



FORWARD TECHNOLOGY

a Crest Group Company



(shown with optional features)

DLVW-2020

Digital (Servo Drive) Linear Vibration Welder

The DLVW-2020 is a pneumatic motion controlled digital (servo-electric) drive linear-vibration welder capable of welding parts up to 20" x 20" (508mm x 508mm) or multiple smaller parts.

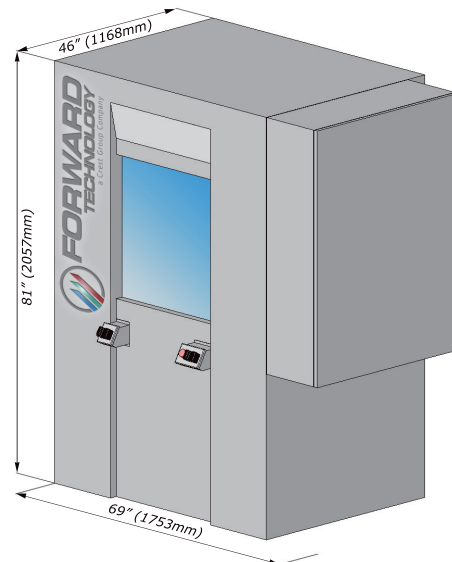
The patented 2-pole digital (servo) drive technology allows vastly improved process control while substantially increasing the available power. This technology offers improvements in overall efficiency (significant power increase), capability (amplitude/process control), and productivity (application benefits) beyond any vibration welding design currently on the market.

Standard Features

- **Patented High Output 2-Pole Digital (Servo) Electromagnetic Drive System** allows higher efficiency and a significant increase in weldable area over industry standard 3-Pole systems. Can drive larger/heavier tools with a lower power demand.
- **Up to 24 in² (155cm²) Weldable Surface Area (Polypropylene)** – the most powerful welder in its class.
- **0-50 lb (0-23kg) Upper Tool Weight** capability makes this welder able to drive the heaviest production tools.
- **Patented Position-Based Amplitude Control Network** allows ramp up to full amplitude in as little as 0.04 seconds. Amplitude adjustment from 0.040" – 0.070" (1.02mm – 1.78mm) peak-to-peak in increments of 0.001". Over-Travel Protection that guards the machine from potentially damaging operation. X-Axis and Y-Axis (vibration direction and perpendicular to vibration direction) repeatability of ± 0.001 ".
- **Continuous Tuning by Closed-Loop Digital Control** eliminates the need for a separate auto-tuning step during setup and assures that the machine operates at peak performance throughout the weld cycle.
- **Precision Digital Distance Measurement System** allows welding by Time, Collapse Distance, or Absolute Distance with a repeatability of ± 0.001 in (± 0.025 mm) and/or alarm monitoring these values. A High-Resolution Encoder integrated into the welder Lift Table monitors processing dimension variables.
- **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:
 - Weld Program/Setup #
 - Frequency
 - Amplitude
 - Contact Time and Force
 - Weld Steps 1 through 8 (Time, Amplitude, Force)
 - Cooling Time and Force
 - Ethernet Connectivity
- **25 Weld Program/Setup Memory** allows storage for instant recall, minimizing tool change time.
- **Process Verification Windows (pass/fail)** compare and alarm the user when actual parameters are outside customer programmed minimums & maximums.
- **Multi-Level Passcode Protection** limits parameter adjustment to qualified personnel only.
- **External 120VAC Duplex Electrical Outlet** allows user to easily connect small auxiliary equipment such as computers, printers, radios, etc.
- **Enhanced Sound Enclosure** for maximum noise reduction (<80 dBA). Enclosure is completely de-coupled from the equipment frame to isolate noise from the swing frame.
- **Zero-Force Opti-Touch Cycle Start Switches** minimize operator fatigue.
- **Two Valve Lower Tooling Actuation Pneumatic Valve Pack** allows user to program additional pneumatic motion on lower tooling such as part clamping or part eject.

Optional Features

- "Pass-Thru" Rear Access Safety Door w/ Light Screen Safety Protection
- Special Energy Star Compliant Operating Voltages Transformer
- Larger Operator Interface
- Pendant Arm Mounted User Interface
- LED Four Color Light Tower
- Light Curtains
- Quick Change Base Plates
- Upper Tooling Vacuum System
- Programmable Vacuum Sensing Switch with LCD Readout
- Quick Disconnect Outlets & Sensors



MECHANICAL SPECIFICATIONS

Weight:	~3200 lbs (1452kg)
Overall Dimensions:	46.0" D x 69.0" W x 81.0" H (1168mm x 1753mm x 2057mm)
Front Door Opening:	20.0" H x 27.0" W (508mm x 686mm)
Daylight Opening (between Lift Table & Drive Platen):	23.0" (584mm)
Lift Table:	
Dimensions:	20.0" D x 20.0" W (508mm x 508mm)
Center Opening:	9.5" D x 9.5" W x 26.0" H (241mm x 241mm x 660mm)
Height from Floor:	38.0" (965mm)
Variable Stroke:	20.0" (508mm)
Drive Platen:	
Dimensions:	14.7" D x 17.3" W (373mm x 439mm)
Center Opening:	7.0" D x 8.8" W x 6.5" H (178mm x 224mm x 165mm)

PERFORMANCE SPECIFICATIONS

Maximum Upper Tool Weight:	50 lbs (23kg)
Maximum Weldable Area (Polypropylene):	24.0 in ² (155cm ²)
Output Frequency:	180Hz to 225Hz
Amplitude Range:	0.040" - 0.070" (1.02 - 1.78mm) Peak-Peak
Maximum Clamp Force:	2000 lbs @ 80 PSI (8.90kN @ 5.5 Bar)
Lift Table Speed:	10.0"/second (254mm/second)
Noise Level:	<80 dBA
Warranty:	2 Years (Parts & Service)

OPERATING REQUIREMENTS

Electrical Requirements:	240VAC, 3PH, 35A, 60Hz
Pneumatic Requirements:	80 PSI, 0.75" ID (5.5 Bar, 19mm ID) Supply Line

System includes Filter/Regulator/Lubricator



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