

# GETINGE

## Model 2460-UC Ultrasonic Cleaner

### data and specifications

#### PRODUCT

The Getinge Model 2460-UC is a single tank, floor mounted product for cleaning instruments and other hard goods using ultrasonic energy in a detergent solution. This product features "hands-free" toe switch operation with a powered load tray elevator, making it unnecessary for operators to have to lift trays into and out of the process solution tank. Free moving lid automatically closes and opens with tray elevator action.

#### APPLICATION

Designed for the removal of minute biological debris from difficult to clean areas of surgical and laboratory devices while soaking in a detergent solution. Use of this product should follow removal of gross debris as soil mass can dampen ultrasonic cavitation, effectively reducing cleaning results. Following ultrasonic cleaning, materials are to be rinsed & dried thoroughly in a companion *Rinser/Dryer* or processed through a mechanical Washer/Disinfector prior to preparing for terminal sterilization.

#### MODEL

Overall Cabinet:	33-1/2" L x 27-1/2" W x 41" H (851 x 686 x 1042 mm)
Working Height:	36" (915 mm)
Dry Weight:	335 Pounds (152 kg)
Operating Weight:	514 Pounds (233 kg)

#### SONIC CLEANING CHAMBER

Overall Size:	27" L x 15" W x 13" Deep (673 x 381 x 330 mm)
Liquid Volume:	16-1/4 Gallons (62.5 liters)
Effective Liquid Depth:	8-1/2" (216 mm)
Maximum Tray Size:	23" L x 14" W x 8" High (584 x 356 x 203 mm)
Maximum Load:	35 Pounds (15.9 kg)

#### ULTRASONICS

Transducer Type:	Piezoelectric
Quantity:	24
Tank Bonding:	Vacuum Brazed
Generator Output:	1,000 Watts
Frequency:	40 kHz

#### ELECTRICAL SUPPLY OPTIONS

- ☐ 120 Volt, 60 Hz, 1-Ph, 13.4 Full Load Amps
- ☐ 220 Volt, 50/60 Hz, 1-Ph, 6.2 Full Load Amps
- ☐ 240 Volt, 50/60 Hz, 1-Ph, 6.7 Full Load Amps



#### STANDARDS AND CODES

*This Ultrasonic Cleaner meets the applicable requirements of the following:*

- UL 61010A-1
- CSA C22.2, No. 1010.1
- Seismic Anchorage Per California Building Code 2001
- Uniform Plumbing Code
- OSHA Standards for Noise Emissions
- FCC Standards For Radiated Interference

#### FEATURES OF THIS PRODUCT

##### **Stainless Steel Construction**

All exterior panels are type 304 stainless steel with a #4 polished finish. The sonic cleaning chamber is constructed of low carbon, 14-gauge, type 316L stainless steel for increased corrosion resistance.

##### **Automated Controls**

A Programmable Logic Controller (PLC) located behind the front access door is used to program & control adjustable parameters as well as maintain control of automated functions.

### **Elevated Back Splash Panel**

Provides containment for trays and location for Master Control Switches & Indicators.

### **Marine Edged Top**

Raised marine edge around cabinet top contains liquid from processed trays for easy cleanup and drainage into sonic tank.

### **Recessed Tank Lid**

Hinged lid is recessed into the tank to provide a flush cabinet top and keep liquid inside the tank. Lid is double pan construction with insulation between pans. Lid moves freely to open and close automatically with the movement of the work tray elevator.

### **Automatic Load Tray Elevator**

Two hydraulic water cylinders safely control raising and lowering of work tray elevator, eliminating need for operators to reach into the tank of contaminated solution. Safe lifting capacity is 35 pounds. Raising and lowering of tray elevator causes lid to open and close.

### **Hands-Free Toe Switch Operation**

A toe-switch plate is provided in the toe-space at the base of the unit for hands-free cycle start & stop operations.

### **Automatic Fill**

Controller will automatically fill the sonic tank once the toe switch has been depressed.

### **Liquid Level Sensors**

A low liquid level sensor is provided to assure the heaters are covered with water and a high level sensor is provided to assure proper liquid level depth for ultrasonic cleaning.

### **Overflow Protection**

This product is equipped with built-in overflow to drain.

### **Automatic Cycle Start & Stop**

Controller will automatically initiate start of ultrasonic cavitation once the tray elevator has lowered into the solution and the tank is full. Depressing the toe switch again will stop the cycle from continuing. When interrupted, the alarm will sound and the elevator will raise the load as the lid opens.

### **Audible Cycle Alarm**

An audible alarm will signal the start of a cycle as the lid closes and the end of a cycle as the lid opens.

### **Automatic Cycle Timer**

Controller will automatically run programmed cycle time.

### **Automatic Solution Heater**

Thermostat automatically controls heater and maintains tank solution at pre-set temperature.

### **Automatic Detergent Dosing**

Controller will automatically dispense a pre-set amount of sonic detergent into the water as the tank fills.

### **Low Detergent Indicator**

A sensor will illuminate and flash the DETERGENT light in the top control panel when the detergent container is near empty. This flashing light is a warning that detergent supply is too low to continue cleaning operations when the solution

tank is drained and refilled. Detergent supply must be replenished before the next clean water fill operation will be allowed to start.

### **Automatic Drain**

Controller will automatically open the drain valve when the DRAIN switch is pressed.

### **Safety Door Interlock**

The cabinet access door is equipped with a safety interlock switch that is connected to the power switch breaker. This safety feature will cut all power to the unit when the access door is opened, which will cause the elevator to lower, the lid to close and the unit to drain. Normal operation can be restored when the door is securely closed and the POWER switch is pressed ON.

## **CONTROLS**

- Top control panel is provided with the following switches and indicators for the operator:
  - ON/OFF Power switch with ON indicator light
  - Drain switch with ON indicator light
  - Low level "Detergent" indicator light
- The following additional controls are located inside the cabinet access door:
  - Ultrasonic Process Timer
  - Detergent Dispensing Timer
  - Audible Alarm Volume Control
  - Tank Solution Heater Thermostat
- Base "toe switch" provides START & STOP control.

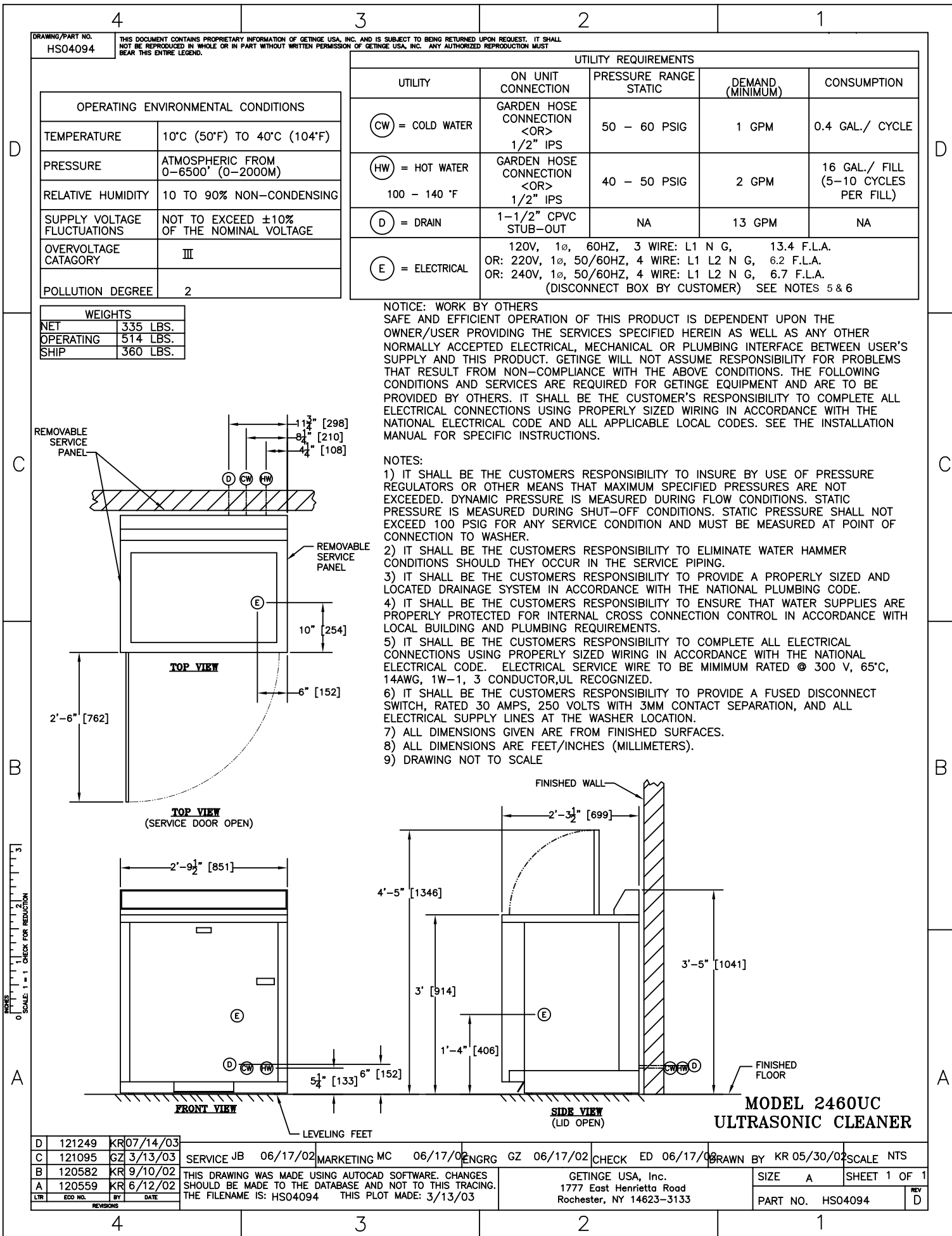
## **CYCLE PARAMETERS**

1. Ultrasonic cycle time is pre-set for 4 minutes and can be reset for 1 – 15 minutes.
2. Solution tank heater is pre-set at 110°F (43°C) and is adjustable from 100°F to 120°F (38°C to 49°C).
3. Check dilution concentration of ultrasonic detergent and set amount to be automatically dispensed each time cleaning tank is filled.
4. Liquid depth will be maintained throughout repeated use to assure proper cleaning coverage of trays. Fresh hot water will be added when the solution falls below the low-level sensor.

## **START-UP & DEGAS PROCEDURE**

*When the cleaning tank is filled with fresh water, air bubbles are introduced. These air bubbles should be purged from the solution for optimum cavitation.*

1. Press POWER switch to turn unit ON.
2. Press toe switch to raise tray elevator and open lid.
3. Press toe switch again to start a DEGAS cycle.
4. The alarm will sound, the elevator will lower and the lid will close.
5. The tank will automatically fill with fresh hot water.
6. Sonic detergent will automatically be dispensed.
7. Once the tank is full, the solution heater will be activated and ultrasonic cavitation will start. This sonic action will free trapped air bubbles from the solution.



8. When the programmed cycle time expires, the alarm will sound and the tray elevator will automatically raise as the lid opens.
9. The product is now ready for repeated use.

### ULTRASONIC CLEANING PROCEDURE

*Care must be taken to assure that loaded trays are not greater than the specified size & weight for the elevator.*

1. Place instruments to be cleaned in a stainless steel tray. Do not overload the tray or double stack trays.
2. Properly position the loaded instrument tray on the elevator platform.
3. Depress the toe switch at the base of the unit to start a cycle. The alarm will sound and the elevator will lower into the tank solution as the lid closes.
4. Ultrasonic cavitation will start automatically and will continue for a factory set 4-minutes (unless reset from 1 – 15 minutes).
5. When the cycle is complete the audible alarm will sound. The elevator will lift automatically, opening the lid and elevating the tray out of the solution to the unload position.
6. Remove the treated tray for further processing to remove residue from the ultrasonic bath.
7. Properly position the next tray to be processed on the elevator. Press the toe switch to start another cycle and the cleaning process is repeated.

**DRAIN & REFILL PROCEDURE** – *It is recommended to drain and refill the ultrasonic tank after 5 – 10 cleaning cycles or when the solution becomes cloudy.*

1. If the lid is closed, depress the “toe switch” to open.
2. Press the DRAIN switch on the rear control panel.
3. The drain valve will open and the (red) indicator light will be ON to indicate that the drain valve is open. The drain valve will remain open for a factory set 15 minutes. To cancel the draining, depress the toe switch to close the lid.
4. Tank heater will be OFF during a drain procedure.
5. The LID and the DRAIN VALVE will remain OPEN to allow the tank to be rinsed to drain.
6. Check the bottom of the tank to be certain it has drained completely.
7. Depress the toe switch when the unit is ready to be placed back in use.
8. The alarm will sound and the elevator will lower, closing the lid.

9. The drain light will go OFF and the tank will fill automatically as the programmed amount of detergent is added to the water.
10. Ultrasonic cavitation will degas the new solution.
11. When the lid re-opens, the product is ready for repeated use.

### SHUT-DOWN PROCEDURE

*The following procedure is recommended when the product will not be used on a repeated basis:*

1. Press the POWER switch to turn the unit OFF.
2. The tank heater will be turned OFF and the drain valve will OPEN automatically to drain all solution.
3. The elevator mechanism will slowly settle into the tank bottom, closing the lid.
4. The product is now OFF and the drain valve will remain in the OPEN position. To resume regular use, turn the POWER switch ON and follow the start-up/degas procedure.

### REPLENISH DETERGENT PROCEDURE

1. The integral sonic detergent dispensing system is equipped with a low liquid level sensor.
2. When the detergent supply level is near empty, the DETERGENT light on the back control panel will flash continuously.
3. Cleaning operations can continue after the warning light indicates low detergent supply.
4. The controller will not allow the unit to be refilled and prepared for fresh water cycles until the detergent supply is replenished.
5. Once replenished and the sensor is satisfied, press the toe switch to resume cleaning operations.

### SERVICEABILITY

Normal maintenance can be performed through the front access door of this product. Both side panels are removable for additional service access.

### WARRANTY

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

Getinge is constantly reviewing its products for improvements. Consequently, the actual product may differ slightly from the product pictured and described here.

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