

# 300BP4

Full Digital AC/DC TIG Welding Machines

AC TIG DC TIG DC Manual



300BP4

## New wave for aluminum welding More gentle, faster, more beautiful!

30 to 400 Hz AC output control changes aluminum welding.

An-arc control at will improves aluminum welding technique.

- Difficult fillet welding can be made easily. Insertion of filler wire is easy too.
- Convergence of arc increases, burn through can be avoided and tack welding is made easy.
- Welding modes for artisans who seek sophisticated skill are available, such as mix mode, exchange soft mode, etc.

**120Hz** Multi-layered pile, butt

Material: Aluminum (A5052)  
Plate thickness: 8.0 mm  
Current: 180A to 200A  
Speed: 10 cm to 20 cm/min.

**200Hz** Circular, fillet

Material: Aluminum (A5052)  
Plate thickness: 3.0 mm  
Current: Peak current 225A  
Base current 165A  
Speed: 20 cm/min.

**250Hz** Butt

Material: Aluminum (A5052)  
Plate thickness: 3.0 mm  
Current: 135A  
Speed: 25 cm/min.

**300Hz** Fillet

Material: Aluminum (A5052)  
Plate thickness: 6.0 mm  
Current: 280A  
Speed: 18 cm/min.

**400Hz** Fillet (tack welding of thin plate)

Material: Aluminum (A5052)  
Plate thickness: 1.0 mm  
Current: 110A  
Welding time: 0.5 sec.

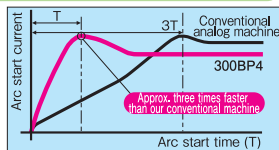
Easy to weld. Burn-through is apt to happen

Circular, fillet

Material: Aluminum (A5052)  
Plate thickness: 3.0 mm  
Current: Peak current 260A  
Base current 140A  
Speed: 38 cm/min.

### Soft and fast arc start

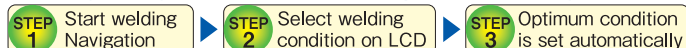
Both in AC and DC welding, start is three times faster than conventional machines. Full digital high speed CPU control makes it possible.



### Simple and direct condition setting.

Easy to understand condition setting. Reproduction of welding condition with high precision.

### Welding Navigation assists to find optimum welding condition.



### Rich database

Selectable from 5 kinds of material (aluminum, stainless steel, brass, titanium and copper)

### Customizable

Selected welding condition can be changed and stored.

### Expert mode enhances the proficient skills.

AC/DC TIG drooping characteristic and AC/DC TIG constant current characteristic are selectable.

### Advanced crater iterative function.

- Iterative arc-end function
- Variable current iterative function

### DC manual mode available

### Rated specifications

Model No.		YC-300BP4	
Rated input voltage, rated frequency	—	3-phase, 200/220V(common), 50/60Hz(common)	
Rated input	—	11.4kVA 9.7kW	
Rated output current	A	DC300(DC TIG) / AC300(AC TIG)	
		DC250(DC manual)	
Rated output voltage	V	DC20(DC TIG) / AC22(AC TIG)	
		DC30(DC manual)	
Rated duty cycle	%	40	
Welding current ※1	DC TIG	Standard	4~300
		Hard	10~300
	AC TIG	Hard	20~300
		Soft	10~300
	Mix TIG	A	10~300
	DC manual		4~250
	Expert mode DC TIG		4~300
Expert mode AC TIG		10~300	
Welding voltage ※1	DC TIG	Standard	16~20
		Hard	16~22
	AC TIG	Hard	16~22
		Soft	16~20
	Mix TIG	V	16~21
	DC manual		20~30
	Expert mode DC TIG		16~20
Expert mode AC TIG		16~22	
Up slope time	s	0.0~10.0	
Down slope time	s	0.0~10.0	
Gas pre-flow time	s	0.0~30.0	
Gas post-flow time	s	0.0~30.0	
Arc spot time	s	0.1~5.0	
AC frequency (AC TIG)	Hz	30~400 (standard : 70)	
MIX frequency (MIX TIG)	Hz	0.1~10 (standard : 1.0)	
DC ratio (MIX TIG)	%	10~90 (standard : 30)	
Pulse frequency	Hz	0.1~500	
Pulse width	%	5~95	
Applicable welding method	—	AC/DC TIG, DC manual	
AC balance	—	EP※2 10~50(standard : 30) [AC TIG, MIX TIG]	
Control method	—	IGBT inverter	
Crater control method	—	Switching of "YES", "NO" and "Iterative"	
High-frequency-wave generator	—	Spark oscillation type	
Cooling method	—	Forced air cooling	
Applicable shielding gas	—	100% Ar※3	
Memory function	—	50ch storage and reproduction	
Input terminal	—	Terminal block (3-phase, M5 bolt)	
Output terminal	—	Euro connector	
External dimensions (W×D×H)	mm	375×538×534※4	
Mass	kg	51	

※1 In the case of AC TIG or MIX TIG, when AC frequency is increased, the rated output current may not be available due to the voltage drop caused by the impedance (AC resistance) of the output-side cable. However, this is not the error of this product.

※2 EP : electrode positive

※3 Please use high purity Argon gas for welding (degree of purity : 99.9% or more).

※4 The depth excludes the input terminal cover.

### Power supply system capacity and required cable thickness

Item	Welding PS	YC-300BP4
Power voltage	—	200/220V common use 50/60 Hz common use
Phase number	—	3-phase
Device capacity (commercial)	kVA	11.4 or more
Fuse capacity (B type) (no-fuse breaker)	A	30(40)
Input side cable (Terminal hole)	mm <sup>2</sup>	5.5 or more (for M5)
Output side cable	mm <sup>2</sup>	38 or more*
Ground cable	mm <sup>2</sup>	Equivalent to input side cable or above

\* One-touch joint (Euro connector) included in accessory

### Options (equipment required for each application) ※Also see the page of options (pages 10 and 11).

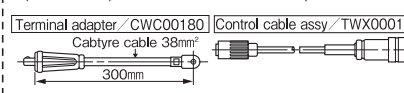
#### TIG welding torch

- Air cooling type (200A), Euro connector
- YT-20TS2TAG (with cable 4 m)
- YT-20TS2TAH (with cable 8 m)
- Water cooling type (300A), Euro connector
- YT-30TSW2TAG (with cable 4 m)
- YT-30TSW2TAH (with cable 8 m)

#### Extension cable (available on request) and applicable torch

Applicable torch	Air cooling		Water cooling
	YT-20TS2	YT-20TS2C1	YT-30TSW2 YT-30TSW2C1
Cable length			
5m	TWU20131	TWU30132	
10m	TWU20132	TWU30133	
15m	TWU20133	TWU30134	

- When you use an extension cable, purchase the terminal adapter (CWC00180) and the control cable set (TWX00018) and connect them with this product.



#### Cooling water unit

- YX-09KGC1
- Remote controller for BP4
- YC-30BPR4 (with 12-core cable 5 m) (can be connected to 300BP4)
- Tungsten electrode (JIS-Z3233) (dia.0.5~4.8mm)
- Argon gas regulator
- YX-251A

※ See the page of options for adapter for red torch model 1, 8, 7

[Please prepare the following on your side]

- Argon gas (for welding)
- Input and output side cables
- Ground cable