



FORWARD TECHNOLOGY

a Crest Group Company



(shown with optional features)

VHFIR-1015

Vertical Hydraulic Filter Infrared Welder

The VHFIR-1015 is a vertical infrared platen orientation, hydraulic motion controlled infrared welding system specifically designed for welding filter assemblies up to 10" D x 15" H x 69" L (254mm x 381mm x 1753mm). Customized variants of this model are available.

This system design is ideal for:

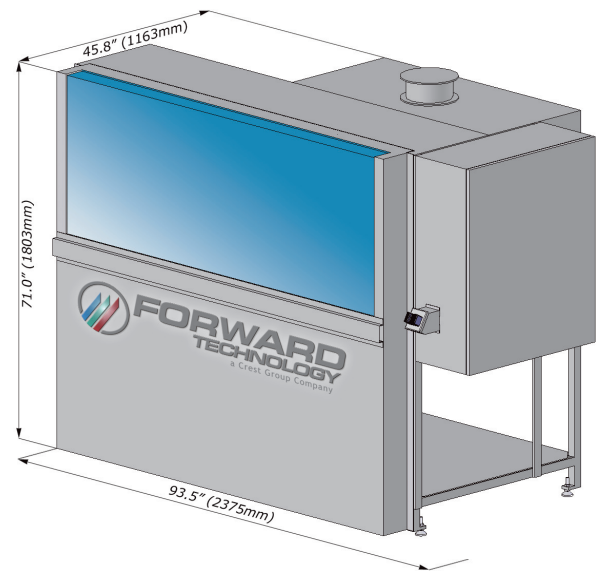
- Welding stackable filter cartridge modules together.
- Embedding filter media into plastic end caps (replacing potting operations).
- Welding of filtration housings.
- Welding termination fittings (ie: end-caps, twist-lock unions, "O"-ring fittings, etc...) to the ends of filter cartridge modules.

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 Safety Door with Zero Force Cycle Activation Switch** 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

- Air/Pneumatic (VA) Operation
- Special Energy Star Compliant Operating Voltages
- Additional Conventional Temperature Control Zone with Heater Burnout Alarm
- Larger Operator Interface
- LED Four Color Light Tower
- External Lighting
- Light Curtains
- Fork Lift Tubes
- Leveling Casters
- Quick Disconnect Outlets & Sensors
- Infrared Tooling/Fixture Storage Cart with Casters



MECHANICAL SPECIFICATIONS:

Weight:	~2100 lbs (953kg)
Overall Dimensions:	45.8" D x 93.5" W x 71.0" H (1163mm x 2375mm x 1803mm)
Maximum Infrared Platen:	10.0" D x 15.0" H (254mm x 381mm)
Infrared Platen Carriage Stroke (back-front):	12.0" (305mm)
Infrared Platen Assembly Lateral Stroke (side-side):	1.5" (38mm)
Tool Mounting Jaws:	10.0" D x 15.0" H (254mm x 381mm)
Daylight Opening (between Tool Mounting Jaws):	Variable from 9.0" – 78.0" (229mm - 1981mm)
Tool Mounting Jaw Stroke:	4.5" (114mm)
Front Door Opening:	73.8" W x 28.0" H (1875mm x 711mm)

PERFORMANCE SPECIFICATIONS:

Moving Tool Mounting Jaw:	Single – Right
Hydraulic System:	5.0 HP, 1750 RPM, 10.0 GPM (3.73kW, 1750 RPM, 37.9 LPM) 1000 PSI (68 Bar) Max. Pressure
Maximum Clamp Force:	880 lbs @ 1000 PSI (3.92kN @ 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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