



FORWARD TECHNOLOGY

a Crest Group Company



(shown with optional features)

VHIR-1445

Vertical Hydraulic Infrared Welder

The VHIR-1445 is a vertical infrared platen orientation, hydraulic motion controlled infrared welding system capable of welding parts up to 14" D x 45" H (356mm x 1143mm) or multiple smaller parts. Customized variants of this model are available.

When compared to horizontal platen systems, vertical systems typically:

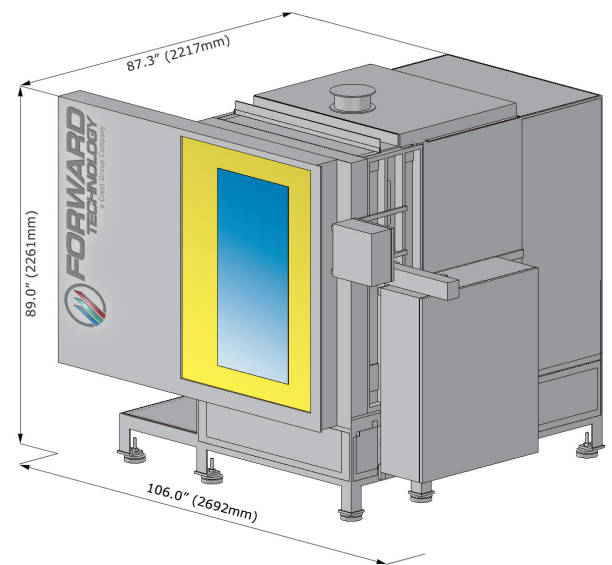
- Reduce risk of molten material possibly dripping onto the infrared platen during the melt step (resulting in premature emitter failure).
- Allow faster tooling changeovers.
- Allow easier and more positive operator loading and unloading of the tooling.
- Ensure more precise part half alignment during welding (less scrap) as no special part-part alignment features must be designed in the parts themselves (required for accurate machine pick-up of one part half on horizontal systems).

Standard Features

- **Ultra-Rigid Construction** utilizing a tubular steel framework with leveling feet and linear guide shafts & bearings designed for precise tool alignment through decades of use.
- **Hydraulic System with Proportional Valve Control and Linear Position Transducers** offers improved control and reduced machine wear by user programmed variable tool mounting jaws and infrared platen carriage pressures and speeds, including "soft-touch" contact of part halves to each other during the Weld (Seal) step.
- **Digital Dual IR Controllers provide (4 + 4) Eight Zone Infrared Intensity Control via PLC/HMI with Emitter Burnout Alarm and Digital Incoming Line Voltage Monitoring with settable Alarm Limits.** Alarms prevent operation of equipment in the event of emitter failure or if plant voltage rises/sags outside of user-defined limits (affecting actual infrared energy output).
- **Programmable Automatic Machine Startup (Time/Date Based)** saves production time as the machine can be user programmed to automatically initialize warm-up of the hydraulic system before start of production.
- **Allen Bradley CompactLogix PLC with PanelView Plus 7 - 700 Color 6.5" Touch-Screen Graphical Display** simplifies parameter input and allows the following to be displayed:
 - Melt, Weld (Seal), & Open Time Digital Control & Display
 - 5 Digital Infrared Energy Control Steps (10% - 100%)
 - Resettable Parts Counter
 - Non-Resettable Total Machine Cycle Counter
 - Diagnostic Display
 - Machine Alarms (history storage of up to 99 alarms)
 - Ethernet Connectivity
- **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 120VAC Duplex Electrical 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 Door with Zero Force Cycle Activation Switch and Door Safety Tapeswitch** provides optimum personnel protection while reducing operator fatigue.
- **Hinged Access Panels with Safety Interlock Switches** allow extensive access while providing maximum personnel protection.
- **Vent Hood with Exhaust Fan** evacuates airborne smoke from the operator location.

Optional Features

- Servo (VS) Operation
- Special Energy Star Compliant Operating Voltages
- Larger Operator Interface
- Pendant Arm Mounted User Interface
- LED Four Color Light Tower
- External Lighting
- Light Curtains
- Fork Lift Tubes
- Leveling Casters
- Quick Disconnect Outlets & Sensors



MECHANICAL SPECIFICATIONS:

Weight:	~4000 lbs (1815kg)
Overall Dimensions:	87.3" D x 106.0" W x 89.0" H (2217mm x 2692mm x 2261mm)
Maximum Infrared Platen:	14.0" D x 45.0" H (356mm x 1143mm)
Infrared Platen Carriage Stroke (back-front):	17.0" (432mm)
Infrared Platen Assembly Lateral Stroke (side-side):	2.0" (51mm)
Tool Mounting Jaws:	14.5" D x 45.0" H (368mm x 1143mm)
Daylight Opening (between Tool Mounting Jaws):	34.0" (864mm)
Tool Mounting Jaw Stroke (each):	12.0" (305mm)
Front Door Opening:	37.5" W x 54.5" H (953mm x 1384mm)

PERFORMANCE SPECIFICATIONS:

Moving Tool Mounting Jaws:	Dual - Left and Right
Hydraulic System:	7.5 HP, 1750 RPM, 11.0 GPM (5.6kW, 1750 RPM, 41.6 LPM) 1000 PSI (68 Bar) Max. Pressure
Maximum Clamp Force:	1760 lbs @ 1000 PSI (7.83kN @ 68.0 Bar)
Dual Venturi Vacuum System:	25.0 in/Hg (63.5cm/Hg)
Infrared Energy Control Range:	10% - 100% (in 1% increments)
Infrared Energy Control Steps:	5
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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