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.


HOT PLATE WELDERS

To accommodate larger assemblies, we offer three standard machines featuring a vertical heat platen for applications up to 70” (Model VH1445 shown).

STANDARD FEATURES:
• Horizontal or vertical plane welding
• Hydraulic, pneumatic or servo drive systems
• Low-temperature, high-temperature or non-contact capabilities
• Six standard sizes accommodating parts up to 70”
• Progressive or multi-cavity tooling
• Programmable controller with user-friendly operator interface
• Customized automation
• Easy integration of other operations

SPECIAL CAPABILITIES:
• Complete R&D facility
• In-house tooling expertise
• Application review
• Joint design analysis
• Weld capability and tensile testing
• Prototype sampling
• Inspection

For smaller assemblies, or assemblies with internal components, we offer three standard horizontal heat platen machines.

Model HA0816

Several Solutions. One Company.
HOT PLATE WELDING PROCESS

This process produces a welded joint which, in many cases, yields a weld strength equal to or stronger than the part. As a result, the weld can be exposed to the same strains and stresses as other part areas.

**Types of Hot Plate Welding:**

**Low Temperature**
- Heat platen is operated at 500° F or lower
- Typically suited for amorphous materials
- Works with some common materials such as PE and PC
- Requires release coating (i.e. Teflon®)

**High Temperature**
- Temperatures above 500° F
- Suited to most thermoplastics
- PP, ABS, and acrylic are easily welded
- Wide variety of part geometry accepted
- No release coating necessary

**Non-Contact**
- Temperatures above 900° F
- No residue on platen
- No material discoloration
- Precise molding tolerances required
- Not limited to flat mating surfaces
- Longer weld time

**Time and Temperature:**
The platen temperature to melt the part interface depends on the type of plastic being joined. Each thermoplastic has a characteristic melt time/temperature curve, and a weld can be produced at any temperature on the curve. Typically the highest possible temperature at the shortest time is selected to minimize cycle times. The hot plate temperature range is 300° to 850° F.

**Tooling:**
- Specially designed in-house for your application
- Designed for ease of maintenance, adjustment, and maximum life
- Provides accurate mating and alignment
- Unique positive stop design controls exact melt and seal dimensions

**Factors Affecting Proper Welds:**
- Mold release agents
- Dissimilar materials
- Platen temperature
- Fillers
- Moisture
- Open time

**Common Joint Designs:**
Typical total material displacement is 0.060". The 0.030" material displacement per side includes 0.015" for material melt and 0.015" for seal. This may vary depending on part material and geometry. We recommend discussing joint designs with one of our application engineers before arriving at your final part design.

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