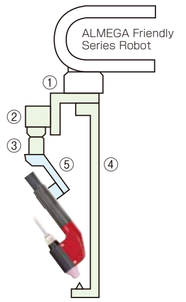


A combination of the F300P and the FD Series Robot readily realizes high quality welding performance.

Brackets for the connection of the FD Series Robot.

Torch	Part Name	Part Number
Common	①Shock sensor mounting bracket	L11184B00
	②Shock sensor unit	L6980B00
	③Nozzle holder assembly	L6380C00
	④Torch gauge assembly	L6300C00
PTPW-0701 PTPW-1001 PTPW-1501 PTPW-2001	⑤Plasma torch bracket Note: Besides the bracket, a teaching gauge and cap gauge are required for each torch.	L11184C00
PTPW-3001E	⑥Plasma torch bracket Note: Besides the bracket, a teaching gauge and TCP gauge are required for each electrode size.	K5978B00

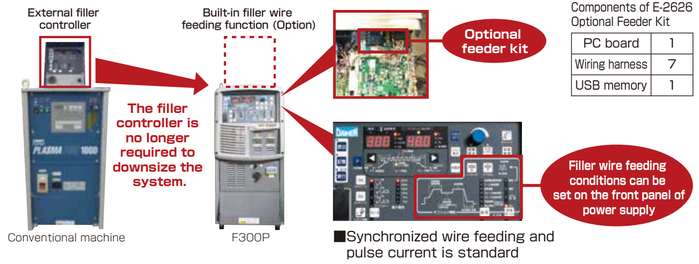
Connection adapters in order to use the conventional torch

Part Name	Part Number	Shape	Model of Conventional Torch
15A torch-connection adapter	K5929A00	Angle	PT15H315E
70A torch-connection adapter	K5930A00	Straight-long	PWT100V42501A
		Angle-long	PWT100H42501A
100A torch-connection adapter	K5931A00	Straight	PWT100V425A
		Angle	PWT100H425A

Part Name	Part Number	Shape	Model of Conventional Torch
150A torch-connection adapter	K5932A00	Straight-long	PWT200V42901A
		Angle-long	PWT200H42901A
200A torch-connection adapter	K5933A00	Straight	PWT200V429A
		Angle	PWT200H429A

Note: The conventional torch can be connected to the power supply by using the torch-connection adapter.

Mounting an optional feeder kit enables feeding of filler wire.

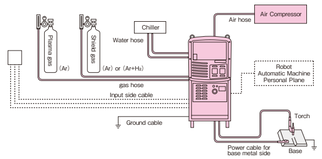


Components of E-2626 Optional Feeder Kit

PC board	1
Wiring harness	7
USB memory	1

■Synchronized wire feeding and pulse current is standard

■Conection diagram The parts in this color are standard components.



■Input power capacity and Cable Specifications

Model name		type	WB-T300P					
Toach in use			15A	70A	100A	150A	200A	300A
Phase			3 phase					
Input Power Capacity		kVA	more than 1.0	more than 6.0	more than 11.0	more than 17.0		
Fuse/Breaker Capacity	220V	A	30				55	
	380V						40	
	400V							
	460V							
Input Side Cable Grouding Cable	220V	mm^2	more than 14					
	380V		more than 4.0					
	400V							
	460V							
Power cable for base metal side		mm^2	3	22	60	80		

Standard Composition

General Name	Welbee Inverter F300P
Welding Power supply	WB-F300P
Welding torch	Specified in the〔Specifications of Torches〕
Power cable for base metal side	Specified in the〔※1〕
Gas hose (5m)	BKHGGF-0705
Water hose (5m)	BKWCF-0905
Air hose (5m)	BKACF-0805

Standard Specification

General Name	Unit form	Welbee Inverter F300P					
Welding power supply		WB-F300P					
Rated Output Current	A	300					
Rated Input Voltage	V	Specify Primary Voltage when ordering					
Phase		3 phase					
Rated input	kVA	16.3(14.4kW)					
Rated usage rate	%	100					
Pilot arc current	A	3 to 5	5 to 10				10 to 20
Torch rated output current	A	15	70	100	150	200	300
Rated load voltage	V	28.6	30.8	32	34	36	40
Output current range	A	0.5 to 15	10 to 70	10 to 100	10 to 150	10 to 200	10 to 300
Rated no-load voltage	V	164／178					
Up slope time	s	0 to 10					
Down slope time	s	0 to 10					
Pulse frequency	Hz	0.1 to 999					
Pulse duty	%	5 to 95					
Spot time	s	0.01 to 10					
Number of welding condition		100					
Plasma gas flow rate	ℓ/min	0.10 to 5.00(at 0.2Mpa)					
Shield gas flow rate	ℓ/min	0.5 to 25.0(at 0.2Mpa)					
Outside dimension (WxDxH)	mm	395×710×835					
Mass	kg	95					

※1 Power cable for base metal side

Kind of the welding torch	Base material side power cable
150A torch	BKPTF-0305
70A、100A torch	BKPTF-2205
150A、200A torch	BKPTF-6005
300A torch	BKPTF-8005

Necessar spec for chiller

Welding torch	A	15	70	100	150	200	300
Pump pressure	MPa	MAX. 0.3			MAX. 0.6		MAX. 0.5
Water quantity	ℓ/min	2.0 or more	1.1or more		2.9 or more		4.0 or more
Cooling capability	kW	0.3 or more	2.1or more		4.0 or more	5.0 or more	3.5 or more
Water temperature	℃	40 or more	25 or less				

Filler wire feeder

Product name	Model
Wire feed option kit	E-2626
Wire feeder	CM-7472
Robot feeder unit	AFT-4211

※ to use wire feeder is necessary wire guide and conduit

Remote control

Product name	Parts number
Analog remote control(6m)	K5640R00(ENG)

Field bus interface

Product name	Model
Field bus welding tool	IFR-800EI (EtherNet / IP)
	IFR-800PB (PROFIBUS)
F300P setup kit	K-5976

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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DAIHEN

be smart tough

Welbee

Welbee Inverter Series

F300P

Plasma Welding Machine

1. *Keyhole welding achieves high speed and* ***high quality welding.***
2. *Freely variable pulse frequency and width* ***enhances the pulse function*** *that prevents distortion and burn through.*
3. *Built-in* ***torch recognition function*** *prevents the torch and consumables from burning out.*
4. *Built-in* ***mass flow controller*** *provides stable plasma gas supply.*
5. *A rich torch lineup offers* ***two types of nozzle systems.***

NEW

Daihen's unique torch construction supports enhanced welding stability and a wide current range.

DAIHEN Corporation

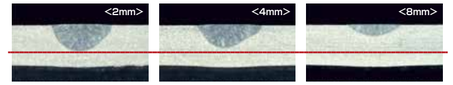
F300P

A plasma welding machine provides high quality welding by a plasma arc having high energy density.

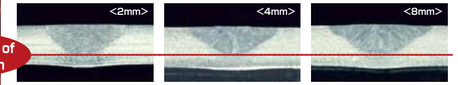
Muffler　Manifold　Stainless thermos　Motorcore　PLASMA

■Comparison between TIG welding and Welding by F300P

TIG welding



Welding by F300P



Stable depth of penetration

Base metal: SUS304 stainless steel. The figures in angle brackets represent a distance between the torch and the base metal. Welding current: 150A, Welding speed: 20 cm/min.

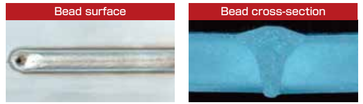
1. High Quality Welding　Supports keyhole welding.

■One-side square-butt full penetration welding is achieved by melting the base metal with high-temperature energy created by a plasma arc and re-solidifying with or without filler metal it.

Click here to play the video of keyhole welding.

Advantage 1

- Immunity to standoff delivers stable penetration.
- Capable of keyhole welding with a high energy arc density that TIG welding cannot provide.

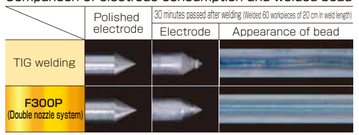


Shape of weld joint: Square butt, Welding current: 180A. Base metal: SUS304 stainless steel (6 mm thick), Provided with filler wire and after-shielding jig.

Advantage 2

- Low electrode consumption and stable beads even for galvanized steel plate that is difficult to be welded.

Comparison of electrode consumption and welded bead

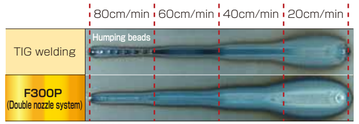


Base metal: Galvanized steel plate of 1.6 mm in thickness (basis weight: 45 g/m2). Shape of weld joint: Bead on plate. Welding current: 100A, Welding speed: 40 cm/min., Diameter of tungsten electrode: 3.2 mm, Distance between torch and base metal: 3 mm, Shielding gas: Argon at a rate of 10 ℓ/min., Plasma gas: Argon at a rate of 0.5 ℓ/min.

Advantage 3

- High-speed welding draws a quality bead on base metal without causing humping remove.

Effect of welding speed



Base metal: SPCC, Welding current: 150A, Standoff: 3 mm, Shielding gas: Argon at a rate of 10 ℓ/min., Plasma gas: Argon at a rate of 0.5 ℓ/min.

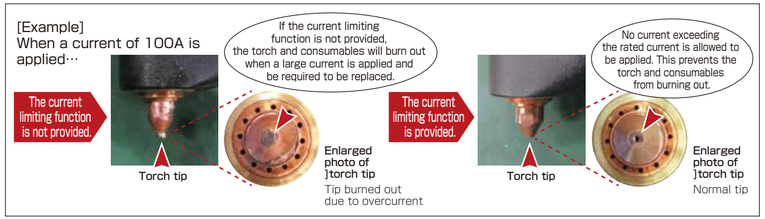
2. Enhanced Pulse Function　Enhances the functions of adjusting pulse frequency, etc.

■Compared with conventional welding machines, the F300P provides higher pulse frequency and variable pulse width.
■Arc spot welding time and slope time can be set in 10 milliseconds increments to enable more precise sequential operation.
①The digital setting system was designed considering the accurate settings required to deliver total control.
②The standard pulse function prevents distortion and turn through.

	Conventional VRPW-200	F300P
■Pulse frequency	1 to 200 Hz	**0.1 to 999 Hz**
■Pulse width	Fixed at 50%	**5 to 95%**
■Slope time	0.1 to 5.0 s (in increments of 0.1 s)	**0 to 10.00 s (in increments of 0.01 s)**
■Arc spot welding time	0.1 to 5.0 s (in increments of 0.1 s)	**0.01 to 10.00 s (in increments of 0.01 s)**
■Memory of conditions	N/A	**100 conditions**

3. Torch Recognition Function　Provides safety design to prevent the torch and consumables from burning out.

■This function limits a current so that a current exceeding the rated current of the torch will not be applied to it. For example, when a torch which rated current is 15A is connected, a current of 16A or more cannot be set.



4. Digital Gas Flow Regulator (Mass Flow Controller)　Ensures the stable supply of plasma gas.

■The control of plasma gas is important for plasma welding. This built-in mass flow controller ensures the stable supply of plasma gas at a constant flow rate.

Click here to display comparison between the float type and the mass flow control system

Conventional VRPW-200　Float type (Analog type)

- Setting errors and deviation are easily overlooked due to visual regulation of gas flow rate.
- Gas flow rate significantly varies with a variation in the gas supply pressure.

F300P　Mass flow control (Digital type)

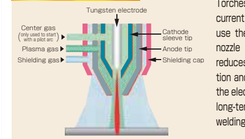
- Digital gas flow rate regulation avoids setting errors and deviation.
- Even if the gas supply pressure varies, the gas flow rate remains unchanged. (The mass flow controller is provided with automatic regulating function.)
- The gas flow rate is monitored. In the event of gas shortage, an error is displayed.

5. Rich Torch Lineup　Supports high quality welding and automation from low-current to high-current applications.

■Rich lineup of torches with two types of nozzle systems to meet customers' applications.

Double nozzle systems

Double nozzle system



Torches having a rated current of 200A or less use the unique double nozzle system, which reduces the consumption and deformation of the electrode to provide long-term and stable welding.

Single nozzle system

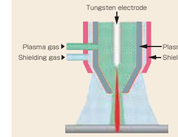
Click here to display the advantages of PTPW-3001E.

The PTPW-3001E is a tough torch designed to operate with 300A current and 100% duty cycle, and available for keyhole welding of stainless steel plate up to 8 mm in thickness.

■Provided with a jig dedicated to electrode replacement as standard accessory

When electrode consumption shortens the electrode length, it can be readily removed by using this electrode replacement jig. This makes the usable length of the electrode 1.7 times as long as electrodes used with conventional torches.

Single nozzle system



Torches having a rated current of 300A use the single nozzle system that facilitates downsizing the torch. This system is suitable for large-current welding of thick plates and enhances the welding efficiency.

Model nomenclature of Plasma Welding Torch

PT P W - 300 1 E

- PT: Plasma Welding Torch Series
- P: Shape of torch — P: Straight, N/A: Angle
- W: Cooling system — W: Water cooling
- 300: Maximum current — 015: 15A, 070: 70A, 100: 100A, 150: 150A, 200: 200A, 300: 300A
- 1: Series No.
- E: Compliance with standards — E: CE, C: CCC, N/A: Non-compliant

Specifications of Torches

Welding torch	Model	PTW-0151	PTPW-0701 / PTW-0701	PTPW-1001 / PTW-1001	PTPW-1501 / PTW-1501	PTPW-2001 / PTW-2001	PTPW-3001E
Rated current	A	15	70	100	150	200	300
Rated duty cycle	%	100					
Cooling system	—	Water cooling					
Diameter of electrode to be used	mm	1.2	2.4		3.2		4.8
Cable length	m	4	6				
Mass	kg	1.8	2.6		3.1		4.2