Panasonic
ideas for life

FULL DIGITAL

CO_2/MAG Welding Machine

GB2 Series

Exceptional Craftsmanship,

GB2

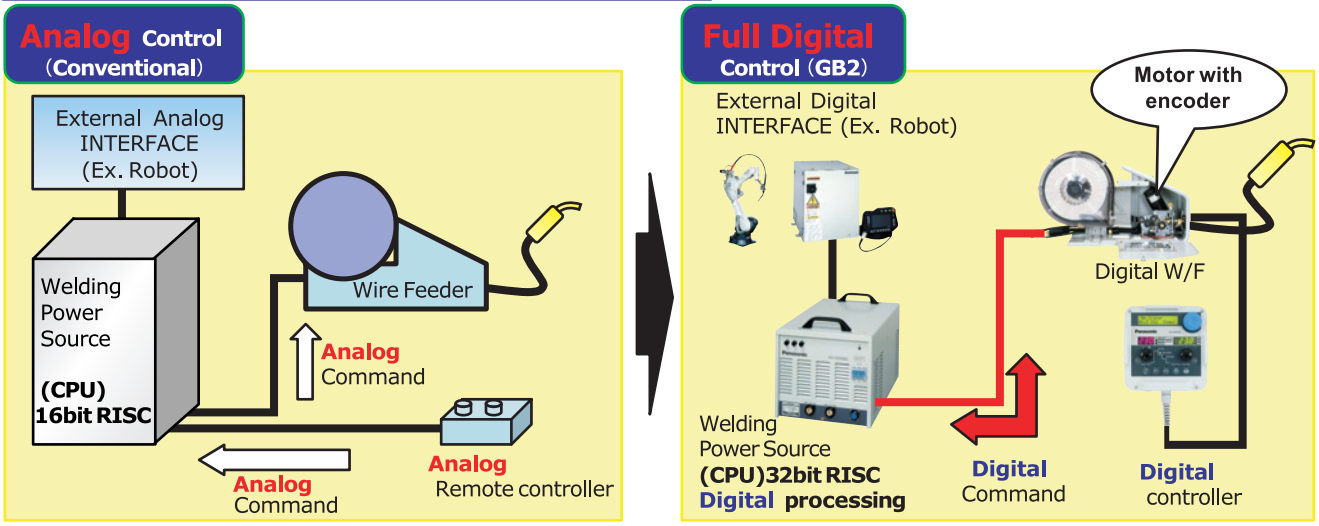
CE

c UL LISTED

"Exceeding the craftsmanship and recreating the professional skills"

As the crown of Panasonic's accumulated know-how for welding since we launched the first welding machine in 1957 and with the introduction of state-of-the-art Full Digital technology, we proudly introduce the GB2, to customers all over the world. A machine that will meet your demand for welding.

What's "Full Digital Control" ?



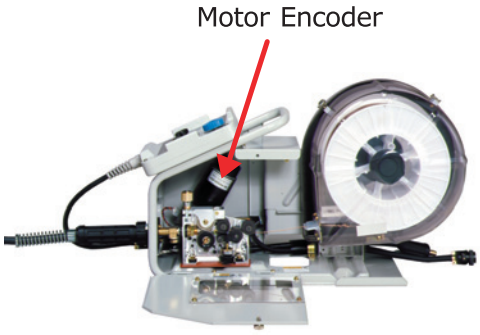
●Conventional welding machines use analog signals for communication between the welding power source, wire feeder and remote controller. Full Digital Control, original technology developed by Panasonic, for digital control of AC servo motors with encoders has been adopted to our wire feed motor with encoder. This high speed digital communication is not only used for motor control and waveform control but also for external communication, to devices such as robots, PLC for full automatic welding systems and so on. This digital communication allows quick response and high repeatability for welding.

Features of GB2

1. Superior welding performance

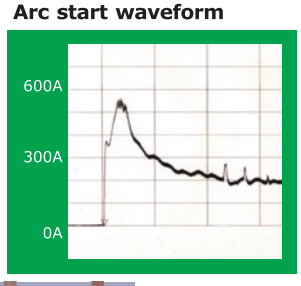
● Stable Wire Feed by motor with encoder

The GB2 uses a wire feed motor with encoder feed-back. The encoder feeds back the motor revolutions precisely and instantaneously to CPU, which commands the offset output value to keep the wire feed speed stable. If feed load on torch becomes higher, stable welding can be achieved. This allows excellent welding results under a wide variety of welding conditions.



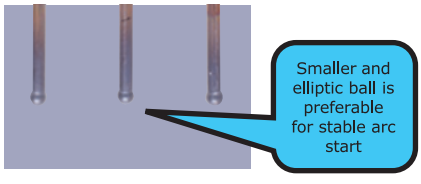
● Less spatter by high speed arc control

The GB2 uses a 32 bit RISC CPU, which allows us to achieve high speed waveform control. This control removes small secondary short circuits in the welding arc which is one of the factors that causes spatter and arc instability. This allows stable welding over a wide range of welding currents with less spatter generation. The GB2 especially realizes low spatter and high quality welding at the medium current range, and it shows excellent arc stability at the low current range.



● Quick and Instantaneous Arc Starts

The GB2 produces excellent arc starting performance by using a 2 step high current arc start and impulse starting technology in a short period of time. The GB2 also reduces the ball on the end of the welding wire at the end of the weld. Furthermore, the time to stop the motor is reduced by 1/3. This can make tack welding much quicker.



2. Accurate repeatability of welding conditions

●Easily viewable controller and simple operation

Welding current can be set by 1 ampere and welding voltage can be set by 0.2 volt by digital display and JOG dial. The display shows actual output value while welding.

YD-00DER1YAD

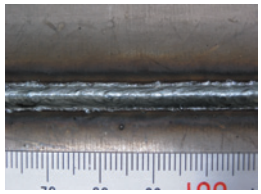
YD-00DFR1

●Convenient memory function

GB2 can store up to 32 welding schedules. This function is perfect for high-mix low-volume production and will reduce the set up time.

●Stable wire feed speed even if input voltage is not stable

Throughout the development of Full Digital technology, we focused on the fact that the key to high quality welding is stable wire feed speed. The GB2's set value of wire feed speed is maintained even if the primary input voltage fluctuates within the range of ±10% of rated input. This allows high quality welding and makes the bead appearance straight.



Analog control

Digital control

●Reduction of installation / set up time

Full Digital technology minimized the individual difference of welding machines and wire feeders. The best welding condition of one GB2 can be transferred easily to other GB2, This simplifies setup and allows for tighter process control.

3. Compact and light weight

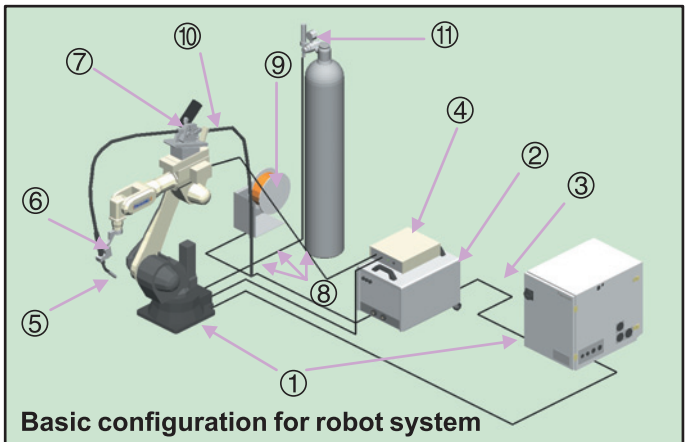
Full Digital technology also made it possible to lose the weight of power source and be compact. The volume and weight are drastically reduced compare to the conventional model, 53% less (volume) and 37% less (weight) in case of standard 350A model.

	Current model (350RF2)	350GB2
W x D x H (mm)	380 x 530 x 730 (380 x 605 x 730)※1	380 x 510 x 365 (380 x 510 x 494)※1
Volume (m3)	0.15 (0.17)※1	0.07 (0.10)※1
Weight (kg)	63 (63)※1	39.6 (48)※1

※1 : CE model

4. Excellent performance with Panasonic G2 robots

GB2 can be connected with Panasonic's G2 robots by a single digital communication cable, an interface box is no longer required. The power source can be recognized automatically by G2 robot controller.Through full digital control, the robot can digitally fine adjust the GB2's welding waveform. The GB2 shows excellent performance in tack welding coupled with the quick and precise movement of Panasonic's G2 robots will allow a drastic reduction in short weld cycle time.



Basic configuration for robot system

①Robot
②Welding power source
③Communication cable
④Encoder conversion unit
⑤Torch
⑥Safety holder
⑦Wire feeder
⑧Cable unit
⑨Wire reel stand
⑩Torch cable fixing unit
⑪Gas regulator

Please consult sales person to chose the most suitable accessories and options.

Configuration for manual welding

Combination of the equipment differs by the materials, thickness of the work pieces or welding methods. Please consult sales person to chose the most suitable accessories and options.

Power source	+ Controller	+ Wire feeder		+ Torch	+ Connection cable
YD-350GB2YAA	YD-00DER1YAD	Single feedroll	YW-35DE1*** (※1) YW-35DEC1***	YT-35ES1 (350A, 3m, 70%/35%)	YV-605GB2A (350A or less, 60mm², 5m) YV-610GB2A (350A or less, 60mm², 10m) YV-615GB2A (350A or less, 60mm², 15m) YV-620GB2A (350A or less, 60mm², 20m)
		Dual feedroll	YW-35DEB1*** (※1) YW-35DED1***	YT-35ESM1 (350A, 4.5m, 70%/35%)	
YD-350GB2YHD	YD-00DER1YAD	Single feedroll	YW-35DE1YAD	(※2)	
YD-350GB2YGD	YD-00DER1YAE	Single feedroll	YW-35DE1YAE	YT-35ES1YAD (350A, 3m, 70%/35%)	
YD-350GB2YLD	YD-00DFR1	Single feeder	YW-35DF1 (※3)	(※2)	YV-805GB2A01 (500A or less, 80mm², 5m) YV-810GB2A01 (500A or less, 80mm², 10m) YV-815GB2A01 (500A or less, 80mm², 15m) YV-820GB2A01 (500A or less, 80mm², 20m)
		Dual feeder	YW-35DF1YAD (※3)	YT-50CS4 (500A, 3m, 70%/35%)	
YD-500GB2YAA	YD-00DER1***	Dual feedroll	YW-50DEF1*** (※1)	YT-50CSM4 (500A, 4.5m, 70%/35%)	

(※1):with wire cover and spool brake

(※3) : Connection cable (60mm² x 2.45m) is included.

※Specification of torch shows ; (Rated current, length and duty cycle (CO_2/ MAG)).

(※2) : Please consult sales person.

※Specification of cable shows ; (Rated current, cross sectional area and length).

Specifications of power source

	350A				500A
	Standard model YD-350GB2YAA 	CCC model YD-350GB2YGD 	CE model YD-350GB2YHD 	CUL model YD-350GB2YLD 	**Standard** model YD-500GB2YAA 
Input voltage frequency	Φ3 - 200/220V 50/60Hz	Φ3 - 380V 50Hz	Φ3 - 400V 50Hz	Φ3 - 460V 60Hz	Φ3 - 200/220V 50/60Hz
Rated input	21kVA (16kW)	18kVA (16kW)	18kVA (16kW)	19kVA (16kW)	29kVA (26kW)
Output current	30-350A	30-350A	30-350A	30-350A	60-500A
Output voltage	12-36V	12-31.5V	12-31.5V	12-36V	14-45V
Rated duty cycles	60%	60%	60%	60%	100%
Applicable wire diameter	0.8/0.9/1.0/1.2 mm	0.8/0.9/1.0/1.2 mm	0.8/0.9/1.0/1.2 mm	0.030/0.035/0.045 inch	1.2/1.4/1.6 mm
Dimensions	380 x 510 x 365 mm	380 x 510 x 450 mm	380 x 510 x 494 mm	380 x 510 x 485 mm	380 x 580 x 945 mm
Weight	39.6 kg	46 kg	48 kg	107 lbs (48.6kg)	100 kg

※CCC model : complied with CCC standard for Chinese market CE model : complied with CE standard for European market CUL model : complied with CSA standard for Canadian market

⚠ Safety precautions

● Before attempting to use any welding product always read the manual throughly to ensure correct use.

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●Specifications subject to change without notice.

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