

Ultrasonic Solutions

Cleaning



Powerhouse of Ultrasonic Technology



www.rooptelsonic.com

Table Top Industrial Cleaners



Microprocessor Based Ultrasonic Industrial Compact Cleaners



Ultrasonics, i.e. high frequency vibrations, generate agitation in liquid resulting into 'cavitation', which is rapid formation and collapse of minute bubbles in liquid.

Implosion of bubbles with high pressure on exposed surface of component dislodges and removes contamination like dirt, dust, oil, grease, chips, wax, lapping paste, carbon etc. It helps in cleaning of inaccessible areas.

Very high degree of cleaning can be achieved in multi-chamber/multi-operation cleaning system with proper orientation of components, filtration of cleaning liquid, rinsing of components and drying with air and/or vacuum.

Technical Specifications



Details	Model IT 120	Model IT 280	Model IT 360	Model IT 500
Tank Capacity	12 Liters	28 Liters	36 Liters	50 Liters
Tank Size	280*220*200mm	485*275*200 mm	500*360*250mm	550*475*275mm
Tank Material & Thickness	SS 316 - 2mm	SS 316 - 2mm	SS 316 - 2 mm	SS 316 - 2 mm
Ultrasonic Power (Avg/PP)	300 W	600 W	750 W	1500 W
Bonded Transducers	4 Nos.	8 Nos.	15 Nos.	20 Nos.
Frequency (kHz)	20/30/40	20/30/40	20/30/40	20/30/40
Heater	2 kW	3 kW	4 kW	5 kW
Temperature Control Variable	Provided	Provided	Provided	Provided
Timer Variable	Provided	Provided	Provided	Provided

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Accessories



Beaker with basket and Positioning cover



Tank cover/Beaker with Positioning cover

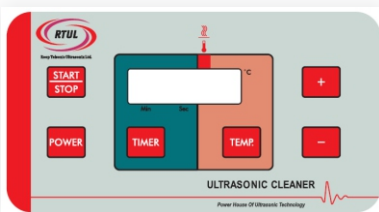


Insert basket for tank and beaker



Suction Pump

Control Panel



Features

- Digital Control of time and temperature
- SS tank with complete SS body
- Simple operation
- Longer tank life
- Low noise level
- Suitable for continuous operation
- Rugged and easy to clean stainless steel housing
- Automatic frequency tuning for maximum output
- Latest technology with fully transistorized generator.

Applications

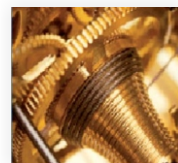
- Scientific Labs
- Eyeglass Frames
- Lab Glassware
- Optical & Contact Lenses
- Pipettes
- Test tubes



- Electronics
- Manufacturing
- Capacitors
- Ceramic Substrate
- PC Boards
- Packaging Components



- Jewelry Manufacturing
- Chains
- Charms
- Coins
- Watches
- Precious Metals
- Capacitors



- Industrial Manufacturing
- Assemblies
- Gears
- Metal Parts
- Switches



- Textile Industry
- Spinnerets
- Candle filters, Ceramic guides
- Nozzles, Healdwires,
- Reeds, Knitting needles



- Medical & Dental Labs
- Dental Instruments
- Syringe Parts
- Surgical Instruments



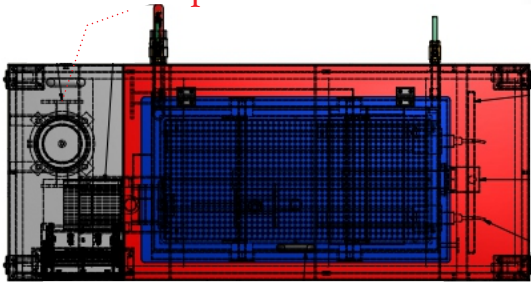
- Auto Industry
- Carburetor
- Castings
- Fuel Injectors
- Switches
- Machined Parts

Industrial Tanks



It consists of process tank with ultrasonic tube resonator & ECO-generator. Tube resonator is provided at the tank bottom to provide ultrasonic vibrations in the liquid, which uniformly cleans the component. SS heater is provided at the bottom for heating the solution. A level switch is provided to switch off ultrasonic parts and heater to avoid damage due to dry running. A drain valve is also provided for periodical drain of complete solution manually. The inner tank is provided with insulation.

Optional Filter



Features

The Online Filtration helps in removal of the contamination out of the system and ensures a clean bath. The clean bath helps in sustaining the cleaning level for a longer duration of time/period.

- Efficiency more than 95 %
- Absolute & fully automatic monitoring, independent of voltage fluctuations
- Optimum operating frequency under all operating conditions
- Optimum output power with all variations of temperature, solution level and workload
- Wave pulse modulation ensures high cavitation, therefore resulting in High cleaning action
- Protection against short circuit and idling conditions
- Power variation from 50 - 100 % with potentiometer integrated in the Front panel
- Latest electronic component (IGBT) technology
- Each generator module is an independent generator
- Versatile provision for mounting
- Practically maintenance-free

Ultraclean



Industrial Cleaner with filtration, collection tank and oil skimmer

The demand for industrial cleaning has been ever increasing as highly cleaned components are indispensable for various production units. This is not only to create conditions for trouble free manufacturing but also decides the quality and service life of the product. Which cleaning should be applied for demand will depend on various aspects: type of component, material, surface quality, type of contamination and required cleanliness.

Ultrasonics can remove all kinds of dirt and other particles such as grinding and polishing residue, as well as oil, grease. Its scope of application ranges from cleaning the movement of a watch to overhauling the engines of a jumbo jet.



Features

- Ultrasonic and heat insulation.
- Sloped floor for complete emptying.
- Edged work area prevents liquid from dropping down.
- Beveled cover guides water condensation back to the tank.
- Protection against dry running for ultrasound and heating.
- Ultrasonic generator is integrated.
- Temperature regulation.
- Timer for ultrasonic activity.
- Contents of 36, 50, 70, 110, 170, 250 liters.
- Working frequencies 25, 40 kHz.
- Tank, cover, sheathing and drainage tap made of stainless steel.
- Overflow edge with connection (set watertight).
- We also manufacture Industrial ultrasonic cleaners with filtration capability.



Inside View



Basket



Oil Skimmer

RT Series



Single Chamber Cleaner with filtration, dunking and oil collection pocket tank

We have developed a standardized range of single chamber cleaners for intermediate cleaning. Our product boasts of precision cleaning capability, low power consumption, reduced labor time and cost-effectiveness. The machine can be used for general cleaning applications including, fuel pumps, coolers, pistons, convertors, cylinder heads, turbo compressors, injectors, carburetors and gearboxes.

Our standardized range of single chamber cleaner reaches upto a maximum load of 330 kgs.



It has a special pneumatic lift platform. It has multi-language touch-screen HMI. Our patented tube resonators are installed in the equipment. It has a laminal flow oil cover and an insulated top cover. The top cover has a gas spring for safety in handling.

Currently we are making RT series cleaners having a capacity of 70, 180, 300 and 400 liters.

Features

- Modular design
- Ready and fault signal in the front panel of generators
- Automatic and monitoring and control of ultrasonic power
- Wave pulse modulation for highest cavitation, resulting highly uniform cleaning
- Optimum frequency under all load conditions
- Optimum power output with all variations of temperature, solution level and work load
- Protected against short circuit and idling conditions
- Automatic switch of at higher temperature and over current



Integrated Multi-Operation Cleaner



The machine is designed to occupy minimum floor space with ergonomically designed operation panel for ease of operation. The highly efficient system results in the most effective cleaning for diverse range of applications. The system can not only clean mass-produced parts but also assembly parts with cleanliness level as high as 0.01 mg/component.

Defined size in fine cleaning can be achieved by selecting the appropriate filtering system and other application-dependent options available thus making the system usable for various applicaion areas.

Features

- Cleaning, rinsing and drying process in a work chamber
- High power injection flood washing
- High efficiency ultrasonic tube resonator
- Automatic work chamber door locking
- Rotation and oscillation movements to support the cleaning and drying effect (Optional)
- Integrated oil-separator
- Hot-air drying facility
- Siemens S7 PLC control system for custom programming of process sequences
- Error diagnosis via plain text display on operator control panel
- Incorporates closed system housing made of M.S powder coated (optionally available in S.S 304)
- The tank has a capacity of 70 liters.

Process Selection

- Spray Cleaning ➤
- Turbulence Cleaning ➤
- Ultrasonic Cleaning ➤
- Spray Rinsing ➤
- Turbulence Rinse ➤
- Ultrasonic Rinse ➤
- Hot Air Drying ➤

Multi-Chamber Cleaners



Cleaning is, almost by definition, a part of any manufacturing process for the removal of sufficient surface contamination to make something suitable for the next phase of its use. It may come in at the raw material prep stage, some intermediate manufacturing stage, or prior to surface finishing such as plating or painting or before final packaging. Industrial cleaning system plays a key role during final manufacturing stages for the cleaning of various components . It's demand has been ever increasing as highly cleaned components are needed for various production units in reduced/less time.



This is not only to create conditions for trouble-free manufacturing but also decides the quality and service life of the end product. The cleaning sequence depends on various aspects like: type of component, material, surface quality, type of contamination and required cleanliness level in terms of millipore as well as particle size.

Features

- Swiss technology for micro-processor controlled generators
- Options available for multiple frequencies 20/25/30/36/40/80/120 kHz
- Hi-tech components like patented tube resonators, immersible transducer box and conventional transducers used
- Many processes to choose from, including, high pressure jet cleaning, inject flood washing and turbulence
- Provided with filtration, recovery units and oil separators
- Automated material handling systems
- Well equipped lab for millipore testing which allows selecting, recommending and designing optimum system
- Range of multi-chamber cleaners include, conveyORIZED ultrasonic cleaning systems, online wire/strip cleaning system, and vapor degreasing system

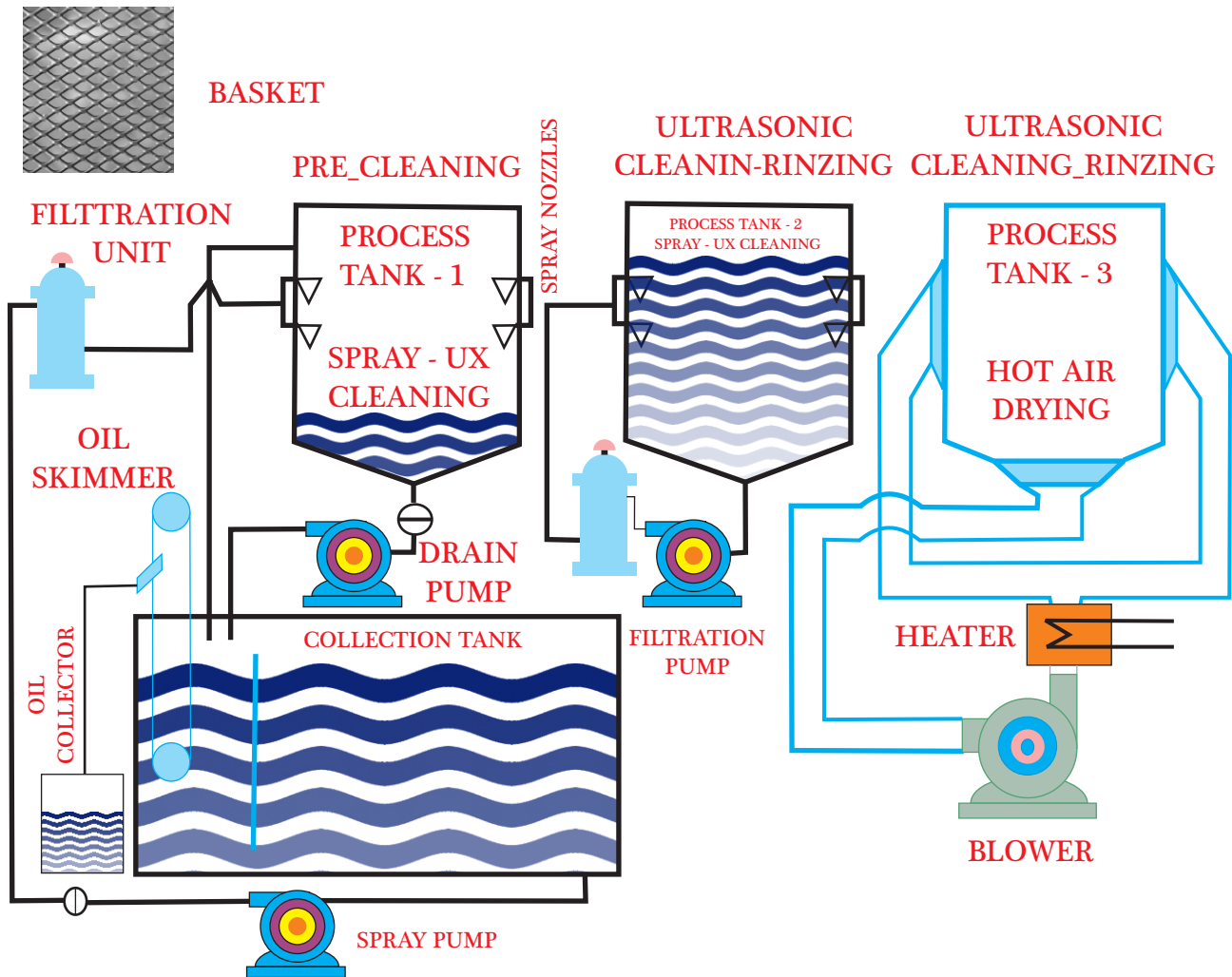
Process Selection

- Pre-Cleaning
- Ultrasonic Cleaning
- Rinsing
- Anti-Rust Coating
- Ho-Air Drying
- Vacuum Drying

(Selection of number of processes depends on desired cleanliness level)

Typical Stages Of Multi-chamber Cleaning Systems

A TYPICAL PROCESS DIAGRAM



Range of Products

- Customized Single Chamber Ultrasonic Cleaners of any capacity
- Conveyorized Ultrasonic cleaning systems
- Online Ultrasonic wire / strip cleaning system
- Multi-chamber Ultrasonic cleaning systems
- Single chamber multi-operation cleaning systems (coarse /intermediate / fine cleaning)
- Vapour degreasing systems
- Ultrasonic Components :Tube resonators , Eco-generators, Immersible boxes, Transducers etc.

Mouldeto



Mouldeto is designed to do maintenance cleaning of complicated parts. It is ideal for cleaning equipment which could get marks or cuts through cleaning.

Ultrasonic cleaning is gentle yet precise. It leverages from the property of water to cavitate when ultrasonic waves are passed through it. The bubbles formed from cavitation reach the most inaccessible holes and crevices.

40-50 %
cost savings



Basket



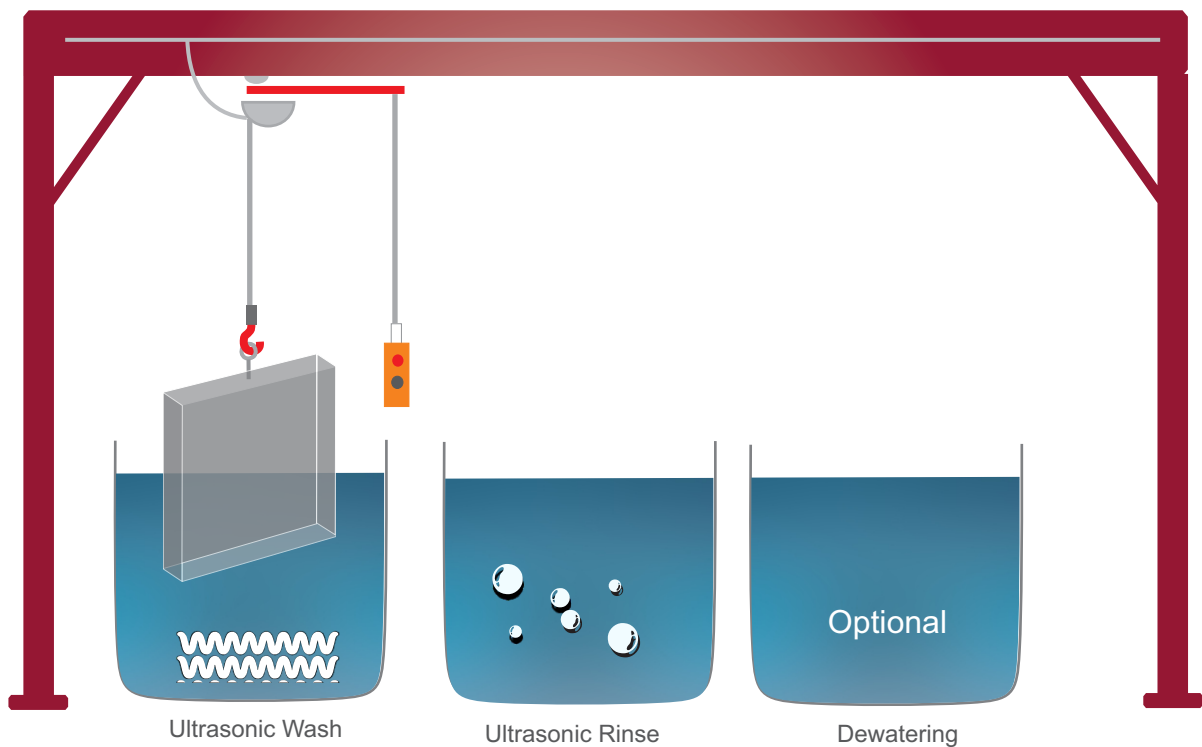


Mould Cleaning Process

1. Ultrasonic wash at 80°C for about 5-15 minutes
2. Rinsing with air bubble agitation for about 1 minute

Optional

3. Preservation with dewatering or hot passivation for about 1 minute
4. Inspection / manual intervention



Cleaning Chemical



Detergent/cleaning solvent is essential for achieving high cleanliness level. During ultrasonic washing we require a high pH level cleaner. RTUL's cleaning solvent is a strong cleaning solution which can work effectively on the most difficult contaminations without eroding surface layer. of the component to be cleaned.

Cleaning Components



Immersible Box



Tube Resonator



Generators

Features

- Immersible box transducers with various output capacities upto 2000 W are available. Frequency available include 20, 30, 40, 68, 68, 120 and 170 kHz.
- High efficiency patented tube resonators are available in various lengths with single-ended and double-ended design. Various output capacities such as 150 W, 500 W, 700 W, 1000 W and 1500 W are available. 20, 25, 30, 36 and 40 kHz frequencies are available.
- Highly advanced micro-processor controlled modular ultrasonic generator (ECO series) of various capacities are available with various attachments for fault indication and optimum monitoring of ultrasonic power.

NOTE: Technical specifications are subject to change without prior notice, due to continuous upgradation.

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