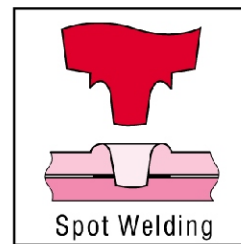
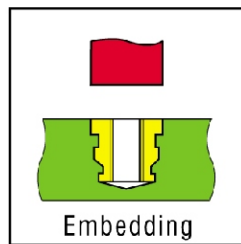
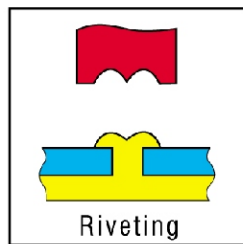
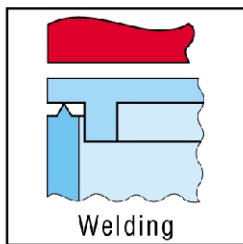


Ultrasonic Plastic Welding System



PLASTIC WELDING



It is hard to imagine how the requirement for quality and reliability of welds, economy and the ecological demand placed on today's production methods could be met without the modern production engineering of ultrasonic welding.

As a joining process for industrial thermoplastics, the ultrasonic method is very well proven in practice. Particularly in the production of mass-produced parts, the process offers definite advantage over previous methods such as for instance high strength, clean weld seams, fast processing times, extremely low rejection rates and low energy consumption. In addition to its main application which is welding of moulded thermoplastic parts, this technique can be used successfully for riveting, forming, stacking as well as embedding of metal parts into thermoplastic materials.

Each ultrasonic welding installation comprises the following main components:

Electronic Ultrasonic Generator, Transducer/booster/Sonotrode, Pneumatic Press and Control Unit. The Generator is the heart of every ultrasonic welding system, its function being to supply the transducer with an alternating current of a given ultrasonic frequency. This is then converted by the transducer into mechanical / ultrasonic vibrations which are finally transmitted via, the booster and sonotrode to the item being welded.

Roop Telsonic Ultrasonix Limited offers wide selection of standard welding equipment and installation which with respect to generator performance, range of welding force, frequency of operation and possible uses, is well able to satisfy your specific application requirements.

Components of the Machine



Ultrasonic Generators

The latest development of Telsonic-Generators in the range of 500W to 4500W is based on sophisticated and most modern technology featuring:

- ★ Amplitude regulated power system (ARP)
- ★ Electronic booster by means of electronically selecting amplitude-ranges of 100/90/80/70 %.
- ★ Fully automatic tuning and frequency control under all load conditions.
- ★ Built in circuit protection for all possible fault and load conditions.
- ★ Modular construction with built in process-interface.
- ★ Clearly arranged front panel with optical display of the operational conditions.

Convertor/Booster

Fully enclosed convertor with standard integral cooling system and

- ★ connection hood for full
- ★ turning capacity of 360 Degree
- ★ Novel Booster mounting system for maximum rigidity.
- ★ Five standard boosters with transformation ratio of: 0.5/1/1.5/2/2.5.
- ★ The whole assembly designed as a “snap-in-unit”.
- ★ Ideally suited for installation in special and automatic machines.

Horn/Sonotrode

An acoustic tool designed to have a specific longitudinal natural resonant frequency which transfers sound energy to the plastic part. Every Plastic welding job needs the welding tool specially made to required specifications. So also the fixtures. RTUL design horns of perfect profiles, machined out of the right alloy for longer life and to efficient transmission of ultrasonic power to the welding spot. Developing of custom made horn, is our speciality.

Control Unit

- ★ The well proven microprocessor-controlled unit in combination with the amplitude regulated power system (ARP) satisfies highest demands regarding welding quality and quality control.
- ★ Availability of MPS-4 for higher precision, reliability.

UNIQUE FEATURES

- ★ Precise time setting with least count of 0.001 second, thus avoiding overwelding, deformation, reduction of production rate and excess consumption of power.
- ★ Shake of pulse-additional ultrasonic vibration at the end of cycle resulting into removal of particles from horn which causes poor finish and quality.
- ★ Self diagnosis-Microprocessor of system helps in calibration & quality control and also acts as fault finding tool allowing operator to rectify the system.
- ★ Automatic tuning of horn & horn life indication.
- ★ Modular design of system allows easy capacity upgradation.
- ★ Built in electronic amplitude setting-Allowing the user to choose amplitudes through generator, between 70% to 100% without changing the booster.
- ★ Energy mode option in addition to time mode allowing precise setting of energy as per job requirement.
- ★ Microprocessor allowing use of rotary table and other automation.
- ★ Use of printer of welding cycle analysis & parametre setting.
- ★ Welded box structured pneumatic press giving high rigidity in all axis.
- ★ Option force triggering. For consistent weld quality of ultrasonic energy.

Applications from A to Z

Automobile	Drawing equipment	Lighting equipment	Packaging	Sports goods	Video
Clock / Watches	Energy Meters	Mechanical engg.	Photography	Teaching aids	Zip fasteners
Cosmetics	Electronics equipment	Medical equipment	Pump	Telecommunications	
Domestic appliances	Furniture	Office equipment	Precision mechanics	Textiles	&
		Optics	Sound-Radio-TV	Toys	MANY MORE



MECHANICAL



TUBE SEALING



SURGICAL



TELECOMMUNICATIONS



AUTOMOBILE



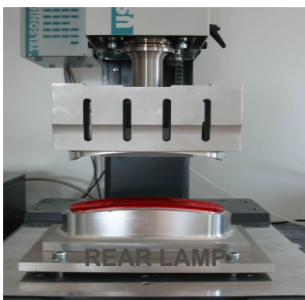
ELECTRONICS



ENERGY METER



PACKAGING



REAR LAMP



LIGHTINGS



TOYS



AUTOMOBILES



Special purpose machines to meet specific customer requirement is one of our strong points

Building of special purpose machine is a RTUL speciality. For many years, we have designed and built systems, which cater to the precise demands of the customer.

Proven 500 Watt multiconverter technology

Multiconverter units are frequently used in the welding of large-area, asymmetrical or very precise plastic parts, for example in automobile and apparatus engineering or with toys. The advantage of multiconverter system lies in the construction of small, simple sonotrodes which facilitates to optimise the weld quality along the whole weld contour due to local targeting. Multiconverter configurations can be implemented on all press types, to max. of 24 welding heads in the case of USP3000. The illustration shows at 20 kHz, 18 way multiconverter head for the welding of water containers for vaporisers.

Multiple welding head with compound sonotrodes

The robust construction of the USP3000 welding press and maximum clamping force of 3000 N allows the use of up to three 20 kHz oscillating systems with large, complex mother/daughter sonotrodes. The multiconverter welding head is shown as a single oscillating system as a snap-in unit and can be replaced as required by another welding head at any time without any great expense of time in a quick-change process. The double-head version shown, for the welding of dishwasher spray arms, is fed by two 5000 W ultrasonic generators (total output 10 kW) and contains two mother sonotrodes each with nine insert sonotrodes, constructed as a quick-change welding head for an other spray arm type.



SPECIFICATIONS								
	UHG-1000	USP10-500	USP3000-1000	USP3000-1500	USP3000-2000	USP3000-3000	USP750-500	USP750-1000
Pneumatic Press		USP10	USP3000	USP3000	USP3000	USP3000	USP750	USP750
Closing Force Max.	-	400N	3000N	3000N	3000N	3000N	750N	750N
Generator	SG22-1000	SG25-500/M	SG22-1000	SG22-1500	SG22-2000	SG22-3000	SG22-500	SG22-1000
Ultrasonic O/p Power (W)	1000	500	1000	1500	2000	3000	500	1000
O/p Frequency (KHz)	36/20	36/20	20	20	20	20	36/20	36/20
Dimension- Press	Dia 65x210	300x500x490	410x685x960 (Max. 1210)				360x575x1005	360x575x1005
(WxDxH)mm Generator	500x350x220	93x365x278	510x440x220	510x440x220	510x440x220	510x440x220	510x440x220	510x440x220
Weight - Press	0.6/1.2	22	100	100	100	100	60	60
(Kg) Generator	15	7.2	35	35	35	35	35	35
Max. Stroke (mm)	-	50	100	100	100	100	100	100
Throat Depth (mm)	-	80	275	275	275	275	150	150
Working Table (WxD)mm	-	200x300	465x410	465x410	465x410	465x410	300x325	300x325

Specifications are subject to change without prior notice due to continuous upgradation.
Compressed Air Requirement - 4 to 6 kg / cm² @12 CFM should be dry

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