USER MANUAL

I.G.B.T. INVERTER

DC TIG ARC WELDER

NICE - 200ST
NICE - 300ST

Total Welding Solution

AUTOWEL

(주)오토웰

Autowel Co. Ltd.

◀ Guarantee Certificate ▶

* The warranty of products shall confirm to the specification set forth in the article 2 "configuration and specifications" for 14 months from the date on Bill of Lading.
* The extent of seller's liability under this warranty shall be limited to the repair or replacement as herein provided of any defective parts thereof.
* The warranty does not extend to following occasion:
  - subjected to mis-use, neglect, accident or abuse
  - improperly repaired, installed, transported, altered or modified
  - used in violation of instructions furnished by user's manual

Model	NICE -	
Serial no.		
manufacture date	200 년 월	
ship date	200 년 월 일	
seller's name	Autowel Co., Ltd.	
client name	company	
	person	

1. Warranty period is 14 months from the date on Bill of Lading.
2. Except for the express limited warranties set forth in this guarantee certificate, Autowel has no other liability.

Certified by Autowel CO., Ltd.

AUTOWEL CO., LTD.
SHIM, EUI-LIM / PRESIDENT

Warranty Card.

* Note:

1. The "Guarantee Certificate" shall practically be effected with seller's signature after fill in blank of Warranty Card.
2. Users has to pay attention to the subjects set forth Article 3 "installation" when installing the main power units and accessories.
3. Autowel has no liability of accessories, which are consumable and not to manufactured by Autowel

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To increase product's life and welding efficiency, please make sure to read this user manual before using.

1. Product description

NICE-200(300)ST of Autowel which is DC TIG welding machine can be used as MMA as well. We maximized the efficiency through adopting INVERTER method by PWM power control using I.G.B.T element.

2. Composition and specification

1) Composition and standard parts

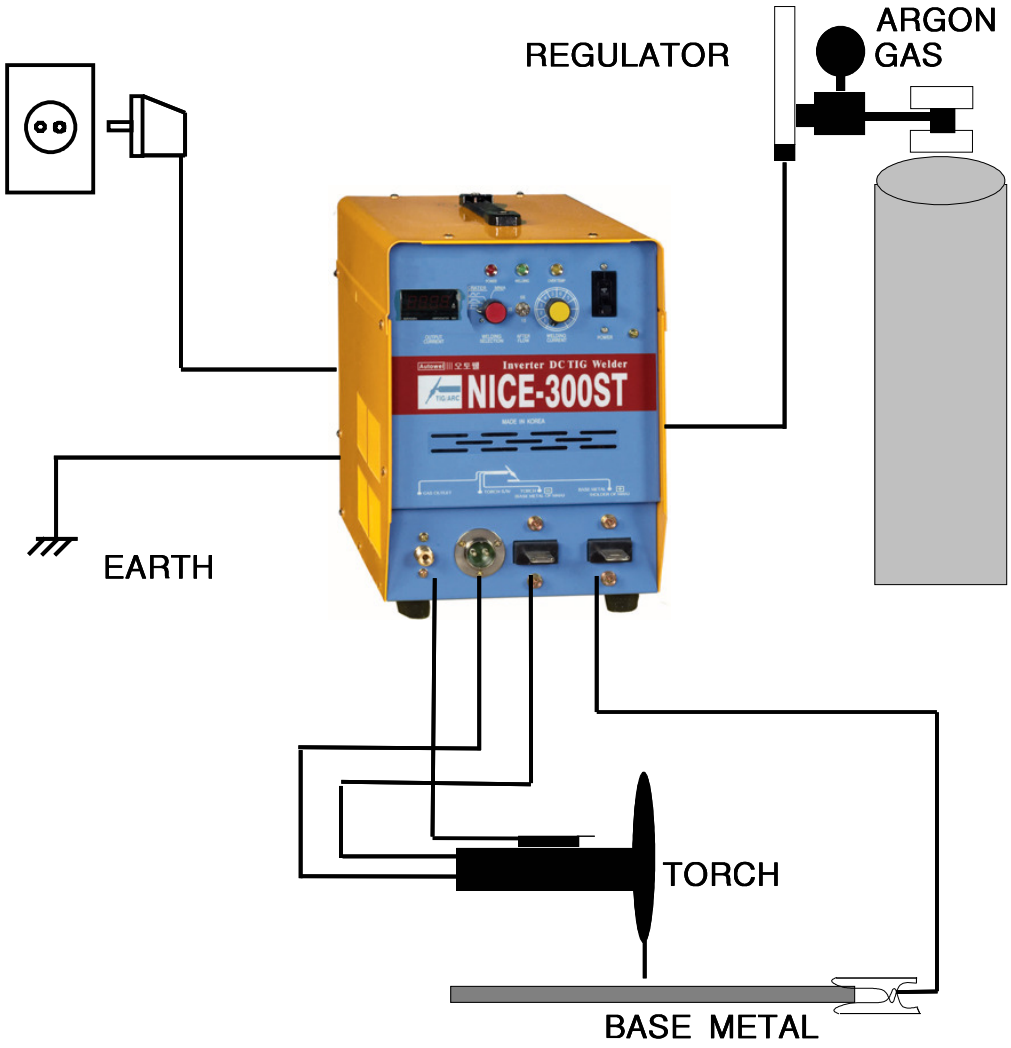
NAME / TYPE	NICE-200ST	NICE-250ST	NICE-300ST	REMARK
WELDING CURRENT	DC 200A	DC 250A	DC 300A	1
TORCH (SET)	300A 4M	300A 4M	300A 4M	1
EARTH CABLE	14SQ 이상	14SQ 이상	14SQ 이상	1
Chuck, Body	Ø2.4	Ø2.4	Ø2.4	3
Tungsten	Ø2.4	Ø2.4	Ø2.4	2
Ceramic	300A	300A	300A	3
Gas Gauge	ARGON	ARGON	ARGON	1
Hose	3M	3M	3M	1

2) Rated specification

Item \ Type		NICE-200ST	NICE-250ST	NICE-300ST
Input Voltage		AC 220V 1P		
Input power	TIG	5.8 KVA	7.5 KVA	10 KVA
	ARC	5.0 KVA	5.8 KVA	7.5 KVA
Frequency		50/60 Hz		
Output Current	TIG	5～200A	5～250A	5～300A
	ARC	5～160A	5～200A	5～220A
Load Voltage	TIG	18V	20V	21V
	ARC	28V	30V	31V
No Load Voltage		70 V		
Duty Cycle		60 %		
Dimension (WXDXH)		155X400X240	220X420X380	230X430X400
Weight		11kg	16kg	19kg

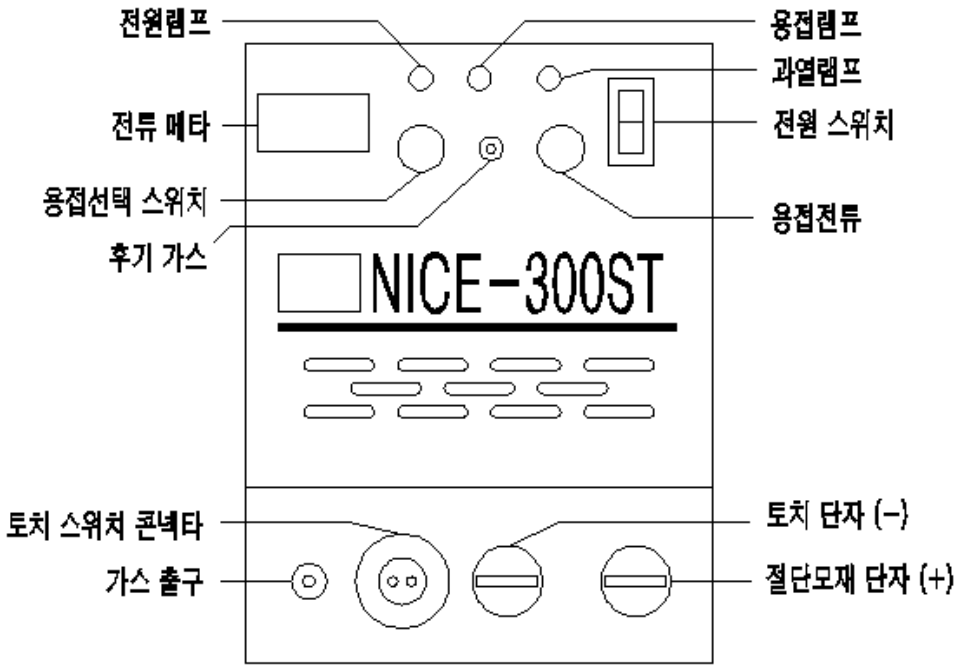
3. Installation

* Installation Description



4. Handling and Operation

4-1. Front Panel Structure and name



4-2. Functions and Operation

1) CURRENT METER : Displays the output current of welding.(300ST)

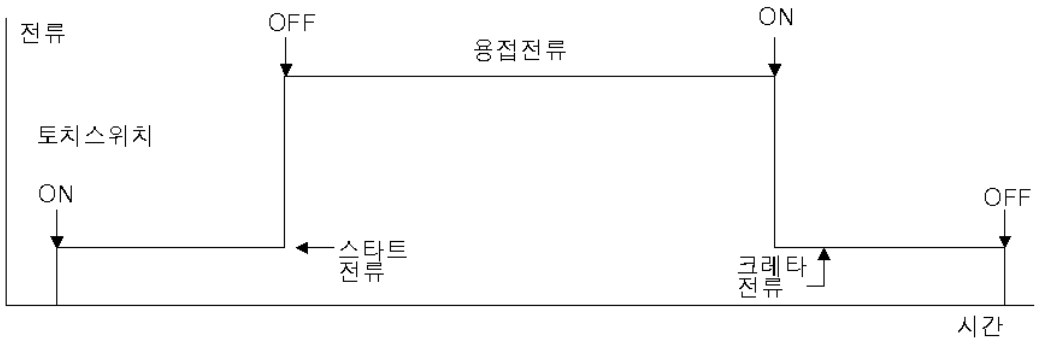
2) POWER LAMP :
   On : Shows power supply to Welding Machine.
   Off : Shows input volt lowered more than 20% from the rated volt.

3) OVER TEMP LAMP - It turns on(stop) when the inside-temperature of machine gets higher than 85℃, and when the lamp gets back to turn-off after a period of time the machine gets normal to work.

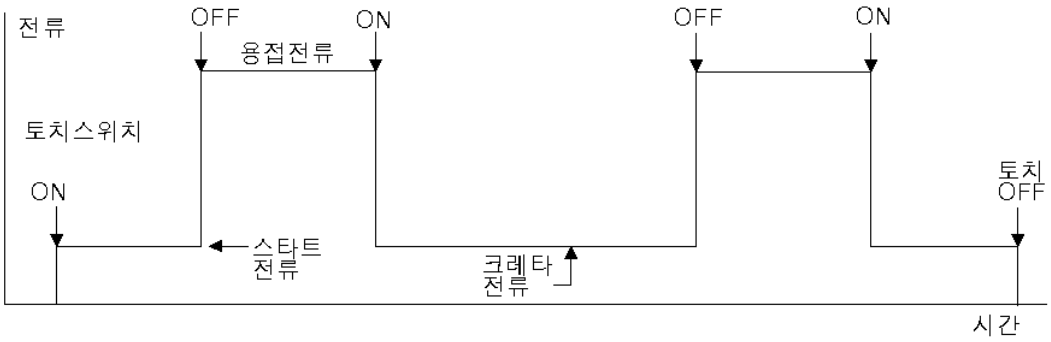
4) WELDING LAMP : Showing that welding is on.

5) Power Switch : Welding on/off, and power off if overloaded.

6) WELDING SELECTION SWITCH
   ① Crater OFF - Working only with Torch Switch on.
   ② Crater SINGLE - Pressing torch switch gets crater current on, and releasing it leads to welding in welding current. Pressing again the switch gets crater current on and releasing it gets welding off.



   ③ Crater REPEAT - The condition of Crater SINGLE continues to be on. In order to get it off, put torch away from the parent metal.



④ MMA - Being used in normal arc welding, with holder connected to (+) and earth to (-).

7) WELDING CURRENT : To be used for controlling welding current.

8) AFTER FLOW : Controlling time for after-flow gas. (1, 3, 5 seconds)

9) TORCH S/W : Torch Switch Connecter.

10) GAS OUTLET : where gases get out.

11) Torch Terminal (-) : Being connected to torch, and takes place of earth at the time of MMA.

12) Earth Terminal (+) : Being connected to parent metal, and takes place of holder at the time MMA.

13) Set-up of TIG Welding Condition

Metal thickness mm	Electrode Ø	Welding Current A	Gas Amount ℓ/min	Welding rod
0.1-0.5	1.0-1.6	5-40	4	1.6
0.6-1.0		20-60		
1.0-2.0	1.6-2.4	40-100		
2.0-3.0		60-120		2.6
3.0-5.0	2.4-3.2	100-160	5	3.2
5.0-7.0		160-240		4.0
7.0-9.0	2.4-3.2	220-300	6	5.0

5. Safety Regulations

1) Power Supply : Install one breaker for one welding machine and use wire above 5.5SQ for power line.

2) Welding Terminal : High voltages are on the torch side of terminal which shall never be touched or no computers or electrical equipments are allowed to be placed near to.

3) Gas : Argon gases only as specified are allowed to use.

4) Earth : to be equivalent to the third class(#3) earth.

5) Surroundings : Take airy place as away as practicable from moisture, much dust or high temperature.
Particularly the ventilation condition is closely related to working efficiency.

6) Shifting : When welding machine gets moved for use in other place, be sure to confirm the power conditions including power lines' fastenings.

7) Worker's Safety : Be cautious enough against burns from hottest temperature at torch and be sure to wear protective mask and clothing against arc lightening which damages eyes and skin.
Provisions of ventilation are necessary to avoid gases from welding which are noxious to human body, and rests in regular intervals are also necessary.

6. Trouble Shootings

No.	Situation	Cause	Shootings
1	No actions at all	Troubles with main NFB Check with power-line-in Check with power source	Confirm and Replace
2	No actions other than fan's rotation	Troubles with Torch Switch	Replace switch
		Light on Over Temp Lamp	High temperature inside machine (restart after lapse of time)
		Light off Power Lamp	Check thickness of power-line-in Check input voltage
3	No gases out	Short of gases or not connected	Check and confirm
		Troubles with solenoid valve	Replace
		Abnormal with Control PCB	Ask for Service
4	Ceaseless gas-flow-out	If unceasing even by power-off	Remove foreign materials in valve
		Troubles with solenoid valve	Replace
		Abnormal with Control PCB	Ask for Service
5	No good start	Short of gases	Adjust gas pressure
		Excessive gases	
		No generation of high frequency	Ask for Service
		Parent metal cable shorted	Replace
		Troubles with torch	