



# Plasma Cutting System **SELECTION GUIDE**

**KEY FEATURES TO LOOK FOR**

# OVERVIEW

When thinking about investing in a new plasma cutting system for your facility, there are many considerations. The available machine options vary greatly in cost, provide a wide range of features, and obtain varying degrees of speed and accuracy. Deciding which machine will work best for your unique application requires a thorough approach and knowledge of how the many available features and specifications will impact your business.

Choose wisely, and you'll end up with a machine that will help you process parts faster, more accurately and with less manpower. Make the wrong choice, and you could be saddled with an investment that never quite pays off thanks to inefficient workflows, unnecessary downtime and complicated service needs.

Fortunately, knowledge is power! And in this Machine Selection Guide, we'll review a number key features and specifications to consider as you search for the perfect machine for your shop. Plus, we'll share examples of how the right machine can help your business maximize productivity and ultimately boost your bottom line.

**What's the best machine for you? One that holds up to the rigors of a busy schedule, while helping your business streamline production, maximize output, and maximize productivity.**

Read on to learn more, and think about the positive impact the right plasma cutting system can have on your business.



# KEY FEATURES TO LOOK FOR IN A CNC PLASMA CUTTING SYSTEM

- Quick Change Cutting Options
- Bevel Cutting Flexibility
- Integrated Milling, Drilling & Marking
- Create Any Size Hole
- Cutting & Drilling Accuracy
- Drilling Speed
- Through-Spindle Coolant
- Closed Loop Chip & Fume Extraction
- Coolant Recovery & Recycling
- One-Piece Welded Beam Gantry
- Linear Rails with Helical Racking
- All Axes & Drives Protected
- Automated Service Prompts & Diagnostics
- Automated Unloading
- Web App for Machine Status & Control
- Domestic Supply Base
- 24/7/365 Tech Support
- USA-Based Service Team



# QUICK CHANGE CUTTING OPTIONS

Busy shops know that downtime kills productivity. So look for a machine that not only offers multiple cutting options, but also gives you the ability to quickly change between them. When you need to quickly switch from plasma to oxy fuel cutting and back again, some machines don't cooperate. And that leads to valuable production time and manpower spent reconfiguring the machine instead of producing parts.

## WHY IT'S IMPORTANT

- Maximum Cutting Flexibility ■ Process a Wide Range of Materials
- Minimize Downtime Between Jobs



# BEVEL CUTTING FLEXIBILITY

You never know what type of bevel your next project will require, so it pays to look for a cutting system that gives you the flexibility to process a wide range of profiles. From K-bevels to lands and even custom shapes, be sure your machine won't leave you in the lurch when it comes to a complex bevel. In addition, if your facility processes a wide range of plate, look for a machine that can perform plasma bevels, oxy bevels, and even triple-oxy bevels. This combination will give you maximum flexibility to process just about any part that comes down the line.

## WHY IT'S IMPORTANT

- Create the Widest Range of Parts ■ Bevel the Widest Range of Materials
- Perform Complex Bevels with Ease



# INTEGRATED MILLING, DRILLING & MARKING

A cutting machine that does more than just cutting can save your shop a great deal of time. That's why many fabricators choose machines that include integrated milling, drilling, tapping and marking systems. From milling chamfers, to countersinking and threading holes, to adding part numbers and alignment tabs, the ability to perform a variety of processes in a single setup will boost your bottom line. Think about the time you could save without fitting up fixtures and moving workpieces around your shop. The savings can be dramatic!

## WHY IT'S IMPORTANT

- One Machine Does It All
- No More Moving WIP from Station to Station
- Reduce Time per Part By up to 95%



# CREATE ANY SIZE HOLE

Whether you're drilling or tapping, no matter which machine you choose you're bound to need a slightly bigger hole. So why limit yourself to a maximum hole size? If your machine includes hole interpolation and thread milling capabilities, you'll be able to create perfect threaded holes of any size. When you're not limited by the types and sizes of holes you can produce, you can take on more jobs, process more plate, and boost your bottom line.

## WHY IT'S IMPORTANT

- Drill Any Size Hole Perfectly
- Unlimited Flexibility to Drill & Tap
- Take on Any Job No Matter the Specs



# CUTTING & DRILLING ACCURACY

As any fabricator who has been responsible for fitting up finished parts knows, accuracy matters. And when it comes to saving time on downstream processing and final assembly, a high degree of accuracy is a non-negotiable. That makes it important to compare tolerances when looking for a new plasma cutting system. Be sure to compare profile tolerance, repeatability and hole to hole tolerances. These three specifications are critical when you need a machine to generate precision parts and eliminate costly variances.

## WHY IT'S IMPORTANT

- Save Time on Downstream Fit-Up
- Eliminate Costly Rework
- Take on Precision Projects with Confidence



# CUTTING & DRILLING SPEED

If you're looking for a machine to help you do more work faster, be sure to consider how machine speed will impact your productivity level. Of course, faster is better, but be sure to look at cutting speed, drilling speed and the time it takes for the machine to change tooling. Also look at traverse speed, which is the time it takes for the cutting head to move across the table and make sure it's set at a safe speed for operation. The faster a machine gets into position, gets ready, cuts and drills, the more you'll boost your bottom line.

## WHY IT'S IMPORTANT

- Maximize Output & Productivity
- Make Perfect Parts Fast
- Time is Money



# THROUGH-SPINDLE COOLANT

Coolant is a necessary component when drilling and milling plate. And when you choose a machine that features through-spindle coolant as opposed to a more traditional misting system, there are few important benefits. First and foremost, the coolant is delivered right where it's needed. That means it's compartmentalized, and easy to collect and recycle. But most importantly it more effectively reduces heat, and that means less wear and tear. Ultimately, through-spindle coolant can significantly increase the lifespan of your tooling.

## WHY IT'S IMPORTANT

- Longer Tooling Lifespan ■ Replace Tooling Less Often
- Save Money Over Time



# COOLANT RECOVERY & RECYCLING

When busy shops cut, mill and drill day in and day out, clean up can put a damper on production. That means a plate processing system with integrated coolant recovery and recycling offers multiple benefits. Traditional misting systems can end up coating entire work areas in a slick layer of grease, which takes time to clean. Parts come off the machine wet and dirty, and require substantial clean-up prior to subsequent processes. When your machine recovers and recycles coolant, however, you'll spend less time on clean up and lower your costs over the life of the machine.

## WHY IT'S IMPORTANT

- Refill Coolant Less Often ■ Cleaner Finished Work Area
- Save Money on Consumables



# CLOSED LOOP CHIP & FUME EXTRACTION

Speaking of clean up, the pile of chips created by even simple drilling processes can overwhelm a machine and its operator. And the fumes created by ongoing cutting operations can build up, creating unsafe conditions throughout your facility. By choosing a machine with a closed loop chip and fume extraction system, you'll ensure that all objectionable byproducts are quickly and automatically pulled away from the work area. This means your operator won't have to spend valuable time manually sweeping up chips after every job, and your team's workspace will remain free of smoke and fumes.

## WHY IT'S IMPORTANT

- Eliminate Time-Consuming Clean Up
- Move Right On To the Next Job
- Keep Your Facility Clean & Safe



# ONE-PIECE WELDED BEAM GANTRY

In today's fast-paced production environment, the construction of your machine matters. And when a machine's gantry is responsible for cutting, milling and drilling parts day in and day out, it requires robust construction to stand up to rigorous use while maintaining the required level of accuracy. With a one-piece welded beam, you can count on your machine to deliver precision parts even under the most heavy-use conditions. Be sure to ask about this feature when comparing machines, it's one of the key indicators of whether a machine is truly designed for 24/7/365 production.

## WHY IT'S IMPORTANT

- Maximum Durability Even with Heavy Use
- Maximum Accuracy for Cutting & Drilling
- Your Machine Will Hold Up Better Over Time





# LINEAR RAILS WITH HELICAL RACKING

The way a machine travels can tell you a lot about its level of durability and accuracy, and that makes linear rails with helical racking an important feature to look for. Machine manufacturers have engineered a variety of methods for their gantries to travel the length of the table, but there's only one that delivers the highest levels of accuracy even over long distances. If you're looking for a machine that will maintain accuracy and achieve precision tolerances over the long term, ask about this feature. It makes a difference!



## WHY IT'S IMPORTANT

- Maximum Accuracy Over Time ■ Achieve Precise Tolerances
- Easy and Fast to Service

# ALL AXES & DRIVES PROTECTED

When it comes to durability, sometimes the simplest solution is the best. Complex plasma cutting systems work thanks to a variety of hoses, rails, belts, tracks and motors. And if these critical components are left unprotected, you'll inevitably end up with service issues and costly downtime. Therefore, be sure to look for a machine that has built-in protection on all lines and drives. Make sure hoses, cables, wires and belts are guarded and cannot be easily snagged. These considerations may sound simple, but they make a big difference and can reduce headaches and maintenance costs.

## WHY IT'S IMPORTANT

- Reduce Breakdowns & Downtime ■ Maximize Productivity
- Keep Your Machine Running Well for the Long Term



# AUTOMATED SERVICE PROMPTS & DIAGNOSTICS

All machines require periodic maintenance and service. But machines with onboard diagnostics that can alert the operator to impending issues will help you save money by minimizing costly breakdowns and subsequent downtime. In addition, when a machine can monitor consumable levels, tooling status, drilling torque, and other factors, it can stop work and prevent any number of damaging scenarios. Look for a machine that offers this type of real-time feedback and e-stop capability. It will make your shop safer and more productive.

## WHY IT'S IMPORTANT

- Change Tooling Before Breakdowns
- Emergency Stop to Prevent Damage
- Minimize Downtime & Unplanned Costs



# AUTOMATED UNLOADING & SORTING

Getting the most work out of limited manpower is a surefire way to maximize profitability, so it pays to look for a machine that includes time-saving automation. With features like automated part unloading, a single operator can do the work of many. Some robotic material handling systems can travel back and forth under the cutting gantry allowing you to cut parts at one end of the table while unloading at the other end. Some can even stack parts automatically on multiple pallets, sorted by part number or work order number. This type of automation will help you work faster and generate maximum output per employee.

## WHY IT'S IMPORTANT

- Make the Most of Your Manpower
- Process Parts Non-Stop
- Dramatically Reduce Costs
- Sort & Palletize Parts Quickly



# WEB APP FOR MACHINE STATUS & CONTROL

Imagine glancing at your smartphone to check the status of your machine, verify jobs and see progress on parts. Having this type of data and control at your fingertips will help your team work smarter and more efficiently. It will help you process jobs faster and it will make your facility more productive. Look for a plasma cutting system that has automated part unloading with web app control in order to access valuable production info in the palm of your hand.

## WHY IT'S IMPORTANT

- Verify Jobs, Settings & Status Remotely
- Work More Efficiently
- Maximize Productivity



## DOMESTIC SUPPLY BASE

With plasma cutting systems available from various manufacturers around the world, it's important to consider the impact a USA-based supply chain can have on your ability to keep your machine running smoothly. That's because when a machine is constructed from off-the-shelf components that are available domestically, you'll never have to wait for the parts you need to keep your business operating. So be sure to look for a machine manufacturer that uses domestically-sourced, easy-to-find, quick-ship components.

## WHY IT'S IMPORTANT

- Shorter Lead Times
- Easier-To-Source Parts
- Lower Costs on the Parts You Need



# 24/7/365 TECH SUPPORT

Today's fabrication shops are all-day every-day operations, and that means you could need tech support at any hour of the day or night. By choosing a manufacturer with 24/7/365 tech support you'll have access to the answers you need when you need them, and if your cutting system includes remote diagnostics, service techs can connect to your machine in real time to troubleshoot. Instead of shutting down production while you wait for service, be sure to consider the availability of tech support to keep your machine running at all hours.

## WHY IT'S IMPORTANT

- Minimize Machine Downtime
- Easily Troubleshoot Complex Issues
- Tech Support when You Need It



## USA-BASED SERVICE TEAM

Even the simplest plasma cutting system is a complex machine that requires ongoing maintenance to perform at its best. And the more sophisticated the machine, the more sophisticated the service needs. When you choose a machine builder with a USA-based service team, routine maintenance and emergency service will be easy to schedule. No waiting for technicians to clear customs, no worries about specialized tools lost in transit. A USA-based service team is the easiest way to keep your machine running its best.

## WHY IT'S IMPORTANT

- Easily Schedule Service Calls
- Quickly Get Technicians on Site
- Emergency Service Without the Wait



FEATURES	Kinetic	OTHER MANUFACTURERS
Quick-Change Cutting Options	Plasma, Oxy Fuel	Some
Bevel Cutting Flexibility	Plasma Bevel, Oxy Bevel, Triple Oxy Bevel	Some
Integrated Milling, Drilling & Marking	Advanced Milling, Drilling, Tapping, Chamfering, Countersinking, Part Marking & More	Some Some
Create Any Size Hole	Hole Interpolation, Thread Milling	None
Cutting & Drilling Accuracy	Profile Tolerance < .020 Repeatability < .00008 Hole to Hole < .005	None None None
Cutting & Drilling Speed	1" Hole in 1" Plate in 3 Seconds Traverse Speed of 875" / min. Tooling Change < 3 Seconds	None None None
Through-Spindle Coolant	Yes	Some
Closed Loop Chip & Fume Extraction	Yes	Some
Coolant Recovery & Recycling	Yes	Some
One-Piece Welded Beam Gantry	Yes	None
Linear Rails with Helical Racking	Yes	None
All Axes & Drives Protected	Yes	None
Automated Unloading & Sorting	Yes	None
Automated Service Prompts & Onboard Diagnostics	Yes	None
Web App for Machine Status & Control	Yes	None
Components Readily Available Through US Supply Base	Yes	None
USA-Based Service Team	Yes	Some
24/7/365 Tech Support with Remote Diagnostics	Yes	None

**Thank you for reading this buyer's guide!** We hope you have learned a few questions to ask and a few important features to look for in your search for the right CNC plasma cutting system for your facility.

When you're ready to discuss your shop's needs, we invite you to reach out to us. Our team of fabrication experts is standing by to help you choose a machine that will lead to maximum productivity and profitability for your business.

**Kinetic**

**PRODUCTIVITY  
IN PLASMA CUTTING**

**[www.KineticUSA.com](http://www.KineticUSA.com) | 1.800.606.2954**