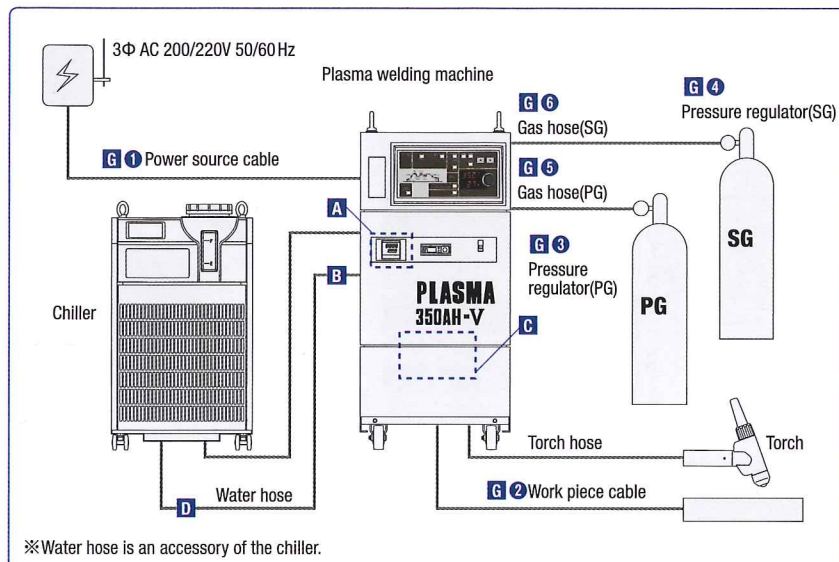


Composition



Specification

Plasma Welding Machine

Model	NW-150AH-V	NW-350AH-V
Input voltage	V	3Φ AC 200/220V ±10% 50/60 Hz
Rated output current	A	150 350
Output current range	A	5-150 10-350
Rated duty cycle	%	70
Maximum no-load voltage	V	70
Rated load voltage	V	31 39
Control method	IGBT inverter control constant current system	
Output characteristic	constant current characteristic	
Cooling method	Forced air cooling	
Outside dimensions(W×D×H)	mm 400×690×840	
Weight	kg Approx.70	
Pulse frequency	Hz 0.5~999	
Pulse width	% 15~85	
Pilot gas flow rate	ℓ/min 0.1~5.0	
Shield gas flow rate	ℓ/min 0.5~25(internal SG flow rate adjustment unit)	

Any combination as desired for your applications

Welding Machine

Torch

Chiller

Choice of options

A PG control

Item	Model
1 Mass Flow Controller	NMFC0005
2 Digital flow meter	NDFM710

B Cooling water flow rate sensor

Item	Model
1 Digital flow switch	NDFS-504
2 Flow switch	NFSW-TN

Select either 1 or 2 for A and B.

Arbitrary options ※1

C Want to externally check the output state

Item	Model
1 Current monitor	WK-5972
2 Voltage monitor	WK-5972
3 PG flow rate monitor	WK-5972

D Want to prevent leakage of water during tip replacement

Item	Model
1 Cooling water drainage unit	DGU-A

E When combining with tank-less chiller

Item	Model
1 Cooling water circulation unit	WCU-597

※1. Select only those needed.

F Want to efficiently use electricity

Item	Model
1 Power factor improving unit	NW350/150-5 DCL

G Installation parts

Item	Model
1 Power source cable	14sq × 4c × 5m
2 Work place cable	38sq × 5m
3 Pressure regulator(For PG)	NFR
4 Pressure regulator(For SG)	NFR
5 Gas hose(For PG)	EPH-4m
6 Gas hose(For SG)	TBH-4m
7 Base frame	The base frame depends on the welding equipment and the model of chiller.

Peripheral Equipment Option

When remotely setting welding conditions		
Item	Model	Remark
Remote controller	WCU-596	
When combining with a robot		
Item	Model	Remark
Robot interface cable (analog)	AIFC-10m	The specification depends on the manufacturer and model of the robot; please consult us.
Robot interface cable (communication)		Combination with YRC1000 (manufactured by Yaskawa Electric Corporation) is supported. ※Please consult us for other models of robot.
Communication unit	CMCTU-I CMCTU-C	
When replacing with existing equipment		
Item	Model	Remark
Signal conversion unit	SCUV-66	
Want to save welding conditions		
Item	Model	Remark
Welding conditions monitor	WCU-592	Coming soon
Welding conditions sampling software		Coming soon



Safety precautions

- Set this machine at places indoor where ventilation is possible and there are no combustibles.
- Before operating this machine, read the instruction manual carefully to ensure proper use.

<https://www.weld.nipponsteel.com>

Plasma Welding Machinery Unit 6-1, Higashinaraashino 7-chome, Narashino City, Chiba Pref. 275-0001 JAPAN TEL: +81-47-479-4138 FAX: +81-47-479-2968

Welding equipment capable of forecasting

NEW

FULL DIGITAL PLASMA WELDING MACHINE

NW-150AH-V NW-350AH-V

Improved maintainability

Interchangeability with existing equipment

Energy saving


 Function-1
Torch hose
cable
disconnection
detection

 Function-2
Welding
conditions
presets (20 sets)

 Function-3
DS-PLASMA
mode
Standard
Installed

 Function-4
Cooling water
flow rate
decline
detection

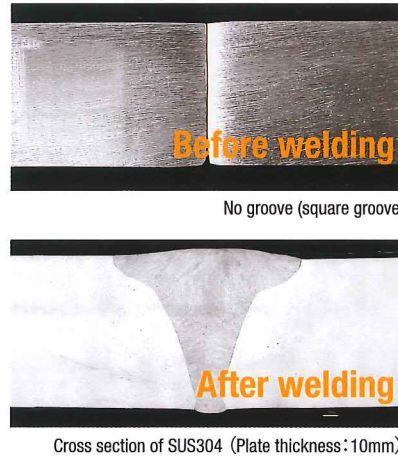
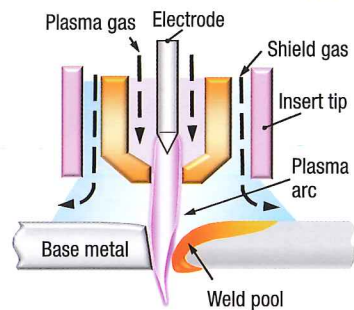
 Function-5
Network
communication

 Function-6
Water-leakage
prevention
during tip
maintenance

Characteristics of plasma welding

Feature 1

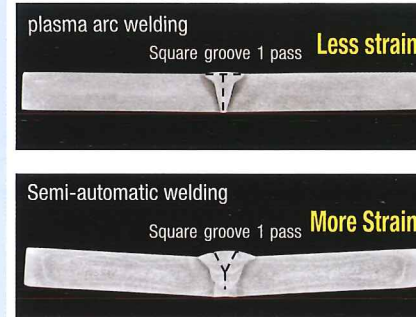
One pass welding from one side (Keyhole Welding)



For square grooves, one pass welding from face side to reverse side is realized by way of keyhole.
It is possible to weld SS material of up to 6mm thickness and SUS material of up to 10mm thickness by one pass.

Feature 2

Less strain

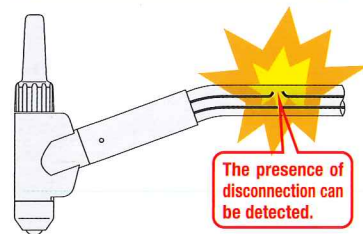


A high energy-density arc enables high speed, low distortion welding.

6 advantages of full digital plasma welding machine

Function-1

Disconnection detection function for torch hose cable

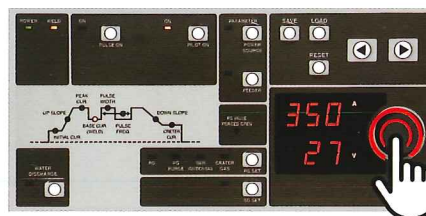


The presence of disconnection can be detected without the use of a measuring instrument. The degree of deterioration is also possible to check, enabling forecasting of disconnection.

Standard
Installed

Function-2

Welding conditions presets

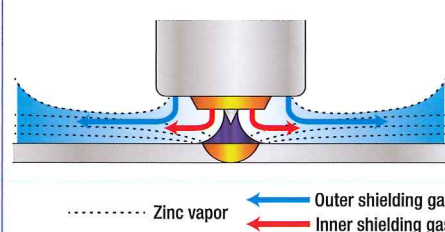


20 presets of welding conditions are available for major types of material, significantly reducing man-hours for the selection of welding conditions.

Standard
Installed

Function-3

DS-PLASAMA mode Standard Installed



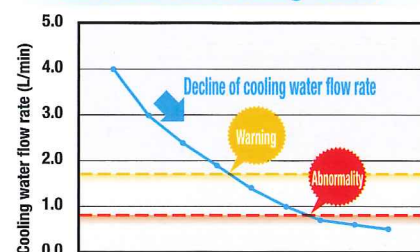
Welding is stable because the adhesion of zinc vapor to the tip of the torch can be reduced.

※The state of welding or the service life of the tip of the torch may depend on the type of galvanizing or the shape of the workpiece.
※Changing the torch for DS-PLASMA is required.

Standard
Installed

Function-4

Flow rate decline detection function for cooling water



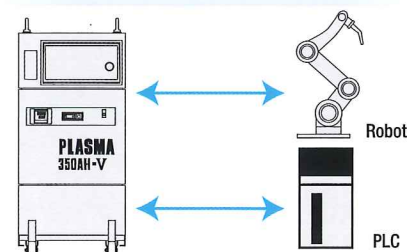
The burnout of the torch or consumables can be prevented by the detection of a decline in the flow rate corresponding to welding conditions. Advance warning and abnormality alarms to detect declines in the cooling water flow rate are also available.

※Effective only when the digital flow switch is adopted.

Option

Function-5

Network communication function



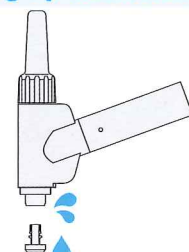
The digital (numerical) communication of necessary data is available by way of network communication. The individual differences of welding equipment are reduced, realizing a simplified environment for connecting to external equipment.

※A separate communication unit is required.

Option

Function-6

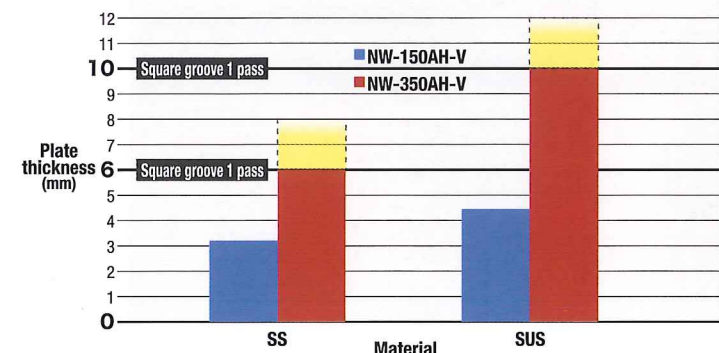
Water-leakage prevention during tip maintenance



Work efficiency is improved by preventing water leakage when the insert tip is removed. Clogging of the torch is reduced by way of cleaning with high-pressure gas fed through the cooling water path.
※A separate cooling water drainage unit is required.
※A chiller (NC-3500V or NC-5500V) is required
※A filtered air feed is needed.

Option

Applicable thickness



※Please consult us when considering welding SS material of 6 mm or more, and SUS material of 10 mm or more.

Examples of Welding



Peripheral Equipment

Suitable Torch Heads

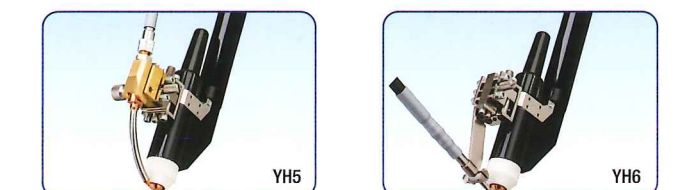
Moden No.	Maximum operation current (A)	Duty cycle (%)	Torch head weight (g)	Torch shape			Remark	
				Horizontal type	Vertical type	Straight type		
15WH	15	60	100			●	For ultra-thin plate	
50WH	100/85		360	●			Suitable for the welding of fillets	
51WH			370		●			
50KWH			400	●				Suitable for the welding of fillets and narrow places
51KWH			410		●			
100WH	180		500	●				
101WH			520		●			
106WH	170		650	●			Type of indirect water cooling	
107WH		650		●				
503WH	500	50	800	●				
504WH			810		●			

※The maximum current depends on the diameter of the hole of the insert tip.



Wire Head

Model	YH5	YH6
Applicable wire diameter	Applicable to plasma welding torch models	
Applicable wire diameter	Φ0.8~1.2mm diam	Φ0.8~1.6mm diam
Remark	For welding narrow places	For Welding in general



Wire Feed Control Unit

Model	WCU-593
Feed speed display	40~450cm/min
External interlock function	Feed amount analog instruction from robot, etc., wire deposit signal, etc.

Wire Feeder

Model	NF-1600
Applicable wire diameter	Φ1.0/1.2(Φ0.8/0.9 Φ1.4/1.6:option)
Wire feed speed	40cm~450cm/min
Maximum diameter of applicable spool	Φ300mm diam.(axis diameter:Φ51mm diam)



Chiller

Model	NC-3500V	NC-5500V
Input voltage	1Φ AC 200~230V ±10% 50/60 Hz	1Φ AC 200~230V -5%+10% 50/60 Hz
Cooling Capacity	2.0/2.3kw	4.9/5.3kw
Power consumption	1.7/1.8kw	2.0/2.5kw
Ambient temperature range	5~45℃	
Service water temperature range	5~40℃	
Refrigerant	R-410A	
External dimensions(W×D×H)	375×500×615	375×500×933
Mass(Tank dryness)	Approx.51kg	Approx.68kg
Applicable welding machines	NW-150AH-V NW-350AH-V	NW-350AH-V

