure or clean steam free of additives or impurities. The generators can be configured as a central steam source or integrated directly into a BMT USA sterilizer for an all-in-one solution. Available in electric models for facilities without available plant steam or steam-to-steam models with a wide range of output capacities.

50 to 1200+ lbs/hr
Electric Output Capacities

50 to 5000+ lbs/hr
Steam-to-Steam Output Capacities

Standard Features

- All stainless-steel construction prevents rusting
- Fast response times and tight steam pressure control without the need for a pressure regulator
- Allen-Bradley or Siemens PLC-based control system developed under GAMP 5 guidelines
- Assembled with commercially available components
- Fully drainable vessel and piping
- Extensive validation documentation reduces on-site validation time

Additional Options

- Double-tube-sheet construction (*steam-to-steam*)
- Sanitary feed water piping, components, and connections
- Automatic drain valve for prolonged shut downs
- Sanitary feed water booster pump system
- Electropolishing of the vessel and piping for added rouging resistance
- Steam separator for pure steam demands
- Steam and feed water conductivity monitoring and recording
- Steam quality sample system
- Block and bleed valve arrangement for feed line drainage with USP purified water or WFI



Integrated Vertical Electric Generators

BMT USA is one of the only manufacturers offering both horizontal and vertical electric steam generators (up to 400 lbs/hr) integrated directly into a sterilizer, reducing the overall footprint.

Pure Steam. No Additives.

For applications requiring direct product contact and sterile pharmaceutical use, BMT USA clean steam generators can be equipped with a steam separator installed at the top of the evaporator. The separator forces the generated clean steam through a tortuous path, removing residual moisture and impurities. When condensed, the resulting pure steam meets Water for Injection (WFI) quality requirements.

BMT USA Equipment

cGMP Steam & Terminal Sterilizers

Pure & Clean Steam Generators

ISO Class 5 & 7 Depyrogenation Ovens

cGMP Washers

Laboratory Autoclaves

Laboratory Washers

Laboratory Ovens

Laboratory Incubators

Climate & Stability Chambers



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BMT USA. Pure Results.