

Series GVX-4HR Vibration & CVT Welders

Overview

The GVX-4HR is available with Branson™'s Clean Vibration Technology (CVT). CVT's infrared preheating feature is ideally suited 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



Enhanced User Experience

The GVX-4HR 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

Features

- **Improved weld quality and consistency** through continual feedback from closed loop sensors that ensure accuracy and repeatability.
- **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.
- Branson industrial PC-controlled servo drive offers state-of-the-art **speed, accuracy**, increased **energy efficiency** as well as **reduced maintenance and downtime**.
- **Local, rapid-response** technical expertise and repair service supported by Emerson's worldwide network of facilities.
- **High-speed Curve Motion:** Branson introduces the High-speed Curve Motion on the GVX-HR product line, an advanced method for optimizing position control of the axis during preheating changeover times. This innovative feature is designed to enhance the efficiency of the preheating process. The curve motion feature is specifically engineered to expedite the IR preheating release, ensuring a faster and more efficient transition within the preheating cycle. This cutting-edge technology improves overall productivity and reduces downtime, making it a valuable addition to any production line.

For more information:
www.Emerson.com/Branson

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Technical Specifications

Mechanical	GVX-4HR	
Overall Dimensions (H x W x D) ⁽¹⁾	2600x3200x2600	mm
Clearance Requirements (H x W x D) ⁽¹⁾	2600x3800x3600	mm
Lower Fixture (W x D x Level Above Floor)	1770x600x780	mm
Cut Out in the Table (W x D)	NA	mm
Clearance Between Column Supports	1860	mm
Clearance Between the Table and Head	950	mm
Min. Tooling Height	300	mm
Table Stroke	650	mm
Weight (Approx Value Depend of Options)	7500	kg
Oscillating Head		
Kinematics	Linear Vibration	
Frequency (Nominal, Depending on the Tooling Weight)	Approx. 240	Hz
Amplitude (Peak to Peak)	max. 1.8	mm
Tool Weight Upper Tool / Lower Tool / ⁽³⁾ IR Plate (CVT) ⁽⁴⁾	50-100/400/160	kg
Performance (Weld Area, Depending on the Material) ⁽²⁾	max. 750 (PP)	cm ²
Drive System		
Type	Branson Frequency Inverter	
Machine Controls		
Machine Logic	Branson Logic Control System	
User Interface	12" Capacitive Color Screen Display	
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.

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Lift Table Drive	GVX-4HR	
Design	Servo	
Lift Table Velocity	0 - 500	mm/s
Clamp Force	25	kN
IR Preheating Drive Velocity (CVT) ⁽⁴⁾	vertical axis 0 - 400 / horizontal axis 0 - 1000	mm/s
Pneumatics		
Input Air Pressure	6	bar
Functions (Standard, Alternative: See Spec.)	6	bar
Sound Enclosure	Standard	
Noise Emission Max. (EN ISO 11202)	≤ 77	dB(A)
Front Door (H x W x Level Above Floor) ⁽¹⁾	870x1810x943	mm
Rear Maintenance Door(s) (Inside Opening H x W) ⁽¹⁾	1870x1810	mm
Machine Colors	RAL9011, RAL7011 (Outside), RAL7011 (Inside)	
Connections		
Pneumatical	1/2"	inch
Electrical (Connection, Alternative: See Spec.)	3x400V, N, PE	
Input Power	62	kVA
Data Interfaces	USB, Data Interface Gateway 'DIG' available as an option	
Ambient Conditions		
Temperature ⁽⁵⁾	min. +15 – max. +35	°C
Humidity	30 – 95	%
Altitude (Above Sea Level)	max. 1000	m

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