

OXFORD CUTMAKER PLASMA 45-110A



230V 1 phase – cut up to 53mm

400V 3 phase – cut up to 53mm

Oxford machines have been made in the UK for 70+ years. They are known for simple rugged build, high reliability, long life span & excellent welding performance. We take pride in hand building every machine using the best quality components. Our OXFORD CUTMAKER Inverter range are built exactly the same way. These models provide exceptional performance, comparable with the leading US brands but at more sensible prices.

CUTMAKER 2024 inverter models - now with more functions & performance!
Hand portable » packed full of power » rugged & reliable » exceptional performance.

230V 1 phase models

CUTMAKER 451

Sever to 30mm,
clean cut to 18mm

CUTMAKER 751

sever to 42mm,
clean cut to 28mm

CUTMAKER 111

sever to 53mm,
clean cut to 37mm



400V 3 phase models

CUTMAKER 453

Sever to 30mm,
clean cut to 18mm

CUTMAKER 753

Sever to 42mm,
clean cut to 28mm

CUTMAKER 113

Sever to 53mm,
clean cut to 37mm

Key features

- ✓ Exceptional cutting performance, high speed & top quality clean straight cuts everytime.
- ✓ Non HF pilot arc starting means these are safe to use on all cutting tables & alongside IT equipment.
- ✓ Built in CNC interface wiring & circuit, just add the optional 14 pin CPC socket & its ready to use on a cutting table.
- ✓ Exceptional gouging performance with extended arc stretching on all models, removes metal fast & clean.
- ✓ Thermal heating function allows heating of small metal parts, even works well for plastic parts.
- ✓ Rapid automatic restart function for easy cutting of mesh, grills or any application where its needed.
- ✓ Metal marking function, ideal for use on cutting table or with hand torch & template.
- ✓ Digital display shows set amperage / air pressure with both adjustable on the front panel.
- ✓ Auto compensation for extension cables up to 100M & unstable or poor mains input supply.
- ✓ Generator friendly with built in protection from over & under voltage, over temp, over current, etc.
- ✓ High efficiency design & 12-20W standby power reduces running costs & helps the environment.
- ✓ Rugged power source case design, with cooling chamber to keep dirty airflow away from electronic parts.
- ✓ Genuinely high end no nonsense machines built to work hard for 25+ years.



PTO for more information.

OXFORD CUTMAKER PLASMA 45-110A



230V 1 phase – cut up to 53mm

400V 3 phase – cut up to 53mm

Information on our inverter technology

For the last 30+ years our Electronic Engineers have repaired almost every fault going on all makes & models, Esab, Miller, Lincoln, EWM, Lorch, Migatron, CEA, Cebora, GYS, Fronius, Stel, Kemppi, Jasic, OTC, Panasonic etc.

Welding & plasma equipment is never used in perfect conditions, damp & dirty workshops are the norm! This alone causes many of the problems. We have seen almost every fault possible; we know what works well & lasts well.

We have applied that expertise into these models to give you something different from competitors products.

Firstly, we keep things simple. No microprocessor or complex circuitry is fitted. A cooling chamber is used to prevent ingress of debris to the electronics. We don't parallel 20 or 30 transistors we fit only 2 IGBT modules – **minimum parts & maximum reliability!** We make everything we can 'in house' including inverter transformers, coils & PCBs, we even draw our own copper litz wire. From a serviceability point our inverter machines are simple, no need for an Electronic degree! We include diagnostic LEDs & test points, all OXFORD machines can be maintained by any competent Technician anywhere in the world.

CUTMAKER models have protection from damp & dust, they can be operated in harsh conditions indoors or outside, happy to work hard every day or sit in an old workshop for years. They all have 'fan on demand' so the cooling fan only runs as needed.

All CUTMAKER models have a high duty cycle, 100% ratings are at higher amperages than previous models & max output is up to 60%, perfect for heavy duty jobs & automated work.

Further information on functions & features

All models have a bright digital display which allows you to precisely set the output power before use, press the select switch & the display shows air pressure, the panel mounted air regulator can be precisely set according to your use.

A built in 20 micron air filter is fitted to help clean up dirty/damp compressed air.

All models have CNC interface circuits built in, just add the 14 pin CPC connector & you can use with automation, cutting tables, robot, etc. without compromising manual use. Move between automatic & manual operation in a minute or so.

Two modes of arc operation can be selected, normal & rapid restart (RR). Normal mode allows smooth transfer from pilot arc to transferred arc, with automatic shut down of the arc at the end of a cut or operation. This is used for most cutting & gouging applications both manual & automated. RR mode (rapid restart) works exactly the same as normal at the arc start & transfer, but in the event of arc dropping out such as when cutting discontinuous metal the arc automatically restarts in around a second. This mode may be used for any application such as grill & mesh cutting, intermittent gouging, intermittent metal marking etc.

Cutting performance

CUTMAKER models offer exceptional cutting performance on all metals. Our design gives a tightly constricted arc minimising kerf width & maximising cut capacity & speed. This results in a very straight clean cut with minimal dross. Even on thick materials such as 30 or 40mm the cut will be clean & close to perfectly straight. Compared with a low cost imported plasmas the performance difference is almost unbelievable. Compared to using oxy-fuel (gas bottles) cutting speed can be more than 5 times as fast & operating costs coming out at around 90% reduced, you also get a better cut quality.

Drag cutting parts are fitted to all hand torches, drag cutting is the easiest & neatest option for hand plasma, it gives better access than other plasma torch designs & allows you to follow straight edges or templates with ease. In addition, a range of extended consumables are available for getting into those tight tricky jobs. For cutting below 50A its also possible to carry out tip contact cutting, dragging the cutting tip directly on the job gives even more precision & visual access to the cutting point.

CUTMAKER models can also cut the very thinnest of metals with absolute precision, smaller models using the P75 torch work especially well from 0.5mm upwards. Models fitted with the P130 can use the optional 'fine cut' consumables to give similar results. Mechanised cutting performance is exceptional, just plug in our P75M or P130M machine torch & fit the CPC connector then you are ready to use on cutting tables, straight line cutters, robot etc. CNC interface uses the same wiring as US made machines, start signal, OK to move contact & we also have adjustable divided arc volts. This can be set to give 20:1, 30:1, 40:1, 50:1 & anything in-between. This gives compatibility with all known cutting tables & THC systems.

Thermal gouging

These models all give great gouging performance from small light jobs right up to the heaviest plate. The arc stretch is unbeatable giving you smoother finishes & better control. Remove welds, wear plates, create weld preps, etc. Can also be used for automated gouging with robots or Gullco carriages & tractors. For gouging use simply replace the tip & shield for gouge parts & reduce air pressure by around 1 bar.

Metal marking

Our metal marking function allows fast clean marking of metals for both automated & manual use. Mark drill points, fold marks, add your logo, date code, ID, etc. Unlike competitors' products we use standard cut consumables, so move from cutting to marking in a second!

Thermal heating

A fast source of direct heat for manual use, mainly to assist with the removal of seized nuts, bearings, & light preheating jobs. This function provides 1.8kw / 2.7kw output of intense instant heat far hotter than propane or butane torches produce. It's also a more direct & controllable heat so heats only the item you need heating, the torch cooling air keeps everything else at a low temperature. For instance when removing seized nuts propane torches tend to heat the nut & bolt, Cutmaker plasmas can heat the nut & leave the bolt relatively cool, allowing the nut to be removed quicker.

The following are typical times to heat nuts to cherry red. M5 – 3 secs, M6 – 5 secs, M8 – 8 secs, M10 – 14 secs, M12 – 20 secs. In addition, thermal heating function can be used to bend plastic parts or for plastic welding.

Thermal heating can be done with cutting consumables fitted for a tight heat focus or gouging parts fitted for a softer wider arc.

PTO for technical specifications

OXFORD CUTMAKER PLASMA 45-110A



230V 1 phase – cut up to 53mm

400V 3 phase – cut up to 53mm

Technical specifications

230V 1 phase models	CUTMAKER 451	CUTMAKER 751	CUTMAKER 111
Input fuse - slow	16/20/25A*	32/45A	63A
Maximum severance cut	30mm steel	42mm steel	53mm steel
Max recommended clean cutting	18mm	28mm	37mm
Maximum pierce	12mm	17mm	22mm
Output range	15A-45A	15A-45A	19A-110A
Maximum output power	45A @ 138V (6.2KW)	75A @ 140V (10.5KW)	110A @ 155V (17kw)
Duty cycle @ full power	50% @ 45A	50% @ 75A	60% @ 110A
100% duty cycle (continuous)	33A output	55A output	85A output
Min generator size for 100% rating*	5.5KVA	8.5KVA	15KVA
OCV – no load voltage	330V	330V	350V
Thermal heating output power	1.8KW	1.8KW	2.7KW
Thermal heating duty cycle	50%	50%	50%
Maximum cutting speed 6mm steel	2M/min	3.3M/min	6.2M/min
Maximum cutting speed 10mm steel	1M/min	1.6M/min	3.0M/min
Maximum cutting speed 15mm steel	0.46M/min	0.9M/min	1.4M/min
Maximum cutting speed 20mm steel	0.25M/min	0.65M/min	1.1M/min
Maximum cutting speed 25mm steel	0.14M/min	0.4M/min	0.75M/min
Maximum cutting speed 30mm steel	0.1M/min	0.25M/min	0.5M/min
Air requirements	5 Bar @ 170L/min (4 bar gouging)	5.5 Bar @ 190L/min (4.5 bar gouge)	5 Bar @ 240L/min (4 bar gouging)
Standard torch supplied	P75 – 4M manual c/w quick con	P75 – 4M manual c/w quick con	P130 – 6M manual c/w quick c
Weight approx. with torch	16kg	20kg	30kg

400V 3 phase models	CUTMAKER 453	CUTMAKER 753	CUTMAKER 113
Input fuse - slow	16A	16A	32A
Maximum severance cut	30mm steel	42mm steel	53mm steel
Max recommended clean cutting	18mm	28mm	37mm
Maximum pierce	12mm	17mm	22mm
Output range	15-45A	15-75A	19-110A
Maximum output power	45A @ 138V (6.2KW)	75A @ 140V (10.5KW)	110A @ 155V (17KW)
Duty cycle @ full power	50% @ 45A	50% @ 75A	60% @ 110A
100% duty cycle (continuous)	33A output	55A output	85A output
Min generator size for 100% rating*	5.5KVA	8.5KVA	15KVA
OCV – no load voltage	340V	350V	350V
Thermal heating output power	1.8KW	1.8KW	2.7KW
Thermal heating duty cycle	50%	50%	50%
Maximum cutting speed 6mm steel	2M/min	3.3M/min	6.2M/min
Maximum cutting speed 10mm steel	1M/min	1.6M/min	3.0M/min
Maximum cutting speed 15mm steel	0.46M/min	0.9M/min	1.4M/min
Maximum cutting speed 20mm steel	0.25M/min	0.65M/min	1.1M/min
Maximum cutting speed 25mm steel	0.14M/min	0.4M/min	0.75M/min
Maximum cutting speed 30mm steel	0.1M/min	0.25M/min	0.5M/min
Air requirements	5 Bar @ 170L/min (4 bar gouging)	5.5 Bar @ 190L/min (4.5 bar gouge)	5.0 Bar @ 240L/min (4 b gouge)
Standard torch supplied	P75 – 4M manual c/w quick con	P75 – 4M manual c/w quick con	P130 – 6M manual c/w quick c
Weight approx. with torch	15kg	19kg	28kg

*Cutmaker 451 will operate from a 16A 230V supply for most applications & run from a 13A plug up to approx ¾ power

*For max output power on a generator supply increase min generator rating by 50%, this is sufficient unless long arc stretching such as high power gouging. Then we suggest a 70% uplift in generator rating.

Cutting performance on aluminium & stainless etc will vary a little from steel figures, aluminium is normally a little faster & stainless steel & hardox around 15% lower cutting speed. Best quality cut speed is typically 20% lower than maximum.

We can provide a full cutting chart to assist set up on CNC cutting tables.

Size – all models 240Wx470Hx560L (including carry handle & feet)

Protection class is to IP23S, these can be used indoors or outdoors with protection from bad weather.

Compliance with BS IEC60974-1, WEE/HD0071UZ, EU2019/1784.

Every CUTMAKER model comes standard with; 3M input lead, 3M work lead, hand cutting torch with quick connector + all parts fitted, torch consumable starter kit.

For different options please see last page.

PTO for torch information

OXFORD CUTMAKER PLASMA 45-110A



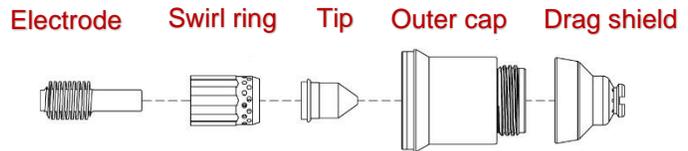
230V 1 phase – cut up to 53mm

400V 3 phase – cut up to 53mm

CUTMAKER 451/453 & 751/753 torches

P75 torch – 4M length - standard supply hand cutting torch (P75-4)

Designed & manufactured in Italy. Superb top quality torches made from burn resistant materials & covered by a 1 year warranty. The P75 has a highly flexible coaxial cable, its lightweight, ergonomic & a pleasure to use,. Torch weight is approx. 0.35kg + cable. Cable can be bent as tight as a 50mm radius without any issues. All parts for hand cutting machine cutting & gouging are readily available. Main consumable parts, tips, electrodes & shields can last for many hours of use. The swirl ring, outer cap are designed to last for many weeks of hard use. Torch parts are low cost, so with the long lifespan its possible to use for around £1 - £2 per hour.



Other torch options for CUTMAKER 451/453 & 751/753

**8 metre hand cutting torch
part No P75-8**

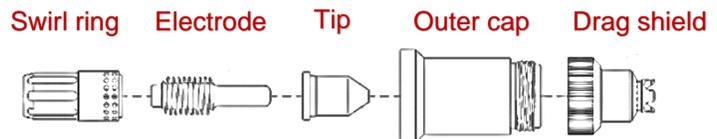


**8 metre machine torch –
auto - part No. P75M - 8**

CUTMAKER 111 & 113 torches

P130 torch – 6M length - standard supply hand cutting torch (P130-6)

Designed & manufactured in Italy. The P130 is a real heavy duty torch built for the toughest of jobs but still lightweight & a pleasure to use. Cable can be bent as tight as a 60mm radius without any issues. Made with a heat resistant coax cable & other burn resistant parts, also covered by a 1 year warranty. Torch weight is approx. 0.4kg + cable. All parts for hand cutting, machine cutting, gouging + fine cutting consumables are readily available. The main consumable parts, tips, electrodes & shields can last for many hours of use. The swirl ring, outer cap are designed to last for many weeks of use. P130 torch parts have an exceptional lifespan & are relatively low cost compared to competitors so you can expect to use for around £1 - £3/hour.



Other torch options for CUTMAKER 111 & 113

**12 metre hand cutting torch
part No. P130-12**



**6 metre machine torch -
auto - part No. P130M-6**

**12 metre machine torch –
auto - part No. P130M-12**

Longer torches & extensions up to 25M are available on request.

PTO for accessories & options

OXFORD CUTMAKER PLASMA 45-110A



230V 1 phase – cut up to 53mm

400V 3 phase – cut up to 53mm

Options available at time of order

Longer cables, CPC/CNC connector fitted on front, alternative torch supplied, remote control of output amps, different input voltage, 460V, 480V, 550V, split phase etc.

Accessories – available at any time

CNC/CPC connector. 14W panel socket for fitting on front panel. Comes with wiring & compatible with American made plasma machines.

Everything ready for automated cutting on a table or robot or with our remote control REMOX001. Fit to your machine in minutes. Comes with fitting instructions.

Part No. CON14PSCNC



CNC/CPC cable plug to suit panel socket. Supplied with back shell & clamp & 6 pins. For wiring to your CNC cutting table etc.



Part No. CON14CP

Circle cutting kit for cutting radius up to 400mm, comes with two centre pivot devices magnetic & hole pointer, also a multifunction device, two arms & a torch nozzle holder device.

For both P75 & P130 torches

Part No. P13033



Ultimate manual cutting kit. Bevel tool for & bevelling, + straight line carriage + circle cutting kit all in one package. For both P75 & P130 torches.

Part No. P13034



Hand remote for on/off control, for use with machine torches with CNC/CPC connector fitted.

c/w 3M lead

Part No. REMPLAS01



Clean dry air is very important for plasma. Our air filter works down to 0.01 microns, it extends torch consumable life & improves cut quality. Low cost internal cartridge can be changed in seconds. Comes with fittings included.

Part No. AF1001



Spare cartridge **AFCA1001**

OXFORD CUTMAKER plasma machines are high end industrial products built to last! You are welcome to visit our factory & see exactly how these are made.

Our long term back up is the best in the industry. 1 year on all plasma torches, 2 year warranty all machine parts, 5 year main transformer warranty, 20 year minimum guarantee of spares availability.

Further info at www.oxfordwelders.co.uk