



# TIG/MMA AC/DC PULSE INVERTER WELDER 200A 230V

MODEL NO: TIGACDC200

Thank you for purchasing a Sealey product. Manufactured to a high standard, this product will, if used according to these instructions, and properly maintained, give you years of trouble free performance.

**IMPORTANT:** PLEASE READ THESE INSTRUCTIONS CAREFULLY. NOTE THE SAFE OPERATIONAL REQUIREMENTS, WARNINGS & CAUTIONS. USE THE PRODUCT CORRECTLY AND WITH CARE FOR THE PURPOSE FOR WHICH IT IS INTENDED. FAILURE TO DO SO MAY CAUSE DAMAGE AND/OR PERSONAL INJURY AND WILL INVALIDATE THE WARRANTY. KEEP THESE INSTRUCTIONS SAFE FOR FUTURE USE.



Refer to instructions



Wear a welding mask



Wear protective gloves



Warning!  
Electricity  
Shock hazard



Warning!  
Keep away from  
rain



Welding sparks  
can cause  
explosions or fire



Arc rays can  
burn eyes and  
injure skin



Electric shock  
from welding  
electrodes can  
kill



Breathing  
welding fumes  
can be  
hazardous to  
your health



Electromagnetic  
fields can cause  
pacemaker  
malfunction

## NOTE:

Diagrams of internal components are for reference only. There may be detail differences in the components of your welder but these will not affect its operation.

## 1. SAFETY

### 1.1. ELECTRICAL SAFETY

- WARNING!** It is the user's responsibility to check the following:
- ✓ Check all electrical equipment and appliances to ensure that they are safe before using. Inspect power supply leads, plugs and all electrical connections for wear and damage. Sealey recommend that an RCD (Residual Current Device) is used with all electrical products.
- ✓ **Electrical safety information.** It is important that the following information is read and understood:
- ✓ Ensure that the insulation on all cables and on the appliance is safe before connecting it to the power supply.
- ✓ Regularly inspect power supply cables and plugs for wear or damage and check all connections to ensure that they are secure. **Important:** Ensure that the voltage rating on the appliance suits the power supply to be used and that the plug is fitted with the correct fuse.
- ✗ **DO NOT** pull or carry the appliance by the power cable.
- ✗ **DO NOT** pull the plug from the socket by the cable.
- ✗ **DO NOT** use worn or damaged cables, plugs or connectors. Ensure that any faulty item is repaired or is replaced immediately by a qualified electrician.

If the cable or plug is damaged during use, switch off the electricity supply and remove from use.

**Ensure that repairs are carried out by a qualified electrician.**

The **Electricity at Work Act 1989** requires that all portable electrical appliances, if used on business premises, are tested by a qualified electrician, using a Portable Appliance Tester (PAT), at least once a year.

- 1.2. The **Health & Safety at Work Act 1974** makes owners of electrical appliances responsible for the safe condition of those appliances and the safety of the appliance operators. **If in any doubt about electrical safety, contact a qualified electrician.**

- 1.3. To achieve maximum output these models will require a 32Amp fused supply. We recommend you discuss the installation of an industrial round pin plug and socket with your electrician.

- 1.4. When a cable extension reel is used it should be fully unwound before connection. A cable reel with an RCD fitted is recommended since any product which is plugged into the cable reel will be protected. The cross-section of the cable on the cable reel must be suitable for the unit and never lower than the cross-section of the mains cable supplied with the unit.

### 1.5. GENERAL SAFETY

- ▲ **DANGER!** Unplug the welder from the mains power supply before performing maintenance or service.
- WARNING! DO NOT** place the welding power source on a tilted plane as this may lead to the unit toppling over.
- ✓ Welding power sources are not suitable for use in rain or snow.
- ✓ The output is rated at an ambient temperature of 20°C and the welding time may be reduced at higher temperatures.
- ✓ Risk of electric shock: Electric shock from welding electrode can kill. **DO NOT** weld in the rain or snow. Wear dry insulating gloves. **DO NOT** touch electrode with bare hands. **DO NOT** wear wet or damaged gloves. Protect yourself from electric shock by insulating yourself from workpiece. **DO NOT** open the equipment enclosure.
- ✓ Risk induced by welding fumes: Breathing welding fumes can be hazardous to your health. Keep your head out of the fumes. Use equipment in an open area. Use ventilating fan to remove fumes.
- ✓ Risk induced by welding sparks: Welding sparks can cause explosion or fire. Keep flammables away from welding. **DO NOT** weld near flammables. Welding sparks can cause fires. Have a fire extinguisher nearby and have a watch person ready to use it. **DO NOT** weld on drums or any closed containers.
- ✓ Risk induced by the arc: Arc rays can burn eyes and injure skin. Wear hat and safety glasses. Use ear protection and button shirt collar. Use welding helmet with correct shade of filter. Wear complete body protection.

- ✓ Risk induced by electromagnetic fields: Welding current produces electromagnetic field. **DO NOT** use with medical implants. Never coil welding cables around your body. Route the welding cables together.
  - ✓ Keep the welder and cables in good condition. Take immediate action to repair or replace damaged parts.
  - ✓ Use genuine parts and accessories only. Unapproved parts may be dangerous and will invalidate the warranty.
  - ✓ Use an air hose to regularly blow out any dirt from the liner and keep the welder clean for best and safest performance.
  - ✓ Check and spray the gas cup and contact tip regularly with anti-spatter spray which is available from your Sealey stockist.
  - ✓ Locate the welder in a suitable work area. Ensure that the area has adequate ventilation as welding fumes are harmful.
  - ✓ Keep work area clean, tidy and free from unrelated materials. Also ensure that the work area has adequate lighting and that a fire extinguisher is at hand.
  - ☐ **WARNING!** Use welding head shield to protect eyes and avoid exposing skin to ultraviolet rays given off by electric arc. Wear safety welding gauntlets.
  - ✓ Remove ill fitting clothing, remove ties, watches, rings and other loose jewellery and contain long hair.
  - ✓ Ensure that the workpiece is correctly secured before operating the welder.
  - ✓ Avoid unintentional contact with workpiece. Accidental or uncontrolled use of the torch may be dangerous and will wear the nozzle.
  - ✓ Keep unauthorised persons away from the work area. Any persons working within the area must wear protective head shield and gloves.
  - ✓ Operators must receive adequate training before using the welder.
  - ✓ Stand correctly, keeping a good footing and balance, and ensure that the floor is not slippery. Wear non-slip shoes.
  - ✓ Turn voltage switch to OFF when not in use.
  - ✗ **DO NOT** operate the welder if it or its cables are damaged and **DO NOT** attempt to fit any unapproved torch or other parts to the welder unit.
  - ✗ **DO NOT** get welder wet or use in damp or wet locations or areas where there is condensation.
  - ▲ **DANGER! DO NOT weld near inflammable materials, solids, liquids, or gases, and DO NOT weld containers or pipes which have held flammable materials or gases, liquids or solids. Avoid operating on materials cleaned with chlorinated solvents or near such solvents. DO NOT use power source for pipe thawing.**
  - ✗ **DO NOT** stand welder on a metal workbench, car bodywork or similar object.
  - ✗ **DO NOT** touch any live metal parts of the torch or electrode while the machine is switched on.
  - ✗ **DO NOT** pull the welder by the cable or the torch and **DO NOT** bend or strain cables. Protect cables from sharp or abrasive items and **DO NOT** stand on them. Protect from heat. Long lengths of slack must be gathered and neatly coiled. **DO NOT** place cables where they could endanger other people.
  - ✗ **DO NOT** touch the torch or workpiece immediately after welding as they will be very hot. Allow to cool.
  - ✗ **DO NOT** operate welder while under the influence of drugs, alcohol or intoxicating medication, or if tired.
  - ✓ When not in use store the welder in a safe, dry, childproof area.
- 1.6. GAS SAFETY**
- ✓ Store gas cylinders in a vertical position only and ensure that the storage area is correctly secured.
  - ✗ **DO NOT** store gas cylinders in areas where temperature exceeds 50°C. **DO NOT** use direct heat on a cylinder. Always keep gas cylinders cool.
  - ✗ **DO NOT** attempt to repair or modify any part of a gas cylinder or valve and **DO NOT** puncture or damage a cylinder.
  - ✗ **DO NOT** obscure or remove any official cylinder labels. Always check the gas identity before use. Avoid getting gas cylinders oily or greasy.
  - ✗ **DO NOT** lift a cylinder by the cap, guard or valve. Always keep caps and guards in place and close valve when not in use.
  - ☐ **WARNING! DO NOT** use for pipe thawing.

## 2. INTRODUCTION

IGBT Inverter technology fitted with fan-cooled AC/DC power supply suitable for both TIG and MMA/ARC welding applications up to 200A. Suitable for welding a variety of metals including aluminium, magnesium, stainless steel, copper, nickel and titanium. 20-stage parameter adjustment program to suit welders' requirements. Weighing 8.5kg this welder is highly portable allowing the welder to be taken to the job at hand making it ideal for the mobile technician. Features hot start, anti-stick, forced air cooling, thermal cut-out protection and quick release switch on the torch for control of gas, saving on consumption. Suitable for MMA/ARC welding using the lift start method for better weld quality. Supplied with earth clamp, TIG torch and accessories, electrode holder and foot pedal for when greater control is required.

## 3. SPECIFICATION

<b>Model no:</b>	<b>TIGACDC200</b>
Absorbed Power:	5.4kW
Duty Cycle:	AC - 100% @ 110A, 60% @ 141A, 30% @ 200A. DC - 100% @ 93A, 60% @ 120A, 30% @170A.
Electrode Capacity:	Ø1.6-4mm
EMC	EN IEC 60974-1:2018+A1:2019
Insulation Class:	F
Nett Weight:	8.5kg
Plug Type:	Bare Wire
Power Output:	10-200A
Plug Type:	Bare Wire
Power Supply Cable Length:	2m

ADDITIONAL INFORMATION	
Pollution Degree	3
Protection:	IP21S
Static Characteristics	Drooping
Supply:	230V/50Hz
ACCESSORIES	
Earth Clamp	TIGACDC200 -22
Electrode Holder	TIGACDC200 -23
Foot Pedal	TIGACDC200-24
Tig Torch	TIGACDC200-21

Model	TIGACDC200		
Supply	230±10%, 50Hz		
Rated input current (A)	(TIG) 25.2	(MMA) 31.9	
Rated input power (kW)	(TIG) 5.8	(MMA) 7.3	
Power factor	0.73		
Max no-load Voltage (V)	56		
Adjustment range of Start current (A)	TIG		MMA
	AC	DC	DC
	HF	1 to 200	-
	1 to 200		
Adjustment range of Welding current (A)	10 to 200	10 to 200	10 to 170
Adjustment range of Crater arc current (A)	10 to 200	10 to 200	20 to 170
Adjustment range of Downslope time (S)	0 to 10		
Pre-gas time (S)	0.1 to 3		
Adjustment range of Post-gas time (S)	1.0 to 10		
Clearance effect (%)	-40 to 10		
Efficiency Duty cycle (25°C. 10 minutes).	AC	DC	
	30% 200A	30% 170A	
	60% 141A	60% 120A	
	100% 110A	100% 93A	
Protection class	IP21S		
Dimensions of Machine (L×W×H) (mm)	400*170*300		
Weight (kg)	8.5		



## 4. OPERATION

### 4.1. DUTY CYCLE AND OVER HEAT / THERMAL PROTECTION

Duty cycle is defined as the proportion of the time that a machine can work continuously within a certain time (10 minutes). The rated duty cycle means the proportion of the time that a machine can work continuously within 10 minutes when it outputs the rated welding current. If the welder overheats, the IGBT overheating protection unit inside the appliance will instruct the appliance to cut the output welding current, and will light the overheat pilot lamp on the front panel. At this time, the machine should be rested for 15 minutes to allow to cool. When restarting the machine, the welding output current or the duty cycle should be reduced.

### 4.2. MOVEMENT AND PLACEMENT

Please take care of the welder when moving it, and do not carry on its side. It can also be moved by the handle on the top of the welder. Place the welder well when moving it to the right position. The movement may result in the potential danger or substantive hazard, so please make sure that the machine is in a safe position before using it.

### 4.3. POWER SUPPLY INPUT CONNECTION

The TIGACDC200 welding machine power supply connects to 230V. When the power supply voltage is over the safe work voltage, there are over voltage and under voltage protection inside the welder, the alarm light will come on, at the same time, the current output will be cut off. If the power supply voltage continually goes beyond the safe work voltage range, it will shorten the welder life-span. The below measures can be used:

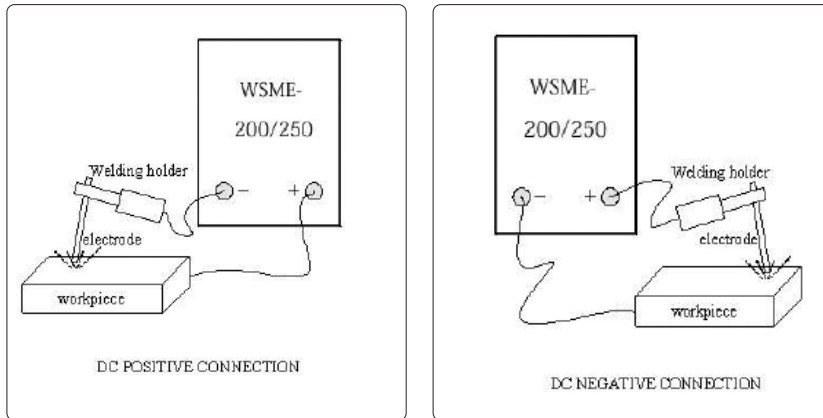
- 4.3.1. Change the power supply input. Such as, connect the welder with the stable power supply voltage or distribution.
- 4.3.2. Reduce the machines using the same power supply at the same time;
- 4.3.3. Set the voltage stabilisation device in the front of power cable input (see control panel 4.7).

### 4.4. ENVIRONMENT

- 4.4.1. Height above sea level is below 1000m.
- 4.4.2. Operation temperature range:-10 to 40.
- 4.4.3. Relative humidity is below 90 % (200C).
- 4.4.4. Preferably site the machine some angles above the floor level, the maximum angle does not exceed 150 degrees.
- 4.4.5. Protect the machine against heavy rain or in hot circumstance against direct sunshine.
- 4.4.6. The content of dust, acid, corrosive gas in the surrounding air or substance can not exceed normal standard.
- 4.4.7. Take care that there is sufficient ventilation during welding with at least 30cm free distance between the machine and the wall.

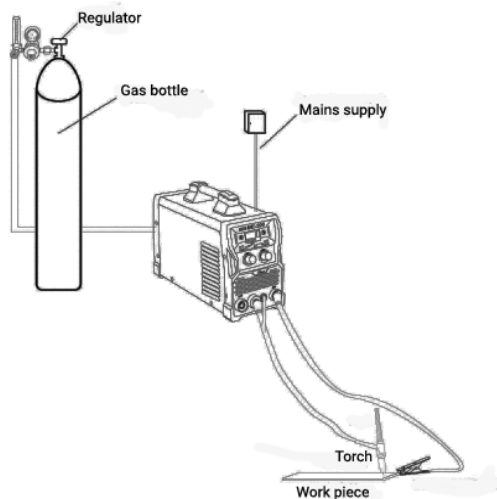
#### 4.5. MMA WELDING

MMA (DC): Choosing the connection of DCEN or DCEP according to the different electrode. Please refer to the electrode manual.



- 4.5.1. Connect the electrode holder and earth clamp correctly see above.
- 4.5.2. Plug in, turn on the switch, power indicator light is on.
- 4.5.3. Short press on parameter selection knob, choose the pre-set parameter, or the parameter set you want to save.
- 4.5.4. Select to MMA function.
- 4.5.5. Choose different welding current according to different workpiece thickness and electrode diameter.
- 4.5.6. Start welding.

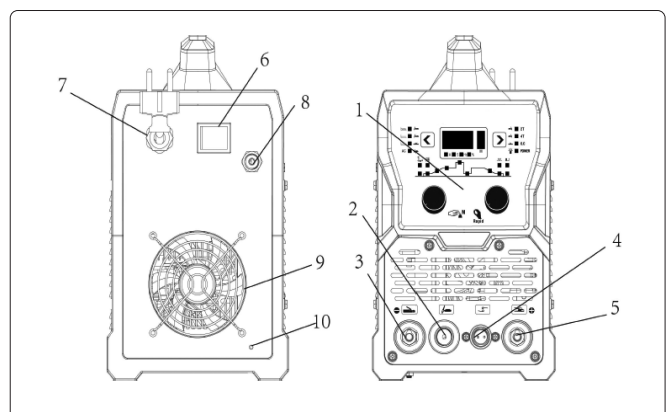
#### 4.6. TIG WELDING



- 4.6.1. Refer to Panel layout, connect TIG torch and earth clamp correctly as above, plug in and connect the shielding gas (make sure you connect to right voltage).
- 4.6.2. Turn on the switch, power indicator light is on. Open the argon cylinder valve and adjust the shielding gas flow appropriately. (See below).
- 4.6.3. Select different TIG function according to different workpiece material and thickness (see tables 4.14 to 4.17).
- 4.6.4. Short press on parameter selection knob, choose the pre-set parameter, or the parameter set you want to save.
- 4.6.5. Choose 2T or 4T function according to different workpiece material and thickness.
- 4.6.6. Turn the parameter selection knob and parameter adjust knob, set an appropriate parameter.
- 4.6.7. Start welding.

#### 4.7. STRUCTURE OF MACHINE

1. Operating panel	2. TIG torch connector
3. Negative connector	4. TIG torch switch control interface
5. Positive connector	6. Power switch
7. Power cable	8. Argon connector
9. Fan	10. Earth
11. Foot switch	



#### 4.8. CONTROL PANEL SETTINGS AND LOCATIONS



NO	NAME	FUNCTION
1A.	Main function selection button.	Options: pulse TIG, pulse TIG+AC, DC TIG, DC TIG+AC, MMA.
2B.	Pulse TIG indicator light.	1.Indicate pulse function currently under adjustment. 2.Under pulse TIG welding, indicate currently welding condition.
3C.	TIG welding parameter selection knob.	Turn: The knob to choose the pulse parameter that needs to be adjusted. Short press: retrieve the parameters in storage. Long press: save current parameter.
4D.	Welding parameter adjust knob.	Turn the knob to adjust the welding parameter, short press to the knob could change adjust speed (slow adjust and quick adjust).
5E.	2T/4T Select button.	2T: Press the torch switch, machine starts welding, release the torch switch, machine stops welding. 4T:Press the torch switch, machine starts to arc. When the torch switch is released, the current starts to climb up to the normal welding current. When the welding is completed,press torch switch again, and the welding current begins to drop the arcing current. Release the torch switch, stop welding.
6F.	Parameter sets.	The machine could save 6 sets parameter under each function, shown by 1-6.
7.	Welding parameter value.	Welding current (A), gas pre and post flow time (S), pulse frequency (Hz), duty cycle (%)
1 .Pulse TIG	2. DC TIG	3. MMA
4. AC	5. Current unit (A)	6. Time unit (S)
7. AC clean area width Regulating range -40% to 40%	8. AC frequency Regulationg range: 20Hz to 200Hz	9. Gas pre time. Regulation range: 0 to 3s
10. Arc strike current WSME-180 regulation range:10-180A WSME-200 regulation range:10-200A	11. Current slow increase time Regulation range: 0-10s	12. DC TIG constant current, Regulation range:10-200A.
13. Pulse TIG peak current Regulation range: 10-200A	14.Current decrease time Regulation range: 0-10s	15.Pulse TIG pulse frequency, Regulation range:0.1Hz to 999Hz
16. Pulse TIG duty cycle (pulse width) Regulation range: 10% to 90%	17. Arc ending current WSME-180 regulation range: 10-180A. Regulation range: 10-200A.	18. Post flow time Regulation range: 1.0 to 10s
19. Frequency unit (Hz)	20. Percentage (duty cycle) unit (%)	21. Percentage (duty cycle) unit (%)
22. 2T function	23. 4T function	24. Protection indicate
25. Foot switch ON/OFF	26. Hot arc ignition	27. Arc Force

#### 4.9. FOOT PEDAL (TIG)

##### 4.9.1. Arc force MMA



#### 4.9.2. THE POSITIONS OF THE NEW FUNCTIONS ON THE PANEL ARE POSITION 1. 2. 3. SHOWN ABOVE.

4.10. 3: TIG remote control function indicator light

4.10.1. **ON:** Foot pedal connector inserted, the indicator light is on, remote control function is turned on.

4.10.2. **OFF:** Foot pedal connector removed, this indicator light will be off, remote control function is turned off.

- In the TIG position, after the remote control function is turned on, the functions of striking current, slow raising, slow descending, ending current cannot be used, all will be controlled by foot pedal potentiometer.
- In the state of pulsed TIG, when using remote control function, please reasonably set the valley current in advance. The foot pedal potentiometer control of the peak current in the remote control state, the valley current is always the current value set on the panel.
- After the remote control function is turned on, the minimum current of TIG+AC function and pulsed TIG+AC function is 20A (when remote control is off state the minimum current is 10A).
- In the state of MM, there is no remote control function, insert or pull off the foot pedal connector, the indicator light will be off, other functions are not affected.

4.11. 1: MMA hot start function, adjustable range: 0-50A.

4.12. 2: MMA ARC force function, adjustable range: 0-50A.

#### 4.13. TIG PARAMETERS

Gas nozzle diameter/mm	Electrode diameter/mm
6.4	0.5
8	1.0
9.5	1.6 or 2.4
11.1	3.2

#### 4.14. GAS NOZZLE AND SHIELD GAS FLOW RATE

Welding current Range/A	DC positive connection		AC	
	Gas nozzle Diameter/mm	Gas flow rate/L* min <sup>-1</sup>	Gas nozzle Diameter/mm	Gas flow Rate/L*min <sup>-1</sup>
10 to 100	4 to 9.5	4 to 5	8 to 9.5	6 to 8
101 to 150	4 to 9.5	4 to 7	9.5 to 11	7 to 10
151 to 200	6 to 13	6 to 8	11 to 13	7 to 10
201 to 300	8 to 13	8 to 9	13 to 16	8 to 15

Notice: the above parameters originate from (Welding Dictionary) P149, Volume 1 of Edition 2.

Tungsten electrode diameter /mm	Sharpened of the electrode diameter/mm	Angle of cone (°)	Background current/A
1.0	0.125	12	2 to 15
1.0	0.25	20	5 to 30
1.6	0.5	25	8 to 50
1.6	0.8	30	10 to 70
2.4	0.8	35	12 to 90
2.4	1.1	45	15 to 150
3.2	1.1	60	20 to 200



4.15. TIG (STAINLESS STEEL SINGLE RUN WELDING).

Workpiece thickness /mm	Joint form	Tungsten electrode diameter/mm	Welding wire diameter/m	Argon gas flow rate/ L* min <sup>-1</sup>	Welding current (DCEP)	Welding speed/cm * min
0.8	Butt joint	1.0	1.6	5	20 to 50	66
1.0	Butt joint	1.6	1.6	5	50 to 80	56
1.5	Butt joint	1.6	1.6	7	65 to 105	30
1.5	Corner joint	1.6	1.6	7	75 to 125	25
2.4	Butt joint	1.6	2.4	7	85 to 125	30
2.4	Corner joint	1.6	2.4	7	95 to 135	25
3.2	Butt joint	1.6	2.4	7	100 to 135	30
3.2	Corner joint	1.6	2.4	7	115 to 145	25
4.8	Butt joint	2.4	3.2	8	150 to 225	25
4.8	Corner joint	3.2	3.2	9	175 to 250	20

Note: the above parameters originate from (Welding Dictionary) P150, Volume 1 of Edition 2.

4.16. PARAMETERS OF PIPING BACK SEALING WELDING FOR MILD STEEL (DCEP)

Piping diameter Φ/ mm	Tungsten electrode diameter/mm	Gas nozzle Diameter/mm	Welding wire diameter/mm	Welding current/A	Arc voltage/V	Argon flow rate/ L* min <sup>-1</sup>	Welding rate/ cm* min <sup>-1</sup>
38	2.0	8	2	75 to 90	11 to 13	6 to 8	4 to 5
42	2.0	8	2	75 to 95	11 to 13	6 to 8	4 to 5
60	2.0	8	2	75 to 100	11 to 13	7 to 9	4 to 5
76	2.5	8 to 10	2.5	80 to 105	14 to 16	8 to 10	4 to 5
108	2.5	8 to 10	2.5	90 to 110	14 to 16	9 to 11	5 to 6
133	2.5	8 to 10	2.5	90 to 115	14 to 16	10 to 12	5 to 6
159	2.5	8 to 10	2.5	95 to 120	14 to 16	11 to 13	5 to 6
219	2.5	8 to 10	2.5	100 to 120	14 to 16	12 to 14	5 to 6
273	2.5	8 to 10	2.5	110 to 125	14 to 16	12 to 14	5 to 6
325	2.5	8 to 10	2.5	120 to 140	14 to 16	12 to 14	5 to 6

Note: The above parameters originate from (Welding Dictionary) P167, Volume 1 of Edition 2.

4.17. PARAMETERS OF AC TIG (MMA) FOR ALUMINIUM AND ITS ALLOY

Sheet thickness/mm	Welding wire diameter /mm	Tungsten electrode Diameter/mm	Pre-heat Temperature/°C	Welding current/A	Argon flow RateL*min <sup>-1</sup>	Gas nozzle diameter /mm	Type
1	1.6	2	—	45 to 60	7 to 9	8	Flange welding
1.5		2	—	50 to 80	7 to 9	8	Flange or butt welding by one side
2	2 to 2.5	2 to 3	—	90 to 120	8 to 12	812	Butt welding
3	2 to 3	3	—	150 to 180	8 to 12	8 to 12	V-groove butt welding
4	3	4	—	180 to 200	10 to 15	8 to 12	
5	3 to 4	4	—	180 to 240	10 to 15	10 to 12	
6	4	5	—	240 to 280	16 to 20	14 to 16	
8	4 to 5	5	100	260 to 320	16 to 20	14 to 16	
10	4 to 5	5	100 to 150	280 to 340	16 to 20	14 to 16	
12	4 to 5	4 to 5	150 to 200	300 to 360	18 to 22	16 to 20	
14	5 to 6	5 to 6	180 to 200	340 to 380	20 to 24	16 to 20	
16	5 to 6	6	200 to 220	340 to 380	20 to 24	16 to 20	
18	5 to 6	6	200 to 240	360 to 400	25 to 30	16 to 20	
20	5 to 6	6	200 to 260	360 to 400	25 to 30	20 to 22	
16~20	5 to 6	6	200 to 260	300 to 380	25 to 30	16 to 20	X-groove butt welding
22~25	5 to 6	6 to 7	200 to 260	360 to 400	30 to 35	20 to 22	

Note: The above parameters originate from (Welding Dictionary) P538, Volume 2 of Edition 2.

## 5. MAINTENANCE

- ▲ **DANGER! Unplug the inverter from the mains power supply before connecting or disconnecting cables or performing maintenance or service. Direct contact with the inverter circuit is dangerous.**
- 5.1. To avoid a build up of dust inside the machine which may block or restrict the ventilation system, periodically remove the covers and remove the dust with a low pressure air jet or vacuum cleaner. Replace covers immediately. Under no circumstances should the machine be operated with the covers removed.
- 5.2. TORCH. Avoid resting the torch and its associated cable on any hot surfaces. If the insulation is damaged in any way the torch must not be used.
- 5.3. Periodically check the condition of the gas tubing and the connections.

## 6. RATINGS PLATE SYMBOLS

- 6.1. On the rear of the inverter is the ratings plate, giving the following data:
- 1 -The BS/EU standard relating to the safety and construction of arc welding and associated equipment.
  - 2 -Inverter-transformer-rectifier symbols.
  - 3 -Symbol indicates welding with a continuous flow of welding wire.
  - 4 -Symbol for Single-phase AC supply.
  - 5 -Rating of internal protection provided by casing.
  - 6 - Output:
    - U0: Maximum open-circuit voltage.
    - I2, U2: Current and corresponding voltage.
    - X: Welding ratio based on a 10 minute cycle.
    - 20% indicates 2 minutes welding and 8 minutes rest, 100% would indicate continuous welding.
  - 7 -Mains Supply
    - U1: Rated supply voltage and frequency.
    - I1max: Maximum current. I1eff: Maximum effective current.
  - 8 -A/V - A/V:Welding current adjustment range and corresponding voltages.
  - 9 - Serial Number. Specifically identifies each welder.
  - 10-Symbol for welding power sources which are suitable for supplying power to welding operations carried out in an environment with increased risk of electric shock (if applicable).

INVERTER WELDING MACHINE			
Model No. <b>TIGACDC200</b>		EN 60974-1	
		10A/10.4V ~ 200A/18V	
		X	30% 60% 100%
10	S	U <sub>0</sub> =60V	I <sub>2</sub> (A) 200 155 110
		U <sub>2</sub> (V) 18 16.2 14.4	
		10A/20.4V ~ 200A/28V	
		X	30% 60% 100%
10	S	U <sub>0</sub> =60V	I <sub>2</sub> (A) 200 155 110
		U <sub>2</sub> (V) 28 26.2 24.4	
		U <sub>1</sub> =230V	I <sub>1max</sub> =26.3A
IP21S		B/N:	
Kempson Way, Bury St Edmunds, Suffolk, IP32 7AR, UK			



## 7. TROUBLESHOOTING

Fault		Diagnosis	Solution
When turning on the fan works, but the power pilot lamp is not on.		The power light is damaged or poor connection.	Make good the connection, or replace the wiring
		The front panel PCB damaged	Repair or change the PCB.
When switching on the power lamp is on, but fan doesn't work		There is something jammed in the fan	Remove the offending article.
		Poor connection to the fan	Refit connection.
		The fan motor damaged	Change power switch.
Turn on the power the power lamp is not on, and fan doesn't work		No power supplied.	Ensure that there is power supplied to the unit.
		Power switch damaged	Change fan motor.
The number on the display is partially lit.		The front panel PCB damaged	The front panel PCB needs replacing.
No no-load voltage output (MMA).		The machine is damaged.	Check the mains circuit.
Arc can't be ignited (TIG).	There is spark on the HF igniting board	The welding cable is not connected to the output of the welder.	Connect the welding cable to the welder's output.
		The welding cable damaged	Repair or change it.
		The earth cable connected but has a bad earth.	Check the earth cable.
		The welding cable is too long.	Use an appropriate welding cable.
		There is oil or dust on the workpiece.	Check and remove it.
		The distance between tungsten electrode And workpiece is too long.	Reduce the distance (about 3mm).
	There is no spark on the HF igniting board.	The fly back transformer on the main board is damaged	Change the fly back transformer
		The distance between the discharger is too short.	Adjust this distance (about 0.7mm).
		Malfunction of the welding gun switch.	Check the welding gun switch, control cable and aero socket.
No gas flow (TIG)	Gas cylinder is closed or gas pressure is low	Open or change the gas cylinder	
	Something in the valve	Remove it.	
	Electromagnetic valve is damaged	Replace it.	
Gas constantly flowing	Something in the valve	Remove it.	
	Electromagnetic valve is damaged	Replace valve.	
The welding current can not be adjusted	The front panel PCB damaged.	Repair or change the PCB	
No AC output while selecting "AC"	The power PCB is faulty.	Repair or change it.	
	The AC drive PCB damaged.	Change PCB.	
	The AC IGBT module damaged.	Change the module.	
The penetration of molten pool is not enough.	The welding current is adjusted too low.	Increase the welding current.	
	The arc is too long in the welding process.	Use 2T operation.	
The alarm lamp on the front Panel is on.	Over heat protection.	Working for too long a period.	Reduce operational time.
	Over-voltage protection.	Power supply fluctuates.	Use a stable power supply.
	Low-voltage protection.	Power supply fluctuates.	Use a stable power supply.
		Too many machines using power supply at the same time	Reduce the machines using power supply at the same time.
Over-current protection	Power surge in power supply.	Check power supply and drive unit.	



#### ENVIRONMENT PROTECTION

Recycle unwanted materials instead of disposing of them as waste. All tools, accessories and packaging should be sorted, taken to a recycling centre and disposed of in a manner which is compatible with the environment. When the product becomes completely unserviceable and requires disposal, drain any fluids (if applicable) into approved containers and dispose of the product and fluids according to local regulations.



#### WEEE REGULATIONS

Dispose of this product at the end of its working life in compliance with the EU Directive on Waste Electrical and Electronic Equipment (WEEE). When the product is no longer required, it must be disposed of in an environmentally protective way. Contact your local solid waste authority for recycling information.

**Note:** It is our policy to continually improve products and as such we reserve the right to alter data, specifications and component parts without prior notice.

**Important:** No Liability is accepted for incorrect use of this product.

**Warranty:** Guarantee is 12 months from purchase date, proof of which is required for any claim.

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