



**CONSOLIDATED
STERILIZER SYSTEMS**

LABORATORY AND RESEARCH AUTOCLAVES

The most reliable and easy-to-use steam autoclaves in the world.



ABOUT CONSOLIDATED

Consolidated Sterilizer Systems was founded in 1946 in Boston, Massachusetts. For more than 75 years we have constantly demonstrated a reputation for excellence and reliability in the field of sterilization products. Through ongoing research and development, we continue to create and integrate innovative technologies into our products that benefit our clients.



All of our steam sterilizers are 100% manufactured in the USA. Consolidated provides comprehensive sales and service support throughout the world. Your local sales and service consultant will gladly consult with you to ensure a best fit sterilizer with your requirements and facility in mind. A turnkey installation, a simple quality build, and ongoing local service support ensures a seamless placement and robust operation over time.

Our Mission

The mission of Consolidated is to provide the most reliable and easy-to-use laboratory sterilizers while offering the best customer experience. We strive to:

- Make it simple for our clients to learn about, procure, integrate, install, operate and service laboratory sterilizers.
- Continually improve our products, services, and operations.
- Foster a culture that encourages customer focus, collaboration, open communication, health, personal growth, and learning.

Customizable Single Door and Pass-Thru Steam Sterilizers



SMALL
LAB SERIES



MEDIUM
LAB SERIES

Small and Medium Lab Series available in hinged and vertical doors.
See Sterilizer Selection Chart for full offerings.



BIOCONTAINMENT
(BSL-3) SERIES



TOWER
SERIES



REFURBISHED
SERIES



WHY CONSOLIDATED STERILIZER SYSTEMS?



PROVEN QUALITY & RELIABILITY

Over 14,000 built-to-order autoclaves installed worldwide. Each sterilizer is built to be simple and reliable ensuring a long-lasting, robust sterilizer for your laboratory.



LOWEST TOTAL COST OF OWNERSHIP

Consolidated sterilizers are manufactured to be easily serviced and maintained by in-house personnel or your local authorized service technician.



NON-PROPRIETARY PARTS

Consolidated's sterilizers are built with high quality, non-proprietary parts that can be easily obtained from local suppliers, authorized service groups, the e-store, or directly through Consolidated.



INTUITIVE CONTROLS

All sterilizers come equipped with this state-of-the-art and easy-to-use control system that allows up to 50 programmable cycles and password protection.



MADE TO ORDER

Consolidated offers many autoclave customization options to accommodate your unique lab space. Other manufacturers do not provide the level of customization that Consolidated offers.



REMOTE MONITORING WITH STERINET® CONNEX

Consolidated autoclaves can be configured to include remote troubleshooting with live factory support; ideal for facilities that cannot afford any downtime or that are located in remote areas where service assistance is hours or days away.

SUITABLE FOR



LIFE SCIENCES



ACADEMIA



FOOD SAFETY



MEDICAL RESEARCH



THE X1™ STERILIZER CONTROLLER

Consolidated's X1™ sterilizers provide you with a top-of-the-line, simple and intuitive user interface. The X1™ platform is completely menu-driven and allows you to program and monitor sterilizer functions with a degree of sophistication that is unsurpassed.

Our X1™ sterilizers are an excellent choice for biotechnology, animal and life science, pharmaceutical, food, and industrial applications. The X1™ controller consists of an advanced software and hardware-based monitoring system that allows unattended operation of Consolidated sterilizers without sacrificing reliability or safety.

The X1™ control system includes these user-friendly features:

- An intuitive user interface with modern, easy to view touchscreen display.
- Ability to program up to 50 sterilization cycles.
- Ability to favorite frequently used cycles for quick access.
- A controller platform that is built from industry-standard, open-source components allowing for easy availability of parts and service.
- Standard security features prevent inadvertent or unauthorized process changes.



All Consolidated sterilizers with X1™ controls have the option to connect to the internet to allow remote monitoring, alerting and data collecting.



X1™ User-Interface: 7" Display, Shown to Scale — "Select a Cycle" Screen

X1™ FEATURES OVERVIEW

Operator Interface	
Display	7" (17.8 mm) Widescreen Color Touchscreen
Resolution	WVGA 800 x 400
Mounting Options	Front or Remote Panel

Industry Standard Sterilizer Cycles	
<ul style="list-style-type: none"> Gravity 	<ul style="list-style-type: none"> Liquid
Optional Sterilizer Cycles	
<ul style="list-style-type: none"> Pre-Vacuum Liquid with Controlling Load Probe F₀ with Controlling Load Probe Low Temperature (Isothermal) Continuous (Product Lifecycle Testing) Rapid Cool Temperature/Pressure Ramping 	<ul style="list-style-type: none"> Bowie-Dick (Air Removal Test) Vacuum Leak Test Air-Over-Pressure Steam-Air Mix ATF Bioreactor USP 660 Customized to Application

Sterilizer Control	
Configurable Cycle Parameters	Standard
Improper Parameter Rejection	Standard
E-Stop	Standard
Three Point Calibration of Sensors	Standard
Automatic Condensate Exhaust Management for all Cycles	Standard
Battery Backup of Program, Memory, & Configuration Data	Standard
Ability to Favorite Cycles	Optional

Green Features	
WaterEco® Water Conservation & Monitoring System	Standard
Energy Saver EcoCalendar for Scheduled On/Off Steam Supply	Standard
Auto Idle Shut-Off	Standard
EcoJacket	Standard

Security and Process Integrity	
Multi-layered Password Security for Manager and Service	Standard
Ability for Manager to Lock Cycle Configuration	Optional
User Traceability Password Protection	Optional
Up to 50 Usernames and Passwords	Optional

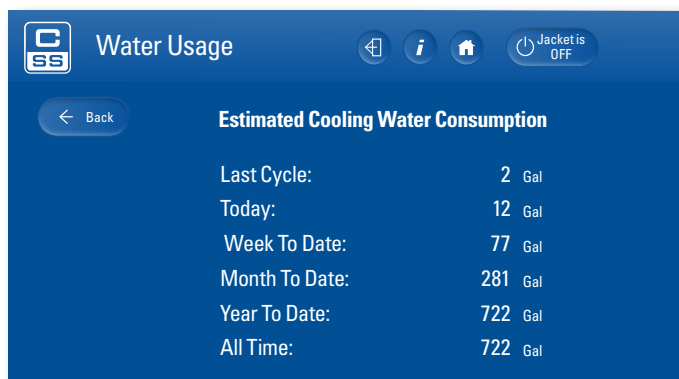
Documented Cycle Data Information	
User Defined Cycle Name	Standard
Start Time and Date	Standard
Cycle Type	Standard
Chamber Temperature/Pressures	Standard
Cycle Summary	Standard
Operator ID (If Applicable)	Standard
Cycle Set-Points and Parameters	Standard
Alarms	Standard

Visual and Audible Alarms	
Cycle Complete, Sensor Failure, Over Temperature, Under Temperature, Over Pressure, Time Limit, Door Seal	Standard
Alarm History Report on Touchscreen	Standard

System Monitoring and Data Storage	
Printer	Standard
Electronic Data Storage via SD/USB	Optional
Dry Contacts for Door Open, Alarm Condition, and/or Sterilizer On	Optional
SteriNET™ Connex (Remote Troubleshooting) via Ethernet	Optional



X1™ User-Interface: Cycle Running Screen



X1™ User-Interface: Water Usage Screen

OPTIONS AND ACCESSORIES

ProGEN™ Steam Generator

When house steam is not available or is inadequate, the Consolidated ProGEN™ electric steam generator serves as the steam source. Developed to fit directly below the sterilizer chamber within the chassis, the ProGEN™ is designed to deliver a high rate of steam to the chamber without lag time between cycles. This increased steam capacity accelerates recovery and achieves cycle setpoints more quickly to yield the most efficient turn-around time possible.

The ProGEN™ includes easily accessible front access to open-source heating elements for quick replacement over the life of the sterilizer, as well as:

- Larger than normal steam capacity, resulting in faster up-time.
- Large service opening for easy generator maintenance and inspection.
- Whisper-quiet automatic feed water pump, pressure regulator and electronic water level control.
- Standard voltages 208, 240, 380, 480 in single phase or three phase.
- Capacities from 20 kW to 45 kW.
- Optional automatic blowdown.
- Available to retrofit to existing sterilizer systems.

Loading Cart and Transfer Carriage

A loading cart, mounted on rollers, with two stainless steel shelves and a wheeled transfer carriage is available as an alternative to our standard shelving. The transfer carriage mates to interior guide rails to ease loading and unloading of sterilizer loads up to 500 lbs evenly distributed.



WPS-1200 Water Purification Systems

Many steam sterilizers use an electric steam generator to create the required steam. When the steam is created, salts and minerals from the feed water are left behind. If hard tap water is used to generate the steam, over time these mineral deposits will accumulate and coat the generator heating elements, continually decreasing the functionality of the generator until it stops working. Consolidated's Water Purification System will remove these contaminants to maximize sterilizer uptime.



WPS-1200-RO for Carbon Steel Steam Generators

The WPS-1200-RO reverse osmosis water purification system produces Type III laboratory-grade water ideal for steam sterilizers and glassware washers. This robust system includes an RO module and a reservoir tank. Each module consists of two pre-treatment filters and a reverse osmosis filter. The pre-treatment filters remove particles larger than 5 microns, free chlorine, chloramines, and other undesirable traits. The reverse osmosis membrane filter removes greater than 90% of inorganic ions, hardness, and dissolved solids, as well as other particles and microorganisms.

WPS-1200-DI for Stainless Steel Steam Generators

The WPS-1200-DI deionized water system incorporates extra filtration to produce Type II deionized water (>1 MΩ•cm resistivity) for clean steam or other high purity applications.

CONSOLIDATED SERVICES



Validation (IQ/OQ/PQ)

Validation protocols and/or execution of protocols are available from Consolidated for new or existing autoclaves. Steril-Q™ Validation Services & Documentation includes an array of documentation, tools and expertise required to successfully qualify and validate an autoclave within accepted protocols that comply with the current USA and International Standard for steam sterilization as set forth in ISO 17665.

Installation Qualification (IQ)

Provides documented evidence that the equipment has been built and installed to specification, and that all supporting services (i.e., utilities such as electricity, water, and steam) are available and connected properly.

Operation Qualification (OQ)

Provides documented evidence that the sterilizer operates in accordance with design specifications.

Performance Qualification (PQ)

Documents the sterilizer's ability to achieve the desired outcome (i.e. sterilization of specific loads when operated in accordance with pre-defined operating procedures).

Steam Quality Testing (SQ)

Documents the suitability of the steam delivered to the chamber, ensuring compliance with the requirements of ISO 17665. A successful test result ensures a predictable level of process lethality.

Factory Acceptance Testing (FAT)

Evaluates the sterilizer after assembly to verify that its operation complies with design specifications prior to shipment from Consolidated's factory headquarters.



Installation

Whether you are replacing an existing sterilizer or installing a new sterilizer, Consolidated has the local consulting expertise and know-how to ensure you have the space and utilities available for the best facility fit. Our installers worldwide can offer start-up and training as well as start-to-finish (turnkey) installation. When speaking with our sales team, please let them know what your specific installation needs are, and they will provide a customized package to ensure a smooth installation and commissioning.



Service & Maintenance

We understand that steam sterilizer uptime is critical for our clients and each Consolidated sterilizer is designed and constructed to be reliable, simple in construction, and easy to service. Our authorized local service technicians have extensive industry experience and participate in periodic factory training to ensure a continuous high level of service. In addition, we strive to provide our clients with an internal service support team that is second to none: accessible, educated, and driven by the highest standards of excellence. When you buy a Consolidated steam sterilizer, you are guaranteed the utmost level of support and service assistance.

Consolidated offers **SterilCARE™ proactive maintenance programs** to keep your laboratory's steam sterilizer running at top performance for many years.



Parts Availability

Consolidated's sterilizers use high-quality parts that ensure maximum uptime for a Consolidated sterilizer. Our parts are non-proprietary and are available for a low cost of ownership. Parts can be easily obtained from local suppliers, authorized service groups, through our online e-store, or directly through Consolidated.





SUSTAINABLE STEAM STERILIZERS

Save Water and Energy in Your Laboratory

Consolidated Sterilizer Systems is dedicated to helping architects, building designers, and lab planners construct the greenest buildings possible. Not only do we test our equipment to make sure that it exceeds industry standards, but we also aggressively pursue design ideas that help minimize our environmental footprint.



WaterEco®

Included on all Consolidated sterilizers. Reduces cooling water by up to 90%.



WaterEco® Plus

Choose this feature if facility chilled water circulation system is readily available. This option reduces cooling water usage by up to 99%.



WaterEco® Vac Plus

Choose this feature if facility chilled water circulation system is readily available. The full recovery system reduces waste water from the vacuum system by up to 99%. Additional footprint may be required.

The WaterEco® system is an innovative device that easily incorporates into new sterilizers or can be retrofitted to existing systems.



Water Conservation & Monitoring

Most modern autoclaves use a large amount of water in order to reduce the temperature of the effluent discharge to comply with local building codes – sometimes more than 1,500 gallons per day. Based on today's average utility costs, a single WaterEco® autoclave can save a facility over 60,000 gallons of water per year. That's the equivalent of \$100,000 over fifteen years!*

In addition to saving water, each WaterEco® system monitors water consumption and cools effluent using a combination of air, previously cooled effluent, and a minimal amount of cold water.

WaterEco® Benefits

	Water Savings*	Based on today's average utility costs, a single eco-friendly autoclave can save a facility over 60,000 gallons of water per year. That's the equivalent of \$100,000 over a fifteen-year period!
	Space Saving Integral Design**	All WaterEco® systems fit integral to the sterilizer saving valuable laboratory space.
	Easy to Retrofit	Both the WaterEco® and WaterEco® Plus can be easily retrofitted onto existing sterilizers, regardless of manufacturer.
	Water Monitoring	All WaterEco® systems communicate with the sterilizer control system to provide real-time data for cooling water consumed per cycle, day, month, and year.
	House Chiller System Integration	Both the WaterEco® Plus and WaterEco® Vac Plus easily integrate with house chiller systems to achieve maximum water savings on the autoclave.
	Eligible for LEED Credits	Any autoclave installed with a WaterEco® System assists architects in achieving LEED (Leadership in Energy and Environment Design) credits as set forth by the U.S. Green Building Council.
	Building Code Approved	All WaterEco® Systems are designed to meet and exceed building code requirements on effluent discharge temperature to drain.

*Assumes SSR-3A, 3 cycles per day, 30min at 250F with 5min dry

**See model specification sheets for specific performance



SUSTAINABLE FEATURES

Included with Every Autoclave



EcoCalendar™

All sterilizers are equipped with a calendar-based automatic start-up and shut-down feature known as EcoCalendar. This feature helps minimize utility consumption and HVAC load through a software controlled, automatic steam shut-off program. Utilities can be programmed for automatic start-up and shut-down based on time of day and day of the week.



Auto Idle Shut Off

Like the EcoCalendar™, Auto Idle Shut-Off helps save energy by shutting the autoclave off when not in use. It functions similarly to a “sleep-mode” for your home computer. Simply set the desired idle time and the autoclave will enter sleep-mode after the set idle time has elapsed. Press anywhere on the X1™ touchscreen to “wake up” the autoclave.



WaterEco®

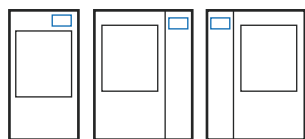
A WaterEco® system is a water conservation device that is included on all new sterilizers. It is designed to reduce the amount of water used for sterilizer effluent cooling.



EcoJacket

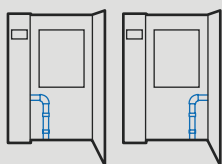
EcoJacket is included on all new sterilizers and automatically lowers the temperature of the sterilizer jacket in between cycles, thereby reducing steam and water usage and heat-load to the room.

AVAILABLE STERILIZER CUSTOMIZATIONS



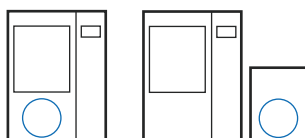
CONTROLLER MOUNTING

Every autoclave comes with a control system, however not every control system is mounted in a way that makes the most sense for your laboratory space configuration. Consolidated can mount your control system wherever it best fits your space: right side, left side, top-mounted, or remote-mounted on an adjacent wall.



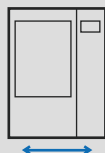
COMPONENTS AND PLUMBING

Consolidated can customize the location of the autoclave's components and piping to be located on the left or right side of the autoclave, making it easily accessible for you and your service team. This is ideal if you need to install your autoclave up against a wall and don't have access to the autoclave from all sides.



STEAM GENERATOR MOUNTING

If your laboratory is without house steam, Consolidated can provide either an integral (i.e. sits below the chamber) steam generator or a remote-mounted one in a location of your choice (up to 50 feet from the autoclave).



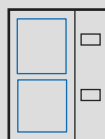
AUTOCLAVE FRAME WIDTH

If your laboratory has door frames that are smaller than standard, or if your existing wall cutout is narrow, Consolidated can configure an autoclave with a frame dimension that fits through your doorway or existing wall cutout.



DRAINAGE

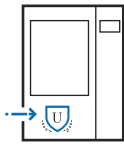
If your drain is located higher than the flooring, Consolidated can install a sump pump to help transport the sterilizer effluent "uphill" to meet your drain.



CHAMBER MOUNTING

If you would like two sterilizers in your laboratory but lack the space required, Consolidated offers a dual "tower" configuration that reduces the footprint by 35% when compared to two autoclaves mounted side-by-side.

ADDITIONAL CUSTOMIZATIONS



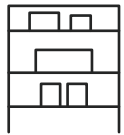
LOGO PLACEMENT

Consolidated can personalize your autoclave by adding your school or company logo to the sterilizer paneling located on the front of the autoclave. This is a big hit for some of our clients!



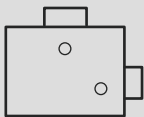
CUSTOM LOADING CARTS

If you have odd-sized flasks, beakers, bioreactors or fermenters, Consolidated can customize the size of your loading cart so that it accommodates your load while still fitting into your autoclave chamber.



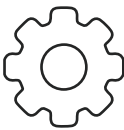
ADDITIONAL SHELVING

If you're in need of a more optimized use of your autoclave chamber space, Consolidated can create additional shelving to allow you to efficiently load your autoclave.



EXTRA SAMPLING PORTS

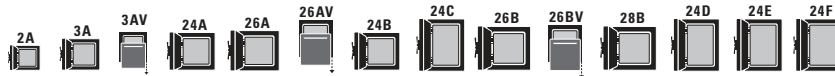
Consolidated can add additional ports (typically used for validation) with either threaded or sanitary fittings, anywhere on the autoclave chamber as desired.



CUSTOM STERILIZATION CYCLES

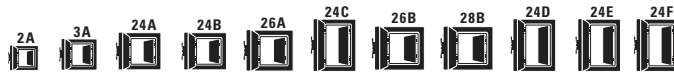
Consolidated can program your autoclave to run sterilization cycles for unique applications that require special temperature ramping rates, exhaust rates, exposure times, or myriad other functions.

Consolidated Sterilizer Selection Chart



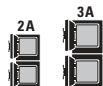
Single Door Models

Model	Volume (per chamber)	Interior Dimensions (per chamber) w × h × f-b	Ship Weight (lbs/kg)	Ship Dimensions w × h × f-b
SSR-2A	3.9 cu.ft. 109 liters	16" × 16" × 26" 40.6 × 40.6 × 66 cm	1,150 lbs 523 kg	37" × 77" × 54" 94 × 196.5 × 137.2 cm
SSR-3A	8.8 cu.ft. 249 liters	20" × 20" × 38" 50.8 × 50.8 × 96.5 cm	1,650 lbs 750 kg	37" × 77" × 65" 94 × 196.5 × 165.1 cm
3AV	8.8 cu.ft. 249 liters	20" × 20" × 38" 50.8 × 50.8 × 96.5 cm	1,650 lbs 750 kg	39" × 71" × 47" 100 × 180.3 × 119.4 cm
SR-24A	12 cu.ft. 340 liters	24" × 24" × 36" 61 × 61 × 91.4 cm	2,300 lbs 1,045 kg	46" × 77" × 66" 116.8 × 195.6 × 167.6 cm
SR-26A	15.25 cu.ft. 430 liters	26" × 26" × 39" 66 × 66 × 99 cm	2,450 lbs 1,113 kg	46" × 77" × 69" 116.8 × 195.6 × 175.3 cm
26AV	15.25 cu. ft. 430 liters	26" × 26" × 39" 66 × 66 × 99 cm	2,600 lbs 1,182 kg	46" × 77" × 54" 117.8 × 196.2 × 137.2 cm
SR-24B	16 cu.ft. 453 liters	24" × 24" × 48" 61 × 61 × 122 cm	2,500 lbs 1,136 kg	46" × 78" × 77" 116.8 × 198.1 × 195.6 cm
SR-24C	18 cu.ft. 510 liters	24" × 36" × 36" 61 × 91.4 × 91.4 cm	2,700 lbs 1,228 kg	46" × 78" × 65" 116.8 × 198.1 × 165.1 cm
SR-26B	19.2 cu.ft. 544 liters	26" × 26" × 49" 66 × 66 × 124.5 cm	2,700 lbs 1,228 kg	46" × 77" × 79" 116.8 × 195.6 × 201 cm
26BV	19.2 cu.ft. 544 liters	26" × 26" × 49" 66 × 66 × 124.5 cm	2,850 lbs 1,296 kg	46" × 77" × 64" 117.8 × 196.2 × 162.6 cm
SR-28B	21.8 cu.ft. 617 liters	28" × 28" × 48" 71 × 71 × 122 cm	2,980 lbs 1,355 kg	48" × 78" × 78" 122 × 198.1 × 198.1 cm
SR-24D	24 cu.ft. 680 liters	24" × 36" × 48" 61 × 91.4 × 122 cm	3,150 lbs 1,432 kg	46" × 78" × 78" 116.8 × 198.1 × 198.1 cm
SR-24E	30 cu.ft. 850 liters	24" × 36" × 60" 61 × 91.4 × 152 cm	3,600 lbs 1,637 kg	46" × 78" × 89" 116.8 × 198.1 × 226.1 cm
SR-24F	36 cu.ft. 1019 liters	24" × 36" × 72" 61 × 91.4 × 183 cm	4,300 lbs 1,955 kg	46" × 78" × 98" 116.8 × 198.1 × 248.9 cm



Pass-Thru Models

Model	Volume (per chamber)	Interior Dimensions (per chamber) w × h × f-b	Ship Weight (lbs/kg)	Ship Dimensions w × h × f-b
PT-SSR-2A	3.9 cu.ft. 109 liters	16" × 16" × 26" 40.6 × 40.6 × 66 cm	1,300 lbs 591 kg	37" × 79" × 57" 94 × 200.7 × 144.8 cm
PT-SSR-3A	8.8 cu.ft. 249 liters	20" × 20" × 38" 50.8 × 50.8 × 96.5 cm	1,800 lbs 819 kg	37" × 79" × 68" 94 × 200.7 × 172.8 cm
PT-SR-24A	12 cu.ft. 340 liters	24" × 24" × 36" 61 × 61 × 91.4 cm	2,650 lbs 1,205 kg	44" × 78" × 66" 182.9 × 198.1 × 167.6 cm
PT-SR-26A	15.25 cu.ft. 430 liters	26" × 26" × 39" 66 × 66 × 99 cm	2,800 lbs 1,273 kg	46" × 77" × 69" 116.8 × 195.6 × 175.3 cm
PT-SR-24B	16 cu.ft. 453 liters	24" × 24" × 48" 61 × 61 × 122 cm	2,850 lbs 1,295 kg	44" × 78" × 78" 182.9 × 198.1 × 198.1 cm
PT-SR-24C	18 cu.ft. 510 liters	24" × 36" × 36" 61 × 91.4 × 91.4 cm	3,150 lbs 1,432 kg	46" × 78" × 74" 116.8 × 198.1 × 188 cm
PT-SR-26B	19.2 cu.ft. 544 liters	26" × 26" × 49" 66 × 66 × 124.5 cm	3,050 lbs 1,386 kg	46" × 77" × 79" 116.8 × 195.6 × 201 cm
PT-SR-28B	21.8 cu.ft. 617 liters	28" × 28" × 48" 71 × 71 × 122 cm	3,350 lbs 1,523 kg	48" × 78" × 87" 122 × 198.1 × 221 cm
PT-SR-24D	24 cu.ft. 680 liters	24" × 36" × 48" 61 × 91.4 × 122 cm	3,600 lbs 1,637 kg	48" × 78" × 87" 122 × 198.1 × 221 cm
PT-SR-24E	30 cu.ft. 850 liters	24" × 36" × 60" 61 × 91.4 × 152 cm	4,050 lbs 1,841 kg	48" × 81" × 98" 122 × 205.7 × 248.9 cm
PT-SR-24F	36 cu.ft. 1019 liters	24" × 36" × 72" 61 × 91.4 × 183 cm	4,750 lbs 2,160 kg	48" × 81" × 104" 122 × 205.7 × 264.2 cm



Exclusive Dual Chamber Tower Models

Model	Volume (per chamber)	Interior Dimensions (per chamber) w × h × f-b	Ship Weight (lbs/kg)	Ship Dimensions w × h × f-b
2SSR-2A	3.9 cu.ft. 109 liters	16" × 16" × 26" 40.6 × 40.6 × 66 cm	2,250 lbs 1,125 kg	43" × 87" × 61" 109.2 × 221 × 154.9 cm
2SSR-3A	8.8 cu.ft. 249 liters	20" × 20" × 38" 50.8 × 50.8 × 96.5 cm	3,250 lbs 1,477 kg	43" × 87" × 61" 109.2 × 221 × 154.9 cm



**CONSOLIDATED
STERILIZER SYSTEMS**

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