

What is the best
CNC Plasma
Cutting Machine
for your business?

CNC Plasma Cutting Machine Buying Guide

**Requirements
when trying
to find the best
CNC Plasma Cutter:**

The material you need to cut

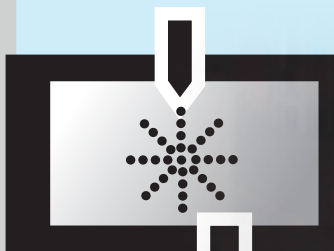
The thickness of the material

The largest size of your raw material sheet

The quality required of the cutting

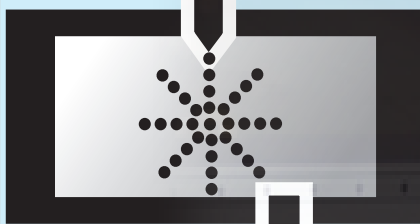
The next step for the cutouts

Four Types of CNC Plasma Cutters for Sale



Entry Level CNC Plasma Cutter

Suitable for making Metal-Arts,
Signage Frames, Trailers, Gates etc.



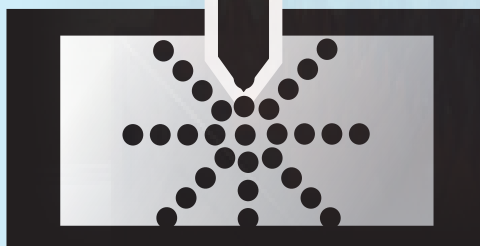
Standard CNC Plasma Cutter

Suitable for small workshops and/or engineering
companies for all kinds of general purpose cutting



Large Size CNC Plasma Cutter

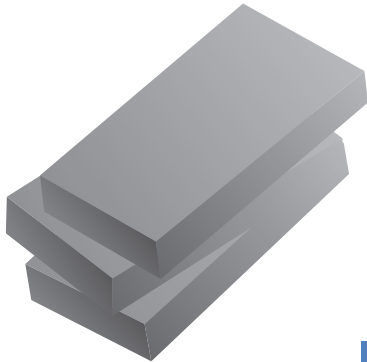
Suitable for middle size
engineering companies



Ultimate CNC Plasma Cutter

This market leading cutter provides you
with high-definition cutting quality, from
the thickest materials in the fastest time

Plasma Cutting Thickness & Materials



When you choose the thickness, use **Pierce Thickness Value** to help you decide

If you cannot pierce through a metal plate, you cannot cut

		Mild Steel (Carbon Steel)			Stainless Steel		Aluminum	
	Plasma System	Virtually Dross-free	Pierce	Severance	Pierce	Severance	Pierce	Severance
Entry	DRUMBO CUT-100	3 mm	10 mm	18 mm	8 mm	15 mm	8 mm	15 mm
	Powermax45	4 mm	12 mm	25 mm	10 mm	20 mm	10 mm	20 mm
Standard	Powermax65	6 mm	16 mm	32 mm	12 mm	25 mm	12 mm	25 mm
	Powermax85	8 mm	20 mm	38 mm	16 mm	30 mm	16 mm	30 mm
	Powermax105	10 mm	22 mm	50 mm	17 mm	40 mm	17 mm	40 mm
Large	MAXPRO200	20 mm	32 mm	75 mm	25 mm	60 mm	25 mm	60 mm
	HPR130XD	16 mm	32 mm	38 mm	20 mm	25 mm	20 mm	25 mm
Ultimate	HPR260XD	32 mm	38 mm	64 mm	32 mm	50 mm	25 mm	50 mm
	HPR400XD	38 mm	50 mm	80 mm	45 mm	80 mm	38 mm	80 mm
	HPR800XD	38 mm	50 mm	80 mm	75 mm	160 mm	75 mm	160 mm

Plasma Cutting Quality

Plasma cutting technology has been existing and continually improving for more than 30 years



Cutting with plasma system does not require pre-heating like oxy-fuel system



The quality of plasma cutting is far better than flame oxy-fuel cutting

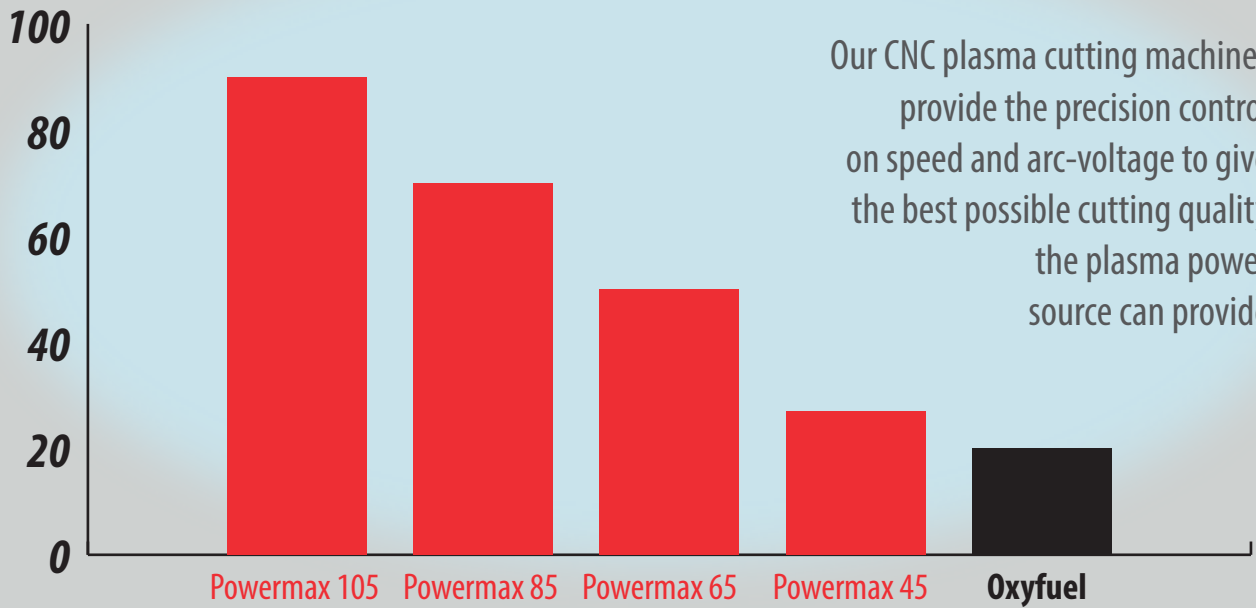
Faster Cutting Speeds on metals

All our plasma system will cut stacked, painted or rusted metal, and any electrically conductive metal type such as stainless steel and aluminium

CNC Plasma Cutter Components Recommendation

	Entry Level CNC Plasma Cutter	Standard CNC Plasma Cutter	Large CNC Plasma Cutter	Ultimate CNC Plasma Cutter
X-Axis Driving	Stepper Motor		Panasonic Servo Motor (Choose Servo Motor for more reliable performance)	
Y-Axis Driving	Single Stepper Motor	Twin Stepper Motor	Twin Panasonic Servo Motor	
Torch Height Control	Mechanical THC		Hypertherm ArcGlide THC	
	Arc Voltage THC (Choose THC controlled by Arc sensor, only choose Mechanical THC if you are cutting ≤ 3 mm metal sheet most of time)			
CNC Control System	FangLing F2100B CNC Machine Control System			Hypertherm EDGE Pro
Nesting Software	FastCam Software			Hypertherm ProNest Software
Cutting Area Size	Up to 1500 × 3000 mm	Up to 2000 × 3000 mm	Recommend and from 2500 × 6000 mm	
			Up to 2500 × 11000 mm	Up to any size, fully customizable
Working Area	<p>Providing 1 meter of space on each side of the cutting area is enough to operate the CNC plasma cutting machine. More space is preferable for loading metal plate, especially when you load by forklift.</p>			
Cutting Table	Flat Cutting Table, No Collector	Normal Table with collect drawer or Water Table	Price does not include cutting table, recommend water table which will be manufacture locally	
	Water table is much better for plasma cutting. We do NOT provide Downdraft Cutting Table.			

Cut Speed Comparison with Oxyfuel on 12 mm Mild Steel



Our CNC plasma cutting machines provide the precision control on speed and arc-voltage to give the best possible cutting quality the plasma power source can provide

The Gradient

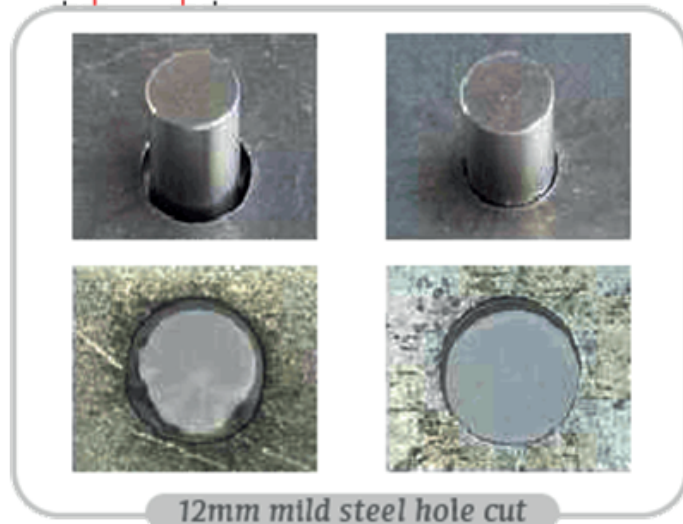
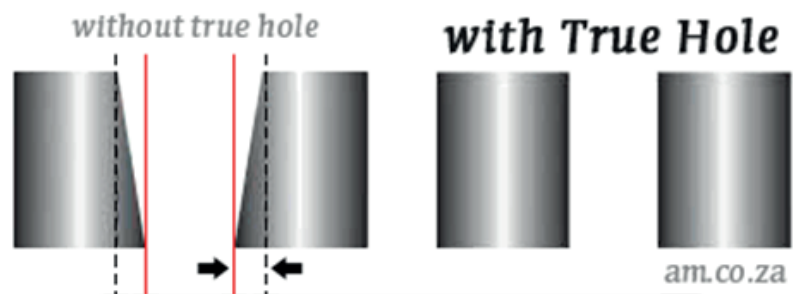
Unless you are choosing the ultimate CNC Plasma Cutter which has Hypertherm True-Hole technology, you will have a gradient on the work piece

The gradient and kerf can be measured and compensated for in our CNC plasma control system and removed in secondary operations, for example: grinding

The Dross

No plasma system will provide you with a dross-free cut, only virtually dross-free cut

Dross can be easily removed in secondary operation, for example: grinding as well



12mm mild steel hole cut

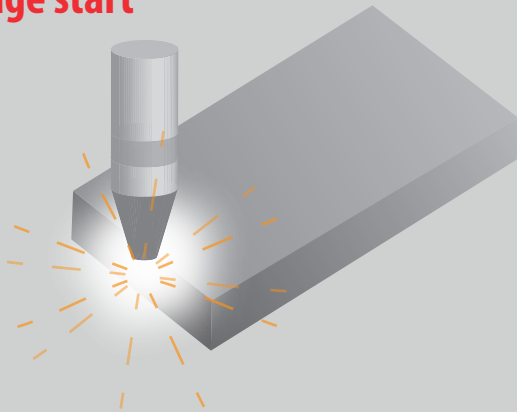
Physical Limitations

All our CNC Plasma Cutters make use of both **220V home electricity** and **380V industry electricity**

If you do not have 380V three-phase industry power on your premises, your best chance is to **utilize a phase converter**

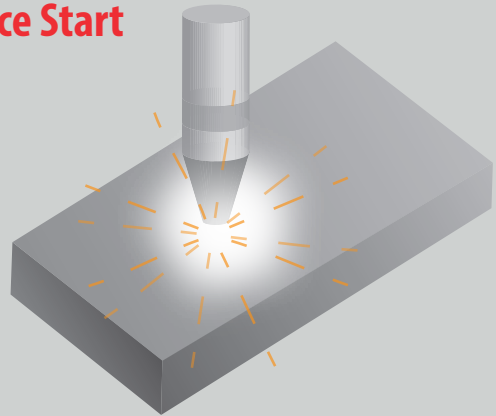
2 Types of Cutting Process

Edge start



This is done by starting a cut at the edge of your working material while cutting inwards
A lead in and a lead out of the work piece
Using an Edge start is generally preferred

Pierce Start



The torch nozzle is aimed directly at a specific starting point on the work piece
the cut cannot be done in such a sequential manner as with an Edge start

General Cutting Thickness Calculation

Recommended Max Cutting Thickness	=	80% × Severance Thickness
Pierce Capacity	=	50% × Severance Thickness
Virtually Dross-free Cutting Capacity	=	30% × Severance Thickness

When you purchase plasma cutter, use Pierce Capacity to match you required cutting thickness. You will use Pierce Start at some stage, if you cannot pierce through the metal plate, you cannot cut through the metal place. This will also insure you will have the plasma cutter capable of give you optimal cutting result every time.



To Know More, Visit:
<http://am.co.za/plasma>