Our vibration welders are capable of welding large, small, multi-cavity or irregular shaped applications (Model L VW 2046 shown).

**FEATURES:**
- Ten adjustable pressure-time steps per weld cycle
- Advanced amplitude control system
- Patented high output digital drive
- Process verification
- Fully enclosed sound guards
- Part counters
- Variable parameters
- Ergonomic design
- Three welding modes
- Flow-through capability for easy automation

**SPECIAL CAPABILITIES:**
- Complete R&D facility
- In-house tooling expertise
- Application review
- Joint design analysis
- Prototype sampling
- Inspection
- Custom solutions

Several Solutions. One Company.

Forward Technology offers a complete line of assembly equipment:
- HOT PLATE WELDERS
- ULTRASONIC WELDERS
- SPIN WELDERS
- VIBRATION WELDERS
- LEAK TESTERS
- THERMOSKINS
- SPECIAL SYSTEMS

Forward Technology provides a complete line of plastic bonding and leak testing equipment for a wide range of industries. For over 30 years, our design and manufacturing expertise has allowed us to effectively provide an innovative solution that is best for your application.


Imagine the possibilities...

The applications are endless...

HOT PLATE, VIBRATION, SPIN WELDING AND LEAK TESTING DIVISION
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TOOLING:
• Specially designed in-house for your specific application
• Designed for ease of maintenance, adjustment and maximum life
• Provides accurate mating and alignment

VIBRATION WELDING PROCESS:
Vibration welding generates frictional heat through linear motion. Friction is achieved through relative motion between two parts; one fixed and the other reciprocating at a controlled amplitude and frequency. Melt occurs at the interface of two plastic parts.

STEP 1
Operator loads parts.

STEP 2
Table raises to weld position.

STEP 3
Electromagnets are alternately energized. This pulls the vibrating platen and the upper tooling fixture alternately left and right, generating a peak to peak displacement up to 0.070 inches.

STEP 4
Cooling/hold cycle.

STEP 5
Table descends and welded parts are unloaded.

ADJUSTABLE WELDING STEPS:
• Each step programmed for fixed pressure, amplitude and time duration or melt depth
• Greater control and flexibility
• Faster weld cycle
• Maximum weld strength
• Adjustable programming

JOINT DESIGNS:
Joint designs vary with each application and depend on factors such as type of plastic to be welded, part geometry and requirements of the weld. We recommend discussing joint designs with one of our application engineers before arranging your final part design.

STRAIGHT BUTT JOINT
FLANGED BUTT JOINT
BUTT JOINT W/ FLANGE RETURN

STRAIGHT TONGUE & GROOVE
FLANGE TONGUE & GROOVE
TONGUE & GROOVE W/ FLANGE RETURN

COMMONLY USED MATERIALS:
• ABS
• Acrylic
• Acetal
• Cellulosics (CA, CAB, CAP)
• Polyamide (PA)
• Polycarbonate (PC)
• Polyethylene (PE)
• Polymethylpentene (TPX)
• Polyphenylene Oxide (PPO)
• Polypropylene (PP)
• Polystyrene, GP
• Polysulfone

KEY WELDING PARAMETERS:
• Frequency
• Time
• Melt-travel distance
• Amplitude
• Pressure

ADVANTAGES OF VIBRATION WELDING:
• Fast cycle times
• Low tooling costs
• Easily automated
• Energy efficient
• High joint strength
• Compatible with many thermoplastics
• Quick changing tooling
• Suitable for dissimilar materials
• High strength, pressure tight hermetical
• No fumes or emissions

INSTRUMENT PANEL TOOLING
FILTER TOOLING/APPLICATION