Dodavatel:
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DIC SOLDERING SYSTEM

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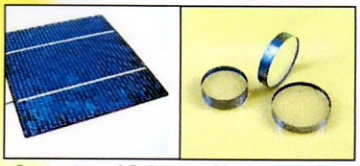
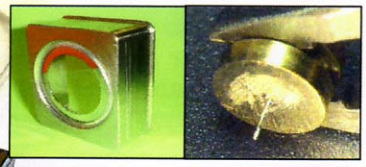
ULTRASONIC SOLDERING SYSTEM



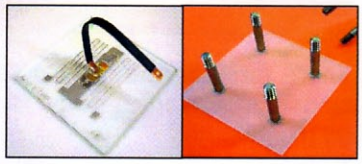
Contacting of Solar cells

Metallizing of optical Glasses



Vacuum Window on Steel

Soldering of Glassfibre



el Contacts Glass / Alu / Copper

mech joining of Titanium on Sapphire

www.sonicsolder.com

MBR presents a new Soldering Technology

Flux free soft soldering on „hard-to-solder" and exotic substrates like Glass, Ceramic, Aluminum, Steel, Titanium Silicon, Metaloxides, Superconductors....

A list of solderable materials is published at the web-site sonicsolder.com.

Soldering on Glass Ceramic, Aluminum Metaloxides etc.

FLUXFREE CORROSIONFREE

ULTRASONIC SOLDERING: *Soldering without FLUX*

The conventional soldering process always requires „Flux" for the removal of surface oxidized layers. Such soldering has no possibility to solder – wetting ceramics and glasses under normal atmosphere.

With this new process, having an ultrasonic activated soldering tip, the addition of aggressive acid / fluxes is no longer required. The "Ultrasonic Cavitation Phenomenon" cleans and removes the oxides on the surface of the substrate within the molten solder while soldering.

In addition, the ultrasonic shock waves eliminates any gas bubbles in the liquid solder pool and produces a shrink hole fee joint.

The new flux fee Ultrasonic Soldering Process is very interesting if electrical contacts must be soldered onto vapor-deposited thin film metallized layers. The flux free solder joint on the metallized layer produces absolutely no corrosion to the very sensitive vapor-deposited metal layer.

Model USS-9200

For small area Application. Soldering-Tip max. Ø 5 mm

Ultrasonic-Frequency:	59 kHz ±3 kHz
Ultrasonic-Power:	2 - 12 W ±2 W
Temperature range:	150°C - 480°C
Heater:	Ceramic
Heater power:	80 W max.
Mains input power:	150 W
Mains Voltage:	100V – 260V / AC 48 - 65 Hz
Dimensions in mm	
- Base-Housing:	W 240 x D 200 x H 130
- Hand tool:	Ø max. 30, Ø min. 20, L 230
Soldering-Tip diameter:	1mm, 2mm, 3mm, 4mm, 5mm

Model USS-9500

For large area Application. Soldering-Tip max. Ø 12 mm

Ultrasonic-Frequency:	40 kHz ±3 kHz
Ultrasonic-Power:	4 - 25 W ±2 W
Temperature range:	150°C - 480°C
Heater:	Ceramic
Heater power:	100 W max.
Mains input power:	200 W
Mains Voltage:	100V - 260V / AC 48 - 65 Hz
Dimensions in mm	
- Base-Housing:	W 300 x D 260 x H 130
- Hand tool:	Ø max. 34, Ø min. 22, L 290
Soldering-Tip diameter:	6 mm to 12 mm

Both Ultrasonic Soldering Systems have been designed for Industrial use. These systems consist of the microprocessor controlled base unit with the power oscillator and the temperature control, the hand tool with integrated vibration unit and soldering tip with ceramic heater, Hand tool stand and Foot switch to activate the ultrasonic energy. The soldering tip can be exchanged within seconds.

ADHESIVE MECHANISM

There are different targets which can accomplished by using ultrasonic energy in a pool of molten solder on a substrate:

1. We can remove the oxides from the substrate permitting the solder to react with the substrate, i.e. bond.

2. We can force the liquid metal into the tiny crevices, cracks and micro-pores of the substrate and thereby seal them and provide a greatly increased surface of solder for bonding purposes.

3. We can reach a high grade of evaporation of the solder joint. The ultrasonic vibration presses out gas bubbles of the liquid solder and produces a shrinkhole free joint. This is very interesting for applications in high-vacuum.

4. Chemical effect with CERASOLZER - contains a small amount of such elements such as Zn, Ti, Si, Al, Be and Rare Earth, which have a strong chemical affinity with oxygen. These metals are thought, during the bonding process, to combine with oxygen in air to form oxide, which is chemically bound to the surface of glass, ceramic etc.

CERASOLZER *Active-Solderalloy*

The active solder alloy CERASOLZER is available in different alloys and melting points.

One standard roll of CERASOLZER solder wire contains 150gr.
The diameter of the wire is:
155 = 1,0 mm All others Ø 1,6 mm

CERASOLZER Grade	Melting Temperature
#GS155	155°C
#GS182	182°C
#CS186	186°C
#AL200	200°C
#GS217	217°C
#GS220	220°C
#CS224	224°C
#CS246	246°C
#CS297	297°C

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