

# TSP

Thyristor control DC TIG Welding Machine

Widely used for many fields such as petrochemical industry, pressure vessels, electric power construction and stainless steel products.



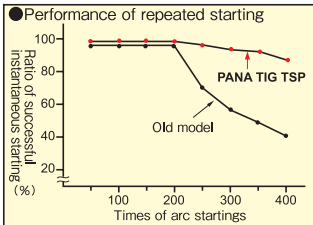
DC TIG DC Manual

300TSP

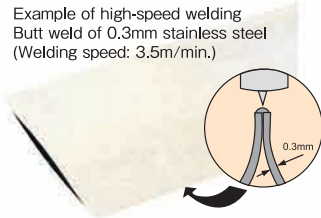
## DC pulse TIG/DC TIG welding

The ratio of successful arc starting is very high even at low current.

Thanks to the Panasonic's unique IC and thyristor technology for current control, the ratio of successful instantaneous arc starting is very high from low to high current.

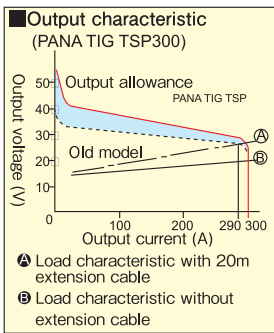


The arc is gentle and stable with perfect appearance of the weld even in welding at high speed. As the ripple factor of output current is reduced, the stable current can be kept. Therefore, the weld is even and looks well even in welding at high speed.



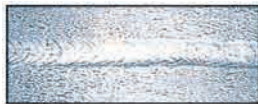
TSP realizes stable output even using the torch with 20m cable.

The unique constant current control is used so that the stable welding current can be kept even when the external factors such as input voltage, ambient temperature and arc length change.



Advantages of the Panasonic's DC pulse TIG welding:

The weld is tidy and looks well. The fusion weld is even and tidy. The weld quality is excellent without defects due to even fusion depth. It works better for all-position welding boards with different thicknesses.



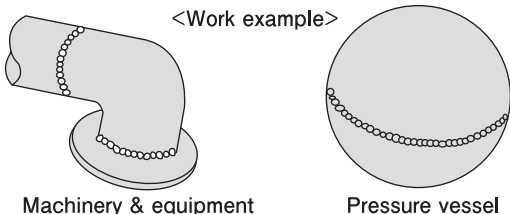
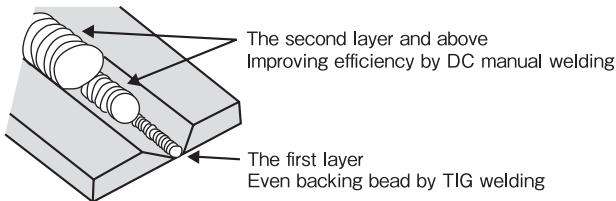
Stainless steel pipe (fusion weld)



Lap fillet weld of copper and brass

## DC manual arc welding

High quality weld can be achieved in welding of mild steel, stainless steel, high strength steel, Cr-Mo steel, etc.



## Rated specifications

Model No.	YC-300TSP	
Control mode	Thyristor	
Rated input voltage, number of phases	AC380V Three phase	
Input power frequency	Hz 50/60	
Rated input capacity	kVA/kW 16.5/11.5	
Rated output current	A 300	
Rated output voltage	V 22.6	
Rated duty cycle	% 60	
No-load voltage (DC)	V 57	
Output current range	TIG	A 5~300
	Manual arc welding	A 5~300
Output voltage range	TIG	V 10.2~22.6
	Manual arc welding	V 20.0~32.6
Crater current	A 5~300	
Up slope time	s 0.1~6	
Down slope time	s 0.2~10	
Gas preflow time	s 0.3	
Gas postflow time	s 2~23	
Arc spot welding time	s 0.5~5	
Pulse frequency	Hz 0.5~10	
Pulse width	% 15~85	
Control mode for crater current	Three control modes for crater, i.e. "YES", "NO" and "REPEAT"	
Arc starting mode	High-frequency arc starting	
Enclosure protection class	IP21S	
Insulation class	H	
Cooling mode	Forced air cooling	
Overall dimensions(W×D×H)	mm 470×560×845	
Mass	kg 136	

## Considerate function design oriented customers' demands



### (1) Initial current control

For preventing from burning through when welding thin boards and also for checking the arc starting point.

### (5) Welding current control

A wide range of weldable thicknesses with the current range of 5A - 300A.

### (2) Up slope time control

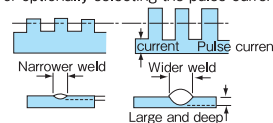
For improving the weld quality at the starting end by adjusting this time.

### (6) Down slope time control

For achieving perfect smooth ending weld by adjusting the welding current Down slope time.

### (3) Pulse current control

For optionally selecting the pulse current.

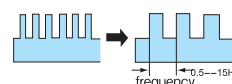


### (7) Crater current control

For preventing from arc craters and weld cracks.

### (4) Pulse frequency control

Making it possible to control heat input by adjusting pulse frequency



### (8) Gas postflow time control

For preventing from oxidation of the ending end of weld.

### (9) Three modes of crater current control for different purposes

(Ending controls "YES", "NO", and "REPEAT")

### (10) Arc spot welding

(The accessories such as nozzles and connectors are optional.)

### (11) Pulse width

Adjustable pulse width in the range of 15-85%.