



ESMA's Tabletop Ultrasonic Series



Over 25 Years of Service

SUPERIOR ELECTRONICS

Our solid state circuitry supplies AC voltage to transducers with a continuous, complete square wave at a constant amplitude. This produces multiple harmonics to the bath. This circuitry tends to fill the less active areas in the bath providing more homogeneous cleaning. The automatic tuning adjusts the primary resonant frequency of 38 KHz for changes in loads and liquid levels. The combined effect of this superior circuitry is to produce a unit that is "not just another ultrasonic."

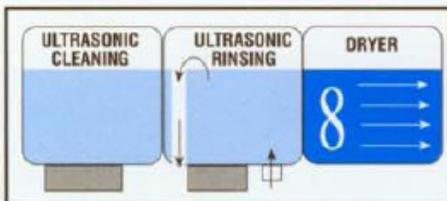
SUPERIOR CONSTRUCTION

Our units are all housed in stainless steel cabinetry providing not only a rich appearance but also unsurpassed durability. All our ultrasonic units are constructed using only the highest quality components including EMI filtering to correct electromagnetic interference problems. Our transducers are double-potted insuring optimal energy in the form of ultrasonic power, as well as long life. Our circuit boards are modular, so should the need for repair arise it is quick and easy. Inside and out our construction produces a unit that is "not just another ultrasonic."

SUPERIOR DESIGN

Our design incorporates ultrasonic rinsing, which combines running hot water with ultrasonic action. In aqueous cleaning applications rinsing becomes critical.

When cleaned parts are removed from the ultrasonic cleaning tank they are covered with dirty solution containing

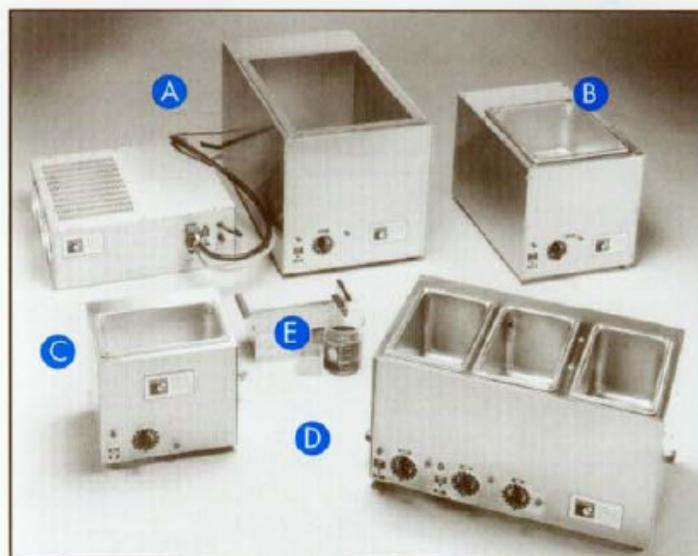


in suspension the very particles just removed. Elimination of this dragged-out solution can be a major task. Dipping or spraying is seldom effective, especially in blind holes and manual rinsing is time consuming and subject to human error. In our rinse tank design, the ultrasonics disperse and the cascading water flow flushes away any remnants of cleaning solution or traces of debris redeposited on your parts. This unique combination when used in conjunction with our cleaners and dryers provides a complete system featuring an ultrasonically cleaned/ultrasonically rinsed/dried part.



The addition of a deionized rinse allows you to achieve a spot free finish. Our table top equipment includes convenient self-contained systems with multiple tanks (models E386

or E782) and single tank models with an innovative modular design enabling you to form sophisticated multiple tank systems by banding together individual units. These units are also easily adaptable to pump filter systems. Whether your needs are for a single tank unit or a more complex design we can provide a unit that is "not just another ultrasonic."



MODEL	DESCRIPTION	UNIT DIMENSION INCHES	TANK SIZE, INCHES	ULTRASONIC POWER
A	E188* 9 gal. cleaner (with separate power console)	Tank Module 26x15x15 Power Module 18x18x8	18x12x10	900 watt
B	E385*+ 10 qt. cleaner (self-contained)	12x18x12	12x10x6	300 watt
C	E283 4.5 qt. cleaner	11x9x10	9.5 x 5.5 x 6	100 watt
D	E386 Colster - 3	22x13x12	9.5 x 5.5 x 6 (each tank)	100 watt (each tank)
E	Esma has available as accessories for its equipment: Baskets, racks, covers and beakers. We also formulate General Purpose Cleaner Concentrates and Compound remover concentrates. Esma is also a distributor of Alconox products.			
* Ultrasonic Rinses and Dryers are available in these sizes. + 14 quart units with 12 x 10 x 8 tanks are available in some cabinet				

SUPERIOR SERVICE

From the start we work with you providing technical advice and service. Whether its working with your sample parts at our facility or sending demonstration equipment to yours, our focus is to find the best cleaning procedure for your application. Once you purchase our equipment you can be confident of superior cleaning and superior durability. For over 20 years we have been producing unique, skilled labor saving systems used by companies around the world for a variety of cleaning applications in a variety of industries.

Springs, crystals, circuit boards, jewelry, carbide inserts, medical implants, optics, dental/medical . . . Whatever your application our machines have a proven track record for reliability, innovation and quality. We are sure you will find that the ESMA Ultrasonic truly is "not just another ultrasonic."



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Instructions for Vale-1 Model E283 Ultrasonic Cleaning Unit with 4½ Qt. Tank

Introduction

The VALE ultrasonic unit with ESMA cleaning solutions will effectively handle your cleaning needs. The all-solid state unit is housed in a stainless steel cabinet and carries a one-year unconditional guarantee. The unit features self-tuning with a device for load optimization, potting transducers, modular circuit board, built-in tank drain with valve, and thermostatically controlled tank heater. The unit has a built-in fan for cooling the electronics and an RFI filter to eliminate high-frequency noise. This VALE-1 unit is designed and built to give you years of reliable service, high power, and fast, effective cleaning.

Installation

Place unit on bench, preferably close to a sink. **DO NOT PLACE THE UNIT ON A TOWEL, PAPER, OR LOOSE FABRICS** (the cooling fan draws from the bottom of the unit and these objects will be pulled up against inlet, slowing the air flow and resulting in overheating of electronics).

Fill tank with approximately 4.5" of liquid. **NEVER OPERATE UNIT WITHOUT LIQUID IN TANK.**

The unit must be electrically grounded. Connect to a three-way grounded outlet. If you have a 2-wire service, an adapter with external ground wire is necessary. Connect the green grounding wire of the adapter to the screw which holds the electric outlet plate cover to the socket.

DO NOT OPERATE UNIT WITHOUT PROPER GROUNDING.

Operation

The basic principle of operation is the enhancement and acceleration of the chemical cleaning through cavitation created by ultrasonic waves.

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

1. Heater - If unit is supplied with heat (optional), the heater switch, located on lower left of unit, will activate heater when turned ON (Red indicator light is ON). The heater is thermostatically controlled to keep liquid in tank at approximately 120 degrees F. Allow ½ hour for tank to heat up.
2. Timer - Turn timer knob clockwise to desired time to start ultrasonic action. When set time expires, the ultrasonic action is terminated. Green indicator light is ON during cleaning.

Never try to remove tank from cabinet. The tank is sealed into the cabinet in order to prevent any liquid from penetrating inside and damaging the electronics.

Maintenance

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

- Unplug unit from 115VAC outlet.
- Drain liquid into a container or sink by opening the valve on the side of the 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 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 weld seams a lifetime guarantee.

Modular Circuit Board

The VALE-1, 4½ qt. Unit model E283 is equipped with a modular circuit board that is easily replaced if a problem occurs. If the ultrasonic action in the tank stops, (and most of it is due to failures occurring in the circuit board) 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.

The circuit board is replaced as follows:

- Unplug unit from 115VAC outlet and drain liquid from tank.
- Remove screws which hold back panel to cabinet and lay back panel down.
- Loosen and remove the four wires connecting the circuit board to the terminal connector.
- Circuit board can be removed from back panel by removing four holding nuts.
- Fasten new circuit board to back panel with four nuts. Make sure circuit board is properly spaced from back panel.
- Connect and tighten the four wires to terminal connector by matching colored wires to corresponding color on the terminal block inside the unit.
- Make sure wires from circuit board do not touch fan blades.
- Close back panel (first insert two screws in bottom of panel, then screw tighten cabinet insides).

In case of any questions or problems contact the manufacturer.
Call 1-800-276-2466.