

CUSTOMER: _____

REFERENCE: _____

633LS SERIES VACUUM/GRAVITY STEAM STERILIZERS FOR LIFE SCIENCE APPLICATIONS PRODUCT SPECIFICATION

PRODUCT

The 633LS Vacuum/Gravity Steam Sterilizer employs both gravity/downward displacement with positive pulse conditioning and pressure/vacuum pulsing for dynamic air removal. Up to 19 cycles can be easily accessed in two easy steps. Custom cycle names can be designated for each cycle and can be re-ordered for easy access. All cycle phases are sequenced and monitored by the control system, providing both audible and visual notification of deviation from key operating parameters.

APPLICATION

Laboratory, scientific or general-purpose gravity or vacuum steam sterilization and decontamination of laboratory research and animal care supplies. Liquid sterilization in self-vented and unsealed containers. The selectable temperature range is from 230°F to 275°F (110°C to 135°C) and from 219°F to 275°F (104°C to 135°C) for liquid cycles. Typical applications include wrapped and unwrapped porous and non-porous hard goods, animal cages with bedding, textiles and linens and liquids in self-venting or unsealed containers. The liquid exhaust is controlled for a linear and consistent liquid cool down, and is programmable within a specified range.

KEY FEATURES

INTERIOR CHAMBER DIMENSIONS

26.5" (672 mm) wide x 26.5" (672 mm) high

AVAILABLE CHAMBER LENGTHS:

- 26" (660 mm), 10.5 cu. ft. (297 L)
- 39" (1000 mm), 15.5 cu. ft. (450 L)
- 51" (1300 mm), 20.7 cu. ft. (586 L)

DOOR SELECTION

Single Door Mounting

- Recessed
- Cabinet

Double Door Mounting (39" and 51" ONLY)

- Cabinet, recessed one end
- Recessed both ends

CONTROL PANEL LOCATION

- On Unit, above door(s)
- Printer located on control end as standard

STEAM SOURCE

- House steam
- Integral steam generator with an automatic feed water pump
 - 208V 3 Ph
 - 240V 3 Ph
 - 480V 3 Ph
 - 600V 3 Ph

NOTE: 39" and 51" electrical chambers require a blowdown tank. Select under options in next column.



Language — English / French / Spanish (factory language setting is English, but French or Spanish may be configured at installation)

OPTIONS

- Boiler Control and Safety Device (CSD-1). Satisfies state ASME requirements for secondary low water cut-off.
- Uninterrupted Power Supply (UPS). Provides 115V power for up to 30 minutes to complete a cycle in process.
- Automatic Steam Boiler Blow-down
- ASME Blow Down Separator - required for 39" and 51" Electrical Units
- Liquid RTD Load Control
- Thermocouple Gland
- Water Saver Package
 - 120V
 - 220V

INTERIOR EQUIPMENT

- Rack with two shelves — standard on 26" chambers, optional on 39" chamber
- Extra extendable shelf
- Loading Cars and Transfer Carriages — optional on 39" chamber, standard on 51" chamber
- 633LS Series Loading Car, with interior track
Qty. _____
- 633LS Series Transfer Carriage
Qty. _____

QUALITY STATEMENT

Confidence in the Getinge Group is the most important quality criterion. This must be the hallmark of all our external and internal commitments, activities and products. Products and services supplied by Getinge must conform to the agreed terms and expectations to ensure recommendations for further business. The achievement of these quality goals is the basis for a continued competitive and successful enterprise.

STANDARDS AND CODES

- ETL Listed to: UL/IEC 61010-1 & 61010-2-040 and CSA C22.2 Nos. 61010-1 & 61010-2-045
- Seismic Anchoring Per California Code (Optional)
- Wash/Rinse Heat Exchangers: ASME Code Section VIII, Div. 1

CONTROLS

Getinge Sterilizers employ a Hitachi 20 MHz microprocessor on a dedicated controller (CPU) with 8 MB of RAM. The control panel consists of an operator interface panel (called OP30), a thermal printer, mechanical chamber and jacket pressure gauges, status indicators, active touch sensitive switches, and controls On/Off switch.

Controls are located above the door for convenience. An internal deflection barrier routes steam vapor and moisture away from the door and behind the electronic controls to maintain temperatures at or below temperature limits. The OP30 operator interface panel has a 1/4 VGA 5.7 inch diagonal color screen with 320 x 240 pixels. Below the screen are five soft keys to access other screens or displays and to make changes to cycle parameters. A screen saver extends the life of the back lit LCD. Touching any key illuminates and reactivates the display. Push button switches, with international symbols and descriptive words, provide door seal and unseal and vertical movement of the door. Audible and visible operator feedback is provided when a selection is made or a fault message is displayed. Temperature can be set, controlled and displayed in degrees Celsius or Fahrenheit and pressure in psia, bar or kPa. Double door models have a printer at one end (printer located on control end as standard), and a complete OP30 Operator Interface at both ends of the sterilizer for full capabilities at either door.

The temperature of the discharge water is controlled by a temperature sensor to be less than 140°F (60°C). This sensor also conserves water usage. Water in the chamber drain is continuously monitored during a cycle. If water is detected and can not be automatically corrected, an alarm alerts the operator.

An RS 232 port is provided for serial communications for central data collection or remote service analysis.

CYCLE DOCUMENTATION

Using thermal paper for quiet operation, the printer documents cycle performance. At cycle completion, a cycle performance record is printed. Paper is replaced by a “drop in and quick feed” method and the printed strips can be either accumulated on an automatic take-up reel, or torn off for individual cycle storage. A last cycle duplicate print and paper feed switch is provided. The printer is located on the control panel (printer located on control end as standard) and documents the following on a 200-dpi dot matrix printer (1.88” [47.6 mm] wide print width):

- Process start time and date, sterilizer name and number, daily cycle number and total cycle count.
- Cycle selected with time and temperature, with other adjustable parameters identified.
- Cycle phase transition points, temperature, pressure and total cycle time.
- Process fault information messages with time of occurrence.
- Summary verification of time at temperature (min/max exposure values).
- Cycle verification signature line.
- Parameter Check provided a calculated, numeric process lethality.

OP30 OPERATOR INTERFACE FEATURES

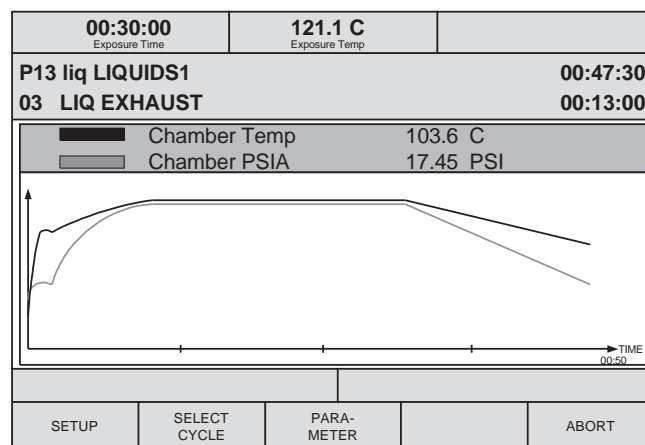
The OP30 color screen is divided into specific sections to display selection and performance information in a consistent manner. The top section identifies the time and temperature selected for the cycle. Below that is the type of cycle selected. The middle portion provides a choice of three screens to view actual, real time cycle information. “Pop-up” dialog boxes to change values appear within parameter selection screens to implement changes.

The three screens are:

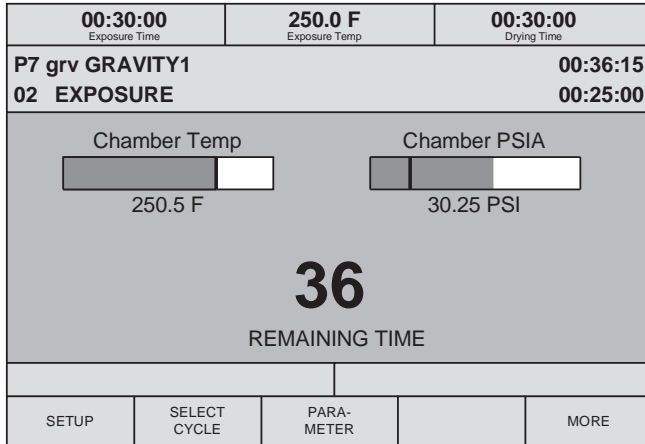
- Detail. Displays real time process information in text form.

00:03:00 Exposure Time	135.0 C Exposure Temp	00:20:00 Drying Time
P1 vac PREVAC1		00:00:00
01 STANDBY		01:12:44
Chamber Temp	29.1 C	
Cham Press/PSIG	0.00 PSI	
Jacket Temp	129.9 C	
Atmosphere PSIA	14.25 PSI	
Chamber PSIA	14.25 PSI	
Steam Table Diff	-13.82 PSI	
Exp. Temp Max	135.6 C	
SETUP	SELECT CYCLE	PARA-METER
		UNSEAL

- Plot Graph. Displays cycle temperature and pressure in colored graph during a cycle.



- Bar Graph. Displays temperature and pressure in a bar graph, with a large, easy to read, time remaining to the end of the cycle (averages the previous cycles for each cycle type).



The lower portion of the screen provides text alarm messages, non-critical system messages, both using color displays, and soft key identifications.

Navigating the various screens is accomplished by use of soft keys, directional arrows to move the cursor and change values, and the Enter key. Up to 19 factory-recommended cycles are available. Time and temperature can be changed using a quick edit feature. Each change prompts operator acceptance by the use of a configurable Yes/No acknowledgement and a “Save” soft key.

Note: Selection of time and temperatures other than factory recommendations require operator verification of the cycle efficacy. Factory recommended cycles were validated to ANSI/AAMI ST8.

For Supervisor access, an alpha-numeric display provides levels of access for individual operators and service. Using the soft key labeled “Setup” provides the ability to:

- Select operating screens
- Adjust system menu for setting the calendar and to establish users
- Establish passwords for each operator
- Access the “about” selection to identify the model and system software number
- Choice of language, date format, and temperature and pressure measurement

The supervisor can also select a configurable Utilities Control feature, which provides a seven-day timer for programmed startup and shutdown of the sterilizer. The Utilities Control system shuts off water, and steam, to the unit, to conserve energy. Cycles running beyond the programmed shutoff time will be completed. Finally, an optional Automatic Steam Generator Blowdown System can be programmed to blow down the steam generator automatically once a day, while cooling hot condensate through internal piping. This is typically scheduled during off-peak time.

The factory-recommended cycles are:

MODEL 633LS (up to 19 total cycles)

- 6 Gravity cycles of 30 minutes exposure at 250°F (121°C) with 15 minutes dry time
- 6 Vacuum cycles of 30 minutes exposure at 250°F (121°C) with 15 minutes dry time.
- 1 Vacuum Leak Test cycle run at 268°F (131°C)
- 6 Liquid* cycle at 250°F (121°C), at 45 minutes exposure

*The liquid cycle, if used, is not intended for the sterilization of liquids used directly for patient contact.

PERFORMANCE

When installed and connected to specified utility services, the system provides accurate and repeatable performance. During the timed exposure phase, the temperature will be controlled by the chamber sensor at 0.9°F (0.5°C) above the set point. Temperature selectivity is in 0.1°F (0.1°C) increments. Cycle performance validated to AAMI ST8. Timing functions are selectable in one-second increments, and accuracy is within 0.04%. Temperature is controlled by a method called Proportional Integrating Derivative (PID), a continuous algorithm. A battery with a 10 year life holds programmed cycle values in memory. In the event of a power interruption, current cycle status is stored for up to 1 minute.

CYCLE PROGRESSION

- Gravity/Wrapped Goods (pressure pulse preconditioning)
 - a. Conditioning — steam flows into the chamber for a timed period, followed by a series of positive pressure pulses to remove chamber air.
 - b. Heat-Up — to selected temperature.
 - c. Exposure — selected chamber temperature is attained and timed.
 - d. Exhaust — chamber vented to atmospheric pressure.
 - e. Dry — filtered air is drawn through chamber for the duration of time selected. (either Gravity or Vacuum Dry is selectable, Vacuum Dry is recommended)
 - f. Cycle Complete — signaled by a tone, display message and light.
- Prevac/Wrapped Goods (Vacuum/Pressure Pulsing Preconditioning)
 - a. Conditioning – steam flows into the chamber for a time period, followed by a series of pressure/vacuum pulses to remove chamber air.
 - b. Heat-Up — to selected temperature.
 - c. Exposure — selected chamber temperature is attained and timed.
 - d. Exhaust — chamber vented to atmospheric pressure.
 - e. Dry — a vacuum is created for the duration of the time selected; filtered air is admitted at the end of the drying time, chamber to atmospheric pressure).
 - f. Cycle Complete — signaled by a tone, light and display message.

- **Prevac/Unwrapped Goods (Vacuum/Pressure Pulsing Pre-conditioning)**
 - a. Conditioning – steam flows into the chamber for a time period, followed by a series of pressure/vacuum pulses to remove chamber air.
 - b. Heat-Up – to selected temperature.
 - c. Exposure – selected chamber temperature is attained and timed.
 - d. Exhaust – chamber vented to atmospheric pressure.
 - e. Dry – typically, not required for the unwrapped vacuum cycle.
 - f. Cycle Complete – signaled by a tone, light and display message.

CONSTRUCTION

The chamber is constructed of an inner shell and a series of “U” channels that form the outer jacket of the chamber. The gasket ring and backhead (on single door models) is formed and welded to the chamber body. Chamber material is and door material are Stainless Steel 316. The “U” channel (jacket) material is also 316. The interior chamber finish is polished. All pressure vessel construction meets ASME code requirements for working pressures up to 45 psig (310 kPa). The gasket ring holds a continuous, one-piece silicone gasket, 0.63” (16 mm) in diameter, which is replaceable. The body assembly is thermally insulated with 1.5” fiberglass insulation and double thick between the “U” channels. A steam baffle is provided to prevent condensation from wetting the load. An extra threaded opening permits passage of thermocouple leads to monitor interior and load temperatures. The steam connections to the “U” channels and to the chamber are 316 material.

DOOR ASSEMBLY

The vertical sliding door is power driven for ease of operation, using a reliable worm screw drive. When open, it is totally out of the way, allowing safe and complete access to the chamber. The door is operated by door control switches, and will stop automatically, when closing, if an obstruction is encountered. At the beginning of the cycle, steam pressure behind the gasket automatically seals the door and retracts automatically at the end of the cycle. Sealing is positive and consistent. The gasket is recessed for added protection and long life. Once the cycle begins and the chamber is pressurized, the door cannot be opened. A safety switch prevents steam from entering the chamber when the door is not sealed. The door is insulated and covered with a stainless steel panel.

PANELING

The front paneling is constructed of nominal 0.050” (1.27 mm) stainless steel and is for service access to components. The trim panels are designed built-in to fit within a recessed wall or optional cabinet. When specified, the cabinet model will be made of the same material.

OPTIONAL INTEGRAL STEAM GENERATOR

When selected the steam generator will have 30 or 45 kW capacity, dependant on vessel size selected, at standard voltages. It will be integrally mounted with an automatic fill valve to ensure the correct water level.

The steam generator is automatically controlled to generate and maintain a supply of steam to the sterilizer at minimum of 45 psig (310 kPa). An automatic feedwater pump is provided as standard. An optional automatic blowdown feature is available to provide recommended boiler maintenance.

NOTE: 39” and 51” electrical chambers require a blowdown tank

STEAM GENERATOR CONTROLS AND FEATURES

The integral steam generator heating system includes:

- a. On-off selector switch with power light. Control power will be removed from the steam generator when “control off” is selected.
- b. An adjustable pressure control and a high-limit control.
- c. Adjustable over-pressure cutoff.
- d. Automatic fill valve to maintain the correct water levels at all times.
- e. An ASME, V rated 80-psi pressure relief valve.
- f. Magnetic contactors for heater circuit, visible water level gauge, safety relief valve and manual drain blowdown valve.
- g. A high-water cutoff safety feature prevents water from entering the sterilizer.
- h. Full-size drip pan with leak detection and automatic system shutdown.
- i. Optional kit to meet ASME CSD-1 requirements.
- j. The automatic blowdown option incorporates a seven-day timer with a motorized ball (shutoff) valve that automatically uses steam pressure to minimize mineral accumulation in the steam generator. The seven-day timer allows the user to select a time each day for blowdown to occur. The hot condensate flows through the lower piping and is condensed by cold water. NOTE: Please reference note 10 on the attached rough-in drawing HS4125 (page 11 of 16) for additional facility requirements.

OPTIONAL WATER SAVER PACKAGE

Features and Benefits:

- No change in cycle performance
- Operator instructions for equipment are unchanged
- Flexible mounting schemes allow installation anywhere within 15 feet of the sterilizer
- Significant water usage reduced

When the is installed and adjusted properly, the system can provide water savings of 75% or greater. The table below shows average savings for various models of Getinge Vacuum-Steam sterilizers when the equipment is programmed for a wrapped goods cycle with 3 minutes exposure time and a dry-time of 30 minutes. Even when installed on gravity displacement sterilizers that require a lengthy dry phase for processing porous loads, the Water Saver can produce significant savings.

Water Consumption Per Cycle

Equipment: 633LS
 Standard Unit Consumption: 230 gal.
 With Water Saver package: 58 gal.
 % Savings: up to 75%

NOTE: Requires independent electrical service

WARRANTY

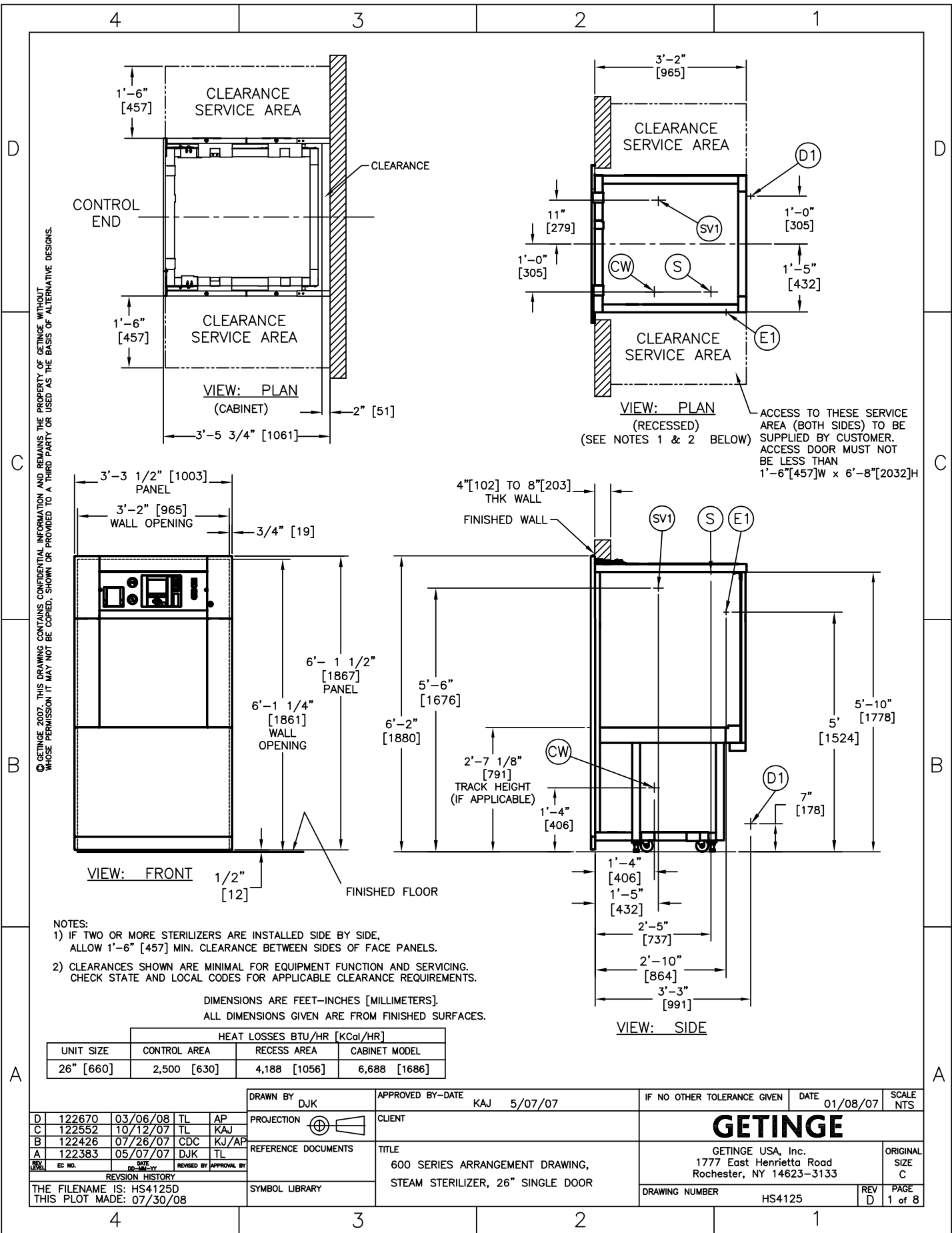
Getinge USA, Inc. warrants that each sterilizer is carefully tested and inspected, and leaves the factory in proper working condition, free from visible defects. Sterilizers are warranted for one year from the start of the warranty, including parts and labor (excluding expendable parts). The ASME pressure vessel is further warranted to the original owner against structural failure for a period of 15 years from the date of initial operation.

See warranty pamphlet for complete details.

ENVIRONMENTAL IMPACT

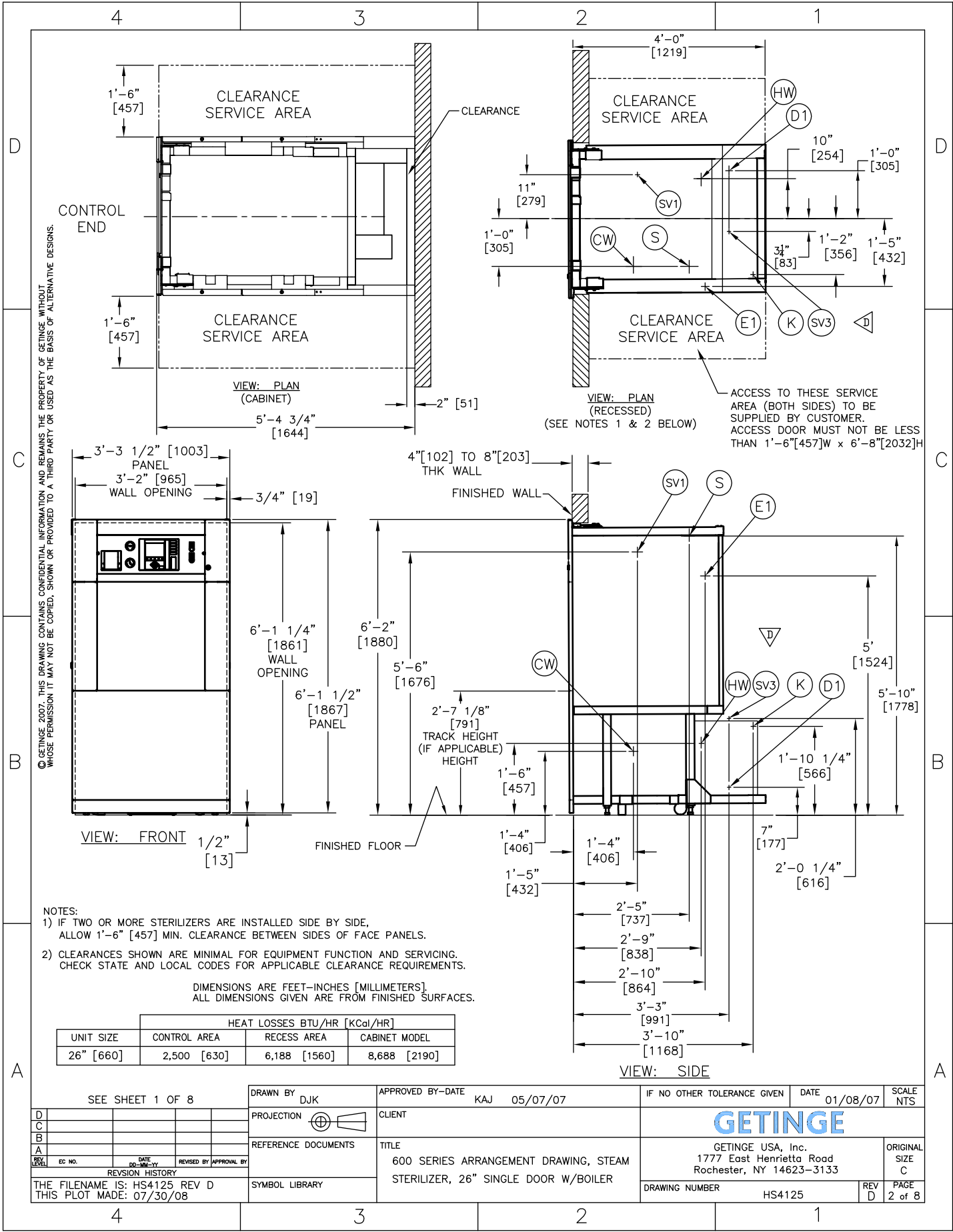
Getinge steam sterilizers are designed and constructed with our environment in mind. To aid in the conservation of natural resources, and in recognition of prevailing Environmental Policies, in particular ISO 14001, Getinge steam sterilizers are more than 90% (by weight) recyclable.

Under normal operation, Getinge steam sterilizers produce no harmful byproducts. The Getinge steam sterilization process, in and of itself, produces nothing more dangerous than hot drain.



UNIT SIZE	HEAT LOSSES BTU/HR [KCal/HR]		
	CONTROL AREA	RECESS AREA	CABINET MODEL
26" [660]	2,500 [630]	4,188 [1056]	6,688 [1686]

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D 122670	03/06/08	TL	AP	GETINGE GETINGE USA, Inc. 1777 East Henrietta Road Rochester, NY 14623-3133		
C 122552	10/12/07	TL	KAJ			
B 122426	07/26/07	CDC	KJ/AP			
A 122383	05/07/07	DJK	TL			
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NOTES:

1) IF TWO OR MORE STERILIZERS ARE INSTALLED SIDE BY SIDE, ALLOW 1'-6" [457] MIN. CLEARANCE BETWEEN SIDES OF FACE PANELS.

2) CLEARANCES SHOWN ARE MINIMAL FOR EQUIPMENT FUNCTION AND SERVICING. CHECK STATE AND LOCAL CODES FOR APPLICABLE CLEARANCE REQUIREMENTS.

DIMENSIONS ARE FEET-INCHES [MILLIMETERS]. ALL DIMENSIONS GIVEN ARE FROM FINISHED SURFACES.

UNIT SIZE	HEAT LOSSES BTU/HR [KCal/HR]		
	CONTROL AREA	RECESS AREA	CABINET MODEL
26" [660]	2,500 [630]	6,188 [1560]	8,688 [2190]

SEE SHEET 1 OF 8

DRAWN BY DJK APPROVED BY-DATE KAJ 05/07/07 IF NO OTHER TOLERANCE GIVEN DATE 01/08/07 SCALE NTS

PROJECTION CLIENT

REFERENCE DOCUMENTS TITLE

600 SERIES ARRANGEMENT DRAWING, STEAM STERILIZER, 26" SINGLE DOOR W/BOILER

GETINGE

GETINGE USA, Inc. 1777 East Henrietta Road Rochester, NY 14623-3133 ORIGINAL SIZE C

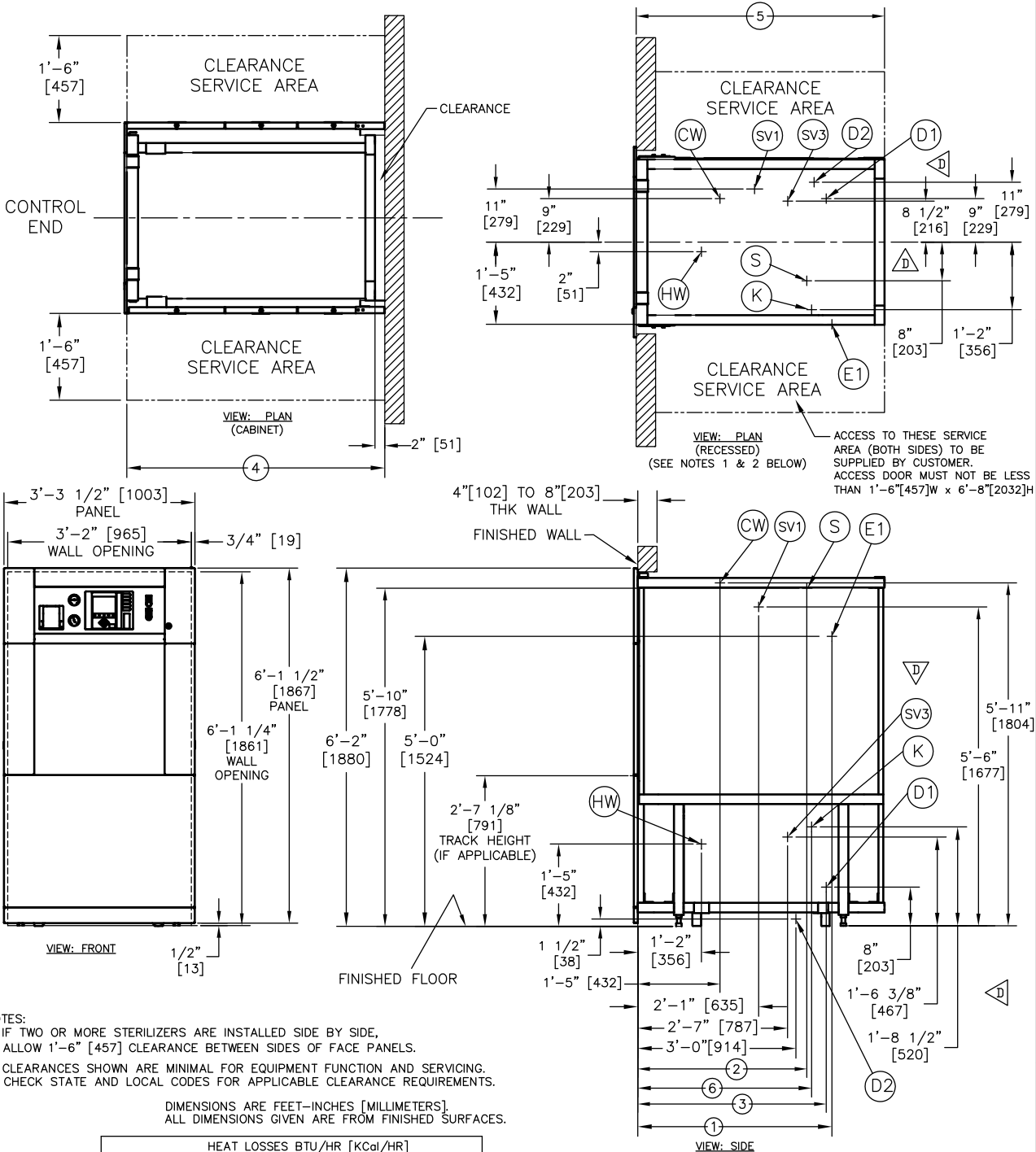
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UNIT SIZE	HEAT LOSSES BTU/HR [KCal/HR]		
	CONTROL AREA	RECESS AREA *	CABINET MODEL *
39" [1000]	2,500 [630]	5,813 [1465]	8,313 [2095]
51" [1300]	2,500 [630]	7,313 [1843]	9,813 [2473]

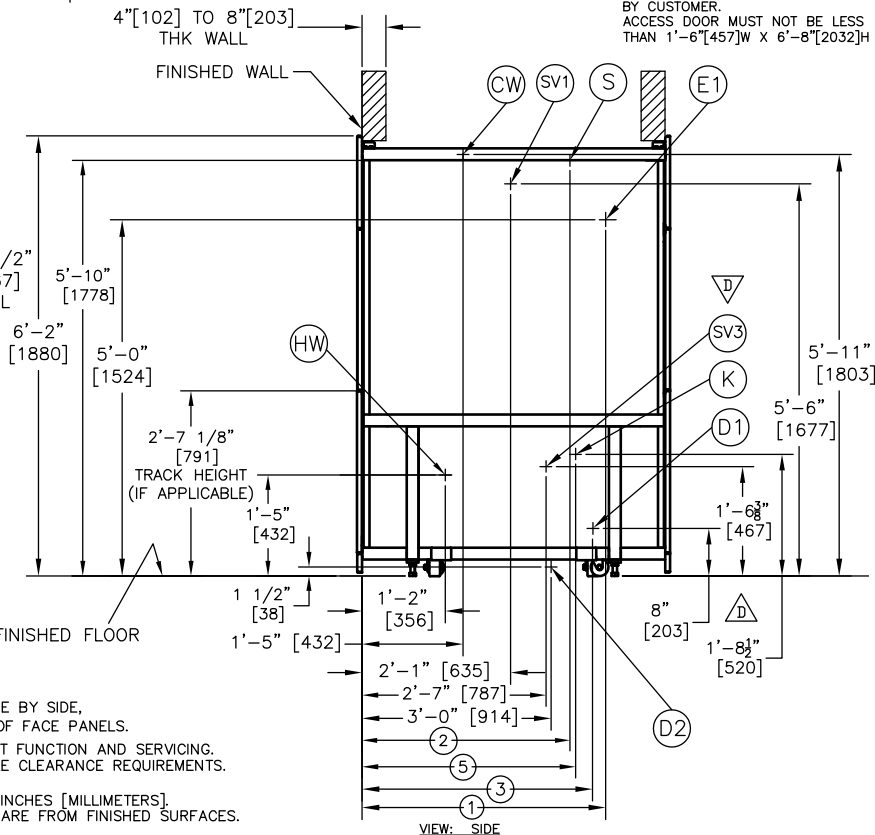
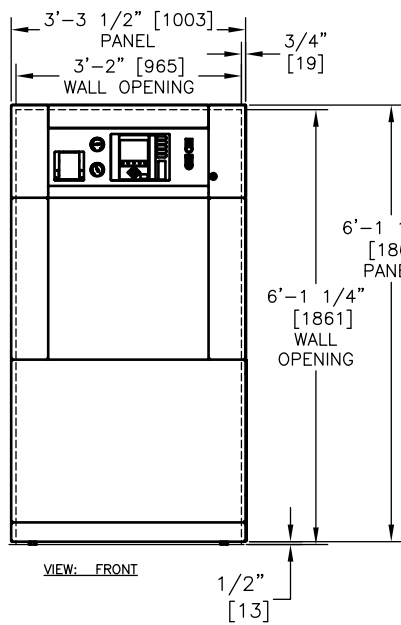
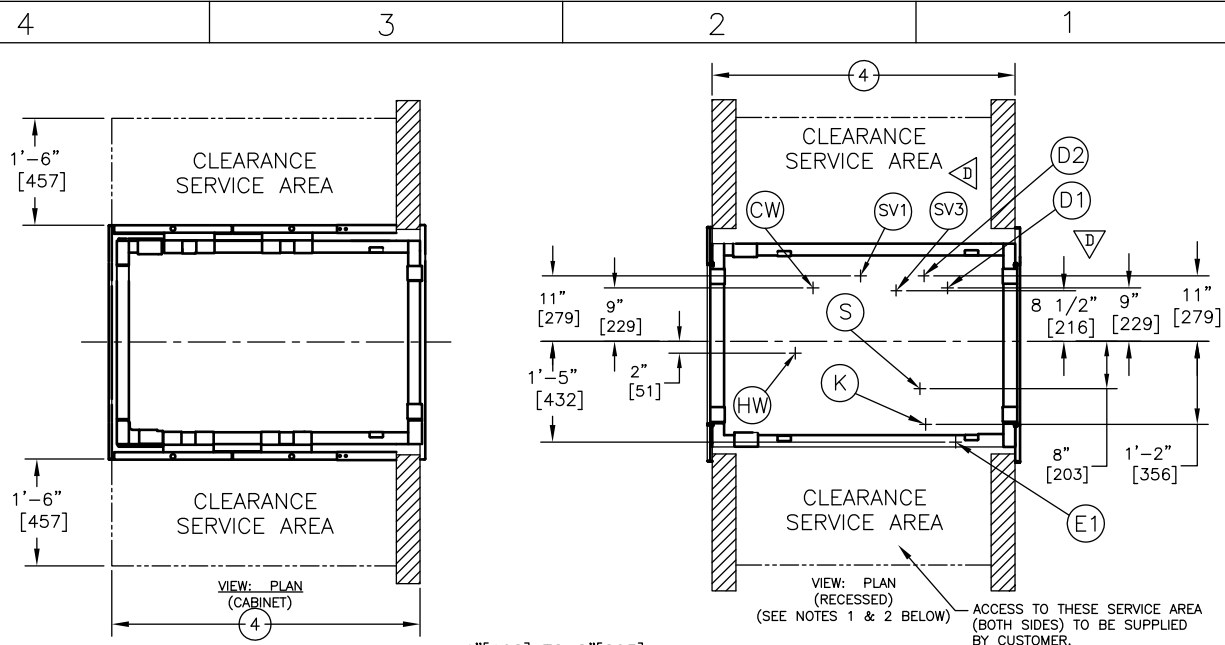
* ADD 2,800 BTU FOR OPTIONAL BOILER

UNIT	①	②	③	④	⑤	⑥
39"	3'-5" [1041]	2'-11" [890]	3'-3" [991]	4'-5" [1346]	4'-3" [1295]	3'-0" [914]
51"	5'-0" [1524]	3'-10" [1168]	3'-7" [1092]	5'-5" [1651]	5'-3" [1600]	3'-6" [1067]

SEE SHEET 1 OF 8

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PROJECTION 	CLIENT	 GETINGE USA, Inc. 1777 East Henrietta Road Rochester, NY 14623-3133		
REFERENCE DOCUMENTS	TITLE 600 SERIES ARRANGEMENT DRAWING, STEAM STERILIZER, 39" & 51" SINGLE DOOR			
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UNIT SIZE	HEAT LOSSES BTU/HR [KCal/HR]		
	CONTROL AREA	RECESS AREA *	CABINET MODEL *
39" [1000]	2,500 [630]	4,941 [1245]	7,441 [1876]
51" [1300]	2,500 [630]	6,216 [1567]	8,716 [2197]

UNIT	①	②	③	④	⑤
39"	3'-5" [1041]	2'-11" [890]	3'-3" [991]	4'-3" [1295]	3'-0" [914]
51"	5'-0" [1524]	3'-10" [1168]	3'-7" [1092]	5'-3" [1600]	3'-6" [1067]

* ADD 2,800 BTU FOR OPTIONAL BOILER

SEE SHEET 1 OF 8

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C		PROJECTION		CLIENT		GETINGE		GETINGE USA, Inc. 1777 East Henrietta Road Rochester, NY 14623-3133		ORIGINAL
B		REFERENCE DOCUMENTS		TITLE	600 SERIES ARRANGEMENT DRAWING, STEAM STERILIZER, 39" & 51" DOUBLE DOOR					SIZE
A		REVISION HISTORY		SYMBOL LIBRARY		DRAWING NUMBER	HS4125	REV	D	PAGE
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NOTICE: Work by others

Safe and efficient operation of this product is dependent upon the owner/user providing the services specified herein as well as any other normally accepted electrical, mechanical or plumbing interface between user's supply and this product. Getinge USA will not assume responsibility for problems that result from non-compliance with the above conditions. The following conditions and services are required by Getinge USA equipment and are to be provided by others.

TABLE A: PLUMBING CONNECTIONS & UTILITIES (Refer to notes 1-6 on sheet 6)

ON UNIT CONNECTION	PIPE SIZE TO UNIT	PRESSURE RANGE DYNAMIC AT UNIT	FLOW RATE MAX
S = Steam 3/4" NPT FEMALE SEE NOTE 4	1" NPT	50-70 psig [3.5-4.9 kg/cm ²]	200 lbs/Hr [91 kg/Hr]
CW = Cold water 3/4" NPT FEMALE or FOR WATER BOOSTER PUMP 1 1/4" NPT FEMALE SEE NOTE 1	1" NPT 1 1/2" NPT	40-70 psig [2.8-4.9 kg/cm ²]	11 gpm [2.5 m ³ /Hr]
D1 = Drain 1 1/2" [38] ODT	SEE NOTE 3	Not applicable	SEE NOTE 3
HW = Hot water (BOILER UNIT ONLY) 1/4" NPT FEMALE SEE NOTE 2	1/2" NPT	20-50 psig [1.4-3.5 kg/cm ²]	0.6 gpm [.14 m ³ /Hr]
SV1 = Sterilizer (Jacket) pressure relief valve vent 3/4" NPT FEMALE	SEE NOTE 5	Not applicable	SEE NOTE 5
SV3 = Steam Generator (BOILER UNIT ONLY) pressure relief valve vent 1" NPT FEMALE	SEE NOTE 5	Not applicable	SEE NOTE 5
D2 = Boiler Drain/Blowdown (BOILER UNIT ONLY) 1/2" NPT FEMALE	SEE NOTE 10	Not applicable	SEE NOTE 10


TABLE B: ELECTRICAL CONNECTIONS & UTILITIES (Refer to note 7 on sheet 6)

SERVICE	CONDUIT SIZE	UTILITY NOMINAL VOLTAGE	UTILITY VOLTAGE RANGE	MAX CURRENT NOMINAL VOLTAGE	Breaker/Fusing Recommended
E1= Power Box	1/2" [13]	115V, 50/60 Hz, 1~	104 - 126V	12 A	15 A
OPTIONAL - connections required for optional equipment listed below					
E2= Integral Transformer Box	1/2" [13]	230V, 50/60Hz, 1~	207 - 253V	5 A	15 A
For 26" long sterilizer chamber with 30KW Integral Steam Generator: K= Electric 4 WIRE WITH GROUND	1 1/4" [32]	208V, 50/60Hz, 3~	188 - 216V	84 A	100 A
	1" [25]	240V, 50/60Hz, 3~	217 - 250V	73 A	100 A
	3/4" [19]	480V, 60Hz, 3~	432 - 500V	36 A	50 A
	3/4" [19]	600V, 60Hz, 3~	540 - 625V	29 A	40 A
For 39" or 51" long sterilizer chamber with 45KW Integral Steam Generator: K= Electric 4 WIRE WITH GROUND	2" [51]	208V, 50/60Hz, 3~	188 - 216V	125 A	150 A
	1 1/2" [38]	240V, 50/60Hz, 3~	217 - 250V	108 A	125 A
	3/4" [19]	480V, 60Hz, 3~	432 - 500V	54 A	60 A
	1/2" [13]	600V, 60Hz, 3~	540 - 625V	43 A	60 A

OPERATING ENVIRONMENTAL CONDITIONS

Temperature: 50°F [10°C] TO 104°F [40°C]
 Relative Humidity: 10% - 90% non-condensing
 Atmospheric Pressure: 0-6500 feet [0-2000 meters] elevation, (Special software needed for higher elevations)
 Pollution Degree: 2

SEE SHEET 1 OF 8

DRAWN BY DJK		APPROVED BY-DATE KAJ 05/07/07		IF NO OTHER TOLERANCE GIVEN	DATE 01/11/07	SCALE NTS
PROJECTION 		CLIENT		GETINGE GETINGE USA, Inc. 1777 East Henrietta Road Rochester, NY 14623-3133		
REFERENCE DOCUMENTS		TITLE 600 SERIES ARRANGEMENT DRAWING, TABLES DOCUMENT				
REVISION HISTORY		SYMBOL LIBRARY		DRAWING NUMBER HS4125	REV D	PAGE 5 of 8
THE FILENAME IS: HS4125 REV D THIS PLOT MADE: 07/25/08						

4

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NOTES TO ARCHITECTS & CONTRACTORS

- 1) Cold water:
 - a) Cold water quality: Use potable water with a hardness of 0.5–10 grains/gal [8–170 ppm].
 - b) Maximum temperature requirement is 80F [27°C]. Optimal vacuum efficiency is at or below 70F [21°C], 60F [16°C] for optional LS vacuum pump.
 - c) Back-syphonage protection is required by others. Check local plumbing code and install backflow preventer. (Examples: Vacuum breaker, dual-check or reduced pressure type).
 - d) An optional water booster pump is available (SEE SHEET 5 FOR PIPE CONNECTION SIZES):
 - * For installations where water pressure is at least 20 psig [1.4 kg/cm²] dynamic but less than 40 psig [2.8 kg/cm²].
 - * To achieve satisfactory performance with dense loads where dynamic pressure is at or below 40 psig [2.8 kg/cm²].
 - * if required backflow preventer lowers the water pressure below the minimum specified.
 - * The optional booster pump requires mechanical electrical and plumbing hook-up by customer. A separate electrical service to the water booster pump junction box is necessary. Contact your local Getinge USA representative for Utility Data.
 - e) For optional Water Saver see Getinge USA drawing HS03472.
- 2) Hot water to be supplied only when integral steam boiler is selected.
 - a) Water quality information: For optimum results, the feed water supply should be tested prior to initial startup. If the mineral content exceeds the following recommended limits, various external treatment processes (water softener, RO, etc.) may be used to correct the problem. Routine manual blow-down or automatic blow-down option lowers concentrations of impurities and maintains the pH level above 7.0.

HARDNESS	0.5–5.0 GRAINS/GALLON [8–85 PPM]
RESISTIVITY	NOT TO EXCEED 50 KOHMS/CM
TEMPERATURE	100F – 150F [38°C – 65°C]
TOTAL DISSOLVED SOLIDS	150 PPM MAX.
pH	6.8–7.5

- 3) It shall be the customer's responsibility to provide a proper drainage system in accordance with applicable local codes. Temperature of drain water will not exceed 140F [60°C] under normal operating conditions. If cold water supply is cut-off, temperature may exceed 200F [93°C].
- 4) For units without an integral steam generator, it shall be the customer's responsibility to provide condensate free steam between 97% and 100% saturated vapor.
- 5) Getinge USA recommends piping all vessel pressure relief valves to a vented manifold outside the equipment service area. Caution must be exercised not to reduce the discharge capacity of the relief. Recommended piping practices for relief valve piping can be found in ASME Boiler and Pressure Vessel Code Section VIII, Div. 1, UG-135. Check local codes for special requirements.
- 6) All customer connections to sterilizer must be labeled. For safety, all shutoff valves must be reachable when standing on the floor at the equipment (i.e. water, steam, compressed air).
- 7) Electrical Supply:
 - a) It shall be the customer's responsibility to complete all electrical connections in accordance with the National Electrical Code and all applicable local codes.
 - b) A dedicated, permanently connected electrical supply with conveniently accessible disconnect switch (supplied by customer) is required for each sterilizer service indicated in Table B. Where both single phase and 3 phase supply is required, two disconnect switches can be used, yet shall be properly labeled and located as close as possible to each other and the sterilizer. Refer to the Getinge USA Installation Manual for specific instructions.
 - c) For standard 115VAC units, 115VAC supply is required at "E1". For units with the optional 230V to 115V step-down transformer (integral with sterilizer), 230VAC supply is required at "E2" (and no connection at "E1").
 - d) For voltages other than 115V or 230V, a separate universal transformer is available to provide 115VAC to "E1" with input voltage configurable to 100, 200/208, 380/400/415, or 440/460/480. It shall be the customer's responsibility to install the universal transformer.
Transformer box dimensions: 10"[254] L x 7 1/4"[184] W x 5 3/8"[137] D.
- 8) Double Door units, recessed into two walls, require partial dis-assembly of unit to allow installation into fixed walls.
- 9) Shipment and Building Access.

Required Door Access – Free and Clear	Width	Height
a) On skid/completely assembled	3'-9"[1143]	6'-8"[2032]
b) Off skid/completely assembled	3'-4"[1016]	6'-3"[1905]
c) Off skid/some paneling removed at extra cost – Requires casters	2'-11"[889]	6'-1"[1854]


- 10) D2 is a Drain/Blowdown connection required on 39" and 51" units equipped with the integral 45kw steam boiler. The piping from this connection point is to be supplied by customer. 1/2" ID minimum pipe (to enable required discharge), 100 psig working pressure 300F [149°C] capable. The D2 connection point requires connection to a separator tank (supplied by customer). Customer can order Getinge part number 530957 ES-18/24/30/36/48 blow down tank for this purpose.

- 11) For Seismic Force information and loaded weights see Getinge USA drawing P/N 700601. See sheet 8 of 8.

UNIT WEIGHTS AND CRATED MEASUREMENTS TABLE

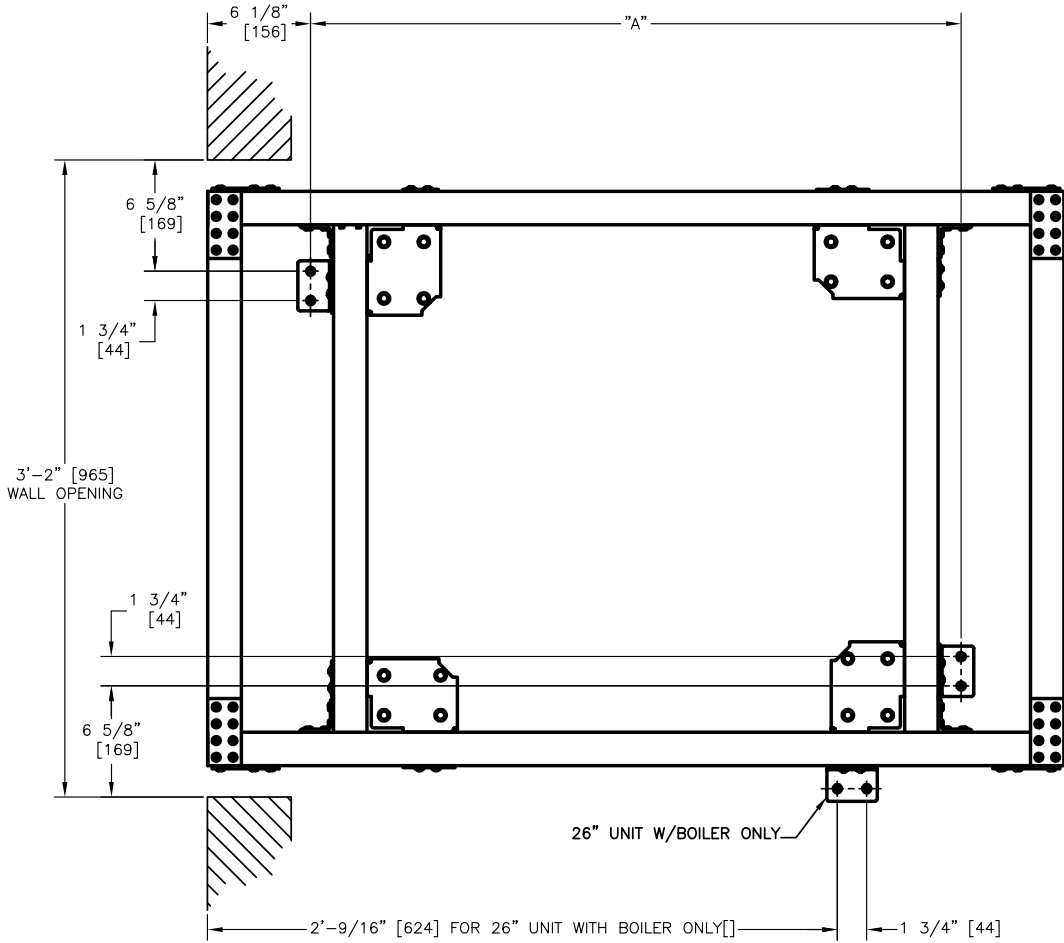
UNIT SIZE	MAX. WEIGHT UNLOADED		CRATED MEASUREMENTS		
	CRATED	UNCRATED	LENGTH	WIDTH	HEIGHT
26" SINGLE DOOR	1,160	1,010	5'-4" [1626]	3'-8" [1118]	6'-8" [2032]
39" SINGLE DOOR	1,365	1,190	5'-4" [1626]	3'-8" [1118]	6'-8" [2032]
DOUBLE DOOR	1,508	1,333			
51" SINGLE DOOR	1,506	1,331	7'-7" [2007]	3'-8" [1118]	6'-8" [2032]
DOUBLE DOOR	1,649	1,474			

SEE SHEET 1 OF 8

D C B A EC NO. DATE REVISION HISTORY THE FILENAME IS: HS4125 REV D THIS PLOT MADE: 07/30/08	DRAWN BY DJK PROJECTION  REFERENCE DOCUMENTS SYMBOL LIBRARY	APPROVED BY--DATE KAJ 5/07/07 CLIENT TITLE 600 SERIES ARRANGEMENT DRAWING, NOTES PAGE	IF NO OTHER TOLERANCE GIVEN DATE 01/11/07 SCALE NTS <div style="text-align: center; font-weight: bold; font-size: 1.2em;">GETINGE</div> GETINGE USA, Inc. 1777 East Henrietta Road Rochester, NY 14623-3133 DRAWING NUMBER HS4125 REV D PAGE 6 of 8
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NOTE:
 1) STERILIZER HOLD-DOWN BRACKETS (QTY. 2)
 TO USE EXISTING CASTER MOUNTING. REMOVE
 EXISTING SCREWS AND REPLACE WITH LONGER
 SCREWS INCLUDED IN WITH BRACKETS IN
 SHIPPING PACKAGE.

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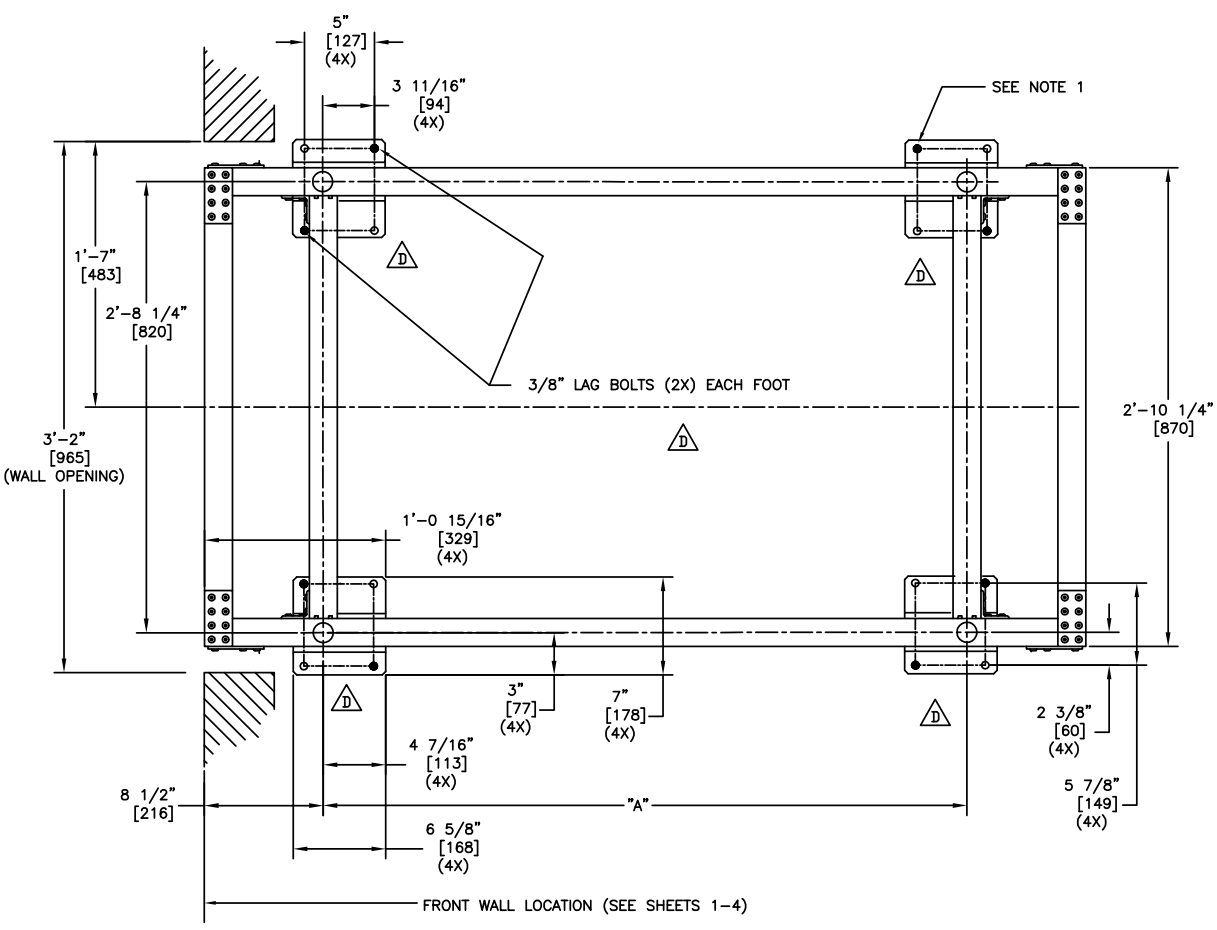
UNIT SIZE	"A"
26" W/O BOILER	2'-1 13/16" [656]
39"	3'-2 13/16" [986]
51"	4'-2 13/16" [1291]

SEE SHEET 1 OF 8

DRAWN BY DJK	APPROVED BY-DATE KAJ 5/7/07	IF NO OTHER TOLERANCE GIVEN	DATE 01/08/07	SCALE NTS
PROJECTION 	CLIENT	GETINGE		
REFERENCE DOCUMENTS	TITLE 600 SERIES ARRANGEMENT DRAWING, HOLD-DOWN BRACKET LOCATIONS			
REVISION HISTORY EC NO. DATE CHG BY REVISED BY APPROVAL BY	SYMBOL LIBRARY	GETINGE USA, Inc. 1777 East Henrietta Road Rochester, NY 14623-3133		ORIGINAL SIZE C
THE FILENAME IS: HS4125 REV D THIS PLOT MADE: 07/30/08		DRAWING NUMBER HS4125	REV D	PAGE 7 of 8

- NOTES:
- 1) FILLED IN HOLES ARE THE HOLES USED FOR ANCHORING IN THAT LOCATION.
 - 2) FOR SEISMIC FORCE INFORMATION AND LOADED WEIGHTS SEE DRAWING P/N 700601.

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UNIT SIZE	"A"
26"	1'-9" [610]
39"	2'-10" [863]
51"	3'-10" [1168]

SEE SHEET 1 OF 8

DRAWN BY DJK		APPROVED BY-DATE KAJ 05/07/07		IF NO OTHER TOLERANCE GIVEN	DATE 01/11/07	SCALE NTS
PROJECTION		CLIENT		GETINGE GETINGE USA, Inc. 1777 East Henrietta Road Rochester, NY 14623-3133		
REFERENCE DOCUMENTS		TITLE				
REVISION HISTORY THE FILENAME IS: HS4125 REV D THIS PLOT MADE: 07/30/08		SYMBOL LIBRARY 600 SERIES ARRANGEMENT DRAWING SEISMIC ANCHOR INFORMATION		DRAWING NUMBER HS4125	REV D	PAGE 8 of 8



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