



TECHNICAL AGREEMENT

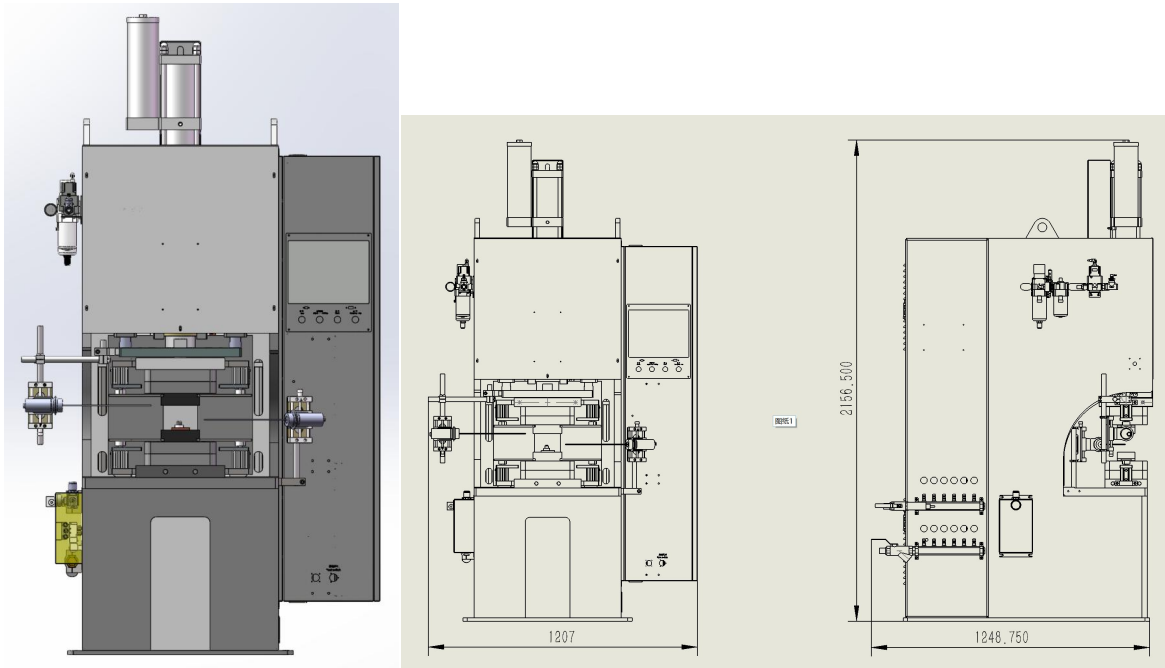
HFVD200-QY Dual-Power Aluminum Flexible Busbar Diffusion Welding Machine

1. Main Technical Specifications

Item	Specification
Structure	C-type welding worktable (pneumatic-hydraulic booster cylinder)
Control Method	Inverter-based control with Haifei dual-power aluminum welding control system
Temperature Measurement	Range: 300–1200 °C; repeatability: $\pm 0.5\%$ TH; temperature setting & display available on the touch screen
Operating Ambient Temperature	5–45 °C
Pressurization Method	Max. output pressure: 10 T; initial pressure: 0.5 T
Worktable Travel	150 mm; press head positioning repeatability: ± 0.05 mm
Electrode Mounting Area	130 mm $\times$ 80 mm
Single Welding Area	90 mm $\times$ 60 mm (smaller area enables faster welding)
Applicable Welding Materials	Hard aluminum plate + nickel sheet + multilayer aluminum strips (stacked welding)
Material Thickness Range	0.2–5 mm
Product Thickness Range	3.5–20 mm
Welding Control Functions	1. Output frequency: 15–22 kHz, fully digital electromagnetic induction heating power supply; 2. Dual-power control — independent constant-temperature control of the upper and lower graphite molds for higher accuracy; 3. Process-type PID closed-loop temperature control with automatic PID parameter tuning; 4. Three-stage heating: primary, secondary and tertiary heating, followed by pressure holding and natural cooling; 5. Programmable I/O outputs: 3 programmable output stages for better integration with PLC, robots, etc.; 6. Weld spot counting function.
Protection Functions	Automatic shut-down with alarm for abnormal water flow, current, or pressure
Data Storage	Production data (pressure, temperature, time, etc.) stored in database; readable, traceable, and capable of MES system integration
Overall Dimensions (L $\times$ W $\times$ H)	1249 mm $\times$ 1207 mm $\times$ 2157 mm (subject to the actual machine size)

2. Equipment Layout

For reference only — subject to the actual equipment.



3. Main Components & Brands

No.	Component	Brand	Origin
1	Solenoid valves, air filter regulator (FRL unit)	SMC / AIRTAC	Japan / China
2	Touch screen	Fanyi	China
3	Water flow switch	CATO	China
4	Special welding main cylinder	Haifei	Haifei
5	Welding transformer	Haifei	Haifei
6	IGBT module	Fuji / Ruidiwei	Japan / China
7	Welding controller	Haifei	Haifei
8	Low-voltage electrical components	OMRON / SCHNEIDER / Garnor	Japan / France / Switzerland

4. Installation Requirements

4.1 Power Supply

No.	Parameter	Value
1	Power cable	Three-phase AC, five-wire system: $3 \times 50 \text{ mm}^2 + 2 \times 25 \text{ mm}^2$
	Voltage	380 V (+10%) 【The voltage can be modified according to the customer's region.】
	Power switch	100 A / 4P
	Frequency	50 $\pm$ 1% Hz
	Grounding	TN-S
2	Lighting power	Single-phase AC
	Voltage	220 V $\pm$ 10%
	Frequency	50 $\pm$ 1% Hz
	Grounding	TN-S

4.2 Cooling Water

Requirement: 0.2–0.3 MPa, 40-micron filtration, resistivity $\geq 5 \text{ k}\Omega\cdot\text{cm}$, flow rate 60 L/min, inlet water temperature $\leq 35^\circ\text{C}$.

Note: The buyer shall provide a water chiller meeting the above requirements.

4.3 Compressed Air

Requirement: $\geq 0.6 \text{ MPa}$, 40-micron filtration, flow rate 3.6 L per cycle.