

# 509 Vertical Sterilizer Product Specification

## Product Description

The 509 vertical door steam sterilizer is designed to provide user selectable gravity and pre-vac steam sterilization cycles. A vacuum pump and efficient handling of the condensate cooling enables minimal use of water. Unique Smart Dry™ Technology varies the dry time based upon load size to ensure consistent, complete drying.

## Application

For steam sterilization of unwrapped equipment, wrapped instruments and utensils, glassware, stainless steel components and liquids in vented or unsealed containers.

## Models & Dimensions

| Model  | Chamber Size<br>w x h x d | Chamber<br>Volume<br>ft <sup>3</sup> , (ltr) | Dimensions<br>w x h x d<br>in (mm)             |
|--------|---------------------------|--|--|
| 509VS1 | 21" x 21" x 38"           | 9.7<br>(275)                                 | 33.6" x 74.75" x 47.25"<br>(800 x 1900 x 1200) |
| 509VS2 | 21" x 21" x 38"           | 9.7<br>(275)                                 | 33.6" x 74.75" x 47.25"<br>(800 x 1900 x 1200) |



## Configurations & Options

### Door Selections

- Single Door, VS1
- Double Door, VS2

### Installation Type

- Recessed
- Cabinet

### Options

- Integrated Steam Boiler
- Foot Pedal for Door Operation
- Chilled Water Connection
- Steam to Steam Heat Exchanger (external)
- Pull out shelves

### Accessories

- Seismic Anchoring Kit

### Standards

UL61010A-1, UL61010A-2-041, AAMI ST-08

## Standard Features

### Construction / Design

**Chamber** - Stainless steel, type 316L, with dedicated steam line

**Chamber Insulation** – Mineral wool totally encased by aluminum sheet metal to protect the insulation and hold in heat

**Doors** – Vertically sliding, powered, stainless steel. The motor includes a safety clutch which will stop the door if an obstruction is encountered

**Door Seal** – A precision milled stainless steel channel in the front of the chamber holds the round, silicone seal. The seal is activated, after door closure, by compressed air and is retracted using a vacuum created by the vacuum pump

**Mechanical Vacuum Pump** – A highly efficient, liquid ring vacuum pump is provided to remove air during pre-vac, aid in the drying phase and draw in the door seal..

**Valves** – Pneumatic control valves are used for precise control of steam flow in and out of the chamber and jacket

**Jacket** – Stainless steel, type 316L, segmented jacket, with separate steam line provides improved control of temperature by eliminating steam overshoot reducing the possibility of superheated steam

**Drain Tempering** – Condensate is cooled to below 140°F (60°C) before being discharged

**Control System** –PLC based controller

**Display Panel** – A TFT color touch panel is used for operator control and display of cycle parameters

**Piping** – All wetted surfaces are stainless and can be used with clean steam

**Printer** – Built in 42 column impact dot matrix

**Temperature Measurement** – Twin PT-1000 RTD's, in a 3 wire circuit, are used to monitor temperatures

# 509 Vertical Sterilizer Product Specification

## Options

**Integrated Steam Boiler** – An electric boiler can be installed in the top area of the sterilizer to provide local steam when house steam is not available. The boiler can be fed with tap water or DI/RO water can be used to provide clean steam

**Foot Pedal** – Provides a hands-off method to open the vertically sliding door

**Chilled Water Connection** – The sterilizer can be connected to a chilled water system to essentially eliminate potable water use. Cooling of the condensate and vacuum are improved with the consistent lower temperature of the chilled water

**Steam to Steam Heat Exchanger** – Uses house steam as a heat source to boil DI or RO water to produce clean steam for the sterilizer

**Shelves** – Pull out shelves can be installed

## Cycle Description

The 509 sterilizer is factory pre-programmed with 9 cycles, including 3 gravity, 4 pre-vac, liquid and Air Removal (Bowie-Dick) cycles as well as a leak test. A total of 10 cycles, maximum, can be stored.

## Installation

Matching stainless enclosures, fabricated for various ceiling heights, are included to provide a smooth finish to wall recessed sterilizers. For standalone cabinet type units, a full stainless enclosure is provided.

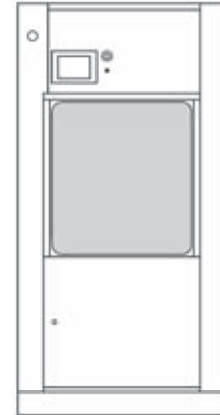
## Preventive Maintenance

Belimed recommends regular preventive maintenance to ensure proper operation of the equipment. Belimed maintains a nationwide, factory trained Service Technician Group which can perform this maintenance and/or train Biomedical staff on the proper procedure. Belimed also offers a number of PM Plans. Contact Belimed Technical Service for more details.

# 509 Vertical Sterilizer Product Specification

## Technical Information

| Model       |             | Outside Dimensions<br>w x h x d (mm)           | Loading Height<br>(mm) |
|-------------|-------------|--|------------------------|
| Single door | Double Door |  |                        |
| 509VS1      | 509VS2      | 33.6" x 74.75" x 47.25"<br>(885 x 1900 x 1200) | 30.9"<br>(785)         |



| 509 VS1 STERILIZERS - TECHNICAL DATA   |                      |                                |      |           |       |                   |         |                   |                 |  |
|--|----------------------|--------------------------------|------|-----------|-------|-------------------|---------|-------------------|-----------------|--|
| Ref.   | Utility              | Connection                     |      | Pressure  |       | Peak Consumption* |         | Consumption/Load* |                 |  |
|  |                      | Size                           | Type | Value     | units | Value             | units   | Value             | units           |  |
| SS   | Steam supply         | 3/4"                           | NPT  | 40-50     | PSIG  | 1.7               | lb/min  | 35                | lb              |  |
| CW   | Cold Water           | 1/2"                           |      | 30-70     |       | 4.4               | gal/min | 40                | gal             |  |
| CA   | Compressed Air       | 1/4"                           |      | 70-100    |       | 0.28              | CFM     | 10.6              | ft <sup>3</sup> |  |
| EL   | Electric Supply      | 4x4 junction box w/ receptacle |      |           |       | 1.6               | kW      | 0.5               | kWh             |  |
| DR   | Open Drain           | Indirect drain                 |      |           |       | 5.3               | gal/min | 44                | gal             |  |
| CD   | Condensate           | 3/4"                           | NPT  |           |       |                   |         |                   |                 |  |
| Optional utilities for chilled water cooling (used for reduction of cold water consumption). |                      |                                |      |           |       |                   |         |                   |                 |  |
| CS   | Chilled Water supply | 3/4"                           | NPT  | 30-70     | PSIG  | 8.8               | gal/min | 26.5k             | BTU             |  |
| CR   | Chilled Water Return | 3/4"                           |      |           |       |                   |         |                   |                 |  |
| CW   | Cold Water           | 1/2"                           |      | 30-70     | PSIG  | 4.4               | gal/min | 2.6               | gal             |  |
| Carry-in Dimensions  |                      | Value                          |      | Weights   |       |                   |         | Value             |                 |  |
| Height   |                      | 74.8 in.                       |      | Transport |       |                   |         | 1763 lbs          |                 |  |
| Width  |                      | 33.6 in.                       |      | Operating |       |                   |         | 1433 lbs          |                 |  |
| Length   |                      | 46.2 in.                       |      | Test      |       |                   |         | 1984 lbs          |                 |  |