



FORWARD TECHNOLOGY

a Crest Group Company



(shown with optional features)

VS-1445

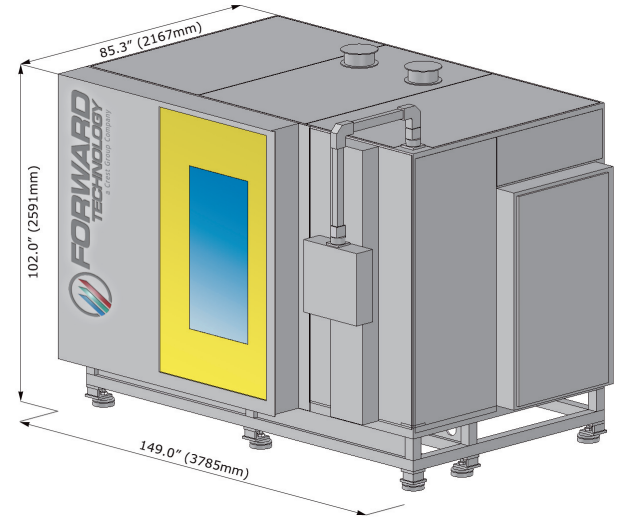
Vertical Servo Hot Plate Welder

The VS-1445 is a vertical heat platen orientation, servo-electric motion controlled hot plate welding system capable of unparalleled control and ultra-precise welding of parts up to 14" x 45" (356mm x 1143mm) or multiple smaller parts. Customized variants of this model are available.

The vertical servo systems twin motion (left & right) tool mounting jaws allow independent control of collapse/absolute distance, time, force, & speed on each part half, both when against heat platen in melt phase and against each other in weld phase. Typical hardstops found in use on most systems are eliminated.

Standard Features

- **Ultra-Rigid Stopless Construction** utilizing a tubular steel framework and linear guide shafts & bearings with a Rack/Pinion alignment mechanism designed for extremely precise tool repeatability without measurable deflection through decades of use. The heat platen carriage assembly is completely rigid and is thermally isolated from the heat platens themselves. Rigidity of heat platen carriage construction allows system to perform precise melt of one part half only at full force against heat platen without deflecting the assembly.
- **100% Servo-Electric Motion Control** enables unsurpassed weld repeatability, improved process control, and optimal motion control by allowing user to program precise tool mounting jaw positions, speeds, and forces without need for mechanical hardstops within the tooling. Advantages:
 - Melt & Weld (Seal) steps by Time, Collapse, or Absolute Distance (in 0.001" increments).
 - Faster Transition Times (from Melt to Weld Steps) for stronger bonds.
 - Allows Programming of Individual Melt Duration (set by Time, Collapse, or Absolute Distance) of one part half prior to the other. Typically used when welding dissimilar materials.
 - Soft-Touch Contact of Part Halves to heat platen (Melt) and each other (Weld/Seal) increases Teflon cloth/coating life.
 - Pre-Melt Joint Softening Control further increases Teflon cloth/coating life by allowing positioning of parts to within ~0.005" of the heat platen and then stops for a programmable time to achieve softening of the joint prior to contact with the Teflon cloth/coating on the heat platen.
- **Digital Four-Zone Temperature Control via PLC with Heater Burnout Alarm** ensures even heating and precise temperature control with temperature alarm limits. Burnout alarm halts operation of the machine in the event of platen heater failure.
- **Programmable Automatic Heat Platen Startup (Time/Date Based)** saves production time as the machine can be user programmed to automatically initialize warm-up of heat platen before start of production.
- **Allen Bradley CompactLogix PLC with PanelView Plus 7 - 1000 Color 10.4" Touch-Screen Graphical Display** simplifies parameter input and allows the following to be displayed:
 - Individual Tool Mounting Jaw Melt & Weld (Seal), Collapse/Absolute Distance, Time, Force, & Speed Settings
 - Heat Platen Assembly Position & Speed Settings
 - Melt Offset Parameters (melt of one part half prior to the other half) for Dissimilar Materials
 - Process Verification (Pass/Fail) Windows on: Melt & Seal Time, Collapse Distance, Absolute Distance, Open Time
 - Digital Temperature Control Settings and Alarm Limits
 - Detailed Help Menus
- **Pendant Arm Mounted User Interface** allows easy repositioning of interface panel to optimal location based on preference of user.
- **Multi-Level Passcode Protection** limits parameter adjustment to qualified personnel only.
- **25 Weld Program/Setup Memory** allows storage for instant recall, minimizing tool change time.
- **External Ethernet Communication Port and 120 VAC Outlet** allows bi-directional communication for interfacing between customer computer and PLC as well as detailed data output. Single 120 VAC outlet allows user to easily connect small auxiliary equipment such as computers, printers, radios, etc.
- **Dual Venturi 25.0 in/Hg (63.5cm/Hg) Vacuum Pump System** designed to secure even the largest parts within the tooling.
- **Pneumatic Power Sliding Safety Door with Zero Force Cycle Activation Switch and Door Safety Tapeswitch** provides optimum personnel protection while reducing operator fatigue.



MECHANICAL SPECIFICATIONS:

Weight:	~7500 lbs (3402kg)
Overall Dimensions:	85.3" D x 149.0" W x 102.0" H (2167mm x 3785mm x 2591mm)
Maximum Heat Platen:	14.0" D x 45.0" H (356mm x 1143mm)
Heat Platen Carriage Stroke (back-front):	25.0" (635mm)
Heat Platen Assembly Lateral Stroke (side-side):	0.0" (0.0mm) Rigid
Tool Mounting Jaws:	15.5" D x 45.0" H (394mm x 1143mm)
Daylight Opening (between Tool Mounting Jaws):	38.0" (965mm)
Tool Mounting Jaw Stroke (ea):	14.0" (356mm)
Front Door Opening:	38.0" W x 71.0" H (965mm x 1803mm)

PERFORMANCE SPECIFICATIONS:

Moving Tool Mounting Jaws:	Dual - Left and Right
Machine Motion Control System:	100% Servo-Electric
Minimum Tool Mounting Jaw Depth Adjustment:	0.001" (0.025mm)
Maximum Clamp Force:	1700 lbs (7.57kN)
Dual Venturi Vacuum System:	25.0 in/Hg (63.5cm/Hg)
Thermal Temperature Range:	100°F - 1000°F (38°C - 538°C)
	Tooling and Application Dependent
Warranty:	1 Year (Parts & Service)

SYSTEM REQUIREMENTS:

Electrical Requirements:	480VAC, 3PH, 60 Hz
Pneumatic Requirements:	80 PSI, 0.5" ID (5.5 Bar, 13mm ID) Supply Line

System includes Filter/Regulator/Lubricator



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