Operating Instructions

WARNING: DO NOT OPERATE YOUR ULTRASONIC CLEANER UNTIL YOU READ AND THOROUGHLY UNDERSTAND THESE INSTRUCTIONS.

ULTRASONIC CLEANING: Ultrasonic cleaning is the use of sound waves beyond the range of human audibility to perform scrubbing of a soiled part in a cleaning liquid. The transmission of these waves into the fluid causes the formation of millions of microscopic bubbles which collapse and release an intense amount of energy to literally "blast" the soils free from the external and internal walls of the part being cleaned. This is known as "Cavitation" and is the most modern, safe, gentle and thorough way of cleaning yet devised for most metallic and nonmetallic parts.

An ultrasonic system consists of a "Generator" which is an electronic device capable of generating electric energy at an Ultrasonic Frequency and a "Transducerized Tank" which holds the liquid and parts. Together they create a "scrubbing action" in the liquid which results in thorough cleaning of the parts. The "SS" systems are one piece consoles housing both the generator and transducerized tank in a rugged cabinet.

The generators used in these systems are the most advanced in miniaturized solid state technology. They consist of one or more modular type, printed circuit board transistorized power packs. This modular concept simplifies maintenance, lowers initial operating costs, and provides high operating efficiency.

OPERATION OF THE CLEANER: The "SS" Series Cleaning Systems are designed to be as foolproof as possible, and to be simple enough to be operated without special skill or training. The following suggestions should, however, assist in getting the most efficiency from them:

1. Select the desired cleaning solution.

2. Fill the tank to the desired level with the solution, a minimum of 2" (54mm) [Heated System must have 3" (76mm) of liquid should always be in the tank to prevent damage. Normally, the tank need be filled only enough to cover parts being cleaned. NEVER OPERATE THE UNIT WITHOUT LIQUID IN THE TANK.

3. Plug the unit into an electrical outlet (110-120V, 60Hz, 1-phase). Make certain a 3-prong (grounded) plug is used or that a separate ground is run to the unit.

4. Turn the unit to On using the push button switch (Timer equipped—turn to desired cleaning time cycle). The pilot light switch will glow and a characteristic buzzing noise will be heard in the tank. It is best to wait two or three minutes before cleaning upon adding new liquid to permit the escape of entrapped air and other gasses (degassing) which would decrease cleaning efficiency.

5. Models containing two switches are equipped with built-in thermostatically controlled heater system. These units must always be used with a minimum of 3" (76mm) of cleaning solution. The white switch is for ultrasonic cleaning ON/OFF and the red switch is for heater ON/OFF. The heater system switch may be left on [providing there is always 3" (76mm) of solution in the tank] thereby maintaining solution temperature and only activate the ultrasonic control when it is necessary to clean.

6. When the unit is ON, you will be aware of the buzzing noise indicating ultrasonic activity in the tank. This will vary in intensity throughout operation as will the rippling of the surface. This variation has generally no bearing on the cleaning efficiency of the unit, and may change considerable in intensity when work is introduced or as various aqueous and solvent cleaning solutions are used. Solvents must be warm before they operate properly.

7. Work to be cleaned should be positioned in the tank. In most cases, it will be found desirable to use a rack or basket designed for ultrasonic use.

8. "Cleaning Time" will depend on the amount, location and type of soil to be removed. While most surface soils can be removed instantaneously, heavy soils imbedded in the cracks, crevices and pores of the part may require several minutes. Loading the work basket with heavily soiled parts that are mentioned before, selection of the proper cleaning chemical and handling device is extremely important in getting maximum efficiency from your unit.

9. When the cleaning solution has become heavily contaminated, it will lose its efficiency, and fresh solution should be added. Frequency of changing the solution will vary with the type of chemical used, the amounts of soils removed, and the frequency of use.

10. Where it is desirable to use several solutions or a chemical not compatible with Type 304 Stainless Steel to properly clean and rinse soiled parts, the following simple procedure will permit your ultrasonic unit to be used efficiently for this purpose:

    a. Fill tank to about a 2" (54mm) level with water.

    b. Using glass, stainless steel, or linear polyethylene beakers or tanks filled with the desired solution, position them in the tank in contact with the tank liquid so that there are not air bubbles under them. The ultrasonic energy will pass through the walls of these "inner tanks" and clean efficiently.

GENERAL PRECAUTIONS:

1. Never immerse your cleaner in water. When you are finished using the tank, rinse it thoroughly and wipe dry.

2. Never operate the tank without at least 2" (54mm) of water in it.

3. Do not overload the tank or place heavy work directly on the bottom as this will decrease efficiency.

4. Never use volatile, toxic or inflammable solvents. The use of ultrasonics tends to increase the evaporation rate, and cause additional hazards. (Special tanks needed.)

5. When cleaning a new part, it is advisable to experiment on a sample before proceeding with a batch load.

6. Always rinse parts after cleaning for proper cleaning procedure.

7. Metal items should always be lubricated after cleaning to prevent oxidation.

8. To avoid discomfort, do not place your fingers in the tank while it is in operation.

9. Never use any chemical solution that would attack Type 304 Stainless Steel.

CLEANING CHEMICALS: Special Purpose Detergent Concentrate is available from Gilson in 1-gallon containers as Model UBA-4. Normal dilution is between 1:10 and 1:15.