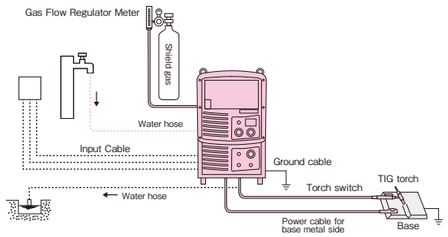
■Conection diagram

The parts in this color are standard components.



■Input power capacity and Cable Specifications

Model name		type	WB-T500P
Phase			3 phase
Input Power Capacity		kVA	more than 31
Fuse/Breaker Capacity	220V	A	125
	380V		75
	400V		60
	460V		
Input Side Cable Grouding Cable	220V	mm²	more than 22
	380V		more than 14
	400V		more than 8
	460V		
Power cable for base metal side		mm²	60

Standard Composition

General Name	Welbee Inverter T500P
Welding power supply	WB-T500P
Welding torch	Water-cooled
	AW-12
Welding torch an adapter	BBAWD-1201
Power cable for base metal side(3m)	BKPDT-6003
Gas hose	BKGFF-0603

※When using Automatic machines or with the current near the rated output current, use a cable with 1 size higher thickness.

Standard Specification

General Name		Welbee Inverter T500P	
Welding Power Supply	Unit form	WB-T500P	
Rated output current	A	DC TIG	DC Stick Welding
		500	400
Rated input voltage	V	Specify Primary Voltage when ordering	
Phase		3 phase	
Rated frequency	Hz	50/60	
Rated input	kVA	20.0(18.7kW)	18.4(17.2kW)
Rated usage rate	%	60	
Max. no-load current	V	70/77	
Rated load voltage	V	30	36
Output current range	A	2 to 500	10 to 400
Pre Flow time	s	0 to 20	
Post flow time	s	0 to 60	
Up slope time	s	0 to 10	
Down slope time	s	0 to 10	
Crater Filler Control		「ON」「OFF」「Repeat」change type	
Arc spot time	s	0.1 to 10	
Pulse frequency	Hz	0.1 to 999	
Pulse Width	%	50 (Possible to change function key 5 ~ 95)	
MAX. Program Storage		100	
Start Type		High frequency start/ Touch start	
Outside dimension (WxDxH)	mm	395×710×640	
Mass	kg	51	
Welding torch	Unit form	AW-12※1	AW-33※1
Rated current	A	500	
Cooling Method		Water colling	
Rated usage rate	%	100	
Applicable Electrode Diameter※2	mm	(1.0),(1.6),(2.4),3.2 4.0,(4.8),(6.4)	(1.0),(1.6),(2.4),3.2 (4.0),(4.8),(6.4)
Cable length	m	4 , 8	

※1 to connect the AW-12 and AW-33 is necessary adapter BBAWD-1201
※2 For use electrodes size inside the ( ) are sold separately

Accessory (supplied)

General Name	Welbee Inverter T500P	
Welding torch	AW-12	AW-33
Torch switch	1(4m or 8m)	—
Cable Ties	2	—

■Optional parts

Remote control

Product name	Model
Analog remote control	K5023L00(ENG)/K5023M00(CHN)

Product name	Model
Digital remote control	E-2440
CAN Cable	BKCAN-0405(5m)
	BKCAN-0410(10m)
BKCAN conversion connector	K5810B00

Torch an adapter

Product name	Model
AW-17	BBAWD-1701
AW-26	BBAWD-2601
AW-18	BBAWD-1801
AW-12	BBAWD-1201

Torch cable length

Model	4m	11m	16m
AW(D)-17	BAWE-1504	BAWE-1511	BAWE-1516
AW(D)-26	BAWE-2004	BAWE-2011	BAWE-2016
AW(D)-18	BAWE-3004	BAWE-3011	BAWE-3016
AW-12	BAWE-5004	BAWE-5011	BAWE-5016
AW-33	BAWE-5004	BAWE-5011	BAWE-5016

Remote control cable length

4m	11m	16m
BKCPJ-0404	BKCPJ-0411	BKCPJ-0416

In accorddance with DAIHEN's policy to make continuing improvements,design and/or specifications are subject to change without notice and without any obligation on the part of manufacturer.

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be smart tough

Welbee

Welbee Inverter Series

T500P

DC Pulsed TIG Welding Machine

Be smart

NEW

Large-capacity 500A current output achieves high-efficiency welding.

Increased low-current stability allows just one welding machine to support a wide current range for welding of thin to thick plates.

The "Welding Condition Setting Guide" function makes automatic setting of welding conditions.

The "Welding Control" function early detects welding errors.

Extensively applicable to welding of ultrathin plates to thick plates. This DC pulsed TIG welding machine achieves high-efficiency and -quality welding.

Be tough

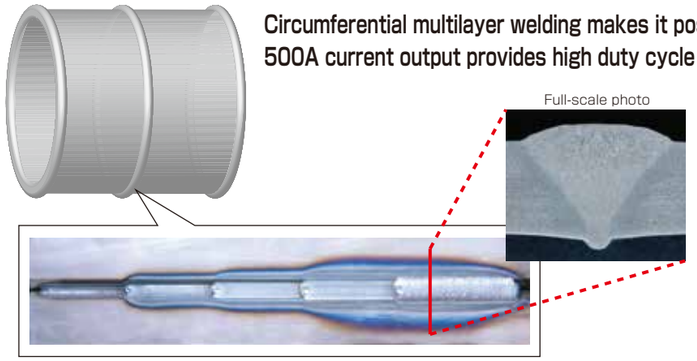
DAIHEN Corporation

T500P

Achieves high quality welding under ideal welding conditions, including a variety of different plate thickness, joints, and materials.

Large-capacity 500A current output achieves high-efficiency welding.

Large-capacity 500A current output achieves continuous thick-plate welding and high-speed thin-plate welding for a wide range of capabilities. This significantly contributes to enhancing the efficiency of the welding process.

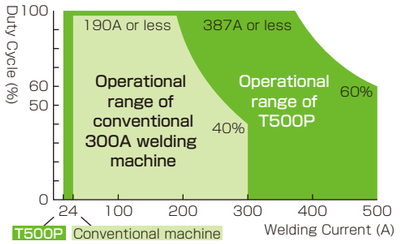


Example of circumferential multilayer welding of steel pipe: Five-layer welding of mild steel material of 12 mm in thickness by butt welding (Y-groove welding) Welding current: 1st layer 300A, 2nd 300A, 3rd 280A, ...

Circumferential multilayer welding makes it possible to continuously weld thick steel pipe. 500A current output provides high duty cycle that is more than adequate for thick plate.

T500P is available for use with duty cycle higher than that for conventional welding machines.

Welding current vs. Duty cycle



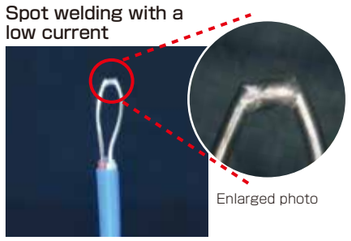
Increased low-current stability allows just one welding machine to support a wide current region for welding of thin to thick plates.

The T500P allows welding at a minimum of 2A.

Stable arc length is provided even with a current of 2A.

Diameter of tungsten electrode: 1.0 mm
Welding condition: Welding current set to 2A

Spot welding with a low current



Diameter of thermocouple: 0.3 mm
Welding condition: Welding current set to 2A

The setting range of pulse frequency is extended up to 999 Hz, leading to further improvement of arc stability at a low current.

exact repeat of above statement.

SUS304 stainless steel plate of 0.3 mm in thickness by butt joint, Welding conditions: Base current set to 2A, Pulse current set to 10A, and Pulse frequency set to 999 Hz

Current setting can be made in increments of 0.1A in the current region of 10A or less, thus making it possible to set ideal welding conditions to ultrathin plates.

Comparison of results of welding at different current

Butt joint of SUS304 stainless steel plate of 0.3 mm in thickness in DC mode

Adjustable range of T500P: Current: 8A → Current: 8.5A **Increased the current by 0.5A**

A weld bead meanders due to a lack of welding heat input. | Fine current regulation delivers stable weld beads. | Excessive welding heat input results in welding holes.

Conventional current regulation range: Current: 8A → Current: 9A Increased the current by 1A

The "Welding Condition Setting Guide" function makes automatic setting of welding conditions.

A variety of basic settings can be called by pressing the "Welding Condition Setting Guide" key before welding.

Just setting four parameters four parameters (diameter of electrode, material of base metal, shape of weld joint, and thickness of base metal) enables the welding machine to automatically adjust the welding conditions, such as "welding current, initial current, and crater current." This facilitates making adjustment of welding conditions to enhance the efficiency of welding work, and further supports the automatic setting of pulse conditions.

1. Diameter of electrode (Selectable from 1.6 mm, 2.4 mm, 3.2 mm, 4.0 mm, 4.8 mm, 5.6 mm, and 6.4 mm)
2. Remove of base metal (mild steel or stainless steel)
3. Shape of weld joint (T-shaped fillet, butt, lap fillet, or corner)
4. Thickness remove (0.5 mm or more)

On completion of setting of these four conditions on the front panel of the power supply, appropriate welding conditions are called.

Operation flow of Welding Condition Setting Guide

1. Press the "Weld Process" key to choose a welding process.
   - A Choose "DC TIG."
2. Press the "Welding Condition Setting Guide" key to select a parameter [Diameter of electrode, Material of base metal, Shape of weld joint, or Thickness of base metal] that you want to set.

Appropriate welding conditions have been determined.

The "Welding Control" function early detects welding errors early.

This function monitors various control items while welding is in progress to transmit an alarm as soon as any welding error occurs, thus contributing to welding quality control.

The function checks 16 control items to reduce the workload of welding workers.

Major Welding Control Items

A wide variety of control data is displayed.

Intended Use	Control Item	Welding control data
Warning of welding error Early detection of welding fault	Welding quality	Setting of average value monitoring range (current/voltage)
		Setting of permissible error range of current on the positive side (%)
		Setting of permissible error range of current on the positive side (%)
		Upper limit value of welding voltage (V)
		Lower limit value of welding voltage (V)
		Error determining time (s)
		Setting of operation to be performed when an error in the welding conditions is detected
Management of working time	Welding quality	Result of control of total welding time (min.)
		Target value (min.)
		Operation to be performed when the target value is attained
Prevention of forgetting welding	Number of welding points	Result of control of the number of welding points (number of times)
		Target value (number of times)
		Operation to be performed when the target value is attained

DINSE connector is used for output pin.

- Eliminate this redundancy. Eliminates the need for a tool to be used to connect torch power cable and base metal cable.
- Eliminate this redundancy. Reduces time to replace the torch, thus increasing the work efficiency.
- Eliminate this redundancy. Facilitates mounting a torch for conventional welding machine by using a conversion adapter.