

Panasonic

Digital Inverter CO₂/MAG Welding Machine

YD-350/500/630FR2

General-purpose Digital display High performance

- CO₂/MAG welding
- Shield metal arc welding/Gouging
- Standard mode/Fast mode for thin plate
- Current limiting function/SPM interface

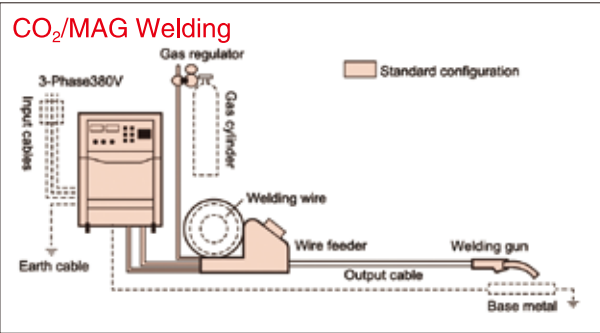


Panasonic pursues Only one in welding

Welding power source model		YD-350FR2	YD-500FR2	YD-630FR
Control method	-	Digital IGBT control		
Rated input voltage • Number of phases	-	AC380-415V * (Acceptable variation: 290 to 470)		
Input power frequency	Hz	50/60		
Rated input capacity	kVA/ kW	13.5/13.0	23.3/22.4	31.8/30.4
Output characteristics	-	CV(Constant Voltage characteristics)		
Rated output current	A	350	500	630
Rated output voltage	V	31.5	39	44
Rated duty cycle	%	60	100	
Rated output no-load voltage	V	70		69
Output current range	A	40-430(Resistive load output capability)	60-550(Resistive load output capability)	60-630(Resistive load output capability)
Output voltage range	V	16-35.5(Resistive load output capability)	17-41.5(Resistive load output capability)	17-44(Resistive load output capability)
Welding method	-	Digital IGBT control		
Enclosure protection class	-	IP23S		IP21S
Insulation class	-	155℃ (Reactor200℃)		
Cooling method	-	Forced air cooling		
Applicable welding wire diameter	mm	Solid MS 0.8/1.0/1.2	Solid MS 1.0/1.2/1.6	Solid MS 1.2/1.6
	mm	Flux core MS 1.0/1.2	Flux core MS 1.2/1.4/1.6	Flux core MS 1.2/1.4
Sequence	-	Welding / welding-crater / spot welding / initial-welding-crater		Welding / welding-crater / spot welding
Shielding gas	-	CO ₂ welding CO ₂ :100%; MAG welding Ar:80%,CO ₂ :20%		
Gas pre-flow time	s	0.2		
Gas post-flow time	s	0.5		0.2
Spot welding time	s	0.3-10 Continuous adjustment		
Dimensions (W × D × H)	mm	372×575×632		372×615×745
Weight	kg	54	60	76.5
Wire feeder		YW-35KB3	YW-50KM3	YW-60KC2 YW-60KCW2 (Water cooled)
Welding gun		YT-35CS4	YT-50CS4	YT-50CS4 YT-601CCW (Water cooled)
Gas regulator		YX-25CD1HAK		

*: Applicable to the nominal voltage; 380 V/ 415 V

■Wiring diagram



■Power supply equipment and connecting cables

Welding power source		YD-350FR2	YD-500FR2	YD-630FR2
Power supply capacity	General power supply	20kVA or more	35kVA or more	45kVA or more
	Generator	More than twice 15 kVA	More than twice 24 kVA	More than twice 31.8 kVA
Input protection (distribution box)	Fuse	32A	50A	125 A
	Circuit breaker	50A	63A	125 A
Cable	Welding power input side	6mm ² or more	10mm ² or more	10mm ² or more
	Welding power output side	35mm ² or more	70mm ² or more	95 mm ² or more
	Ground wire	Ground wire is equal to or greater than the welding power source input side.		

! Safety precautions

- Before attempting to use any welding product, always read the manual to ensure correct use.

Panasonic®

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The color is subject to be different to the real product.
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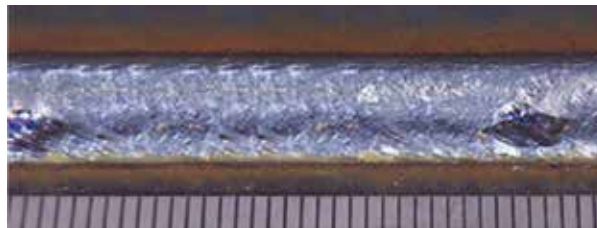
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High-performance, multifunctional and general-purpose CO₂/MAG welding machine

Multiple application modes (350/500FR2)

Standard mode (factory default mode)

This mode is suitable for general welding applications. You can fine tune the welding parameters as you wish according to the welding process requirement and operating habits. The unitary adjustment method enables the welding voltage to match the preset welding current.



Mild steel / fillet
Thickness 2.3mm, Current 110A
Voltage 17.2V, Welding speed 30cm/min
Gas: CO₂

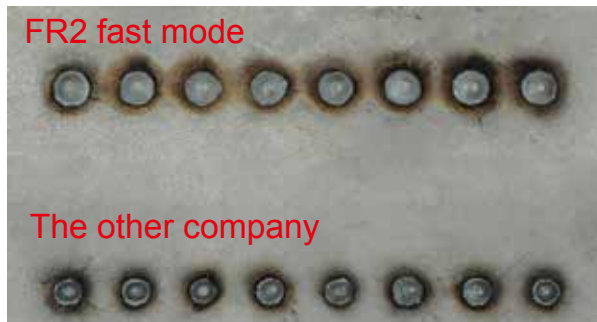


Mild steel / intersecting wire welding
Thickness 1.5mm, Current 95A, Voltage 17V
Welding speed 50cm/min
Gas (20% Ar + 80% CO₂)

Fast mode

The welding expert mode is designed for fast spot welding and short bead welding, offering rapid arc start and fast welding functions with high efficiency. Once the welding gun switch is pressed, arc starts; released, arc stops.

Comparison on the appearance of spot welding



Mild steel / spot welding
Thickness 3mm, current 160A
Unified voltage
Spot welding time: 0.6 seconds

Gap welding



Mild steel / fillet
Thickness 2mm, current 110A
Unified voltage
Clearance 3mm, welding speed 50cm/min

Stick welding function(SMAW)

- On the detailed menu, you can set the machine to "Manual welding" mode, suitable for all kinds of acid and alkaline electrodes (The maximum diameter is 5mm).
- This mode is excellent choice for long-distance welding operations, maintenance and other applications.
- The arc force and arc ignition current are adjustable.

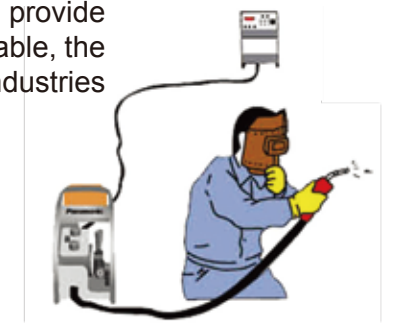
Improved arc ignition performance

By optimizing welding control method and data, the cold arc start performance is greatly improved, leveraging the success rate of cold and hot arc ignition up to 90% and 100% respectively.

High-performance wire feeding system

Thanks to IVF, a patented technology, wire feeding system is able to provide powerful and stable feeding force. Even connecting 40m extension cable, the wire feeder can supply the normal feeding force, fitting to the industries requiring long distance operation.

IVF (Induction Voltage Feedback) control, a unique Panasonic patented technology, enables wire feeding system with ordinary printed circuit motor to provide high feeding capability.



The powerful wire feeder is capable of long distance welding

The easy-to-use digital panel

- High-brightness seven-segment digital display shows parameters including preset current and voltage, actual welding current and voltage, error code, wire feed speed and time etc.
- By using touch buttons, parameter and functions can be set conveniently.



Outstanding operation environmental adaptability (350/500FR2)

- The allowable mains fluctuation range reaches $\pm 25\%$.
- Dust-proof design for PC Boards and power components.
- The enclosure protection class as high as IP23S.

Perfect protection functions

- Lightning protection
- Phase lack protection
- Output short circuit protection
- Overheat protection
- Over-voltage and under-voltage protection

A variety of advanced settings and management functions

- The display on current or wire feed speed is selectable (350/500FR2).
- The upper and lower limits of current and voltage (percentage) can be set. Once the actual values exceed the preset ones, the machine outputs an alarm signal, realizing welding quality monitoring.
- Current and voltage display compensation function can adjust the current and voltage display errors.
- You can use the storage and recall functions to store and recall 9 sets of welding conditions on the operation panel and 3 sets on the wire feeder.