R.K. Transonic Engineers PVT. LTD.

(Leading Manufacturer of Ultrasonic Cleaning Machine)

RKT 420 DTT
Industrial Ultrasonic Cleaner

Industrial Series.

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Technical Specifications

MODEL NUMBER	RKT 420 DTT
WORKING TANK SIZE	12 X 12 X 8 Inches (L X W X H) 300 X 300 X 200 mm (L X W X H)
EFFECTIVE VOLUME	18 Liters / US Gallon – 4.75
TANK MATERIAL	STAINLESS STEEL GRADE- 316L, 2mm Thickness DULY BUFFED SHEET WITH PASSIVATION TREATMENT
TANK FRAME / TANK COVER PANEL	STAINLESS STEELGRADE –304 ,1.5mm DULY BUFFED SHEET WITH MIRROR FINISH
THERMOSTAT	DIGITAL TEMP. CONTROLLER AMBIENT TO 80 °C (IDEALLY AN ULTRASONIC CLEANER WORKS BEST AT 60°C)
HEATERS	1500 WATTS, CARTRIDGE TYPE CERAMIC HEATER ENCASED IN STAINLESS STEEL TUBE
DIGITAL TIMER	YES (0-999 MIN) – Pre-Calibrated
TRANSDUCERS	60 WATTS EACH DIRECTLY MOUNTED ON THE BOTTOM OF THE TANK, 7 Nos.
PZT CRYSTALS	PZT-8 OF APC, U.S.A. MAKE
OUTLET	½" BSP ball valve

Plant : B-109, Sector-6, Noida- 201301, Uttar Pradesh, India
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Email: info@rktransonic.com
Website: www.ultrasonicindia.com,www.rktransonic.com

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ULTRASONIC GENERATOR	DIGITAL ULTRASONIC GENERATOR WITH TRUE PLUSLE SWEEP TECHNOLOGY.
AVERAGE POWER OUTPUT	420 WATTS
PEAK POWER OUTPUT	840 WATTS
FREQUENCY	40 + / - 3 KHZ (Best as per Industry Standards)
TOP LID COVER	REMOVABLE TYPE STAINLESS STEEL 304 MAKE
BASKET	MESH TYPE STAINLESS STEEL 304 X 1 NO.

Product Features

- Higher ultrasound wave power conversion ratio, faster cleaning and times or scores of times higher cleaning efficiency than conventional method.
- High cleaning performance, excellent cleanliness and effective cleaning of even any inaccessible parts such as hole and seam.
- Sterilisation of work piece, dissolution of organic contaminant and corrosion protection.
- Fabrication of high-quality embossed stainless steel with excellent rust protection and aesthetically appearance; cleaning tank made of quality SUS316 stainless steel pressed formed free of welding seam and watertight.
- Cleaning temperature adjustable between 20~80℃, operating time displayed and controlled with Digital Temp controller and ranging between 0~999 minutes to meet various cleaning needs.
- Drain and heat dissipater provided for quick discharge of waste water after cleaning.
- Cleaning basket with mesh screen fabricated of stainless-steel 304 for easy use.
- Safe and reliable cleaning process without need of manual intervention and free of damage to surface of work piece, using less solvent, heat energy, space occupation and manpower.

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Scope of Application

- **Machinery:** Removal of oil/grease on parts and components, cleaning of engine, carburetor and automobile parts and components, filter, and filter mesh.
- **Surface treatment:** Removal of oil and rust before galvanic coating, cleaning and phosphating process before ion plating, removal of accumulatedcarbon, scale and polishing paste, activation of surface of work piece.
- **Instrumentation:** cleaning of measuring tools and fine cleaning of precision parts prior to assembly.
- **Electronics:** Removal of rosin and welding spots on printing circuit board and cleaning of HV contacts and other electronic parts.
- **Medical care:** Cleaning, disinfection and sterilization of medical devices and lab glassware.
- **Semiconductor:** Fine cleaning of semiconductor chips.
- **Timepiece and jewelry:** Removal of grease, dirt, scale and polishing paste.
- **Chemicals and biologicals:** Cleaning of lab glassware.
- **Optics:** Cleaning of optical components and lens.
- **Textile dyeing and finishing:** Cleaning of spinning spindle and spinneret.
- **Petrochemicals:** Cleaning of metal filter mesh, chemical containers and exchanger.

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Installation and Preparation

- **After unpacking, check whether any part gets loose.**
- **Place the machine horizontally at a well-ventilated and dry location.**
- **Select appropriate detergent, cleaning water or other solution based on properties of work piece to be cleaned.**
- **Properly and firmly connect the plug to a three-pin power socket which is grounded reliably to ensure safety.**
- **Connect the BNC connector from the ultrasonic generator with the ultrasonic cleaning tank. The BNC connector are duly numbered**
- **Fill the machine with RO / DM water as per the limit or 3 inches below the neck of the tank / overflow.**
- **Switch on the machine's digital heater controller and wait until the temperature of the liquid reaches the desired temperature. At present the default temperature is set at 60 Deg Cel. which can be changed as per your application.**
- **Once the machine reaches the desired temperature, add your cleaning detergent solution as per the instructions on the label**
- **Run the machine ideally for 10 minutes. This has to be done every time a fresh solution is filled. This process releases mixed air in the solution and this is referred as degassing process.**
- **Now your machine is ready for cleaning operation**

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- **DO NOT SWITCH ON THE MACHINE WITHOUT LIQUID INSIDE THE TANK**
- **DO NOT PUT HEAVY OBJECTS DIRECTLY AT THE BOTTOM OF THE TANK**
- **DO NOT USE FLAMMABLE CHEMICALS WITH ULTRASONIC CLEANERS (like petrol, diesel, kerosene, IPA – alcohol etc.)**

Safety Consideration

- Power voltage of AC220V/50Hz shall be used for this machine.
- Warns: This product contains dangerous voltage, so do not start it at a high-temperature or humid location to avoid electric shock.
- Do not impose great impact to this machine, and handle it with care to prevent impairment to performance or life span of it.
- Locate this machine properly to avoid any accident resulted from children's access to it.
- Perform any maintenance operation only after the power supply is disconnected to avoid any safety accident.
- The machine contains high voltage during operation, so do not dismantle its enclosure to avoid any hazard.
- For any damage to the power cable, contact your service center or your dealer for replacement.

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- Clean the enclosure with soft dry cloth after disconnecting the power cable.
- Protect the machine from splash of rain or water to avoid electric shock or fire, and keep it away from any location with high temperature or humidity.
- For reason of personal safety, do notdismantle the enclosure for repair or change on your own.
- During normal operation of ultrasonic generator, a consistent sound is resulted from the harmonic oscillation of the tank body impacted by ultrasound wave, and no agitation but ripple is caused on the surface of cleaning fluid by explosion of cavity. In case of discontinuous oscillation, increase or reduce the cleaning fluid by a small quantity to eliminate such oscillation to facilitate cleaning of work piece.
- While ensuring adequate cleaning of work piece, keep the generator operating intermittently, as long-term consecutive operation may result in high temperature insides and accelerate aging of electronic components in it.
- Absolutely do not use any inflammable detergent.
- Start heating or ultrasonic wave generator only when the cleaning tank contains fluid, or otherwise the machine may be burnt out or even result in fire.
- Prevent splash of cleaning fluid or water into the machine or energy converter, which may cause electric leakage or short circuiting, and thereby damage to the converter.
- Any foreign matter falling into the tank shall be taken out immediately.
- Before changing or discharging the cleaning fluid, make sure the fluid is at normal temperature and the ultrasonic wave generator is shut down and the power supply is disconnected.
- Remove any dirt in the tank after operation.

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Trouble-Shooting

Problem	Solution
Failure of Ultrasonic Wave	• Check whether the power voltage meets the rated value, or • fluctuate significantly. • Check the power socket, switch, connection terminal and joint for looseness. • Inspect the fuse for any abnormal flash or noise. • Check the power tube for any damage.
Weak ultrasound wave or operation with whistle	• Check whether the energy converter is affected with damp or the insulation resistance is normal. • Inspect the power cable for any external damage or damp absorption. • Check whether the power voltage is normal. • Inspect whether the energy converter get loose or there is any shock absorption material or work piece under the tank. • Check whether the cleaning fluid is in normal temperature or any improper operation was performed.
Electric leakage (distinguish between failure of the main unit and that of generator by removing the HF connector and checking insulation)	• Check whether the power cable is affected with damp, or the supply voltage is in frequent excessive fluctuation. • Check whether the machine is affected with damp and thereby corroded. • Check the cable tray to each component is damaged, loosened or broken. • Check whether the heating plate is destroyed or broken. • Check whether the ground wire is in good condition.
Arc strike or abnormal flash or noise	• Poor isolation or damp absorption of oscillator. • Check whether any connection or terminal gets loosened or in poor contact.

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Warranty Card			
User Information			
Customer Name		**User's Telephone**	
User's Address			
Product Information			
Product Model		**Attached Number**	
Purchase Date		**Dealer Name**	
Dealer's Telephone		**Dealer's Seal**	
Dealer's Address			

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