



Gensonic

INSTRUCTION MANUAL Version 3.0



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Note: Read all the operating instructions before using the unit

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1. Background

The Gensonic employs a process termed "Cavitation". Micron-size bubbles establish and grow because of positive and negative pressure waves in a solution. Until the bubbles reach resonant size, they are continually growing. There is an enormous amount of energy stored inside the bubbles themselves.

Temperature inside a cavitating bubble can be extremely high, with pressures up to 500 atm. The implosion event, when it occurs near a hard surface, changes the bubble into a jet about one-tenth of the bubble size, which travels at speeds up to 400km/hr toward the hard surface.

With the combination of pressure, temperature and velocity, the jet frees contaminants from their bonds with the substrate. Because of the inherently small size of the jet and the relatively large energy, ultrasonic cleaning has the ability to reach into small crevices and remove entrapped soils very effectively.

2. General Description

The Gensonic is a manually operated ultrasonic transducer unit for cleaning stencils used in printing solder pastes and glues.

It can be used either directly on the printer or the stencils can be taken to the Gensonic stencil cleaning centre.

Screen printed solder pastes tend to compact and trap particles into aperture corners and lead free solder pastes, that are less dense, tend to demonstrate this tendency even more.

To clean effectively requires both "chemical" and mechanical agitation. Direct ultrasonic contact cleaning is the ultimate way to clean SMT stencils with the minimum amount of cleaning chemistry.

Employing a 40kHz ultrasonic generator, the single transducer head cleans with great efficiency. However for certain tougher applications, such as partially set glues, a Gensonic unit with 2 transducer head units should be used.

This cleaning technique requires only minimal amounts of "chemistry" to be used to reduce environmental impact and cost.

The stencil is placed into the SCC (Stencil Cleaning Centre) frame mounted over a special foam pad overlain with a disposable paper. At the completion of each cleaned stencil, simply lift the frame on the supports provided, pull the paper clear, and cut off.



3. Main Features



The Gensonic unit can be purchased with or without Gensonic SCC. Two different sizes of SCC are available to choose from (SCC29 = 740x740mm and SCC24 = 584x584mm).

Typical features are listed below:

- A cost effective method to use
- Uses minimal processing fluids
- No risk of stencil damage
- Typical 3 minute cleaning cycle
- Suitable for both stainless steel & plastic stencils
- Cleans solder paste or SMD adhesives
- Accepts both foils or framed stencils

4. Safety precaution

Any connection between power sources and transducers should be firmly fixed. Ensure the unit is connected to the correct supply voltage and is earthed. The unit should be ground to prevent electrical shock.



5. System layout

Front panel



- 1) On/Off power switch
- 2) Red LED illuminated indicates ultrasonic driver circuit is working correctly.
- 3) Green LED illuminated indicates transducer head unit is operating.
- 4) Output socket for hand held transducer head.



- 2) IEC Main power socket
- 3) Fuse holder (1A or 2A fuse is used according to voltage applied)
- 4) Unit Information sticker includes Serial Number, Voltage and Fuse rate
- 5) Socket for foot switch. (The transducer head unit is ON, when latching on foot switch)



6. Operating procedure

Step 1

Unpack your Gensonic unit carefully and place in desired operating location.

Step 2

Plug the foot pedal connector into back of Gensonic as shown. Then place foot pedal on the floor in desired location for operation.



Step 3

Plug the transducer into the front of the Gensonic. NOTE: ensure the keyway on the plug is lined up correctly. Push into position and screw clockwise until fully inserted.





Plug the mains cable in at the back of the unit.



Step 5

Switch the Gensonic on. When powered, the mains switch will be lit. The red LED will also be lit to signal the unit is ready to be used.



Step 6

Spray the stencil with cleaning solution before Gensonic use*. NOTE: Do not operate Gensonic on a dry stencil!

*If you have a Stencil Cleaning Centre, please refer to the operating guide to using the Gensonic with the SCC before operation below.



To operate the Gensonic, press the foot pedal down and hold. You will see the green LED on the front panel light and you will hear a noise signifying that it is working. Rotate the transducer on the stencil slowly and you will soon see fantastic results.



Step 8

Switch off the Gensonic when not in use.

7. Using the Stencil cleaning centre





Cover the aperture area of the stencil using paper roll provided, and then spray and dampen the under screen paper.



Step 2

Place stencil into support chase and spray fluid provided over aperture area. After a few seconds, remove all bulk solder paste in the surface of stencil using paper towel.





Spray fluid over aperture area again. Move transducer head unit over aperture area by pressing foot switch.



Step 4

Using the handle, move the SCC platform to the raised position allowing top and underside drying. All residues are absorbed into the under screen cleaning paper.





8. Guarantee

By law, all goods sold must comply with their description and must be of merchantable quality and be fit for their intended purpose.

This guarantee does not in any way affect the sellers' legal obligation or the consumer's rights under any Stature, including the Sale of Goods Act, 1979.

All Gen3 equipment, hardware and software, is fully guaranteed to meet the CE standards of the European Union, and the warranty insures against faulty workmanship, operation or performance for a period of ONE YEAR (unless otherwise stated) from date of purchase by the user of the product.

All claims against this guarantee MUST be supported by evidence of purchase, such as a bill of sale or invoice, and it is the responsibility of the claimant to furnish such proof.

In the first instance, claims should be made through the original agent from whom it was purchased. In the event of difficulty, users are requested to contact Gen3 direct.

Gen3, or an appointed distributor, will at their discretion repair or replace part or the entire product to provide, in their judgement, a satisfactory performance of the system consistent with its age and apparent usage.

This guarantee covers the cost of both parts and labour required to correct the malfunction, but specifically excludes: wear and tear, consumables, physical damage due to incorrect use or misuse and damage or faulty operation due to unauthorised or inexpert repairs.

This guarantee is limited to the performance of the system only. Gen3 Systems Limited accepts no responsibility for any consequential loss or damage, nor claimed or implied performance, when the system is used with any other equipment or software.

This guarantee may be invalidated if the system is subject to inappropriate use, used in adverse environments or if conditions outside the specification of the system have been subjected to unauthorised modifications.

This guarantee does not cover the expense of service engineers' visits to the site to repair or commission the system.



9. Limitation of Liability

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10. Technical Assistance

If you encounter a problem, please review the system installation and operation. If the problem persists, you can obtain technical support from your local representative or from Gen3 direct:

Gen3 B2, Armstrong Mall, Southwood Business Park Farnborough, Hampshire, GU14 ONR United Kingdom

Tel: +44 (0)1252 521500 E-mail: techsupport@gen3systems.com

Ensure that you have a full description of the problem, test conditions and operation sequence available before you call for assistance. Remember to have the serial number of the system available before you contact us.

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