



Data Sheet
DVW2

DVW Series Vibration Welders – Linear and Orbital

General Description

Branson's DVW2 Series welders are complete assembly systems designed to weld thermoplastic parts. The DVW can be configured in two models – linear (DVW2-L) and orbital (DVW2-O). The DVW2-L will assemble parts up to 12" x 16", or multiple smaller parts, and the DVW2-O will handle parts up to 12" in diameter (305 mm) or multiple smaller parts. Both models utilize the same mechanical frame and sound enclosure construction.

The DVW2 Series utilizes a proven hydraulic lift and clamp system already found on Branson's Hy-Line Series. The standard version comes with a Siemens S7 PLC with TCP Quickpanel Jr. monochrome operator interface. Weld control is available in time mode or an optional meltdown (collapse) mode.



New Features

- 11 kW digital power supply with adjustable frequency (180-240 Hz).
- Front operator door allows free access to working area of machine for tooling and maintenance.
- Accessible machine leveling feet.
- Hydraulic power unit at side of machine for easier access to working area for automation and maintenance.
- New sound enclosure design provides greater noise attenuation.

Other Features

- **Constant velocity orbital motion** (orbital units) results in more welding power in short weld times.
- **With the orbital model, omnidirectional motion** enables welding of taller, unsupported vertical walls. No wall is ever perpendicular to welding motion since motion is in all directions.
- **Lower weld amplitudes** (less than 0.030 inch for some applications) reduce part clearance requirements. Flash is displaced less, and its character is more homogeneous.
- **Adjustable frequency** allows tool design flexibility.

- **Programmable control** - precise machine control is easily modified to integrate robotics, pick & place, and tooling requirements.
- **Closed loop amplitude control.**
- **Front accessible touch pad interface.**
- **Internal lighting.**

Typical Sequence of Operation

- ◆ The parts to be welded are loaded into the lower tooling fixture with the top part placed in the approximate final assembly location.
- ◆ Cycle is initiated by activation of two anti-tie-down start buttons.
- ◆ When the closed position is reached, the top part is positioned in the upper tooling fixture.
- ◆ The welding head is driven at the desired amplitude and frequency while the parts are clamped together under a controlled clamp force.
- ◆ After the contact surfaces have melted, the vibration stops, and the parts are centered. The material is allowed to solidify as the plastic parts are held under clamp load.
- ◆ At the end of the hold period, the table returns to its home position and the welded assemblies are removed.

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Specifications

Mechanical

Weight:	Approx. 3500 lbs. (1591 kg)
Dimensions:	
Overall:	75" W x 80" H x 42" D (1905 x 2032 x 1067 mm)
Lift table, overall:	22.5" W x 20" D (572 x 508 mm), <i>both versions</i>
Table opening:	15" L x 10" W x 14.5" D (381 x 254 x 368 mm), <i>both versions</i>
Drive platen:	16" x 12" (406 x 305 mm), <i>linear version</i> 12" diameter (305 mm), <i>orbital version</i>
Head opening:	12" L x 10" W x 8" D (305 x 254 x 203 mm), <i>linear version only</i>
Front opening:	25" W x 21.5" H (635 x 546 mm), <i>both versions</i>
Variable stroke:	22" maximum (559 mm)
Noise level:	78 dBA (est.)

Electrical

Controller:	Solid state with Siemens S7 programmable controller
Power requirement:	480 V AC, 20 Amps, 3 phase
Output frequency:	180-240 Hz variable
Ambient temperature:	32° - 105° F (0 - 40° C)

Performance

Drive platen fixture weight:	25 lbs. (11.4 kg), <i>linear version</i> 15 lbs. (6.8 kg), <i>orbital version</i>
Max. clamp force:	2000 lb. (8.9 kN), <i>both versions</i>
Amplitude range:	0.040" to 0.070" (1.02 to 1.8 mm), <i>linear version</i> 0.040" to 0.060" (1.02 to 1.5 mm), <i>orbital version</i>
Table lift speed:	10 in./sec. (254 mm/sec.)
Total dry cycle time:	5.5 sec. (without welding)

Note: All specifications subject to change without notice.

Warranty

DVW2 welders are warranted to be free from defects in materials and workmanship for one year starting from date of shipment.

Ordering Information

Note: All sales shall be subject to the Supplier's terms and conditions of sale as described in Branson's quotations and sales contracts.

Branson EDP No.

Model DVW2-L vibration welder	300-101-054
Model DVW2-O vibration welder	300-101-053

Available Options

- Cycle counter
- Light screen
- Meltdown control (weld by distance)
- Duplex electrical outlet (120V) (exterior mount)
- External work light
- Valves for eject, vacuum, or slides in tooling
- Special paint

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