



Oxford TIGMaker AC DC range 220E, 270E, 330E

Portable models, dual voltage 230V/400V or 230/110V

With a history dating back over 50 years, British made Oxford welding machines are known for simple rugged build, high reliability with a long life span and excellent welding performance.

Now we are offering all this plus new innovative British made products!

These models are based around the technology used in our highly acclaimed CUTMAKER PLASMA machines & use a copper transformer & Mitsubishi PWM hybrid chopper technology to give infinite & precise electronic control of the output. Chopper based welding machines have been around for a few years but only on the most industrial equipment, we have changed all that. Our chopper technology is a hybrid between inverter & transformer technology, it combines the best of both to give you the performance & efficiency of a good inverter based machine but with the ruggedness, reliability & lifespan of a conventional machine.

Whilst maybe not quite as light as an inverter the other benefits far outweigh. These machines weld as well as the very best German made inverters yet tolerate real world conditions such as grinding dust, moisture, knocks & drops & overvoltage spikes on the supply without problems therefore you can many times the lifespan of European or American made inverters & without the big expensive repair bills associated with complex inverter machines!

Ideal for all applications, they are equally happy working outside in the rain, in the back of a van or in your workshop. **These are real 'go anywhere weld anything' machine & will run from a 230V 13A plug to around 170A output.** Perfect for welding all types of metals, aluminium, aluminium alloys & castings, steel, stainless steel, hardox, duplex, copper, brass, titanium, etc.



Main features & functions

- Super smooth stable arc from 5 or 10 amps upwards on both AC & DC.
- Variable AC frequency 25hz-200hz.
- Extended AC balance control up to 95% neg through to 95% positive.
- Instant arc starting every time you press the torch switch.
- Electronic pulse HF (IT friendly so doesn't affect your PC & phones etc).
- Up slope & down slope controls for perfect weld starts & finishes.
- Post flow gas control for contamination free finishes.
- 2T standard torch trigger & 4T torch trigger latching.
- MMA ARC welding function welds all rods including cellulosic 6010 etc.
- MMA ARC welding with both DC & AC current.
- Digi meter shows preset then precise A when welding for EN1090 etc.
- Remote socket to accept foot control or torch amps control etc.
- Very simple to set up & use, anyone can use it in seconds.
- Built in automatic compensation for varying supply & long cables.
- Dual voltage input 230/400V, connect to single phase or 3 phase supply.
- Generator friendly design (even unstable generators are no problem).
- Very efficient design to minimise power consumption.
- Suitable for use inside or outside (site welding etc) (IP23S rating).

Green, low energy consumption gives you more welding for lower running costs, save up to £900 per year on electric against older type machines.

DC TIG performance

On DC TIG the high OCV guarantees instant arc starts & is perfectly smooth, stable & quiet right through from min to max power. The output power is set precisely on the amps knob & shows on the digi meter prior to actually welding, when welding the actual value is displayed on the meter. Slope in & out gives perfect starts & finishes to every weld. Variable gas post flow control ensures coverage of shielding gas for the weld pool & electrode at the finish.

AC TIG performance

On AC TIG the arc starts instantly & is perfectly smooth & stable even at minimum amps. The output power is set precisely on the amps knob & shows on the digi meter prior to actually welding, when welding the actual value is displayed on the meter. The extended AC balance control allows you to change the AC balance through an extended range & is a really useful feature. This can be set to any position from 95% negative for maximum heat into the weld pool right through to 95% positive for maximum cleaning effect. By running a high % of negative balance the heat input into the TIG torch is substantially reduced & the heat into the job increases significantly. This allows you tackle those thicker jobs like heavy castings etc & its extends the range of the electrode so you can even run a 3.2 electrode with an air cooled torch up to 300A short term. The balance control also allows you to change the output from AC to DC - or DC+ output (reverse polarity). The variable AC frequency controls the heat spread of the arc, at low frequency's such as 25hz the arc is soft & has a wide spread, as the frequency is increased the arc constricts to give a more focused narrow spread of heat. Again the slope controls & post flow gas control give perfect starts & finishes to every weld.

MMA ARC welding performance

On MMA welding the high OCV & built in hot start gives perfect fast arc starts on all types of electrodes. The digital meter displays precise amps values. The arc is perfectly smooth & stable on all rods from 1mm upwards & DC or AC current can be used. In addition cellulosic type electrodes 6010 etc can also be run perfectly, most machines won't touch these. Many AC DC TIG machines won't weld AC MMA, for some welding applications AC current is needed, our OXFORD models do it so well & you will find the arc is far superior to the old oil cooled or air cooled transformer types. In addition the AC features like balance & frequency controls allow the arc characteristics to be changed to suit each job, for instance you can increase penetration or reduce penetration by changing the AC balance.

PTO for further information, technical specifications & options



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Further reading

With so many machines on the market today its very difficult to make the right choice when buying a TIG welder.

The choice for AC DC TIG welders is typically between a multitude of low cost inverters from the Far East or a quality European or American made inverter or a few models of larger transformer based square wave machines.

Older transformer based machines with square wave output are not as popular nowadays due to the large size, weight & high power consumption, however the life span & reliability of these transformer machines is far superior to any inverter & for some applications these still make sense. For instance if the machine is for a limited amount of workshop type welding & its likely to sit in a corner year after year, older type machines may still be attractive. The welding performance can be quite good but a good inverter normally has superior performance on AC & can offer more features.

Inverter technology should give you superior welding performance, low power consumption & the best portability. However some of the low cost ones don't weld particularly well, but the main problem with inverters is poor reliability. This is due to the complex high voltage electronics needed for inverter technology. Reliability & short life span has always been the problem, particularly in less than perfect operating conditions in which most machines operate. Many machines fail within a very short time, the Chinese made low cost ones have become throw away items & the quality European & USA made ones are expensive to buy. In addition some of the well known brands are now actually Chinese made. The European or USA made ones last much longer than the cheap imports but long term life is still not great & when they fail, repair bills are excessive. Furthermore the most complex digital models can be so difficult to set up & use & often have or develop software problems, a result of trying to combine computer technology in a welding machine!

Oxford hybrid chopper technology are the ideal choice for all virtually every application. The hybrid chopper technology used in our machines works like a good inverter to give you superior welding performance & low power consumption. However because the electronics are simpler & operate on the low voltage welding voltage level & not the mains voltage like inverters do reliability is superb & you can expect a really long life span & high reliability, just like you would from an older type machine. In addition there is no computer fitted so no crazy software problems or difficulty understanding how to use it.

At the heart of each machine there is a copper wound transformer, but due to the high energy efficiency of our technology this is typically 60% lower in size & weight to that of an older type machine, making these much more portable. The welding performance is superb & is certainly as good as the best European or USA made machines. Furthermore the power consumption is very low, giving you more amps out for less input power. This allows us to go right up to 330A on a 32A 230V single phase supply!

So whats the drawback? These are a quality British made product so they are a little more expensive than a cheap imported inverter, but are certainly more reasonably priced than other quality offerings from Europe or the US. The other thing to consider is portability; our OXFORD models are not as portable as a small inverter, but are much more portable than an old type machine. Unless portability is of upmost importance then our OXFORD machines are the wise choice for a quality high performance TIG welder that will keep welding year after year.

Technical specifications

Model	Oxford TIGMaker Dual voltage AC DC	220E	270E	330E
Mains Supply voltage		400/230V or 230V/110V	400V / 230V	400V/230
Mains supply fuse 'D' rated		16A or 32A on 110V	16A/32A	16-20A/32A
Minimum generator / transformer rating*		4KVA	5KVA	6.5KVA
Welding range (amps)		5-220 (on all input voltages)	10-270	10-330
Duty cycle 35% @		220A	270A	330A
Duty cycle 60% @		170A	210A	250A
Work lead (earth)		3M	3M	3M
Mains input lead		3M rubber	3M rubber	3M rubber
Power source size approx (all models)		300mm W x 600mm L x 500mm H (excludes exterior hardware)		
Power source weight approx.		46kg	56kg	65kg

Compliance with BS EN60974-1, BS EN 60974-10, RoHS, weee registered & CE marked.

All ratings above are based on TIG welding, when using on MMA duty cycles reduce by 15% & input power increases.

* minimum generator rating is for up to 75% output, for full range we suggest increase KVA rating by 40%

Options available at time of order

- 220E AC DC is available in 230/400V or 110/230V
- TIG pulse functions added.
- Casters or wheels & casters fitted.
- Non standard input voltages like 480V.
- Longer mains cable etc.
- Please ask if you want something else.

Accessories

- Super smooth foot pedal for variable amps & start/stop.
- Water cooler stand alone type or on trolley.
- TIG torches up to 8M long.
- Trolley with gas bottle support.
- Cold wire TIG feeder



Every Oxford welding machine is offered with the following guarantees:

Every machine is made in Great Britain guaranteed!

2 year main components warranty.

5 year main transformer warranty (the heart of the machine)

20 year minimum guarantee of spares availability.

100% British made quality built to last, satisfaction guaranteed!

www.oxfordwelders.co.uk