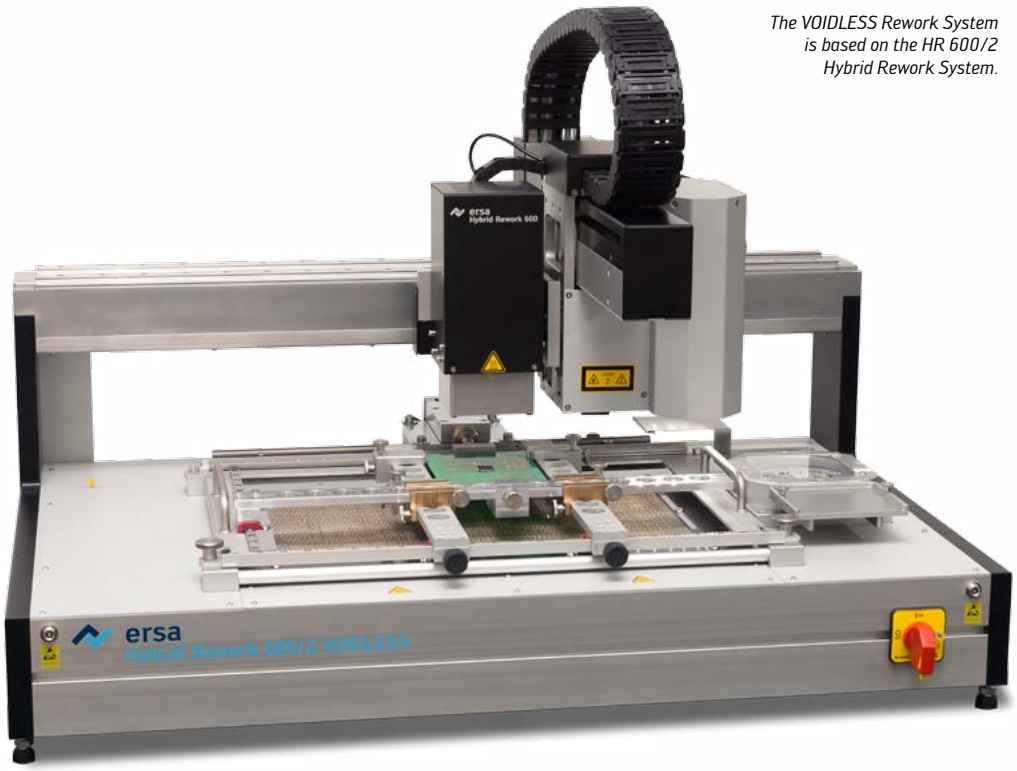
Ersa HR 600/2 VOIDLESS

kurtz ersa

Voidless PCB rework

Technical highlights:

- based on HR 600/2 Hybrid Rework System
- void reduction on components with hidden solder jointsilen
- adjustable vibration-process time, adjustable intensity
- subsequent void reduction possible



The VOIDLESS Rework System is based on the HR 600/2 Hybrid Rework System.

further information on our website

Ersa Hybrid Rework System HR 600/2 VOIDLESS – concept study

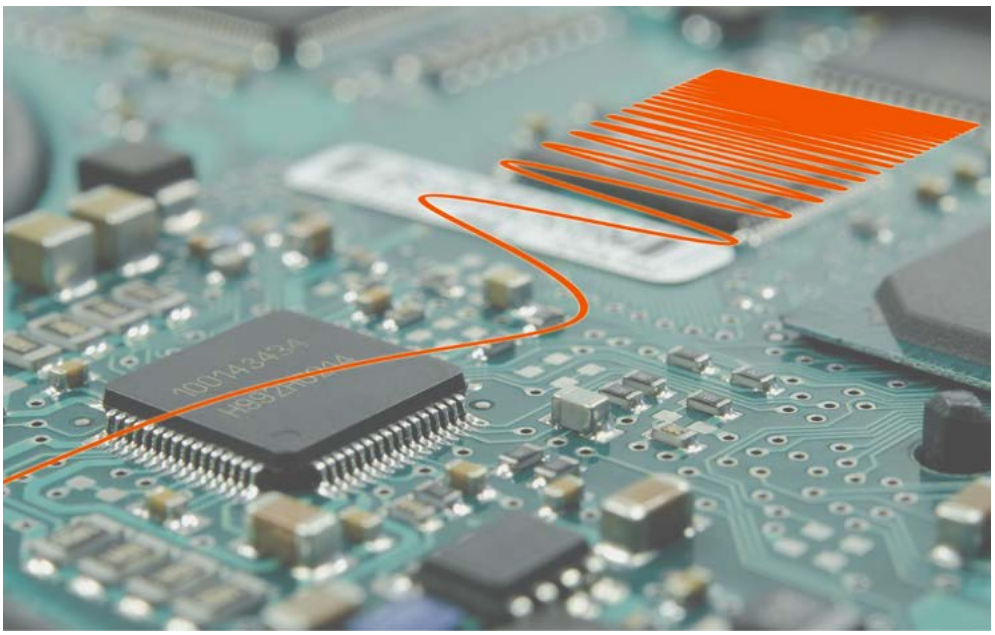
In modern electronic manufacturing many components with hidden solder joints, bottom terminal components (BTC) are in use. During reflow processes, it is possible that gases are trapped within cavities in the solder joint. These so-called voids in the soldering connection can lead to technical defects of the component during its lifetime, especially in power electronics.

Ersa introduces with the HR 600/2 VOIDLESS a concept study, based on the regular hybrid rework systems HR 600/2. Void build up in the solder joint can be reduced below a critical limit of 2 % with this technology, during rework.

The HR 600/2 VOIDLESS automatically desolders components like BGA, MLF or SMT-power device in general. New components, printed with solder paste, are automatically placed onto the PCB and soldered. During the soldering process, the PCB is stimulated with vibration.

For this, a frequency generator supplies a low frequency oscillation. Via an amplifier, this signal is transmitted to an active piezo element (piezo actor). This actor injects an associated sweep stimulation longitudinal into the PCB substrate (vibration). In result, a relative movement between substrate and component is taking place. Enclosed gases under the component can escape from underneath the component.

After this treatment, the solder joint features a significantly reduced void rate. If x-ray analysis is indicating a high void rate on electronic assemblies, a selective reflow process with HR 600/2 VOIDLESS will lead to a clear reduction of voids.



"Sweep" stimulation of the board.

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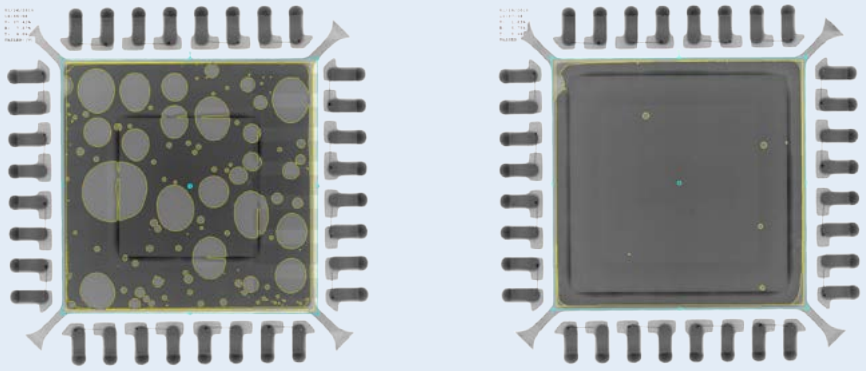
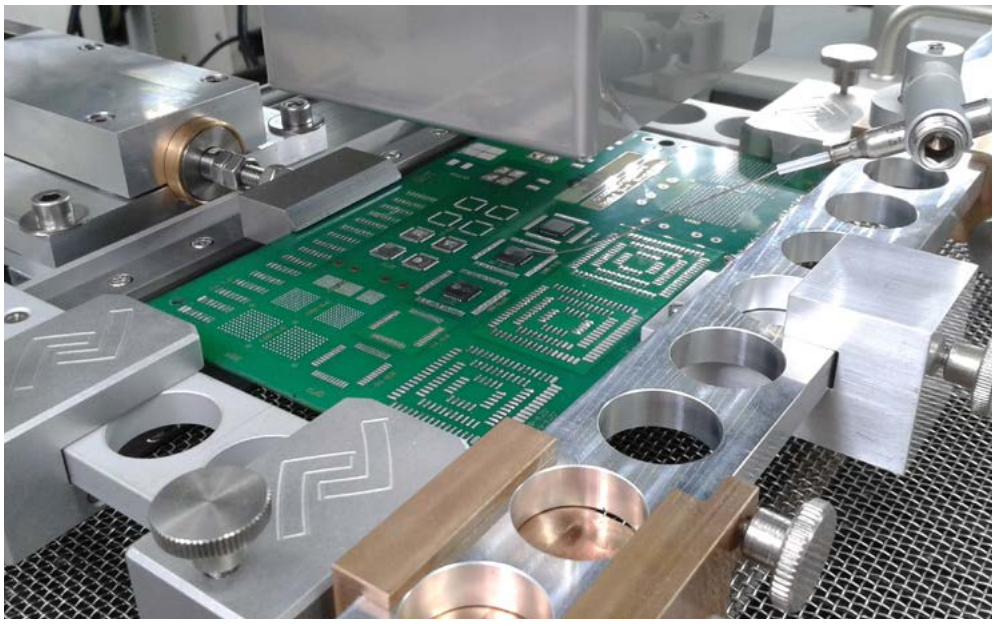
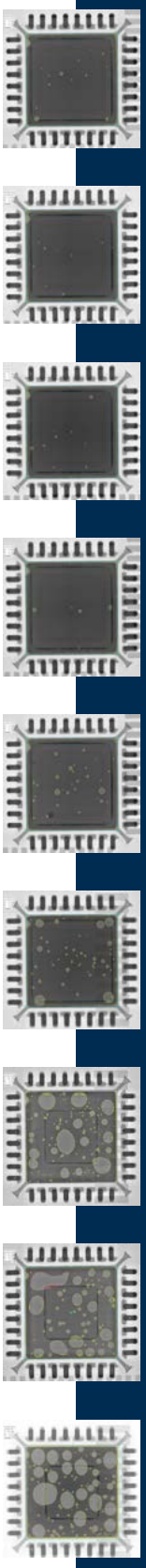
Technical data:	
Dimensions (W x D x H)	850 x 660 x 620 mm
Weight	57 kg
Power supply	220–240 V AC, 50-60 Hz, 16 A
Top heater data (W x D)	60 x 60 mm, 2 zones , each 400 W, 800 W in total, shutter blades 40 x 40 mm, 30 x 30 mm, 20 x 20 mm
Bottom heater data (W x D)	380 x 250 mm, 3 zones, each 800 W, 2,400 W in total
Component dimensions	0,5 x 0,5 to 50 x 50 mm
VOIDLESS module	
Freqency range	0–5,000 Hz (no ultra sonic)
Amplfier	max. 350 W
Amplitude	max. 20 µm (in PCB level)
Injector	stacked piezo actor
Injector element	30 mm wide (adaptable)
PCB dimensions	Min. 64 x 54 mm – max. 206 x 315 mm



MLF with voids and voidless after a rework process with vibration stimulation



The piezo actor transfers the vibrations to the board



HOW TO AVOID VOIDS? – VOIDLESS REWORK

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