Panasonic CONNECT

Full Digital CO_2/MAG Welding Machines

GZ4 Series

Panasonic delivers a revolutionary CO_2 welding process.

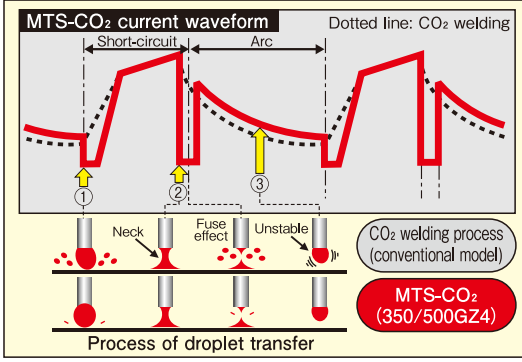
Enhanced Low-Spatter Performance

MTS-CO_2 Welding Process

Full software control elaborated in TAWERS. Stable CO_2 welding from thin to thick plates!

MTS Control
MTS: Metal Transfer Stabilization

A waveform control that stabilizes droplet transfer in CO_2 welding



①Initial short-circuit control
Detects initial short-circuit and then the secondary switching circuit reduces weld current rapidly to prevent micro short circuit that causes spatter.

②Neck control
Detects a neck of the droplet and then the secondary switching circuit reduces weld current rapidly to prevent fuse effect that causes spatter.

③MTS control
Suppresses weld pool oscillation at the time of short-circuit and short-circuit release. Also suppresses micro short-circuit during arcing time.

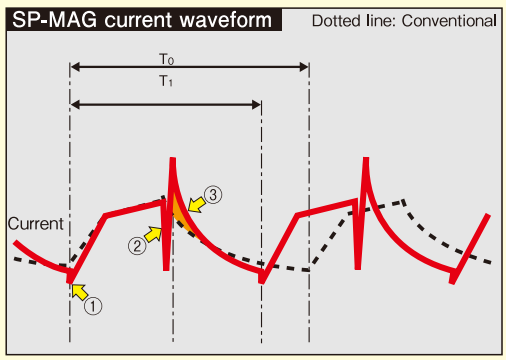
SP-MAG Welding

Equipped with TAWERS's SP Control praised by many of our customers

SP-MAG benefits:
- Reduced spatter (Reduced removal work)
- Shorter short-circuit cycle suited for high speed welding
- Shorter arc length for good bead appearance

SP Control
SP: Super-imposition

A waveform control that reduces spatter in MAG welding



①Initial short-circuit control
Detects initial short-circuit and then the secondary switching circuit reduces weld current rapidly to prevent micro-short circuit that causes spatter.

②Neck control
Detects a neck of the droplet and then the secondary switching circuit reduces weld current rapidly to prevent fuse effect that causes spatter.

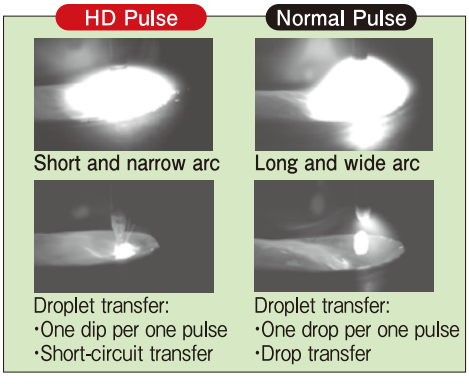
③SP control
Superimposes the current immediately after a short circuit release and allows for higher wire-melting speed. This makes the next short-circuit smooth and also makes the short-circuit cycle shorter (from from T_0 to T_1).

HD-Pulse Welding

Dedicated characteristic for 500GZ4
Rated output: 400 A at 100 % (pulse welding)

Equipped with TAWERS's HD-Pulse process. Best for high quality and high speed welding of medium and thick plates.

HD-Pulse benefits:
- Preventing undercuts during high speed welding.
- Dip (Short circuit) transfer enabling lower heat input with gap handling capability.
- Precisely controlled dip timing reducing spatter.



Specifications

①Welding Power Source		YD-350GZ4YUA	YD-500GZ4YAA
Rated input voltage*1 (Allowable fluctuation range)	VAC	380/415 (342 to 456)	200/220 (180 to 242)
Rated frequency	Hz	50/60	
Number of phases	—	3	
Rated input	kVA	17.7	28.8
	kW	16.0	27.5
Maximum no-load voltage	VDC	78	82
Rated output current	A	350 Non-pulsed welding only	Non-pulsed: 500 Pulsed: 400
Rated output voltage	V	36	45
Rated duty cycle	%	60	100
Output current range	A	30 to 350	Non-pulsed: 30 to 500 Pulsed: 30 to 400
Output voltage range	V	12 to 36	12 to 45
Power control method	—	IGBT inverter	
Memory	—	50 channels	
Welding processes	—	CO_2/MAG/MIG	CO_2/MAG/Pulsed MAG/ MIG/Pulsed MIG
Waveform control	—	Digital setting	
Sequences	—	・Main welding ・Main welding, crater filling ・Initial welding, main welding, crater filling	
Shielding gases	—	・CO_2 (100 %) ・MAG (80 % argon and 20 % CO_2) ・Stainless steel MIG (98 % argon and 2 % oxygen)	
Wire diameters	mm	0.8/0.9/1.0/1.2*2	1.2/1.4/1.6*3
Wire types	—	・Mild steel (MS) ・Flux cored mild steel (MS-FCW) ・Stainless steel ・Flux cored stainless steel (SUS-FCW)	
Pre-flow time	s	0.0 to 10.0 (in 0.1 s increments)	
Post-flow time	s	0.0 to 10.0 (in 0.1 s increments)	
Arc spot time	s	0.3 to 10.0 (in 0.1 s increments)	
Input power terminal	—	Terminal block (for 3-phase, M5 bolt)	
Output terminals	—	Copper plate terminals (M8 bolts supplied)	
Dimensions*4 (width x depth x height)	mm	380x550x640	378x543x896
Weight	kg	61	77

②Wire Feeder		YW-35DH1	YW-50DH1
Applicable welding torches		CC fitting type	
Rated current		350 A	500 A
Rated duty cycle		60 %	
Wire types and diameters*5	Mild steel	(0.8)/0.9/(1.0)/1.2 mm	1.2/1.4/(1.6) mm
	Flux cored mild steel	1.2 mm	1.2/1.4/(1.6) mm
	Stainless steel	0.9/(1.0)/1.2 mm	1.2/(1.6) mm
	Flux cored stainless steel	1.2 mm	1.2/(1.6) mm
Drive system		4 feed rolls (2 driven, 2 idle)	
Wire reel shaft		Equipped with brake	
Wire cover		Supplied	
Cable lengths		Control cable: 1.8 m Power cable: 1.8 m Gas hose: 4.8 m	
Weight		17 kg	18 kg

*5: Diameters in ( ) can be used with optional parts.

③Controller	YD-00DHR1YAA
Applicable wire feeders	YW-DH series
Cable length	2 m
Dimensions (width x depth x height)	195 mm x 170 mm x 50 mm
Weight	1 kg

●Power supply facilities

Welding power source	YD-350GZ4YUA	YD-500GZ4YAA
Capacity	17.7 kVA or more	28.8 kVA or more
Input power cable	5.5 mm² or more	22 mm² or more
Grounding wire	5.5 mm² or more	14 mm² or more

*1: Values are nominal.
*2: Only 1.2 mm is supported for flux cored mild steel and flux cored stainless steel wires, except 0.9 mm flux cored stainless steel wires for 100 % CO_2 welding.
*3: Only 1.2 mm and 1.6 mm are supported for flux cored mild steel and flux cored stainless steel wires.
*4: Input power terminal cover is not included in the depth.

Options

●Connection cables

Product no.	350GZ4	500GZ4	Remarks
YV-305GZ4A	○	—	38 sq, 5 m
YV-310GZ4A	○	—	38 sq, 10 m
YV-315GZ4A	○	—	38 sq, 15 m
YV-320GZ4A	○	—	38 sq, 20 m
YV-605GZ4A	○	○	60 sq, 5 m
YV-610GZ4A	○	○	60 sq, 10 m
YV-615GZ4A	○	○	60 sq, 15 m
YV-620GZ4A	○	○	60 sq, 20 m
YV-810GZ4A	—	○	80 sq, 10 m
YV-815GZ4A	—	○	80 sq, 15 m
YV-820GZ4A	—	○	80 sq, 20 m

●Analog interface for GZ4

Product no.	Remarks
YC-001UH1	1.2 m connection cable (harness) between welding machine and analog interface is supplied.

GZ4 can be used for low-spatter robotic or automatic welding!

Notes: ・A cable (up to 4 m) between robot and analog interface is customer supplied.
・Optional robot communication unit DEU00533 is necessary for welding power source.
・For details, consult a Panasonic sales representative.

●Welding torches*1

3-pin type torch switch receptacle
(3 m: dedicated torch)

Product no.	Remarks
YT-20CS4TAB	Rated 200 A, air cooled
YT-35CE4TAB	Rated 350 A, air cooled, lightweight
YT-35CS4TAB	Rated 350 A, air cooled
YT-50CS4TAB	Rated 500 A, air cooled
YT-50CSG4TAB*2	Rated 500 A, air cooled

*1: Use 3P type dedicated torches for GZ4 series.
*2: Rated duty cycle of pulse MAG welding: 20 % at 350 A

●Gas regulator

Product no.	Remarks
YX-25AD1	For CO_2/MAG/MIG

●Others

Description	Product no.	Remarks
Controller extension cable	YV-005DH1A	Cable length: 5 m
	YV-010DH1A	Cable length: 10 m
Jig terminal unit	DEU00535	*3
Robot communication unit	DEU00533	*4
Controller unit	DEU00580	*5
Wire feeder for automatic welding system	YW-35DH1TAN	For 350GZ4
Welding torch for automatic welding system*1	YT-CAT353T38	Air cooled, 2 m, curved
	YT-CAT353T39	Air cooled, 2 m, straight
Torch clamp for automatic welding system	TFM00167	

*3: Terminals for connecting ammeter, voltmeter, and flow meter are standard on jig terminal block of welding power source. To use "Stop", "Emergency stop", and "Current detection", this optional unit is necessary.
*4: To use GZ4 with Panasonic welding robot, this optional unit is necessary.
*5: This optional unit is necessary to connect controller to welding power source.

Safety precautions ・Before attempting to use any welding product always read the manual to ensure correct use.

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● Specifications are subject to change without notice.

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