

The Automatic Ultrasonic Series E397



P.O. Box 734
450 Taft Drive
South Holland, IL 60473
800-276-2466
www.esmainc.com
Email: sales@esmainc.com

Cabinet Dimensions:

Tank module: 18.75" x 18"
Control module: 5" x 6"

Tank Dimensions: 12" x 10" x 8"
Tank Volume: 14 Quart
Power: 300 watts
Unit Power: 120vac, 3.5 amp, 60hz

Counter cutouts:

Counter top: 16" x 15"
Cabinet front: 4.5" x 4.5"
Under-counter: 19" clearance

Cycle time: 20 minutes
28 min. (with dryer)

Automatic Ultrasonic Washers are designed to simplify pre-sterilization instrument washing. The preprogrammed cycles are very similar to that of a dishwasher but our process incorporates high-powered ultrasonic cleaning and disinfecting technology. Esma's ultrasonic washers create a **hands-free** procedure that includes ultrasonic cleaning, ultrasonic rinsing and optional hot air drying. Load it and push a button! It's just that simple and totally safe on instruments. These counter-recessed, flush-mounted units require very little counter space and need no more installation than a sink, and they really perform! We have 15 years of in-field successful history.

- **Virtually eliminates hand scrubbing**-risk to personnel is reduced as well as cross contamination that results from multiple ultrasonic cleanings in the same tank and cleaning solution
- **No more rinsing in the sink under running water**-ultrasonic rinsing eliminates the inefficiencies of tap rinsing where dragout contaminants from the ultrasonic cleaner are never fully flushed away.
- ****No more open air towel drying**-The messy drip trails created from ultrasonic-to-sink-to-counter are eliminated and the infection control area of the office is streamlined. ** With dryer option.
- **Completely Safe for instruments-NO CORROSION ISSUES**

- 15 years of successful in-field history
- Powerful square wave ultrasonic circuitry
- 18 guage welded stainless steel tank with lifetime warranty against leaks
- All stainless steel construction
- Unprecedented warranty
- PLC controlled, custom programing available
- Long-lasting potted transducers
- Single push-button activation
- Backed by quality assurance of underwriters labs

Ultrasonic washers can accommodate many different baskets or racking options. From large baskets for cleaning loose instruments to racks housing cassettes, our washers will fit into your instrument management system.

Consider using Esma Insertion Baskets as an alternative to cassettes. Insertion Baskets are designed to nest together enabling you to clean up to 12 at a time. These baskets are available in several sizes:



- | | |
|-----------------|-----------------------|
| 9 x 2.75 x 1.25 | 6.875 x 2.875 x 2.875 |
| 11.5 x 3 x 2.5 | 10 x 2.875 x 2.875 |
| 11.5 x 4.75 x 3 | 6.875 x 2.875 x 1.375 |
| 2 x 2 x 2 | |

Use only Esma brand detergent concentrates when operating the E397. Esma produces 3 powerful liquid cleaning agents:

- Esma-Zyme E1204
- Esma-Shine E105
- Esma-General Purpose E589



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Instructions for Ultrasonic Washer

**E397 & E397RC
E498 & E498RC**

1. INTRODUCTION

The E397 and E498 units automatically perform a cleaning cycle, the major steps of which are:

- Ultrasonic Cleaning
- Ultrasonic rinsing (hot tap water)

The result is a finished product ready for the next step (sterilizing packaging, assembly, storage).

The unit consists of two sections: 1) Tank cabinet to be installed in the counter and 2) Control Plate to be installed on front of counter. (Models 397-RC and 498-RC). The tank size is 14quart for Model E397 and 15quart for Model E498.

The tank is manufactured from 316 stainless steel with six potting transducers mounted on bottom. The cabinet is manufactured from 304 stainless. The unit contains a self-tuning modular circuit board, a high velocity fan to cool the electronics and a RFI filter to eliminate high frequency noise. A programmable controller automatically runs the fill and drain solenoids and cleaning cycle.

The control plate contains the main and the start switches and several process indicator lights. The controls also can be installed on the top plate of tank cabinet.

PLEASE READ THESE INSTRUCTIONS THOROUGHLY BEFORE INSTALLATION AND OPERATION. CALL (800) 276-2466 IF YOU HAVE ANY QUESTIONS.

ESMA, Inc.

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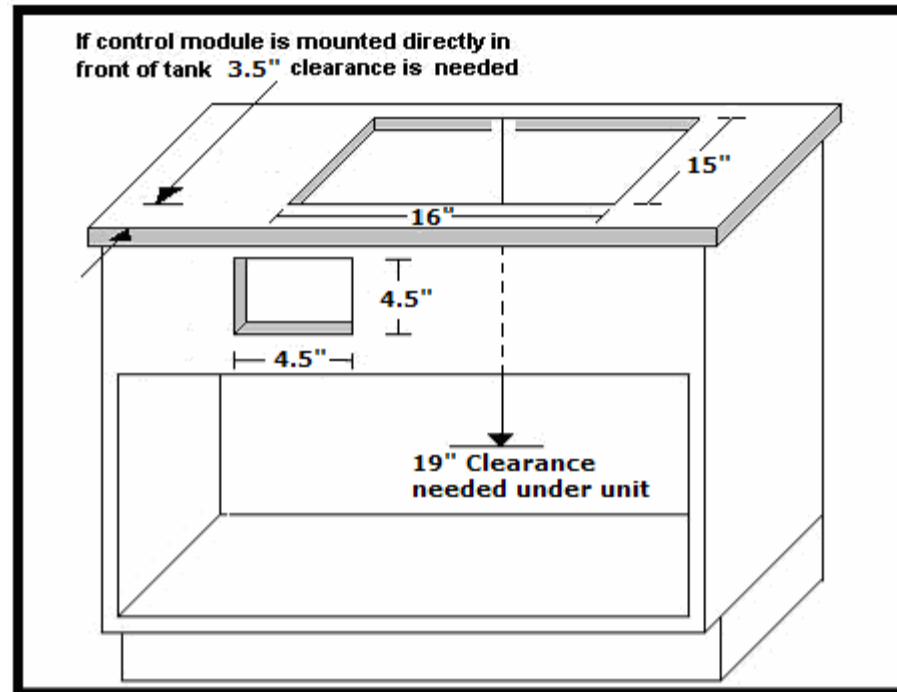


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2. INSTALLATION

Tank Cabinet - cut opening of 16" wide X 15" depth in top of counter. The overall flange of unit on top of counter is 18 ¾" wide X 18" deep, so center unit accordingly. Secure unit to counter with 8, #10 stainless wood screws supplied. Also, 19 inches of clearance is necessary under the counter.

Control Plate - Cut opening of 4 ½" X 4 ½" in front of cabinet or other convenient place. The overall flange of control plate is 5" X 6" wide. Plate will be mounted with 4 no. 8 stainless wood screws supplied. If the control plate is to be placed directly in front of the tank cabinet, allow 3 ½" between counter opening and front of cabinet. If this is not possible because of cabinet design, the control plate can be positioned on either side of unit.



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3. PLUMBING (see figures 1 and 2)

A. Water Input

The primary solenoid (A) should be connected to a hot water source. The solenoid has a 3/4" fitting for connection to high pressure hose. The high pressure hose should connect the solenoid to a shut-off valve (not supplied) at your water source. A filter washer is incorporated into the high pressure hose which acts to prevent sediment in the water line from clogging the primary solenoid.

Also, a back flow regulator (not supplied) may have to be attached at your water source to comply with local regulations.

B. Water output

1. Drain

The drain solenoid (B) is fitted with a hose barb fitting to accommodate a 3/4 inch ID hose. The 3/4" hose can be connected directly to a dishwasher attachment with a 3/4" input under an available sink or to another suitable drain. A clean out strainer (C) has been installed prior to the drain solenoid to prevent debris from clogging the solenoid. This cleanout can also be used to manually drain the tank should it become necessary.

2. Overflow

Located in the tank is an overflow nipple that allows water to cascade during ultrasonic rinsing. A 1/2 hose barb (D) found on the bottom of the unit must be tied into the drain line prior to connection to the dishwasher attachment.

4. ELECTRICAL

The unit is rated at 350 W, 120 VAC, 50/60 HZ. The unit is fused at 5 AMP, 250 VAC with a replaceable fuse located underneath the unit. The power cord must be connected to a three-way grounded outlet.

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The control plate cord needs to be plugged into the mating receptacle located underneath the unit. (see figure 1)

5. PRELIMINARY STARTUP

After plumbing is completed, run through a cycle to make sure there are NO leaks. Caution: Do NOT operate unit if no water enters the tank or damage could result to the electronics.

Procedure:

1. Turn main power ON.
2. Place cover on the tank to reduce any splashing during initial start-up.
3. Push start button and water will enter tank and the cycle will proceed as follows:

<u>Function</u>	<u>Time/Seconds</u>
A. Fill	120
B. Ultrasonic Cleaning	600
C. Drain	180
D. Fill	120
E. Ultrasonic	60
F. Ultrasonic/rinsing	60
G. Ultrasonic	60
H. Ultrasonic/rinsing	60
I. Ultrasonic	60
J. Drain	180
K. Buzzer	<u>5</u>
Total	1,505 (25 minutes)

If the main power is turned off during a function, the process will continue in that function when the power is turned back ON.

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If no leaks are found begin cleaning procedures.

6. RUN – STOP SWITCH

A RUN-STOP-SWITCH is located underneath unit.(Figure 1) The switch must be in the RUN position at all times for the programmable controller to operate. If for any reason during the program cycle you want to stop the process, turn switch to stop position and the program cycle will discontinue. Move switch back to RUN position and program will START over at the beginning of the program when start button is pushed.

Use RUN-STOP switch only for emergency stopping of unit.

7. OPERATION

The basic principle of operation is the enhancement and acceleration of the cleaning action through ultrasonic cavitations. Instruments, or parts to be cleaned, are placed in the basket (or cassette racks) and lowered into the tank.

NEVER PLACE PARTS DIRECTLY ON THE BOTTOM OF THE TANK.

Add a few tablespoons of cleaning agent to tank either before or after basket with parts is lowered into tank. Put on tank cover and push start button to begin process.

8. WATER CONSUMPTION

In the program 3 gallons of water are used on the initial fill cycle with an additional 6 gallons used in the fill-rinse steps, D to H for a total of 9 gallons of hot water used per cycle.

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If any changes in the rinse programs are required, consult the manufacturer.

9. CLEANING AGENT

It is recommended to use a liquid cleaning agent because some powders take too long to go into solution. ESMA has a liquid cleaner, E589 where it is recommended to use 2 to 4 tablespoons per tank load.

Some general purpose detergents may be all that is required to clean your items. Depending on types of parts and debris to be removed, some experimentation will be required with type of cleaners and concentrations. Remember, adding too much cleaning agent can cause a problem with final rinsing of parts if too much suds are generated.

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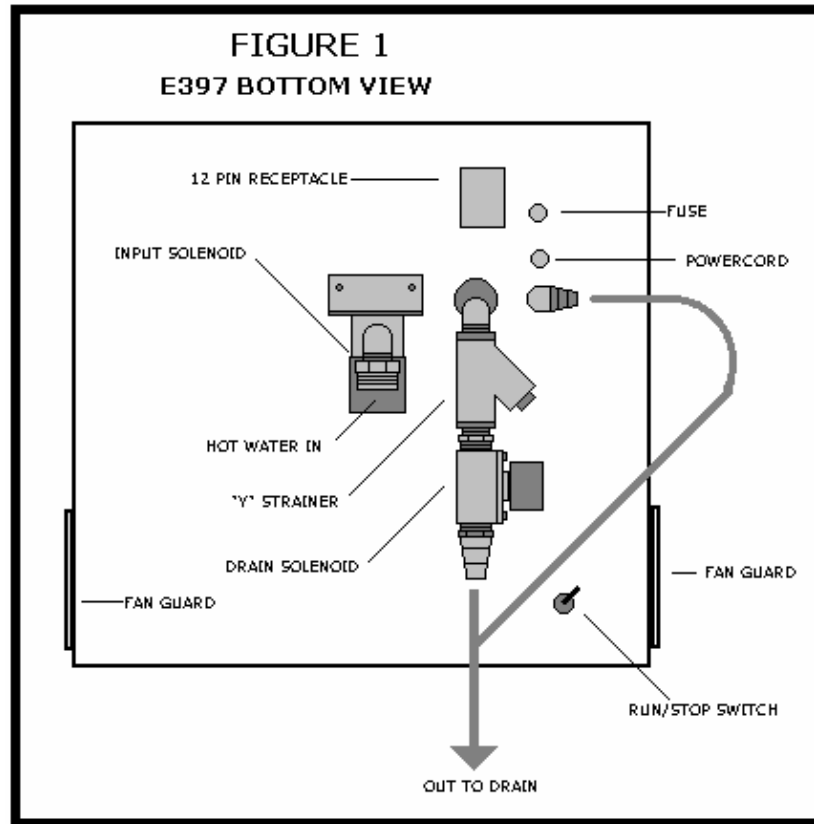


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10. MAINTENANCE

Periodically, the screen in the lint trap located underneath the unit before the drain solenoid will have to be cleaned out. The accumulated lint and debris could slow down the draining sufficiently so tank will not be emptied of cleaning solution before rinse cycle starts.

The unit is manufactured of 316 and 304 stainless steel. Clean with a commercially available cleaner for stainless kitchen appliances.

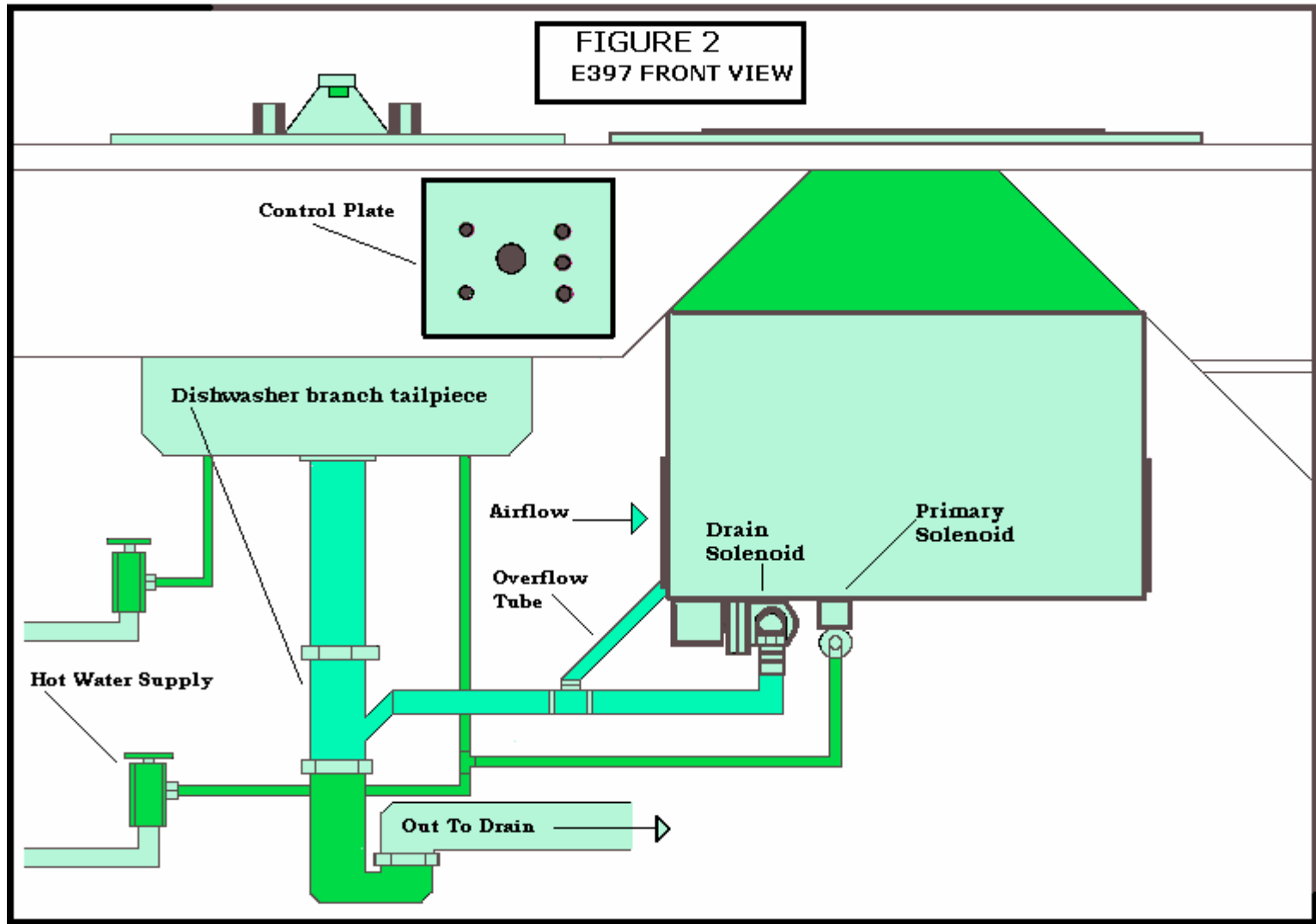


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