

**BRANSON**



## GVX-3 Series Vibration Welders

User Configurable Design for the Utmost Flexibility

## The Branson GVX-3 Series Vibration Welders

Continuing a 70-year tradition of innovation in materials joining, Branson is introducing the new GVX-3 Series vibration welders. The new units offer unparalleled configurability with a wide selection of options upgrades, to maximize speed, precision, and plastics-welding quality.

The GVX Series is servo-driven to improve precision, efficiency, maintenance, and cleanliness in a compact design. It allows you to configure performance and features to your specific application needs and virtually build your own welder with reliable and proven subcomponents.



Vibration welding

### **In addition to its unprecedented ability for configuration, GVX-3 offers:**

- World-class quality, consistency, and repeatability
- A robust industrial PC with 12" color touch screen and improved ease-of-use
- High-resolution linear encoder for lift table positioning and weld depth control
- A globally uniform tooling interface
- Smaller footprint yet larger lift table than traditional vibration welders
  - Convenient rear-door and symmetrical design provides easy access for tool changes and part loading/unloading
  - Maximized uptime with ease of maintenance
  - Increased clearance to accommodate complex applications
  - Local manufacturing and service support

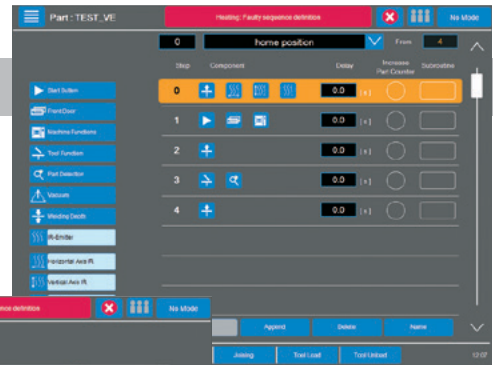


Under-hood automotive component

## Improved Operator Experience

The GVX features an exceptionally user-friendly human machine interface developed using multiple user profiles, an improved sequence editor, intuitive navigation, and enhanced screen display. Plus ergonomically designed lift table height for greater user efficiency and comfort.

- Six pneumatic tool functions
- Better tool access from front and back of machine
- Swing bolts to quickly clamp lower fixture
- Less maintenance
- Emergency stop button
- Safety strip
- Safety limit switches on front and rear door



Programming is fast and simple with visual sequencing.

Force and depth profiles show performance with an easy-to-read screen.

GVX accommodates up to 99 different users with configurable access rights, up to 31 tooling codes with 64 welding recipes, and automatic tooling ID.

## GVX-3 Optional Packages

<b>Head Power Package</b>	Greater weld area, more application flexibility, more materials can be welded, more likely to be capable for future applications.
<b>Force Package</b>	More clamp force allows more application flexibility, more likely to be capable for future applications, large clamp forces could allow for great parts (depends on head power), and could be utilized to flatten warped parts prior to welding.
<b>Speed Package</b>	Greater throughput, more parts output per shift.
<b>Weld Precision Package</b>	Greater repeatability and control of the weld quality. A lower standard deviation in force application and lift table position. Ability to maintain force precision for low 1-3 kN clamp forces.
<b>Quick Tool Change</b>	Faster tool change time, leading to more productivity and throughput.
<b>Acoustic Noise Reduction Package</b>	Lower noise near the operator improves safety and lowers the risk of hearing loss over time.
<b>Single-axis CVT</b>	Improved weld quality by delivering welds with virtually no excess particulate.
<b>Dual-axis CVT</b>	Maximum application flexibility for CVT. Dual axis has faster travel and shorter cycle times. 1 m/s speed allows for more rapidly cooling materials or thinner parts. Capable of programming CAM motion with undercuts and overhangs on parts.
<b>High-tier Appearance Package (2)</b>	Textured, shiny front panels provide an added level of sleek design, so high-tier machines can be recognized from afar. LED lighting provides more brightness in the working areas.

# Vibration Welder Specifications

## GVX-3 Series

Mechanical	GVX-3	Upgradable with Major Option	GVX-3R [similar to GVX-3 (5)]	
Overall Dimensions (HxWxD) (1)	2330 x 2720 x 1200		2330 x 2720 x 2260	mm
Dimensions with Door Open (HxWxD) (1)	2330 x 3320 x 1890		2330 x 3320 x 3050	mm
Upper Fixture (Oscillating Head, W x D)	880 x 376	920 x 540 (Head Power Package)		mm
Lower Fixture (W x D x Level Above Floor)	1360 x 600 x 860			mm
Cut Out in the Table (W x D)	800 x 300			mm
Clearance Between Column Supports	1450			mm
Clearance Between the Table and Head	850			mm
Min. Tooling Height	260			mm
Table Stroke	600			mm
Weight (Approx. Value Depend of Options)	4500		5700	kg
<b>Oscillating Head</b>				
Kinematics	Linear Vibration			
Frequency (Nominal, Depending on the Tooling Weight)	Approx. 240 Hz			
Amplitude (Peak to Peak)	0.7–1.8			mm
Tool Weight Upper Tool	40-70	35-65 (Head Power Package)		kg
Tool Weight Lower Tool (3)	200			kg
Tool Weight IR Plate (CVT) (4)	—	Single or Dual Axis CVT Package	100	kg
Performance (Weld Area, Depending on the Material)	300	500 (Head Power Package)		cm <sup>2</sup>
<b>DRIVE SYSTEM</b>				
Type	Branson Frequency Inverter			
Power Consumption	30			kW
<b>MACHINE CONTROLS</b>				
Machine Logic / Internal Communications	Branson Logic Control System / CAN Open Bus Architecture			
User Interface	Industrial PC, 12" Color Screen Display, 1024 x 768 Screen Resolution, Branson Interface System			
Light Curtain	Option, Based on Customer Preference Keyence / Sick / Sunx			
Force Control	Indirect Force Measurement		Direct, Closed Loop Force Measuring, (Weld Precision Package)	
Table Position Control	Full Stroke			

# Vibration Welder Specifications

## GVX-3 Series (continued)

LIFT TABLE	GVX-3	Upgradable with Major Option	GVX-3R [similar to GVX-3 (5)]	
Design	Servo Motor; Drive Chain Mechanism			
Lift Table Maximum Velocity	0 - 300	0 - 500 (Speed Package)		mm/s
Clamp Force	3-25 (Force Package) 3-15	1-15 (Weld Precision Package) 1-25 (Weld Precision and Force Packages)		kN
IR Preheating Drive (CVT) (4)	—	Single-axis CVT	Horizontal IR Drive at 1000 mm/s / Maximum	
	—	Dual-axis CVT	Horizontal Axis at 1000 mm/s and Vertical Axis at 500 mm/s Maximum	
<b>PNEUMATICS</b>				
Type (Standard, Alternative: See Spec.)	Based on Customer Preference			
Input Air Pressure	6-10			bar
Functions (Standard, Alternative: See Spec.)	6			
<b>SOUND ENCLOSURE</b>				
Noise Emission Maximum (EN ISO 11202)	Maximum 80 dBA	Maximum 77 dBA (Acoustic Noise Reduction Package)		dBa
Front Door (H x W x Level Above Floor) (1)	820 x 1394 x 940			mm
Rear Maintenance Door(s) (Inside Opening H x W) (1)	1850 x 1410			mm
Machine Colors	RAL9011, RAL7011 (Outside), RAL7011 (Inside), RAL7040 (Front Door)			
<b>CONNECTIONS</b>				
Pneumatics	1/2"			inch
Electrical (Connection)	Based on Customer Requirement: <ul style="list-style-type: none"> <li>• 3 x 400 V, 50 Hz, PE, N (5 x 16 mm<sup>2</sup>)</li> <li>• 3 x 480 V, 60 Hz, PE, Without N (4 x 16 mm<sup>2</sup>)</li> <li>• 3 x 200 V, 50/60 Hz, PE, Without N (4 x 35 mm<sup>2</sup>)</li> <li>• 3 x 380 V, 50 Hz, PE, N (5 x 16 mm<sup>2</sup>)</li> <li>• 3 x 380 V, 60 Hz, PE, Without N (4 x 16 mm<sup>2</sup>)</li> </ul>			
Data Interfaces	USB, Ethernet			
Tooling Connection Method	Manual	Automatic (Quick Tool Change Package)		
<b>AMBIENT CONDITIONS</b>				
Temperature	min. +15 – max. +40			°C
Humidity (No Condensation)	30 – 95			%
Altitude (Above Sea Level)	max. 1000			m

(1) Dimensions can vary depending on options chosen.

(2) With Branson i3 electromagnetic head.

(3) Lower tool weight can increase above spec, with minor reductions in max clamp force.

(4) Only valid for IR preheating (CVT).

(5) Unless noted or options are included.

## Typical Applications for the GVX-3



Carbon canister



Dishwasher spray arm



Small plastic gas tank

## Upgrade to Clean Vibration Technology



Vibration weld seam

The GVX-3 is available with Branson's infrared preheating feature for applications requiring clean welds with minimized particulates, flash, or other visible contaminants.

The combination of infrared and vibration welding offers more options and applications for smart molding joint design. Infrared emitters melt the joining surfaces before the welding process starts, resulting in a variety of benefits:

- Joints with greatly reduced particulates
- Reduced residual stresses and material-specific friction
- Shorter welding time
- Increased joint strength
- Improved ability to handle hard-to-weld materials



Taillight

*MODEL GVX-3H/3HR*

## Optional Upgrade Packages

Build the GVX-3 to precisely match your needs by adding these performance-rich enhancements.

To learn more about Branson GVX-3H/HR, contact your Branson representative or visit us online at [bransonultrasonics.com/gvx3](http://bransonultrasonics.com/gvx3).

## The Branson Advantage

***Branson's global footprint ensures consistent, worldwide performance***

Thanks to Branson's global network of facilities, customers can set up an application on a GVX machine in one country and have confidence a comparable GVX machine with the same settings in a different part of the world will yield near identical results.

With multi-continent manufacturing facilities, over 25 regional technical centers, 12 applications development labs, and a worldwide service organization, multinational customers are assured of accelerated speed to market through:

- Faster, more economical delivery
- Tool interchangeability in 90% of applications
- Local supply, customer service, and maintenance
- Globally uniform tooling interface

***Interested in enhanced features? The GVX-3 is upgradable in numerous areas from force and speed to control and greater precision. Each package can be added individually or combined to offer the ultimate in performance.***

***To learn how Branson's expertise can help you adapt to industry changes, contact the regional center nearest you.***

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All specifications are subject to change without notice. All dimensions are nominal.  
All units comply with FCC rules and regulations governing radio frequency interference. CE units are available.  
**Note:** All sales shall be subject to the Supplier's terms and conditions of sale in Branson's quotations and sales contracts.