

# Ultrasonic High Tech Equipments

For Industrial Cleaning, Welding, NDT, Sieving, Sonochemical Processing

## OVERVIEW

**ROOP TELSONIC ULTRASONIX LTD (RTUL)** is a joint venture with a well known Ultrasonic Machine Manufacturer, M/s. Telsonic AG, Switzerland. RTUL is a leader in design, development, manufacture and marketing of a wide range of Ultrasonic Machines. It has the most modern manufacturing facilities at Gandhinagar in Gujarat, and at Mumbai, with well equipped application laboratory, tool room and machine shop, sophisticated testing and designing centre and high-tech measuring instruments. Apart from Mumbai and Gandhinagar, RTUL has its sales and service offices in Delhi, Chennai, Kolkata, Indore and has a well spread representative network in the country. The company's emphasis is always on delivering the latest of ultrasonic to the industry. Constant upgradation of instruments through research keeps pace with the times. RTUL manufactures all its products with exceptional quality and value. The company's commitment to providing the very best customer service is evident from its continuing investment in manufacturing technology and productivity enhancing capital equipments.

## WELDING

### PLASTIC WELDING

#### ULTRASONIC WELDING MACHINE / SYSTEM

Joining of thermoplastic components and insertion of metal components in the plastic components can be performed with the help of this machine. Higher strengths, better finish, consistent quality and leak proof joints can be achieved.

## APPLICATION

Toys, Gifts & Novelty articles, Industrial components, Laminated foils and Tubes, Thermowares, Automobile Components & Lighting accessories.

## SPECIAL FEATURES

- ★ Energy & time mode selection
- ★ Rigid, heavy duty pneumatic press
- ★ Printing of welding data & calibration of parameters.
- ★ Self Diagnosis
- ★ Auto tuning of horn and horn life indication
- ★ Electronic amplitude setting
- ★ Easy upgradation and Automation



MODEL	US Output Watts	Freq KHz	Generator
Handystar	1000	35	SG3510
IPA 3505	500	35	Built-in
USP10-500	500	36	SG25-500-36
USP 750-500	500	36/20	SG22-500
USP 750-1000	1000	36/20	SG22-1000
USP 2000-1000	1000	20/36	SG22-1000/20/36
USP 3000-1000	1000	20/36	SG22-1000-20/36
USP 3000-2000	2000	20	SG22-2000
USP 3000-3000	3000	20	SG22-3000
USP-3000-4500	4500	20	SG22-4500

For large/complex components, systems with multi convertor design (with mother/daughter horns) or with new IPA module are available as per specific requirements.

LAMI/PLASTIC TUBE SEALING SYSTEM *			
TS-1000	1000	36	SG22-1000
TS-1500	1500	36	SG22-1500

\* For sealing ends of tubes (after filling) which are used in packing of toothpaste, creams, ointments in cosmetic/ pharmaceutical industry.

## SPIN WELDING MACHINE

Joining of circular thermoplastic parts can be achieved by this friction welding technique. The machine operates at 100 to 4000 rpm with a robust press exerting a force of 2500 Newton.

### APPLICATION

Specially useful for nylon and poly propylene circular parts like cream jar, bottle, oil containers etc.



## VIBRATION WELDING MACHINE

The process is similar to a Spin Welder where frictional heat is generated using a reciprocating and sometimes a multi direction motion. The heat energy is achieved by moving one part relative to its mating part under pressure through a given amplitude.

### APPLICATION

Large automotive parts such as head lamps, brake fluid reservoir, fuel tanks, bumpers and in consumer durables like washing machine and dish washer.

## METAL WELDING MACHINE

Joining of similar and dissimilar non-ferrous metals can be achieved with higher strength and better electrical and thermal conductance quality. Higher production rate with consistent quality is possible.

### APPLICATION

Switchgears, electrical connectors, coils, solar panels, collectors for solar heating systems, telecommunication equipments.

### FEATURES

- ★ Welds similar and dissimilar ferrous material.
- ★ Excellent weld quality and helium tight welding.
- ★ Fast, reliable, consistent welding quality with microprocessor controller.
- ★ No need of any filler materials.
- ★ Low power consumption.
- ★ Clean and safe process (no sparks, flames and smoke formation) and hence, environmental friendly.
- ★ 100% bond conductance.
- ★ Can be easily automated.
- ★ Continuous welding operation possible.



## ULTRASONIC TPC SERIES COMPACT CLEANER

High intensity ultrasonic waves are used for degreasing/cleaning through cavitation effect. These compact table top cleaners are very versatile for all general purpose cleaning applications.

### APPLICATION

Surgical and hospital equipments, watches, diamonds & jewellery, lenses & glass frames, PCB, industrial & mechanical components, bearings etc.



### COMPACT CLEANER 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
- ★ Fully transistorized generator
- ★ Automatic frequency tuning for maximum output.
- ★ Independent of liquid level, temperature and/or parts to be cleaned
- ★ Maintenance-free
- ★ Latest technology
- ★ Universal application

MODEL	US Output Watts	Vol. Litres	Freq KHz	Inside Tank Dim (mm) L x W x H
TPC-15	70	1.5	30	150x135x100
TPC-25/H*	100	2.5	30	235x135x100
TPC-40/H*	150	4.0	30	235x135x150
TPC-120/H*	300	12.0	30	300x235x200
TPC-280/H*	600	28.0	30	505x300x200

\*With Heater (optional)

## ULTRASONIC COMPONENTS FOR CLEANER/CLEANING SYSTEM

### ECO GENERATOR

- ★ Suitable for large output powers
- ★ Designed for tube resonators, immersing transducers and transducer plate fitted to tanks
- ★ Optional communication via RS-232 interface
- ★ Three free programmable relay outputs
- ★ Five DC-isolated 24V inputs, for external power setting for instance
- ★ Over-temperature and over-current turn off
- ★ Protected against short-circuit and no-load operation
- ★ Coefficient of efficiency >90%
- ★ Fully automatic control and monitoring
- ★ Table top housing, 19" rack mounted version, DIN-rail mounting or wall fastening



### IMMERSIBLE BOX

This is available in different sizes, with different output power

Frequency: 20, 30, 40 KHz

Power: 600, 750, 1000, 1200, 1500 Watts

### TUBE RESONATOR

- ★ This novel design of transducer in tubular form ensures ultrasonics in all 360° and ease in retrofitting in existing system. This is available in various frequencies and different mounting lengths.
- Length: 476–1139 mm
- Frequency: 20, 25 & 40 KHz
- Power: 500, 600, 750 & 1000 Watts

- ★ Very intensive and homogeneous sound field due to 360° radiation
- ★ Low weight and volume allows mounting in confined spaces
- ★ Possible to mount in pressure and vacuum tanks
- ★ No dirt deposit onto the radiation surface
- ★ Ideal for retrofit in existing tanks
- ★ Multiple application, thanks to different mounting lengths
- ★ Low power consumption due to high coefficient of efficiency (>92%)
- ★ Suitable for large output powers



TUBE RESONATOR

### CUSTOM BUILT CLEANING SYSTEM

For large cleaning volumes and high degree of cleanliness level, either large capacity single tank systems or multi-chamber systems are offered with solvent or water based cleaning media, complete with recirculation, filtration and material handling system.



CUSTOM BUILT CLEANING SYSTEM

### DÜRR ECOCLEAN

Roop Telsonic Ultrasonix Ltd. also offers cleaning systems from well-known industrial cleaning systems manufacturer, Dürr Ecoclean, Germany. Various models with aqueous, hydrocarbon or solvent based cleaning media are available.

### ULTRASONIC TESTING

#### FLAW DETECTOR - MODEL 4400 AV & 4400 MV

Ultrasonic flaw detectors detect internal flaws such as cracks, blow holes etc. They can also be used for finding out elastic constant and correlating sonic velocity to mechanical parameters.

#### APPLICATION

For casting, forging and rolled products, weld inspection, bond testing, automatic immersion testing for tubes and rods, research and laboratory studies. Both models 4400AV and 4400MV are light weight, portable, battery operated and conform to international standards.

#### SPECIAL FEATURES OF 4400MV

- ★ Direct digital readout
- ★ Inbuilt software for plate, pipe and rods
- ★ Storage of calibration and measured data
- ★ RS232 output and software for downloading on PC and graphical representation of flaw location.



FLAW DETECTOR

### THICKNESS GAUGE

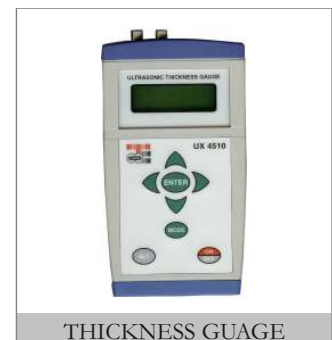
Three different models of Ultrasonic Thickness Gauge are offered to suit different areas of application. All these are suitable mostly where only one side access is available.

#### APPLICATION

- ★ For thickness measurement in tubes, plates and corrosion monitoring in pipes, vessels etc.
- ★ Automated systems for online thickness measurement in pipes or plates.

#### FEATURES

- ★ Light weight, easy to use
- ★ Thickness measurement for one side access components
- ★ On line thickness monitoring, with suitable fixtures
- ★ Microprocessor controlled with facility to store calibration and measured data and RS232 output for connection to computer.



THICKNESS GAUGE



MODEL	Transducer Type	Range mm.	Accuracy mm
4510	Dual	1.2-50	0.1
4503/04	Single	1-25/2-300	0.01

## CONCRETE TESTER

Sonic velocity is used to assess strength and homogeneity of concrete and also to detect internal voids and cracks.

## APPLICATION

For assessment of *in situ* and precast concrete structure; for homogeneity and strength; damage of structure due to fire etc.

## FEATURES

- ★ Light weight, easy to operate.
- ★ Range upto 5 meters with suitable probe
- ★ Fast, Reliable results.



## TRANSDUCERS

Transducers for various applications from 25KHz to 25MHz are available in various sizes and types with different types of connectors. Corresponding cables can also be supplied.



## ULTRASONIC PROCESSOR/REACTOR

Processing of liquids for various reactions like emulsification, homogenization, cell disruption/extraction can be done by Ultrasonic. Laboratory models, pilot plants and production units available in various capacities.



US-PROCESSOR/REACTOR



DEBLINDING ATTACHMENT

## ULTRASONIC SIEVE DEBLINDING ATTACHMENT (“SONOSCREEN”)

SONOSCREEN deblinding attachment facilitates in improving/increasing output, efficiency in powder sieving through vibroscreens. Due to increased through-put process speed can also be increased and cost of vibroscreens, spares, labour, power can be reduced.

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