

ULTRASONIC WELDER

Fully automated inline ultrasonic welding processes using proven Schunk Sonosystems welding technology and Infotech AG's well-established automation systems

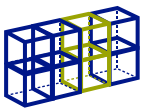


ULTRASONIC WELDER

Schunk Sonosystems and Infotech AG

Thanks to intensive fundamental research and a host of innovations, Schunk Sonosystems has achieved a major technological lead in ultrasonic metal welding and Infotech in fully automated power module production lines.

The Schunk Sonosystems 35kHz ultrasonic welding head with the flexural Sonotrode type performing within the Infotech proven automation platform, supported with peripherals from the Infotech component matrix, **allows fully automated ultrasonic welding processes of pin housings or any leads e.g. from lead frames anywhere in the assembly line where it is needed.**



The ultrasonic welding unit can be integrated anywhere within a production line



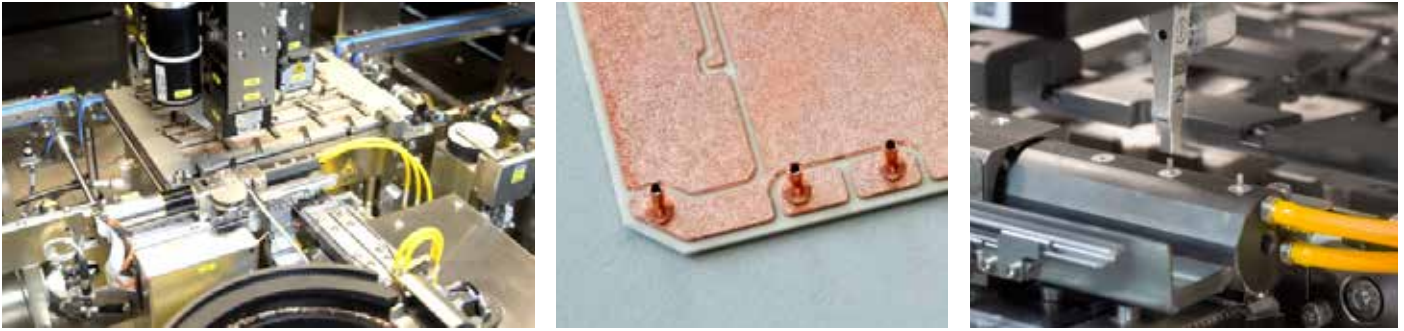
Fully automatic feeding system by Infotech

INFOTECH
automation



Welding technology by Schunk Sonosystems, automation flexibility by Infotech





KEY FEATURES

- Integrated force with force profile during welding process
- Site location-, pre-weld- and post-weld inspection
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- Stand alone or Inline capabilities using SMEMA interface
- Inline cleaning options with air blade or Taifun cleaner
- Full traceability with MES communication to customer's host

Feeding options

- Tube feeding
- The Infotech Component Matrix provides a variety of feeding peripherals

Head peripherals

- 35 kHz ultrasonic welding head with Flexural Sonotrode type
- Integrated head camera
- Automatic Sonotrode calibration X / Y / Z
- Automatic Sonotrode changing
- Automatic Sonotrode welding process calibration
- Pick & place capability directly with Sonotrode (pin housing)
- Sonotrode identification for traceability
- Sonotrode calibration by table camera for high accuracy
- Z-height detection touchless or with touch probe
- Torsional welding

Table peripherals

- Flat belt transport system with motion controlled buffers
- Application specific process station with anchorage with vacuum and active clamping
- Table camera for any object inspection

PIN HOUSING WELDER

Using pin housings allows to weld the connection onto the substrate much earlier in the production flow compared with welding the pins directly onto the substrates, at the stage, when the power module is almost completed. This way the welding contact can be analyzed together with all other connections at substrate level. For the pin insertion process at the end of the module production process, Infotech offers special pin insertion machines.

LEAD FRAME WELDER

Typical lead frame welding process line with return conveyor for the empty work piece carriers:

Station 10:

Load the tested AMB substrates into the workpiece carrier and place the lead frame on top of the AMB's.

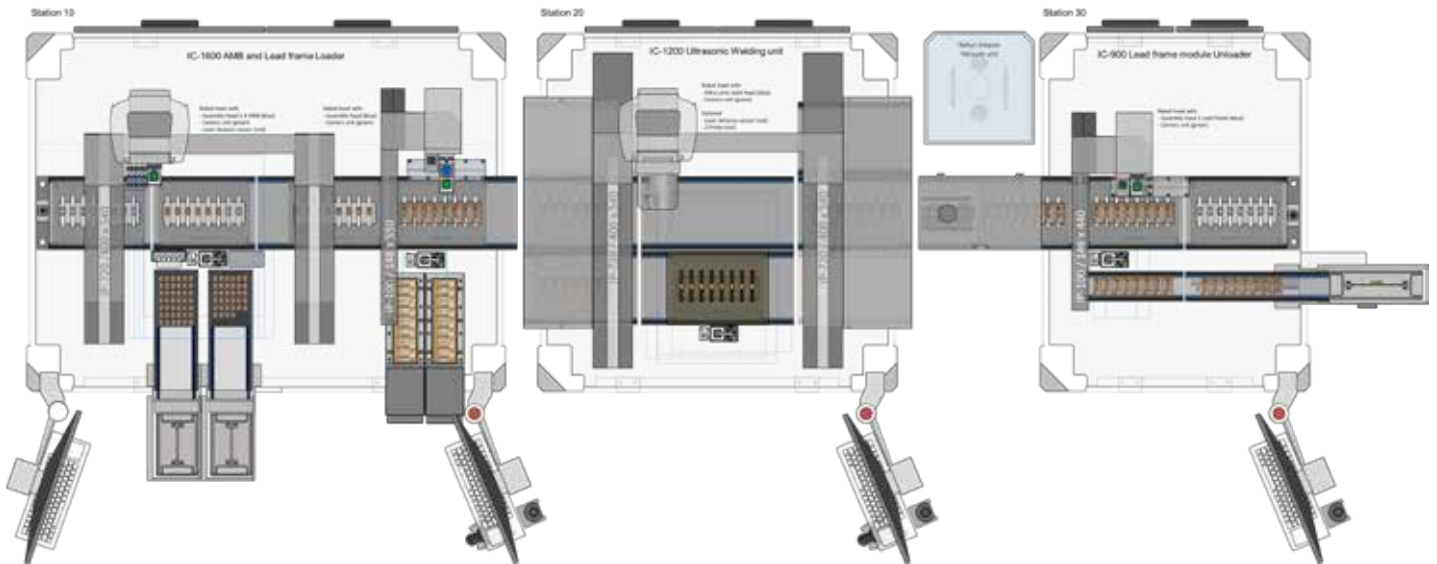
Station 20:

Ultrasonic welding process of the leads from the lead frame onto the AMB substrates.

Station 30:

Clean the product using a Taifun cleaner and unload the module onto a transport system into a magazine.

To increase the capacity of the production line, station 20 may be doubled or tripled.



FLEXIBLE INTEGRATION INTO PRODUCTION LINES

Typical DBC Production line with integrated pin housing welder:



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