Eliminates Blowouts in the Epoxy Sealing Manufacturing Process

RJR Polymers is a leader in developing sealing technologies that seal air cavity packages from environmental contamination in the final stage of package assembly.

We use a patented Isothermal Sealing System (ITS) to achieve:

• A substantial decrease in yield losses due to blowouts (yielding nearly 100%).
• Increase throughput because of faster cycle times.
• Increase location accuracy (machine vs. manual).
• Increase reliability because of more consistent seals.

This is accomplished by utilizing the ITS 400 patent isothermal sealing process. It eliminates the risk of seal failure because of blowouts during the sealing process.

The key to this efficient process is accomplished by equalizing the pressure and temperature inside and outside the Air Cavity and by keeping the Lid and Package body separated during the heat up cycle. Not only is this faster than manual sealing methods, it produces a more accurate seal alignment. As a result, yields approach 100% and cycle times can be as low as 4 minutes with no additional post cure required.

The ITS 400

The ITS 400 improves sealing process conditions, assembly and ease of operator interface. The touch screen offers operators easy access to the pre-loaded sealing process parameters such as:

• Temperature for the top and bottom plates.
• Vacuum on and off cycle times.
• Pressure on and off cycle times.

Options for the ITS 400 include:

• Inert gas purge (i.e., nitrogen)
• Multiple vacuums
• Pistons top and bottom
• Custom size HB or pitch
• SPC Links

Dimensions & Specifications

- Length: 22.5”
- Width: 11.0”
- Height: 8.0”
- Weight: 37 lbs.
- Power requirements: User-selectable 120/240 Vac, 20 amp, max.
- Pressure: 40-60 psi
- Vacuum: 9.82 in./Hg

Major Advantages

• Produces 99+% yield in seal consistency
• Eliminates blowouts in epoxy seals
• Accuracy location tolerance up to 0.001 inches
• Seals a wide variety of package formats
• Includes microprocessor-based control system
• Allows defective packages to be reworked
• Eliminates excess handling of expensive devices
• Maximizes use of operator’s time

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Custom Design Insert Plates

RJR’s custom-machined insert plates are designed to meet the customer’s specific package and lid configurations. The ITS 400 configurations (5 by 5, 6 by 8 and 4 by 8) are designed to accommodate a wide variety of package and lid configurations.

Customers can link the ITS 400 to their existing computer systems to obtain SPC data.

Package Types Sealed in ITS

Interchangeable plates enable a single ITS 400 to seal a variety of different package types, including:

- Microwave/RF devices
- Large hybrids
- Oscillator arrays
- CCD/CMOS
- High frequency plastic packages
- BFA/PGA

Customers can link the ITS 400 to their existing computer systems to obtain SPC data.