



CO₂/
MAG

CPVE400/500(S-2)

Full Digital Inverter CO₂/MAG Welding Machine

NEW

● IGBT

Full Digital IGBT Inverter Control Technology, gives best welding current waveform control of CO₂/MAG arc phenomenon, results in low spatter, high quality welding.

● Stainless Steel (SUS) Welding Function

ALL NEW stainless steel welding mode expands applicable welding field.

● Improved Welding Efficiency

CPVE400/CPVE500(S-2) have achieved 60% / 100% duty cycle, results more efficient welding.

● Simple operation by digital type setting

Soft-touch panel, LED display and indicator light delivers simple operation. Parameter setting are all digital operation.

● Welding Condition Storage Function

Up to 30 welding conditions can be stored, 10 regular used conditions can be read and operate from remote control box.

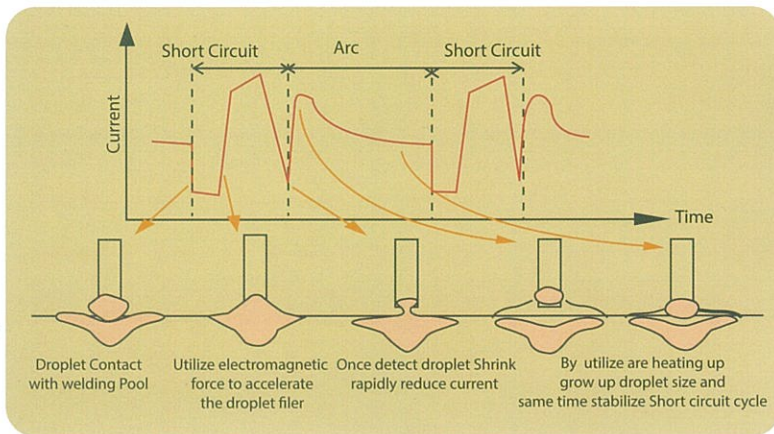
● Energy Saving Function

After stop welding a certain period of time, fan and flow-meter heater will automatically stop which save energy. Auto-stop function of cooling fan while the intermission of welding works enables to save power consumption.



1 Full Digital IGBT Inverter control technology and 32 bit CPU control unit, realize excellent welding performance.

- Adopting OTC unique waveform control method, gives best welding current waveform control of CO₂/MAG arc phenomenon Superior arc start performance and arc stability, largely reduce spatter, realize high quality welding.
- Stainless Steel welding mode as standard configuration, realizes excellent stainless steel material welding, further expands welding field.



■ Workpiece Material : sus304(6mmt) ■ Wire size : $\phi 1.2$
 ■ Current : 180A ■ Gas : 98%Ar+2% CO₂
 ■ Voltage : 23V

2 User-friendly digital operation panel.

- Improve visibility with larger LED display.
- More convenient operation with switchable knob.

Current adjustment knob switchable to wire speed display, Voltage knob switchable to one know voltage and voltage fine tuning.

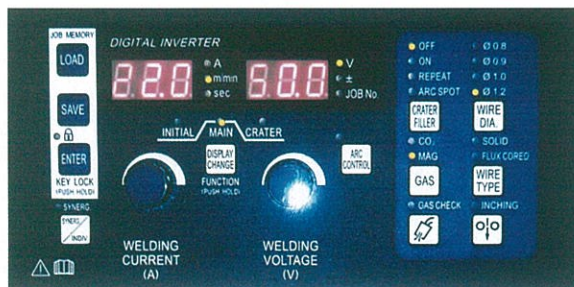


Figure 1 : Current and Voltage Setting (precise to 1A and 0.1V)



Figure 2 : one knob switch to wire speed display

3 Further improved on Welding efficiency

- CPVE400/500(S-2) realize 100% duty cycle, meet user's high welding efficiency requirement.
- Further optimization of the wire feeding control feedback, besides stable wire feeding, enhanced wire feeding speed as well, realize more welding efficiency shorten control time, realize high speed tack welding.

4 Abundant on-site management features

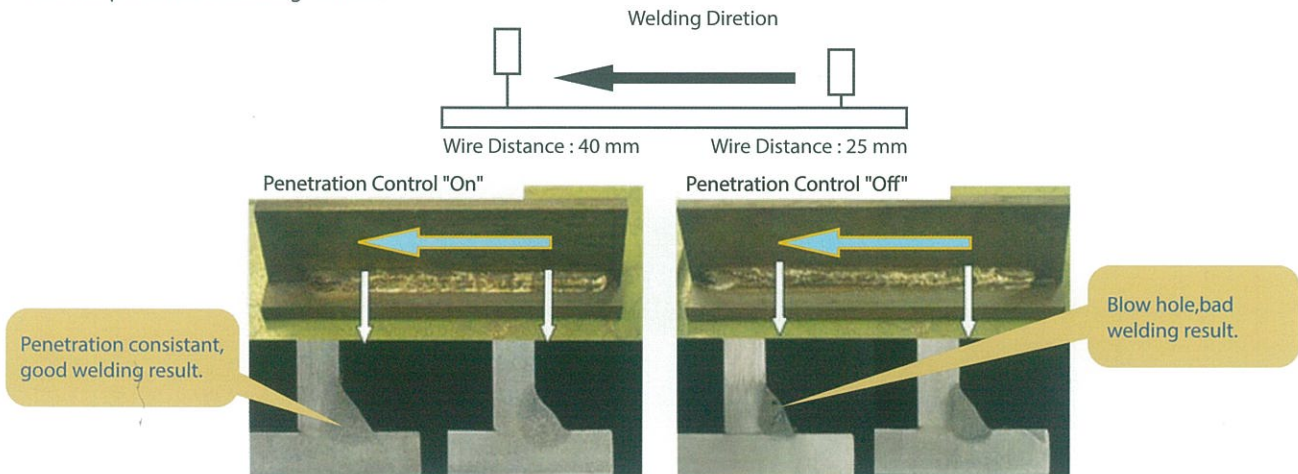
- JOB memory function, Up to 30 welding conditions can be stored in the internal memory.
- JOB reading function, Job 1 to 10 can be read from remote control box.
- Key lock function to prevent the welding conditions from being changed accidentally on the panel
- Password lock function to avoid any changes on welding condition by unauthorized user

5 Perfect energy saving and Safety design

- Auto-stop function of cooling fan while the intermission of welding works enables to save power consumption.
- Gas saving function automatically stops gas flowout after gas check period over 2 minutes.
- If welding restarted during gas check, after welding finish, gas check function automatically turn off and stop gas flowout.
- Besides saving gas, it prevents user from choking injury in a narrow working space due to excess CO₂ gas flowout.

6 Penetration Control function, prevents welding defect

- In CO₂/MAG welding, wire extension changes (narrow welding space) effect on the welding current, causing inconsistency of penetration depth and bead width.
- Using OTC Penetration Control Function, Even wire extension changes, wire feeding speed will be adjusted automatically to maintain stable welding current, therefore high quality welding is guaranteed.
- Long extension of wire easily swing at narrow welding root, large size work piece, and circle welding, keeping constant welding current is very important.
- In usual Co₂/MAG welding, wire extends, welding current, penetration of work piece, and welding bead width also change accordingly, that results in inconsistent welding quality.
- When using OTC "Penetration Control function", even wire extension extends, through arc voltage feed back, automatically adjust wire feeding speed, that keeps constant welding current.



Example : If wire extends (welder lift up hand), arc voltage feedback detects high value, wire feeding control function increases feeding speed, which decreases arc voltage, that ensures stable welding current, resulting in high quality welding.

7 High power factor, arc characteristic

- High power factor of the welding machine in term of kW/kVA value, that requires smaller capacity of primary power utility, saves power consumption and reduces cost.
- Wide range of arc characteristic, arc characteristic setting value base on "0", counterclock direction tune to harder arc, maximum to value "-99", clockwise tune to softer arc, maximum value to "99" Operator could adjust arc characteristic according to welding requirement and user's own preference.

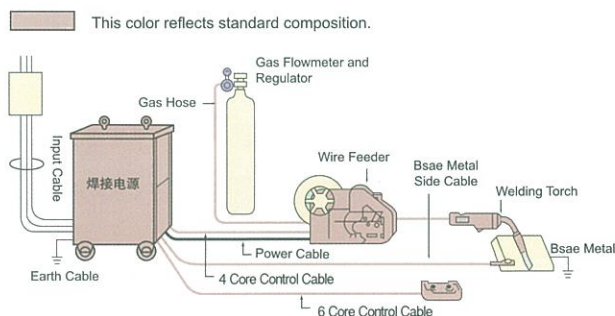
Hard Arc	Soft Arc
Stable arc in high speed welding	Reduce spatter
Improve weldability in positional welding.	Ensure smooth welding
Stable arc at long welding cable applied	Improve weldability at high current.
When hard-arc feeling needed.	When soft-arc feeling needed.

8 Choices of wire feeder type, meet different need of user

- wire feeder become smaller, less weight, easy for operator to move, require less space
- standard comes with 3 cable and 1 cable model, customer choose accordingly



Connection Diagram



Input Power Capacity and Cable specification

ITEM	CPVE-400	CPVE-500
Input Power Capacity	23 KVA or more	23 KVA or more
Fuse / Breaker Capacity	40A	50A
Input Side Cable	More than 6 mm ²	More than 10 mm ²
Wire Feeder Side Power Cable	More than 50 mm ²	More than 70 mm ²
Base Metal Side Power Cable	More than 50 mm ²	More than 70 mm ²
Grounding Cable	More than 6 mm ²	More than 10 mm ²

Standard Composition and Specifications

Welding Power Source	CPVE-400(S-2)	CPVE-500(S-2)
Rate Input Voltage	380V or 415V $\pm$ 10% , 50/60Hz	
Rate Output Current	400A/34V	500A/39V
Gas	CO ₂ /MAG/MIG	
Wire Type	Solid Wire, Flux-Cored Wire	
Wire Size	ϕ 0.8, ϕ 0.9, ϕ 1.0, ϕ 1.2	ϕ 0.8, ϕ 0.9, ϕ 1.0, ϕ 1.2, ϕ 1.4, ϕ 1.6
Rate Input	16.8KVA / 15.4KW	23.9KVA / 22.1KW
Range of Output Current	30-400A	30-500A
Range of Output Voltage	12-38V	12-45V
Rated Duty Cycle	60%	100%
Power Factor	0.92	0.92
Rated no-load Voltage	72V	70V
Welding Memory	30	
Insulating Level	Class H	
Dimension (WxDxH)	345x633x580(mm)	345x633x580(mm)
Weight	54kg	60kg
Wire Feeder		
Model	CM-8201	
Wire Size	(0.8),0.9,1.0,1.2,(1.4),(1.6)	
Wire Feeding Speed	2.2 - 22m/min	
Wire Carrying weight	Max 25kg	
Weight	11kg	11kg
Accessories		
Welding Torch	WT3510-SD	WT5000-SD
Power Cable	BKPT-5002	BKPT-7002
Remote Box	P30092Z	P30092Z



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