

Small Steam Sterilizers

FOR HEALTHCARE APPLICATIONS

Indications for Use: The PRIMUS Healthcare Sterilizer models PSS11-HA, PSS11-HB, and PSS11-HC are designed for use in surgery, central sterile, and surgery centers. The PRIMUS Healthcare Sterilizer provides efficient steam sterilization of non-porous and porous, heat and moisture stable materials.

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Features

Intelligent design focuses on ease of use, simplified diagnostics, and clear service access for maximum uptime.

- **Compliant** with AAMI ST8:2013 and manufactured in compliance with ISO 13485:2016 and FDA's Good Manufacturing Practice (GMP) for Medical Devices .
- **Vessel Design** features a stainless steel, fully-jacketed 316L chamber. The vessel is insulated and mounted on a steel frame, which offers adjustable feet on self-centering floor pads.
- **Vertical Sliding Doors** are energy-efficient, safe, and can be operated with a finger-tip. Hands-free options are available.
- **All Chambers** are polished to a mirror finish of <10 Ra. Surface finish can be just as critical in determining the corrosion resistance of austenitic stainless steel as the grade. Poor quality finishes can lead to disappointing performance of stainless steel. A highly polished surface will give the best performance in any specified environment.
- **Non-Proprietary Parts** are a hallmark of PRIMUS Steam Sterilizers allowing for immediate diagnostic and replacement of worn components.
- **Validated Standard cycles** include Prevac, Gravity, Immediate Use, Steam-Flush Pressure-Pulsing as well as two leak tests.
- **Rectangular Chamber** has been optimized for 25 lb instrument trays eliminating wasted space and reduces high utility costs common to cylindrical or elliptical designs.
- **Water Conservation** is available with our PRI-Saver® system that offers up to **95% water savings**.
- **Predictive Maintenance** functionality included in our PLC based controls allows for increased uptime through the proactive monitoring of critical components.
- **Stainless Steel Piping** to chamber comes standard on all PRIMUS healthcare models.

Specifications

Standards

Each sterilizer meets applicable requirements of the following listings and standards, and carries the appropriate symbols.

- ASME Code, Section VIII, Division 1 for unfired pressure vessels. The pressure vessel is so stamped; ASME Form U-1 is furnished. Shell and door are constructed to withstand working pressure of 45 psig (310.2kPa)
- ASME Code, Section I, Part PMB for power boilers, if optional steam generator is supplied.
- UL/ICE/CSA 61010-1 SAFETY REQUIREMENTS FOR ELECTRICAL EQUIPMENT FOR MEASUREMENT, CONTROL, AND LABORATORY USE
- UL/ICE/CSA 61010-2-040 SAFETY REQUIREMENTS FOR ELECTRICAL EQUIPMENT FOR MEASUREMENT, CONTROL AND LABORATORY USE PART 2-040: PARTICULAR REQUIREMENTS FOR STERILIZERS AND WASHER-DISINFECTORS USED TO TREAT MEDICAL MATERIALS
- UL 60601-1 MEDICAL ELECTRICAL EQUIPMENT, PART 1: GENERAL REQUIREMENTS FOR SAFETY
- ISO 13485 QUALITY MANAGEMENT SYSTEMS - MEDICAL DEVICES
- NFPA-70 NATIONAL ELECTRICAL CODE
- UL 508A

Construction

Jacket Assembly

A Type 316L stainless steel chamber and a Type 304 stainless steel jacket are welded together to form the sterilizer vessel. Type 316L stainless-steel end frame(s) is welded to door end. On single door units, back of chamber is fitted with welded, 316L stainless steel formed head.

Sterilizer vessel is ASME rated at 45 psig (3.06 Bar) and insulated. The Vessel includes one 1.0" (25 mm) inch sanitary port for customer use.

Steam-supply opening inside the chamber is shielded by a Type 316L stainless steel baffle.

The unique design of the chamber jacket allows for even distribution of heat.

Chamber Finish

The brilliant PRI-Mirror chamber finish found in all PRIMUS models sets the highest standard for surface finish, achieving a 10 Ra (0.026 micron) measurement.

"Surface finish can be just as critical in determining the corrosion resistance of austenitic stainless steel as the grade [58]. Poor quality finishes can lead to disappointing performance of stainless steel and a bright polished surface will usually give the best performance in any specified environment. 1 micron = 39.4 microinch Ra.

Coarse polished finishes with surface roughness values greater than 1 micron have been shown to contain deep grooves where chloride ions can accumulate and destroy the passive film, thereby initiating corrosion attack. In contrast, fine polished finishes with surface roughness values less than 0.5 micron will generally have fewer sites where chloride ions can accumulate"(Parrott and Pitts, 2011).¹

Chamber door

Door is constructed of a single formed piece of Type 316L stainless steel. Door is insulated to reduce the surface temperature of the stainless steel door cover.

During cycle operation, door is sealed by a steam-activated door seal. Door seal is constructed of an easily replaceable silicone gasket located in a channel groove in the chamber end ring. To ensure safety, a cycle cannot be started until the door is fully closed and sealed. When sterilizer cycle is complete, the seal retracts by vacuum. The door cannot be opened while a cycle is in progress and the door will not unseal while the chamber is under pressure or vacuum.

Door interlocks on double door sterilizers are programmed to prevent inadvertent opening of door(s). An access key is provided to override door interlocks.

Chamber Drain System

Drain system is designed to prevent pollutants from entering into the water-supply system and sterilizer.

Drain Water Quench

The piping system provides automatic condensing of chamber steam and discharge to the floor drain. Cooling water is added to ensure discharge temperature is below 60°C (140°F). A separate temperature sensor is included to regulate the volume of water so as not to exceed the required amount necessary to achieve target temperature.

Vacuum System

Chamber pressure is reduced during the conditioning phase and drying phase through the means of either a standard water ejector or a liquid ring vacuum pump. Following the drying phase, the chamber is returned to atmospheric pressure by admitting air through a 0.3 micron bacteria-retentive filter.

Steam Source

Sterilizers are piped, valved, and trapped to receive building-supplied steam delivered at 50 to 80 psig (344.7 to 551.6 kPa) dynamic. If building steam source is not available, an electric carbon-steel steam generator or electric stainless steel steam generator may be provided to supply steam to the sterilizer. Steam piping is constructed of stainless steel and includes a steam strainer and brass pressure regulator.

Safety Features

Door interlocks (double door units only) allow only one door to be opened at a time and, during processing, prevent the unload side door from being opened until a satisfactory cycle is complete. If a cycle is aborted, the unload side door cannot be opened.

Pressure relief valve limits the amount of pressure buildup so that the rated pressure in the vessel is not exceeded.

Door and gasket safety switch signals when door seal is energized and tight against the door. Software prevents cycle from starting until the limit switch signal is received. If PLC loses appropriate signal during cycle, an alarm state is activated.

Emergency stop button located on front of the sterilizer.

¹ Parrott, R., BSc PhD MIMMM CEng, & Pitts, H., MEng PhD. (2011). Chloride stress corrosion cracking in austenitic stainless steel [PDF]. Health and Safety Exclusive.

Specifications, Cont.

Sustainability

PRI-Saver Vacuum Source and Water Conservation System

Provides an efficient vacuum source for PRIMUS steam sterilizers and decreases water consumption 97% as compared to water ejector vacuum systems.

Integral to the framework of the steam sterilizer, PRI-Saver takes up no additional space in the service area.

PRI-Saver’s additional benefit in sustainability programs is that it allows for the steam sterilizer to operate on 120V electrical source, not the high voltage required for liquid ring vacuum pumps.

PRI-Egreen

PRI-Egreen is a standard feature that will shut off utilities to the jacket after the unit has sat idle for a specified period of time. Time is programmable and secured via the PLC in order to meet facility sustainability goals.

PRI-Egreen +

Shutdown may be programmed to activate at the end of any designated cycle or time of day. When activated, control system automatically shuts off all utility valves, conserving steam and water usage. Sterilizer utilities can be restarted either by programmed time or manual operation. A different shutdown and restart time can be programmed for each day.

Drain Cooling

Drain quench is a standard feature on all PRIMUS models. Discharge temperature below 140F.

Process Capacity

*Validated load capacities are in compliance with AAMI ST8 guidelines for processing tray sets up to 25 pounds each.

Cycle Descriptions

Standard and Optional Cycles:

All cycles validated to AAMI standard ST8:2013

Prevacuum Cycle (standard) for efficient sterilization of porous and non-porous, heat-and moisture-stable materials at 132°C to 135°C (270°F to 275°F). Prevacuum cycle utilizes a mechanical air-evacuation system.

Gravity Cycle (standard) for sterilization of heat and moisture-stable goods at 121°C to 132°C (250°F to 270°F). Gravity cycle utilizes gravity air-displacement principle. Pre-positive pulses for enhanced air removal are available in hard goods applications.

Steam-Flush Pressure-Pulsing (standard) for sterilization of heat and moisture-stable goods at 132°C to 135°C (270°F to 275°F). Steam-flush pressure-pulsing cycle utilizes gravity air-displacement principle and pre-positive pulses for enhanced air removal.

Leak Test Cycle (standard) for verification of door seal and piping system integrity.

Bowie-Dick Test is available for 132°C (270°F) prevacuum cycles.

MODEL	HA	HB	HC
Chamber Size (W x H x L) Inches/ Millimeters	20 x 20 x 38 508 x 508 x 965.2	26 x 30 x 29 660.4 x 762.0 x 736.6	26 x 30 x 41 660.4 x 762.0 x 1244.6
Chamber Capacity	8.8 ft ³ / 249 L	13.09 ft ³ / 371 L	18.51 ft ³ / 626 L
25 lb Wrapped Trays	3	8	9
Fabric Packs	6	12	17

Specifications

PLC Control System



Cutting edge and configurable, PRIMUS' PRI-Matic® 100 is a PLC based control platform designed to exceed the needs of any healthcare application. These platforms feature industry leading, non-proprietary components. Standard displays ranging from 5.7" to 12.1" provide a full color, touch-sensitive screen.

Standard are twelve pre-programmed, validated cycles to meet specific processing requirements. Eighteen additional cycles are available for customer configuration to meet the criteria of varying IFU's. All control configurations are performed through the touch screen display.

Cycle values and operating features may be adjusted and verified prior to cycle operation. User Access, Profiles, Simplified Screens, Cycle Names and additional options can be configured or toggled on/off easily in the user-friendly menus.

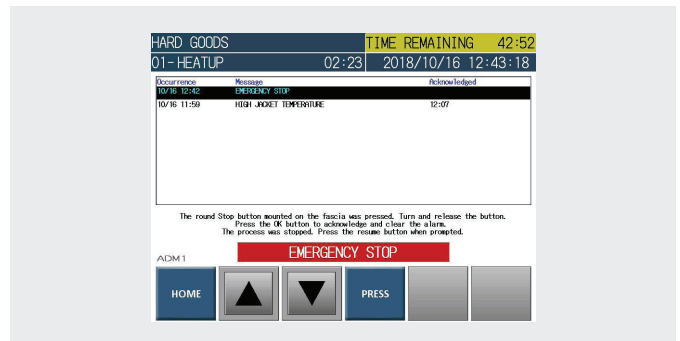
Operator interface control panel, consisting of touch screen and thermal printer, is located on load or non-sterile end of sterilizer. If the sterilizer is equipped with double doors, an additional touch screen is provided on the unload or sterile end.

- **Touch-Sensitive Screen** provides users with color, touch-sensitive displays featuring high definition TFT LCD displays. Screen sizes range from 5.7" to 12.1" diagonally with a resolution of 800x600 pixels, a selection with the largest HMI's (Human Machine Interface) in the market. These screens provide clear, sharp, and bright displays, even in environments with low light, by utilizing the 65,536 available colors. They deliver realistic images and the brightest displays.

- **Thermal Printer** located below the touch screen, provides an easy-to-read printed record of all pertinent cycle data on 2-1/4" wide paper. Data is automatically printed at the beginning and end of each cycle and at transition points during the cycle. A duplicate print can be obtained of the last cycle run. Additional print options include Ink-On-Paper Impact Printer, Ethernet printing and PRI-SND. PRI-SND system (Secured Network Device) stores cycle data in a .pdf format that can be accessed over a network.

Thermal printer take-up spool stores an entire roll of paper, providing cycle records which can be saved for future reference. Two paper tape rolls are furnished with each unit.

- **Unload side control panel** (equipped on double-door sterilizers only) includes a touch-sensitive screen identical to the operating end screen. Preprogrammed cycles can be started from the unload side control panel. Display concurrently shows the same information as the load side screen display.
- **Cycle configuration** is performed by accessing the system menu on the touch screen display after authentication. In addition to adjustment of cycle values, the following operating parameters can also be changed through the change values menu:
 - **Time Display and Printout Units** in standard AM/PM or 24-hour military (MIL) time.
 - **Selectable Cycle Name** permits user to name each cycle with any combination of letters, numbers, blank spaces, and underscores.
 - **Print Interval** permits time period adjustments between cycle-status printouts generated during the cycles phases.
 - **User Access settings** permit adjustment of access and security of up to 14 users on PRI-Matic 100.
 - **Security access code** is required to enter the administrator mode (changing values), and service mode. Servicing the sterilizer or accessing change values menu causes display to request access code entry. If access code is not properly entered, display returns to the standby screen, denying user access to the sterilizer or programming. Access to the sterilizer can be limited to 30 operators, each with a different access code.



Specifications

PLC Control Systems, cont.

- **Alarms** pulses red flags on and off during alarm conditions. Informational text is displayed to guide the user in resolving the alarm. A buzzer that sounds during an alarm and at a different rate for five seconds at cycle completion can be configured manually.
- **Temperature Display and Printout Units** in Celsius (°C) or Fahrenheit (°F). Temperature is set, displayed, controlled, and printed to the nearest 0.1°. Recalibration is not required when changing temperature units from °C to °F and vice versa.
- **SD Card** is provided for downloading cycle information to a customer-furnished Excel spreadsheet file. Up to six months of (one hour) cycles can be stored on the included flash card before card has to be downloaded to PC.
- **Battery Backed Memory** backs up all cycle memory. In the event of a power failure, the cycle is stopped and cycle data is recorded up to that phase. Once power is restored the system goes into an alarm state indicating there was a power failure. At that point the user must acknowledge the alarm and can then either resume or abort the cycle regardless of current phase.

Step Detail Screen

Displays a description of the current cycle phase step, the conditions needed to advance the step, and any timeout conditions that apply. It is ideal for troubleshooting and acts as a training tool for new users.

User Authorization Levels

Four levels of authorization come standard with increasing varying access permissions. Standard levels include default, operator, technician and administrator. Additional levels can be custom configured.

Standard Features

Lift Off Cabinet Panels allow for convenient access to sterilizer piping and control system.

Resistance Temperature Detectors (RTDs) are standard for sterilizer temperature control. The chamber drain line RTD monitors and controls temperature variations within the sterilizer chamber. A jacket RTD provides temperature control within the jacket.

Software Calibration is provided for all temperature and pressure inputs. Calibration is available in the service mode and is accessible through the touch screen displays, and is performed using external or internal temperature and pressure sources. Control system provides a printed record of calibration data for verification to current readings.

Cycle Data Records are recorded on the printer tape and can be saved to a customer provided SD card. Data can also be retrieved for on-screen review or sent via e-mail if the system is enabled. Network connection required.

Automatic Steam Shutoff to Jacket is provided for liquid cycles. When activated steam supply to the jacket is turned off during exhaust phase, allowing load to cool efficiently.

Insulation, one-inch thick, asbestos and chloride-free fiberglass completely encases the exterior of the sterilizer vessel and is sealed in an aluminum external cover.

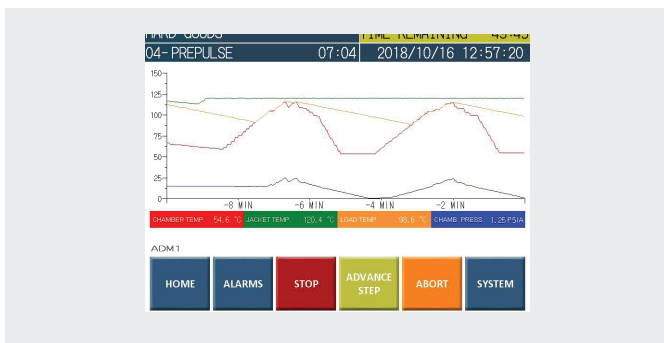
Stainless Steel Piping to Chamber components are constructed of 300 series stainless steel. Stainless steel piping provides a higher quality of steam to the chamber reducing residue on loads.

**Steam quality requirements can be found on page 10.



Predictive Maintenance

Predictive maintenance features allow users and service technicians to monitor the life cycles of major autoclave parts. Monitoring and tracking life cycles of major autoclave components enables easier budgeting, minimizes downtime and increases productivity.



Real-Time Trend Graph Data

Automatically tracks vital temperature and pressure information. Shows process values for chamber, jacket, and load probe.

Specifications

Options

Back Cabinet Panel is provided on single door, freestanding units where the unit is accessible on all sides.

Power Door provides automatic opening and closing by foot pedal or touch screen.

Vacuum Pump Upgrade: An Electric Vacuum Pump is offered in lieu of the standard water ejector vacuum system. This pump increases vacuum rate and decreases vacuum cycle times on larger chambers.

Form C Dry Contacts provide four relays to communicate equipment status. Selectable statuses include: E-stop power, in cycle, cycle complete, cycle compromised, alarm state, and sterilizer power state.

Accessories

Air Compressor, Portable, 115 Vac. is intended for pneumatic valves on sterilizers when an air utility is not provided by the facility. It may also be used as a back-up pressure source for the door seal in bioseal applications.

This portable 2.35 gallon compressor tank that delivers 150 LPM @ 345 KPa (5.3CFM @ 100 PSI).

Seismic tie-down kit conforms to current California Code of Regulations.

American Made

All PRIMUS steam sterilizers are proudly designed and manufactured in the USA. Each unit is constructed of solid stainless steel and built in our quality controlled ASME facility. Being the owner of our AMSE shop ensures fast delivery time of stock parts.

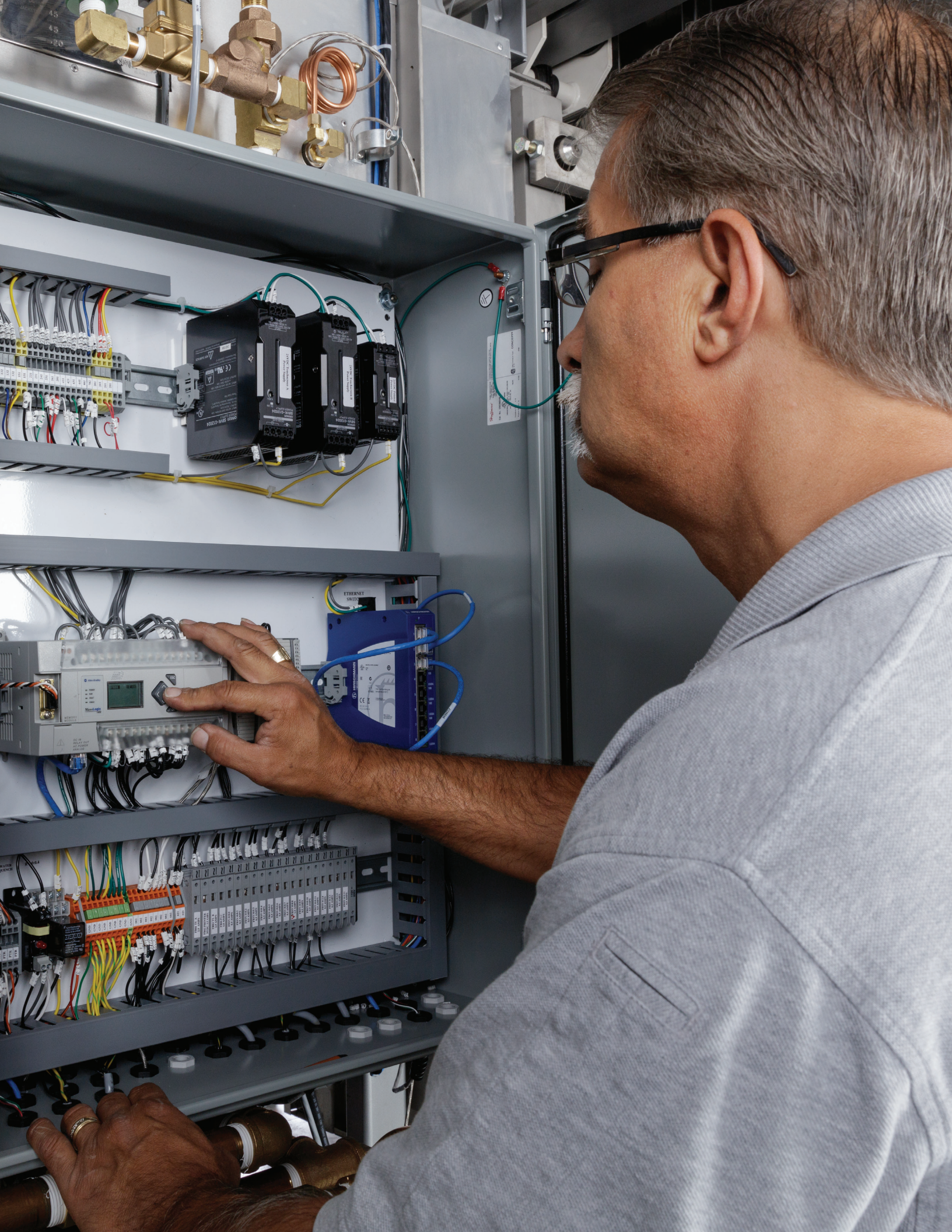
Mounting Arrangement

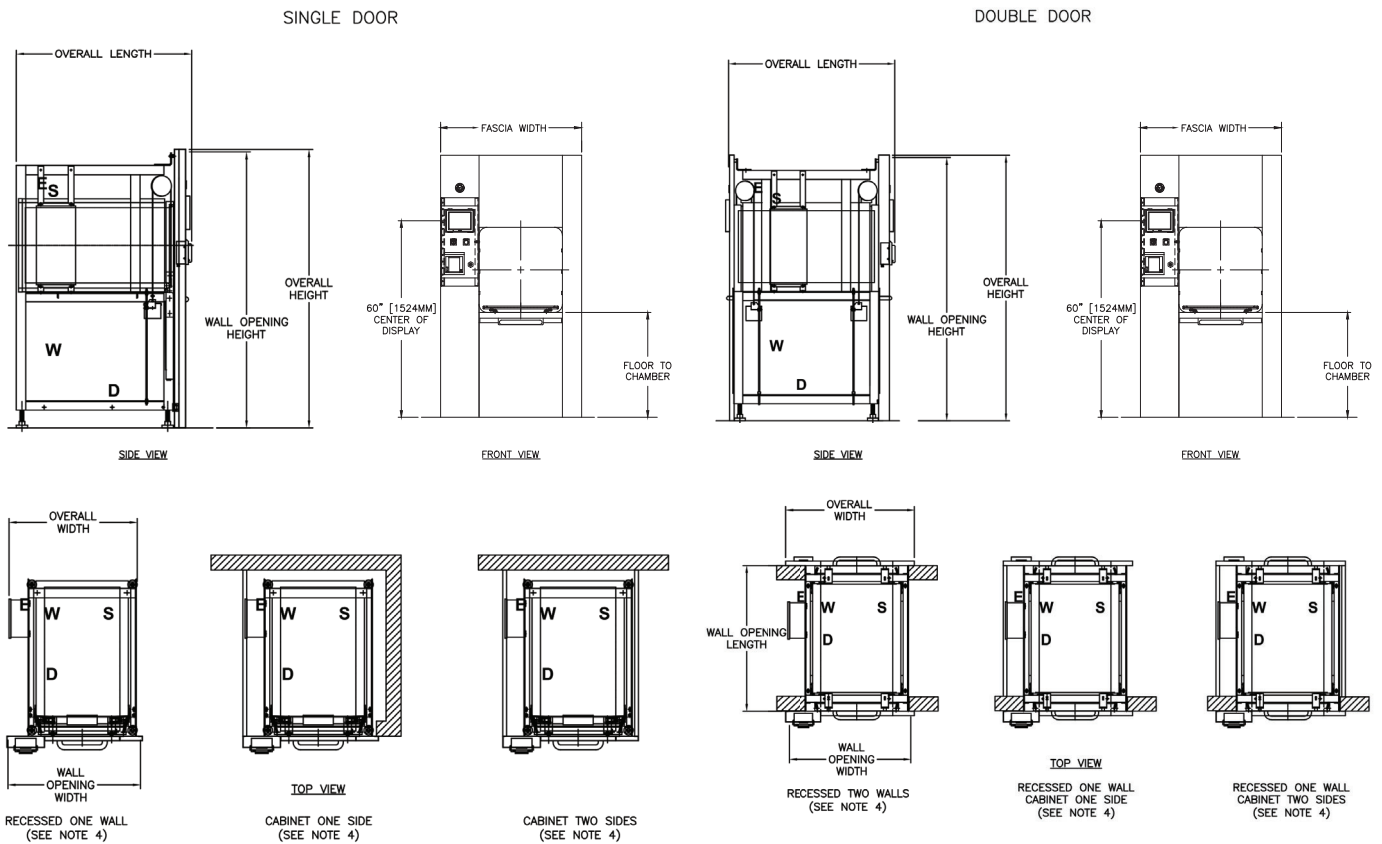
Sterilizers are arranged for either freestanding or integral installation, as specified. Each sterilizer is equipped with a height-adjustable, steel floor stand.

On freestanding units, stainless steel cabinet side panels enclose the sterilizer body and piping.

Preventative Maintenance

Our highly trained service specialists provide periodic inspections and adjustments to ensure low-cost, peak performance. PRIMUS representatives can provide information regarding annual maintenance agreements.





Volume / Dimensions Chart Single Door

*Refer to General Arrangement (GA) drawings for details and final connection point to utility services (S-Steam, W-Water, D-Drain, E-Electrical, A-Air).

MODEL	HA	HB	HC
Chamber Size (W x H x L) Inches/Millimeters	20 x 20 x 38 508 x 508 x 965.2	26 x 30 x 29 660.4 x 762.0 x 736.6	26 x 30 x 41 660.4 x 762.0 x 1244.6
Chamber Capacity	8.8 ft ³ / 249 L	13.09 ft ³ / 371 L	18.51 ft ³ / 626 L
Overall Width	29.25 / 743.0	35.50 / 901.7	35.50 / 901.7
Overall Height ¹	74.00 / 1879.6	88.00 / 2235.2	88.00 / 2235.2
Overall Length (SD) ^{2,3}	46.38 / 1178.0	39.50 / 1003.3	51.50 / 1308.1
Wall Opening Width ⁴	30.00 / 762.0	36.00 / 914.4	36.00 / 914.4
Wall Opening Height	73.00 / 1854.2	87.00 / 2209.8	87.00 / 2209.8
Wall Opening Length	44.00 / 1117.6	36.50 / 927.1	48.50 / 1231.9
Fascia Width ¹	34.00 / 863.6	44.00 / 1117.6	44.00 / 1117.6
Floor to Chamber	38.50 / 977.9	36.00 / 914.4	36.00 / 914.4

Drawings are for reference only. Please refer to arrangement drawings for construction.

Volume / Dimensions Chart Double Door

*Refer to General Arrangement (GA) drawings for details and final connection point to utility services (S-Steam, W-Water, D-Drain, E-Electrical, A-Air).

MODEL	HA	HB	HC
Chamber Size (W x H x L) Inches/Millimeters	20 x 20 x 38 508 x 508 x 965.2	26 x 30 x 29 660.4 x 762.0 x 736.6	26 x 30 x 41 660.4 x 762.0 x 1244.6
Chamber Capacity	8.8 ft ³ / 249 L	13.09 ft ³ / 371 L	18.51 ft ³ / 626 L
Overall Width	29.25 / 743.0	35.50 / 901.7	35.50 / 901.7
Overall Height ¹	74.00 / 1879.6	88.00 / 2235.2	88.00 / 2235.2
Overall Length (SD) ^{2,3}	47.25 / 1197.4	40.00 / 1016.0	52.00 / 1320.8
Wall Opening Width ⁴	30.00 / 762.0	36.00 / 914.4	36.00 / 914.4
Wall Opening Height	73.00 / 1854.2	87.00 / 2209.8	87.00 / 2209.8
Wall Opening Length	40.44 / 1027.2	31.44 / 798.6	43.44 / 1103.4
Fascia Width ¹	34.00 / 863.6	44.00 / 1117.6	44.00 / 1117.6
Floor to Chamber	38.50 / 977.9	36.00 / 914.4	36.00 / 914.4

1. Fascia extends 1" beyond wall opening on each side overlapping the wall and sealing the opening.
2. Allow minimum of 2" clearance at rear of recessed unit only. Cabinet sides models have rear clearance built in.
3. Handle projects from the face of the fascia to the outer radius of the handle 2.375" for Models HAA & HA. For models HB and HC the handle projects 4.25".
4. Contact PRIMUS for alternative wall opening.
5. Standard Left Side Service/equipment access shown. Optional right side access is available.



Steam Source

Electric Boilers

- EB** Carbon steel. Uses house supplied water. Includes feedwater boost pump.
- EBC** Stainless steel construction. RO or DI water is recommended. Includes stainless steel feedwater boost pump.

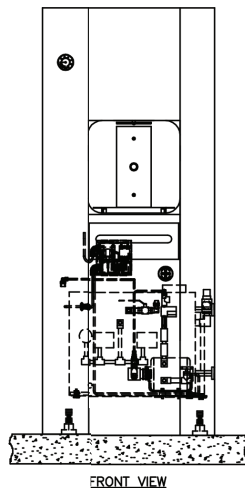
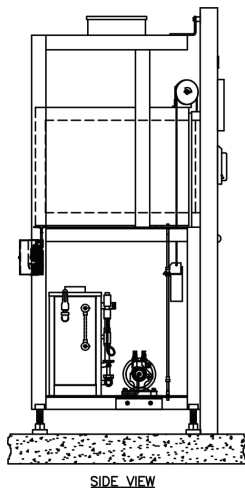
NOTE: Stainless Steel Boilers shall be operated using only deionized water, having a maximum conductance of 1 microsiemen per cm (1 μ S/cm) [minimum specific resistivity of 1 megohm per cm (1MW/cm)].

PRI-Pure Reverse Osmosis System

- P30** Designed and recommended for all PRIMUS small sterilizers with integral carbon steel boilers. The PRI-Pure, when used together with softened water, will significantly increase boiler and sterilizer life by removing up to 99% of damaging contaminants.

Boiler Utilities

MODEL		HA	HB	HC
Chamber Size (W x H x L) Inches/Millimeters		20 x 20 x 38 508 x 508 x 965.2	26 x 30 x 29 660.4 x 762.0 x 736.6	26 x 30 x 41 660.4 x 762.0 x 1244.6
Boiler Size	kW/Hr	24	36	36
Boiler Steam Output	lbs/Hr	73	108	108
Integral	Model	EB1-A	EB1-B	EB1-C
Stand Alone	Model	EB-A	EB-B	EB-C
208 Vac, 3ph	Amperes	67	100	100
240 Vac, 3ph	Amperes	58	87	87
380 Vac, 3ph	Amperes	37	54	54
480 Vac, 3ph	Amperes	29	44	44
VAC 110, 60Hz ¹	Amperes	10	10	10



1. Electric boilers are available in Carbon Steel or Stainless Steel. Carbon Steel Boilers are integral on AA, A, and B sizes single door only. Additional options, if selected, may require stand-alone on these sizes. Specify whenever stand-alone is required on any model.
2. Contact PRIMUS for overall dimensions and utility connections.
3. All models are stand-alone.
4. Low Water Cutoff is optional and the "automatic reset" feature is disabled with this option. The boiler will need to be manually reset.
5. Water Quality - For best results, feed water supply should be evaluated prior to initial startup to ensure it is of the quality necessary for the application, various external treatment processes (water softener, water conditioning, etc.) may be used. Contact PRIMUS for further recommendations.

Electrical Connection and Utilities Consumption¹

Provide utility services within 6'-0" of final connection to sterilizer. Optimum sterilizer performance requires the specified utilities.

STEAM (S)		WATER (W)		AIR (A)	DRAIN (D)	ELECTRICAL (E)
Building Steam Supply Pipe Size: 3/4" NPT Quality: Condensate free 97% to 100% saturated vapor (suitably trapped to ensure dry steam and filtered to remove particulates) Pressure: 50 to 80 PSIG Dynamic <i>Note:</i> 1. Steam-to-Steam Generator requires minimum pressure 65 PSIG house steam		Cold Water Supply Pipe Size: 3/4" NPT Temperature: < 70° F Pressure: 50-70 PSIG Dynamic		Instrument Air ² Connection: See below Quality: Dry and oil free Pressure: 60-80 PSI Dynamic	Building Drain System Minimum 2" Location: Locate floor sink directly under sterilizer <i>Note:</i> 1. Exhaust discharge is cooled to < 140°F 2. 12" x 12" x 8" floor sink is recommended by PRIMUS	Building Power Supply - Dedicated Circuit Volts: 110 Phase: Single Amps: 10 <i>Note:</i> Additional circuits required for ancillary and optional equipment i.e., vacuum pump, boost pump, boiler, etc.
MODEL	NPT	LBS/HR (KG/HR)	NPT	GPM (LPM)	NPT	NPT (Discharge Pipe Size)
HA	3/4"	65 (29.48)	3/4"	8 (30)	1/4"	3/4"
HB	3/4"	86 (39)	3/4"	8 (30)	1/4"	3/4"
HC	3/4"	129 (58.51)	3/4"	14 (53)	1/4"	1"

- 1. Based on sterilizer using a water ejector.
- 2. Not required for models with a vertically sliding door.

HVAC DATA Heat loss, at ambient of 70° F

	Model	KBTU'S/HR		Model	KBTU'S/HR
SINGLE DOOR: Through one wall, at fascia	HA	2.2	DOUBLE DOOR: Through one wall, at fascia	HA	2.2
	HB	3.5		HB	3.5
	HC	3.9		HC	3.9
SINGLE DOOR: Through one wall, service area	HA	3.4	DOUBLE DOOR: Through one wall, service area	HA	5.1
	HB	4.9		HB	6.7
	HC	6.8		HC	9.4
SINGLE DOOR: Free standing, cabinet total	HA	5.6	DOUBLE DOOR: Through two walls, at each fascia	HA	2.2
	HB	8.4		HB	3.5
	HC	10.8		HC	3.9
			DOUBLE DOOR: Through two walls, service area	HA	2.9
				HB	3.2
				HC	5.4

Service and Equipment Access

When facing the load/dirty or BioSeal side of the unit, service access is from left side and top.

- **Wiring** is laid side-by-side in Panduit® raceway channels. All wiring is clearly labeled or readily visible.
- **Piping** components are threaded rigid brass and flared copper fittings, positioned with sufficient space for removal and replacement without disassembling the entire piping assembly.

Wiring and piping components are industrial grade, non-proprietary, and are available through authorized service agencies, local supply houses, or direct from PRIMUS.

Warranty

Sterilizer pressure vessels manufactured by PRIMUS are warranted against defects in workmanship and materials under normal use and operation for fifteen years where the sterilizer is continually maintained under the PRIMUS or a PRIMUS Authorized Service Agent (ASA) service contract.

Architectural Notes:

1. Allow sufficient space for traps, shut-offs, filters and other utility supply components.
2. Utility (service disconnects) shall be provided and installed "By Others".
3. Building or structure modifications to accommodate the sterilizer, as well as, sterilizer shoring, rigging, cribbing and/or crane requirements into the facility shall be provided "By Others".
4. Provide maximum mechanical and service access space, a minimum of 24", additional space required when boiler specified. See General Arrangement drawing for placement of ancillary equipment and service access.
5. Some options affect utility services and overall dimensions.
6. Water Quality - refer to page 10.
7. The Manufacturer's Equipment Warranty does not cover failure due to improper utility provisions.
8. Drawings not to scale.
9. Wall thickness must be provided on single and double door models recessed through 1 wall, with cabinet sides.
10. Floor under sterilizer must be water tight and sloped to the drain.

Shipping Dimensions, Cubage, & Weights

	HA	HB	HC
Model Sterilizer Size inches/millimeters	20 x 20 x 38 508 x 508 x 965.2	26 x 30 x 29 660.4 x 762.0 x 736.6	26 x 30 x 41 660.4 x 762.0 x 1244.6
Overall Dimensions of Frame	28.75 x 73 x 45 731 x 1855 x 1143	43 x 79 x 42 1092 x 2006 x 1067	43 x 79 x 54 1092 x 2006 x 1372
Weight, Single Door	Contact PRIMUS for weights		
Weight, Double Door			
Crated Weight (Additional)	200 lbs / 91 kg	200 lbs / 91 kg	200 lbs / 91 kg
Crated Dimensions	47 x 81 x 59 1194 x 2058 x 1499	51 x 87 x 49 1295 x 2210 x 1245	51 x 87 x 64 1295 x 2210 x 1626
Crated Cube	130 ft ³ / 3.7 m ³	126 ft ³ / 3.6 m ³	164 ft ³ / 4.7 m ³
Loading Equipment	124 lbs / 56 kg	153 lbs / 69 kg	165 lbs / 75 kg
Boiler	175 lbs / 79 kg	175 lbs / 79 kg	200 lbs / 91 kg

Loading Equipment

Chamber Size	Carriage Qty	Cart Qty	A	B	C1	C2	D	E	F
HA - 20x20x39	1-L6	1-L4	37.18"	38.50"	55.63"	48.06"	54.00"	19.00"	34.50"
HB - 26x30x29	1-L6	1-L4	29.25"	36.00"	61.06"	41.81"	43.38"	21.00"	10.12"
HC - 26x30x41	1-L6	1-L4	41.25"	36.00"	61.06"	41.81"	55.38"	21.00"	22.12"

Chamber Size	Carriage Qty	Cart Qty	G	H1	H2	J	K	L1	L2	L3
HA - 20x20x39	1-L6	1-L4	13.50"	15.00"	16.38"	3.00"	18.00"	33.00"	36.00"	N/A
HB - 26x30x29	1-L6	1-L4	16.50"	23.50"	24.06"	3.00"	23.50"	25.43"	25.93"	N/A
HC - 26x30x41	1-L6	1-L4	16.50"	23.50"	24.06"	3.00"	23.50"	37.43"	37.93"	N/A