Inverter DC TIG welding machine

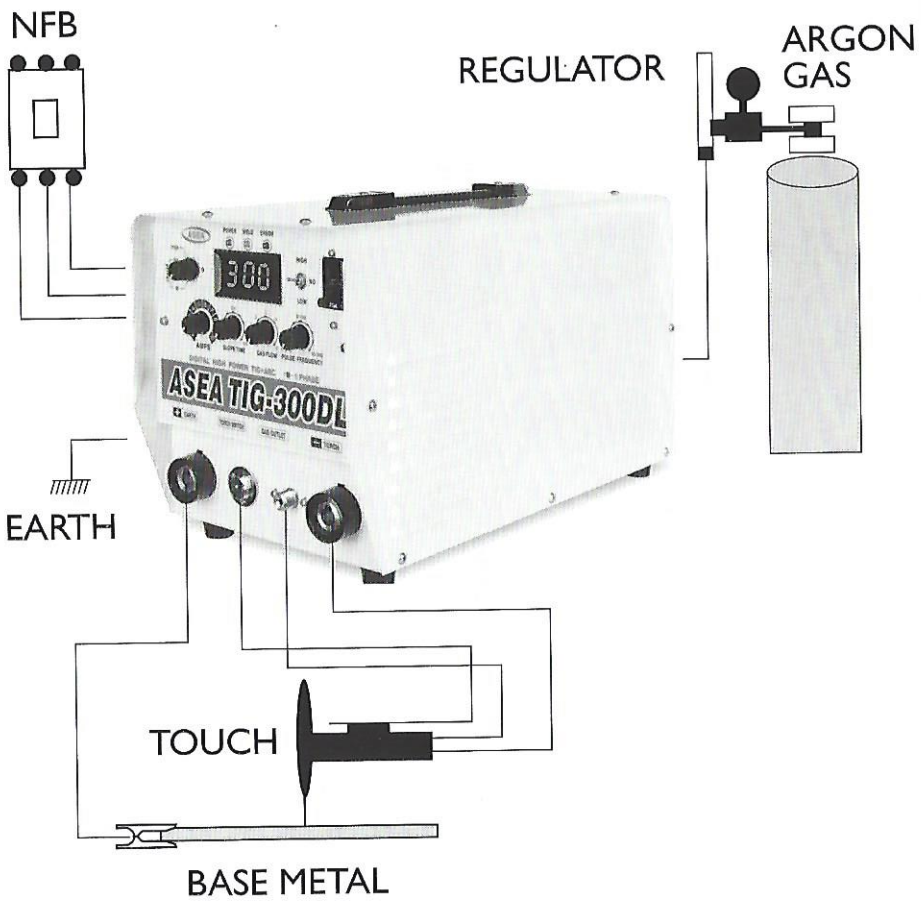
ASEA series

Operation manual

Please read MANUAL before use to avoid any accidents

ASEA CO., LTD

1. INSTALLATION

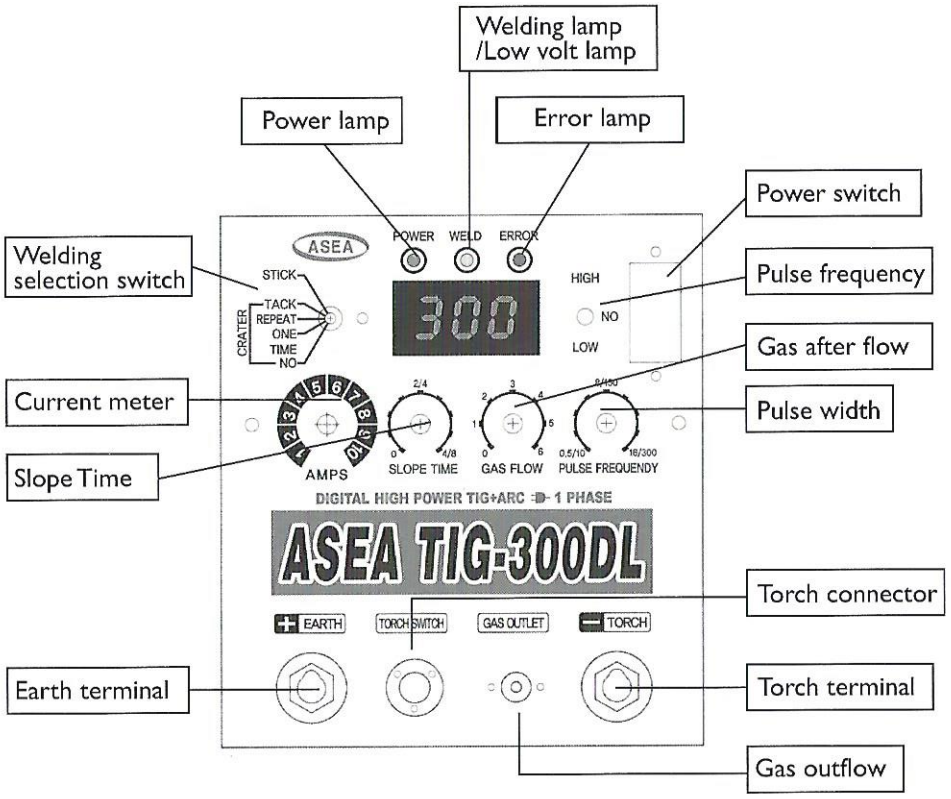


2. RATED SPECIFICATION

Model / Specs	Unit	ASEA TIG-300DL
Input Voltage	V	190~240
Phase		1
Frequency	Hz	50 / 60
Rated input Power at 60%	KVA	8KVA
No Load Voltage	V	78V
Duty Cycle	%	60%
Working Voltage	V	22V
Input Circuit Breaker	A	75A
Current Range	A	5~300A
Rated Current TIG	A	300A
Rated Current ARC	A	220A
Pulse Frequency	Hz	0.5~500
Pulse Current	A	300A
Pre Gas Delay Time	sec	0.3sec
Up Slope	sec	0~3.0sec
Down Slope	sec	0.6.0sec
Usable Electrode sizes	mm	1.6~3.2
Protection		Built-in
Insulation		Class H
Cooling Method		Air Cooling
Width x Lenght x Height	mm	240x530x290
Weight (net)	Kg	17

3. HANDLING AND OPERATION

3-1.Front Panel Structure and name



When arc welding, earth terminal can be switched to holder terminal, and torch terminal to earthe terminal

3-2.Functions and Operation

1) CURRENT METER : Dispaly the output current of welding

2) POWER LAMP : Shows power supply to welding Machine or not.

3) WELDING LAMP / LOW VOLT LAMP
-On : Shows that welding is on while you work on welding (welding lamp function)
-On : Shows input volt lowered more than 20% from the rated volt when you do not work on welding.(Low volt lamp function)

4) ERROR LAMP : It turns on(stop) when the inside-temperature of machine gets higher than 75℃, and when the lamp gets back to turn-off after a period of time the machine gets normal to work

5) POWER SWITCH : Welding on/off, and power off if overloaded.

6) WELDING SELECTION SWITCH
① Crater OFF(⌐)-Working only with Touch Switch on.
② Crater SINGLE(⌐⌐)
-Pressing torch switch gets crater current on, and releasing it loads 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 TACK - Gas and welding is operated at the same time.
Suitable for beginners to use.
⑤ STICK - Being used in normal arc welding, with holder connected to (+) and earth to (-)

7) CURRENT METER : To be used for controling welding current.

8) SLOPE TIME : Controls the timing of up and down of welding current

9) AFTER FLOW : Controling time for after-flow gad. (1, 3, 5 seconds)

10) TORCH CONNECTOR : Torch Switch Connecter

11) GAS OUTLET : where gases get out.

12) TORCH TERMINAL(-) : Being connected to torch, and takes place of earth at the time of MMA.

13) EARTH TERMINAL(+) : Being connected to parent metal, and takes place of holder at the time of MMA.

14) SET-UP OF TIG WELDING CONDITION

Metal thickness mm	Electrode ∅	Welding Current A	Gas Amount ℓ/min	Welding rod
0.1-0.5	1.0-1.6	5-40	4	1.6
0.8-1.0		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

4. 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 voltage 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 afficiency

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 enought against burns from hotest 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

5. 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 mechine (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
		Abnomal 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
		Abnomal 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	

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