ROOP TELSONIC ULTRASONIX LIMITED

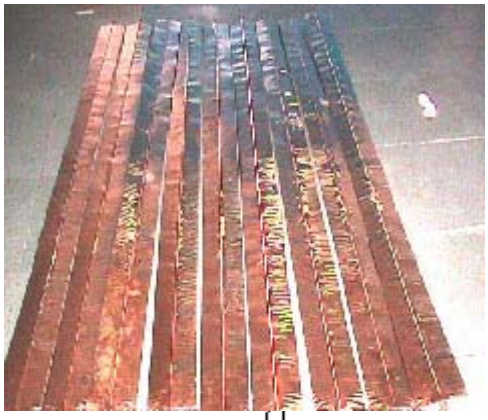
ULTRASONIC METAL WELDING MACHINE

FOR SOLAR THERMAL COLLECTOR

In collaboration with TELSONIC AG **Switzerland**

WELDING HEAD

WELDED SAMPLES



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CONTINUOUS WELDING FOR COPPER TUBE TO COPPER FINS FOR SOLAR THERMAL SYSTEMS

The system is an advanced cold welding technique with continuous welding speed of 2 meters / minute and continuous monitoring of weld quality. There is no use of solder or adhesive but the metallurgical bond is achieved by new Ultrasonic technique. It ensures a very high degree of thermal efficiency -100% bond conductance.

The weld is continuous and there are no dry spots. Moreover, being a molecular welding technique, it requires a much smaller width of the weld to transfer the heat. It gives no restricted transfer of heat from the fin to the tube. For a large production line it gives very high throughput.

A 2 meter long fin and tube can be welded in approximately 2 minutes. The running cost is absolutely minimal and there are no consumables. A very low electrical power is required for the entire machine (approximately 2 units / hour). As the technique uses cold welding process, the basic property of the copper tube and fin remains unchanged unlike in other mechanical processes where there is localized heating of the tube and fin.

The complete machine is semi-automatic with PLC controlled operations. It has improved the overall efficiency of Solar Thermal System.

TECHNICAL SPECIFICATIONS

Technique :	Ultralsonic
Maximum Welding Length :	2 M
Speed Of Welding :	20mm Per Second
Controlled Through :	PLC
Power :	7 KW
Ultrasonic Generator :	Amplitude and Frequency Controlled