

APPLICATION

The sterilizer is offered in a prevacuum configuration and designed for fast, efficient sterilization of heat- and moisture-stable materials in scientific applications. The prevacuum configuration sterilizer is equipped with prevacuum, gravity, liquid, leak test, and daily air removal (Bowie-Dick) test cycles. 48" (1219 mm) and 60" (1524 mm) configurations include choice of single or double door; 36" (914 mm) configuration is single door only.

DESCRIPTION

The sterilizer is equipped with the latest features in both state of the art technology and ease of use.

Interior Chamber Dimensions

- 26 x 37.5 x 36" (660 x 953 x 914 mm)
- 26 x 37.5 x 48" (660 x 953 x 1219 mm)
- 26 x 37.5 x 60" (660 x 953 x 1524 mm)

Hinged or Sliding Door Configuration

- Hinged door with fast operating, low-effort door lock mechanism. Manual door handle lock lever requires a single 30° handle movement to lock or unlock.
- Sliding door is controlled from touch screen. Quiet motor-driven cable and pulley mechanism opens and shuts door. As viewed from operating-end, door slides horizontally left when opening.

Century Control System with enhanced functionality and user-friendly color interface screen. System features include:

- Touch-sensitive 30-line x 40-character color display with both a wide viewing angle and high-visibility backlighting.



Hinged Door Model

Horizontal-Sliding Door Model

(Typical - details may vary.)

- Ink-on-paper impact printer.
- Help screens for programming and troubleshooting alarm conditions.
- Standard communication interface with most PC-compatible peripheral devices (e.g., disk drives, printers).
- Automatic check of control program and cycle data maintains process integrity.
- Vacuum pump supplied on all units to effectively pull chamber to specified vacuum levels and reduce water consumption.

Selections Checked Below Apply To This Equipment

SIZE

- 26 x 37.5 x 36" (660 x 953 x 914 mm)¹
- 26 x 37.5 x 48" (660 x 953 x 1219 mm)
- 26 x 37.5 x 60" (660 x 953 x 1524 mm)

SINGLE-DOOR CONFIGURATION

- Hinged Door² (Left Right)
- Horizontal-Sliding Door³

MOUNTING (2 options)

- Cabinet Enclosed/Freestanding
- Recessed

DOUBLE-DOOR CONFIGURATION¹

- Hinged Door⁴
 - Right/Left Right/Right
 - Left/Right Left/Left
- Horizontal-Sliding Door⁵

MOUNTING (2 options)

- Recessed through One Wall
- Recessed through Two Walls

STEAM SOURCE

- Building Steam
- Stand Alone SA Electric Steam Generator (Provided by STERIS)
- Stand Alone SA Electric Steam Generator (Customer Provided)
- Integral Indirect Clean Steam Generator
 - Single Tube¹² Double Tube
- Electric Steam Generator, Carbon Steel⁶
- Electric Steam Generator, Stainless Steel⁶

ELECTRIC SERVICE

(for Vacuum Pump & Electric Steam Heat)

- 208/240 VAC, 60 Hz, 3-Phase
- 480 VAC, 60 Hz, 3-Phase
- 400 VAC, 50 Hz, 3-Phase (International)
- 600 VAC, 60 Hz, 3-Phase (Canada Only)

OPTIONS

- Liquid Air Cooling (with Vacuum)
- Decontamination (with Vacuum)⁷
- Pure Steam Piping to Chamber
 - without Pressure Reducing Valve
 - with Pressure Reducing Valve
- RTD Load Probe and F₀ Sterilization
 - One Two
- Visible Press. Gauges (Std. on Sliding Door Units)
- Bioseal (double door units only)⁷
 - Sterile Side Non-Sterile Side
- Air Differential Seal (double door units only)
 - Sterile Side Non-Sterile Side
- Eighteen-Cycle Capability
- TRI-CLAMP® Chamber Penetration(s)^{*8}
 - 1" (25 mm) TRI-CLAMP Fitting (Qty. 1)
 - 3" (75 mm) TRI-CLAMP Fitting (Qty. 1)
- Printer on Both Ends
- Reference Recorder (3 Pen)
- Right Hand Piping
- Backflow Preventer
- Auto Flush for Steam Generator
- AMSCO™ Stand Alone Water Conservation System
- Closed Loop Chilled Water System (Drain Only)
 - Drain Only Vacuum & Drain
- 0.2 Micron Bacterial Retentive Filter
- Drain Line Reference Probe
- Air Detector System

REMOTE MONITORING

- ProConnect® Technical Support Services (Remote Monitoring, Priority Technical Support, Customer Care Center Access, Equipment Performance Reports). Available in U.S. and Canada only.

*TRI-CLAMP® is a registered trademark of ALFA LAVAL INC.

ACCESSORIES

- Loading Car Transfer Carriage
- Loading Car, Transfer Carriage & Track Assembly
 - Single Door Double Door
- Chamber Rack and Shelf 36" (914 mm)⁹
- Chamber Rack and Shelf 48" (1219 mm)¹⁰
- Seismic Tie-Down Kit¹¹
- Air Compressor, Portable, 115 Vac

Notes:

1. Double-Door configuration *not available* for 26 x 37.5 x 36" (660 x 953 x 914 mm) sterilizers.
2. Door direction of swing is as viewed from OE.
3. Configuration for Single-Door, Horizontal Sliding Door – door slides left to open.
4. Double-Door configuration – First hinge position applies to operating-end (OE); second position applies to non-operating end (NOE).
5. Configuration for Double-Door, Horizontal Sliding Door – door slides left to open at OE; door slides right to open at NOE.
6. Double door cabinet enclosed units with integral steam generators require SSQ.
7. Units with decontamination and/or bioseal options require UL/CSA field certification.
8. Both 1" and 3" TRI-CLAMP options can be selected as part of the same order.
9. Chamber Length: 36" (914 mm) units only.
10. Chamber Length: 48" (1219 mm) units only.
11. Based on CA requirements.
12. Compressed air required for Single Door and Double Door sterilizers with integral electric steam generator, units with air differential or bioseal, or single tube column, integral indirect steam generator units.

Item _____

Location(s) _____

STANDARDS

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

- **EMC Directive:** 2004/108/EC, 93/68/EEC, 92/31/EEC, 89/336/EEC.
- **Low Voltage Directive:** 2006/95/EC, 93/68/EEC, 72/23/EEC.
- **Machinery Directive (MD):** 2006/42/EC, 98/37/EEC, 93/68/EEC, 91/368/EEC, 89/392/EEC.
- **Pressure Equipment Directive (PED):** 97/23/EC.
- **Canadian Standards Association (CSA) Standard C22.2, No. 1010.**
- **Underwriters Laboratory (UL) Standard 61010-1** as certified by ETL Testing Laboratories, Inc.
- **ASME Code, Section VIII, Division 1** for unfired pressure vessels. The pressure vessel is so stamped; ASME Form U-1 is furnished. The shell and door are constructed to withstand a working pressure of 45 psig (3.1 bar).

FEATURES

26 x 37.5" (660 x 950 mm) chamber cross-section is sized to allow for efficient, high-volume processing.

Fast-operating, low-effort manual door lock mechanism (hinged-door models) allows the door to be locked or unlocked, using a single 30° handle motion.

Power horizontal-sliding door. Control panel operated horizontal-sliding door is available in left-hand (door slides left to open), single- or double-door models.

Resistance Temperature Detectors (RTDs) are installed for sterilizer temperature control. The chamber drain line RTD senses and controls temperature variations within the sterilizer chamber. A jacket RTD provides temperature control within the jacket space. These RTD signals, converted into electrical impulses, provide accurate control inputs and readouts throughout the entire cycle.

Electronic water saving control includes an RTD to control amount of water used in condensing exhausted chamber steam. See *Automatic Drain Effluent Cooling* on page 3.

Software calibration is performed in the service mode, accessible through the touch screen displays, and accomplished using external or internal temperature and pressure sources. The control system provides printed record of all calibration data for verification to current readings.

Automatic utilities startup/shutdown permits slow cooling of entire vessel and load. Shutdown may be programmed to activate at 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.

Steam purge feature is provided to assist in air removal and to preheat the load.

Insulation, one-inch thick, asbestos-free spin-glass (rated at 500 °F [260 °C] continuous) encompasses the exterior of the sterilizer vessel and is sealed in an oil and water resistant outer jacket.

Lighted DIN connectors are installed on all steam, water and exhaust valves for reliability and ease of maintenance.

ProConnect® Technical Support Services - Maximize operational efficiencies with secure, internet-based, real-time equipment monitoring. Data from your equipment is used by STERIS to provide pro-active Customer alert notifications, technical support, and predictive maintenance. Online parts ordering, equipment performance dashboards, and online service scheduling at steris.com is also available. (ProConnect Technical Support Services is available in U.S. and Canada only.) Refer to Tech Data sheet *SD983, PROCONNECT TECHNICAL SUPPORT SERVICES*, for details.

PROCESSING CYCLES

This scientific sterilizer is factory programmed with the following cycles:

- **Prevacuum Cycle:** for efficient, high-volume sterilization of porous, heat- and moisture-stable materials in the temperature range of 121°C to 137°C. The prevacuum cycle uses a mechanical air evacuation system.
- **Gravity Cycle:** for the sterilization of heat- and moisture-stable goods in the range of 100°C to 137°C), and decontamination of bagged basic laboratory wastes. The gravity cycle uses the gravity air-displacement principle.
- **Liquid Cycle:** for sterilization of liquids and media in vented borosilicate glass or metal containers in the range of 100°C to 123°C. Liquid cycle uses the optimal solution cooling feature during the exhaust (cooling) phase to control the exhaust rate.

TEST CYCLES

- **Vacuum Leak Test:** used for testing the vacuum integrity of sterilizer piping. Sterilizer chamber must be empty while running this test cycle. All temperatures and timing are preprogrammed and cannot be adjusted.
- **Daily Air Removal Test Cycle:** used to conduct a Bowie-Dick test on the sterilizer. Recommended load is a Dart® Testing Apparatus to Determine the Effectiveness of Removing Air from a Chamber, or a properly prepared Bowie-Dick test pack. Sterilize exposure temperature: 132°C; sterilize exposure time: 3-1/2 minutes; dry time: 1 minute.

OPTIONAL CYCLE

Liquid Air Cool Cycle: provides water to the jacket, and air pressure to the chamber to improve exhaust time for liquid loads, and to reduce boil over.

Effluent Decontamination Cycle: processes contaminated laboratory waste (BL-3 and BL-4). The condensate produced during processing cycle is decontaminated before discharge to floor drain. Steam is admitted through bottom of sterilizer chamber, and chamber is exhausted out top side of vessel. During purge and vacuum pulses, all purge and exhaust gases are vented through a 0.2 micron bacterial retentive filter. Filter housing is steam jacketed to prevent wetting of filter membrane.

CONTROL SYSTEM

Design Features

The Century control system monitors and controls all sterilizer operations and functions. The control system is factory-programmed with standard sterilizing cycles. Each cycle is adjustable to meet specific processing requirements. All control configuring is performed using the touch screen displays.

IMPORTANT: If factory-programmed cycle values are changed, it is necessary for the operator to validate the efficacy of the changed cycle.

Cycle values and operating features may be adjusted and verified prior to cycle operation. Once a cycle is started, cycles and cycle values cannot be changed until the cycle is complete. On completion of the cycle, timers reset to the previously selected values, eliminating the need to reset values between repeated cycles. If the chamber temperature drops below the set point during the exposure phase, the timer is set to stop. Timer will automatically reset once normal operating temperature is reached.

Critical control system components are housed within a sealed compartment to protect the components from moisture and heat generated during the sterilization process. A cooling fan with filter is installed in the housing compartment to maintain positive pressure within the compartment, keeping components cool and dust-free.

Operator interface control panel, consisting of a touch screen and impact printer, is located on the operating (load or nonsterile) end of the sterilizer. If the sterilizer is equipped with double doors, an additional touch screen is provided on the sterilizer's non-operating (unload or sterile) end.

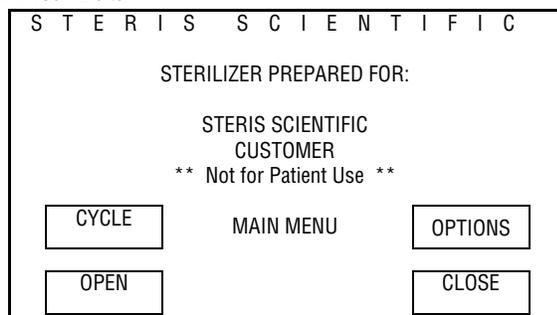
- **Touch-sensitive screen** features a 30-line x 40-character color graphics display. The control's touch screen color display features a wide viewing angle and high-visibility backlighting. All sterilizer functions, including cycle initiation and cycle configuration, are operated by pressing the touch-sensitive areas on the display, referred to as "touch pads." Display indicates appropriate control buttons, operator prompts, and status messages necessary to assist in sterilizer operation. All displayed messages are complete phases with no codes to be cross-referenced. Display also indicates any abnormal conditions that may exist either in or out of a cycle.
- **Ink-on-paper impact printer**, located above the touch screen, provides an easy-to-read printed record of all pertinent cycle data on 2-1/4" (57 mm) wide paper. Data is automatically printed at the beginning and end of each cycle and at transition points during the cycle. Printer take-up spool stores an entire roll of paper, providing cycle records which can be saved for future reference. Three paper tape rolls and two printer ribbons are furnished with each unit.

Non-operating end (NOE) control panel, equipped on double-door sterilizers only, includes a touch-sensitive screen similar to the operating end screen. Preprogrammed cycles can be started from the NOE control panel. The display concurrently shows the same information as the operating end screen display.

Cycle configuration is performed by accessing the change values menu through the operating end touch screen. The change values menu can be used to adjust cycle values and the following operating parameters:

- **Time display and printout units** in AM/PM or 24-hour (MIL).
- **Access code** requires entry of a four-digit access code to operate the sterilizer and/or change the cycle values. Operator is prompted to enter an access code when initiating a cycle or accessing the change values menu. If the access code is not properly entered, the display returns to the standby or main menu screen, denying user access to the sterilizer or programming.
- **Audible signals** are adjustable. **Touch pad** and **end-of-cycle signals** can be adjusted to one of four sound levels (off, low, medium, or high) as required for the operating environment. **Alarm signal** can be adjusted to low, medium, or high (it cannot be turned off).
- **Print format** allows selection of either a full or condensed printout of the cycle information during processing.
- **Temperature display and printout units** appear in Celsius (°C). Temperature is set, displayed, controlled, and printed to the nearest 1°. Recalibration is not required when changing temperature units to Fahrenheit (°F).
- **Pressure/vacuum display and printout units** appear in psig/InHg or bar. Recalibration is not required when changing pressure units.

Technical Data



Control system consists of microcomputer control boards and peripheral function circuit boards, located within the control PC board housing.

Internal battery backs up all cycle memory for up to 10 years. If power failure occurs during cycle, battery backup system assures cycle memory will be retained and proper cycle completion will occur once power is restored. When power is lost, cycle is held in phase until power is restored. Once power returns, the event is recorded on printout and cycle automatically resumes or restarts, depending on what phase cycle was in at time of power loss. Operator can choose to manually abort the cycle.

SAFETY FEATURES

Control lockout switch, located on chamber door, senses when door-seal is energized and tight against door. The control prevents cycle from starting until limit switch signal is received. If the control loses the appropriate signal during cycle, alarm activates, cycle aborts, and chamber safely vents with a controlled exhaust.

Chamber float switch activates alarm, aborts cycle, and safely vents chamber with a controlled exhaust if excessive condensate is detected in vessel chamber.

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

CONSTRUCTION

Shell Assembly

Two fabricated Type 316L stainless-steel shells, welded one within the other, form the sterilizer vessel. Type 316L stainless-steel end frame(s) is welded to the door end. On a single door unit, the back of chamber is fitted with a welded 316L stainless-steel dished head.

Insulated sterilizer vessel is ASME and PED rated at 45 psig (3.1 bar) and includes one 1"-NPT access port for Customer use. Steam-supply opening inside chamber is shielded by a stainless-steel baffle.

Chamber Door(s)

Chamber door is constructed of Type 316L stainless steel. During cycle operation, door is sealed by a steam-activated door seal. Door seal is constructed of special long-life rubber compound. When sterilizer cycle is complete, door seal retracts under vacuum into a machined groove in sterilizer end frame.

A proximity switch senses when the door is closed. An additional seal pressure switch prevents inadvertent cycle initiation if the door is not sealed.

The door assembly is equipped with a mechanical locking mechanism that prevents the door from opening, as long as the seal is intact and energized and more than 2 psi (0.14 bar) pressure is in the chamber. Door interlocks on double door sterilizers can be programmed to prevent inadvertent opening of door(s). Access code is required to override door interlocks. Sterilizer door is fitted with a stainless-steel panel that insulates operator from chamber end ring, lessening chance of accidental contact with hot metal surface.

Chamber Drain System

Drain system is designed to prevent pollutants from entering the sterilizer. An optional backflow preventer is available. An automatic condensing system, consisting of a stainless-steel plate-type condenser, converts chamber steam to condensate, and disposes condensate to waste. Cooling water flow is regulated by waste line RTD to minimize water usage. Water supply shutoff valve is located in recessed area of unit.

Automatic Drain Effluent Cooling

The piping system to the drain provides automatic condensing of chamber steam and disposal of condensate to waste. Cooling water is added to ensure discharge temperature is discharged at or below 60°C (140°F). A separate resistance temperature detector (RTD) is included to limit the volume of water to only the amount required to achieve target temperature, thus conserving water.

Vacuum System

Vacuum pump reduces chamber pressure during prevacuum and post-drying phases. Air is drawn from chamber through vacuum system. Following dry phase, chamber vacuum is relieved to atmospheric pressure by admitting air through a bacteria-retentive filter.

Steam Source

Sterilizer is piped, valved, and trapped to receive building-supplied steam delivered at 50 to 80 psig (3.5 to 5.6 bar) dynamic. Steam piping is constructed of brass and includes a shutoff valve, steam strainer, and a brass pressure regulator.

Steam feeds from jacket to chamber. A check valve is added between jacket and chamber on sterilizers with decontamination cycle option.

Integral Electric Steam Generator

45 kW generator is available for this sterilizer. Generator is manufactured of either carbon steel or stainless steel. Additional floor space either at rear of sterilizer (single door chamber) or at the side (double door chamber) is required. Additional utility requirements are also needed. Refer to appropriate equipment drawings if an integral steam generator is required.

Integral Indirect Clean Steam Generator

Utilizes Customer's plant steam (minimum 75 psig [517 kPa]) and high quality water (minimum specific resistivity of 1.0 M Ω ·cm) to supply pure steam to sterilizer. Generator system is integrally mounted to sterilizer framework and automatically operated by sterilizer electronic control system. Clean steam-to-chamber piping option must be selected. Available with single or double tube sheet constructions. (See tech data SD589 for details.)

Piping

All piping connections terminate within confines of sterilizer, and are accessible from front and left side of the unit.

- **Solenoid valves** with DIN connectors simplify sterilizer piping and can be serviced individually.
- **Manual shutoff valves** are pressure rated at 125 psig (8.62 bar) for saturated steam. Valve handles are low-heat conducting. Valves are provided for steam, water, and emergency drain line exhaust.

MOUNTING ARRANGEMENT

The sterilizer is designed for either freestanding or recessed installation, as specified. (For double-door mounting, the recessed installation can be through one or two walls.) Each sterilizer is height-adjustable. Sterilizer subframe is equipped with a synthetic rubber gasket to provide a tight fit between the cabinet panels on freestanding systems, or between the front cabinet panel and wall partition on recessed systems.

Stainless-steel side panels enclose the sterilizer body and piping on freestanding systems.

ACCESSORIES

Seismic tie-down kit conforms to Title 24 California Code of Regulations, 1993 Amendment Section 2336(B).

Material handling accessories include stainless-steel chamber tracks and stainless-steel loading cars with painted-steel carriages. Stainless-steel chamber rack and shelf are available for 39" (991 mm) sterilizers. See separate literature for details.

Air compressor, portable (115 Vac), is intended for pneumatic valves on sterilizers when an air utility is not provided by the facility. It is also used for back-up pressure source for the door seal in bioseal applications and for sterilizers utilizing an electric steam generator.

The unit's 1.5 gallon compressor tank delivers pressurized air at 59.5 LPM @ 345 KPa (1.7 CFM @ 100 PSI). Refer to STERIS drawing no. 755718-038 for complete specifications.

OPTIONS

Pure steam piping delivers steam (generated from Customer purified water source) to chamber and its contents. All steam-to-chamber piping components are constructed of 300 series stainless steel. Available with or without Pressure Reducing Valve.

RTD load probe and F₀ sterilization automatically sense load temperature during cycle operation. A single thermal load probe is sealed through sterilizer vessel and manually placed in product container within chamber prior to cycle operation.

In conjunction with the load probe option, individual cycles can be set to start the exposure phase according to chamber drain temperature or according to load temperature. F₀ set points are also available for each cycle, allowing for exposure phase termination based on the calculated F₀ value. Note that a maximum of two probes can be used.

Visible pressure gauges (chamber and jacket pressure gauges) are mounted in the fascia panel and are visible to the operator; 4-1/2" (114 mm) diameter gauges are in psig/in Hg (chamber), or psig (jacket). The pressure gauges are standard on sliding door units; and optional for hinged door units.

Bioseal (double door units only) consists of a 1/4" stainless-steel plate welded to chamber and a 1/4" thick silicone gasket that extends between the plate and a carbon steel wall frame, which is welded to wall imbeds. The bioseal option is available for both the operating and non-operating ends of the sterilizer. The seal is designed to prevent the passage of airborne microorganisms from the space between the vessel body and the structural wall opening. Steam is the primary source of pressure behind the door seal. All sterilizers with bioseals have air back-up to maintain seal pressure when out of cycle or if the steam source is not available.

If bioseal option is selected, an increased wall opening is needed. A compressed air supply is also required as a back-up means to operate the door seals. Refer to STERIS equipment drawing for bioseal specifications.

Air differential seal (double door units only) is available for both operating and non-operating ends of the sterilizer. The seal minimizes passage of air from non-sterile area to sterile area. Eighteen-cycle capability provides an additional 12 cycles to the control system memory for a total of 18 cycles.

1" (25 mm) TRI-CLAMP chamber penetration permits insertion of temperature probes, such as thermocouples or resistance temperature detectors (RTDs), into the chamber.

3" (76 mm) TRI-CLAMP chamber penetration permits insertion of temperature probes, such as thermocouples or resistance temperature detectors (RTDs), into the chamber.

Backflow preventer option can be installed on sterilizer piping to prevent the unwanted reverse flow of water or other substances into the potable water supply.

Auto flush for steam generator provides automatic flush of steam generator upon startup of sterilizer. Operator can bypass auto-flush by pressing <Cancel> on touch screen. This option is not required for stainless-steel steam generators.

Closed loop chilled water system (with drain only). Closed loop cooling source is used to cool the steam effluent from the jacket and chamber. This greatly reduces the amount of water sent to the drain. Plate heat exchanger is included. See equipment drawings for closed loop utility requirements.

Closed loop chilled water system (with vacuum pump & drain). Closed loop cooling source is used to cool the vacuum pump seal water to <15°C and sterilizer effluent to <60°C. This greatly reduces the amount of vacuum pump seal water and eliminates the need for water mixing with the effluent that is sent to drain. Plate heat exchangers and recirculation tank are included. See equipment drawings for closed loop utility requirements.

AMSCO Stand Alone Water Conservation System is designed to re-circulate and cool sterilizer process water to reduce water consumption. System includes collection tank, heat exchanger with integral cooling fan, recirculation pump and temperature and pressure switches.

During system operation, sterilizer water effluent passes through a fan-cooled heat exchanger. The fan cools the water before it returns to the collection tank. Additional cooling water is added only when a maximum temperature set-point is reached. Refer to tech data sheet SD929 for more detail.

Right hand piping. Piping is located on right side of sterilizer.

Reference recorder is integrally mounted to the sterilizer fascia paneling. The option is an independent recorder provided to record chamber drainline temperature and chamber pressure.

0.2 micron bacterial retentive filter provides sterile air during airbreak at end of cycle.

Printer on both ends provides an additional printer at the sterilizer's non-operating end.

Air detector (integral factory piping option) is used to determine whether any air or non-condensable gas present in the chamber is sufficient to impair the sterilizing process.

Drain line reference probe automatically senses temperature of drain during cycle operation. Individual cycles can be set to start exposure phase according to either the chamber drain temperature, or the load temperature.

PREVENTIVE MAINTENANCE

A global network of skilled service specialists can provide periodic inspections and adjustments to help assure low-cost peak performance. STERIS representatives can provide information regarding annual maintenance agreements.

NOTES

1. The sterilizer is not supplied with a backflow preventer and, where required by local codes, installation of a backflow preventer in the water line is not provided by STERIS.
2. Pipe sizes shown indicate terminal outlets only. Building service lines, not provided by STERIS, must supply the specified pressures and flow rates.
3. Disconnect switches (with OFF position lockout only, by third parties) should be installed in electric supply lines near the equipment.
4. Access to recess area from control end of the sterilizer is recommended.
5. Clearances shown are minimal for equipment installation and servicing.
6. Depending on the loading equipment used, additional clearance is required:
 - If shelves are used, length of sterilizer plus 24" (610 mm) at each door.
 - If loading car and carriage will be used, twice the length of the sterilizer at each door.
 - Floor drain should be provided within the confines of the sterilizer framework.

UTILITY REQUIREMENTS

The following utility requirements information is general. Refer to equipment drawings for detailed information.

Drain

2" ODT drain terminal (floor drain capacity must handle peak water consumption)

Electric Control Domestic

120 V, 1-Phase, 60 Hz, 2 Amps

Electric Control International

230 V, 50 Hz, 1-Phase, 1.5 Amps

Electric Control, Vacuum Pump Domestic

480 V, 60 Hz, 3-Phase, 3 Amps per phase, or
208/240 V, 60 Hz, 3-Phase, 6 Amps per phase, or
600 VAC, 60 Hz, 3-Phase, 3 Amps per phase

Electric Control, Vacuum Pump International

400 V, 50 Hz, 3-Phase, 4 Amps per phase

Steam

Pressure: 50 to 80 psig (3.45 to 5.52 bar, dynamic), condensate free, and 97% to 100% vapor quality

Average Consumption (60" units): 185 lbs/hr (84 kg/hour)

Peak Flow (60" units): 335 lbs/hr (152 kg/hour)

Size: 1" NPT

Additional utilities are required for units with the following options:

- Double Door Units w/Interlocks & Air Differential Seal (Compressed Air)
- Liquid Air Cool (Compressed Air)
- Decontamination Cycle (Compressed Air)
- Bioseal (Optional Compressed Air Backup)
- Stainless-Steel Piping (Treated Water)
- Indirect Steam Generator (minimum 75 psig steam)

Consult Customer Service for specially configured equipment drawings.

Sterilizer Feedwater Pressure: 20 to 50 psig (1.38 to 3.45 bar), dynamic, Size: 1" NPT

NOTE: Backflow prevention is not standard on the unit, but a backflow preventer option can be ordered.

Requirements for ProConnect Technical Support Services

Requirements for ProConnect Technical Support Services Refer to Tech Data sheet *SD983, PROCONNECT TECHNICAL SUPPORT SERVICES*. (Available in U.S. and Canada only.)

ENGINEERING DATA

Drain	2" ODT drain terminal — floor drain capacity must handle peak water consumption.	
Electric • USA	Control:	120 Volt, 1-Phase, 60 Hz, 2 Amps.
	Vacuum Pump:	208/240 Volt, 3-Phase, 60 Hz, 6 Amps per phase, or 480 Volt, 3-Phase, 60 Hz, 3 Amps per phase.
	• UK	Control: 230 Volt, 1-Phase, 50 Hz, 1.5 Amps. Vacuum Pump: 400 Volt, 3-Phase, 50 Hz, 6 Amps per phase.
• International (Outside UK)	Control:	230 Volt, 1-Phase, 50 Hz, 1.5 Amps Vacuum Pump: 400 Volt, 3-Phase, 50 Hz, 4 Amps per phase.
Steam¹	Pressure:	50 to 80 psig (3.45 to 5.52 bar, dynamic), condensate free, and 97% to 100% vapor quality
	Consumption:	26 x 37.5 x 36" (660 x 950 x 914 mm): Peak: 190 lb/hr (86 kg/hr) Avg. 112 lb/hr (51 kg/hr) 26 x 37.5 x 48" (660 x 950 x 1219 mm): Peak: 255 lb/hr (116 kg/hr) Avg. 148 lb/hr (67 kg/hr) 26 x 37.5 x 60" (660 x 950 x 1524 mm): Peak: 335 lb/hr (152 kg/hr) Avg. 185 lb/hr (84 kg/hr)
	Peak Flow:	335 lb/hr (152 kg/hr) (60" unit)
	Size:	1" NPT
	Water	Pressure: 20 to 50 psig (1.38 to 3.45 bar), dynamic Consumption: 130 gal/hr (495L/hr) Peak Flow: 15 gal/min (57 L/min) Size: 1" NPT
Operating Weight	26 x 37.5 x 36" (660 x 950 x 914 mm)	3800 lb (1720 kg)
	26 x 37.5 x 48" (660 x 950 x 1219 mm)	4200 lb (1900 kg)
	26 x 37.5 x 60" (660 x 950 x 1524 mm)	4700 lb (2125 kg)

¹ 75-90 PSI dynamic steam pressure is required when operated with steam-to-steam generators.

Notes:

- Operating weight includes a full load in the chamber.
- Water consumption data based on running one fully loaded prevac cycle per hour and the machine idling for remainder of the hour.

Table 1. Recommended Feed Water Quality for Sterilizers

Condition	Nominal	Maximum
Temperature	4°-16°C (40°-60°F)	21°C (70°F)
Total Hardness as CaCO ₃ ^(a)	50-120 mg/L	171 mg/L
Total Dissolved Solids	100-200 mg/L	500 mg/L
Total Alkalinity as CaCO ₃	70-120 mg/L	180 mg/L
pH	6.8-7.5	6.5-8.5
Total Silica	0.1 - 1.0 mg/L	2.5 mg/L

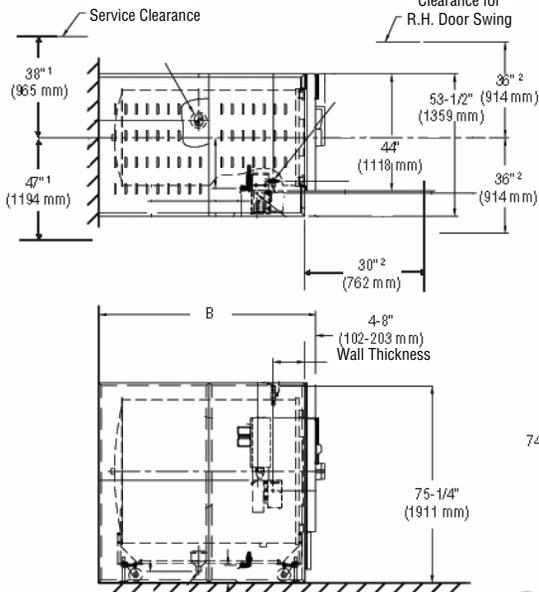
(a) 17.1 mg/L = 1.0 grain hardness

CUSTOMER IS RESPONSIBLE FOR COMPLIANCE WITH APPLICABLE LOCAL AND NATIONAL CODES AND REGULATIONS.
The base language of this document is ENGLISH.
Any translations must be made from the base language document.

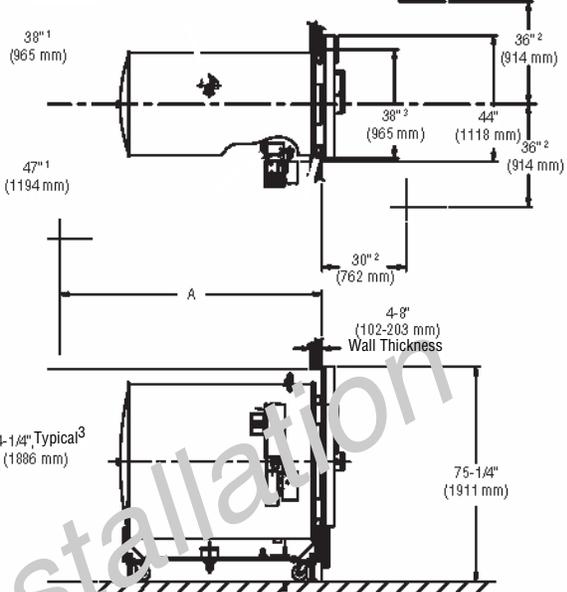
Refer to the Following Equipment Drawings for Installation Details

Equipment Drawing Number	Equipment Drawing Title
65435-775	26 X 37.5 AMSCO Century Ster. Prevac Or Sfpp Single (Hinge) Door Recessed Steam Heat
65435-776	26 X 37.5 AMSCO Century Ster. Prevac Or Sfpp Single (Hinge) Door Cabinet Steam Heat
65435-777	26 X 37.5 AMSCO Century Ster. Prevac Or Sfpp Double (Hinge) Door Recessed One Wall Steam Heat
65435-778	26 X 37.5 AMSCO Century Ster. Prevac Or Sfpp Double (Hinge) Door Recessed Two Walls Steam Heat

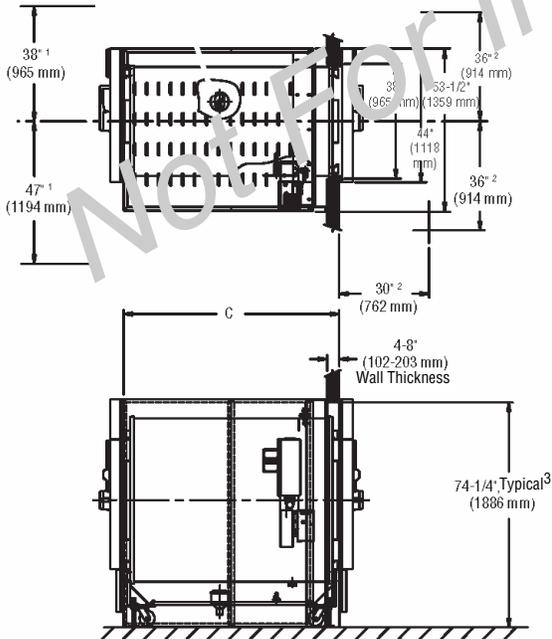
Single Hinged-Door, Cabinet Enclosed



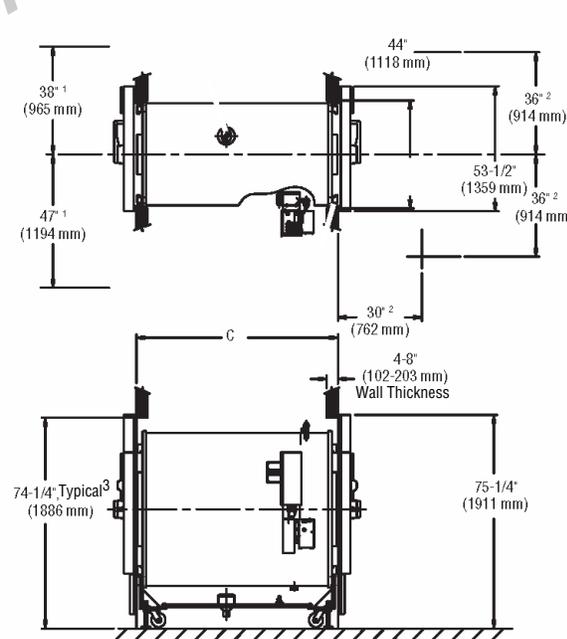
Single Hinged-Door, Recessed, One Wall



Double Hinged-Door, Recessed, One Wall



Double Hinged-Door, Recessed, Two Walls



¹ Service Clearance - new construction only. Unit may be installed in existing Eagle 3000 space without facility modification.

² Door Swing (left hand swing shown)

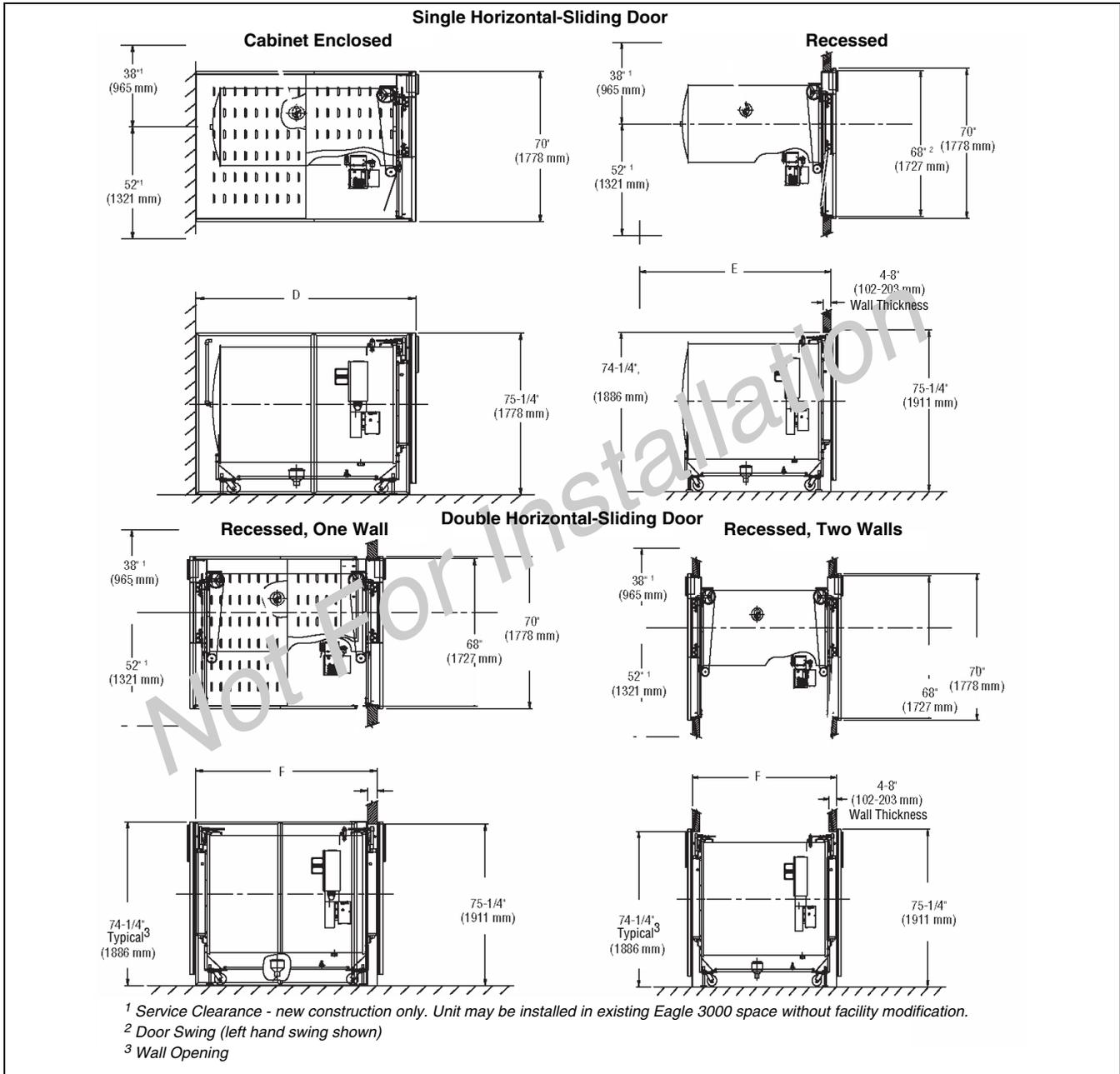
³ Wall Opening

OVERALL INSTALLED LENGTH
Refer To Illustrations

	Chamber Length		
	36" (914 mm)	48" (1219 mm)	60" (1524 mm)
A	69" (1753 mm)	81" (2057 mm)	93" (2362 mm)
B	58" (1473 mm)	70" (1778 mm)	82" (2082 mm)
C	48" (1219 mm)	60" (1524 mm)	72" (1829 mm)
D	59" (1499 mm)	71" (1803 mm)	83" (2108 mm)
E	71-1/2" (1816 mm)	83-1/2" (2121 mm)	95-1/2" (2425 mm)
F	53-1/4" (1352 mm)	65-1/4" (1657 mm)	77-1/4" (1962 mm)

Refer to the Following Equipment Drawings for Installation Details

Equipment Drawing Number	Equipment Drawing Title
65435-779	26 X 37.5 AMSCO Century Ster. Prevac Or Sfpp Single (Sliding) Door Cabinet Steam Heat
65435-780	26 X 37.5 AMSCO Century Ster. Prevac Or Sfpp Single (Sliding) Door Recessed Steam Heat
65435-781	26 X 37.5 AMSCO Century Ster. Prevac Or Sfpp Double (Sliding) Door Recessed One Wall Steam Heat
65435-782	26 X 37.5 AMSCO Century Ster. Prevac Or Sfpp Double (Sliding) Door Recessed Two Walls Steam Heat



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