PoWer TIG Series

GeKaMac®

PoWer TIG 3200
DC Pulse
Operating Manual

Please read this manual carefully to ensure proper and safe operation of the machine.

www.gedikkaynak.com.tr

Caution!

Dear Customer,

Maintenance and repair works and connection processes of the product you purchased must be carried out authorized persons.

We strongly recommend you to comply with the warnings mentioned below.

Read the operating manual before using your machine.

You must get the machine "Warranty Certificate" attested.

Use the machine in accordance with the instructions specified in the operating manual.

When you need any service; please first refer to the "Troubleshooting Guide" in the operating manual. If you cannot resolve your problem, contact your nearest GEDIK KAYNAK authorized service or GEDIK KAYNAK central service.

Gedik Kaynak San., ve Tic., Inc., is not responsible for any damages caused by improper connection, storage conditions, use, repair-maintenance and repair operations.

Our machines are complied with the AEEE Regulations.

Thank you very much for choosing GeKaMac® products.

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2. INTRODUCTION

Thank you for purchasing one of our products. Make sure that the parts are serviced in order to get the best efficiency from the machine shop and read the instructions and safety instructions in operating manual carefully. When repair is needed, you will be directed to the maintenance area to deal with the customers, the product will be moved to our service workshop and the appropriate parts will be replaced with our trained personnel. All our machines and systems are continuously developed. We keep the parts necessary for proper installation available.

3. DESCRIPTION

Powerful, easy to use, the **PoWer TIG 3200 DC Pulse** Welding Machine is the most advanced technical and high performance welding machine with the most innovative digital control available on the electrode and TIG welding.
This DC power supply promises high standard welding with ARC FORCE features, with the latest IGBT-based technology to achieve excellent arc characteristics.
The **PoWer TIG 3200 DC Pulse** unit has absolute stability all the times.
Direct current provides excellent performance in stainless steel, carbon steel, copper and alloys, nickel and alloys.
At the same time, the **PoWer TIG 3200 DC Pulse** unit is a user-friendly machine with the ability to store parameters in memory.

FEATURES

- Innovative design.
- Lightweight and compact, easy to carry.
- Impact-resistant plastic front panel on metal main body.
- Protected against accidental burns.
- Robust handle attached to the chassis
- All welding parameters are digitally controlled.
- Possibility to store welding parameters
- Self-diagnosis function

- MMA welding:
  'Arc Force' chooses the best dynamic characteristic for welding arc.
- Thermostatic protection against overheating.
- Not affected by mains fluctuations of ± 15%.
- Security barriers against over-currents from the mains.
- The fan and torch cooling system starts to work when heat is generated, thus saves energy.
- IP 21 S degree of protection, the ability to work in the most difficult working conditions
- 'Innovative 'Tunnel' fan cooling system protects electronic components from dust.
- It can be connected to a motor generator with high dependency at a sufficient capacity.
- Energy consumption is low.
- This machine also ensures all the standards and directives that apply in the European Union.
- Special TIG torches provide current control over the torch.
- Pulse function (0.2-20Hz) ensures high performance in thin materials.
- Has 2/4 TETIK -SPOT Time (point time) triggering functions.
- Digital control for all welding parameters.
- The remote control is available as an option.

4. TECHNICAL DATA

Model	Unit	PoWer TIG 3200 DC Pulse
Three-phase power supply 50/60 Hz	V	380/400/415/440 V, 50/60 Hz
Input current	A	21/20/19/18
Power input	kW	10,3
Power Factor / cosØ		0,95
Maximum efficiency	ɳ	0,89
Current range	A	5-315
Cycle rate @ 60 % (40 C)	A	315
Standards		EN 60974-1 EN 60974-3 EN 60974-110 CE S
Protection Class		IP 21S
Dimensions	Mm	600x310x550
Weight	Kg	42

WARNING: This device, in the range provided by the city power distribution mains, is less than or equal to the maximum rated resistance Z_{max} 0.041 promised by the system provided by the EN / IEC 61000-3-12 standards. It is the responsibility of the installer or user to consult the distribution network operator when needed. When this device is connected to the power supply only, provides Z_{max} energy self-resonance at 0.041 range.
This system has been tested to EN / IEC 61000-3-3 and complies with EN / IEC 61000-3-11.

5. LIMITATIONS OF USE (IEC 60974-1)

In the case of intensive work (welding) and waiting (arranging of parts), the welding work of the welder is discontinuous. Such as wire change and material cleaning. The welder can project the energy so that during 40% of the total welding time the works can be done safely.
The total duration of use is ruled to be 10 minutes. The working order is considered as 40% of this time. If the agreed working order is exceeded the system switches to protection in order to protect components of the machine under the extreme temperature.
The display on the control panel starts signaling ‘t’ ‘C’ (see MX control panel fault conditions in the booklet for more information). A few minutes after stopping due to heating cooling will be realized and the welder may automatically start working again.

6. TRANSPORTATION OF THE MACHINE

Haulage rope shall be fastened around the machine, suspended safely and lifted from the underside. The machine has a carrying arm that is integral with the frame.
Note: This type of transport and lifting of equipments complies with European standards. Do not perform other type lifting and handling operations.

7. INSTALLATION-ASSEMBLY

The installation process must be done carefully to ensure safe use. The user is responsible for complying with the instructions of the manufacturer in this Operating Manual during installation and use. Before installing the system, the user must consider possible electromagnetic problems at the work site.
We also recommend that you avoid setting the installation up close:

- Telephone, signal and control cables
- Radio and television transmitters and receivers
- Computer and control measuring instruments
- Safety and protection equipment.

People using cardiac pacemakers or hearing aids are required to consult a physician before working with the machine. The environmental conditions must comply with the protection level of IP 21S standards (IEC 60529 edition). This system is cooled by the enriched air flow. This machine is built in compliance with the IP 21S protection level.

8. CONNECTION TO ELECTRIC MAINS

Before connecting the welding machine to the power supply, check that the grid values match the machine label and make sure that the welding machine is in the 'O' position.
Use it to connect the machine's own plug to the power supply. If you change the pin, follow the procedure below:

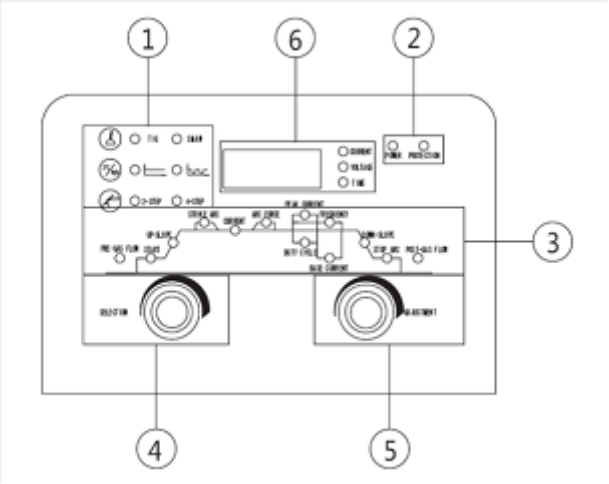
- Three conductor phase cables are required to connect the machine to the power supply.
- The fourth is in YELLOW GREEN color and is used for ground connection.

The grounding terminal must be connected to the power supply with the grounding wire absolutely YELLOW GREEN.
The rated values for the rated power voltage of the machine and the maximum rated current voltage are specified for the delayed fuse of the table power supply.
Note: The diameter of extension cords used must not be less than the diameter of the power supply cable that is provided with the machine.

Using S class means that the machine can be used in increasing electroshock conditions.

9. PANEL EXPLANATIONS

CONTROL PANEL



1.

Press this button to switch between TIG and SMAW welding methods, the indicator lamp will be lit up for the selected operation.

2.

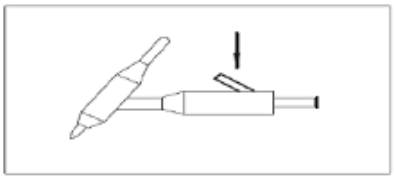
In "TIG": change between "Fixed" DC TIG and "Pulse" DC TIG, the indicator light will be lit accordingly.

In "SMAW": switch between "Amp" display and "volt" Display, the indicator light will be lit accordingly.

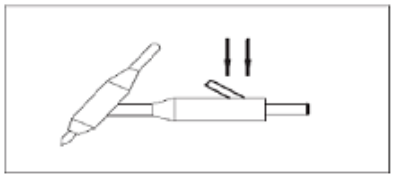
Press this button to switch between 2-step and 4-step operating mode, the indicator light will be lit accordingly.

Torch operation status

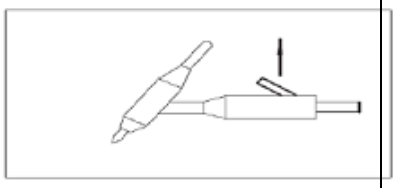
Description symbols



Press torch trigger



Hold torch trigger



Release torch trigger

2-step operating mode

a. Press and hold torch trigger to start welding

- Open the magnetic valve (to set the pre-gas time depending on the length of the hose) to start the flow to vent air from the torch hose of the protective shield gas. Then the High Frequency firing device starts and starts arc.
- The output current continuously increases from the starting current to the welding current.

b. To stop welding, release the torch trigger.

- Release the torch trigger, the welding current will decrease steadily at a certain speed and time until reaching zero.
- The magnetic valve will continue to operate for some time (post-gas time) to allow the protective shield gas to protect the tungsten electrode and the molten pool. Then stop the magnetic valve operation, gas stops and welding is finished.

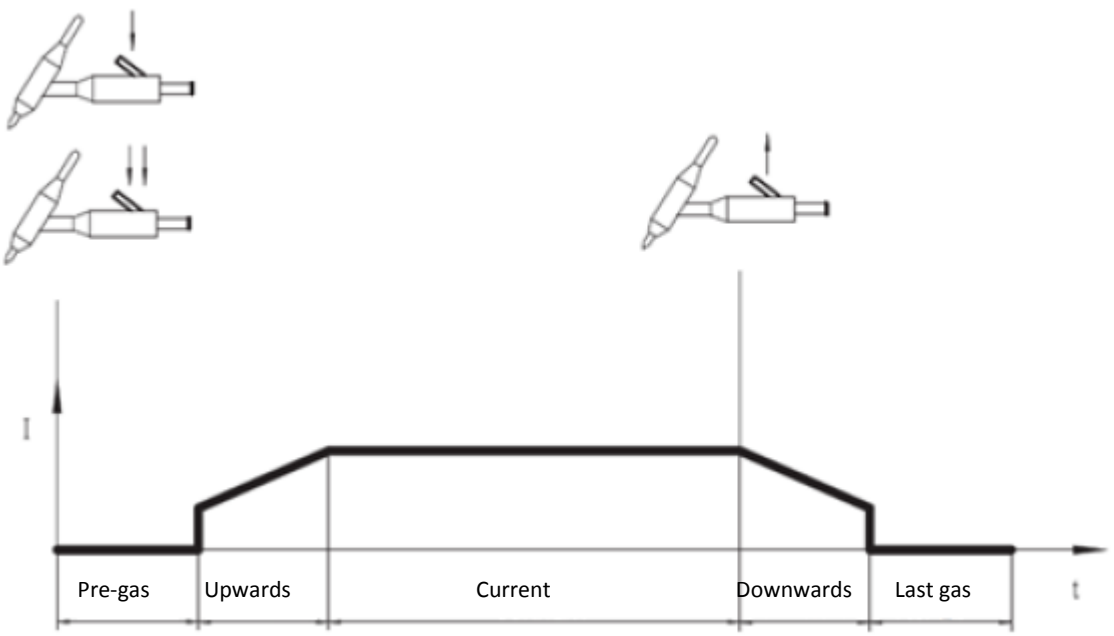


Figure: 2-step operating mode

4-step operating mode

a. Press and hold torch trigger to start welding.

- Open the magnetic valve to start the flow to vent air from the torch hose of the protective shield gas (pre-gas time can be adjusted depending on the length of the hose). Then the High Frequency firing device starts and starts arc.
- The output current starts from the start current and the start current output time depends on the time that the torch trigger is pressed and held.

b. Release torch trigger

- The output current rises from the starting current to the welding current, and this time is called the upwards time.
- If the starting current is not needed, there is no need to press torch trigger. To start the arc press the torch trigger quickly, then quickly release it and the output current will rise to the welding current.

c. Press and hold the trigger again when the welding is complete.

- The welding current will continuously decrease at a certain rate until reaching the crater fill current, and this time is called the downwards time.
- Crater fill current time depends on when the torch trigger is pressed and held down again.

d. Release torch trigger

- Output current is constantly decreased to zero and arc damping. The solenoid valve will continue to operate for some time (post-gas time) so that the protective shield gas will allow for protection of the tungsten electrode and the molten pool. Then stop the magnetic valve, stop the gas and complete the welding.

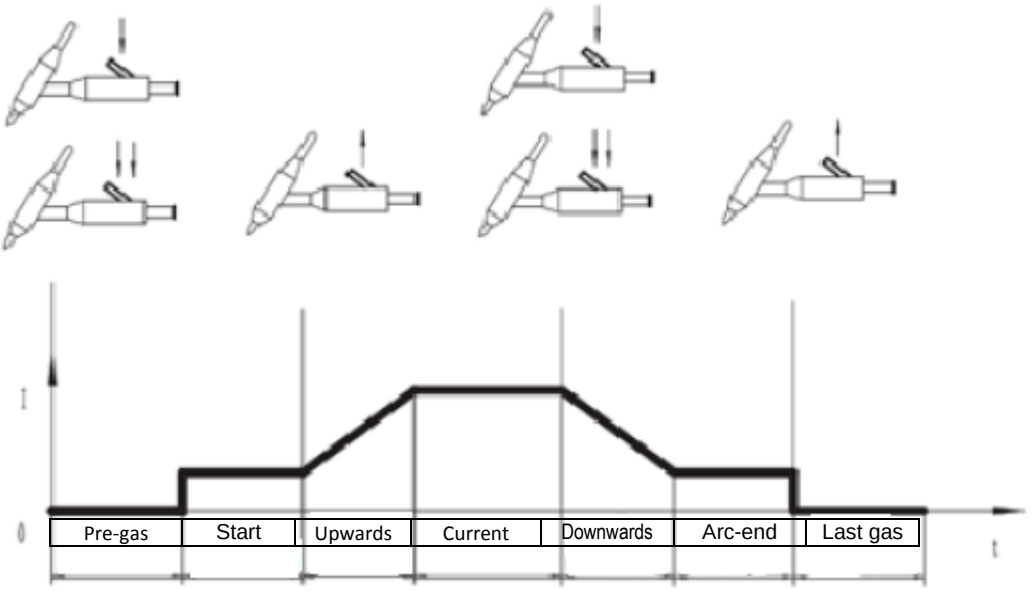
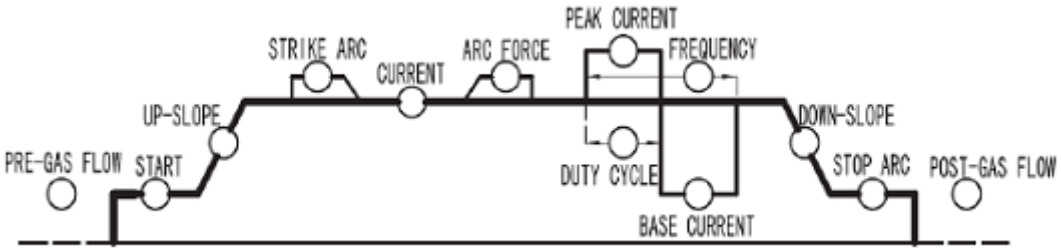


Figure: 4-step operating mode

If the power supply is effectively connected to the power supply, it will light up.

If the indicator is yellow, the light does not light up during normal operation. The welding machine automatically stops welding when overheating or inadequate water and the indicator is on.

3.



PRE-GAS
-The gas flow time before welding Unit: Seconds Limit: 0.1 ~ 15 Factory setting: 0.2
START Start current after starting Unit: A Limit: 10 ~ 160 Factory setting: 50
OUTLET TIME - When the starting current increases to reach the supply current Unit: Seconds Limit: 0.1 ~ 10 Factory setting: 0.5
ARC START Arc start current in SMAW mode Unit: A Limit: 20 ~ 160 Factory setting: 50
CURRENT -Weld current when in constant efficiency Unit: A Limit: 5 ~ 315 Factory setting: 100
ARC-FORCE - Current of arc-force in SMAW mode. Unit: A Limit: 10- 200 Factory setting: 50
PEAK CURRENT - The peak current of the pulse output. Unit: A Limit: 5 ~ 315 Factory setting: 100

DUTY CYCLE

-The time rate of the single-cycle peak current under the impact mode can be used to control penetration at all positions or at the thin plate welding.

Unit:%

Limit: 1 ~ 100

Factory setting: 30

FREQUENCY

- The frequency of the welding current in case of impact.

Unit: Hz

Limit: 0.2 to 20

Factory setting: 4.0

LOWER CURRENT

- Arc continuation current in case of impact

Unit: A

Limit: 5 ~ 315

Factory setting: 30

DOWN TIME

- When the supply current is continuously reduced until reaching the final flux

Unit: S

Limit: 0.1 ~ 15

Factory setting: 0.5

FINISH CURRENT

- Current prior to arcing

Unit: A

Limit: 5 ~ 315

Factory setting: 30

LAST GAS

-Duration of gas flow after arc extinguishing

Unit: S

Limit: 0.1 ~ 60

Factory setting: 1.0

- In TIG welding operation, this is used to select the parameters defined in "3". Rotate it clockwise from left to right to select the parameter; turn clockwise from the right to the left to select the parameter.

- In SMAW welding mode, it is used to select arc starting current / constant current / arc power.

- This is used in TIG welding operations to set the parameters defined in “3”. When a parameter is selected by  , turn  clockwise in order to increase the selected parameter; turn  counterclockwise in order to decrease the selected parameter.

- In SMAW welding operation, this is used to set the selected parameters:

Item	Arc starting current	Constant current	Arc force
Unit: A			
Limit	10~200	5~513	10~200
Factory setting	50	100	50

It is used in order to show ptreset and actual parameters and the corresponding light turns on.

Important! With the microprocessor control, the following functions may be performed:
- All set parameters are automatically saved and stored until they are changed the next time. This is also the applicable case if the power supply is turned off and back on again meanwhile.

Sub-menu parameters:
Sub-menu parameter codes
Water-cooling / Gas cooling change

Important! The machine setting must be changed depending on the gas-cooled or water-cooled torch. Otherwise, error codes will appear (the factory setting is water-cooled).
- When using a water-cooled torch, press and hold the parameter selection wheel and adjustment wheel for 3 seconds at the same time; the machine will display the code "E=A/806" and set to water-cooling status. Start the water cooling unit and as soon as the water-cooling unit starts to work properly. The "E0A / 806" code will automatically disappear when not started.

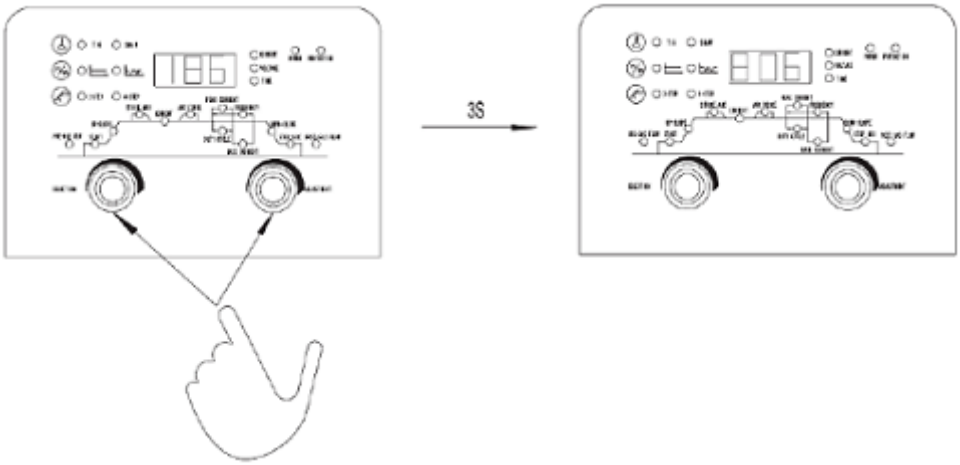


Figure: Adjustment for water cooling condition

When using a gas-cooled torch, press and hold the parameter selection wheel and adjustment wheel for 3 seconds at the same time, the code "EOA / 806" will disappear and the machine is set to gas-cooling condition. When a gas-cooled torch is used, the welding machine does not show water shortage protection.

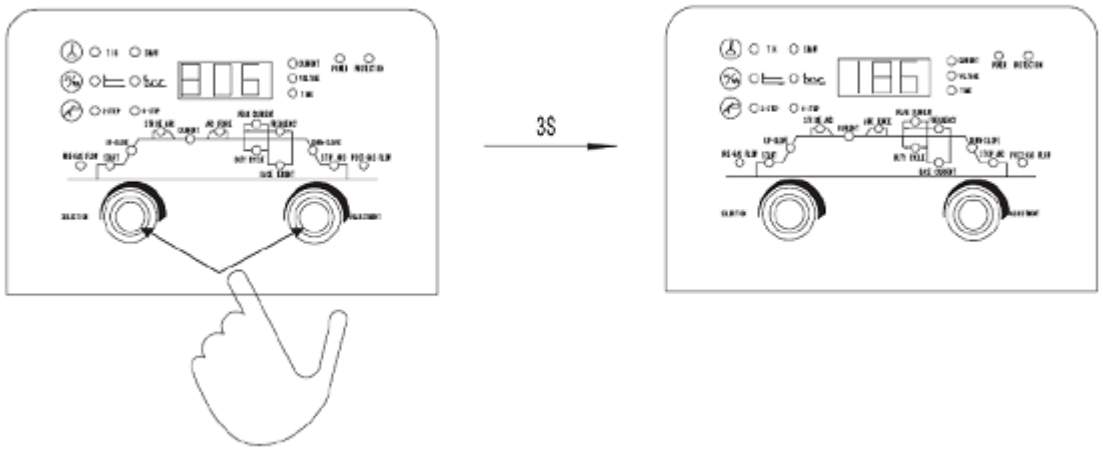


Figure: Setting to gas cooling condition.

Return to factory setting

To return to the factory setting, press and hold the parameter selection wheel and the 2/4 step button for 3 seconds at the same time.

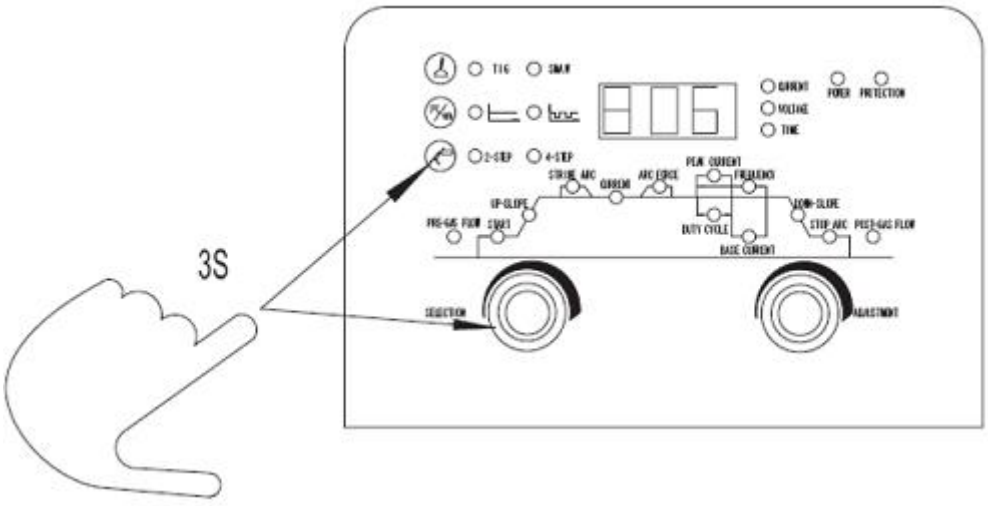


Figure. Return to factory setting

Tungsten electrode diameter adjustment

- It is sometimes necessary to adjust the tungsten electrode diameter to obtain the best welding results in TIG welding. Press and hold the parameter selection wheel and the SMAW / TIG switch at the same time for 3 seconds to enter the tungsten electrode diameter selection screen, then turn the parameter setting wheel in order to select the tungsten diameter as shown in the figure (limit 0.8 to 6.0 mm, factory setting: 2.0 mm).

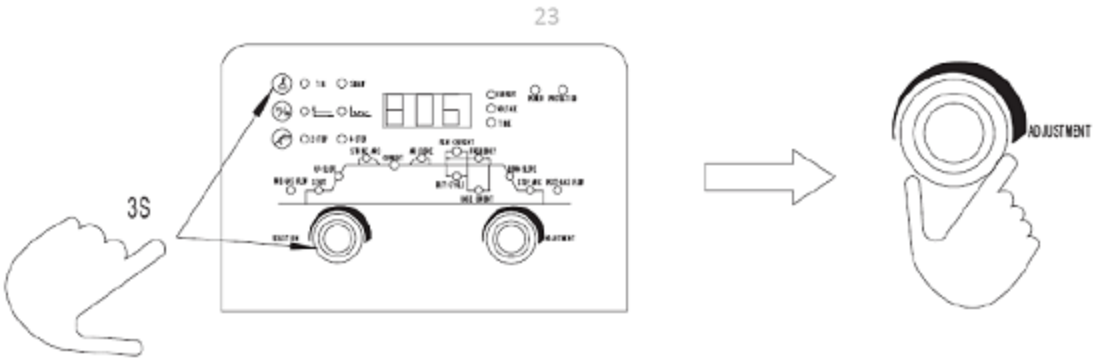


Figure: Tungsten electrode diameter adjustment

10. MMA ELECTRODE WELDING

The electrode welding is mainly used to boil metals using rutile and basic between 1.6 mm and 6.0 mm in diameter. (Various steels etc.)

While the machine is not connected to the power supply, connect the cables to the external terminals of the welding machine (positive and negative), and ground the correct polarity connector to the electrode holder according to the type of electrode to be used.

By selecting the technical indicators provided by the electrode manufacturer, the welding cables should be kept as short as possible, and position close to the ground or close to each other.

10.1. PARTS TO BE WELDED

In order to reduce the electromagnetic emission, the ground connection of the part to be welded must be done. Take care that the earth connection of the part to be welded does not increase the risk of accidents for the user or damage other electrical devices. When the ground connection of the part to be welded is required, you must make a direct connection between the part to be welded and the ground stud. This type of connection is not allowed in some countries; use capacitive regulators in accordance with the legal regulations of your country to connect the parts to be welded.

10.2. WELDING PARAMETERS

Depending on the thickness of the parts to be welded in the electrode types and current setting table, some general demonstrative indicators show when selecting the electrode to be used. These data are indicative values, not exact values. Follow the instructions of the electrode manufacturer for exact values.

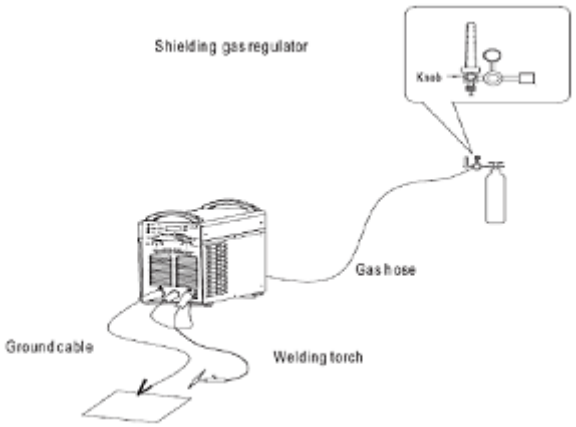
Ø	Electrode Types – Curent Setting Table (A)									Material Thickness (mm)
ELECTRODE (mm)	6010 6011	6012	6013	6020	6027	7014	7015 7016	7018	7024 7028	
1,6	-	20-40	20-40	-	-	-	-	-	-	≤5
2	-	25-60	25-60	-	-	-	-	-	-	
2,4	40-BO	35-B5	45-90	-	-	BO-125	65-110	70-100	100-145	s 6,5
3,2	75-125	BO-140	BO-BO	100-150	125-1B5	110-160	100-150	115-165	140-190	> 3,5
4	110-170	110-190	105-1BO	130-190	160-240	150-210	140-200	150-220	IBO-250	> 6,5
4,B	140-215	140-240	150-230	175-250	210-300	200-275	IBO-255	200-275	230-305	> 9,5
5,6	170-250	200-320	310-300	225-310	250-350	260-340	240-320	260-340	275-365	
6,4	210-320	250-400	250-350	275-375	300-420	330-415	300-390	315-400	335-430	
B	275-425	300-500	320-430	340-450	375-475	390-500	375-475	375-470	400-525	>13

The used current depends on the welding position and the joining shape and increases with the thickness and the size of the part. For standard steels, the following formula is used to calculate the average current used in the electrode welding.

1= 5Ox(Øe-1) 1= Welding current density For example;
Øe= Electrode diameter I= 50x(4-1)= 50X3= 150

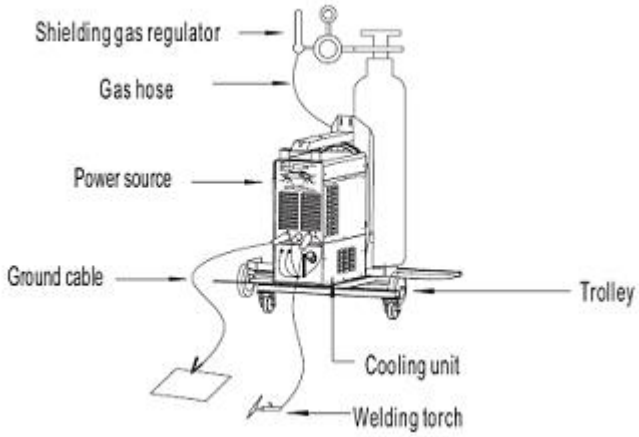
11. TIG WELDING

- Connect the Argon gas tank to the gas pipe behind the machine and open it.
- When the machine is switched off, connect the ground wire with a fast match (positive)
- Connect the relevant earthing claw to the part to be welded and make sure that the area to be welded is free from rust, paint and oil.
- When the machine is switched off, connect the ground wire with a fast match (negative)
- Connect the gas cylinder with the torch.
- Install the 6-pole holder torch knot connection.



11.1 PARTS TO BE WELDED

In order to reduce the electromagnetic emission, the ground connection of the part to be welded must be done. Take care that the earth connection of the part to be welded does not increase the risk of accidents for the user or damage other electrical devices. When the ground connection of the part to be welded is required, you must make a direct connection between the part to be welded and the ground stud. This type of connection is not allowed in some countries; use capacitive regulators in accordance with the legal regulations of your country to connect the parts to be welded.

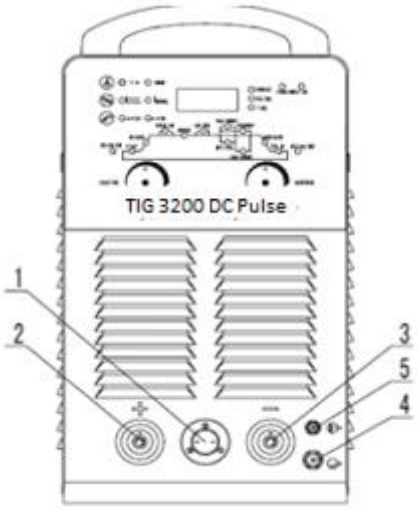


11.2 WELDING PARAMETERS

The table shows some general demonstrative indicators when choosing the electrode to be used, depending on the thickness of the part to be welded, in TIG, AC and DC welding. These data are indicative values, not exact values. Follow the instructions of the electrode manufacturer for exact values.

Ø ELECTRODE (mm)	ELECTROOE TypeS – CURENT SETTING TABLE (A)			
	TIGOC		TIGAC	
	Tungsten Ce 1% Grey	Tungsten Thorium 2% Red	Tungsten Pure Green	Tungsten Thorium 2% Red
1	10-50	10-50	-	-
1,6	50-80	50-80	30-60	30-60
2,4	80-150	80-150	60-120	60-120
3,2	150-250	150-250	80-160	80-160
4	200-400	200-400	100-240	100-240
4,8	-	-	200-300	200-300
6,4	-	-	275-400	275-400

12. FRONT PANEL DESCRIPTION



Figur: Front Panel

1. TIG torch control socket

Connect the TOG torch or foot pedal while performing TIG welding.
2. The output terminal (+)
Connect the electrode holder in case of SMAW. In case of TIG, connect with work piece.
3. Output terminal (-)
When performing SMAW operation, connect the work piece; Connect the TIG torch when welding.
4. Water out
Connect the water hose of the TIG torch.
5. Gas outlet
Connect the gas hose of the TIG torch.

Rear Panel

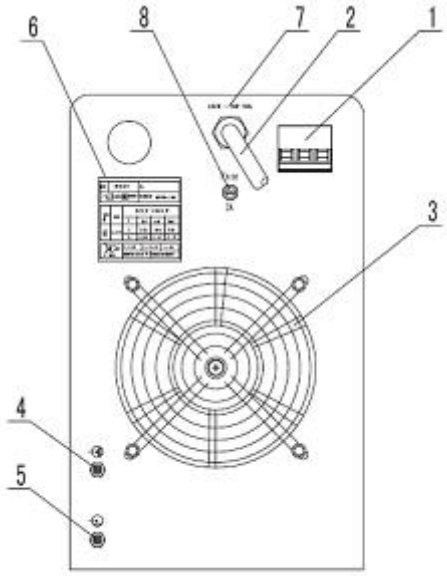


Figure: Rear Panel

1. Circuit breaker
The duty of the circuit breaker is to protect the welding machine and operator with automatic dropping to shut off the power supply when the power supply is overloaded or shorted. Normally, the upside of the key means that there is power. The starting and stopping of the welding machine is done via the mains network key in the distribution box. Please do not accept this circuit breaker as a power switch.

2. Power supply cable
This is a 4-pin cable. The composite color wire must be firmly grounded and the remaining wires are connected to the corresponding 3-phase power supply.

3. Cooling Fan

It cools the heating elements in the welding machine.

4. Gas supply (A part of the magnetic valve)

Connect the gas hose to the Argon gas regulator.

5. Water supply (part of the water key)

6. Name plate

7. Input warning sign

8. Fuse (2A)

LINKS

- **Interface on the front panel**

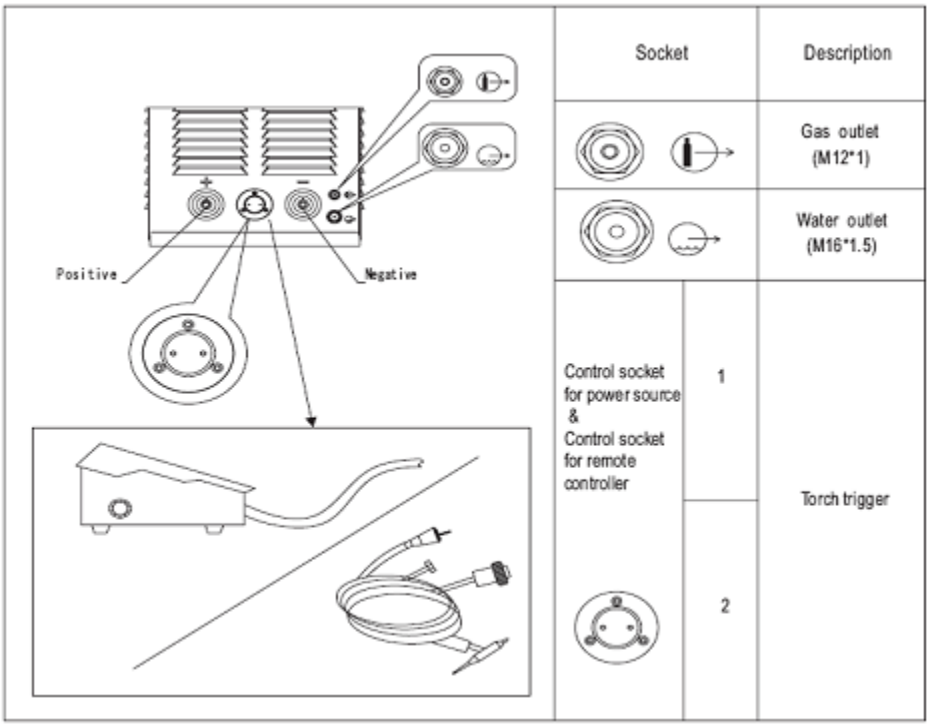
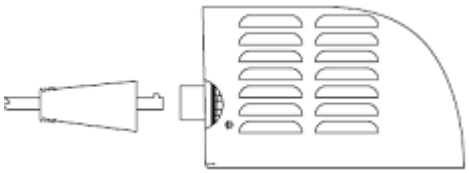


Figure: Interface on the front panel

- **Output socket**

There are two types of output sockets: quick connection type and printed type. When used, make sure they fit different cable plugs as shown.

Quick connection type



Printed type

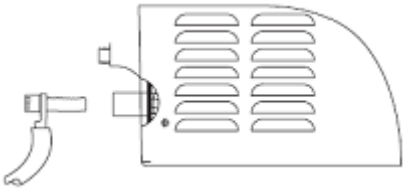
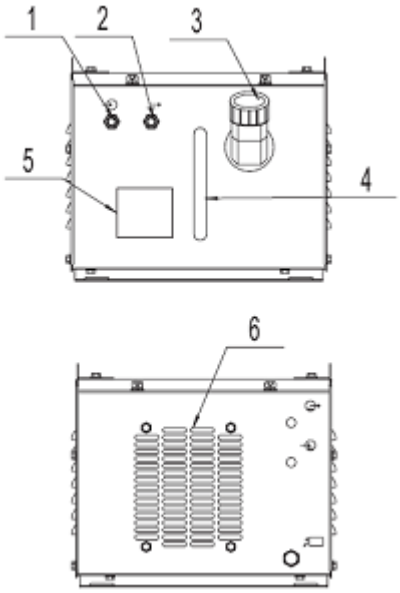


Figure: Output socket:

Water-cooling system

The water-cooling system is driven by the power supply. When the power supply is switched on, the water-cooling system starts running. Interfaces are as shown in the table.



NO	Description
1	Water inlet (red)
2	Water outlet (blue)
3	Water injection
4	Water level marks
5	Nameplate
6	Fan

Note! Before use, check the level and cleanliness of the refrigerant fluid. When the temperature is too low, we take precautions against freezing.

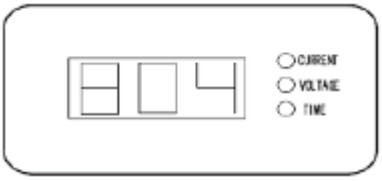
TROUBLESHOOTING AND RECOVERY

Warning! An electric shock can be fatal. Before opening the machine:

Close it and pull the plug from the mains
Remove the machine from the mains
Attach a clearly readable and easily understandable warning sign to prevent anyone from unintentionally operating it again.
Check to ensure that electrically charged components (e.g. capacitors) are discharged.

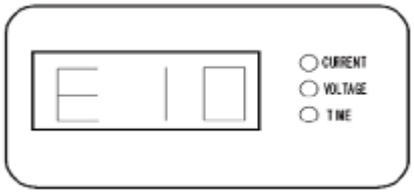
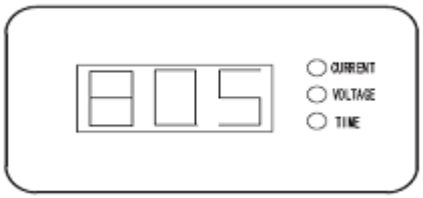
The bolt in the outer housing also serves as a ground connection. Never use any other bolt that cannot function as a ground connection.

Error Code

	&	

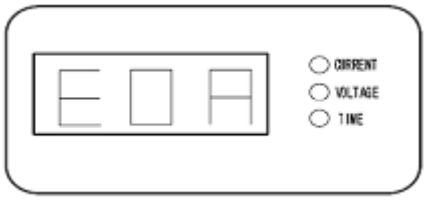
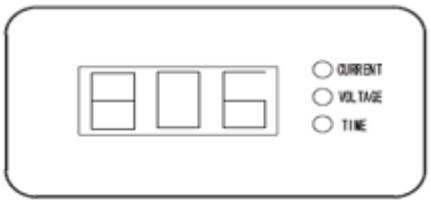
Reason: Overheating protection

Solution: Turn off the machine and cool it by keeping it in working condition for 15 minutes.

	&	

Reason: Torch trigger is pressed for too long without welding.

Solution: Release the torch trigger, if the fault arises again, check the torch or foot pedal and repair it

	&	

Reason: Water shortage protection

Solution: Check the water-cooling unit, water circulation switch and signal cable. When using a gas-cooled torch, check the machine settings.

13. ERROR CODES

Machine problem, cause and solution

Note! The following errors and their causes are not certain. However, they may occur during normal welding.

No.	ERROR	REASON	SOLUTION
1	The indicator light is not lit and the welding machine is not operating when the machine is switched on.	1) Phase is absent 2) The (2A) fuse has blown 3) The cable is out	1) Check the power supply 2) Check that the fan, power transformer and control board are in good condition 3) Check and repair
2	The circuit breaker automatically opens at high welding current, except for a long period of operation	1) The following elements have probably failed: IGBT module, 3-phase rectifier module, output diode module, and other elements 2) Short circuit	1) Check and repair
3	Welding current is not stable	1) Phase is absent 2) Main control card malfunction	1) Check power supply 2) Check and repair
4	The source current cannot be set	1) Broken cable 2) Main control card malfunction 3) The rotary encoder is faulty	1) Check and repair

Table: Troubleshooting and Recovery

14. MAINTENANCE AND REPAIR

Caution: Disconnect the system from the power supply before performing any maintenance inside the machine. Genuine spare parts are specially designed for this device. Non-genuine spare parts are also expected to fluctuate in machine efficiency or to fall in safety level. No responsibility shall be accepted for the use of non-genuine spare parts.

These systems are completely stable and proceed as follows:

- Cleaning of dust and dirt that accumulates periodically using compressed air is recommended to avoid deterioration of electrical parts. Do not hold the air gun directly on the electric parts
- Perform periodic maintenance to distinguish frayed cables or loose connections that may cause overheating.

15. TROUBLESHOOTING GUIDE

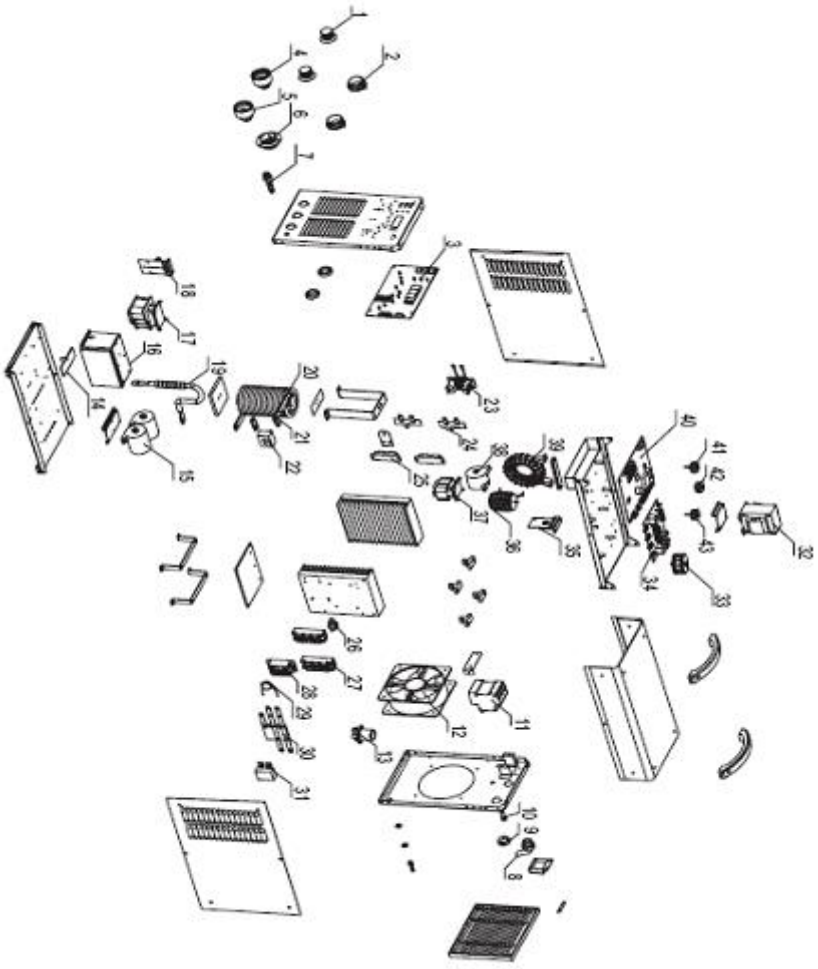
The most living troubles are attributed to the source of power. In case of failure, the following must be followed:

1) Check the power supply voltage value.
2) Check that the power cable is connected correctly to the power supply switch.
3) Check that the power fuse is not turned on or off.
4) Also check whether the following are also defective:

- Key to machine energy
- Wall socket
- Generator switch

NOTE: The technical qualifications specified for the machine's repair are required, and in case of a malfunction, we recommend you contact our skilled technical team or contact our technical service.

16. GEKAMAC® POWER TIG 3200 DC PULSE SPARE PARTS



No.	Item	5tock no.	Remark
1	Potentiometer knob	720031-00071	380/400/415V 50Hz
2	Knob cover	766003-00355	380/400/415V 50Hz
3	Display board	220503-00047	380/400/415V 50Hz
4	Quick socket(red)	740002-00046	380/400/415V 50Hz
5	Quick socket(black)	740002-00048	380/400/415V 50Hz
6	Control socket	740003-00011	380/400/415V

7	Gas outlet	766001-00095	380/400/415V 50Hz
8	Input cable	769001-00025	380/400/415V 50Hz
9	Hole plug	773007-00002	380/400/415V 50Hz
10	Fuse	745007-00011	380/400/415V 50Hz
11	Circuit breaker	745011-00021	380/400/415V 50Hz
12	Fan	746001-00013	380V 50Hz
		746001-00015	415V/50HZ
		746001-00034	400V/50HZ
13	Solenoid valve	752001-00007	380/400/415V 50Hz
14	Rack capacitor board	220293-00009	380/400/415V 50Hz
15	Input filter capacitor	766002-00104	380/400/415V 50Hz
16	Polypropylene capacitor	722001-00070	380/400/415V 50Hz
17	High leakage reactance transformer	763003-00018	380/400/415V 50Hz
18	H F are starting board	220575-00003	380/400/415V 50Hz
19	Voltage boosting transformer	220431-00005	380/400/415V 50Hz
20	Output reactor	763004-00041	380/400/415V 50Hz
21	Copper-Al wiring terminal	740016-00017	380/400/415V 50Hz
22	Current sensor	753001-00045	380/400/415V 50Hz
23	Current exchange inductor	220281-00008	380/400/415V 50Hz
24	Diode protection board	220455-00002	380/400/415V 50Hz
25	Fast recovery diode module	735006-00029	380/400/415V 50Hz
26	Temperature relay	745008-00006	380/400/415V 50Hz
27	IGBT module	735007-00089	380/400/415V 50Hz
28	Three phase rectifier module	735005-00002	380/400/415V 50Hz
29	Varistor	720021-00017	380/400V 50Hz
		720021-00021	415V 50Hz
30	IGBT protectin board	220005-00022	380/400/415V 50Hz

31	Polypropylene capacitor	722001-00067	380/400/41SV SOHz
32	Power transformer	763001-0003S	380V SOHz
		763001-000S9	41SV SOHz
		763001-0003S	400V SOHZ
33	Input anti-common-mode inductor	220467-00007	380/400/41SV SOHz
34	Drive board	210310-00020	380/400/41SV SOHz
3S	Current transformer	220149-00016	380/400/41SV SOHz
36	Resonance inductor	220S21-00007	380/400/41SV SOHz
37	Isolation transformer	763003-00023	380/400/41SV SOHz
38	Polypropylene capacitor	722001-00073	380/400/41SV SOHz
39	Main transformer	220629-00023	380/400/41SV SOHz
40	Main control board	21OS80-003S8	380/400/41SV SOHz
41	Displayanti-interference inductance	220S09-00004	380/400/41SV SOHz
42	Voltage feedback inductor	220167-00002	380/400/41SV SOHz
43	Preset anti-interference inductor	220269-0000S	380/400/41SV SOHz

17. AUTHORIZED TECHNICAL SERVICES

ISTANBUL EUROPEAN SIDE	ITEM NO.	TECHNICAL SERVICES	ISTANBUL EUROPEAN SIDE
	1	**FROSER KAYNAK**	
		ADDRESS: IKITELLI ORG.SAN.BÖLGE DEMIRCILER SITESI.C1-BLOK NO: 198 IKITELLI/ISTANBUL	
		Mail: info@froser.com.tr	
		Phone: +90 (212) 549 5070 - 0530 783 67 97 FAX: +90 (212) 549 70 60	
	2	**TEKBEN KAYNAK**	
		ADDRESS: IKITELLI ORG.SAN. BÖLGE DOLAPDERE SANAYI SITESI.2. ADA NO: 20 IKITELLI/ISTANBUL	
		Mail: tekbenkaynak@hotmail.com	
		Phone: +90 (212) 549 5791 - 0533 685 14 64 FAX: +90 (212) 549 07 68	
	3	**ÇINAR TEKNIK**	
		ADDRESS: SEYRANTEPE MAH. CAZIP SOK. NO: 14 4.LEVENT / KAGITHANE / ISTANBUL	
		Mail: hasan@cinartorc.com	
		Phone: +90 (212) 268 5570 - 0532 451 65 10 FAX: +90 (212) 268 55 70	
	4	**KAAN TEKNIK MAK.**	
		ADDRESS: IKITELLI ORG.SAN.BÖLGE SEFAKÖY SANAYI SITESI. 3-BLOK NO:8 IKITELLI/ISTANBUL	
		Mail: mustafa_corut@hotmail.com	
		Phone: +90 (212) 671 48 53 - 0532 417 55 32 FAX: +90 (212) 549 70 68	
	5	**GELIŞIM KAYNAK TEKNIGI**	
		ADDRESS: PERPA TICARET MERKEZI B BLOK MAVI AVLU KAT NO: 339 OKMEYDANI/ŞIŞLI/ISTANBUL	
		Mail: info@gelisimkaynak.com	
		Phone: +90 (212) 220 07 35 FAX: +90 (212) 221 29 34	

ISTANBUL ANATOLIAN SIDE	6	**AYDIN BOBINAJ**	ISTANBUL ANATOLIAN SIDE
		ADDRESS: Y. Dudullu Imes Sanayi Sitesi 3. Sosyal Tesis No: 17 Ümraniye / ISTANBUL	
		Mail: info@aydinbobinaj.com	
		Phone: +90 532 402 91 43 +90 533 657 58 61	
	7	**PRIZMA TEKNIK HIRDAVAT**	
		ADDRESS: Birmes Sanayi Sitesi B9 Blok No: 25 / 26	
		Mail: info@aydinbobinaj.com	
		Phone: +90 (216) 394 06 38 - 0532 377 93 21	
	8	**HILAL MAKINA**	
		ADDRESS: ÇARŞI MAH.KARTAL CAD. KASTELLI SAN. SIT. A BLOK NO: 48 YAKACIK / KARTAL / ISTANBUL	
		Mail: info@hilaltorc.com	
		Phone: +90 (216)377 85 61 - 0538 677 63 66 FAX: +90 (216) 377 85 68	
	9	**GÖRSEL KAYNAK TEKNIGI**	
		ADDRESS: IKITELLI ORG.SAN.BÖLGE DEMIRCILER SITESI.C1-BLOK NO:198 IKITELLI/ISTANBUL	
		Mail: mustafa_corut@hotmail.com	
		Phone: +90 (212) 671 48 53 - 0532 417 55 32 FAX: +90 (212) 549 70 68	
	10	**KAMEL TEKNIK SERVIS**	
		ADDRESS: AYDINTEPE MAH. TEM YANYOL MELODI SOK. BILMO MOBILYACILAR SAN. SIT. NO: 2/44 TUZLA / ISTANBUL	
		Mail: info@kamelteknik.com.tr	
		Phone: +90 (216) 493 77 83 – 0532 322 63 57 FAX: +90 (216) 593 41 50	
	11	**AKM KAYNAK**	
		ADDRESS: IMES SAN. SIT. 2.SOSYAL TESISLER NO: 49 Y.DUDULLU ÜMRANIYE/ISTANBUL	
		Mail: akm_kaynak@hotmail.com	
		Phone: +90 (216) 314 70 50 - Cihat Bey 0532 296 48 46 0506 840 18 80 FAX: +90 (216) 365 85 56	

BURSA	12	**KAYNAK MERKEZI**	BURSA
		ADDRESS: NILÜFER TICARET MERKEZI 64. SOK. NO: 2 NILÜFER	
		Mail: satis@kaynakmerkezi.com	
		Phone: +90 (224) 443 23 70 +90 532 352 90 73 FAX: +90 (224) 443 23 74	
	13	**ELKAYSAN**	
		ADDRESS: ALAADDINBEY MAH. ÇIFTLIK CAD. MESE-6 IŞ MERKEZI NO: 5/K NILÜFER	
		Mail: info@elkaysan.com	
		Phone: +90 (224) 251 18 11 – 25 64 FAX: +90 (224) 251 14 89	
KOCAELI	14	**ERTUNÇ MAKINE**	KOCAELI
		ADDRESS: SAN. MAH. FIRAT SOK NO: 14/3 KÖRFEZ SAN. SIT. KUZEY KAĞI KARŞISI	
		Mail: ertuncmakina@hotmail.com	
		Phone: +90 (262)335 35 93 – 0532 567 06 49 FAX: +90 (262) 335 35 93	
SAKARYA	15	**AKTIF ELEKTROMEKANIK**	SAKARYA
		ADDRESS: MALTEPE MAH. ORHANGAZI CAD. NO: 34 IKITELLI/ISTANBUL	
		Mail: aktif_elektro@hotmail.com	
		Phone: +90 (264) 282 18 34 - 0535 858 88 32 FAX: +90 (264) 278 25 57	
DÜZCE	16	**DOGAN GÜÇ TEKNIK**	DÜZCE
		ADDRESS: KÜLTÜR MAH. ESKI SAN. ÇARŞ. SAN. ÇARŞISI 2. CAD. NO: 17 DÜZCE	
		Mail: ondertek@hotmail.com	
		Phone: +90 (380) 524 94 92 – 0507 303 95 21 FAX: +90 (380) 524 94 92	
ESKIŞEHIR	17	**YETIŞKUL MAKINE**	ESKIŞEHIR
		ADDRESS: TEKSAN SAN. SIT. E-3 BLOK NO: 24.ESKIŞEHIR	
		Mail: yetişkulmakina@hotmail.com	
		Phone: +90 (222) 228 03 43- FAX: +90 (222) 228 03 43	
AFYON	18	**ER KAYNAK**	AFYON
		ADDRESS: 2. KÜÇÜK SAN. SIT. 15. ADA. 5. BLOK NO: 4 MERKEZ / AFYONKARAHISAR	
		Mail: isaerkek@gmail.com	

		Phone: +90 (272) 223 42 72 FAX:	
UŞAK	19	**ÖZTÜRK KAYNAK**	UŞAK
		ADDRESS: DURAK MAH. KUNT SOK. NO: 2/A	
		Mail: yusufozturk@gmail.com	
		Phone: +90 (276) 204 00 20- FAX:	
ANTALYA	20	**TEKNOPAN ELEKTRONK**	ANTALYA
		ADDRESS: Akdeniz San. Sitesi 5010 Sok. No: 23 Antalya	
		Mail: info@teknopankaynak.com	
		Phone: +90 (242) 221 07 84 0532 343 49 58 FAX:	
ISPARTA	21	**ZARIF KAYNAK**	ISPARTA
		ADDRESS: YENI SAN. SIT. 2 BLOK NO: 49.ISPARTA	
		Mail: zarifkaynak@hotmail.com	
		Phone: +90 (246) 21891 96 FAX: +90 (242) 227 94 10	
TRABZON	22	**ARMAK ENDÜSTRI**	TRABZON
		ADDRESS: RIZE CAD. BELEDIYE IŞHANI NO: 8 DEGIRMENDERE	
		Mail: armakkaynak@mynet.com	
		Phone: +90 (462) 325 35 62 – 0532 406 94 08 FAX: +90 (462) 278 25 57	
	23	**TEKNIK ELEKTRIK BOBINAJ**	
		ADDRESS: SANAYI MAH. DEGIRMEN SOK 25 / TRABZON	
		Mail: davut.kol@hotmail.com	
		Phone: +90 (462) 325 52 26 – 0543 763 19 50 FAX:	
IZMIR	24	**MTS KAYNAK MAKINE**	IZMIR
		ADDRESS: EMIN IŞ HANI 1203 SOK. NO: 8/C YENIŞEHIR	
		Mail: info@mtskaynak.com	
		Phone: +90 (232) 459 44 32 - 0532 421 46 90 FAX: +90 (232) 459 44 34	

IZMIR	25	**CEREN MAKINE**	
		ADDRESS: EGEMENLIK MAH. KEMALPAŞA CAD. 153. SOK. NO: 3 ERIM SITESI ISIKKENT	
		Mail: engin@cerenmakina.com	
		Phone: +90 (232) 436 36 78 – 0532 200 79 00 – 0532 241 95 66 – 0530 404 49 24 FAX: +90 (232) 436 14 94	
	26	**OAZA KAYNAK HIRDAVAT**	IZMIR
		ADDRESS: RAFETPAŞA MAH. 5051 SOK. NO: 61 ÇAMDIBI / BORNOVA / IZMIR	
		Mail: info@oazahirdavat.com	
		Phone: +90 (232) 461 46 44 0535 053 01 53 FAX: +90 (232) 486 07 51	
DENIZLI	27	**DELTA KAYNAK MAKINA**	DENIZLI
		1. SANAYI SITES8 163 SOKAK NO: 29 MERKEZEFENDI / DENIZLI	
		delta-kay-mak@outlook.com	
		PHONE: +90 (258) 261 20 07 - 0541 553 05 95	
ANKARA	28	**KEYVAN TEKNIK SERVIS**	ANKARA
		ADDRESS: IVEDIK ORG. SAN. 1438 SOK. NO: 24 OSTIM ANKARA	
		Mail: keyvanteknik@hotmail.com	
		Phone: +90 (312) 395 65 17 – 0533 529 63 57 FAX: +90 (312) 395 44 66	
	29	**BILIM ELEKTRIK**	
		ADDRESS: 1. SOK. ARMAGAN PASAJI NO: 1023/18 OSTIM / ANKARA	
		Mail: bilim-elektrik@hotmail.com	
		Phone: +90 (312) 385 30 41 – FAX: +90 (312) 385 35 45	
	30	**DESTEK KAYNAK EKIPMANLARI**	
		ADDRESS: Serhat Mahallesi 1442 Sokak No: 6 Yenimahalle / ANKARA	
		Mail: destekkaynak@hotmail.com	
		Phone: +90 (312) 354 81 81 – 0505 360 11 14 FAX:	

ANKARA	31	**ESER KAYNAK**	ANKARA
		ADDRESS: ALTINSARI SANAYI SITESI 1456. NO: 4 IVEDIK YENIMAHALLE/ ANKARA	
		MAIL: hasan@eserkaynak.com.tr	
		PHONE: +90 (312) 354 02 06 0532 470 92 92	
ADANA	32	**OMSER TEKNIK DESTEK SERVIS**	ADANA
		ADDRESS: YEŞILOBA MAH. 46023 SOKAK NO: 11/A SEYHAN / ADANA	
		MAIL: servis@omser.com.tr murat@omser.com.tr	
		PHONE: +90 (322) 428 92 23 - 428 92 94 – 428 9223 GSM: 0532 260 96 53 FAX: +90 (322) 428 92 22	
	33	**ÖZKA TEKNIK**	
		ADDRESS: YEŞILOBA MAH. ARSLANDAMI IŞ MERKEZI G BLOK NO: 123-133 SEYHAN / ADANA	
		MAIL: ozkakaynak@hotmail.com	
		PHONE: +90 (322) 429 29 86 - 0532 960 36 44 FAX: +90 (322) 429 31 77	
Ş.URFA	34	**LALE KAYNAK**	Ş.URFA
		ADDRESS: EVREN SAN. SITÇ 1. CAD. 11. SOK. NO: 2 ŞANLIURFA	
		MAIL: ibrahim-lale@hotmail.com	
		PHONE: +90 (414) 313 42 60 – 0532 643 41 71 FAX: +90 (414) 315 21 64	
DIYARBAKIR	35	**MAKSAN BOBINAJ**	DIYARBAKIR
		ADDRESS: ATATÜRK SAN. SIT. 11. BLOK NO: 6 DIYARBAKIR	
		MAIL: maksanbobinaj@hotmail.com	
		PHONE: +90 (412) 237 68 47 – 0533 777 57 04 FAX: +90 (412) 238 31 69	
KONYA	36	**YILDIZ ELEKTRIK**	KONYA
		ADDRESS: F. ÇAKMAK MAH. HÜDAI CAD. 10563 SOK NO: 49 KARATAY / KONYA	
		MAIL: kaynakci_omer@hotmail.com	
		PHONE: +90 (332) 233 37 52 - 0533 355 22 11 FAX: 0533 233 3752	

KAYSERI	37	**GÖKTUG KAYNAK**	KAYSERI
		ADDRESS: AGAÇ IŞLERI 25. CAD. ÇIKMAZI NO: 11 MELIKGAZI / KAYSERI	
		MAIL: goktugkaynak@hotmail.com	
		PHONE: +90 (312) 311 47 44 FAX:0352 311 47 45	
GAZIANTEP	38	**ÇALIKOGLU BOBINAJ ÜRÜNLERI**	GAZIANTEP
		ADDRESS: HAKAN KUÇUK SAN. SIT. ANAFARTALAR BULVARI B BLOK 2 NO: 1 GAZIANTEP	
		MAIL: calikoglubobinaj@hotmail.com	
		PHONE: +90 (342)235 63 09 - 235 03 07 – 0543 399 94 04 – 0532 654 22 64 FAX: +90 (342) 235 03 07	
AKSARAY	39	**KAYNAR HIRDAVAT TIC. SAN.**	AKSARAY
		ADDRESS: SANAYI MAH. 2013 SOK. NO: 1 AKSARAY	
		MAIL: servis@kaynarhirdavat.com halim bey	
		PHONE: +90 (382) 215 52 48 - 0533 927 73 93 FAX: +90 (382) 215 00 43	
SAMSUN	40	**AKIN KAYNAK**	SAMSUN
		ADDRESS: 19 MAYIS SAN. SITESI. ŞABANOGLU MAH. YEŞILIRMAK CAD. NO: 27 KUTLUKENT / SAMSUN	
		MAIL: akinkaynak55@gmail.com	
		Phone: +90 (362) 266 40 89 – 0507 638 55 75 FAX: +90 (362) 266 40 89	
ÇORUM	41	**KILIÇLAR BOBINAJ**	ÇORUM
		ADDRESS: K. SAN. SIT. SANAYI CAD. NO: 19/B ÇORUM	
		MAIL: kiliclar-bobinaj@hotmail.com	
		Phone: +90 (364) 234 92 73 – 0507 918 61 35 FAX: +90 (364) 234 92 73	
ZONGULDAK	42	**US HIRDAVAT**	ZONGULDAK
		ADDRESS: KIŞLA MAH. SANAYI SITESI K. BLOK NO: 3 EREGLI / ZONGULDAK	
		MAIL: rasim@ushirdavat.com	
		PHONE: +90 (372) 316 00 95 baha bey - 0533 460 65 36 FAX: +90 (372) 322 00 97	

KAHRAMANMARAŞ	43	**ELECTRO-CENTER** ADDRESS: BAHÇELIEVLER MAH. TRABZON CAD. HASEL APT. ALTI NO: 116/5 DULKADIROGLU / KAHRAMANMARAŞ MAIL: electro-center@hotmail.com PHONE: +90 (344) 236 0096 0532 782 22 30 FAX: +90 (344) 236 01 45	KAHRAMANMARAŞ
NIGDE	44	**BIREL INŞAAT OTOMOTIV ELEKTRONIK** ADDRESS: ÇAYIR MAH. CUMHURIYET BULVARI NO: 19/A MERKEZ / NIGDE MAIL: info@birelinsaat.com.tr PHONE: +90 (388) 212 06 22 – 0507 989 85 20 FAX:	NIGDE
ÇANAKKALE/ BIGA	45	**ŞAHIN BOBINAJ VE MAKINE** ADDRESS: ISTIKLAL CADDESI NO: 154 BIGA ÇANAKKALE MAIL: sahinbobinaj@hotmail.com PHONE: +90 (286) 316 11 71 - 0532 678 81 93 FAX:	ÇANAKKALE/ BIGA
TRAKYA	46	**TRAKYA BILIŞIM ELEKTRONIK** ADDRESS: ZAFER MAHALLESI ŞEHIT YÜZBAŞI YÜCEL KENTER CADDESI M1 BLOK YENİ SAN. SIT. ÇORLU / TEKIRDAG MAIL: servis@trkybilisim.com PHONE: +90 (282) 651 01 13 – 0530 603 00 75 FAX:	TRAKYA
ELAZIG	47	**MERT BOBINAJ** ADDRESS: SANAYI SITESI 11. SOK. NO: 38 ELAZIG MAIL: cahit.cakir23 @gmail.com PHONE: +90 (424) 224 24 37 – 0532 684 04 23 FAX:	ELAZIG
MALATYA	48	**ÖREN ELEKTRIK ELEKTRONIK** ADDRESS: ÖZSAN SANAYI SITESI 39 BLOK 14 B YEŞILYURT / MALATYA MAIL: orenmuhammed.23@gmail.com PHONE: +90 (422) 211 84 77 - 0544 979 99 91 – 0544 979 99 95	MALATYA

ZONGULDAK	49	**AY IŞ MAKINE**	ZONGULDAK
		ADDRESS: KIŞLA MAHALLESI SANAYI ÇARŞISI I BLOK NO: 17 EREGLI / ZONGULDAK	
		MAIL: tumenmak@hotmail.com	
		PHONE: +90 (372) 323 74 97 GSM: 0537 573 15 12 – 0544 979 99 95	

18. WARRANTY TERMS AND CONDITIONS

i. The warranty period starts from the delivery date of the welding machine and is for 2 years.
If the welding machine malfunctions within the warranty period, the time remaining in repair will be added to the warranty period. The repair time of the welding machine is maximum 20 working days. This period shall commence from the date on which the welding machine is delivered to the service station, in the case that the service station is not available, to the welding machine supplier, dealer, agency, representative, importer or manufacturer.
If the welding machine malfunctions due to material, workmanship or assembly errors within the warranty period, repair will be made without any charge under any name including labor cost, changed parts price or any other name.

ii. If the being unable to utilize the machine becomes continual because of the welding machine repeats the same fault more than 3 times within 2 years or different faults arise more than five times, exceeding maximum time for repair or unavailability of the service station, from the delivery date, provided that to be within warranty period, the seller, or if it is determined that to repair the fault is not possible by a report respectively by one of the seller, the dealer, the agency, representative, importer, or manufacturer of the product, the replacement shall be carried out free of charge.

iii. Defects arising from unauthorized use of the welding machine in the operating instructions are not covered by the warranty.

iv. For problems that may arise in connection with the Warranty Certificate, the Ministry of Science, Industry and Technology, General Directorate of Consumer Protection and Competition may be applied. The guarantee given by GEDIK KAYNAK SAN. TIC. A.Ş, shall be applicable only if a technical delegation acceptable to GEDIK KAYNAK SAN. TIC. A. Ş., determines that the parts and materials used in the construction of the machines which are produced exclusively are defective. This warranty does not cover the materials consumed during use (chassis and welding pens, contact nozzle, nozzle, torch spiral, wire runners, wire riding rollers, bulbs, insurance etc.), these consumables and welding materials are not covered by the guarantee.

v. In the event of any defects arising in the products covered by the warranty, the customer or the user shall promptly and in writing agree with GEDIK KAYNAK SAN. TIC. A.Ş., by reporting the malfunction of the machine, the name of the machine, the serial number, the date of the invoice and the name of the firm that issued the invoice. GEDIK KAYNAK SAN. TIC. A.Ş., shall make or repair the machine at its own factory, at the customer's workshop or at the authorized after-sales service workshop, free of charge, in the most appropriate way for itself. If the customer does not show the above mentioned documents, the warranty period is 15 months based on the date of the relevant machine's deposit.

vi. GEDIK KAYNAK SAN. TIC. A. Ş., has no other liability for any loss of business or loss of productivity due to failures in the machines other than free repair in case of any defects in the products covered by the warranty mentioned above.

vii. The warranties given by GEDIK KAYNAK SAN. TIC. A. Ş., in casaes of the operation of the machine in an environment that is incompatible with the environment specified in the operating manual, improper storage, In case of using accessories and consumables other than GEDIK KAYNAK SAN. TIC. A. Ş., brand, and trying to repair the machine by the customer will be invalid.

GeKaMac®

WELDING MACHINE
WARRANTY CERTIFICATE

MACHINERY INFORMATION : .....
Brand of the Machine : .....
Model of the Machine : .....
Machine Bandrol and Serial No. : .....
CONSUMER DATA
Company Data : .....
Contact Person Name-Surname : .....
Phone : .....
Machine's Address : .....
.....
City of the Machine : ..... County: .....
Mail Address :: .....@.....
Signature / Seal : .....
SERVICE DATA
Name of the Authorized Service : .....
Name of Installing Staff : .....
Date of Installatiom : ..... / ..... / .....
Warranty Start Date : .....
Warranty End Date : .....
Signature / Seale :

WARNING: This Warranty Certificate has been issued in duplicate and both copies must be signed by you and the Authorized Service in order to be valid. Before signing the guarantee document, check that the machine serial numbers on both copies are the same.

www.gedikkaynak.com.tr

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MANUFACTURER

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Contact Data:
Phones : +86-531-81921006
Fax : +86-531-88876665

IMPORTER

Importer: Gedik Kaynak San ve Tic A.Ş.
Importer's Address: Ankara Cad No: 306 Şeyhli 34906 Pendik, Istanbul/Turkey
Contact Data:
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Fax : +90-216 3782044

PoWer TIG Series

GeKaMac®

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