

data and specifications

PRODUCT

The Getinge 9100 Washer/Disinfectors are a series of fully automatic, large capacity, floor loading hydro-spray mechanical washers.

APPLICATION

Intended for detergent solution washing, clean rinsing, thermal disinfection and drying of transport carts, containers, tote-bins, bowls, basins and other bulk items reprocessed in Healthcare decontamination departments.

DESCRIPTION

The Getinge 9100 Series features the PACS 3000 micro-processor control system with 14 operator ready cycles to choose from. Units can be recessed in a shallow 6-inch (150 mm) pit for level floor loading or mounted directly on the floor with ramp for loading and unloading. The 9100 are standard with an exclusive full-view, power sliding glass door for loading and unloading operations. All models feature vertically mounted, lateral-sweeping, jet-spray manifold system mounted along both walls of the chamber, level-walkable flooring, selectable power floor tilt, and integrated hot air drying. Circulation and heating system is packaged on the service side of the machine and includes two peristaltic chemical dosing pumps, enclosed steam heat exchanger, main wash pump, drain pump, self-cleaning filter and effluent drain cool-down tank. Optional wash solution saving tank and final-rinse retention system reduce consumptions and speed transition to the next cycle.

PRODUCT SELECTIONS

Effective Chamber Load Size

- Model 9120**
37.7"W x 78.7"H x 78"L (960 x 2000 x 2000 mm)
- Model 9125**
37.7"W x 78.7"H x 98"L (960 x 2000 x 2500 mm)
- Model 9128**
37.7"W x 78.7"H x 112"L (960 x 2000 x 2850 mm)

Pit Mounted – Space Requirements above Floor

- Model 9120**
116"W x 107"H x 98"L (2946 x 2705 x 2500 mm)
- Model 9125**
116"W x 107"H x 118"L (2946 x 2705 x 3000 mm)
- Model 9128**
116"W x 107"H x 132"L (2946 x 2705 x 3350 mm)

Installation Mounting

- 6" (150 mm) Deep Pit Mounted Machine
- 6" (150 mm) High Floor Mounted Machine Base
 - 3-ft (915 mm) Long Ramp, Qty. – 2
 - 4-ft (1219 mm) Long Ramp, Qty. – 2



Location of Controls and Service Access

- Right-Hand Controls & Service
- Left-Hand Controls & Service

Barrier Wall Trim & Service Enclosure

- Pit Mounted Machine with Set of Barrier Wall Panels
- Floor Mounted Machine with Set of Barrier Wall Panels
- Pit Mounted with Cabinetized Service Area
- Floor Mounted with Cabinetized Service Area

Supply Voltage for Steam Heated Machines

- 208 Volt, 3-Phase
- 230-240 Volt, 3-Phase
- 380 Volt, 3-Phase
- 400-415 Volt, 3-Phase
- 480 Volt, 3-Phase
- 600 Volt, 3-Phase

Equipment Options

- Cycle Printer Mounted in Load-Side Panel
- Gemu Purified Water Final Rinse Valve
- Detergent Solution Saving Tank
- Floor Docking for Manifold Washing Cart

ACCESSORIES

- Remote Air Compressor
- Bulk Wash Cart for Utensils
- Bulk Wash Cart for 12 Containers & Lids
- Bulk Wash Cart for 16 Containers & Lids
- Manifold Docking Wash Cart w/Spray Headers

CODES AND STANDARDS

- ETL Listed:
 - Conforms to: UL 61010A-1; IEC 61010-2-045: 2000
 - Certified to: CAN/CSA C22.2 No. 1010.1:
 - CAN/CSA C22.2 No. 61010-2-045
- Seismic Anchorage per CBC: 2001
- California OSHPD OPA Pre-Approvals
- prEN ISO 15883-1, and prEN 15883-2
- SIS TR3: 2002 (f.k.a. SPRI)

STANDARD DESIGN FEATURES

Laminated Safety Glass Doors – Four laminated layers of safety tempered glass provide a full-size viewing door to the loading and unloading side of the chamber. Laminated glass provides excellent sound and heat abatement, as well as an extra measure of operator safety. Power operated door glides effortlessly across the chamber opening to store completely behind the barrier wall panel.

Compressed Gasket Seal – Power operated doors are separated from the door gasket during opening and closing. Air cylinders automatically compress the glass door against the chamber gasket, providing a positive seal to air and water leakage. When door is opened, the air cylinders release the glass door pressure against the door gasket, separating the seal before the door slides open.

Double Door Pass Through – Doors at each end of the chamber promote a convenient and aseptic flow of goods from a soiled work area to a clean prep & pack area. Door interlocks assure integrity of barrier wall by allowing only one door to be open at any given time.

Automatic Cart Transition Plate – An automated door sill or cart transition plate remains separated from the chamber floor when the door is moving. When the door is opened and completely stored, the transition plate automatically slides across the door track to provide a smooth transition for wheeled loading carts and racks.

Level Chamber Floor – Chamber is fitted with removable sections of floor grates that provide drainage to the sump as well as a level walking and rolling surface to facilitate loading and unloading of materials.

Gross Debris Filters – Two gross debris filter screens are located beneath floor panels to filter water entering the sump and are easily removed for cleaning.

Chamber Guardrails – Removable rails are fitted over the length of the chamber to prevent loads from contacting the reciprocating spray manifolds. Rail mounting positions are adjustable in height to accommodate various loads.

Additional rail is rigidly mounted at floor level to guide wheels into the chamber and restrict rolling of loads during floor tilt.

Top Mounted Filling Valves – Two air-operated Gemu valves are mounted on top of the chamber for connection to building hot and cold water supply. Filling through top of chamber eliminates dead legs and provides the air-break to protect potable water from cross-contamination. (*See options for additional fill valve for treated water.*)

Shallow Sump – Low profile of the sump tank holds an economical 32 gallons (120 liters) of water. 6-inch (150 mm) high base frame can be floor mounted with ramps or recessed in a shallow 6-inch deep pit. Ideal for installation on upper floors or into pre-existing pits.

High-Volume/Low-Pressure Wash – Solution from the sump is pressurized by a 5.1 HP (3.8 kW) pump with a capacity of 105 gallons/minute (400 liters/minute) and sent through a steam booster heater before energizing the oscillating spray manifold system. Pump impeller is mounted directly on the motor shaft and requires no additional bearings.

Booster Heater – Solutions from the wash pump are forced through a powerful steam to water heat exchanger to rapidly elevate process water temperature at a rate of 12°- 18°F/minute (7°-10°C/minute). Wash and rinse temperatures are adjustable from 120°-194°F (49°-90°C).

Self-Cleaning Debris Filter – Solutions from the booster heater are forced through a canister containing a removable fine mesh filter having perforations smaller than the jet spray nozzles, to prevent clogged orifices. Upon completion of the treatment, the flow through the filter is reversed and debris is back-flushed into the effluent drain tank. The fine mesh filter can be accessed easily by removing a sanitary tri-clamp and cap from the top of the canister.

Oscillating Jet-Spray Manifold – The spraying manifold is comprised of vertical tubes spaced evenly along both sides of the chamber, with up to 8 tubes per side. All tubes are spring-loaded into a motor-driven offset. Eight jet spray nozzles are spaced evenly in each vertical tube from floor to ceiling. When the wash or rinse treatment starts, the motor will oscillate all manifold tubes on one side in a back-and-forth-sweeping action as pressurized solution is sprayed on the load. The jet-spray manifold on the opposite wall is driven to oscillate in the opposing direction. The sweeping spray assures constant impingement on surfaces of the load. Jet nozzles are easily removed with a quarter turn, for cleaning or replacement. Vertical manifold tubes are easily removed and interchanged or replaced.

Automatic Chemical Dispensing – Two peristaltic chemical dosing pumps are provided standard for time/volume based control of dilution in the wash and rinse phases of selected cycles. Pumps are self-priming and dosing levels are controlled by cycle parameters. Pumps are capable of drawing chemicals from a distance of 25 ft.

Drain Pump – The 9100 are equipped standard with a 0.4 HP (30W) drain pump with a capacity of 37 gallons/minute (140 liters/minute). Wash and rinse solutions are pumped to an effluent tank for handling prior to gravity draining into the building waste system.

Effluent Tank – Hot process solutions from the drain pump, plus condensate from the heat exchanger are sent to the effluent tank for treatment, prior to gravity draining into the building waste system.

Drain Discharge Tempering – As hot solutions enter the effluent tank, cold water is automatically injected to reduce the temperature to 140°F (60°C) or less before the discharge enters the building waste system.

Water Saver – Each cycle can be programmed to either save the final rinse water for reuse in the first phase of the next cycle or automatically discharge the rinse water to drain through the effluent tank. Saving the final rinse will reduce cycle consumption by 32 gallons (120 liters).

NON-RECIRCULATED VENTED DRYING SYSTEM

Brushless Fan Motor – Fresh air is pulled into the dryer unit by a powerful fan motor. Unique brushless motor produces no carbon dust that can contaminate air filters and heating elements, resulting in longer fan life and lower maintenance costs.

Steam Coil Drying Heater – Fan forces air over steam heating elements at high velocity. Steam elements are more efficient than electric heating elements and rapidly reach peak temperatures. Drying air is quickly heated to 230°F (110°C) before entering the chamber.

Forced Air Drying – Hot air is forced through 40 ports in the chamber, rapidly reaching all surfaces of the load. Heat and air turbulence combine to quickly dry loads and shortens process times.

Non-Recirculated Drying Air – Blower forces heated air out of the chamber through the exhaust vent and into the building evacuation system. In accordance with European standards to reduce risk of cross-contamination, hot chamber air is not recirculated over the load.

Drying Heat Exchanger – Hot air leaving the chamber passes through the heat exchanger in vanes touching the incoming fresh air. Heat energy is transferred to the colder incoming air, increasing its temperature before it reaches the heating element. Warmed fresh air reduces the energy required to achieve maximum temperature. Meanwhile, the cool fresh air creates condensation in the moist hot air leaving the heat exchanger. The condensation droplets are piped to the effluent tank and then to drain. Water is continuously removed from the exhaust during the drying phase.

Building Exhaust Connection – Chamber vent tube is 6.25 inch (160 mm) diameter and is designed to require building exhaust to evacuate a blend of ambient air in the machine space with exhaust from the machine vent tube. Provide a 2-inch air gap between the building exhaust vent and the machine vent tube. The total building exhaust shall be 1177 CFM (34 cubic-meters/minute), with 471 CFM (14 cubic meters/hour) measured at the machine vent tube. This action helps dry the moist air moving into the building exhaust and helps reduce the temperature in the machine space.

CONTROL SYSTEM FEATURES

PACS 3000 MICROCOMPUTER CONTROLS

The PACS 3000 modular PLC control system is dedicated to the control, operation and maintenance of Getinge sterilizers and washer/disinfectors, featuring:

- 8 MB RAM CPU processor with battery backup
- Digital inputs and outputs for machine control
- Analog measuring inputs
- RS-232 COM port for serial communication
- RS-485 COM port for T-DOC connection
- 15 cycle program memory

The PACS 3000 controls all system functions, monitors system operations, both visually and audibly alerts the operator of cycle malfunction and on demand, provides visual indication of the chamber temperature.



OP30 OPERATOR CONTROL PANEL

The machine is controlled and operated from the OP30 control panel, located to the left or right of the chamber door at a convenient height above the floor.

The OP30 operator interface is a durable 1/4 VGA, 5.7-inch diagonal color screen with 320 x 240 pixels. A screen saver extends the life of the backlit LCD display. Touching any key illuminates and reactivates the display. By default, the cycle process sequence is displayed as DETAILS or list of cycle parameters. In the SETUP menu, the operator can choose to display the cycle progression as a PLOT GRAPH or BAR GRAPH.

Below the screen are five “soft” keys to access other screens or displays (SETUP, CYCLE SELECT, and PARAMETERS). Below the “soft” keys are arrow buttons used to navigate selected screens and the “enter” key to confirm program actions.

The following indicators and function keys are located to the right of the screen:

- Door Closed
- Door Closed and Locked
- Process Running
- Process Complete
- Alarms
- Close the Door
- Open the Door
- Reset Alarms
- Start Cycle

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 appear within parameter selection screens and are used to implement changes. Parameters are password protected.

The lower portion of the screen provides text alarm messages and non-critical system messages, both using color displays, and shift 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. Time and temperature can be changed using the quick edit feature. Each change prompts operator for Yes/No acknowledgement and a “Save” soft key acceptance.

For Supervisor access, an alphanumeric display provides levels of access for individual operators and service. Using the soft key labeled SETUP provides the ability to:

- Adjust system menu for setting the calendar
- Adjust system menu to identify users
- Establish passwords for each user
- Choose date format and temperature format
- Adjust parameters through password access

OPERATOR PANEL NON CONTROL SIDE

Double door pass-through units are provided with a small OP10 panel for operations at the unload door.

- Cycle status indicators
- Door Open Button
- Close Door Buttons

SELF DIAGNOSTIC PROGRAM

PACS 3000 features a comprehensive alarm/alert system, with automatic triggering of pre-programmable information alerts (service intervals, maintenance, etc.).

OPERATION & CYCLE DESCRIPTION

Advisory Note: *This washer/disinfector is specifically designed to process only goods outlined in this data & specifications.*

Getinge does not recommend nor imply in any way that the 9100 Series cart & utensil washer/disinfector be used for the terminal decontamination of any regulated medical device. If there is any doubt regarding the processing of a specific material or product in the 9100 Series, contact the manufacturer of the product for recommended mechanical cleaning techniques & processes.

Review Your Cycles

In the Supervisor level of the OP30, review the factory cycle setting for materials and products to be processed. When necessary, adjust the pre-programmed process times, temperatures, chemical dosage and floor tilt parameters of selected cycles.

Placing Load in Chamber – Place bowls, basins, tote bins and containers in racks on an appropriate cart, with the inside of the goods facing out toward the spray manifolds. Open wire carts such as linen and storage carts can be placed directly into the chamber. Doors of closed case carts must be opened and secured from re-closing during processing. **Make certain the glass door into the chamber is open.** Roll the load into position inside the chamber. If multiple loads are intended, arrange loads such that they do not extend beyond side guardrails and do not interfere with closing of the door.

Closing the Door – Exit the chamber and while facing the OP30 control panel, press and hold the CLOSE DOOR button until the door closes completely and seals against the door gasket. You will see the “Door Closed and Locked” indicator light come ON. **Releasing the CLOSE DOOR button will immediately stop the door motor and the door will stop closing.** Press CLOSE DOOR again to continue, or press the “OPEN DOOR” button. Door must be sealed to start a processing cycle.

Start of Processing – Select the required cycle and press the START button. The sequence of cycle phases will vary depending on the intended use of the cycle or the re-programmed intent of the cycle. The following describes the factory set programs for typical healthcare cycles.

Wash – Hot water from the building supply fills the sump for the first cycle of the session. (Final rinse water may have been retained from a previous cycle.) A **peristaltic dosing pump** automatically adds a programmed amount of chemical cleaning agent. Once full, the **circulation pump** will start and pressurized cleaning solution will be forced through a **steam coil booster heater**, into the spray manifold nozzles and onto the load. Motorized manifold oscillates the nozzles 110 degrees to constantly sweep across the load. Load surfaces are always under impingement pressure. Each spray manifold sweeps in the opposite direction. Cleaning continues until the wash solution reaches programmed set point. Wash temperature is factory set for 140°F (60°C) and can be reset for 120°- 180°F (49°-82°C).

Once set point temperature has been achieved, the controller will time the wash for 2 minutes (adjustable from 1-15 minutes) and then terminate the wash phase.

Drain – Upon completion of the timed wash phase, the drain pump is energized and the sump solution is sent to the **effluent tank** where it will be cooled to 140°F (60°C) with injected cold water, as it is gravity drained to the building waste line. Drain pump turns off automatically.

Thermal Rinse – Upon completion of the drain phase, fresh hot water from the building supply fills the sump. If programmed using the second of two standard peristaltic dosing pumps, a programmed amount of **rinse agent** is automatically added to the sump. Once full, the circulation pump is energized and rinse water is forced through the steam coil booster heater, into the spray manifold nozzles and onto the load. If **floor tilt** has been set as a parameter of the selected cycle, one side of the floor will automatically raise to tilt the load, promoting run-off of rinse water. Rinsing continues until the solution reaches factory set point of 180°F (82°C). The final rinse, moist-heat thermal disinfection temperature is adjustable from 180°-194°F (82°-90°C). Once set point temperature has been achieved, the controller will time the thermal rinse for a factory set contact time of 1 minute and is adjustable from 1-10 minutes in accordance with prEN 15883 for disinfection values between Ao 60 and Ao 600.

Drain or Water Saver – If programmed into the selected cycle, the final rinse water will be saved in the sump, and be used for the first treatment phase of the next cycle. Otherwise the final rinse water will be pumped to the effluent tank where it will be cooled to 140°F (60°C) with injected cold water, as it is gravity drained to the building waste line.

Drying – If programmed as component of the selected cycle, drying starts upon completion of the final rinse. Fan forces clean air over steam heating elements at high velocity. Drying air is quickly heated to 230°F (110°C) before entering the chamber.

Hot air is forced through 40 ports in the chamber, rapidly reaching all surfaces of the load. Heat and turbulence combine to dry loads faster and shorten process times.

Dryer blower forces moist heat from the chamber and sends it through the heat exchanger and into the building exhaust system. To reduce risk of cross-contamination, hot chamber air is not recirculated over the load.

Hot air leaving the chamber passes through the heat exchanger in vanes touching the incoming fresh air. Heat energy is transferred to the colder incoming air, increasing its temperature before it reaches the heating element. Warmed fresh air reduces the energy required to achieve maximum temperature. Meanwhile, the cool fresh air creates condensation in the moist hot air leaving the heat exchanger. The condensation water is piped to the effluent tank and then to drain. Water is continuously removed from the exhaust during the drying phase.

Upon completion of the drying phase, the blower fan will continue to an exhaust chamber air for 1 minute after which time the cycle will end. Cycle complete light is illuminated on the unload-side operator panel. (Audible signal output is available.) Operators can now open the unload door and remove the loads.

Removing Loads from the Chamber – When the cycle is complete, the operator presses the “open door” button on the clean-side control panel once. The door will unseal and automatically move into the open position. Remove the load to a safe position outside the chamber.

Closing the Unload Door – Once cleared of the chamber, the operator presses and holds the “close door” button until the door closes completely and seals against the door gasket. The “door sealed” light will illuminate when the door has sealed. The chamber is now ready for the soiled side operator to process another load.

STANDARD SAFETY FEATURES

Full-View Glass Door – Glass door at entry and exit of chamber allow all personnel to observe the inside of the chamber. Operator interface control panel is mounted adjacent to the door, placing the operator in a position to easily see the contents of the chamber when preparing to close the door to start a cycle.

Illuminated Chamber – Wash chamber is equipped with two (2) halogen lamps mounted through the ceiling to illuminate the chamber for safe operations.

Maintain Contact Close Door Switch – Operator must press and hold the “close door” switch the entire time the door is moving to the close position. Operator must remain at the controls until door is fully closed and sealed. If the button is released for any reason, the door motor will stop. If the door comes in contact with an obstruction, the door motor will slip to avoid damage and then stop. To reverse direction of door travel, press and hold the “door open” button or manually push the door open. Door closing safety features of the pass-through door is precisely the same.

Emergency Stop Cable – Washer chamber is equipped with a visible emergency stop cable that extends the full length of the chamber. When the cable is pulled, power to the pumps and motors is immediately interrupted.

Normally Open Door Cylinders – Door sealing mechanism is normally open when no power is applied. Door is sealed under power. When emergency stop is initiated, door seal mechanism will immediately release, removing pressure and allowing the door to float freely on its track.

Manually Open Door – If power is interrupted, the air cylinders that seal the sliding glass door return to a normally open position. The door will be free and can be slid open manually.

Emergency Stop with Key Lock – Operator interface of both doors is equipped with an emergency stop button with a key to prevent accidental release of the interrupt function. Emergency stop is locked and the key removed when any maintenance is to be performed.

Door Obstruction – If the moving door contacts an obstruction while the operator is closing the door, the door motor clutch will slip to prevent increased pressure on the obstruction. The operator will see the door is not closing and will release the “close door” button. If the operator fails to stop the close door operation, the motor will automatically stop after a timed-out failure to complete the operation. Press and hold the “open door” button to reverse position of the door, remove or clear the obstruction and continue the “close door” operation.

Door Safety Switch – Microswitches mounted at the load and unload door prevent a cycle from being started until both doors are fully closed and sealed. If the operator fails to seal the door, the cycle cannot be started. If the “open door” button is pressed during a cycle, the controller will immediately stop all cycle functions and alarm the operator. An interrupted cycle must be re-started manually after the door has been re-sealed.

Door Interlock Switches – The PACS controls will permit only one door to be unsealed and open at any given time during normal operations. Alternating door operation helps maintain integrity of the barrier wall.

Low Chemical Alarm – Low level sensor in the suction tube assembly will automatically send a low chemical alarm to the message screen to alert operators. Controller allows error cycle to run with liquid in the lines. Chemical container must be replaced or re-filled before controller will allow subsequent cycles to be run.

MATERIALS

Wash chamber is constructed of three modules, a central core and two extension gables that are fitted to the core to provide the optional load lengths. The interior walls are AISI No. 316L stainless steel, with a #4 finish for long-lasting durability. Exterior panels are AISI No. 304 stainless steel with a #3 finish. All welds and joints are ground and polished to match finished grain.

Door is constructed of four sheets of temper-hardened glass, laminated with an air gap in the center and wrapped in a No. 304 stainless steel edge. Door fascia and barrier wall panels are polished No. 304. Dryer and ducting are all No. 304 stainless steel.

Solution retention/reuse tanks are No. 316L stainless steel. Process piping, valves, in-line heat exchanger, steam coils, manifold tubes, sump base, removable filter screens and chamber floor are made of No. 316 stainless steel. No. 316L stainless steel sanitary tri-clamp fittings are used for easy removal of key process components. Gas-kets and hoses are EPDM, PTFE or Silicone.

Interior of double-pan chamber ceiling and wall panels are insulated with 1-1/2 inch (75 mm) thick, rigid foam sheets providing a minimum 7.2 “R” factor to reduce heat loss.

INSTALLATION MOUNTING

- Pit Mounted Machine** – The 9100 Series sump base is 6 inches (150 mm) below the door threshold and is best utilized when installed in a pit for level floor loading and unloading operations.
- Floor Mounted Machine** – When a pit is not possible, the 9100 Series can be mounted directly on the slab with 6-inch high ramps for loading and unloading. Specify and order 3-foot or 4-foot long ramps separately under accessories.
- Barrier Wall Panels** – The load and unload end of the 9100 are provided with stainless steel finishing panels to close-up the rough opening when installed between two walls. Finishing panels consist of chamber surround panels and extension panels with access door to conceal the service area. Specify pit or floor mounted machine, with left-hand or right-hand service.
- Stainless Steel Service Enclosure** – Specify the optional Service Enclosure when machine will be installed freestanding with no building wall to provide the enclosure for the service area along the side of the machine. This option will provide a stainless steel wall to connect to the end finishing panels, thus concealing the service area. Specify pit-mounted or floor mounted machine, with left-hand or right-hand service area.
- Seismic Mounting** – All 9100 models are designed to be anchored per California Building Code without special order. Seismic anchorage drawings are available upon request.

OPTIONAL FEATURES

- PACS Cycle Printer** – Cycle performance data is printed during the cycle and at cycle complete. The printed cycle information includes cycle number, cycle start date and time, phase transition points, disinfection quality and cycle alarms that occurred during the cycle. In case of printer failure during the cycle, the PACS 3000 stores the cycle data and can, on demand, reprint the last cycle.
- Power Floor Tilt** – Operation of the automatic floor tilt is a programmable cycle parameter. Set floor tilt ON for a case cart cycle. Floor remains level for ease of loading and unloading and remains flat during wash phase. Once the cycle enters the final rinse phase, one side of the chamber floor is raised, tilting the load and causing water to flow off large flat surfaces during rinse. Water run-off enhances drying. Floor remains tilted during drying and is automatically returned to a level position upon completion of the cycle, before the door is opened.
- Purified Water Rinse Valve** – Specify additional top-mounted water valve when treated water will be used for the final recirculated rinse. Gemu valve, piping and controls are added for connection of a third water source. Minimum 30 PSI (207 kPa) treated water supply. When special rinse is selected as a cycle parameter, the purified water valve will open in lieu of the hot water valve to fill the sump. When recirculated final rinse phase is complete, water can be saved in the sump for reuse at the start of the next cycle, or drained.

□ **Detergent Solution Retention Tank** – Specify additional tank when detergent solution will be saved at the end of a treatment phase, for use in 0-20 subsequent cycles before being discharged to building waste. Option includes single 24-gallon (90 Liter) 316L stainless steel tank, control valve, detergent concentration sensor and piping between sump and effluent drain tank. Controller will send the treatment solution (32 gallons/120L) from the sump to the retention tank upon completion of washing phase. As the tank fills, approximately 8 gallons (30L) will overflow from the retention tank into the effluent drain tank, where it will be cooled before gravity draining into the waste line. When the subsequent cycle calls for detergent solution, the controller will open the valve and send prepared, hot detergent solution to the sump. The sump level sensor will detect that the solution level is low and will add fresh hot water to the sump. At the same time, the chemical concentration sensor adds additional detergent to maintain proper dilution level. The circulation pump starts immediately. When the cleaning phase times out, the solution is again sent to the retention tank. Reduces cycle time to prepare cleaning solution and reduces operating cost through water and detergent savings.

□ **Manifold Cart Floor Docking** – Specify this option only when manifold carts with integral spray arms will be used for internal cleaning of loads. Washer is built with split water circuit that will alternate pressurized flow between the floor manifold and the chamber main wash manifold.

Load the manifold wash cart centered over the floor docking. When the wash pump starts, water pressure in the pipe lifts the docking device to engage with the manifold wash cart. Pressurized solution fills the cart manifold, spraying treatment solution into loads. Flow control pressurizes the manifold cart spray arms for 30 seconds and then switches to pressurize the chamber wall manifold spray jets for 30 seconds. This pulsing action continues until the phase times out.

When a non-manifold cart is placed in the chamber, the docking device will be allowed to extend above the floor far enough to effectively seal off water flow to the coupler. All process solutions are thus directed to the chamber main wash manifold.

ACCESSORIES

Floor Mounted Ramps – Specify and order ramps for ease of loading floor mounted machines. Factory ramps are 6 inches high x 36" wide x either 36" or 48" long (150 mm high x 915 mm wide x 915 mm or 1219 mm long).

Utensil Processing Cart – Stainless steel mobile carts with vinyl coated racks are available for washing large loads of utensils, tote bins, trays, and rigid containers. Specify and order separate from cart washer.

CHEMICAL ADDITIVE SPECIFICATIONS

The importance of the wash detergent and rinse agent chemicals should not be underestimated due to varying soil levels and hard water conditions. For the best cleaning effectiveness, Getinge recommends the following detergents for cart and utensil washers.

- **Tec Wash III** – slightly alkaline detergent formulated for active cleaning under tough soil conditions in automated washers. Contains no chlorine and is completely safe on aluminum and stainless steel.
- **Tec Rinse** – formulated to be injected into the final fresh-water rinse of automated cart/utensil washers. Reduces scale and breaks water surface adhesion eliminating streaks, spots and film. Speeds drying time. Enhances detergent quality of wash solution where final rinse is recycled for use in the next wash cycle. Effective in water conditions up to 50-grain hardness.

Always follow chemical additive label recommendations for proper concentration levels to use.

RO WATER SYSTEMS

Getinge USA offers purified RO water systems with capacity of 450 gallons (1700 liters) up to 4,800 gallons (18,200 liters) per day. Contact the Getinge Service Division for a quotation on complete systems.

SERVICEABILITY

All service to tanks, pumps, motors, valves, piping, water temperature booster heaters and control boxes can be performed from the single service side of the machine, from the inside of the chamber or through the control panel located at the front of the machine.

WARRANTY

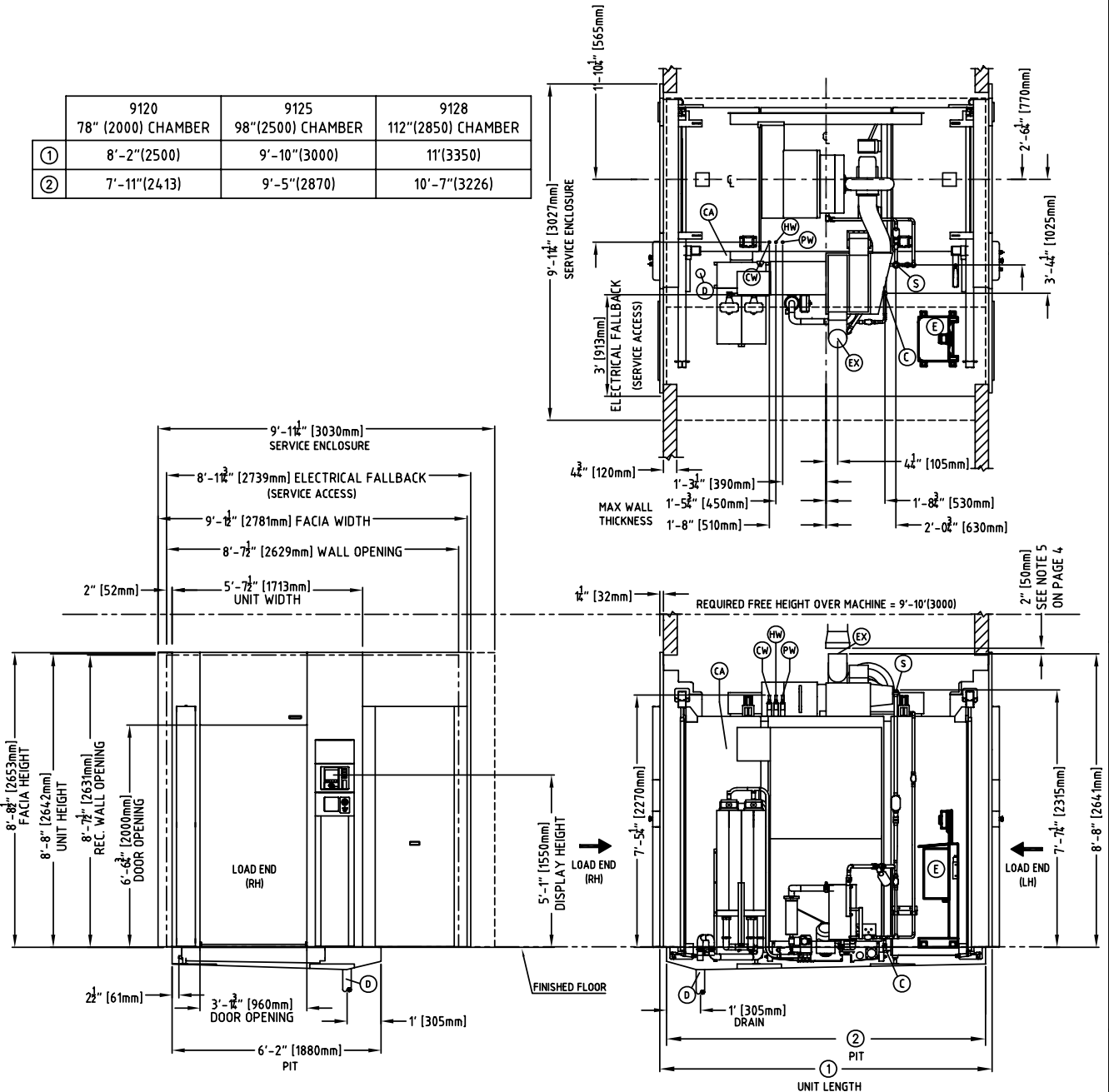
Getinge USA warrants that each cart washer is carefully inspected and tested to specifications, and leaves the factory in proper working condition, free from visible defects. Each washer is warranted for one year and includes parts and labor (excluding expendable parts), from the prescribed start of the warranty. *Applies only to Domestic U.S.A., Puerto Rico and Canadian shipments.*

PREVENTATIVE MAINTENANCE

A coast-to-coast network of factory trained service technicians can provide scheduled inspection and adjustments of your product, to assure low-cost, peak performance. Your local Getinge Sales or Service Representative will provide information regarding our optional Preventative Maintenance Agreements (PMA).

DRAWING/PART NO. HS4119
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	9120 78" (2000) CHAMBER	9125 98" (2500) CHAMBER	9128 112" (2850) CHAMBER
①	8'-2" (2500)	9'-10" (3000)	11' (3350)
②	7'-11" (2413)	9'-5" (2870)	10'-7" (3226)



GETINGE 9100 SERIES CART AND UTENSIL WASHER/DISINFECTOR
 LEFT & RIGHT HAND PIT MOUNTED UNIT SHOWN

UTILITY REQUIREMENTS ARE SHOWN ON SHEET 4
 PIT REQUIREMENTS ARE SHOWN ON SHEET 2

REV	DESCRIPTION	DATE
D	122198	JB 3/14/06
C	122156	GZ 1/6/06
B	121939	KR 4/29/05
A	121896	KR 03/28/05

SERVICE JB 3/15/05	MARKETING MC 3/28/05	ENGRG NB 3/21/05	CHECK GZ 3/18/05	DRAWN BY KR 02/03/05	SCALE NTS
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				PART NO. HS4119	REV D

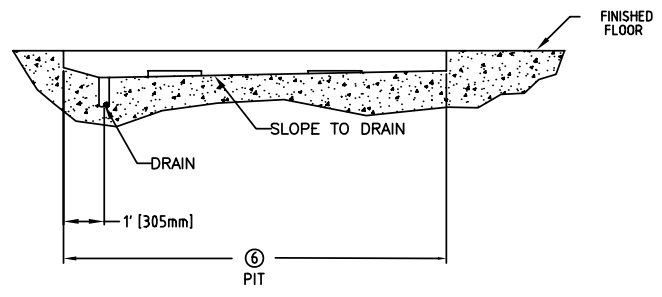
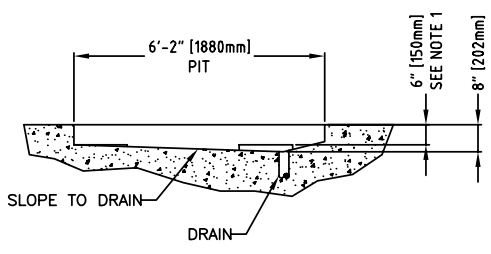
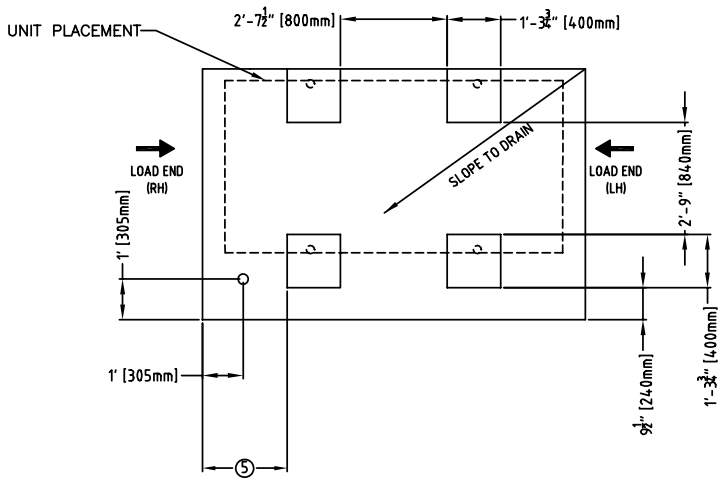
SCALE: 1" = 1' CHECK FOR REDUCTION

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NOTES:
1) HEIGHT FROM TOP OF CONCRETE PIT PAD TO FINISHED FLOOR.



	9120 78"(2000) CHAMBER	9125 98"(2500) CHAMBER	9128 112"(2850) CHAMBER
⑤	1'-4" (407)	2'-1" (635)	2'-8" (813)
⑥	7'-11" (2413)	9'-5" (2870)	10'-7" (3226)

GETINGE 9100 SERIES CART AND UTENSIL WASHER/DISINFECTOR
PIT MOUNTED
PIT DETAIL FOR LEFT AND RIGHT HAND UNITS

INCHES
0 1 2 3
SCALE: 1" = 1' CHECK FOR REDUCTION

SEE SHEET 1

SERVICE	MARKETING	ENGRG	CHECK	DRAWN BY KR 2/4/5	SCALE NTS
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				PART NO. HS4119	REV D

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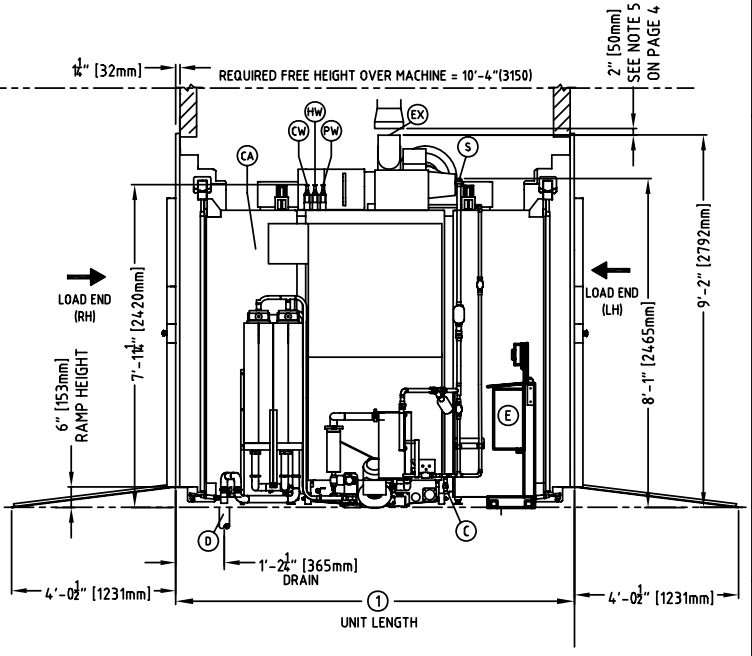
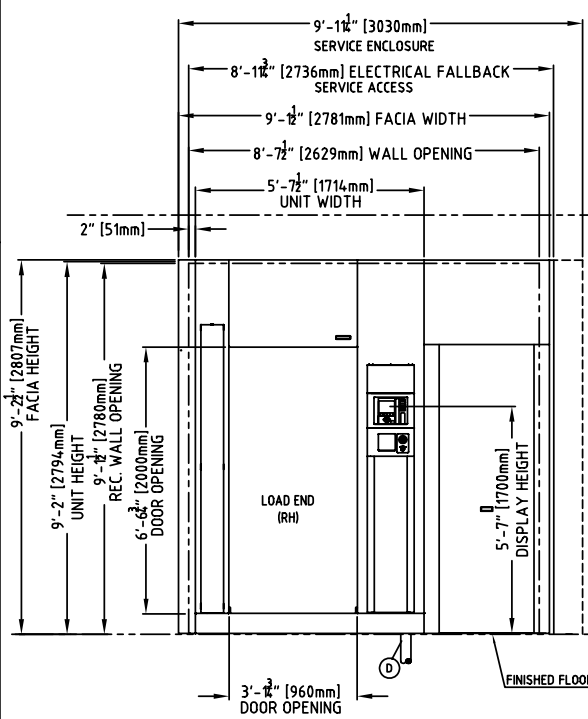
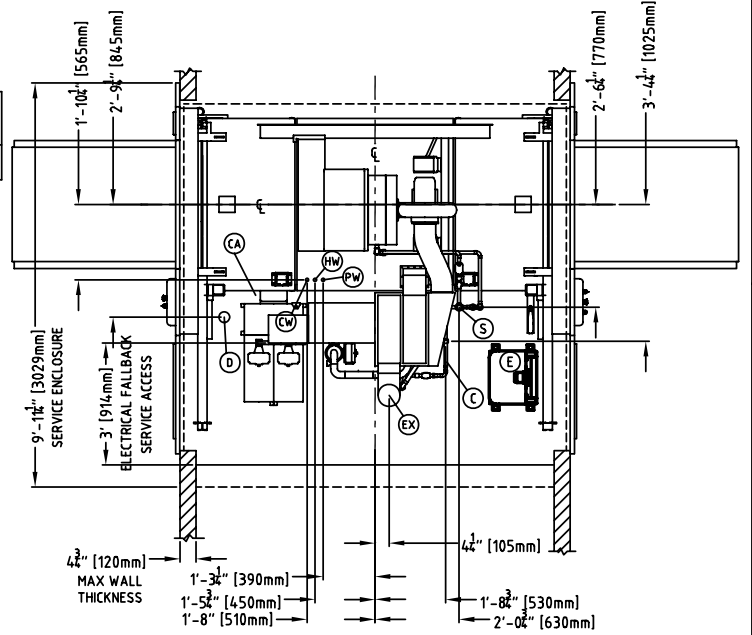
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NOTE:
UNIT SHOWN WITH 4 FT (1255 mm) RAMPS
8% INCLINE

	9120 78" (2000) CHAMBER	9125 98" (2500) CHAMBER	9128 112" (2850) CHAMBER
①	8'-2" (2500)	9'-10" (3000)	11' (3350)



GETINGE 9100 SERIES CART AND UTENSIL WASHER/DISINFECTOR
LEFT & RIGHT HAND FLOOR MOUNTED UNIT SHOWN

UTILITY REQUIREMENTS ARE SHOWN ON SHEET 4

REVISIONS
SCALE: 1" = 1' CHECK FOR REDUCTION

SEE SHEET 1	SERVICE	MARKETING	ENGRG	CHECK	DRAWN BY KR 02/03/05	SCALE NTS
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REVISIONS	PART NO. HS4119				REV D	

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UTILITY REQUIREMENTS

UTILITY	ON UNIT CONNECTION SEE NOTE 15	PRESSURE REC. SUPPLY	9100 DEMAND	9100 CONSUMPTION PER CYCLE SEE NOTE 13	COMMENTS
(CW) = COLD WATER NOT TO EXCEED 50°F(10°C)	3/4" TRI-CLAMP	29-116 psi (2-8 BAR)	MIN. 26 GPM (100 L/MIN)	16 gallons (60 L)	DRAIN COOLING OPTIONAL 3/4" NPT (NOTE 16)
(HW) = HOT WATER 113-140°F(45-60°C)	3/4" TRI-CLAMP	29-116 psi (2-8 BAR)	MIN. 26 GPM (100 L/MIN)	45 gallons (170 L)	OPTIONAL 3/4" NPT (NOTE 16)
(PW) = PURE WATER (OPTION)	3/4" TRI-CLAMP	29-116 psi (2-8 BAR)	MIN. 26 GPM (100 L/MIN)	NA	OPTIONAL 3/4" NPT (NOTE 16)
(CA) = COMPRESSED AIR	1/4" NPT	72-116 psi (5-8 BAR)	0.4 SCFM (10L/min)	NA	AIR FREE FROM OIL AND WATER
(D) = PROCESS DRAIN	Ø2"(Ø50)	NA	MIN. 50 GPM(200 L/MIN) TEMP. MAX 194°F(90°C)	61 gallons (231 L)	Ø3" (Ø80MM) FLOOR DRAIN TEMP MAX. 140°F (60 °C) WITH DRAIN COOLING
(S) = STEAM	1" NPT	44-58 psi (3-4 BAR)	800 lb/h (363 kg/hr)	70 lb (32 kg)	SEE NOTE 15
(C) = CONDENSATE	3/4" THREAD	NOT TO EXCEED 5 psi (0.3 BAR)	NA	NA	CONNECTION POINT AT FLOOR LEVEL
(EX) = EXHAUST SEE NOTE 5	Ø7" (Ø178mm)	NA	SEE NOTE 5	NA	CONNECTION TO BUILDING EXHAUST WITH 2" AIR GAP

(E) = ELECTRICAL	RECOMMENDED SERVICE DISCONNECT: 30 A SEE NOTE 7	PRIMARY TRANSFORMER FULL LOAD AMPS	400 VOLT SECONDARY TRANSFORMER FULL LOAD AMPS (MACHINE)
STEAM HEATED			
200 V 50/60 Hz 3 PH	20 A CURVE C	15.5 A	7.3 A
208 V 50/60 Hz 3 PH	20 A CURVE C	15.2 A	7.3 A
220 V 50/60 Hz 3 PH	20 A CURVE C	14.7 A	7.3 A
230 V 50/60 Hz 3 PH	20 A CURVE C	14.3 A	7.3 A
240 V 50/60 Hz 3 PH	20 A CURVE C	14.0 A	7.3 A
380 V 50/60 Hz 3 PH	16 A CURVE C	8.5 A	7.3 A
400 V 50/60 Hz 3 PH	16 A CURVE C	7.3 A	7.3 A
415 V 50/60 Hz 3 PH	16 A CURVE C	7.1 A	7.3 A
480 V 50/60 Hz 3 PH	10 A CURVE C	6.9 A	7.3 A
600 V 50/60 Hz 3 PH	10 A CURVE C	5.0 A	7.3 A

- NOTES:
- IT SHALL BE THE CUSTOMERS RESPONSIBILITY TO INSURE BY USE OF PRESSURE REGULATORS OR OTHER MEANS THAT MAXIMUM SPECIFIED PRESSURES ARE NOT EXCEEDED.
 - IT SHALL BE THE CUSTOMERS RESPONSIBILITY TO ELIMINATE WATER OR STEAM HAMMER CONDITIONS SHOULD THEY OCCUR IN THE SERVICE PIPING.
 - IT SHALL BE THE CUSTOMERS RESPONSIBILITY TO PROVIDE A PROPERLY SIZED AND LOCATED DRAINAGE SYSTEM IN ACCORDANCE WITH THE NATIONAL PLUMBING CODE. CONSIDER WHAT OTHER EQUIPMENT IS TIED TO DRAIN TO ELIMINATE SLOW DRAINAGE OR BACKUP. IF SITE CONDITIONS DICTATE THAT THE WASHER WILL DUMP WATER DIRECTLY TO PIT, THE PIT SHOULD BE WATER-PROOFED. WHEN FLOOR MOUNTED ON UPPER FLOOR, SEAL FLOOR AND PROVIDE CONTAINMENT CURB FOR CHAMBER CORE AND PLUMBING CONNECTIONS.
 - IT SHALL BE THE CUSTOMERS RESPONSIBILITY TO ENSURE THAT WATER SUPPLIES ARE PROPERLY PROTECTED FOR INTERNAL CROSS CONNECTION CONTROL IN ACCORDANCE WITH LOCAL BUILDING AND PLUMBING REQUIREMENTS.
 - IT SHALL BE THE CUSTOMERS RESPONSIBILITY TO PROVIDE A VENTING SYSTEM CAPABLE OF EXHAUSTING 470 CFM (800 M³/H) MEASURED AT THE POINT OF CONNECTION TO THE WASHER. THE BUILDING VENTING SYSTEM SHOULD HAVE A CAPACITY OF 1177 CFM (2000 M³/H). THE VENTING SYSTEM SHALL HAVE AN AIR GAP OF AT LEAST 50 MM (2") DIRECT AFTER THE EXHAUST. THIS MEANS THAT THE EXHAUST AIR WILL BE MIXED WITH ROOM TEMPERATURE AIR AND NOT ABOVE 122°F (50°C) DURING THE DRYING PHASE. DURING THE END OF THE DISINFECTANT PHASE THE TEMPERATURE WILL INCREASE INSIDE THE VENT PIPE TO ROUGHLY 176°F (80°C) BUT THIS IS ALMOST STILL STANDING SATURATED STEAM. THE SYSTEM SHOULD BE A DEDICATED, CORROSION PROOF & WATER TIGHT VENT. SLOPED VENT BACK TO WASHER.
 - IT SHALL BE THE CUSTOMERS RESPONSIBILITY TO COMPLETE ALL ELECTRICAL CONNECTIONS USING PROPERLY SIZED WIRING IN ACCORDANCE WITH THE NATIONAL ELECTRICAL CODE.
 - IT SHALL BE THE CUSTOMERS RESPONSIBILITY TO PROVIDE A FUSED DISCONNECT SWITCH IN ALL ELECTRICAL SUPPLY LINES AT THE WASHER LOCATION. REFER TO STANDARDS EN 60898 AND IEC 60947.2 FOR CURVE C CHARACTERISTICS.
 - IT SHALL BE THE CUSTOMERS RESPONSIBILITY TO PROVIDE NON-SLIP FLOORING ON BOTH APPROACH RAMP AREAS.
 - ALL DIMENSIONS GIVEN ARE FROM FINISHED SURFACES.
 - ALL DIMENSIONS ARE FEET-INCHES (MILLIMETERS).
 - DRAWING NOT TO SCALE.
 - THE UNIT SHOWN IS THE 9125 - 98" (2500 MM) LONG CHAMBER
 - CONSUMPTION SHOWING P01 - SHORT WASH: INCLUDES WASH, RINSE AND DRYING PHASES, NOT USING SAVING TANKS.
 - IT SHALL BE THE CUSTOMERS RESPONSIBILITY TO PROVIDE WATER WITH A MAXIMUM HARDNESS OF 6 GRAINS/GAL(100 PPM) AND A MAXIMUM DISSOLVED SOLID OF 250 PPM.
 - DYNAMIC STEAM PRESSURE. STEAM DEMAND IS DEPENDING ON WASHER CONFIGURATION AND WASH CYCLES.
 - OPTIONAL UTILITY CONNECTION PACKAGES CHANGE CONNECTION TYPE FROM TRI-CLAMP TO NPT. PACKAGES INCLUDE STRAINERS, GAUGES AND SHUT OFFS. HEIGHT OF CONNECTIONS CHANGE WITH ADDITION OF THESE PACKAGES.
 - SOUND LEVEL VALUE IS VALID WHEN WASHER AND SERVICE AREA ARE BUILT IN, MEASURED 3 FEET (1 METER) IN FRONT OF THE WASHER, 5 FEET (1.5 METERS) ABOVE FLOOR LEVEL.

OPERATING CONDITIONS	
MAX OUTSIDE TEMPERATURE	122°F (50°C)
HUMIDITY	HUMIDITY DROPPING TO LESS THAN 40% AFTER APPR. 5 MIN OPERATION
SOUND LEVEL	< 65 dB (A)
RADIANT HEAT LOSS	CLEAN SIDE 7700 BTU/HR (2,25 KW/HR)
	SOILED SIDE 3100 BTU/HR (0,90 KW/HR)
	SERVICE AREA 4600 BTU/HR (1,35 KW/HR)

OPERATING ENVIRONMENTAL CONDITIONS	
TEMPERATURE	41°F (5°C) TO 86°F (30°C)
RELATIVE HUMIDITY	MAX 80% AT 88° (31°C)
VOLTAGE FLUCTUATIONS (MAIN SUPPLY)	NOT TO EXCEED ±10% OF THE NOMINAL VOLTAGE

DIMENSION AND WEIGHT (EXC. PACKAGING)				
		9120	9125	9128
CORE MODULE	DIMENSION (MM) (INCH)	1350x2370x1200 53x93x47	1350x2370x1200 53x93x47	1350x2370x1200 53x93x47
	WEIGHT (KG) (LB)	250 551	250 551	250 551
CHAMBER EXTENSION MODULE (2X)	DIMENSION (MM) (INCH)	1315x2375x415 52x93x16	1315x2375x665 52x93x26	1315x2375x840 52x93x33
	WEIGHT (KG) (LB)	105 232	150 331	177 390
GLASS DOOR (EACH)	DIMENSION (MM) (INCH)	1095x2100x35 43x83x1,5	1095x2100x35 43x83x1,5	1095x2100x35 43x83x1,5
	WEIGHT (KG) (LB)	100 220	100 220	100 220
TOTAL WEIGHT	WEIGHT (KG) (LB)	1400 3090	1500 3300	1600 3500
OPERATING WEIGHT(WET)	WEIGHT (KG) (LB)	2400 5290	2500 5510	2600 5730
SHIPPING CRATE (2X)	DIMENSION (MM) (INCH)	2200x2850x2150 87x112x85		
	WEIGHT (KG) (LB)	1125 2480		

GETINGE 9100 SERIES CART AND UTENSIL WASHER/DISINFECTOR

SEE SHEET 1	SERVICE	MARKETING	ENGRG	CHECK	DRAWN BY KR 02/03/05	SCALE NTS
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Getinge USA, Inc.
1777 East Henrietta Road
Rochester, New York 14623-3133
U.S.A.
Phone: (800) 475-9040
Fax: (585) 272-5033
info@getingeusa.com www.getingeusa.com

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