



The Automatic Ultrasonic Series

Fully Automatic Single Push-Button
Ultrasonic Washers with Parts Rotation

9 Gallon Ultrasonic Tumbling Equipment



Available as cleaners (Model E188T),
Rinsers (Model E288T) and
Dryers (Model E388T)

or

Automated ultrasonic washers that
clean/rinse/dry in a single tank
(Model E700T)



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Features & Specs



KEY BENEFITS

- Easily remove chips, oil, debris, etc. from parts with *blind holes*
- Excellent cleaning of small parts that tend to cluster in a static tank
- Eliminate trapped air allowing ultrasonics to penetrate internal bores
- Effectively move parts through nodes of increased energy that develop in ultrasonic tanks
- Eliminate trapped liquid for easy drying

"Let's get ready to tumble"

Introducing our new Ultrasonic Tumbling System, which incorporates a rotating basket within an ultrasonic cleaning bath. The combination of tumbling and ultrasonic cleaning clears many of the obstacles normally associated with aqueous cleaning systems. Chips, oils, debris, etc. that accumulate in blind holes/cavities can be effectively loosened and removed. Small parts that tend to cluster are kept separate for optimum cleaning. Trapped air can escape allowing ultrasonic cavitations to penetrate the part. Trapped liquids can escape during drying for increased efficiency. Tumbled parts move consistently through the nodes of increased energy that naturally form within ultrasonic bath. Whether cleaning, rinsing or drying within the cleaning cycle, tumbling and ultrasonics form a very effective combination.



FEATURES:

- All stainless steel construction
- Electronic housed in separate power module
- RFI filtered
- Heated Bath
- 15 minute timer
- Tumbler Rotation - 3 rpm
- Tumbler controlled independently or by timer
- Square wave ultrasonic circuitry
- ESMA's One/Two/Life Warranty
- 900 watts ultrasonic power, 38kHz

OPTIONAL FEATURES:

- Pump/filter systems
- Heated storage systems
- 80 kHz transducers
- Digital timers and temperature controllers
- 1200 watt ultrasonic upgrade

DIMENSIONS:

120v 1900w
Tank Dimensions: 18"x12"x10"
Basket Dimensions:
10" diameter x 15" x $\frac{5}{32}$ " mesh
Cabinet Dimensions:
26" x 15" x 15" and 18" x 18" x 8"



Also available as an automatic washer with tumbler, in either tabletop equipment or self-contained console units. (console unit shown with Esma 30 gallon storage tanks.)

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Instructions for Model E188T 9 Gallon Ultrasonic Cleaner

Introduction

The Model E188 ultrasonic cleaner combines 900 watts of ultrasonic power with various cleaning solutions to effectively handle your cleaning requirements. The E188 cleaning unit can be combined with Model E288, 9 gallon ultrasonic rinsing unit and with E388, 9 gallon drying unit for a complete system where parts are ultrasonically cleaned, ultrasonically rinsed, and hot air dried. These three models are housed in the same size cabinet.

Unit E188 consists of two components: a 316 SS tank housed in a stainless cabinet and a stainless power module containing the bulk of the electronics.

The tank has 18 potting transducers mounted on the bottom and is equipped with a ball valve for draining. Heaters can be installed on tank as an option.

The Power Module contains the self-tuning modular circuit boards, high velocity fans to cool the electronics, and an RFI filter to eliminate high frequency noise feedback.

PLEASE READ THESE INSTRUCTIONS BEFORE INSTALLATION AND OPERATION. If there are any questions, call (800) 276-2466.

Installation

Place tank on a bench close to a sink or drain. The power module can be placed up to 10 feet away from tank, either on a shelf or in a cabinet.

The power module should not be positioned where it can be splashed with liquids, where it can attract dirt or abrasives, or where the air cooling by the fan can be restricted because of tight enclosures. Clearance of 1" is necessary both at the air intake and exhaust.

Fill tank with approximately 8" of liquid. NEVER OPERATE UNIT WITHOUT LIQUID IN TANK.

Electrical

The unit is rated at 1450 watts, 120 VAC, 50/60 HZ. Only the power module is plugged into 120 VAC supply. Two plug and cord assemblies from tank cabinet are plugged into power module.

The unit must be electrically grounded. Connect to a three-way grounded outlet. A fuse, 15amp-125V, is located on the power module cabinet.

Tumbler Basket

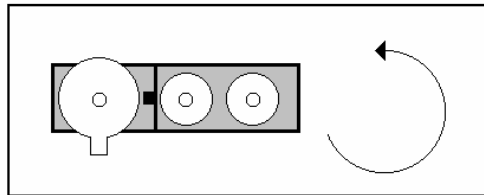
The 15" x 10" diameter octagon shaped basket is made from 5/32" diameter perforated stainless. The door of the basket is fastened shut with four wing nuts. This basket is for demo purposes only. The mesh size can be changed and the door can be hinged.

Operation

The MAIN switch on power module is left ON during daily operation.

Parts to be cleaned are placed in a rack and rack is positioned into the ultrasonic tank. Never place parts directly on bottom of tank (tank could eventually be perforated).

1. Heater – Tank is supplied with 450 watts of heat controlled by an adjustable, internal thermo-switch. The thermo-switch has been adjusted to control the bath temperature at 120degrees F when tank covers are on. If temperature needs to be changed:
 - Disconnect unit from 120Voutlet.
 - Remove back panel.
 - Move control knob of thermostat slightly in clockwise direction to increase temperature and counter-clockwise to decrease temperature. Make only slight changes because a 30degree angle change corresponds to an approximate 20degrees F temperature change. Replace top plate on chamber. Use caution that the bath temperature does not exceed 180degrees F.



2. Timer – The unit has been equipped with an Esma digital timer. The timer is preset at 15 minutes. To change the time simply press the ↑ or ↓ buttons accordingly. Press the Start/Stop button to activate the timer. Once the timer is running, pressing the Start/Stop button will stop the ultrasonics. Pressing the Start/Stop button again will resume the ultrasonics.



3. Tumbler
 - **Timer** position- ON only with timer.
 - **Continuous** position- ON with main switch.

Procedure

1. Fill basket with parts.
2. The tank should be filled with heated cleaning solution.
3. Insert basket into tank. To make sure sprocket is engaged in drive chain, switch timer motor to Continuous to turn basket for at least one revolution. You may want to leave basket tumbling at all times.
4. Ultrasonically clean for 10-15 minutes while tumbling.
5. When the cleaning cycle is completed, turn tumbler ON until handle of basket is on top of unit. Shut tumbler OFF and remove basket with parts.

Maintenance

Periodically, the ultrasonic cleaning solution in the tank must be changed:

- Unplug the unit from 115VAC outlet.
- Drain liquid into a container or sink by opening the valve at rear of unit.
- After tank is empty, flush out tank and drain it.
- Wipe tank clean and dry.
- Close drain valve and add fresh solution.

The cabinet is made of 304 stainless steel. Clean with a commercially available cleaner for stainless kitchen appliances.

The unit is guaranteed for one year, circuit boards for two years and transducer bonds and tank weld seams have a lifetime guarantee.

Modular Circuit Board

Unit E188 is equipped with three modular circuit boards that are easily replaced if a problem occurs. Three small indicator lights on the power module indicate that the circuit boards are working. If the ultrasonic

action in the tank decreases or one of the circuit board indicator lights goes out, call us and a replacement circuit board will be shipped immediately. This way the need for shipping the unit back for repairs is eliminated and the disruption is minimal.