

**BRANSON**

**GVX H/HR Series**

GVX-2H/GVX-2HR

GVX-3H/GVX-3HR



## **GVX H/HR Series Vibration Welders**

A New Level of Precision, Speed and Consistency

  
**EMERSON™**

# The New GVX H/HR Series Welders — for the Ultimate in Precision and Repeatability

Branson brings over 70 years of experience and innovation to the plastics joining industry. Our industry experience and world-class application labs offer design and development assistance second to none. Plus our multiple welding technologies allow us to solve application challenges with a process neutral approach. Branson continues to innovate and provide solutions with its next generation of vibration welders that deliver unprecedented welding performance.



## A new standard of vibration welding quality, throughput, efficiency

The new GVX H/HR Series welders set a whole new standard of performance for vibration welders, including:

- Improved weld quality and consistency through continual feedback from closed loop sensors that ensure accuracy and repeatability
- Lightning-fast cycle time to support high-speed, automated applications
- 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
- Industrial PC-controlled servo drive with fewer parts and no hydraulic oil offers state-of-the-art speed and accuracy, more energy-efficient operation, plus reduced maintenance and downtime
- Local, rapid-response technical expertise and repair service supported by Branson's worldwide network of facilities

## 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



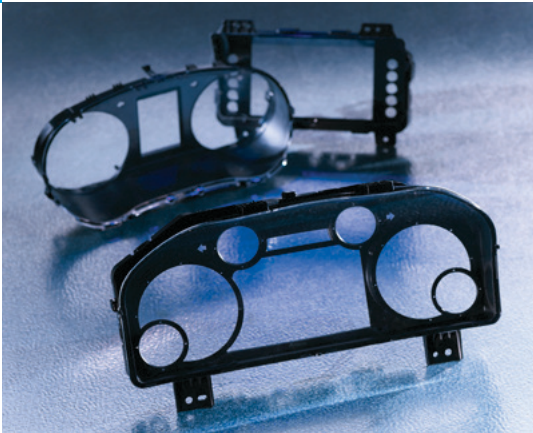
Programming is fast and simple with visual sequencing.

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.

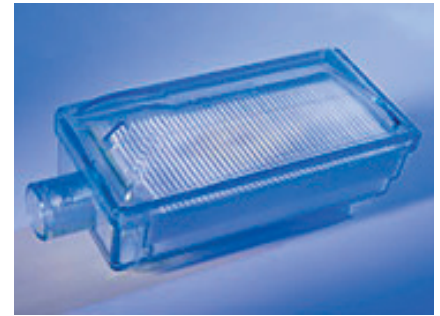
# Typical Applications for the GVX H Series Vibration Welder

Instrument cluster and  
information centers

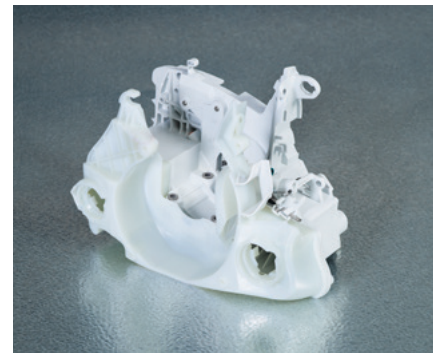


Taillight

Stihl chain saw gas tank/  
crank case housing



Medical filter



## Upgrade to Clean Vibration Technology



Vibration weld seam

The GVX H/HR 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



# Vibration Welder Specifications

## GVX-2H and GVX-2HR

MECHANICAL	GVX-2H	GVX-2HR		LIFT TABLE DRIVE	GVX-2H	GVX-2HR	
Overall Dimensions (H x W x D) (1)	2340 x 2470 x 1300	2340 x 2470 x 2280	mm	Design	Servo Motor; Drive Belt Mechanism		
Sound Enclosure Dimen. (H x W x D) (1)	2340 x 2020 x 1130	2340 x 2020 x 2280	mm	Lift Table Velocity	0 – 500		
Upper Fixture (Oscillating Head, W x D) (2)	880 x 376		mm	Clamp Force	1 – 25		
Lower Fixture (W x D x Level Above Floor)	1070 x 600 x 860		mm	IR Preheating Drive Velocity (CVT) (4)	n/a	1000	mm/s
Cut Out in the Table (W x D)	660 x 250		mm	<b>PNEUMATICS</b>			
Clearance Between Column Supports	1160		mm	Type (Standard, Alternative: See Spec.)	Based on Customer Preference Festo / Numatics / SMC		
Clearance Between the Table and Head	850		mm	Input Air Pressure	6 – 10		
Min. Tooling Height	260		mm	Functions (Standard, Alternative: See Spec.)	6		
Table Stroke	600		mm	<b>SOUND ENCLOSURE</b>			
Weight (Approx Value Depend of Options)	4000	5000	kg	Noise Emission Max. (EN ISO 11202)	77dBA		
<b>OSCILLATING HEAD</b>				Front Door (H x W x Level Above Floor) (1)	820 x 1110 x 940		
Kinematics	Linear Vibration			Rear Maintenance Door(s) (Inside Opening H x W) (1)	1850 x 1100		
Frequency (Nominal, Depending on the Tooling Weight)	Approx. 240			Machine Colors	RAL9011, RAL7011 (Outside) RAL7011 (Inside)		
Amplitude (Peak to Peak)	0.7 – 1.8			<b>CONNECTIONS</b>			
Tool Weight Upper Tool / Lower Tool / (3)	40-70 / 200	40-70 / 200 / 100	kg	Pneumatical	1/2"		
IR Plate (CVT) (4)				Electrical (Connection)	Based on Customer Requirement: • 3 x 400 V, 50 Hz, PE, N (5 x 16 mm <sup>2</sup> ) • 3 x 480 V, 60 Hz, PE, Without N (4 x 16 mm <sup>2</sup> ) • 3 x 200 V, 50/60 Hz, PE, Without N (4 x 35 mm <sup>2</sup> ) • 3 x 380 V, 50 Hz, PE, N (5 x 16 mm <sup>2</sup> ) • 3 x 380 V, 60 Hz, PE, Without N (4 x 16 mm <sup>2</sup> )		
Performance (Weld Area, Depending on the Material) (2)	300			Data Interfaces	USB, Ethernet		
<b>DRIVE SYSTEM</b>				<b>AMBIENT CONDITIONS</b>			
Type	Branson Frequency Inverter			Temperature (5)	min. +15 – max. +35		
Power Consumption	30			Humidity (No Condensation)	30 – 95		
<b>MACHINE CONTROLS</b>				Altitude (Above Sea Level)	max. 1000		
Machine Logic / Internal Communications	Branson Logic Control System CAN Open Bus Architecture						
User Interface Industrial PC	Industrial PC 12" Capacitive Color Screen Display 1024 x 768 Screen Resolution						
Light Curtain	Based on Customer Preference Keyence / Sick / Sunx						
Force Control (Closed Loop)	Direct Force Measuring						
Table Position Control	Full Stroke						

- (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) Max temperature may be increased to 40 °C with optional air conditioning.

# Vibration Welder Specifications

## GVX-3H and GVX-3HR

MECHANICAL	GVX-3H	GVX-3HR	
Overall Dimensions (H x W x D) (1)	2330 x 2720 x 1200	2330 x 2720 x 2260	mm
Clearance Requirements (H x W x D) (1)	2330 x 3320 x 1890	2330 x 3320 x 3050	mm
Upper Fixture (Oscillating Head, W x D) (2)	920 x 540	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
OSCILLATING HEAD			
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 / Lower Tool / (3)	35–65 / 200	35–65 / 200 / 100	kg
IR Plate (CVT) (4)			
Performance (Weld Area, Depending on the Material) (2)	500		cm <sup>2</sup>
DRIVE SYSTEM			
Type	Branson Frequency Inverter		
Power Consumption	30		kW
MACHINE CONTROLS			
Machine Logic / Internal Communications	Branson Logic Control System CAN Open Bus Architecture		
User Interface Industrial PC	Industrial PC 12" Capacitive Color Screen Display 1024 x 768 Screen Resolution		
Light Curtain	Based on Customer Preference Keyence / Sick / Sunx		
Force Control (Closed Loop)	Direct Force Measuring		
Table Position Control	Full Stroke		

LIFT TABLE DRIVE	GVX-3H	GVX-3HR	
Design	Servo Motor; Drive Belt Mechanism		
Lift Table Velocity	0 – 500		mm/s
Clamp Force	1 – 25		kN
IR Preheating Drive Velocity (CVT) (4)	n/a	1000	mm/s
PNEUMATICS			
Type (Standard, Alternative: See Spec.)	Based on Customer Preference Festo / Numatics / SMC		
Input Air Pressure	6 – 10		bar
Functions (Standard, Alternative: See Spec.)	6		
SOUND ENCLOSURE			
Noise Emission (EN ISO 11202)	Maximum 77dBA		dBA
Front Door (H x W x Level Above Floor) (1)	820 x 1400 x 940		mm
Rear Maintenance Door(s) (Inside Opening H x W) (1)	1850 x 1410		mm
Machine Colors	RAL9011, RAL7011 (Outside), RAL7011 (Inside)		
CONNECTIONS			
Pneumatical	1/2"		inch
Electrical (Connection)	Based on Customer Requirement: • 3 x 400 V, 50 Hz, PE, N (5 x 16 mm <sup>2</sup> ) • 3 x 480 V, 60 Hz, PE, Without N (4 x 16 mm <sup>2</sup> ) • 3 x 200 V, 50/60 Hz, PE, Without N (4 x 35 mm <sup>2</sup> ) • 3 x 380 V, 50 Hz, PE, N (5 x 16 mm <sup>2</sup> ) • 3 x 380 V, 60 Hz, PE, Without N (4 x 16 mm <sup>2</sup> )		
Data Interfaces	USB, Ethernet		
AMBIENT CONDITIONS			
Temperature (5)	min. +15 – max. +35		°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.  
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## 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

*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.